AP - 111

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

2/2013
(Rev. 6/2014)

April 21, 2016

Mr. John E. Kieling, Chief
New Mexico Environmental Department
2905 Rodeo Park Drive East, Bldg 1
Santa Fe, NM 87505-6303

Re: Rejection of Revised Facility-Wide Ground Water Monitoring Work Plan – 2012 Updates; 2013 Updates; 2014 Updates for 2015 Western Refining Southwest Inc., Gallup Refinery
EPA ID # NMD000333211
HWB-WRG-13-002
HWB-WRG-14-002
HWB-WRG-15-001

Dear Mr. Kieling:

Western Refining, Gallup Refinery has prepared the following responses to the comments in your letter of March 11, 2016 regarding the referenced work plan.

NMED Comment

"NMED's July 24, 2015 Approval with Modifications required the Permittee to make all required changes to the most recent version (2014) of the Work Plan, revise the 2014 Work Plan and resubmit it for NMED's review rather than submitting revisions to all three work plans. The Permittee submitted a comment response letter, a red-line strikeout, and replacement pages rather than a full, revised Work Plan. Additionally, rather than submit Table 1 as a clean revised table, the Permittee made changes to the table in red font. NMED had required that the Permittee provide a redline version of Table 1 to show the revisions and also provide a clean revised Table 1 with the revised Work Plan".

Western Response: Two hard copies of the full revised Work Plan is enclosed. A clean revised Table 1 is included in the revised Work Plan and a separate redline version of Table 1 is enclosed.

NMED Comment

"NMED and OCD required that the Permittee provide a table which shows the current approved monitoring schedule and analytical suites, the Permittee's requested changes to the schedule and analytical suites, and the rational for the requested changes. The Permittee provided a Table 2 (Requested/Approved Changes to the Groundwater

Monitoring Schedule). Table2 includes columns for "2014 Requested Changes" and "Approved Changes to Date per NMED 7/24/2015" but does not include the rationale for requesting these changes. In addition, the "Approved Changes to Date..." column does not include approved changes, but includes requests for changes. Modifications to Table 1 shall reflect NMED and OCD's approval of any requested changes. Modify Table 2 to provide the following information: the most current, approved sampling program; the Permittee's requested changes and the rationale for the requested changes".

Western Response: Table 1 includes all approvals with modifications listed in NMED's July 24, 2015 *"Approval with Modifications Facility-Wide Ground Water Monitoring Work Plan – 2012 Updates; 2013 Updates; 2014 Updates for 2015"* letter. Table 2 has been modified to include the most current approved sampling program, requested changes, and the rationale for the requested changes.

NMED Comment

"Additionally, the Permittee's response to NMED's Comment 10e did not clarify where the requirement for additional sampling originated. NMED was not able to find any comments regarding the statement in Table 1 "[a]ll wells including the recovery wells containing separate phase hydrocarbons" for annual sampling requirements. The Permittee must clarify where this statement originated".

Western Response: Western reviewed previous versions of the Work Plan and related correspondence to determine the origin of this statement. The requirement listed at the end of Table 1 to sample all wells on an annual basis first appears in the Facility-Wide Ground Water Monitoring Plan 2010 Updates. It was not in the May 2009 Facility-Wide Ground Water Monitoring Plan. There was a letter from NMED on February 9, 2009 that mentioned the need to make the Ground Water Monitoring Plan be consistent with OCD requirements in the August 23, 2007 OCD Discharge Plan, as well as with NMED requirements. A review of the OCD Discharge Plan does not indicate any requirement for chemical analyses from all wells, including those with PSH as is shown in the Facility-Wide Ground Water Monitoring Plan 2010 Updates; however, there was a requirement to monitor water levels in all wells, including those with PSH. It is possible that while attempting to incorporate requirements from the OCD Discharge Plan, this requirement was somehow mistaken for a requirement to collect samples for analysis from all wells. There are no comments in any of the NMED comment letters associated with the 2010 updated plan that required the addition of sample collection and analysis for all wells. It appears this was an error in preparation of the 2010 update and it has been carried forward each year. Western requests to remove this requirement, as it is redundant of the other sampling requirements in Table 1 that provide well-specific sampling requirements based on the location and historical monitoring results at each well.

NMED Comment

"The Permittee must revise and re-submit a full, complete version of the 2014 Work Plan. The submittal must include two bound paper copies and also an electronic copy. The revised Work Plan must be submitted on or before April 18, 2016".

Western Response: Enclosed please find two bound paper copies and an electronic copy of the complete version of the Work Plan.

If you have any questions regarding Western's responses, please do not hesitate to contact Ed Riege at (505) 722-0217.

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel property gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

Mr. Daniel J. Statile
VP Refining
Western Refining Southwest, Inc. – Gallup Refinery

Mr. Ed Riege
Remediation Manager
Western Refining Southwest, Inc. – Gallup Refinery

cc: K. Van Horn, NMED HWB
C. Chavez, OCD

Mr. John E. Kieling, Acting Chief
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Bldg 1
Santa Fe, New Mexico 87505-6303

RE: DISAPPROVAL
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. Kieling:

The following responses have been prepared pursuant to your letter, which provided comments prepared by your staff on the *Investigation Report Solid Waste Management Unit (SWMU) No.1 Aeration Basin and SWMU No. 14 Old API Separator*, dated February 2013 for the Western Refining Company Southwest Inc. ("Western"), Gallup Refinery. Your comments are repeated below followed by Western's response.

I would first like to offer a general comment regarding Western's preparation of site investigation reports prepared for submittal to the New Mexico Environment Department (MNED). As you are aware, Western is conducting site investigations at its former Bloomfield refinery (Bloomfield Terminal), as well as, at the Gallup refinery. The requirements for conducting these site investigations and preparation of site investigation reports are set forth in the Bloomfield Order and the Gallup RCRA Post-Closure Care Permit ("Permit"). The requirements in both of these legal instruments are very similar and it is Western's understanding that NMED has intentionally provided essentially the same requirements in each to ensure the agency receives investigation reports that are very similar in format and content. However, it has been Western's experience in attempting to comply with the Bloomfield Order and Gallup Permit that NMED has provided some inconsistent comments and direction on the preparation of site investigation reports. Western recognizes individual project managers may provide slightly different comments, but Western would like to work with NMED to achieve a consistent format/presentation in all of our investigation reports prepared for NMED under either the Bloomfield Order or the Gallup Permit.

To further this goal, we have included some of NMED's recent comments on other site investigation reports that are related to the same topics addressed below. Hopefully through this discourse we can reach agreement on a consistent approach for preparation of site investigation reports prepared under the Bloomfield Order and Gallup Permit.

NMED Comment 1
In Section 4.4 (Monitoring Well Construction and Groundwater Sampling), the Permittee repeats the soil descriptions from Section 4.3.1 (Aeration Basin Soil Investigation) and Section 4.3.2 (Old API Separator). Instead of repeating the soil descriptions, describe the well development and groundwater sampling conducted during this phase of work. Include descriptions of the

volume of water purged, field parameters measured and the results, identify the unit from which water was sampled, and discuss any other details which may aid in understanding the groundwater at the site. In the revised Report, remove the repetitive soil descriptions and include the additional groundwater-related information.

Response: Western has revised the report to minimize the redundancy between sections 4.3 and 4.4. Some of the "soil" information included (e.g., field evidence of contamination and associated depths and sample depths) was included based on earlier NMED comments to include this information in this section of site investigation reports. Comment No. 10 from NMED's Dec. 6, 2009 comments on the Bloomfield Group 2 Investigation Report is shown below for reference. Based on NMED's most recent comment, Western will eliminate the redundant soil information from Section 4.4 in this and all subsequent site investigation reports.

> *NMED Comment No. 10: In Section 4.4 (Monitoring Well Construction, Boring, or Excavation Abandonment), SWMU No. 9 (landfill pond), page 17, Western briefly discusses the installation of one soil boring and the conversion to a temporary well. Western must revise the Report to further describe the investigation of this SWMU (e.g., field screening evidence of contamination and associated depths, sample depths, depths of saturation, screen interval of the temporary well). The information provided for each SWMU must be consistent (e.g., the level of detail provided for SWMU No. 9 must be comparable to the detail provide for SWMU No. 2 and SWMU No. 8).*

Regarding the discussion on well development and groundwater sampling, Western also received comments on the presentation of this data from NMED on January 24, 2011 in the comments on the Bloomfield Group 3 Site Investigation Report. Comments No. 2 and 5, and Western's response is shown below for reference. Including the groundwater discussion in one section (e.g., Section 4.4 Monitoring Well Construction and Groundwater Sampling) with a referenced appendix, as previously accepted by NMED, is a preferred method of presentation and hopefully acceptable to NMED to maintain consistency between Western's various site investigation reports.

> *NMED Comment No. 2: The Respondents discuss monitoring well development and groundwater sampling in various sections throughout the Report, including Section 3.4 (Monitoring Well Installation, Completion, and Development), Section 3.6 (Ground Water Sampling and Vadose Zone Vapor Sampling), Section 4.5 (Monitor Well Development), Section 6.4 (Ground Water Sampling) and Appendix F (Field Methods). Each Section must be referenced to know what monitoring well development and groundwater sampling activities occurred during the investigation. Revise the Report to include one section, and subsections as appropriate, that addresses all monitoring well development and groundwater sampling activities (e.g. sampling methods and procedures), or include all details in an Appendix (e.g., Appendix F) and reference the Section or Appendix throughout the Report, where appropriate.*

> *Western Response: Western agrees that the report format, as prepared pursuant to the NMED July 27, 2007 Order and previous guidance, is redundant and that combining*

information into one section with reference to Appendices, as necessary, will result in a better deliverable. The report format has been revised, as directed.

NMED Comment 5: In Section 3.6 (Ground Water Sampling and Vadose Zone Vapor Sampling), page 15, the Respondents state, "[t]he depth to groundwater and depth-to-SPH were measured to the nearest 0.01 ft and recorded relative to the surveyed well casing rim." The Respondents do not identify the instrument used to collect the depth to water and depth to separate phase hydrocarbon (SPH) measurements. Revise the Report to provide the instrument(s) used to collect these measurements, and revise this section to address how the monitoring wells were purged and the amount purged. Alternatively, reference Appendix F (see also Comment 2).

Western Response: The type of instrument used for fluid level measurements and the discussion on well purging is included in Appendix E.

NMED Comment 2

The Permittee calculated a site-specific dilution attenuation factor (DAF) for soil screening purposes. In Section 5 (Regulatory Criteria) the Permittee states that "[a] review of site conditions indicates that a DAF of 1.0 is overly conservative, thus a site-specific DAF value was calculated). The site-specific DAF was calculated as 461." In the same section the Permittee goes on to state, "[t]he 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." The purpose of calculating DAF is to determine whether or not soil screening levels (SSLs) are protective of groundwater. Because groundwater in the area is affected by contamination, it is inappropriate to calculate a DAF for the site. Revise the Report to remove the calculation of site-specific DAF and all associated soil screening assessments (text, tables, and figures). A more appropriate screening level for soil are the NM SSLs (or EPA Regional Screening Levels as appropriate) as outlined in NMED's Risk Assessment Guidance.

Response: NMED provided a general reference to the NM SSLs (or EPA Regional Screening Levels as appropriate) as outlined in NMED's Risk Assessment Guidance and states, "Because groundwater in the area is affected by contamination, it is inappropriate to calculate a DAF for the site." Western requests clarification on this statement. Is it NMED's position/policy that for any SWMU and/or AOC that has groundwater in the area affected by contamination that no site-specific DAF may be calculated to determine appropriate soil remediation levels? Is NMED requiring all sites in New Mexico to use a DAF equal to 1.0 if there is groundwater contamination on the site, which is "in the area" of the subject soils?

As quoted from Section 4.4 of NMED's Risk Assessment Guidance, "Development of New Mexico SSLs considers only the dilution of contaminant concentration through mixing with groundwater in the aquifer directly beneath the source. This is consistent with the conservative assumptions used in the SSL methodology including an infinite source, soil contamination extending from surface to groundwater and the point of exposure occurring at the downgradient edge of the source." As noted in NMED's guidance, these are conservative assumptions and it is clearly stated in these assumptions that soil contamination extends from "surface to groundwater". Therefore, the DAF calculation as presented in NMED's guidance assumes that groundwater is already contaminated. Western does not understand NMED's refusal to allow calculation of a site-specific DAF based on the following statement, "Because groundwater in

the area is affected by contamination, it is inappropriate to calculate a DAF for the site", when in fact this condition is entirely consistent with the assumptions stated in NMED's Risk Assessment Guidance.

NMED Comment 3
In Section 2.1 (SWMU No.1 Aeration Basin) include references to the historical reports (title, date, section or page number) when discussing prior site investigations. Include similar references in Section 2.2 regarding the Old API Separator (OAPIS) as well.

Response: The requested references have been added to Section 2.1 and Section 8 References. It is noted that the only historical reports discussed in Section 2.2 are also referenced in Section 2.1.

NMED Comment 4
In Section 2.1 (SWMU No.1 Aeration Basin) the Permittee must note that groundwater monitoring wells GWM-2 and GWM-3 were installed as dry wells to detect leakage from the Aeration Basin. Revise the Report as necessary.

Response: Additional discussion has been added in Section 2.1.3 to explain that wells GWM-2 and GWM-3 were installed for the explicit purpose to determine if water was migrating from the Aeration Basin and were intentionally installed in the vadose zone as "dry wells."

NMED Comment 5
The soil descriptions in Section 4.3 (Exploratory Drilling Investigations, Soil Sampling and Boring Abandonment) and descriptions of hand auger refusal in gravel at about 0.5 feet below ground level (ft bgl) in borings around the aeration basin indicates that the berms surrounding the aeration basin contain a significant percentage of gravel which may have facilitated seepage into the surrounding soils. Revise the Report to provide a description of the design and composition of the berms, if available.

Response: The lithology of the berms is described in Section 4.3 and is presented in numerous soil borings and two cross sections (Figures 7 and 8). As clearly shown in this information, the berms are predominantly silty clay with gravel occurring mostly near the top of the berms where it was placed to facilitate driving and moving equipment in the area. Where gravel is present beneath the upper 0.5' to 1.0', it occurs in a silty clay matrix and the percentage of gravel is not sufficient to facilitate seepage through the dikes. As the gravel predominantly occurs on the top of the berms and above the operating water level of the Aeration Basin, it would not have facilitated seepage into the surrounding soils.

The design of the Aeration Basin, including the berms, has previously been submitted to the NMED and Western does not believe it would be beneficial to incorporate this design document into the site investigation report.

NMED Comment 6
In Section 4.3.1 (Exploratory Drilling Investigations, Soil Sampling and Boring Abandonment), the Permittee describes "odor" and "discoloration" as part of the soil boring descriptions. In the revised Report, include additional details regarding the odors and colors observed (organic odor or petroleum odor, organic discoloration or petroleum discoloration).

Response: The report text has been revised to provide additional information on the odors and colors observed.

NMED Comment 7

In Section 5 (Regulatory Criteria), the Permittee states, "[t]here 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 range soil and groundwater analytical results. The laboratory analyses for motor oil range organics only report results for >C28 to C35. Since the motor oil range results only include hydrocarbons greater than C28, it is not appropriate to compare the results against screening levels for product types that have lower hydrocarbon 50 ranges (e.g., diesel fuel - 60% C11-C22 aromatics and 40% C9-C18 aliphatics). The only product type in Table 6-2 that contains the >C28-C35 carbon range is "waste oil", which includes C19-C36. Therefore, the motor oil range organic soil analytical results are compared to the "waste oil" soil screening levels. The NMED guidance specifies the inclusion of "petroleum-related contaminants" as the groundwater criteria for waste oil instead of a motor oil range screening level and these constituents are included in the list of reported analytes in Tables 9 and 10." Because the refinery has handled the full range of petroleum products and all of those products have more than likely passed through the OAPIS and potentially leached into the soils are the aeration basin, the Permittee must use "unknown oil" from Table 6-2 for all comparisons. Unknown oil covers the full hydrocarbon range and is the most conservative standard. Revise the Report to use unknown oil as the screening level.

Response:

In its evaluation of the presence of non-specific (i.e., total) petroleum hydrocarbons in environmental samples, Western has three separate analyses conducted by the analytical laboratory. An analysis of the "gasoline range organics" is conducted to determine the presence of hydrocarbons in the C6 to C10 hydrocarbon range. The second analysis for "diesel range organics" is completed to evaluate the presence of hydrocarbons in the >C10 to C28 hydrocarbon range. The final analysis for "motor oil range organics" detects the presence of hydrocarbons in the >C28 to C35 hydrocarbon range. In this manner, the three analyses determine total concentration of petroleum hydrocarbons from C6 to C35 and also provide mixture specific information to determine the individual concentrations within these three ranges. It is valuable to perform the three separate analyses because individual petroleum hydrocarbons (e.g., hydrocarbons with six carbon atoms vs. hydrocarbons with 35 carbon atoms) have been demonstrated to have different impacts on human health and the environment. This fact is recognized by NMED's determination of different screening levels for different petroleum products due to varying compositional assumptions (see Section 6 of NMED's 2012 *Risk Assessment Guidance for Investigations and Remediation.*

In the situation where Western identifies petroleum hydrocarbons in environmental samples that cannot be associated with a known product type, then Western uses the screening level for "unknown oil", as directed by NMED. The screening level for unknown oil is used for comparison to the diesel range organics analytical result. As explained in Table 6-1 of NMED's 2012 *Risk Assessment Guidance for Site Investigations and Remediation*, the assumption is that the "unknown oil" petroleum product is composed of 100% C11-C22 aromatic hydrocarbons. The diesel range analysis reports the presence of hydrocarbons in the >C10 – C28 range, thus there is overlap between the petroleum constituents reported by the diesel

range analysis and those assumed to be present in the unknown oil product type. In other words, it is possible that the hydrocarbons detected by the diesel range analysis could in fact include the C11-C22 aromatics used as the basis for the unknown oil product type.

The analysis for motor oil range organics only analyses for >C-28 – C35 hydrocarbons. There is no overlap between this range of petroleum constituents and those used to represent unknown oil (i.e., C11-C22). In other words, the petroleum hydrocarbons reported by the motor oil range analysis cannot and does not include the C11-C22 hydrocarbons used to represent unknown oil. Therefore, an analysis for motor oil range organics should not be evaluated for environmental impacts by using toxicity for a totally unrelated carbon range. This would be similar to comparing an analytical result for toluene to the risk-based screening level for benzene. Both toluene and benzene are hydrocarbons and in fact have many similarities in their composition, but they pose different risks to human health and the environment and should be evaluated using toxicity data that is specific to each.

A review of NMED's Table 6-1 reveals there is only one product type that does not include significant percentages of carbon ranges that cannot be present in the motor oil range analysis and this is "waste oil." The motor oil range analysis covers >C28 to C35 and the waste oil composition is based on C19-C36 aliphatics, therefore, it is possible for the motor oil range analysis to detect the presence of hydrocarbons represented by the waste oil product type. Based on these facts, Western compares the analytical results from the motor oil range analyses to the screening levels for waste oil. Western requests that NMED reconsider their comment; no changes have been made to the data tables.

NMED Comment 8

In Section 7.1 (Conclusions), the Permittee states, "[a] cumulative risk evaluation for soils is presented in Table 13. Because the Aeration Basin and OAPIS are located adjacent to each other, the cumulative risk evaluation combines the data for both SWMUs. 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 1.4×10^{-3} assuming residential land use and 9.3×10^{-5} for non-residential land use. The hazard index for residential land use is 1.5 and for nonresidential land use is 0.41." The Permittee may find that it makes more sense to separate the Aeration Basin and the OAPIS for cumulative risk calculations. Separate cumulative risk calculations may be of use for future corrective action at both sites. Either SWMU may positively or negatively affect the outcome of the calculation. Additionally, see Comment 9 regarding "non-residential" land use.

Response: Western included both SWMUs in the same cumulative risk evaluation based on previous NMED comments, which Western understood to request that cumulative evaluations should, at least in some situations, include more than only a single SWMU or area of concern. A specific example of such a comment was received from NMED on January 24, 2011 in the comments on the Bloomfield Group 3 Site Investigation Report. An excerpt from Comment No. 17 is shown below for reference. Western agrees with NMED's comment that "it makes more sense to separate the Aeration Basin and the OAPIS for cumulative risk calculations." As the final remedy and cleanup levels may be determined on a SWMU by SWMU basis, it makes sense not to include cumulative risks across SWMUs for which remedy selection may occur separately. Table 13 has been revised to provide separate calculations for each SWMU, which now appear in separate tables – Table 13 for SWMU 1 and Table 14 for SWMU 14. Western notes that the same approach also makes sense for the Bloomfield Refinery Order.

NMED Comment No. 17: "The Respondents must evaluate the data using a conservative approach by applying the maximum concentrations across the entire data set."

NMED Comment 9

In Section 7.1 (Conclusions) the Permittee states for soils that, "[t]he cumulative carcinogenic risk is 1.4×10^{-3} assuming residential land use and 9.3×10^{-5} for non-residential land use. The hazard index for residential land use is 1.5 and for non-residential land use is 0.41." For groundwater the Permittee states, "[t]he cumulative carcinogenic risk level is calculated to be $2.2x\ 10^{-3}$ and the hazard index is 909.53." Typically, a hazard index (HI) is calculated for soil and not for groundwater. Draft RCRA Permit Section IV.D and the Bloomfield Order Section VII both describe the groundwater cleanup policy used by the Hazardous Waste Bureau. In the revised Report, remove the calculation and discussion of a HI for groundwater. For the calculation of the soil HI, the "non-residential soil screening level" is based on several different standards: NMED Industrial Occupational Screening Level, NMED Construction Worker Screening Level, EPA Industrial Screening Level, and EPA Industrial Screening Level x 10. Based on current and future land use NMED assumes that the most appropriate screening level is the Construction Worker Screening Level (SSL); however, the Permittee may develop a site specific conceptual model and determine which SSL is most protective of human and environmental health. Revise the Report to use the Construction Worker SSL or the SSL of the Permittee's choice, but do not use multiple SSLs. In the revised Report, discuss the calculation of site risk and the HI for soil based on the selected SSL.

Response: The calculation and discussion of a HI for groundwater has been removed from the report as directed. Regarding the use of multiple SSLs, Western agrees that the use of a single SSL based on one type of non-residential receptor is a much simpler approach and that use of NMED's construction worker SSLs should be protective based on the very conservative assumptions used for development of the construction worker SSLs. As stated in Section 2.3.3 of MNED's 2012 *Risk Assessment Guidance for Site Investigations and Remediation*, "chronic toxicity information was used when developing screening levels for a construction worker receptor. This approach is significantly more conservative than using sub-chronic toxicity data because it combines the higher soil exposures for construction workers with chronic toxicity criteria." Tables 5, 7, 8, 12, and 13 have been revised to reflect a single non-residential receptor (i.e., construction worker) under the NMED criteria. Table 12, which did contain water level data, has been combined with Table 2, which also contained water level data and now what was Table 13 has been renumbered as Table 12. The new Table 12 presents the cumulative risk and hazard index evaluation for only SWMU No. 1. New Table 13 (SWMU No. 14 Soil Cumulative Risk and Hazard Index Evaluation) also uses a single non-residential receptor. As EPA only has industrial screening levels, these are retained for constituents for which NMED construction worker SSLs are not available.

Western notes that in preparation of similar site investigation reports at its Bloomfield Terminal (former Bloomfield Refinery), it was directed to use the most conservative of the two NMED non-residential (i.e., industrial worker and construction worker) SSLs. See the excerpt from comment no. 32 below (from NMED's January 24, 2011 comments on the Bloomfield Group 3 Site Investigation Report) for reference. Western believes that a consistent approach should be used at both facilities since the same guidance applies at both and the applicable requirements under the Bloomfield Order and Gallup Permit are essentially the same.

NMED Comment No. 32: "To alleviate confusion and apply a more systematic approach, revise the tables and text of the Report to apply the data to the most conservative non-residential scenario (e.g., construction worker or industrial) and the residential scenario.

NMED Comment 10

In the Executive Summary, and throughout the Report, the Permittee refers to "screening levels." For example in Section 7.1.1 (Aeration Basin) the Permittee states, "[f]our organic constituents (1,2,4-trimethylbenzene, 1-methylnaphthalene, benzene, and naphthalene), and DRO were detected in three soil samples at concentrations exceeding their respective screening levels." At the end of the soil discussion section, the Permittee writes, "[o]verall, there were few exceedences of the screening levels in the soil samples collected around the Aeration Basin. Only 3 out of 103 soil samples collected around the Aeration Basin exceeded screening levels." Revise the Report to state specifically which screening levels analytes are being referenced.

Response: The discussion in Section 7 has been revised to include additional discussion on which screening levels are exceeded in the individual samples. It is noted; however, that the referenced section (7.1.1) is part of the conclusions and recommendations and intentionally does not attempt to repeat all of the detailed information provided in Section 6. There is a detailed discussion in Section 6 where each constituent that exceeds a screening level is discussed in detail, including the screening levels vs. reported concentrations and a list of each sample that contains concentrations exceeding the individual constituent's screening level.

NMED Comment 11

In Section 7.1.1 (Aeration Basin) under the groundwater discussion the Permittee states, "[w]hile 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 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." Revise the Report to discuss the specific constituents and soil screening levels being discussed. The clayey sand interval is likely a component of sand-stringers. While not continuous, the sand stringers are potential migration pathways for contamination throughout the site, aiding in the movement of the wastewater from the aeration basin to the surrounding area. Once the aeration basin is dry, groundwater levels must be checked and reported to NMED.

Response: The referenced section of the report is a final summary of the groundwater conditions near the Aeration Basin. If you look at the second paragraph of this same discussion on groundwater, you will see the following sentence. "Seven organic constituents (1-methylnaphthalene, 2-methylnaphthalene, 1,2,4-trimethlybenzene, benzene, MTBE, naphthalene, and 2,4-dimethylphenol), and DRO were detected in groundwater samples collected from soil borings at concentrations above screening levels." As the requested information is already presented in this section of the report, no change has been made other

than to reference the "residential / tap water" screening levels at the beginning of the discussion on groundwater. It is noted that NMED's comment references the "soil screening levels" and changes have been made to other sections of the report to provide clarification of which soil screening levels are being referenced.

Recent water level readings have been added to Table 2 and the one water level measurement (OAPIS-1), which was included in Table 12, has been moved to Table 2. Table 2 originally included only "historic" water levels, but now contains all water level measurements from nearby wells.

NMED Comment 12
In Table 6 (Groundwater Screening Levels), the Permittee lists analytes and NMED (WQCC Standards, NMED Tap Water) and EPA (EPA Screening Levels Tap Water, MCL) standards. Revise the table to follow the NMED Guidelines and list only the standards which are applicable, not all of the standards. Also, ensure that all of the footnotes are defined.

Response: Footnotes 1, 2, 3, and 4 were inadvertently shown in Table 6 and they have been removed. The format of Table 6 was developed with NMED during the recent submittal of numerous similar investigations reports prepared for the Bloomfield Terminal (former Bloomfield Refinery). Western believes the current format is the most useful and informative to those reading the investigation report. The Gallup Refinery Permit is very prescriptive in the method used to determine the groundwater screening level. There is an explanation included in Section 5 of the investigation report, which references and explains the content of Table 6. Western believes the presentation in Table 6 is important for the reader to understand the selection of the "applicable" screening level for an individual constituent. For example, the current format allows the reader to understand the selection of a particular MCL value where the MCL is lower than the WQCC standard. Similarly, the reader can readily see where an EPA screening level was selected because there is no available WQCC standard or NMED screening level. Without the inclusion of all potentially applicable standards, as currently presented in Table 6, the reader will need to refer to each of the individual sources of potential screening levels to gain the same level of understanding. Western notes that the same full list of all screening levels was inadvertently included in Table 9. Table 9 has been revised to include only the final "applicable" screening level and the associated analytical results.

NMED Comment 13
In Table 7 (Aeration Basin Soil Analytical Results Summary) the Permittee lists "non-residential soil screening level" which encompasses several soil screening standards (industrial, construction worker, etc.). Revise the table to show one non-residential screening level based on the site conceptual model. In addition include units for all standards. See also Comment 9.

Response: The table has been revised based on selection of the construction worker receptor for the non-residential SSL for constituents with NMED soil screening levels. The table has also been revised to include the column showing units on all pages.

NMED Comment 14
Figure 30 (SWMU No. 1 & No. 14 - Metals October 2012 Groundwater Results) depicts metals concentrations in soil borings around the aeration basin and the OAPIS; however, the results are not labeled; only numbers are shown. Figure 31 (SWMU No. 1 & No. 14 - Organics October 2012 Groundwater Results) also does not list the types of organics in the callout box, only results are listed. In the revised Report, provide the analytes and the corresponding results in

the callout boxes in the figures. For all figures, ensure that figures clearly display the analytes and laboratory results.

Response: The order of the analytes is shown in the legend. To avoid any potential confusion, the analyte names (symbols for metals) have been added to the actual posted values on Figures 30 and 31.

NMED Comment 15
In the revised Report, there is no need to provide a hard copy of the laboratory results, submitting laboratory results as electronic files on disc is adequate.

Response: In the revised report, laboratory reports are provided on a disc.

NMED Comment 16
In the Executive Summary and in Section 7.2 (Recommendations), the Permittee discusses potential further investigation to delineate the horizontal extent of contamination at the site. In Section 7.2 (Recommendations), the Permittee states, "[a]n 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." The Permittee must delineate the contamination around the aeration basin in order to complete the site investigation. This information will be used to support the Corrective Measures Evaluation for corrective action at the Aeration Basin.

In order to complete the delineation of potential contamination, the Permittee must submit a work plan proposing to conduct further soil and groundwater investigation in the vicinity of the Aeration Basin. The work plan must be submitted on or before **August 4, 2014.**

Response: A work plan for the additional investigation in the vicinity of the Aeration Basin will be submitted on or before August 4, 2014.

If there are any questions regarding the revised Investigation Report, please contact Mr. Ed Riege at (505) 722-0217.

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel property gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

/R McDaniel for Billy McClain

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

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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)

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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-trimethlybenzene, 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-methlynaphthalene, 2-methylnaphthalene, 1,2,4-

trimethlybenzene, 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 identity the types of waste handled, sources of releases, and previously known impacts to the environment. Section 3 describes the scope of work completed during the site investigation, including completion of soil borings, installation of 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 identity 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 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 cuestas*", 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 "t*ypical 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 1.9E-05 cm/sec (Appendix C). Permeability tests performed on soils in the area of the firewater pond indicated an average permeability of 1.1E-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 4.0E-7 cm/sec. A pump test was performed in well OW-24 on February 20, 1985 and it yielded a hydraulic conductivity of 2.5E-7 cm/sec. The Painted Desert Member appears to be a competent aquitard to reduce the potential for downward migration of contaminants from groundwater that may occur within the overlying Quaternary alluvium.

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

1983). Yield tests conducted at the site have shown a much lower hydraulic conductivity of 0.34 ft/day (1.2E-04 cm/sec) (Appendix 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 the 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 to18 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 indry, 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 WCQQ standard nor an MCL is available, then the cleanup level is based on a NMED Tap Water Screening Level. If a NMED Tap Water Screening Level is not available for a constituent, then an EPA Regional Screening Level is used. If an EPA Regional Screening Level is for a carcinogenic compound, then the screening level is multiplied by 10 to bring the risk level to 1E-05 to be consistent with the NMED screening levels. Table 6 presents the groundwater cleanup levels, with the applicable cleanup level 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. 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 range soil and groundwater analytical results.

The laboratory analyses for motor oil range organics only report results for >C28 to C35. Since the motor oil range results only include hydrocarbons greater than C28, it is not appropriate to compare the results against screening levels for product types that have lower hydrocarbon

ranges (e.g., diesel fuel – 60% C11-C22 aromatics and 40% C9-C18 aliphatics). The only product type in Table 6-2 that contains the >C28-C35 carbon range is "waste oil", which includes C19-C36. Therefore, the motor oil range organic soil analytical results are compared to the "waste oil" soil screening levels. The NMED guidance specifies the inclusion of "petroleum-related contaminants" as the groundwater criteria for waste oil instead of a motor oil range screening level and these constituents are included in the list of reported analytes in Tables 9 and 10.

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-Trimethlybenzene 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.

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-Trimethlybenzene 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 to120 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.

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

Analyte	Analytical Method
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 above the screening level of 0.2 mg/l 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.

I,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 above the screening level of 0.2 mg/l 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. 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 x 10^{-3}assuming residential land use and 6.3 x 10^{-5} for non-residential land use at SWMU No. 1. The cumulative carcinogenic risk is 1.41 x 10^{-3} assuming residential land use and 6.93 x 10^{-5} for non-residential land use at SWMU No. 14. The hazard index for residential land use is 0.77 and for non-residential land use is 0.148 at SWMU No. 1. The hazard index for residential land use is 1.50 and for non-residential land use is 0.405 at SWMU No. 14.

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

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

A cumulative risk evaluation for groundwater is presented in Tables 1 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 residential screening levels, as shown in the equation above in the discussion for soil. The cumulative carcinogenic risk level is calculated to be 3.82 x 10^{-4} for SWMU No. 1 and 8.78 x 10^{-4} for SWMU No. 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-trimethlybenzene, 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 to16 feet, 17 to 17.25 feet, and 18.25 to18.5 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-Methlynaphthalene, 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 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-methlynaphthalene, 2-methylnaphthalene, 1,2,4-trimethlybenzene, 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				420						77
	2/16/2011	<0.001	<0.001	<0.001	<0.0015	0.0083				460						74
	6/15/2011	<0.001	<0.001	<0.001	<0.0015	0.003				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		[redacted]	3.2		950		[redacted]									
	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		[redacted]	8.2		1400		[redacted]									
	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	2.1	<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	

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	

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	

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	

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	

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	

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	
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	6916.73		11.5	6,905.23	

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

					Cross Media Soil-to-Ground Water			Cross Media Soil-to-Ground Water		
	NMED		EPA		NMED	EPA		NMED	EPA	
Analyte	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		
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
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

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

Analyte	NMED		EPA		Cross Media Soil-to-Ground Water NMED	Cross Media Soil-to-Ground Water EPA		Cross Media Soil-to-Ground Water NMED	Cross Media Soil-to-Ground Water 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		
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	-
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	-

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

Analyte	NMED		EPA		Cross Media Soil-to-Ground Water NMED	Cross Media Soil-to-Ground Water EPA		Cross Media Soil-to-Ground Water NMED	Cross Media Soil-to-Ground Water 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		
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
n - noncarcinogen
cs - carcinogen, SSL November exceed saturation
ns - noncarcinogen, SSL November exceed saturation
nl - noncarcinogen, SSL may exceed ceiling limit
nls - noncarcinogen, SSL may exceed both saturation and ceiling limit
* = where n SL < 100X c SL, ** = where n SL < 10X c SL
- 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

Analyte	NMED		EPA		Cross Media Soil-to-Ground Water NMED	Cross Media Soil-to-Ground Water EPA		Cross Media Soil-to-Ground Water NMED	Cross Media Soil-to-Ground Water 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	NMED		EPA		Cross Media Soil-to-Ground Water NMED	Cross Media Soil-to-Ground Water 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

Analyte	NMED		EPA		Cross Media Soil-to-Ground Water NMED	EPA		Cross Media Soil-to-Ground Water 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
n - noncarcinogen
cs - carcinogen, SSL November exceed saturation
ns - noncarcinogen, SSL November exceed saturation
nl - noncarcinogen, SSL may exceed ceiling limit
nls - noncarcinogen, SSL may exceed both saturation and ceiling limit
* = where n SL < 100X c SL, ** = where n SL < 10X c SL
-

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

	NMED			EPA		
Analyte	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

	NMED			EPA		
Analyte	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

	NMED			EPA		
Analyte	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

	NMED			EPA		
Analyte	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
- -
EPA - Regional Screening Levels (November 2012); carcs multiplied 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 (12)	Units	SWMU 1-1 (10-12') 1210372-002 10/5/2012	SWMU 1-1 (13-14') 1210372-003 10/5/2012	SWMU 1-1 (2-4') 1210372-001 10/5/2012	SWMU 1-2 (10-11') 1210279-002 10/2/2012	SWMU 1-2 (14-16') 1210279-003 10/2/2012	SWMU 1-2 (17-17.25') 1210279-004 10/2/2012	SWMU 1-2 (19.5-20') 1210279-005 10/2/2012	SWMU 1-2 (6-8') 1210279-001 10/2/2012	SWMU 1-3 (10-11') 1210279-009 10/2/2012	SWMU 1-3 (11-11.25') 1210279-010 10/2/2012	SWMU 1-3 (18.5-19.5') 1210279-011 10/2/2012	SWMU 1-3 (18.5-20') 1210279-012 10/2/2012	SWMU 1-3 (2-4') 1210279-008 10/2/2012	SWMU 1-4 (10-12') 1210332-007 10/3/2012	SWMU 1-4 (17-18') 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	<12.5	<25	<12.5	<4.9996	<4.9997	<4.9998	<4.9999	<5.0001	<4.9996	<5.0005	<5.0002	<5.0003	<49.9963	<12.5	<12.5
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	<0.001	<0.05	<0.0012	<0.0011	<0.0013	0.00132	0.00128	<0.0011	0.25
1,2-Dibromo-3-chloropropane	1.86E+00	(1)	5.07E+00	(4)	5.07E-04	(7)	5.07E-04	-	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-Dibromoethane (EDB)	5.88E-01	(1)	1.60E+01	(4)	7.10E-03	(7)	7.10E-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
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(7)	1.29E+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
1,2-Dichloroethane (EDC)	7.89E+00	(1)	5.87E+01	(4)	1.64E-01	(7)	1.64E-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
1,2-Dichloropropane	1.52E+01	(1)	2.50E+01	(4)	4.94E-01	(7)	4.94E-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
1,3,5-Trimethylbenzene	7.80E+02	(2)	1.00E+04	(5)	5.53E+01	(8)	5.53E+01	-	mg/Kg	<0.5	<0.05	5.8	<0.0012	<0.0012	<0.0012	<0.001	<0.05	<0.0012	<0.0011	<0.0013	<0.0012	<0.001	<0.0011	0.073
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	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
1,3-Dichloropropane	1.60E+03	(2)	2.00E+04	(5)	4.56E+01	(8)	4.56E+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
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(7)	1.47E+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
1-Methylnaphthalene	1.60E+02	(3)	5.30E+02	(6)	2.35E+00	(8)	2.35E+00	-	mg/Kg	6.4	<0.2	35	<0.0046	<0.0048	<0.0047	<0.0042	<0.2	<0.0049	<0.0043	<0.0052	<0.0048	<0.0042	<0.0045	0.55
2,2-Dichloropropane	-	-	-	-	-	-	-	-	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
2-Butanone (MEK)	3.71E+04	(1)	8.43E+04	(4)	5.87E+02	(7)	5.87E+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
2-Chlorotoluene	1.56E+03	(1)	6.19E+03	(4)	2.57E+02	(7)	2.57E+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
2-Hexanone	9.38E+02	(1)	9.73E+02	(4)	3.53E+03	(7)	9.38E+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
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+01	-	mg/Kg	13	<0.2	48	<0.0046	<0.0048	<0.0047	<0.0042	<0.2	<0.0049	<0.0043	<0.0052	<0.0048	<0.0042	<0.0045	0.93
4-Chlorotoluene	1.60E+03	(2)	2.00E+04	(5)	8.30E+01	(8)	8.30E+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
4-Isopropyltoluene	-	-	-	-	-	-	-	-	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
4-Methyl-2-pentanone	5.30E+03	(2)	5.30E+04	(5)	1.06E+02	(8)	1.06E+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
Acetone	6.66E+04	(1)	2.21E+05	(4)	1.78E+03	(7)	1.78E+03	-	mg/Kg	<7.5	<0.75	<37.5	0.0135	0.0158	0.0877	0.0127	<0.75	0.019	0.0469	<0.0129	<0.012	0.0418	0.0153	<0.75
Benzene	1.54E+01	(1)	1.38E+02	(4)	7.96E-01	(7)	7.96E-01	-	mg/Kg	<0.5	<0.05	3.2	<0.0012	0.00194	0.00139	0.00395	<0.05	<0.0012	<0.0011	0.00269	0.00855	<0.001	<0.0011	<0.05
Bromobenzene	3.00E+02	(2)	1.80E+03	(5)	1.66E+01	(8)	1.66E+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

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 (12)	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	<0.3962	<0.3989	<0.4009	<0.4025	<0.4079	<0.3987	<0.3956	<0.4031	<0.4013	<0.8	<0.4012
2,4-Dimethylphenol	1.22E+03	(1)	4.76E+03	(4)	3.07E+02	(7)	3.07E+02	-	mg/Kg	<0.3012	<0.2981	<1.5045	<0.2996	<0.2971	<0.2992	<0.3007	<0.3019	<0.3059	<0.299	<0.2967	<0.3023	<0.301	<0.6	0.64
2,4-Dinitrophenol	1.22E+02	(1)	4.76E+02	(4)	2.91E+01	(7)	2.91E+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
2,4-Dinitrotoluene	1.57E+01	(1)	4.76E+02	(4)	1.04E+00	(7)	1.04E+00	-	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
2,6-Dinitrotoluene	6.11E+01	(1)	2.38E+02	(4)	1.77E+01	(7)	1.77E+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
2-Chloronaphthalene	6.11E+01	(1)	2.94E+02	(4)	4.01E-01	(7)	4.01E-01	-	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
2-Chlorophenol	3.91E+02	(1)	1.55E+03	(4)	5.33E+01	(7)	5.33E+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-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+01	-	mg/Kg	14	<0.1987	55	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	0.27
2-Methylphenol	3.10E+03	(2)	3.10E+04	(5)	2.67E+02	(8)	2.67E+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
2-Nitroaniline	6.10E+02	(2)	6.00E+03	(5)	2.86E+01	(8)	2.86E+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-Nitrophenol	-	-	-	-	-	-	-	-	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

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 (12)	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+00	(7)	3.77E+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
Indeno(1,2,3-cd)pyrene	1.48E+00	(1)	2.13E+02	(4)	3.98E+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
Isophorone	5.12E+03	(1)	4.75E+04	(4)	8.84E+01	(7)	8.84E+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
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(7)	1.64E+00	-	mg/Kg	1.1	<0.1987	7.9	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Nitrobenzene	5.35E+01	(1)	3.32E+02	(4)	2.88E-01	(7)	2.88E-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
N-Nitrosodi-n-propylamine	6.90E-01	(3)	2.50E+00	(6)	3.23E-03	(8)	3.23E-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
N-Nitrosodiphenylamine	9.93E+02	(1)	3.36E+04	(4)	2.61E+02	(7)	2.61E+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
Pentachlorophenol	8.94E+00	(1)	3.10E+02	(4)	5.90E+00	(7)	5.90E+00	-	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
Phenanthrene	1.83E+03	(1)	7.15E+03	(4)	1.32E+04	(7)	1.83E+03	-	mg/Kg	1.5	<0.1987	11	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Phenol	1.83E+04	(1)	6.88E+04	(4)	2.29E+03	(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
Pyrene	1.72E+03	(1)	6.68E+03	(4)	4.12E+04	(7)	1.72E+03	-	mg/Kg	<0.2008	<0.1987	1.5	<0.1997	<0.1981	<0.1995	<0.2005	<0.2013	<0.2039	<0.1993	<0.1978	<0.2015	<0.2007	<0.4	<0.2006
Pyridine	7.80E+01	(2)	1.00E+03	(5)	2.44E+00	(8)	2.44E+00	-	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

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 (12)	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)	3.00E+03	(11)	3.00E+03	(11)	3.00E+03	(11)	-	-	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 "uknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels

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

(12) 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 (12)	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	1210332-006	1210332-012	1210332-013	1210332-014	1210332-015	1210332-008	1210332-009	1210372-016	1210372-017	1210372-020	1210372-022	1210372-023	1210372-018	1210372-019
										10/3/2012	10/3/2012	10/3/2012	10/3/2012	10/3/2012	10/3/2012	10/3/2012	10/3/2012	10/4/2012	10/4/2012	10/4/2012	10/4/2012	10/4/2012	10/4/2012	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	<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
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	<0.0015
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	<0.0009	<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-Dibromo-3-chloropropane	1.86E+00	(1)	5.07E+00	(4)	5.07E-04	(7)	5.07E-04	-	mg/Kg	<0.0009	<0.0009	<0.0009	<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-Dibromoethane (EDB)	5.88E-01	(1)	1.60E+01	(4)	7.10E-03	(7)	7.10E-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-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(7)	1.29E+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
1,2-Dichloroethane (EDC)	7.89E+00	(1)	5.87E+01	(4)	1.64E-01	(7)	1.64E-01	-	mg/Kg	<0.0009	<0.0009	<0.0009	<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-Dichloropropane	1.52E+01	(1)	2.50E+01	(4)	4.94E-01	(7)	4.94E-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
1,3,5-Trimethylbenzene	7.80E+02	(2)	1.00E+04	(5)	5.53E+01	(8)	5.53E+01	-	mg/Kg	<0.0009	<0.0009	<0.0009	<0.0009	<0.001	<0.001	<0.001	<0.001	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	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
1,3-Dichloropropane	1.60E+03	(2)	2.00E+04	(5)	4.56E+01	(8)	4.56E+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
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(7)	1.47E+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
1-Methylnaphthalene	1.60E+02	(3)	5.30E+02	(6)	2.35E+00	(8)	2.35E+00	-	mg/Kg	<0.0037	<0.0036	<0.0036	<0.0038	<0.0042	<0.0041	<0.004	<0.004	<0.0043	<0.0055	<0.0043	<0.0041	<0.0049	<0.0047	<0.0058
2,2-Dichloropropane	-	-	-	-	-	-	-	-	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
2-Butanone (MEK)	3.71E+04	(1)	8.43E+04	(4)	5.87E+02	(7)	5.87E+02	-	mg/Kg	<0.0092	<0.0091	0.0142	0.0179	<0.0104	<0.0104	<0.0101	<0.01	<0.0107	<0.0136	<0.0107	<0.0103	<0.0123	<0.0119	<0.0145
2-Chlorotoluene	1.56E+03	(1)	6.19E+03	(4)	2.57E+02	(7)	2.57E+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
2-Hexanone	9.38E+02	(1)	9.73E+02	(4)	3.53E+03	(7)	9.38E+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
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+01	-	mg/Kg	<0.0037	<0.0036	<0.0036	<0.0038	<0.0042	<0.0041	<0.004	<0.004	<0.0043	<0.0055	<0.0043	<0.0041	<0.0049	<0.0047	<0.0058
4-Chlorotoluene	1.60E+03	(2)	2.00E+04	(5)	8.30E+01	(8)	8.30E+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
4-Isopropyltoluene	-	-	-	-	-	-	-	-	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
4-Methyl-2-pentanone	5.30E+03	(2)	5.30E+04	(5)	1.06E+02	(8)	1.06E+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
Acetone	6.66E+04	(1)	2.21E+05	(4)	1.78E+03	(7)	1.78E+03	-	mg/Kg	0.0173	0.0314	0.0614	0.0891	0.0379	0.0485	0.0233	<0.01	0.0539	<0.0136	0.477	0.0625	<0.0123	0.0138	<0.0145
Benzene	1.54E+01	(1)	1.38E+02	(4)	7.96E-01	(7)	7.96E-01	-	mg/Kg	0.00566	<0.0009	<0.0009	<0.0009	<0.001	0.00403	0.00594	0.00158	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
Bromobenzene	3.00E+02	(2)	1.80E+03	(5)	1.66E+01	(8)	1.66E+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

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 (12)	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	1210332-006	1210332-012	1210332-013	1210332-014	1210332-015	1210332-008	1210332-009	1210372-016	1210372-017	1210372-020	1210372-022	1210372-023	1210372-018	1210372-019
										10/3/2012	10/3/2012	10/3/2012	10/3/2012	10/3/2012	10/3/2012	10/3/2012	10/3/2012	10/4/2012	10/4/2012	10/4/2012	10/4/2012	10/4/2012	10/4/2012	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 (PCE)	7.02E+00	(1)	2.12E+02	(4)	1.98E-01	(7)	1.98E-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
Toluene	5.27E+03	(1)	1.34E+04	(4)	5.84E+02	(7)	5.84E+02	-	mg/Kg	0.00275	<0.0009	<0.0009	<0.0009	<0.001	0.0091	0.00831	0.00101	<0.0011	<0.0014	<0.0011	<0.001	<0.0012	<0.0012	<0.0015
trans-1,2-DCE	2.70E+02	(1)	2.73E+02	(4)	1.24E+01	(7)	1.24E+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
trans-1,3-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
Trichloroethene (TCE)	8.77E+00	(1)	7.68E+00	(4)	4.85E-01	(7)	4.85E-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
Trichlorofluoromethane	1.41E+03	(1)	1.30E+03	(4)	4.10E+02	(7)	4.10E+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
Vinyl chloride	7.28E-01	(1)	1.49E+02	(4)	2.50E-02	(7)	2.50E-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
Xylenes, Total	8.14E+02	(1)	7.43E+02	(4)	7.21E+01	(7)	7.21E+01	-	mg/Kg	0.00218	<0.0018	<0.0018	<0.0019	<0.0021	<0.0021	<0.002	<0.002	<0.0021	<0.0027	0.0431	<0.0021	<0.0025	<0.0024	<0.0029
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	<0.1985	<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
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(7)	1.29E+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
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	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
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(7)	1.47E+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
1-Methylnaphthalene	1.60E+02	(3)	5.30E+02	(6)	2.35E+00	(8)	2.35E+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
2,4,5-Trichlorophenol	6.11E+03	(1)	2.38E+04	(4)	4.78E+03	(7)	4.78E+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
2,4,6-Trichlorophenol	6.11E+01	(1)	2.38E+02	(4)	4.78E+01	(7)	4.78E+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
2,4-Dichlorophenol	1.83E+02	(1)	7.15E+02	(4)	4.60E+01	(7)	4.60E+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
2,4-Dimethylphenol	1.22E+03	(1)	4.76E+03	(4)	3.07E+02	(7)	3.07E+02	-	mg/Kg	<0.2978	<0.301	<0.3028	<0.3	<0.2989	<0.301	<0.5921	<0.2986	<0.2998	<0.301	<0.2994	<0.3017	<0.2977	<0.3016	<0.3033
2,4-Dinitrophenol	1.22E+02	(1)	4.76E+02	(4)	2.91E+01	(7)	2.91E+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
2,4-Dinitrotoluene	1.57E+01	(1)	4.76E+02	(4)	1.04E+00	(7)	1.04E+00	-	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
2,6-Dinitrotoluene	6.11E+01	(1)	2.38E+02	(4)	1.77E+01	(7)	1.77E+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
2-Chloronaphthalene	8.11E+01	(1)	2.94E+02	(4)	4.01E-01	(7)	4.01E-01	-	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
2-Chlorophenol	3.91E+02	(1)	1.55E+03	(4)	5.33E+01	(7)	5.33E+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
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+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
2-Methylphenol	3.10E+03	(2)	3.10E+04	(5)	2.67E+02	(8)	2.67E+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
2-Nitroaniline	6.10E+02	(2)	6.00E+03	(5)	2.86E+01	(8)	2.86E+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
2-Nitrophenol	-	-	-	-	-	-	-	-	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

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 (12)	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	1210332-006	1210332-012	1210332-013	1210332-014	1210332-015	1210332-008	1210332-009	1210372-016	1210372-017	1210372-020	1210372-022	1210372-023	1210372-018	1210372-019
										10/3/2012	10/3/2012	10/3/2012	10/3/2012	10/3/2012	10/3/2012	10/3/2012	10/3/2012	10/4/2012	10/4/2012	10/4/2012	10/4/2012	10/4/2012	10/4/2012	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	4.28E+01	(1)	1.67E+02	(4)	3.77E+00	(7)	3.77E+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
Indeno(1,2,3-cd)pyrene	1.48E+00	(1)	2.13E+02	(4)	3.98E+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
Isophorone	5.12E+03	(1)	4.75E+04	(4)	8.84E+01	(7)	8.84E+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
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(7)	1.64E+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
Nitrobenzene	5.35E+01	(1)	3.32E+02	(4)	2.88E-01	(7)	2.88E-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
N-Nitrosodi-n-propylamine	6.90E-01	(3)	2.50E+00	(6)	3.23E-03	(8)	3.23E-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
N-Nitrosodiphenylamine	9.90E+02	(1)	3.36E+04	(4)	2.61E+02	(7)	2.61E+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
Pentachlorophenol	8.94E+00	(1)	3.10E+02	(4)	5.90E+00	(7)	5.90E+00	-	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
Phenanthrene	1.83E+03	(1)	7.15E+03	(4)	1.32E+04	(7)	1.83E+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
Phenol	1.83E+04	(1)	6.88E+04	(4)	2.29E+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
Pyrene	1.72E+03	(1)	6.68E+03	(4)	4.12E+04	(7)	1.72E+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
Pyridine	7.80E+01	(2)	1.00E+03	(5)	2.44E+00	(8)	2.44E+00	-	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

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 (12)	Units	SWMU 1-4 (23-24') 1210332-003 10/3/2012	SWMU 1-4 (8-10') 1210332-006 10/3/2012	SWMU 1-5 (10-12') 1210332-012 10/3/2012	SWMU 1-5 (14-16') 1210332-013 10/3/2012	SWMU 1-5 (16-18') 1210332-014 10/3/2012	SWMU 1-5 (24-25') 1210332-015 10/3/2012	SWMU 1-5 (26-27') 1210332-008 10/3/2012	SWMU 1-5 (27-28') 1210332-009 10/3/2012	SWMU 1-6 (10-11') 1210372-016 10/4/2012	SWMU 1-6 (11-12') 1210372-017 10/4/2012	SWMU 1-6 (2-4') 1210372-020 10/4/2012	SWMU 1-6 (4-6') 1210372-022 10/4/2012	SWMU 1-6 (7.5-8') 1210372-023 10/4/2012	SWMU 1-7 (12-14') 1210372-018 10/4/2012	SWMU 1-7 (14-16') 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)	3.00E+03	(11)	3.00E+03	(11)	3.00E+03	(11)	-	-	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 "uknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels

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

(12) 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 (12)	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	1210372-007	1210372-008	1210372-009	1210372-005	1210372-006	1210811-001	1210811-002	1210811-003	1210811-004	1210811-005	1210811-006	1210811-008	1210811-007	1210692-021
										10/4/2012	10/5/2012	10/5/2012	10/5/2012	10/5/2012	10/5/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	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	<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
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)	2.60E+02	(5)	9.68E+00	(8)	9.68E+00	-	mg/Kg	<0.001	0.00358	<0.05	<0.0011	<0.0011	0.0102	<0.0008	<0.0008	0.00282	0.00143	0.00219	0.00449	0.00382	0.00394	0.0031
1,2-Dibromo-3-chloropropane	1.86E+00	(1)	5.07E+00	(4)	5.07E-04	(7)	5.07E-04	-	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-Dibromoethane (EDB)	5.88E-01	(1)	1.60E+01	(4)	7.10E-03	(7)	7.10E-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
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(7)	1.29E+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
1,2-Dichloroethane (EDC)	7.89E+00	(1)	5.87E+01	(4)	1.64E-01	(7)	1.64E-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
1,2-Dichloropropane	1.52E+01	(1)	2.50E+01	(4)	4.94E-01	(7)	4.94E-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
1,3,5-Trimethylbenzene	7.80E+02	(2)	1.00E+04	(5)	5.53E+01	(8)	5.53E+01	-	mg/Kg	<0.001	0.000978	<0.05	<0.0011	<0.0011	0.00249	<0.0008	<0.0008	0.00105	<0.0008	<0.001	0.00165	0.00149	0.00161	0.00111
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	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
1,3-Dichloropropane	1.60E+03	(2)	2.00E+04	(5)	4.56E+01	(8)	4.56E+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
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(7)	1.47E+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
1-Methylnaphthalene	1.60E+02	(3)	5.30E+02	(6)	2.35E+00	(8)	2.35E+00	-	mg/Kg	<0.0039	<0.0037	<0.2	<0.0044	<0.0044	0.0164	<0.0031	<0.0031	<0.0036	<0.0033	<0.0039	<0.0031	<0.0029	<0.0036	<0.0044
2,2-Dichloropropane	-	-	-	-	-	-	-	-	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
2-Butanone (MEK)	3.71E+04	(1)	8.43E+04	(4)	5.87E+02	(7)	5.87E+02	-	mg/Kg	<0.0098	<0.0093	<0.5	<0.0111	<0.0109	0.0177	<0.0077	<0.0077	<0.0089	<0.0083	0.0102	<0.0077	<0.0073	0.0132	<0.011
2-Chlorotoluene	1.56E+03	(1)	6.19E+03	(4)	2.57E+02	(7)	2.57E+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
2-Hexanone	9.38E+02	(1)	9.73E+02	(4)	3.53E+03	(7)	9.38E+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
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+01	-	mg/Kg	<0.0039	<0.0037	<0.2	<0.0044	<0.0044	0.0168	<0.0031	<0.0031	<0.0036	<0.0033	<0.0039	<0.0031	<0.0029	<0.0036	<0.0044
4-Chlorotoluene	1.60E+03	(2)	2.00E+04	(5)	8.30E+01	(8)	8.30E+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
4-Isopropyltoluene	-	-	-	-	-	-	-	-	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
4-Methyl-2-pentanone	5.30E+03	(2)	5.30E+04	(5)	1.06E+02	(8)	1.06E+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
Acetone	6.66E+04	(1)	2.21E+05	(4)	1.78E+03	(7)	1.78E+03	-	mg/Kg	0.00987	0.145	<0.75	0.0364	0.0272	0.114	0.0395	0.0326	0.146	0.0464	0.329	0.0686	0.0917	3.23	0.128
Benzene	1.54E+01	(1)	1.38E+02	(4)	7.96E-01	(7)	7.96E-01	-	mg/Kg	0.00136	0.00119	<0.05	<0.0011	<0.0011	0.0024	0.00139	0.00193	0.00176	0.000934	0.00207	0.00131	0.00191	0.00232	0.00154
Bromobenzene	3.00E+02	(2)	1.80E+03	(5)	1.66E+01	(8)	1.66E+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

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 (12)	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	1210372-007	1210372-008	1210372-009	1210372-005	1210372-006	1210811-001	1210811-002	1210811-003	1210811-004	1210811-005	1210811-006	1210811-008	1210811-007	1210692-021
										10/4/2012	10/5/2012	10/5/2012	10/5/2012	10/5/2012	10/5/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	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	<0.0011
Tetrachloroethene (PCE)	7.02E+00	(1)	2.12E+02	(4)	1.98E-01	(7)	1.98E-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
Toluene	5.27E+03	(1)	1.34E+04	(4)	5.84E+02	(7)	5.84E+02	-	mg/Kg	<0.001	0.00426	<0.05	<0.0011	<0.0011	0.00218	0.00215	0.00164	0.00562	0.00346	0.00414	0.00804	0.0047	0.00554	0.00597
trans-1,2-DCE	2.70E+02	(1)	2.73E+02	(4)	1.24E+01	(7)	1.24E+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
trans-1,3-Dichloropropene	-	-	-	-	-	-	-	-	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
Trichloroethene (TCE)	8.77E+00	(1)	7.68E+00	(4)	4.85E-01	(7)	4.85E-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
Trichlorofluoromethane	1.41E+03	(1)	1.30E+03	(4)	4.10E+02	(7)	4.10E+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
Vinyl chloride	7.28E-01	(1)	1.49E+02	(4)	2.50E-02	(7)	2.50E-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
Xylenes, Total	8.14E+02	(1)	7.43E+02	(4)	7.21E+01	(7)	7.21E+01	-	mg/Kg	<0.002	0.0262	<0.1	<0.0022	<0.0022	0.0128	<0.0015	<0.0015	0.0189	0.00384	0.0565	0.00902	0.00699	0.186	0.0112
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	<0.1995	<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
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(7)	1.29E+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
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	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
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(7)	1.47E+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
1-Methylnaphthalene	1.60E+02	(3)	5.30E+02	(6)	2.35E+00	(8)	2.35E+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
2,4,5-Trichlorophenol	6.11E+03	(1)	2.38E+04	(4)	4.78E+03	(7)	4.78E+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
2,4,6-Trichlorophenol	6.11E+01	(1)	2.38E+02	(4)	4.78E+01	(7)	4.78E+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
2,4-Dichlorophenol	1.83E+02	(1)	7.15E+02	(4)	4.60E+01	(7)	4.60E+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
2,4-Dimethylphenol	1.22E+03	(1)	4.76E+03	(4)	3.07E+02	(7)	3.07E+02	-	mg/Kg	<0.2993	<1.504	<1.5055	<0.2977	<0.3017	<0.2986	<3.0201	<0.2984	<1.499	<3.001	<0.5992	<0.6006	<0.599	<0.6038	<0.6036
2,4-Dinitrophenol	1.22E+02	(1)	4.76E+02	(4)	2.91E+01	(7)	2.91E+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
2,4-Dinitrotoluene	1.57E+01	(1)	4.76E+02	(4)	1.04E+00	(7)	1.04E+00	-	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
2,6-Dinitrotoluene	6.11E+01	(1)	2.38E+02	(4)	1.77E+01	(7)	1.77E+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
2-Chloronaphthalene	6.11E+01	(1)	2.94E+02	(4)	4.01E-01	(7)	4.01E-01	-	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
2-Chlorophenol	3.91E+02	(1)	1.55E+03	(4)	5.33E+01	(7)	5.33E+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
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+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
2-Methylphenol	3.10E+03	(2)	3.10E+04	(5)	2.67E+02	(8)	2.67E+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
2-Nitroaniline	6.10E+02	(2)	6.00E+03	(5)	2.86E+01	(8)	2.86E+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
2-Nitrophenol	-	-	-	-	-	-	-	-	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

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 (12)	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	1210372-007	1210372-008	1210372-009	1210372-005	1210372-006	1210811-001	1210811-002	1210811-003	1210811-004	1210811-005	1210811-006	1210811-008	1210811-007	1210692-021
										10/4/2012	10/5/2012	10/5/2012	10/5/2012	10/5/2012	10/5/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	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-01	(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	<2.0134	<0.1989	<0.9993	<2.0007	<0.3995	<0.4004	<0.3993	<0.4025	<0.4024
Hexachloroethane	4.28E+01	(1)	1.67E+02	(4)	3.77E+00	(7)	3.77E+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
Indeno(1,2,3-cd)pyrene	1.48E+00	(1)	2.13E+02	(4)	3.98E+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
Isophorone	5.12E+03	(1)	4.75E+04	(4)	8.84E+01	(7)	8.84E+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
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(7)	1.64E+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
Nitrobenzene	5.35E+01	(1)	3.32E+02	(4)	2.88E-01	(7)	2.88E-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
N-Nitrosodi-n-propylamine	6.90E-01	(3)	2.50E+00	(6)	3.23E-03	(8)	3.23E-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
N-Nitrosodiphenylamine	9.93E+02	(1)	3.36E+04	(4)	2.61E+02	(7)	2.61E+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
Pentachlorophenol	8.94E+00	(1)	3.10E+02	(4)	5.90E+00	(7)	5.90E+00	-	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
Phenanthrene	1.83E+03	(1)	7.15E+03	(4)	1.32E+04	(7)	1.83E+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
Phenol	1.83E+04	(1)	6.88E+04	(4)	2.29E+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
Pyrene	1.72E+03	(1)	6.68E+03	(4)	4.12E+04	(7)	1.72E+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
Pyridine	7.80E+01	(2)	1.00E+03	(5)	2.44E+00	(8)	2.44E+00	-	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

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 (12)	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)	3.00E+03	(11)	3.00E+03	(11)	3.00E+03	(11)	-	-	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 "uknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels

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

(12) 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 (12)	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	1210692-023	1210692-024	1210811-009	1210811-010	1210811-012	1210811-013	1210811-014	1210811-015	1210811-016	1210811-017	1210858-001	1210858-002	1210858-003	1210692-001
										10/12/2012	10/12/2012	10/12/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/16/2012	10/16/2012	10/16/2012	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	<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
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	<0.0007	<0.0007	<0.001	<0.0008
1,2,4-Trimethylbenzene	6.20E+01	(2)	2.60E+02	(5)	9.68E+00	(8)	9.68E+00	-	mg/Kg	0.00263	<0.0011	<0.0011	0.00194	<0.0009	<0.0007	<0.0007	0.00423	<0.0007	0.00424	<0.0008	0.00455	<0.0007	<0.001	0.0014
1,2-Dibromo-3-chloropropane	1.86E+00	(1)	5.07E+00	(4)	5.07E-04	(7)	5.07E-04	-	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-Dibromoethane (EDB)	5.88E-01	(1)	1.60E+01	(4)	7.10E-03	(7)	7.10E-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-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(7)	1.29E+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
1,2-Dichloroethane (EDC)	7.89E+00	(1)	5.87E+01	(4)	1.64E-01	(7)	1.64E-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
1,2-Dichloropropane	1.52E+01	(1)	2.50E+01	(4)	4.94E-01	(7)	4.94E-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
1,3,5-Trimethylbenzene	7.80E+02	(2)	1.00E+04	(5)	5.53E+01	(8)	5.53E+01	-	mg/Kg	0.00102	<0.0011	<0.0011	<0.0007	<0.0009	<0.0007	<0.0007	0.00176	<0.0007	0.00164	<0.0008	0.00192	<0.0007	<0.001	<0.0008
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	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
1,3-Dichloropropane	1.60E+03	(2)	2.00E+04	(5)	4.56E+01	(8)	4.56E+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
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(7)	1.47E+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
1-Methylnaphthalene	1.60E+02	(3)	5.30E+02	(6)	2.35E+00	(8)	2.35E+00	-	mg/Kg	<0.0033	<0.0045	<0.0046	<0.003	<0.0036	<0.0029	<0.0029	<0.0031	<0.003	<0.003	<0.0033	<0.0029	<0.003	<0.0039	<0.0032
2,2-Dichloropropane	-	-	-	-	-	-	-	-	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
2-Butanone (MEK)	3.71E+04	(1)	8.43E+04	(4)	5.87E+02	(7)	5.87E+02	-	mg/Kg	<0.0082	<0.0112	<0.0114	<0.0074	<0.0089	<0.0073	<0.0072	<0.0079	<0.0074	<0.0075	0.0107	<0.0072	<0.0075	<0.0097	0.022
2-Chlorotoluene	1.56E+03	(1)	6.19E+03	(4)	2.57E+02	(7)	2.57E+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
2-Hexanone	9.38E+02	(1)	9.73E+02	(4)	3.53E+03	(7)	9.38E+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
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+01	-	mg/Kg	<0.0033	<0.0045	<0.0046	<0.003	<0.0036	<0.0029	<0.0029	<0.0031	<0.003	<0.003	<0.0033	<0.0029	<0.003	<0.0039	<0.0032
4-Chlorotoluene	1.60E+03	(2)	2.00E+04	(5)	6.30E+01	(8)	6.30E+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
4-Isopropyltoluene	-	-	-	-	-	-	-	-	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
4-Methyl-2-pentanone	5.30E+03	(2)	5.30E+04	(5)	1.06E+02	(8)	1.06E+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
Acetone	6.66E+04	(1)	2.21E+05	(4)	1.78E+03	(7)	1.78E+03	-	mg/Kg	0.0479	0.0716	0.0561	0.0471	0.0202	0.0754	0.0328	0.0845	0.0282	0.377	0.0615	0.148	0.0512	0.0988	3.31
Benzene	1.54E+01	(1)	1.38E+02	(4)	7.96E-01	(7)	7.96E-01	-	mg/Kg	0.00142	<0.0011	<0.0011	0.00171	<0.0009	0.00192	<0.0007	0.00134	0.00166	0.00129	0.00269	0.00109	0.0016	0.00225	0.00137
Bromobenzene	3.00E+02	(2)	1.80E+03	(5)	1.66E+01	(8)	1.66E+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

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 (12)	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	1210692-023	1210692-024	1210811-009	1210811-010	1210811-012	1210811-013	1210811-014	1210811-015	1210811-016	1210811-017	1210858-001	1210858-002	1210858-003	1210692-001
										10/12/2012	10/12/2012	10/12/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/16/2012	10/16/2012	10/16/2012	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	<0.001	<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	<0.001	<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	<0.001	<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	<0.0097	<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	<0.001	<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	<0.001	<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	<0.001	<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	<0.001	<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	<0.001	<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	<0.001	<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	<0.001	<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	<0.001	<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	<0.001	<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	<0.001	<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+03	(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	<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
Tetrachloroethene (PCE)	7.02E+00	(1)	2.12E+02	(4)	1.98E-01	(7)	1.98E-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
Toluene	5.27E+03	(1)	1.34E+04	(4)	5.84E+02	(7)	5.84E+02	-	mg/Kg	0.00586	<0.0011	<0.0011	0.00574	<0.0009	0.00151	<0.0007	0.00712	0.00157	0.00708	0.00185	0.00687	0.0019	0.0029	0.00197
trans-1,2-DCE	2.70E+02	(1)	2.73E+02	(4)	1.24E+01	(7)	1.24E+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
trans-1,3-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
Trichloroethene (TCE)	8.77E+00	(1)	7.68E+00	(4)	4.85E-01	(7)	4.85E-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
Trichlorofluoromethane	1.41E+03	(1)	1.30E+03	(4)	4.10E+02	(7)	4.10E+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
Vinyl chloride	7.28E-01	(1)	1.49E+02	(4)	2.50E-02	(7)	2.50E-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
Xylenes, Total	8.14E+02	(1)	7.43E+02	(4)	7.21E+01	(7)	7.21E+01	-	mg/Kg	0.00573	<0.0022	<0.0023	0.00542	<0.0018	0.00254	<0.0014	0.013	<0.0015	0.0234	<0.0017	0.021	0.00154	<0.0019	0.279
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	<0.4009	<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
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(7)	1.29E+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
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	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
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(7)	1.47E+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
1-Methylnaphthalene	1.60E+02	(3)	5.30E+02	(6)	2.35E+00	(8)	2.35E+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
2,4,5-Trichlorophenol	6.11E+03	(1)	2.38E+04	(4)	4.78E+03	(7)	4.78E+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
2,4,6-Trichlorophenol	6.11E+01	(1)	2.38E+02	(4)	4.78E+01	(7)	4.78E+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
2,4-Dichlorophenol	1.83E+02	(1)	7.15E+02	(4)	4.60E+01	(7)	4.60E+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
2,4-Dimethylphenol	1.22E+03	(1)	4.76E+03	(4)	3.07E+02	(7)	3.07E+02	-	mg/Kg	<0.6014	<0.3024	<0.2974	<0.5976	<0.2988	<0.3017	<0.3012	<0.602	<0.6006	<0.5994	<0.596	<0.3001	<0.3019	<0.6028	<0.6034
2,4-Dinitrophenol	1.22E+02	(1)	4.76E+02	(4)	2.91E+01	(7)	2.91E+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
2,4-Dinitrotoluene	1.57E+01	(1)	4.76E+02	(4)	1.04E+00	(7)	1.04E+00	-	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
2,6-Dinitrotoluene	6.11E+01	(1)	2.38E+02	(4)	1.77E+01	(7)	1.77E+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
2-Chloronaphthalene	6.11E+01	(1)	2.84E+02	(4)	4.01E+01	(7)	4.01E+01	-	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
2-Chlorophenol	3.91E+02	(1)	1.55E+03	(4)	5.33E+01	(7)	5.33E+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
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+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
2-Methylphenol	3.10E+03	(2)	3.10E+04	(5)	2.67E+02	(8)	2.67E+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
2-Nitroaniline	6.10E+02	(2)	6.00E+03	(5)	2.86E+01	(8)	2.86E+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
2-Nitrophenol	-	-	-	-	-	-	-	-	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

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 (12)	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	1210692-023	1210692-024	1210811-009	1210811-010	1210811-012	1210811-013	1210811-014	1210811-015	1210811-016	1210811-017	1210858-001	1210858-002	1210858-003	1210692-001
										10/12/2012	10/12/2012	10/12/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/15/2012	10/16/2012	10/16/2012	10/16/2012	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	<0.4004	<0.3996	<0.3974	<0.2001	<0.2013	<0.4019	<0.4023
Hexachloroethane	4.28E+01	(1)	1.67E+02	(4)	3.77E+00	(7)	3.77E+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
Indeno(1,2,3-cd)pyrene	1.48E+00	(1)	2.13E+02	(4)	3.98E+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
Isophorone	5.12E+03	(1)	4.75E+04	(4)	8.84E+01	(7)	8.84E+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
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(7)	1.64E+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
Nitrobenzene	5.35E+01	(1)	3.32E+02	(4)	2.88E-01	(7)	2.88E-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
N-Nitrosodi-n-propylamine	6.90E-01	(3)	2.50E+00	(6)	3.23E-03	(8)	3.23E-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
N-Nitrosodiphenylamine	9.93E+02	(1)	3.36E+04	(4)	2.61E+02	(7)	2.61E+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
Pentachlorophenol	8.94E+00	(1)	3.10E+02	(4)	5.90E+00	(7)	5.90E+00	-	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
Phenanthrene	1.83E+03	(1)	7.15E+03	(4)	1.32E+04	(7)	1.83E+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
Phenol	1.83E+04	(1)	6.88E+04	(4)	2.29E+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
Pyrene	1.72E+03	(1)	6.68E+03	(4)	4.12E+04	(7)	1.72E+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
Pyridine	7.80E+01	(2)	1.00E+03	(5)	2.44E+00	(8)	2.44E+00	-	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

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 (12)	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)	3.00E+03	(11)	3.00E+03	(11)	3.00E+03	(11)	-	-	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 "uknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels

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

(12) 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 (12)	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	<12.5002	<5	<5	<5	<5	<5	<5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<5	<5
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	<0.0075	<0.0104	<0.0094	<0.0088	<0.0086	<0.0079	<0.0073	<0.0074	<0.0109	<0.0145	<0.0104	<0.0106	<0.0079
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+01	-	mg/Kg	<0.0036	<0.0038	<0.003	<0.0042	<0.0038	<0.0035	<0.0034	<0.0032	<0.0029	<0.0029	<0.0044	0.0659	<0.0042	<0.0042	<0.0032
4-Chlorotoluene	1.60E+03	(2)	2.00E+04	(5)	8.30E+01	(8)	8.30E+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
4-Isopropyltoluene	-	-	-	-	-	-	-	-	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
4-Methyl-2-pentanone	5.30E+03	(2)	5.30E+04	(5)	1.06E+02	(8)	1.06E+02	-	mg/Kg	<0.009	<0.0094	<0.0075	<0.0104	<0.0094	<0.0088	<0.0086	<0.0079	<0.0073	<0.0074	<0.0109	<0.0145	<0.0104	<0.0106	<0.0079
Acetone	6.66E+04	(1)	2.21E+05	(4)	1.78E+03	(7)	1.78E+03	-	mg/Kg	0.119	0.0217	0.0242	0.0144	0.0637	0.0242	0.0502	0.095	0.0549	0.0361	0.0834	0.0758	0.0327	0.0739	0.0398
Benzene	1.54E+01	(1)	1.38E+02	(4)	7.96E-01	(7)	7.96E-01	-	mg/Kg	0.00151	0.00791	0.00321	0.00183	0.00183	0.00192	0.00193	0.000878	0.00215	0.00208	<0.0011	0.00396	0.00152	0.0013	<0.0008
Bromobenzene	3.00E+02	(2)	1.80E+03	(5)	1.66E+01	(8)	1.66E+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

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 (12)	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	1210692-005	1210692-004	1210858-004	1210858-006	1210858-007	1210859-001	1210521-001	1210521-003	1210521-004	1210521-005	1210521-006	1210521-007	1210859-004	1210859-003
										10/11/2012	10/11/2012	10/11/2012	10/16/2012	10/16/2012	10/16/2012	10/16/2012	10/8/2012	10/8/2012	10/8/2012	10/8/2012	10/8/2012	10/8/2012	10/16/2012	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	<0.001	<0.0009	<0.0009	<0.0009	<0.0008	<0.0007	<0.0007	<0.0011	<0.0015	<0.001	<0.0011	<0.0008
Tetrachloroethene (PCE)	7.02E+00	(1)	2.12E+02	(4)	1.98E-01	(7)	1.98E-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
Toluene	5.27E+03	(1)	1.34E+04	(4)	5.84E+02	(7)	5.84E+02	-	mg/Kg	0.00105	0.00372	0.00205	0.00147	0.00156	0.00129	0.00211	0.0023	0.00201	0.00112	<0.0011	0.00493	0.00137	0.00428	0.00202
trans-1,2-DCE	2.70E+02	(1)	2.73E+02	(4)	1.24E+01	(7)	1.24E+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
trans-1,3-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
Trichloroethene (TCE)	8.77E+00	(1)	7.68E+00	(4)	4.85E-01	(7)	4.85E-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
Trichlorofluoromethane	1.41E+03	(1)	1.30E+03	(4)	4.10E+02	(7)	4.10E+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
Vinyl chloride	7.28E-01	(1)	1.49E+02	(4)	2.50E-02	(7)	2.50E-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
Xylenes, Total	8.14E+02	(1)	7.43E+02	(4)	7.21E+01	(7)	7.21E+01	-	mg/Kg	<0.0018	<0.0019	<0.0015	<0.0021	<0.0019	<0.0018	0.0018	0.00328	<0.0015	<0.0015	<0.0022	0.0289	<0.0021	0.00404	0.00162
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	<0.1999	<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
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(7)	1.29E+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
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	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
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(7)	1.47E+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
1-Methylnaphthalene	1.60E+02	(3)	5.30E+02	(6)	2.35E+00	(8)	2.35E+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
2,4,5-Trichlorophenol	6.11E+03	(1)	2.38E+04	(4)	4.78E+03	(7)	4.78E+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
2,4,6-Trichlorophenol	6.11E+01	(1)	2.38E+02	(4)	4.78E+01	(7)	4.78E+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
2,4-Dichlorophenol	1.83E+02	(1)	7.15E+02	(4)	4.60E+01	(7)	4.60E+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
2,4-Dimethylphenol	1.22E+03	(1)	4.76E+03	(4)	3.07E+02	(7)	3.07E+02	-	mg/Kg	<0.2999	<0.3002	<0.3011	<0.2985	<0.603	<0.2992	<0.6026	<1.4861	<0.2999	<0.2998	<0.3002	<0.2982	<0.303	<1.4886	<1.506
2,4-Dinitrophenol	1.22E+02	(1)	4.76E+02	(4)	2.91E+01	(7)	2.91E+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
2,4-Dinitrotoluene	1.57E+01	(1)	4.76E+02	(4)	1.04E+00	(7)	1.04E+00	-	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
2,6-Dinitrotoluene	6.11E+01	(1)	2.38E+02	(4)	1.77E+01	(7)	1.77E+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
2-Chloronaphthalene	6.11E+01	(1)	2.38E+02	(4)	4.01E+01	(7)	4.01E+01	-	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
2-Chlorophenol	3.91E+02	(1)	1.55E+03	(4)	5.33E+01	(7)	5.33E+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
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+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
2-Methylphenol	3.10E+03	(2)	3.10E+04	(5)	2.67E+02	(8)	2.67E+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
2-Nitroaniline	6.10E+02	(2)	6.00E+03	(5)	2.86E+01	(8)	2.86E+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
2-Nitrophenol	-	-	-	-	-	-	-	-	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

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 (12)	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	1210692-005	1210692-004	1210858-004	1210858-006	1210858-007	1210859-001	1210521-001	1210521-003	1210521-004	1210521-005	1210521-006	1210521-007	1210859-004	1210859-003
										10/11/2012	10/11/2012	10/11/2012	10/16/2012	10/16/2012	10/16/2012	10/16/2012	10/8/2012	10/8/2012	10/8/2012	10/8/2012	10/8/2012	10/8/2012	10/16/2012	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+01	(1)	1.67E+02	(4)	3.77E+00	(7)	3.77E+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
Indeno(1,2,3-cd)pyrene	1.48E+00	(1)	2.13E+02	(4)	3.98E+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
Isophorone	5.12E+03	(1)	4.75E+04	(4)	8.84E+01	(7)	8.84E+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
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(7)	1.64E+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
Nitrobenzene	5.35E+01	(1)	3.32E+02	(4)	2.88E-01	(7)	2.88E-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
N-Nitrosodi-n-propylamine	6.90E-01	(3)	2.50E+00	(6)	3.23E-03	(8)	3.23E-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
N-Nitrosodiphenylamine	9.99E+02	(1)	3.98E+04	(4)	2.61E+02	(7)	2.61E+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
Pentachlorophenol	8.94E+00	(1)	3.10E+02	(4)	5.90E+00	(7)	5.90E+00	-	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
Phenanthrene	1.83E+03	(1)	7.15E+03	(4)	1.32E+04	(7)	1.83E+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
Phenol	1.83E+04	(1)	6.88E+04	(4)	2.29E+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
Pyrene	1.72E+03	(1)	6.68E+03	(4)	4.12E+04	(7)	1.72E+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
Pyridine	7.80E+01	(2)	1.00E+03	(5)	2.44E+00	(8)	2.44E+00	-	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

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 (12)	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)	3.00E+03	(11)	3.00E+03	(11)	3.00E+03	(11)	-	-	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 "uknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels

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

(12) 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 (12)	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	<5	<5	<12.5004	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
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	0.00209	<1.0132	0.00116	0.00268	<0.0007	<0.0007	0.00138	0.00179	0.00116	0.00524	0.00341	0.00197
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	<0.0008	<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-Dibromoethane (EDB)	5.88E-01	(1)	1.60E+01	(4)	7.10E-03	(7)	7.10E-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-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(7)	1.29E+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
1,2-Dichloroethane (EDC)	7.89E+00	(1)	5.87E+01	(4)	1.64E-01	(7)	1.64E-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
1,2-Dichloropropane	1.52E+01	(1)	2.50E+01	(4)	4.94E-01	(7)	4.94E-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
1,3,5-Trimethylbenzene	7.80E+02	(2)	1.00E+04	(5)	5.53E+01	(8)	5.53E+01	-	mg/Kg	0.000828	0.00334	<0.0008	<0.001	<1.0132	<0.0008	<0.001	<0.0007	<0.0007	<0.0008	<0.0008	<0.0009	0.00196	0.00139	0.000762
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	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
1,3-Dichloropropane	1.60E+03	(2)	2.00E+04	(5)	4.56E+01	(8)	4.56E+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
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(7)	1.47E+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
1-Methylnaphthalene	1.60E+02	(3)	5.30E+02	(6)	2.35E+00	(8)	2.35E+00	-	mg/Kg	<0.0029	<0.0037	<0.003	<0.004	<4.0529	<0.0033	<0.004	<0.0028	<0.0027	<0.0034	<0.0033	<0.0036	<0.0042	<0.0036	<0.0027
2,2-Dichloropropane	-	-	-	-	-	-	-	-	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
2-Butanone (MEK)	3.71E+04	(1)	8.43E+04	(4)	5.87E+02	(7)	5.87E+02	-	mg/Kg	<0.0073	0.0722	<0.0075	0.0161	<10.1322	<0.0082	0.0213	<0.007	<0.0069	<0.0084	<0.0083	<0.009	<0.0106	<0.009	<0.0068
2-Chlorotoluene	1.56E+03	(1)	6.19E+03	(4)	2.57E+02	(7)	2.57E+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
2-Hexanone	9.38E+02	(1)	9.73E+02	(4)	3.53E+03	(7)	9.38E+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
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+01	-	mg/Kg	<0.0029	<0.0037	<0.003	<0.004	<4.0529	<0.0033	<0.004	<0.0028	<0.0027	<0.0034	<0.0033	<0.0036	<0.0042	<0.0036	<0.0027
4-Chlorotoluene	1.60E+03	(2)	2.00E+04	(5)	8.30E+01	(8)	8.30E+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
4-Isopropyltoluene	-	-	-	-	-	-	-	-	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
4-Methyl-2-pentanone	5.30E+03	(2)	5.30E+04	(5)	1.06E+02	(8)	1.06E+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
Acetone	6.66E+04	(1)	2.21E+05	(4)	1.78E+03	(7)	1.78E+03	-	mg/Kg	0.0644	2.44	0.169	0.135	54.1	0.0641	0.692	0.0541	0.0215	0.0344	0.0551	0.0526	0.0654	0.0608	0.0525
Benzene	1.54E+01	(1)	1.38E+02	(4)	7.96E-01	(7)	7.96E-01	-	mg/Kg	0.00185	0.00213	0.0013	0.00299	2.53	0.00236	0.0024	0.0014	0.00109	0.00119	0.0014	0.00146	0.00184	0.00226	0.00134
Bromobenzene	3.00E+02	(2)	1.80E+03	(5)	1.66E+01	(8)	1.66E+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

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 (12)	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	1210692-009	1210692-010	1210692-011	1210692-012	1210859-006	1210692-014	1210692-015	1210692-016	1210856-001	1210856-002	1210856-004	1210856-005	1210692-017	1210692-018
										10/16/2012	10/12/2012	10/12/2012	10/12/2012	10/12/2012	10/16/2012	10/12/2012	10/12/2012	10/12/2012	10/16/2012	10/16/2012	10/16/2012	10/16/2012	10/12/2012	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	<1.0054
2,4,6-Trichlorophenol	6.11E+01	(1)	2.38E+02	(4)	4.78E+01	(7)	4.78E+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
2,4-Dichlorophenol	1.83E+02	(1)	7.15E+02	(4)	4.60E+01	(7)	4.60E+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
2,4-Dimethylphenol	1.22E+03	(1)	4.76E+03	(4)	3.07E+02	(7)	3.07E+02	-	mg/Kg	<0.5952	<0.603	<0.3025	<0.6014	<0.3009	<1.196	<0.6	<1.4842	<0.3036	<3.005	<3.007	<2.996	<1.501	<3	<1.508
2,4-Dinitrophenol	1.22E+02	(1)	4.76E+02	(4)	2.91E+01	(7)	2.91E+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
2,4-Dinitrotoluene	1.57E+01	(1)	4.76E+02	(4)	1.04E+00	(7)	1.04E+00	-	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
2,6-Dinitrotoluene	6.11E+01	(1)	2.38E+02	(4)	1.77E+01	(7)	1.77E+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
2-Chloronaphthalene	6.11E+01	(1)	2.94E+02	(4)	4.01E-01	(7)	4.01E-01	-	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
2-Chlorophenol	3.91E+02	(1)	1.55E+03	(4)	5.33E+01	(7)	5.33E+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
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+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
2-Methylphenol	3.10E+03	(2)	3.10E+04	(5)	2.67E+02	(8)	2.67E+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
2-Nitroaniline	6.10E+02	(2)	6.00E+03	(5)	2.86E+01	(8)	2.86E+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
2-Nitrophenol	-	-	-	-	-	-	-	-	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

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 (12)	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	1210692-009	1210692-010	1210692-011	1210692-012	1210859-006	1210692-014	1210692-015	1210692-016	1210856-001	1210856-002	1210856-004	1210856-005	1210692-017	1210692-018
										10/16/2012	10/12/2012	10/12/2012	10/12/2012	10/12/2012	10/16/2012	10/12/2012	10/12/2012	10/12/2012	10/16/2012	10/16/2012	10/16/2012	10/16/2012	10/12/2012	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	<2.0047	<1.9973	<1.0007	<2	<1.0054
Indeno(1,2,3-cd)pyrene	1.48E+00	(1)	2.13E+02	(4)	3.98E+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
Isophorone	5.12E+03	(1)	4.75E+04	(4)	8.84E+01	(7)	8.84E+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
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(7)	1.64E+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
Nitrobenzene	5.35E+01	(1)	3.32E+02	(4)	2.88E-01	(7)	2.88E-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
N-Nitrosodi-n-propylamine	6.90E-01	(3)	2.50E+00	(6)	3.23E-03	(8)	3.23E-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
N-Nitrosodiphenylamine	9.99E+02	(1)	3.36E+04	(4)	2.61E+02	(7)	2.61E+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
Pentachlorophenol	8.94E+00	(1)	3.10E+02	(4)	5.90E+00	(7)	5.90E+00	-	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
Phenanthrene	1.83E+03	(1)	7.15E+03	(4)	1.32E+04	(7)	1.83E+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
Phenol	1.83E+04	(1)	6.88E+04	(4)	2.29E+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
Pyrene	1.72E+03	(1)	6.68E+03	(4)	4.12E+04	(7)	1.72E+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
Pyridine	7.80E+01	(2)	1.00E+03	(5)	2.44E+00	(8)	2.44E+00	-	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

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 (12)	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)	3.00E+03	(11)	3.00E+03	(11)	3.00E+03	(11)	-	-	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 "uknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels

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

(12) 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 (12)	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	1210856-006	1210653-001	1210653-002	1210653-005	1210653-006	1210653-007	1210653-004	1210653-003	1210692-006	1210692-007	1210692-008	1210859-002
										10/12/2012	10/16/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/11/2012	10/11/2012	10/11/2012	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	<5	<5	<5	<5	<5	<12.5	<12.5	<5	<5	<5	<5	<5	<5
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)	1.64E-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
1,2-Dichloropropane	1.52E+01	(1)	2.50E+01	(4)	4.94E-01	(7)	4.94E-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
1,3,5-Trimethylbenzene	7.80E+02	(2)	1.00E+04	(5)	5.53E+01	(8)	5.53E+01	-	mg/Kg	0.000722	0.00115	<0.001	<0.0008	<0.0009	<0.0008	0.00122	<0.0014	<0.0011	<0.0008	<0.0008	<0.0008	<0.0008
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	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
1,3-Dichloropropane	1.60E+03	(2)	2.00E+04	(5)	4.56E+01	(8)	4.56E+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
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(7)	1.47E+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
1-Methylnaphthalene	1.60E+02	(3)	5.30E+02	(6)	2.35E+00	(8)	2.35E+00	-	mg/Kg	<0.0028	<0.0038	<0.0039	<0.003	<0.0037	<0.0034	<0.0032	<0.0055	<0.0042	<0.0034	<0.0032	<0.0032	<0.0031
2,2-Dichloropropane	-	-	-	-	-	-	-	-	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
2-Butanone (MEK)	3.71E+04	(1)	8.43E+04	(4)	5.87E+02	(7)	5.87E+02	-	mg/Kg	<0.007	<0.0095	0.0182	0.00999	<0.0092	<0.0084	<0.0081	<0.0136	<0.0105	<0.0085	0.0138	<0.008	<0.0077
2-Chlorotoluene	1.56E+03	(1)	6.19E+03	(4)	2.57E+02	(7)	2.57E+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
2-Hexanone	9.38E+02	(1)	9.73E+02	(4)	3.53E+03	(7)	9.38E+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
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+01	-	mg/Kg	<0.0028	<0.0038	<0.0039	<0.003	<0.0037	<0.0034	<0.0032	<0.0055	<0.0042	<0.0034	<0.0032	<0.0032	<0.0031
4-Chlorotoluene	1.60E+03	(2)	2.00E+04	(5)	8.30E+01	(8)	8.30E+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
4-Isopropyltoluene	-	-	-	-	-	-	-	-	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
4-Methyl-2-pentanone	5.30E+03	(2)	5.30E+04	(5)	1.06E+02	(8)	1.06E+02	-	mg/Kg	<0.007	<0.0095	0.0116	<0.0076	<0.0092	<0.0084	<0.0081	<0.0136	<0.0105	<0.0085	<0.0079	<0.008	<0.0077
Acetone	6.66E+04	(1)	2.21E+05	(4)	1.78E+03	(7)	1.78E+03	-	mg/Kg	0.0381	0.0535	0.109	0.0745	0.0141	0.0148	0.0127	0.0148	0.0133	0.156	0.158	0.025	0.0521
Benzene	1.54E+01	(1)	1.38E+02	(4)	7.96E-01	(7)	7.96E-01	-	mg/Kg	0.00202	0.00251	0.00239	0.00203	0.00165	0.00157	0.0106	0.00221	0.00174	0.00204	0.00122	0.0114	0.00189
Bromobenzene	3.00E+02	(2)	1.80E+03	(5)	1.66E+01	(8)	1.66E+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

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 (12)	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	1210856-006	1210653-001	1210653-002	1210653-005	1210653-006	1210653-007	1210653-004	1210653-003	1210692-006	1210692-007	1210692-008	1210859-002
										10/12/2012	10/16/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/11/2012	10/11/2012	10/11/2012	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+00	(1)	7.68E+00	(4)	4.85E-01	(7)	4.85E-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
Trichlorofluoromethane	1.41E+03	(1)	1.30E+03	(4)	4.10E+02	(7)	4.10E+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
Vinyl chloride	7.28E-01	(1)	1.49E+02	(4)	2.50E-02	(7)	2.50E-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
Xylenes, Total	8.14E+02	(1)	7.43E+02	(4)	7.21E+01	(7)	7.21E+01	-	mg/Kg	0.00434	0.0061	0.00526	0.00305	<0.0018	<0.0017	0.00597	<0.0027	<0.0021	0.00901	0.00793	0.00276	<0.0015
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	<0.4011	<1.9993	<0.4005	<0.408	<0.1992	<0.1976	<0.2002	<0.1981	<0.1977	<0.2023	<0.4025	<0.1996	<0.199
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(7)	1.29E+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
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	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
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(7)	1.47E+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
1-Methylnaphthalene	1.60E+02	(3)	5.30E+02	(6)	2.35E+00	(8)	2.35E+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
2,4,5-Trichlorophenol	6.11E+03	(1)	2.38E+04	(4)	4.78E+03	(7)	4.78E+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
2,4,6-Trichlorophenol	6.11E+01	(1)	2.38E+02	(4)	4.78E+01	(7)	4.78E+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
2,4-Dichlorophenol	1.83E+02	(1)	7.15E+02	(4)	4.60E+01	(7)	4.60E+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
2,4-Dimethylphenol	1.22E+03	(1)	4.76E+03	(4)	3.07E+02	(7)	3.07E+02	-	mg/Kg	<0.6016	<2.999	<0.6008	<0.612	<0.2988	<0.2963	<0.3003	<0.2971	<0.2965	<0.3034	<0.6038	<0.2994	<0.2985
2,4-Dinitrophenol	1.22E+02	(1)	4.76E+02	(4)	2.91E+01	(7)	2.91E+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
2,4-Dinitrotoluene	1.57E+01	(1)	4.76E+02	(4)	1.04E+00	(7)	1.04E+00	-	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
2,6-Dinitrotoluene	6.11E+01	(1)	2.38E+02	(4)	1.77E+01	(7)	1.77E+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
2-Chloronaphthalene	6.11E+01	(1)	2.94E+02	(4)	4.01E-01	(7)	4.01E-01	-	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
2-Chlorophenol	3.91E+02	(1)	1.55E+03	(4)	5.33E+01	(7)	5.33E+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
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+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
2-Methylphenol	3.10E+03	(2)	3.10E+04	(5)	2.67E+02	(8)	2.67E+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
2-Nitroaniline	6.10E+02	(2)	6.00E+03	(5)	2.86E+01	(8)	2.86E+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
2-Nitrophenol	-	-	-	-	-	-	-	-	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

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 (12)	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	1210856-006	1210653-001	1210653-002	1210653-005	1210653-006	1210653-007	1210653-004	1210653-003	1210692-006	1210692-007	1210692-008	1210859-002
										10/12/2012	10/16/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/10/2012	10/11/2012	10/11/2012	10/11/2012	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-01	(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	5.35E+01	(1)	3.32E+02	(4)	2.88E-01	(7)	2.88E-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
N-Nitrosodi-n-propylamine	6.90E-01	(3)	2.50E+00	(6)	3.23E-03	(8)	3.23E-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
N-Nitrosodiphenylamine	9.93E+02	(1)	3.36E+04	(4)	2.61E+02	(7)	2.61E+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
Pentachlorophenol	8.94E+00	(1)	3.10E+02	(4)	5.90E+00	(7)	5.90E+00	-	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
Phenanthrene	1.83E+03	(1)	7.15E+03	(4)	1.32E+04	(7)	1.83E+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
Phenol	1.83E+04	(1)	6.88E+04	(4)	2.29E+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
Pyrene	1.72E+03	(1)	6.68E+03	(4)	4.12E+04	(7)	1.72E+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
Pyridine	7.80E+01	(2)	1.00E+03	(5)	2.44E+00	(8)	2.44E+00	-	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

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 (12)	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)	3.00E+03	(11)	3.00E+03	(11)	3.00E+03	(11)	-	-	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 "uknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels

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

(12) 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 (12)	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')
									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
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
Arsenic	3.90E+00	(1)	5.30E+01	(4)	6.05E+00	(8)	3.90E+00	-	<12.5	<12.5	<12.5	<12.5	<12.5	<12.501	<12.5	<12.5	1.6	<12.5	<12.5	<12.5	<12.5
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
1,1,1-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
1,1,2,2-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
1,1,2-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
1,1-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
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
1,1-Dichloropropene	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.1	<2	<0.001	<0.001	<2	<0.001	<0.1	<2	<0.001
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
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
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
1,2,4-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
1,2-Dibromo-3-chloropropane	1.86E+00	(1)	5.07E+00	(4)	5.07E-04	(8)	5.07E-04	-	<0.002	<0.002	<0.002	<0.002	<0.1	<2	<0.002	<0.002	<2	<0.002	<0.1	<2	<0.002
1,2-Dibromoethane (EDB)	5.88E-01	(1)	1.60E+01	(4)	7.10E-03	(8)	7.10E-03	-	<0.001	<0.001	<0.001	<0.001	<0.05	0.17	<0.001	<0.001	0.29	<0.001	<0.05	0.31	<0.001
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(8)	1.29E+02	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001
1,2-Dichloroethane (EDC)	7.89E+00	(1)	5.87E+01	(4)	1.64E-01	(8)	1.64E-01	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001
1,2-Dichloropropane	1.52E+01	(1)	2.50E+01	(4)	4.94E-01	(8)	4.94E-01	-	<0.002	<0.002	<0.002	<0.002	<0.05	<1	<0.002	<0.002	0.16	<0.002	<0.05	<1	<0.002
1,3,5-Trimethylbenzene	7.80E+02	(2)	1.00E+04	(5)	5.53E+01	(8)	5.53E+01	-	<0.001	<0.001	<0.001	<0.001	<0.05	1.1	<0.001	0.00112	0.39	<0.001	<0.05	0.099	<0.001
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001
1,3-Dichloropropane	1.60E+03	(2)	2.00E+04	(5)	4.56E+01	(8)	4.56E+01	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(8)	1.47E+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-Methylnaphthalene	1.60E+02	(3)	5.30E+01	(6)	2.35E+00	(8)	2.35E+00	-	0.000968	<0.003	0.000458	<0.004	0.065	4.7	<0.004	0.025	16	<0.004	0.015	16	<0.004
2,2-Dichloropropane	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.1	<2	<0.001	<0.001	<2	<0.001	<0.1	<2	<0.001
2-Butanone (MEK)	3.71E+04	(1)	8.43E+04	(4)	5.87E+02	(8)	5.87E+02	-	<0.002	<0.002	<0.002	<0.002	<0.5	<10	<0.005	0.00176	<10	<0.002	<0.5	<10	<0.002
2-Chlorotoluene	1.56E+03	(1)	6.19E+03	(4)	2.57E+02	(8)	2.57E+02	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001
2-Hexanone	9.38E+02	(1)	9.73E+02	(4)	3.53E+03	(8)	9.38E+02	-	<0.002	<0.002	<0.002	<0.002	<0.5	<10	<0.005	<0.005	<10	<0.002	<0.5	<10	<0.002
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+01	-	0.00119	<0.003	<0.004	<0.004	0.082	5.6	<0.004	0.0197	17	<0.004	0.018	16	<0.004
4-Chlorotoluene	1.60E+03	(2)	2.00E+04	(5)	8.30E+01	(8)	8.30E+01	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001
4-Isopropyltoluene	-	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.05	0.3	<0.001	0.00112	0.45	<0.001	<0.05	0.39	<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) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (12)	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')
									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
4-Methyl-2-pentanone	5.30E+03	(2)	5.30E+04	(5)	1.06E+02	(8)	1.06E+02	-	<0.002	<0.002	<0.002	<0.002	<0.5	<10	<0.005	<0.005	<10	<0.002	<0.5	<10	<0.002
Acetone	6.66E+04	(1)	2.21E+05	(4)	1.78E+03	(8)	1.78E+03	-	0.00305	0.003	0.00688	0.0065	<0.75	3.9	0.00794	0.0121	8.5	0.00398	0.027	9.3	0.00437
Benzene	1.54E+01	(1)	1.38E+02	(4)	7.96E-01	(8)	7.96E-01	-	<0.001	<0.001	<0.001	<0.001	<0.05	0.1	<0.001	<0.001	0.22	<0.001	0.0068	0.14	<0.001
Bromobenzene	3.00E+02	(2)	1.80E+03	(5)	1.66E+01	(8)	1.66E+01	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001
Bromodichloromethane	5.41E+00	(1)	1.43E+02	(4)	1.25E-01	(8)	1.25E-01	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001
Bromoform	6.16E+02	(1)	4.76E+03	(4)	2.78E+02	(8)	2.78E+02	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001
Bromomethane	1.65E+01	(1)	1.64E+01	(4)	8.86E-01	(8)	8.86E-01	-	-	-	-	-	<0.15	<3	-	-	<3	-	<0.15	<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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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	<0.001
Trichlorofluoromethane	1.41E+03	(1)	1.30E+03	(4)	4.10E+02	(8)	4.10E+02	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	0.000331	<1	<0.001	<0.05	<1	<0.001
Vinyl chloride	7.28E-01	(1)	1.49E+02	(4)	2.50E-02	(8)	2.50E-02	-	<0.001	<0.001	<0.001	<0.001	<0.05	<1	<0.001	<0.001	<1	<0.001	<0.05	<1	<0.001
Xylenes, Total	8.14E+02	(1)	7.43E+02	(4)	7.21E+01	(8)	7.21E+01	-	<0.002	<0.002	<0.002	<0.002	<0.1	0.34	<0.003	<0.003	1	<0.002	<0.1	0.34	<0.002
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	-	<0.997	<1.001	<0.199	<0.199	<0.198	<0.996	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(8)	1.29E+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
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	<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
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(8)	1.47E+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
1-Methylnaphthalene	1.60E+02	(3)	5.30E+01	(6)	2.35E+00	(8)	2.35E+00	-	<0.997	<1.001	0.49	<0.199	<0.198	5.9	<0.199	<0.2	16	<1.003	<0.998	9.2	<0.199
2,4,5-Trichlorophenol	6.11E+03	(1)	2.38E+04	(4)	4.78E+03	(8)	4.78E+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
2,4,6-Trichlorophenol	6.11E+01	(1)	2.38E+02	(4)	4.78E+01	(8)	4.78E+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
2,4-Dichlorophenol	1.83E+02	(1)	7.15E+02	(4)	4.60E+01	(8)	4.60E+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
2,4-Dimethylphenol	1.22E+03	(1)	4.76E+03	(4)	3.07E+02	(8)	3.07E+02	-	<1.495	<1.502	<0.299	<0.298	<0.298	<1.494	<0.299	<0.3	<1.518	<1.504	<1.497	<1.505	<0.298
2,4-Dinitrophenol	1.22E+02	(1)	4.76E+02	(4)	2.91E+01	(8)	2.91E+01	-	0.45	0.45	<0.399	0.091	<0.397	0.56	<0.398	0.093	<2.024	0.46	0.45	<2.006	<0.397

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 (12)	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')
									1207748-001	1207748-002	1207748-003	1207900-006	1207917-005	1207917-006	1207917-009	1207917-010	1207917-007	1207900-001	1207900-002	1207900-004	1207900-005
									7/16/2012	7/16/2012	7/16/2012	7/18/2012	7/17/2012	7/17/2012	7/17/2012	7/17/2012	7/17/2012	7/18/2012	7/18/2012	7/18/2012	7/18/2012
2,4-Dinitrotoluene	1.57E+01	(1)	4.76E+02	(4)	1.04E+00	(8)	1.04E+00	-	<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
2,6-Dinitrotoluene	6.11E+01	(1)	2.38E+02	(4)	1.77E+01	(8)	1.77E+01	-	<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
2-Chloronaphthalene	6.11E+01	(1)	2.94E+02	(4)	4.01E-01	(8)	4.01E-01	-	<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-Chlorophenol	3.91E+02	(1)	1.55E+03	(4)	5.33E+01	(8)	5.33E+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-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+01	-	<0.997	<1.001	<0.199	<0.199	<0.198	6.4	<0.199	<0.2	16	<1.003	<0.998	6	<0.199
2-Methylphenol	3.10E+03	(2)	3.10E+04	(5)	2.67E+02	(8)	2.67E+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
2-Nitroaniline	6.10E+02	(2)	6.00E+03	(5)	2.86E+01	(8)	2.86E+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-Nitrophenol	-	-	-	-	-	-	-	-	<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
3,3´-Dichlorobenzidine	1.08E+01	(1)	3.64E+02	(4)	3.41E+00	(8)	3.41E+00	-	<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
3+4-Methylphenol	-	-	-	-	-	-	-	-	<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
3-Nitroaniline	-	-	-	-	-	-	-	-	<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
4,6-Dinitro-2-methylphenol	4.90E+00	(2)	4.90E+01	(5)	9.22E-01	(8)	9.22E-01	-	<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
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
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
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
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
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-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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
Dibenzofuran	7.80E+01	(2)	1.00E+03	(5)	5.07E+01	(8)	5.07E+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
Diethyl phthalate	4.89E+04	(1)	1.91E+05	(4)	4.45E+03	(8)	4.45E+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
Dimethyl phthalate	6.11E+05	(1)	2.38E+06	(4)	3.71E+04	(8)	3.71E+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
Di-n-butyl phthalate	6.11E+03	(1)	2.38E+04	(4)	3.21E+03	(8)	3.21E+03	-	<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
Di-n-octyl phthalate	-	-	-	-	-	-	-	-	<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
Fluoranthene	2.29E+03	(1)	8.91E+03	(4)	5.61E+04	(8)	2.29E+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
Fluorene	2.29E+03	(1)	8.91E+03	(4)	9.36E+03	(8)	2.29E+03	-	<0.997	<1.001	<0.199	<0.199	<0.198	1.8	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199
Hexachlorobenzene	3.04E+00	(1)	1.03E+02	(4)	1.83E+00	(8)	1.83E+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
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(8)	5.91E+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
Hexachlorocyclopentadiene	3.67E+02	(1)	8.11E+02	(4)	2.43E+02	(8)	2.43E+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

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 (12)	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')
									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
Hexachloroethane	4.28E+01	(1)	1.67E+02	(4)	3.77E+00	(8)	3.77E+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
Indeno(1,2,3-cd)pyrene	1.48E+00	(1)	2.13E+02	(4)	3.98E+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
Isophorone	5.12E+03	(1)	4.75E+04	(4)	8.84E+01	(8)	8.84E+01	-	<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
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(8)	1.64E+00	-	<0.997	<1.001	<0.199	<0.199	<0.198	1	<0.199	<0.2	2.5	<1.003	<0.998	0.71	<0.199
Nitrobenzene	5.35E+01	(1)	3.32E+02	(4)	2.88E-01	(8)	2.88E-01	-	<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
N-Nitrosodi-n-propylamine	6.90E-01	(3)	2.50E-01	(6)	3.23E-03	(8)	3.23E-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
N-Nitrosodiphenylamine	9.93E+02	(1)	3.36E+04	(4)	2.61E+02	(8)	2.61E+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
Pentachlorophenol	8.94E+00	(1)	3.10E+02	(4)	5.90E+00	(8)	5.90E+00	-	<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
Phenanthrene	1.83E+03	(1)	7.15E+03	(4)	1.32E+04	(8)	1.83E+03	-	<0.997	<1.001	0.57	<0.199	<0.198	3.2	<0.199	<0.2	3	<1.003	<0.998	2.2	<0.199
Phenol	1.83E+04	(1)	6.88E+04	(4)	2.29E+03	(8)	2.29E+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
Pyrene	1.72E+03	(1)	6.68E+03	(4)	4.12E+04	(8)	1.72E+03	-	<0.997	<1.001	<0.199	<0.199	<0.198	0.93	<0.199	<0.2	<1.012	<1.003	<0.998	<1.003	<0.199
Pyridine	7.80E+01	(2)	1.00E+03	(5)	2.44E+00	(8)	2.44E+00	-	<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
Total Petroleum Hydrocarbons - (EPA Method 8015B) mg/kg																					
Diesel Range Organics (DRO)	1.00E+03	(10)	1.00E+03	(10)	1.00E+03	(10)	-	-	33	30	220	<10	53	**6200**	34	<10	**3300**	640	280	920	<10
Gasoline Range Organics (GRO)	-	-	-	-	-	-	-	-	<5	<5	1.7	<5	2.8	150	1.3	<5	210	<20	<10	90	<5
Motor Oil Range Organics (MRO)	3.00E+03	(11)	3.00E+03	(11)	3.00E+03	(11)	-	-	<49	<50	<50	<51	<50	<980	<48	<51	<974	<995	310	<964	<49

-- No screening level or analytical result available

NMED - Risk Assessment Guidance for Site Investigations and Remediation (June 14, 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 "uknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels

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

(12) 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

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 (12)	SWMU 14-3 (8-10')	SWMU 14-4 (0-0.5')	SWMU 14-4 (1.5-2.0')	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')
									1207900-003 7/18/2012	1207917-001 7/17/2012	1207917-002 7/17/2012	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
Metals (mg/kg)																					
Antimony	3.13E+01	(1)	1.24E+02	(4)	3.05E+02	(8)	3.13E+01	-	<12.5	<2.5	<2.5	<12.5	<12.5	<12.5	3.4	<12.5	<12.5	<12.5	<12.5	5.3	<12.501
Arsenic	3.90E+00	(1)	5.30E+01	(4)	6.05E+00	(8)	3.90E+00	-	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.501
Barium	1.56E+04	(1)	4.35E+03	(4)	1.39E+05	(8)	4.35E+03	-	380	870	870	460	480	490	340	350	330	340	290	650	550
Beryllium	1.56E+02	(1)	1.44E+02	(4)	2.66E+04	(8)	1.44E+02	-	0.8	0.33	0.51	0.86	1.3	0.68	0.61	1	0.78	0.83	0.87	0.76	0.68
Cadmium	7.03E+01	(1)	2.77E+02	(4)	6.33E+02	(8)	7.03E+01	-	<0.5	<0.1	<0.1	<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	-	100	3.4	5.2	12	22	63	11	9.7	23	9.1	8.9	9.6	7.1
Chromium VI	2.97E+00	(1)	6.56E+01	(4)	3.83E+00	(8)	2.97E+00	-	100	3.4	5.2	12	22	63	11	9.7	23	9.1	8.9	9.6	7.1
Cobalt	2.30E+01	(2)	3.00E+02	(5)	9.68E+01	(8)	2.30E+01	-	5.6	2.5	2.7	5	8	5.3	4.6	5	4.5	4.7	5.6	4.1	3.7
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	0.6	<0.5	<0.3	<0.3	<0.3	<0.3	<0.5	<0.5
Iron	5.48E+04	(1)	2.17E+05	(4)	2.98E+05	(8)	5.48E+04	-	14000	3200	7500	16000	23000	18000	13000	15000	13000	13000	16000	15000	11000
Lead	4.00E+02	(1)	8.00E+02	(4)	6.45E+03	(8)	4.00E+02	-	11	<0.25	0.37	2.4	1.4	14	2.5	6.4	5.6	4.5	2.9	3.5	3.2
Manganese	1.86E+03	(1)	4.40E+02	(4)	2.64E+04	(8)	4.40E+02	-	350	320	340	720	1000	550	450	420	370	340	1100	600	1100
Mercury	1.56E+01	(1)	1.36E+01	(4)	1.51E+01	(8)	1.36E+01	-	0.65	0.014	0.017	<0.033	<0.033	0.27	0.011	<0.033	0.095	<0.033	<0.033	0.0068	<0.033
Nickel	1.56E+03	(1)	6.19E+03	(4)	2.20E+04	(8)	1.56E+03	-	9.3	3.1	4.4	8.6	17	9.8	7.1	8.2	7.1	7.6	11	6.8	5.6
Selenium	3.91E+02	(1)	1.55E+03	(4)	4.45E+02	(8)	3.91E+02	-	<12.5	<2.5	<2.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.501
Silver	3.91E+02	(1)	1.55E+03	(4)	7.22E+02	(8)	3.91E+02	-	<1.25	<0.25	<0.25	<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	17	13	25	15	26	26	17	23	21	<12.5	22	18
Zinc	2.35E+04	(1)	9.29E+04	(4)	3.14E+05	(8)	2.35E+04	-	67	8.3	10	22	25	190	20	17	26	16	17	30	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	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
1,1,1-Trichloroethane	1.56E+04	(1)	1.48E+04	(4)	1.34E+03	(8)	1.34E+03	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
1,1,2,2-Tetrachloroethane	8.02E+00	(1)	2.21E+02	(4)	9.82E-02	(8)	9.82E-02	-	<1	<0.001	<0.001	<1	<0.001	0.00104	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
1,1,2-Trichloroethane	2.81E+00	(1)	4.72E+02	(4)	5.14E-02	(8)	5.14E-02	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
1,1-Dichloroethane	6.45E+01	(1)	1.70E+03	(4)	2.75E+00	(8)	2.75E+00	-	<2	<0.001	<0.001	<2	<0.001	<0.001	<0.1	<0.001	<0.0008	<1	<0.0011	<2	<0.001
1,1-Dichloroethene	4.49E+02	(1)	4.32E+02	(4)	5.36E+01	(8)	5.36E+01	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
1,1-Dichloropropene	-	-	-	-	-	-	-	-	<2	<0.001	<0.001	<2	<0.001	<0.001	<0.1	<0.001	<0.0008	<1	<0.0011	<2	<0.001
1,2,3-Trichlorobenzene	4.90E+01	(2)	4.90E+02	(5)	6.92E+00	(8)	6.92E+00	-	<2	<0.001	<0.001	<2	<0.001	<0.001	<0.1	<0.001	<0.0008	<1	<0.0011	<2	<0.001
1,2,3-Trichloropropane	4.97E-02	(1)	7.23E+00	(4)	1.15E-03	(8)	1.15E-03	-	<2	<0.001	<0.001	<2	<0.001	<0.001	<0.1	<0.001	<0.0008	<1	<0.0011	<2	<0.001
1,2,4-Trichlorobenzene	7.30E+01	(1)	6.87E+01	(4)	4.21E+00	(8)	4.21E+00	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
1,2,4-Trimethylbenzene	6.20E+01	(2)	2.60E+02	(5)	9.68E+00	(8)	9.68E+00	-	6.2	<0.001	<0.001	7.8	<0.001	<0.001	<0.05	0.00104	<0.0008	13	0.00148	0.32	0.00562
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	<2	<0.002	<0.002	<0.1	<0.001	<0.0008	<1	<0.0011	0.18	0.000593
1,2-Dibromoethane (EDB)	5.88E-01	(1)	1.60E+01	(4)	7.10E-03	(8)	7.10E-03	-	0.36	<0.001	<0.001	0.3	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	0.22	<0.001
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(8)	1.29E+02	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
1,2-Dichloroethane (EDC)	7.89E+00	(1)	5.87E+01	(4)	1.64E-01	(8)	1.64E-01	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
1,2-Dichloropropane	1.52E+01	(1)	2.50E+01	(4)	4.94E-01	(8)	4.94E-01	-	0.17	<0.002	<0.002	0.15	<0.002	<0.002	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.002
1,3,5-Trimethylbenzene	7.80E+02	(2)	1.00E+04	(5)	5.53E+01	(8)	5.53E+01	-	0.49	<0.001	<0.001	1.7	<0.001	<0.001	<0.05	<0.001	<0.0008	4.2	<0.0011	0.19	0.00487
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
1,3-Dichloropropane	1.60E+03	(2)	2.00E+04	(5)	4.56E+01	(8)	4.56E+01	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(8)	1.47E+00	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
1-Methylnaphthalene	1.60E+02	(3)	5.30E+01	(6)	2.35E+00	(8)	2.35E+00	-	18	<0.004	<0.003	45	<0.004	<0.005	0.021	<0.004	<0.0032	14	<0.0043	0.66	0.00502
2,2-Dichloropropane	-	-	-	-	-	-	-	-	<2	<0.001	<0.001	<2	<0.001	<0.001	<0.1	<0.001	<0.0008	<1	<0.0011	<2	<0.001
2-Butanone (MEK)	3.71E+04	(1)	8.43E+04	(4)	5.87E+02	(8)	5.87E+02	-	<10	<0.005	0.000987	<10	0.00143	<0.006	<0.5	<0.0101	<0.0081	<5	<0.0108	<10	<0.002
2-Chlorotoluene	1.56E+03	(1)	6.19E+03	(4)	2.57E+02	(8)	2.57E+02	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	0.12	<0.001
2-Hexanone	9.38E+02	(1)	9.73E+02	(4)	3.53E+03	(8)	9.38E+02	-	<10	<0.005	<0.004	<10	<0.005	<0.006	<0.5	<0.0101	<0.0081	<5	<0.0108	<10	<0.002
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+01	-	23	<0.004	<0.003	90	<0.004	<0.005	0.024	<0.004	<0.0032	25	<0.0043	0.67	0.00402
4-Chlorotoluene	1.60E+03	(2)	2.00E+04	(5)	8.30E+01	(8)	8.30E+01	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
4-Isopropyltoluene	-	-	-	-	-	-	-	-	0.49	<0.001	<0.001	0.53	<0.001	<0.001	<0.05	<0.001	<0.0008	0.57	<0.0011	0.095	0.0017

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 (12)	SWMU 14-3 (8-10')	SWMU 14-4 (0-0.5')	SWMU 14-4 (1.5-2.0')	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')
									1207900-003 7/18/2012	1207917-001 7/17/2012	1207917-002 7/17/2012	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
4-Methyl-2-pentanone	5.30E+03	(2)	5.30E+04	(5)	1.06E+02	(8)	1.06E+02	-	<10	<0.005	<0.004	<10	<0.005	<0.006	<0.5	<0.0101	<0.0081	<5	<0.0108	<10	<0.002
Acetone	6.66E+04	(1)	2.21E+05	(4)	1.78E+03	(8)	1.78E+03	-	8.9	<0.028	0.0222	6.5	0.00793	0.0181	0.11	0.0973	0.0187	<7.5	<0.0108	3.7	<0.009
Benzene	1.54E+01	(1)	1.38E+02	(4)	7.96E-01	(8)	7.96E-01	-	0.14	<0.001	<0.001	0.34	<0.001	<0.001	<0.05	0.00291	<0.0008	0.96	0.00909	<1	0.0126
Bromobenzene	3.00E+02	(2)	1.80E+03	(5)	1.66E+01	(8)	1.66E+01	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
Bromodichloromethane	5.41E+00	(1)	1.43E+02	(4)	1.25E-01	(8)	1.25E-01	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
Bromoform	6.16E+02	(1)	4.76E+03	(4)	2.78E+02	(8)	2.78E+02	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
Bromomethane	1.65E+01	(1)	1.64E+01	(4)	8.86E-01	(8)	8.86E-01	-	<3	-	-	<3	-	-	<0.15	<0.001	<0.0008	<1.5	<0.0011	<3	-
Carbon disulfide	1.53E+03	(1)	1.58E+03	(4)	1.30E+02	(8)	1.30E+02	-	<10	<0.005	<0.004	<10	<0.005	<0.006	<0.5	<0.0101	<0.0081	<5	<0.0108	<10	0.000629
Carbon tetrachloride	1.08E+01	(1)	2.26E+02	(4)	7.39E-01	(8)	7.39E-01	-	<2	<0.001	<0.001	<2	<0.001	<0.001	<0.1	<0.001	<0.0008	<1	<0.0011	<2	<0.001
Chlorobenzene	3.76E+02	(1)	4.06E+02	(4)	2.27E+01	(8)	2.27E+01	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	0.000323
Chloroethane	2.98E+04	(1)	2.61E+04	(4)	2.48E+03	(8)	2.48E+03	-	<2	<0.001	<0.001	<2	<0.001	<0.001	<0.1	<0.001	<0.0008	<1	<0.0011	<2	<0.001
Chloroform	5.86E+00	(1)	1.54E+02	(4)	2.12E-01	(8)	2.12E-01	-	<1	<0.001	<0.001	<1	<0.001	<0.001	0.006	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
Chloromethane	2.75E+02	(1)	2.41E+02	(4)	2.03E+01	(8)	2.03E+01	-	<3	<0.001	<0.001	<3	<0.001	<0.001	<0.15	<0.001	<0.0008	<1.5	<0.0011	<3	<0.001
cis-1,2-DCE	1.56E+02	(1)	6.19E+02	(4)	8.47E+00	(8)	8.47E+00	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
cis-1,3-Dichloropropene	3.37E+01	(1)	2.09E+02	(4)	5.71E-01	(8)	5.71E-01	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
Dibromochloromethane	1.21E+01	(1)	3.32E+02	(4)	1.52E-01	(8)	1.52E-01	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
Dibromomethane	5.16E+01	(1)	3.10E+03	(4)	7.89E-01	(8)	7.89E-01	-	<2	<0.001	<0.001	<2	<0.001	<0.001	<0.1	<0.001	<0.0008	<1	<0.0011	<2	<0.001
Dichlorodifluoromethane	1.68E+02	(1)	1.49E+02	(4)	1.71E+02	(8)	1.49E+02	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
Ethylbenzene	6.84E+01	(1)	1.83E+03	(4)	5.98E+00	(8)	5.98E+00	-	0.75	<0.001	<0.001	1.4	<0.001	<0.001	<0.05	0.00157	<0.0008	7.5	0.00134	<1	0.00691
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(8)	5.91E+00	-	<2	<0.001	<0.001	<2	<0.001	<0.001	<0.1	<0.001	<0.0008	<1	<0.0011	<2	<0.001
Isopropylbenzene	2.43E+03	(1)	2.81E+03	(4)	3.99E+02	(8)	3.99E+02	-	0.3	<0.001	<0.001	0.58	<0.001	<0.001	<0.05	<0.001	<0.0008	1.7	<0.0011	<1	0.00208
Methyl tert-butyl ether (MTBE)	9.01E+02	(1)	2.49E+04	(4)	1.11E+01	(8)	1.11E+01	-	<1	<0.002	0.00107	<1	<0.002	<0.002	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	0.0102
Methylene chloride	4.09E+02	(1)	1.12E+03	(4)	1.90E+01	(8)	1.90E+01	-	0.12	<0.005	<0.004	<3	<0.005	<0.006	0.042	<0.003	0.0173	<1.5	0.031	<3	<0.002
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(8)	1.64E+00	-	3.3	<0.001	<0.001	9.2	<0.001	<0.001	0.016	<0.002	<0.0016	9.1	<0.0022	0.35	0.00218
n-Butylbenzene	3.90E+03	(2)	5.10E+04	(5)	1.15E+03	(8)	1.15E+03	-	0.7	<0.001	<0.001	1	<0.001	<0.001	<0.05	<0.001	<0.0008	2	<0.0011	0.15	0.00116
n-Propylbenzene	3.40E+03	(2)	2.10E+04	(5)	4.56E+02	(8)	4.56E+02	-	0.56	<0.001	<0.001	0.89	<0.001	<0.001	<0.05	<0.001	<0.0008	3.3	<0.0011	<1	0.00257
sec-Butylbenzene	-	-	-	-	-	-	-	-	0.34	<0.001	<0.001	0.48	<0.001	<0.001	<0.05	<0.001	<0.0008	1.2	<0.0011	<1	0.00203
Styrene	7.28E+03	(1)	9.99E+03	(4)	6.40E+02	(8)	6.40E+02	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
tert-Butylbenzene	-	-	-	-	-	-	-	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
Tetrachloroethene (PCE)	7.02E+00	(1)	2.12E+02	(4)	1.98E-01	(8)	1.98E-01	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
Toluene	5.27E+03	(1)	1.34E+04	(4)	5.84E+02	(8)	5.84E+02	-	<1	<0.001	<0.001	<1	<0.001	0.000344	<0.05	0.00336	<0.0008	<0.5	0.00596	<1	<0.001
trans-1,2-DCE	2.70E+02	(1)	2.73E+02	(4)	1.24E+01	(8)	1.24E+01	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
trans-1,3-Dichloropropene	-	-	-	-	-	-	-	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
Trichloroethene (TCE)	8.77E+00	(1)	7.68E+00	(4)	4.85E-01	(8)	4.85E-01	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
Trichlorofluoromethane	1.41E+03	(1)	1.30E+03	(4)	4.10E+02	(8)	4.10E+02	-	<1	0.000477	0.000596	<1	0.000301	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
Vinyl chloride	7.28E-01	(1)	1.49E+02	(4)	2.50E-02	(8)	2.50E-02	-	<1	<0.001	<0.001	<1	<0.001	<0.001	<0.05	<0.001	<0.0008	<0.5	<0.0011	<1	<0.001
Xylenes, Total	8.14E+02	(1)	7.43E+02	(4)	7.21E+01	(8)	7.21E+01	-	1.1	<0.003	<0.003	0.56	<0.003	<0.004	<0.1	0.00786	<0.0016	12	0.0046	<2	0.00795
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	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(8)	1.29E+02	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(8)	1.47E+00	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
1-Methylnaphthalene	1.60E+02	(3)	5.30E+01	(6)	2.35E+00	(8)	2.35E+00	-	24	<0.399	<0.402	29	<0.199	<0.996	<0.198	<0.3995	<0.397	12	<0.1996	<1.008	<0.403
2,4,5-Trichlorophenol	6.11E+03	(1)	2.38E+04	(4)	4.78E+03	(8)	4.78E+03	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
2,4,6-Trichlorophenol	6.11E+01	(1)	2.38E+02	(4)	4.78E+01	(8)	4.78E+01	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
2,4-Dichlorophenol	1.83E+02	(1)	7.15E+02	(4)	4.60E+01	(8)	4.60E+01	-	<4.003	<0.798	<0.803	<0.797	<0.398	<1.992	<0.397	<0.7989	<0.7939	<0.7921	<0.3992	<2.017	<0.805
2,4-Dimethylphenol	1.22E+03	(1)	4.76E+03	(4)	3.07E+02	(8)	3.07E+02	-	<3.002	<0.598	<0.602	<0.597	<0.299	<1.494	<0.298	<0.5992	<0.5954	<0.5941	<0.2994	<1.513	<0.604
2,4-Dinitrophenol	1.22E+02	(1)	4.76E+02	(4)	2.91E+01	(8)	2.91E+01	-	<4.003	<0.798	<0.803	0.2	0.09	<1.992	<0.397	<0.7989	<0.7939	<0.7921	<0.3992	<2.017	0.19

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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 (12)	SWMU 14-3 (8-10')	SWMU 14-4 (0-0.5')	SWMU 14-4 (1.5-2.0')	SWMU 14-4 (10-12')	SWMU 14-4 (18.5-20')	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')
									1207900-003	1207917-001	1207917-002	1207917-003	1207917-004	1207940-016	1207940-018	1210582-001	1210582-002	1210582-003	1210582-004	1207922-006	1207922-007
									7/18/2012	7/17/2012	7/17/2012	7/17/2012	7/17/2012	7/19/2012	7/19/2012	10/9/2012	10/9/2012	10/9/2012	10/9/2012	7/18/2012	7/18/2012
2,4-Dinitrotoluene	1.57E+01	(1)	4.76E+02	(4)	1.04E+00	(8)	1.04E+00	-	<5.003	<0.997	<1.004	<0.996	<0.498	<2.49	<0.496	<0.9987	<0.9924	<0.9901	<0.499	<2.521	<1.007
2,6-Dinitrotoluene	6.11E+01	(1)	2.38E+02	(4)	1.77E+01	(8)	1.77E+01	-	<5.003	<0.997	<1.004	<0.996	<0.498	<2.49	<0.496	<0.9987	<0.9924	<0.9901	<0.499	<2.521	<1.007
2-Chloronaphthalene	6.11E+01	(1)	2.94E+02	(4)	4.01E-01	(8)	4.01E-01	-	<2.502	<0.499	<0.502	<0.498	<0.249	<1.245	<0.248	<0.4993	<0.4962	<0.495	<0.2495	<1.261	<0.503
2-Chlorophenol	3.91E+02	(1)	1.55E+03	(4)	5.33E+01	(8)	5.33E+01	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+01	-	29	<0.399	<0.402	46	<0.199	<0.996	<0.198	<0.3995	<0.397	17	<0.1996	<1.008	<0.403
2-Methylphenol	3.10E+03	(2)	3.10E+04	(5)	2.67E+02	(8)	2.67E+02	-	<5.003	<0.997	<1.004	<0.996	<0.498	<2.49	<0.496	<0.9987	<0.9924	<0.9901	<0.499	<2.521	<1.007
2-Nitroaniline	6.10E+02	(2)	6.00E+03	(5)	2.86E+01	(8)	2.86E+01	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
2-Nitrophenol	-	-	-	-	-	-	-	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
3,3'-Dichlorobenzidine	1.08E+01	(1)	3.64E+02	(4)	3.41E+00	(8)	3.41E+00	-	<2.502	<0.499	<0.502	<0.498	<0.249	<1.245	<0.248	<0.4993	<0.4962	<0.495	<0.2495	<1.261	<0.503
3+4-Methylphenol	-	-	-	-	-	-	-	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
3-Nitroaniline	-	-	-	-	-	-	-	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
4,6-Dinitro-2-methylphenol	4.90E+00	(2)	4.90E+01	(5)	9.22E-01	(8)	9.22E-01	-	<5.003	<0.997	<1.004	<0.996	<0.498	<2.49	<0.496	<0.9987	<0.9924	<0.9901	<0.499	<2.521	<1.007
4-Bromophenyl phenyl ether	-	-	-	-	-	-	-	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
4-Chloro-3-methylphenol	6.10E+03	(2)	6.20E+04	(5)	5.99E+02	(8)	5.99E+02	-	<5.003	<0.997	<1.004	<0.996	<0.498	<2.49	<0.496	<0.9987	<0.9924	<0.9901	<0.499	<2.521	<1.007
4-Chloroaniline	2.40E+01	(3)	8.60E+00	(6)	5.99E-02	(8)	5.99E-02	-	<5.003	<0.997	<1.004	<0.996	<0.498	<2.49	<0.496	<0.9987	<0.9924	<0.9901	<0.499	<2.521	<1.007
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	-	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
4-Nitroaniline	2.40E+02	(3)	8.60E+01	(6)	6.45E-01	(8)	6.45E-01	-	<4.003	<0.798	<0.803	<0.797	<0.398	<1.992	<0.397	<0.7989	<0.7939	<0.7921	<0.3992	<2.017	<0.805
4-Nitrophenol	-	-	-	-	-	-	-	-	<2.502	<0.499	<0.502	<0.498	<0.249	<1.245	<0.248	<0.4993	<0.4962	<0.495	<0.2495	<1.261	<0.503
Acenaphthene	3.44E+03	(1)	1.86E+04	(4)	7.79E+03	(8)	3.44E+03	-	2	<0.399	<0.402	1	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Acenaphthylene	-	-	-	-	-	-	-	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Aniline	8.50E+02	(3)	3.00E+02	(6)	1.80E+00	(8)	1.80E+00	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Anthracene	1.72E+04	(1)	6.68E+04	(4)	1.25E+05	(8)	1.72E+04	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Azobenzene	5.10E+01	(3)	2.30E+01	(6)	3.69E-01	(8)	3.69E-01	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Benz(a)anthracene	1.48E+00	(1)	2.13E+02	(4)	3.61E+01	(8)	1.48E+00	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Benzo(a)pyrene	1.48E-01	(1)	2.13E+01	(4)	1.20E+01	(8)	1.48E-01	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Benzo(b)fluoranthene	1.48E+00	(1)	2.13E+02	(4)	1.22E+02	(8)	1.48E+00	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Benzo(k)fluoranthene	1.48E+01	(1)	2.06E+03	(4)	1.20E+03	(8)	1.48E+01	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Benzoic acid	2.40E+05	(2)	2.50E+06	(5)	6.45E+03	(8)	6.45E+03	-	<5.003	<0.997	<1.004	<0.996	<0.498	0.44	<0.496	<0.9987	<0.9924	<0.9901	<0.499	1.2	<1.007
Benzyl alcohol	6.10E+03	(2)	6.20E+04	(5)	1.71E+02	(8)	1.71E+02	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Bis(2-chloroethoxy)methane	1.80E+02	(2)	1.80E+03	(5)	5.07E+00	(8)	5.07E+00	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Bis(2-chloroethyl)ether	2.68E+00	(1)	7.78E+01	(4)	1.21E-02	(8)	1.21E-02	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Bis(2-chloroisopropyl)ether	9.15E+01	(1)	3.10E+03	(4)	1.07E+00	(8)	1.07E+00	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Bis(2-ethylhexyl)phthalate	3.47E+02	(1)	4.76E+03	(4)	3.97E+03	(8)	3.47E+02	-	<5.003	0.24	<1.004	0.52	<0.498	<2.49	<0.496	<0.9987	<0.9924	<0.9901	<0.499	<2.521	<1.007
Butyl benzyl phthalate	2.60E+03	(3)	9.10E+02	(6)	9.22E+01	(8)	9.22E+01	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Carbazole	-	-	-	-	-	-	-	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Chrysene	1.48E+02	(1)	2.06E+04	(4)	3.68E+03	(8)	1.48E+02	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Dibenz(a,h)anthracene	1.48E-01	(1)	2.13E+01	(4)	3.90E+01	(8)	1.48E-01	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Dibenzofuran	7.80E+01	(2)	1.00E+03	(5)	5.07E+01	(8)	5.07E+01	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Diethyl phthalate	4.89E+04	(1)	1.91E+05	(4)	4.45E+03	(8)	4.45E+03	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Dimethyl phthalate	6.11E+05	(1)	2.38E+06	(4)	3.71E+04	(8)	3.71E+04	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Di-n-butyl phthalate	6.11E+03	(1)	2.38E+04	(4)	3.21E+03	(8)	3.21E+03	-	<5.003	<0.997	<1.004	<0.996	<0.498	<2.49	<0.496	<0.9987	<0.9924	<0.9901	<0.499	<2.521	<1.007
Di-n-octyl phthalate	-	-	-	-	-	-	-	-	<2.502	<0.499	<0.502	<0.498	<0.249	<1.245	<0.248	<0.4993	<0.4962	<0.495	<0.2495	<1.261	<0.503
Fluoranthene	2.29E+03	(1)	8.91E+03	(4)	5.61E+04	(8)	2.29E+03	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Fluorene	2.29E+03	(1)	8.91E+03	(4)	9.36E+03	(8)	2.29E+03	-	<2.001	<0.399	<0.402	1.4	<0.199	<0.996	<0.198	<0.3995	<0.397	1.2	<0.1996	<1.008	<0.403
Hexachlorobenzene	3.04E+00	(1)	1.03E+02	(4)	1.83E+00	(8)	1.83E+00	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(8)	5.91E+00	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Hexachlorocyclopentadiene	3.67E+02	(1)	8.11E+02	(4)	2.43E+02	(8)	2.43E+02	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403

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 (12)	SWMU 14-3 (8-10')	SWMU 14-4 (0-0.5')	SWMU 14-4 (1.5-2.0')	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')
									1207900-003 7/18/2012	1207917-001 7/17/2012	1207917-002 7/17/2012	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
Hexachloroethane	4.28E+01	(1)	1.67E+02	(4)	3.77E+00	(8)	3.77E+00	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Indeno(1,2,3-cd)pyrene	1.48E+00	(1)	2.13E+02	(4)	3.98E+02	(8)	1.48E+00	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Isophorone	5.12E+03	(1)	4.75E+04	(4)	8.84E+01	(8)	8.84E+01	-	<5.003	<0.997	<1.004	<0.996	<0.498	<2.49	<0.496	<0.9987	<0.9924	<0.9901	<0.499	<2.521	<1.007
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(8)	1.64E+00	-	3.8	<0.399	<0.402	4	<0.199	<0.996	<0.198	<0.3995	<0.397	4.2	<0.1996	<1.008	<0.403
Nitrobenzene	5.35E+01	(1)	3.32E+02	(4)	2.88E-01	(8)	2.88E-01	-	<5.003	<0.997	<1.004	<0.996	<0.498	<2.49	<0.496	<0.9987	<0.9924	<0.9901	<0.499	<2.521	<1.007
N-Nitrosodi-n-propylamine	6.90E-01	(3)	2.50E-01	(6)	3.23E-03	(8)	3.23E-03	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
N-Nitrosodiphenylamine	9.93E+02	(1)	3.36E+04	(4)	2.61E+02	(8)	2.61E+02	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Pentachlorophenol	8.94E+00	(1)	3.10E+02	(4)	5.90E+00	(8)	5.90E+00	-	<4.003	<0.798	<0.803	<0.797	<0.398	<1.992	<0.397	<0.7989	<0.7939	<0.7921	<0.3992	<2.017	<0.805
Phenanthrene	1.83E+03	(1)	7.15E+03	(4)	1.32E+04	(8)	1.83E+03	-	4.8	<0.399	<0.402	3.3	<0.199	<0.996	<0.198	<0.3995	<0.397	2.6	<0.1996	<1.008	<0.403
Phenol	1.83E+04	(1)	6.88E+04	(4)	2.29E+03	(8)	2.29E+03	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Pyrene	1.72E+03	(1)	6.68E+03	(4)	4.12E+04	(8)	1.72E+03	-	<2.001	<0.399	<0.402	<0.398	<0.199	<0.996	<0.198	<0.3995	<0.397	<0.396	<0.1996	<1.008	<0.403
Pyridine	7.80E+01	(2)	1.00E+03	(5)	2.44E+00	(8)	2.44E+00	-	<5.003	<0.997	<1.004	<0.996	<0.498	<2.49	<0.496	<0.9987	<0.9924	<0.9901	<0.499	<2.521	<1.007
Total Petroleum Hydrocarbons - (EPA Method 8015B) mg/kg																					
Diesel Range Organics (DRO)	1.00E+03	(10)	1.00E+03	(10)	1.00E+03	(10)	-	-	**2000**	88	39	610	<10	300	53	<10	260	**2200**	<10	**3900**	**2100**
Gasoline Range Organics (GRO)	-	-	-	-	-	-	-	-	84	<10	<5	67	4	5.4	<5	<5	<5	220	<5	<250	15
Motor Oil Range Organics (MRO)	3.00E+03	(11)	3.00E+03	(11)	3.00E+03	(11)	-	-	<1005	56	<51	<510	<51	240	<51	<52	320	<482	<50	<994	<486

-- No screening level or analytical result available

NMED - Risk Assessment Guidance for Site Investigations and Remediation (June 14, 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 "uknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels

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

(12) 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

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 (12)	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')	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')
									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	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
Metals (mg/kg)																					
Antimony	3.13E+01	(1)	1.24E+02	(4)	3.05E+02	(8)	3.13E+01	-	4.5	4.6	4.5	<12.5	<12.499	<12.5	4.5	<12.501	3.3	<12.5	<12.5	<12.5	<12.5
Arsenic	3.90E+00	(1)	5.30E+01	(4)	6.05E+00	(8)	3.90E+00	-	<12.5	<12.501	<12.5	<12.5	<12.499	<12.5	<12.5	<12.501	<12.5	<12.5	<12.5	<12.5	<12.5
Barium	1.56E+04	(1)	4.35E+03	(4)	1.39E+05	(8)	4.35E+03	-	350	2400	610	690	480	500	190	200	430	430	590	620	150
Beryllium	1.56E+02	(1)	1.44E+02	(4)	2.66E+04	(8)	1.44E+02	-	1.2	1.2	0.77	0.88	0.58	0.52	1.3	1.1	0.89	0.83	0.83	0.84	1
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
Chromium III	1.17E+05	(1)	4.65E+05	(4)	4.54E+10	(8)	1.17E+05	-	17	14	16	10	13	10	19	12	23	23	21	17	12
Chromium VI	2.97E+00	(1)	6.56E+01	(4)	3.83E+00	(8)	2.97E+00	-	17	14	16	10	13	10	19	12	23	23	21	17	12
Cobalt	2.30E+01	(2)	3.00E+02	(5)	9.68E+01	(8)	2.30E+01	-	7.6	6	5	4.7	3.8	3.1	6.5	4.9	5.4	5.1	5.4	4.9	5.9
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
Iron	5.48E+04	(1)	2.17E+05	(4)	2.98E+05	(8)	5.48E+04	-	21000	20000	15000	13000	14000	8800	23000	16000	15000	14000	14000	15000	15000
Lead	4.00E+02	(1)	8.00E+02	(4)	6.45E+03	(8)	4.00E+02	-	<1.25	2.6	6.2	5	5.5	1.9	<1.25	2.4	7.7	6.8	7	5.8	4.4
Manganese	1.86E+03	(1)	4.40E+02	(4)	2.64E+04	(8)	4.40E+02	-	740	400	470	190	1800	930	460	280	510	530	550	700	240
Mercury	1.56E+01	(1)	1.36E+01	(4)	1.51E+01	(8)	1.36E+01	-	<0.033	<0.033	0.041	<0.033	0.68	0.09	<0.033	<0.033	0.32	0.21	0.14	0.058	0.04
Nickel	1.56E+03	(1)	6.19E+03	(4)	2.20E+04	(8)	1.56E+03	-	16	11	7.4	7.9	6.3	5.9	13	8.5	9.3	8.8	9.7	7.9	9.8
Selenium	3.91E+02	(1)	1.55E+03	(4)	4.45E+02	(8)	3.91E+02	-	<12.5	<12.501	<12.5	<12.5	<12.499	<12.5	<12.5	<12.501	<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
Vanadium	3.91E+02	(1)	1.55E+03	(4)	8.42E+04	(8)	3.91E+02	-	16	27	25	18	18	19	29	20	25	23	25	24	23
Zinc	2.35E+04	(1)	9.29E+04	(4)	3.14E+05	(8)	2.35E+04	-	25	22	33	15	44	28	27	17	49	43	59	38	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	(8)	7.59E-01	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
1,1,1-Trichloroethane	1.56E+04	(1)	1.48E+04	(4)	1.34E+03	(8)	1.34E+03	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
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	<1	0.00043	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
1,1,2-Trichloroethane	2.81E+00	(1)	4.72E+02	(4)	5.14E-02	(8)	5.14E-02	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
1,1-Dichloroethane	6.45E+01	(1)	1.70E+03	(4)	2.75E+00	(8)	2.75E+00	-	<0.001	<2	0.000918	<2	<0.001	<1	<0.001	<1	<0.001	<0.001	<0.001	<0.001	<5
1,1-Dichloroethene	4.49E+02	(1)	4.32E+02	(4)	5.36E+01	(8)	5.36E+01	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
1,1-Dichloropropene	-	-	-	-	-	-	-	-	<0.001	<2	<0.001	<2	<0.001	<1	<0.001	<1	<0.001	<0.001	<0.001	<0.001	<5
1,2,3-Trichlorobenzene	4.90E+01	(2)	4.90E+02	(5)	6.92E+00	(8)	6.92E+00	-	<0.001	<2	<0.001	<2	<0.001	<1	<0.001	<1	<0.001	<0.001	<0.001	<0.001	<5
1,2,3-Trichloropropane	4.97E-02	(1)	7.23E+00	(4)	1.15E-03	(8)	1.15E-03	-	<0.001	<2	<0.001	<2	<0.001	<1	<0.001	<1	<0.001	<0.001	<0.001	<0.001	<5
1,2,4-Trichlorobenzene	7.30E+01	(1)	6.87E+01	(4)	4.21E+00	(8)	4.21E+00	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
1,2,4-Trimethylbenzene	6.20E+01	(2)	2.60E+02	(5)	9.68E+00	(8)	9.68E+00	-	<0.001	12	<0.001	6.7	0.002	1.5	<0.001	3.2	<0.001	<0.001	<0.001	0.000507	38
1,2-Dibromo-3-chloropropane	1.86E+00	(1)	5.07E+00	(4)	5.07E-04	(8)	5.07E-04	-	<0.002	<2	<0.002	<2	<0.002	<1	<0.002	<1	<0.002	<0.002	<0.002	<0.003	2.2
1,2-Dibromoethane (EDB)	5.88E-01	(1)	1.60E+01	(4)	7.10E-03	(8)	7.10E-03	-	<0.001	0.41	<0.001	0.31	<0.001	<0.5	<0.001	0.12	<0.001	<0.001	<0.001	<0.001	0.82
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(8)	1.29E+02	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
1,2-Dichloroethane (EDC)	7.89E+00	(1)	5.87E+01	(4)	1.64E-01	(8)	1.64E-01	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
1,2-Dichloropropane	1.52E+01	(1)	2.50E+01	(4)	4.94E-01	(8)	4.94E-01	-	<0.002	0.14	<0.002	0.23	<0.002	<0.5	<0.002	<0.5	<0.002	<0.002	<0.002	<0.003	0.6
1,3,5-Trimethylbenzene	7.80E+02	(2)	1.00E+04	(5)	5.53E+01	(8)	5.53E+01	-	<0.001	1.7	<0.001	2.2	0.000458	0.46	<0.001	0.92	<0.001	<0.001	<0.001	0.00726	11
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
1,3-Dichloropropane	1.60E+03	(2)	2.00E+04	(5)	4.56E+01	(8)	4.56E+01	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(8)	1.47E+00	-	<0.001	<1	0.000252	<1	<0.001	<0.5	<0.001	<0.5	<0.001	0.000221	<0.001	<0.001	<2.5
1-Methylnaphthalene	1.60E+02	(3)	5.30E+01	(6)	2.35E+00	(8)	2.35E+00	-	<0.004	7.2	<0.003	2	0.0674	0.58	<0.005	2.9	0.002	<0.004	<0.004	0.0152	29
2,2-Dichloropropane	-	-	-	-	-	-	-	-	<0.001	<2	<0.001	<2	<0.001	<1	<0.001	<1	<0.001	<0.001	<0.001	<0.001	<5
2-Butanone (MEK)	3.71E+04	(1)	8.43E+04	(4)	5.87E+02	(8)	5.87E+02	-	<0.002	<10	0.00321	<10	<0.002	<5	<0.002	<5	0.002	<0.004	<0.005	<0.006	<25
2-Chlorotoluene	1.56E+03	(1)	6.19E+03	(4)	2.57E+02	(8)	2.57E+02	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	0.049	<0.001	<0.001	<0.001	<0.001	0.26
2-Hexanone	9.38E+02	(1)	9.73E+02	(4)	3.53E+03	(8)	9.38E+02	-	<0.002	<10	<0.004	<10	<0.002	<5	<0.002	<5	<0.005	<0.004	<0.005	<0.006	<25
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+01	-	<0.004	12	<0.003	2.3	0.107	0.65	0.000628	4.7	0.00182	0.000302	<0.004	0.00211	50
4-Chlorotoluene	1.60E+03	(2)	2.00E+04	(5)	8.30E+01	(8)	8.30E+01	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
4-Isopropyltoluene	-	-	-	-	-	-	-	-	<0.001	0.73	<0.001	0.44	<0.001	0.056	<0.001	0.15	<0.001	<0.001	<0.001	0.000723	2.1

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 (12)	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')	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')
									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	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
4-Methyl-2-pentanone	5.30E+03	(2)	5.30E+04	(5)	1.06E+02	(8)	1.06E+02	-	<0.002	<10	<0.004	<10	<0.002	<5	<0.002	<5	<0.005	<0.004	<0.005	<0.006	<25
Acetone	6.66E+04	(1)	2.21E+05	(4)	1.78E+03	(8)	1.78E+03	-	0.00266	8.2	0.014	7.1	0.00307	<7.5	0.00673	<7.5	0.0158	<0.026	<0.029	<0.038	<37.5
Benzene	1.54E+01	(1)	1.38E+02	(4)	7.96E-01	(8)	7.96E-01	-	<0.001	0.97	0.0122	0.35	<0.001	0.06	<0.001	0.69	0.00072	<0.001	<0.001	<0.001	5.9
Bromobenzene	3.00E+02	(2)	1.80E+03	(5)	1.66E+01	(8)	1.66E+01	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
Bromodichloromethane	5.41E+00	(1)	1.43E+02	(4)	1.25E-01	(8)	1.25E-01	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
Bromoform	6.16E+02	(1)	4.76E+03	(4)	2.78E+02	(8)	2.78E+02	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
Bromomethane	1.65E+01	(1)	1.64E+01	(4)	8.86E-01	(8)	8.86E-01	-	-	<3	-	<3	-	<1.5	-	<1.5	-	-	-	-	<7.5
Carbon disulfide	1.53E+03	(1)	1.58E+03	(4)	1.30E+02	(8)	1.30E+02	-	<0.002	<10	<0.004	<10	<0.002	<5	<0.002	<5	0.00144	<0.004	<0.005	<0.006	<25
Carbon tetrachloride	1.08E+01	(1)	2.26E+02	(4)	7.39E-01	(8)	7.39E-01	-	<0.001	<2	<0.001	<2	<0.001	<1	<0.001	<1	<0.001	<0.001	<0.001	<0.001	<5
Chlorobenzene	3.76E+02	(1)	4.06E+02	(4)	2.27E+01	(8)	2.27E+01	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
Chloroethane	2.98E+04	(1)	2.61E+04	(4)	2.48E+03	(8)	2.48E+03	-	<0.001	<2	<0.001	<2	<0.001	<1	<0.001	<1	<0.001	<0.001	<0.001	<0.001	<5
Chloroform	5.86E+00	(1)	1.54E+02	(4)	2.12E-01	(8)	2.12E-01	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
Chloromethane	2.75E+02	(1)	2.41E+02	(4)	2.03E+01	(8)	2.03E+01	-	<0.001	<3	0.00053	<3	<0.001	<1.5	<0.001	<1.5	<0.001	<0.001	<0.001	<0.001	<7.5
cis-1,2-DCE	1.56E+02	(1)	6.19E+02	(4)	8.47E+00	(8)	8.47E+00	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
cis-1,3-Dichloropropene	3.37E+01	(1)	2.09E+02	(4)	5.71E-01	(8)	5.71E-01	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
Dibromochloromethane	1.21E+01	(1)	3.32E+02	(4)	1.52E-01	(8)	1.52E-01	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
Dibromomethane	5.16E+01	(1)	3.10E+03	(4)	7.89E-01	(8)	7.89E-01	-	<0.001	<2	<0.001	<2	<0.001	<1	<0.001	<1	<0.001	<0.001	<0.001	<0.001	<5
Dichlorodifluoromethane	1.68E+02	(1)	1.49E+02	(4)	1.71E+02	(8)	1.49E+02	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
Ethylbenzene	6.84E+01	(1)	1.83E+03	(4)	5.98E+00	(8)	5.98E+00	-	<0.001	3.1	<0.001	3.8	0.000542	0.35	<0.001	1.1	<0.001	<0.001	<0.001	<0.001	17
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(8)	5.91E+00	-	<0.001	<2	<0.001	<2	<0.001	<1	<0.001	<1	<0.001	<0.001	<0.001	<0.001	<5
Isopropylbenzene	2.43E+03	(1)	2.81E+03	(4)	3.99E+02	(8)	3.99E+02	-	<0.001	0.84	<0.001	0.97	<0.001	0.064	<0.001	0.19	<0.001	<0.001	<0.001	<0.001	3
Methyl tert-butyl ether (MTBE)	9.01E+02	(1)	2.49E+04	(4)	1.11E+01	(8)	1.11E+01	-	<0.001	0.8	0.00157	<1	<0.001	<0.5	<0.001	0.1	<0.002	<0.002	<0.002	<0.003	0.83
Methylene chloride	4.09E+02	(1)	1.12E+03	(4)	1.90E+01	(8)	1.90E+01	-	<0.002	<3	<0.004	<3	<0.002	<1.5	<0.002	<1.5	<0.005	<0.004	<0.005	<0.006	<7.5
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(8)	1.64E+00	-	<0.001	3.9	<0.001	1.1	0.0183	0.3	<0.001	1.1	0.00069	<0.001	<0.001	<0.001	16
n-Butylbenzene	3.90E+03	(2)	5.10E+04	(5)	1.15E+03	(8)	1.15E+03	-	<0.001	1.6	<0.001	0.58	0.000177	0.1	<0.001	0.28	<0.001	<0.001	<0.001	<0.001	4
n-Propylbenzene	3.40E+03	(2)	2.10E+04	(5)	4.56E+02	(8)	4.56E+02	-	<0.001	2	<0.001	1.4	<0.001	0.17	<0.001	0.45	<0.001	<0.001	<0.001	<0.001	6.2
sec-Butylbenzene	-	-	-	-	-	-	-	-	<0.001	0.86	<0.001	0.47	<0.001	<0.5	<0.001	0.15	<0.001	<0.001	<0.001	<0.001	2.4
Styrene	7.28E+03	(1)	9.99E+03	(4)	6.40E+02	(8)	6.40E+02	-	<0.001	<1	<0.001	<1	<0.001	0.077	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
tert-Butylbenzene	-	-	-	-	-	-	-	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
Tetrachloroethene (PCE)	7.02E+00	(1)	2.12E+02	(4)	1.98E-01	(8)	1.98E-01	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
Toluene	5.27E+03	(1)	1.34E+04	(4)	5.84E+02	(8)	5.84E+02	-	<0.001	0.75	0.000743	1.4	0.000262	0.14	<0.001	2.8	0.00292	0.000892	<0.001	<0.001	45
trans-1,2-DCE	2.70E+02	(1)	2.73E+02	(4)	1.24E+01	(8)	1.24E+01	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
trans-1,3-Dichloropropene	-	-	-	-	-	-	-	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
Trichloroethene (TCE)	8.77E+00	(1)	7.68E+00	(4)	4.85E-01	(8)	4.85E-01	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
Trichlorofluoromethane	1.41E+03	(1)	1.30E+03	(4)	4.10E+02	(8)	4.10E+02	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	0.000219	<0.001	0.000685	<2.5
Vinyl chloride	7.28E-01	(1)	1.49E+02	(4)	2.50E-02	(8)	2.50E-02	-	<0.001	<1	<0.001	<1	<0.001	<0.5	<0.001	<0.5	<0.001	<0.001	<0.001	<0.001	<2.5
Xylenes, Total	8.14E+02	(1)	7.43E+02	(4)	7.21E+01	(8)	7.21E+01	-	<0.002	8.1	<0.003	9.3	0.00282	2.4	<0.002	5.6	<0.003	<0.003	<0.003	<0.004	86
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	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(8)	1.29E+02	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(8)	1.47E+00	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
1-Methylnaphthalene	1.60E+02	(3)	5.30E+01	(6)	2.35E+00	(8)	2.35E+00	-	<0.199	6.5	<1.002	3.6	1.5	<0.994	<0.202	5.1	<1.006	<0.989	<0.997	<1.004	21
2,4,5-Trichlorophenol	6.11E+03	(1)	2.38E+04	(4)	4.78E+03	(8)	4.78E+03	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
2,4,6-Trichlorophenol	6.11E+01	(1)	2.38E+02	(4)	4.78E+01	(8)	4.78E+01	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
2,4-Dichlorophenol	1.83E+02	(1)	7.15E+02	(4)	4.60E+01	(8)	4.60E+01	-	<0.399	<0.797	<2.003	<1.995	<1.982	<1.988	<0.403	<0.803	<2.011	<1.978	<1.995	<2.009	<0.801
2,4-Dimethylphenol	1.22E+03	(1)	4.76E+03	(4)	3.07E+02	(8)	3.07E+02	-	<0.299	<0.597	<1.503	<1.497	<1.486	<1.491	<0.303	0.52	<1.509	<1.484	<1.496	<1.507	<0.601
2,4-Dinitrophenol	1.22E+02	(1)	4.76E+02	(4)	2.91E+01	(8)	2.91E+01	-	0.091	<0.797	<2.003	0.56	<1.982	0.46	<0.403	<0.803	<2.011	<1.978	<1.995	<2.009	<0.801

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 (12)	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')	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')
									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	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
2,4-Dinitrotoluene	1.57E+01	(1)	4.76E+02	(4)	1.04E+00	(8)	1.04E+00	-	<0.498	<0.996	<2.504	<2.494	<2.477	<2.485	<0.504	<1.004	<2.514	<2.473	<2.493	<2.511	<1.001
2,6-Dinitrotoluene	6.11E+01	(1)	2.38E+02	(4)	1.77E+01	(8)	1.77E+01	-	<0.498	<0.996	<2.504	<2.494	<2.477	<2.485	<0.504	<1.004	<2.514	<2.473	<2.493	<2.511	<1.001
2-Chloronaphthalene	6.11E+01	(1)	2.94E+02	(4)	4.01E-01	(8)	4.01E-01	-	<0.249	<0.498	<1.252	<1.247	<1.238	<1.243	<0.252	<0.502	<1.257	<1.236	<1.247	<1.255	<0.501
2-Chlorophenol	3.91E+02	(1)	1.55E+03	(4)	5.33E+01	(8)	5.33E+01	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+01	-	<0.199	9.2	<1.002	4.2	1.9	<0.994	<0.202	8	<1.006	<0.989	<0.997	<1.004	32
2-Methylphenol	3.10E+03	(2)	3.10E+04	(5)	2.67E+02	(8)	2.67E+02	-	<0.498	<0.996	<2.504	<2.494	<2.477	<2.485	<0.504	0.33	<2.514	<2.473	<2.493	<2.511	<1.001
2-Nitroaniline	6.10E+02	(2)	6.00E+03	(5)	2.86E+01	(8)	2.86E+01	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
2-Nitrophenol	-	-	-	-	-	-	-	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
3,3´-Dichlorobenzidine	1.08E+01	(1)	3.64E+02	(4)	3.41E+00	(8)	3.41E+00	-	<0.249	<0.498	<1.252	<1.247	<1.238	<1.243	<0.252	<0.502	<1.257	<1.236	<1.247	<1.255	<0.501
3+4-Methylphenol	-	-	-	-	-	-	-	-	<0.199	<0.398	<1.002	<0.998	0.4	<0.994	<0.202	0.26	<1.006	<0.989	<0.997	<1.004	1.1
3-Nitroaniline	-	-	-	-	-	-	-	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
4,6-Dinitro-2-methylphenol	4.90E+00	(2)	4.90E+01	(5)	9.22E-01	(8)	9.22E-01	-	<0.498	<0.996	<2.504	<2.494	<2.477	<2.485	<0.504	<1.004	<2.514	<2.473	<2.493	<2.511	<1.001
4-Bromophenyl phenyl ether	-	-	-	-	-	-	-	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
4-Chloro-3-methylphenol	6.10E+03	(2)	6.20E+04	(5)	5.99E+02	(8)	5.99E+02	-	<0.498	<0.996	<2.504	<2.494	<2.477	<2.485	<0.504	<1.004	<2.514	<2.473	<2.493	<2.511	<1.001
4-Chloroaniline	2.40E+01	(3)	8.60E+00	(6)	5.99E-02	(8)	5.99E-02	-	<0.498	<0.996	<2.504	<2.494	<2.477	<2.485	<0.504	<1.004	<2.514	<2.473	<2.493	<2.511	<1.001
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	-	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
4-Nitroaniline	2.40E+02	(3)	8.60E+01	(6)	6.45E-01	(8)	6.45E-01	-	<0.399	<0.797	<2.003	<1.995	<1.982	<1.988	<0.403	<0.803	<2.011	<1.978	<1.995	<2.009	<0.801
4-Nitrophenol	-	-	-	-	-	-	-	-	<0.249	<0.498	<1.252	<1.247	<1.238	<1.243	<0.252	0.22	<1.257	<1.236	<1.247	<1.255	<0.501
Acenaphthene	3.44E+03	(1)	1.86E+04	(4)	7.79E+03	(8)	3.44E+03	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Acenaphthylene	-	-	-	-	-	-	-	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Aniline	8.50E+02	(3)	3.00E+02	(6)	1.80E+00	(8)	1.80E+00	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Anthracene	1.72E+04	(1)	6.68E+04	(4)	1.25E+05	(8)	1.72E+04	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Azobenzene	5.10E+01	(3)	2.30E+01	(6)	3.69E-01	(8)	3.69E-01	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Benz(a)anthracene	1.48E+00	(1)	2.13E+02	(4)	3.61E+01	(8)	1.48E+00	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Benzo(a)pyrene	1.48E-01	(1)	2.13E+01	(4)	1.20E+01	(8)	1.48E-01	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Benzo(b)fluoranthene	1.48E+00	(1)	2.13E+02	(4)	1.22E+02	(8)	1.48E+00	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Benzo(k)fluoranthene	1.48E+01	(1)	2.06E+03	(4)	1.20E+03	(8)	1.48E+01	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Benzoic acid	2.40E+05	(2)	2.50E+06	(5)	6.45E+03	(8)	6.45E+03	-	<0.498	<0.996	<2.504	2.3	0.59	0.5	<0.504	<1.004	<2.514	<2.473	0.47	0.66	<1.001
Benzyl alcohol	6.10E+03	(2)	6.20E+04	(5)	1.71E+02	(8)	1.71E+02	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Bis(2-chloroethoxy)methane	1.80E+02	(2)	1.80E+03	(5)	5.07E+00	(8)	5.07E+00	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Bis(2-chloroethyl)ether	2.68E+00	(1)	7.78E+01	(4)	1.21E-02	(8)	1.21E-02	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	0.18	<1.006	<0.989	<0.997	<1.004	<0.401
Bis(2-chloroisopropyl)ether	9.15E+01	(1)	3.10E+03	(4)	1.07E+00	(8)	1.07E+00	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Bis(2-ethylhexyl)phthalate	3.47E+02	(1)	4.76E+03	(4)	3.97E+03	(8)	3.47E+02	-	<0.498	<0.996	<2.504	<2.494	2.6	<2.485	<0.504	<1.004	<2.514	<2.473	<2.493	<2.511	<1.001
Butyl benzyl phthalate	2.60E+03	(3)	9.10E+02	(6)	9.22E+01	(8)	9.22E+01	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Carbazole	-	-	-	-	-	-	-	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Chrysene	1.48E+02	(1)	2.06E+04	(4)	3.68E+03	(8)	1.48E+02	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Dibenz(a,h)anthracene	1.48E-01	(1)	2.13E+01	(4)	3.90E+01	(8)	1.48E-01	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Dibenzofuran	7.80E+01	(2)	1.00E+03	(5)	5.07E+01	(8)	5.07E+01	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Diethyl phthalate	4.89E+04	(1)	1.91E+05	(4)	4.45E+03	(8)	4.45E+03	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Dimethyl phthalate	6.11E+05	(1)	2.38E+06	(4)	3.71E+04	(8)	3.71E+04	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Di-n-butyl phthalate	6.11E+03	(1)	2.38E+04	(4)	3.21E+03	(8)	3.21E+03	-	<0.498	<0.996	<2.504	<2.494	<2.477	<2.485	<0.504	<1.004	<2.514	<2.473	<2.493	<2.511	<1.001
Di-n-octyl phthalate	-	-	-	-	-	-	-	-	<0.249	<0.498	<1.252	<1.247	<1.238	<1.243	<0.252	<0.502	<1.257	<1.236	<1.247	<1.255	<0.501
Fluoranthene	2.29E+03	(1)	8.91E+03	(4)	5.61E+04	(8)	2.29E+03	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Fluorene	2.29E+03	(1)	8.91E+03	(4)	9.36E+03	(8)	2.29E+03	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Hexachlorobenzene	3.04E+00	(1)	1.03E+02	(4)	1.83E+00	(8)	1.83E+00	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(8)	5.91E+00	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Hexachlorocyclopentadiene	3.67E+02	(1)	8.11E+02	(4)	2.43E+02	(8)	2.43E+02	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401

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 (12)	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')	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')
									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	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
Hexachloroethane	4.28E+01	(1)	1.67E+02	(4)	3.77E+00	(8)	3.77E+00	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Indeno(1,2,3-cd)pyrene	1.48E+00	(1)	2.13E+02	(4)	3.98E+02	(8)	1.48E+00	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Isophorone	5.12E+03	(1)	4.75E+04	(4)	8.84E+01	(8)	8.84E+01	-	<0.498	<0.996	<2.504	<2.494	<2.477	<2.485	<0.504	<1.004	<2.514	<2.473	<2.493	<2.511	<1.001
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(8)	1.64E+00	-	<0.199	2.2	<1.002	1.5	<0.991	<0.994	<0.202	1.8	<1.006	<0.989	<0.997	<1.004	6.6
Nitrobenzene	5.35E+01	(1)	3.32E+02	(4)	2.88E-01	(8)	2.88E-01	-	<0.498	<0.996	<2.504	<2.494	<2.477	<2.485	<0.504	<1.004	<2.514	<2.473	<2.493	<2.511	<1.001
N-Nitrosodi-n-propylamine	6.90E-01	(3)	2.50E-01	(6)	3.23E-03	(8)	3.23E-03	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
N-Nitrosodiphenylamine	9.93E+02	(1)	3.36E+04	(4)	2.61E+02	(8)	2.61E+02	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	<0.401
Pentachlorophenol	8.94E+00	(1)	3.10E+02	(4)	5.90E+00	(8)	5.90E+00	-	<0.399	<0.797	<2.003	<1.995	<1.982	<1.988	<0.403	<0.803	<2.011	<1.978	<1.995	<2.009	<0.801
Phenanthrene	1.83E+03	(1)	7.15E+03	(4)	1.32E+04	(8)	1.83E+03	-	<0.199	2	<1.002	1.1	1.7	<0.994	<0.202	1.1	<1.006	<0.989	<0.997	<1.004	7.3
Phenol	1.83E+04	(1)	6.88E+04	(4)	2.29E+03	(8)	2.29E+03	-	<0.199	<0.398	<1.002	<0.998	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	2.1
Pyrene	1.72E+03	(1)	6.68E+03	(4)	4.12E+04	(8)	1.72E+03	-	<0.199	0.25	<1.002	0.6	<0.991	<0.994	<0.202	<0.401	<1.006	<0.989	<0.997	<1.004	1.1
Pyridine	7.80E+01	(2)	1.00E+03	(5)	2.44E+00	(8)	2.44E+00	-	<0.498	<0.996	<2.504	<2.494	<2.477	<2.485	<0.504	<1.004	<2.514	<2.473	<2.493	<2.511	<1.001
Total Petroleum Hydrocarbons - (EPA Method 8015B) mg/kg																					
Diesel Range Organics (DRO)	1.00E+03	(10)	1.00E+03	(10)	1.00E+03	(10)	-	-	<10	1000	550	**4300**	1000	**1200**	<10	**1800**	350	240	350	350	**15000**
Gasoline Range Organics (GRO)	-	-	-	-	-	-	-	-	3.4	150	7.9	170	20	<50	1.1	59	3.7	7.5	5.8	27	700
Motor Oil Range Organics (MRO)	3.00E+03	(11)	3.00E+03	(11)	3.00E+03	(11)	-	-	<50	<499	<1010	<994	<990	<988	<50	<490	190	150	150	80	790

-- No screening level or analytical result available

NMED - Risk Assessment Guidance for Site Investigations and Remediation (June 14, 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 "uknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels

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

(12) 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

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 (12)	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')	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')
									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	1207940-021 7/19/2012	1207940-022 7/19/2012	1207940-014 7/19/2012	1207940-015 7/19/2012
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	<12.5	<12.5	<12.5
Arsenic	3.90E+00	(1)	5.30E+01	(4)	6.05E+00	(8)	3.90E+00	-	<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
Barium	1.56E+04	(1)	4.35E+03	(4)	1.39E+05	(8)	4.35E+03	-	120	350	230	980	190	670	650	550	1000	850	600	620	680
Beryllium	1.56E+02	(1)	1.44E+02	(4)	2.66E+04	(8)	1.44E+02	-	0.95	0.97	1	0.93	1	0.67	0.51	0.62	0.73	0.86	0.87	0.86	0.76
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
Chromium III	1.17E+05	(1)	4.65E+05	(4)	4.54E+10	(8)	1.17E+05	-	12	17	13	18	11	14	8.9	13	15	20	25	25	26
Chromium VI	2.97E+00	(1)	6.56E+01	(4)	3.83E+00	(8)	2.97E+00	-	12	17	13	18	11	14	8.9	13	15	20	25	25	26
Cobalt	2.30E+01	(2)	3.00E+02	(5)	9.68E+01	(8)	2.30E+01	-	5.3	5.7	5.7	5.7	4.9	4.7	3.6	4.4	4.5	5.4	5.4	5.2	5.5
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	1.33	<0.5	1.22	1.5
Iron	5.48E+04	(1)	2.17E+05	(4)	2.98E+05	(8)	5.48E+04	-	15000	8400	16000	16000	14000	12000	7300	11000	15000	17000	15000	16000	15000
Lead	4.00E+02	(1)	8.00E+02	(4)	6.45E+03	(8)	4.00E+02	-	2.6	2	3.3	3.3	2.9	4.1	1.3	4.8	5.1	7.1	3.2	10	14
Manganese	1.86E+03	(1)	4.40E+02	(4)	2.64E+04	(8)	4.40E+02	-	300	340	390	350	240	540	360	1100	560	560	640	580	540
Mercury	1.56E+01	(1)	1.36E+01	(4)	1.51E+01	(8)	1.36E+01	-	0.097	0.14	<0.033	0.33	0.0074	0.13	0.22	0.062	0.052	1.3	0.12	0.2	0.15
Nickel	1.56E+03	(1)	6.19E+03	(4)	2.20E+04	(8)	1.56E+03	-	8.7	9.1	9.5	9.1	8.1	8.2	5.6	6.9	7.1	12	8.7	8.5	8.9
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	<12.5	<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
Vanadium	3.91E+02	(1)	1.55E+03	(4)	8.42E+04	(8)	3.91E+02	-	22	26	23	27	21	23	20	22	25	28	27	30	26
Zinc	2.35E+04	(1)	9.29E+04	(4)	3.14E+05	(8)	2.35E+04	-	18	36	19	34	19	140	68	69	25	230	37	68	65
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	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
1,1,1-Trichloroethane	1.56E+04	(1)	1.48E+04	(4)	1.34E+03	(8)	1.34E+03	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
1,1,2,2-Tetrachloroethane	8.02E+00	(1)	2.21E+02	(4)	9.82E-02	(8)	9.82E-02	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
1,1,2-Trichloroethane	2.81E+00	(1)	4.72E+02	(4)	5.14E-02	(8)	5.14E-02	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	1	<0.001	<2.5
1,1-Dichloroethane	6.45E+01	(1)	1.70E+03	(4)	2.75E+00	(8)	2.75E+00	-	<5	<2	<1	<5	<1	<0.001	<5	<0.001	<2	<0.001	<2	<0.001	<5
1,1-Dichloroethene	4.49E+02	(1)	4.32E+02	(4)	5.36E+01	(8)	5.36E+01	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
1,1-Dichloropropene	-	-	-	-	-	-	-	-	<5	<2	<1	<5	<1	<0.001	<5	<0.001	<2	<0.001	<2	<0.001	<5
1,2,3-Trichlorobenzene	4.90E+01	(2)	4.90E+02	(5)	6.92E+00	(8)	6.92E+00	-	<5	<2	<1	<5	<1	<0.001	<5	<0.001	<2	<0.001	<2	<0.001	<5
1,2,3-Trichloropropane	4.97E-02	(1)	7.23E+00	(4)	1.15E-03	(8)	1.15E-03	-	<5	<2	<1	<5	<1	<0.001	<5	<0.001	<2	<0.001	<2	<0.001	<5
1,2,4-Trichlorobenzene	7.30E+01	(1)	6.87E+01	(4)	4.21E+00	(8)	4.21E+00	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
1,2,4-Trimethylbenzene	6.20E+01	(2)	2.60E+02	(5)	9.68E+00	(8)	9.68E+00	-	22	3.7	3.5	38	4.8	<0.001	44	<0.001	3.6	<0.001	33	<0.001	37
1,2-Dibromo-3-chloropropane	1.86E+00	(1)	5.07E+00	(4)	5.07E-04	(8)	5.07E-04	-	<5	<2	<1	<5	<1	<0.002	<5	<0.002	<2	<0.002	<2	<0.002	<5
1,2-Dibromoethane (EDB)	5.88E-01	(1)	1.60E+01	(4)	7.10E-03	(8)	7.10E-03	-	0.56	0.15	0.14	1	0.17	<0.001	<2.5	<0.001	0.21	<0.001	0.9	<0.001	1.2
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(8)	1.29E+02	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
1,2-Dichloroethane (EDC)	7.89E+00	(1)	5.87E+01	(4)	1.64E-01	(8)	1.64E-01	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
1,2-Dichloropropane	1.52E+01	(1)	2.50E+01	(4)	4.94E-01	(8)	4.94E-01	-	0.46	<1	<0.5	0.48	0.089	<0.002	<2.5	<0.002	<1	<0.002	0.33	<0.002	0.82
1,3,5-Trimethylbenzene	7.80E+02	(2)	1.00E+04	(5)	5.53E+01	(8)	5.53E+01	-	6.3	1.4	0.93	12	0.87	<0.001	16	<0.001	1.1	<0.001	7.8	<0.001	13
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
1,3-Dichloropropane	1.60E+03	(2)	2.00E+04	(5)	4.56E+01	(8)	4.56E+01	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(8)	1.47E+00	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
1-Methylnaphthalene	1.60E+02	(3)	5.30E+01	(6)	2.35E+00	(8)	2.35E+00	-	21	12	2.6	31	3.3	<0.004	6.7	<0.004	12	<0.004	38	<0.004	12
2,2-Dichloropropane	-	-	-	-	-	-	-	-	<5	<2	<1	<5	<1	<0.001	<5	<0.001	<2	<0.001	<2	<0.001	<5
2-Butanone (MEK)	3.71E+04	(1)	8.43E+04	(4)	5.87E+02	(8)	5.87E+02	-	<25	<10	<5	<25	<5	<0.005	<25	<0.005	<10	0.00152	<10	<0.005	<25
2-Chlorotoluene	1.56E+03	(1)	6.19E+03	(4)	2.57E+02	(8)	2.57E+02	-	<2.5	<1	0.053	0.46	<0.5	<0.001	<2.5	<0.001	0.11	<0.001	0.22	<0.001	<2.5
2-Hexanone	9.38E+02	(1)	9.73E+02	(4)	3.53E+03	(8)	9.38E+02	-	<25	<10	<5	<25	<5	<0.005	<25	<0.005	0.37	<0.005	<10	<0.005	<25
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+01	-	36	13	4.6	55	6.1	<0.004	9.8	<0.004	9.6	<0.004	60	<0.004	20
4-Chlorotoluene	1.60E+03	(2)	2.00E+04	(5)	8.30E+01	(8)	8.30E+01	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
4-Isopropyltoluene	-	-	-	-	-	-	-	-	1.3	0.38	0.22	1.7	0.29	<0.001	3.4	<0.001	0.27	<0.001	2.7	<0.001	1.9

Table 8
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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 (12)	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')	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')
									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	1207940-021 7/19/2012	1207940-022 7/19/2012	1207940-014 7/19/2012	1207940-015 7/19/2012
4-Methyl-2-pentanone	5.30E+03	(2)	5.30E+04	(5)	1.06E+02	(8)	1.06E+02	-	<25	<10	<5	<25	<5	<0.005	<25	<0.005	<10	<0.005	<10	<0.005	<25
Acetone	6.66E+04	(1)	2.21E+05	(4)	1.78E+03	(8)	1.78E+03	-	47	4.1	3.6	13	3.8	<0.029	35	<0.027	4.1	0.00602	12	<0.033	34
Benzene	1.54E+01	(1)	1.38E+02	(4)	7.96E-01	(8)	7.96E-01	-	2.9	<1	0.48	<2.5	0.84	<0.001	2.8	<0.001	0.46	0.00129	1.6	<0.001	2.2
Bromobenzene	3.00E+02	(2)	1.80E+03	(5)	1.66E+01	(8)	1.66E+01	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
Bromodichloromethane	5.41E+00	(1)	1.43E+02	(4)	1.25E-01	(8)	1.25E-01	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
Bromoform	6.16E+02	(1)	4.76E+03	(4)	2.78E+02	(8)	2.78E+02	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
Bromomethane	1.65E+01	(1)	1.64E+01	(4)	8.86E-01	(8)	8.86E-01	-	<7.5	<3	<1.5	<7.5	<1.5	-	<7.5	-	<3	-	<3	-	<7.5
Carbon disulfide	1.53E+03	(1)	1.58E+03	(4)	1.30E+02	(8)	1.30E+02	-	<25	<10	<5	<25	<5	<0.005	<25	<0.005	<10	<0.005	<10	<0.005	<25
Carbon tetrachloride	1.08E+01	(1)	2.26E+02	(4)	7.39E-01	(8)	7.39E-01	-	<5	<2	<1	<5	<1	<0.001	<5	<0.001	<2	<0.001	<2	<0.001	<5
Chlorobenzene	3.76E+02	(1)	4.06E+02	(4)	2.27E+01	(8)	2.27E+01	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	0.11	<0.001	<2.5
Chloroethane	2.98E+04	(1)	2.61E+04	(4)	2.48E+03	(8)	2.48E+03	-	<5	<2	<1	<5	<1	<0.001	<5	<0.001	<2	<0.001	<2	<0.001	<5
Chloroform	5.86E+00	(1)	1.54E+02	(4)	2.12E-01	(8)	2.12E-01	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
Chloromethane	2.75E+02	(1)	2.41E+02	(4)	2.03E+01	(8)	2.03E+01	-	<7.5	<3	<1.5	<7.5	<1.5	<0.001	<7.5	<0.001	<3	0.000352	<3	<0.001	<7.5
cis-1,2-DCE	1.56E+02	(1)	6.19E+02	(4)	8.47E+00	(8)	8.47E+00	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
cis-1,3-Dichloropropene	3.37E+01	(1)	2.09E+02	(4)	5.71E-01	(8)	5.71E-01	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
Dibromochloromethane	1.21E+01	(1)	3.32E+02	(4)	1.52E-01	(8)	1.52E-01	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
Dibromomethane	5.16E+01	(1)	3.10E+03	(4)	7.89E-01	(8)	7.89E-01	-	<5	<2	<1	<5	<1	<0.001	<5	<0.001	<2	<0.001	<2	<0.001	<5
Dichlorodifluoromethane	1.68E+02	(1)	1.49E+02	(4)	1.71E+02	(8)	1.49E+02	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
Ethylbenzene	6.84E+01	(1)	1.83E+03	(4)	5.98E+00	(8)	5.98E+00	-	7.5	0.47	1.3	4.3	1.7	<0.001	23	<0.001	0.67	<0.001	13	<0.001	17
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(8)	5.91E+00	-	<5	<2	<1	<5	<1	<0.001	<5	<0.001	<2	<0.001	<2	<0.001	<5
Isopropylbenzene	2.43E+03	(1)	2.81E+03	(4)	3.99E+02	(8)	3.99E+02	-	1.6	0.2	0.28	1.6	0.39	<0.001	6.6	<0.001	0.13	<0.001	2.9	<0.001	3.5
Methyl tert-butyl ether (MTBE)	9.01E+02	(1)	2.49E+04	(4)	1.11E+01	(8)	1.11E+01	-	1.5	<1	0.19	<2.5	0.2	<0.002	<2.5	<0.002	<1	<0.002	0.16	<0.002	<2.5
Methylene chloride	4.09E+02	(1)	1.12E+03	(4)	1.90E+01	(8)	1.90E+01	-	0.31	<3	0.24	0.35	0.24	<0.005	2	<0.005	0.63	<0.005	0.14	<0.005	0.31
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(8)	1.64E+00	-	10	1.8	1.2	11	1.4	<0.001	3.6	<0.001	3.9	<0.001	17	0.000458	8.8
n-Butylbenzene	3.90E+03	(2)	5.10E+04	(5)	1.15E+03	(8)	1.15E+03	-	2.4	0.66	0.4	3.3	0.51	<0.001	3.8	<0.001	0.31	<0.001	4.6	<0.001	2.8
n-Propylbenzene	3.40E+03	(2)	2.10E+04	(5)	4.56E+02	(8)	4.56E+02	-	3.6	0.47	0.55	4	0.73	<0.001	8.1	<0.001	0.22	<0.001	4.9	<0.001	5.7
sec-Butylbenzene	-	-	-	-	-	-	-	-	1.4	0.28	0.23	1.6	0.3	<0.001	3.8	<0.001	0.17	<0.001	2.9	<0.001	2
Styrene	7.28E+03	(1)	9.99E+03	(4)	6.40E+02	(8)	6.40E+02	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
tert-Butylbenzene	-	-	-	-	-	-	-	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
Tetrachloroethene (PCE)	7.02E+00	(1)	2.12E+02	(4)	1.98E-01	(8)	1.98E-01	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
Toluene	5.27E+03	(1)	1.34E+04	(4)	5.84E+02	(8)	5.84E+02	-	14	0.15	0.61	1.3	0.83	<0.001	<2.5	0.00033	<1	0.00273	0.17	0.00075	<2.5
trans-1,2-DCE	2.70E+02	(1)	2.73E+02	(4)	1.24E+01	(8)	1.24E+01	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
trans-1,3-Dichloropropene	-	-	-	-	-	-	-	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
Trichloroethene (TCE)	8.77E+00	(1)	7.68E+00	(4)	4.85E-01	(8)	4.85E-01	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
Trichlorofluoromethane	1.41E+03	(1)	1.30E+03	(4)	4.10E+02	(8)	4.10E+02	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	0.000414	<1	<0.001	<2.5
Vinyl chloride	7.28E-01	(1)	1.49E+02	(4)	2.50E-02	(8)	2.50E-02	-	<2.5	<1	<0.5	<2.5	<0.5	<0.001	<2.5	<0.001	<1	<0.001	<1	<0.001	<2.5
Xylenes, Total	8.14E+02	(1)	7.43E+02	(4)	7.21E+01	(8)	7.21E+01	-	36	2.4	5.5	45	5.3	<0.003	120	<0.003	1.1	<0.003	14	<0.003	53
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	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(8)	1.29E+02	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(8)	1.47E+00	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
1-Methylnaphthalene	1.60E+02	(3)	5.30E+01	(6)	2.35E+00	(8)	2.35E+00	-	5.2	1.6	1.4	18	17	<1.003	4.4	<1.006	6.3	<1.979	29	<0.995	4.5
2,4,5-Trichlorophenol	6.11E+03	(1)	2.38E+04	(4)	4.78E+03	(8)	4.78E+03	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
2,4,6-Trichlorophenol	6.11E+01	(1)	2.38E+02	(4)	4.78E+01	(8)	4.78E+01	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
2,4-Dichlorophenol	1.83E+02	(1)	7.15E+02	(4)	4.60E+01	(8)	4.60E+01	-	<0.805	<0.401	<0.398	<2.004	<1.983	<2.005	<1.996	<2.012	<2	<3.958	<2.007	<1.989	<3.991
2,4-Dimethylphenol	1.22E+03	(1)	4.76E+03	(4)	3.07E+02	(8)	3.07E+02	-	<0.603	<0.301	0.29	<1.503	<1.488	<1.504	<1.497	<1.509	<1.5	<2.968	<1.506	<1.492	<2.993
2,4-Dinitrophenol	1.22E+02	(1)	4.76E+02	(4)	2.91E+01	(8)	2.91E+01	-	<0.805	0.16	0.12	0.59	0.66	<2.005	0.49	0.46	<2	<3.958	0.53	0.46	<3.991

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 (12)	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')	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')
									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	1207940-021 7/19/2012	1207940-022 7/19/2012	1207940-014 7/19/2012	1207940-015 7/19/2012
2,4-Dinitrotoluene	1.57E+01	(1)	4.76E+02	(4)	1.04E+00	(8)	1.04E+00	-	<1.006	<0.502	<0.498	<2.505	<2.479	<2.507	<2.495	<2.515	<2.5	<4.947	<2.509	<2.487	<4.988
2,6-Dinitrotoluene	6.11E+01	(1)	2.38E+02	(4)	1.77E+01	(8)	1.77E+01	-	<1.006	<0.502	<0.498	<2.505	<2.479	<2.507	<2.495	<2.515	<2.5	<4.947	<2.509	<2.487	<4.988
2-Chloronaphthalene	6.11E+01	(1)	2.94E+02	(4)	4.01E-01	(8)	4.01E-01	-	<0.503	<0.251	<0.249	<1.253	<1.24	<1.253	<1.248	<1.258	<1.25	<2.474	<1.255	<1.243	<2.494
2-Chlorophenol	3.91E+02	(1)	1.55E+03	(4)	5.33E+01	(8)	5.33E+01	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+01	-	7.7	0.81	2.3	28	27	<1.003	6.7	<1.006	6.1	<1.979	38	<0.995	7
2-Methylphenol	3.10E+03	(2)	3.10E+04	(5)	2.67E+02	(8)	2.67E+02	-	1.1	<0.502	<0.498	<2.505	<2.479	<2.507	<2.495	<2.515	<2.5	<4.947	<2.509	<2.487	<4.988
2-Nitroaniline	6.10E+02	(2)	6.00E+03	(5)	2.86E+01	(8)	2.86E+01	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
2-Nitrophenol	-	-	-	-	-	-	-	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
3,3´-Dichlorobenzidine	1.08E+01	(1)	3.64E+02	(4)	3.41E+00	(8)	3.41E+00	-	<0.503	<0.251	<0.249	<1.253	<1.24	<1.253	<1.248	<1.258	<1.25	<2.474	<1.255	<1.243	<2.494
3+4-Methylphenol	-	-	-	-	-	-	-	-	2.2	<0.201	0.088	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
3-Nitroaniline	-	-	-	-	-	-	-	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
4,6-Dinitro-2-methylphenol	4.90E+00	(2)	4.90E+01	(5)	9.22E-01	(8)	9.22E-01	-	<1.006	<0.502	<0.498	<2.505	<2.479	<2.507	<2.495	<2.515	<2.5	<4.947	<2.509	<2.487	<4.988
4-Bromophenyl phenyl ether	-	-	-	-	-	-	-	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
4-Chloro-3-methylphenol	6.10E+03	(2)	6.20E+04	(5)	5.99E+02	(8)	5.99E+02	-	<1.006	<0.502	<0.498	<2.505	<2.479	<2.507	<2.495	<2.515	<2.5	<4.947	<2.509	<2.487	<4.988
4-Chloroaniline	2.40E+01	(3)	8.60E+00	(6)	5.99E-02	(8)	5.99E-02	-	<1.006	<0.502	<0.498	<2.505	<2.479	<2.507	<2.495	<2.515	<2.5	<4.947	<2.509	<2.487	<4.988
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	-	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
4-Nitroaniline	2.40E+02	(3)	8.60E+01	(6)	6.45E-01	(8)	6.45E-01	-	<0.805	<0.401	<0.398	<2.004	<1.983	<2.005	<1.996	<2.012	<2	<3.958	<2.007	<1.989	<3.991
4-Nitrophenol	-	-	-	-	-	-	-	-	<0.503	<0.251	<0.249	<1.253	<1.24	<1.253	<1.248	<1.258	<1.25	<2.474	<1.255	<1.243	<2.494
Acenaphthene	3.44E+03	(1)	1.86E+04	(4)	7.79E+03	(8)	3.44E+03	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Acenaphthylene	-	-	-	-	-	-	-	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Aniline	8.50E+02	(3)	3.00E+02	(6)	1.80E+00	(8)	1.80E+00	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Anthracene	1.72E+04	(1)	6.68E+04	(4)	1.25E+05	(8)	1.72E+04	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Azobenzene	5.10E+01	(3)	2.30E+01	(6)	3.69E-01	(8)	3.69E-01	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Benz(a)anthracene	1.48E+00	(1)	2.13E+02	(4)	3.61E+01	(8)	1.48E+00	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	0.61	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Benzo(a)pyrene	1.48E-01	(1)	2.13E+01	(4)	1.20E+01	(8)	1.48E-01	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Benzo(b)fluoranthene	1.48E+00	(1)	2.13E+02	(4)	1.22E+02	(8)	1.48E+00	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Benzo(k)fluoranthene	1.48E+01	(1)	2.06E+03	(4)	1.20E+03	(8)	1.48E+01	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Benzoic acid	2.40E+05	(2)	2.50E+06	(5)	6.45E+03	(8)	6.45E+03	-	<1.006	<0.502	<0.498	<2.505	<2.479	<2.507	<2.495	<2.515	<2.5	<4.947	<2.509	<2.487	<4.988
Benzyl alcohol	6.10E+03	(2)	6.20E+04	(5)	1.71E+02	(8)	1.71E+02	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Bis(2-chloroethoxy)methane	1.80E+02	(2)	1.80E+03	(5)	5.07E+00	(8)	5.07E+00	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Bis(2-chloroethyl)ether	2.68E+00	(1)	7.78E+01	(4)	1.21E-02	(8)	1.21E-02	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	0.43	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Bis(2-chloroisopropyl)ether	9.15E+01	(1)	3.10E+03	(4)	1.07E+00	(8)	1.07E+00	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Bis(2-ethylhexyl)phthalate	3.47E+02	(1)	4.76E+03	(4)	3.97E+03	(8)	3.47E+02	-	<1.006	<0.502	<0.498	<2.505	<2.479	<2.507	1.1	<2.515	<2.5	<4.947	<2.509	<2.487	<4.988
Butyl benzyl phthalate	2.60E+03	(3)	9.10E+02	(6)	9.22E+01	(8)	9.22E+01	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Carbazole	-	-	-	-	-	-	-	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Chrysene	1.48E+02	(1)	2.06E+04	(4)	3.68E+03	(8)	1.48E+02	-	<0.402	0.16	<0.199	<1.002	<0.992	<1.003	0.65	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Dibenz(a,h)anthracene	1.48E-01	(1)	2.13E+01	(4)	3.90E+01	(8)	1.48E-01	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Dibenzofuran	7.80E+01	(2)	1.00E+03	(5)	5.07E+01	(8)	5.07E+01	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Diethyl phthalate	4.89E+04	(1)	1.91E+05	(4)	4.45E+03	(8)	4.45E+03	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Dimethyl phthalate	6.11E+05	(1)	2.38E+06	(4)	3.71E+04	(8)	3.71E+04	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Di-n-butyl phthalate	6.11E+03	(1)	2.38E+04	(4)	3.21E+03	(8)	3.21E+03	-	<1.006	<0.502	<0.498	<2.505	<2.479	<2.507	<2.495	<2.515	<2.5	<4.947	<2.509	<2.487	<4.988
Di-n-octyl phthalate	-	-	-	-	-	-	-	-	<0.503	<0.251	<0.249	<1.253	<1.24	<1.253	<1.248	<1.258	<1.25	<2.474	<1.255	<1.243	<2.494
Fluoranthene	2.29E+03	(1)	8.91E+03	(4)	5.61E+04	(8)	2.29E+03	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Fluorene	2.29E+03	(1)	8.91E+03	(4)	9.36E+03	(8)	2.29E+03	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	0.86	<1.006	<1	<1.979	3	<0.995	<1.995
Hexachlorobenzene	3.04E+00	(1)	1.03E+02	(4)	1.83E+00	(8)	1.83E+00	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(8)	5.91E+00	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Hexachlorocyclopentadiene	3.67E+02	(1)	8.11E+02	(4)	2.43E+02	(8)	2.43E+02	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995

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 (12)	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')	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')
									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	1207940-021 7/19/2012	1207940-022 7/19/2012	1207940-014 7/19/2012	1207940-015 7/19/2012
Hexachloroethane	4.28E+01	(1)	1.67E+02	(4)	3.77E+00	(8)	3.77E+00	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Indeno(1,2,3-cd)pyrene	1.48E+00	(1)	2.13E+02	(4)	3.98E+02	(8)	1.48E+00	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Isophorone	5.12E+03	(1)	4.75E+04	(4)	8.84E+01	(8)	8.84E+01	-	<1.006	<0.502	<0.498	<2.505	<2.479	<2.507	<2.495	<2.515	<2.5	<4.947	<2.509	<2.487	<4.988
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(8)	1.64E+00	-	1.6	<0.201	0.65	3.7	4.3	<1.003	1.7	<1.006	1.4	<1.979	7.1	<0.995	2.8
Nitrobenzene	5.35E+01	(1)	3.32E+02	(4)	2.88E-01	(8)	2.88E-01	-	<1.006	<0.502	<0.498	<2.505	<2.479	<2.507	<2.495	<2.515	<2.5	<4.947	<2.509	<2.487	<4.988
N-Nitrosodi-n-propylamine	6.90E-01	(3)	2.50E-01	(6)	3.23E-03	(8)	3.23E-03	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
N-Nitrosodiphenylamine	9.93E+02	(1)	3.36E+04	(4)	2.61E+02	(8)	2.61E+02	-	<0.402	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Pentachlorophenol	8.94E+00	(1)	3.10E+02	(4)	5.90E+00	(8)	5.90E+00	-	<0.805	<0.401	<0.398	<2.004	<1.983	<2.005	<1.996	<2.012	<2	<3.958	<2.007	<1.989	<3.991
Phenanthrene	1.83E+03	(1)	7.15E+03	(4)	1.32E+04	(8)	1.83E+03	-	1.2	1.4	0.6	6.6	6.2	<1.003	2.8	<1.006	1.7	<1.979	9.8	<0.995	2.2
Phenol	1.83E+04	(1)	6.88E+04	(4)	2.29E+03	(8)	2.29E+03	-	2.8	<0.201	<0.199	<1.002	<0.992	<1.003	<0.998	<1.006	<1	<1.979	<1.004	<0.995	<1.995
Pyrene	1.72E+03	(1)	6.68E+03	(4)	4.12E+04	(8)	1.72E+03	-	<0.402	0.21	0.11	1	0.68	<1.003	0.9	<1.006	<1	<1.979	2.6	<0.995	<1.995
Pyridine	7.80E+01	(2)	1.00E+03	(5)	2.44E+00	(8)	2.44E+00	-	<1.006	<0.502	<0.498	<2.505	<2.479	<2.507	<2.495	<2.515	<2.5	<4.947	<2.509	<2.487	<4.988
Total Petroleum Hydrocarbons - (EPA Method 8015B) mg/kg																					
Diesel Range Organics (DRO)	1.00E+03	(10)	1.00E+03	(10)	1.00E+03	(10)	-	-	**1500**	1000	**1300**	**7700**	**2800**	**1400**	**10000**	480	**4800**	**2900**	**13000**	**1200**	**14000**
Gasoline Range Organics (GRO)	-	-	-	-	-	-	-	-	370	43	58	450	60	27	1600	14	<250	<25	230	24	570
Motor Oil Range Organics (MRO)	3.00E+03	(11)	3.00E+03	(11)	3.00E+03	(11)	-	-	<486	<495	<495	<977	<496	<994	<5066	480	1100	2800	<2503	680	<2535

-- No screening level or analytical result available

NMED - Risk Assessment Guidance for Site Investigations and Remediation (June 14, 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 "uknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels

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

(12) 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

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 (12)	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')	SWMU 14-23 (12-14')	SWMU 14-23 (14-16')
									1207940-019	1207940-020	1207940-027	1210582-005	1210582-006	1210582-007	1210583-001	1210583-002	1210583-003	1210583-005	1210656-001	1210656-002	1210656-003	1210656-004
									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	10/10/2012	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	<5	<5	<5	<5	<5	<5	<5
Arsenic	3.90E+00	(1)	5.30E+01	(4)	6.05E+00	(8)	3.90E+00	-	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<12.5	<4.9999	<4.9995	<4.9995	<5	<5	<5	<5
Barium	1.56E+04	(1)	4.35E+03	(4)	1.39E+05	(8)	4.35E+03	-	180	790	940	470	750	160	630	430	170	250	600	460	220	130
Beryllium	1.56E+02	(1)	1.44E+02	(4)	2.66E+04	(8)	1.44E+02	-	0.38	0.81	0.69	<0.75	<0.75	0.91	0.9	0.83	0.89	0.8	0.61	0.62	0.87	0.75
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	<0.2	<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	(8)	1.17E+05	-	6.6	12	9.4	5.7	7.4	8	12	10	7.6	9.3	9.6	15	8.3	7.8
Chromium VI	2.97E+00	(1)	6.56E+01	(4)	3.83E+00	(8)	2.97E+00	-	6.6	12	9.4	5.7	7.4	8	12	10	7.6	9.3	9.6	15	8.3	7.8
Cobalt	2.30E+01	(2)	3.00E+02	(5)	9.68E+01	(8)	2.30E+01	-	3.2	4.8	5.2	3.2	3.9	4.3	5.5	4.2	4.3	3.8	3.4	3.7	4	4
Cyanide	4.69E+01	(1)	1.86E+02	(4)	1.02E+02	(8)	4.69E+01	-	<0.5	<0.5	<0.5	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.36	5.5	<0.3	<0.3
Iron	5.48E+04	(1)	2.17E+05	(4)	2.98E+05	(8)	5.48E+04	-	8200	12000	13000	11000	12000	12000	15000	14000	13000	13000	13000	12000	13000	12000
Lead	4.00E+02	(1)	8.00E+02	(4)	6.45E+03	(8)	4.00E+02	-	2.2	4.1	2.7	10	5	4.7	5.9	4.3	4	3.9	4.2	7.6	3.7	3.5
Manganese	1.86E+03	(1)	4.40E+02	(4)	2.64E+04	(8)	4.40E+02	-	300	640	650	550	550	220	550	540	370	270	720	570	300	570
Mercury	1.56E+01	(1)	1.36E+01	(4)	1.51E+01	(8)	1.36E+01	-	0.011	0.063	0.0064	<0.033	<0.033	<0.033	0.083	0.05	<0.033	<0.033	0.1	<0.033	<0.033	<0.033
Nickel	1.56E+03	(1)	6.19E+03	(4)	2.20E+04	(8)	1.56E+03	-	6.9	8	6.9	4.3	6.1	7.3	8.3	7.2	7.2	7.4	5.9	6.5	7.2	6.8
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	<5	<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	<1.2499	<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	(8)	3.91E+02	-	22	21	21	17	16	14	25	17	13	13	18	16	14	15
Zinc	2.35E+04	(1)	9.29E+04	(4)	3.14E+05	(8)	2.35E+04	-	18	34	17	29	22	13	33	20	13	14	140	41	13	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	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
1,1,1-Trichloroethane	1.56E+04	(1)	1.48E+04	(4)	1.34E+03	(8)	1.34E+03	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
1,1,2,2-Tetrachloroethane	8.02E+00	(1)	2.21E+02	(4)	9.82E-02	(8)	9.82E-02	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
1,1,2-Trichloroethane	2.81E+00	(1)	4.72E+02	(4)	5.14E-02	(8)	5.14E-02	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
1,1-Dichloroethane	6.45E+01	(1)	1.70E+03	(4)	2.75E+00	(8)	2.75E+00	-	<0.1	<0.1	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<1	<0.1
1,1-Dichloroethene	4.49E+02	(1)	4.32E+02	(4)	5.36E+01	(8)	5.36E+01	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
1,1-Dichloropropene	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<1	<0.1
1,2,3-Trichlorobenzene	4.90E+01	(2)	4.90E+02	(5)	6.92E+00	(8)	6.92E+00	-	<0.1	<0.1	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<1	<0.1
1,2,3-Trichloropropane	4.97E-02	(1)	7.23E+00	(4)	1.15E-03	(8)	1.15E-03	-	<0.1	<0.1	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<1	<0.1
1,2,4-Trichlorobenzene	7.30E+01	(1)	6.87E+01	(4)	4.21E+00	(8)	4.21E+00	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
1,2,4-Trimethylbenzene	6.20E+01	(2)	2.60E+02	(5)	9.68E+00	(8)	9.68E+00	-	<0.05	<0.05	<0.001	0.00163	<0.001	<0.0009	0.00263	<0.0009	<0.001	<0.0011	0.00512	0.000894	<0.5	<0.05
1,2-Dibromo-3-chloropropane	1.86E+00	(1)	5.07E+00	(4)	5.07E-04	(8)	5.07E-04	-	<0.1	<0.1	<0.002	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<1	<0.1
1,2-Dibromoethane (EDB)	5.88E-01	(1)	1.60E+01	(4)	7.10E-03	(8)	7.10E-03	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(8)	1.29E+02	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
1,2-Dichloroethane (EDC)	7.89E+00	(1)	5.87E+01	(4)	1.64E-01	(8)	1.64E-01	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
1,2-Dichloropropane	1.52E+01	(1)	2.50E+01	(4)	4.94E-01	(8)	4.94E-01	-	<0.05	<0.05	<0.002	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
1,3,5-Trimethylbenzene	7.80E+02	(2)	1.00E+04	(5)	5.53E+01	(8)	5.53E+01	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	0.000983	<0.0009	<0.001	<0.0011	0.00205	<0.0007	<0.5	<0.05
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
1,3-Dichloropropane	1.60E+03	(2)	2.00E+04	(5)	4.56E+01	(8)	4.56E+01	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(8)	1.47E+00	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
1-Methylnaphthalene	1.60E+02	(3)	5.30E+01	(6)	2.35E+00	(8)	2.35E+00	-	0.02	0.022	<0.005	<0.0032	<0.0041	<0.0037	<0.0038	<0.0036	<0.004	<0.0045	<0.0043	<0.0029	2.3	<0.2
2,2-Dichloropropane	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<1	<0.1
2-Butanone (MEK)	3.71E+04	(1)	8.43E+04	(4)	5.87E+02	(8)	5.87E+02	-	<0.5	0.055	<0.006	0.0217	<0.0104	<0.0093	0.0165	<0.0089	<0.01	<0.0112	0.0188	<0.0073	<5	<0.5
2-Chlorotoluene	1.56E+03	(1)	6.19E+03	(4)	2.57E+02	(8)	2.57E+02	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
2-Hexanone	9.38E+02	(1)	9.73E+02	(4)	3.53E+03	(8)	9.38E+02	-	<0.5	<0.5	<0.006	<0.0081	<0.0104	<0.0093	<0.0095	<0.0089	<0.01	<0.0112	<0.0108	<0.0073	<5	<0.5
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+01	-	0.024	0.027	<0.005	<0.0032	<0.0041	<0.0037	<0.0038	<0.0036	<0.004	<0.0045	<0.0043	<0.0029	3.5	<0.2
4-Chlorotoluene	1.60E+03	(2)	2.00E+04	(5)	8.30E+01	(8)	8.30E+01	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
4-Isopropyltoluene	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05

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 (12)	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')	SWMU 14-23 (12-14')	SWMU 14-23 (14-16')
									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	1210656-003 10/10/2012	1210656-004 10/10/2012
4-Methyl-2-pentanone	5.30E+03	(2)	5.30E+04	(5)	1.06E+02	(8)	1.06E+02	-	<0.5	<0.5	<0.006	<0.0081	<0.0104	<0.0093	<0.0095	<0.0089	<0.01	<0.0112	0.0142	<0.0073	<5	<0.5
Acetone	6.66E+04	(1)	2.21E+05	(4)	1.78E+03	(8)	1.78E+03	-	0.14	<0.75	<0.034	0.627	0.0315	<0.0093	0.48	0.0505	0.0151	<0.0112	0.101	0.0383	<7.5	<0.75
Benzene	1.54E+01	(1)	1.38E+02	(4)	7.96E-01	(8)	7.96E-01	-	<0.05	<0.05	<0.001	0.00192	0.00145	<0.0009	0.00124	0.000971	0.0019	0.00171	0.00261	0.00151	1.1	<0.05
Bromobenzene	3.00E+02	(2)	1.80E+03	(5)	1.66E+01	(8)	1.66E+01	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
Bromodichloromethane	5.41E+00	(1)	1.43E+02	(4)	1.25E-01	(8)	1.25E-01	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
Bromoform	6.16E+02	(1)	4.76E+03	(4)	2.78E+02	(8)	2.78E+02	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
Bromomethane	1.65E+01	(1)	1.64E+01	(4)	8.86E-01	(8)	8.86E-01	-	<0.15	<0.15	-	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<1.5	<0.15
Carbon disulfide	1.53E+03	(1)	1.58E+03	(4)	1.30E+02	(8)	1.30E+02	-	<0.5	<0.5	<0.006	<0.0081	<0.0104	<0.0093	<0.0095	<0.0089	<0.01	<0.0112	<0.0108	<0.0073	<5	<0.5
Carbon tetrachloride	1.08E+01	(1)	2.26E+02	(4)	7.39E-01	(8)	7.39E-01	-	<0.1	<0.1	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<1	<0.1
Chlorobenzene	3.76E+02	(1)	4.06E+02	(4)	2.27E+01	(8)	2.27E+01	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
Chloroethane	2.98E+04	(1)	2.61E+04	(4)	2.48E+03	(8)	2.48E+03	-	<0.1	<0.1	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<1	<0.1
Chloroform	5.86E+00	(1)	1.54E+02	(4)	2.12E-01	(8)	2.12E-01	-	<0.05	0.0069	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
Chloromethane	2.75E+02	(1)	2.41E+02	(4)	2.03E+01	(8)	2.03E+01	-	<0.15	<0.15	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<1.5	<0.15
cis-1,2-DCE	1.56E+02	(1)	6.19E+02	(4)	8.47E+00	(8)	8.47E+00	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
cis-1,3-Dichloropropene	3.37E+01	(1)	2.09E+02	(4)	5.71E-01	(8)	5.71E-01	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
Dibromochloromethane	1.21E+01	(1)	3.32E+02	(4)	1.52E-01	(8)	1.52E-01	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
Dibromomethane	5.16E+01	(1)	3.10E+03	(4)	7.89E-01	(8)	7.89E-01	-	<0.1	<0.1	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<1	<0.1
Dichlorodifluoromethane	1.68E+02	(1)	1.49E+02	(4)	1.71E+02	(8)	1.49E+02	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
Ethylbenzene	6.84E+01	(1)	1.83E+03	(4)	5.98E+00	(8)	5.98E+00	-	<0.05	<0.05	<0.001	0.00194	<0.001	<0.0009	0.00152	<0.0009	<0.001	<0.0011	0.00207	<0.0007	3.8	<0.05
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(8)	5.91E+00	-	<0.1	<0.1	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<1	<0.1
Isopropylbenzene	2.43E+03	(1)	2.81E+03	(4)	3.99E+02	(8)	3.99E+02	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	0.74	<0.05
Methyl tert-butyl ether (MTBE)	9.01E+02	(1)	2.49E+04	(4)	1.11E+01	(8)	1.11E+01	-	<0.05	<0.05	<0.002	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
Methylene chloride	4.09E+02	(1)	1.12E+03	(4)	1.90E+01	(8)	1.90E+01	-	0.048	0.016	<0.006	<0.0024	0.0142	0.00978	0.00694	<0.0027	<0.003	<0.0034	<0.0032	<0.0022	<1.5	<0.15
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(8)	1.64E+00	-	<0.1	<0.1	<0.001	<0.0016	<0.0021	<0.0019	<0.0019	<0.0018	<0.002	<0.0022	<0.0022	<0.0015	1.3	<0.1
n-Butylbenzene	3.90E+03	(2)	5.10E+04	(5)	1.15E+03	(8)	1.15E+03	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<1.5	<0.15
n-Propylbenzene	3.40E+03	(2)	2.10E+04	(5)	4.56E+02	(8)	4.56E+02	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	1.3	<0.05
sec-Butylbenzene	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	0.51	<0.05
Styrene	7.28E+03	(1)	9.99E+03	(4)	6.40E+02	(8)	6.40E+02	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
tert-Butylbenzene	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
Tetrachloroethene (PCE)	7.02E+00	(1)	2.12E+02	(4)	1.98E-01	(8)	1.98E-01	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
Toluene	5.27E+03	(1)	1.34E+04	(4)	5.84E+02	(8)	5.84E+02	-	<0.05	<0.05	<0.001	0.003	0.00126	<0.0009	0.00318	0.00135	0.00162	<0.0011	0.0075	0.00235	<0.5	<0.05
trans-1,2-DCE	2.70E+02	(1)	2.73E+02	(4)	1.24E+01	(8)	1.24E+01	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
trans-1,3-Dichloropropene	-	-	-	-	-	-	-	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
Trichloroethene (TCE)	8.77E+00	(1)	7.68E+00	(4)	4.85E-01	(8)	4.85E-01	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
Trichlorofluoromethane	1.41E+03	(1)	1.30E+03	(4)	4.10E+02	(8)	4.10E+02	-	<0.05	<0.05	0.000525	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
Vinyl chloride	7.28E-01	(1)	1.49E+02	(4)	2.50E-02	(8)	2.50E-02	-	<0.05	<0.05	<0.001	<0.0008	<0.001	<0.0009	<0.0009	<0.0009	<0.001	<0.0011	<0.0011	<0.0007	<0.5	<0.05
Xylenes, Total	8.14E+02	(1)	7.43E+02	(4)	7.21E+01	(8)	7.21E+01	-	<0.1	<0.1	<0.003	0.0128	<0.0021	<0.0019	0.00894	<0.0018	<0.002	<0.0022	0.0103	<0.0015	<1	<0.1
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	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(8)	1.29E+02	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(8)	1.47E+00	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
1-Methylnaphthalene	1.60E+02	(3)	5.30E+01	(6)	2.35E+00	(8)	2.35E+00	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
2,4,5-Trichlorophenol	6.11E+03	(1)	2.38E+04	(4)	4.78E+03	(8)	4.78E+03	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
2,4,6-Trichlorophenol	6.11E+01	(1)	2.38E+02	(4)	4.78E+01	(8)	4.78E+01	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
2,4-Dichlorophenol	1.83E+02	(1)	7.15E+02	(4)	4.60E+01	(8)	4.60E+01	-	<2.007	<3.954	<0.8	<0.3992	<0.3991	<0.3966	<0.3989	<0.3955	<0.4036	<0.3979	<0.7997	<1.973	<0.3963	<0.4034
2,4-Dimethylphenol	1.22E+03	(1)	4.76E+03	(4)	3.07E+02	(8)	3.07E+02	-	<1.506	<2.965	<0.6	<0.2994	<0.2993	<0.2974	<0.2992	<0.2966	<0.3027	<0.2984	<0.5998	<1.4798	<0.2972	<0.3025
2,4-Dinitrophenol	1.22E+02	(1)	4.76E+02	(4)	2.91E+01	(8)	2.91E+01	-	<2.007	<3.954	<0.8	<0.3992	<0.3991	<0.3966	<0.3989	<0.3955	<0.4036	<0.3979	<0.7997	<1.973	<0.3963	<0.4034

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 (12)	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')	SWMU 14-23 (12-14')	SWMU 14-23 (14-16')
									1207940-019	1207940-020	1207940-027	1210582-005	1210582-006	1210582-007	1210583-001	1210583-002	1210583-003	1210583-005	1210656-001	1210656-002	1210656-003	1210656-004
									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	10/10/2012	10/10/2012
2,4-Dinitrotoluene	1.57E+01	(1)	4.76E+02	(4)	1.04E+00	(8)	1.04E+00	-	<2.509	<4.942	<1	<0.499	<0.4988	<0.4957	<0.4987	<0.4944	<0.5045	<0.4973	<0.9997	<2.4663	<0.4954	<0.5042
2,6-Dinitrotoluene	6.11E+01	(1)	2.38E+02	(4)	1.77E+01	(8)	1.77E+01	-	<2.509	<4.942	<1	<0.499	<0.4988	<0.4957	<0.4987	<0.4944	<0.5045	<0.4973	<0.9997	<2.4663	<0.4954	<0.5042
2-Chloronaphthalene	6.11E+01	(1)	2.94E+02	(4)	4.01E-01	(8)	4.01E-01	-	<1.255	<2.471	<0.5	<0.2495	<0.2494	<0.2479	<0.2493	<0.2472	<0.2523	<0.2487	<0.4998	<1.2331	<0.2477	<0.2521
2-Chlorophenol	3.91E+02	(1)	1.55E+03	(4)	5.33E+01	(8)	5.33E+01	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+01	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
2-Methylphenol	3.10E+03	(2)	3.10E+04	(5)	2.67E+02	(8)	2.67E+02	-	<2.509	<4.942	<1	<0.499	<0.4988	<0.4957	<0.4987	<0.4944	<0.5045	<0.4973	<0.9997	<2.4663	<0.4954	<0.5042
2-Nitroaniline	6.10E+02	(2)	6.00E+03	(5)	2.86E+01	(8)	2.86E+01	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
2-Nitrophenol	-	-	-	-	-	-	-	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
3,3´-Dichlorobenzidine	1.08E+01	(1)	3.64E+02	(4)	3.41E+00	(8)	3.41E+00	-	<1.255	<2.471	<0.5	<0.2495	<0.2494	<0.2479	<0.2493	<0.2472	<0.2523	<0.2487	<0.4998	<1.2331	<0.2477	<0.2521
3+4-Methylphenol	-	-	-	-	-	-	-	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
3-Nitroaniline	-	-	-	-	-	-	-	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
4,6-Dinitro-2-methylphenol	4.90E+00	(2)	4.90E+01	(5)	9.22E-01	(8)	9.22E-01	-	<2.509	<4.942	<1	<0.499	<0.4988	<0.4957	<0.4987	<0.4944	<0.5045	<0.4973	<0.9997	<2.4663	<0.4954	<0.5042
4-Bromophenyl phenyl ether	-	-	-	-	-	-	-	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
4-Chloro-3-methylphenol	6.10E+03	(2)	6.20E+04	(5)	5.99E+02	(8)	5.99E+02	-	<2.509	<4.942	<1	<0.499	<0.4988	<0.4957	<0.4987	<0.4944	<0.5045	<0.4973	<0.9997	<2.4663	<0.4954	<0.5042
4-Chloroaniline	2.40E+01	(3)	8.60E+00	(6)	5.99E-02	(8)	5.99E-02	-	<2.509	<4.942	<1	<0.499	<0.4988	<0.4957	<0.4987	<0.4944	<0.5045	<0.4973	<0.9997	<2.4663	<0.4954	<0.5042
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	-	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
4-Nitroaniline	2.40E+02	(3)	8.60E+01	(6)	6.45E-01	(8)	6.45E-01	-	<2.007	<3.954	<0.8	<0.3992	<0.3991	<0.3966	<0.3989	<0.3955	<0.4036	<0.3979	<0.7997	<1.973	<0.3963	<0.4034
4-Nitrophenol	-	-	-	-	-	-	-	-	<1.255	<2.471	<0.5	<0.2495	<0.2494	<0.2479	<0.2493	<0.2472	<0.2523	<0.2487	<0.4998	<1.2331	<0.2477	<0.2521
Acenaphthene	3.44E+03	(1)	1.86E+04	(4)	7.79E+03	(8)	3.44E+03	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Acenaphthylene	-	-	-	-	-	-	-	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Aniline	8.50E+02	(3)	3.00E+02	(6)	1.80E+00	(8)	1.80E+00	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Anthracene	1.72E+04	(1)	6.68E+04	(4)	1.25E+05	(8)	1.72E+04	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Azobenzene	5.10E+01	(3)	2.30E+01	(6)	3.69E-01	(8)	3.69E-01	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Benz(a)anthracene	1.48E+00	(1)	2.13E+02	(4)	3.61E+01	(8)	1.48E+00	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Benzo(a)pyrene	1.48E-01	(1)	2.13E+01	(4)	1.20E+01	(8)	1.48E-01	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Benzo(b)fluoranthene	1.48E+00	(1)	2.13E+02	(4)	1.22E+02	(8)	1.48E+00	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Benzo(k)fluoranthene	1.48E+01	(1)	2.06E+03	(4)	1.20E+03	(8)	1.48E+01	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Benzoic acid	2.40E+05	(2)	2.50E+06	(5)	6.45E+03	(8)	6.45E+03	-	<2.509	<4.942	<1	<0.499	<0.4988	<0.4957	<0.4987	<0.4944	<0.5045	<0.4973	<0.9997	<2.4663	<0.4954	<0.5042
Benzyl alcohol	6.10E+03	(2)	6.20E+04	(5)	1.71E+02	(8)	1.71E+02	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	0.26	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Bis(2-chloroethoxy)methane	1.80E+02	(2)	1.80E+03	(5)	5.07E+00	(8)	5.07E+00	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Bis(2-chloroethyl)ether	2.68E+00	(1)	7.78E+01	(4)	1.21E-02	(8)	1.21E-02	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Bis(2-chloroisopropyl)ether	9.15E+01	(1)	3.10E+03	(4)	1.07E+00	(8)	1.07E+00	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Bis(2-ethylhexyl)phthalate	3.47E+02	(1)	4.76E+03	(4)	3.97E+03	(8)	3.47E+02	-	<2.509	<4.942	<1	<0.499	<0.4988	<0.4957	<0.4987	<0.4944	<0.5045	<0.4973	<0.9997	<2.4663	<0.4954	<0.5042
Butyl benzyl phthalate	2.60E+03	(3)	9.10E+02	(6)	9.22E+01	(8)	9.22E+01	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Carbazole	-	-	-	-	-	-	-	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Chrysene	1.48E+02	(1)	2.06E+04	(4)	3.68E+03	(8)	1.48E+02	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Dibenz(a,h)anthracene	1.48E-01	(1)	2.13E+01	(4)	3.90E+01	(8)	1.48E-01	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Dibenzofuran	7.80E+01	(2)	1.00E+03	(5)	5.07E+01	(8)	5.07E+01	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Diethyl phthalate	4.89E+04	(1)	1.91E+05	(4)	4.45E+03	(8)	4.45E+03	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Dimethyl phthalate	6.11E+05	(1)	2.38E+06	(4)	3.71E+04	(8)	3.71E+04	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Di-n-butyl phthalate	6.11E+03	(1)	2.38E+04	(4)	3.21E+03	(8)	3.21E+03	-	<2.509	<4.942	<1	<0.499	<0.4988	<0.4957	<0.4987	<0.4944	<0.5045	<0.4973	<0.9997	<2.4663	<0.4954	<0.5042
Di-n-octyl phthalate	-	-	-	-	-	-	-	-	<1.255	<2.471	<0.5	<0.2495	<0.2494	<0.2479	<0.2493	<0.2472	<0.2523	<0.2487	<0.7997	<1.973	<0.3963	<0.4034
Fluoranthene	2.29E+03	(1)	8.91E+03	(4)	5.61E+04	(8)	2.29E+03	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Fluorene	2.29E+03	(1)	8.91E+03	(4)	9.36E+03	(8)	2.29E+03	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Hexachlorobenzene	3.04E+00	(1)	1.03E+02	(4)	1.83E+00	(8)	1.83E+00	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(8)	5.91E+00	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Hexachlorocyclopentadiene	3.67E+02	(1)	8.11E+02	(4)	2.43E+02	(8)	2.43E+02	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017

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Analytes	Residential Soil Screening Level	Source	Non-Residential Soil Screening Level	Source	Leachate DAF (461) (mg/kg) SoilGW NMED	Source	Min	Background Concentrations (12)	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')	SWMU 14-23 (12-14')	SWMU 14-23 (14-16')
									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	1210656-003 10/10/2012	1210656-004 10/10/2012
Hexachloroethane	4.28E+01	(1)	1.67E+02	(4)	3.77E+00	(8)	3.77E+00	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Indeno(1,2,3-cd)pyrene	1.48E+00	(1)	2.13E+02	(4)	3.98E+02	(8)	1.48E+00	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Isophorone	5.12E+03	(1)	4.75E+04	(4)	8.84E+01	(8)	8.84E+01	-	<2.509	<4.942	<1	<0.499	<0.4988	<0.4957	<0.4987	<0.4944	<0.5045	<0.4973	<0.9997	<2.4663	<0.4954	<0.5042
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(8)	1.64E+00	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Nitrobenzene	5.35E+01	(1)	3.32E+02	(4)	2.88E-01	(8)	2.88E-01	-	<2.509	<4.942	<1	<0.499	<0.4988	<0.4957	<0.4987	<0.4944	<0.5045	<0.4973	<0.9997	<2.4663	<0.4954	<0.5042
N-Nitrosodi-n-propylamine	6.90E-01	(3)	2.50E-01	(6)	3.23E-03	(8)	3.23E-03	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
N-Nitrosodiphenylamine	9.93E+02	(1)	3.36E+04	(4)	2.61E+02	(8)	2.61E+02	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Pentachlorophenol	8.94E+00	(1)	3.10E+02	(4)	5.90E+00	(8)	5.90E+00	-	<2.007	<3.954	<0.8	<0.3992	<0.3991	<0.3966	<0.3989	<0.3955	<0.4036	<0.3979	<0.7997	<1.973	<0.3963	<0.4034
Phenanthrene	1.83E+03	(1)	7.15E+03	(4)	1.32E+04	(8)	1.83E+03	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Phenol	1.83E+04	(1)	6.88E+04	(4)	2.29E+03	(8)	2.29E+03	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Pyrene	1.72E+03	(1)	6.68E+03	(4)	4.12E+04	(8)	1.72E+03	-	<1.004	<1.977	<0.4	<0.1996	<0.1995	<0.1983	<0.1995	<0.1978	<0.2018	<0.1989	<0.3999	<0.9865	<0.1982	<0.2017
Pyridine	7.80E+01	(2)	1.00E+03	(5)	2.44E+00	(8)	2.44E+00	-	<2.509	<4.942	<1	<0.499	<0.4988	<0.4957	<0.4987	<0.4944	<0.5045	<0.4973	<0.9997	<2.4663	<0.4954	<0.5042
Total Petroleum Hydrocarbons - (EPA Method 8015B) mg/kg																						
Diesel Range Organics (DRO)	1.00E+03	(10)	1.00E+03	(10)	1.00E+03	(10)	-	-	<10	29	<10	21	<10	<10	150	90	<10	<10	45	32	140	19
Gasoline Range Organics (GRO)	-	-	-	-	-	-	-	-	1.2	<5	1.7	<5	<5	<5	<5	<5	<5	<5	<5	<5	160	<5
Motor Oil Range Organics (MRO)	3.00E+03	(11)	3.00E+03	(11)	3.00E+03	(11)	-	-	<49	51	<50	<50	<51	<50	96	60	<48	<48	<50	75	<49	<49

-- No screening level or analytical result available

NMED - Risk Assessment Guidance for Site Investigations and Remediation (June 14, 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 "uknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels

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

(12) 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

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 (12)	SWMU 14-24 (0-0.5')	SWMU 14-24 (1.5-2')
									1210860-001	1210860-002
									10/17/2012	10/17/2012
Metals (mg/kg)										
Antimony	3.13E+01	(1)	1.24E+02	(4)	3.05E+02	(8)	3.13E+01	-	<5	<5
Arsenic	3.90E+00	(1)	5.30E+01	(4)	6.05E+00	(8)	3.90E+00	-	<5	<5
Barium	1.56E+04	(1)	4.35E+03	(4)	1.39E+05	(8)	4.35E+03	-	440	43
Beryllium	1.56E+02	(1)	1.44E+02	(4)	2.66E+04	(8)	1.44E+02	-	0.8	0.83
Cadmium	7.03E+01	(1)	2.77E+02	(4)	6.33E+02	(8)	7.03E+01	-	<0.2	<0.2
Chromium III	1.17E+05	(1)	4.65E+05	(4)	4.54E+10	(8)	1.17E+05	-	10	7.8
Chromium VI	2.97E+00	(1)	6.56E+01	(4)	3.83E+00	(8)	2.97E+00	-	10	7.8
Cobalt	2.30E+01	(2)	3.00E+02	(5)	9.68E+01	(8)	2.30E+01	-	4.6	3.5
Cyanide	4.69E+01	(1)	1.86E+02	(4)	1.02E+02	(8)	4.69E+01	-	<0.263	<0.311
Iron	5.48E+04	(1)	2.17E+05	(4)	2.98E+05	(8)	5.48E+04	-	15000	16000
Lead	4.00E+02	(1)	8.00E+02	(4)	6.45E+03	(8)	4.00E+02	-	2.5	3.3
Manganese	1.86E+03	(1)	4.40E+02	(4)	2.64E+04	(8)	4.40E+02	-	450	230
Mercury	1.56E+01	(1)	1.36E+01	(4)	1.51E+01	(8)	1.36E+01	-	<0.033	<0.033
Nickel	1.56E+03	(1)	6.19E+03	(4)	2.20E+04	(8)	1.56E+03	-	8	6.4
Selenium	3.91E+02	(1)	1.55E+03	(4)	4.45E+02	(8)	3.91E+02	-	<5	<5
Silver	3.91E+02	(1)	1.55E+03	(4)	7.22E+02	(8)	3.91E+02	-	<0.5	<0.5
Vanadium	3.91E+02	(1)	1.55E+03	(4)	8.42E+04	(8)	3.91E+02	-	22	14
Zinc	2.35E+04	(1)	9.29E+04	(4)	3.14E+05	(8)	2.35E+04	-	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	-	<0.0008	<0.0008
1,1,1-Trichloroethane	1.56E+04	(1)	1.48E+04	(4)	1.34E+03	(8)	1.34E+03	-	<0.0008	<0.0008
1,1,2,2-Tetrachloroethane	8.02E+00	(1)	2.21E+02	(4)	9.82E-02	(8)	9.82E-02	-	<0.0008	<0.0008
1,1,2-Trichloroethane	2.81E+00	(1)	4.72E+02	(4)	5.14E-02	(8)	5.14E-02	-	<0.0008	<0.0008
1,1-Dichloroethane	6.45E+01	(1)	1.70E+03	(4)	2.75E+00	(8)	2.75E+00	-	<0.0008	<0.0008
1,1-Dichloroethene	4.49E+02	(1)	4.32E+02	(4)	5.36E+01	(8)	5.36E+01	-	<0.0008	<0.0008
1,1-Dichloropropene	-	-	-	-	-	-	-	-	<0.0008	<0.0008
1,2,3-Trichlorobenzene	4.90E+01	(2)	4.90E+02	(5)	6.92E+00	(8)	6.92E+00	-	<0.0008	<0.0008
1,2,3-Trichloropropane	4.97E-02	(1)	7.23E+00	(4)	1.15E-03	(8)	1.15E-03	-	<0.0008	<0.0008
1,2,4-Trichlorobenzene	7.30E+01	(1)	6.87E+01	(4)	4.21E+00	(8)	4.21E+00	-	<0.0008	<0.0008
1,2,4-Trimethylbenzene	6.20E+01	(2)	2.60E+02	(5)	9.68E+00	(8)	9.68E+00	-	0.000935	<0.0008
1,2-Dibromo-3-chloropropane	1.86E+00	(1)	5.07E+00	(4)	5.07E-04	(8)	5.07E-04	-	<0.0008	<0.0008
1,2-Dibromoethane (EDB)	5.88E-01	(1)	1.60E+01	(4)	7.10E-03	(8)	7.10E-03	-	<0.0008	<0.0008
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(8)	1.29E+02	-	<0.0008	<0.0008
1,2-Dichloroethane (EDC)	7.89E+00	(1)	5.87E+01	(4)	1.64E-01	(8)	1.64E-01	-	<0.0008	<0.0008
1,2-Dichloropropane	1.52E+01	(1)	2.50E+01	(4)	4.94E-01	(8)	4.94E-01	-	<0.0008	<0.0008
1,3,5-Trimethylbenzene	7.80E+02	(2)	1.00E+04	(5)	5.53E+01	(8)	5.53E+01	-	<0.0008	<0.0008
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	<0.0008	<0.0008
1,3-Dichloropropane	1.60E+03	(2)	2.00E+04	(5)	4.56E+01	(8)	4.56E+01	-	<0.0008	<0.0008
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(8)	1.47E+00	-	<0.0008	<0.0008
1-Methylnaphthalene	1.60E+02	(3)	5.30E+01	(6)	2.35E+00	(8)	2.35E+00	-	<0.0032	<0.0031
2,2-Dichloropropane	-	-	-	-	-	-	-	-	<0.0008	<0.0008
2-Butanone (MEK)	3.71E+04	(1)	8.43E+04	(4)	5.87E+02	(8)	5.87E+02	-	0.00846	<0.0078
2-Chlorotoluene	1.56E+03	(1)	6.19E+03	(4)	2.57E+02	(8)	2.57E+02	-	<0.0008	<0.0008
2-Hexanone	9.38E+02	(1)	9.73E+02	(4)	3.53E+03	(8)	9.38E+02	-	<0.008	<0.0078
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+01	-	<0.0032	<0.0031
4-Chlorotoluene	1.60E+03	(2)	2.00E+04	(5)	8.30E+01	(8)	8.30E+01	-	<0.0008	<0.0008
4-Isopropyltoluene	-	-	-	-	-	-	-	-	<0.0008	<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 (12)	SWMU 14-24 (0-0.5')	SWMU 14-24 (1.5-2')
									1210860-001 10/17/2012	1210860-002 10/17/2012
4-Methyl-2-pentanone	5.30E+03	(2)	5.30E+04	(5)	1.06E+02	(8)	1.06E+02	-	<0.008	<0.0078
Acetone	6.66E+04	(1)	2.21E+05	(4)	1.78E+03	(8)	1.78E+03	-	0.048	0.0202
Benzene	1.54E+01	(1)	1.38E+02	(4)	7.96E-01	(8)	7.96E-01	-	0.00213	0.00129
Bromobenzene	3.00E+02	(2)	1.80E+03	(5)	1.66E+01	(8)	1.66E+01	-	<0.0008	<0.0008
Bromodichloromethane	5.41E+00	(1)	1.43E+02	(4)	1.25E-01	(8)	1.25E-01	-	<0.0008	<0.0008
Bromoform	6.16E+02	(1)	4.76E+03	(4)	2.78E+02	(8)	2.78E+02	-	<0.0008	<0.0008
Bromomethane	1.65E+01	(1)	1.64E+01	(4)	8.86E-01	(8)	8.86E-01	-	<0.0008	<0.0008
Carbon disulfide	1.53E+03	(1)	1.58E+03	(4)	1.30E+02	(8)	1.30E+02	-	<0.008	<0.0078
Carbon tetrachloride	1.08E+01	(1)	2.26E+02	(4)	7.39E-01	(8)	7.39E-01	-	<0.0008	<0.0008
Chlorobenzene	3.76E+02	(1)	4.06E+02	(4)	2.27E+01	(8)	2.27E+01	-	<0.0008	<0.0008
Chloroethane	2.98E+04	(1)	2.61E+04	(4)	2.48E+03	(8)	2.48E+03	-	<0.0008	<0.0008
Chloroform	5.86E+00	(1)	1.54E+02	(4)	2.12E-01	(8)	2.12E-01	-	<0.0008	<0.0008
Chloromethane	2.75E+02	(1)	2.41E+02	(4)	2.03E+01	(8)	2.03E+01	-	<0.0008	<0.0008
cis-1,2-DCE	1.56E+02	(1)	6.19E+02	(4)	8.47E+00	(8)	8.47E+00	-	<0.0008	<0.0008
cis-1,3-Dichloropropene	3.37E+01	(1)	2.09E+02	(4)	5.71E-01	(8)	5.71E-01	-	<0.0008	<0.0008
Dibromochloromethane	1.21E+01	(1)	3.32E+02	(4)	1.52E-01	(8)	1.52E-01	-	<0.0008	<0.0008
Dibromomethane	5.16E+01	(1)	3.10E+03	(4)	7.89E-01	(8)	7.89E-01	-	<0.0008	<0.0008
Dichlorodifluoromethane	1.68E+02	(1)	1.49E+02	(4)	1.71E+02	(8)	1.49E+02	-	<0.0008	<0.0008
Ethylbenzene	6.84E+01	(1)	1.83E+03	(4)	5.98E+00	(8)	5.98E+00	-	<0.0008	<0.0008
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(8)	5.91E+00	-	<0.0008	<0.0008
Isopropylbenzene	2.43E+03	(1)	2.81E+03	(4)	3.99E+02	(8)	3.99E+02	-	<0.0008	<0.0008
Methyl tert-butyl ether (MTBE)	9.01E+02	(1)	2.49E+04	(4)	1.11E+01	(8)	1.11E+01	-	<0.0008	<0.0008
Methylene chloride	4.09E+02	(1)	1.12E+03	(4)	1.90E+01	(8)	1.90E+01	-	<0.0024	<0.0023
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(8)	1.64E+00	-	<0.0016	<0.0016
n-Butylbenzene	3.90E+03	(2)	5.10E+04	(5)	1.15E+03	(8)	1.15E+03	-	<0.0008	<0.0008
n-Propylbenzene	3.40E+03	(2)	2.10E+04	(5)	4.56E+02	(8)	4.56E+02	-	<0.0008	<0.0008
sec-Butylbenzene	-	-	-	-	-	-	-	-	<0.0008	<0.0008
Styrene	7.28E+03	(1)	9.99E+03	(4)	6.40E+02	(8)	6.40E+02	-	<0.0008	<0.0008
tert-Butylbenzene	-	-	-	-	-	-	-	-	<0.0008	<0.0008
Tetrachloroethene (PCE)	7.02E+00	(1)	2.12E+02	(4)	1.98E-01	(8)	1.98E-01	-	<0.0008	<0.0008
Toluene	5.27E+03	(1)	1.34E+04	(4)	5.84E+02	(8)	5.84E+02	-	0.00222	0.000908
trans-1,2-DCE	2.70E+02	(1)	2.73E+02	(4)	1.24E+01	(8)	1.24E+01	-	<0.0008	<0.0008
trans-1,3-Dichloropropene	-	-	-	-	-	-	-	-	<0.0008	<0.0008
Trichloroethene (TCE)	8.77E+00	(1)	7.68E+00	(4)	4.85E-01	(8)	4.85E-01	-	<0.0008	<0.0008
Trichlorofluoromethane	1.41E+03	(1)	1.30E+03	(4)	4.10E+02	(8)	4.10E+02	-	<0.0008	<0.0008
Vinyl chloride	7.28E-01	(1)	1.49E+02	(4)	2.50E-02	(8)	2.50E-02	-	<0.0008	<0.0008
Xylenes, Total	8.14E+02	(1)	7.43E+02	(4)	7.21E+01	(8)	7.21E+01	-	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	-	<0.1997	<0.1997
1,2-Dichlorobenzene	2.31E+03	(1)	2.71E+03	(4)	1.29E+02	(8)	1.29E+02	-	<0.1997	<0.1997
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	<0.1997	<0.1997
1,4-Dichlorobenzene	3.17E+01	(1)	8.31E+02	(4)	1.47E+00	(8)	1.47E+00	-	<0.1997	<0.1997
1-Methylnaphthalene	1.60E+02	(3)	5.30E+01	(6)	2.35E+00	(8)	2.35E+00	-	<0.1997	<0.1997
2,4,5-Trichlorophenol	6.11E+03	(1)	2.38E+04	(4)	4.78E+03	(8)	4.78E+03	-	<0.1997	<0.1997
2,4,6-Trichlorophenol	6.11E+01	(1)	2.38E+02	(4)	4.78E+01	(8)	4.78E+01	-	<0.1997	<0.1997
2,4-Dichlorophenol	1.83E+02	(1)	7.15E+02	(4)	4.60E+01	(8)	4.60E+01	-	<0.3995	<0.3993
2,4-Dimethylphenol	1.22E+03	(1)	4.76E+03	(4)	3.07E+02	(8)	3.07E+02	-	<0.2996	<0.2995
2,4-Dinitrophenol	1.22E+02	(1)	4.76E+02	(4)	2.91E+01	(8)	2.91E+01	-	<0.3995	<0.3993

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									1210860-001	1210860-002
									10/17/2012	10/17/2012
2,4-Dinitrotoluene	1.57E+01	(1)	4.76E+02	(4)	1.04E+00	(8)	1.04E+00	-	<0.4993	<0.4992
2,6-Dinitrotoluene	6.11E+01	(1)	2.38E+02	(4)	1.77E+01	(8)	1.77E+01	-	<0.4993	<0.4992
2-Chloronaphthalene	6.11E+01	(1)	2.94E+02	(4)	4.01E-01	(8)	4.01E-01	-	<0.2497	<0.2496
2-Chlorophenol	3.91E+02	(1)	1.55E+03	(4)	5.33E+01	(8)	5.33E+01	-	<0.1997	<0.1997
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	6.45E+01	(8)	6.45E+01	-	<0.1997	<0.1997
2-Methylphenol	3.10E+03	(2)	3.10E+04	(5)	2.67E+02	(8)	2.67E+02	-	<0.4993	<0.4992
2-Nitroaniline	6.10E+02	(2)	6.00E+03	(5)	2.86E+01	(8)	2.86E+01	-	<0.1997	<0.1997
2-Nitrophenol	-	-	-	-	-	-	-	-	<0.1997	<0.1997
3,3'-Dichlorobenzidine	1.08E+01	(1)	3.64E+02	(4)	3.41E+00	(8)	3.41E+00	-	<0.2497	<0.2496
3+4-Methylphenol	-	-	-	-	-	-	-	-	<0.1997	<0.1997
3-Nitroaniline	-	-	-	-	-	-	-	-	<0.1997	<0.1997
4,6-Dinitro-2-methylphenol	4.90E+00	(2)	4.90E+01	(5)	9.22E-01	(8)	9.22E-01	-	<0.4993	<0.4992
4-Bromophenyl phenyl ether	-	-	-	-	-	-	-	-	<0.1997	<0.1997
4-Chloro-3-methylphenol	6.10E+03	(2)	6.20E+04	(5)	5.99E+02	(8)	5.99E+02	-	<0.4993	<0.4992
4-Chloroaniline	2.40E+01	(3)	8.60E+00	(6)	5.99E-02	(8)	5.99E-02	-	<0.4993	<0.4992
4-Chlorophenyl phenyl ether	-	-	-	-	-	-	-	-	<0.1997	<0.1997
4-Nitroaniline	2.40E+02	(3)	8.60E+01	(6)	6.45E-01	(8)	6.45E-01	-	<0.3995	<0.3993
4-Nitrophenol	-	-	-	-	-	-	-	-	<0.2497	<0.2496
Acenaphthene	3.44E+03	(1)	1.86E+04	(4)	7.79E+03	(8)	3.44E+03	-	<0.1997	<0.1997
Acenaphthylene	-	-	-	-	-	-	-	-	<0.1997	<0.1997
Aniline	8.50E+02	(3)	3.00E+02	(6)	1.80E+00	(8)	1.80E+00	-	<0.1997	<0.1997
Anthracene	1.72E+04	(1)	6.68E+04	(4)	1.25E+05	(8)	1.72E+04	-	<0.1997	<0.1997
Azobenzene	5.10E+01	(3)	2.30E+01	(6)	3.69E-01	(8)	3.69E-01	-	<0.1997	<0.1997
Benz(a)anthracene	1.48E+00	(1)	2.13E+02	(4)	3.61E+01	(8)	1.48E+00	-	<0.1997	<0.1997
Benzo(a)pyrene	1.48E-01	(1)	2.13E+01	(4)	1.20E+01	(8)	1.48E-01	-	<0.1997	<0.1997
Benzo(b)fluoranthene	1.48E+00	(1)	2.13E+02	(4)	1.22E+02	(8)	1.48E+00	-	<0.1997	<0.1997
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	<0.1997	<0.1997
Benzo(k)fluoranthene	1.48E+01	(1)	2.06E+03	(4)	1.20E+03	(8)	1.48E+01	-	<0.1997	<0.1997
Benzoic acid	2.40E+05	(2)	2.50E+06	(5)	6.45E+03	(8)	6.45E+03	-	<0.4993	<0.4992
Benzyl alcohol	6.10E+03	(2)	6.20E+04	(5)	1.71E+02	(8)	1.71E+02	-	0.32	<0.1997
Bis(2-chloroethoxy)methane	1.80E+02	(2)	1.80E+03	(5)	5.07E+00	(8)	5.07E+00	-	<0.1997	<0.1997
Bis(2-chloroethyl)ether	2.68E+00	(1)	7.78E+01	(4)	1.21E-02	(8)	1.21E-02	-	<0.1997	<0.1997
Bis(2-chloroisopropyl)ether	9.15E+01	(1)	3.10E+03	(4)	1.07E+00	(8)	1.07E+00	-	<0.1997	<0.1997
Bis(2-ethylhexyl)phthalate	3.47E+02	(1)	4.76E+03	(4)	3.97E+03	(8)	3.47E+02	-	<0.4993	<0.4992
Butyl benzyl phthalate	2.60E+03	(3)	9.10E+02	(6)	9.22E+01	(8)	9.22E+01	-	<0.1997	<0.1997
Carbazole	-	-	-	-	-	-	-	-	<0.1997	<0.1997
Chrysene	1.48E+02	(1)	2.06E+04	(4)	3.68E+03	(8)	1.48E+02	-	<0.1997	<0.1997
Dibenz(a,h)anthracene	1.48E-01	(1)	2.13E+01	(4)	3.90E+01	(8)	1.48E-01	-	<0.1997	<0.1997
Dibenzofuran	7.80E+01	(2)	1.00E+03	(5)	5.07E+01	(8)	5.07E+01	-	<0.1997	<0.1997
Diethyl phthalate	4.89E+04	(1)	1.91E+05	(4)	4.45E+03	(8)	4.45E+03	-	<0.1997	<0.1997
Dimethyl phthalate	6.11E+05	(1)	2.38E+06	(4)	3.71E+04	(8)	3.71E+04	-	<0.1997	<0.1997
Di-n-butyl phthalate	6.11E+03	(1)	2.38E+04	(4)	3.21E+03	(8)	3.21E+03	-	<0.4993	<0.4992
Di-n-octyl phthalate	-	-	-	-	-	-	-	-	<0.3995	<0.3993
Fluoranthene	2.29E+03	(1)	8.91E+03	(4)	5.61E+04	(8)	2.29E+03	-	<0.1997	<0.1997
Fluorene	2.29E+03	(1)	8.91E+03	(4)	9.36E+03	(8)	2.29E+03	-	<0.1997	<0.1997
Hexachlorobenzene	3.04E+00	(1)	1.03E+02	(4)	1.83E+00	(8)	1.83E+00	-	<0.1997	<0.1997
Hexachlorobutadiene	6.11E+01	(1)	2.38E+02	(4)	5.91E+00	(8)	5.91E+00	-	<0.1997	<0.1997
Hexachlorocyclopentadiene	3.67E+02	(1)	8.11E+02	(4)	2.43E+02	(8)	2.43E+02	-	<0.1997	<0.1997

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 (12)	SWMU 14-24 (0-0.5')	SWMU 14-24 (1.5-2')
									1210860-001 10/17/2012	1210860-002 10/17/2012
Hexachloroethane	4.28E+01	(1)	1.67E+02	(4)	3.77E+00	(8)	3.77E+00	-	<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	-	<0.1997	<0.1997
Isophorone	5.12E+03	(1)	4.75E+04	(4)	8.84E+01	(8)	8.84E+01	-	<0.4993	<0.4992
Naphthalene	4.30E+01	(1)	1.58E+02	(4)	1.64E+00	(8)	1.64E+00	-	<0.1997	<0.1997
Nitrobenzene	5.35E+01	(1)	3.32E+02	(4)	2.88E-01	(8)	2.88E-01	-	<0.4993	<0.4992
N-Nitrosodi-n-propylamine	6.90E-01	(3)	2.50E-01	(6)	3.23E-03	(8)	3.23E-03	-	<0.1997	<0.1997
N-Nitrosodiphenylamine	9.93E+02	(1)	3.36E+04	(4)	2.61E+02	(8)	2.61E+02	-	<0.1997	<0.1997
Pentachlorophenol	8.94E+00	(1)	3.10E+02	(4)	5.90E+00	(8)	5.90E+00	-	<0.3995	<0.3993
Phenanthrene	1.83E+03	(1)	7.15E+03	(4)	1.32E+04	(8)	1.83E+03	-	<0.1997	<0.1997
Phenol	1.83E+04	(1)	6.88E+04	(4)	2.29E+03	(8)	2.29E+03	-	<0.1997	<0.1997
Pyrene	1.72E+03	(1)	6.68E+03	(4)	4.12E+04	(8)	1.72E+03	-	<0.1997	<0.1997
Pyridine	7.80E+01	(2)	1.00E+03	(5)	2.44E+00	(8)	2.44E+00	-	<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)	-	-	<10	<10
Gasoline Range Organics (GRO)	-	-	-	-	-	-	-	-	<5	<5
Motor Oil Range Organics (MRO)	3.00E+03	(11)	3.00E+03	(11)	3.00E+03	(11)	-	-	<50	<48

-- No screening level or analytical result available

NMED - Risk Assessment Guidance for Site Investigations and Remediation (June 14, 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 "uknown oil" with DAF = 1.0 - see report Section 5 for use of screening levels

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

(12) 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

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 & 10/5/2012	10/5/2012	10/4/2012	10/4/2012	10/5/2012	10/10/2012	10/11/2012
Metals											
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)											
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 & 10/5/2012	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)											
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 & 10/5/2012	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
Diesel Range Organics (DRO)	-	(6)	<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
(6) NMED TPH Screening Guidelines 2012 - Table 6-2 "unknown oil"

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

Analytes	Screening Levels	Source	SWMU 14-2 GW	SWMU 14-3 GW	SWMU 14-OAPIS-1GW
			1207940-029	1207900-007	1210860-004
Sample Date			7/19/2012	7/18/2012	10/16/2012
Total Metals					
Antimony	6.00E-03	(2)	0.00085	<0.0025	<0.0025
Arsenic	1.00E-02	(2)	**0.012**	**0.024**	0.0085
Barium	1.00E+00	(3)	0.54	**2.8**	0.68
Beryllium	4.00E-03	(2)	0.0021	**0.042**	<0.002
Cadmium	1.00E-02	(3)	<0.002	<0.02	<0.002
Chromium	5.00E-02	(3)	**0.075**	**0.38**	**0.012**
Cobalt	5.00E-02	(3)	0.038	**0.12**	0.044
Cyanide, Total	2.00E-01	(3)	**0.216**		0.09
Iron, Total	1.00E+00	(3)	**31**	**120**	**5.6**
Lead	1.50E-02	(2)	**0.044**	**0.19**	0.01
Manganese	2.00E-01	(3)	**1.3**	**45**	**2**
Mercury	2.00E-03	(3)	0.000033	0.00011	<0.0002
Nickel	2.00E-01	(3)	0.2	0.18	0.13
Selenium	5.00E-02	(3)	0.023	0.0096	0.016
Silver	5.00E-02	(3)	<0.005	<0.05	<0.005
Vanadium	1.83E-01	(4)	0.029	**0.52**	<0.05
Zinc	1.00E+01	(3)	0.32	1.1	0.099
Chloride	-		-	-	<0.5
Fluoride	1.60E+00	(3)	-	-	<0.1
Sulfate	-		-	-	<0.5
Dissolved Metals					
Antimony (Dissolved)	6.00E-03	(2)	<0.005	-	-
Arsenic (Dissolved)	1.00E-02	(2)	**0.011**	-	-
Barium (Dissolved)	1.00E+00	(3)	0.18	-	-
Beryllium (Dissolved)	4.00E-03	(2)	<0.002	-	-
Cadmium (Dissolved)	1.00E-02	(3)	<0.002	-	-
Chromium (Dissolved)	5.00E-02	(3)	0.0077	-	-
Cobalt (Dissolved)	5.00E-02	(3)	0.029	-	-
Iron, Total (Dissolved)	1.00E+00	(3)	0.14	-	-
Lead (Dissolved)	1.50E-02	(2)	<0.005	-	-
Manganese (Dissolved)	2.00E-01	(3)	**0.54**	-	-
Nickel (Dissolved)	2.00E-01	(3)	0.18	-	-
Selenium (Dissolved)	5.00E-02	(3)	0.023	-	-
Silver (Dissolved)	5.00E-02	(3)	<0.005	-	-
Vanadium (Dissolved)	1.83E-01	(4)	<0.05	-	-
Zinc (Dissolved)	1.00E+01	(3)	0.13	-	-
Volatile Organic Compounds - (EPA Method 8260B)					
1,1,1,2-Tetrachloroethane	5.24E-03	(4)	<0.01	<0.005	<0.01
1,1,1-Trichloroethane	6.00E-02	(3)	<0.01	<0.005	<0.01
1,1,2,2-Tetrachloroethane	2.00E-02	(3)	<0.02	<0.01	<0.02
1,1,2-Trichloroethane	5.00E-03	(2)	<0.01	<0.005	<0.01
1,1-Dichloroethane	2.50E-02	(3)	<0.01	0.0044	<0.01
1,1-Dichloroethene	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	(1)	<0.01	<0.005	<0.01
1,2,3-Trichloropropane	7.18E-06	(4)	<0.02	<0.01	<0.02
1,2,4-Trichlorobenzene	7.00E-02	(2)	<0.01	<0.005	<0.01
1,2,4-Trimethylbenzene	1.50E-02	(1)	**0.085**	**0.082**	<0.01
1,2-Dibromo-3-chloropropane	2.00E-04	(2)	<0.02	<0.01	<0.02
1,2-Dibromoethane (EDB)	5.00E-05	(2)	<0.01	<0.005	<0.01
1,2-Dichlorobenzene	6.00E-01	(2)	<0.01	<0.005	<0.01
1,2-Dichloroethane (EDC)	5.00E-03	(2)	<0.01	<0.005	<0.01
1,2-Dichloropropane	5.00E-03	(2)	<0.01	<0.005	<0.01
1,3,5-Trimethylbenzene	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	(1)	<0.01	<0.005	<0.01
1,4-Dichlorobenzene	7.50E-02	(2)	<0.01	<0.005	<0.01
1-Methylnaphthalene	9.70E-03	(5)	**0.061**	**0.17**	<0.04
2,2-Dichloropropane	-		<0.02	<0.01	<0.02
2-Butanone	7.06E+00	(4)	0.066	<0.05	<0.1
2-Chlorotoluene	7.30E-01	(4)	<0.01	<0.005	<0.01
2-Hexanone	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	Screening Levels	Source	SWMU 14-2 GW	SWMU 14-3 GW	SWMU 14-OAPIS-1GW
			1207940-029	1207900-007	1210860-004
Sample Date			7/19/2012	7/18/2012	10/16/2012
2-Methylnaphthalene	2.70E-02	(1)	**0.039**	**0.11**	<0.04
4-Chlorotoluene	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	(1)	<0.1	<0.05	<0.1
Acetone	2.18E+01	(4)	0.42	0.0083	<0.1
Benzene	5.00E-03	(2)	**0.067**	**0.097**	**0.013**
Bromobenzene	5.40E-02	(1)	<0.01	<0.005	<0.01
Bromodichloromethane	8.00E-02	(2)	<0.01	<0.005	<0.01
Bromoform	8.00E-02	(2)	<0.01	<0.005	<0.01
Bromomethane	8.66E-03	(4)	<0.03	<0.015	<0.03
Carbon disulfide	1.04E+00	(4)	<0.1	<0.05	<0.1
Carbon Tetrachloride	5.00E-03	(2)	<0.01	<0.005	<0.01
Chlorobenzene	1.00E-01	(2)	<0.01	<0.005	<0.01
Chloroethane	2.09E+01	(4)	<0.02	<0.01	<0.02
Chloroform	8.00E-02	(2)	<0.01	<0.005	<0.01
Chloromethane	1.88E-01	(4)	<0.03	<0.015	<0.03
cis-1,2-DCE	7.00E-02	(2)	<0.01	<0.005	<0.01
cis-1,3-Dichloropropene	4.33E-03	(4)	<0.01	<0.005	<0.01
Dibromochloromethane	8.00E-02	(2)	<0.01	<0.005	<0.01
Dibromomethane	8.16E-03	(4)	<0.01	<0.005	<0.01
Dichlorodifluoromethane	2.03E-01	(4)	<0.01	<0.005	<0.01
Ethylbenzene	7.00E-01	(2)	0.049	0.054	<0.01
Hexachlorobutadiene	8.62E-03	(4)	<0.01	<0.005	<0.01
Isopropylbenzene (Cumene)	6.79E-01	(4)	0.0063	0.0081	<0.01
Methyl tert-butyl ether (MTBE)	1.25E-01	(4)	**0.31**	**0.25**	**0.44**
Methylene Chloride	5.00E-03	(2)	<0.03	**0.0075**	<0.03
Naphthalene	1.43E-03	(4)	**0.042**	**0.045**	<0.02
n-Butylbenzene	7.80E-01	(1)	<0.01	0.0043	<0.03
n-Propylbenzene	5.30E-01	(1)	0.01	0.012	<0.01
sec-Butylbenzene	-		<0.01	0.0035	<0.01
Styrene	1.00E-01	(2)	<0.01	<0.005	<0.01
tert-Butylbenzene	-		<0.01	<0.005	<0.01
Tetrachloroethene (PCE)	5.00E-03	(2)	<0.01	<0.005	<0.01
Toluene	7.50E-01	(3)	<0.01	0.013	<0.01
trans-1,2-DCE	1.00E-01	(2)	<0.01	<0.005	<0.01
trans-1,3-Dichloropropene	-		<0.01	<0.005	<0.01
Trichloroethene (TCE)	5.00E-03	(2)	<0.01	<0.005	<0.01
Trichlorofluoromethane	1.29E+00	(4)	<0.01	<0.005	<0.01
Vinyl chloride	1.00E-03	(3)	<0.01	<0.005	<0.01
Xylenes, Total	6.20E-01	(3)	0.045	0.044	<0.015
Semi Volatile Organics - (EPA Method 8270C)					
1,2,4-Trichlorobenzene	7.00E-02	(2)	<0.01	<0.01	<0.01
1,2-Dichlorobenzene	6.00E-01	(2)	<0.01	<0.01	<0.01
1,3-Dichlorobenzene	-		<0.01	<0.01	<0.01
1,4-Dichlorobenzene	7.50E-02	(2)	<0.01	<0.01	<0.01
1-Methylnaphthalene	9.70E-03	(5)	<0.01	**0.14**	<0.01
2,4,5-Trichlorophenol	3.65E+00	(4)	<0.01	<0.01	<0.01
2,4,6-Trichlorophenol	3.65E-02	(4)	<0.01	<0.01	<0.01
2,4-Dichlorophenol	1.10E-01	(4)	<0.02	<0.02	<0.02
2,4-Dimethylphenol	7.30E-01	(4)	0.027	0.034	<0.01
2,4-Dinitrophenol	7.30E-02	(4)	<0.02	<0.02	<0.02
2,4-Dinitrotoluene	2.17E-03	(4)	<0.01	<0.01	<0.01
2,6-Dinitrotoluene	3.65E-02	(4)	<0.01	<0.01	<0.01
2-Chloronaphthalene	1.21E-03	(4)	<0.01	<0.01	<0.01
2-Chlorophenol	1.83E-01	(4)	<0.01	<0.01	<0.01
2-Methylnaphthalene	2.70E-02	(1)	<0.01	**0.077**	<0.01
2-Methylphenol	7.20E-01	(1)	<0.01	0.0073	<0.01
2-Nitroaniline	1.50E+00	(1)	<0.01	<0.01	<0.01
2-Nitrophenol	-		<0.01	<0.01	<0.01
3,3'-Dichlorobenzidine	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	(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	Screening Levels	Source	SWMU 14-2 GW	SWMU 14-3 GW	SWMU 14-OAPIS-1GW
			1207940-029	1207900-007	1210860-004
Sample Date			7/19/2012	7/18/2012	10/16/2012
4-Chloro-3-methylphenol	1.10E+00	(1)	<0.01	<0.01	<0.01
4-Chloroaniline	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	(5)	<0.02	<0.02	<0.01
4-Nitrophenol	-		<0.01	<0.01	<0.01
Acenaphthene	2.19E+00	(4)	<0.01	<0.01	<0.01
Acenaphthylene	-		<0.01	<0.01	<0.01
Aniline	1.20E-01	(5)	<0.01	<0.01	<0.01
Anthracene	1.10E+01	(4)	<0.01	<0.01	<0.01
Azobenzene	1.00E-03	(5)	<0.01	<0.01	<0.01
Benz(a)anthracene	2.95E-04	(4)	<0.01	<0.01	<0.01
Benzo(a)pyrene	2.00E-04	(2)	<0.01	<0.01	<0.01
Benzo(b)fluoranthene	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	(4)	<0.01	<0.01	<0.01
Benzoic acid	5.80E+01	(1)	<0.02	<0.02	<0.02
Benzyl alcohol	1.50E+00	(1)	<0.01	<0.01	<0.01
Bis(2-chloroethoxy)methane	4.60E-02	(1)	<0.01	<0.01	<0.01
Bis(2-chloroethyl)ether	1.19E-04	(4)	<0.01	<0.01	<0.01
Bis(2-chloroisopropyl)ether	9.60E-03	(4)	<0.01	<0.01	<0.01
Bis(2-ethylhexyl)phthalate	6.00E-03	(2)	<0.01	<0.01	<0.01
Butyl benzyl phthalate	1.40E-01	(5)	<0.01	<0.01	<0.01
Carbazole	-		<0.01	<0.01	<0.01
Chrysene	2.95E-02	(4)	<0.01	<0.01	<0.01
Dibenz(a,h)anthracene	2.95E-05	(4)	<0.01	<0.01	<0.01
Dibenzofuran	2.20E-01	(1)	<0.01	<0.01	<0.01
Diethyl phthalate	2.92E+01	(4)	<0.01	<0.01	<0.01
Dimethyl phthalate	3.65E+02	(4)	<0.01	<0.01	<0.01
Di-n-butyl phthalate	3.65E+00	(4)	0.02	<0.01	<0.01
Di-n-octyl phthalate	-		<0.01	<0.01	<0.02
Fluoranthene	1.46E+00	(4)	<0.01	<0.01	<0.01
Fluorene	1.46E+00	(4)	<0.01	<0.01	<0.01
Hexachlorobenzene	1.00E-03	(2)	<0.01	<0.01	<0.01
Hexachlorobutadiene	8.62E-03	(4)	<0.01	<0.01	<0.01
Hexachlorocyclopentadiene	5.00E-02	(2)	<0.01	<0.01	<0.01
Hexachloroethane	1.68E-02	(4)	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	2.95E-04	(4)	<0.01	<0.01	<0.01
Isophorone	7.07E-01	(4)	<0.01	<0.01	<0.01
Naphthalene	1.43E-03	(4)	<0.01	**0.024**	<0.01
Nitrobenzene	1.22E-03	(4)	<0.01	<0.01	<0.01
N-Nitrosodimethylamine			<0.01	<0.01	<0.01
N-Nitrosodi-n-propylamine	9.30E-05	(5)	<0.01	<0.01	<0.01
N-Nitrosodiphenylamine	1.37E-01	(4)	<0.01	<0.01	<0.01
Pentachlorophenol	1.00E-03	(2)	<0.02	<0.02	<0.02
Phenanthrene	1.10E+00	(4)	<0.01	0.02	<0.01
Phenol	1.10E+01	(4)	<0.01	<0.01	<0.01
Pyrene	1.10E+00	(4)	<0.01	<0.01	<0.01
Pyridine	1.50E-01	(1)	<0.01	<0.01	<0.01
Diesel Range Organics (DRO)	-	(6)	**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
(4) NMED Tap Water Screening Levels (June 2012)
(5) EPA - Regional Screening Levels (November 2012) - Tap Water; carcinogenic screening levels multiplied by 10
(6) NMED TPH Screening Guidelines 2012 - "unknown oil"

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		
2-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	48	0.2087	0.0218
4-Methyl-2-pentanone	5.30E+03	(2)	5.30E+04	(5)	0.0116	0.0000	0.0000

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
Acetone	6.66E+04	(1)	2.21E+05	(4)	54.1	0.0008	0.0002
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						**0.770**	**0.148**

-- 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)	14	0.0350	0.0175
Manganese	1.86E+03	(1)	4.40E+02	(4)	1800	0.9652	4.0865
Mercury	1.56E+01	(1)	1.36E+01	(4)	1.3	0.0832	0.0954
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)	230	0.0098	0.0025
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-Methylnaphthalene	2.30E+02	(2)	2.20E+03	(5)	46	0.2000	0.0209

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
2-Methylphenol	3.10E+03	(2)	3.10E+04	(5)	1.1	0.0004	0.0000
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	0.0013	0.0003
Phenanthrene	1.83E+03	(1)	7.15E+03	(4)	9.8	0.0053	0.0014
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						**1.501**	**0.405**

-- 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

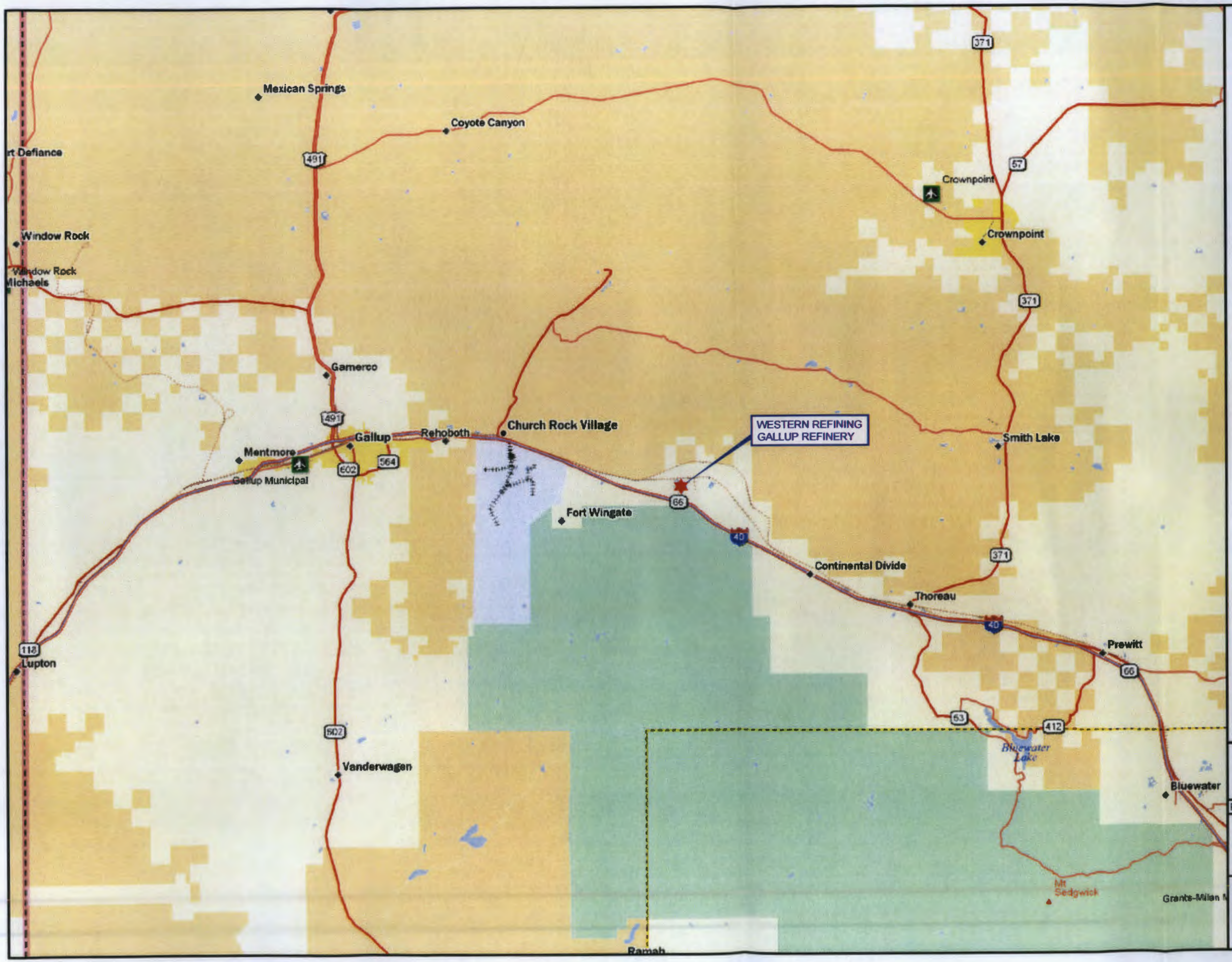
Analytes	Screening Levels	Source	Maximum Concentration	Maximum Concentration divided by Residential Groundwater Screening Level
CARCINOGENIC CONSTITUENTS				
Metals (mg/l)				
Arsenic	1.00E-02	(2)	0.063	6.3
Volatile Organic Compounds - (EPA Method 8260) ug/l				
1-Methylnaphthalene	9.70E-03	(5)	0.011	1.13
Benzene	5.00E-03	(2)	0.024	4.80
Bromoform	8.00E-02	(2)	0.0027	0.03
Ethylbenzene	7.00E-01	(2)	0.016	0.02
Methyl tert-butyl ether (MTBE)	1.25E-01	(4)	0.31	2.49
Naphthalene	1.43E-03	(4)	0.032	22.36
Semi Volatile Organics - (EPA Method 8270) ug/l				
1-Methylnaphthalene	9.70E-03	(5)	0.010	1.03
Carcinogenic Constituents Cumulative Risk x 10^{-5}				**38.17**

- 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	1.00E-02	(2)	0.024	2.4
Volatile Organic Compounds - (EPA Method 8260) ug/l				
1-Methylnaphthalene	9.70E-03	(5)	0.17	17.53
Benzene	5.00E-03	(2)	0.097	19.40
Ethylbenzene	7.00E-01	(2)	0.054	0.08
Methyl tert-butyl ether (MTBE)	1.25E-01	(4)	0.31	2.49
Naphthalene	1.43E-03	(4)	0.045	31.44
Semi Volatile Organics - (EPA Method 8270) ug/l				
1-Methylnaphthalene	9.70E-03	(5)	1.40E-01	14.43
Carcinogenic Constituents Cumulative Risk x 10^{-5}				**87.77**

- 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



Map Source: DeLorme Street Atlas USA 2007 Plus.

N

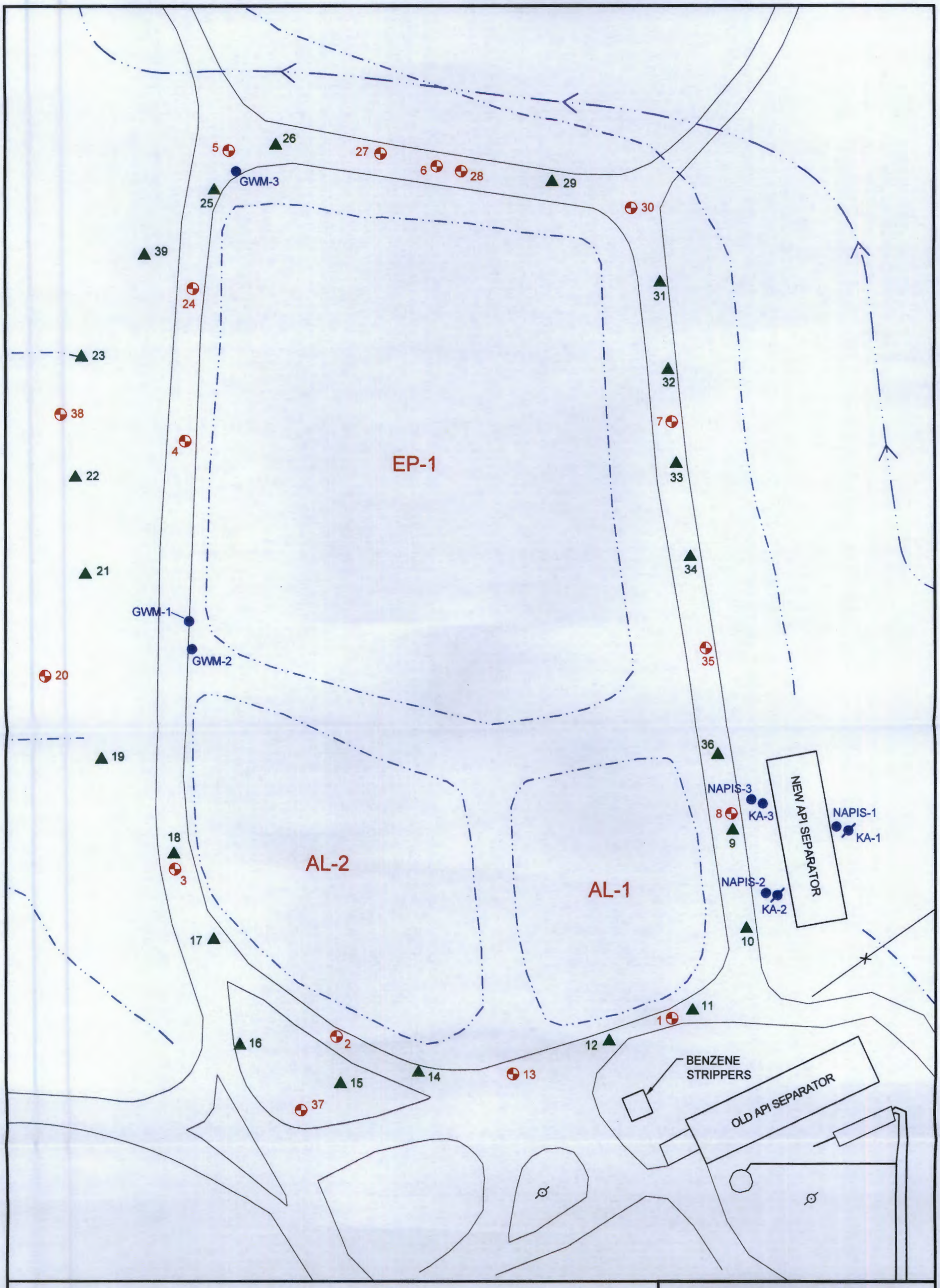
0 5
SCALE IN MILES

Western Refining
GALLUP REFINERY

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

FIGURE 1
SITE LOCATION MAP
GALLUP REFINERY

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

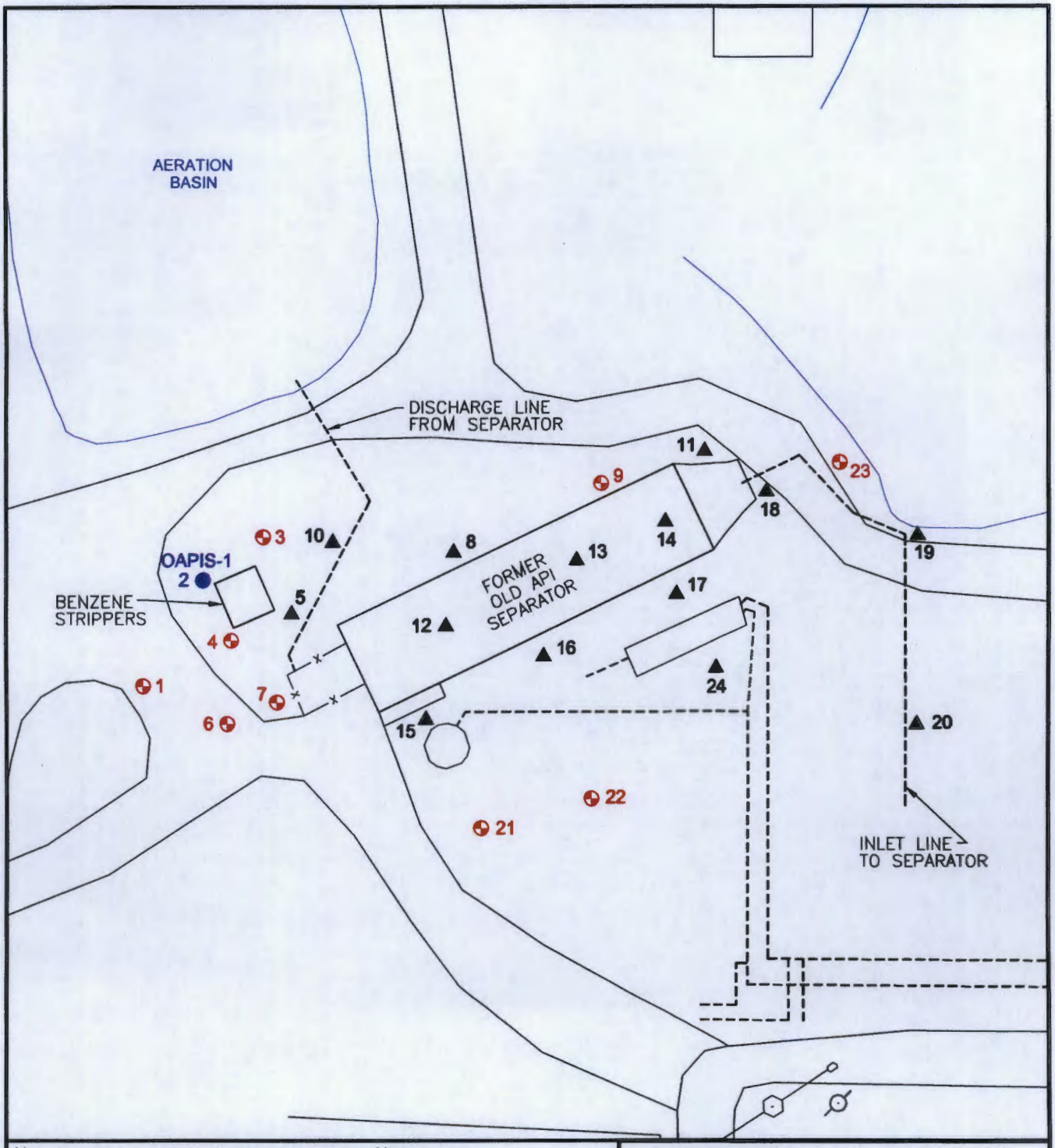


Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining	DATE: 01/31/13	FILE: WestRef-B152

FIGURE 2
SWMU No. 1 SAMPLE LOCATIONS
GALLUP REFINERY

RPS
Cielo Center
1250 S. Capital of Texas Highway
Building 3, Suite 200
Austin, Texas 78746
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

N

0 40

SCALE IN FEET

NEW MEXICO

QUADRANGLE LOCATION

Western Refining

GALLUP REFINERY

PROJ. NO.:Western Refining | DATE:01/31/13 | FILE:WestRef-A167

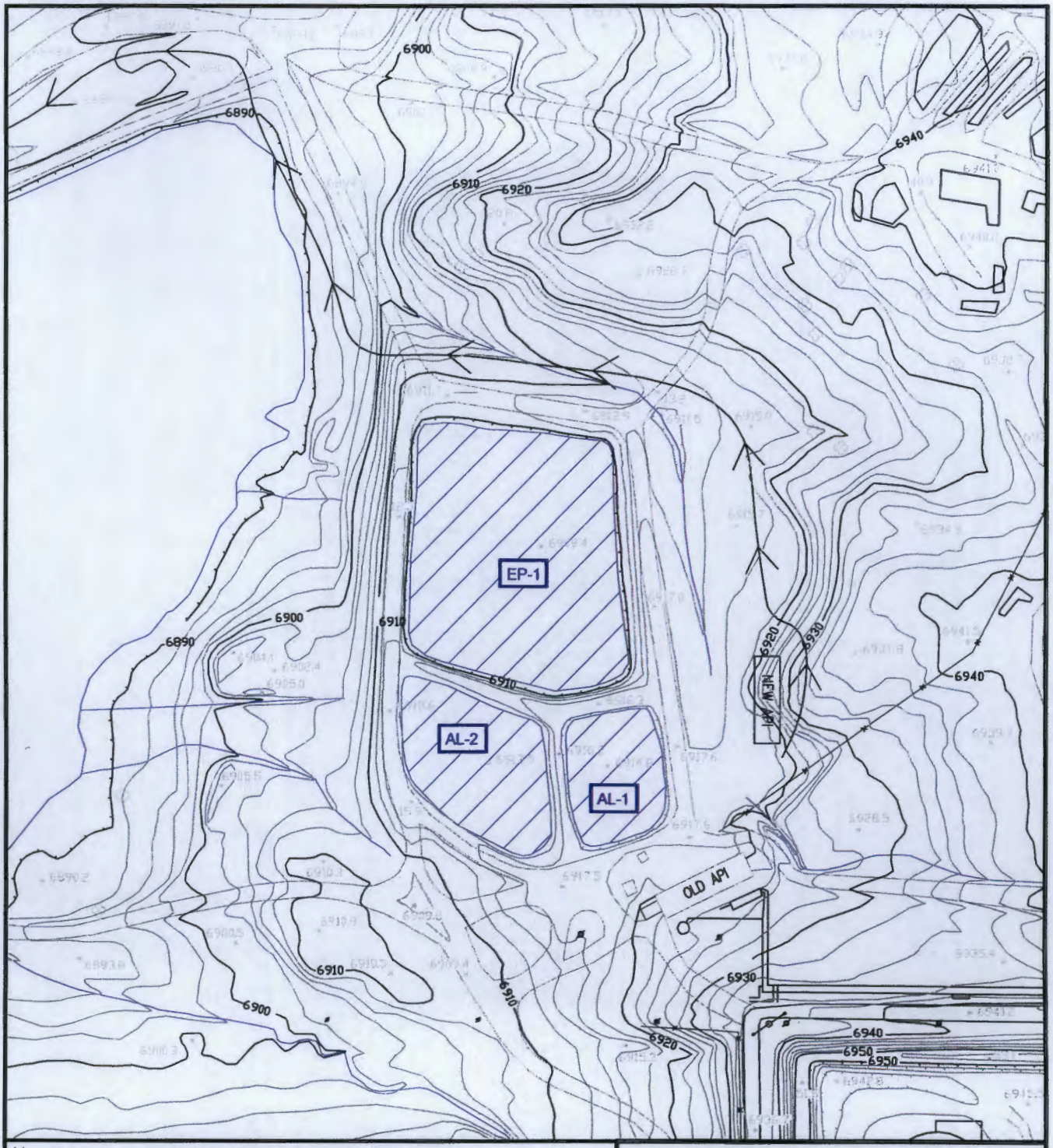
FIGURE 3

SWMU No. 14 SAMPLE LOCATIONS

GALLUP REFINERY

RPS

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



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

N

0 150

SCALE IN FEET



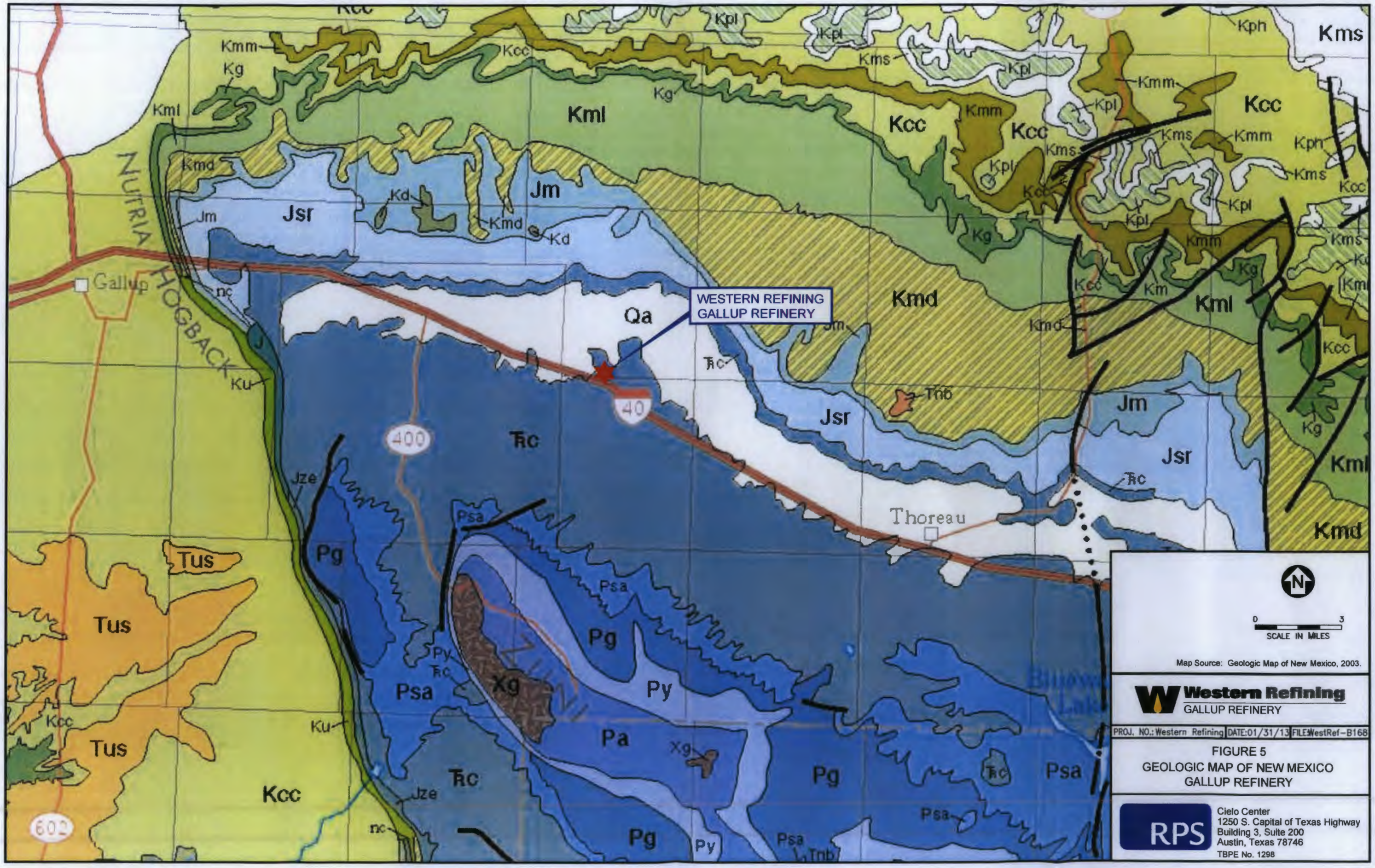
QUADRANGLE LOCATION

Western Refining
GALLUP REFINERY

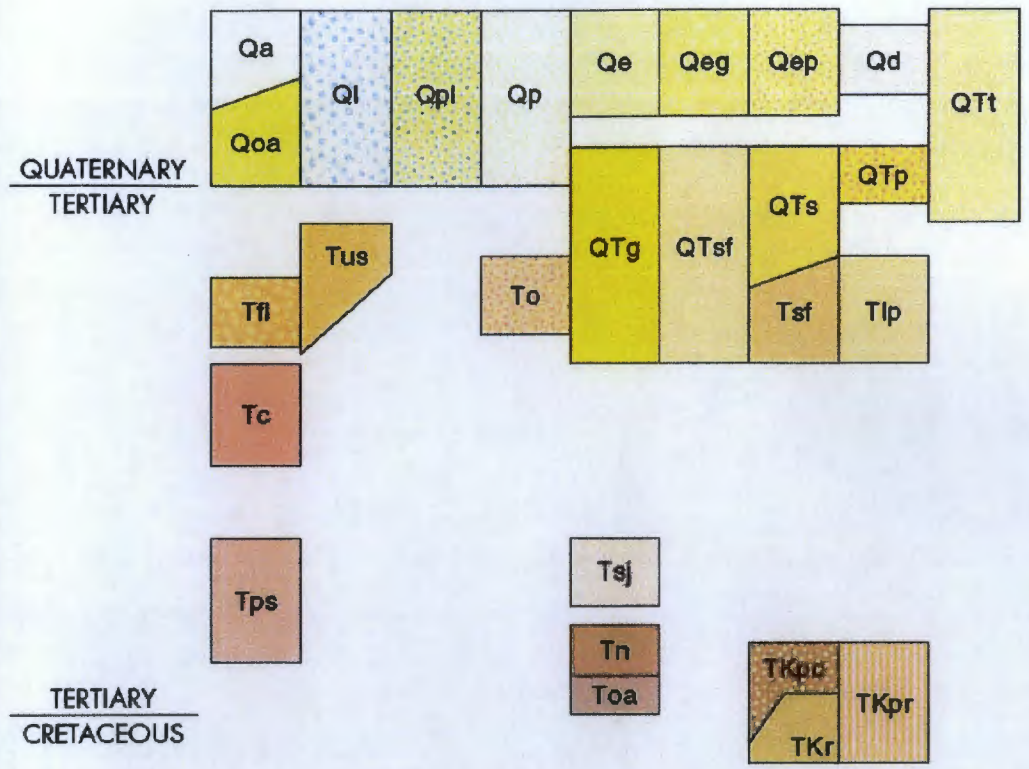
PROJ. NO.:Western Refining	DATE:01/31/13	FILE:WestRef-A168

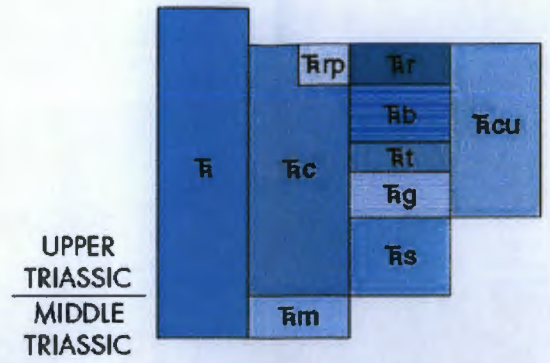
FIGURE 4
TOPOGRAPHIC MAP
GALLUP REFINERY

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


WESTERN REFINING
GALLUP REFINERY
NUTRIA
HOGBACK
Gallup
Thoreau
Kcc
Kml
Kmd
Jm
Jsr
Qa
Tc
Tnb
Tus
Pg
Psa
Py
Xg
Pa
Jze
Ku
nc
Kd
Kg
Kmm
Kms
Kpl
Kph
400
40
602
N
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
RPS
Cielo Center
1250 S. Capital of Texas Highway
Building 3, Suite 200
Austin, Texas 78746
TBPE No. 1298

Sedimentary







TRIASSIC

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

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

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

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

Ṯr **Redonda Formation** (Upper Triassic)

Ṯb **Bull Canyon Formation** (Norian)

Ṯt **Trujillo Formation** (Norian)

Ṯg **Garita Creek Formation** (Carnian)

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

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

Ṯm **Moenkopi Formation** (Middle Triassic)

JURASSIC

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

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

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

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

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

Jze **Zuni and Entrada Sandstones, undivided**

Je **Entrada Sandstone** (Middle Jurassic)

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

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**

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

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

SOUTHEAST
A

NORTHWEST
A'

ELEVATION (FT MSL)

6950
6925
6900
6875
6850
6825
6800
6775
6750

OW-12
KA-3
GMW-1
MW-4
SMW-2
MW-1
BW2C

SANDSTONE, LT. BROWN, FINE GRAIN
SHALE, RED–BROWN, SILTY, SANDY
SANDSTONE, SILTY, FINE–MEDIUM GRAIN
SHALE, GRAY, SILTY, SANDY
SANDSTONE, GRAY–BLUISH GRAY, FINE GRAIN, THIN BEDDED
SHALE, GRAY, SILTY, SANDY

CLAY, SANDY
SAND
CLAY
MUDSTONE
CLAY
SAND
MUDSTONE

PETRIFIED FOREST FORMATION
SONSELA MEMBER

CLAY, RED–BROWN
GRADES SILTY AND SANDY
SAND
SHALE, RED–BROWN
SHALE/LIMESTONE INTERBEDDED
SHALE, SLIGHT SANDY
SANDSTONE, CLAYEY
SHALE, SANDY
SANDSTONE, WHITE–LT. GRAY
SHALE, PURPLE

QUATERNARY ALLUVIUM

CLAY, SILTY, INTERBEDDED MEDIUM–COARSE SAND
?
SAND
SHALE, SILTY, RED–BROWN
CLAY, SILTY, RED–BROWN
SHALE/LIMESTONE INTERBEDDED
SANDSTONE, WEAKLY CEMENTED
SHALE, PURPLE–RED

CLAY, RED–BROWN, FIRM
SAND
CLAY
SAND–SILT
SAND, SILT, CLAY, INTERBEDDED
CLAY W/ INTERBEDDED SAND LAYERS UP TO 1" THICK
?
SAND, SILT CLAYEY
CLAY
?
SAND
MUDSTONE, WEATHERED
MUDSTONE/ SILTSTONE INTERBEDDED
SANDSTONE
MUDSTONE/ SILTSTONE INTERBEDDED

EXPLANATION

MW-1 — WELL IDENTIFICATION
WELL
SCREEN INTERVAL
LITHOLOGIC CONTACTS

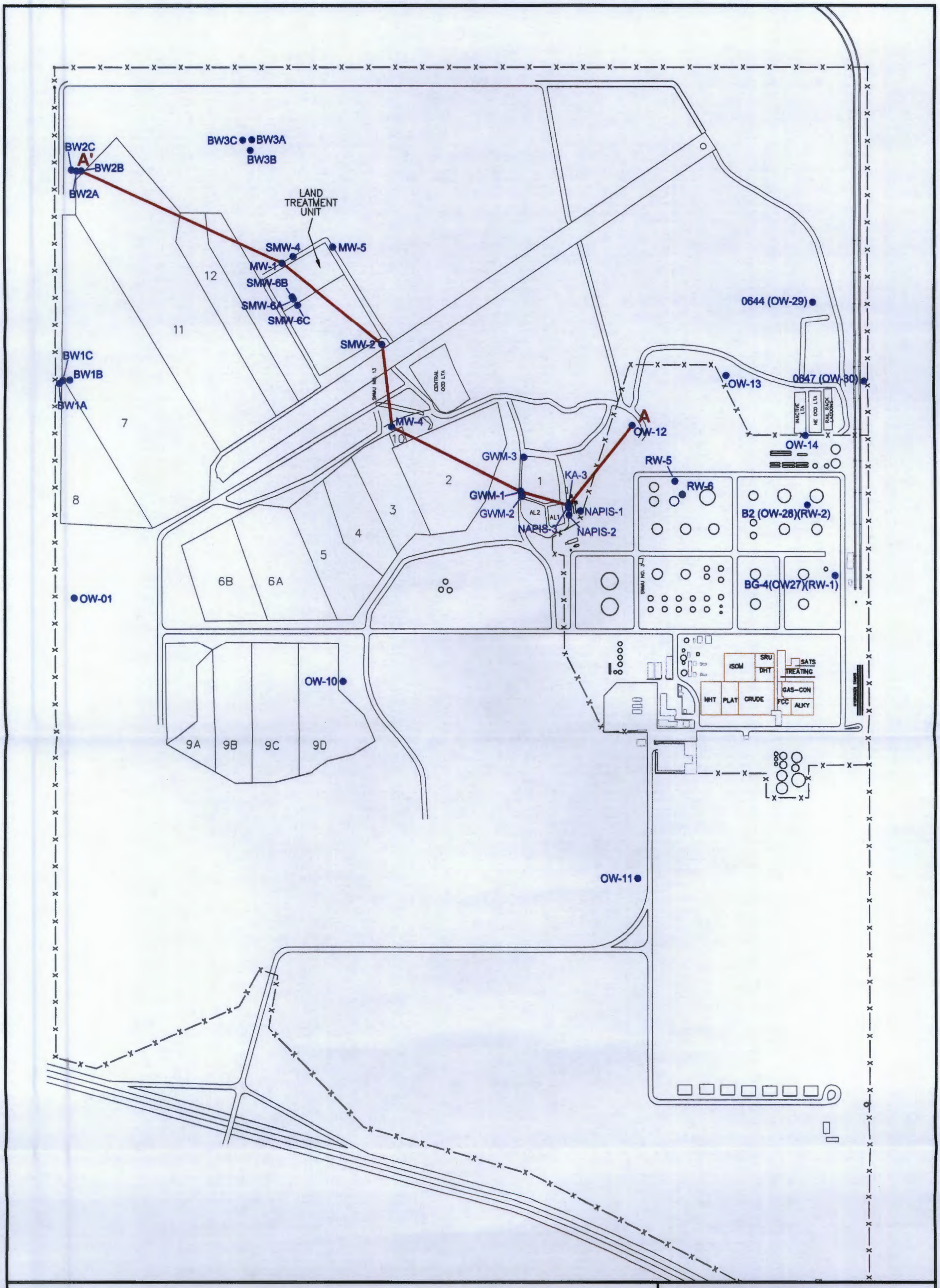
25
0
250
SCALE IN FEET
VERTICAL EXAGGERATION = 10X

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE: 01/31/13 | FILE: WestRef–B160

FIGURE 6
CROSS SECTION A-A'
SOUTHEAST TO NORTHWEST
GALLUP REFINERY

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TBPE No. 1298



Western Refining
GALLUP REFINERY

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

FIGURE 6A
CROSS SECTION LOCATION MAP
GALLUP REFINERY

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

EAST
B

WEST
B'

SWMU-1
AERATION BASIN

ELEVATION (FT MSL)

6920
6915
6910
6905
6900
6895
6890
6885

KA-1
KA-3
GWM-2
GWM-1

SAND, CLAYEY
CLAY, LEAN, SANDY
CLAY, LEAN, SANDY
HYDROCARBON STAINING
ODOR
SAND, WET
CLAY, LEAN, SANDY
WET
MUDSTONE, WEATHERED

AL-1
AL-2
EP-1

ESTIMATED DEPTH BASED ON MEASUREMENTS IN EP-1

PETRIFIED FOREST FORMATION

CLAY, SANDY, THIN SAND SEAMS
NO SAND
SANDY, ROOT MATTER, WET
BLACK, WET
SAND, GRAVELLY
MUDSTONE, WEATHERED

CLAY, WET, RED–BROWN

SWMU 1-4
CLAY, SILTY
SAND, MOIST TO SATURATED, CLAYEY
CLAY, SILTY
SANDY CLAY/ (CLAYEY SAND) MOIST TO SATURATED
CLAY, MOIST TO SATURATED, SANDY
CLAY
MUDSTONE

SWMU 1-38
SILT/SILTY CLAY
CLAY SILTY
MUDSTONE

EXPLANATION

GWM-1 ← WELL IDENTIFICATION
← WELL
← WELL SCREEN INTERVAL
LITHOLOGIC CONTACTS (DASHED WHERE INFERRED)

STATIC WATER LEVEL MEASURED 11/28/2012, EXCEPT KA–1, WHICH WAS MEASURED 6/12/2007

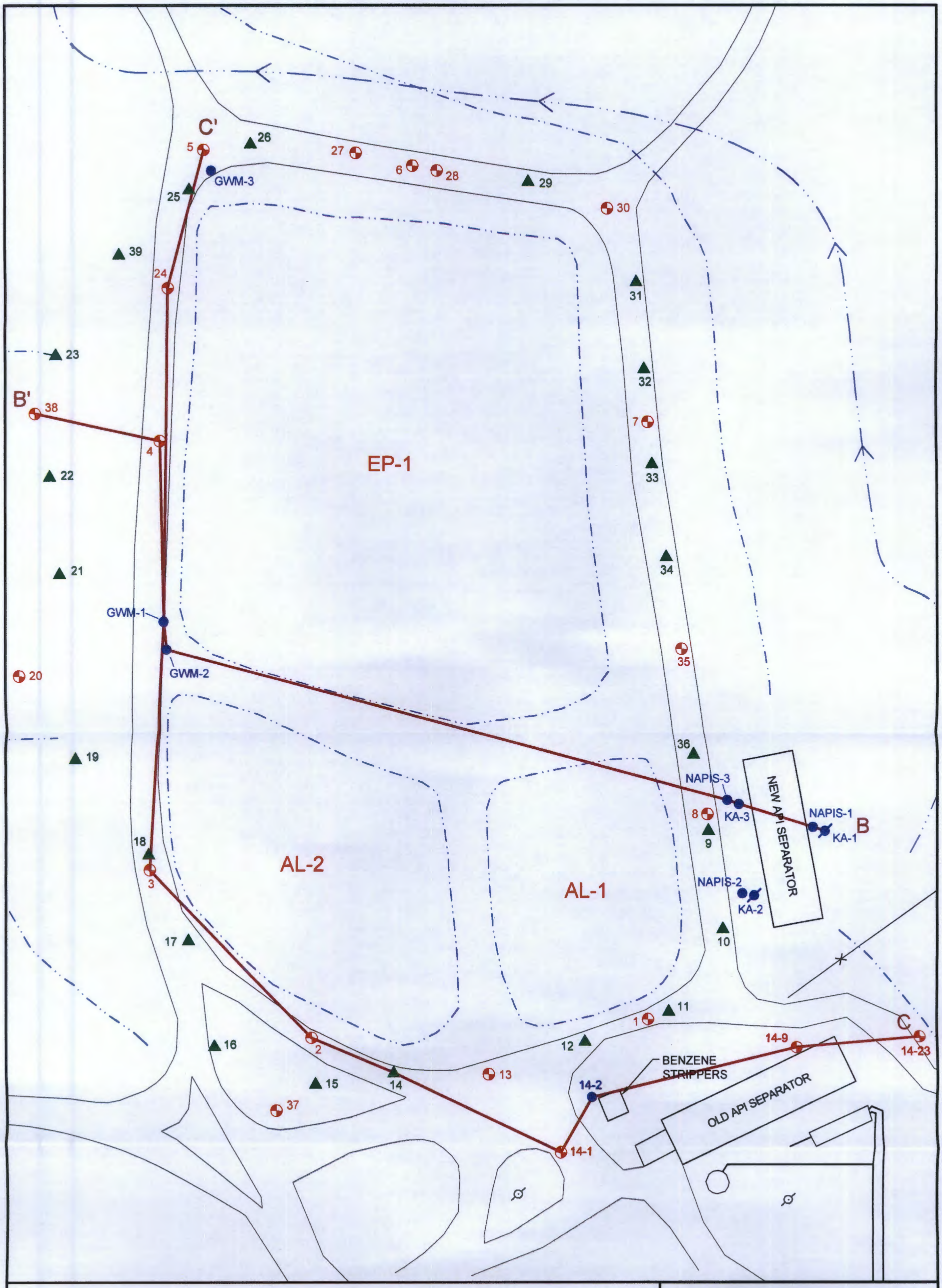
5
0
50
SCALE IN FEET
VERTICAL EXAGGERATION = 10X

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE: 01/31/13 | FILE: WestRef–B161

FIGURE 7
CROSS SECTION B-B'
EAST TO WEST
GALLUP REFINERY

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Austin, Texas 78746
TBPE No. 1298



Western Refining
GALLUP REFINERY

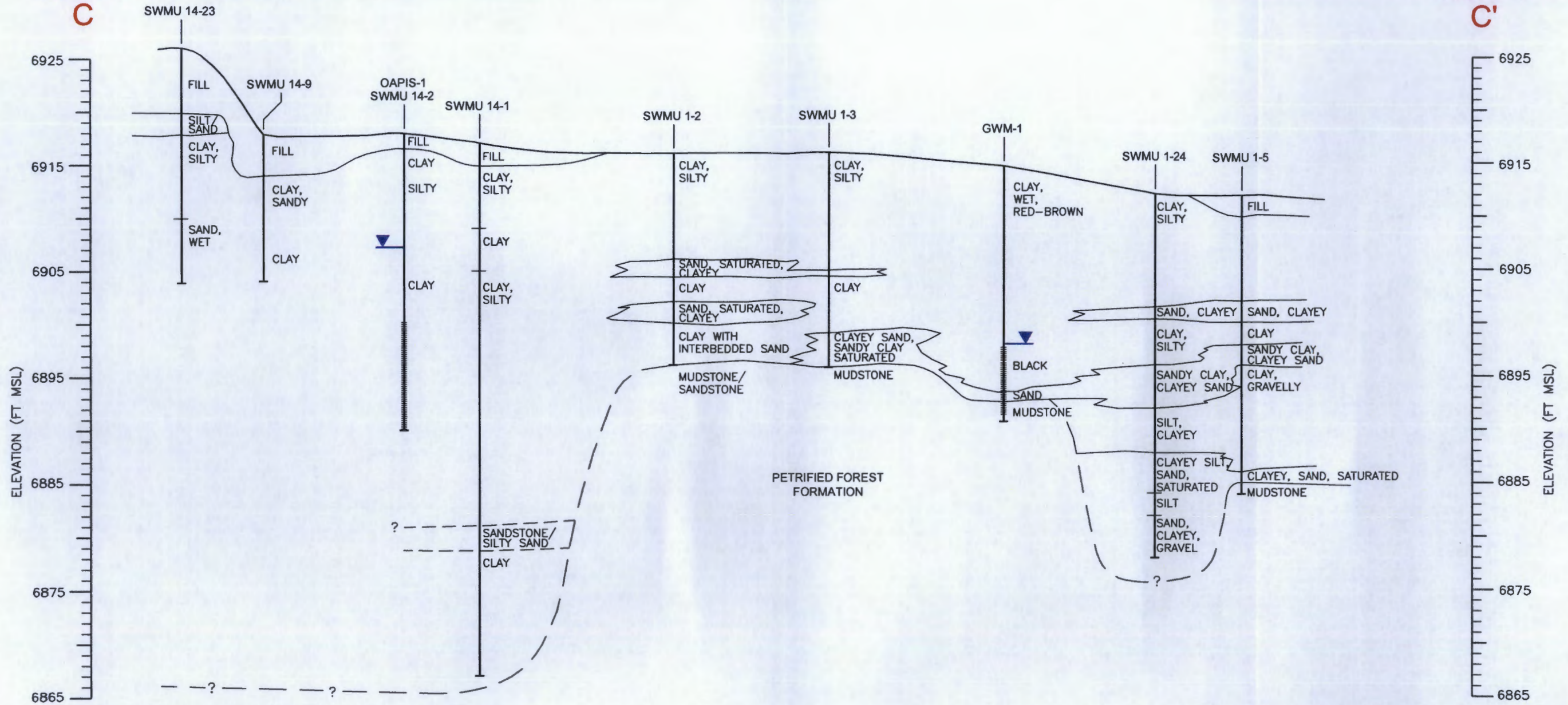
PROJ. NO.:Western Refining | DATE:01/31/13 | FILE:WestRef-B167

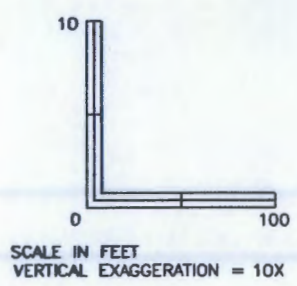
FIGURE 7A
CROSS SECTION LOCATION MAP
GALLUP REFINERY

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Austin, Texas 78746
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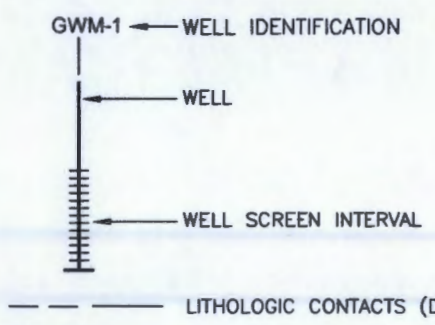
SOUTH
C

NORTH
C'





EXPLANATION



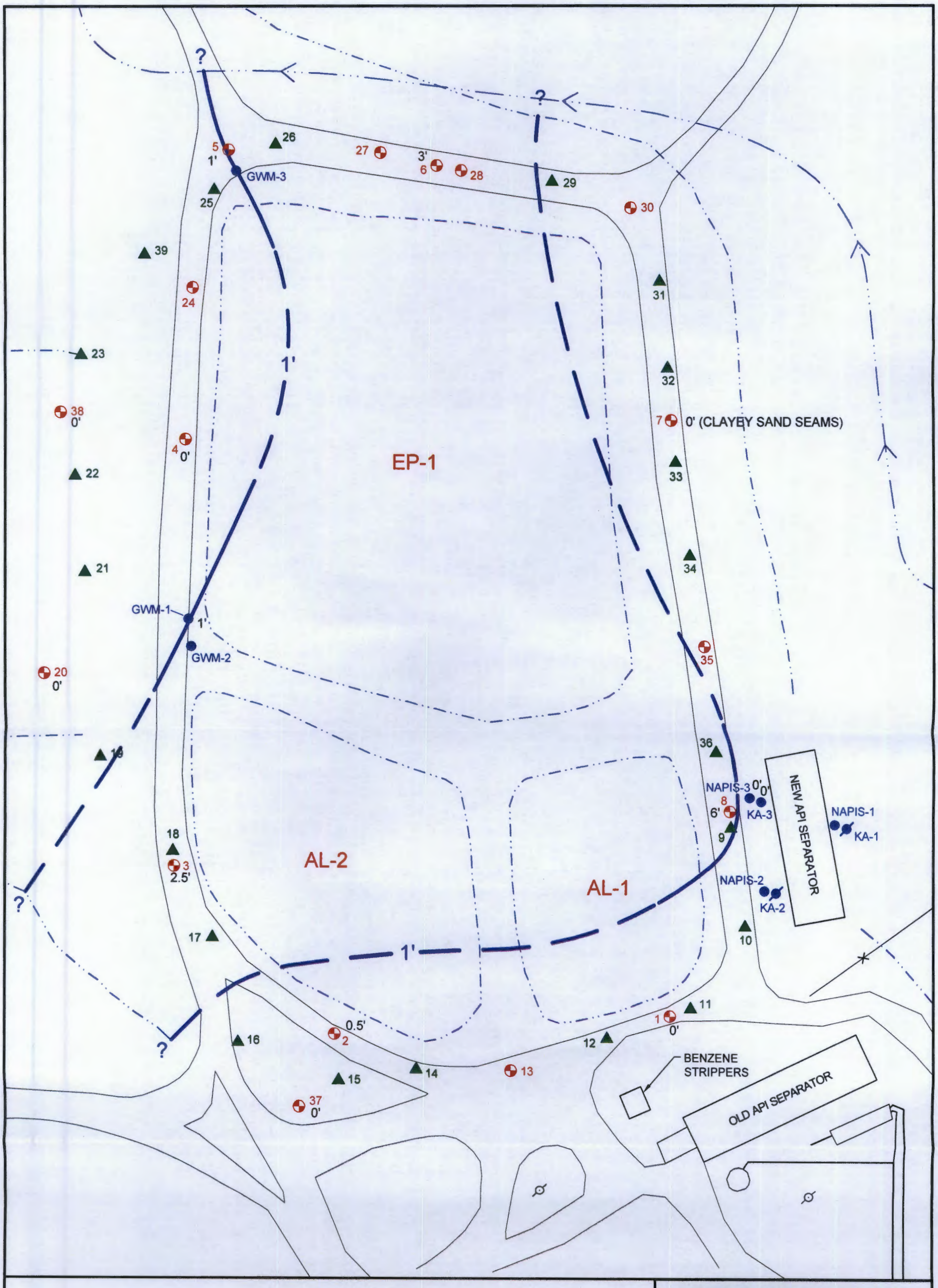
STATIC WATER LEVEL MEASURED FALL 2012

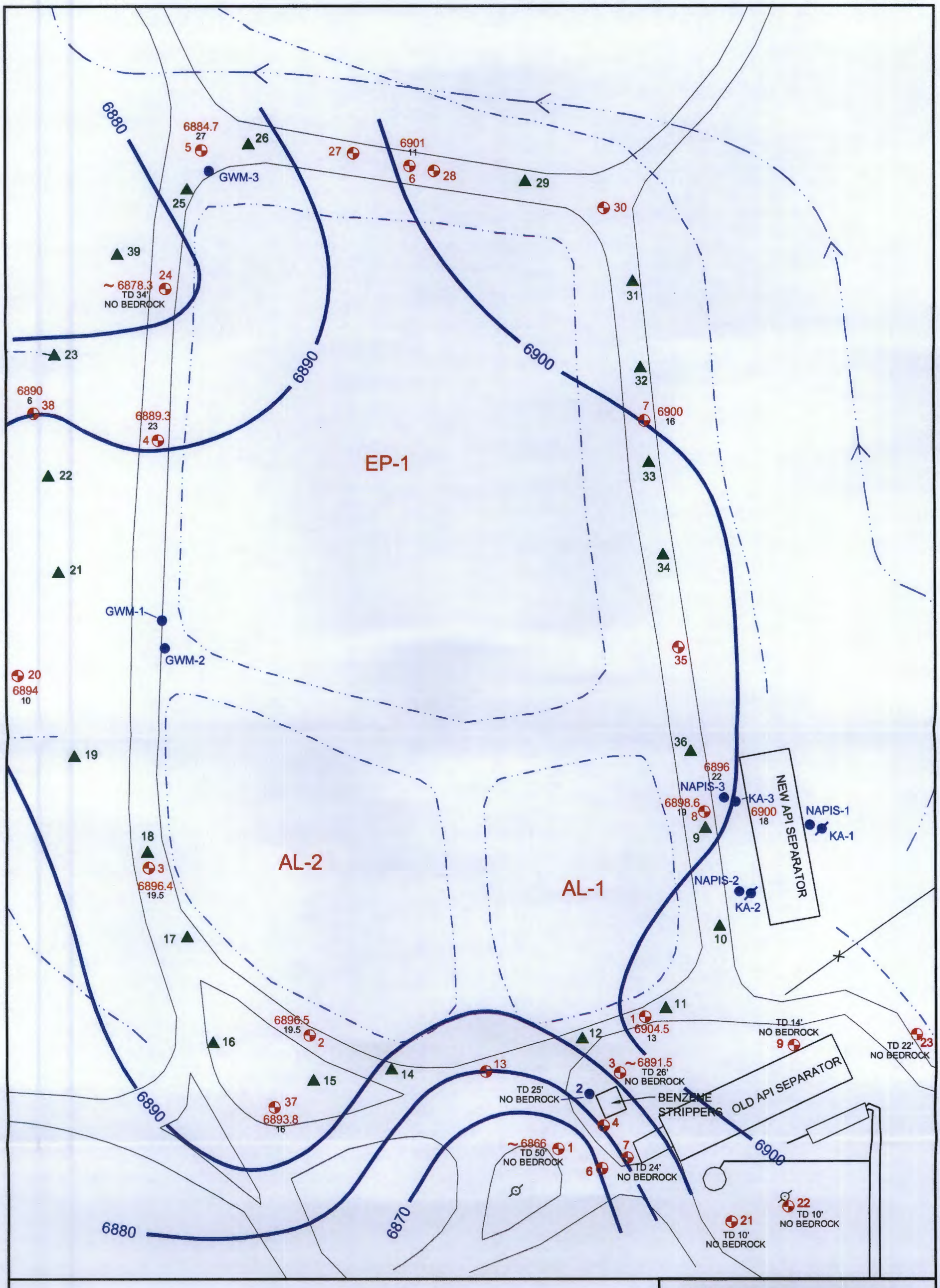
Western Refining
GALLUP REFINERY

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

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

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


?
?
?
5
1'
26
GWM-3
27
3'
6
28
29
25
30
39
24
31
23
1'
32
38
0'
7
0' (CLAYEY SAND SEAMS)
4
0'
EP-1
22
33
21
34
GWM-1
1'
GWM-2
35
20
0'
36
NAPIS-3
0'
0'
8
6'
KA-3
NAPIS-1
KA-1
9
18
AL-2
AL-1
3
2.5'
NAPIS-2
KA-2
NEW API SEPARATOR
?
17
10
1'
0.5'
2
16
1
0'
11
12
BENZENE
STRIPPERS
14
13
15
OLD API SEPARATOR
37
0'
N
0
50
SCALE IN FEET
LEGEND
0.5'
THICKNESS OF PERMEABLE LAYER
(SAND AND CLAYEY SAND / SANDY CLAY)
THAT DIRECTLY OVER LIES PETRIFIED
FOREST FORMATION BEDROCK (FT)
PERIMETER SOIL BORING LOCATION
HAND AUGER SAMPLE LOCATION
GWM-1
GROUNDWATER WELL LOCATION
KA-1
PLUGGED & ABANDONED MONITOR WELL LOCATION
Western Refining
GALLUP REFINERY
PROJ. NO.:Western Refining
DATE:01/31/13
FILE:WestRef-B163
FIGURE 9
SAND ISOPACH MAP
SWMU No. 1
GALLUP REFINERY
RPS
Cielo Center
1250 S. Capital of Texas Highway
Building 3, Suite 200
Austin, Texas 78746
TBPE No. 1298



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

N

0 50

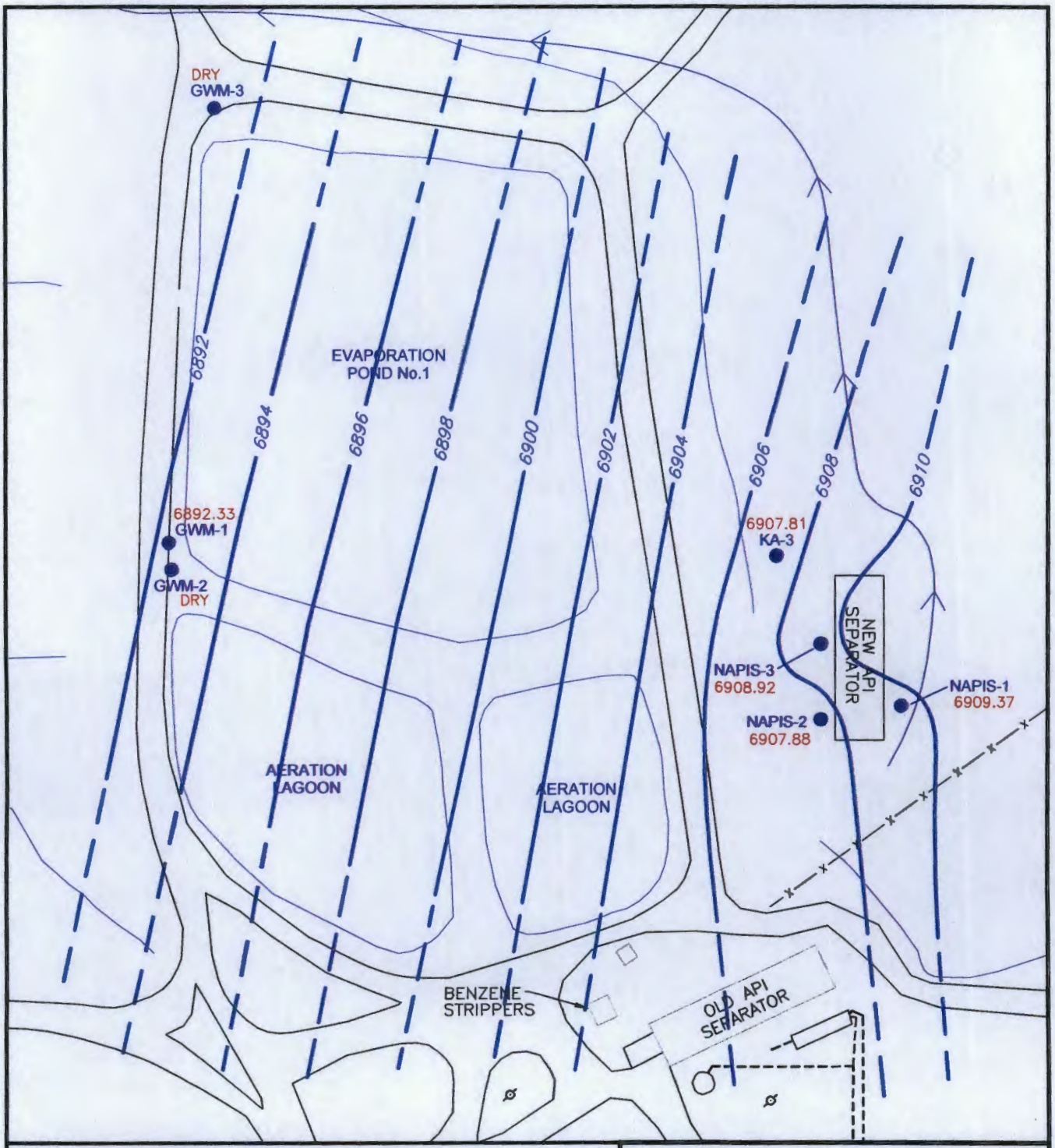
SCALE IN FEET

Western Refining
GALLUP REFINERY

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

FIGURE 10
PALEOTOPOGRAPHIC MAP
GALLUP REFINERY

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Austin, Texas 78746
TBPE No. 1298



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

N

0 80

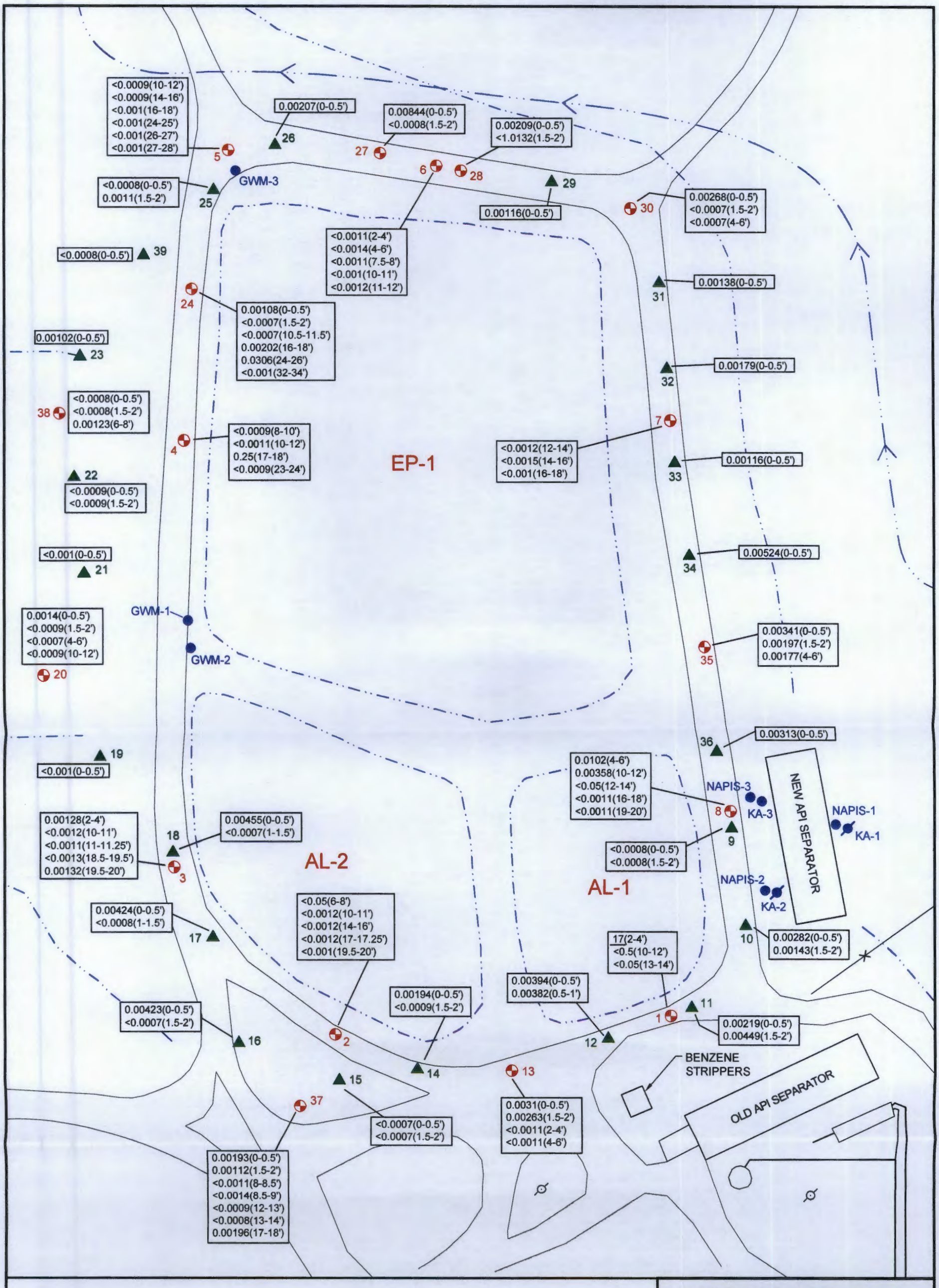
SCALE IN FEET

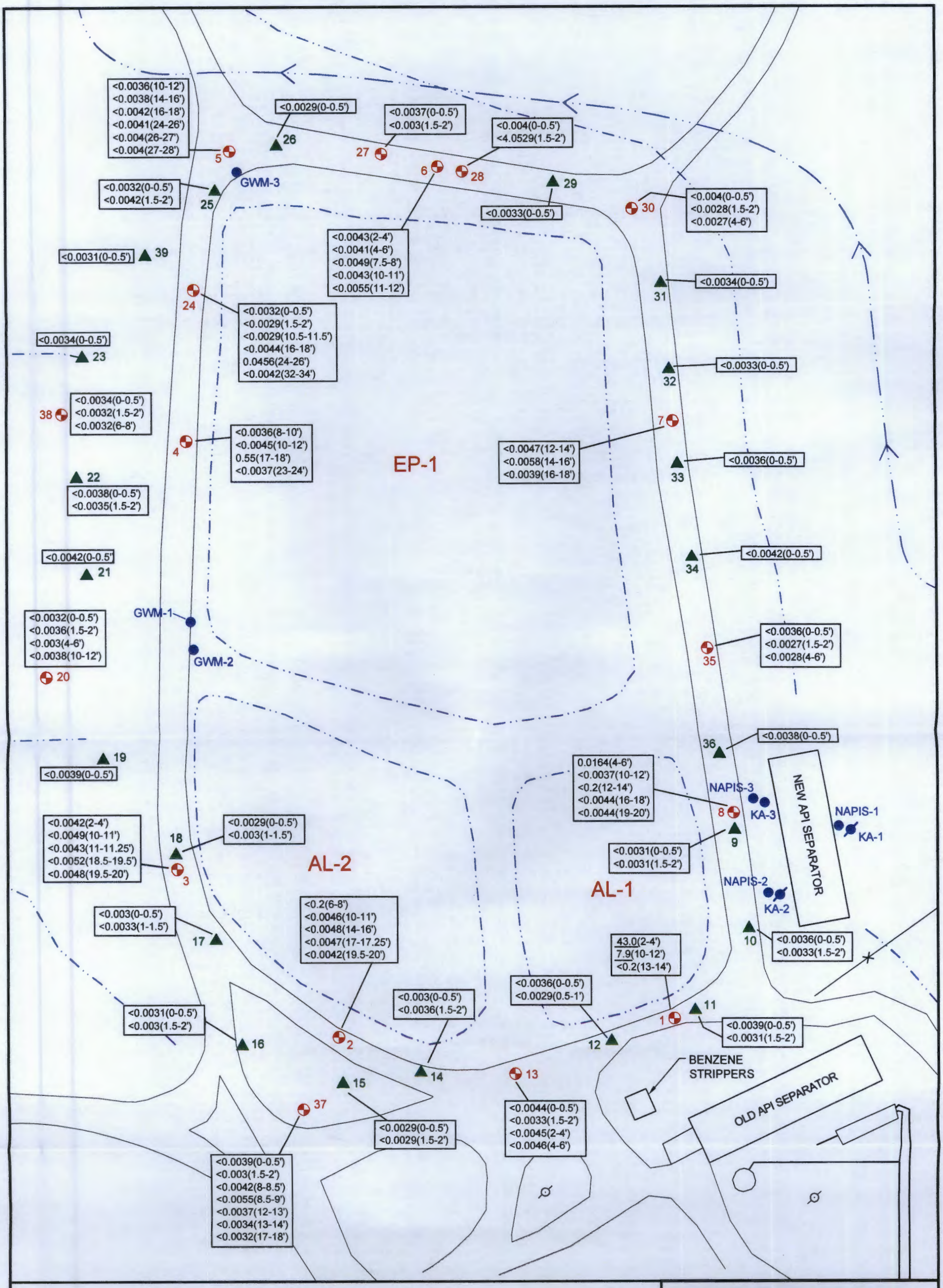
Western Refining
GALLUP REFINERY

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

FIGURE 11
POTENTIOMETRIC SURFACE MAP
GALLUP REFINERY

RPS
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Austin, Texas 78746


<0.0009(10-12')
<0.0009(14-16')
<0.001(16-18')
<0.001(24-25')
<0.001(26-27')
<0.001(27-28')
5
0.00207(0-0.5')
26
0.00844(0-0.5')
<0.0008(1.5-2')
27
0.00209(0-0.5')
<1.0132(1.5-2')
6
28
GWM-3
<0.0008(0-0.5')
0.0011(1.5-2')
25
29
0.00116(0-0.5')
30
0.00268(0-0.5')
<0.0007(1.5-2')
<0.0007(4-6')
<0.0008(0-0.5')
39
<0.0011(2-4')
<0.0014(4-6')
<0.0011(7.5-8')
<0.001(10-11')
<0.0012(11-12')
24
0.00108(0-0.5')
<0.0007(1.5-2')
<0.0007(10.5-11.5')
0.00202(16-18')
0.0306(24-26')
<0.001(32-34')
31
0.00138(0-0.5')
0.00102(0-0.5')
23
32
0.00179(0-0.5')
<0.0008(0-0.5')
<0.0008(1.5-2')
0.00123(6-8')
38
4
<0.0009(8-10')
<0.0011(10-12')
0.25(17-18')
<0.0009(23-24')
EP-1
7
<0.0012(12-14')
<0.0015(14-16')
<0.001(16-18')
33
0.00116(0-0.5')
22
<0.0009(0-0.5')
<0.0009(1.5-2')
34
0.00524(0-0.5')
<0.001(0-0.5')
21
GWM-1
0.0014(0-0.5')
<0.0009(1.5-2')
<0.0007(4-6')
<0.0009(10-12')
GWM-2
20
35
0.00341(0-0.5')
0.00197(1.5-2')
0.00177(4-6')
36
0.00313(0-0.5')
19
<0.001(0-0.5')
0.0102(4-6')
0.00358(10-12')
<0.05(12-14')
<0.0011(16-18')
<0.0011(19-20')
NAPIS-3
KA-3
8
NEW API SEPARATOR
NAPIS-1
KA-1
9
<0.0008(0-0.5')
<0.0008(1.5-2')
0.00128(2-4')
<0.0012(10-11')
<0.0011(11-11.25')
<0.0013(18.5-19.5')
0.00132(19.5-20')
18
0.00455(0-0.5')
<0.0007(1-1.5')
3
AL-2
AL-1
NAPIS-2
KA-2
<0.05(6-8')
<0.0012(10-11')
<0.0012(14-16')
<0.0012(17-17.25')
<0.001(19.5-20')
0.00424(0-0.5')
<0.0008(1-1.5')
17
10
0.00282(0-0.5')
0.00143(1.5-2')
17(2-4')
<0.5(10-12')
<0.05(13-14')
0.00394(0-0.5')
0.00382(0.5-1')
0.00194(0-0.5')
<0.0009(1.5-2')
11
1
0.00219(0-0.5')
0.00449(1.5-2')
0.00423(0-0.5')
<0.0007(1.5-2')
16
2
12
14
BENZENE
STRIPPERS
13
15
37
OLD API SEPARATOR
0.0031(0-0.5')
0.00263(1.5-2')
<0.0011(2-4')
<0.0011(4-6')
<0.0007(0-0.5')
<0.0007(1.5-2')
0.00193(0-0.5')
0.00112(1.5-2')
<0.0011(8-8.5')
<0.0014(8.5-9')
<0.0009(12-13')
<0.0008(13-14')
0.00196(17-18')
LEGEND
PERIMETER SOIL BORING LOCATION
HAND AUGER SAMPLE LOCATION
GWM-1 GROUNDWATER WELL LOCATION
KA-1 PLUGGED & ABANDONED MONITOR WELL LOCATION
0.0031(0-0.5') 1,2,4- TRIMETHYLBENZENE CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
9.68 UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL
N
0
50
SCALE IN FEET
Western Refining
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
RPS
Cielo Center
1250 S. Capital of Texas Highway
Building 3, Suite 200
Austin, Texas 78746
TBPE No. 1298

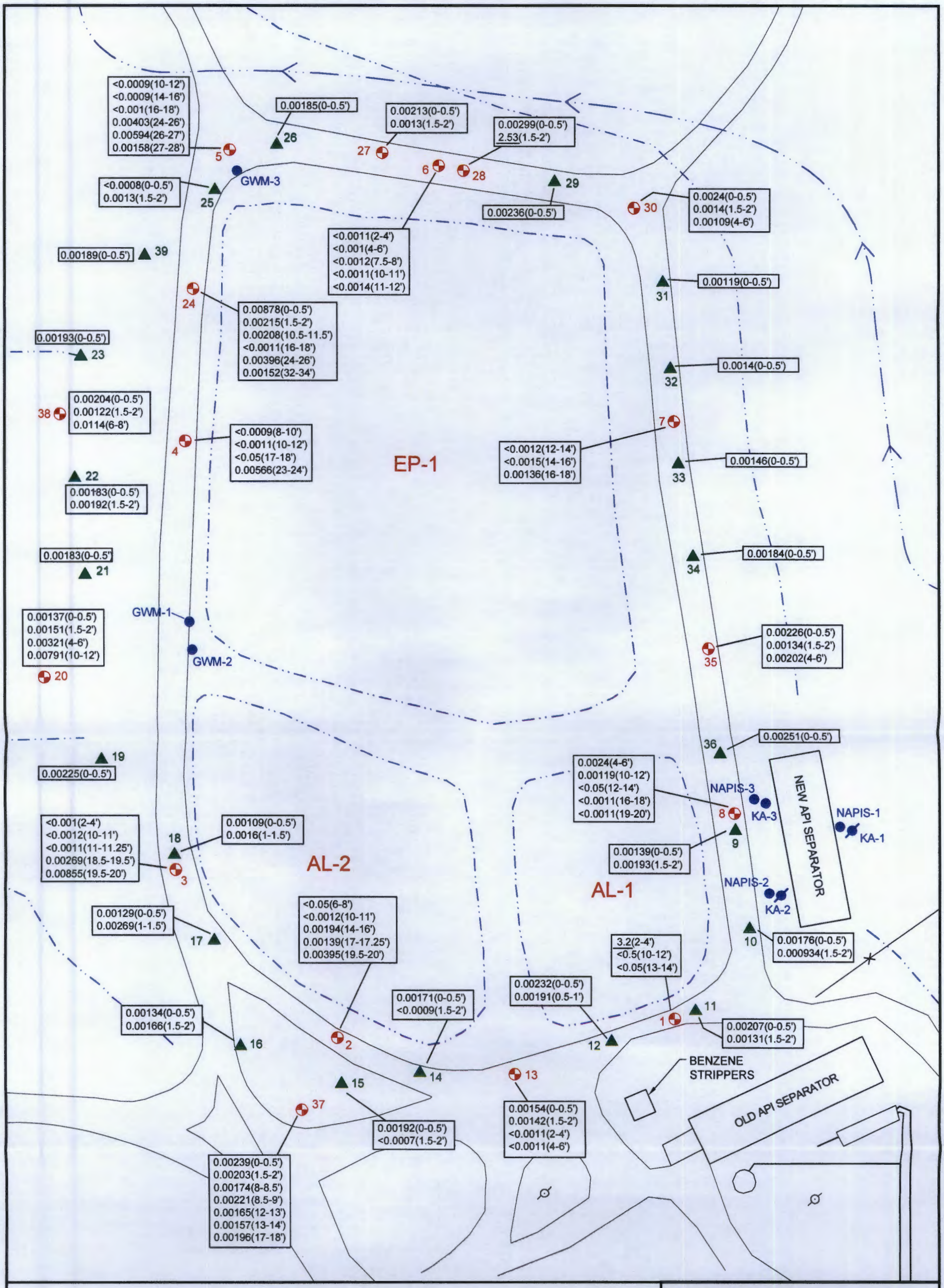


Western Refining
GALLUP REFINERY

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

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

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

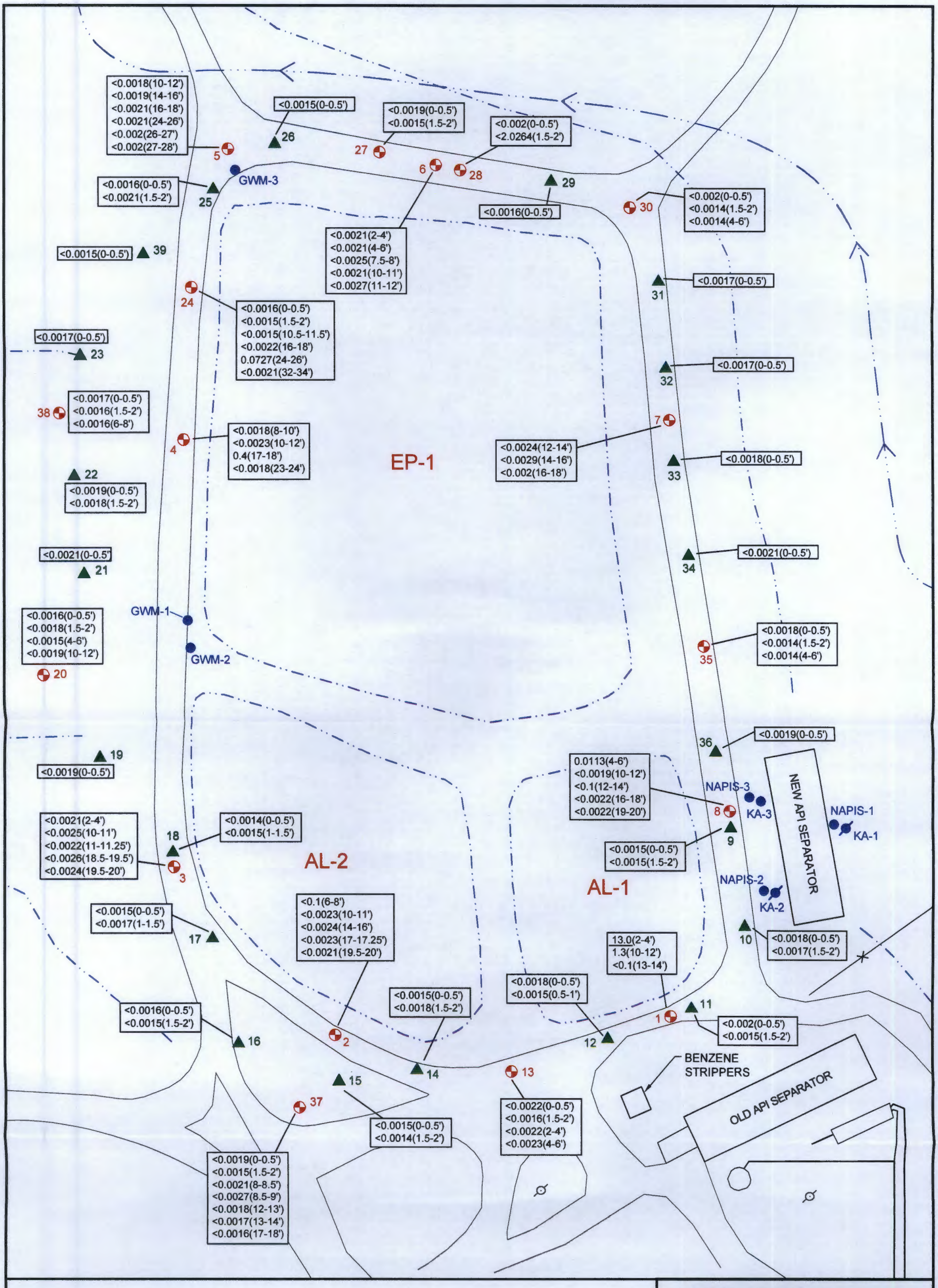


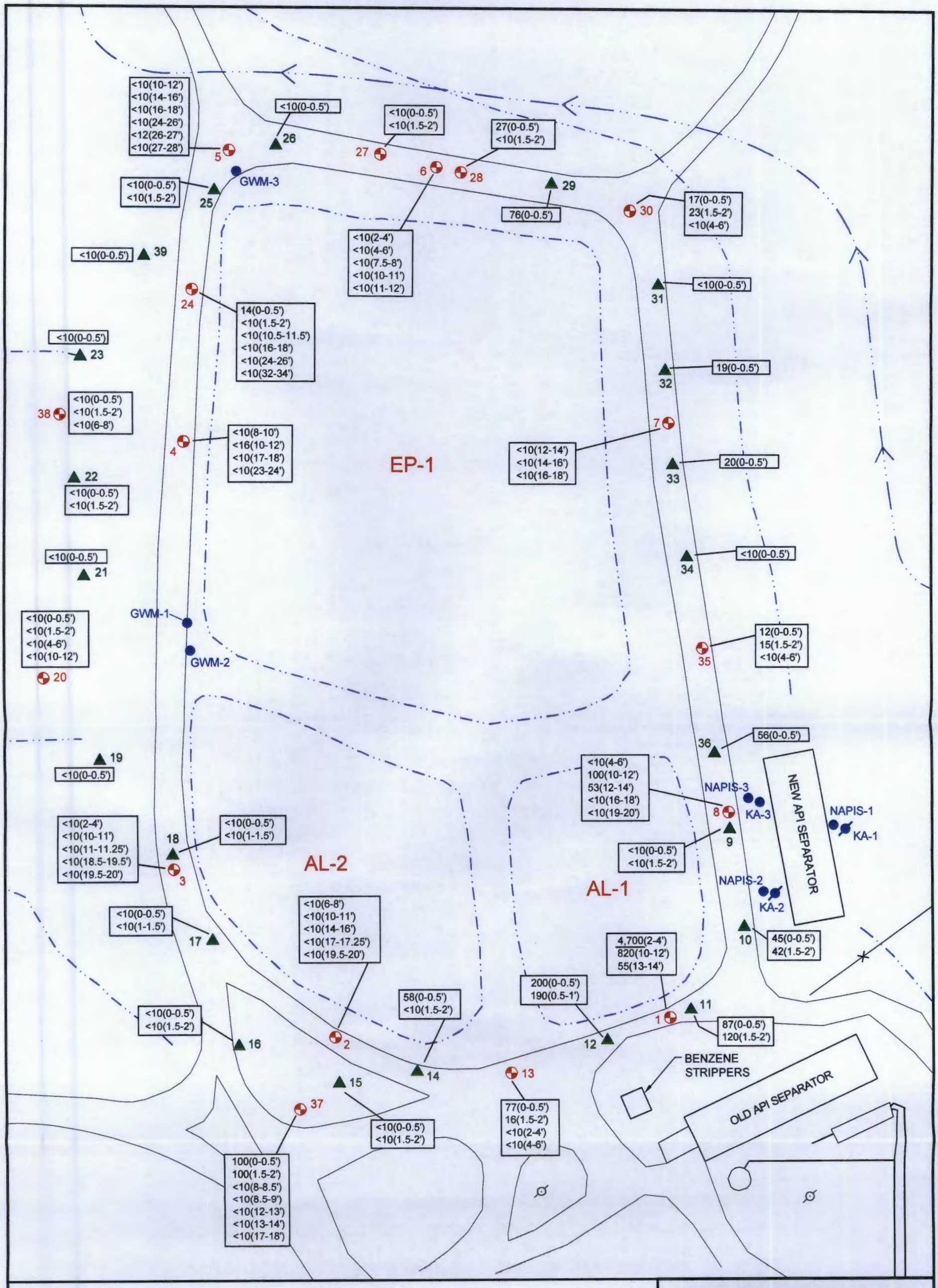
Western Refining
GALLUP REFINERY

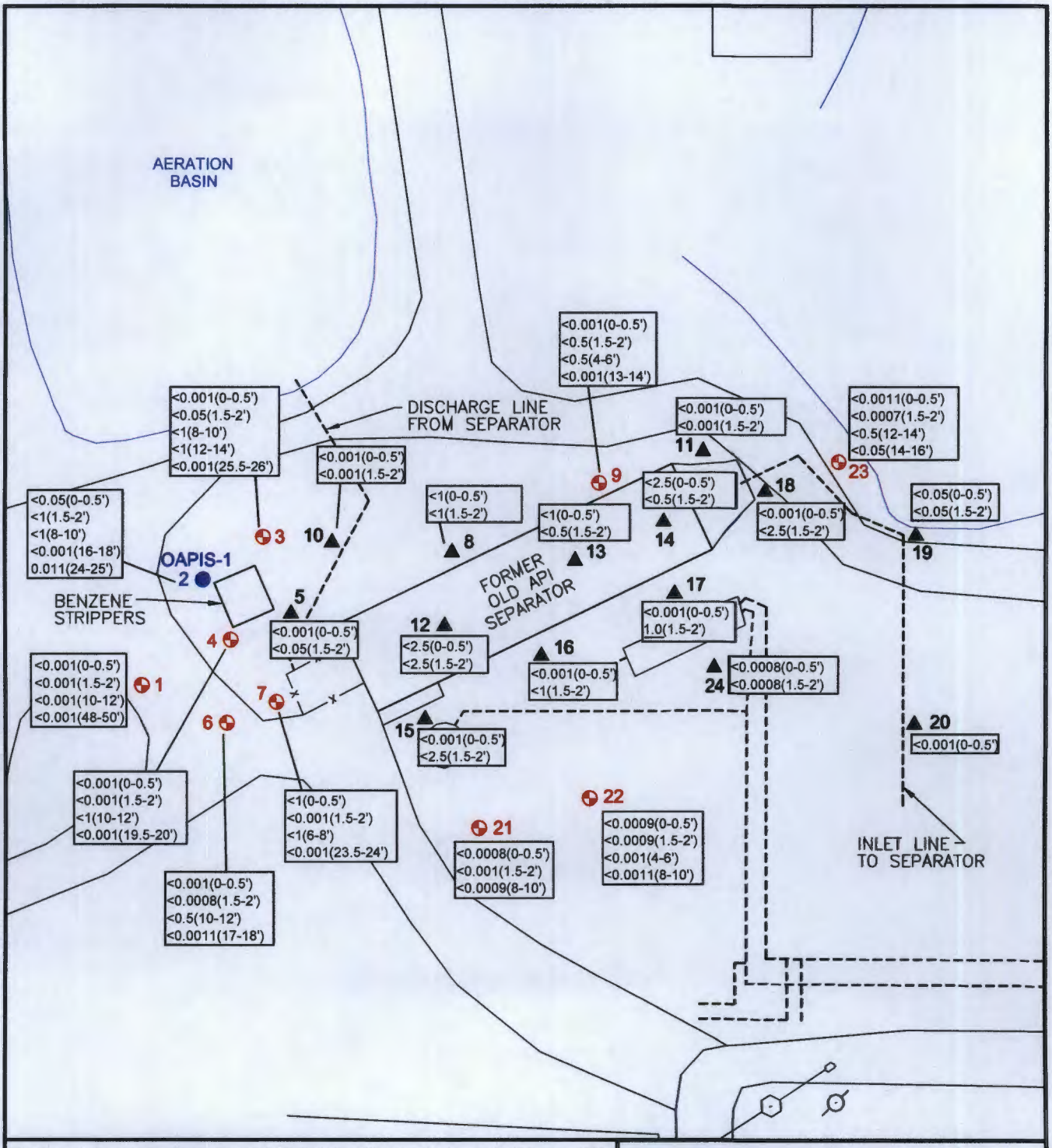
PROJ. NO.:Western Refining | DATE:01/24/13 | FILE:WestRef-B156

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

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


<0.0018(10-12')
<0.0019(14-16')
<0.0021(16-18')
<0.0021(24-26')
<0.002(26-27')
<0.002(27-28')
5
<0.0015(0-0.5')
26
<0.0019(0-0.5')
<0.0015(1.5-2')
27
<0.002(0-0.5')
<2.0264(1.5-2')
6
28
GWM-3
<0.0016(0-0.5')
<0.0021(1.5-2')
25
29
<0.0016(0-0.5')
30
<0.002(0-0.5')
<0.0014(1.5-2')
<0.0014(4-6')
<0.0015(0-0.5')
39
<0.0021(2-4')
<0.0021(4-6')
<0.0025(7.5-8')
<0.0021(10-11')
<0.0027(11-12')
24
<0.0016(0-0.5')
<0.0015(1.5-2')
<0.0015(10.5-11.5')
<0.0022(16-18')
0.0727(24-26')
<0.0021(32-34')
31
<0.0017(0-0.5')
<0.0017(0-0.5')
23
32
<0.0017(0-0.5')
<0.0017(0-0.5')
38
<0.0016(1.5-2')
<0.0016(6-8')
4
<0.0018(8-10')
<0.0023(10-12')
0.4(17-18')
<0.0018(23-24')
EP-1
<0.0024(12-14')
<0.0029(14-16')
<0.002(16-18')
7
33
<0.0018(0-0.5')
22
<0.0019(0-0.5')
<0.0018(1.5-2')
34
<0.0021(0-0.5')
<0.0021(0-0.5')
21
GWM-1
<0.0016(0-0.5')
<0.0018(1.5-2')
<0.0015(4-6')
<0.0019(10-12')
20
GWM-2
35
<0.0018(0-0.5')
<0.0014(1.5-2')
<0.0014(4-6')
36
<0.0019(0-0.5')
19
<0.0019(0-0.5')
0.0113(4-6')
<0.0019(10-12')
<0.1(12-14')
<0.0022(16-18')
<0.0022(19-20')
NAPIS-3
KA-3
NAPIS-1
KA-1
NEW API SEPARATOR
8
9
<0.0021(2-4')
<0.0025(10-11')
<0.0022(11-11.25')
<0.0026(18.5-19.5')
<0.0024(19.5-20')
18
<0.0014(0-0.5')
<0.0015(1-1.5')
3
AL-2
AL-1
<0.0015(0-0.5')
<0.0015(1.5-2')
NAPIS-2
KA-2
<0.1(6-8')
<0.0023(10-11')
<0.0024(14-16')
<0.0023(17-17.25')
<0.0021(19.5-20')
<0.0015(0-0.5')
<0.0017(1-1.5')
17
10
<0.0018(0-0.5')
<0.0017(1.5-2')
13.0(2-4')
1.3(10-12')
<0.1(13-14')
<0.0018(0-0.5')
<0.0015(0.5-1')
<0.0016(0-0.5')
<0.0015(1.5-2')
16
2
<0.0015(0-0.5')
<0.0018(1.5-2')
12
1
11
<0.002(0-0.5')
<0.0015(1.5-2')
BENZENE
STRIPPERS
OLD API SEPARATOR
14
13
15
37
<0.0022(0-0.5')
<0.0016(1.5-2')
<0.0022(2-4')
<0.0023(4-6')
<0.0015(0-0.5')
<0.0014(1.5-2')
<0.0019(0-0.5')
<0.0015(1.5-2')
<0.0021(8-8.5')
<0.0027(8.5-9')
<0.0018(12-13')
<0.0017(13-14')
<0.0016(17-18')
N
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
<0.0022(0-0.5') NAPHTHALENE CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
1.64 UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL
Western Refining
GALLUP REFINERY
PROJ. NO.:Western Refining
DATE:01/24/13
FILE:WestRef-B158
FIGURE 15
NAPHTHALENE
SOIL CONCENTRATIONS - SWMU No. 1
GALLUP REFINERY
RPS
Cielo Center
1250 S. Capital of Texas Highway
Building 3, Suite 200
Austin, Texas 78746
TBPE No. 1298


<10(10-12')
<10(14-16')
<10(16-18')
<10(24-26')
<12(26-27')
<10(27-28')
5
<10(0-0.5')
26
<10(0-0.5')
<10(1.5-2')
27
27(0-0.5')
<10(1.5-2')
6
28
GWM-3
<10(0-0.5')
<10(1.5-2')
25
29
76(0-0.5')
30
17(0-0.5')
23(1.5-2')
<10(4-6')
<10(2-4')
<10(4-6')
<10(7.5-8')
<10(10-11')
<10(11-12')
<10(0-0.5')
39
24
14(0-0.5')
<10(1.5-2')
<10(10.5-11.5')
<10(16-18')
<10(24-26')
<10(32-34')
31
<10(0-0.5')
<10(0-0.5')
23
19(0-0.5')
32
<10(0-0.5')
38
<10(0-0.5')
<10(1.5-2')
<10(6-8')
4
<10(8-10')
<16(10-12')
<10(17-18')
<10(23-24')
EP-1
7
<10(12-14')
<10(14-16')
<10(16-18')
22
<10(0-0.5')
<10(1.5-2')
33
20(0-0.5')
<10(0-0.5')
21
34
<10(0-0.5')
GWM-1
GWM-2
<10(0-0.5')
<10(1.5-2')
<10(4-6')
<10(10-12')
20
35
12(0-0.5')
15(1.5-2')
<10(4-6')
36
56(0-0.5')
19
<10(0-0.5')
<10(4-6')
100(10-12')
53(12-14')
<10(16-18')
<10(19-20')
NAPIS-3
KA-3
8
NEW API SEPARATOR
NAPIS-1
KA-1
<10(2-4')
<10(10-11')
<10(11-11.25')
<10(18.5-19.5')
<10(19.5-20')
18
<10(0-0.5')
<10(1-1.5')
3
AL-2
AL-1
9
<10(0-0.5')
<10(1.5-2')
NAPIS-2
KA-2
<10(0-0.5')
<10(1-1.5')
17
<10(6-8')
<10(10-11')
<10(14-16')
<10(17-17.25')
<10(19.5-20')
4,700(2-4')
820(10-12')
55(13-14')
10
45(0-0.5')
42(1.5-2')
200(0-0.5')
190(0.5-1')
58(0-0.5')
<10(1.5-2')
<10(0-0.5')
<10(1.5-2')
16
2
14
1
11
87(0-0.5')
120(1.5-2')
12
BENZENE
STRIPPERS
OLD API SEPARATOR
13
77(0-0.5')
16(1.5-2')
<10(2-4')
<10(4-6')
15
37
<10(0-0.5')
<10(1.5-2')
100(0-0.5')
100(1.5-2')
<10(8-8.5')
<10(8.5-9')
<10(12-13')
<10(13-14')
<10(17-18')
N
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
77(0-0.5') DIESEL RANGE ORGANICS CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
1,000 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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Map Source: Compiled by Photogrammetric Methods from Photography Acquired on March 1, 1998.

N

0 40
SCALE IN FEET

LEGEND

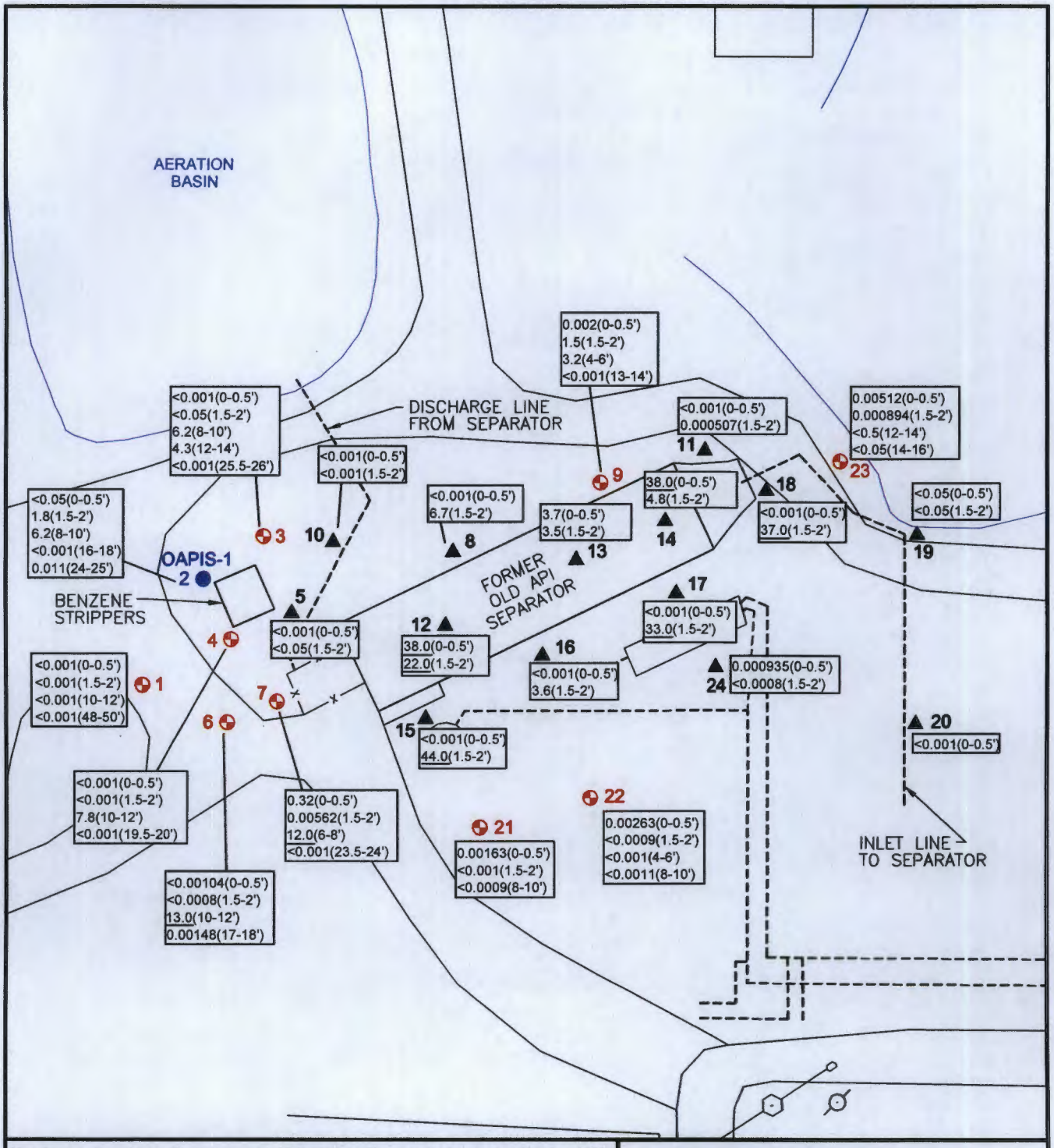
- MONITORING WELL LOCATION
- SOIL BORING LOCATION
- HAND AUGER LOCATION
- PIPELINE
- <0.001(0-0.5') 1,1,2-TRICHLOROETHANE CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
- 0.0514 UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

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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

N

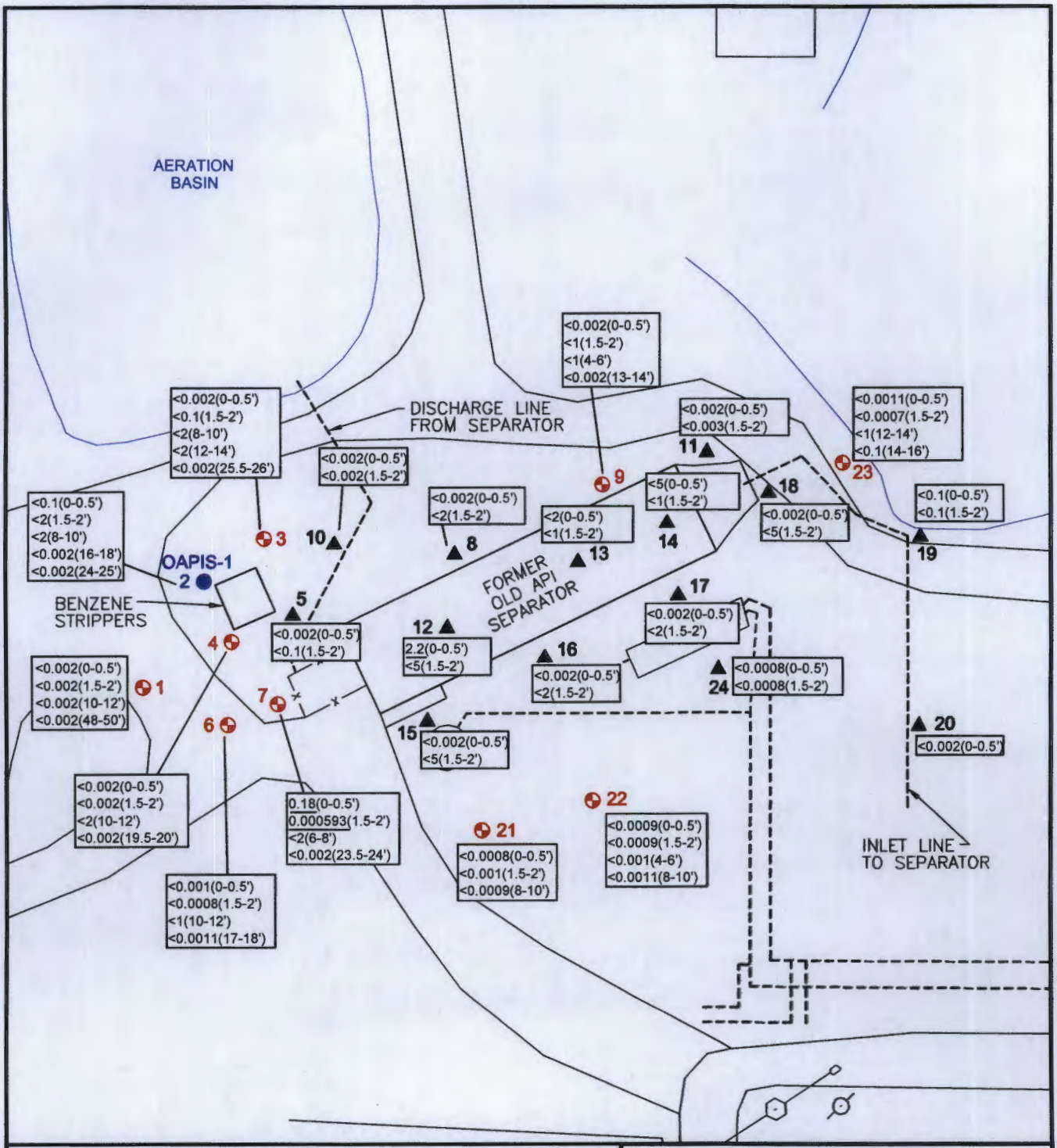
0 40
SCALE IN FEET

Western Refining
GALLUP REFINERY

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
- <0.001(0-0.5') 1,2-DIBROMO-3-CHLOROPROPANE CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
- 0.000507 UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

N

0 40

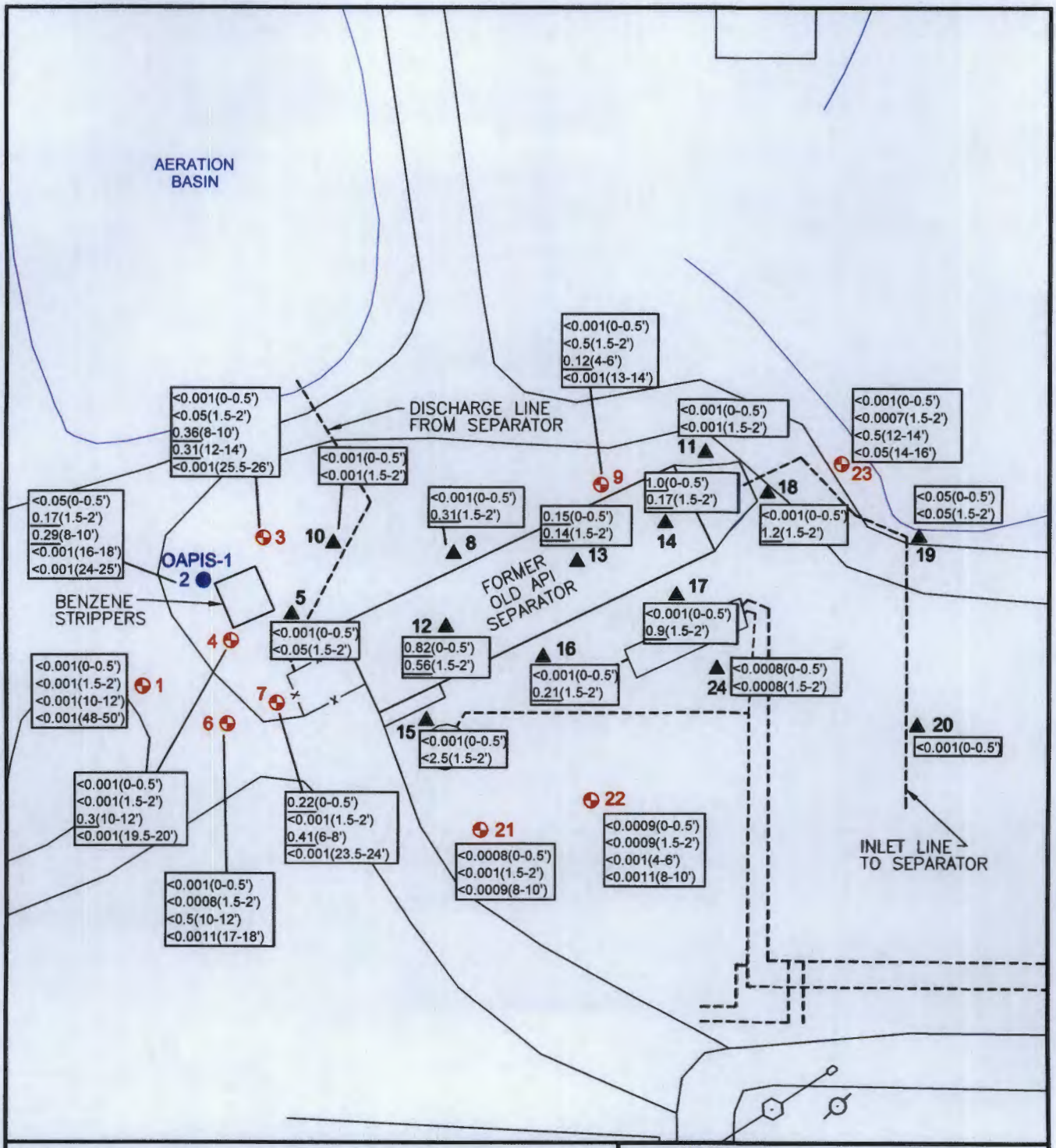
SCALE IN FEET

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PROJ. NO.:Western Refining | DATE:01/31/13 | FILE:WestRef-A165

FIGURE 19
1,2-DIBROMO-3-CHLOROPROPANE
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

N

0 40

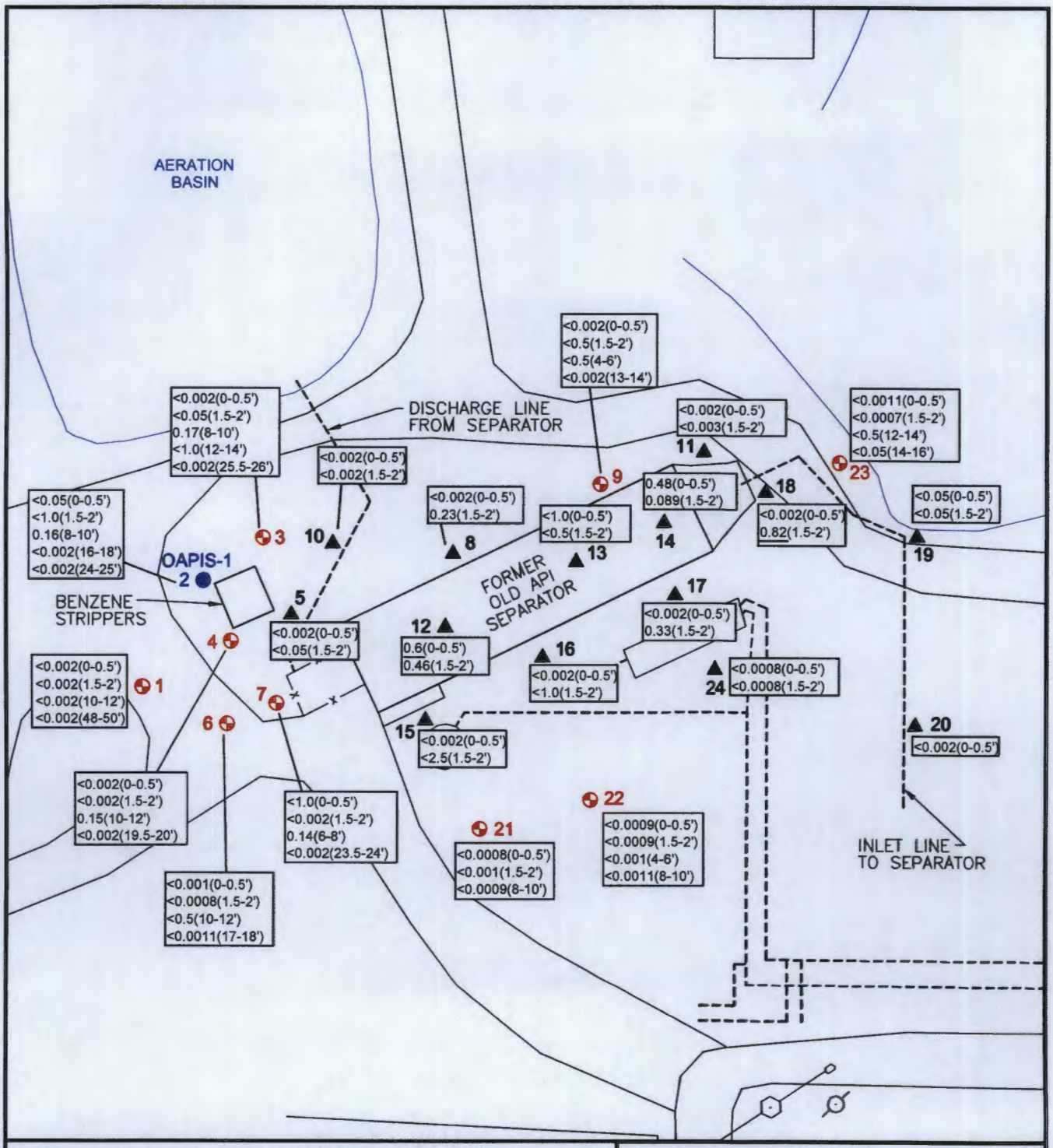
SCALE IN FEET

Western Refining
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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

N

0 40

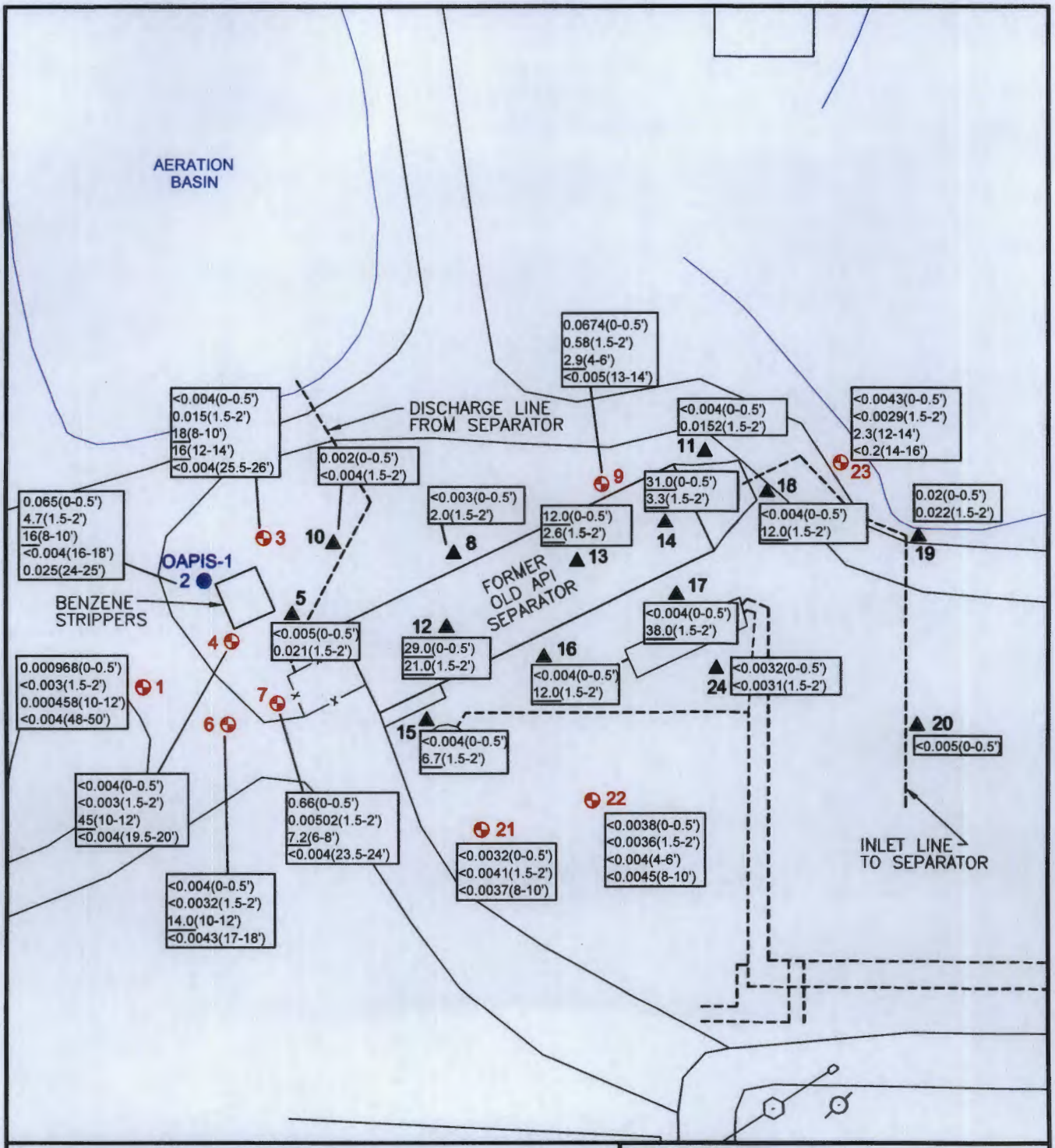
SCALE IN FEET

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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

N

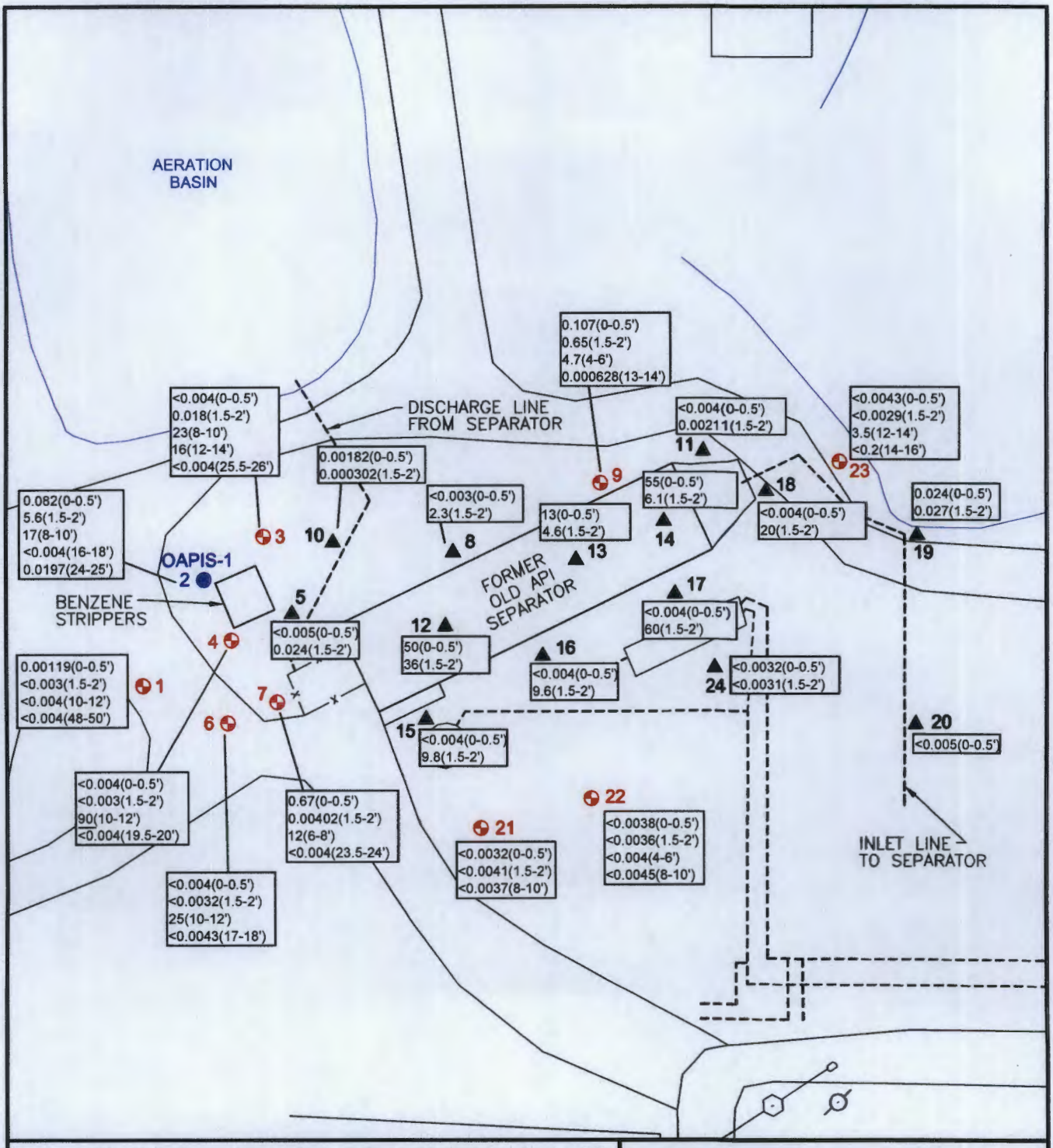
0 40
SCALE IN FEET

Western Refining
GALLUP REFINERY

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: Complied by Photogrammetric Methods from Photography Acquired on March 1, 1998.

N

0 40
SCALE IN FEET

LEGEND

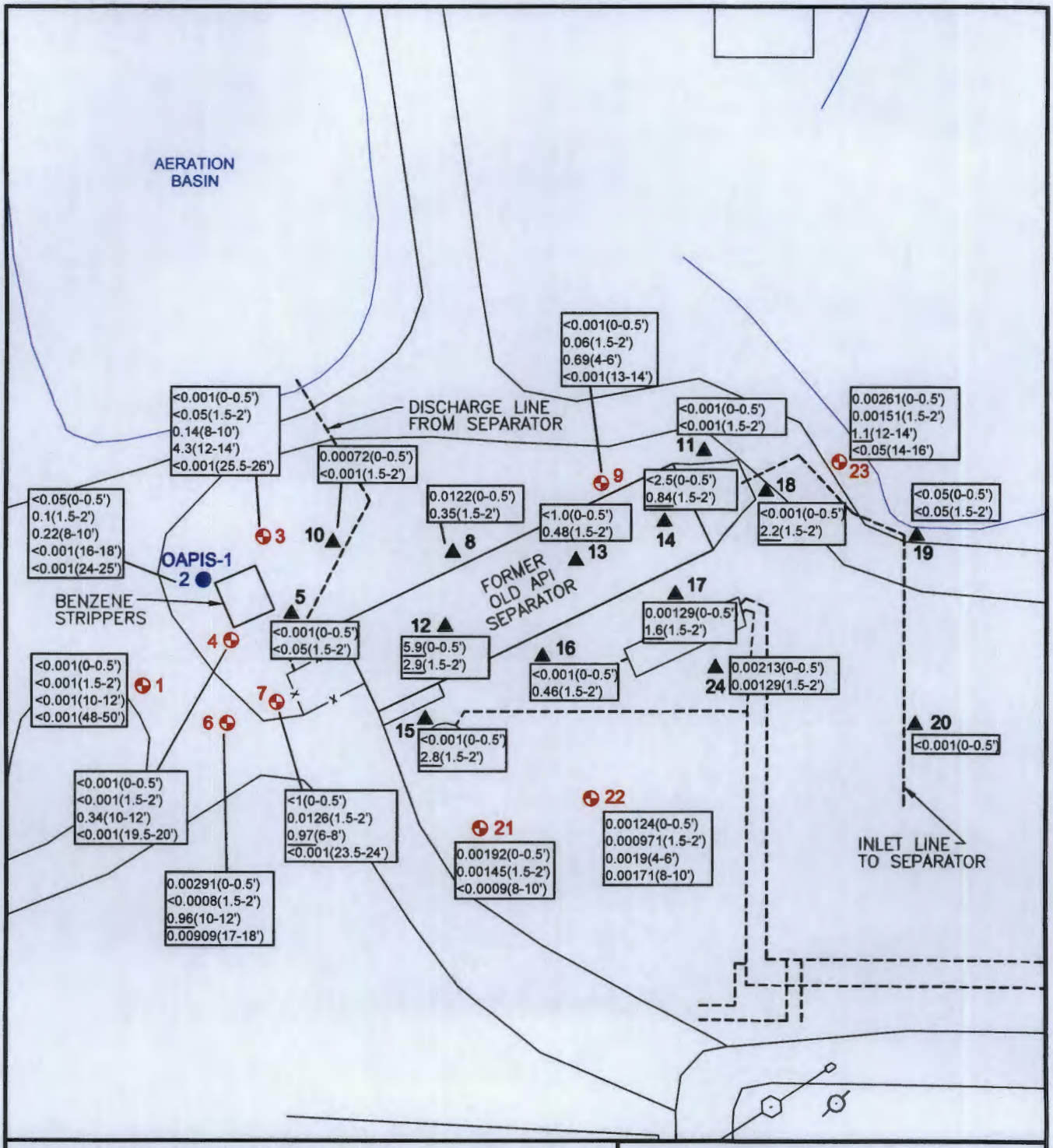
- MONITORING WELL LOCATION
- SOIL BORING LOCATION
- HAND AUGER LOCATION
- PIPELINE
- 0.00119(0-0.5') — 2-METHYLNAPHTHALENE CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
- 64.5 — UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

Western Refining
GALLUP REFINERY

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FIGURE 23
2-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

N

0 40

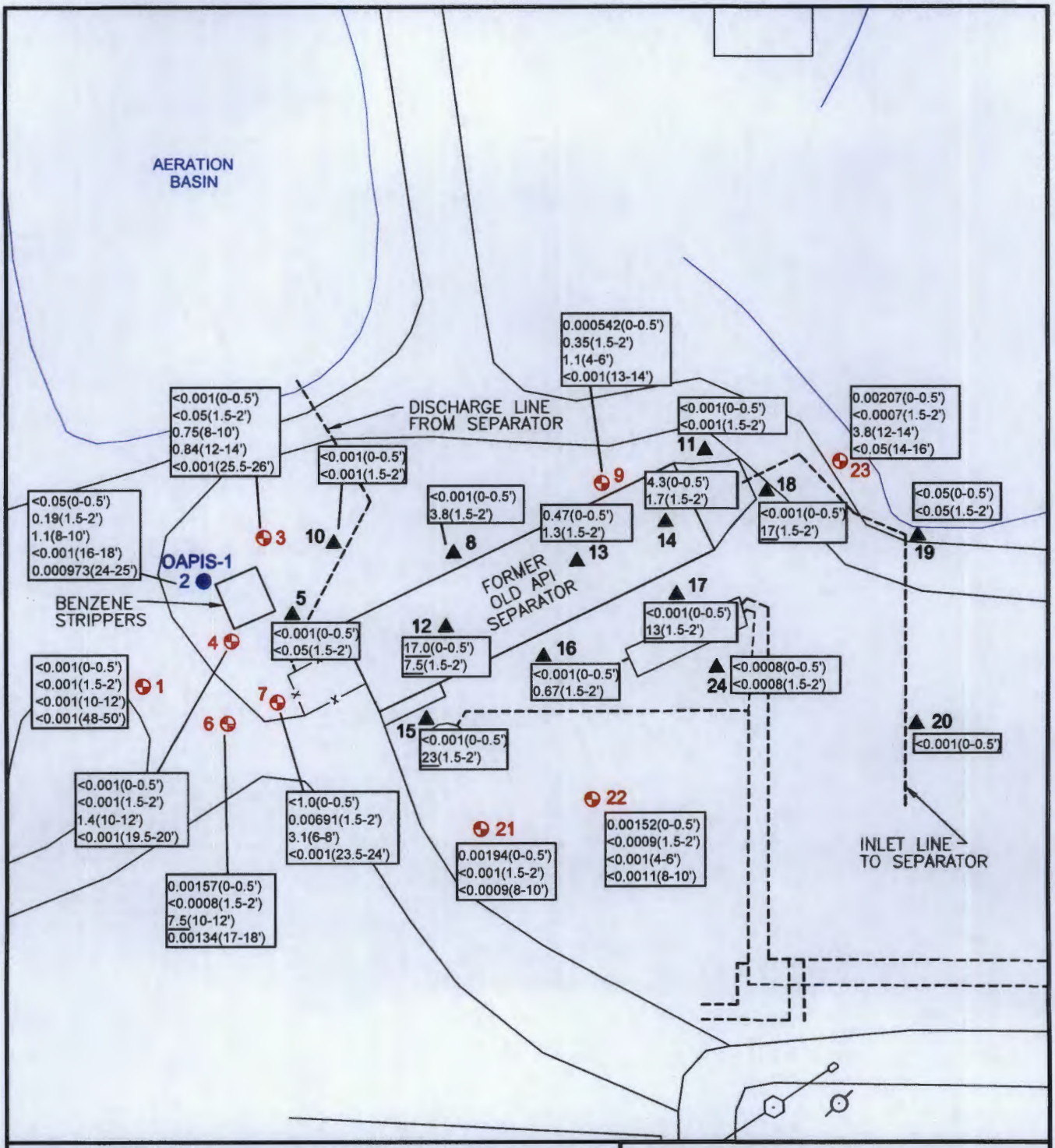
SCALE IN FEET

Western Refining
GALLUP REFINERY

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.

N

0 40

SCALE IN FEET

LEGEND

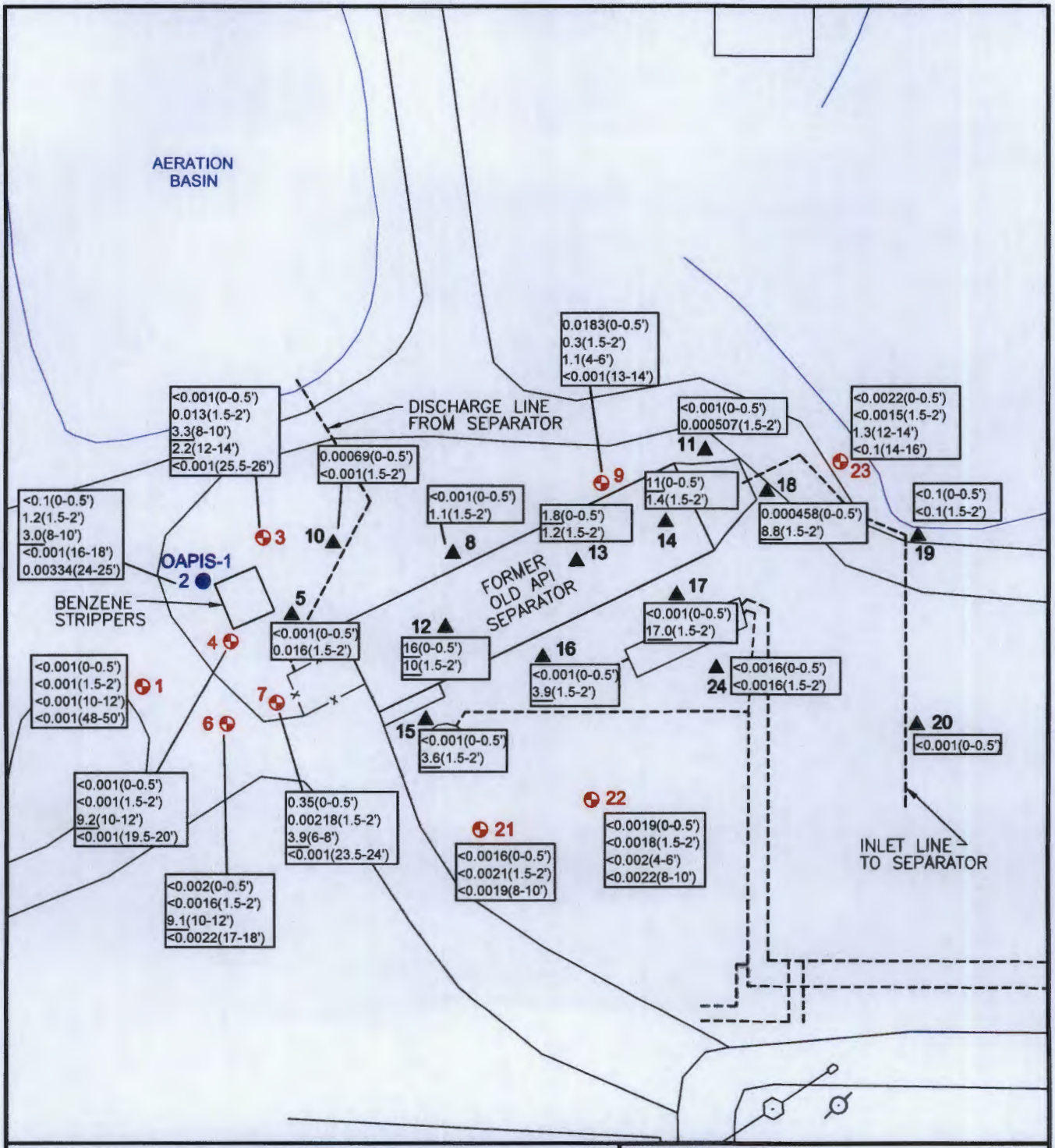
- MONITORING WELL LOCATION
- SOIL BORING LOCATION
- HAND AUGER LOCATION
- PIPELINE
- 0.00152(0-0.5') ETHYLBENZENE CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
- 5.98 UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

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FIGURE 25
ETHYLBENZENE
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
- <0.0019(0-0.5') NAPHTHALENE CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
- 1.64 UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

N

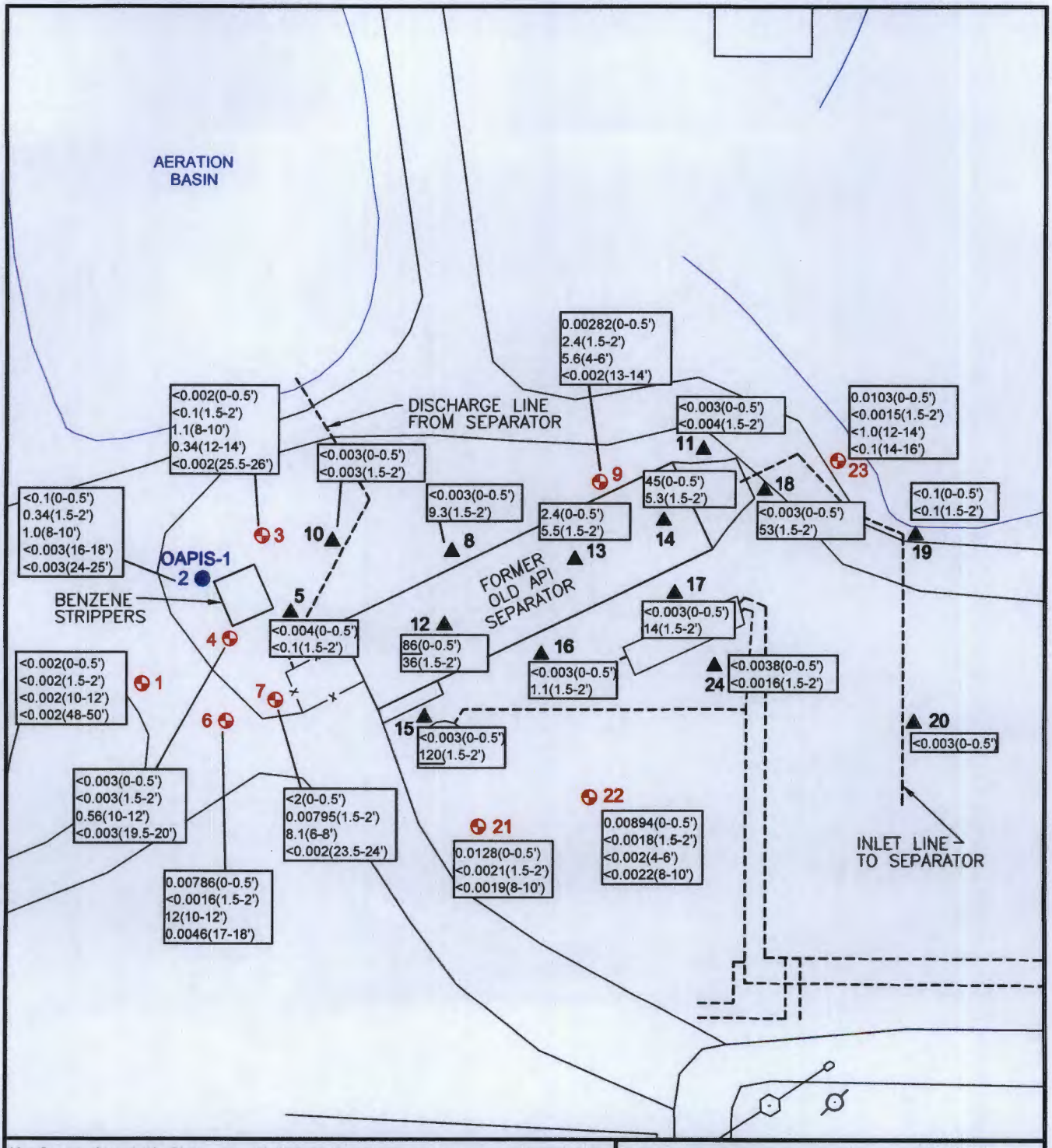
0 40
SCALE IN FEET

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FIGURE 26
NAPHTHALENE
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
- 0.0128(0-0.5') XYLENES CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
- 72.1 UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

N

0 40

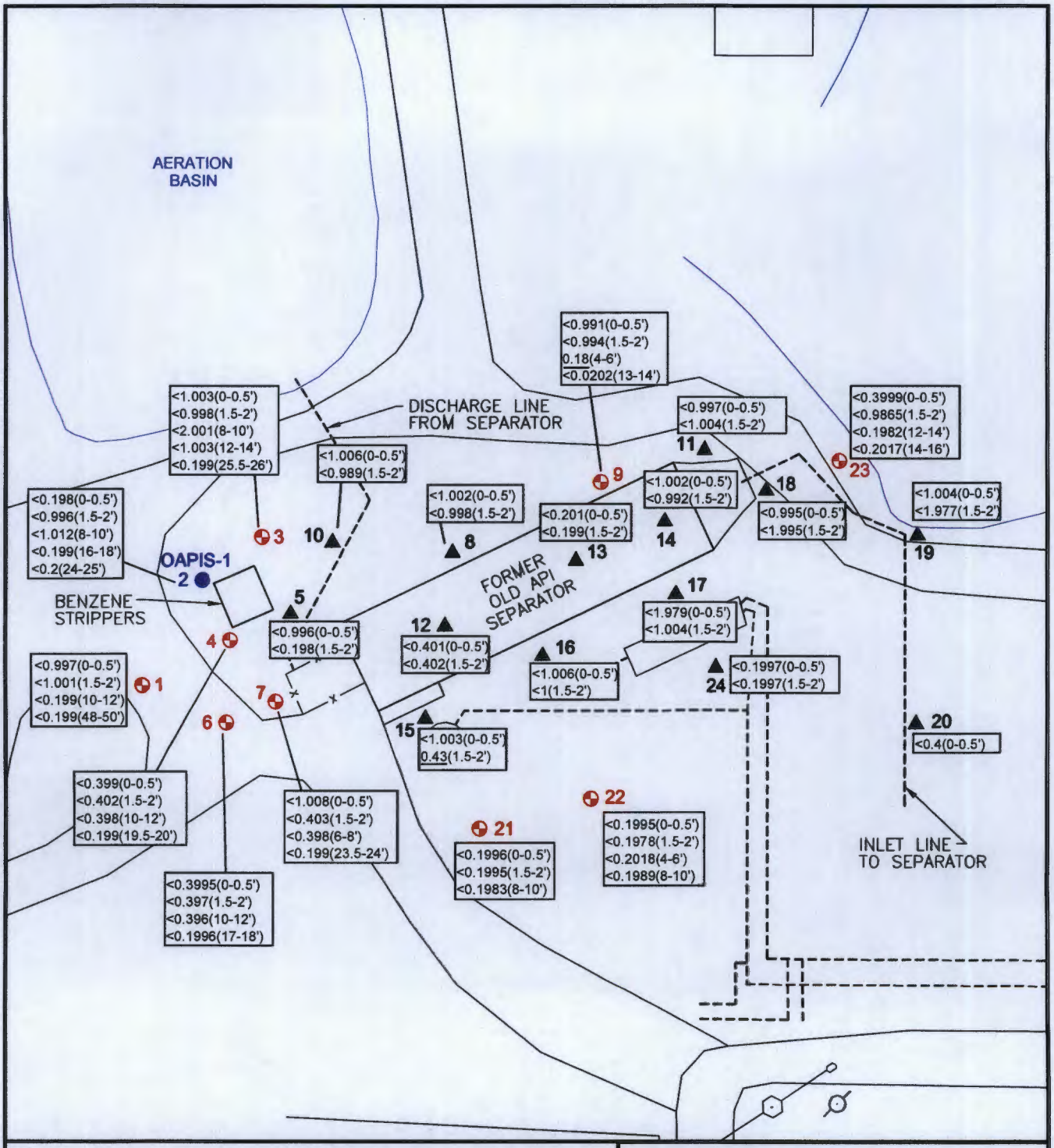
SCALE IN FEET

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FIGURE 27
XYLENES
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
- <1.003(0-0.5') BIS(2-CHLOROETHYL)ETHER CONCENTRATION, mg/kg (SAMPLE DEPTH-FT)
- 0.0121 UNDERLINED CONCENTRATION VALUE EXCEEDS SCREENING LEVEL

N

0 40

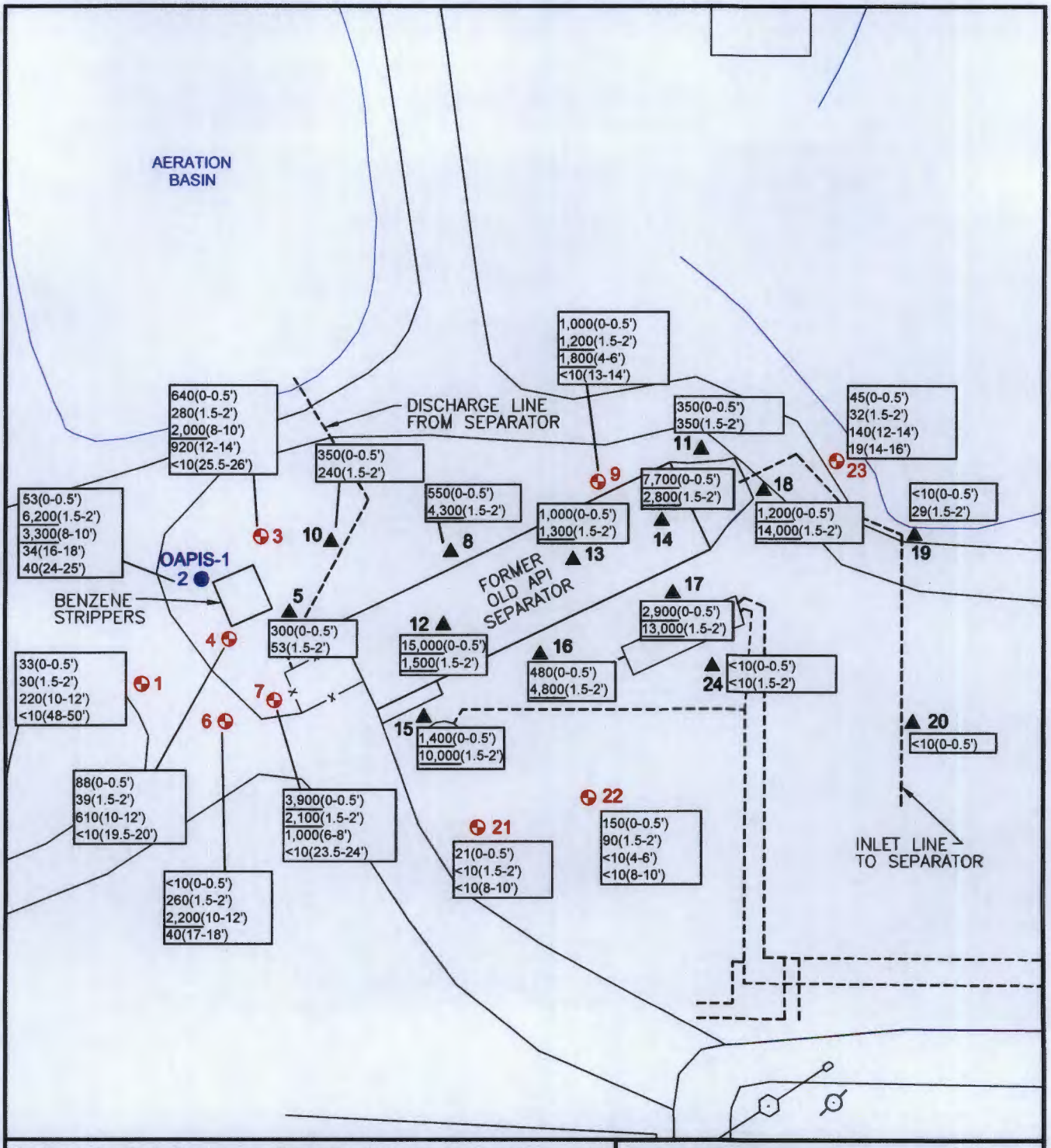
SCALE IN FEET

Western Refining
GALLUP REFINERY

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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

N

0 40

SCALE IN FEET

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

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NOTE: CONSTITUENT SCREENING LEVEL UNITS - mg/l

LEGEND

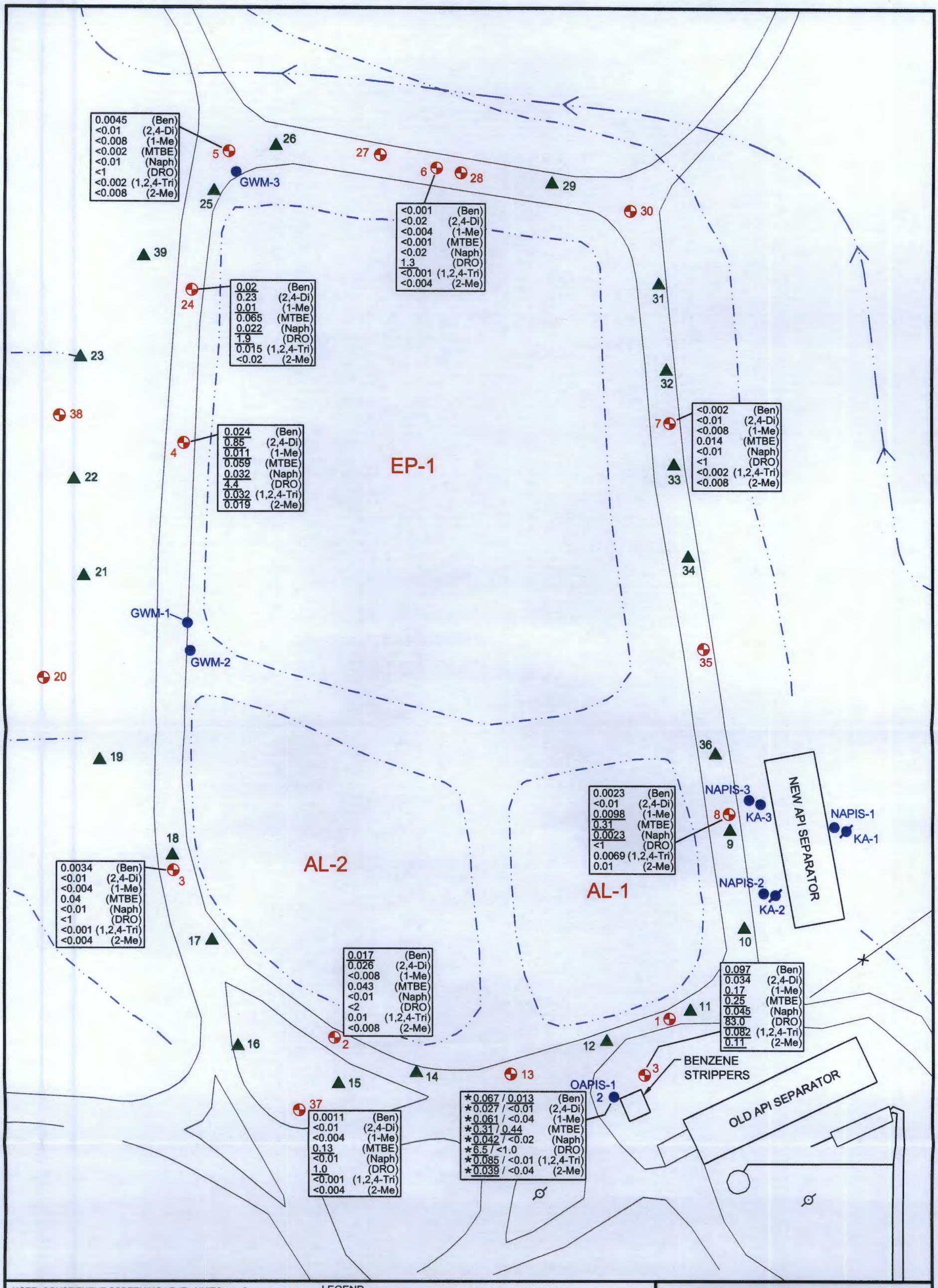
- PERIMETER SOIL BORING LOCATION / TEMPORARY MONITORING WELL
- HAND AUGER SAMPLE LOCATION
- GWM-1 GROUNDWATER WELL LOCATION
- KA-1 PLUGGED & ABANDONED MONITOR WELL LOCATION
- 0.01 ARSENIC SCREENING LEVEL, mg/l (As)
- 1.0 BARIUM SCREENING LEVEL, mg/l (Ba)
- 0.015 LEAD SCREENING LEVEL, mg/l (Pb)
- 0.2 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

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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

LEGEND

- PERIMETER SOIL BORING LOCATION / TEMPORARY MONITORING WELL
- HAND AUGER SAMPLE LOCATION
- GWM-1 GROUNDWATER WELL LOCATION
- KA-1 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

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GALLUP REFINERY

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

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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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Appendix F Quality Assurance/Quality Control Review

Appendix A

Trihydro Report, June 2008

AERATION LAGOONS 1 AND 2 AND EVAPORATION POND 1 - SEDIMENT INVESTIGATION
WESTERN REFINING COMPANY
GALLUP REFINERY
GALLUP, NEW MEXICO

June 2, 2008

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Executive Summary

In January of 2008, the Western Refining Company's Gallup Refinery (Gallup) requested the assistance of Trihydro Corporation (Trihydro) to characterize the accumulated sediment in Aeration Lagoons 1 and 2 and Evaporation Pond 1. Gallup also requested that Trihydro collect sediment thickness measurement at various locations and calculate the approximate volume of sediment in the above mentioned aeration lagoons and pond.

A Sediment Sampling Work Plan (Plan) was prepared to assist in the field activities and was submitted to Western Refining Company and the New Mexico Department of Environmental Quality (NMED) on March 28, 2008. After reviewing the Plan, NMED recommended collecting discrete-depth grab samples instead of composite samples as proposed in the Plan. Gallup Refinery agreed with this recommendation and discrete-depth grab samples were collected from various sediment depths in each body of water.

Field work to implement the plan was conducted from April 7 to April 11, 2008. Field work consisted of:

- Collecting two sediment samples at five locations in each aeration lagoon.
- Measuring sediment thicknesses at each aeration lagoon sample location as well as five additional locations in each lagoon to assist in sediment volume calculations.
- Collecting one sediment sample at eight locations in Evaporation Pond 1.
- Measuring sediment thicknesses at each evaporation pond sample location as well as eight additional locations to assist in sediment volume calculations.

The sediment samples were analyzed for diesel range organics (DRO)/gasoline range organics (GRO) by USEPA method 8015, semi-volatile organic compounds (SVOCs) by USEPA method 8270, volatile organic compounds (VOCs) by USEPA method 8260, RCRA metals by USEPA method 6010C, and mercury by USEPA Method 7471. Results of the laboratory analysis are discussed in Section 6.

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1.0 INTRODUCTION

Aeration Lagoon 1, Aeration Lagoon 2, and Evaporation Pond 1 are currently used as part of Gallup's process water treatment system. Both lagoons and the evaporation pond are located in an area west/northwest from the refinery that is approximately 280 feet by 440 feet in size. Gallup is considering taking the two lagoons and Evaporation Pond 1 out of service and removing accumulated sediment. In order to determine the approximate volume of sediment that needs to be removed from each lagoon and pond, Gallup requested that Trihydro conduct a sediment investigation in each of the above mentioned bodies of water. The investigation included sampling the sediment and collecting sediment depth measurements which will assist Gallup in determining appropriate volumes and disposal methods for the sediment.

A reconnaissance event was conducted during the week of March 2, 2008. The purpose of this event was to help determine the appropriate sediment sampling and measurement methodoligies. Results of this event are discussed in Section 2. The Sediment Sampling Work Plan (Plan), prepared to assist in the investigation, was submitted to Western Refining Company on March 28, 2008. Field activities associated with the investigation were performed in accordance with the Plan unless otherwise noted in Section 3. Field investigation methodologies and results are described in detail in Section 4. Trihydro has compared the results of the analytical data with relevant screening levels that may help determine appropriate disposal of sediments. The screening levels and the results of the analytical data are described in detail in Sections 5 and 6, respectively. The approximate sediment volume calculations and investigation conclusions are discussed in Section 7.

2.0 RECONNAISSANCE FIELD EVENT

To determine the appropriate sampling techniques and sediment thickness measurement procedures, Trihydro completed a reconnaissance field event during the week of March 2, 2008. During this event, approximate water depths and sediment thicknesses were measured at six locations within Aeration Lagoon 2 and eight locations in Evaporation Pond 1.

Based on the results of the reconnaissance field event, the sediment in Aeration Lagoon 2 appeared to be stratified into two general sediment types. The uppermost sediment layer was determined to be soft, loose, and unconsolidated. This "soft sediment" ranged in thickness from approximately 8-10 feet. Similar thicknesses were encountered during the April 2008 sampling activities. During the reconnaissance event, the material underlying the soft sediment was determined to be a more compact, dense layer of sediment. This "hardpack sediment" occurs directly beneath the soft sediment and extends to the bottom of aeration lagoons. The reconnaissance field event provided information to determine the most appropriate sampling methods.

Hardpack sediment was not identified during the reconnaissance field effort in Evaporation Pond 1. Soft sediment was identified in Evaporation Pond 1 and ranged in thicknesses from approximately 2 to 4 feet. A hard layer, presumably the native soil bottom of the pond, was identified beneath the soft sediment during both field events.

3.0 DEVIATIONS FROM APPROVED PLAN

According to the Plan, at each sample location in the aeration lagoons, the soft sediment interval was to be composited and sampled and the hardpack sediment interval was to be composited and sampled. However, based on a teleconference between NMED and Gallup Refinery on April 8, 2008, the sampling methodology was modified so that one discrete-depth grab sample would be collected from each interval (soft sediment and hardpack) at each sample location at varying depths throughout the lagoons instead of compositing the entire intervals at each sample location.

Based on the March 2008 reconnaissance field event, it was presumed that only one distinct interval of sediment would be present in Evaporation Pond 1. As such, only one sediment sample was collected from each location during the April sampling event. According to the Plan, the entire sediment interval at each sampling location in Evaporation Pond 1 was to be composited and sampled. However, based on the above mentioned teleconference, one discrete-depth grab sample was collected from each sample location at varying sediment depths throughout the pond.

4.0 FIELD INVESTIGATION

Sediment measurements and samples were collected on April 7 through 11, 2008 by Trihydro personnel. The sample and measurement locations, methods, equipment, decontamination procedures, documentation and logging, and investigation derived waste (IDW) disposal are described in this section.

4.1 SITE CONDITIONS

Both lagoons and the pond are located in an area approximately 280 feet by 440 feet. Processed refinery waste water effluent from the New API Separator is discharged in to Aeration Lagoon 1 where it is furthered treated with the assistance of two large aerators. The aerators promote increased biodegradation. Water from Aeration Lagoon 1 is then routed to Aeration Lagoon 2 where it undergoes a similar process. The effluent from Aeration Lagoon 2 is drained into Evaporation Pond 1. The two aerators in Aeration Lagoon 1 were operational immediately prior to sampling activities and were shut down to allow for pond access. No aerators were operating in Aeration Lagoon 2 or Evaporation Pond 1 immediately prior to or during sampling activities. High winds with gusts up to 50 mph were common during April event.

4.2 SEDIMENT INVESTIGATION METHODOLOGY

4.2.1 SAMPLE AND SEDIMENT MEASUREMENT LOCATIONS

In order to more accurately locate appropriate and representative sediment sample and measurement locations, a grid with approximately 40 foot spacing was marked off for each lagoon and pond. Five representative sediment sample locations and five representative sediment measurement locations were selected for each lagoon. As shown on Figure 1, eight sample and eight measurement locations were selected for Evaporation Pond 1. The locations of the lagoon and pond influents, effluents, and aerators were considered when determining representative sample locations. The grids illustrated on Figure 1 were staked by Trihydro field personnel using the corners of the lagoons and pond as reference points. The density of sample locations and measuring points allowed Trihydro field personnel to sufficiently characterize the lagoons and pond.

4.2.2 SEDIMENT MEASUREMENTS

Sediment measurements in the aeration lagoons were obtained with two measuring devices: a graduated 2-inch capped PVC pipe and a graduated ¾-inch steel pole. Sediment measurements were collected at the sample locations and at the

additional measuring point locations using these two devices. The top of the soft sediment was measured by gradually inserting the PVC pipe until a slight amount of resistance was felt. The PVC was then pressed down with force until refusal was encountered. The depth that refusal with the PVC pipe was encountered is the estimated depth to the top of the hardpack sediment. For consistency, the same person took all measurements using the PVC pipe. The graduated ¾-inch steel pole was then driven to the bottom of the lagoon until refusal encountered. Due to the narrower diameter, the lack of buoyancy, and the added weight of the steel pole, it was able to be driven deeper into the sediment than the 2-inch PVC pipe. The depth at which the steel pole encountered refusal is estimated to be the bottom of the lagoon. For consistency, the same person took all measurements using the steel pole. Table 1 shows the sediment depths and thicknesses of all sampling and measuring points.

Sediment measurements were collected in a slightly different manner in Evaporation Pond 1. Evaporation Pond 1 had deeper water than the aeration lagoons. The deeper water made collecting sediment measurements with the PVC pipe difficult. Therefore, the ¾-inch graduated steel pole was used to record sediment measurements in Evaporation Pond 1 which contains only one distinct sediment interval. The steel pole was gradually inserted into the water until a slight amount of resistance was encountered. This depth is the estimated depth of the top of the soft sediment. The steel pole was then driven into the sediment until refusal was encountered. The depth at which the steel pole encountered refusal was taken to be the depth of the bottom of the pond. For consistency, the same person took all measurements using the steel pole in Evaporation Pond 1.

4.2.3 SEDIMENT SAMPLING

Several procedures were utilized to sample the sediment depending on the anticipated sediment sample depths and consistencies. The procedures and methods are discussed below.

4.2.3.1 SAMPLING METHODS AND PROCEDURES – AERATION LAGOONS

Based on the March 2008 reconnaissance field event, it was presumed that there would be two distinct layers of sediment in each of the two lagoons: a soft sediment layer and a hardpack layer. As such, two sediment samples were collected at each location. Two different sampling techniques were used to obtain representative sediment samples from the different layers: a butterfly valve-operated sediment sampler (Sediment Sampler) and a stainless steel hand auger (Auger).

Soft sediment samples were collected using the Sediment Sampler. The Sediment Sampler was pushed into the soft sediment from a boat at each sampling location. A clean, disposable, eight foot sediment core tube was used at each sample location. The core tube was driven to a sediment depth of eight feet, total depth, or until refusal was reached using a rubber mallet. Upon retrieval, the butterfly valve closes creating a suction that prevents the sediment from falling out of the bottom of the core tube. The core tube was then immediately capped until the samples could be extracted. Samples were extracted by removing the bottom and top caps off of the core tube allowing the sediment to gradually slide out onto a clean piece of plastic sheeting. Varying depths were selected at each sampling location to collect representative samples. A discrete-depth grab sample was then collected from the selected depth and placed on ice.

The Auger was used to collect discrete-depth hardpack sediment samples from sample locations in the aeration lagoons. Field personnel attempted to collect hardpack samples from as close to the original soft sediment sampling location as possible. The depths of the discrete-depth grab samples were determined in the field based on the results of the sediment measurements described in Section 4.2.2. It should be noted that much difficulty was encountered when attempting to drive the Auger to the desired sample depths. At one location, the Auger became stuck in the sediment to the extent that manual retrieval was not a safe option. Subsequently, field personnel determined that it was not safe to attempt to drive the auger to all of the desired sampled depths. As such, the Auger was driven into the sediment until the desired sample depth was achieved or until refusal. Soft sediment overlying the desired hard pack sample interval was pushed through the open top of the Auger as the Auger was driven down. After the desired depth or refusal was achieved, the hardpack sediment was extracted from the Auger, sampled, and placed on ice.

It should be noted that the soft sediment and hardpack sediment descriptions and corresponding depths on the sediment sample forms in Appendix B were obtained from the sediment collected with the Sediment Sampler and the Auger. The measurements that were used to approximate sediment volumes were obtained with the graduated, capped 2-inch PVC pipe and the graduated, ¾-inch steel pole as described in Section 4.2.2. Due to the different techniques and equipment used for sampling and measurement collecting, slight discrepancies exist between the measurements collected with the two different devices.

4.2.3.2 SAMPLING METHODS AND PROCEDURES – EVAPORATION POND 1

As mentioned in Section 2.0, no hardpack sediment was encountered in Evaporation Pond 1. Soft pack sediment sampling was performed in the same manner described for Aeration Lagoons 1 and 2. Sediment thicknesses were

much less in Evaporation Pond 1 than they were in the aeration lagoons. At sampling locations, sediment thicknesses ranged from 1.2 to 2.2 feet.

4.2.4 EQUIPMENT DECONTAMINATION PROCEDURES

Sampling equipment was decontaminated before sampling commenced and after each sample was collected. All sampling devices were decontaminated using a non-phosphate detergent solution followed by two distilled water rinses. Prior to use, the equipment was either air-dried or dried with clean paper towels. The PVC pipe and steel pole used to for collecting sediment measurements were not decontaminated in between measuring points because these devices did not come in contact with the samples.

4.2.5 FIELD DOCUMENTATION AND LOGGING

A qualified geologist was on-site to log all sediment samples. The sample logs were completed according to the Plan specifications. Sample logs are included as Appendices B. No field screening (Photo-ionization Detector) was performed because all sediment samples were collected from beneath the water of the lagoons and pond and were saturated upon retrieval.

Photographs were used to document field activities. These photographs may be used to substantiate and augment the field notes. Photographs were also taken of sediment samples that were characteristic of samples collected from the lagoons and pond. Additionally, photographs were taken to document unique features of sample media, sediment staining, or other defining features. Since the majority of the samples collected were very similar in appearance, Trihydro did not deem it necessary to take photographs of every sediment sample. Each photograph was numbered and recorded on the photograph log. The investigation photographs are included as Appendix A.

4.3 SEDIMENT CHARACTERISTICS

The sediments encountered in the aeration lagoons and Evaporation Pond 1 differed slightly. Each is described in detail below.

4.3.1 SEDIMENT CHARACTERISTICS – AERATION LAGOONS 1 AND 2

Sediment characteristics were recorded on the sediment sample forms included as Appendix B. The sediment layers encountered during sampling were not as distinct as was anticipated based on the March 2008 reconnaissance field event. A visual distinction between the two layers was not clearly evident during the April 2008 field event, however,

as described in Section 4.2.2., an attempt was made to measure the soft sediment and hardpack sediment layers in the aeration lagoons. Based on these measurements, soft sediment thickness ranged from 3.5 feet to 5.9 feet in Aeration Lagoon 1 and 5.8 feet to 8.5 feet in Aeration Lagoon 2. The sediment characteristics were similar in both ponds. The sediment is described on the sample forms as a black sludge (organic) that is generally fluid in the upper portion and thickens with depth. At some locations, varying degrees of silt content, green staining, and fibrous root content are noted. An organic odor is described throughout all sampling locations. Based on the measurements described in Section 4.2.2, the hardpack sediment ranges in thickness from 0 feet to 2.5 feet in Aeration Lagoon 1 and 0 feet to 2.2 feet in Aeration Lagoon 2. The hardpack sediment in Aeration Lagoons 1 and 2 appear to have very similar physical characteristics based on the samples collected with the Auger. The upper portion of the hardpack sediment appears to be the same as the lower portion of the soft sediment, but is slightly thicker and generally contains a greater amount of silt. The lower portion of the hardpack sediment is generally described as grey or reddish-grey clay with varying amounts of sand and silt. It is presumed that this clay is actually the base of the lagoons.

4.3.2 SEDIMENT CHARACTERISTICS – EVAPORATION POND 1

The sediment encountered in Evaporation Pond 1 appears to have very similar physical characteristics to the soft sediment encountered in the aeration lagoons. Based on the measurements described in Section 4.2.2., sediment thicknesses ranged from 1.2 feet to 5.1 feet. However, it should be noted that of the 16 locations that sediment was measured, only 5 of them had sediment thicknesses greater than 2 feet. As anticipated based on the March reconnaissance field event, only one distinct sediment layer was encountered. The sediment in Evaporation Pond 1 can generally be described as a black sludge that is fluid in the upper portions, has a silt content and thickness that increase with depth, and contains an organic odor throughout. Silt, and at some locations sand, are generally only noted in the lowest few inches of each location. Some green staining was also noted in several of the samples.

4.4 INVESTIGATION DERIVED WASTE

Excess sediment collected from the aeration lagoons and Evaporation Pond 1 was returned to the lagoons and pond from which it was collected. Wastes associated with sampling including personal protective equipment (PPE), rinse water from decontamination, and disposable sampling instruments were managed according to appropriate regulations by Gallup.

5.0 REGULATORY CRITERIA

This investigation was internally driven in order to characterize and approximate the volume of sediment in each of the lagoons and pond. As such, no regulatory screening levels have been designated as the clean up criteria of the sediment. However, since the data obtained in this investigation may be utilized to determine appropriate disposal options for the sediment upon pond/lagoon closure, Trihydro included a comparison of the analytical results to the EPA's Maximum Concentration of Contaminants for the Toxicity Characteristic and NMED's Industrial Soil Screening Levels. These comparisons are illustrated on Table 2 and described in detail in Section 7.2.

6.0 ANALYTICAL RESULTS

Laboratory sampling analyses included diesel range organics (DRO)/gasoline range organics (GRO) by USEPA method 8015, semi-volatile organic compounds (SVOCs) by USEPA method 8270, volatile organic compounds (VOCs) by USEPA method 8260, RCRA metals by USEPA method 6010C, and mercury by USEPA Method 7471. The laboratory results are included as Appendix C. The sample data is summarized in Table 2.

6.1 TOTAL PETROLEUM HYDROCARBONS (TPH)

DRO was detected in each of the sediment samples at concentrations ranging from 7,200 mg/kg to 370,000 mg/kg. MRO was detected in 11 of the 28 samples analyzed at concentrations ranging from 25,000 mg/kg to 37,000 mg/kg and was detected in each body of water including both the soft sediment and the hardpack sediment samples in the aeration lagoons. GRO was detected in each Aeration Lagoon 1 sample (soft sediment and hardpack) and one Aeration Lagoon 2 sample (soft sediment) at concentrations ranging from 150 mg/kg to 670 mg/kg. GRO was not detected in any of the Evaporation Pond 1 samples. The average total TPH concentration (DRO + MRO + GRO) for Aeration Lagoon 1, Aeration Lagoon 2, and Evaporation Pond 1 was 133,870 mg/kg, 193,343 mg/kg, and 164, 750 mg/kg, respectively. The average TPH concentrations were higher in the soft sediment samples than the hardpack sediment samples in both aeration lagoons. When comparing the average TPH concentrations of the soft sediment samples to the hardpack samples, the Aeration Lagoon 1 showed a 22 percent decrease and Aeration Lagoon 2 showed a 54 percent decrease.

6.2 METALS

The suite of metals for which the samples were analyzed consisted of arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. Of these, arsenic, barium, cadmium, chromium, lead, and mercury were detected in each sample. Selenium and silver were not detected in any samples analyzed. Arsenic concentrations ranged from 3.2 mg/kg to 47 mg/kg, barium concentrations ranged from 81 mg/kg to 500 mg/kg, cadmium concentrations ranged from 0.12 mg/kg to 6.6 mg/kg, chromium concentrations ranged from 8.3 mg/kg to 60 mg/kg, lead concentrations ranged from 9.7 mg/kg to 220 mg/kg, and mercury concentrations ranged from 2.1 mg/kg to 18 mg/kg. The average total-metal concentrations (arsenic + barium + cadmium + chromium + lead + mercury) decreased in the direction of water flow: Aeration Lagoon 1 showed an average metal concentration of 398 mg/kg, Aeration Lagoon 2 showed an average metal concentration of 349 mg/kg, and Evaporation Pond 1 showed an average metal concentration of 313 mg/kg. In Aeration Lagoon 1, the average metal concentration was 45 percent higher in the hardpack sediment than it was in the

soft sediment. In Aeration Lagoon 2, the average metal concentration was 22 percent higher in the soft sediment than it was in the hardpack sediment.

6.3 SEMI-VOLATILE ORGANIC COMPOUNDS

Each sample was analyzed for a suite of 69 SVOCs using USEPA method 8270C (see Appendix C). Of these constituents, the following compounds were detected in one or more of the lagoon and pond samples: benzo(a)anthracene, chrysene, fluorene, 2-methylnaphthalene, 3+4-methylnaphthalene, naphthalene, phenanthrene, phenol, and pyrene. The average total SVOC concentration (the sum of the above mentioned analytes) for Aeration Lagoon 1, Aeration Lagoon 2, and Evaporation Pond 1 was 609 mg/kg, 418 mg/kg, and 519 mg/kg, respectively. The average SVOC concentrations of the soft sediment samples in Aeration Lagoon 1 and 2 were 32 percent and 66 percent higher than that of the hardpack sediment samples in the lagoons, respectively.

6.4 VOLATILE ORGANIC COMPOUNDS

Each sample was analyzed for a suite of 65 VOCs using USEPA method 8260B (see Appendix C). Of these constituents, the following compounds were detected in one or more of the lagoon/pond samples: benzene, toluene, ethylbenzene, MTBE, 1,2,4-trimethylbenzne, 1,3,5-trimethylbenzene, naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, carbon disulfide, isopropylbenzene, 4-isopropyltoluene, n-butylbenzene, n-propylbenzene, sec-butylbenzene, and xylenes. The average total VOC concentrations (the sum of the above mentioned analytes) decreased in the direction of water flow. Aeration Lagoon 1 had an average total VOC concentration of 161 mg/kg, Aeration Lagoon 2 had an average total VOC concentration of 54 mg/kg, and Evaporation Pond 1 had an average total VOC concentration of 24 mg/kg. In Aeration Lagoon 1, the average total VOC concentration in the hardpack sediment was 3 percent higher than average total VOC concentrations in the soft sediment. In Aeration Lagoon 2, the average total VOC concentration was 68 percent higher in the soft sediment than it was in the hardpack sediment.

6.5 QUALITY ASSURANCE/QUALITY CONTROL PROTOCOL

Analytical data was validated through EPA Tier 1 and Tier 2 data validation standards. Analytical parameters, such as surrogate recoveries and duplicate sample analyses, were reviewed to verify the quality of data submitted. Laboratory data were also validated to verify that the samples were analyzed according to the specified USEPA Methods. Based on the Tier II data validation, qualifiers were added to the laboratory results due to high Matrix Spike (MS) and Matrix Spike Duplicate (MSD) results, high Relative Percent Difference (RPD)s, low surrogate recoveries, and severe matrix

interference. Results were flagged with a "J", indicating that the detection value is estimated, or with a "UJ", indicating that the reporting limit is estimated. No data was rejected based on the Tier II data validation. The analytical results are included as Appendix C and the data validations are included as Appendix D. Field QAQC measures included the collection of one blind duplicate per 20 samples collected, the collection of one MS and MSD sample set, and the collection of one equipment blank per day of sampling with non-disposable sampling equipment.

7.0 CONCLUSIONS

The purpose of this report was to describe the field activities implemented to determine approximate sediment volumes and to characterize the sediment for Aeration Lagoon 1, Aeration Lagoon 2, and Evaporation Pond 1. The conclusions of the investigation are discussed below.

7.1 SEDIMENT VOLUMES

Figure 1 illustrates the approximate dimensions of Aeration Lagoon 1, Aeration Lagoon 2, Evaporation Pond 1, and the sampling and measuring point locations. These dimensions and sediment measurements were used as input parameters in SurvCAD to approximate sediment volumes for each body of water. SurvCAD volume calculations are included as Appendix E. SurvCAD estimates approximately 1464 cubic yards of soft sediment and 229 cubic yards of hardpack sediment have accumulated in Aeration Lagoon 1. SurvCAD estimates approximately 3404 cubic yards of soft sediment and 430 cubic yards of hardpack sediment have accumulated in Aeration Lagoon 2. As mentioned in Section 4.3.1, the distinction between the soft sediment and hardpack sediment in the aeration lagoons was not as evident as had been anticipated based on the March 2008 reconnaissance event. Because of this, for the purposes of disposal options, it may be easier to consider the entire sediment layer as one total volume for the lagoons. With this in mind, the total volume of sediments in Aeration Lagoons 1 and 2 are 1693 cubic yards and 3834 cubic yards, respectively. SurvCAD estimates that there is approximately 3178 cubic yards of sediment in Evaporation Pond 1. It should be noted that the above volume calculations are in-situ calculations and that the no expansion or compaction factors have been applied. If sediment removal is determined to be an appropriate option, appropriate factors should be applied.

7.2 SEDIMENT CHARACTERIZATION

Analytical results of the sediment samples are discussed in detail in Section 6 and summarized on Table 2 As previously mentioned, the data obtained during this investigation may be utilized to determine appropriate disposal options for the sediment in the evaporation pond and aeration lagoons. As such, Trihydro included a comparison of the analytical results to the EPA's Maximum Concentration of Contaminants for the Toxicity Characteristic and NMED's Industrial Soil Screening Levels. EPA's Maximum Concentrations of Contaminants for the Toxicity Characteristic may be found in CFR Title 40 Part 261 – Identification and Listing of Hazardous Waste. These numbers are generated as screening levels for Toxicity Characteristic Leaching Procedure (TCLP) method 1311. The analysis performed on the sediment samples collected for this investigation were total constituent analysis, not TCLP. EPA does allow a total constituent analysis (as performed for Gallup's sediment samples) in lieu of the TCLP extraction. However, the results

of the total constituent analysis must be divided by twenty to be compared to the TCLP screening levels. The Maximum Concentrations of Contaminants for the Toxicity Characteristic listed of Table 2 of this report have been multiplied by 20 to adjust for the different analysis. Furthermore, the multiplier of 20 assumes that the samples were 100% solid.

As shown in Table 2, elevated concentrations of lead, mercury, arsenic, and benzo(a)anthracene were identified during this investigation. When compared to the Maximum Concentrations of Contaminants for the Toxicity Characteristic, the metals concentrations show the potential for the sediment to be characteristically hazardous. However, comparisons made should be considered estimates and the final characterization of the material should be determined during profiling.

Twenty-six samples from various depths of the three bodies of water exceeded the screening adjusted Maximum Concentrations of Contaminants for the Toxicity Characteristic screening level for mercury. Three samples exceeded this screening level for lead. It should be noted that the three samples that exceeded the lead screening level were collected from the hardpack sediment of Aeration Lagoon 1.

NMED's Industrial Soil Screening Levels may be found on Table A-1 of NMED Soil Screening Levels. Ten samples exceeded the industrial soil screening level for arsenic, and one sample exceeded the industrial soil screening level for benzo(a)anthracene. The arsenic exceedences came from the soft sediment and hardpack sediment of Aeration Lagoon 1, the soft sediment and hardpack of Aeration Lagoon 2, and sediment obtained from Evaporation Pond 1. The benzo(a)antrhacene exceedence came from Evaporation Pond 1.

It is important to note that since this investigation was internally driven, no official screening standards have been set and that disposal methods should not be determined based on the above mentioned exceedences. If the sediment is to be shipped off-site for disposal, TCLP analysis will likely be required to make a hazardous/non-hazardous determination.

TABLES

TABLE 1. SEDIMENT DEPTH AND THICKNESS MEASUREMENTS,
GALLUP REFINERY, WESTERN REFINING COMPANY, GALLUP, NEW MEXICO

Aeration Lagoon 1						
Measuring Point	Depth to Soft Sediment	Soft Sediment Thickness	Depth to Hardpack	Hardpack Thickness	Total Depth	Total Sediment Thickness
AL1-1	3.0	3.5	6.5	2.5	9.0	6.0
AL1-2	1.0	3.5	None	0.0	4.5	3.5
AL1-3	4.0	4.5	8.5	0.6	9.1	5.1
AL1-4	1.0	5.3	6.3	1.2	7.5	6.5
AL1-5	2.5	4.0	6.5	0.5	7.0	4.5
AL1-A	0.5	4.2	None	0.0	4.7	4.2
AL1-B	2.0	5.9	None	0.0	7.9	5.9
AL1-C	5.0	3.2	8.2	0.4	8.6	3.6
AL1-D	1.0	5.3	None	0.0	6.3	5.3
AL1-E	0.5	4.5	None	0.0	5.0	4.5

Aeration Lagoon 2						
Measuring Point	Depth to Soft Sediment	Soft Sediment Thickness	Depth to Hardpack	Hardpack Thickness	Total Depth	Total Sediment Thickness
AL2-1	1.5	7.3	8.8	0.7	9.5	8.0
AL2-2	2.0	7.5	None	0.0	9.5	7.5
AL2-3	2.5	8.5	11.0	1.1	12.1	9.6
AL2-4	1.5	8.0	9.5	0.8	10.3	8.8
AL2-5	1.5	6.5	8.0	1.5	9.5	8.0
AL2-A	1.5	8.2	9.7	0.8	10.5	9.0
AL2-B	1.5	8.2	9.7	1.3	11.0	9.5
AL2-C	2.0	8.0	10.0	0.5	10.5	8.5
AL2-D	2.0	6.7	8.7	2.2	10.8	8.8
AL2-E	4.0	5.8	9.8	0.7	10.5	6.5

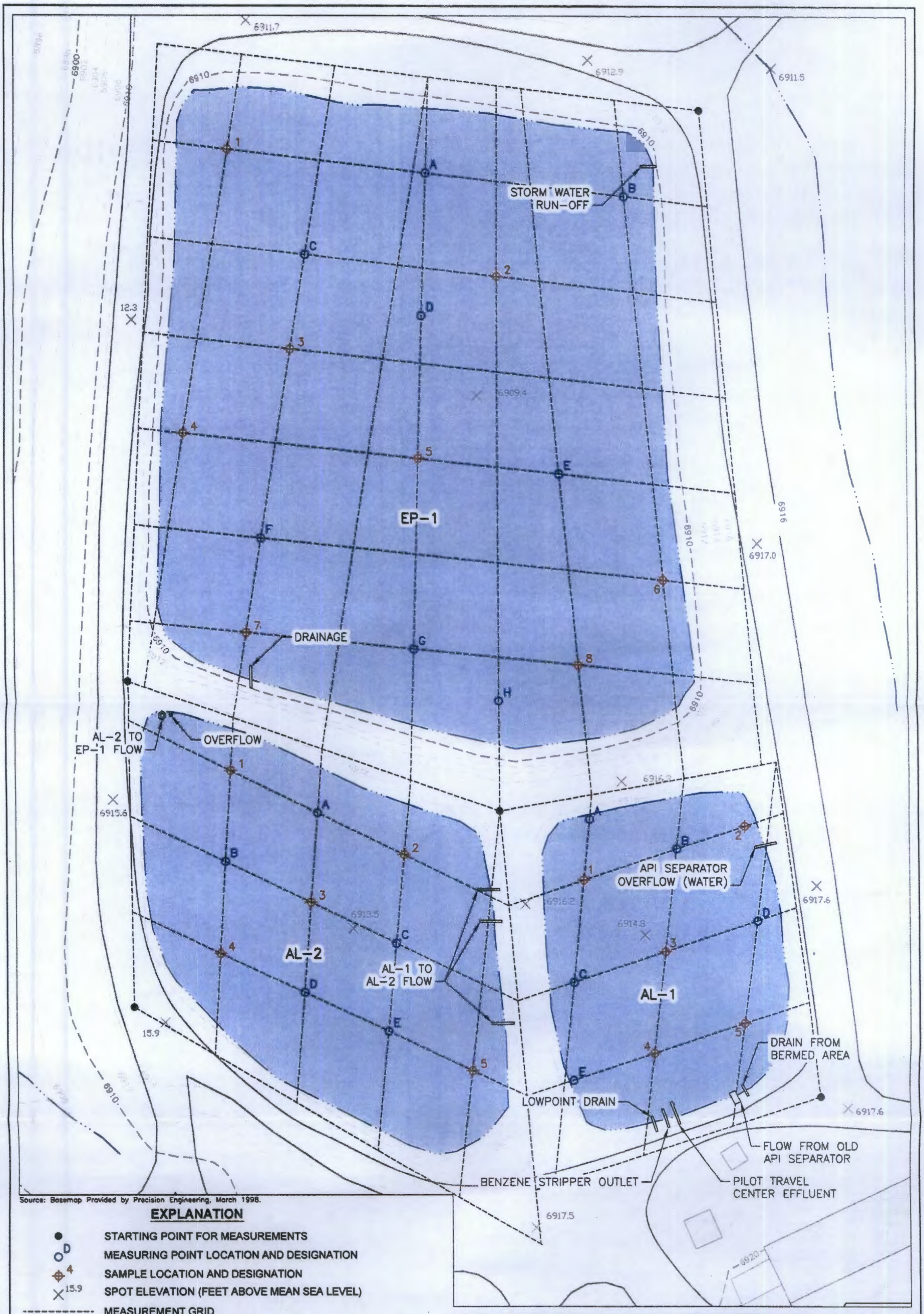
Evaporation Pond 1						
Measuring Point	Depth to Soft Sediment	Soft Sediment Thickness	Depth to Hardpack	Hardpack Thickness	Total Depth	Total Sediment Thickness
EP1-1	5.5	2.2	None	None	7.7	2.2
EP1-2	9.7	1.3	None	None	11.0	1.3
EP1-3	7.9	1.7	None	None	9.6	1.7
EP1-4	7.8	1.5	None	None	9.3	1.5
EP1-5	11.4	1.3	None	None	12.7	1.3
EP1-6	4.3	1.5	None	None	5.8	1.5
EP1-7	6.8	1.2	None	None	8.0	1.2
EP1-8	5.3	1.7	None	None	7.0	1.7
EP1-A	10.0	1.6	None	None	11.6	1.6
EP1-B	6.0	2.1	None	None	8.1	2.1
EP1-C	7.5	4.3	None	None	11.8	4.3
EP1-D	7.3	5.1	None	None	12.4	5.1
EP1-E	5.1	1.5	None	None	6.6	1.5
EP1-F	6.9	1.8	None	None	8.7	1.8
EP1-G	8.0	3.2	None	None	11.2	3.2
EP1-H	6.0	1.6	None	None	7.6	1.6

TABLE 2. ANALYTICAL DATA SUMMARY,
GALLUP REFINERY, WESTERN REFINING COMPANY, GALLUP, NEW MEXICO

		TPH			Metals						SVOCs										VOCs															
Sample ID	Sample Depth (ft below top of sediment)	DRO (mg/kg)	MRO (mg/kg)	GRO (mg/kg)	Mercury (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Benzo(a) anthracene (mg/kg)	Chrysene (mg/kg)	Fluorene (mg/kg)	2-Methyl naphthalene as SVOC (mg/kg)	3+4-Methylphenol (mg/kg)	Naphthalene as SVOC (mg/kg)	Phenanthrene (mg/kg)	Phenol (mg/kg)	Pyrene (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	MTBE (mg/kg)	1,2,4-Trimethyl benzene (mg/kg)	1,3,5-Trimethyl benzene (mg/kg)	Naphthalene as VOC (mg/kg)	1-Methyl naphthalene (mg/kg)	2-Methyl naphthalene as VOC (mg/kg)	Carbon disulfide (mg/kg)	Isopropyl benzene (mg/kg)	4-Isopropyl toluene (mg/kg)	n-Butylbenzene (mg/kg)	n-Propyl benzene (mg/kg)	sec-Butylbenzene (mg/kg)	Xylenes (mg/kg)
AL1-1-SS	4.8	71000	ND	300	**19**	**25**	140	0.64	44	23	ND	ND	ND	190	ND	53	50	34	ND	3.6	17	4.3	ND	11	2.7	10	13	21	ND	0.64	ND	0.65	1.4	ND	27
AL1-2-SS	2.3	190000	25000	560	**11**	11	190	0.69	19	79	ND	ND	70	460	42	79	210	35	39	5.1	32	10	1.1	26	6.7	19	42	44	ND	1.8	1	2.6	4.7	1.9	56
AL1-3-SS	3.3	54000	ND	170	7	12	210	0.18	16	25	ND	ND	36	200	ND	41	84	ND	ND	1.3	5.7	1.8	ND	6.7	1.7	4	10	15	ND	ND	ND	1.7	0.85	0.82	12
AL1-4-SS	5.6	190000	ND	280	**9.5**	9.5	280	0.48	24	38	ND	33	91	530	ND	94	200	ND	44	4.2	19	5.7	ND	18	4.1	14	28	45	ND	0.79	0.56	1.3	2.4	1.3	33
AL1-5-SS	0.8	220000	ND	280	**9.9**	12	360	0.2	13	30	ND	ND	84	600	ND	110	220	ND	ND	5.9	24	6.1	1.1	16	4	14	29	43	ND	1.2	0.71	3	2.5	1.2	35
AL1-1-HP	5.5	7200	ND	240	3.1	11	150	1.2	40	23	ND	ND	ND	23	6.2	6.7	8.4	6.7	ND	1.2	6.8	2.9	ND	12	3.3	7.2	15	22	ND	0.72	0.54	2.7	1.7	0.96	18
AL1-2-HP	3.0	200000	37000	260	**5**	**23**	350	1.4	51	**110**	ND	34	40	260	98	65	140	54	ND	2.4	11	3.4	ND	10	2.8	6.5	14	20	ND	0.58	ND	2.1	1.5	0.8	20
AL1-3-HP	3.8	110000	ND	150	**6.7**	11	220	0.12	16	22	ND	ND	40	200	ND	36	100	ND	ND	2	7	1.9	ND	8.3	2	5.9	15	20	ND	0.51	0.53	2.1	1.2	0.89	12
AL1-4-HP	5.1	76000	ND	590	**8.3**	**47**	310	1.4	60	**220**	ND	31	ND	340	ND	90	84	ND	ND	3.2	22	11	ND	37	10	21	29	46	ND	1.6	0.84	7	5.9	1.8	60
AL1-5-HP	3.4	130000	25000	670	**18**	**81**	450	0.79	46	**110**	ND	ND	47	460	47	110	130	ND	ND	9	48	15	0.74	26	7.4	19	28	42	ND	2.6	0.9	4.9	4.8	1.9	81
AL2-1-SS	6.0	50000	ND	ND	**8.4**	**26**	260	6.6	30	48	ND	ND	ND	ND	150	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AL2-2-SS	4.5	260000	31000	ND	**6.8**	13	500	0.32	21	24	ND	ND	98	450	ND	38	230	ND	ND	ND	2.1	0.72	ND	4.5	1.1	5.8	26	37	ND	ND	ND	1	ND	ND	4.9
AL2-3-SS	0.5	300000	29000	ND	**8.9**	8.4	350	0.42	14	24	ND	ND	32	43	300	ND	ND	250	ND	47	ND	1.2	ND	ND	2.9	0.54	4.6	21	27	ND	ND	ND	0.66	ND	ND	2.8
AL2-4-SS	3.0	250000	35000	ND	**8.1**	14	190	0.42	16	32	ND	ND	44	190	ND	44	210	ND	ND	ND	1.6	0.56	ND	4.1	0.72	5.4	24	30	ND	ND	ND	1.1	ND	ND	4
AL2-5-SS	0.5	370000	ND	430	**6.8**	4.6	310	0.31	12	18	ND	ND	70	550	ND	85	250	ND	36	2.3	18	6.4	ND	17	5.6	15	43	35	ND	1.7	1	3.4	3	2	39
AL2-1-HP	7.4	120000	28000	ND	**7.4**	**18**	81	2.4	29	32	ND	42	ND	ND	99	ND	50	ND	38	ND	0.6	ND	ND	0.93	ND	ND	2.5	2.4	ND	ND	ND	ND	ND	ND	1.9
AL2-2-HP	9.8	130000	ND	ND	**6.4**	**20**	300	0.73	22	39	ND	ND	36	140	36	ND	93	ND	ND	ND	1.1	ND	ND	3	0.71	3.2	11	15	ND	ND	ND	0.56	ND	ND	3.8
AL2-3-HP	9.1	110000	ND	ND	2.1	9.8	280	0.26	15	12	ND	ND	32	110	44	ND	89	ND	ND	ND	0.53	0.62	ND	3.8	0.87	3.4	12	17	ND	ND	ND	0.89	ND	ND	4.3
AL2-4-HP	8.4	140000	29000	ND	**6.4**	**24**	270	5.2	45	55	ND	ND	ND	57	100	ND	55	43	ND	ND	1.1	ND	ND	ND	ND	1.6	5.7	7.2	ND	ND	ND	ND	ND	ND	3.2
AL2-5-HP	7.5	51000	ND	ND	**4.7**	14	160	0.62	53	23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1	ND	ND	1.1	ND	1.2	5.4	6.6	5.8	ND	ND	ND	ND	ND	1.8
EP1-1	1.1	200000	ND	ND	**6.8**	5.4	400	0.45	9.7	16	ND	45	53	370	53	31	330	ND	47	ND	0.51	ND	ND	1.5	ND	2.6	12	16	ND	ND	ND	ND	ND	ND	ND
EP1-2	1.1	150000	ND	ND	**4.4**	17	190	0.58	24	18	ND	ND	ND	58	34	ND	71	ND	ND	ND	0.51	ND	ND	1.4	ND	1.4	5.8	7.7	ND	ND	ND	ND	ND	ND	1
EP1-3	1.5	110000	ND	ND	**5.1**	6.5	220	0.43	13	15	ND	ND	47	140	60	ND	130	ND	ND	ND	0.68	ND	ND	1.2	ND	1.3	4.9	6.8	ND	ND	ND	ND	ND	ND	1.1
EP1-4	1.1	130000	27000	ND	**9.6**	**26**	330	6.4	41	39	ND	ND	59	180	86	ND	210	ND	40	ND	0.65	ND	ND	1.3	ND	1.7	6	7.6	ND	ND	ND	ND	ND	ND	1.2
EP1-5	1.1	120000	ND	ND	**6**	**25**	150	0.97	23	22	ND	57	42	130	140	ND	150	ND	48	ND	0.69	ND	ND	1.5	ND	1.9	7.1	10	ND	ND	ND	ND	ND	ND	1.7
EP1-6	0.8	180000	26000	ND	**4.1**	3.2	330	0.26	8.8	16	ND	40	70	210	ND	ND	150	ND	41	ND	0.63	ND	ND	2.2	ND	2.8	15	19	ND	ND	ND	ND	ND	ND	1.3
EP1-7	1.0	200000	25000	ND	**4.4**	3.6	280	0.27	8.3	9.7	**3.8**	74	77	260	ND	ND	240	ND	70	ND	ND	ND	ND	1.7	ND	1.7	9.1	12	ND	ND	ND	ND	ND	ND	ND
EP1-8	1.5	150000	ND	ND	**4.9**	11	120	0.8	58	15	ND	ND	41	110	ND	ND	120	ND	ND	ND	0.54	ND	ND	1.2	ND	1.6	8.1	11	ND	ND	ND	ND	ND	ND	ND
EPA Maximum Concentration of Contaminants for the Toxicity Characteristic (X 20 to adjust for total constituent concentrations)		NA	NA	NA	4	100	2000	20	100	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NMED Table A-1 Soil Screening Levels (Industrial)		NS	NA	NA	1000**	17.2	100000	564	3400*	640	23.4	2340	29200	934	NA	940	29200	180000	22300	24.5	390	132	984	845	69.2	5700	874	NA	460	359	934	58.1	62.1	5745	98

*Chromium VI screening level used.
**Elemental Mercury screening level used.
Bold concentrations indicate exceedence of EPA Maximum Concentration of Contaminants for the Toxicity Characteristic.

FIGURES



Source: Basemap Provided by Precision Engineering, March 1998.

EXPLANATION

- STARTING POINT FOR MEASUREMENTS
- D — MEASURING POINT LOCATION AND DESIGNATION
- 4 — SAMPLE LOCATION AND DESIGNATION
- 15.9 — SPOT ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- MEASUREMENT GRID
- 6910 — EXISTING CONTOURS (INTERVAL = 2 FOOT)
- DIRT ROAD
- DRAINAGE
- POND OR LAGOON
- EP-1 — EVAPORATION POND
- AL-2 — AERATION LAGOON

N

0 40'

Trihydro CORPORATION
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Laramie, Wyoming 82070
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FIGURE 1

SEDIMENT MEASUREMENT AND SAMPLE LOCATIONS FOR AERATION LAGOONS 1&2 AND EVAPORATION POND 1

WESTERN REFINING COMPANY L.L.C.
GALLUP REFINERY
GALLUP, NEW MEXICO

Drawn By: REP	Checked By: SS	Scale: 1" = 40'	Date: 4/22/08	File: 072SAMPPOINTS200804

APPENDIX A

INVESTIGATION PHOTOS



Sampling with hand auger at AL2-3

Date: 4/8/2008 Direction: S Taken By: SS
File: evap ponds 003.jpg Job Number: 697-019-001



Extracting auger core from auger at AL2-3.

Date: 4/8/2008 Direction: W Taken By: SS
File: evap ponds 004.jpg Job Number: 697-019-001



View of grey clay representative of bottom of aeration lagoons, taken from AL2-3.

Date: 4/8/2008 Direction: N Taken By: SS
File: evap ponds 005.jpg Job Number: 697-019-001



Filling AL2-3 sample jar.

Date: 4/8/2008 Direction: W Taken By: SS
File: evap ponds 006.jpg Job Number: 697-019-001



Hardpack sediment measurement instrument (3/4" graduated steel rod).

Date: 4/9/2008 Direction: E Taken By: SS
File: evap ponds 007.jpg Job Number: 697-019-001



Hardpack sediment measurement instrument (3/4" graduated steel rod) - zoom in.

Date: 4/9/2008 Direction: E Taken By: SS
File: evap ponds 008.jpg Job Number: 697-019-001



Storm water run-off pipe - Evaporation Pond 1

Date: 4/10/2008 Direction: SE Taken By: SS
File: evap ponds 009.jpg Job Number: 697-019-001



Overflow drain - Evaporation Pond 1

Date: 4/10/2008 Direction: SW Taken By: SS
File: evap ponds 010.jpg Job Number: 697-019-001



Drainage pipes - Evaporation Pond 1

Date: 4/10/2008 Direction: W Taken By: SS
File: evap ponds 011.jpg Job Number: 697-019-001



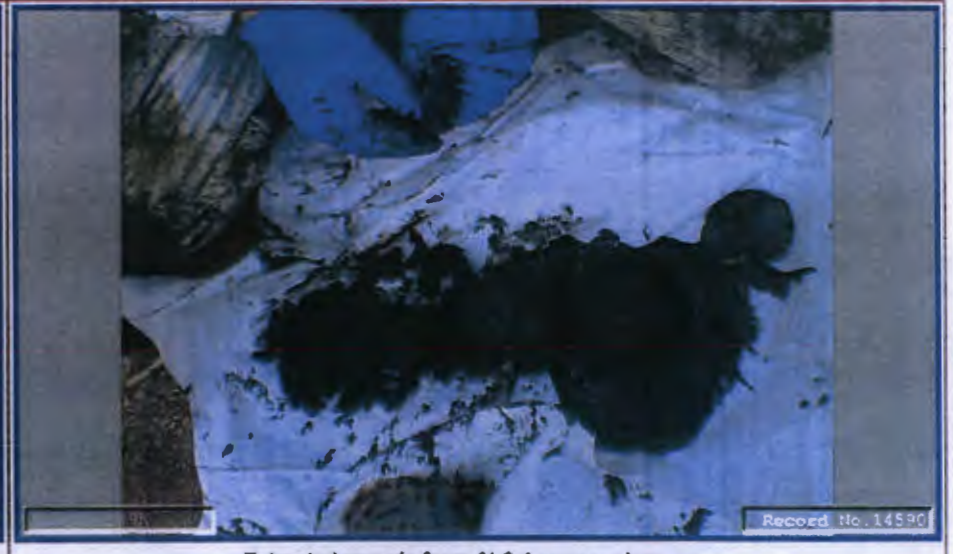
Hardpack sample from AL2-4, characterisic of the hardpack of Aeration Lagoons 1 and 2.

Date: 4/10/2008 Direction: W Taken By: SS
File: evap ponds 012.jpg Job Number: 697-019-001



Extracted sample from AL2-4 auger.

Date: 4/10/2008 Direction: W Taken By: SS
File: evap ponds 013.jpg Job Number: 697-019-001



Extracted sample from AL2-4 auger - close up.

Date: 4/10/2008 Direction: W Taken By: SS
File: evap ponds 014.jpg Job Number: 697-019-001



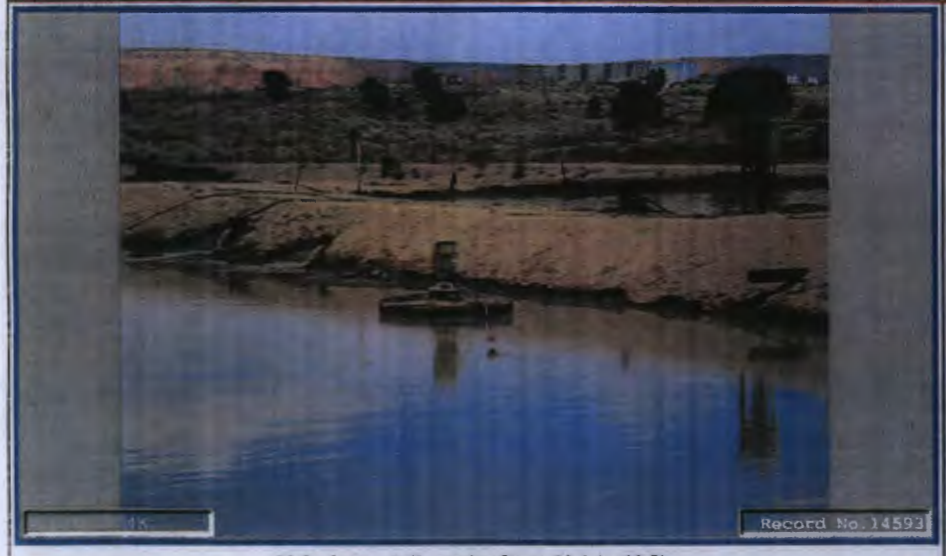
AL1 pipe - API separator water section overflow.

Date: 4/10/2008 Direction: E Taken By: SS
File: evap ponds 015.jpg Job Number: 697-019-001



AL1 pipes - (left - pilot travel ctr effluent) (middle - benzene stripper outlet) (right low point drain).

Date: 4/10/2008 Direction: NE Taken By: SS
File: evap ponds 016.jpg Job Number: 697-019-001



AL2 pipes - (all - water from AL1 to AL2).

Date: 4/10/2008 Direction: NE Taken By: SS
File: evap ponds 017.jpg Job Number: 697-019-001



AL2 pipe - flow from AL2 to EVP 1 + overflow.

Date: 4/10/2008 Direction: N Taken By: SS
File: evap ponds 018.jpg Job Number: 697-019-001



AL1 pipes - (left - drain for bermed area) (right - from old API separator to AL1)

Date: 4/10/2008 Direction: SE Taken By: SS
File: evap ponds 019.jpg Job Number: 697-019-001



Sampling AL1-3 with Sediment Sampler.

Date: 4/10/2008 Direction: NE Taken By: SS
File: evap ponds 020.jpg Job Number: 697-019-001



AL1-1 sample in auger core displaying grey clay characteristic of the bottom of both lagoons.

Date: 4/10/2008 Direction: N/A Taken By: SS
File: evap ponds 021.jpg Job Number: 697-019-001



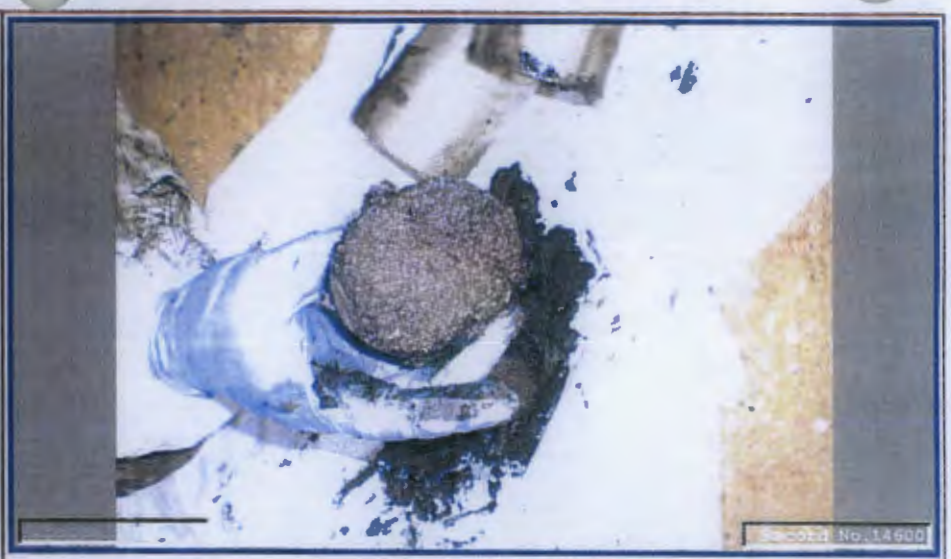
same as above, better shot of the clay.

Date: 4/10/2008 Direction: N/A Taken By: SS
File: evap ponds 022.jpg Job Number: 697-019-001



AL1-1 black silty sludge characteristic of the lower portion of most HP samples.

Date: 4/10/2008 Direction: N/A Taken By: SS
File: evap ponds 023.jpg Job Number: 697-019-001



AL1-1 showing the fibrous roots and green staining.

Date: 4/10/2008 Direction: N/A Taken By: SS
File: evap ponds 024.jpg Job Number: 697-019-001



AL1-1 HP extracted onto plastic sheeting showing the difference between the clay and the sludge.

Date: 4/10/2008 Direction: N/A Taken By: SS
File: evap ponds 025.jpg Job Number: 697-019-001

APPENDIX B

SEDIMENT SAMPLE FORMS

Sediment Sampling Field Form

Project Name:	Gallup Refinery	Sample Media:	Sediment
Sample ID:	AL1-2	Sample Date:	4/10/2008
Location:	See map	Sample Time SS:	1725
Samplers:	GP/SM	Sample Time HP:	1622
Weather:	Cold, windy	Photo Numbers:	None

Sample Description

Sampling Equipment: Auger (HP), sediment sampler (SS)

Sample Depth SS: 2' to 2.5'

Sample Depth HP: 2.7' to 3.3'

Sample Description:

Soft Sediment:

0'- 1' Black sludge, fluid, flows under own weight, very soft, organic odor.

1' - 2.5' SAA, green staining, trace silt, thicker than above, stays intact under own weight.

2.5' - 3.5' SAA, silty.

Hard Pack Sediment:

2.7' - 3.3' Black sludge, silty, very soft, organic odor, stays intact under own weight, consistency thickens with depth.

3.3' - 3.5' Grey clay, silty, some sand, soft, plastic, organic odor.

Comments: Soft sediment and hard-pack measurements used for volume calculations were collected with the graduated PVC and steel pipes as described in the report. The descriptions above were taken during sediment sampling. During sampling activities, soft sediment was defined as the deepest interval that was able to be collected with the sediment sampler and hard-pack sediment was defined as the deepest interval able to be collected with the hand auger.

Sediment Sampling Field Form

Project Name:	Gallup Refinery	Sample Media:	Sediment
Sample ID:	AL1-3	Sample Date:	4/10/2008
Location:	See map	Sample Time SS:	1735
Samplers:	GP/SM	Sample Time HP:	1445
Weather:	Cold, windy	Photo Numbers:	22

Sample Description

Sampling Equipment: Auger (HP), sediment sampler (SS)

Sample Depth SS: 3' - 3.5'

Sample Depth HP: 3.5' - 4'

Sample Description:

Soft Sediment:

0' - 1' Black sludge, fluid, flows under own weight, organic odor.

1' - 4' Black sludge, trace silt, slight green staining, very soft, barely intact under own weight, thicker w/depth, organic odor.

Hard Pack Sediment: 3.5' - 4.3'. Refusal at 4.3'.

3.5' - 4' Soupy black sludge, trace of fines, organic odor, somewhat fluid, very soft.

4' - 4.3' Grey clay, some silt/fine sand, soft, plastic, organic odor.

Comments: Soft sediment and hard-pack measurements used for volume calculations were collected with the graduated PVC and steel pipes as described in the report. The descriptions above were taken during sediment sampling. During sampling activities, soft sediment was defined as the deepest interval that was able to be collected with the sediment sampler and hard-pack sediment was defined as the deepest interval able to be collected with the hand auger.

Sediment Sampling Field Form

Project Name:	Gallup Refinery	Sample Media:	Sediment
Sample ID:	AL1-4	Sample Date:	4/10/2008
Location:	See map	Sample Time SS:	1755
Samplers:	GP/SM	Sample Time HP:	1050
Weather:	Cold, windy	Photo Numbers:	None

Sample Description

Sampling Equipment:	Auger (HP), sediment sampler (SS)
Sample Depth SS:	5.3' - 5.8'
Sample Depth HP:	4.8' - 5.3'

Sample Description:

Soft Sediment:

5.3' - 6.5' Black silty sludge, intact under own weight, some roots, slight green tint, thicker w/depth, organic odor.

Note: upper portion of SS lost during extraction, very fluid.

Hard Pack Sediment: 4.6' - 5.4' Refusal at 5.4'.

4.6' - 4.8' Black sludge, soupy, fluid, ammonia/organic odor, very soft.

4.8' - 5.3' SAA, thicker, slight green tint.

5.3' - 5.4' Grey clay, soft, some sand/silt, plastic, same odor as above.

Comments: Soft sediment and hard-pack measurements used for volume calculations were collected with the graduated PVC and steel pipes as described in the report. The descriptions above were taken during sediment sampling. During sampling activities, soft sediment was defined as the deepest interval that was able to be collected with the sediment sampler and hard-pack sediment was defined as the deepest interval able to be collected with the hand auger.

Sediment Sampling Field Form

Project Name:	Gallup Refinery	Sample Media:	Sediment
Sample ID:	AL1-5	Sample Date:	4/10/2008
Location:	See map	Sample Time SS:	800
Samplers:	GP/SM	Sample Time HP:	1020
Weather:	Cold, windy	Photo Numbers:	None

Sample Description

Sampling Equipment: Auger (HP), sediment sampler (SS)

Sample Depth SS: 0.5' - 1'

Sample Depth HP: 3' - 3.7'

Sample Description:

Soft Sediment:

0' - 3' Black silty sludge, stays intact under own weight, light green tint, very soft, some roots, organic odor.

Hard Pack Sediment: 3' - 3.8' Refusal at 3.8'.

3' - 3.7' Black sludge, stays intact under own weight, very soft, slight green tint, slight ammonia/organic odor.

3.7' - 3.8' Light grey clay, some fine sand, soft, plastic, same ammonia/organic odor.

Comments: Soft sediment and hard-pack measurements used for volume calculations were collected with the graduated PVC and steel pipes as described in the report. The descriptions above were taken during sediment sampling. During sampling activities, soft sediment was defined as the deepest interval that was able to be collected with the sediment sampler and hard-pack sediment was defined as the deepest interval able to be collected with the hand auger.

Sediment Sampling Field Form

Project Name:	Gallup Refinery	Sample Media:	Sediment
Sample ID:	AL2-1	Sample Date:	4/8/2008 - 4/9/2008
Location:	See map	Sample Time SS:	1010 4/9/2008
Samplers:	GP/SM	Sample Time HP:	1105 4/8/2008
Weather:	Cold, breezy	Photo Numbers:	None

Sample Description

Sampling Equipment: Auger (HP), sediment sampler (SS)

Sample Depth SS: 5.5' - 6.5'

Sample Depth HP: 7' - 7.8'

Sample Description:

Soft Sediment:

0'- 1.5' Black sludge, soupy, fluid, organic odor.

1.5' - 6.5' Black sludge, much thicker, light green tint, soft, horse manure odor, plastic, fibrous roots, organic material, fibrous.

Hard Pack Sediment:

7' - 7.8' Black sludge, silty, some clay, roots (fuzzy), slight ammonia odor, soft, plastic.

Comments: Soft sediment and hard-pack measurements used for volume calculations were collected with the graduated PVC and steel pipes as described in the report. The descriptions above were taken during sediment sampling. During sampling activities, soft sediment was defined as the deepest interval that was able to be collected with the sediment sampler and hard-pack sediment was defined as the deepest interval able to be collected with the hand auger.

Sediment Sampling Field Form

Project Name:	Gallup Refinery	Sample Media:	Sediment
Sample ID:	AL2-2	Sample Date:	4/8/2008
Location:	See map	Sample Time SS:	1555
Samplers:	GP/SM	Sample Time HP:	1515
Weather:	Cold, light wind	Photo Numbers:	3-6

Sample Description

Sampling Equipment: Auger (HP), sediment sampler (SS)

Sample Depth SS: 4' - 5'

Sample Depth HP: 6.4' - 6.8'

Sample Description:

Soft Sediment:

0'- 6' Black sludge, soupy, thicker towards bottom (~2'- 6'), slight organic odor, not ammonia.

Hard Pack Sediment: 6.4' - 7.3' Refusal at 7.3'.

6.4' - 6.8' Black sludge, very soft, soupy, some roots, slight odor, fluid, trace of green throughout.

6.8' - 7.3' Grey clay, some silt-fine sand, soft, plastic, trace gravel, roots, no odor, red in lowest inch.

Comments: BD-1 collected at 4' - 5'

Auger became stuck in mud at 7.3'. Had to pull out with truck. Bent auger extension, sample from 6.4' - 7.3' retrieved.

Soft sediment and hard-pack measurements used for volume calculations were collected with the graduated PVC and steel pipes as described in the report. The descriptions above were taken during sediment sampling. During sampling activities, soft sediment was defined as the deepest interval that was able to be collected with the sediment sampler and hard-pack sediment was defined as the deepest interval able to be collected with the hand auger.

Sediment Sampling Field Form

Project Name:	Gallup Refinery	Sample Media:	Sediment
Sample ID:	AL2-3	Sample Date:	4/8/2008 - 4/9/2008
Location:	See map	Sample Time SS:	1000 (4/9/2008)
Samplers:	GP/SM	Sample Time HP:	1215 (4/8/2008)
Weather:	Warm, breezy	Photo Numbers:	3

Sample Description

Sampling Equipment: Auger (HP), sediment sampler (SS)

Sample Depth SS: 0' - 1'

Sample Depth HP: 8.8' - 9.4'

Sample Description:

Soft Sediment:

0'- 5.5' Black sludge, very soft, fluid, thicker with depth, organic odor, plastic, trace roots throughout.

Hard Pack Sediment: 8.8' - 9.6' Refusal at 9.6'.

8.8' - 9.4' Black silty sludge, somewhat soupy, slight ammonia odor, very soft, plastic.

9.4' - 9.6' Grey clay, some silt and fine sand, medium soft, plastic.

Comments: MS/MSD were collected at this location from 0' - 1'. Auger was very difficult to pull.

Soft sediment and hard-pack measurements used for volume calculations were collected with the graduated PVC and steel pipes as described in the report. The descriptions above were taken during sediment sampling. During sampling activities, soft sediment was defined as the deepest interval that was able to be collected with the sediment sampler and hard-pack sediment was defined as the deepest interval able to be collected with the hand auger.

Sediment Sampling Field Form

Project Name:	Gallup Refinery	Sample Media:	Sediment
Sample ID:	AL2-4	Sample Date:	4/8/2008 - 4/9/2008
Location:	See map	Sample Time SS:	1025 (4/9/2008)
Samplers:	GP/SM	Sample Time HP:	1015 (4/8/2008)
Weather:	Cool, breezy	Photo Numbers:	12-15

Sample Description

Sampling Equipment: Auger (HP), sediment sampler (SS)

Sample Depth SS: 2.5' - 3.5'

Sample Depth HP: 8' - 8.8'

Sample Description:

Soft Sediment:

0'- 1.5' Black sludge, very fluid, very soft, organic odor.

1.5' - 6.5' Black sludge, soft, but slightly thicker than other AL2 locations, organic odor, plastic.

Hard Pack Sediment:

8' - 8.8' Black sludge w/some silt, soft, plastic, ammonia odor, some fibrous roots.

Comments: BD-2 collected at 2.5' - 3.5'.

Soft sediment and hard-pack measurements used for volume calculations were collected with the graduated PVC and steel pipes as described in the report. The descriptions above were taken during sediment sampling. During sampling activities, soft sediment was defined as the deepest interval that was able to be collected with the sediment sampler and hard-pack sediment was defined as the deepest interval able to be collected with the hand auger.

Sediment Sampling Field Form

Project Name:	Gallup Refinery	Sample Media:	Sediment
Sample ID:	AL2-5	Sample Date:	4/9/2008
Location:	See map	Sample Time SS:	940
Samplers:	GP/SM	Sample Time HP:	820
Weather:	Cold, windy	Photo Numbers:	None

Sample Description

Sampling Equipment: Auger (HP), sediment sampler (SS)

Sample Depth SS: 0' - 1'

Sample Depth HP: 7.2' - 7.8'

Sample Description:

Soft Sediment:

0'-1.5' Black sludge, very soft, fluid, organic odor. Lower 5' of soft sediment lost during retrieval.

Hard Pack Sediment:

7.2' - 7.8' Black sludge, trace fines, slight odor, very soft, plastic.

7.8' - 8' Reddish-grey clay, sandy, fine grained, soft, plastic, no odor.

Comments: Soft sediment and hard-pack measurements used for volume calculations were collected with the graduated PVC and steel pipes as described in the report. The descriptions above were taken during sediment sampling. During sampling activities, soft sediment was defined as the deepest interval that was able to be collected with the sediment sampler and hard-pack sediment was defined as the deepest interval able to be collected with the hand auger.

Sediment Sampling Field Form

Project Name:	Gallup Refinery	Sample Media:	Sediment
Sample ID:	EP1-1	Sample Date:	4/9/2008
Location:	See map	Sample Time SS:	1825
Samplers:	GP/SM	Sample Time HP:	X
Weather:	Cold, windy	Photo Numbers:	None

Sample Description

Sampling Equipment:	Sediment sampler
Sample Depth SS:	0.8' - 1.3'
Sample Depth HP:	X

Sample Description:

Soft Sediment:

0' - 0.8' Soupy black sludge, flows under own weight, slight green tint, strong manure smell, too soupy to sample.

0.8' - 1.6' Black sludge, thicker than above, still soupy, very soft, strong manure odor, almost fluid, green tint.

1.6' - 2.2' Black sludge, thicker than above, soft, clayey, less odor, no green, some silt/sand in lowest 2".

Hard Pack Sediment:

None.

Comments:

There was no hard-pack detected in Evaporation Pond 1. Sediment measurements were collected with a graduated steel pole.

Sediment Sampling Field Form

Project Name:	Gallup Refinery	Sample Media:	Sediment
Sample ID:	EP1-2	Sample Date:	4/9/2008
Location:	See map	Sample Time SS:	1845
Samplers:	GP/SM	Sample Time HP:	X
Weather:	Cold, breezy	Photo Numbers:	None

Sample Description

Sampling Equipment:	Sediment sampler
Sample Depth SS:	0.8' - 1.3'
Sample Depth HP:	X

Sample Description:

Soft Sediment:

0' - 0.8' Soupy black sludge, too thin to sample, flows under own weight, slight organic odor.

0.8' - 1.6' Black sludge, thicker than above, stays intact under own weight, some roots, slight odor, trace clayey, silty sand in lower 2", very soft.

Hard Pack Sediment:

None

Comments:

There was no hard-pack detected in Evaporation Pond 1. Sediment measurements were collected with a graduated steel pole.

Sediment Sampling Field Form

Project Name:	Gallup Refinery	Sample Media:	Sediment
Sample ID:	EP1-3	Sample Date:	4/9/2008
Location:	See map	Sample Time SS:	1815
Samplers:	GP/SM	Sample Time HP:	X
Weather:	Cold, very windy	Photo Numbers:	None

Sample Description

Sampling Equipment:	Sediment sampler
Sample Depth SS:	1.2' - 1.7'
Sample Depth HP:	X

Sample Description:

Soft Sediment:

0' - 1.2' Soupy black sludge, fluid, organic odor, slightly thicker w/depth, flows under own weight

1.2' - 1.7' Black sludge, thicker than above, cohesive, remains intact under own weight, very soft, slightly clayey, organic odor, sandy & silty in lowest inch.

Hard Pack Sediment:

None.

Comments:

There was no hard-pack detected in Evaporation Pond 1. Sediment measurements were collected with a graduated steel pole.

Sediment Sampling Field Form

Project Name:	Gallup Refinery	Sample Media:	Sediment
Sample ID:	EP1-4	Sample Date:	4/9/2008
Location:	See map	Sample Time SS:	1800
Samplers:	GP/SM	Sample Time HP:	X
Weather:	Cold, windy	Photo Numbers:	None

Sample Description

Sampling Equipment:	Sediment sampler
Sample Depth SS:	0.8' - 1.3'
Sample Depth HP:	X

Sample Description:

Soft Sediment:

0' - 0.7' Soupy black sludge, fluid, too fluid in sample, organic odor, very soft.

0.7' - 1.3' Black sludge, very soft, cohesive, organic odor, slightly clayey.

1.3' - 1.5' SAA, some silt, sand, and gravel.

Hard Pack Sediment:

None

Comments:

There was no hard-pack detected in Evaporation Pond 1. Sediment measurements were collected with a graduated steel pole.

Sediment Sampling Field Form

Project Name:	Gallup Refinery	Sample Media:	Sediment
Sample ID:	EP1-5	Sample Date:	4/9/2008
Location:	See map	Sample Time SS:	1745
Samplers:	GP/SM	Sample Time HP:	X
Weather:	Cold, windy	Photo Numbers:	None

Sample Description

Sampling Equipment:	Sediment sampler
Sample Depth SS:	0.8' - 1.3'
Sample Depth HP:	X

Sample Description:

Soft Sediment:

0' - 0.3' Black sludge, soupy, fluid, organic odor, very soft.

0.3' - 1.3' Black sludge, thicker, cohesive, organic odor, very soft, slightly clayey.

Hard Pack Sediment:

None

Comments:

There was no hard-pack detected in Evaporation Pond 1. Sediment measurements were collected with a graduated steel pole.

Sediment Sampling Field Form

Project Name:	Gallup Refinery	Sample Media:	Sediment
Sample ID:	EP1-6	Sample Date:	4/9/2008
Location:	See map	Sample Time SS:	1510
Samplers:	GP/SM	Sample Time HP:	X
Weather:	Cold, windy	Photo Numbers:	None

Sample Description

Sampling Equipment:	Sediment sampler
Sample Depth SS:	0.5' - 1.0'
Sample Depth HP:	X

Sample Description:

Soft Sediment:

0' - 0.5' Soupy black sludge, very thin, too thin to sample, fluid, slight organic odor.

0.5' - 1.3' Soupy black sludge, slightly thicker than above, still flows under own weight, just thick enough to sample, slight organic odor.

1.3' - 1.5' Black sludge, clayey, silty, some fine sand, stays intact under own weight, soft, plastic, slight organic odor.

Hard Pack Sediment:

None

Comments:

There was no hard-pack detected in Evaporation Pond 1. Sediment measurements were collected with a graduated steel pole.

Sediment Sampling Field Form

Project Name:	Gallup Refinery	Sample Media:	Sediment
Sample ID:	EP1-7	Sample Date:	4/9/2008
Location:	See map	Sample Time SS:	1935
Samplers:	GP/SM	Sample Time HP:	X
Weather:	Cold, very windy	Photo Numbers:	None

Sample Description

Sampling Equipment:	Sediment sampler
Sample Depth SS:	0.7' - 1.2'
Sample Depth HP:	X

Sample Description:

Soft Sediment:

0' - 0.7' Extremely soupy black sludge, very fluid, too thin to sample, slight organic odor.

0.7' - 1.2' Soupy black sludge, flows under own weight, slightly thicker than above, slight organic odor, no fines or sand.

Hard Pack Sediment:

None

Comments: May have lost a few inches out of core on retrieval.

There was no hard-pack detected in Evaporation Pond 1. Sediment measurements were collected with a graduated steel pole.

Sediment Sampling Field Form

Project Name:	Gallup Refinery	Sample Media:	Sediment
Sample ID:	EP1-8	Sample Date:	4/9/2008
Location:	See map	Sample Time SS:	1917
Samplers:	GP/SM	Sample Time HP:	X
Weather:	Cold, very windy	Photo Numbers:	None

Sample Description

Sampling Equipment:	Sediment sampler
Sample Depth SS:	1.2' - 1.7'
Sample Depth HP:	X

Sample Description:

Soft Sediment:

0' - 0.8' Soupy black sludge, very thin, flows readily under own weight, too thin to sample, slight organic odor.

0.8' - 1.7' Soupy black sludge, slightly thicker than above, still flows under own weight, no fines or sand in lower portions as with most other EP1 samples, slight organic odor.

Hard Pack Sediment:

None

Comments:

There was no hard-pack detected in Evaporation Pond 1. Sediment measurements were collected with a graduated steel pole.

HALL
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COVER LETTER

Tuesday, April 29, 2008

Regina Allen
Western Refining Southwest, Gallup
Rt. 3 Box 7
Gallup, NM 87301

TEL: (505) 722-3833
FAX (505) 722-0210

RE: Evaporation Pond/Aeration Lagoon

Order No.: 0804138

Dear Regina Allen:

Hall Environmental Analysis Laboratory, Inc. received 34 sample(s) on 4/11/2008 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

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

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

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

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

Hall Environmental Analysis Laboratory, Inc. Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup
Project:	Evaporation Pond/Aeration Lagoon
Lab Order:	0804138

CASE NARRATIVE

"S" flags denote that the surrogate was not recoverable, or low, due to sample dilution and/or matrix interferences.

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-3
Lab Order:	0804138	**Collection Date:**	4/9/2008 6:15:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-01	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: SCC
Diesel Range Organics (DRO)	110000	5000		mg/Kg	50	4/16/2008 9:43:15 PM
Motor Oil Range Organics (MRO)	ND	25000		mg/Kg	50	4/16/2008 9:43:15 PM
Surr: DNOP	0	61.7-135	S	%REC	50	4/16/2008 9:43:15 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/18/2008 4:08:55 AM
Surr: BFB	100	84-138		%REC	20	4/18/2008 4:08:55 AM
EPA METHOD 7471: MERCURY						Analyst: SNV
Mercury	5.1	1.6		mg/Kg	50	4/18/2008 4:31:44 PM
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Arsenic	6.5	2.5		mg/Kg	1	4/16/2008 8:17:06 AM
Barium	220	1.0		mg/Kg	10	4/16/2008 9:24:16 AM
Cadmium	0.43	0.10		mg/Kg	1	4/16/2008 8:17:06 AM
Chromium	13	0.30		mg/Kg	1	4/16/2008 8:17:06 AM
Lead	15	0.25		mg/Kg	1	4/16/2008 8:17:06 AM
Selenium	ND	25		mg/Kg	10	4/16/2008 9:24:16 AM
Silver	ND	0.25		mg/Kg	1	4/16/2008 8:17:06 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	30		mg/Kg	1	4/17/2008
Acenaphthylene	ND	30		mg/Kg	1	4/17/2008
Aniline	ND	30		mg/Kg	1	4/17/2008
Anthracene	ND	30		mg/Kg	1	4/17/2008
Azobenzene	ND	30		mg/Kg	1	4/17/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/17/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/17/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/17/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/17/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/17/2008
Benzoic acid	ND	50		mg/Kg	1	4/17/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/17/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/17/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/17/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/17/2008
Carbazole	ND	30		mg/Kg	1	4/17/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/17/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/17/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-3
Lab Order:	0804138	**Collection Date:**	4/9/2008 6:15:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-01	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/17/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/17/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/17/2008
Chrysene	ND	30		mg/Kg	1	4/17/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/17/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/17/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/17/2008
Dibenzofuran	ND	30		mg/Kg	1	4/17/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/17/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/17/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/17/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/17/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/17/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/17/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/17/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/17/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/17/2008
Fluoranthene	ND	38		mg/Kg	1	4/17/2008
Fluorene	47	30		mg/Kg	1	4/17/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/17/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/17/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/17/2008
Hexachloroethane	ND	30		mg/Kg	1	4/17/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/17/2008
Isophorone	ND	75		mg/Kg	1	4/17/2008
2-Methylnaphthalene	140	38		mg/Kg	1	4/17/2008
2-Methylphenol	ND	75		mg/Kg	1	4/17/2008
3+4-Methylphenol	60	30		mg/Kg	1	4/17/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/17/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/17/2008
Naphthalene	ND	30		mg/Kg	1	4/17/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/17/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/17/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/17/2008
Nitrobenzene	ND	75		mg/Kg	1	4/17/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/17/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/17/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/17/2008
Phenanthrene	130	30		mg/Kg	1	4/17/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-3
Lab Order:	0804138	**Collection Date:**	4/9/2008 6:15:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-01	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	ND	30		mg/Kg	1	4/17/2008
Pyrene	ND	30		mg/Kg	1	4/17/2008
Pyridine	ND	75		mg/Kg	1	4/17/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/17/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/17/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/17/2008
Surr: 2,4,6-Tribromophenol	53.6	35.5-141		%REC	1	4/17/2008
Surr: 2-Fluorobiphenyl	65.7	30.4-128		%REC	1	4/17/2008
Surr: 2-Fluorophenol	66.3	28.1-129		%REC	1	4/17/2008
Surr: 4-Terphenyl-d14	41.9	34.6-151		%REC	1	4/17/2008
Surr: Nitrobenzene-d5	81.0	26.5-122		%REC	1	4/17/2008
Surr: Phenol-d5	70.0	37.6-118		%REC	1	4/17/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Toluene	0.68	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Ethylbenzene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
1,2,4-Trimethylbenzene	1.2	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
1,3,5-Trimethylbenzene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Naphthalene	1.3	1.0		mg/Kg	10	4/19/2008 1:50:50 PM
1-Methylnaphthalene	4.9	2.0		mg/Kg	10	4/19/2008 1:50:50 PM
2-Methylnaphthalene	6.8	2.0		mg/Kg	10	4/19/2008 1:50:50 PM
Acetone	ND	7.5		mg/Kg	10	4/19/2008 1:50:50 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Bromoform	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Bromomethane	ND	1.0		mg/Kg	10	4/19/2008 1:50:50 PM
2-Butanone	ND	5.0		mg/Kg	10	4/19/2008 1:50:50 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/19/2008 1:50:50 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/19/2008 1:50:50 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Chloroethane	ND	1.0		mg/Kg	10	4/19/2008 1:50:50 PM
Chloroform	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Chloromethane	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
1,2-Dibromo-3-chloropropane	* ND	1.0		mg/Kg	10	4/19/2008 1:50:50 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-3
Lab Order:	0804138	**Collection Date:**	4/9/2008 6:15:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-01	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Dibromochloromethane	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Dibromomethane	ND	1.0		mg/Kg	10	4/19/2008 1:50:50 PM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/19/2008 1:50:50 PM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/19/2008 1:50:50 PM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/19/2008 1:50:50 PM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/19/2008 1:50:50 PM
2-Hexanone	ND	5.0		mg/Kg	10	4/19/2008 1:50:50 PM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/19/2008 1:50:50 PM
Methylene chloride	ND	1.5		mg/Kg	10	4/19/2008 1:50:50 PM
n-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Styrene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/19/2008 1:50:50 PM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/19/2008 1:50:50 PM
Vinyl chloride	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Xylenes, Total	1.1	1.0		mg/Kg	10	4/19/2008 1:50:50 PM
Surr: 1,2-Dichloroethane-d4	94.3	68.7-122		%REC	10	4/19/2008 1:50:50 PM
Surr: 4-Bromofluorobenzene	89.3	79.3-126		%REC	10	4/19/2008 1:50:50 PM
Surr: Dibromofluoromethane	79.0	64.4-119		%REC	10	4/19/2008 1:50:50 PM
Surr: Toluene-d8	101	86.5-121		%REC	10	4/19/2008 1:50:50 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-4
Lab Order:	0804138	**Collection Date:**	4/9/2008 6:00:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-02	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	130000	5000		mg/Kg	50	4/16/2008 10:17:20 PM
Motor Oil Range Organics (MRO)	27000	25000		mg/Kg	50	4/16/2008 10:17:20 PM
Surr: DNOP	0	61.7-135	S	%REC	50	4/16/2008 10:17:20 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/18/2008 4:38:57 AM
Surr: BFB	111	84-138		%REC	20	4/18/2008 4:38:57 AM
EPA METHOD 7471: MERCURY						Analyst: **SNV**
Mercury	9.6	1.6		mg/Kg	50	4/18/2008 4:33:14 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **NMO**
Arsenic	26	2.5		mg/Kg	1	4/21/2008 9:26:55 AM
Barium	330	1.0		mg/Kg	10	4/21/2008 11:36:16 AM
Cadmium	6.4	0.10		mg/Kg	1	4/21/2008 9:26:55 AM
Chromium	41	0.30		mg/Kg	1	4/21/2008 9:26:55 AM
Lead	39	0.25		mg/Kg	1	4/28/2008 7:48:13 AM
Selenium	ND	25		mg/Kg	10	4/21/2008 11:36:16 AM
Silver	ND	0.25		mg/Kg	1	4/21/2008 9:26:55 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	30		mg/Kg	1	4/17/2008
Acenaphthylene	ND	30		mg/Kg	1	4/17/2008
Aniline	ND	30		mg/Kg	1	4/17/2008
Anthracene	ND	30		mg/Kg	1	4/17/2008
Azobenzene	ND	30		mg/Kg	1	4/17/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/17/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/17/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/17/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/17/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/17/2008
Benzoic acid	ND	50		mg/Kg	1	4/17/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/17/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/17/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/17/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/17/2008
Carbazole	ND	30		mg/Kg	1	4/17/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/17/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/17/2008

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-4
Lab Order:	0804138	**Collection Date:**	4/9/2008 6:00:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-02	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/17/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/17/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/17/2008
Chrysene	ND	30		mg/Kg	1	4/17/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/17/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/17/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/17/2008
Dibenzofuran	ND	30		mg/Kg	1	4/17/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/17/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/17/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/17/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/17/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/17/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/17/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/17/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/17/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/17/2008
Fluoranthene	ND	38		mg/Kg	1	4/17/2008
Fluorene	59	30		mg/Kg	1	4/17/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/17/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/17/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/17/2008
Hexachloroethane	ND	30		mg/Kg	1	4/17/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/17/2008
Isophorone	ND	75		mg/Kg	1	4/17/2008
2-Methylnaphthalene	180	38		mg/Kg	1	4/17/2008
2-Methylphenol	ND	75		mg/Kg	1	4/17/2008
3+4-Methylphenol	86	30		mg/Kg	1	4/17/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/17/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/17/2008
Naphthalene	ND	30		mg/Kg	1	4/17/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/17/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/17/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/17/2008
Nitrobenzene	ND	75		mg/Kg	1	4/17/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/17/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/17/2008
Pentachlorophenol	ND	60		mg/Kg	1	4/17/2008
Phenanthrene	210	30		mg/Kg	1	4/17/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-4
Lab Order:	0804138	**Collection Date:**	4/9/2008 6:00:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-02	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	ND	30		mg/Kg	1	4/17/2008
Pyrene	40	30		mg/Kg	1	4/17/2008
Pyridine	ND	75		mg/Kg	1	4/17/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/17/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/17/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/17/2008
Surr: 2,4,6-Tribromophenol	37.2	35.5-141		%REC	1	4/17/2008
Surr: 2-Fluorobiphenyl	72.3	30.4-128		%REC	1	4/17/2008
Surr: 2-Fluorophenol	92.1	28.1-129		%REC	1	4/17/2008
Surr: 4-Terphenyl-d14	41.5	34.6-151		%REC	1	4/17/2008
Surr: Nitrobenzene-d5	86.2	26.5-122		%REC	1	4/17/2008
Surr: Phenol-d5	74.8	37.6-118		%REC	1	4/17/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
Toluene	0.65	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
Ethylbenzene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
1,2,4-Trimethylbenzene	1.3	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
1,3,5-Trimethylbenzene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
Naphthalene	1.7	1.0		mg/Kg	10	4/19/2008 2:26:21 PM
1-Methylnaphthalene	6.0	2.0		mg/Kg	10	4/19/2008 2:26:21 PM
2-Methylnaphthalene	7.6	2.0		mg/Kg	10	4/19/2008 2:26:21 PM
Acetone	ND	7.5		mg/Kg	10	4/19/2008 2:26:21 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
Bromoform	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
Bromomethane	ND	1.0		mg/Kg	10	4/19/2008 2:26:21 PM
2-Butanone	ND	5.0		mg/Kg	10	4/19/2008 2:26:21 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/19/2008 2:26:21 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/19/2008 2:26:21 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
Chloroethane	ND	1.0		mg/Kg	10	4/19/2008 2:26:21 PM
Chloroform	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
Chloromethane	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/19/2008 2:26:21 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-4
Lab Order:	0804138	**Collection Date:**	4/9/2008 6:00:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-02	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
Dibromomethane	ND	1.0		mg/Kg	10	4/19/2008 2:26:21 PM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/19/2008 2:26:21 PM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/19/2008 2:26:21 PM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/19/2008 2:26:21 PM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/19/2008 2:26:21 PM
2-Hexanone	ND	5.0		mg/Kg	10	4/19/2008 2:26:21 PM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/19/2008 2:26:21 PM
Methylene chloride	ND	1.5		mg/Kg	10	4/19/2008 2:26:21 PM
n-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
Styrene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/19/2008 2:26:21 PM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/19/2008 2:26:21 PM
Vinyl chloride	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
Xylenes, Total	1.2	1.0		mg/Kg	10	4/19/2008 2:26:21 PM
Surr: 1,2-Dichloroethane-d4	96.7	68.7-122		%REC	10	4/19/2008 2:26:21 PM
Surr: 4-Bromofluorobenzene	83.3	79.3-126		%REC	10	4/19/2008 2:26:21 PM
Surr: Dibromofluoromethane	86.8	64.4-119		%REC	10	4/19/2008 2:26:21 PM
Surr: Toluene-d8	96.4	86.5-121		%REC	10	4/19/2008 2:26:21 PM

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-5
Lab Order:	0804138	**Collection Date:**	4/9/2008 5:45:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-03	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	120000	5000		mg/Kg	50	4/17/2008 12:33:47 AM
Motor Oil Range Organics (MRO)	ND	25000		mg/Kg	50	4/17/2008 12:33:47 AM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 12:33:47 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/18/2008 6:21:52 PM
Surr: BFB	110	84-138		%REC	20	4/18/2008 6:21:52 PM
EPA METHOD 7471: MERCURY						Analyst: **SNV**
Mercury	6.0	1.6		mg/Kg	50	4/18/2008 4:34:45 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **NMO**
Arsenic	23	2.5		mg/Kg	1	4/21/2008 9:29:36 AM
Barium	150	1.0		mg/Kg	10	4/21/2008 11:38:54 AM
Cadmium	0.97	0.10		mg/Kg	1	4/21/2008 9:29:36 AM
Chromium	23	0.30		mg/Kg	1	4/21/2008 9:29:36 AM
Lead	22	0.25		mg/Kg	1	4/28/2008 7:50:47 AM
Selenium	ND	25		mg/Kg	10	4/21/2008 11:38:54 AM
Silver	ND	0.25		mg/Kg	1	4/21/2008 9:29:36 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	30		mg/Kg	1	4/17/2008
Acenaphthylene	ND	30		mg/Kg	1	4/17/2008
Aniline	ND	30		mg/Kg	1	4/17/2008
Anthracene	ND	30		mg/Kg	1	4/17/2008
Azobenzene	ND	30		mg/Kg	1	4/17/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/17/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/17/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/17/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/17/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/17/2008
Benzoic acid	ND	50		mg/Kg	1	4/17/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/17/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/17/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/17/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/17/2008
Carbazole	ND	30		mg/Kg	1	4/17/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/17/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/17/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-5
Lab Order:	0804138	**Collection Date:**	4/9/2008 5:45:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-03	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/17/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/17/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/17/2008
Chrysene	57	30		mg/Kg	1	4/17/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/17/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/17/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/17/2008
Dibenzofuran	ND	30		mg/Kg	1	4/17/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/17/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/17/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/17/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/17/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/17/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/17/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/17/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/17/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/17/2008
Fluoranthene	ND	38		mg/Kg	1	4/17/2008
Fluorene	42	30		mg/Kg	1	4/17/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/17/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/17/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/17/2008
Hexachloroethane	ND	30		mg/Kg	1	4/17/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/17/2008
Isophorone	ND	75		mg/Kg	1	4/17/2008
2-Methylnaphthalene	130	38		mg/Kg	1	4/17/2008
2-Methylphenol	ND	75		mg/Kg	1	4/17/2008
3+4-Methylphenol	140	30		mg/Kg	1	4/17/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/17/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/17/2008
Naphthalene	ND	30		mg/Kg	1	4/17/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/17/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/17/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/17/2008
Nitrobenzene	ND	75		mg/Kg	1	4/17/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/17/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/17/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/17/2008
Phenanthrene	150	30		mg/Kg	1	4/17/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-5
Lab Order:	0804138	**Collection Date:**	4/9/2008 5:45:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-03	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	ND	30		mg/Kg	1	4/17/2008
Pyrene	48	30		mg/Kg	1	4/17/2008
Pyridine	ND	75		mg/Kg	1	4/17/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/17/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/17/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/17/2008
Surr: 2,4,6-Tribromophenol	57.2	35.5-141		%REC	1	4/17/2008
Surr: 2-Fluorobiphenyl	90.2	30.4-128		%REC	1	4/17/2008
Surr: 2-Fluorophenol	108	28.1-129		%REC	1	4/17/2008
Surr: 4-Terphenyl-d14	56.5	34.6-151		%REC	1	4/17/2008
Surr: Nitrobenzene-d5	103	26.5-122		%REC	1	4/17/2008
Surr: Phenol-d5	87.3	37.6-118		%REC	1	4/17/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Toluene	0.69	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Ethylbenzene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
1,2,4-Trimethylbenzene	1.5	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
1,3,5-Trimethylbenzene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Naphthalene	1.9	1.0		mg/Kg	10	4/19/2008 3:01:46 PM
1-Methylnaphthalene	7.1	2.0		mg/Kg	10	4/19/2008 3:01:46 PM
2-Methylnaphthalene	10	2.0		mg/Kg	10	4/19/2008 3:01:46 PM
Acetone	ND	7.5		mg/Kg	10	4/19/2008 3:01:46 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Bromoform	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Bromomethane	ND	1.0		mg/Kg	10	4/19/2008 3:01:46 PM
2-Butanone	ND	5.0		mg/Kg	10	4/19/2008 3:01:46 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/19/2008 3:01:46 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/19/2008 3:01:46 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Chloroethane	ND	1.0		mg/Kg	10	4/19/2008 3:01:46 PM
Chloroform	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Chloromethane	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/19/2008 3:01:46 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-5
Lab Order:	0804138	**Collection Date:**	4/9/2008 5:45:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-03	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Dibromomethane	ND	1.0		mg/Kg	10	4/19/2008 3:01:46 PM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/19/2008 3:01:46 PM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/19/2008 3:01:46 PM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/19/2008 3:01:46 PM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/19/2008 3:01:46 PM
2-Hexanone	ND	5.0		mg/Kg	10	4/19/2008 3:01:46 PM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/19/2008 3:01:46 PM
Methylene chloride	ND	1.5		mg/Kg	10	4/19/2008 3:01:46 PM
n-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Styrene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/19/2008 3:01:46 PM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/19/2008 3:01:46 PM
Vinyl chloride	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Xylenes, Total	1.7	1.0		mg/Kg	10	4/19/2008 3:01:46 PM
Surr: 1,2-Dichloroethane-d4	98.2	68.7-122		%REC	10	4/19/2008 3:01:46 PM
Surr: 4-Bromofluorobenzene	90.9	79.3-126		%REC	10	4/19/2008 3:01:46 PM
Surr: Dibromofluoromethane	93.2	64.4-119		%REC	10	4/19/2008 3:01:46 PM
Surr: Toluene-d8	96.1	86.5-121		%REC	10	4/19/2008 3:01:46 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-1-HP
Lab Order:	0804138	**Collection Date:**	4/10/2008 3:25:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-04	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	7.5		mg/Kg	1	4/17/2008
2-Chlorophenol	ND	6.0		mg/Kg	1	4/17/2008
4-Chlorophenyl phenyl ether	ND	6.0		mg/Kg	1	4/17/2008
Chrysene	ND	6.0		mg/Kg	1	4/17/2008
Di-n-butyl phthalate	ND	15		mg/Kg	1	4/17/2008
Di-n-octyl phthalate	ND	6.0		mg/Kg	1	4/17/2008
Dibenz(a,h)anthracene	ND	6.0		mg/Kg	1	4/17/2008
Dibenzofuran	ND	6.0		mg/Kg	1	4/17/2008
1,2-Dichlorobenzene	ND	6.0		mg/Kg	1	4/17/2008
1,3-Dichlorobenzene	ND	6.0		mg/Kg	1	4/17/2008
1,4-Dichlorobenzene	ND	6.0		mg/Kg	1	4/17/2008
3,3'-Dichlorobenzidine	ND	7.5		mg/Kg	1	4/17/2008
Diethyl phthalate	ND	6.0		mg/Kg	1	4/17/2008
Dimethyl phthalate	ND	6.0		mg/Kg	1	4/17/2008
2,4-Dichlorophenol	ND	6.0		mg/Kg	1	4/17/2008
2,4-Dimethylphenol	ND	9.0		mg/Kg	1	4/17/2008
4,6-Dinitro-2-methylphenol	ND	15		mg/Kg	1	4/17/2008
2,4-Dinitrophenol	ND	15		mg/Kg	1	4/17/2008
2,4-Dinitrotoluene	ND	15		mg/Kg	1	4/17/2008
2,6-Dinitrotoluene	ND	15		mg/Kg	1	4/17/2008
Fluoranthene	ND	7.5		mg/Kg	1	4/17/2008
Fluorene	ND	6.0		mg/Kg	1	4/17/2008
Hexachlorobenzene	ND	6.0		mg/Kg	1	4/17/2008
Hexachlorobutadiene	ND	6.0		mg/Kg	1	4/17/2008
Hexachlorocyclopentadiene	ND	6.0		mg/Kg	1	4/17/2008
Hexachloroethane	ND	6.0		mg/Kg	1	4/17/2008
Indeno(1,2,3-cd)pyrene	ND	7.5		mg/Kg	1	4/17/2008
Isophorone	ND	15		mg/Kg	1	4/17/2008
2-Methylnaphthalene	23	7.5		mg/Kg	1	4/17/2008
2-Methylphenol	ND	15		mg/Kg	1	4/17/2008
3+4-Methylphenol	6.2	6.0		mg/Kg	1	4/17/2008
N-Nitrosodi-n-propylamine	ND	6.0		mg/Kg	1	4/17/2008
N-Nitrosodiphenylamine	ND	6.0		mg/Kg	1	4/17/2008
Naphthalene	6.7	6.0		mg/Kg	1	4/17/2008
2-Nitroaniline	ND	6.0		mg/Kg	1	4/17/2008
3-Nitroaniline	ND	6.0		mg/Kg	1	4/17/2008
4-Nitroaniline	ND	7.5		mg/Kg	1	4/17/2008
Nitrobenzene	ND	15		mg/Kg	1	4/17/2008
2-Nitrophenol	ND	6.0		mg/Kg	1	4/17/2008
4-Nitrophenol	ND	6.0		mg/Kg	1	4/17/2008
Pentachlorophenol	ND	9.9		mg/Kg	1	4/17/2008
Phenanthrene	8.4	6.0		mg/Kg	1	4/17/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-1-HP
Lab Order:	0804138	**Collection Date:**	4/10/2008 3:25:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-04	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	6.7	6.0		mg/Kg	1	4/17/2008
Pyrene	ND	6.0		mg/Kg	1	4/17/2008
Pyridine	ND	15		mg/Kg	1	4/17/2008
1,2,4-Trichlorobenzene	ND	6.0		mg/Kg	1	4/17/2008
2,4,5-Trichlorophenol	ND	6.0		mg/Kg	1	4/17/2008
2,4,6-Trichlorophenol	ND	6.0		mg/Kg	1	4/17/2008
Surr: 2,4,6-Tribromophenol	74.0	35.5-141		%REC	1	4/17/2008
Surr: 2-Fluorobiphenyl	89.4	30.4-128		%REC	1	4/17/2008
Surr: 2-Fluorophenol	95.4	28.1-129		%REC	1	4/17/2008
Surr: 4-Terphenyl-d14	53.7	34.6-151		%REC	1	4/17/2008
Surr: Nitrobenzene-d5	91.2	26.5-122		%REC	1	4/17/2008
Surr: Phenol-d5	79.0	37.6-116		%REC	1	4/17/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	1.2	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
Toluene	6.8	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
Ethylbenzene	2.9	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
1,2,4-Trimethylbenzene	12	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
1,3,5-Trimethylbenzene	3.3	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
Naphthalene	7.2	1.0		mg/Kg	10	4/19/2008 3:37:14 PM
1-Methylnaphthalene	15	2.0		mg/Kg	10	4/19/2008 3:37:14 PM
2-Methylnaphthalene	22	2.0		mg/Kg	10	4/19/2008 3:37:14 PM
Acetone	ND	7.5		mg/Kg	10	4/19/2008 3:37:14 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
Bromoform	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
Bromomethane	ND	1.0		mg/Kg	10	4/19/2008 3:37:14 PM
2-Butanone	ND	5.0		mg/Kg	10	4/19/2008 3:37:14 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/19/2008 3:37:14 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/19/2008 3:37:14 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
Chloroethane	ND	1.0		mg/Kg	10	4/19/2008 3:37:14 PM
Chloroform	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
Chloromethane	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/19/2008 3:37:14 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-1-HP
Lab Order:	0804138	**Collection Date:**	4/10/2008 3:25:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-04	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
Dibromomethane	ND	1.0		mg/Kg	10	4/19/2008 3:37:14 PM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/19/2008 3:37:14 PM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/19/2008 3:37:14 PM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/19/2008 3:37:14 PM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/19/2008 3:37:14 PM
2-Hexanone	ND	5.0		mg/Kg	10	4/19/2008 3:37:14 PM
Isopropylbenzene	0.72	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
4-Isopropyltoluene	0.54	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/19/2008 3:37:14 PM
Methylene chloride	ND	1.5		mg/Kg	10	4/19/2008 3:37:14 PM
n-Butylbenzene	2.7	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
n-Propylbenzene	1.7	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
sec-Butylbenzene	0.96	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
Styrene	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/19/2008 3:37:14 PM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/19/2008 3:37:14 PM
Vinyl chloride	ND	0.50		mg/Kg	10	4/19/2008 3:37:14 PM
Xylenes, Total	18	1.0		mg/Kg	10	4/19/2008 3:37:14 PM
Surr: 1,2-Dichloroethane-d4	99.0	68.7-122		%REC	10	4/19/2008 3:37:14 PM
Surr: 4-Bromofluorobenzene	91.2	79.3-126		%REC	10	4/19/2008 3:37:14 PM
Surr: Dibromofluoromethane	88.5	64.4-119		%REC	10	4/19/2008 3:37:14 PM
Surr: Toluene-d8	97.1	86.5-121		%REC	10	4/19/2008 3:37:14 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-2-HP
Lab Order:	0804138	**Collection Date:**	4/10/2008 4:22:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-05	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	200000	5000		mg/Kg	50	4/17/2008 1:41:58 AM
Motor Oil Range Organics (MRO)	37000	25000		mg/Kg	50	4/17/2008 1:41:58 AM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 1:41:58 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	260	100		mg/Kg	20	4/18/2008 7:22:04 PM
Surr: BFB	109	84-138		%REC	20	4/18/2008 7:22:04 PM
EPA METHOD 7471: MERCURY						Analyst: **SNV**
Mercury	5.0	1.6		mg/Kg	50	4/18/2008 4:37:48 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **NMO**
Arsenic	32	2.5		mg/Kg	1	4/21/2008 9:34:53 AM
Barium	350	1.0		mg/Kg	10	4/21/2008 11:44:13 AM
Cadmium	1.4	0.10		mg/Kg	1	4/21/2008 9:34:53 AM
Chromium	51	3.0		mg/Kg	10	4/21/2008 11:44:13 AM
Lead	110	2.5		mg/Kg	10	4/28/2008 8:38:04 AM
Selenium	ND	25		mg/Kg	10	4/21/2008 11:44:13 AM
Silver	ND	0.25		mg/Kg	1	4/21/2008 9:34:53 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	30		mg/Kg	1	4/17/2008
Acenaphthylene	ND	30		mg/Kg	1	4/17/2008
Aniline	ND	30		mg/Kg	1	4/17/2008
Anthracene	ND	30		mg/Kg	1	4/17/2008
Azobenzene	ND	30		mg/Kg	1	4/17/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/17/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/17/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/17/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/17/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/17/2008
Benzoic acid	ND	50		mg/Kg	1	4/17/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/17/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/17/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/17/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/17/2008
Carbazole	ND	30		mg/Kg	1	4/17/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/17/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/17/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-2-HP
Lab Order:	0804138	**Collection Date:**	4/10/2008 4:22:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-05	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/17/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/17/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/17/2008
Chrysene	34	30		mg/Kg	1	4/17/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/17/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/17/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/17/2008
Dibenzofuran	ND	30		mg/Kg	1	4/17/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/17/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/17/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/17/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/17/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/17/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/17/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/17/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/17/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/17/2008
Fluoranthene	ND	38		mg/Kg	1	4/17/2008
Fluorene	40	30		mg/Kg	1	4/17/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/17/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/17/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/17/2008
Hexachloroethane	ND	30		mg/Kg	1	4/17/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/17/2008
Isophorone	ND	75		mg/Kg	1	4/17/2008
2-Methylnaphthalene	260	38		mg/Kg	1	4/17/2008
2-Methylphenol	ND	75		mg/Kg	1	4/17/2008
3+4-Methylphenol	98	30		mg/Kg	1	4/17/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/17/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/17/2008
Naphthalene	65	30		mg/Kg	1	4/17/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/17/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/17/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/17/2008
Nitrobenzene	ND	75		mg/Kg	1	4/17/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/17/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/17/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/17/2008
Phenanthrene	140	30		mg/Kg	1	4/17/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-2-HP
Lab Order:	0804138	**Collection Date:**	4/10/2008 4:22:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-05	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	54	30		mg/Kg	1	4/17/2008
Pyrene	ND	30		mg/Kg	1	4/17/2008
Pyridine	ND	75		mg/Kg	1	4/17/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/17/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/17/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/17/2008
Surr: 2,4,6-Tribromophenol	46.6	35.6-141		%REC	1	4/17/2008
Surr: 2-Fluorobiphenyl	88.0	30.4-128		%REC	1	4/17/2008
Surr: 2-Fluorophenol	99.0	28.1-129		%REC	1	4/17/2008
Surr: 4-Terphenyl-d14	43.9	34.6-151		%REC	1	4/17/2008
Surr: Nitrobenzene-d5	91.4	26.5-122		%REC	1	4/17/2008
Surr: Phenol-d5	81.5	37.6-118		%REC	1	4/17/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	2.4	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Toluene	11	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Ethylbenzene	3.4	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
1,2,4-Trimethylbenzene	10	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
1,3,5-Trimethylbenzene	2.8	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Naphthalene	6.5	1.0		mg/Kg	10	4/19/2008 4:12:55 PM
1-Methylnaphthalene	14	2.0		mg/Kg	10	4/19/2008 4:12:55 PM
2-Methylnaphthalene	20	2.0		mg/Kg	10	4/19/2008 4:12:55 PM
Acetone	ND	7.5		mg/Kg	10	4/19/2008 4:12:55 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Bromoform	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Bromomethane	ND	1.0		mg/Kg	10	4/19/2008 4:12:55 PM
2-Butanone	ND	5.0		mg/Kg	10	4/19/2008 4:12:55 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/19/2008 4:12:55 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/19/2008 4:12:55 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Chloroethane	ND	1.0		mg/Kg	10	4/19/2008 4:12:55 PM
Chloroform	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Chloromethane	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/19/2008 4:12:55 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-2-HP
Lab Order:	0804138	**Collection Date:**	4/10/2008 4:22:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-05	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Dibromomethane	ND	1.0		mg/Kg	10	4/19/2008 4:12:55 PM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/19/2008 4:12:55 PM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/19/2008 4:12:55 PM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/19/2008 4:12:55 PM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/19/2008 4:12:55 PM
2-Hexanone	ND	5.0		mg/Kg	10	4/19/2008 4:12:55 PM
Isopropylbenzene	0.58	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/19/2008 4:12:55 PM
Methylene chloride	ND	1.5		mg/Kg	10	4/19/2008 4:12:55 PM
n-Butylbenzene	2.1	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
n-Propylbenzene	1.5	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
sec-Butylbenzene	0.80	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Styrene	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/19/2008 4:12:55 PM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/19/2008 4:12:55 PM
Vinyl chloride	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Xylenes, Total	20	1.0		mg/Kg	10	4/19/2008 4:12:55 PM
Surr: 1,2-Dichloroethane-d4	94.9	68.7-122		%REC	10	4/19/2008 4:12:55 PM
Surr: 4-Bromofluorobenzene	97.8	79.3-126		%REC	10	4/19/2008 4:12:55 PM
Surr: Dibromofluoromethane	82.5	64.4-119		%REC	10	4/19/2008 4:12:55 PM
Surr: Toluene-d8	97.1	66.5-121		%REC	10	4/19/2008 4:12:55 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-3-HP
Lab Order:	0804138	**Collection Date:**	4/10/2008 2:45:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-06	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						**Analyst: SCC**
Diesel Range Organics (DRO)	110000	5000		mg/Kg	50	4/17/2008 2:16:06 AM
Motor Oil Range Organics (MRO)	ND	25000		mg/Kg	50	4/17/2008 2:16:06 AM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 2:16:06 AM
EPA METHOD 8015B: GASOLINE RANGE						**Analyst: NSB**
Gasoline Range Organics (GRO)	150	100		mg/Kg	20	4/18/2008 10:22:51 PM
Surr: BFB	108	84-138		%REC	20	4/18/2008 10:22:51 PM
EPA METHOD 7471: MERCURY						**Analyst: SNV**
Mercury	6.7	1.6		mg/Kg	50	4/18/2008 4:39:22 PM
EPA METHOD 6010B: SOIL METALS						**Analyst: NMO**
Arsenic	11	2.5		mg/Kg	1	4/21/2008 9:37:31 AM
Barium	220	1.0		mg/Kg	10	4/21/2008 11:46:55 AM
Cadmium	0.12	0.10		mg/Kg	1	4/21/2008 9:37:31 AM
Chromium	16	0.30		mg/Kg	1	4/21/2008 9:37:31 AM
Lead	22	0.25		mg/Kg	1	4/28/2008 7:58:08 AM
Selenium	ND	25		mg/Kg	10	4/21/2008 11:46:55 AM
Silver	ND	0.25		mg/Kg	1	4/21/2008 9:37:31 AM
EPA METHOD 8270C: SEMIVOLATILES						**Analyst: JDC**
Acenaphthene	ND	30		mg/Kg	1	4/17/2008
Acenaphthylene	ND	30		mg/Kg	1	4/17/2008
Aniline	ND	30		mg/Kg	1	4/17/2008
Anthracene	ND	30		mg/Kg	1	4/17/2008
Azobenzene	ND	30		mg/Kg	1	4/17/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/17/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/17/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/17/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/17/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/17/2008
Benzoic acid	ND	60		mg/Kg	1	4/17/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/17/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/17/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/17/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/17/2008
Carbazole	ND	30		mg/Kg	1	4/17/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/17/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/17/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-3-HP
Lab Order:	0804138	**Collection Date:**	4/10/2008 2:45:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-06	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/17/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/17/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/17/2008
Chrysene	ND	30		mg/Kg	1	4/17/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/17/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/17/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/17/2008
Dibenzofuran	ND	30		mg/Kg	1	4/17/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/17/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/17/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/17/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/17/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/17/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/17/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/17/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/17/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/17/2008
Fluoranthene	ND	36		mg/Kg	1	4/17/2008
Fluorene	40	30		mg/Kg	1	4/17/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/17/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/17/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/17/2008
Hexachloroethane	ND	30		mg/Kg	1	4/17/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/17/2008
Isophorone	ND	75		mg/Kg	1	4/17/2008
2-Methylnaphthalene	200	38		mg/Kg	1	4/17/2008
2-Methylphenol	ND	75		mg/Kg	1	4/17/2008
3+4-Methylphenol	ND	30		mg/Kg	1	4/17/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/17/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/17/2008
Naphthalene	36	30		mg/Kg	1	4/17/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/17/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/17/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/17/2008
Nitrobenzene	ND	75		mg/Kg	1	4/17/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/17/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/17/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/17/2008
Phenanthrene	100	30		mg/Kg	1	4/17/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-3-HP
Lab Order:	0804138	**Collection Date:**	4/10/2008 2:45:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-06	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	ND	30		mg/Kg	1	4/17/2008
Pyrene	ND	30		mg/Kg	1	4/17/2008
Pyridine	ND	75		mg/Kg	1	4/17/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/17/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/17/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/17/2008
Surr: 2,4,6-Tribromophenol	54.8	35.5-141		%REC	1	4/17/2008
Surr: 2-Fluorobiphenyl	83.8	30.4-128		%REC	1	4/17/2008
Surr: 2-Fluorophenol	94.0	28.1-129		%REC	1	4/17/2008
Surr: 4-Terphenyl-d14	36.5	34.6-151		%REC	1	4/17/2008
Surr: Nitrobenzene-d5	90.2	26.6-122		%REC	1	4/17/2008
Surr: Phenol-d5	70.1	37.6-118		%REC	1	4/17/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	2.0	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
Toluene	7.0	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
Ethylbenzene	1.9	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
1,2,4-Trimethylbenzene	8.3	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
1,3,5-Trimethylbenzene	2.0	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
Naphthalene	5.9	1.0		mg/Kg	10	4/19/2008 4:48:49 PM
1-Methylnaphthalene	15	2.0		mg/Kg	10	4/19/2008 4:48:49 PM
2-Methylnaphthalene	20	2.0		mg/Kg	10	4/19/2008 4:48:49 PM
Acetone	ND	7.5		mg/Kg	10	4/19/2008 4:48:49 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
Bromoform	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
Bromomethane	ND	1.0		mg/Kg	10	4/19/2008 4:48:49 PM
2-Butanone	ND	5.0		mg/Kg	10	4/19/2008 4:48:49 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/19/2008 4:48:49 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/19/2008 4:48:49 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
Chloroethane	ND	1.0		mg/Kg	10	4/19/2008 4:48:49 PM
Chloroform	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
Chloromethane	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/19/2008 4:48:49 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-3-HP
Lab Order:	0804138	**Collection Date:**	4/10/2008 2:45:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-06	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
Dibromomethane	ND	1.0		mg/Kg	10	4/19/2008 4:48:49 PM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/19/2008 4:48:49 PM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/19/2008 4:48:49 PM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/19/2008 4:48:49 PM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/19/2008 4:48:49 PM
2-Hexanone	ND	5.0		mg/Kg	10	4/19/2008 4:48:49 PM
Isopropylbenzene	0.51	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
4-Isopropyltoluene	0.53	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/19/2008 4:48:49 PM
Methylene chloride	ND	1.5		mg/Kg	10	4/19/2008 4:48:49 PM
n-Butylbenzene	2.1	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
n-Propylbenzene	1.2	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
sec-Butylbenzene	0.89	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
Styrene	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/19/2008 4:48:49 PM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/19/2008 4:48:49 PM
Vinyl chloride	ND	0.50		mg/Kg	10	4/19/2008 4:48:49 PM
Xylenes, Total	12	1.0		mg/Kg	10	4/19/2008 4:48:49 PM
Surr: 1,2-Dichloroethane-d4	95.0	68.7-122		%REC	10	4/19/2008 4:48:49 PM
Surr: 4-Bromofluorobenzene	96.8	79.3-126		%REC	10	4/19/2008 4:48:49 PM
Surr: Dibromofluoromethane	80.9	64.4-119		%REC	10	4/19/2008 4:48:49 PM
Surr: Toluene-d8	102	86.5-121		%REC	10	4/19/2008 4:48:49 PM

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-4-HP
Lab Order:	0804138	**Collection Date:**	4/10/2008 10:50:00 AM
Project:	Evaporation Pond/Acration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-07	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	76000	5000		mg/Kg	50	4/17/2008 2:50:07 AM
Motor Oil Range Organics (MRO)	ND	25000		mg/Kg	50	4/17/2008 2:50:07 AM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 2:50:07 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	590	100		mg/Kg	20	4/18/2008 10:52:49 PM
Surr: BFB	120	84-138		%REC	20	4/18/2008 10:52:49 PM
EPA METHOD 7471: MERCURY						Analyst: **SNV**
Mercury	8.3	1.6		mg/Kg	50	4/18/2008 4:40:54 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **NMO**
Arsenic	47	2.5		mg/Kg	1	4/21/2008 9:40:07 AM
Barium	310	1.0		mg/Kg	10	4/21/2008 11:49:37 AM
Cadmium	1.4	0.10		mg/Kg	1	4/21/2008 9:40:07 AM
Chromium	60	3.0		mg/Kg	10	4/21/2008 11:49:37 AM
Lead	220	2.5		mg/Kg	10	4/28/2008 8:40:06 AM
Selenium	ND	25		mg/Kg	10	4/21/2008 11:49:37 AM
Silver	ND	0.25		mg/Kg	1	4/21/2008 9:40:07 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	30		mg/Kg	1	4/17/2008
Acenaphthylene	ND	30		mg/Kg	1	4/17/2008
Aniline	ND	30		mg/Kg	1	4/17/2008
Anthracene	ND	30		mg/Kg	1	4/17/2008
Azobenzene	ND	30		mg/Kg	1	4/17/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/17/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/17/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/17/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/17/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/17/2008
Benzoic acid	ND	50		mg/Kg	1	4/17/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/17/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/17/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/17/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/17/2008
Carbazole	ND	30		mg/Kg	1	4/17/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/17/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/17/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	ALI-4-HP
Lab Order:	0804138	**Collection Date:**	4/10/2008 10:50:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-07	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/17/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/17/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/17/2008
Chrysene	31	30		mg/Kg	1	4/17/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/17/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/17/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/17/2008
Dibenzofuran	ND	30		mg/Kg	1	4/17/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/17/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/17/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/17/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/17/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/17/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/17/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/17/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/17/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/17/2008
Fluoranthene	ND	38		mg/Kg	1	4/17/2008
Fluorene	ND	30		mg/Kg	1	4/17/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/17/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/17/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/17/2008
Hexachloroethane	ND	30		mg/Kg	1	4/17/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/17/2008
Isophorone	ND	75		mg/Kg	1	4/17/2008
2-Methylnaphthalene	340	38		mg/Kg	1	4/17/2008
2-Methylphenol	ND	75		mg/Kg	1	4/17/2008
3+4-Methylphenol	ND	30		mg/Kg	1	4/17/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/17/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/17/2008
Naphthalene	90	30		mg/Kg	1	4/17/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/17/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/17/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/17/2008
Nitrobenzene	ND	75		mg/Kg	1	4/17/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/17/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/17/2008
Pentachlorophenol	ND	60		mg/Kg	1	4/17/2008
Phenanthrene	84	30		mg/Kg	1	4/17/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-4-HP
Lab Order:	0804138	**Collection Date:**	4/10/2008 10:50:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-07	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	ND	30		mg/Kg	1	4/17/2008
Pyrene	ND	30		mg/Kg	1	4/17/2008
Pyridine	ND	75		mg/Kg	1	4/17/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/17/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/17/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/17/2008
Surr: 2,4,6-Tribromophenol	59.3	35.5-141		%REC	1	4/17/2008
Surr: 2-Fluorobiphenyl	91.2	30.4-128		%REC	1	4/17/2008
Surr: 2-Fluorophenol	94.5	28.1-129		%REC	1	4/17/2008
Surr: 4-Terphenyl-d14	43.9	34.6-151		%REC	1	4/17/2008
Surr: Nitrobenzene-d5	88.0	26.5-122		%REC	1	4/17/2008
Surr: Phenol-d5	75.7	37.6-118		%REC	1	4/17/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	3.2	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
Toluene	22	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
Ethylbenzene	11	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
1,2,4-Trimethylbenzene	37	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
1,3,5-Trimethylbenzene	10	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
Naphthalene	21	1.0		mg/Kg	10	4/19/2008 5:24:28 PM
1-Methylnaphthalene	29	2.0		mg/Kg	10	4/19/2008 5:24:28 PM
2-Methylnaphthalene	46	2.0		mg/Kg	10	4/19/2008 5:24:28 PM
Acetone	ND	7.5		mg/Kg	10	4/19/2008 5:24:28 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
Bromoform	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
Bromomethane	ND	1.0		mg/Kg	10	4/19/2008 5:24:28 PM
2-Butanone	ND	5.0		mg/Kg	10	4/19/2008 5:24:28 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/19/2008 5:24:28 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/19/2008 5:24:28 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
Chloroethane	ND	1.0		mg/Kg	10	4/19/2008 5:24:28 PM
Chloroform	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
Chloromethane	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/19/2008 5:24:28 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-4-HP
Lab Order:	0804138	**Collection Date:**	4/10/2008 10:50:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-07	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
Dibromomethane	ND	1.0		mg/Kg	10	4/19/2008 5:24:28 PM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/19/2008 5:24:28 PM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/19/2008 5:24:28 PM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/19/2008 5:24:28 PM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/19/2008 5:24:28 PM
2-Hexanone	ND	5.0		mg/Kg	10	4/19/2008 5:24:28 PM
Isopropylbenzene	1.6	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
4-Isopropyltoluene	0.84	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/19/2008 5:24:28 PM
Methylene chloride	ND	1.5		mg/Kg	10	4/19/2008 5:24:28 PM
n-Butylbenzene	7.0	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
n-Propylbenzene	5.9	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
sec-Butylbenzene	1.8	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
Styrene	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/19/2008 5:24:28 PM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/19/2008 5:24:28 PM
Vinyl chloride	ND	0.50		mg/Kg	10	4/19/2008 5:24:28 PM
Xylenes, Total	60	1.0		mg/Kg	10	4/19/2008 5:24:28 PM
Surr: 1,2-Dichloroethane-d4	101	68.7-122		%REC	10	4/19/2008 5:24:28 PM
Surr: 4-Bromofluorobenzene	96.3	79.3-126		%REC	10	4/19/2008 5:24:28 PM
Surr: Dibromofluoromethane	85.6	64.4-119		%REC	10	4/19/2008 5:24:28 PM
Surr: Toluene-d8	93.8	86.5-121		%REC	10	4/19/2008 5:24:28 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-5-HP
Lab Order:	0804138	**Collection Date:**	4/10/2008 10:20:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-08	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	130000	5000		mg/Kg	50	4/17/2008 3:23:56 AM
Motor Oil Range Organics (MRO)	25000	25000		mg/Kg	50	4/17/2008 3:23:56 AM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 3:23:56 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	670	100		mg/Kg	20	4/18/2008 11:22:52 PM
Surr: BFB	112	84-138		%REC	20	4/18/2008 11:22:52 PM
EPA METHOD 7471: MERCURY						Analyst: **SNV**
Mercury	18	3.3		mg/Kg	100	4/18/2008 4:42:27 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **NMO**
Arsenic	31	2.5		mg/Kg	1	4/21/2008 10:54:58 AM
Barium	450	1.0		mg/Kg	10	4/21/2008 11:52:18 AM
Cadmium	0.79	0.10		mg/Kg	1	4/21/2008 10:54:58 AM
Chromium	46	0.30		mg/Kg	1	4/21/2008 10:54:58 AM
Lead	110	2.5		mg/Kg	10	4/28/2008 8:44:11 AM
Selenium	ND	25		mg/Kg	10	4/21/2008 11:52:18 AM
Silver	ND	0.25		mg/Kg	1	4/21/2008 10:54:58 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	30		mg/Kg	1	4/17/2008
Acenaphthylene	ND	30		mg/Kg	1	4/17/2008
Aniline	ND	30		mg/Kg	1	4/17/2008
Anthracene	ND	30		mg/Kg	1	4/17/2008
Azobenzene	ND	30		mg/Kg	1	4/17/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/17/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/17/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/17/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/17/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/17/2008
Benzoic acid	ND	60		mg/Kg	1	4/17/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/17/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/17/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/17/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/17/2008
Carbazole	ND	30		mg/Kg	1	4/17/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/17/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/17/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-5-HP
Lab Order:	0804138	**Collection Date:**	4/10/2008 10:20:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-08	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/17/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/17/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/17/2008
Chrysene	ND	30		mg/Kg	1	4/17/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/17/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/17/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/17/2008
Dibenzofuran	ND	30		mg/Kg	1	4/17/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/17/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/17/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/17/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/17/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/17/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/17/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/17/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/17/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/17/2008
Fluoranthene	ND	38		mg/Kg	1	4/17/2008
Fluorene	47	30		mg/Kg	1	4/17/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/17/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/17/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/17/2008
Hexachloroethane	ND	30		mg/Kg	1	4/17/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/17/2008
Isophorone	ND	75		mg/Kg	1	4/17/2008
2-Methylnaphthalene	460	38		mg/Kg	1	4/17/2008
2-Methylphenol	ND	75		mg/Kg	1	4/17/2008
3+4-Methylphenol	47	30		mg/Kg	1	4/17/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/17/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/17/2008
Naphthalene	110	30		mg/Kg	1	4/17/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/17/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/17/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/17/2008
Nitrobenzene	ND	75		mg/Kg	1	4/17/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/17/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/17/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/17/2008
Phenanthrene	130	30		mg/Kg	1	4/17/2008

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-5-HP
Lab Order:	0804138	**Collection Date:**	4/10/2008 10:20:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-08	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	ND	30		mg/Kg	1	4/17/2008
Pyrene	ND	30		mg/Kg	1	4/17/2008
Pyridine	ND	75		mg/Kg	1	4/17/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/17/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/17/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/17/2008
Surr: 2,4,6-Tribromophenol	41.4	35.5-141		%REC	1	4/17/2008
Surr: 2-Fluorobiphenyl	74.1	30.4-128		%REC	1	4/17/2008
Surr: 2-Fluorophenol	94.2	28.1-129		%REC	1	4/17/2008
Surr: 4-Terphenyl-d14	46.3	34.6-151		%REC	1	4/17/2008
Surr: Nitrobenzene-d5	99.8	26.5-122		%REC	1	4/17/2008
Surr: Phenol-d5	74.0	37.6-116		%REC	1	4/17/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	9.0	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
Toluene	48	1.0		mg/Kg	20	4/21/2008 12:37:00 PM
Ethylbenzene	15	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
Methyl tert-butyl ether (MTBE)	0.74	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
1,2,4-Trimethylbenzene	26	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
1,3,5-Trimethylbenzene	7.4	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
Naphthalene	19	1.0		mg/Kg	10	4/19/2008 6:00:00 PM
1-Methylnaphthalene	28	2.0		mg/Kg	10	4/19/2008 6:00:00 PM
2-Methylnaphthalene	42	2.0		mg/Kg	10	4/19/2008 6:00:00 PM
Acetone	ND	7.5		mg/Kg	10	4/19/2008 6:00:00 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
Bromoform	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
Bromomethane	ND	1.0		mg/Kg	10	4/19/2008 6:00:00 PM
2-Butanone	ND	5.0		mg/Kg	10	4/19/2008 6:00:00 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/19/2008 6:00:00 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/19/2008 6:00:00 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
Chloroethane	ND	1.0		mg/Kg	10	4/19/2008 6:00:00 PM
Chloroform	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
Chloromethane	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/19/2008 6:00:00 PM

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-5-HP
Lab Order:	0804138	**Collection Date:**	4/10/2008 10:20:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-08	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
Dibromomethane	ND	1.0		mg/Kg	10	4/19/2008 6:00:00 PM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/19/2008 6:00:00 PM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/19/2008 6:00:00 PM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/19/2008 6:00:00 PM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/19/2008 6:00:00 PM
2-Hexanone	ND	5.0		mg/Kg	10	4/19/2008 6:00:00 PM
Isopropylbenzene	2.6	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
4-Isopropyltoluene	0.90	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/19/2008 6:00:00 PM
Methylene chloride	ND	1.5		mg/Kg	10	4/19/2008 6:00:00 PM
n-Butylbenzene	4.9	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
n-Propylbenzene	4.8	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
sec-Butylbenzene	1.9	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
Styrene	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/19/2008 6:00:00 PM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/19/2008 6:00:00 PM
Vinyl chloride	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
Xylenes, Total	81	1.0		mg/Kg	10	4/19/2008 6:00:00 PM
Surr: 1,2-Dichloroethane-d4	97.9	68.7-122		%REC	10	4/19/2008 6:00:00 PM
Surr: 4-Bromofluorobenzene	101	79.3-126		%REC	20	4/21/2008 12:37:00 PM
Surr: Dibromofluoromethane	88.2	64.4-119		%REC	10	4/19/2008 6:00:00 PM
Surr: Toluene-d8	100	86.5-121		%REC	10	4/19/2008 6:00:00 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-1-SS
Lab Order:	0804138	**Collection Date:**	4/10/2008 5:10:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-09	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						**Analyst: SCC**
Diesel Range Organics (DRO)	71000	5000		mg/Kg	50	4/17/2008 3:57:41 AM
Motor Oil Range Organics (MRO)	ND	25000		mg/Kg	50	4/17/2008 3:57:41 AM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 3:57:41 AM
EPA METHOD 8015B: GASOLINE RANGE						**Analyst: NSB**
Gasoline Range Organics (GRO)	300	250		mg/Kg	50	4/17/2008 2:36:15 PM
Surr: BFB	109	84-138		%REC	50	4/17/2008 2:36:15 PM
EPA METHOD 7471: MERCURY						**Analyst: SNV**
Mercury	19	3.3		mg/Kg	100	4/18/2008 4:44:01 PM
EPA METHOD 6010B: SOIL METALS						**Analyst: NMO**
Arsenic	29	2.5		mg/Kg	1	4/21/2008 10:57:35 AM
Barium	140	1.0		mg/Kg	10	4/21/2008 11:55:01 AM
Cadmium	0.64	0.10		mg/Kg	1	4/21/2008 10:57:35 AM
Chromium	44	0.30		mg/Kg	1	4/21/2008 10:57:35 AM
Lead	23	0.25		mg/Kg	1	4/28/2008 8:14:15 AM
Selenium	ND	25		mg/Kg	10	4/21/2008 11:55:01 AM
Silver	ND	0.25		mg/Kg	1	4/21/2008 10:57:35 AM
EPA METHOD 8270C: SEMIVOLATILES						**Analyst: JDC**
Acenaphthene	ND	30		mg/Kg	1	4/17/2008
Acenaphthylene	ND	30		mg/Kg	1	4/17/2008
Aniline	ND	30		mg/Kg	1	4/17/2008
Anthracene	ND	30		mg/Kg	1	4/17/2008
Azobenzene	ND	30		mg/Kg	1	4/17/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/17/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/17/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/17/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/17/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/17/2008
Benzoic acid	ND	50		mg/Kg	1	4/17/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/17/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/17/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/17/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/17/2008
Carbazole	ND	30		mg/Kg	1	4/17/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/17/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/17/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-1-SS
Lab Order:	0804138	**Collection Date:**	4/10/2008 5:10:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-09	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/17/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/17/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/17/2008
Chrysene	ND	30		mg/Kg	1	4/17/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/17/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/17/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/17/2008
Dibenzofuran	ND	30		mg/Kg	1	4/17/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/17/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/17/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/17/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/17/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/17/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/17/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/17/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/17/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/17/2008
Fluoranthene	ND	38		mg/Kg	1	4/17/2008
Fluorene	ND	30		mg/Kg	1	4/17/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/17/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/17/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/17/2008
Hexachloroethane	ND	30		mg/Kg	1	4/17/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/17/2008
Isophorone	ND	75		mg/Kg	1	4/17/2008
2-Methylnaphthalene	190	38		mg/Kg	1	4/17/2008
2-Methylphenol	ND	75		mg/Kg	1	4/17/2008
3+4-Methylphenol	ND	30		mg/Kg	1	4/17/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/17/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/17/2008
Naphthalene	53	30		mg/Kg	1	4/17/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/17/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/17/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/17/2008
Nitrobenzene	ND	75		mg/Kg	1	4/17/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/17/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/17/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/17/2008
Phenanthrene	50	30		mg/Kg	1	4/17/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-1-SS
Lab Order:	0804138	**Collection Date:**	4/10/2008 5:10:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-09	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	34	30		mg/Kg	1	4/17/2008
Pyrene	ND	30		mg/Kg	1	4/17/2008
Pyridine	ND	75		mg/Kg	1	4/17/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/17/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/17/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/17/2008
Surr: 2,4,6-Tribromophenol	70.3	35.5-141		%REC	1	4/17/2008
Surr: 2-Fluorobiphenyl	98.8	30.4-128		%REC	1	4/17/2008
Surr: 2-Fluorophenol	95.0	28.1-129		%REC	1	4/17/2008
Surr: 4-Terphenyl-d14	58.3	34.6-151		%REC	1	4/17/2008
Surr: Nitrobenzene-d5	84.8	26.5-122		%REC	1	4/17/2008
Surr: Phenol-d5	72.8	37.6-118		%REC	1	4/17/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	3.6	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Toluene	17	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Ethylbenzene	4.3	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,2,4-Trimethylbenzene	11	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,3,5-Trimethylbenzene	2.7	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Naphthalene	10	1.0		mg/Kg	10	4/19/2008 6:35:13 PM
1-Methylnaphthalene	13	2.0		mg/Kg	10	4/19/2008 6:35:13 PM
2-Methylnaphthalene	21	2.0		mg/Kg	10	4/19/2008 6:35:13 PM
Acetone	ND	7.5		mg/Kg	10	4/19/2008 6:35:13 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Bromoform	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Bromomethane	ND	1.0		mg/Kg	10	4/19/2008 6:35:13 PM
2-Butanone	ND	5.0		mg/Kg	10	4/19/2008 6:35:13 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/19/2008 6:35:13 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/19/2008 6:35:13 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Chloroethane	ND	1.0		mg/Kg	10	4/19/2008 6:35:13 PM
Chloroform	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Chloromethane	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/19/2008 6:35:13 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-1-SS
Lab Order:	0804138	**Collection Date:**	4/10/2008 5:10:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-09	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Dibromomethane	ND	1.0		mg/Kg	10	4/19/2008 6:35:13 PM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/19/2008 6:35:13 PM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/19/2008 6:35:13 PM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/19/2008 6:35:13 PM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/19/2008 6:35:13 PM
2-Hexanone	ND	5.0		mg/Kg	10	4/19/2008 6:35:13 PM
Isopropylbenzene	0.64	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/19/2008 6:35:13 PM
Methylene chloride	ND	1.5		mg/Kg	10	4/19/2008 6:35:13 PM
n-Butylbenzene	0.65	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
n-Propylbenzene	1.4	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Styrene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/19/2008 6:35:13 PM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/19/2008 6:35:13 PM
Vinyl chloride	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Xylenes, Total	27	1.0		mg/Kg	10	4/19/2008 6:35:13 PM
Surr: 1,2-Dichloroethane-d4	94.3	66.7-122		%REC	10	4/19/2008 6:35:13 PM
Surr: 4-Bromofluorobenzene	91.3	79.3-126		%REC	10	4/19/2008 6:35:13 PM
Surr: Dibromofluoromethane	97.5	64.4-119		%REC	10	4/19/2008 6:35:13 PM
Surr: Toluene-d8	98.8	86.5-121		%REC	10	4/19/2008 6:35:13 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-2-SS
Lab Order:	0804138	**Collection Date:**	4/10/2008 5:25:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-10	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						**Analyst: SCC**
Diesel Range Organics (DRO)	190000	5000		mg/Kg	50	4/17/2008 4:31:31 AM
Motor Oil Range Organics (MRO)	25000	25000		mg/Kg	50	4/17/2008 4:31:31 AM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 4:31:31 AM
EPA METHOD 8015B: GASOLINE RANGE						**Analyst: NSB**
Gasoline Range Organics (GRO)	560	250		mg/Kg	50	4/17/2008 3:06:28 PM
Surr: BFB	115	84-138		%REC	50	4/17/2008 3:06:28 PM
EPA METHOD 7471: MERCURY						**Analyst: SNV**
Mercury	11	3.3		mg/Kg	100	4/18/2008 4:53:58 PM
EPA METHOD 6010B: SOIL METALS						**Analyst: NMO**
Arsenic	11	2.5		mg/Kg	1	4/21/2008 11:01:58 AM
Barium	190	1.0		mg/Kg	10	4/21/2008 12:06:58 PM
Cadmium	0.69	0.10		mg/Kg	1	4/21/2008 11:01:58 AM
Chromium	19	0.30		mg/Kg	1	4/21/2008 11:01:58 AM
Lead	79	2.5		mg/Kg	10	4/28/2008 8:46:35 AM
Selenium	ND	25		mg/Kg	10	4/21/2008 12:06:58 PM
Silver	ND	0.25		mg/Kg	1	4/21/2008 11:01:58 AM
EPA METHOD 8270C: SEMIVOLATILES						**Analyst: JDC**
Acenaphthene	ND	30		mg/Kg	1	4/17/2008
Acenaphthylene	ND	30		mg/Kg	1	4/17/2008
Aniline	ND	30		mg/Kg	1	4/17/2008
Anthracene	ND	30		mg/Kg	1	4/17/2008
Azobenzene	ND	30		mg/Kg	1	4/17/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/17/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/17/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/17/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/17/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/17/2008
Benzoic acid	ND	50		mg/Kg	1	4/17/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/17/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/17/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/17/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/17/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/17/2008
Carbazole	ND	30		mg/Kg	1	4/17/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/17/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/17/2008

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-2-SS
Lab Order:	0804138	**Collection Date:**	4/10/2008 5:25:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-10	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/17/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/17/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/17/2008
Chrysene	ND	30		mg/Kg	1	4/17/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/17/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/17/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/17/2008
Dibenzofuran	ND	30		mg/Kg	1	4/17/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/17/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/17/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/17/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/17/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/17/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/17/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/17/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/17/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/17/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/17/2008
Fluoranthene	ND	38		mg/Kg	1	4/17/2008
Fluorene	70	30		mg/Kg	1	4/17/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/17/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/17/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/17/2008
Hexachloroethane	ND	30		mg/Kg	1	4/17/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/17/2008
Isophorone	ND	75		mg/Kg	1	4/17/2008
2-Methylnaphthalene	460	38		mg/Kg	1	4/17/2008
2-Methylphenol	ND	75		mg/Kg	1	4/17/2008
3+4-Methylphenol	42	30		mg/Kg	1	4/17/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/17/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/17/2008
Naphthalene	79	30		mg/Kg	1	4/17/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/17/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/17/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/17/2008
Nitrobenzene	ND	75		mg/Kg	1	4/17/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/17/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/17/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/17/2008
Phenanthrene	210	30		mg/Kg	1	4/17/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-2-SS
Lab Order:	0804138	**Collection Date:**	4/10/2008 5:25:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-10	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	35	30		mg/Kg	1	4/17/2008
Pyrene	39	30		mg/Kg	1	4/17/2008
Pyridine	ND	75		mg/Kg	1	4/17/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/17/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/17/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/17/2008
Surr: 2,4,6-Tribromophenol	39.2	35.5-141		%REC	1	4/17/2008
Surr: 2-Fluorobiphenyl	38.1	30.4-128		%REC	1	4/17/2008
Surr: 2-Fluorophenol	90.6	28.1-129		%REC	1	4/17/2008
Surr: 4-Terphenyl-d14	38.1	34.6-151		%REC	1	4/17/2008
Surr: Nitrobenzene-d5	91.2	26.5-122		%REC	1	4/17/2008
Surr: Phenol-d5	71.3	37.6-118		%REC	1	4/17/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	5.1	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Toluene	32	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Ethylbenzene	10	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Methyl tert-butyl ether (MTBE)	1.1	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
1,2,4-Trimethylbenzene	26	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
1,3,5-Trimethylbenzene	6.7	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Naphthalene	19	1.0		mg/Kg	10	4/19/2008 7:10:34 PM
1-Methylnaphthalene	42	2.0		mg/Kg	10	4/19/2008 7:10:34 PM
2-Methylnaphthalene	44	4.0		mg/Kg	20	4/21/2008 1:12:46 PM
Acetone	ND	7.5		mg/Kg	10	4/19/2008 7:10:34 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Bromoform	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Bromomethane	ND	1.0		mg/Kg	10	4/19/2008 7:10:34 PM
2-Butanone	ND	5.0		mg/Kg	10	4/19/2008 7:10:34 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/19/2008 7:10:34 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/19/2008 7:10:34 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Chloroethane	ND	1.0		mg/Kg	10	4/19/2008 7:10:34 PM
Chloroform	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Chloromethane	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/19/2008 7:10:34 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-2-SS
Lab Order:	0804138	**Collection Date:**	4/10/2008 5:25:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-10	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Dibromomethane	ND	1.0		mg/Kg	10	4/19/2008 7:10:34 PM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/19/2008 7:10:34 PM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/19/2008 7:10:34 PM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/19/2008 7:10:34 PM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/19/2008 7:10:34 PM
2-Hexanone	ND	5.0		mg/Kg	10	4/19/2008 7:10:34 PM
Isopropylbenzene	1.8	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
4-Isopropyltoluene	1.0	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/19/2008 7:10:34 PM
Methylene chloride	ND	1.5		mg/Kg	10	4/19/2008 7:10:34 PM
n-Butylbenzene	2.6	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
n-Propylbenzene	4.7	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
sec-Butylbenzene	1.9	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Styrene	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/19/2008 7:10:34 PM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/19/2008 7:10:34 PM
Vinyl chloride	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Xylenes, Total	56	1.0		mg/Kg	10	4/19/2008 7:10:34 PM
Surr: 1,2-Dichloroethane-d4	96.3	68.7-122		%REC	10	4/19/2008 7:10:34 PM
Surr: 4-Bromofluorobenzene	91.8	79.3-126		%REC	10	4/19/2008 7:10:34 PM
Surr: Dibromofluoromethane	99.9	64.4-119		%REC	10	4/19/2008 7:10:34 PM
Surr: Toluene-d8	92.2	86.5-121		%REC	10	4/19/2008 7:10:34 PM

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-3-SS
Lab Order:	0804138	**Collection Date:**	4/10/2008 5:35:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-11	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	54000	5000		mg/Kg	50	4/17/2008 6:46:15 AM
Motor Oil Range Organics (MRO)	ND	25000		mg/Kg	50	4/17/2008 6:46:15 AM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 6:46:15 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	170	100		mg/Kg	20	4/18/2008 11:53:01 PM
Surr: BFB	112	84-138		%REC	20	4/18/2008 11:53:01 PM
EPA METHOD 7471: MERCURY						Analyst: **SNV**
Mercury	7.0	3.2		mg/Kg	100	4/18/2008 4:55:33 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **NMO**
Arsenic	12	2.5		mg/Kg	1	4/21/2008 11:04:36 AM
Barium	210	1.0		mg/Kg	10	4/21/2008 12:11:18 PM
Cadmium	0.16	0.10		mg/Kg	1	4/21/2008 11:04:36 AM
Chromium	16	0.30		mg/Kg	1	4/21/2008 11:04:36 AM
Lead	25	0.25		mg/Kg	1	4/28/2008 8:19:16 AM
Selenium	ND	25		mg/Kg	10	4/21/2008 12:11:18 PM
Silver	ND	0.25		mg/Kg	1	4/21/2008 11:04:36 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	30		mg/Kg	1	4/18/2008
Acenaphthylene	ND	30		mg/Kg	1	4/18/2008
Aniline	ND	30		mg/Kg	1	4/18/2008
Anthracene	ND	30		mg/Kg	1	4/18/2008
Azobenzene	ND	30		mg/Kg	1	4/18/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/18/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/18/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/18/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzoic acid	ND	50		mg/Kg	1	4/18/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/18/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/18/2008
Carbazole	ND	30		mg/Kg	1	4/18/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/18/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/18/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-3-SS
Lab Order:	0804138	**Collection Date:**	4/10/2008 5:35:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-11	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/18/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/18/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Chrysene	ND	30		mg/Kg	1	4/18/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/18/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/18/2008
Dibenzofuran	ND	30		mg/Kg	1	4/18/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/18/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/18/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/18/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
Fluoranthene	ND	38		mg/Kg	1	4/18/2008
Fluorene	36	30		mg/Kg	1	4/18/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/18/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/18/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/18/2008
Hexachloroethane	ND	30		mg/Kg	1	4/18/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/18/2008
Isophorone	ND	75		mg/Kg	1	4/18/2008
2-Methylnaphthalene	200	38		mg/Kg	1	4/18/2008
2-Methylphenol	ND	75		mg/Kg	1	4/18/2008
3+4-Methylphenol	ND	30		mg/Kg	1	4/18/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/18/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/18/2008
Naphthalene	41	30		mg/Kg	1	4/18/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/18/2008
Nitrobenzene	ND	75		mg/Kg	1	4/18/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/18/2008
Phenanthrene	84	30		mg/Kg	1	4/18/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-3-SS
Lab Order:	0804138	**Collection Date:**	4/10/2008 5:35:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-11	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	ND	30		mg/Kg	1	4/18/2008
Pyrene	ND	30		mg/Kg	1	4/18/2008
Pyridine	ND	75		mg/Kg	1	4/18/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/18/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
Surr: 2,4,6-Tribromophenol	58.2	35.5-141		%REC	1	4/18/2008
Surr: 2-Fluorobiphenyl	89.0	30.4-128		%REC	1	4/18/2008
Surr: 2-Fluorophenol	87.3	28.1-128		%REC	1	4/18/2008
Surr: 4-Terphenyl-d14	48.3	34.6-151		%REC	1	4/18/2008
Surr: Nitrobenzene-d5	81.0	26.5-122		%REC	1	4/18/2008
Surr: Phenol-d5	67.8	37.6-118		%REC	1	4/18/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	1.3	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
Toluene	5.7	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
Ethylbenzene	1.8	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
1,2,4-Trimethylbenzene	6.7	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
1,3,5-Trimethylbenzene	1.7	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
Naphthalene	4.0	1.0		mg/Kg	10	4/19/2008 7:46:22 PM
1-Methylnaphthalene	10	2.0		mg/Kg	10	4/19/2008 7:46:22 PM
2-Methylnaphthalene	15	2.0		mg/Kg	10	4/19/2008 7:46:22 PM
Acetone	ND	7.5		mg/Kg	10	4/19/2008 7:46:22 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
Bromoform	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
Bromomethane	ND	1.0		mg/Kg	10	4/19/2008 7:46:22 PM
2-Butanone	ND	5.0		mg/Kg	10	4/19/2008 7:46:22 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/19/2008 7:46:22 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/19/2008 7:46:22 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
Chloroethane	ND	1.0		mg/Kg	10	4/19/2008 7:46:22 PM
Chloroform	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
Chloromethane	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/19/2008 7:46:22 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-3-SS
Lab Order:	0804138	**Collection Date:**	4/10/2008 5:35:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-11	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
Dibromomethane	ND	1.0		mg/Kg	10	4/19/2008 7:46:22 PM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/19/2008 7:46:22 PM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/19/2008 7:46:22 PM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/19/2008 7:46:22 PM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/19/2008 7:46:22 PM
2-Hexanone	ND	5.0		mg/Kg	10	4/19/2008 7:46:22 PM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/19/2008 7:46:22 PM
Methylene chloride	ND	1.5		mg/Kg	10	4/19/2008 7:46:22 PM
n-Butylbenzene	1.7	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
n-Propylbenzene	0.86	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
sec-Butylbenzene	0.82	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
Styrene	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/19/2008 7:46:22 PM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/19/2008 7:46:22 PM
Vinyl chloride	ND	0.50		mg/Kg	10	4/19/2008 7:46:22 PM
Xylenes, Total	12	1.0		mg/Kg	10	4/19/2008 7:46:22 PM
Surr: 1,2-Dichloroethane-d4	96.3	68.7-122		%REC	10	4/19/2008 7:46:22 PM
Surr: 4-Bromofluorobenzene	79.5	79.3-126		%REC	10	4/19/2008 7:46:22 PM
Surr: Dibromofluoromethane	93.9	64.4-119		%REC	10	4/19/2008 7:46:22 PM
Surr: Toluene-d8	96.6	86.5-121		%REC	10	4/19/2008 7:46:22 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-4-SS
Lab Order:	0804138	**Collection Date:**	4/10/2008 5:55:00 PM
Project:	Evaporation Pond/Acration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-12	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	190000	5000		mg/Kg	50	4/17/2008 7:19:45 AM
Motor Oil Range Organics (MRO)	ND	25000		mg/Kg	50	4/17/2008 7:19:45 AM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 7:19:45 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	280	250		mg/Kg	50	4/17/2008 4:06:44 PM
Surr: BFB	112	84-138		%REC	50	4/17/2008 4:06:44 PM
EPA METHOD 7471: MERCURY						Analyst: **SNV**
Mercury	9.5	1.6		mg/Kg	50	4/18/2008 4:57:08 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **NMO**
Arsenic	9.5	2.5		mg/Kg	1	4/21/2008 11:07:15 AM
Barium	280	1.0		mg/Kg	10	4/21/2008 12:13:56 PM
Cadmium	0.48	0.10		mg/Kg	1	4/21/2008 11:07:15 AM
Chromium	24	0.30		mg/Kg	1	4/21/2008 11:07:15 AM
Lead	38	0.25		mg/Kg	1	4/28/2008 8:21:47 AM
Selenium	ND	25		mg/Kg	10	4/21/2008 12:13:56 PM
Silver	ND	0.25		mg/Kg	1	4/21/2008 11:07:15 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	30		mg/Kg	1	4/18/2008
Acenaphthylene	ND	30		mg/Kg	1	4/18/2008
Aniline	ND	30		mg/Kg	1	4/18/2008
Anthracene	ND	30		mg/Kg	1	4/18/2008
Azobenzene	ND	30		mg/Kg	1	4/18/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/18/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/18/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/18/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzoic acid	ND	50		mg/Kg	1	4/18/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/18/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/18/2008
Carbazole	ND	30		mg/Kg	1	4/18/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/18/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/18/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-4-SS
Lab Order:	0804138	**Collection Date:**	4/10/2008 5:55:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-12	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/18/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/18/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Chrysene	33	30		mg/Kg	1	4/18/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/18/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/18/2008
Dibenzofuran	ND	30		mg/Kg	1	4/18/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/18/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/18/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/18/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
Fluoranthene	ND	38		mg/Kg	1	4/18/2008
Fluorene	91	30		mg/Kg	1	4/18/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/18/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/18/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/18/2008
Hexachloroethane	ND	30		mg/Kg	1	4/18/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/18/2008
Isophorone	ND	75		mg/Kg	1	4/18/2008
2-Methylnaphthalene	530	38		mg/Kg	1	4/18/2008
2-Methylphenol	ND	75		mg/Kg	1	4/18/2008
3+4-Methylphenol	ND	30		mg/Kg	1	4/18/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/18/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/18/2008
Naphthalene	94	30		mg/Kg	1	4/18/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/18/2008
Nitrobenzene	ND	75		mg/Kg	1	4/18/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/18/2008
Phenanthrene	200	30		mg/Kg	1	4/18/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-4-SS
Lab Order:	0804138	**Collection Date:**	4/10/2008 5:55:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-12	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	ND	30		mg/Kg	1	4/18/2008
Pyrene	44	30		mg/Kg	1	4/18/2008
Pyridine	ND	75		mg/Kg	1	4/18/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/18/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
Surr: 2,4,6-Tribromophenol	34.3	35.5-141	S	%REC	1	4/18/2008
Surr: 2-Fluorobiphenyl	84.2	30.4-128		%REC	1	4/18/2008
Surr: 2-Fluorophenol	89.3	28.1-129		%REC	1	4/18/2008
Surr: 4-Terphenyl-d14	40.1	34.6-151		%REC	1	4/18/2008
Surr: Nitrobenzene-d5	90.0	26.5-122		%REC	1	4/18/2008
Surr: Phenol-d5	71.5	37.6-118		%REC	1	4/18/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	4.2	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
Toluene	19	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
Ethylbenzene	5.7	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
1,2,4-Trimethylbenzene	18	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
1,3,5-Trimethylbenzene	4.1	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
Naphthalene	14	1.0		mg/Kg	10	4/19/2008 8:21:47 PM
1-Methylnaphthalene	28	2.0		mg/Kg	10	4/19/2008 8:21:47 PM
2-Methylnaphthalene	45	2.0		mg/Kg	10	4/19/2008 8:21:47 PM
Acetone	ND	7.5		mg/Kg	10	4/19/2008 8:21:47 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
Bromoform	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
Bromomethane	ND	1.0		mg/Kg	10	4/19/2008 8:21:47 PM
2-Butanone	ND	5.0		mg/Kg	10	4/19/2008 8:21:47 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/19/2008 8:21:47 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/19/2008 8:21:47 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
Chloroethane	ND	1.0		mg/Kg	10	4/19/2008 8:21:47 PM
Chloroform	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
Chloromethane	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/19/2008 8:21:47 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-4-SS
Lab Order:	0804138	**Collection Date:**	4/10/2008 5:55:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-12	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
Dibromomethane	ND	1.0		mg/Kg	10	4/19/2008 8:21:47 PM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/19/2008 8:21:47 PM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/19/2008 8:21:47 PM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/19/2008 8:21:47 PM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/19/2008 8:21:47 PM
2-Hexanone	ND	5.0		mg/Kg	10	4/19/2008 8:21:47 PM
Isopropylbenzene	0.79	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
4-Isopropyltoluene	0.56	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/19/2008 8:21:47 PM
Methylene chloride	ND	1.5		mg/Kg	10	4/19/2008 8:21:47 PM
n-Butylbenzene	1.3	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
n-Propylbenzene	2.4	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
sec-Butylbenzene	1.3	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
Styrene	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/19/2008 8:21:47 PM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/19/2008 8:21:47 PM
Vinyl chloride	ND	0.50		mg/Kg	10	4/19/2008 8:21:47 PM
Xylenes, Total	33	1.0		mg/Kg	10	4/19/2008 8:21:47 PM
Surr: 1,2-Dichloroethane-d4	94.2	68.7-122		%REC	10	4/19/2008 8:21:47 PM
Surr: 4-Bromofluorobenzene	84.0	79.3-126		%REC	10	4/19/2008 8:21:47 PM
Surr: Dibromofluoromethane	96.8	64.4-119		%REC	10	4/19/2008 8:21:47 PM
Surr: Toluene-d8	94.0	86.5-121		%REC	10	4/19/2008 8:21:47 PM

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-5-SS
Lab Order:	0804138	**Collection Date:**	4/10/2008 6:00:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-13	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						**Analyst: SCC**
Diesel Range Organics (DRO)	220000	5000		mg/Kg	50	4/17/2008 7:53:25 AM
Motor Oil Range Organics (MRO)	ND	25000		mg/Kg	50	4/17/2008 7:53:25 AM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 7:53:25 AM
EPA METHOD 8015B: GASOLINE RANGE						**Analyst: NSB**
Gasoline Range Organics (GRO)	280	250		mg/Kg	50	4/17/2008 4:36:45 PM
Surr: BFB	117	84-138		%REC	50	4/17/2008 4:36:45 PM
EPA METHOD 7471: MERCURY						**Analyst: SNV**
Mercury	9.9	1.6		mg/Kg	50	4/28/2008 2:35:00 PM
EPA METHOD 6010B: SOIL METALS						**Analyst: NMO**
Arsenic	12	2.5		mg/Kg	1	4/21/2008 11:09:54 AM
Barium	360	1.0		mg/Kg	10	4/21/2008 12:16:35 PM
Cadmium	0.20	0.10		mg/Kg	1	4/21/2008 11:09:54 AM
Chromium	13	0.30		mg/Kg	1	4/21/2008 11:09:54 AM
Lead	30	0.25		mg/Kg	1	4/28/2008 8:24:19 AM
Selenium	ND	25		mg/Kg	10	4/21/2008 12:16:35 PM
Silver	ND	0.25		mg/Kg	1	4/21/2008 11:09:54 AM
EPA METHOD 8270C: SEMIVOLATILES						**Analyst: JDC**
Acenaphthene	ND	30		mg/Kg	1	4/18/2008
Acenaphthylene	ND	30		mg/Kg	1	4/18/2008
Aniline	ND	30		mg/Kg	1	4/18/2008
Anthracene	ND	30		mg/Kg	1	4/18/2008
Azobenzene	ND	30		mg/Kg	1	4/18/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/18/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/18/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/18/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzoic acid	ND	50		mg/Kg	1	4/18/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/18/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/18/2008
Carbazole	ND	30		mg/Kg	1	4/18/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/18/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/18/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-5-SS
Lab Order:	0804138	**Collection Date:**	4/10/2008 6:00:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-13	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/18/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/18/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Chrysene	ND	30		mg/Kg	1	4/18/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/18/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/18/2008
Dibenzofuran	ND	30		mg/Kg	1	4/18/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/18/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/18/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/18/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
Fluoranthene	ND	38		mg/Kg	1	4/18/2008
Fluorene	84	30		mg/Kg	1	4/18/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/18/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/18/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/18/2008
Hexachloroethane	ND	30		mg/Kg	1	4/18/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/18/2008
Isophorone	ND	75		mg/Kg	1	4/18/2008
2-Methylnaphthalene	600	38		mg/Kg	1	4/18/2008
2-Methylphenol	ND	75		mg/Kg	1	4/18/2008
3+4-Methylphenol	ND	30		mg/Kg	1	4/18/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/18/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/18/2008
Naphthalene	110	30		mg/Kg	1	4/18/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/18/2008
Nitrobenzene	ND	75		mg/Kg	1	4/18/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/18/2008
Phenanthrene	220	30		mg/Kg	1	4/18/2008

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-5-SS
Lab Order:	0804138	**Collection Date:**	4/10/2008 6:00:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-13	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	ND	30		mg/Kg	1	4/18/2008
Pyrene	ND	30		mg/Kg	1	4/18/2008
Pyridine	ND	75		mg/Kg	1	4/18/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/18/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
Surr: 2,4,6-Tribromophenol	21.9	35.5-141	S	%REC	1	4/18/2008
Surr: 2-Fluorobiphenyl	68.1	30.4-128		%REC	1	4/18/2008
Surr: 2-Fluorophenol	79.4	28.1-129		%REC	1	4/18/2008
Surr: 4-Terphenyl-d14	33.5	34.6-151	S	%REC	1	4/18/2008
Surr: Nitrobenzene-d5	98.4	26.5-122		%REC	1	4/18/2008
Surr: Phenol-d5	62.6	37.6-118		%REC	1	4/18/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	5.9	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
Toluene	24	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
Ethylbenzene	6.1	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
Methyl tert-butyl ether (MTBE)	1.1	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
1,2,4-Trimethylbenzene	16	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
1,3,5-Trimethylbenzene	4.0	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
Naphthalene	14	1.0		mg/Kg	10	4/19/2008 10:43:34 PM
1-Methylnaphthalene	29	2.0		mg/Kg	10	4/19/2008 10:43:34 PM
2-Methylnaphthalene	43	2.0		mg/Kg	10	4/19/2008 10:43:34 PM
Acetone	ND	7.5		mg/Kg	10	4/19/2008 10:43:34 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
Bromoform	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
Bromomethane	ND	1.0		mg/Kg	10	4/19/2008 10:43:34 PM
2-Butanone	ND	5.0		mg/Kg	10	4/19/2008 10:43:34 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/19/2008 10:43:34 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/19/2008 10:43:34 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
Chloroethane	ND	1.0		mg/Kg	10	4/19/2008 10:43:34 PM
Chloroform	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
Chloromethane	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/19/2008 10:43:34 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL1-5-SS
Lab Order:	0804138	**Collection Date:**	4/10/2008 6:00:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-13	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Dibromochloromethane	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
Dibromomethane	ND	1.0		mg/Kg	10	4/19/2008 10:43:34 PM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/19/2008 10:43:34 PM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/19/2008 10:43:34 PM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/19/2008 10:43:34 PM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/19/2008 10:43:34 PM
2-Hexanone	ND	5.0		mg/Kg	10	4/19/2008 10:43:34 PM
Isopropylbenzene	1.2	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
4-Isopropyltoluene	0.71	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/19/2008 10:43:34 PM
Methylene chloride	ND	1.5		mg/Kg	10	4/19/2008 10:43:34 PM
n-Butylbenzene	3.0	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
n-Propylbenzene	2.5	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
sec-Butylbenzene	1.2	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
Styrene	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/19/2008 10:43:34 PM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/19/2008 10:43:34 PM
Vinyl chloride	ND	0.50		mg/Kg	10	4/19/2008 10:43:34 PM
Xylenes, Total	35	1.0		mg/Kg	10	4/19/2008 10:43:34 PM
Surr: 1,2-Dichloroethane-d4	96.9	68.7-122		%REC	10	4/19/2008 10:43:34 PM
Surr: 4-Bromofluorobenzene	85.8	79.3-126		%REC	10	4/19/2008 10:43:34 PM
Surr: Dibromofluoromethane	99.9	64.4-119		%REC	10	4/19/2008 10:43:34 PM
Surr: Toluene-d8	97.7	86.6-121		%REC	10	4/19/2008 10:43:34 PM

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-6
Lab Order:	0804138	**Collection Date:**	4/9/2008 7:10:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-14	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	180000	5000		mg/Kg	50	4/17/2008 8:27:16 AM
Motor Oil Range Organics (MRO)	26000	25000		mg/Kg	50	4/17/2008 8:27:16 AM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 8:27:16 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/19/2008 12:23:11 AM
Surr: BFB	108	84-138		%REC	20	4/19/2008 12:23:11 AM
EPA METHOD 7471: MERCURY						Analyst: **SNV**
Mercury	4.1	1.6		mg/Kg	50	4/28/2008 2:38:12 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **NMO**
Arsenic	3.2	2.5		mg/Kg	1	4/21/2008 11:12:34 AM
Barium	330	1.0		mg/Kg	10	4/21/2008 12:19:14 PM
Cadmium	0.26	0.10		mg/Kg	1	4/21/2008 11:12:34 AM
Chromium	8.8	0.30		mg/Kg	1	4/21/2008 11:12:34 AM
Lead	16	0.25		mg/Kg	1	4/28/2008 8:26:49 AM
Selenium	ND	25		mg/Kg	10	4/21/2008 12:19:14 PM
Silver	ND	0.25		mg/Kg	1	4/21/2008 11:12:34 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	30		mg/Kg	1	4/18/2008
Acenaphthylene	ND	30		mg/Kg	1	4/18/2008
Aniline	ND	30		mg/Kg	1	4/18/2008
Anthracene	ND	30		mg/Kg	1	4/18/2008
Azobenzene	ND	30		mg/Kg	1	4/18/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/18/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/18/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/18/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzoic acid	ND	50		mg/Kg	1	4/18/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/18/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/18/2008
Carbazole	ND	30		mg/Kg	1	4/18/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/18/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/18/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-6
Lab Order:	0804138	**Collection Date:**	4/9/2008 7:10:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-14	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/18/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/18/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Chrysene	40	30		mg/Kg	1	4/18/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/18/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/18/2008
Dibenzofuran	ND	30		mg/Kg	1	4/18/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/18/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/18/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/18/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
Fluoranthene	ND	38		mg/Kg	1	4/18/2008
Fluorene	70	30		mg/Kg	1	4/18/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/18/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/18/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/18/2008
Hexachloroethane	ND	30		mg/Kg	1	4/18/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/18/2008
Isophorone	ND	75		mg/Kg	1	4/18/2008
2-Methylnaphthalene	210	38		mg/Kg	1	4/18/2008
2-Methylphenol	ND	75		mg/Kg	1	4/18/2008
3+4-Methylphenol	ND	30		mg/Kg	1	4/18/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/18/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/18/2008
Naphthalene	ND	30		mg/Kg	1	4/18/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/18/2008
Nitrobenzene	ND	75		mg/Kg	1	4/18/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/18/2008
Phenanthrene	150	30		mg/Kg	1	4/18/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-6
Lab Order:	0804138	**Collection Date:**	4/9/2008 7:10:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-14	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	ND	30		mg/Kg	1	4/18/2008
Pyrene	41	30		mg/Kg	1	4/18/2008
Pyridine	ND	75		mg/Kg	1	4/18/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/18/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
Surr: 2,4,6-Tribromophenol	39.8	35.5-141		%REC	1	4/18/2008
Surr: 2-Fluorobiphenyl	81.0	30.4-128		%REC	1	4/18/2008
Surr: 2-Fluorophenol	87.3	28.1-129		%REC	1	4/18/2008
Surr: 4-Terphenyl-d14	47.1	34.6-151		%REC	1	4/18/2008
Surr: Nitrobenzene-d5	63.5	26.5-122		%REC	1	4/18/2008
Surr: Phenol-d5	65.5	37.6-118		%REC	1	4/18/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
Toluene	0.63	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
Ethylbenzene	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
1,2,4-Trimethylbenzene	2.2	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
1,3,5-Trimethylbenzene	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
Naphthalene	2.8	1.0		mg/Kg	10	4/19/2008 11:18:48 PM
1-Methylnaphthalene	15	2.0		mg/Kg	10	4/19/2008 11:18:48 PM
2-Methylnaphthalene	19	2.0		mg/Kg	10	4/19/2008 11:18:48 PM
Acetone	ND	7.5		mg/Kg	10	4/19/2008 11:18:48 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
Bromoform	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
Bromomethane	ND	1.0		mg/Kg	10	4/19/2008 11:18:48 PM
2-Butanone	ND	5.0		mg/Kg	10	4/19/2008 11:18:48 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/19/2008 11:18:48 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/19/2008 11:18:48 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
Chloroethane	ND	1.0		mg/Kg	10	4/19/2008 11:18:48 PM
Chloroform	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
Chloromethane	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/19/2008 11:18:48 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-6
Lab Order:	0804138	**Collection Date:**	4/9/2008 7:10:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-14	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
Dibromomethane	ND	1.0		mg/Kg	10	4/19/2008 11:18:48 PM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/19/2008 11:18:48 PM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/19/2008 11:18:48 PM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/19/2008 11:18:48 PM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/19/2008 11:18:48 PM
2-Hexanone	ND	5.0		mg/Kg	10	4/19/2008 11:18:48 PM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/19/2008 11:18:48 PM
Methylene chloride	ND	1.5		mg/Kg	10	4/19/2008 11:18:48 PM
n-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
Styrene	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/19/2008 11:18:48 PM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/19/2008 11:18:48 PM
Vinyl chloride	ND	0.50		mg/Kg	10	4/19/2008 11:18:48 PM
Xylenes, Total	1.3	1.0		mg/Kg	10	4/19/2008 11:18:48 PM
Surr: 1,2-Dichloroethane-d4	98.2	68.7-122		%REC	10	4/19/2008 11:18:48 PM
Surr: 4-Bromofluorobenzene	92.6	79.3-126		%REC	10	4/19/2008 11:18:48 PM
Surr: Dibromofluoromethane	99.2	64.4-119		%REC	10	4/19/2008 11:18:48 PM
Surr: Toluene-d8	97.7	86.5-121		%REC	10	4/19/2008 11:18:48 PM

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-7
Lab Order:	0804138	**Collection Date:**	4/9/2008 7:35:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-15	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: SCC
Diesel Range Organics (DRO)	200000	5000		mg/Kg	50	4/17/2008 9:01:21 AM
Motor Oil Range Organics (MRO)	25000	25000		mg/Kg	50	4/17/2008 9:01:21 AM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 9:01:21 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/19/2008 12:53:17 AM
Surr: BFB	102	84-138		%REC	20	4/19/2008 12:53:17 AM
EPA METHOD 7471: MERCURY						Analyst: SNV
Mercury	4.4	1.6		mg/Kg	50	4/28/2008 2:41:25 PM
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Arsenic	3.6	2.5		mg/Kg	1	4/21/2008 11:15:14 AM
Barium	280	1.0		mg/Kg	10	4/21/2008 12:21:53 PM
Cadmium	0.27	0.10		mg/Kg	1	4/21/2008 11:15:14 AM
Chromium	8.3	0.30		mg/Kg	1	4/21/2008 11:15:14 AM
Lead	9.7	0.25		mg/Kg	1	4/28/2008 8:29:20 AM
Selenium	27	25		mg/Kg	10	4/21/2008 12:21:53 PM
Silver	ND	0.25		mg/Kg	1	4/21/2008 11:15:14 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	30		mg/Kg	1	4/18/2008
Acenaphthylene	ND	30		mg/Kg	1	4/18/2008
Aniline	ND	30		mg/Kg	1	4/18/2008
Anthracene	ND	30		mg/Kg	1	4/18/2008
Azobenzene	ND	30		mg/Kg	1	4/18/2008
Benz(a)anthracene	35	30		mg/Kg	1	4/18/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/18/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/18/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzoic acid	ND	60		mg/Kg	1	4/18/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/18/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/18/2008
Carbazole	ND	30		mg/Kg	1	4/18/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/18/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/18/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-7
Lab Order:	0804138	**Collection Date:**	4/9/2008 7:35:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-15	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/18/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/18/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Chrysene	74	30		mg/Kg	1	4/18/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/18/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/18/2008
Dibenzofuran	ND	30		mg/Kg	1	4/18/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/18/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/18/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/18/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
Fluoranthene	ND	38		mg/Kg	1	4/18/2008
Fluorene	77	30		mg/Kg	1	4/18/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/18/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/18/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/18/2008
Hexachloroethane	ND	30		mg/Kg	1	4/18/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/18/2008
Isophorone	ND	75		mg/Kg	1	4/18/2008
2-Methylnaphthalene	260	38		mg/Kg	1	4/18/2008
2-Methylphenol	ND	75		mg/Kg	1	4/18/2008
3+4-Methylphenol	ND	30		mg/Kg	1	4/18/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/18/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/18/2008
Naphthalene	ND	30		mg/Kg	1	4/18/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/18/2008
Nitrobenzene	ND	75		mg/Kg	1	4/18/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
Pentachlorophenol	ND	60		mg/Kg	1	4/18/2008
Phenanthrene	240	30		mg/Kg	1	4/18/2008

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-7
Lab Order:	0804138	**Collection Date:**	4/9/2008 7:35:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-15	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	ND	30		mg/Kg	1	4/18/2008
Pyrene	70	30		mg/Kg	1	4/18/2008
Pyridine	ND	75		mg/Kg	1	4/18/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/18/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
Surr: 2,4,6-Tribromophenol	33.5	35.5-141	S	%REC	1	4/18/2008
Surr: 2-Fluorobiphenyl	82.2	30.4-128		%REC	1	4/18/2008
Surr: 2-Fluorophenol	88.1	28.1-129		%REC	1	4/18/2008
Surr: 4-Terphenyl-d14	39.7	34.6-151		%REC	1	4/18/2008
Surr: Nitrobenzene-d5	62.9	26.5-122		%REC	1	4/18/2008
Surr: Phenol-d5	60.7	37.6-118		%REC	1	4/18/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Toluene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Ethylbenzene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
1,2,4-Trimethylbenzene	1.7	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
1,3,5-Trimethylbenzene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Naphthalene	1.7	1.0		mg/Kg	10	4/19/2008 11:54:29 PM
1-Methylnaphthalene	9.1	2.0		mg/Kg	10	4/19/2008 11:54:29 PM
2-Methylnaphthalene	12	2.0		mg/Kg	10	4/19/2008 11:54:29 PM
Acetone	ND	7.5		mg/Kg	10	4/19/2008 11:54:29 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Bromoform	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Bromomethane	ND	1.0		mg/Kg	10	4/19/2008 11:54:29 PM
2-Butanone	ND	5.0		mg/Kg	10	4/19/2008 11:54:29 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/19/2008 11:54:29 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/19/2008 11:54:29 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Chloroethane	ND	1.0		mg/Kg	10	4/19/2008 11:54:29 PM
Chloroform	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Chloromethane	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/19/2008 11:54:29 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-7
Lab Order:	0804138	**Collection Date:**	4/9/2008 7:35:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-15	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Dibromomethane	ND	1.0		mg/Kg	10	4/19/2008 11:54:29 PM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/19/2008 11:54:29 PM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/19/2008 11:54:29 PM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/19/2008 11:54:29 PM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/19/2008 11:54:29 PM
2-Hexanone	ND	5.0		mg/Kg	10	4/19/2008 11:54:29 PM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/19/2008 11:54:29 PM
Methylene chloride	ND	1.5		mg/Kg	10	4/19/2008 11:54:29 PM
n-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Styrene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/19/2008 11:54:29 PM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/19/2008 11:54:29 PM
Vinyl chloride	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Xylenes, Total	ND	1.0		mg/Kg	10	4/19/2008 11:54:29 PM
Surr: 1,2-Dichloroethane-d4	97.2	68.7-122		%REC	10	4/19/2008 11:54:29 PM
Surr: 4-Bromofluorobenzene	91.1	79.3-126		%REC	10	4/19/2008 11:54:29 PM
Surr: Dibromofluoromethane	103	84.4-119		%REC	10	4/19/2008 11:54:29 PM
Surr: Toluene-d8	98.2	86.5-121		%REC	10	4/19/2008 11:54:29 PM

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-8
Lab Order:	0804138	**Collection Date:**	4/9/2008 7:17:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-16	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	150000	5000		mg/Kg	50	4/17/2008 9:35:41 AM
Motor Oil Range Organics (MRO)	ND	25000		mg/Kg	50	4/17/2008 9:35:41 AM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 9:35:41 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/19/2008 1:23:23 AM
Surr: BFB	108	84-138		%REC	20	4/19/2008 1:23:23 AM
EPA METHOD 7471: MERCURY						Analyst: **SNV**
Mercury	4.9	1.6		mg/Kg	50	4/28/2008 2:44:40 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **NMO**
Arsenic	11	2.5		mg/Kg	1	4/21/2008 11:17:52 AM
Barium	120	1.0		mg/Kg	10	4/21/2008 12:24:33 PM
Cadmium	0.80	0.10		mg/Kg	1	4/21/2008 11:17:52 AM
Chromium	58	3.0		mg/Kg	10	4/21/2008 12:24:33 PM
Lead	15	0.25		mg/Kg	1	4/28/2008 8:31:51 AM
Selenium	ND	25		mg/Kg	10	4/21/2008 12:24:33 PM
Silver	ND	0.25		mg/Kg	1	4/21/2008 11:17:52 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	30		mg/Kg	1	4/18/2008
Acenaphthylene	ND	30		mg/Kg	1	4/18/2008
Aniline	ND	30		mg/Kg	1	4/18/2008
Anthracene	ND	30		mg/Kg	1	4/18/2008
Azobenzene	ND	30		mg/Kg	1	4/18/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/18/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/18/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/18/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzoic acid	ND	60		mg/Kg	1	4/18/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/18/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/18/2008
Carbazole	ND	30		mg/Kg	1	4/18/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/18/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/18/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-8
Lab Order:	0804138	**Collection Date:**	4/9/2008 7:17:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-16	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/18/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/18/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Chrysene	ND	30		mg/Kg	1	4/18/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/18/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/18/2008
Dibenzofuran	ND	30		mg/Kg	1	4/18/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/18/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/18/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/18/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
Fluoranthene	ND	38		mg/Kg	1	4/18/2008
Fluorene	41	30		mg/Kg	1	4/18/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/18/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/18/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/18/2008
Hexachloroethane	ND	30		mg/Kg	1	4/18/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/18/2008
Isophorone	ND	75		mg/Kg	1	4/18/2008
2-Methylnaphthalene	110	38		mg/Kg	1	4/18/2008
2-Methylphenol	ND	75		mg/Kg	1	4/18/2008
3+4-Methylphenol	ND	30		mg/Kg	1	4/18/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/18/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/18/2008
Naphthalene	ND	30		mg/Kg	1	4/18/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/18/2008
Nitrobenzene	ND	75		mg/Kg	1	4/18/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/18/2008
Phenanthrene	120	30		mg/Kg	1	4/18/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-8
Lab Order:	0804138	**Collection Date:**	4/9/2008 7:17:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-16	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	ND	30		mg/Kg	1	4/18/2008
Pyrene	ND	30		mg/Kg	1	4/18/2008
Pyridine	ND	75		mg/Kg	1	4/18/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/18/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
Surr: 2,4,6-Tribromophenol	49.2	35.5-141		%REC	1	4/18/2008
Surr: 2-Fluorobiphenyl	64.2	30.4-128		%REC	1	4/18/2008
Surr: 2-Fluorophenol	86.1	28.1-129		%REC	1	4/18/2008
Surr: 4-Terphenyl-d14	47.3	34.6-151		%REC	1	4/18/2008
Surr: Nitrobenzene-d5	62.5	26.5-122		%REC	1	4/18/2008
Surr: Phenol-d5	66.3	37.6-116		%REC	1	4/18/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Toluene	0.54	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Ethylbenzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,2,4-Trimethylbenzene	1.2	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,3,5-Trimethylbenzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Naphthalene	1.6	1.0		mg/Kg	10	4/20/2008 12:29:39 AM
1-Methylnaphthalene	8.1	2.0		mg/Kg	10	4/20/2008 12:29:39 AM
2-Methylnaphthalene	11	2.0		mg/Kg	10	4/20/2008 12:29:39 AM
Acetone	ND	7.5		mg/Kg	10	4/20/2008 12:29:39 AM
Bromobenzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Bromoform	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Bromomethane	ND	1.0		mg/Kg	10	4/20/2008 12:29:39 AM
2-Butanone	ND	5.0		mg/Kg	10	4/20/2008 12:29:39 AM
Carbon disulfide	ND	5.0		mg/Kg	10	4/20/2008 12:29:39 AM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/20/2008 12:29:39 AM
Chlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Chloroethane	ND	1.0		mg/Kg	10	4/20/2008 12:29:39 AM
Chloroform	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Chloromethane	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/20/2008 12:29:39 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-8
Lab Order:	0804138	**Collection Date:**	4/9/2008 7:17:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-16	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Dibromomethane	ND	1.0		mg/Kg	10	4/20/2008 12:29:39 AM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/20/2008 12:29:39 AM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/20/2008 12:29:39 AM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/20/2008 12:29:39 AM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/20/2008 12:29:39 AM
2-Hexanone	ND	5.0		mg/Kg	10	4/20/2008 12:29:39 AM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/20/2008 12:29:39 AM
Methylene chloride	ND	1.5		mg/Kg	10	4/20/2008 12:29:39 AM
n-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Styrene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/20/2008 12:29:39 AM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/20/2008 12:29:39 AM
Vinyl chloride	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Xylenes, Total	ND	1.0		mg/Kg	10	4/20/2008 12:29:39 AM
Surr: 1,2-Dichloroethane-d4	96.9	68.7-122		%REC	10	4/20/2008 12:29:39 AM
Surr: 4-Bromofluorobenzene	90.7	79.3-126		%REC	10	4/20/2008 12:29:39 AM
Surr: Dibromofluoromethane	98.4	64.4-119		%REC	10	4/20/2008 12:29:39 AM
Surr: Toluene-d8	99.8	86.5-121		%REC	10	4/20/2008 12:29:39 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BD-2
Lab Order:	0804138	**Collection Date:**	4/9/2008
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-19	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8016B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	350000	5000		mg/Kg	50	4/17/2008 5:27:25 PM
Motor Oil Range Organics (MRO)	52000	25000		mg/Kg	50	4/17/2008 5:27:25 PM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 5:27:25 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/19/2008 1:53:15 AM
Surr: BFB	103	84-138		%REC	20	4/19/2008 1:53:15 AM
EPA METHOD 7471: MERCURY						Analyst: **SNV**
Mercury	5.5	1.6		mg/Kg	50	4/28/2008 2:51:14 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **NMO**
Arsenic	14	2.5		mg/Kg	1	4/23/2008 8:07:03 AM
Barium	210	1.0		mg/Kg	10	4/23/2008 9:21:38 AM
Cadmium	0.40	0.10		mg/Kg	1	4/23/2008 8:07:03 AM
Chromium	16	0.30		mg/Kg	1	4/23/2008 8:07:03 AM
Lead	29	0.25		mg/Kg	1	4/28/2008 9:36:28 AM
Selenium	ND	25		mg/Kg	10	4/23/2008 9:21:38 AM
Silver	ND	0.25		mg/Kg	1	4/28/2008 9:36:28 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	30		mg/Kg	1	4/18/2008
Acenaphthylene	ND	30		mg/Kg	1	4/18/2008
Aniline	ND	30		mg/Kg	1	4/18/2008
Anthracene	ND	30		mg/Kg	1	4/18/2008
Azobenzene	ND	30		mg/Kg	1	4/18/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/18/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/18/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/18/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzoic acid	ND	50		mg/Kg	1	4/18/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/18/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/18/2008
Carbazole	ND	30		mg/Kg	1	4/18/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/18/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/18/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BD-2
Lab Order:	0804138	**Collection Date:**	4/9/2008
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-19	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/18/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/18/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Chrysene	49	30		mg/Kg	1	4/18/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/18/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/18/2008
Dibenzofuran	36	30		mg/Kg	1	4/18/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/18/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/18/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/18/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
Fluoranthene	ND	38		mg/Kg	1	4/18/2008
Fluorene	130	30		mg/Kg	1	4/18/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/18/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/18/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/18/2008
Hexachloroethane	ND	30		mg/Kg	1	4/18/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/18/2008
Isophorone	ND	75		mg/Kg	1	4/18/2008
2-Methylnaphthalene	640	75		mg/Kg	2	4/20/2008
2-Methylphenol	ND	75		mg/Kg	1	4/18/2008
3+4-Methylphenol	35	30		mg/Kg	1	4/18/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/18/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/18/2008
Naphthalene	67	30		mg/Kg	1	4/18/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/18/2008
Nitrobenzene	ND	75		mg/Kg	1	4/18/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/18/2008
Phenanthrene	310	30		mg/Kg	1	4/18/2008

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BD-2
Lab Order:	0804138	**Collection Date:**	4/9/2008
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-19	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	ND	30		mg/Kg	1	4/18/2008
Pyrene	51	30		mg/Kg	1	4/18/2008
Pyridine	ND	75		mg/Kg	1	4/18/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/18/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
Surr: 2,4,6-Tribromophenol	19.9	35.5-141	S	%REC	1	4/18/2008
Surr: 2-Fluorobiphenyl	0	30.4-128	S	%REC	1	4/18/2008
Surr: 2-Fluorophenol	83.7	28.1-129		%REC	1	4/18/2008
Surr: 4-Terphenyl-d14	45.1	34.6-151		%REC	1	4/18/2008
Surr: Nitrobenzene-d5	84.4	26.5-122		%REC	1	4/18/2008
Surr: Phenol-d5	66.9	37.6-118		%REC	1	4/18/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
Toluene	1.2	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
Ethylbenzene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,2,4-Trimethylbenzene	3.6	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,3,5-Trimethylbenzene	0.56	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
Naphthalene	4.1	1.0		mg/Kg	10	4/20/2008 1:05:19 AM
1-Methylnaphthalene	21	2.0		mg/Kg	10	4/20/2008 1:05:19 AM
2-Methylnaphthalene	24	2.0		mg/Kg	10	4/20/2008 1:05:19 AM
Acetone	ND	7.5		mg/Kg	10	4/20/2008 1:05:19 AM
Bromobenzene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
Bromoform	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
Bromomethane	ND	1.0		mg/Kg	10	4/20/2008 1:05:19 AM
2-Butanone	ND	5.0		mg/Kg	10	4/20/2008 1:05:19 AM
Carbon disulfide	ND	5.0		mg/Kg	10	4/20/2008 1:05:19 AM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/20/2008 1:05:19 AM
Chlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
Chloroethane	ND	1.0		mg/Kg	10	4/20/2008 1:05:19 AM
Chloroform	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
Chloromethane	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/20/2008 1:05:19 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BD-2
Lab Order:	0804138	**Collection Date:**	4/9/2008
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-19	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
Dibromomethane	ND	1.0		mg/Kg	10	4/20/2008 1:05:19 AM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/20/2008 1:05:19 AM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/20/2008 1:05:19 AM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/20/2008 1:05:19 AM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/20/2008 1:05:19 AM
2-Hexanone	ND	5.0		mg/Kg	10	4/20/2008 1:05:19 AM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/20/2008 1:05:19 AM
Methylene chloride	ND	1.5		mg/Kg	10	4/20/2008 1:05:19 AM
n-Butylbenzene	0.72	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
Styrene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/20/2008 1:05:19 AM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/20/2008 1:05:19 AM
Vinyl chloride	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
Xylenes, Total	3.1	1.0		mg/Kg	10	4/20/2008 1:05:19 AM
Surr: 1,2-Dichloroethane-d4	98.6	68.7-122		%REC	10	4/20/2008 1:05:19 AM
Surr: 4-Bromofluorobenzene	93.1	79.3-126		%REC	10	4/20/2008 1:05:19 AM
Surr: Dibromofluoromethane	105	64.4-119		%REC	10	4/20/2008 1:05:19 AM
Surr: Toluene-d8	101	86.5-121		%REC	10	4/20/2008 1:05:19 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BD-1
Lab Order:	0804138	**Collection Date:**	4/8/2008
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-20	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	220000	5000		mg/Kg	50	4/18/2008 11:41:56 PM
Motor Oil Range Organics (MRO)	ND	25000		mg/Kg	50	4/18/2008 11:41:56 PM
Surr: DNOP	0	61.7-135	S	%REC	50	4/18/2008 11:41:56 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/19/2008 2:23:16 AM
Surr: BFB	109	84-138		%REC	20	4/19/2008 2:23:16 AM
EPA METHOD 7471: MERCURY						Analyst: **SNV**
Mercury	11	1.6		mg/Kg	50	4/28/2008 2:54:28 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **NMO**
Arsenic	12	2.6		mg/Kg	1	4/23/2008 8:09:42 AM
Barium	420	1.0		mg/Kg	10	4/23/2008 9:24:19 AM
Cadmium	0.46	0.10		mg/Kg	1	4/23/2008 8:09:42 AM
Chromium	22	0.30		mg/Kg	1	4/23/2008 8:09:42 AM
Lead	26	0.25		mg/Kg	1	4/28/2008 9:39:06 AM
Selenium	ND	25		mg/Kg	10	4/23/2008 9:24:19 AM
Silver	ND	0.25		mg/Kg	1	4/28/2008 9:39:06 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	30		mg/Kg	1	4/18/2008
Acenaphthylene	ND	30		mg/Kg	1	4/18/2008
Aniline	ND	30		mg/Kg	1	4/18/2008
Anthracene	ND	30		mg/Kg	1	4/18/2008
Azobenzene	ND	30		mg/Kg	1	4/18/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/18/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/18/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/18/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzoic acid	ND	50		mg/Kg	1	4/18/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/18/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/18/2008
Carbazole	ND	30		mg/Kg	1	4/18/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/18/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/18/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BD-1
Lab Order:	0804138	**Collection Date:**	4/8/2008
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-20	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/18/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/18/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Chrysene	48	30		mg/Kg	1	4/18/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/18/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/18/2008
Dibenzofuran	ND	30		mg/Kg	1	4/18/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/18/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/18/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/18/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
Fluoranthene	ND	38		mg/Kg	1	4/18/2008
Fluorene	100	30		mg/Kg	1	4/18/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/18/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/18/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/18/2008
Hexachloroethane	ND	30		mg/Kg	1	4/18/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/18/2008
Isophorone	ND	75		mg/Kg	1	4/18/2008
2-Methylnaphthalene	540	38		mg/Kg	1	4/18/2008
2-Methylphenol	ND	75		mg/Kg	1	4/18/2008
3+4-Methylphenol	30	30		mg/Kg	1	4/18/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/18/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/18/2008
Naphthalene	48	30		mg/Kg	1	4/18/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/18/2008
Nitrobenzene	ND	75		mg/Kg	1	4/18/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
Pentachlorophenol	ND	60		mg/Kg	1	4/18/2008
Phenanthrene	300	30		mg/Kg	1	4/18/2008

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BD-1
Lab Order:	0804138	**Collection Date:**	4/8/2008
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-20	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	ND	30		mg/Kg	1	4/18/2008
Pyrene	56	30		mg/Kg	1	4/18/2008
Pyridine	ND	75		mg/Kg	1	4/18/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/18/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
Surr: 2,4,6-Tribromophenol	30.1	35.5-141	S	%REC	1	4/18/2008
Surr: 2-Fluorobiphenyl	73.9	30.4-128		%REC	1	4/18/2008
Surr: 2-Fluorophenol	69.8	28.1-129		%REC	1	4/18/2008
Surr: 4-Terphenyl-d14	35.9	34.6-151		%REC	1	4/18/2008
Surr: Nitrobenzene-d5	81.0	26.5-122		%REC	1	4/18/2008
Surr: Phenol-d5	66.8	37.6-118		%REC	1	4/18/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
Toluene	1.3	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
Ethylbenzene	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
1,2,4-Trimethylbenzene	2.9	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
1,3,5-Trimethylbenzene	0.61	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
Naphthalene	5.1	1.0		mg/Kg	10	4/20/2008 1:40:28 AM
1-Methylnaphthalene	23	2.0		mg/Kg	10	4/20/2008 1:40:28 AM
2-Methylnaphthalene	34	2.0		mg/Kg	10	4/20/2008 1:40:28 AM
Acetone	ND	7.5		mg/Kg	10	4/20/2008 1:40:28 AM
Bromobenzene	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
Bromoform	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
Bromomethane	ND	1.0		mg/Kg	10	4/20/2008 1:40:28 AM
2-Butanone	ND	5.0		mg/Kg	10	4/20/2008 1:40:28 AM
Carbon disulfide	ND	5.0		mg/Kg	10	4/20/2008 1:40:28 AM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/20/2008 1:40:28 AM
Chlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
Chloroethane	ND	1.0		mg/Kg	10	4/20/2008 1:40:28 AM
Chloroform	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
Chloromethane	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/20/2008 1:40:28 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BD-1
Lab Order:	0804138	**Collection Date:**	4/8/2008
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-20	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
Dibromomethane	ND	1.0		mg/Kg	10	4/20/2008 1:40:28 AM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/20/2008 1:40:28 AM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/20/2008 1:40:28 AM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/20/2008 1:40:28 AM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/20/2008 1:40:28 AM
2-Hexanone	ND	5.0		mg/Kg	10	4/20/2008 1:40:28 AM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/20/2008 1:40:28 AM
Methylene chloride	ND	1.5		mg/Kg	10	4/20/2008 1:40:28 AM
n-Butylbenzene	0.65	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
Styrene	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/20/2008 1:40:28 AM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/20/2008 1:40:28 AM
Vinyl chloride	ND	0.50		mg/Kg	10	4/20/2008 1:40:28 AM
Xylenes, Total	3.1	1.0		mg/Kg	10	4/20/2008 1:40:28 AM
Surr: 1,2-Dichloroethane-d4	94.0	68.7-122		%REC	10	4/20/2008 1:40:28 AM
Surr: 4-Bromofluorobenzene	94.4	79.3-126		%REC	10	4/20/2008 1:40:28 AM
Surr: Dibromofluoromethane	99.4	84.4-119		%REC	10	4/20/2008 1:40:28 AM
Surr: Toluene-d8	95.0	86.5-121		%REC	10	4/20/2008 1:40:28 AM

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EB040808
Lab Order:	0804138	**Collection Date:**	4/8/2008 4:45:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-21	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
Toluene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
Ethylbenzene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
Naphthalene	ND	2.0		µg/L	1	4/19/2008 12:33:24 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	4/19/2008 12:33:24 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	4/19/2008 12:33:24 PM
Acetone	ND	10		µg/L	1	4/19/2008 12:33:24 PM
Bromobenzene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
Bromodichloromethane	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
Bromoform	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
Bromomethane	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
2-Butanone	ND	10		µg/L	1	4/19/2008 12:33:24 PM
Carbon disulfide	ND	10		µg/L	1	4/19/2008 12:33:24 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
Chlorobenzene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
Chloroethane	ND	2.0		µg/L	1	4/19/2008 12:33:24 PM
Chloroform	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
Chloromethane	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
2-Chlorotoluene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
4-Chlorotoluene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
cis-1,2-DCE	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/19/2008 12:33:24 PM
Dibromochloromethane	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
Dibromomethane	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	4/19/2008 12:33:24 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
2-Hexanone	ND	10		µg/L	1	4/19/2008 12:33:24 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EB040808
Lab Order:	0804138	**Collection Date:**	4/8/2008 4:45:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-21	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Isopropylbenzene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	4/19/2008 12:33:24 PM
Methylene Chloride	ND	3.0		µg/L	1	4/19/2008 12:33:24 PM
n-Butylbenzene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
n-Propylbenzene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
sec-Butylbenzene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
Styrene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
tert-Butylbenzene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/19/2008 12:33:24 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
trans-1,2-DCE	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/19/2008 12:33:24 PM
Vinyl chloride	ND	1.0		µg/L	1	4/19/2008 12:33:24 PM
Xylenes, Total	ND	1.5		µg/L	1	4/19/2008 12:33:24 PM
Surr: 1,2-Dichloroethane-d4	108	68.1-123		%REC	1	4/19/2008 12:33:24 PM
Surr: 4-Bromofluorobenzene	102	53.2-145		%REC	1	4/19/2008 12:33:24 PM
Surr: Dibromofluoromethane	101	68.5-119		%REC	1	4/19/2008 12:33:24 PM
Surr: Toluene-d8	104	84-131		%REC	1	4/19/2008 12:33:24 PM

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EB040908
Lab Order:	0804138	**Collection Date:**	4/10/2008 7:35:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-22	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
Toluene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
Ethylbenzene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
Naphthalene	ND	2.0		µg/L	1	4/19/2008 1:02:11 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	4/19/2008 1:02:11 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	4/19/2008 1:02:11 PM
Acetone	ND	10		µg/L	1	4/19/2008 1:02:11 PM
Bromobenzene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
Bromodichloromethane	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
Bromoform	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
Bromomethane	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
2-Butanone	ND	10		µg/L	1	4/19/2008 1:02:11 PM
Carbon disulfide	ND	10		µg/L	1	4/19/2008 1:02:11 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
Chlorobenzene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
Chloroethane	ND	2.0		µg/L	1	4/19/2008 1:02:11 PM
Chloroform	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
Chloromethane	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
2-Chlorotoluene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
4-Chlorotoluene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
cis-1,2-DCE	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/19/2008 1:02:11 PM
Dibromochloromethane	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
Dibromomethane	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	4/19/2008 1:02:11 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
2-Hexanone	ND	10		µg/L	1	4/19/2008 1:02:11 PM

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EB040908
Lab Order:	0804138	**Collection Date:**	4/10/2008 7:35:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-22	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Isopropylbenzene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	4/19/2008 1:02:11 PM
Methylene Chloride	ND	3.0		µg/L	1	4/19/2008 1:02:11 PM
n-Butylbenzene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
n-Propylbenzene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
sec-Butylbenzene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
Styrene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
tert-Butylbenzene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/19/2008 1:02:11 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
trans-1,2-DCE	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/19/2008 1:02:11 PM
Vinyl chloride	ND	1.0		µg/L	1	4/19/2008 1:02:11 PM
Xylenes, Total	ND	1.5		µg/L	1	4/19/2008 1:02:11 PM
Surr: 1,2-Dichloroethane-d4	110	68.1-123		%REC	1	4/19/2008 1:02:11 PM
Surr: 4-Bromofluorobenzene	101	53.2-145		%REC	1	4/19/2008 1:02:11 PM
Surr: Dibromofluoromethane	99.7	68.5-119		%REC	1	4/19/2008 1:02:11 PM
Surr: Toluene-d8	97.9	64-131		%REC	1	4/19/2008 1:02:11 PM

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EB041008
Lab Order:	0804138	**Collection Date:**	4/11/2008 8:35:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-23	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
Toluene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
Ethylbenzene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
Naphthalene	ND	2.0		µg/L	1	4/19/2008 1:31:01 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	4/19/2008 1:31:01 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	4/19/2008 1:31:01 PM
Acetone	ND	10		µg/L	1	4/19/2008 1:31:01 PM
Bromobenzene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
Bromodichloromethane	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
Bromoform	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
Bromomethane	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
2-Butanone	ND	10		µg/L	1	4/19/2008 1:31:01 PM
Carbon disulfide	ND	10		µg/L	1	4/19/2008 1:31:01 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
Chlorobenzene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
Chloroethane	ND	2.0		µg/L	1	4/19/2008 1:31:01 PM
Chloroform	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
Chloromethane	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
2-Chlorotoluene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
4-Chlorotoluene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
cis-1,2-DCE	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/19/2008 1:31:01 PM
Dibromochloromethane	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
Dibromomethane	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	4/19/2008 1:31:01 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
2-Hexanone	ND	10		µg/L	1	4/19/2008 1:31:01 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EB041008
Lab Order:	0804138	**Collection Date:**	4/11/2008 8:35:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-23	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Isopropylbenzene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	4/19/2008 1:31:01 PM
Methylene Chloride	ND	3.0		µg/L	1	4/19/2008 1:31:01 PM
n-Butylbenzene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
n-Propylbenzene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
sec-Butylbenzene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
Styrene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
tert-Butylbenzene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/19/2008 1:31:01 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
trans-1,2-DCE	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/19/2008 1:31:01 PM
Vinyl chloride	ND	1.0		µg/L	1	4/19/2008 1:31:01 PM
Xylenes, Total	ND	1.5		µg/L	1	4/19/2008 1:31:01 PM
Surr: 1,2-Dichloroethane-d4	110	68.1-123		%REC	1	4/19/2008 1:31:01 PM
Surr: 4-Bromofluorobenzene	106	53.2-145		%REC	1	4/19/2008 1:31:01 PM
Surr: Dibromofluoromethane	95.8	68.5-119		%REC	1	4/19/2008 1:31:01 PM
Surr: Toluene-d8	98.6	64-131		%REC	1	4/19/2008 1:31:01 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	Trip Blank
Lab Order:	0804138	**Collection Date:**	
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-24	**Matrix:**	TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
Toluene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
Ethylbenzene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
Naphthalene	ND	2.0		µg/L	1	4/19/2008 1:59:54 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	4/19/2008 1:59:54 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	4/19/2008 1:59:54 PM
Acetone	ND	10		µg/L	1	4/19/2008 1:59:54 PM
Bromobenzene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
Bromodichloromethane	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
Bromoform	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
Bromomethane	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
2-Butanone	ND	10		µg/L	1	4/19/2008 1:59:54 PM
Carbon disulfide	ND	10		µg/L	1	4/19/2008 1:59:54 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
Chlorobenzene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
Chloroethane	ND	2.0		µg/L	1	4/19/2008 1:59:54 PM
Chloroform	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
Chloromethane	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
2-Chlorotoluene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
4-Chlorotoluene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
cis-1,2-DCE	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/19/2008 1:59:54 PM
Dibromochloromethane	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
Dibromomethane	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	4/19/2008 1:59:54 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
2-Hexanone	ND	10		µg/L	1	4/19/2008 1:59:54 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	Trip Blank
Lab Order:	0804138	**Collection Date:**	
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-24	**Matrix:**	TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Isopropylbenzene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	4/19/2008 1:59:54 PM
Methylene Chloride	ND	3.0		µg/L	1	4/19/2008 1:59:54 PM
n-Butylbenzene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
n-Propylbenzene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
sec-Butylbenzene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
Styrene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
tert-Butylbenzene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/19/2008 1:59:54 PM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
trans-1,2-DCE	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/19/2008 1:59:54 PM
Vinyl chloride	ND	1.0		µg/L	1	4/19/2008 1:59:54 PM
Xylenes, Total	ND	1.5		µg/L	1	4/19/2008 1:59:54 PM
Surr: 1,2-Dichloroethane-d4	109	68.1-123		%REC	1	4/19/2008 1:59:54 PM
Surr: 4-Bromofluorobenzene	102	53.2-145		%REC	1	4/19/2008 1:59:54 PM
Surr: Dibromofluoromethane	101	68.5-119		%REC	1	4/19/2008 1:59:54 PM
Surr: Toluene-d8	100	64-131		%REC	1	4/19/2008 1:59:54 PM

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-1-HP
Lab Order:	0804138	**Collection Date:**	4/8/2008 11:05:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-25	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	120000	5000		mg/Kg	50	4/17/2008 12:54:40 PM
Motor Oil Range Organics (MRO)	28000	25000		mg/Kg	50	4/17/2008 12:54:40 PM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 12:54:40 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/19/2008 2:53:20 AM
Surr: BFB	98.4	84-138		%REC	20	4/19/2008 2:53:20 AM
EPA METHOD 7471: MERCURY						Analyst: **SNV**
Mercury	7.4	1.8		mg/Kg	50	4/28/2008 2:57:44 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **NMO**
Arsenic	18	2.5		mg/Kg	1	4/23/2008 8:12:22 AM
Barium	81	0.20		mg/Kg	2	4/23/2008 9:27:00 AM
Cadmium	2.4	0.10		mg/Kg	1	4/23/2008 8:12:22 AM
Chromium	29	0.30		mg/Kg	1	4/23/2008 8:12:22 AM
Lead	32	0.25		mg/Kg	1	4/28/2008 9:41:37 AM
Selenium	ND	5.0		mg/Kg	2	4/23/2008 9:27:00 AM
Silver	ND	0.25		mg/Kg	1	4/28/2008 9:41:37 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	30		mg/Kg	1	4/18/2008
Acenaphthylene	ND	30		mg/Kg	1	4/18/2008
Aniline	ND	30		mg/Kg	1	4/18/2008
Anthracene	ND	30		mg/Kg	1	4/18/2008
Azobenzene	ND	30		mg/Kg	1	4/18/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/18/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/18/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/18/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzoic acid	ND	50		mg/Kg	1	4/18/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/18/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/18/2008
Carbazole	ND	30		mg/Kg	1	4/18/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/18/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/18/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-1-HP
Lab Order:	0804138	**Collection Date:**	4/8/2008 11:05:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-25	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/18/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/18/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Chrysene	42	30		mg/Kg	1	4/18/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/18/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/18/2008
Dibenzofuran	ND	30		mg/Kg	1	4/18/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/18/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/18/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/18/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
Fluoranthene	ND	38		mg/Kg	1	4/18/2008
Fluorene	ND	30		mg/Kg	1	4/18/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/18/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/18/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/18/2008
Hexachloroethane	ND	30		mg/Kg	1	4/18/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/18/2008
Isophorone	ND	75		mg/Kg	1	4/18/2008
2-Methylnaphthalene	ND	38		mg/Kg	1	4/18/2008
2-Methylphenol	ND	75		mg/Kg	1	4/18/2008
3+4-Methylphenol	99	30		mg/Kg	1	4/18/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/18/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/18/2008
Naphthalene	ND	30		mg/Kg	1	4/18/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/18/2008
Nitrobenzene	ND	75		mg/Kg	1	4/18/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/18/2008
Phenanthrene	50	30		mg/Kg	1	4/18/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-1-HP
Lab Order:	0804138	**Collection Date:**	4/8/2008 11:05:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-25	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	ND	30		mg/Kg	1	4/18/2008
Pyrene	38	30		mg/Kg	1	4/18/2008
Pyridine	ND	75		mg/Kg	1	4/18/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/18/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
Surr: 2,4,6-Tribromophenol	56.9	35.5-141		%REC	1	4/18/2008
Surr: 2-Fluorobiphenyl	81.4	30.4-128		%REC	1	4/18/2008
Surr: 2-Fluorophenol	89.5	28.1-129		%REC	1	4/18/2008
Surr: 4-Terphenyl-d14	52.3	34.6-151		%REC	1	4/18/2008
Surr: Nitrobenzene-d5	60.9	26.5-122		%REC	1	4/18/2008
Surr: Phenol-d5	69.9	37.6-118		%REC	1	4/18/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
Toluene	0.60	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
Ethylbenzene	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
1,2,4-Trimethylbenzene	0.93	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
1,3,5-Trimethylbenzene	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
Naphthalene	ND	1.0		mg/Kg	10	4/20/2008 4:02:15 AM
1-Methylnaphthalene	2.5	2.0		mg/Kg	10	4/20/2008 4:02:15 AM
2-Methylnaphthalene	2.4	2.0		mg/Kg	10	4/20/2008 4:02:15 AM
Acetone	ND	7.5		mg/Kg	10	4/20/2008 4:02:15 AM
Bromobenzene	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
Bromoform	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
Bromomethane	ND	1.0		mg/Kg	10	4/20/2008 4:02:15 AM
2-Butanone	ND	5.0		mg/Kg	10	4/20/2008 4:02:15 AM
Carbon disulfide	ND	5.0		mg/Kg	10	4/20/2008 4:02:15 AM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/20/2008 4:02:15 AM
Chlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
Chloroethane	ND	1.0		mg/Kg	10	4/20/2008 4:02:15 AM
Chloroform	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
Chloromethane	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/20/2008 4:02:15 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-1-HP
Lab Order:	0804138	**Collection Date:**	4/8/2008 11:05:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-25	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
Dibromomethane	ND	1.0		mg/Kg	10	4/20/2008 4:02:15 AM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/20/2008 4:02:15 AM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/20/2008 4:02:15 AM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/20/2008 4:02:15 AM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/20/2008 4:02:15 AM
2-Hexanone	ND	5.0		mg/Kg	10	4/20/2008 4:02:15 AM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/20/2008 4:02:15 AM
Methylene chloride	ND	1.5		mg/Kg	10	4/20/2008 4:02:15 AM
n-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
Styrene	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/20/2008 4:02:15 AM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/20/2008 4:02:15 AM
Vinyl chloride	ND	0.50		mg/Kg	10	4/20/2008 4:02:15 AM
Xylenes, Total	1.9	1.0		mg/Kg	10	4/20/2008 4:02:15 AM
Surr: 1,2-Dichloroethane-d4	95.6	66.7-122		%REC	10	4/20/2008 4:02:15 AM
Surr: 4-Bromofluorobenzene	94.9	79.3-126		%REC	10	4/20/2008 4:02:15 AM
Surr: Dibromofluoromethane	96.1	64.4-119		%REC	10	4/20/2008 4:02:15 AM
Surr: Toluene-d8	101	86.5-121		%REC	10	4/20/2008 4:02:15 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-2-HP
Lab Order:	0804138	**Collection Date:**	4/8/2008 3:15:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-26	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						**Analyst: SCC**
Diesel Range Organics (DRO)	130000	5000		mg/Kg	50	4/17/2008 1:28:44 PM
Motor Oil Range Organics (MRO)	ND	25000		mg/Kg	50	4/17/2008 1:28:44 PM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 1:28:44 PM
EPA METHOD 8015B: GASOLINE RANGE						**Analyst: NSB**
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/19/2008 3:23:21 AM
Surr: BFB	104	84-138		%REC	20	4/19/2008 3:23:21 AM
EPA METHOD 7471: MERCURY						**Analyst: SNV**
Mercury	6.4	1.6		mg/Kg	50	4/28/2008 3:00:59 PM
EPA METHOD 6010B: SOIL METALS						**Analyst: NMO**
Arsenic	20	2.5		mg/Kg	1	4/23/2008 8:15:00 AM
Barium	300	1.0		mg/Kg	10	4/23/2008 9:29:41 AM
Cadmium	0.73	0.10		mg/Kg	1	4/23/2008 8:15:00 AM
Chromium	22	0.30		mg/Kg	1	4/23/2008 8:15:00 AM
Lead	39	0.25		mg/Kg	1	4/28/2008 9:44:15 AM
Selenium	ND	25		mg/Kg	10	4/23/2008 9:29:41 AM
Silver	ND	0.25		mg/Kg	1	4/28/2008 9:44:15 AM
EPA METHOD 8270C: SEMIVOLATILES						**Analyst: JDC**
Acenaphthene	ND	30		mg/Kg	1	4/18/2008
Acenaphthylene	ND	30		mg/Kg	1	4/18/2008
Aniline	ND	30		mg/Kg	1	4/18/2008
Anthracene	ND	30		mg/Kg	1	4/18/2008
Azobenzene	ND	30		mg/Kg	1	4/18/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/18/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/18/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/18/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzoic acid	ND	50		mg/Kg	1	4/18/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/18/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/18/2008
Carbazole	ND	30		mg/Kg	1	4/18/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/18/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/18/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-2-HP
Lab Order:	0804138	**Collection Date:**	4/8/2008 3:15:00 PM
Project:	Evaporation Pond/Acration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-26	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/18/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/18/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Chrysene	ND	30		mg/Kg	1	4/18/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/18/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/18/2008
Dibenzofuran	ND	30		mg/Kg	1	4/18/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/18/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/18/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/18/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
Fluoranthene	ND	38		mg/Kg	1	4/18/2008
Fluorene	36	30		mg/Kg	1	4/18/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/18/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/18/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/18/2008
Hexachloroethane	ND	30		mg/Kg	1	4/18/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/18/2008
Isophorone	ND	75		mg/Kg	1	4/18/2008
2-Methylnaphthalene	140	38		mg/Kg	1	4/18/2008
2-Methylphenol	ND	75		mg/Kg	1	4/18/2008
3+4-Methylphenol	36	30		mg/Kg	1	4/18/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/18/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/18/2008
Naphthalene	ND	30		mg/Kg	1	4/18/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/18/2008
Nitrobenzene	ND	75		mg/Kg	1	4/18/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/18/2008
Phenanthrene	93	30		mg/Kg	1	4/18/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-2-HP
Lab Order:	0804138	**Collection Date:**	4/8/2008 3:15:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-26	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	ND	30		mg/Kg	1	4/18/2008
Pyrene	ND	30		mg/Kg	1	4/18/2008
Pyridine	ND	75		mg/Kg	1	4/18/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/18/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
Surr: 2,4,6-Tribromophenol	52.0	35.5-141		%REC	1	4/18/2008
Surr: 2-Fluorobiphenyl	79.6	30.4-128		%REC	1	4/18/2008
Surr: 2-Fluorophenol	84.1	28.1-129		%REC	1	4/18/2008
Surr: 4-Terphenyl-d14	45.5	34.6-151		%REC	1	4/18/2008
Surr: Nitrobenzene-d5	72.9	26.5-122		%REC	1	4/18/2008
Surr: Phenol-d5	69.5	37.6-118		%REC	1	4/18/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
Toluene	1.1	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
Ethylbenzene	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
1,2,4-Trimethylbenzene	3.0	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
1,3,5-Trimethylbenzene	0.71	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
Naphthalene	3.2	1.0		mg/Kg	10	4/20/2008 4:37:50 AM
1-Methylnaphthalene	11	2.0		mg/Kg	10	4/20/2008 4:37:50 AM
2-Methylnaphthalene	15	2.0		mg/Kg	10	4/20/2008 4:37:50 AM
Acetone	ND	7.5		mg/Kg	10	4/20/2008 4:37:50 AM
Bromobenzene	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
Bromoform	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
Bromomethane	ND	1.0		mg/Kg	10	4/20/2008 4:37:50 AM
2-Butanone	ND	5.0		mg/Kg	10	4/20/2008 4:37:50 AM
Carbon disulfide	ND	5.0		mg/Kg	10	4/20/2008 4:37:50 AM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/20/2008 4:37:50 AM
Chlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
Chloroethane	ND	1.0		mg/Kg	10	4/20/2008 4:37:50 AM
Chloroform	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
Chloromethane	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/20/2008 4:37:50 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-2-HP
Lab Order:	0804138	**Collection Date:**	4/8/2008 3:15:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-26	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
Dibromomethane	ND	1.0		mg/Kg	10	4/20/2008 4:37:50 AM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/20/2008 4:37:50 AM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/20/2008 4:37:50 AM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/20/2008 4:37:50 AM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/20/2008 4:37:50 AM
2-Hexanone	ND	5.0		mg/Kg	10	4/20/2008 4:37:50 AM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/20/2008 4:37:50 AM
Methylene chloride	ND	1.5		mg/Kg	10	4/20/2008 4:37:50 AM
n-Butylbenzene	0.58	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
Styrene	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/20/2008 4:37:50 AM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/20/2008 4:37:50 AM
Vinyl chloride	ND	0.50		mg/Kg	10	4/20/2008 4:37:50 AM
Xylenes, Total	3.8	1.0		mg/Kg	10	4/20/2008 4:37:50 AM
Surr: 1,2-Dichloroethane-d4	96.2	68.7-122		%REC	10	4/20/2008 4:37:50 AM
Surr: 4-Bromofluorobenzene	89.8	79.3-126		%REC	10	4/20/2008 4:37:50 AM
Surr: Dibromofluoromethane	99.7	64.4-119		%REC	10	4/20/2008 4:37:50 AM
Surr: Toluene-d8	97.3	86.6-121		%REC	10	4/20/2008 4:37:50 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-3-HP
Lab Order:	0804138	**Collection Date:**	4/8/2008 12:15:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-27	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	110000	5000		mg/Kg	50	4/17/2008 2:02:53 PM
Motor Oil Range Organics (MRO)	ND	25000		mg/Kg	50	4/17/2008 2:02:53 PM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 2:02:53 PM
EPA METHOD 8016B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/19/2008 3:53:29 AM
Surr: BFB	105	84-138		%REC	20	4/19/2008 3:53:29 AM
EPA METHOD 7471: MERCURY						Analyst: **SNV**
Mercury	2.1	1.6		mg/Kg	50	4/28/2008 3:04:16 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **NMO**
Arsenic	9.6	2.5		mg/Kg	1	4/23/2008 8:17:38 AM
Barium	280	1.0		mg/Kg	10	4/23/2008 9:38:38 AM
Cadmium	0.26	0.10		mg/Kg	1	4/23/2008 8:17:38 AM
Chromium	15	0.30		mg/Kg	1	4/23/2008 8:17:38 AM
Lead	12	0.25		mg/Kg	1	4/28/2008 9:46:47 AM
Selenium	ND	25		mg/Kg	10	4/23/2008 9:38:38 AM
Silver	ND	0.25		mg/Kg	1	4/28/2008 9:46:47 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	30		mg/Kg	1	4/18/2008
Acenaphthylene	ND	30		mg/Kg	1	4/18/2008
Aniline	ND	30		mg/Kg	1	4/18/2008
Anthracene	ND	30		mg/Kg	1	4/18/2008
Azobenzene	ND	30		mg/Kg	1	4/18/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/18/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/18/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/18/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzoic acid	ND	60		mg/Kg	1	4/18/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/18/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/18/2008
Carbazole	ND	30		mg/Kg	1	4/18/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/18/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/18/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-3-HP
Lab Order:	0804138	**Collection Date:**	4/8/2008 12:15:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-27	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/18/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/18/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Chrysene	ND	30		mg/Kg	1	4/18/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/18/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/18/2008
Dibenzofuran	ND	30		mg/Kg	1	4/18/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/18/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/18/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/18/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
Fluoranthene	ND	38		mg/Kg	1	4/18/2008
Fluorene	32	30		mg/Kg	1	4/18/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/18/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/18/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/18/2008
Hexachloroethane	ND	30		mg/Kg	1	4/18/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/18/2008
Isophorone	ND	75		mg/Kg	1	4/18/2008
2-Methylnaphthalene	110	38		mg/Kg	1	4/18/2008
2-Methylphenol	ND	75		mg/Kg	1	4/18/2008
3+4-Methylphenol	44	30		mg/Kg	1	4/18/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/18/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/18/2008
Naphthalene	ND	30		mg/Kg	1	4/18/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/18/2008
Nitrobenzene	ND	75		mg/Kg	1	4/18/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/18/2008
Phenanthrene	89	30		mg/Kg	1	4/18/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-3-HP
Lab Order:	0804138	**Collection Date:**	4/8/2008 12:15:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-27	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	ND	30		mg/Kg	1	4/18/2008
Pyrene	ND	30		mg/Kg	1	4/18/2008
Pyridine	ND	75		mg/Kg	1	4/18/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/18/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
Surr: 2,4,6-Tribromophenol	47.4	35.5-141		%REC	1	4/18/2008
Surr: 2-Fluorobiphenyl	72.3	30.4-128		%REC	1	4/18/2008
Surr: 2-Fluorophenol	84.8	28.1-129		%REC	1	4/18/2008
Surr: 4-Terphenyl-d14	65.5	34.6-151		%REC	1	4/18/2008
Surr: Nitrobenzene-d5	62.5	26.5-122		%REC	1	4/18/2008
Surr: Phenol-d5	70.2	37.6-118		%REC	1	4/18/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
Toluene	0.53	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
Ethylbenzene	0.62	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
1,2,4-Trimethylbenzene	3.8	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
1,3,5-Trimethylbenzene	0.87	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
Naphthalene	3.4	1.0		mg/Kg	10	4/20/2008 5:12:55 AM
1-Methylnaphthalene	12	2.0		mg/Kg	10	4/20/2008 5:12:55 AM
2-Methylnaphthalene	17	2.0		mg/Kg	10	4/20/2008 5:12:55 AM
Acetone	ND	7.5		mg/Kg	10	4/20/2008 5:12:55 AM
Bromobenzene	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
Bromoform	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
Bromomethane	ND	1.0		mg/Kg	10	4/20/2008 5:12:55 AM
2-Butanone	ND	5.0		mg/Kg	10	4/20/2008 5:12:55 AM
Carbon disulfide	ND	5.0		mg/Kg	10	4/20/2008 5:12:55 AM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/20/2008 5:12:55 AM
Chlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
Chloroethane	ND	1.0		mg/Kg	10	4/20/2008 5:12:55 AM
Chloroform	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
Chloromethane	ND	0.80		mg/Kg	10	4/20/2008 5:12:55 AM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/20/2008 5:12:55 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-3-HP
Lab Order:	0804138	**Collection Date:**	4/8/2008 12:15:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-27	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
Dibromomethane	ND	1.0		mg/Kg	10	4/20/2008 5:12:55 AM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/20/2008 5:12:55 AM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/20/2008 5:12:55 AM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/20/2008 5:12:55 AM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/20/2008 5:12:55 AM
2-Hexanone	ND	5.0		mg/Kg	10	4/20/2008 5:12:55 AM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/20/2008 5:12:55 AM
Methylene chloride	ND	1.5		mg/Kg	10	4/20/2008 5:12:55 AM
n-Butylbenzene	0.89	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
Styrene	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/20/2008 5:12:55 AM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/20/2008 5:12:55 AM
Vinyl chloride	ND	0.50		mg/Kg	10	4/20/2008 5:12:55 AM
Xylenes, Total	4.3	1.0		mg/Kg	10	4/20/2008 5:12:55 AM
Surr: 1,2-Dichloroethane-d4	95.4	68.7-122		%REC	10	4/20/2008 5:12:55 AM
Surr: 4-Bromofluorobenzene	84.0	79.3-126		%REC	10	4/20/2008 5:12:55 AM
Surr: Dibromofluoromethane	103	64.4-119		%REC	10	4/20/2008 5:12:55 AM
Surr: Toluene-d8	92.9	86.5-121		%REC	10	4/20/2008 5:12:55 AM

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-4-HP
Lab Order:	0804138	**Collection Date:**	4/8/2008 10:15:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-28	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						**Analyst: SCC**
Diesel Range Organics (DRO)	140000	6000		mg/Kg	50	4/17/2008 2:36:57 PM
Motor Oil Range Organics (MRO)	29000	25000		mg/Kg	50	4/17/2008 2:36:57 PM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 2:36:57 PM
EPA METHOD 8015B: GASOLINE RANGE						**Analyst: NSB**
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/19/2008 4:23:35 AM
Surr: BFB	104	84-138		%REC	20	4/19/2008 4:23:35 AM
EPA METHOD 7471: MERCURY						**Analyst: SNV**
Mercury	6.4	1.6		mg/Kg	50	4/28/2008 3:10:53 PM
EPA METHOD 6010B: SOIL METALS						**Analyst: NMO**
Arsenic	21	2.5		mg/Kg	1	4/23/2008 8:20:15 AM
Barium	270	1.0		mg/Kg	10	4/23/2008 9:41:16 AM
Cadmium	5.2	0.10		mg/Kg	1	4/23/2008 8:20:15 AM
Chromium	45	0.30		mg/Kg	1	4/23/2008 8:20:15 AM
Lead	55	2.5		mg/Kg	10	4/28/2008 11:27:26 AM
Selenium	ND	25		mg/Kg	10	4/23/2008 9:41:16 AM
Silver	ND	0.25		mg/Kg	1	4/28/2008 9:49:16 AM
EPA METHOD 8270C: SEMIVOLATILES						**Analyst: JDC**
Acenaphthene	ND	30		mg/Kg	1	4/18/2008
Acenaphthylene	ND	30		mg/Kg	1	4/18/2008
Aniline	ND	30		mg/Kg	1	4/18/2008
Anthracene	ND	30		mg/Kg	1	4/18/2008
Azobenzene	ND	30		mg/Kg	1	4/18/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/18/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/18/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/18/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzoic acid	ND	50		mg/Kg	1	4/18/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/18/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/18/2008
Carbazole	ND	30		mg/Kg	1	4/18/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/18/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/18/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-4-HP
Lab Order:	0804138	**Collection Date:**	4/8/2008 10:15:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-28	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/18/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/18/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Chrysene	ND	30		mg/Kg	1	4/18/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/18/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/18/2008
Dibenzofuran	ND	30		mg/Kg	1	4/18/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/18/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/18/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/18/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
Fluoranthene	ND	38		mg/Kg	1	4/18/2008
Fluorene	ND	30		mg/Kg	1	4/18/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/18/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/18/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/18/2008
Hexachloroethane	ND	30		mg/Kg	1	4/18/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/18/2008
Isophorone	ND	75		mg/Kg	1	4/18/2008
2-Methylnaphthalene	57	38		mg/Kg	1	4/18/2008
2-Methylphenol	ND	75		mg/Kg	1	4/18/2008
3+4-Methylphenol	100	30		mg/Kg	1	4/18/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/18/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/18/2008
Naphthalene	ND	30		mg/Kg	1	4/18/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/18/2008
Nitrobenzene	ND	75		mg/Kg	1	4/18/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/18/2008
Phenanthrene	55	30		mg/Kg	1	4/18/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-4-HP
Lab Order:	0804138	**Collection Date:**	4/8/2008 10:15:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-28	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	43	30		mg/Kg	1	4/18/2008
Pyrene	ND	30		mg/Kg	1	4/18/2008
Pyridine	ND	75		mg/Kg	1	4/18/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/18/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
Surr: 2,4,6-Tribromophenol	56.1	35.5-141		%REC	1	4/18/2008
Surr: 2-Fluorobiphenyl	86.0	30.4-128		%REC	1	4/18/2008
Surr: 2-Fluorophenol	90.9	28.1-129		%REC	1	4/18/2008
Surr: 4-Terphenyl-d14	55.1	34.6-151		%REC	1	4/18/2008
Surr: Nitrobenzene-d5	69.9	26.5-122		%REC	1	4/18/2008
Surr: Phenol-d5	73.8	37.6-118		%REC	1	4/18/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
Toluene	1.1	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
Ethylbenzene	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
1,3,5-Trimethylbenzene	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
Naphthalene	1.6	1.0		mg/Kg	10	4/20/2008 5:48:30 AM
1-Methylnaphthalene	5.7	2.0		mg/Kg	10	4/20/2008 5:48:30 AM
2-Methylnaphthalene	7.2	2.0		mg/Kg	10	4/20/2008 5:48:30 AM
Acetone	ND	7.5		mg/Kg	10	4/20/2008 5:48:30 AM
Bromobenzene	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
Bromoform	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
Bromomethane	ND	1.0		mg/Kg	10	4/20/2008 5:48:30 AM
2-Butanone	ND	5.0		mg/Kg	10	4/20/2008 5:48:30 AM
Carbon disulfide	ND	5.0		mg/Kg	10	4/20/2008 5:48:30 AM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/20/2008 5:48:30 AM
Chlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
Chloroethane	ND	1.0		mg/Kg	10	4/20/2008 5:48:30 AM
Chloroform	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
Chloromethane	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
Dibromochloromethane	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
Dibromomethane	ND	1.0		mg/Kg	10	4/20/2008 5:48:30 AM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-4-HP
Lab Order:	0804138	**Collection Date:**	4/8/2008 10:15:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-28	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/20/2008 5:48:30 AM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/20/2008 5:48:30 AM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/20/2008 5:48:30 AM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/20/2008 5:48:30 AM
2-Hexanone	ND	5.0		mg/Kg	10	4/20/2008 5:48:30 AM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/20/2008 5:48:30 AM
Methylene chloride	ND	1.5		mg/Kg	10	4/20/2008 5:48:30 AM
n-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
Styrene	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/20/2008 5:48:30 AM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/20/2008 5:48:30 AM
Vinyl chloride	ND	0.50		mg/Kg	10	4/20/2008 5:48:30 AM
Xylenes, Total	3.2	1.0		mg/Kg	10	4/20/2008 5:48:30 AM
Surr: 1,2-Dichloroethane-d4	98.5	68.7-122		%REC	10	4/20/2008 5:48:30 AM
Surr: 4-Bromofluorobenzene	93.6	79.3-126		%REC	10	4/20/2008 5:48:30 AM
Surr: Dibromofluoromethane	104	64.4-119		%REC	10	4/20/2008 5:48:30 AM
Surr: Toluene-d8	98.0	86.5-121		%REC	10	4/20/2008 5:48:30 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-5-HP
Lab Order:	0804138	**Collection Date:**	4/9/2008 8:20:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-29	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						**Analyst: SCC**
Diesel Range Organics (DRO)	51000	5000		mg/Kg	50	4/18/2008 5:30:48 PM
Motor Oil Range Organics (MRO)	ND	25000		mg/Kg	50	4/18/2008 5:30:48 PM
Surr: DNOP	0	61.7-135	S	%REC	50	4/18/2008 5:30:48 PM
EPA METHOD 8015B: GASOLINE RANGE						**Analyst: NSB**
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/19/2008 4:53:43 AM
Surr: BFB	102	84-138		%REC	20	4/19/2008 4:53:43 AM
EPA METHOD 7471: MERCURY						**Analyst: SNV**
Mercury	4.7	1.6		mg/Kg	50	4/28/2008 3:14:09 PM
EPA METHOD 6010B: SOIL METALS						**Analyst: NMO**
Arsenic	14	2.5		mg/Kg	1	4/23/2008 8:29:01 AM
Barium	160	1.0		mg/Kg	10	4/23/2008 9:44:13 AM
Cadmium	0.62	0.10		mg/Kg	1	4/23/2008 8:29:01 AM
Chromium	53	3.0		mg/Kg	10	4/23/2008 9:44:13 AM
Lead	23	0.25		mg/Kg	1	4/28/2008 10:01:16 AM
Selenium	ND	25		mg/Kg	10	4/23/2008 9:44:13 AM
Silver	ND	0.25		mg/Kg	1	4/28/2008 10:01:16 AM
EPA METHOD 8270C: SEMIVOLATILES						**Analyst: JDC**
Acenaphthene	ND	30		mg/Kg	1	4/20/2008
Acenaphthylene	ND	30		mg/Kg	1	4/20/2008
Aniline	ND	30		mg/Kg	1	4/20/2008
Anthracene	ND	30		mg/Kg	1	4/20/2008
Azobenzene	ND	30		mg/Kg	1	4/20/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/20/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/20/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/20/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/20/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/20/2008
Benzoic acid	ND	60		mg/Kg	1	4/20/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/20/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/20/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/20/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/20/2008
Carbazole	ND	30		mg/Kg	1	4/20/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/20/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/20/2008

Qualifiers:

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- J Analyte detected below quantitation limits
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-5-HP
Lab Order:	0804138	**Collection Date:**	4/9/2008 8:20:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-29	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/20/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/20/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/20/2008
Chrysene	ND	30		mg/Kg	1	4/20/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/20/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/20/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/20/2008
Dibenzofuran	ND	30		mg/Kg	1	4/20/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/20/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/20/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/20/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/20/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/20/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/20/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/20/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/20/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/20/2008
Fluoranthene	ND	38		mg/Kg	1	4/20/2008
Fluorene	ND	30		mg/Kg	1	4/20/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/20/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/20/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/20/2008
Hexachloroethane	ND	30		mg/Kg	1	4/20/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/20/2008
Isophorone	ND	75		mg/Kg	1	4/20/2008
2-Methylnaphthalene	ND	38		mg/Kg	1	4/20/2008
2-Methylphenol	ND	75		mg/Kg	1	4/20/2008
3+4-Methylphenol	ND	30		mg/Kg	1	4/20/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/20/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/20/2008
Naphthalene	ND	30		mg/Kg	1	4/20/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/20/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/20/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/20/2008
Nitrobenzene	ND	75		mg/Kg	1	4/20/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/20/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/20/2008
Pentachlorophenol	ND	60		mg/Kg	1	4/20/2008
Phenanthrene	ND	30		mg/Kg	1	4/20/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-5-HP
Lab Order:	0804138	**Collection Date:**	4/9/2008 8:20:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-29	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	ND	30		mg/Kg	1	4/20/2008
Pyrene	ND	30		mg/Kg	1	4/20/2008
Pyridine	ND	75		mg/Kg	1	4/20/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/20/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/20/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/20/2008
Surr: 2,4,6-Tribromophenol	73.4	35.5-141		%REC	1	4/20/2008
Surr: 2-Fluorobiphenyl	91.8	30.4-128		%REC	1	4/20/2008
Surr: 2-Fluorophenol	82.7	28.1-129		%REC	1	4/20/2008
Surr: 4-Terphenyl-d14	83.7	34.6-151		%REC	1	4/20/2008
Surr: Nitrobenzene-d5	70.9	26.5-122		%REC	1	4/20/2008
Surr: Phenol-d5	73.1	37.6-118		%REC	1	4/20/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
Toluene	1.1	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
Ethylbenzene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
1,2,4-Trimethylbenzene	1.1	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
1,3,5-Trimethylbenzene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
Naphthalene	1.2	1.0		mg/Kg	10	4/20/2008 6:23:38 AM
1-Methylnaphthalene	5.4	2.0		mg/Kg	10	4/20/2008 6:23:38 AM
2-Methylnaphthalene	6.6	2.0		mg/Kg	10	4/20/2008 6:23:38 AM
Acetone	ND	7.5		mg/Kg	10	4/20/2008 6:23:38 AM
Bromobenzene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
Bromoform	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
Bromomethane	ND	1.0		mg/Kg	10	4/20/2008 6:23:38 AM
2-Butanone	ND	5.0		mg/Kg	10	4/20/2008 6:23:38 AM
Carbon disulfide	5.6	5.0		mg/Kg	10	4/20/2008 6:23:38 AM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/20/2008 6:23:38 AM
Chlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
Chloroethane	ND	1.0		mg/Kg	10	4/20/2008 6:23:38 AM
Chloroform	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
Chloromethane	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/20/2008 6:23:38 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-5-HP
Lab Order:	0804138	**Collection Date:**	4/9/2008 8:20:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-29	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
Dibromomethane	ND	1.0		mg/Kg	10	4/20/2008 6:23:38 AM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/20/2008 6:23:38 AM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/20/2008 6:23:38 AM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/20/2008 6:23:38 AM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/20/2008 6:23:38 AM
2-Hexanone	ND	5.0		mg/Kg	10	4/20/2008 6:23:38 AM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/20/2008 6:23:38 AM
Methylene chloride	ND	1.5		mg/Kg	10	4/20/2008 6:23:38 AM
n-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
Styrene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/20/2008 6:23:38 AM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/20/2008 6:23:38 AM
Vinyl chloride	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
Xylenes, Total	1.8	1.0		mg/Kg	10	4/20/2008 6:23:38 AM
Surr: 1,2-Dichloroethane-d4	96.2	68.7-122		%REC	10	4/20/2008 6:23:38 AM
Surr: 4-Bromofluorobenzene	97.7	79.3-126		%REC	10	4/20/2008 6:23:38 AM
Surr: Dibromofluoromethane	102	64.4-119		%REC	10	4/20/2008 6:23:38 AM
Surr: Toluene-d8	98.9	86.5-121		%REC	10	4/20/2008 6:23:38 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-1-SS
Lab Order:	0804138	**Collection Date:**	4/9/2008 10:40:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-30	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	50000	5000		mg/Kg	50	4/18/2008 6:04:38 PM
Motor Oil Range Organics (MRO)	ND	25000		mg/Kg	50	4/18/2008 6:04:38 PM
Surr: DNOP	0	61.7-135	S	%REC	50	4/18/2008 6:04:38 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/19/2008 5:23:48 AM
Surr: BFB	103	84-138		%REC	20	4/19/2008 5:23:48 AM
EPA METHOD 7471: MERCURY						Analyst: **SNV**
Mercury	8.4	1.6		mg/Kg	50	4/28/2008 3:17:26 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **NMO**
Arsenic	20	2.5		mg/Kg	1	4/23/2008 8:31:41 AM
Barium	260	1.0		mg/Kg	10	4/23/2008 9:46:52 AM
Cadmium	6.6	0.10		mg/Kg	1	4/23/2008 8:31:41 AM
Chromium	30	0.30		mg/Kg	1	4/23/2008 8:31:41 AM
Lead	48	2.5		mg/Kg	10	4/28/2008 11:29:02 AM
Selenium	ND	25		mg/Kg	10	4/23/2008 9:46:52 AM
Silver	ND	0.25		mg/Kg	1	4/28/2008 10:03:47 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	30		mg/Kg	1	4/20/2008
Acenaphthylene	ND	30		mg/Kg	1	4/20/2008
Aniline	ND	30		mg/Kg	1	4/20/2008
Anthracene	ND	30		mg/Kg	1	4/20/2008
Azobenzene	ND	30		mg/Kg	1	4/20/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/20/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/20/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/20/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/20/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/20/2008
Benzoic acid	ND	50		mg/Kg	1	4/20/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/20/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/20/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/20/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/20/2008
Carbazole	ND	30		mg/Kg	1	4/20/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/20/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/20/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-1-SS
Lab Order:	0804138	**Collection Date:**	4/9/2008 10:40:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-30	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
2-Chloronaphthalene	ND	38		mg/Kg	1	4/20/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/20/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/20/2008
Chrysene	ND	30		mg/Kg	1	4/20/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/20/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/20/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/20/2008
Dibenzofuran	ND	30		mg/Kg	1	4/20/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/20/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/20/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/20/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/20/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/20/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/20/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/20/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/20/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/20/2008
Fluoranthene	ND	38		mg/Kg	1	4/20/2008
Fluorene	ND	30		mg/Kg	1	4/20/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/20/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/20/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/20/2008
Hexachloroethane	ND	30		mg/Kg	1	4/20/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/20/2008
Isophorone	ND	75		mg/Kg	1	4/20/2008
2-Methylnaphthalene	ND	38		mg/Kg	1	4/20/2008
2-Methylphenol	ND	75		mg/Kg	1	4/20/2008
3+4-Methylphenol	150	30		mg/Kg	1	4/20/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/20/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/20/2008
Naphthalene	ND	30		mg/Kg	1	4/20/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/20/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/20/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/20/2008
Nitrobenzene	ND	75		mg/Kg	1	4/20/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/20/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/20/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/20/2008
Phenanthrene	ND	30		mg/Kg	1	4/20/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-1-SS
Lab Order:	0804138	**Collection Date:**	4/9/2008 10:40:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-30	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/20/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/20/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/20/2008
Chrysene	ND	30		mg/Kg	1	4/20/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/20/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/20/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/20/2008
Dibenzofuran	ND	30		mg/Kg	1	4/20/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/20/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/20/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/20/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/20/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/20/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/20/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/20/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/20/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/20/2008
Fluoranthene	ND	38		mg/Kg	1	4/20/2008
Fluorene	ND	30		mg/Kg	1	4/20/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/20/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/20/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/20/2008
Hexachloroethane	ND	30		mg/Kg	1	4/20/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/20/2008
Isophorone	ND	75		mg/Kg	1	4/20/2008
2-Methylnaphthalene	ND	38		mg/Kg	1	4/20/2008
2-Methylphenol	ND	75		mg/Kg	1	4/20/2008
3+4-Methylphenol	150	30		mg/Kg	1	4/20/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/20/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/20/2008
Naphthalene	ND	30		mg/Kg	1	4/20/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/20/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/20/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/20/2008
Nitrobenzene	ND	75		mg/Kg	1	4/20/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/20/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/20/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/20/2008
Phenanthrene	ND	30		mg/Kg	1	4/20/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-1-SS
Lab Order:	0804138	**Collection Date:**	4/9/2008 10:40:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-30	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
Dibromomethane	ND	1.0		mg/Kg	10	4/20/2008 6:59:11 AM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/20/2008 6:59:11 AM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/20/2008 6:59:11 AM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/20/2008 6:59:11 AM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/20/2008 6:59:11 AM
2-Hexanone	ND	5.0		mg/Kg	10	4/20/2008 6:59:11 AM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/20/2008 6:59:11 AM
Methylene chloride	ND	1.5		mg/Kg	10	4/20/2008 6:59:11 AM
n-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
Styrene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/20/2008 6:59:11 AM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/20/2008 6:59:11 AM
Vinyl chloride	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
Xylenes, Total	ND	1.0		mg/Kg	10	4/20/2008 6:59:11 AM
Surr: 1,2-Dichloroethane-d4	100	68.7-122		%REC	10	4/20/2008 6:59:11 AM
Surr: 4-Bromofluorobenzene	103	79.3-126		%REC	10	4/20/2008 6:59:11 AM
Surr: Dibromofluoromethane	102	64.4-119		%REC	10	4/20/2008 6:59:11 AM
Surr: Toluene-d8	98.6	86.5-121		%REC	10	4/20/2008 6:59:11 AM

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- J Analyte detected below quantitation limits
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-2-SS
Lab Order:	0804138	**Collection Date:**	4/8/2008 3:55:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-31	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: SCC
Diesel Range Organics (DRO)	260000	5000		mg/Kg	50	4/17/2008 4:19:11 PM
Motor Oil Range Organics (MRO)	31000	25000		mg/Kg	50	4/17/2008 4:19:11 PM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 4:19:11 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/19/2008 5:53:56 AM
Surr: BFB	101	84-138		%REC	20	4/19/2008 5:53:56 AM
EPA METHOD 7471: MERCURY						Analyst: SNV
Mercury	6.8	1.6		mg/Kg	50	4/28/2008 3:20:45 PM
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Arsenic	13	2.5		mg/Kg	1	4/23/2008 8:34:18 AM
Barium	500	2.0		mg/Kg	20	4/23/2008 9:53:51 AM
Cadmium	0.32	0.10		mg/Kg	1	4/23/2008 8:34:18 AM
Chromium	21	0.30		mg/Kg	1	4/23/2008 8:34:18 AM
Lead	24	0.25		mg/Kg	1	4/28/2008 10:06:19 AM
Selenium	ND	25		mg/Kg	10	4/23/2008 9:49:31 AM
Silver	ND	0.25		mg/Kg	1	4/28/2008 10:06:19 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	30		mg/Kg	1	4/20/2008
Acenaphthylene	ND	30		mg/Kg	1	4/20/2008
Aniline	ND	30		mg/Kg	1	4/20/2008
Anthracene	ND	30		mg/Kg	1	4/20/2008
Azobenzene	ND	30		mg/Kg	1	4/20/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/20/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/20/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/20/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/20/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/20/2008
Benzoic acid	ND	60		mg/Kg	1	4/20/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/20/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/20/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/20/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/20/2008
Carbazole	ND	30		mg/Kg	1	4/20/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/20/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/20/2008

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-2-SS
Lab Order:	0804138	**Collection Date:**	4/8/2008 3:55:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-31	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/20/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/20/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/20/2008
Chrysene	ND	30		mg/Kg	1	4/20/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/20/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/20/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/20/2008
Dibenzofuran	ND	30		mg/Kg	1	4/20/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/20/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/20/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/20/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/20/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/20/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/20/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/20/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/20/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/20/2008
Fluoranthene	ND	38		mg/Kg	1	4/20/2008
Fluorene	98	30		mg/Kg	1	4/20/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/20/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/20/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/20/2008
Hexachloroethane	ND	30		mg/Kg	1	4/20/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/20/2008
Isophorone	ND	75		mg/Kg	1	4/20/2008
2-Methylnaphthalene	450	38		mg/Kg	1	4/20/2008
2-Methylphenol	ND	75		mg/Kg	1	4/20/2008
3+4-Methylphenol	ND	30		mg/Kg	1	4/20/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/20/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/20/2008
Naphthalene	38	30		mg/Kg	1	4/20/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/20/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/20/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/20/2008
Nitrobenzene	ND	75		mg/Kg	1	4/20/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/20/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/20/2008
Pentachlorophenol	ND	60		mg/Kg	1	4/20/2008
Phenanthrene	230	30		mg/Kg	1	4/20/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-2-SS
Lab Order:	0804138	**Collection Date:**	4/8/2008 3:55:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-31	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Phenol	ND	30		mg/Kg	1	4/20/2008
Pyrene	ND	30		mg/Kg	1	4/20/2008
Pyridine	ND	75		mg/Kg	1	4/20/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/20/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/20/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/20/2008
Surr: 2,4,6-Tribromophenol	35.5	35.5-141		%REC	1	4/20/2008
Surr: 2-Fluorobiphenyl	38.5	30.4-128		%REC	1	4/20/2008
Surr: 2-Fluorophenol	86.8	28.1-129		%REC	1	4/20/2008
Surr: 4-Terphenyl-d14	53.9	34.6-151		%REC	1	4/20/2008
Surr: Nitrobenzene-d5	82.6	26.5-122		%REC	1	4/20/2008
Surr: Phenol-d5	69.3	37.6-118		%REC	1	4/20/2008
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Benzene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
Toluene	2.1	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
Ethylbenzene	0.72	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,2,4-Trimethylbenzene	4.5	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,3,5-Trimethylbenzene	1.1	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
Naphthalene	5.8	1.0		mg/Kg	10	4/20/2008 9:20:52 AM
1-Methylnaphthalene	26	2.0		mg/Kg	10	4/20/2008 9:20:52 AM
2-Methylnaphthalene	37	2.0		mg/Kg	10	4/20/2008 9:20:52 AM
Acetone	ND	7.5		mg/Kg	10	4/20/2008 9:20:52 AM
Bromobenzene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
Bromoform	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
Bromomethane	ND	1.0		mg/Kg	10	4/20/2008 9:20:52 AM
2-Butanone	ND	5.0		mg/Kg	10	4/20/2008 9:20:52 AM
Carbon disulfide	ND	5.0		mg/Kg	10	4/20/2008 9:20:52 AM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/20/2008 9:20:52 AM
Chlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
Chloroethane	ND	1.0		mg/Kg	10	4/20/2008 9:20:52 AM
Chloroform	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
Chloromethane	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/20/2008 9:20:52 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-2-SS
Lab Order:	0804138	**Collection Date:**	4/8/2008 3:55:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-31	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
Dibromomethane	ND	1.0		mg/Kg	10	4/20/2008 9:20:52 AM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/20/2008 9:20:52 AM
1,1-Dichloroethene	ND	0.60		mg/Kg	10	4/20/2008 9:20:52 AM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/20/2008 9:20:52 AM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/20/2008 9:20:52 AM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/20/2008 9:20:52 AM
2-Hexanone	ND	5.0		mg/Kg	10	4/20/2008 9:20:52 AM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/20/2008 9:20:52 AM
Methylene chloride	ND	1.5		mg/Kg	10	4/20/2008 9:20:52 AM
n-Butylbenzene	1.0	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
Styrene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/20/2008 9:20:52 AM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/20/2008 9:20:52 AM
Vinyl chloride	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
Xylenes, Total	4.9	1.0		mg/Kg	10	4/20/2008 9:20:52 AM
Surr: 1,2-Dichloroethane-d4	96.2	66.7-122		%REC	10	4/20/2008 9:20:52 AM
Surr: 4-Bromofluorobenzene	79.2	79.3-126	S	%REC	10	4/20/2008 9:20:52 AM
Surr: Dibromofluoromethane	98.1	64.4-119		%REC	10	4/20/2008 9:20:52 AM
Surr: Toluene-d8	97.5	86.6-121		%REC	10	4/20/2008 9:20:52 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-3-SS
Lab Order:	0804138	**Collection Date:**	4/9/2008 10:00:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-32	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						**Analyst: SCC**
Diesel Range Organics (DRO)	300000	5000		mg/Kg	50	4/17/2008 4:53:20 PM
Motor Oil Range Organics (MRO)	29000	25000		mg/Kg	50	4/17/2008 4:53:20 PM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 4:53:20 PM
EPA METHOD 8015B: GASOLINE RANGE						**Analyst: NSB**
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/19/2008 6:24:07 AM
Surr: BFB	103	84-138		%REC	20	4/19/2008 6:24:07 AM
EPA METHOD 7471: MERCURY						**Analyst: SNV**
Mercury	8.9	1.6		mg/Kg	50	4/28/2008 3:41:55 PM
EPA METHOD 6010B: SOIL METALS						**Analyst: NMO**
Arsenic	8.4	2.5		mg/Kg	1	4/23/2008 8:36:55 AM
Barium	350	1.0		mg/Kg	10	4/23/2008 9:56:28 AM
Cadmium	0.42	0.10		mg/Kg	1	4/23/2008 8:36:55 AM
Chromium	14	0.30		mg/Kg	1	4/23/2008 8:36:55 AM
Lead	24	1.2		mg/Kg	5	4/28/2008 11:33:35 AM
Selenium	ND	25		mg/Kg	10	4/23/2008 9:56:28 AM
Silver	ND	0.25		mg/Kg	1	4/28/2008 10:08:51 AM
EPA METHOD 8270C: SEMIVOLATILES						**Analyst: JDC**
Acenaphthene	ND	30		mg/Kg	1	4/20/2008
Acenaphthylene	ND	30		mg/Kg	1	4/20/2008
Aniline	ND	30		mg/Kg	1	4/20/2008
Anthracene	ND	30		mg/Kg	1	4/20/2008
Azobenzene	ND	30		mg/Kg	1	4/20/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/20/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/20/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/20/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/20/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/20/2008
Benzoic acid	ND	50		mg/Kg	1	4/20/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/20/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/20/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/20/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/20/2008
Carbazole	ND	30		mg/Kg	1	4/20/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/20/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/20/2008

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- J Analyte detected below quantitation limits
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-3-SS
Lab Order:	0804138	**Collection Date:**	4/9/2008 10:00:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-32	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
2-Chloronaphthalene	ND	38		mg/Kg	1	4/20/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/20/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/20/2008
Chrysene	32	30		mg/Kg	1	4/20/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/20/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/20/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/20/2008
Dibenzofuran	ND	30		mg/Kg	1	4/20/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/20/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/20/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/20/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/20/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/20/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/20/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/20/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/20/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/20/2008
Fluoranthene	ND	38		mg/Kg	1	4/20/2008
Fluorene	43	30		mg/Kg	1	4/20/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/20/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/20/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/20/2008
Hexachloroethane	ND	30		mg/Kg	1	4/20/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/20/2008
Isophorone	ND	75		mg/Kg	1	4/20/2008
2-Methylnaphthalene	300	38		mg/Kg	1	4/20/2008
2-Methylphenol	ND	75		mg/Kg	1	4/20/2008
3+4-Methylphenol	ND	30		mg/Kg	1	4/20/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/20/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/20/2008
Naphthalene	ND	30		mg/Kg	1	4/20/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/20/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/20/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/20/2008
Nitrobenzene	ND	75		mg/Kg	1	4/20/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/20/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/20/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/20/2008
Phenanthrene	250	30		mg/Kg	1	4/20/2008

Qualifiers:

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- J Analyte detected below quantitation limits
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-3-SS
Lab Order:	0804138	**Collection Date:**	4/9/2008 10:00:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-32	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	ND	30		mg/Kg	1	4/20/2008
Pyrene	47	30		mg/Kg	1	4/20/2008
Pyridine	ND	75		mg/Kg	1	4/20/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/20/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/20/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/20/2008
Surr: 2,4,6-Tribromophenol	25.9	35.5-141	S	%REC	1	4/20/2008
Surr: 2-Fluorobiphenyl	41.3	30.4-128		%REC	1	4/20/2008
Surr: 2-Fluorophenol	84.8	28.1-129		%REC	1	4/20/2008
Surr: 4-Terphenyl-d14	31.7	34.6-151	S	%REC	1	4/20/2008
Surr: Nitrobenzene-d5	71.7	26.5-122		%REC	1	4/20/2008
Surr: Phenol-d5	66.3	37.6-118		%REC	1	4/20/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
Toluene	1.2	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
Ethylbenzene	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
1,2,4-Trimethylbenzene	2.9	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
1,3,5-Trimethylbenzene	0.64	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
Naphthalene	4.6	1.0		mg/Kg	10	4/20/2008 9:56:29 AM
1-Methylnaphthalene	21	2.0		mg/Kg	10	4/20/2008 9:56:29 AM
2-Methylnaphthalene	27	2.0		mg/Kg	10	4/20/2008 9:56:29 AM
Acetone	ND	7.5		mg/Kg	10	4/20/2008 9:56:29 AM
Bromobenzene	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
Bromoform	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
Bromomethane	ND	1.0		mg/Kg	10	4/20/2008 9:56:29 AM
2-Butanone	ND	5.0		mg/Kg	10	4/20/2008 9:56:29 AM
Carbon disulfide	ND	5.0		mg/Kg	10	4/20/2008 9:56:29 AM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/20/2008 9:56:29 AM
Chlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
Chloroethane	ND	1.0		mg/Kg	10	4/20/2008 9:56:29 AM
Chloroform	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
Chloromethane	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/20/2008 9:56:29 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-3-SS
Lab Order:	0804138	**Collection Date:**	4/9/2008 10:00:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-32	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
Dibromomethane	ND	1.0		mg/Kg	10	4/20/2008 9:56:29 AM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/20/2008 9:56:29 AM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/20/2008 9:56:29 AM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/20/2008 9:56:29 AM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/20/2008 9:56:29 AM
2-Hexanone	ND	5.0		mg/Kg	10	4/20/2008 9:56:29 AM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/20/2008 9:56:29 AM
Methylene chloride	ND	1.5		mg/Kg	10	4/20/2008 9:56:29 AM
n-Butylbenzene	0.66	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
Styrene	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/20/2008 9:56:29 AM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/20/2008 9:56:29 AM
Vinyl chloride	ND	0.50		mg/Kg	10	4/20/2008 9:56:29 AM
Xylenes, Total	2.8	1.0		mg/Kg	10	4/20/2008 9:56:29 AM
Surr: 1,2-Dichloroethane-d4	95.4	68.7-122		%REC	10	4/20/2008 9:56:29 AM
Surr: 4-Bromofluorobenzene	90.3	79.3-126		%REC	10	4/20/2008 9:56:29 AM
Surr: Dibromofluoromethane	95.8	64.4-119		%REC	10	4/20/2008 9:56:29 AM
Surr: Toluene-d8	96.6	86.5-121		%REC	10	4/20/2008 9:56:29 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-4-SS
Lab Order:	0804138	**Collection Date:**	4/9/2008 10:25:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-33	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	250000	5000		mg/Kg	50	4/18/2008 8:19:52 PM
Motor Oil Range Organics (MRO)	35000	25000		mg/Kg	50	4/18/2008 8:19:52 PM
Surr: DNOP	0	61.7-135	S	%REC	50	4/18/2008 8:19:52 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/19/2008 6:54:09 AM
Surr: BFB	103	84-138		%REC	20	4/19/2008 6:54:09 AM
EPA METHOD 7471: MERCURY						Analyst: **SNV**
Mercury	8.1	1.6		mg/Kg	50	4/28/2008 3:25:49 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **NMO**
Arsenic	14	2.5		mg/Kg	1	4/23/2008 8:39:36 AM
Barium	190	1.0		mg/Kg	10	4/23/2008 9:59:06 AM
Cadmium	0.42	0.10		mg/Kg	1	4/23/2008 8:39:36 AM
Chromium	16	0.30		mg/Kg	1	4/23/2008 8:39:36 AM
Lead	32	0.25		mg/Kg	1	4/28/2008 10:11:24 AM
Selenium	ND	25		mg/Kg	10	4/23/2008 9:59:06 AM
Silver	ND	0.25		mg/Kg	1	4/28/2008 10:11:24 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	30		mg/Kg	1	4/20/2008
Acenaphthylene	ND	30		mg/Kg	1	4/20/2008
Aniline	ND	30		mg/Kg	1	4/20/2008
Anthracene	ND	30		mg/Kg	1	4/20/2008
Azobenzene	ND	30		mg/Kg	1	4/20/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/20/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/20/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/20/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/20/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/20/2008
Benzoic acid	ND	50		mg/Kg	1	4/20/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/20/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/20/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/20/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/20/2008
Carbazole	ND	30		mg/Kg	1	4/20/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/20/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/20/2008

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-4-SS
Lab Order:	0804138	**Collection Date:**	4/9/2008 10:25:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-33	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/20/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/20/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/20/2008
Chrysene	ND	30		mg/Kg	1	4/20/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/20/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/20/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/20/2008
Dibenzofuran	ND	30		mg/Kg	1	4/20/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/20/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/20/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/20/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/20/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/20/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/20/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/20/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/20/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/20/2008
Fluoranthene	ND	38		mg/Kg	1	4/20/2008
Fluorene	44	30		mg/Kg	1	4/20/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/20/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/20/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/20/2008
Hexachloroethane	ND	30		mg/Kg	1	4/20/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/20/2008
Isophorone	ND	75		mg/Kg	1	4/20/2008
2-Methylnaphthalene	190	38		mg/Kg	1	4/20/2008
2-Methylphenol	ND	75		mg/Kg	1	4/20/2008
3+4-Methylphenol	ND	30		mg/Kg	1	4/20/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/20/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/20/2008
Naphthalene	44	30		mg/Kg	1	4/20/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/20/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/20/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/20/2008
Nitrobenzene	ND	75		mg/Kg	1	4/20/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/20/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/20/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/20/2008
Phenanthrene	210	30		mg/Kg	1	4/20/2008

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- J Analyte detected below quantitation limits
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-4-SS
Lab Order:	0804138	**Collection Date:**	4/9/2008 10:25:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-33	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Phenol	ND	30		mg/Kg	1	4/20/2008
Pyrene	ND	30		mg/Kg	1	4/20/2008
Pyridine	ND	75		mg/Kg	1	4/20/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/20/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/20/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/20/2008
Surr: 2,4,6-Tribromophenol	35.8	35.5-141		%REC	1	4/20/2008
Surr: 2-Fluorobiphenyl	46.5	30.4-128		%REC	1	4/20/2008
Surr: 2-Fluorophenol	82.3	28.1-129		%REC	1	4/20/2008
Surr: 4-Terphenyl-d14	61.5	34.6-151		%REC	1	4/20/2008
Surr: Nitrobenzene-d5	77.2	26.5-122		%REC	1	4/20/2008
Surr: Phenol-d5	66.5	37.6-118		%REC	1	4/20/2008
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Benzene	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
Toluene	1.6	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
Ethylbenzene	0.56	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
1,2,4-Trimethylbenzene	4.1	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
1,3,5-Trimethylbenzene	0.72	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
Naphthalene	5.4	1.0		mg/Kg	10	4/20/2008 10:32:02 AM
1-Methylnaphthalene	24	2.0		mg/Kg	10	4/20/2008 10:32:02 AM
2-Methylnaphthalene	30	2.0		mg/Kg	10	4/20/2008 10:32:02 AM
Acetone	ND	7.5		mg/Kg	10	4/20/2008 10:32:02 AM
Bromobenzene	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
Bromoform	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
Bromomethane	ND	1.0		mg/Kg	10	4/20/2008 10:32:02 AM
2-Butanone	ND	5.0		mg/Kg	10	4/20/2008 10:32:02 AM
Carbon disulfide	ND	5.0		mg/Kg	10	4/20/2008 10:32:02 AM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/20/2008 10:32:02 AM
Chlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
Chloroethane	ND	1.0		mg/Kg	10	4/20/2008 10:32:02 AM
Chloroform	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
Chloromethane	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/20/2008 10:32:02 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-4-SS
Lab Order:	0804138	**Collection Date:**	4/9/2008 10:25:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-33	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
Dibromomethane	ND	1.0		mg/Kg	10	4/20/2008 10:32:02 AM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/20/2008 10:32:02 AM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/20/2008 10:32:02 AM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/20/2008 10:32:02 AM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/20/2008 10:32:02 AM
2-Hexanone	ND	5.0		mg/Kg	10	4/20/2008 10:32:02 AM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/20/2008 10:32:02 AM
Methylene chloride	ND	1.5		mg/Kg	10	4/20/2008 10:32:02 AM
n-Butylbenzene	1.1	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
Styrene	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/20/2008 10:32:02 AM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/20/2008 10:32:02 AM
Vinyl chloride	ND	0.50		mg/Kg	10	4/20/2008 10:32:02 AM
Xylenes, Total	4.0	1.0		mg/Kg	10	4/20/2008 10:32:02 AM
Surr: 1,2-Dichloroethane-d4	97.1	68.7-122		%REC	10	4/20/2008 10:32:02 AM
Surr: 4-Bromofluorobenzene	81.3	78.3-126		%REC	10	4/20/2008 10:32:02 AM
Surr: Dibromofluoromethane	93.9	84.4-119		%REC	10	4/20/2008 10:32:02 AM
Surr: Toluene-d8	101	86.5-121		%REC	10	4/20/2008 10:32:02 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-5-SS
Lab Order:	0804138	**Collection Date:**	4/9/2008 9:40:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-34	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						**Analyst: SCC**
Diesel Range Organics (DRO)	370000	5000		mg/Kg	50	4/18/2008 8:53:46 PM
Motor Oil Range Organics (MRO)	ND	25000		mg/Kg	50	4/18/2008 8:53:46 PM
Surr: DNOP	0	61.7-135	S	%REC	50	4/18/2008 8:53:46 PM
EPA METHOD 8015B: GASOLINE RANGE						**Analyst: NSB**
Gasoline Range Organics (GRO)	430	250		mg/Kg	50	4/18/2008 2:38:25 AM
Surr: BFB	118	84-138		%REC	50	4/18/2008 2:38:25 AM
EPA METHOD 7471: MERCURY						**Analyst: SNV**
Mercury	6.8	1.6		mg/Kg	50	4/28/2008 3:32:20 PM
EPA METHOD 6010B: SOIL METALS						**Analyst: NMO**
Arsenic	4.6	2.5		mg/Kg	1	4/23/2008 8:42:15 AM
Barium	310	1.0		mg/Kg	10	4/23/2008 10:01:45 AM
Cadmium	0.31	0.10		mg/Kg	1	4/23/2008 8:42:15 AM
Chromium	12	0.30		mg/Kg	1	4/23/2008 8:42:15 AM
Lead	18	0.25		mg/Kg	1	4/28/2008 10:13:57 AM
Selenium	ND	25		mg/Kg	10	4/23/2008 10:01:45 AM
Silver	ND	0.25		mg/Kg	1	4/28/2008 10:13:57 AM
EPA METHOD 8270C: SEMIVOLATILES						**Analyst: JDC**
Acenaphthene	ND	30		mg/Kg	1	4/20/2008
Acenaphthylene	ND	30		mg/Kg	1	4/20/2008
Aniline	ND	30		mg/Kg	1	4/20/2008
Anthracene	ND	30		mg/Kg	1	4/20/2008
Azobenzene	ND	30		mg/Kg	1	4/20/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/20/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/20/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/20/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/20/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/20/2008
Benzoic acid	ND	50		mg/Kg	1	4/20/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/20/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/20/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/20/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/20/2008
Carbazole	ND	30		mg/Kg	1	4/20/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/20/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/20/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-5-SS
Lab Order:	0804138	**Collection Date:**	4/9/2008 9:40:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-34	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/20/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/20/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/20/2008
Chrysene	ND	30		mg/Kg	1	4/20/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/20/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/20/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/20/2008
Dibenzofuran	ND	30		mg/Kg	1	4/20/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/20/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/20/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/20/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/20/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/20/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/20/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/20/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/20/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/20/2008
Fluoranthene	ND	38		mg/Kg	1	4/20/2008
Fluorene	70	30		mg/Kg	1	4/20/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/20/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/20/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/20/2008
Hexachloroethane	ND	30		mg/Kg	1	4/20/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/20/2008
Isophorone	ND	75		mg/Kg	1	4/20/2008
2-Methylnaphthalene	550	38		mg/Kg	1	4/20/2008
2-Methylphenol	ND	75		mg/Kg	1	4/20/2008
3+4-Methylphenol	ND	30		mg/Kg	1	4/20/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/20/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/20/2008
Naphthalene	85	30		mg/Kg	1	4/20/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/20/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/20/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/20/2008
Nitrobenzene	ND	76		mg/Kg	1	4/20/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/20/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/20/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/20/2008
Phenanthrene	250	30		mg/Kg	1	4/20/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-5-SS
Lab Order:	0804138	**Collection Date:**	4/9/2008 9:40:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-34	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	ND	30		mg/Kg	1	4/20/2008
Pyrene	36	30		mg/Kg	1	4/20/2008
Pyridine	ND	75		mg/Kg	1	4/20/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/20/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/20/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/20/2008
Surr: 2,4,6-Tribromophenol	12.3	35.5-141	S	%REC	1	4/20/2008
Surr: 2-Fluorobiphenyl	36.4	30.4-128		%REC	1	4/20/2008
Surr: 2-Fluorophenol	81.9	28.1-129		%REC	1	4/20/2008
Surr: 4-Terphenyl-d14	84.8	34.6-151		%REC	1	4/20/2008
Surr: Nitrobenzene-d5	84.2	26.5-122		%REC	1	4/20/2008
Surr: Phenol-d5	59.7	37.6-118		%REC	1	4/20/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	2.3	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
Toluene	18	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
Ethylbenzene	6.4	0.60		mg/Kg	10	4/20/2008 11:07:25 AM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
1,2,4-Trimethylbenzene	17	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
1,3,5-Trimethylbenzene	5.6	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
Naphthalene	15	1.0		mg/Kg	10	4/20/2008 11:07:25 AM
1-Methylnaphthalene	43	2.0		mg/Kg	10	4/20/2008 11:07:25 AM
2-Methylnaphthalene	35	4.0		mg/Kg	20	4/21/2008 1:48:32 PM
Acetone	ND	7.5		mg/Kg	10	4/20/2008 11:07:25 AM
Bromobenzene	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
Bromoform	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
Bromomethane	ND	1.0		mg/Kg	10	4/20/2008 11:07:25 AM
2-Butanone	ND	5.0		mg/Kg	10	4/20/2008 11:07:25 AM
Carbon disulfide	ND	5.0		mg/Kg	10	4/20/2008 11:07:25 AM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/20/2008 11:07:25 AM
Chlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
Chloroethane	ND	1.0		mg/Kg	10	4/20/2008 11:07:25 AM
Chloroform	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
Chloromethane	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
cis-1,2-DCE	ND	0.60		mg/Kg	10	4/20/2008 11:07:25 AM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/20/2008 11:07:25 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	AL2-5-SS
Lab Order:	0804138	**Collection Date:**	4/9/2008 9:40:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-34	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
Dibromomethane	ND	1.0		mg/Kg	10	4/20/2008 11:07:25 AM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/20/2008 11:07:25 AM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/20/2008 11:07:25 AM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/20/2008 11:07:25 AM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/20/2008 11:07:25 AM
2-Hexanone	ND	5.0		mg/Kg	10	4/20/2008 11:07:25 AM
Isopropylbenzene	1.7	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
4-Isopropyltoluene	1.0	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/20/2008 11:07:25 AM
Methylene chloride	ND	1.5		mg/Kg	10	4/20/2008 11:07:25 AM
n-Butylbenzene	3.4	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
n-Propylbenzene	3.0	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
sec-Butylbenzene	2.0	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
Styrene	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/20/2008 11:07:25 AM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/20/2008 11:07:25 AM
Vinyl chloride	ND	0.50		mg/Kg	10	4/20/2008 11:07:25 AM
Xylenes, Total	39	1.0		mg/Kg	10	4/20/2008 11:07:25 AM
Surr: 1,2-Dichloroethane-d4	95.2	68.7-122		%REC	10	4/20/2008 11:07:25 AM
Surr: 4-Bromofluorobenzene	83.7	79.3-126		%REC	10	4/20/2008 11:07:25 AM
Surr: Dibromofluoromethane	98.5	64.4-119		%REC	10	4/20/2008 11:07:25 AM
Surr: Toluene-d8	94.7	86.5-121		%REC	10	4/20/2008 11:07:25 AM

Qualifiers:

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- J Analyte detected below quantitation limits
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-1
Lab Order:	0804138	**Collection Date:**	4/9/2008 6:25:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-35	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	200000	5000		mg/Kg	50	4/18/2008 10:34:50 PM
Motor Oil Range Organics (MRO)	ND	25000		mg/Kg	50	4/18/2008 10:34:50 PM
Surr: DNOP	0	61.7-135	S	%REC	50	4/18/2008 10:34:50 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/19/2008 7:24:11 AM
Surr: BFB	98.1	84-138		%REC	20	4/19/2008 7:24:11 AM
EPA METHOD 7471: MERCURY						Analyst: **SNV**
Mercury	6.8	1.6		mg/Kg	50	4/28/2008 3:35:31 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **NMO**
Arsenic	5.4	2.5		mg/Kg	1	4/23/2008 8:44:55 AM
Barium	400	1.0		mg/Kg	10	4/23/2008 10:04:24 AM
Cadmium	0.45	0.10		mg/Kg	1	4/23/2008 8:44:55 AM
Chromium	9.7	0.30		mg/Kg	1	4/23/2008 8:44:55 AM
Lead	16	0.25		mg/Kg	1	4/28/2008 10:16:29 AM
Selenium	ND	25		mg/Kg	10	4/23/2008 10:04:24 AM
Silver	ND	0.25		mg/Kg	1	4/28/2008 10:16:29 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	30		mg/Kg	1	4/20/2008
Acenaphthylene	ND	30		mg/Kg	1	4/20/2008
Aniline	ND	30		mg/Kg	1	4/20/2008
Anthracene	ND	30		mg/Kg	1	4/20/2008
Azobenzene	ND	30		mg/Kg	1	4/20/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/20/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/20/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/20/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/20/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/20/2008
Benzoic acid	ND	60		mg/Kg	1	4/20/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/20/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/20/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/20/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/20/2008
Carbazole	ND	30		mg/Kg	1	4/20/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/20/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/20/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-1
Lab Order:	0804138	**Collection Date:**	4/9/2008 6:25:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-35	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/20/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/20/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/20/2008
Chrysene	45	30		mg/Kg	1	4/20/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/20/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/20/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/20/2008
Dibenzofuran	ND	30		mg/Kg	1	4/20/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/20/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/20/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/20/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/20/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/20/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/20/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/20/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/20/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/20/2008
Fluoranthene	ND	38		mg/Kg	1	4/20/2008
Fluorene	53	30		mg/Kg	1	4/20/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/20/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/20/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/20/2008
Hexachloroethane	ND	30		mg/Kg	1	4/20/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/20/2008
Isophorone	ND	75		mg/Kg	1	4/20/2008
2-Methylnaphthalene	370	38		mg/Kg	1	4/20/2008
2-Methylphenol	ND	75		mg/Kg	1	4/20/2008
3+4-Methylphenol	53	30		mg/Kg	1	4/20/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/20/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/20/2008
Naphthalene	31	30		mg/Kg	1	4/20/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/20/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/20/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/20/2008
Nitrobenzene	ND	75		mg/Kg	1	4/20/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/20/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/20/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/20/2008
Phenanthrene	330	30		mg/Kg	1	4/20/2008

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	BP1-1
Lab Order:	0804138	**Collection Date:**	4/9/2008 6:25:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-35	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Phenol	ND	30		mg/Kg	1	4/20/2008
Pyrene	47	30		mg/Kg	1	4/20/2008
Pyridine	ND	75		mg/Kg	1	4/20/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/20/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/20/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/20/2008
Surr: 2,4,6-Tribromophenol	28.9	35.5-141	S	%REC	1	4/20/2008
Surr: 2-Fluorobiphenyl	66.1	30.4-128		%REC	1	4/20/2008
Surr: 2-Fluorophenol	104	28.1-129		%REC	1	4/20/2008
Surr: 4-Terphenyl-d14	127	34.6-151		%REC	1	4/20/2008
Surr: Nitrobenzene-d5	86.0	26.5-122		%REC	1	4/20/2008
Surr: Phenol-d5	75.6	37.6-118		%REC	1	4/20/2008
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Benzene	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
Toluene	0.51	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
Ethylbenzene	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
1,2,4-Trimethylbenzene	1.5	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
1,3,5-Trimethylbenzene	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
Naphthalene	2.6	1.0		mg/Kg	10	4/20/2008 11:43:12 AM
1-Methylnaphthalene	12	2.0		mg/Kg	10	4/20/2008 11:43:12 AM
2-Methylnaphthalene	16	2.0		mg/Kg	10	4/20/2008 11:43:12 AM
Acetone	ND	7.5		mg/Kg	10	4/20/2008 11:43:12 AM
Bromobenzene	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
Bromoform	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
Bromomethane	ND	1.0		mg/Kg	10	4/20/2008 11:43:12 AM
2-Butanone	ND	5.0		mg/Kg	10	4/20/2008 11:43:12 AM
Carbon disulfide	ND	5.0		mg/Kg	10	4/20/2008 11:43:12 AM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/20/2008 11:43:12 AM
Chlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
Chloroethane	ND	1.0		mg/Kg	10	4/20/2008 11:43:12 AM
Chloroform	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
Chloromethane	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/20/2008 11:43:12 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-1
Lab Order:	0804138	**Collection Date:**	4/9/2008 6:25:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-35	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
Dibromomethane	ND	1.0		mg/Kg	10	4/20/2008 11:43:12 AM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/20/2008 11:43:12 AM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/20/2008 11:43:12 AM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/20/2008 11:43:12 AM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/20/2008 11:43:12 AM
2-Hexanone	ND	5.0		mg/Kg	10	4/20/2008 11:43:12 AM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/20/2008 11:43:12 AM
Methylene chloride	ND	1.5		mg/Kg	10	4/20/2008 11:43:12 AM
n-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
Styrene	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/20/2008 11:43:12 AM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/20/2008 11:43:12 AM
Vinyl chloride	ND	0.50		mg/Kg	10	4/20/2008 11:43:12 AM
Xylenes, Total	ND	1.0		mg/Kg	10	4/20/2008 11:43:12 AM
Surr: 1,2-Dichloroethane-d4	91.7	68.7-122		%REC	10	4/20/2008 11:43:12 AM
Surr: 4-Bromofluorobenzene	104	79.3-126		%REC	10	4/20/2008 11:43:12 AM
Surr: Dibromofluoromethane	96.5	64.4-119		%REC	10	4/20/2008 11:43:12 AM
Surr: Toluene-d8	96.7	86.5-121		%REC	10	4/20/2008 11:43:12 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-2
Lab Order:	0804138	**Collection Date:**	4/9/2008 6:45:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-36	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	150000	5000		mg/Kg	50	4/18/2008 11:08:22 PM
Motor Oil Range Organics (MRO)	ND	25000		mg/Kg	50	4/18/2008 11:08:22 PM
Surr: DNOP	0	61.7-135	S	%REC	50	4/18/2008 11:08:22 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/19/2008 7:54:10 AM
Surr: BFB	108	84-138		%REC	20	4/19/2008 7:54:10 AM
EPA METHOD 7471: MERCURY						Analyst: **SNV**
Mercury	4.4	1.6		mg/Kg	50	4/28/2008 3:38:43 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **NMO**
Arsenic	17	2.5		mg/Kg	1	4/23/2008 8:47:38 AM
Barium	190	1.0		mg/Kg	10	4/23/2008 10:08:46 AM
Cadmium	0.58	0.10		mg/Kg	1	4/23/2008 8:47:38 AM
Chromium	24	0.30		mg/Kg	1	4/23/2008 8:47:38 AM
Lead	18	0.25		mg/Kg	1	4/28/2008 10:19:02 AM
Selenium	ND	25		mg/Kg	10	4/23/2008 10:08:46 AM
Silver	ND	0.25		mg/Kg	1	4/28/2008 10:19:02 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	30		mg/Kg	1	4/20/2008
Acenaphthylene	ND	30		mg/Kg	1	4/20/2008
Aniline	ND	30		mg/Kg	1	4/20/2008
Anthracene	ND	30		mg/Kg	1	4/20/2008
Azobenzene	ND	30		mg/Kg	1	4/20/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/20/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/20/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/20/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/20/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/20/2008
Benzoic acid	ND	60		mg/Kg	1	4/20/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/20/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/20/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/20/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/20/2008
Carbazole	ND	30		mg/Kg	1	4/20/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/20/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/20/2008

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- ND Not Detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-2
Lab Order:	0804138	**Collection Date:**	4/9/2008 6:45:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-36	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/20/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/20/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/20/2008
Chrysene	ND	30		mg/Kg	1	4/20/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/20/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/20/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/20/2008
Dibenzofuran	ND	30		mg/Kg	1	4/20/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/20/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/20/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/20/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/20/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/20/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/20/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/20/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/20/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/20/2008
Fluoranthene	ND	38		mg/Kg	1	4/20/2008
Fluorene	ND	30		mg/Kg	1	4/20/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/20/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/20/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/20/2008
Hexachloroethane	ND	30		mg/Kg	1	4/20/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/20/2008
Isophorone	ND	75		mg/Kg	1	4/20/2008
2-Methylnaphthalene	58	38		mg/Kg	1	4/20/2008
2-Methylphenol	ND	75		mg/Kg	1	4/20/2008
3+4-Methylphenol	34	30		mg/Kg	1	4/20/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/20/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/20/2008
Naphthalene	ND	30		mg/Kg	1	4/20/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/20/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/20/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/20/2008
Nitrobenzene	ND	75		mg/Kg	1	4/20/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/20/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/20/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/20/2008
Phenanthrene	71	30		mg/Kg	1	4/20/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-2
Lab Order:	0804138	**Collection Date:**	4/9/2008 6:45:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-36	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	ND	30		mg/Kg	1	4/20/2008
Pyrene	ND	30		mg/Kg	1	4/20/2008
Pyridine	ND	75		mg/Kg	1	4/20/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/20/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/20/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/20/2008
Surr: 2,4,6-Tribromophenol	78.3	35.5-141		%REC	1	4/20/2008
Surr: 2-Fluorobiphenyl	80.4	30.4-128		%REC	1	4/20/2008
Surr: 2-Fluorophenol	99.3	28.1-129		%REC	1	4/20/2008
Surr: 4-Terphenyl-d14	160	34.6-151	S	%REC	1	4/20/2008
Surr: Nitrobenzene-d5	74.7	26.5-122		%REC	1	4/20/2008
Surr: Phenol-d5	78.1	37.6-118		%REC	1	4/20/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
Toluene	0.51	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
Ethylbenzene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
1,2,4-Trimethylbenzene	1.4	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
1,3,5-Trimethylbenzene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
Naphthalene	1.4	1.0		mg/Kg	10	4/20/2008 12:18:36 PM
1-Methylnaphthalene	5.8	2.0		mg/Kg	10	4/20/2008 12:18:36 PM
2-Methylnaphthalene	7.7	2.0		mg/Kg	10	4/20/2008 12:18:36 PM
Acetone	ND	7.5		mg/Kg	10	4/20/2008 12:18:36 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
Bromoform	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
Bromomethane	ND	1.0		mg/Kg	10	4/20/2008 12:18:36 PM
2-Butanone	ND	5.0		mg/Kg	10	4/20/2008 12:18:36 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/20/2008 12:18:36 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/20/2008 12:18:36 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
Chloroethane	ND	1.0		mg/Kg	10	4/20/2008 12:18:36 PM
Chloroform	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
Chloromethane	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/20/2008 12:18:36 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-2
Lab Order:	0804138	**Collection Date:**	4/9/2008 6:45:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-36	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
Dibromomethane	ND	1.0		mg/Kg	10	4/20/2008 12:18:36 PM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/20/2008 12:18:36 PM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/20/2008 12:18:36 PM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/20/2008 12:18:36 PM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/20/2008 12:18:36 PM
2-Hexanone	ND	5.0		mg/Kg	10	4/20/2008 12:18:36 PM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/20/2008 12:18:36 PM
Methylene chloride	ND	1.5		mg/Kg	10	4/20/2008 12:18:36 PM
n-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
Styrene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/20/2008 12:18:36 PM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/20/2008 12:18:36 PM
Vinyl chloride	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
Xylenes, Total	1.0	1.0		mg/Kg	10	4/20/2008 12:18:36 PM
Surr: 1,2-Dichloroethane-d4	95.3	88.7-122		%REC	10	4/20/2008 12:18:36 PM
Surr: 4-Bromofluorobenzene	83.1	79.3-126		%REC	10	4/20/2008 12:18:36 PM
Surr: Dibromofluoromethane	99.0	64.4-119		%REC	10	4/20/2008 12:18:36 PM
Surr: Toluene-d8	97.3	86.5-121		%REC	10	4/20/2008 12:18:36 PM

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: Evaporation Pond/Aeration Lagoon **Work Order:** 0804138

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range Organics									
Sample ID: MB-15653		*MBLK*			Batch ID:	**15653**	Analysis Date:		4/16/2008 6:17:27 PM
Diesel Range Organics (DRO)	ND	mg/Kg	10						
Motor Oil Range Organics (MRO)	ND	mg/Kg	50						
Sample ID: MB-15654		*MBLK*			Batch ID:	**15654**	Analysis Date:		4/16/2008 8:00:27 PM
Diesel Range Organics (DRO)	ND	mg/Kg	10						
Motor Oil Range Organics (MRO)	ND	mg/Kg	50						
Sample ID: LCS-15653		*LCS*			Batch ID:	**15653**	Analysis Date:		4/16/2008 6:51:47 PM
Diesel Range Organics (DRO)	43.17	mg/Kg	10	86.3	64.6	116			
Sample ID: LCS-15654		*LCS*			Batch ID:	**15654**	Analysis Date:		4/16/2008 8:34:51 PM
Diesel Range Organics (DRO)	42.92	mg/Kg	10	85.8	64.6	116			
Sample ID: LCSD-15653		*LCSD*			Batch ID:	**15653**	Analysis Date:		4/16/2008 7:26:07 PM
Diesel Range Organics (DRO)	42.84	mg/Kg	10	85.7	64.6	116	0.781	17.4	
Sample ID: LCSD-15654		*LCSD*			Batch ID:	**15654**	Analysis Date:		4/16/2008 9:09:11 PM
Diesel Range Organics (DRO)	45.86	mg/Kg	10	91.8	64.6	116	6.66	17.4	
Method: EPA Method 8015B: Gasoline Range									
Sample ID: MB-15641		*MBLK*			Batch ID:	**15641**	Analysis Date:		4/17/2008 12:40:47 AM
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0						
Sample ID: MB-15642		*MBLK*			Batch ID:	**15642**	Analysis Date:		4/17/2008 11:07:42 PM
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0						
Sample ID: LCS-15641		*LCS*			Batch ID:	**15641**	Analysis Date:		4/16/2008 11:40:25 PM
Gasoline Range Organics (GRO)	24.68	mg/Kg	5.0	98.7	69.5	120			
Sample ID: LCS-15642		*LCS*			Batch ID:	**15642**	Analysis Date:		4/17/2008 10:07:36 PM
Gasoline Range Organics (GRO)	24.50	mg/Kg	5.0	98.0	69.5	120			
Sample ID: LCSD-15641		*LCSD*			Batch ID:	**15641**	Analysis Date:		4/17/2008 12:10:42 AM
Gasoline Range Organics (GRO)	24.48	mg/Kg	5.0	97.9	69.5	120	0.814	11.6	

Qualifiers:

- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: Evaporation Pond/Aeration Lagoon **Work Order:** 0804138

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8270C: Semivolatiles									
Sample ID: mb-15669		*MBLK*			**Batch ID: 15669**		**Analysis Date:**		**4/17/2008**
Acenaphthene	ND	mg/Kg	0.20						
Acenaphthylene	ND	mg/Kg	0.20						
Aniline	ND	mg/Kg	0.20						
Anthracene	ND	mg/Kg	0.20						
Azobenzene	ND	mg/Kg	0.20						
Benz(a)anthracene	ND	mg/Kg	0.20						
Benzo(a)pyrene	ND	mg/Kg	0.20						
Benzo(b)fluoranthene	ND	mg/Kg	0.20						
Benzo(g,h,i)perylene	ND	mg/Kg	0.50						
Benzo(k)fluoranthene	ND	mg/Kg	0.20						
Benzoic acid	ND	mg/Kg	0.33						
Benzyl alcohol	ND	mg/Kg	0.20						
Bis(2-chloroethoxy)methane	ND	mg/Kg	0.20						
Bis(2-chloroethyl)ether	ND	mg/Kg	0.20						
Bis(2-chloroisopropyl)ether	ND	mg/Kg	0.20						
Bis(2-ethylhexyl)phthalate	ND	mg/Kg	0.50						
4-Bromophenyl phenyl ether	ND	mg/Kg	0.20						
Butyl benzyl phthalate	ND	mg/Kg	0.20						
Carbazole	ND	mg/Kg	0.20						
4-Chloro-3-methylphenol	ND	mg/Kg	0.50						
4-Chloroaniline	ND	mg/Kg	0.50						
2-Chloronaphthalene	ND	mg/Kg	0.25						
2-Chlorophenol	ND	mg/Kg	0.20						
4-Chlorophenyl phenyl ether	ND	mg/Kg	0.20						
Chrysene	ND	mg/Kg	0.20						
Di-n-butyl phthalate	ND	mg/Kg	0.50						
Di-n-octyl phthalate	ND	mg/Kg	0.20						
Dibenz(a,h)anthracene	ND	mg/Kg	0.20						
Dibenzofuran	ND	mg/Kg	0.20						
1,2-Dichlorobenzene	ND	mg/Kg	0.20						
1,3-Dichlorobenzene	ND	mg/Kg	0.20						
1,4-Dichlorobenzene	ND	mg/Kg	0.20						
3,3'-Dichlorobenzidine	ND	mg/Kg	0.25						
Diethyl phthalate	ND	mg/Kg	0.20						
Dimethyl phthalate	ND	mg/Kg	0.20						
2,4-Dichlorophenol	ND	mg/Kg	0.20						
2,4-Dimethylphenol	ND	mg/Kg	0.30						
4,6-Dinitro-2-methylphenol	ND	mg/Kg	0.50						
2,4-Dinitrophenol	ND	mg/Kg	0.50						
2,4-Dinitrotoluene	ND	mg/Kg	0.50						
2,6-Dinitrotoluene	ND	mg/Kg	0.50						
Fluoranthene	ND	mg/Kg	0.25						
Fluorene	ND	mg/Kg	0.20						
Hexachlorobenzene	ND	mg/Kg	0.20						

Qualifiers:

- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: Evaporation Pond/Aeration Lagoon **Work Order:** 0804138

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8270C: Semivolatiles									
Sample ID: mb-15669		*MBLK*			Batch ID:	15669	Analysis Date:		4/17/2008
Hexachlorobutadiene	ND	mg/Kg	0.20						
Hexachlorocyclopentadiene	ND	mg/Kg	0.20						
Hexachloroethane	ND	mg/Kg	0.20						
Indeno(1,2,3-cd)pyrene	ND	mg/Kg	0.25						
Isophorone	ND	mg/Kg	0.50						
2-Methylnaphthalene	ND	mg/Kg	0.25						
2-Methylphenol	ND	mg/Kg	0.50						
3+4-Methylphenol	ND	mg/Kg	0.20						
N-Nitrosodi-n-propylamine	ND	mg/Kg	0.20						
N-Nitrosodiphenylamine	ND	mg/Kg	0.20						
Naphthalene	ND	mg/Kg	0.20						
2-Nitroaniline	ND	mg/Kg	0.20						
3-Nitroaniline	ND	mg/Kg	0.20						
4-Nitroaniline	ND	mg/Kg	0.25						
Nitrobenzene	ND	mg/Kg	0.50						
2-Nitrophenol	ND	mg/Kg	0.20						
4-Nitrophenol	ND	mg/Kg	0.20						
Pentachlorophenol	ND	mg/Kg	0.33						
Phenanthrene	ND	mg/Kg	0.20						
Phenol	ND	mg/Kg	0.20						
Pyrene	ND	mg/Kg	0.20						
Pyridine	ND	mg/Kg	0.50						
1,2,4-Trichlorobenzene	ND	mg/Kg	0.20						
2,4,5-Trichlorophenol	ND	mg/Kg	0.20						
2,4,6-Trichlorophenol	ND	mg/Kg	0.20						
Sample ID: mb-15682		*MBLK*			Batch ID:	15682	Analysis Date:		4/18/2008
Acenaphthene	ND	mg/Kg	0.20						
Acenaphthylene	ND	mg/Kg	0.20						
Aniline	ND	mg/Kg	0.20						
Anthracene	ND	mg/Kg	0.20						
Azobenzene	ND	mg/Kg	0.20						
Benz(a)anthracene	ND	mg/Kg	0.20						
Benzo(a)pyrene	ND	mg/Kg	0.20						
Benzo(b)fluoranthene	ND	mg/Kg	0.20						
Benzo(g,h,i)perylene	ND	mg/Kg	0.50						
Benzo(k)fluoranthene	ND	mg/Kg	0.20						
Benzoic acid	ND	mg/Kg	0.33						
Benzyl alcohol	ND	mg/Kg	0.20						
Bis(2-chloroethoxy)methane	ND	mg/Kg	0.20						
Bis(2-chloroethyl)ether	ND	mg/Kg	0.20						
Bis(2-chloroisopropyl)ether	ND	mg/Kg	0.20						
Bis(2-ethylhexyl)phthalate	ND	mg/Kg	0.50						
4-Bromophenyl phenyl ether	ND	mg/Kg	0.20						
Butyl benzyl phthalate	ND	mg/Kg	0.20						

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: Evaporation Pond/Aeration Lagoon **Work Order:** 0804138

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8270C: Semivolatiles									
Sample ID: mb-15682		*MBLK*			Batch ID: **15682**		Analysis Date:		4/18/2008
Carbazole	ND	mg/Kg	0.20						
4-Chloro-3-methylphenol	ND	mg/Kg	0.50						
4-Chloroaniline	ND	mg/Kg	0.50						
2-Chloronaphthalene	ND	mg/Kg	0.25						
2-Chlorophenol	ND	mg/Kg	0.20						
4-Chlorophenyl phenyl ether	ND	mg/Kg	0.20						
Chrysene	ND	mg/Kg	0.20						
Di-n-butyl phthalate	ND	mg/Kg	0.50						
Di-n-octyl phthalate	ND	mg/Kg	0.20						
Dibenz(a,h)anthracene	ND	mg/Kg	0.20						
Dibenzofuran	ND	mg/Kg	0.20						
1,2-Dichlorobenzene	ND	mg/Kg	0.20						
1,3-Dichlorobenzene	ND	mg/Kg	0.20						
1,4-Dichlorobenzene	ND	mg/Kg	0.20						
3,3'-Dichlorobenzidine	ND	mg/Kg	0.25						
Diethyl phthalate	ND	mg/Kg	0.20						
Dimethyl phthalate	ND	mg/Kg	0.20						
2,4-Dichlorophenol	ND	mg/Kg	0.20						
2,4-Dimethylphenol	ND	mg/Kg	0.30						
4,6-Dinitro-2-methylphenol	ND	mg/Kg	0.50						
2,4-Dinitrophenol	ND	mg/Kg	0.50						
2,4-Dinitrotoluene	ND	mg/Kg	0.50						
2,6-Dinitrotoluene	ND	mg/Kg	0.50						
Fluoranthene	ND	mg/Kg	0.25						
Fluorene	ND	mg/Kg	0.20						
Hexachlorobenzene	ND	mg/Kg	0.20						
Hexachlorobutadiene	ND	mg/Kg	0.20						
Hexachlorocyclopentadiene	ND	mg/Kg	0.20						
Hexachloroethane	ND	mg/Kg	0.20						
Indeno(1,2,3-cd)pyrene	ND	mg/Kg	0.25						
Isophorone	ND	mg/Kg	0.50						
2-Methylnaphthalene	ND	mg/Kg	0.25						
2-Methylphenol	ND	mg/Kg	0.50						
3+4-Methylphenol	ND	mg/Kg	0.20						
N-Nitrosodi-n-propylamine	ND	mg/Kg	0.20						
N-Nitrosodiphenylamine	ND	mg/Kg	0.20						
Naphthalene	ND	mg/Kg	0.20						
2-Nitroaniline	ND	mg/Kg	0.20						
3-Nitroaniline	ND	mg/Kg	0.20						
4-Nitroaniline	ND	mg/Kg	0.25						
Nitrobenzene	ND	mg/Kg	0.50						
2-Nitrophenol	ND	mg/Kg	0.20						
4-Nitrophenol	ND	mg/Kg	0.20						
Pentachlorophenol	ND	mg/Kg	0.33						

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: Evaporation Pond/Aeration Lagoon **Work Order:** 0804138

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8270C: Semivolatiles									
Sample ID: mb-15682		*MBLK*			Batch ID:	**15682**	Analysis Date:		4/18/2008
Phenanthrene	ND	mg/Kg	0.20						
Phenol	ND	mg/Kg	0.20						
Pyrene	ND	mg/Kg	0.20						
Pyridine	ND	mg/Kg	0.50						
1,2,4-Trichlorobenzene	ND	mg/Kg	0.20						
2,4,5-Trichlorophenol	ND	mg/Kg	0.20						
2,4,6-Trichlorophenol	ND	mg/Kg	0.20						
Sample ID: lcs-15669		*LCS*			Batch ID:	**15669**	Analysis Date:		4/17/2008
Acenaphthene	0.9563	mg/Kg	0.20	57.3	46.6	109			
4-Chloro-3-methylphenol	2.026	mg/Kg	0.50	60.9	43.3	116			
2-Chlorophenol	1.973	mg/Kg	0.20	59.2	42.5	108			
1,4-Dichlorobenzene	1.052	mg/Kg	0.20	63.0	32.4	115			
2,4-Dinitrotoluene	0.9647	mg/Kg	0.50	57.8	45.1	100			
N-Nitrosodi-n-propylamine	1.003	mg/Kg	0.20	60.1	43	113			
4-Nitrophenol	2.093	mg/Kg	0.20	62.9	37.3	123			
Pentachlorophenol	2.104	mg/Kg	0.33	63.2	31.9	116			
Phenol	2.015	mg/Kg	0.20	60.5	41.6	111			
Pyrene	0.8913	mg/Kg	0.20	53.4	37.3	105			
1,2,4-Trichlorobenzene	1.086	mg/Kg	0.20	65.0	30.4	114			
Sample ID: lcs-15682		*LCS*			Batch ID:	**15682**	Analysis Date:		4/18/2008
Acenaphthene	0.9750	mg/Kg	0.20	58.4	46.6	109			
4-Chloro-3-methylphenol	2.085	mg/Kg	0.50	62.6	43.3	116			
2-Chlorophenol	2.026	mg/Kg	0.20	60.8	42.5	108			
1,4-Dichlorobenzene	1.038	mg/Kg	0.20	62.2	32.4	115			
2,4-Dinitrotoluene	0.9477	mg/Kg	0.50	56.7	45.1	100			
N-Nitrosodi-n-propylamine	0.9840	mg/Kg	0.20	58.9	43	113			
4-Nitrophenol	1.697	mg/Kg	0.20	51.0	37.3	123			
Pentachlorophenol	1.895	mg/Kg	0.33	56.9	31.9	116			
Phenol	1.922	mg/Kg	0.20	57.7	41.6	111			
Pyrene	0.9677	mg/Kg	0.20	57.9	37.3	105			
1,2,4-Trichlorobenzene	1.124	mg/Kg	0.20	67.3	30.4	114			
Method: EPA Method 7471: Mercury									
Sample ID: MB-15688		*MBLK*			Batch ID:	**15688**	Analysis Date:		4/18/2008 3:16:25 PM
Mercury	ND	mg/Kg	0.033						
Sample ID: MB-15767		*MBLK*			Batch ID:	**15767**	Analysis Date:		4/28/2008 2:31:52 PM
Mercury	ND	mg/Kg	0.033						
Sample ID: LCS-15688		*LCS*			Batch ID:	**15688**	Analysis Date:		4/18/2008 3:17:58 PM
Mercury	0.1661	mg/Kg	0.033	99.7	80	120			
Sample ID: LCS-15767		*LCS*			Batch ID:	**15767**	Analysis Date:		4/28/2008 2:33:26 PM
Mercury	0.1606	mg/Kg	0.033	94.4	80	120			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: Evaporation Pond/Aeration Lagoon **Work Order:** 0804138

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 6010B: Soil Metals									
Sample ID: MB-15629		*MBLK*			Batch ID:	**15629**	Analysis Date:	4/16/2008 7:48:38 AM	
Arsenic	ND	mg/Kg	2.5						
Barium	ND	mg/Kg	0.10						
Cadmium	ND	mg/Kg	0.10						
Chromium	ND	mg/Kg	0.30						
Lead	ND	mg/Kg	0.25						
Selenium	ND	mg/Kg	2.5						
Silver	ND	mg/Kg	0.25						
Sample ID: MB-15664		*MBLK*			Batch ID:	**15664**	Analysis Date:	4/21/2008 9:14:32 AM	
Arsenic	ND	mg/Kg	2.5						
Barium	ND	mg/Kg	0.10						
Cadmium	ND	mg/Kg	0.10						
Chromium	ND	mg/Kg	0.30						
Selenium	ND	mg/Kg	2.5						
Silver	ND	mg/Kg	0.25						
Sample ID: MB-15708		*MBLK*			Batch ID:	**15708**	Analysis Date:	4/23/2008 7:56:25 AM	
Arsenic	ND	mg/Kg	2.5						
Barium	ND	mg/Kg	0.10						
Cadmium	ND	mg/Kg	0.10						
Chromium	ND	mg/Kg	0.30						
Selenium	ND	mg/Kg	2.5						
Sample ID: MB-15664		*MBLK*			Batch ID:	**15664**	Analysis Date:	4/28/2008 7:36:54 AM	
Lead	ND	mg/Kg	0.25						
Sample ID: MB-15708		*MBLK*			Batch ID:	**15708**	Analysis Date:	4/28/2008 9:26:38 AM	
Lead	ND	mg/Kg	0.25						
Silver	ND	mg/Kg	0.25						
Sample ID: LCS-15629		*LCS*			Batch ID:	**15629**	Analysis Date:	4/16/2008 7:51:14 AM	
Arsenic	23.52	mg/Kg	2.5	94.1	80	120			
Barium	24.17	mg/Kg	0.10	96.3	80	120			
Cadmium	24.12	mg/Kg	0.10	96.5	80	120			
Chromium	24.50	mg/Kg	0.30	98.0	80	120			
Lead	23.25	mg/Kg	0.25	93.0	80	120			
Selenium	24.71	mg/Kg	2.5	98.8	80	120			
Silver	24.42	mg/Kg	0.25	97.2	80	120			
Sample ID: LCS-15664		*LCS*			Batch ID:	**15664**	Analysis Date:	4/21/2008 9:17:11 AM	
Arsenic	24.46	mg/Kg	2.5	97.8	80	120			
Barium	25.36	mg/Kg	0.10	101	80	120			
Cadmium	26.14	mg/Kg	0.10	105	80	120			
Chromium	26.14	mg/Kg	0.30	105	80	120			
Selenium	25.50	mg/Kg	2.5	102	80	120			
Silver	25.83	mg/Kg	0.25	103	80	120			
Sample ID: LCS-15708		*LCS*			Batch ID:	**15708**	Analysis Date:	4/23/2008 7:59:01 AM	
Arsenic	24.89	mg/Kg	2.5	99.5	80	120			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: Evaporation Pond/Aeration Lagoon **Work Order:** 0804138

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 6010B: Soil Metals									
Sample ID: LCS-15708		*LCS*			Batch ID:	**15708**	Analysis Date:	4/23/2008 7:59:01 AM	
Barium	25.23	mg/Kg	0.10	101	80	120			
Cadmium	24.98	mg/Kg	0.10	99.5	80	120			
Chromium	25.63	mg/Kg	0.30	103	80	120			
Selenium	25.36	mg/Kg	2.5	95.3	80	120			
Sample ID: LCS-15664		*LCS*			Batch ID:	**15664**	Analysis Date:	4/28/2008 7:39:25 AM	
Lead	24.63	mg/Kg	0.25	98.5	80	120			
Sample ID: LCS-15708		*LCS*			Batch ID:	**15708**	Analysis Date:	4/28/2008 9:28:37 AM	
Lead	26.03	mg/Kg	0.25	104	80	120			
Silver	24.84	mg/Kg	0.25	98.5	80	120			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: Evaporation Pond/Aeration Lagoon **Work Order:** 0804138

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: VOLATILES									
Sample ID: mb-15641		*MBLK*			**Batch ID: 15641**		**Analysis Date: 4/19/2008 12:03:32 PM**		
Benzene	ND	mg/Kg	0.050						
Toluene	ND	mg/Kg	0.050						
Ethylbenzene	ND	mg/Kg	0.050						
Methyl tert-butyl ether (MTBE)	ND	mg/Kg	0.050						
1,2,4-Trimethylbenzene	ND	mg/Kg	0.050						
1,3,5-Trimethylbenzene	ND	mg/Kg	0.050						
1,2-Dichloroethane (EDC)	ND	mg/Kg	0.050						
1,2-Dibromoethane (EDB)	ND	mg/Kg	0.050						
Naphthalene	ND	mg/Kg	0.10						
1-Methylnaphthalene	ND	mg/Kg	0.20						
2-Methylnaphthalene	ND	mg/Kg	0.20						
Acetone	ND	mg/Kg	0.75						
Bromobenzene	ND	mg/Kg	0.050						
Bromodichloromethane	ND	mg/Kg	0.050						
Bromoform	ND	mg/Kg	0.050						
Bromomethane	ND	mg/Kg	0.10						
2-Butanone	ND	mg/Kg	0.50						
Carbon disulfide	ND	mg/Kg	0.50						
Carbon tetrachloride	ND	mg/Kg	0.10						
Chlorobenzene	ND	mg/Kg	0.050						
Chloroethane	ND	mg/Kg	0.10						
Chloroform	ND	mg/Kg	0.050						
Chloromethane	ND	mg/Kg	0.050						
2-Chlorotoluene	ND	mg/Kg	0.050						
4-Chlorotoluene	ND	mg/Kg	0.050						
cis-1,2-DCE	ND	mg/Kg	0.050						
cis-1,3-Dichloropropene	ND	mg/Kg	0.050						
1,2-Dibromo-3-chloropropane	ND	mg/Kg	0.10						
Dibromochloromethane	ND	mg/Kg	0.050						
Dibromomethane	ND	mg/Kg	0.10						
1,2-Dichlorobenzene	ND	mg/Kg	0.050						
1,3-Dichlorobenzene	ND	mg/Kg	0.050						
1,4-Dichlorobenzene	ND	mg/Kg	0.050						
Dichlorodifluoromethane	ND	mg/Kg	0.050						
1,1-Dichloroethane	ND	mg/Kg	0.10						
1,1-Dichloroethene	ND	mg/Kg	0.050						
1,2-Dichloropropane	ND	mg/Kg	0.050						
1,3-Dichloropropane	ND	mg/Kg	0.050						
2,2-Dichloropropane	ND	mg/Kg	0.10						
1,1-Dichloropropene	ND	mg/Kg	0.10						
Hexachlorobutadiene	ND	mg/Kg	0.10						
2-Hexanone	ND	mg/Kg	0.50						
Isopropylbenzene	ND	mg/Kg	0.050						
4-Isopropyltoluene	ND	mg/Kg	0.050						

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: Evaporation Pond/Aeration Lagoon **Work Order:** 0804138

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: VOLATILES									
Sample ID: mb-15641		*MBLK*			Batch ID:	15641	Analysis Date:	4/19/2008 12:03:32 PM	
4-Methyl-2-pentanone	ND	mg/Kg	0.50						
Methylene chloride	ND	mg/Kg	0.15						
n-Butylbenzene	ND	mg/Kg	0.050						
n-Propylbenzene	ND	mg/Kg	0.050						
sec-Butylbenzene	ND	mg/Kg	0.050						
Styrene	ND	mg/Kg	0.050						
tert-Butylbenzene	ND	mg/Kg	0.050						
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.050						
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.050						
Tetrachloroethene (PCE)	ND	mg/Kg	0.050						
trans-1,2-DCE	ND	mg/Kg	0.050						
trans-1,3-Dichloropropene	ND	mg/Kg	0.050						
1,2,3-Trichlorobenzene	ND	mg/Kg	0.10						
1,2,4-Trichlorobenzene	ND	mg/Kg	0.050						
1,1,1-Trichloroethane	ND	mg/Kg	0.050						
1,1,2-Trichloroethane	ND	mg/Kg	0.050						
Trichloroethene (TCE)	ND	mg/Kg	0.050						
Trichlorofluoromethane	ND	mg/Kg	0.050						
1,2,3-Trichloropropane	ND	mg/Kg	0.10						
Vinyl chloride	ND	mg/Kg	0.050						
Xylenes, Total	ND	mg/Kg	0.10						
Sample ID: mb-15642		*MBLK*			Batch ID:	15642	Analysis Date:	4/20/2008 2:16:06 AM	
Benzene	ND	mg/Kg	0.050						
Toluene	ND	mg/Kg	0.050						
Ethylbenzene	ND	mg/Kg	0.050						
Methyl tert-butyl ether (MTBE)	ND	mg/Kg	0.050						
1,2,4-Trimethylbenzene	ND	mg/Kg	0.050						
1,3,5-Trimethylbenzene	ND	mg/Kg	0.050						
1,2-Dichloroethane (EDC)	ND	mg/Kg	0.050						
1,2-Dibromoethane (EDB)	ND	mg/Kg	0.050						
Naphthalene	ND	mg/Kg	0.10						
1-Methylnaphthalene	ND	mg/Kg	0.20						
2-Methylnaphthalene	ND	mg/Kg	0.20						
Acetone	ND	mg/Kg	0.75						
Bromobenzene	ND	mg/Kg	0.050						
Bromodichloromethane	ND	mg/Kg	0.050						
Bromoform	ND	mg/Kg	0.050						
Bromomethane	ND	mg/Kg	0.10						
2-Butanone	ND	mg/Kg	0.50						
Carbon disulfide	ND	mg/Kg	0.50						
Carbon tetrachloride	ND	mg/Kg	0.10						
Chlorobenzene	ND	mg/Kg	0.050						
Chloroethane	ND	mg/Kg	0.10						
Chloroform	ND	mg/Kg	0.050						

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: Evaporation Pond/Aeration Lagoon **Work Order:** 0804138

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: VOLATILES									
Sample ID: mb-15642		*MBLK*			Batch ID: **15642**		Analysis Date: **4/20/2008 2:16:06 AM**		
Chloromethane	ND	mg/Kg	0.050						
2-Chlorotoluene	ND	mg/Kg	0.050						
4-Chlorotoluene	ND	mg/Kg	0.050						
cis-1,2-DCE	ND	mg/Kg	0.050						
cis-1,3-Dichloropropene	ND	mg/Kg	0.050						
1,2-Dibromo-3-chloropropane	ND	mg/Kg	0.10						
Dibromochloromethane	ND	mg/Kg	0.050						
Dibromomethane	ND	mg/Kg	0.10						
1,2-Dichlorobenzene	ND	mg/Kg	0.050						
1,3-Dichlorobenzene	ND	mg/Kg	0.050						
1,4-Dichlorobenzene	ND	mg/Kg	0.050						
Dichlorodifluoromethane	ND	mg/Kg	0.050						
1,1-Dichloroethane	ND	mg/Kg	0.10						
1,1-Dichloroethene	ND	mg/Kg	0.050						
1,2-Dichloropropane	ND	mg/Kg	0.050						
1,3-Dichloropropane	ND	mg/Kg	0.050						
2,2-Dichloropropane	ND	mg/Kg	0.10						
1,1-Dichloropropene	ND	mg/Kg	0.10						
Hexachlorobutadiene	ND	mg/Kg	0.10						
2-Hexanone	ND	mg/Kg	0.50						
Isopropylbenzene	ND	mg/Kg	0.050						
4-Isopropyltoluene	ND	mg/Kg	0.050						
4-Methyl-2-pentanone	ND	mg/Kg	0.50						
Methylene chloride	ND	mg/Kg	0.15						
n-Butylbenzene	ND	mg/Kg	0.050						
n-Propylbenzene	ND	mg/Kg	0.050						
sec-Butylbenzene	ND	mg/Kg	0.050						
Styrene	ND	mg/Kg	0.050						
tert-Butylbenzene	ND	mg/Kg	0.050						
1,1,1,2-Tetrachloroethane	ND	mg/Kg	0.050						
1,1,2,2-Tetrachloroethane	ND	mg/Kg	0.050						
Tetrachloroethene (PCE)	ND	mg/Kg	0.050						
trans-1,2-DCE	ND	mg/Kg	0.050						
trans-1,3-Dichloropropene	ND	mg/Kg	0.050						
1,2,3-Trichlorobenzene	ND	mg/Kg	0.10						
1,2,4-Trichlorobenzene	ND	mg/Kg	0.050						
1,1,1-Trichloroethane	ND	mg/Kg	0.050						
1,1,2-Trichloroethane	ND	mg/Kg	0.050						
Trichloroethene (TCE)	ND	mg/Kg	0.050						
Trichlorofluoromethane	ND	mg/Kg	0.050						
1,2,3-Trichloropropane	ND	mg/Kg	0.10						
Vinyl chloride	ND	mg/Kg	0.050						
Xylenes, Total	ND	mg/Kg	0.10						
Sample ID: lcs-15641		*LCS*			Batch ID: **15641**		Analysis Date: **4/19/2008 12:39:09 PM**		

Qualifiers:

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J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: Evaporation Pond/Aeration Lagoon **Work Order:** 0804138

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: VOLATILES									
Sample ID: lcs-15641		*LCS*			Batch ID:	**15641**	Analysis Date:		4/19/2008 12:39:09 PM
Benzene	1.034	mg/Kg	0.050	103	66.9	142			
Toluene	0.9402	mg/Kg	0.050	94.0	78.4	128			
Chlorobenzene	0.9868	mg/Kg	0.050	98.7	78.2	127			
1,1-Dichloroethene	1.059	mg/Kg	0.050	106	72.6	150			
Trichloroethene (TCE)	0.7977	mg/Kg	0.050	79.8	72.2	120			
Sample ID: lcs-15642		*LCS*			Batch ID:	**15642**	Analysis Date:		4/20/2008 2:51:27 AM
Benzene	1.018	mg/Kg	0.050	102	66.9	142			
Toluene	0.9517	mg/Kg	0.050	95.2	78.4	128			
Chlorobenzene	0.9958	mg/Kg	0.050	99.6	78.2	127			
1,1-Dichloroethene	0.9984	mg/Kg	0.050	99.8	72.6	150			
Trichloroethene (TCE)	0.7605	mg/Kg	0.050	76.1	72.2	120			
Sample ID: lcsd-15641		*LCSD*			Batch ID:	**15641**	Analysis Date:		4/19/2008 1:15:05 PM
Benzene	1.023	mg/Kg	0.050	102	66.9	142	1.12	20	
Toluene	0.9445	mg/Kg	0.050	94.4	78.4	128	0.453	20	
Chlorobenzene	1.021	mg/Kg	0.050	102	78.2	127	3.42	20	
1,1-Dichloroethene	1.099	mg/Kg	0.050	110	72.6	150	3.63	20	
Trichloroethene (TCE)	0.7770	mg/Kg	0.050	77.7	72.2	120	2.62	20	
Sample ID: lcsd-15642		*LCSD*			Batch ID:	**15642**	Analysis Date:		4/20/2008 3:26:44 AM
Benzene	1.054	mg/Kg	0.050	105	66.9	142	3.49	20	
Toluene	0.8732	mg/Kg	0.050	87.3	78.4	128	8.60	20	
Chlorobenzene	0.9538	mg/Kg	0.050	95.4	78.2	127	4.30	20	
1,1-Dichloroethene	1.048	mg/Kg	0.050	105	72.6	150	4.84	20	
Trichloroethene (TCE)	0.7844	mg/Kg	0.050	78.4	72.2	120	0.492	20	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: Evaporation Pond/Aeration Lagoon **Work Order:** 0804138

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: VOLATILES									
Sample ID: 5ml rb II		*MBLK*			Batch ID: **R28173**		Analysis Date:	**4/19/2008 6:07:13 AM**	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.0						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
1,2-Dichloroethane (EDC)	ND	µg/L	1.0						
1,2-Dibromoethane (EDB)	ND	µg/L	1.0						
Naphthalene	ND	µg/L	2.0						
1-Methylnaphthalene	ND	µg/L	4.0						
2-Methylnaphthalene	ND	µg/L	4.0						
Acetone	ND	µg/L	10						
Bromobenzene	ND	µg/L	1.0						
Bromodichloromethane	ND	µg/L	1.0						
Bromoform	ND	µg/L	1.0						
Bromomethane	ND	µg/L	1.0						
2-Butanone	ND	µg/L	10						
Carbon disulfide	ND	µg/L	10						
Carbon Tetrachloride	ND	µg/L	1.0						
Chlorobenzene	ND	µg/L	1.0						
Chloroethane	ND	µg/L	2.0						
Chloroform	ND	µg/L	1.0						
Chloromethane	ND	µg/L	1.0						
2-Chlorotoluene	ND	µg/L	1.0						
4-Chlorotoluene	ND	µg/L	1.0						
cis-1,2-DCE	ND	µg/L	1.0						
cis-1,3-Dichloropropene	ND	µg/L	1.0						
1,2-Dibromo-3-chloropropane	ND	µg/L	2.0						
Dibromochloromethane	ND	µg/L	1.0						
Dibromomethane	ND	µg/L	1.0						
1,2-Dichlorobenzene	ND	µg/L	1.0						
1,3-Dichlorobenzene	ND	µg/L	1.0						
1,4-Dichlorobenzene	ND	µg/L	1.0						
Dichlorodifluoromethane	ND	µg/L	1.0						
1,1-Dichloroethane	ND	µg/L	1.0						
1,1-Dichloroethene	ND	µg/L	1.0						
1,2-Dichloropropane	ND	µg/L	1.0						
1,3-Dichloropropane	ND	µg/L	1.0						
2,2-Dichloropropane	ND	µg/L	2.0						
1,1-Dichloropropene	ND	µg/L	1.0						
Hexachlorobutadiene	ND	µg/L	1.0						
2-Hexanone	ND	µg/L	10						
Isopropylbenzene	ND	µg/L	1.0						
4-Isopropyltoluene	ND	µg/L	1.0						

Qualifiers:

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J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: Evaporation Pond/Aeration Lagoon **Work Order:** 0804138

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260B: VOLATILES									
Sample ID: 5ml rb II		*MBLK*			Batch ID: R28173		Analysis Date: 4/19/2008 6:07:13 AM		
4-Methyl-2-pentanone	ND	µg/L	10						
Methylene Chloride	ND	µg/L	3.0						
n-Butylbenzene	ND	µg/L	1.0						
n-Propylbenzene	ND	µg/L	1.0						
sec-Butylbenzene	ND	µg/L	1.0						
Styrene	ND	µg/L	1.0						
tert-Butylbenzene	ND	µg/L	1.0						
1,1,1,2-Tetrachloroethane	ND	µg/L	1.0						
1,1,2,2-Tetrachloroethane	ND	µg/L	2.0						
Tetrachloroethene (PCE)	ND	µg/L	1.0						
trans-1,2-DCE	ND	µg/L	1.0						
trans-1,3-Dichloropropene	ND	µg/L	1.0						
1,2,3-Trichlorobenzene	ND	µg/L	1.0						
1,2,4-Trichlorobenzene	ND	µg/L	1.0						
1,1,1-Trichloroethane	ND	µg/L	1.0						
1,1,2-Trichloroethane	ND	µg/L	1.0						
Trichloroethene (TCE)	ND	µg/L	1.0						
Trichlorofluoromethane	ND	µg/L	1.0						
1,2,3-Trichloropropane	ND	µg/L	2.0						
Vinyl chloride	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	1.5						
Sample ID: 100ng lcs II		*LCS*			Batch ID: R28173		Analysis Date: 4/19/2008 5:38:04 AM		
Benzene	21.72	µg/L	1.0	109	86.8	120			
Toluene	18.58	µg/L	1.0	92.9	64.1	127			
Chlorobenzene	17.96	µg/L	1.0	89.8	82.4	113			
1,1-Dichloroethene	25.96	µg/L	1.0	130	86.5	132			
Trichloroethene (TCE)	21.13	µg/L	1.0	106	77.3	123			

Qualifiers:

- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name WESTERN REFINING GALLU Date Received: 4/11/2008

Work Order Number 0804138 Received by: AT

Checklist completed by: _____ 4/11/08 Sample ID labels checked by: AS /AT
Signature Date Initials

Matrix: Carrier name Client drop-off

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☑	No ☐	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace? No VOA vials submitted ☐		Yes ☑	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☑	No ☐	N/A ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	
Container/Temp Blank temperature?	3°	<6° C Acceptable If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: Western Refining Co - Gallup
Address: Route 3 Box 7 Gallup NM 87301
Phone #: 505-722-3833
email or Fax#: 505-722-0210
QA/QC Package: Cell 307 399-0890
☒ Standard ☐ Level 4 (Full Validation)
☐ Other
☐ EDD (Type)

Turn-Around Time: ☒ Standard ☐ Rush
Project Name: Evaporation Pond/Aeration Lagoon
Project #: 197-019-001
Project Manager: Regina Allen
Sampler: EPSM
On Ice: [illegible]
Sample Temperature: [illegible]

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 0804138	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8260)	8310 (PNA or PAH)	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	RCRA metals + Ni				Air Bubbles (Y or N)
4.9.08	6:15pm	EP1-3	4oz/2	None	-1			X							X	X	X				
4.9.08	6:00pm	EP1-4	4oz/2	None	-2			X							X	X	X				
4.9.08	5:45pm	EP1-5	4oz/2	None	-3			X							X	X	X				
4.10.08	1525	AL1-1-HP	4oz/2	None	-4			X							X	X	X				
4.10.08	1622	AL1-2-HP	4oz/2	None	-5			X							X	X	X				
4.10.08	2:45pm	AL1-3-HP	4oz/2	None	-6			X							X	X	X				
4.10.08	1050	AL1-4-HP	4oz/2	None	-7			X							X	X	X				
4.10.08	1020	AL1-5-HP	4oz/2	None	-8			X							X	X	X				
4.10.08	1710	AL1-1-SS	4oz/2	None	-9			X							X	X	X				
4.10.08	1725	AL1-2-SS	4oz/2	None	-10			X							X	X	X				
4.10.08	1735	AL1-3-SS	4oz/2	None	-11			X							X	X	X				
4.10.08	1755	AL1-4-SS	4oz/2	None	-12			X							X	X	X				

Date:	Time:	Relinquished by:	Received by:	Date:	Time:
4/11/08	14:55			4/11/08	1455

Remarks:

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.

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Client:	Western Refining Co - Gallup
Address:	Route 3 Box 7 Gallup, NM 87301
Phone #:	505-722-3833
email or Fax#:	505-722-0210
QA/QC Package:	☒ Standard ☐ Level 4 (Full Validation) ☐ Other ☐ EDD (Type)
Turn-Around Time:	☒ Standard ☐ Rush
Project Name:	Evaporation Pond/Aeration Lagoon
Project #:	697-019-001
Project Manager:	Regina Allen
Sampler:	GP/SM
On Ice:	
Sample Temperature:	

Analysis Request

Date	Time	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 0804138	BTEX + MTBE + TMBs (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8260)	8310 (PNA or PAH)	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	RCRA Metals 6010C				Air Bubbles (Y or N)
4-10-08	1800	AL1-SS	4oz/2	None	-13			X							X	X	X				
4-9-08	7:10pm	EP1-6	4oz/2	None	-14			X							X	X	X				
4-9-08	7:35pm	EP1-7	4oz/2	None	-15			X							X	X	X				
4-9-08	7:17pm	EP1-8	4oz/2	None	-16			X							X	X	X				
4-9-08	1000	AL2-3-SS-MS	4oz/2	None	32 -17 4/11/08			X							X	X	X				
4-9-08	1000	AL2-3-SS-MSD	4oz/2	None	-32 -18 4/11/08			X							X	X	X				
4-9-08	~~1000~~	BD-2	4oz/2	None	-19			X							X	X	X				
4-8-08		BD-1	4oz/2	None	-20			X							X	X	X				
4-8-08	~~1605~~ 1600	EB040808	40mL/3	HCl	-21										X						
4-10-08	735	EB040908	40mL/3	HCl	-22										X						
4-11-08	835	EB041008	40mL/3	HCl	-23										X			4/11/08	4/11/08		
		~~EB041~~ Trip Blank	40mL/2	HCl	-24			X 8 4/11/08							X	X	X				

Date:	Time:	Relinquished by:	Received by:	Remarks:
4/14/08	14:55		4/11/08 1455	
Date:	Time:	Relinquished by:	Received by:	

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Chain-of-Custody Record

Client: Western Refining Co - Gallup
Address: Route 3 Box 7 Gallup, NM 87301
Phone #: 505-722-3833
email or Fax#: 505-722-0210
QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation) ☐ Other ☐ EDD (Type)

Turn-Around Time: ☒ Standard ☐ Rush
Project Name: Evaporation Pond/Aeration Lagoon
Project #: 1697-019-001
Project Manager: Regina Allen
Sampler: GP/SM
On Ice: [illegible]
Sample Temperature: [illegible]

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 804138	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8260)	8310 (PNA or PAH)	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	RCRA metals (8RCRA)				Air Bubbles (Y or N)
4.8.08	1105	AL2-1-HP	4oz/2	None	-25			X							X	X	X				
4.8.08	1515	AL2-2-HP	4oz/2	None	-26			X							X	X	X				
4.8.08	1215	AL2-3-HP	4oz/2	None	-27			X							X	X	X				
4.8.08	1015	AL2-4-HP	4oz/2	None	-28			X							X	X	X				
4.9.08	820	AL2-5-HP	4oz/2	None	-29			X							X	X	X				
4.9.08	1040	AL2-1-SS	4oz/2	None	-30			X							X	X	X				
4.8.08	1555	AL2-2-SS	4oz/02	None	-31			X							X	X	X				
4.9.08	1000	AL2-3-SS	4oz/02	None	-32			X							X	X	X				
4.9.08	1025	AL2-4-SS	4oz/02	None	-33			X							X	X	X				
4.9.08	940	AL2-5-SS	4oz/02	None	-34			X							X	X	X				
4.9.08	1625 pm	EP1-1	4oz/02	None	-35			X							X	X	X				
4.9.08	1645 pm	EP1-2	4oz/02	None	-36			X							X	X	X				

Date:	Time:	Relinquished by:	Received by:	Remarks:
4/11/08	14:55		4/11/08 1455	
Date:	Time:	Relinquished by:	Received by:	

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, Inc. Date: *21-May-08*

CLIENT:	Western Refining Southwest, Gallup
Project:	Evaporation Pond/Aeration Lagoon
Lab Order:	0804138

CASE NARRATIVE

Analytical notes:

Sample Analysis:
EPA method 8015B
"S" flags denote that the surrogate was not recoverable due to sample dilution and/or matrix interferences.

EPA method 8270B
"S" flags denote that the surrogate was low or not recoverable due to sample dilution and/or matrix interferences.

MS/MSD:
EPA Method 8015B, 8021B, 8270B
"S" flags denote that the recovery of the spiked compounds were poor due to dilution and matrix interferences. Several of the 8270B phenols were not recoverable due to high concentrations of petroleum hydrocarbons.

EPA Method 7471
Mercury was not recovered due to the high level of mercury in the sample. The amount that was spiked into the sample was diluted out by the x50 dilution.

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: Evaporation Pond/Aeration Lagoon **Work Order:** 0804138

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Gasoline Range									
Sample ID: 0804138-32AMSD		*MSD*			Batch ID:	15642	Analysis Date:		4/18/2008 8:52:40 PM
Gasoline Range Organics (GRO)	661.2	mg/Kg	100	132	69.5	120	1.17	11.6	S
Sample ID: 0804138-32AMS		*MS*			Batch ID:	15642	Analysis Date:		4/18/2008 8:22:32 PM
Gasoline Range Organics (GRO)	669.0	mg/Kg	100	134	69.5	120			S
Method: EPA Method 8260B: VOLATILES									
Sample ID: 0804138-32A MSD		*MSD*			Batch ID:	15642	Analysis Date:		4/21/2008 12:01:13 PM
Benzene	6.620	mg/Kg	0.50	64.4	66.9	142	14.9	20	S
Toluene	14.64	mg/Kg	0.50	133	78.4	128	15.0	20	S
Chlorobenzene	2.917	mg/Kg	0.50	29.2	78.2	127	21.2	20	SR
1,1-Dichloroethene	4.283	mg/Kg	0.50	42.8	72.6	150	29.8	20	SR
Trichloroethene (TCE)	2.718	mg/Kg	0.50	27.2	72.2	120	33.8	20	SR
Sample ID: 0804138-32A MS		*MS*			Batch ID:	15642	Analysis Date:		4/21/2008 11:25:48 AM
Benzene	5.700	mg/Kg	0.50	55.2	66.9	142			S
Toluene	12.52	mg/Kg	0.50	113	78.4	128			
Chlorobenzene	2.356	mg/Kg	0.50	23.6	78.2	127			S
1,1-Dichloroethene	3.172	mg/Kg	0.50	31.7	72.6	150			S
Trichloroethene (TCE)	1.932	mg/Kg	0.50	19.3	72.2	120			S

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: Evaporation Pond/Aeration Lagoon **Work Order:** 0804138

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8270C: Semivolatiles									
Sample ID: 0804138-01B		*MSD*			Batch ID:	15669	Analysis Date:		4/17/2008
Acenaphthene	37.35	mg/Kg	0.10	149	24	125	20.5	30	S
4-Chloro-3-methylphenol	42.35	mg/Kg	0.10	84.8	14.6	154	18.7	30	
2-Chlorophenol	37.45	mg/Kg	0.10	75.0	13.3	149	9.36	30	
1,4-Dichlorobenzene	20.20	mg/Kg	0.10	80.6	23.6	118	5.08	30	
2,4-Dinitrotoluene	ND	mg/Kg	0.10	0	28	136	0	30	S
N-Nitrosodi-n-propylamine	ND	mg/Kg	0.10	0	28	114	0	30	S
4-Nitrophenol	ND	mg/Kg	0.10	0	13.1	150	0	0	S
Pentachlorophenol	ND	mg/Kg	0.33	0	20.1	139	0	30	S
Phenol	42.30	mg/Kg	0.10	72.5	17.3	141	7.48	30	
Pyrene	58.90	mg/Kg	0.10	142	29	131	6.30	30	S
1,2,4-Trichlorobenzene	18.25	mg/Kg	0.10	72.9	17.9	126	1.90	30	
Sample ID: 0804138-32Bmsd		*MSD*			Batch ID:	15682	Analysis Date:		4/20/2008
Acenaphthene	ND	mg/Kg	15	51.6	24	125	0	30	
4-Chloro-3-methylphenol	37.65	mg/Kg	15	75.4	14.6	154	9.17	30	
2-Chlorophenol	33.65	mg/Kg	15	67.4	13.3	149	3.48	30	
1,4-Dichlorobenzene	19.25	mg/Kg	15	76.8	23.6	118	6.43	30	
2,4-Dinitrotoluene	ND	mg/Kg	15	0	28	136	0	30	S
N-Nitrosodi-n-propylamine	ND	mg/Kg	15	0	28	114	0	30	S
4-Nitrophenol	ND	mg/Kg	15	0	13.1	150	0	0	S
Pentachlorophenol	ND	mg/Kg	50	0	20.1	139	0	30	S
Phenol	40.45	mg/Kg	15	65.3	17.3	141	0.739	30	
Pyrene	42.45	mg/Kg	15	-17.4	29	131	51.3	30	SR
1,2,4-Trichlorobenzene	17.65	mg/Kg	15	70.1	17.9	126	0.284	30	
Sample ID: 0804138-01B		*MS*			Batch ID:	15669	Analysis Date:		4/17/2008
Acenaphthene	30.40	mg/Kg	0.10	121	24	125			
4-Chloro-3-methylphenol	35.10	mg/Kg	0.10	70.3	14.6	154			
2-Chlorophenol	34.10	mg/Kg	0.10	68.3	13.3	149			
1,4-Dichlorobenzene	19.20	mg/Kg	0.10	76.6	23.6	118			
2,4-Dinitrotoluene	ND	mg/Kg	0.10	0	28	136			S
N-Nitrosodi-n-propylamine	ND	mg/Kg	0.10	0	28	114			S
4-Nitrophenol	ND	mg/Kg	0.10	0	13.1	150			S
Pentachlorophenol	ND	mg/Kg	0.33	0	20.1	139			S
Phenol	39.25	mg/Kg	0.10	66.4	17.3	141			
Pyrene	55.30	mg/Kg	0.10	127	29	131			
1,2,4-Trichlorobenzene	18.60	mg/Kg	0.10	74.3	17.9	126			
Sample ID: 0804138-32Bms		*MS*			Batch ID:	15682	Analysis Date:		4/20/2008
Acenaphthene	32.40	mg/Kg	15	129	24	125			S
4-Chloro-3-methylphenol	34.35	mg/Kg	15	68.8	14.6	154			
2-Chlorophenol	32.50	mg/Kg	15	65.1	13.3	149			
1,4-Dichlorobenzene	18.05	mg/Kg	15	72.1	23.6	118			
2,4-Dinitrotoluene	ND	mg/Kg	15	0	28	136			S
N-Nitrosodi-n-propylamine	ND	mg/Kg	15	0	28	114			S
4-Nitrophenol	ND	mg/Kg	15	0	13.1	150			S

Qualifiers:

- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: Evaporation Pond/Aeration Lagoon **Work Order:** 0804138

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8270C: Semivolatiles									
Sample ID: 0804138-32Bms		*MS*			Batch ID:	15682	Analysis Date:		4/20/2008
Pentachlorophenol	ND	mg/Kg	50	0	20.1	139			S
Phenol	40.75	mg/Kg	15	65.9	17.3	141			
Pyrene	71.75	mg/Kg	15	99.6	29	131			
1,2,4-Trichlorobenzene	17.60	mg/Kg	15	70.3	17.9	126			
Method: EPA Method 7471: Mercury									
Sample ID: 0804138-32BMSD X		*MSD*			Batch ID:	15767	Analysis Date:		4/28/2008 3:51:41 PM
Mercury	8.503	mg/Kg	1.6	-253	75	125	4.10	20	S
Sample ID: 0804138-32BMS X50		*MS*			Batch ID:	15767	Analysis Date:		4/28/2008 3:45:08 PM
Mercury	8.162	mg/Kg	1.6	-462	75	125			S
Method: EPA Method 6010B: Soil Metals									
Sample ID: 0804138-32BMSD		*MSD*			Batch ID:	15708	Analysis Date:		4/23/2008 9:09:58 AM
Arsenic	31.49	mg/Kg	2.5	93.1	75	125	5.64	30	
Cadmium	23.47	mg/Kg	0.10	93.0	75	125	0.505	30	
Chromium	34.79	mg/Kg	0.30	85.4	75	125	0.167	30	
Selenium	22.76	mg/Kg	2.5	91.8	75	125	3.07	30	
Sample ID: 0804138-32BMS		*MS*			Batch ID:	15708	Analysis Date:		4/23/2008 9:07:19 AM
Arsenic	33.32	mg/Kg	2.5	102	75	125			
Cadmium	23.59	mg/Kg	0.10	95.0	75	125			
Chromium	34.73	mg/Kg	0.30	86.5	75	125			
Selenium	23.47	mg/Kg	2.5	96.3	75	125			

Qualifiers:

- B Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike recovery outside accepted recovery limits

Precision Engineering, Inc.
P.O. Box 423
Las Cruces, NM 88004
505-523-7674

File #: 05-100
Site: Giant-Cinza

Elevation: EXISTING
Date: 9/24/2005

Log of Test Borings

LAB #	DEPTH	BLOW COUNT	PLOT	SCALE	MATERIAL CHARACTERISTICS (MOISTURE, CONDITION, COLOR ETC.)	%M	LL	PI	CLASS
					Upper Sonsela Member Continued (dry)				
				90.0					
					Mudstone: Red/Dark Green/Grey-White				
	90.2-101.6			100.0	Sandstone: Fine to Medium Quartz Grains, Water Bearing (Upper Sonsela Member, Petrified Forest Formation, Chinle Group)				
	101.6								

Boring continuously sampled using 3" diameter split barrel intrusion sampler.
Boring backfilled using 10' of 3/8" bentonite pellets followed with 50' of 8% bentonite cement slurry pumped from bottom to the ground surface.

HOLLOW STEM AUGER | LOGGED BY:

APPENDIX D

DATA VALIDATIONS

Tier II Data Validation Report Summary

Client: Western Refining Southwest, Gallup	Laboratory: Hall Environmental Analysis Laboratory, Albuquerque, NM
Project Name: Evaporation Pond/Aeration Lagoon	Sample Matrix: Soil
Project Number: 072-697-016	Sample Start Date: April 8, 2008
Date Validated: May 21, 2008	Sample End Date: April 11, 2008
Parameters Included: TPH Method 8015B for Gasoline and Diesel, VOCs by 8260B, SVOCs by 8270C, and RCRA Metals by 6010B	
Laboratory Project IDs: 0804138	
Data Validator's Name: Christina Hiegel, Civil Engineer	

DATA EVALUATION CRITERIA SUMMARY

A Tier II Data Validation was performed by Trihydro Corporation's Chemical Data Evaluation Services group on the analytical data report package generated by Hall Environmental Analysis Laboratory evaluating samples from Western Refining Southwest, Gallup, New Mexico.

Precision, accuracy, method compliance, and completeness of this data package were assessed during this data review. Precision was determined by evaluating the calculated RPD values of samples from field duplicates pairs and laboratory duplicates pairs. Laboratory accuracy was established by reviewing the demonstrated laboratory control samples (LCS) and matrix spike recoveries (MS/MSD) to verify that none of the data were biased. Additionally, field accuracy was established by collecting field and trip blanks to monitor for possible ambient or cross contamination during sampling. Method compliance was established by reviewing holding times, detection limits, surrogate recoveries, method blanks, and laboratory control samples against method specific requirements. Completeness was evaluated by determining the overall ratio of the number of samples planned versus the number of samples with valid analyses. Determination of completeness included a review of the chain-of-custody, laboratory analytical methods, and any other necessary documents associated with this analytical data set.

Data were evaluated in general accordance with validation criteria set forth in the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Superfund Organic Methods Data Review, document number USEPA-540-R-07-003, July 2007 with additional reference to USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review, document number EPA 540/R-99-008 of October 1999 and the USEPA CLP National Functional Guidelines for Inorganic Data Review, document number EPA 540R-04-004, October 2004. Review of duplicates is conducted in accordance with USEPA Region 1 Laboratory Data Validation Function Guidelines for Evaluation of Organic Analysis, December 1996.

SAMPLE NUMBERS TABLE

Client Sample ID	Laboratory Sample Number
EP1-3	0804138-01
EP1-4	0804138-02
EP1-5	0804138-03
AL1-1-HP	0804138-04
AL1-2-HP	0804138-05
AL1-3-HP	0804138-06
AL1-4-HP	0804138-07
AL1-5-HP	0804138-08
AL1-1-SS	0804138-09
AL1-2-SS	0804138-10
AL1-3-SS	0804138-11
AL1-4-SS	0804138-12
AL1-5-SS	0804138-13
EP1-6	0804138-14
EP1-7	0804138-15
EP1-8	0804138-16
BD-2	0804138-19

Tier II Data Validation Report Summary

Client Sample ID	Laboratory Sample Number
BD-1	0804138-20
EB040808	0804138-21
EB040908	0804138-22
EB041008	0804138-23
Trip Blank	0804138-24
AL2-1-HP	0804138-25
AL2-2-HP	0804138-26
AL2-3-HP	0804138-27
AL2-4-HP	0804138-28
AL2-5-HP	0804138-29
AL2-1-SS	0804138-30
AL2-2-SS	0804138-31
AL2-3-SS	0804138-32
AL2-4-SS	0804138-33
AL2-5-SS	0804138-34
EP1-1	0804138-35
EP1-2	0804138-36

Tier II Data Validation Report

The samples were analyzed for client-specified analytes. Chain-of-Custody (COC) completeness is included in Section #2. The laboratory data were reviewed to evaluate compliance with the required methods and the quality of the reported data. A leading check mark (✓) indicates that the referenced data were deemed acceptable. A preceding crossed circle (⊗) signifies problems with the referenced data that may have warranted attaching qualifiers to the data.

- ✓ Data Completeness
- ✓ COC Documentation
- ✓ Holding Times and Preservation
- ✓ Laboratory Blanks
- ✓ Laboratory Control Samples (LCS/LCSD)
- ⊗ System Monitoring Compounds (Surrogates)
- ⊗ Matrix Spike/Matrix Spike Duplicate (MS/MSD)
- ⊗ Field Duplicates
- ✓ Laboratory Duplicate
- ✓ Field Blanks

OVERALL DATA PACKAGE ASSESSMENT

Based on a data validation review, the data are acceptable as delivered. Data qualified by the laboratory are discussed in Section #9.

The purpose of validating data and assigning qualifiers is to assist in proper data interpretation. Data which are not qualified meet the site data quality objectives. If values are assigned a "J" or "UJ" qualifier, the data may be used for site evaluation, with the reasons for qualification being given consideration when interpreting sample concentrations. Data points which are assigned an "R" qualifier should not be used for any site evaluation purposes.

Data Completeness

The analyses appeared to be performed as requested on the chain-of-custody records. The associated samples were received by the laboratory and appeared to be analyzed properly. No data points were rejected. Completeness of the data are calculated to be 100%

Validation Criteria Checklist	
Data validation qualifiers applied to data as a result of this review: J – Estimated value; UJ – Estimated reporting limit; JB – Estimated value due to blank detection.	
1. Did the laboratory identify any non-conformances related to the analytical data?	Yes
Comments: The laboratory noted that for Method 8015B, the "S" flag denotes that the surrogate was not recoverable due to sample dilution and/or matrix interferences. The laboratory noted that for Method 8270B, the "S" flag denotes that the surrogate was low or not recoverable due to sample dilution and or matrix interferences. For the MS/MSD by method 8015B, 8021B, and 8270B, the "S" flags denote that the recovery of spiked compounds were poor due to dilution and matrix interferences. Several of the 8270B phenols were not recoverable due to high concentrations of petroleum hydrocarbons. For Mercury by Method 7471, mercury was not recovered due to the high level of mercury in the sample. The amount that was spiked into the sample was diluted out by the 50 times dilution.	
2. Were sample chain-of-custody (COC) forms complete?	Yes
Comments: The COC forms, from field to laboratory, were complete, and custody was maintained as evidenced by field and laboratory personnel signatures, dates, and times of receipt. The Tier 1 validator indicated that analyses were correct.	
3. Were detection limits in accordance with the QAPP, permit, or method, or indicated as acceptable by the Tier 1 validator?	Yes
Comments: Several dilutions were required by the laboratory. Samples appeared to be diluted acceptably and no data will be qualified as a result of this review. Final useability of data with regards to dilutions will be determined by the project manager.	
4. Were the requested analytical methods in compliance with the QAPP, permit, or COC?	Yes
Comments: Analytical methods appeared to be acceptable and were verified during the Tier 1 validation.	
5. Were samples received in good condition within method specified requirements?	Yes
Comments: Samples were received on ice, intact, and in good condition with a cooler temperature within the 4°C +/- 2°C acceptance range at 3°C.	
6. Were samples analyzed within method specified or technical holding times?	Yes
Comments: Method specified holding times were met for the analyses reported.	
7. Were reported units appropriate for the associated sample matrix/matrices and method(s) of analyses?	Yes
Comments: Sample results were reported in units of mg/kg, which are acceptable units for the soil matrix.	
8. Do the laboratory reports include all constituents requested to be reported as indicated by the Tier 1 validator?	Yes
Comments: Reported constituents were in accordance with those requested and are acceptable according to the Tier 1 validator.	
9. Were data qualification flags used by the laboratory?	Yes
Comments: Data were qualified with the laboratory using an S or and SR. The S flag indicates that the spike recovery was outside accepted recovery limits. The R flag indicates that the RPD was outside of acceptable recovery limits.	
10. Was there indication from the laboratory that the initial or continuous calibration verification results were within acceptable limits?	N/A
Comments: Initial and continuing calibration data were not included as part of this data set; however, these data are assumed to be acceptable as the laboratory did not note that any calibration verification results were outside acceptable limits.	
11. Was the total number of method blank samples prepared equal to at least 5% of the total number of samples, or analyzed as required by the method?	Yes
Comments: One method blank was analyzed for each batch.	
12. Were method blank detections reported for this data set?	No
Comments: No method blank detections were reported with this data set.	

13. Was the total number of matrix spike samples prepared equal to at least 5% of the total number of samples, or analyzed as required by the method? Yes

Comments: One MS/MSD was analyzed for GRO batch 15642, VOC batch 15642, mercury batch 15767, and metals batch 15708 and was prepared from sample AL2-3-SS. Additionally, an MS/MSD was analyzed for semi-volatiles batch 15669 and 15682 and was prepared from sample EP1-3 and AL2-3-SS, respectively.

14. Were matrix spike recoveries within laboratory-specified limits? No

Comments: Matrix spike recoveries were outside of acceptable limits for most batches and analytes. For GRO batch 15642, the MS and MSD were outside of acceptable limits at 132% and 134% where the acceptable range is 69.5-120%. As a result, all GRO detections will be qualified.

For semivolatiles batch 15669, several MS/MSD recoveries were outside of acceptable limits including acenaphthene (149%-MSD; acceptable range 24-125%), 2,4-dinitrotoluene (0% and 0%; acceptable range 28-136%), N-nitrosodi-n-propylamine (0% and 0%; acceptable range 28-114%), 4-nitrophenol ((0% and 0%; acceptable range 13.1-150%), pentachlorophenol (0% and 0%; acceptable range 20.1-139%). Additionally, in batch 15682, several MS/MSD recoveries were outside of acceptable limits including acenaphthene (129%-MS; acceptable range 24-125%), 2,4-dinitrotoluene (0% and 0%; acceptable range 28-136%), N-nitrosodi-n-propylamine (0% and 0%; acceptable range 28-114%), 4-nitrophenol ((0% and 0%; acceptable range 13.1-150%), pentachlorophenol (0% and 0%; acceptable range 20.1-135%), and pyrene (-17.1%; acceptable range 29-131%). Additional the RPD for pyrene was 51.3%, which was greater than the acceptable RPD of 30%. Due to most SVOC MS/MSD recoveries being outside of acceptable limits, all SVOC results will be qualified.

For mercury batch 15767, the surrogate recoveries were -462% and -253% where the acceptable range is 75-125%. Due to matrix interferences for mercury, all mercury data will be qualified.

For VOC batch 15642, the MS/MSD recoveries for benzene (55.2% and 64.4%; acceptable range 66.9%-142%), toluene (133%-MSD; acceptable range 78.4-128%), chlorobenzene (23.6% and 29.2%; acceptable range 78.2-127%), 1,1-dichloroethene (31.7% and 42.8%; acceptable range 72.6-150%), and trichloroethene (19.3% and 27.2%; acceptable range 72.2-120%) were outside of acceptable limits. Additionally, the RPD values for chlorobenzene (21.2%), 1,1-dichloroethene (29.8%), and trichloroethene (33.8%) were above the upper RPD limit of 20%. For VOCs, due to most recoveries being outside of acceptable limits, all VOC results will be qualified.

15. Was the total number of laboratory control samples analyzed equal to at least 5% of the total number of samples, or analyzed as required by the method? Yes

Comments: Laboratory control samples were analyzed for each batch.

16. Were laboratory control recoveries within laboratory-specified limits? Yes

Comments: The laboratory control recoveries were within specified limits.

17. Were surrogate recoveries within laboratory control limits? No

Comments: Surrogate recoveries for several samples were outside of acceptable recovery ranges. For Method 8015B and analyses of DRO, the laboratory reported 0% recovery (acceptable range 61.7%-135%) for all samples. No data will be qualified since discussions with the laboratory indicated that the surrogates were diluted out.

For sample EP1-2, the semivolatile (SVOC) surrogate for 4-terphenyl-d14 (160%; acceptable range 34.6-151%) was above acceptable limits. For sample EP1-1, the SVOC surrogate 2,4,6-tribromophenol was outside of acceptable limits (28.9%; acceptable range 35.5-141%). For sample AL2-5-SS, the surrogate 2,4,6-tribromophenol was outside of acceptable limits (12.3%; acceptable range 35.5-141%). For sample BD-1, the surrogate 2,4,6-tribromophenol was outside of acceptable limits (30.1%; acceptable range 35.5-141%). For sample EP1-7, the SVOC surrogate 2,4,6-tribromophenol was outside of acceptable limits (33.5%; acceptable range 35.5-141%). Lastly for sample AL1-4-SS, the SVOC surrogate 2,4,6-tribromophenol was outside of acceptable limits (34.3%; acceptable range 35.5-141%). For these samples, only one out of six surrogates was outside of acceptable limits; therefore, no qualification is required.

For sample AL1-5-SS for SVOCs, the surrogate 2,4,6-tribromophenol was outside of acceptable limits (21.9%; acceptable range 35.5-141%) and the surrogate 4-terphenyl-d14 was outside of acceptable limits (33.5%; acceptable range 34.6-151%). For sample BD-2, the surrogate 2,4,6-tribromophenol was outside of acceptable limits (19.9%; acceptable range 35.5-141%) and the surrogate 2-fluorobiphenyl was outside of acceptable limits (0%; acceptable range 30.4-128%). Lastly, for sample AL2-3-SS, the surrogate 2,4,6-tribromophenol was outside of acceptable limits (25.9%; acceptable range 35.5-141%) and the surrogate 4-terphenyl-d14 was outside of acceptable limits (31.7%; acceptable range 34.6-151%). In each case, one out of range surrogate was an acid and the other was a base/neutral. No data were qualified since the other two acid surrogates and other two base/neutral surrogates were within acceptable limits.

For sample AL2-2-SS for VOCs, the surrogate 4-bromofluorobenzene was recovered slightly below (79.2%) the lower recovery range of 79.3-126%. As a result, the detected and non-detected VOC values for this sample will be qualified as J/UJ.

18. Was the number of equipment, trip, or field blanks collected equal to at least 10% of the total number of samples, or as required by the project guidelines, QAPP, SAP, or permit, or as indicated by the Tier 1 validator?	Yes
Comments: Three equipment blanks and one trip blank were collected and reported with these samples. Therefore, blanks were collected on a 10% basis.	
19. Were detections found in trip blanks, equipment blanks, or field blanks?	No
Comments: No detections were found in the blanks.	
20. Was the number of field duplicates collected equal to at least 10% of the total number of samples, or as required by the project guidelines, QAPP, SAP, or permit, or as indicated by the Tier 1 validator?	Yes
Comments: Sample BD-1 is a duplicate of AL2-2-SS and BD-2 is a duplicate of AL2-4-SS.	
21. Were field duplicate RPD values less than the upper RPD limit (soil [50%], water [30%], or air/vapor [25%]), as specified by the laboratory or method?	Yes
Comments: Most RPD values were acceptable with the exception of the RPD for 2-methylnaphthalene (Method 8270C) between AL2-4-SS and BD-2. As a result, all 2-methylnaphthalene was qualified. The other associated RPD values were acceptable.	
22. Were laboratory duplicate RPD values within laboratory-specified limits?	N/A
Comments: Laboratory duplicates were not reported by the laboratory.	
23. General Comments: The analyses were reported as being acceptable by the laboratory.	

Table 1. Qualification Summary, Western Refining Southwest, Gallup, New Mexico (0804138)

Analyte	Client Sample ID	Laboratory Assigned ID	Laboratory Result	Reviewer Qualifier	Reason for Qualification
Gasoline Range Organics	All Samples	All Samples	Detections	J	High MS and MSD results indicating a possible high bias
2-Methylnaphthalene (Method 8270C)	All Samples	All Samples	Detections/Non-Detections	J/UJ	High RPD (>100%) in the duplicate indicating poor repeatability
VOCs	AL2-2-SS	0804138-31	Detections/Non-Detections	J/UJ	Low surrogate recovery
VOCs	All Samples	All Samples	Detections/Non-Detections	J/UJ	Severe Matrix Interference
SVOCs	All Samples	All Samples	Detections/Non-Detections	J/UJ	Severe Matrix Interference
Mercury	All Samples	All Samples	Detections/Non-Detections	J/UJ	Severe Matrix Interference

J – Indicates estimated detection.
UJ – Indicates estimated detection below the reporting limit.

Table 2. Field Duplicate Summary, Western Refining Southwest, Gallup, New Mexico (0804138)

Parent Sample: AL2-2-SS / Duplicate Sample: BD-1			
Analyte	Laboratory Result (mg/kg)	Duplicate Result (mg/kg)	Relative Percent Difference (RPD)
Diesel Range Organics	260000	220000	16.7%
Motor Oil Organics	31000	ND(25000)	DL
Mercury	6.8	11	47.2%
Arsenic	13	12	8.0%
Barium	500	420	17.4%
Cadmium	0.32	0.46	35.9%
Chromium	21	22	4.7%
Lead	24	26	8.0%
Chrysene	ND(30)	48	DL
Fluorene	98	100	2.0%
2-Methylnaphthalene – 8270C	450	540	18.2%
3,4-methylphenol	ND(30)	30	DL
Naphthalene	38	48	23.3%
Phenanthrene	230	300	26.4%
Pyrene	ND(30)	56	DL
Toluene	2.1	1.3	47.1%
Ethylbenzene	0.72	ND(0.5)	DL
1,2,4-Trimethylbenzene	4.5	2.9	43.2%
1,3,5-Trimethylbenzene	1.1	0.61	57.3%*
Naphthalene	5.8	5.1	12.8%
1-Methylnaphthalene - 8260	26	23	12.2%
2-Methylnaphthalene - 8260	37	34	8.5%
n-Butylbenzene	1.0	0.65	42.4%
Xylenes	4.9	3.1	45.0%

Field duplicate RPD control limits should not exceed 30% for water, 50% for soil, or 25% for air or vapor as established by USEPA Region 1 Laboratory Data Validation Function Guidelines for Evaluation of Organic Analysis, December 1996.

DL – indicates that one result was detected and the other was non-detect. For the DL noted values, the detected value was within 2x the reporting limit and no qualification was required.
* - Indicates that one or both of the determinations was less than five times the reporting limit and a valid RPD could not be calculated; therefore, no data will be qualified.

Parent Sample: AL2-4-SS / Duplicate Sample: BD-2			
Analyte	**Laboratory Result (mg/kg)**	**Duplicate Result (mg/kg)**	**Relative Percent Difference (RPD)**
Diesel Range Organics	250000	350000	33.3%
Motor Oil Organics	35000	52000	39.1%
Mercury	8.1	5.5	38.2%
Arsenic	14	14	0.0%
Barium	190	210	10.0%
Cadmium	0.42	0.4	4.9%
Chromium	16	16	0.0%
Lead	32	29	9.8%
Chrysene	ND(30)	49	DL
Dibenzofuran	ND(30)	36	DL
Fluorene	44	130	98.9%*
2-Methylnaphthalene – 8270C	**190**	**640**	**108.4%**
3,4-methylphenol	ND(30)	35	DL
Naphthalene	44	67	41.4%
Phenanthrene	210	310	38.5%
Pyrene	ND(30)	51	DL
Toluene	1.6	1.2	28.6%
Ethylbenzene	0.56	ND(0.5)	DL
1,2,4-Trimethylbenzene	4.1	3.6	13.0%
1,3,5-Trimethylbenzene	0.72	0.56	25.0%
Naphthalene	5.4	4.1	27.4%
1-Methylnaphthalene - 8260	24	21	13.3%
2-Methylnaphthalene - 8260	30	24	22.2%
n-Butylbenzene	1.1	0.72	41.8%
Xylenes	4.0	3.1	25.4%

Field duplicate RPD control limits should not exceed 30% for water, 50% for soil, or 25% for air or vapor as established by USEPA Region 1 Laboratory Data Validation Function Guidelines for Evaluation of Organic Analysis, December 1996.

DL – indicates that one result was detected and the other was non-detect. For the DL noted values, the detected value was within 2x the reporting limit and no qualification was required.
* - Indicates that one or both of the determinations was less than five times the reporting limit and a valid RPD could not be calculated; therefore, no data will be qualified.

APPENDIX E

SURVCAD VOLUME CALCULATIONS

072SediVols200805-Vol-AL1-HP-SS

Volume Report Aeration Lagoon 1 Soft Sediment 5/30/2008 10:51

Comparing GRiD file:
H:/Projects/WesternRefining/Gallup/072-697-016/CADD/SurvCadData/AL1-HP.grd
and GRiD file: H:/Projects/WesternRefining/Gallup/072-697-016/CADD/SurvCadData/AL1-SS.grd

Grid corner locations: 6164.05,4854.71 to 6328.05,5025.71
Grid resolution X: 164, Y: 171 Grid cell size X: 1.00, Y: 1.00
Area in Cut : 0.0 S.F., 0.00 Acres
Area in Fill: 12,324.8 S.F., 0.28 Acres
Total inclusion area: 12,324.8 S.F., 0.28 Acres
Cut to Fill ratio: 0.00
Average Fill Depth: 3.21
Max Fill Depth: 5.88
Cut (C.Y.) / Area (acres): 0.00
Fill (C.Y.) / Area (acres): 5173.59
Cut volume: 0.0 C.F., 0.00 C.Y.
Fill volume: 39,522.8 C.F., 1,463.81 C.Y.

072SediVols200805-Vol-AL1-TD-HP

Volume Report Aeration Lagoon 1 Hardpack Sediment 5/30/2008 10:50

Comparing GRiD file:
H:/Projects/WesternRefining/Gallup/072-697-016/CADD/SurvCadData/AL1-TD.grd
and GRiD file: H:/Projects/WesternRefining/Gallup/072-697-016/CADD/SurvCadData/AL1-HP.grd

Grid corner locations: 6164.05,4854.71 to 6328.05,5025.71
Grid resolution X: 164, Y: 171 Grid cell size X: 1.00, Y: 1.00
Area in Cut : 0.0 S.F., 0.00 Acres
Area in Fill: 12,324.8 S.F., 0.28 Acres
Total inclusion area: 12,324.8 S.F., 0.28 Acres
Cut to Fill ratio: 0.00
Average Fill Depth: 0.50
Max Fill Depth: 2.47
Cut (C.Y.) / Area (acres): 0.00
Fill (C.Y.) / Area (acres): 808.43
Cut volume: 0.0 C.F., 0.00 C.Y.
Fill volume: 6,175.9 C.F., 228.74 C.Y.

072SediVols200805-Vol-AL2-HP-SS

Volume Report Aeration Lagoon 2 Soft Sediment 5/30/2008 10:49

Comparing GRiD file:
H:/Projects/WesternRefining/Gallup/072-697-016/CADD/SurvCadData/AL2-HP.grd
and GRiD file: H:/Projects/WesternRefining/Gallup/072-697-016/CADD/SurvCadData/AL2-SS.grd

Grid corner locations: 5968.13,4838.96 to 6183.13,5067.96
Grid resolution X: 215, Y: 229 Grid cell size X: 1.00, Y: 1.00
Area in Cut : 0.0 S.F., 0.00 Acres
Area in Fill: 19,902.8 S.F., 0.46 Acres
Total inclusion area: 19,902.8 S.F., 0.46 Acres
Cut to Fill ratio: 0.00
Average Fill Depth: 4.62
Max Fill Depth: 8.50
Cut (C.Y.) / Area (acres): 0.00
Fill (C.Y.) / Area (acres): 7450.55
Cut volume: 0.0 C.F., 0.00 C.Y.
Fill volume: 91,913.4 C.F., 3,404.20 C.Y.

072SediVols200805-Vol-AL2-TD-HP

Volume Report Aeration Lagoon 2 Hardpack Sediment 5/30/2008 10:47

Comparing GRiD file:
H:/Projects/WesternRefining/Gallup/072-697-016/CADD/SurvCadData/AL2-TD.grd
and GRiD file: H:/Projects/WesternRefining/Gallup/072-697-016/CADD/SurvCadData/AL2-HP.grd

Grid corner locations: 5968.13,4838.96 to 6183.13,5067.96
Grid resolution X: 215, Y: 229 Grid cell size X: 1.00, Y: 1.00
Area in Cut : 0.0 S.F., 0.00 Acres
Area in Fill: 19,902.8 S.F., 0.46 Acres
Total inclusion area: 19,902.8 S.F., 0.46 Acres
Cut to Fill ratio: 0.00
Average Fill Depth: 0.58
Max Fill Depth: 2.09
Cut (C.Y.) / Area (acres): 0.00
Fill (C.Y.) / Area (acres): 940.99
Cut volume: 0.0 C.F., 0.00 C.Y.
Fill volume: 11,608.5 C.F., 429.95 C.Y.

072SediVols200805-Vol-EP1-SS-TD

Volume Report Evaporation Pond 1 5/30/2008 11:03

Comparing GRiD file:
H:/Projects/WesternRefining/Gallup/072-697-016/CADD/SurvCadData/EP1-TD.grd
and GRiD file: H:/Projects/WesternRefining/Gallup/072-697-016/CADD/SurvCadData/EP1-SS.grd

Grid corner locations: 5981.50,5014.46 to 6297.50,5341.46
Grid resolution X: 316, Y: 327 Grid cell size X: 1.00, Y: 1.00
Area in Cut : 0.0 S.F., 0.00 Acres
Area in Fill: 53,891.7 S.F., 1.24 Acres
Total inclusion area: 53,891.7 S.F., 1.24 Acres
Cut to Fill ratio: 0.00
Average Fill Depth: 1.59
Max Fill Depth: 5.04
Cut (C.Y.) / Area (acres): 0.00
Fill (C.Y.) / Area (acres): 2568.95
Cut volume: 0.0 C.F., 0.00 C.Y.
Fill volume: 85,813.1 C.F., 3,178.26 C.Y.

Appendix B

Field Methods

Field Methods

Pursuant to the Investigation Work Plans for SWMU No.1 and No. 14, 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 and Old API Separator. The field methods are described below and individual discussions are presented for the following activities:

- Drilling procedures;
- Soil screening;
- Decontamination procedures;
- Monitoring well development;
- Fluid level measurements;
- Purging of monitoring wells/groundwater sample collection;
- Sample collection and handling procedures;
- Vadose zone vapor sampling;
- Equipment calibration; and
- Management of investigation derived waste.

Drilling Procedures

The soil borings were drilled using the hollow-stem auger (HSA) method or a hand auger was used for shallow (two-foot) borings. Soil samples were collected continuously and logged by a qualified geologist in accordance with the Unified Soil Classification System (USCS) nomenclature. As shown on the boring logs, the data recorded included the lithologic interval, symbol, percent recovery, field screening results, and a sample description of the cuttings and core samples.

Soil Screening

Samples obtained from the borings were screened in the field on 2-foot intervals for evidence of contaminants. Field screening results were recorded on the soil boring logs. Field screening results were used to aid in the selection of soil samples for laboratory analysis. The primary screening methods include: (1) visual examination, (2) olfactory examination, and (3) headspace vapor screening for volatile organic compounds.

Visual screening included examining the soil samples for evidence of staining caused by petroleum-related compounds or other substances that may have caused staining of soils such as elemental sulfur or cyanide compounds. Headspace vapor screening was conducted and involved placing a soil sample in a plastic sealable bag allowing space for ambient air. The bag was sealed, labeled and then shaken gently to expose the soil to the air trapped in the

container. The sealed bag was allowed to rest for a minimum of 5 minutes while the vapors equilibrated. Vapors present within the sample bag's headspace were then measured by inserting the probe of a MiniRae 2000 portable volatile organic constituent (VOC) monitor in a small opening in the bag. The maximum value and the ambient air temperature were recorded on the field boring log for each sample. The screening results are presented in Table 3. Field screening results and any conditions that were considered to be capable of influencing the results of the field screening were recorded on the field logs.

Decontamination Procedures

The drilling equipment (e.g., hollow-stem augers) was decontaminated between each borehole using a high pressure potable water wash. The sampling equipment coming in direct contact with the samples (e.g., hand augers and split-spoon samplers) were decontaminated using a brush, as necessary, to remove larger particulate matter followed by a rinse with potable water, wash with nonphosphate detergent, rinse with potable water, and double rinse with deionized water. In the event that more than one SWMU was investigated during the day a new batch of wash water and rinse water was prepared prior to decontamination.

Monitoring Well Development

Following monitoring well completion activities, the new monitoring well (OAPIS-1) was developed using a bailer. Using a bailer attached to the end of the clean rope, groundwater was forced to flow in and out of the well screen by the repeated upward and downward motion of the bailer along the entire length of the well screen. The repeated plunging motion drew filter pack fines and loosened sediment into the well casing, improving the water quality within the surrounding formation and filter pack.

Once the well was surged for a minimum of 10 minutes, the groundwater/sediment was removed and discharged directly into a 55-gallon drum. A glass jar was used to capture a sample of the purge water to monitor the improving clarity of the purge water. Bailing ceased once the purge water was relatively clear.

Fluid Level Measurements

The depth to separate phase hydrocarbon, if present, and groundwater was measured prior to purging the wells of potentially stagnant groundwater. The measurements are presented in Table 12. A Geotech Interface Probe was used to measure fluid levels to 0.01 foot.

Purging of Monitoring Wells/Groundwater Sample Collection

The permanent monitoring well (OAPIS-1) was purged of a minimum of three well volumes prior to sample collection. The purge volumes are calculated as follows:

Volume (gallons) = water column thickness (ft) x 3.14 x radius of well casing^2 (ft) x 7.48 (gals/ft). The calculated purge volumes and actual volumes removed from each well are presented below.

Well (date)	Water Column Thickness (ft)	Calculated Purge Volume (gallons) – 3 Well Volumes	Actual Purge Volume (gallons)
OAPIS-1 (10/15/2012)	17.95	9.15	9.25

Field measurements of groundwater stabilization parameters included pH, specific conductance, dissolved oxygen concentrations, oxidation-reduction potential, and temperature. These measurements are presented in Table 11. A disposable bailer was used to remove groundwater from the well during the purging procedures.

Sample Collection and Handling Procedures

Soil samples were collected using split-spoon samplers or directly from the auger bucket for borings completed with a hand auger. The selected portion of the sample interval was placed in pre-cleaned, laboratory-prepared sample containers for laboratory chemical analysis. Three soil samples were collected for VOC analysis. An Encore® Sampler was used for collection of soil samples for low-level VOC analysis pursuant to EPA method 5035; the second sample aliquot (approximately 1 gram) was placed in a laboratory-prepared container with a methanol preservative; and the third sample aliquot was placed in an 8-ounce glass jar, which was filled to the top to minimize any head space.

Groundwater samples were collected with disposable bailers and immediately poured directly into clean laboratory supplied sample containers with the exception of samples collected for dissolved analyses. Samples specified for dissolved analyses were filtered in the field using a disposable 0.45 micron filter. A new filter and syringe enclosure were used for each sample. All samples were immediately placed into an ice chest with ice. The samples were maintained in the custody of the sampler until the chain-of-custody form was completed and the ice chest was sealed for shipment to the laboratory.

Equipment Calibration

Soil vapor screening was conducted using a MiniRae 2000 portable VOC monitor. The instrument was calibrated at the beginning of each work day to a concentration of 100 ppm isobutylene.

The instruments used to measured groundwater stabilization parameters included a YSI 650 MDS Data Logger and YSI 600 XLM-M Sonde. The calibration solutions used at the beginning of each day are as follows:

- 4.0 pH solution;
- 7.0 pH solution; and
- 1.413 mS/cm conductivity solution.

Management of Investigation Derived Waste

The decontamination water from the drilling equipment was collected on a mobile decon trailer and was subsequently placed in open top 55-gallon drums, which were sealed at the end of each work day. The decontamination water generated from sampling equipment was collected in buckets and placed in open top 55-gallon drums, which were sealed at the end of each work day. Purge water was also collected in a 55-gallon drum. The decon and purge water was disposed in the Refinery's wastewater treatment system up-stream of the API Separator. Soil cuttings were also placed into open top 55-gallon drums and were sealed when not in use. Each drum of soils was labeled and temporarily stored in a concrete curbed area pending waste characterization and disposal.

Appendix C

Site-Specific Dilution/Attenuation Factor Calculations

Calculation of Site-Specific Dilution/Attenuation Factor (DAF)

The DAF value was calculated using equation 33 from NMED's *Risk Assessment Guidance for Site Investigations and Remediation (February, 2012).*

$$DAF = 1 + \left(\frac{K * i * D}{I * L} \right) \qquad DAF = 1 + \left(\frac{38.96 * 0.027 * 10.58}{0.000242 * 100} \right) = 461$$

Where:

$$D = \left(0.0112 * L^2\right)^{0.5} + D_a \left(1 - \exp\left[\frac{-L * I}{K * i * D_a}\right]\right)$$

$$D = \left(0.0112 * 100^2\right)^{0.5} + 12.5 \left(1 - \exp\left[\frac{-100 * 0.000242}{38.96 * 0.027 * 12.5}\right]\right) = 10.58 \text{ m}$$

K = Aquifer hydraulic conductivity (m/yr)
i = Hydraulic gradient (m/m)
D = Mixing zone depth (m)
I = Infiltration rate (m/yr)
L= Source length parallel to ground water flow (m)
D_a= Aquifer thickness (m)

Derivation of site-specific values:

K = 38.96 m/yr as determined from a slug test at well MW-1(completed in Sonsela Sandstone aquifer) and originally presented in Appendix C of the Discharge Plan Application for Giant Refining Company, Ciniza Refinery, dated November 21, 1985.

i = 0.027 m/m as measured during Fall 2010 ground water sampling event (potentiometric surface map of Sonsela aquifer attached)

D = 10.58 m [lower of aquifer thickness (12.5 m measured at nearest well that penetrates Sonsela aquifer – OW-12) or calculated mixing zone depth (10.58m)]

I = 0.000242 m/yr derivation using EPA's HELP model as described below

L = 100 m – conservative source area length measured across Aeration Basin and surrounding soils with potential impact

D_a= 12.5 m - saturated thickness measured at nearest well that penetrates Sonsela aquifer – OW-12during August 2008 ground water sampling event

Calculation of Infiltration Rate

Pursuant to *EPA's Soil Screening Guidance: User's Guide (Second Edition, July 1996)*, infiltration rates can be calculated either of two ways: (1) assume that infiltration rate is

equivalent to recharge, or (2) use the EPA HELP model to estimate infiltration. Because the Gallup site is located in an area with low annual rainfall rates and high potential evapotranspiration rates, method 1 is not representative of site conditions. That is to say that it is unreasonable to assume that infiltration is equal to recharge.

EPA's HELP model was used to calculate the site-specific infiltration rate. Site-specific meteorological data was obtained from the Western Regional Climate Center and New Mexico State University, which operates a nearby weather station (Thoreau 5 ENE) as part of the NWS Cooperator Climate Stations. The weather station is located east northeast of Thoreau, New Mexico on HWY 371 and is approximately 16 miles south southeast of the Gallup Refinery.

Data obtained from the Thoreau 5 ENE station includes mean monthly temperature and average monthly precipitation. The average wind speed (11.3 km/hr) was obtained from the Western Regional Climate Center, as measured at the Gallup, NM airport. Daily solar radiation and quarterly relative humidity values were based on measurements from Albuquerque, NM. This data was obtained from the National Oceanic and Atmospheric Administration (NOAA) and is included in the HELP model's Weather Generator module. A review of the monthly average weather conditions (temperature and precipitation) at Gallup and Albuquerque as shown in the table below indicates very similar conditions such that use of quarterly relative humidity and solar radiation from Albuquerque should be sufficient to estimate conditions at the Western Refining Gallup Refinery. The quarterly relative humidity values used are 48%, 30%, 45%, and 50% for the first, second, third, and fourth quarters, respectively.

The HELP model soil profile was constructed with two layers. The Sonsela Aquifer is considered to be the uppermost aquifer in the area (reference the May 2000 RCRA Post-Closure Care Part B Permit Application). The upper layer (Layer 1.1) represents the unconsolidated deposits that overlie the Chinle Formation bedrock. Based on the soil borings logs that surround the Aeration Basin and Old API Separator, the predominant lithology in this upper layer is silty clay and clay, with lesser amounts of sandy clay. There are relatively thin (several feet thick) discontinuous layers of clayey sand and sand. The soil type chosen in the model was loam with an average thickness of 10 meters. Loam would normally be expected contain a higher percentage of silt and sand than observed in the most of the soil borings and is considered to be a conservative estimate of actual field conditions.

The land surface was assumed to have a poor stand of grass, which is more conservative than the other possible option of bare soil. The slope of the land surface was calculated to be 7.7 % based on surveyed elevations a short distance to the east of west of the Aeration Basin. There are structures (e.g., parking lots, building pads, concrete foundations, etc.) that could limit infiltration but the model assumes only soil without any obstructions to infiltration. Based on the selected soil type (loam) the model default value for porosity is 0.463, field capacity is 0.232, wilting point is 0.116, and saturated hydraulic conductivity is 3.7E-4 cm/sec. These model default vales are taken from the US Department of Agriculture. Soil permeability tests conducted on soil samples collected beneath the nearby Land Treatment Unit indicated a permeability of 1.9E-5 cm/sec, thus the model default hydraulic conductivity of 3.7E-4 cm/sec is a conservative estimate (see attached page 2 of Appendix C from RCRA Post-Closure Care Permit Application).

The second layer (Layer 1.2) in the model represents the upper portion of the Chinle Formation, which overlies the Sonsela Aquifer. This upper portion of the Chinle Formation consists of mudstone/sandstone. The default soil type from the HELP model chosen to represent the upper Chinle Formation was silty loam. The model default value for porosity is 0.35, field capacity is 0.284, and wilting point is 0.135. However, a site-specific hydraulic conductivity was chosen to be more representative of actual site conditions. Yield tests, including slug tests and pumping tests have been performed at the refinery to estimate the hydraulic conductivity of the upper portion of the Chinle Formation (see attached documentation). A slug test performed on July 3, 1984 in well OW-4 indicated a hydraulic conductivity of 4.0E-7 cm/sec. A pump test was performed in well OW-24 on February 20, 1985 and it yielded a hydraulic conductivity of 2.5E-7 cm/sec. The higher of these two conductivity values (4.0E-7 cm/sec) was utilized as a site-specific hydraulic conductivity for the lower layer (i.e., Chinle Formation – mudstone/sandstone).

Using the model's synthetic weather generator and the aforementioned inputs, the model was run for a 40 year period to simulate potential infiltration (percolation or leakage through Layers 1.1 and 1.2). The model output is enclosed, showing the annual values. Over the modeled 40 year period, the average annual infiltration was 0.000242 meters/year. This average annual infiltration was used in the aforementioned calculation of the site-specific DAF value.

Project : Western Refining Gallup Refinery

Infiltration calculations

Model : HELP

An US EPA model for predicting landfill hydrologic processes and testing of effectiveness of landfill designs

Author : Your title Scott Crouch

Client : Title Ed Riege

Location : Albuquerque

1/15/2013

1. Profile. EPA profile1

Model Settings

[HELP] Case Settings

Parameter	Value	Units
Runoff Method	Model calculated	(-)
Initial Moisture Settings	Model calculated	(-)

[HELP] Surface Water Settings

Parameter	Value	Units
Runoff Area	100	(%%)
Vegetation Class	Poor stand of grass	(-)

Profile Structure

Layer	Top (m)	Bottom (m)	Thickness (m)
Loam	0.0000	-10.0000	10.0000
Chinle Formation - Mudstone/sandstone	-10.0000	-30.0000	20.0000

1.1. Layer. Loam

Top Slope Length: 300.0000
Bottom Slope Length: 300.0000
Top Slope: 7.7000
Bottom Slope : 7.7000

[HELP] Vertical Perc. Layer Parameters

Parameter	Value	Units
total porosity	0.463	(vol/vol)
field capacity	0.232	(vol/vol)
wilting point	0.116	(vol/vol)
sat.hydr.conductivity	3.7E-4	(cm/sec)
subsurface inflow	0	(mm/year)

1.2. Layer. Chinle Formation - Mudstone/sandstone

Top Slope Length: 300.0000
Bottom Slope Length: 30.0000
Top Slope: 7.7000
Bottom Slope : 7.7000

[HELP] Vertical Perc. Layer Parameters

Parameter	Value	Units
total porosity	0.35	(vol/vol)
field capacity	0.284	(vol/vol)
wilting point	0.135	(vol/vol)
sat.hydr.conductivity	4E-7	(cm/sec)
subsurface inflow	0	(mm/year)

Annual Totals rate (m)

	Precipitation (m)	Runoff (m)	Evapotranspiration (m)	Percolation or leakance through Layer 2 (m)
Year-1 (m)	1.9660E-01	0.0000E+00	1.9535E-01	1.3879E-05
Year-2 (m)	3.0150E-01	1.0001E-03	3.0471E-01	3.1513E-04
Year-3 (m)	2.3571E-01	0.0000E+00	2.4077E-01	2.0281E-03
Year-4 (m)	2.3012E-01	1.5981E-03	2.3584E-01	5.5298E-05
Year-5 (m)	2.5273E-01	0.0000E+00	2.4342E-01	3.3999E-05
Year-6 (m)	1.5875E-01	0.0000E+00	1.4979E-01	1.2773E-05
Year-7 (m)	1.8390E-01	0.0000E+00	1.8163E-01	0.0000E+00
Year-8 (m)	2.5781E-01	2.9505E-07	2.4741E-01	3.0084E-05
Year-9 (m)	1.9152E-01	3.7197E-04	2.1155E-01	1.8727E-05
Year-10 (m)	2.2708E-01	1.0422E-03	2.1507E-01	6.2184E-05
Year-11 (m)	2.3673E-01	1.2339E-03	2.5338E-01	6.6487E-03
Year-12 (m)	2.5883E-01	9.3579E-07	2.3932E-01	0.0000E+00
Year-13 (m)	1.8466E-01	9.3962E-09	2.0131E-01	2.6008E-05
Year-14 (m)	1.5875E-01	0.0000E+00	1.5152E-01	0.0000E+00
Year-15 (m)	2.4892E-01	0.0000E+00	2.5657E-01	1.2845E-05
Year-16 (m)	1.6688E-01	0.0000E+00	1.5475E-01	0.0000E+00
Year-17 (m)	1.2929E-01	0.0000E+00	1.1804E-01	0.0000E+00
Year-18 (m)	1.4961E-01	0.0000E+00	1.6469E-01	4.1083E-05
Year-19 (m)	2.0447E-01	0.0000E+00	1.9000E-01	0.0000E+00
Year-20 (m)	1.8110E-01	1.6632E-04	1.9096E-01	1.2713E-05
Year-21 (m)	2.3622E-01	0.0000E+00	2.3463E-01	1.3324E-05
Year-22 (m)	1.3665E-01	0.0000E+00	1.4617E-01	0.0000E+00
Year-23 (m)	2.3317E-01	3.4029E-03	2.2879E-01	0.0000E+00
Year-24 (m)	2.2098E-01	0.0000E+00	2.2620E-01	2.3928E-05
Year-25 (m)	1.4478E-01	0.0000E+00	1.3168E-01	0.0000E+00
Year-26 (m)	2.0041E-01	1.0938E-03	1.8008E-01	1.8989E-05
Year-27 (m)	2.3216E-01	0.0000E+00	2.3529E-01	2.4520E-05
Year-28 (m)	1.9228E-01	0.0000E+00	2.0836E-01	0.0000E+00
Year-29 (m)	2.3343E-01	0.0000E+00	2.3747E-01	2.3204E-05
Year-30 (m)	1.8898E-01	0.0000E+00	1.9221E-01	0.0000E+00
Year-31 (m)	2.4536E-01	7.1872E-05	2.3620E-01	0.0000E+00
Year-32 (m)	2.2682E-01	0.0000E+00	2.2482E-01	4.1874E-05
Year-33 (m)	3.1648E-01	4.4010E-03	3.1326E-01	4.8895E-05
Year-34 (m)	2.1107E-01	0.0000E+00	1.9883E-01	0.0000E+00
Year-35 (m)	2.7432E-01	4.5785E-04	2.8167E-01	1.3746E-05
Year-36 (m)	1.5113E-01	0.0000E+00	1.3259E-01	0.0000E+00
Year-37 (m)	2.1692E-01	8.4320E-05	2.5279E-01	2.7002E-05
Year-38 (m)	1.7450E-01	0.0000E+00	1.6655E-01	0.0000E+00
Year-39 (m)	2.1057E-01	9.4687E-04	1.8508E-01	9.8535E-05
Year-40 (m)	1.7501E-01	0.0000E+00	1.9865E-01	3.7743E-05
Total (m)	8.3762E+00	1.5873E-02	8.3574E+00	9.6833E-03

$\frac{9.6833E-03\ m}{40\ yr} = 0.000242\ m/yr$

ALBUQUERQUE WSFO AIRPOR, NEW MEXICO (290234)

Period of Record Monthly Climate Summary

Period of Record : 1/ 1/1914 to 12/31/2005

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	47.2	53.2	60.6	70.0	79.4	89.3	91.7	88.9	82.4	71.0	56.9	47.7	69.9
Average Min. Temperature (F)	23.4	27.8	33.0	40.8	50.1	59.2	64.6	62.9	56.0	44.0	31.4	24.4	43.1
Average Total Precipitation (in.)	0.37	0.40	0.52	0.54	0.63	0.61	1.38	1.46	0.96	0.88	0.46	0.46	8.67
Average Total SnowFall (in.)	2.3	1.8	1.6	0.6	0.0	0.0	0.0	0.0	0.0	0.1	1.0	2.2	9.6
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0

Percent of possible observations for period of record.
Max. Temp.: 91.2% Min. Temp.: 91.2% Precipitation: 96.6% Snowfall: 80.1% Snow Depth: 80.1%
Check Station Metadata or Metadata graphics for more detail about data completeness.

THOREAU 5 ENE, NEW MEXICO (298830)

Period of Record Monthly Climate Summary

Period of Record : 1/ 1/1930 to 11/30/1992

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	43.2	47.9	54.5	63.8	72.6	83.1	85.5	82.3	76.6	66.8	53.4	44.9	64.5
Average Min. Temperature (F)	18.6	21.9	26.5	32.3	40.7	49.8	55.8	53.8	47.4	37.2	26.5	19.8	35.9
Average Total Precipitation (in.)	0.64	0.61	0.68	0.45	0.58	0.56	1.72	2.16	1.19	0.88	0.59	0.65	10.71
Average Total SnowFall (in.)	8.3	5.6	5.3	1.1	0.4	0.0	0.0	0.0	0.0	1.4	3.1	8.1	33.3
Average Snow Depth (in.)	1	0	0	0	0	0	0	0	0	0	0	1	0

Percent of possible observations for period of record.
Max. Temp.: 46.1% Min. Temp.: 46.1% Precipitation: 68.4% Snowfall: 61.8% Snow Depth: 61.8%
Check Station Metadata or Metadata graphics for more detail about data completeness.

Western Regional Climate Center, wrcc@dri.edu

THOREAU 5 ENE, NEW MEXICO

Station Metadata

From NCDC Station Historical Listing for NWS Cooperative Network
ObsTyp: t-Temperature-1, p-Daily precip-2, w-(blank), s-(blank), e-Evap-5
h-Hourly precip - 6 0.01" Universal, or - 7 0.10" Fisher-Porter
U - Observed, but beginning date is uncertain

Count	Number (Coop)	Station Name (From NCDC listing)	Lat ddmm	Long dddmm	Elev ftx10	Start yy mm	ObsTyp t	p	w	s	e	h	End yy mm
1050	298830-4	THOREAU 6 ENE	3526	10808	0713	53 09	U	U					63 01
1051	298830-4	THOREAU 6 ENE	3526	10809	0711	63 01	U	U					88 04
1052	298830-4	THOREAU 5 ENE	3526	10809	0710	88 04	1	2					7 99 99

Statistics by element

(From WRCC data archives)
Last Compiled on Apr.23, 2009.
Dates are format of YYYYMMDD. Numbers are total Number of observations

STATION	START	END	PRECP	SNWFL	SNWDP	TMAX	TMIN	TOBS	EVAP	WNDM
298830	19300101	19921130	15723	14204	14192	10584	10584	10580	0	0

STATION - NCDC COOP Station number
START - First Date in record
END - Last Date in record (when last compiled)
PRECP - Precipitation
SNWFL - Snowfall
SNWDP - Snow depth
TMAX - Daily Max. Temperature
TMIN - Daily Min. Temperature
TOBS - Temperature at Observation time
EVAP - Evaporation
WNDMV - Wind Movement

Statistics by observation

(From WRCC data archives)
Last Compiled on Apr.23, 2009.
Dates are format of YYYYMMDD. Numbers represent one day and one day is considered present if

Average Wind Speeds - MPH

Average wind speeds are based on the hourly data from 1996-2006 from automated stations at reporting airports (ASOS) unless otherwise noted.

For more information click here on Western States, Alaska or Hawaii and Pacific Islands

Arizona California Colorado Hawaii Idaho Montana Nevada New Mexico Oregon Utah Washington Wyoming

MONTANA

AVERAGE WIND SPEED - MPH

STATION	ID	Years	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
BAKER AIRPORT ASOS	KBHK	1998-2006	10.4	10.5	12.2	12.5	12.7	11.7	10.7	10.8	10.0	10.3	10.5	10.7	11.1
BILLINGS-LOGAN AP ASOS	KBIL	1996-2006	12.8	12.2	11.0	10.5	10.4	10.0	9.3	9.2	9.6	10.3	12.0	13.0	10.9
BOZEMAN AIRPORT ASOS	KBZN	1996-2006	4.6	5.3	6.4	7.2	7.0	6.3	6.3	6.4	6.1	5.7	4.9	4.8	5.9
BUTTE AIRPORT ASOS	KBTM	1996-2006	4.7	5.0	6.8	7.3	7.7	7.3	6.9	6.6	6.2	6.2	5.2	4.9	6.2
CUT BANK AIRPORT ASOS	KCTB	1996-2006	14.6	12.8	13.3	12.8	13.4	12.3	11.2	10.2	11.4	13.0	13.6	14.6	12.8
DILLON AIRPORT ASOS	KDLN	1997-2006	10.2	9.7	10.3	10.0	9.6	8.4	8.0	8.0	8.7	9.0	9.3	9.2	9.2
GLASGOW AIRPORT ASOS	KGGW	1996-2006	9.3	9.3	11.7	12.4	12.6	11.4	10.7	11.0	10.5	10.3	9.3	9.4	10.6
GLENDIVE AIRPORT AWOS	KGDV	1996-2006	9.5	9.7	10.5	11.3	11.6	10.4	9.4	9.6	9.6	10.1	9.7	10.2	10.1
GREAT FALLS AP ASOS	KGTF	1996-2006	13.3	12.3	11.8	11.2	11.3	10.2	9.6	9.2	10.4	11.9	13.2	13.8	11.5
GREAT FALLS-MALSTROM AF	KGFA	1996-2006	12.3	9.9	11.9	10.7	10.3	9.7	9.1	8.8	9.9	10.4	13.2	13.2	10.9
HAVRE AIRPORT ASOS	KHVR	1996-2006	9.9	9.6	10.7	11.0	11.6	10.6	9.8	9.5	9.8	9.8	10.6	11.0	10.3
HELENA AIRPORT ASOS	KHLN	1996-2006	5.8	6.3	7.8	8.3	8.4	8.2	7.4	6.6	6.7	6.6	5.8	6.0	7.0
JORDAN AIRPORT ASOS	KJDN	1996-2006	7.3	7.9	9.3	10.0	10.5	9.7	8.4	8.4	8.2	8.2	7.9	8.1	8.6
KALISPELL AIRPORT ASOS	KGPI	1996-2006	4.1	3.8	6.0	6.7	6.6	5.7	5.2	5.0	4.6	4.2	4.0	3.2	4.9
LEWISTOWN AIRPORT ASOS	KLWT	1996-2006	10.6	9.5	10.2	9.8	9.9	9.0	7.9	8.0	8.5	9.2	10.2	10.7	9.5
LIVINGSTON AIRPORT ASOS	KLVM	1996-2006	19.8	17.4	16.2	14.0	13.1	11.9	11.0	11.2	12.7	14.6	18.4	20.4	15.2
MILES CITY AP ASOS	KMLS	1996-2006	8.8	9.4	10.6	11.2	11.3	10.5	9.9	9.7	9.7	9.7	9.3	9.3	9.9
MISSOULA AIRPORT ASOS	KMSO	1996-2006	3.2	3.7	5.4	6.1	6.0	6.1	5.7	5.2	4.3	3.9	3.5	3.7	4.7
SIDNEY AIRPORT AWOS	KSDY	1996-2006	8.9	9.0	9.5	10.2	10.4	9.0	7.7	7.9	8.2	8.8	8.7	9.4	9.0
WOLF POINT AIRPORT ASOS	KOLF	1998-2006	7.1	7.6	9.4	10.3	10.4	8.9	8.2	8.3	7.6	7.7	7.3	7.6	8.3

NEW MEXICO

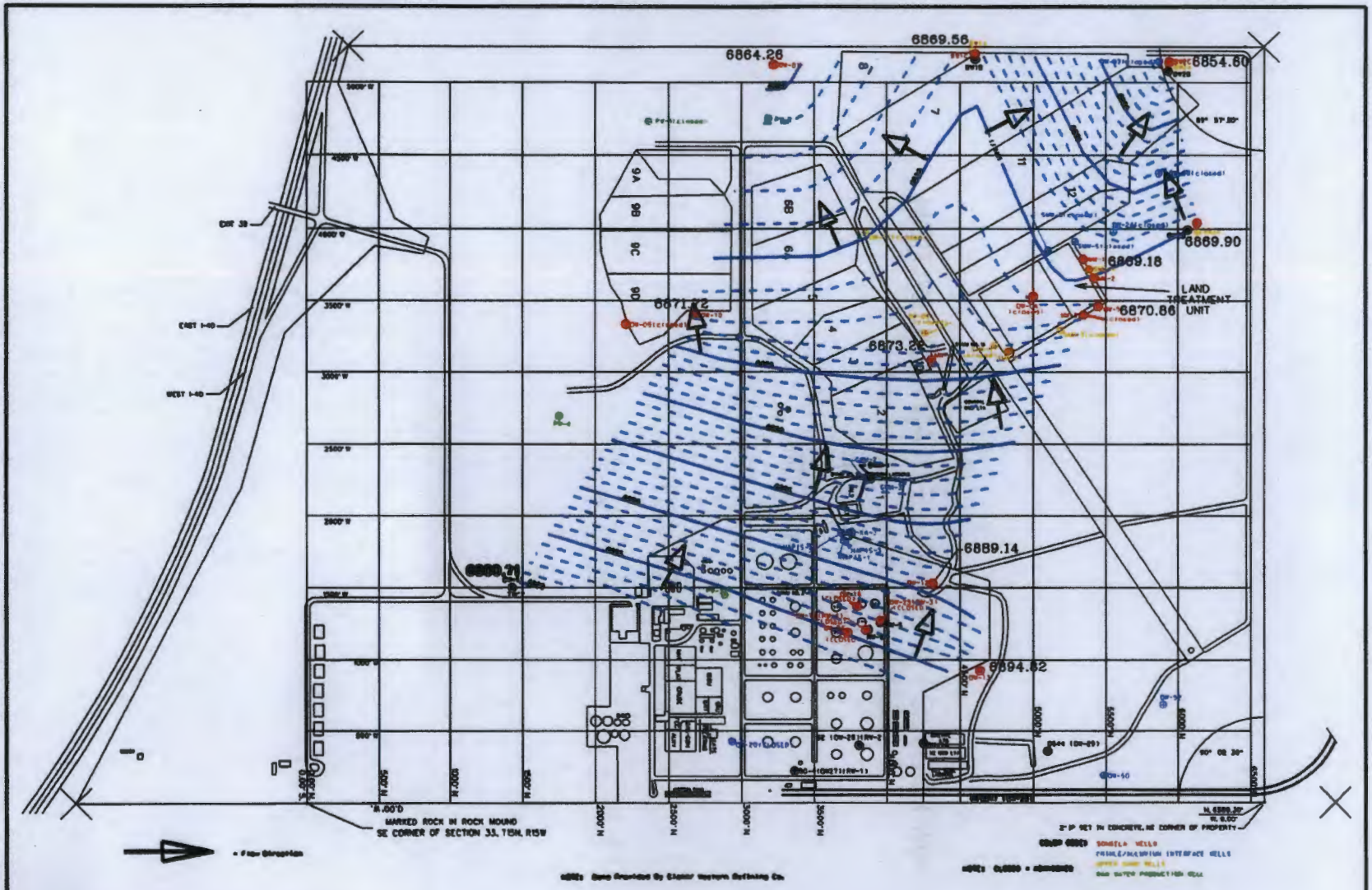
$7.0 \text{ miles/hr} \times \frac{1 \text{ kilo.}}{.62 \text{ miles}} = 11.3 \text{ K/hr}$

AVERAGE WIND SPEED - MPH

STATION	ID	Years	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
ALAMOGORDO AIRPORT ASOS	KALM	1996-2006	5.1	6.3	7.1	7.9	7.1	6.9	6.1	5.3	5.2	5.2	5.0	5.0	6.0
ALAMOGORDO-HOLLOMAN AFB	KHMN	1996-2006	8.5	9.7	10.6	11.8	10.8	10.6	9.8	9.1	8.8	8.5	8.1	8.3	9.6
ALBUQUERQUE AP ASOS	KABQ	1996-2006	7.0	8.2	9.3	11.1	10.0	10.0	8.7	8.3	8.0	7.9	7.2	6.9	8.5
ALBUQUERQUE-DBLE EAGLE	KAEG	1999-2006	7.1	7.9	9.0	10.6	9.5	8.6	7.0	6.2	7.0	6.5	6.5	6.1	7.7
ARTESIA AIRPORT ASOS	KATS	1997-2006	7.8	9.1	10.1	10.9	10.2	9.9	7.8	6.9	7.6	7.8	7.6	7.4	8.5
CARLSBAD AIRPORT ASOS	KCNM	1996-2006	9.2	9.8	10.9	11.4	10.4	9.9	8.5	7.7	8.2	8.5	8.4	8.8	9.3
CLAYTON MUNI AP ASOS	KCAO	1996-2006	11.9	12.7	13.4	14.6	13.4	13.0	11.7	10.8	11.8	12.1	12.1	12.0	12.4
CLINES CORNERS	KCQC	1998-2006	16.2	16.1	15.7	16.9	14.6	13.5	10.6	10.1	11.8	13.3	15.0	16.0	14.1
CLOVIS AIRPORT AWOS	KCVN	1996-2006	12.3	12.3	13.4	13.8	12.4	11.9	9.7	8.9	9.7	10.9	11.6	12.2	11.6
CLOVIS-CANNON AFB	KCVS	1996-2006	12.5	12.6	13.6	13.8	12.2	12.5	10.7	10.0	10.2	11.3	11.7	12.4	12.0
DEMING AIRPORT ASOS	KDMN	1996-2006	8.7	9.7	10.9	12.0	10.6	10.1	8.9	8.1	8.4	8.2	8.5	8.1	9.3
FARMINGTON AIRPORT ASOS	KFMN	1996-2006	7.3	8.3	9.0	9.8	9.4	9.4	8.7	8.2	8.0	7.8	7.6	7.3	8.4
GALLUP AIRPORT ASOS	KGUP	1996-2006	5.7	6.9	7.8	10.0	9.0	8.8	6.9	6.0	6.5	6.1	5.6	5.3	7.0
GRANTS-MILAN AP ASOS	KGNT	1997-2006	7.8	8.8	9.6	10.9	10.0	9.8	8.1	7.2	7.9	8.4	8.0	7.6	8.7
HOBBS AIRPORT AWOS	KHOB	1996-2006	11.3	11.9	12.6	13.4	12.5	12.3	11.0	10.0	10.2	10.6	10.7	11.1	11.4
LAS CRUCES AIRPORT AWOS	KLRU	2000-2006	6.4	7.5	8.8	10.1	8.7	8.2	6.8	6.0	6.2	6.1	6.4	6.0	7.3
LAS VEGAS AIRPORT ASOS	KLVS	1996-2006	10.9	12.2	12.5	14.3	12.4	11.8	10.0	9.2	10.9	10.8	11.0	10.9	11.4
LOS ALAMOS AP AWOS	KLAM	2005-2006	3.9	5.7	7.5	8.1	7.1	7.3	5.3	4.8	5.7	5.1	4.4	3.2	5.4
RATON AIRPORT ASOS	KRTN	1998-2006	8.9	9.4	10.4	12.2	10.8	10.2	8.4	8.1	8.6	9.0	8.6	8.5	9.4
ROSWELL AIRPORT ASOS	KROW	1996-2006	7.4	8.9	9.9	11.1	10.3	10.2	8.8	7.9	8.3	8.0	7.5	7.3	8.8
RUIDOSO AIRPORT AWOS	KSRR	1996-2006	8.8	9.6	10.0	11.6	10.0	8.4	5.9	5.3	6.4	7.4	7.9	8.7	8.3
SANTA FE AIRPORT ASOS	KSAF	1996-2006	8.9	9.5	9.9	11.2	10.6	10.5	9.2	8.8	8.8	9.1	8.7	8.5	9.5
SILVER CITY AP AWOS	KSVC	1999-2006	8.1	8.7	9.9	10.8	10.2	9.9	8.5	7.2	6.9	7.6	7.9	7.7	8.5
TAOS AIRPORT AWOS	KSKX	1996-2006	5.8	6.5	7.7	9.1	8.6	8.5	7.1	6.6	6.7	6.6	6.0	5.7	7.0
TRUTH OR CONSEQ AP ASOS	KTCS	1996-2006	7.4	8.7	9.9	11.1	10.4	9.8	8.1	7.4	7.7	8.0	7.7	7.3	8.6
TUCUMCARI AIRPORT ASOS	KTCC	1999-2006	10.0	11.2	11.9	13.6	11.9	11.6	9.9	9.3	10.0	10.0	10.4	10.2	10.8

SONSELA POTENTIOMETRIC SURFACE MAP
WESTERN REFINING COMPANY
GALLUP REFINERY

Fall 2012



Peregrine GeoConnect, Inc.

1" = 500'

File 11-002

Figure 9
Sonsela Water
Piezometric Surface (July-Sept 2010)

Western Refining - Gallup Refinery
Interstate 40, Exit 39
Jamestown, New Mexico 87347

Date: March 28, 2010

APPENDIX C – DISCHARGE PLAN APPLICATION
GIANT REFINING COMPANY
CINIZA REFINERY

November 21, 1985

APPENDIX C
AQUIFER-TEST DATA AND ANALYSES

TEST PUMPING OF CHINLE SHALE

METHODOLOGY AND DESCRIPTION OF THE TEST

The test consisted of a 5 hour pumping period and a 2 hour recovery period. An air-driven piston pump capable of sustaining pumping rates as low as 10 gallons/hour (0.167 gpm) was used for the test. Water level measurments were taken with an electronic sounder. The well (OW-24) is located approximately 250 feet northwest of the land treatment facility and is completed within the Chinle shale. The lithologic and completion log of the well is attached (Figure F-2).

Pumping began at 1515 hours on February 20, 1985 at a rate of 10 gallons/hour. The produced water was very turbid. Clogging of the pump and pump lines necessitated continuous monitoring and adjustment of the discharge.

After 4 hours of pumping at 10 gallons/hour, the drawdown of the well appeared to stabilize at about 7 feet. The discharge rate was increased to 20 gallons/hour in order to more effectively stress the aquitard. After one hour of additional pumping a total drawdown of 12 feet was observed. However, this higher pumping rate increased the turbidity of the discharge and caused instability of the pumping rate. The lack of control of the discharge rate and the potential of diamage to the pump forced the termination of the test after a total of 5 hours of pumping.

Water level recovery was observed for 100 minutes. At this time the water level had recovered to within 90% of the pre-pumping level.

TABLE F-1

Pump Test Data, OW-24

PUMP TEST ANALYSIS

Field measurements are summarized in Table F-1. Due to the short pumping time and potential well-bore and gravel-pack effects, the final analysis was based on methods developed by Shafer, for low-conductivity materials.

Partial penetration effects were neglected in the analysis because the low pumping rates and the expected anisotropy of the aquitard would prevent significant vertical flow to the well bore. The low pumping rate was also designed to completely drain the gravel pack in the well to insure accurate recovery data.

A copy of Shafer's methodology is attached, and the data for his analysis is given in Table F-2. Figure F-1 is a plot of the recovery data, according to Shafer's methods. This Figure includes calculation of T and K for the Chinle shales.

TD = 58'-4" = 58.33'
DW = 31.96
Pump @ 55' 26.37' of water
≈ 18 gal

PUMPING DATA

DATA SHEET FOR RECORDING PUMP TEST DATA

County: McKinley Co.
Location: Giant Refinery 2/22/85
Observation well no.:
Pumped well no.: OW-24

Average Q _____ gpm r = _____ ft. r^2 = _____

Date	Hour	t (min)	t' (min)	t/t'	Depth to water	s (unadjusted)	Adjustment Δs	s' (adjusted)	gph Q (gpm)	Remarks
2-20	1515	0			31'-11.5"	0"	Feet		10 gph	STATIC LEVEL w/ PUMP
	1516	1			33-0	12.5	1.04			LARGE INITIAL DRAW DOWN FILL HOSE FILL UP
	1517	2			33-1	13.5	1.13			Setting pump rate
	1518	3			33-4	16.5	1.38			
	1519	4			33-8¾	20.75	1.73			
	1520	5			33-11½	24.0	2.0'			
	1521	6			34-2	26.5	2.22			
	1522	7			34-3¼	27.0	2.25			
1 min	1523	8			34-3	27.5	2.27			
	1524	9			34-4	28.5	2.37			
	1525	10			34-5	29.5	2.46			
	1527	12			34-6¾	30.75	2.56			
	1529	14			34-9	33.5	2.79			
2 min	1531	16			35-0	36.5"	3.04			
	1533	18			35-2¾	39.75	3.23			
	1535	20			35-4½	41.0	3.42			
	1540	25			35-10½	47.0	3.92			
	1545	30			36-3	51.5	4.28			
	1550	35			36-2½	51.0	4.25			
	1555	40			36-8	56.5	4.71		10 gal	CLEARED PUMP Valve
5 min	1600	45			37-2¼	62.75	5.23			
	1605	50			36-10½	61.0	5.08			clear pump valve
	1610	55			NR	70.75				
	1615	60			37-10¼	88.75	5.90			Pumped 10 gal
10 min	1625	70			38'-½	85.0	6.08			

PUMPING DATA

DATA SHEET FOR RECORDING PUMP TEST DATA

County: _____ Observation well no. MW-24

Location: Ciniza Refinery Pumped well no. MW-24

Average Q 10 gpm r = — ft. r^2 = —

Date	Hour	t (min)	t' (min)	t/t'	Depth to water	s (unadjusted)	Adjustment Δs	s' (adjusted)	Q gpm (spm)	Remarks
2-20	1635	90			39-3½	~~88.0~~ 79.5	6.33		10	
	1645	90			38-7	~~91.5~~	6.79			Lift pump to 50'
	1655	100			37-6½	69.0	5.75			close pump, ready pressure
	1705	110			36-11½	~~84.0~~ 84.0	7.00			
2 hours	1715	120			39-2½		7.27			Pumped 20 gal
	1730	135			38-11		6.97			
15 min	1745	150			39-2½		7.25			
	1800	165			39-0½		7.08			
3 h	1815	180			39-2		7.21			
	1830	195			39-5		7.46			Pumped 30 gal
	1845	210			39-5		7.46			
	1900	225			39-2		7.21			
4 h	1915	240			38-11½		7.00			
	1930	255			39-0		7.04		10	Pumped 40 gal
	1932	257			39-4		7.38		20	INCREASE PUMP RATE TO 30 GPM
	1934	259			39-10		7.87			PUMP SLIPPED APPROX 1 FOOT - REPLACED TO APPROX SAME LEVEL
2 min	1936	261			40-3½		8.23			
	1938	263			40-3½		8.33			
	1940	265			40-1½		8.17			PUMPING RATE FELL-OFF SLIGHTLY
	1945	270			40-9		8.79			
	1950	275			41-9½		9.83			
5 min	1955	280			42-0		10.04			
	~~1900~~	285			41-8		9.72			
	2005	290			42-8½		9.75			
	2010	295			43-4		11.27			Stiff in flow pipe
5 h 15 min	2015	300			43-2½		11.25			Adj pump valve
	2030	315			43-10½		11.92			pumped 10 gal

RECOVERY DATA

DATA SHEET FOR RECORDING PUMP TEST DATA

County: _____ Observation well no. _____

Location: Casing Refining Purged well no. Rich-24

Average Q _____ gpm r = _____ ft. r^2 = _____

Date	Hour	t (min)	t' (min)	t/t'	Depth to water	s (unadjusted)	Adjustment Δs	s' (adjusted)	Q (gpm)	Remarks
1/22	20:32		0		43-10½	144"	12.0'	0	20 gph	
	2034		2		42-7-		10.63'	1.37		
	2036		4		41-8¾		9.69	2.31		
2min	2038		6		40-8¼		8.86	3.14		
	2040		8		40-2		8.21	3.79		
	2042		10		39-6¼		7.56	4.44		
	2047		15		36-8¾		6.11	5.89		
	2052		20		37-1¼		5.17	6.83		
	2057		25		36-4-		4.38	7.62		
	2102		30		35-8½		3.75	8.25		
	2107		35		35-2¾		3.27	8.73		
	2112		40		34-9¾		2.86	9.14		
5min	2117		45		34-5¾		2.52	9.48		
	2122		50		34-3¼		2.27	9.73		
	2127		55		34-0½		2.07	9.93		
	2132		60		33-10½		1.92	10.08		
	2142		70		33-7½		1.66	10.34		
10min	2152		80		33-5¾		1.51	10.49		
	2202		90		33-4½		1.42	10.58		
	2212		100		33-3¼		1.32	10.68		
	2222		110							
	2232		120							
15min	2247		135							
	2302		150							
	2317		165							

TABLE F-2

DATA FOR SHAFER'S METHOD

Time Since Pumping Started (min)	Drawdown (feet) (s)	Feet of Casing Filled (ft)	Time To Fill (min)	Q (gpm)	S/Q (ft/gpm)
317	12.0	0	0	---	---
319	10.63	1.37	2	.45	23.8
321	9.69	.94	2	.31	31.6
323	8.86	.83	2	.27	32.7
325	8.21	.65	2	.21	38.7
327	7.56	.65	2	.21	35.6
332	6.11	1.45	5	.19	32.3
337	5.17	.94	5	.13	42.1
342	4.38	.79	5	.10	42.5
347	3.75	.63	5	.08	45.6
352	3.27	.48	5	.06	52.2
357	2.86	.41	5	.05	53.4
362	2.52	.34	5	.04	56.8
367	2.27	.25	5	.03	69.5
372	2.07	.20	5	.026	79.3
377	1.92	.15	5	.019	98.0
387	1.66	.26	10	.017	97.8
397	1.51	.15	10	.009	154
407	1.42	.15	10	.009	145
417	1.32	.10	10	.006	202

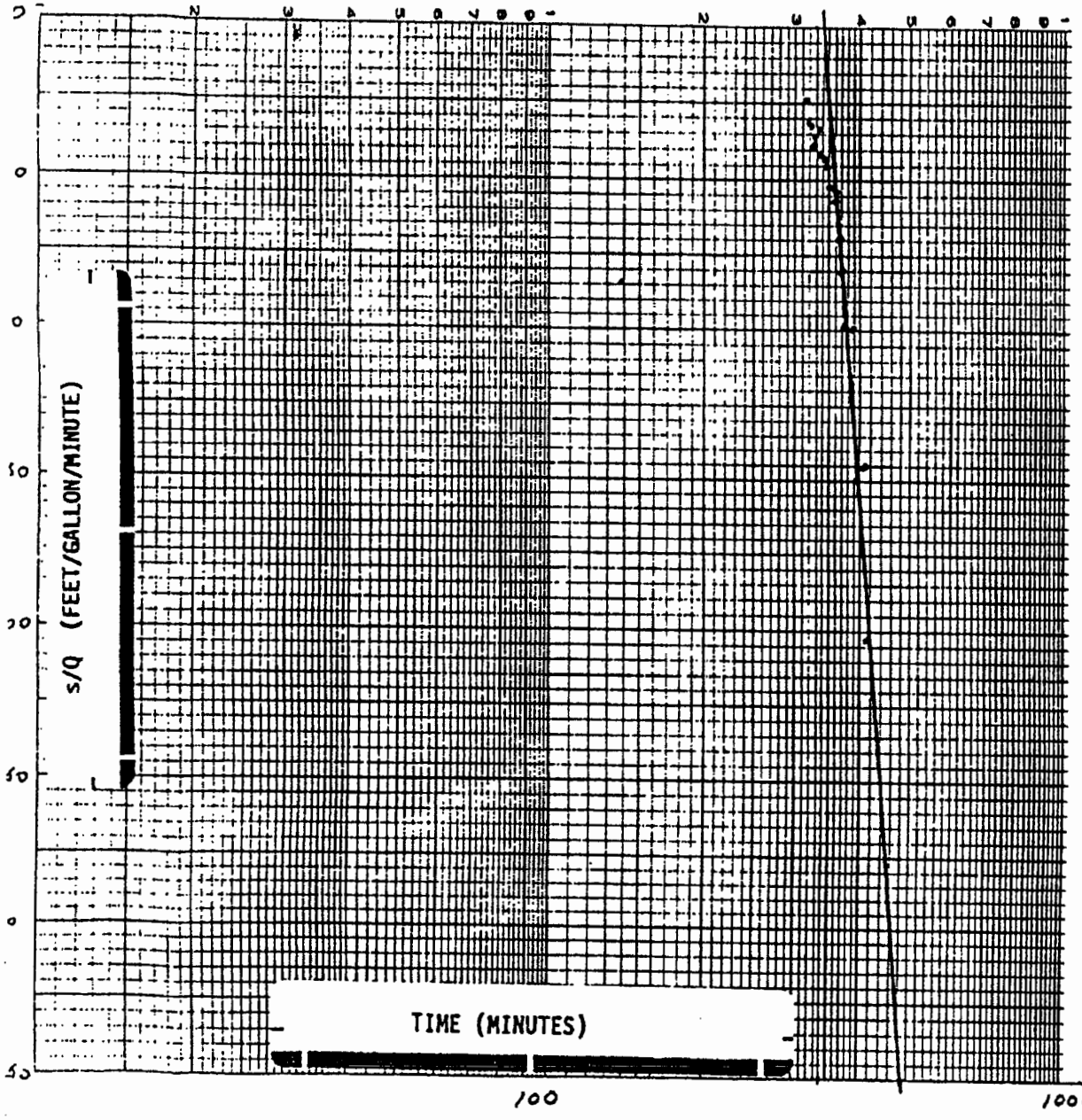


FIGURE F-1
SHAFER PLOT OF DATA FROM OW-24

Calculation of T & K

1) Over the total vertical scale of 350 feet/GPM, time varies by 0.1567 log cycles

2) For 1 full log cycle, s/Q equals 350/.1567 = 2233

3) T = 264/(s/Q) = 264/2233 or T = 0.110 gallons/day/foot

4) For a 20 foot screened interval K = T/b = 0.0055 gallons/day/square foot.

5) .0055 g/d/ft x 1.55×10^{-6} (ft/sec)/(g/d/ft)

$= 8.3 \times 10^{-9}$ ft/sec

BO. .IG OW-24

SURFACE ELEVATION: 687a FEET

DEPTH IN FEET	LABORATORY TEST DATA									PENETRATION RATE MINUTES/FOOT	SYMBOLS	DESCRIPTION
	TESTS REPORTED ELSEWHERE	ATTERBERG LIMITS		STRENGTH TEST DATA				MOISTURE CONTENT (%)	DRY DENSITY (PCF)			
		LIQUID LIMIT (%)	PLASTICITY INDEX (%)	TYPE OF TEST	NORMAL OR CONFINING PRESSURE (PSF)	SHEAR STRENGTH (PSF)	DEVIATOR STRESS (PSF)					
0										2.4	CL	TRIASSIC PERIOD CHINLE FORMATION REDDISH BROWN, VERY FINE SANDY CLAY, SOFT, HIGHLY WEATHERED
10										2.0		
20										2.0		
30										1.6		
40										2.0		
50										1.8		
60										2.3	SHALE	30 FEET: SHALE, REDDISH BROWN, SANDY, SOFT, FRESH
70										1.8		
80										2.3		
90										3.3		
100										4.0		
110										3.7		
120										4.0		
130										2.0		
140										3.0		
150										2.3		
160										2.4		

BORING COMPLETED AT 65.0 FEET ON 1/2/81.
4-INCH PVC PIEZOMETER INSTALLED WITH PERFORATIONS FROM 41.0 TO 61.0 FEET.
GRAVEL PLACED FROM 28.0 TO 61.0 FEET AND BORING SEALED WITH BENTONITE AND CEMENT TO SURFACE.
GROUND WATER LEVEL MEASURED AT 32.5 FEET BELOW GROUND ON 1/5/81.

FIGURE F-2
LOG OF WELL OW-24

LOG OF BORINGS

DAMES & MOORE

Pumping Test Analyses for Low Yield Formations

by David C. Shafer

William F. Achuff
Director

Occasionally it is necessary to determine aquifer characteristics of very low yielding formations—those with transmissivities less than 500 gallons per day per foot. Though interest in these aquifers is certainly not because of their productive capability, it may be desirable to determine groundwater flow characteristics even in these low yield formations in order to determine such things as regional groundwater flow patterns, effect of dewatering or migration of pollution plumes near point sources of contamination.

Different Approach

Conventional pumping test analysis using the standard time drawdown graph often does not work effectively in low T (transmissivity) formations for two reasons. First, the pumped well's low specific capacity (gallons per minute per foot of drawdown) may cause the pump to break suction during the test and it may be impractical to throttle back the pumping rate sufficiently to prevent this. Second, even if a constant pumping rate can be maintained without breaking suction, most of the data obtained will probably reflect casing storage effects rather than true aquifer parameters (see "Casing Storage Can Affect Pumping Test Data," Jan-Feb. 1978, Johnson Drillers Journal). Thus a different approach is required.

The best method for analyzing these formations is to pump a substantial portion of the casing empty, then shut the pump off and measure water levels as they recover. In ordinary pumping tests these measurements correspond to the non-pumping portion of the test. However, in the low T formations this "recovery period" is actually the "pumping period!"

After pump shut-off, the casing slowly begins filling with water. This water comes from the aquifer and actually represents the water pumped during this so called "pumping period." The pumping rate is determined by measuring the volume of

Pumping rate = 10 gpm
Pumping period = 15 minutes
Drawdown at pump shut off = 90 ft
Casing — 6" I.D.
Drop pipe — 1¼" I.D.

Time in minutes since pumping started (t)	Drawdown in feet (s)	Number of feet of casing filled	Time in minutes required to fill	Volume filled divided by time required in gallons per minute (Q)	s/Q in feet per gallon per minute
15 (pump shut off)	90				
17	85.66	4.34	2	3.04	28.2
20	79.7	5.96	3	2.78	28.6
30	64.2	15.5	10	2.17	29.5
40	51.9	12.3	10	1.72	30.2
60	35.6	13.3	20	1.14	31.1
80	24.6	11.0	20	.77	31.8

Table 1



casing filled in a given length of time.

During the test, careful measurements are made of time since pumping began (t) along with drawdown (s) at each of these times. Then a calculation is made to determine Q for each time t and finally the ratio s/Q is computed for each measured drawdown value. The ratio is simply the reciprocal of the specific capacity.

A graph is then constructed showing t versus the ratio s/Q plotted as usual on semi-logarithmic graph paper with t on the log scale. A straight line of best fit is drawn through the data points and T is calculated as follows:

$$T = \frac{264}{\Delta(s/Q)}$$

where $\Delta(s/Q)$ is the change in s/Q over one log cycle of graph paper.

This graph has the unique advantage that it will accurately reflect aquifer transmissivity independent of casing storage effects. In addition it will be sensitive to nearby recharge and/or negative boundaries and will reveal these conditions like any ordinary time drawdown graph.

To see how this technique works it is best to work an example. Table 1 shows data obtained from a 6-inch well pumped at 10 gpm for 15 minutes. Drawdown after 15 minutes of pumping measured 90 feet.

The next data point was recorded two minutes following pump shut-off or 17 minutes since pumping started. At this time the pumping water level was 85.66 feet, indicating that 4.34 feet of casing had filled during the two minute interval.

The annulus between the 6-inch casing and 1¼" drop pipe holds 1.4 gallons per foot so that the volume of casing filled is 1.4 times 4.34, or 6.08 gallons in two minutes. Thus,

$$Q = 6.08 \text{ gallons}/2 \text{ minutes} = 3.04 \text{ gpm}$$

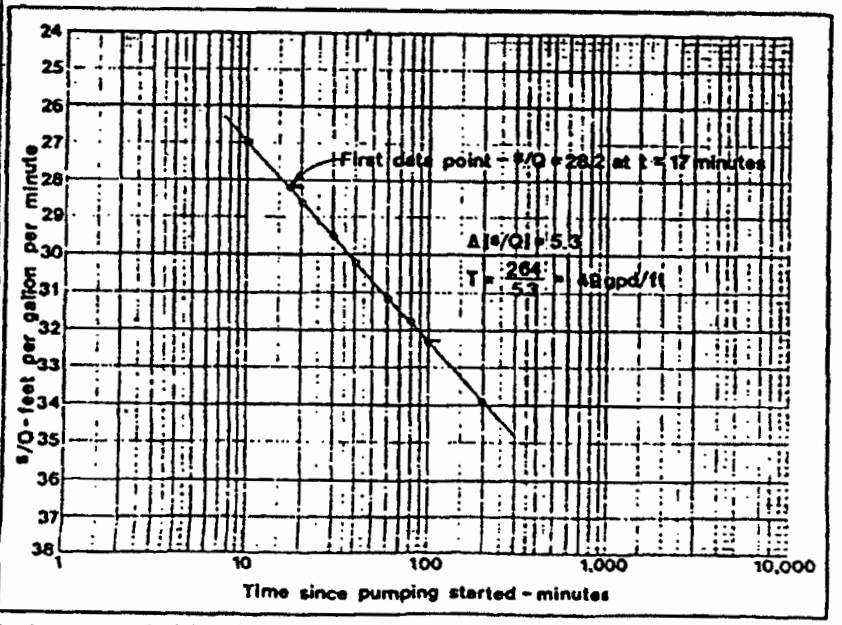
finally,

$$s/Q = 85.66 \text{ ft}/3.04 \text{ gpm} = 28.2 \text{ ft/gpm}$$

which is plotted at a time of 17 minutes on the graph shown here.

This analysis is repeated for each drawdown measurement. The resultant calculated s/Q values are shown in the table and plotted in the figure. The formation T value from the graph is

$$T = \frac{264}{\Delta(s/Q)} = 264/5.3 = 49 \text{ gpd/ft}$$



In low transmissivity situations, readings are taken after pump shut-off. In this method, s/Q is the reciprocal of the specific capacity and t is time, measured after shut-off as water begins to enter the casing.

Conventional Analysis

Examination of the hydraulic characteristics of this well (not included here) shows that if a conventional time drawdown graph had been used, casing storage effects would have lasted for approximately twelve hours. This means that data recorded in the first twelve hours of pumping would have been useless and longer pumping than this would have been required to obtain any usable data at all. However, data collected after twelve hours of pumping probably would be more influenced by boundary conditions than by aquifer transmissivity. Thus, in practice it actually might have been impossible to determine the T value using conventional analysis techniques regardless of the length of the test. The value of the method described above becomes very clear; it may be the only way to determine T values in certain low yielding aquifers.

In order to maximize the accuracy of this method, it is best to unload (empty) the casing as rapidly as possible. Thus it is actually better to use a high capacity pump than a low capacity pump in analyzing extremely low-yielding wells!

Another good idea is to unload the casing with compressed air since this can typically be done in one minute or less.

Recorded Data Must Be Accurate

An additional important consideration is that all data recorded for this type of analysis must be absolutely accurate. Small errors in the recorded values of time and/or drawdown can result in large errors in the calculated values of s/Q. For best results, drawdown should be recorded to the nearest hundredth of a foot and timed to the nearest second or two.

JOHN W. SHOMAKER
CONSULTING GEOLOGIST
3236 CANDELARIA, N.E.
ALBUQUERQUE, NEW MEXICO 87107

(505) 884-2897

RECEIVED SEP 24 1984

September 20, 1984

Carl D. Shook, Plant Manager
Giant Refining Company, Ciniza Refinery
Route 3, Box 7
Gallup, New Mexico 87301

Re: results of permeability tests, July 2 and 3, 1984

Dear Carl:

Copies of the field notes, calculations, and data plots for the two permeability tests are attached. The tests are summarized as follows:

Well OW-4 The well is completed principally in the clay and shale sequence which overlies the uppermost aquifer; a small thickness of sandstone which may be part of the uppermost aquifer was also penetrated. Total depth when drilled was 102.0 ft. Perforations are from 62.0 ft to 102 ft. The well is located near the center of the land-treatment area. A slug test was performed on July 3, 1984, following the method described by S. W. Lohman (1972, Ground-Water Hydraulics, U. S. Geol. Survey Prof. Paper 708, p. 27-29), which indicates the permeability of the section open to the well to be about 4×10^{-7} cm/sec.

Well MW-1 This well is one of the monitoring wells on the boundary of the land-treatment area, and is completed in the uppermost aquifer. It was drilled to 120 ft, and is screened in the interval 87 to 120 ft; the casing is sealed above 89 ft so as to isolate the uppermost aquifer. The slug test performed on July 3, 1984 indicated a permeability of about 1.2×10^{-4} cm/sec.

Information as to the construction of the wells is taken from Dames and Moore (March, 1981; Ground water and soils investigation, Ciniza Refinery near Gallup, New Mexico, and November, 1981, Groundwater monitoring plan, Ciniza Refinery near Gallup, New Mexico).

Please let me know if there are questions.

Sincerely,

John W. Shomaker
Consulting Geologist

cc: Tom Andrews, Delta H Engineering w/encl

well: Shell-Unocal OW-4
date: 7-3-84

casing size: nominal 4½" ID 4.0 csg. matl. PVC
water levels measured from top 4½ OD PVC casing, S side
which is 1.7 ± above ground level.
volume of slug:

OD, ft $\left(\frac{OD}{0.30} \times \frac{1}{2}\right)^2 \times \pi \times$ length, ft		ft^3
0.243	0.10	0.006
0.27	0.04	0.003
0.243	4.84	0.224
0.27	0.26	0.015
0.18	4.81	0.223
0.11	0.26	0.015
	0.03	0.001
	0.25	0.002
	sum	0.489 = V, ft^3 = 3.66 gal.

Note- obstruction in casing at 33. won't pass 0.27 OD.

r_c = internal radius of casing above perfs: 0.165 ft

r_s : radius of screen or open hole: _____ ft

initial water level 26.15 ft below MP, time 07:51

$$H_o = \frac{V}{\pi r_c^2} = \frac{0.489}{\pi (0.165)^2} = 5.72 \text{ ft}$$

clock time	t, sec.	water level	H	H/Ho	remarks
08:20:54	0				slug released top slug: 23.2' MP
21:25?	31?	20.75	5.40	0.944	
22:28	94	20.76	5.39	0.942	
23:14	140	20.80	5.35	0.935	
23:51	177	20.81	5.34	0.934	
24:42	228	20.83	5.32	0.930	
25:42	288	20.87	5.28	0.923	
27:06	372	20.90	5.25	0.918	
28:14	440	20.92	5.23	0.914	
29:43	529	20.95	5.20	0.909	
30:55	601	20.97	5.18	0.906	
32:46	712	21.00	5.15	0.900	
35:16	862	21.04	5.11	0.893	
38:38	1064	21.10	5.05	0.883	
43:30	1356	21.19	4.96	0.867	
46:52	1558	21.21	4.94	0.864	raised slug 0.4ft.
49:26	1717	21.25	4.90	0.857	
52:54	1920	21.30	4.85	0.848	

t_o = 08:20:54

clock time	t, sec.	water level	H	H/H_o	remarks
~~08:54:13~~		~~21.34~~			
08:56:50	2096	21.35	4.80	0.839	
09:00:16	2362	21.39	4.76	0.832	
:05:00	2646	21.45	4.70	0.822	
09:55	2941	21.50	4.65	0.813	
17:46	3412	21.60	4.55	0.795	
28:25	4051	21.71	4.44	0.776	m-scope trouble
46:00	5106	21.89	4.26	0.745	
10:02:23	6089	22.05	4.10	0.717	
14:00	6786	22.15	4.00	0.699	
10:24:26	7412	22.25	3.90	0.682	stopped test; slug almost uncovered

0:00 = 23:46

late data matches: $\alpha = 10^{-1}$ curve, $Tt/r_c^2 = 1$ at $t = 50{,}000$ sec.

$$T = \frac{1.0\, r_c^2}{t} = \frac{(1.0)(0.165)^2}{50{,}000} = 5.4 \times 10^{-7}\ ft^2/sec$$

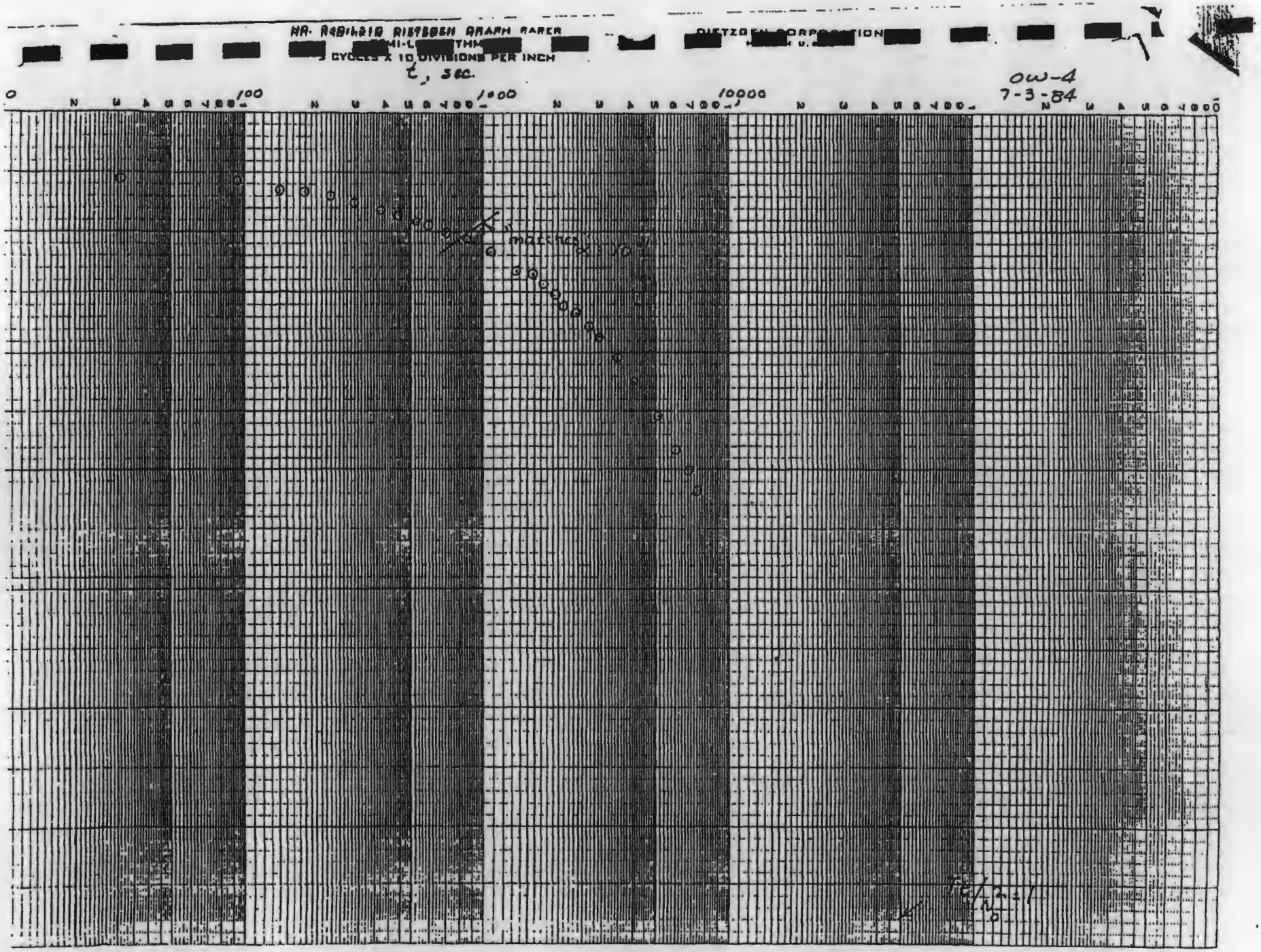
$$= 0.05\ ft^2/day = 0.35\ gpd/ft$$

$$K_h = \frac{0.05\ ft^2/day}{40\ ft\ screen} = 0.001\ ft/day$$

$$0.001\ ft/day \times 30.5\ cm/ft \times \frac{1}{60 \times 1440\ sec/day} = 4 \times 10^{-7}\ cm/sec$$

$$S = \frac{r_c^2}{r_s^2}\,\alpha \approx \frac{0.027}{0.080}\, 10^{-1} = 0.03$$ ∴ water-table storage

64" hole!


t, sec.
OW-4
7-3-84
100
1000
10000
matrix
$h/h_o = 1$

date: 7-2-84

casing size: nominal 5 1/2" OD, ID 5.1" csg. matl. PVC
water levels measured from top PVC casing, SW side
which is 1.37 ft above ground level, (concrete slab)

volume of slug:

2.05
.68
1.37

cap OD, ft $\left(\frac{\text{OD}}{2}\right)^2 \times \pi \times$	length, ft	=	ft^3
0.37	0.10		0.011
0.39	0.05		0.006
0.33	4.81		0.411
0.38	0.28		0.032
0.33	0.04		0.003
0.42	0.04		0.006
0.29	0.03		0.002
0.16	0.03		0.001
0.11	0.25		0.002
	sum	0.474 = V,	ft^3 = 3.55 gal

r_c = internal radius of casing above perfs: 0.211 ft

r_s = radius of screen or open hole: _____ ft

initial water level 5.72 ft below mp, time 13:32

$$H_o = \frac{V}{\pi r_c^2} = \frac{0.474}{\pi (0.211)^2} = 3.389 \text{ ft}$$

clock time	t, sec.	water level	H	H/Ho	remarks
	0				slug released
13:48:00					
13:48:20	20	2.30 ft	3.42	1.009	zz
49:00	60	2.36	3.36	0.991	
49:26	86	2.42	3.30	0.974	
49:52	112	2.44	3.28	0.968	
50:32	152	2.50	3.22	0.950	
51:05	185	2.56	3.16	0.932	
51:42	222	2.60	3.12	0.921	
52:19	259	2.65	3.07	0.906	
52:55	295	2.70	3.02	0.891	
53:33	333	2.74	2.98	0.879	
54:26	386	2.80	2.92	0.862	
55:30	450	2.86	2.86	0.844	
57:05	545	2.91	2.75	0.811	
59:12	672	3.10	2.62	0.773	
14:01:05	785	3.20	2.52	0.744	
02:24	868	3.28	2.44	0.720	
03:52	957	3.36	2.36	0.696	

clock time	t, sec.	level	H	H/H_o	remarks
14:05:38	1058	3.45	2.27	0.670	
07:22	1167	3.54	2.18	0.643	
09:16	1276	3.62	2.10	0.620	
11:01	1381	3.69	2.03	0.599	
13:17	1517	3.79	1.93	0.569	
15:59	1679	3.89	1.83	0.540	
18:14	1814	3.97	1.75	0.516	
20:40	1960	4.07	1.65	0.487	
23:15	2115	4.15	1.57	0.463	
25:44	2264	4.22	1.50	0.443	
28:45	2445	4.31	1.41	0.416	
33:09	2709	4.43	1.29	0.381	
36:51	2931	4.52	1.20	0.354	
41:56	3236	4.64	1.08	0.319	
46:19	3499	4.71	1.01	0.298	
50:03	3723	4.78	0.94	0.277	
57:39	4179	4.90	0.82	0.242	
15:05:36	4356	5.01	0.71	0.210	
14:12	5172	5.12	0.60	0.177	
21:12	5592	5.18	0.54	0.159	
33:01	6301	5.28	0.44	0.130	
44:35	6995	5.36	0.36	0.106	
53:43	7543	5.40	0.32	0.094	
16:08:22	8422	5.46	0.26	0.077	
26:59	9539	5.52	0.20	0.059	
47:10	10,750.	5.56	0.16	0.047	
17:00:20	11,540	5.58	0.14	0.041	

late data matches: $\alpha = 10^{-5}$ curve, $Tt/r_c^2 = 1$ at $t = 830$ sec.

$T = \frac{1.0\, r_c^2}{t} = \frac{(1.0)(0.21)^2}{830} = 5.36 \times 10^{-5}$ ft²/sec

$= 4.63$ ft²/day $= 35$ gpd/ft

$K_h = \frac{4.63 \text{ ft}^2/\text{day}}{12.3 \text{ ft screened}} = 0.35$ ft/day

$0.35 \text{ ft/day} \times 30.5 \text{ cm/ft} \times \frac{1}{60 \times 1440 \text{ sec/day}} = 1.2 \times 10^{-4}$ cm/sec

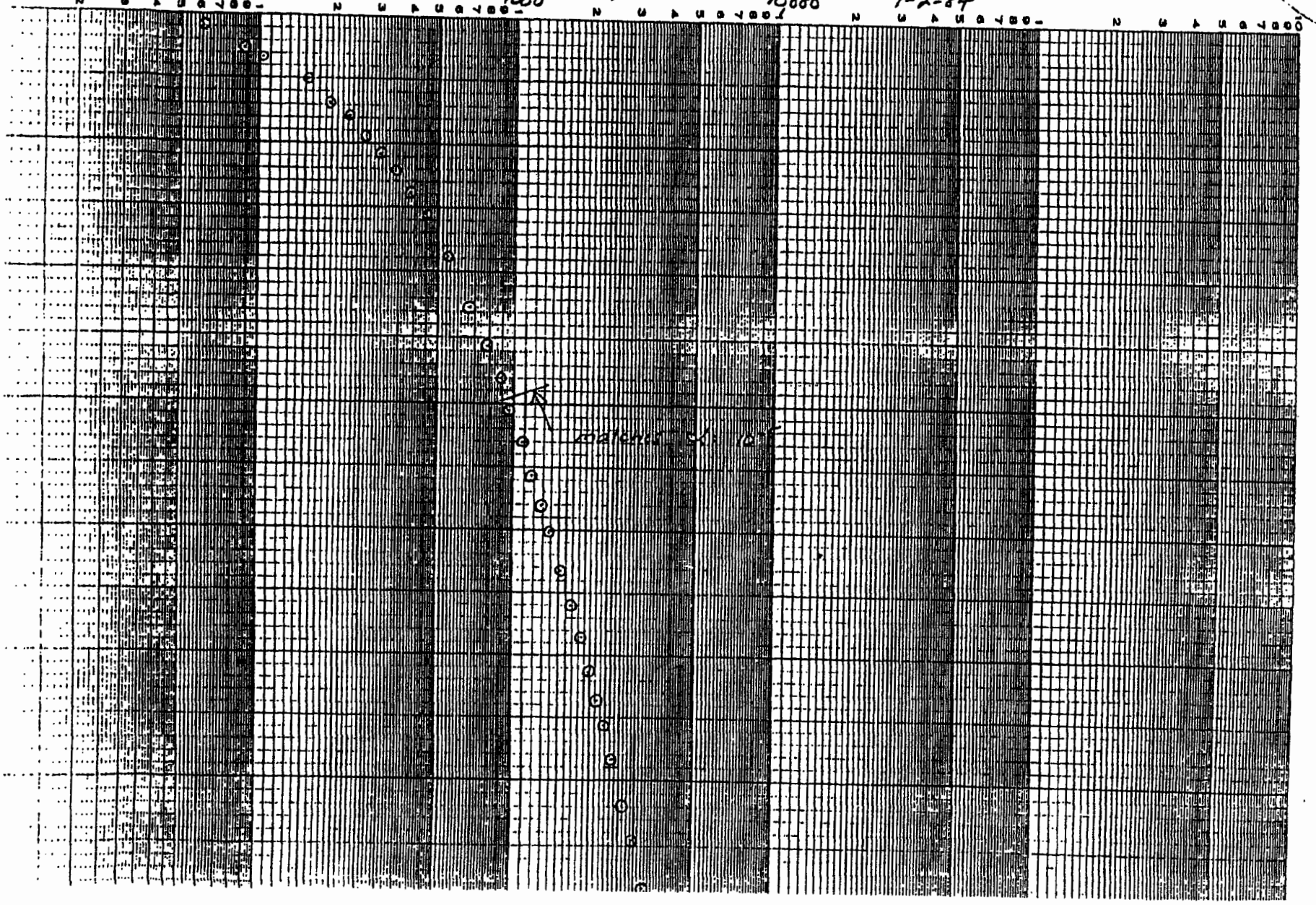
NO. 340-LS10 DIETZGEN GRAPH PAPER
SEMI-LOGARITHMIC
5 CYCLES X 10 DIVISIONS PER INCH

DIETZGEN CORPORATION
MADE IN U.S.A.

t, sec.

MW-1
7-2-84

100 1000 10,000



APPENDIX C
RCRA POST-CLOSURE CARE PERMIT APPLICATION
LAND TREATMENT UNIT
GIANT REFINING COMPANY
CINIZA REFINERY

May 2000

RCRA Part A and Part B
Post-Closure Permit Application
Land Treatment Unit
May 2000

APPENDIX C

Land Treatment Unit Historical Information and Data

LAND TREATMENT UNIT HISTORICAL INFORMATION AND DATA

1.0 LAND TREATMENT HISTORY

> Historical LTU information and data extracted from existing permit applications, operating permits, operating records, and other source documents are provided as Appendix C. The inclusion of this appendix does not imply that historical information and data have been verified.

In August 1980, Ciniza Refinery (Ciniza) notified the U.S. Environmental Protection Agency (EPA) that it was a generator and operator of a hazardous waste management facility. In November 1980, Ciniza submitted a Part A permit application as an "existing facility" (defined at 40 *Code of Federal Regulations* §260.10). This granted Ciniza interim status for their Land Treatment Unit (LTU) operations. In response to notice from the Regional Administrator, Ciniza submitted a Part B permit application in December 1983. Based on changing guidance, Ciniza submitted a land treatment demonstration plan (LTD) and an application for a two-phase LTD permit in April 1985. On February 9, 1987, Ciniza was issued a Short-term LTD Permit (NMD000333211-1) to conduct a hazardous waste land LTD. The LTD was conducted to identify the land treatment capabilities for refinery waste generated by Ciniza. The LTD defined waste management parameters (e.g., rate-limiting constituent, application-limiting constituent, capacity-limiting constituent, and unit life of the LTU). This was accomplished by identifying the Principal Hazardous Constituents (PHCs) present in refinery waste streams and measuring their degradation, transformation, and immobilization in the treatment zone of the LTU. From the results of the LTD and a modified Part B permit application, Ciniza was issued a Hazardous Waste Facility Permit (NMD 000333211-2) on November 4, 1988. Ciniza has not applied hazardous wastes to the LTU since November 8, 1990.

1.1 Land Treatment Program [20 NMAC 4.1, Subpart IX, §270.20(b)]

Ciniza's Hazardous Waste Facility Permit established operational requirements for the LTU. These requirements inchinclude procedural and engineering controls necessary to ensure that hazardous constituents are fully treated within the LTU without uncontrolled release to the environment.

The LTU consists of a treatment zone of soil extending 5 ft deep from the original soil surface. This depth is shallow enough to ensure that the treatment zone is more than 3 ft above the seasonal high water table. The zone of incorporation (ZOI) within the treatment zone is the volume of soil to which the waste was directly applied.

The ZOI for the Ciniza LTU is the top 12 in. of the treatment zone. The LTU was designed and constructed to prevent both washout of any hazardous waste and to prevent inundation of and discharge from the permitted unit through the use of a continuous dike which surrounds the LTU at an elevation of 3 ft above the natural grade.

The ZOI was tilled during permitted operations to encourage aerobic microbial activity and improve chemical reaction rates. During active treatment soil nutrients were applied, as necessary, to optimize carbon:nitrogen: phosphorous (C:N:P) ratios. Applications of Ciniza wastes to the LTU were limited to ensure that treatment processes were not overwhelmed or poisoned. Performance indicators (e.g., soil moisture, pH, total organic carbon) were monitored in the ZOI to ensure that treatment was proceeding.

1.2 Treatment Zone Description [20 NMAC 4.1, Subpart IX, §270.20(b)(2) and §270.20(b)(5)]

The LTU consists of three 480-by-240-ft sections, each of which contain 2.6 acres (1.0 hectares) of available treatment surface. Each section is delineated by a continuous dike to prevent site runon and runoff. The treatment zone extends 5-ft deep from the top of the soil within the diked section. The top 12 in. of the treatment zone is the ZOI. The ZOI is tilled when active to encourage aerobic degradation of organics and to maintain moisture content of the soil. This leaves 4 ft of the treatment zone undisturbed.

The soil within the treatment zone is silty clay containing closely-spaced root systems in the uppermost 3 to 4 ft. Field infiltration rates (the rate at which water penetrates into the soil surface) averages 1.0×10^{-3} cm/sec or 3.6 cm/hr. Soil permeability as determined by laboratory measurements averages 1.9×10^{-5} cm/sec or 6.8×10^{-2} cm/hr for three locations at the 6- to 12-in. depth. Field infiltration rate allows prediction of runoff and erosion; permeability (hydraulic conductivity) allows estimation of vertical water movement rates in the soil. The treatment zone soils have a saturated hydraulic conductivity rating of "moderately low" by the U.S. Department of Agriculture Class (Giant Refining Company Part B Permit Application 1984). The low permeability of the treatment zone soil assists in retarding the vertical movement of hazardous constituents through the treatment zone.

The silty clay soil has a high cation exchange capacity (CEC). The CEC is the total amount of exchangeable cations that the soil has to exchange with cations in the soil solution. The exchangeable cations in the LTU are the heavy metals present in the Ciniza wastes. The high CEC results in high sorption of heavy metals in the LTU soils, assuming other factors (such as soil pH) are favorable.

RECENT SOIL PERMEABILITY TESTS
FIREWATER POND CONSTRUCTION PROJECT

GRCC

Proposed File Wall Storage

Precision Engineering, Inc.
P.O. Box 422
Las Cruces, NM 88004
505-523-7674

Rigid Wall Hydraulic Conductivity
Falling Head

ATTN: James Romero
Giant Refining Company
Route 3 Box 7
Gallup, NM 87301

Project: Ciniza Fire Water Lagoon — File No.: 05-100
Soil Type: Silty Clay — Date: October 13, 2005 — Lab No.: 47872
Sample of: Bottom Soil @ 0'-1'(2.5'-3.0') — Performed By: CG

TEST SPECIMEN CONDITIONS AT BEGINNING OF TEST:

Wet Density: 120.8 pcf
Dry Density: 109.0 pcf
% Moisture: 10.8
% Compaction: n/a
% Compaction Requested: n/a

PERMEATOR INFORMATION:

Maximum Dry Density: n/a pcf
Optimum Moisture Content: n/a %

Coefficient of Permeability: 1.0 cm/sec

Remarks: Avg of trials: 1.4x10⁻⁷, 1.4x10⁻⁷, 1.3x10⁻⁷

Reviewed By:

05-100
SWMU NO. 1
ALZ
LAB #
DEPTH

...SW corner of Proposed ...Lagoon
...ation: ~86.2@TD,-27@1 hr
...No.: 05-100-1

Precision Engineering, Inc.
P.O. Box 422
Las Cruces, NM 88004
505-523-7674

File #: 05-100
Site: Giant-Ciniza

Elevation: EXISTING
Date: 9/24/2005

Log of Test Borings

LAB #	DEPTH	BLOW COUNT	PLOT	SCALE	MATERIAL CHARACTERISTICS (MOISTURE, CONDITION, COLOR,ETC.)	%M	LL	PI	CLASS
	0.0-5.0				Clay, Very Silty, Sandy, Very Fine, Dark Red, Wet, Firm				
47872				2.5	[2.5-3.0 hydraulic conductivity sample]				
				5.0	Same As Above, Wet, Soft				
				7.5					
	10.0-15.0			10.0	Same As Above				
				12.5	Same As Above				
					Silty, Very Fine, Very Clayey, Very Soft, Wet, Water Bearing, Moderately Dense, Dark Red Brown				
					Clay, Dark Red, Wet, Soft				

Sheet: 2 OF 5
Bore Point: SW Corner of Proposed Fire Water Lagoon
Water Elevation:
Boring No.: 05-100-1

Precision Engineering, Inc.
P.O. Box 422
Las Cruces, NM 88004
505-523-7674

Elevation: Est'd
Date: 9/24/2005

Top of Test Boring

LAB #	DEPTH	BLOW COUNT	PLOT	SCALE	MATERIAL CHARACTERISTICS (MOISTURE, CONDITION, COLOR ETC.)	%M	LL	PI	CLASS.
	0.0-5.0				Clay, Sandy, Dark Brown, Wet, Stiff				
	20-25.0				Clay, Hard, Red/Brown (Brighter than Above), Wet/Moist				
	25.0-30.0			25.0	Petrified Forest Formation Mudstone/Claystone, Weathered, Some Grey/Green Reduction Spots, Generally Red/ Brown, Friable to Crumbly, Damp/Moist Mudstone, As Above, Few Reduction Spots, Damp/Dry				
	30.0-35.0			30.0					
				40.0	Same As Above Dry				
	40.0-45.0			45.0					

Sheet: 2 OF 5
Bore Point: SW Corner of Proposed
Fire Water Lagoon
Water Elevation:
Boring No. SS-100-1

Precision Engineering, Inc.
P.O. Box 422
Los Cruces, NM 88004
505-523-7474

File #:
Site:
Elevation: Existing
Date: 9/24/2010

Log of Test Borings

LAB #	DEPTH	BLOW COUNT	PLOT	SCALE	MATERIAL CHARACTERISTICS (MOISTURE, CONDITION, COLOR, ETC.)	%M	LL	PI	CLASS
	21.5-22.1				Clay, Sandy, Dark Brown, Wet, Soft				
	22.1-23.5				Clay, Hard, Red/Brown (Brighter than Above), Wet/Moist				
	23.5-25.1				Petrified Forest Formation Mudstone/Clay Stone, Weathered, Some Gray/Green Reduction Spots, Generally Red/ Brown, Firm, Dry/Damp/Moist				
	25.1-30.0				Same As Above, Few Reduction Spots, Dry				
	30.0-35.0			30.0	Same As Above dry				
					dry				
				40.0	Same As Above, Brighter Red @ 41.0-42.0 dry				

Division Exploration, Inc.
P.O. Box 212
Lac Cruces, NM 88004
505-635-2474

File #: 05-109
Site: Giant Circle

Elevation: EXISTING
Date: 9/24/2004

Log of Test Borings

LOG #	DEPTH	BLOW COUNT	PLOT	SCALE	MATERIAL CHARACTERISTICS (MOISTURE, CONDITION, COLOR ETC.)	%M	LL	PI	CLASS.
	45.0-50.0			45.0	Mudstone/Siltstone, Bright Red/Brown, Dry Very Dense				
	65.0-80.0			65.0	Same As Above				

Sheet 4 OF 5

Bore Point SW Corner of Proposed
Fire Water Lagoon
Water Elevation:
Boring No.: 06-100-1

Precision Engineering, Inc.
P.O. Box 422
Las Cruces, NM 88004
505-521-7674

Log of Test Borings

LOG OF	DEPTH	BLOW COUNT	PLOT	SCALE	MATERIAL CHARACTERISTICS (MOISTURE, CONDITION, COLOR, ETC.)	%M	LL	PI	CLASS
				65.0	Same As Above				
	65.0-67.4				Sandstone, Fine, Red Brown, Poorly Fissile Grey/Green Orbicular Reduction Spots Abundant, Dry				
	67.4-75.0				Sandstone/Siltstone Interbed Mudstone, Dark Red/Brown, Fissile, Dry				
				75.0					
	75.0-75.1				Mudstone, Fissile, Dry, Red/Brown Green Reduction Spots				
	75.1-80.0				Dry, Fine, Red/Brown, Friable, Well bedded 4" to 1.0', White Mottled Kembe				

LOGGED BY: [illegible] CHECKED BY: [illegible]

Appendix D

Boring Logs

RPS

LOG OF BORING

Boring No.: SWMU 1-1
Start Date: 10/5/2012 1215
Finish Date: 10/5/2012 1430

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon

Total Depth: 14' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Comments: N 35°29.447' W 108°25.774'; Reamed to 12', set temporary well 3-8' bgl

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0					12.9 72°F		50	**Fill (Silty Clay)** Low plasticity, stiff, brown, dry, faint odor at base	0
2	2-4'	1410	G/ 2M/3J		245 72°F		50	**Fill (Silty Clay)** Similar to above, black staining, strong odor	2
4							--	No Recovery	4
6					333 72°F		50	**Silty Clay (CL)** Low plasticity, soft, damp, odor	6
8					144 72°F		60	**Clay (CH)** High plasticity, very stiff, dry to damp, odor	8
10	10-12'	1415	G/ 2M/1J		399 72°F		30	**Clay (CH)** Similar to above	10
12					148 77°F		90	**Clay (CH)** Similar to above	12
14	13-14'	1430	G/ 2M/3J		199 77°F			**Petrified Forest Formation (Sandstone)** Very dense, dry, gray, no odor	14
								Total Depth = 14' BGL	
16									16
18									18
20									20
22									22

RPS
1250 S. Capital of Texas Hwy., Bldg. 3, Suite 200
Austin, Texas 78746

512/347-7588
512/347-8243 fax

RPS

LOG OF BORING

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N 35°29.448' W 108°25.813'

Total Depth: 20' bgl
Ground Water: Saturated @ 8' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Boring No.: SWMU 1-2
Start Date: 10/2/2012 0745
Finish Date: 10/2/2012 1115

Depth (ft.)	Sampling: Sample Depth	Sampling: Time	Sampling: Sample Type/ Container/No.	Sampling: Saturation	Sampling: Organic Vapor (ppm)	Sampling: USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0					3 41°F		60	**Silty Clay (CL)** Low plasticity, firm, damp, reddish brown, no odor, trace calcareous	0
2					3.7 41°F		80	**Silty Clay (CL)** Similar to above	2
4					6.1 41°F		90	**Silty Clay (CL)** Low plasticity, soft, damp, reddish brown, no odor	4
6	6-8'	1000	G/2S 2M/3J	8' bgl	2.8 41°F		100	**Silty Clay (CL)** Similar to above, very soft, no odor	6
8							0	No Recovery	8
10	10- 11'	1020	G/2S 2M/3J		4.7 44°F 4.3 44°F		90	**Clayey Sand (SC)** Fine grain, compact, saturated, brown, no odor **Clay (CL)** Moderate to low plasticity, firm, damp, reddish brown, no odor	10
12					3.2 44°F		90	**Clay (CH)** High plasticity, firm, damp, dark reddish brown, no odor	12
14									14

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LOG OF BORING

Boring No.: SWMU 1-2
Start Date: 10/2/2012 0745
Finish Date: 10/2/2012 1115

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N 35°29.448' W 108°25.813'

Total Depth: 20' bgl
Ground Water: Saturated @ 8' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
16	14-16'	1035	G/2S 2M/3J		3.7 46°F		90	**Clayey Sand (SC)** Fine grain, compact, saturated, brown, no odor	16
								Clay (CH) High plasticity, firm, damp, brown, odor	
	17-17.25'	1050	G/2S 2M/3J		7.2 48°F		90	**Clayey Sand (SC)** Fine grain, loose, saturated, brown, odor	
18								**Clay (CH)** High plasticity, firm, damp, brown, odor, trace gravel	18
	19.5-20'	1105	G/2S 2M/2J		2.9 53°F 2.3 53°F		90	**Clay (CH)** Similar to above	
								Clayey Sand (SC) Fine grain, loose, saturated, brown, no odor	
20								**Clay (CH)** High plasticity, firm, damp, brown, odor, trace gravel	20
								Petrified Forest Formation - Mudstone/Sandstone Dense, damp, gray reddish brown, no odor, weathered	
22								Total Depth = 20' BGL	22
	SWMU 1-2 GW	1345							
24									24
26									26
28									28

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LOG OF BORING

Boring No.: SWMU 1-3
Start Date: 10/2/2012 1440
Finish Date: 10/2/2012 1745

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N 35°29.466' W 108°25.829'; Set well screen - no fluid detected

Total Depth: 20' bgl
Ground Water: Saturated @ 11' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Depth (ft.)	Sampling: Sample Depth	Sampling: Time	Sampling: Sample Type/ Container/No.	Sampling: Saturation	Sampling: Organic Vapor (ppm)	Sampling: USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0					17.3 81°F		50	**Silty Clay (CL)** Low plasticity, firm, damp, brown, gravel present, no odor	0
2	2-4'	1620	G/2S 2M/3J		21.3 81°F		60	**Silty Clay (CL)** Similar to above, reddish brown, no odor	2
4					10.3 80°F		60	**Silty Clay (CL)** Similar to above, reddish brown, no odor, gravel present	4
6					18.9 80°F		100	**Silty Clay (CL)** Low plasticity, very soft, damp, reddish brown, no odor	6
8					14.2 80°F		60	**Silty Clay (CL)** Similar to above, no odor	8
10	10-11'	1635	G/2S 2M/3J	▼ 11' bgl	16.3 80°F		70	**Silty Clay (CL)** Similar to above, no odor	10
	11-11.25'	1650	G/2S 2M/1J		12.3 80°F		90	**Clayey Sand (SC)** Fine grain sand, compact, moist to saturated	
12					7.4 80°F		80	**Clay (CH)** High plasticity, firm, damp, reddish brown, no odor **Clay (CH)** Similar to above, no odor	12
14					8.9 78°F		100	**Clay (CH)** Similar to above, no odor	14
16					11.3 78°F				16
					10.7		90	**Clay (CH)** High plasticity, firm, damp, reddish brown, no odor	

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LOG OF BORING

Boring No.: SWMU 1-3
Start Date: 10/2/2012 1440
Finish Date: 10/2/2012 1745

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon

Total Depth: 20' bgl
Ground Water: Saturated @ 11' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Comments: N 35°29.466' W 108°25.829'; Set well screen - no fluid detected

Depth (ft.)	Sampling: Sample Depth	Sampling: Time	Sampling: Sample Type/ Container/No.	Sampling: Saturation	Sampling: Organic Vapor (ppm)	Sampling: USCS Class	Recovery (%)	Sample Description	Depth (ft.)
18					78°F			**Sandy Clay/Clayey Sand (CL/SC)** Low plasticity, soft, very fine grain, damp, reddish brown, no odor	18
	18.5-19.5'	1710	G/2S 2M/3J		5.4 78°F		60	**Clayey Sand (SC)** Similar to above, very moist to slightly saturated, no odor	
20	19.5-20'	1725	G/2S 2M/2J		6.1 78°F			**Petrified Forest Formation - Mudstone** Very dense, dry, reddish brown, no odor	20
								Total Depth = 20' BGL	
22									22
	EB100212	1745							
24									24
26									26
28									28
30									30
32									32

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LOG OF BORING

Boring No.: SWMU 1-4
Start Date: 10/3/2012 1115
Finish Date: 10/3/2012 1530

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon

Total Depth: 24' bgl
Ground Water: Saturated at 10' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Comments: N 35°29.498' W 108°25.827'; Set temporary screen 16-21' bgl and sanded on 10/3/2012

Depth (ft.)	Sampling: Sample Depth	Sampling: Time	Sampling: Sample Type/ Container/No.	Sampling: Saturation	Sampling: Organic Vapor (ppm)	Sampling: USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0					2.9 75°F		60	**Silty Clay (CL)** Low plasticity, stiff, dry, reddish brown, gravel, no odor	0
2					3.8 75°F		60	**Silty Clay (CL)** Similar to above, no odor	2
4					3.0 75°F		10	**Silty Clay (CL)** Similar to above, no odor	4
6					3.1 75°F		50	**Silty Clay (CL)** Low plasticity, firm, damp, reddish brown	6
8	8-10'	1300	G/2S 2M/3J	10' bgl	3.1 75°F		60	**Silty Clay (CL)** Similar to above, trace gravel, no odor	8
10	10-12' &Dup	1315	G/4S 4M/2J		7.8 78°F		60	**Clayey Sand (SC)** Fine grain, compact, moist to saturated, reddish brown, no odor	10
12					13.2 78°F		60	**Silty Clay (CL)** Low plasticity, soft, damp, reddish brown, no odor	12
14							--	No Recovery	14
16					11.8 80°F		90	**Silty Clay (CL)** Similar to above, black staining and odor	16
18	17-18'	1345	G/2S 2M/3J		16.4 80°F			**Sandy Clay/Clayey Sand (SC/CL)** Fine grain, compact, moist to saturated, odor	18
20					8.5 80°F		90	**Sandy Clay (CL)** Similar to above, moist to saturated, odor	20
22					8.5 79°F		60	**Clay (CH)** High plasticity, stiff to firm, damp, reddish brown, odor	22

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LOG OF BORING

Boring No.: SWMU 1-4
Start Date: 10/3/2012 1115
Finish Date: 10/3/2012 1530

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon

Total Depth: 24' bgl
Ground Water: Saturated at 10' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Comments: N 35°29.498' W 108°25.827'; Set temporary screen 16-21' bgl and sanded on 10/3/2012

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
23	23-24'	1400	G/2S 2M/3J		5.6 79°F 5.2 79°F		90	**Clay (CH)** Similar to above, very stiff	23
								Petrified Forest Formation - Mudstone Dry, reddish brown to gray, weathered, no odor	
25								Total Depth = 24' BGL	25
27									27
29									29
31									31
33									33
35									35
37									37
39									39
41									41
43									43

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LOG OF BORING

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N 35°29.525' W 108°25.824'

Total Depth: 28' bgl
Ground Water: Saturated at 25' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Boring No.: SWMU 1-5
Start Date: 10/3/2012 1530
Finish Date: 10/3/2012 1830

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
0								Ground Surface	0
2					6.8 75°F		60	**Fill (Silty Clay)** Low plasticity, stiff, dry to damp, no odor	2
4					8.1 75°F		60	**Silty Clay (CL)** Similar to above, no odor	4
6					8.4 75°F		60	**Silty Clay (CL)** Similar to above, no odor	6
8					2.5 75°F		90	**Silty Clay (CL)** Low plasticity, firm to soft, reddish brown, damp, no odor	8
10					3.8 75°F		90	**Silty Clay (CL)** Similar to above, no odor	10
12	10-12'	1730	G/2S 2M/3J		9.8 74°F		60	**Clayey Sand (SC)** Fine grain, loose to compact, damp, brown, sandstone gravel present, no odor	12
14					8.2 74°F		40	**Silty Clay/Clay (CL)** Moderate to low plasticity, soft, damp, reddish brown, no odor, trace gravel	14
16	14-16-	1745	G/2S 2M/3J		11.0 74°F		60	**Sandy Clay/Clayey Sand (SC/CL)** Fine grain, loose to compact, damp, reddish brown/brown, calcareous gravel present	16
18	16-18'	1800	G/2S 2M/3J		16.1 76°F		90	**Gravelly Clay (CL)** Low plasticity, soft/crumbly, damp, reddish brown, no odor	18
20					12.8 76°F		90	**Gravelly Clay (CL)** Similar to above, slightly more plastic, no odor	20
22					5.7 75°F		90	**Gravelly Clay (CL)** Similar to above	22

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LOG OF BORING

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N 35°29.525' W 108°25.824'

Total Depth: 28' bgl
Ground Water: Saturated at 25' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Boring No.: SWMU 1-5
Start Date: 10/3/2012 1530
Finish Date: 10/3/2012 1830

Depth (ft.)	Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
24	24-25'	1810	G/2S 2M/2J	25' bgl	5.5 76°F 10.9 75°F		95 50	**Gravelly Clay (CL)** Moderate plasticity, firm, damp, reddish brown, no odor, calcareous, sandstone gravel present, stiff at base **Gravelly Clay (CL)** Similar to above, moist at 25' bgl, no recovery from 25-26' bgl	24
26	26-27'	1820	G/2S 2M/1J		3.0 75°F		70	**Clayey Sand (SC)** Fine grain, loose, saturated, reddish brown, no odor	26
28	27-28'	1830	G/2S 2M/3J		4.1 75°F			**Petrified Forest Formation (Mudstone)** Very dense, dry, gray, weathered	28
	EB100312	1844						Total Depth = 28' BGL	
30									30
32									32
34									34
36									36
38									38
40									40
42									42
44									44

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LOG OF BORING

Boring No.: SWMU 1-6
Start Date: 10/4/2012 0950
Finish Date: 10/4/2012 1155

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon

Total Depth: 12' bgl
Ground Water: Saturated at 4' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Comments: N 35°29.523' W 108°25.802'; Set temporary well 7-12' bgl

Depth (ft.)	Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0					10.5 70°F		90	**Fill (Silty Clay/Gravel)** Dry to damp, brown, no odor	0
2	2-4' &Dup	1055	G/4S 4M/2J	4' bgl	37.5 70°F		90	**Fill (Silty Clay)** Similar to above, damp	2
4	4-6'	1115	G/2S 2M/2J		15.9 70°F		60	**Clayey Sand (SC)** Medium grained, loose, saturated, reddish brown, no odor	4
6					5.8 70°F		60	**Clayey Sand (SC)** Similar to above, saturated	6
8	7.5-8'	1130	G/2S 2M/2J	9' bgl	4.9 70°F		90	**Silty Clay (CL)** Moderate plasticity, soft, damp to moist, reddish brown, no odor	8
					7.8 70°F		60	**Silty Clay (CL/SC)** Similar to above, moist to very moist, grades to saturated clayey sand, no odor	
10	10-11'	1145	G/2S 2M/2J		9.6 70°F		90	**Clayey Sand (SC)** Medium plasticity, loose, saturated, reddish brown, no odor	10
12	11-12'	1155	G/2S 2M/3J		0.8 70°F			**Petrified Forest Formation (Mudstone)** Very dense, dry, reddish brown and gray, no odor, weathered	12
14								Total Depth = 12' BGL	14
16									16
18									18
20									20
22									22

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LOG OF BORING

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N 35°29.501' W 108°25.776'

Total Depth: 18' bgl
Ground Water: Saturated @ 14' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Boring No.: SWMU 1-7
Start Date: 10/4/2012 1235
Finish Date: 10/4/2012 1440

Depth (ft.)	Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0					7.6 72°F		70	**Fill (Silty Clay (CL))** Low plasticity, firm, dry to damp, brown, no odor	0
2					4.8 72°F		70	**Silty Clay (CL)** Similar to above, no odor, trace gravel	2
4					5.1 72°F		70	**Silty Clay (CL)** Similar to above	4
6					4.0 72°F		50	**Silty Clay (CL)** Low plasticity, soft, damp, reddish brown, no odor, trace gravel	6
8					1.7 72°F		40	**Silty Clay (CL)** Similar to above, no odor	8
10					0.5 73°F		60	**Silty Clay (CL)** Similar to above, no odor	10
12	12-14'	1355	G/2S 2M/3J	▼ 14' bgl	0.4 73°F		90	**Clay (CH)** High plasticity, firm to soft, damp, reddish brown, no odor, dark brown organic matter in fractures/fissures	12
14	14-16'	1415	G/2S 2M/3J		5.9 73°F		70	**Clay (CH)** Similar to above, clayey sand seams present, saturated, no odor, very dense clay at base	14
16	16-18'	1440	G/2S 2M/3J		2.8 73°F		60	**Petrified Forest Formation - Clay/Mudstone** Very dense, dry, reddish brown to gray, no odor	16
18								Total Depth = 18' BGL	18
20									20
22									22

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LOG OF BORING

Boring No.: SWMU 1-8
Start Date: 10/5/2012 0815
Finish Date: 10/5/2012 1200

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon

Total Depth: 20' bgl
Ground Water: Saturated @ 12' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Comments: N 35°29.466' W 108°25.768'; Reamed to 18' bgl, Collected full suite (SWMU 1-8 GW)

Depth (ft.)	Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0					26.5 65°F		60	**Fill (Silty Clay)** Low plasticity, stiff, dry, brown, gravelly, no odor	0
2					9.9 65°F		60	**Fill (Silty Clay)** Similar to above, no odor	2
4	4-6'	1020	G/2S 2M/3J		13.5 65°F		80	**Clayey Sand (SC)** Medium grain, compact, moist to saturated, brown, odor	4
6					8.8 65°F		80	**Silty Clay (CL)** Low plasticity, firm, damp, brown, no odor	6
8					10.0 65°F		20	**Silty Clay (CL)** Similar to above	8
10	10-12'	1030	G/2S 2M/1J	12' bgl	15.8 69°F		10	**Silty Clay (CL)** Similar to above	10
12	12-14'	1040	G/2S 2M/3J		161 69°F		40	**Silty Clay/Clayey Sand (CL/SC)** Low plasticity, very soft, moist to saturated, brown, hydrocarbon odor, gravelly, loose	12
14					9.9 69°F		60	**Clayey Sand (SC)** Medium grain, compact, damp to moist to saturated, brown, odor	14
16	16-18' &Dup	1110	G/4S 4M/6J		8.3 69°F		90	**Clayey Sand/Sandy Clay (SC)** Similar to above, moist to saturated, brown, odor	16
18					14.0 69°F		90	**Clayey Sand (SC)** Similar to above	18
20	19-20'	1125	G/2S 2M/3J		10.5 69°F			**Petrified Forest Formation (Mudstone)** Very dense, dry to damp, reddish brown/gray, no odor	20
22	SWMU 1-8 GW	1605						Total Depth = 20' BGL	22

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LOG OF BORING

Boring No.: SWMU 1-9
Start Date: 10/15/2012 1030
Finish Date: 10/15/2012 1105

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N 35°29.464' W 108°25.768'

Total Depth: 2' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1055	G/2S 2M/3J		3.2 63°F		100	**Fill (Silty Clay/Gravel (CL))** Very dense, compact, dry, brown, no odor	0
							100	**Fill (Silty Sand (SM))** Fine to medium grain, damp, brown, no odor	
2	1.5-2'	1105	G/2S 2M/3J		7.0 63°F		100	**Silty Clay (CL)** Low plasticity, soft, damp, brown, no odor	2
								Total Depth = 2' BGL	
4									4
6									6
8									8
10									10
12									12

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LOG OF BORING

Boring No.: SWMU 1-10
Start Date: 10/15/2012 1110
Finish Date: 10/15/2012 1130

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N 35°29.456' W 108°25.766'

Total Depth: 2' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1120	G/2S 2M/3J		10.1 68°F		100	**Fill (Silty Clay/ Gravel (CL))** Very dense, compact, dry, brown, no odor	0
	1.5-2'	1130	G/2S 2M/3J		6.1 68°F		100	**Fill (Silty Sand (SM))** Fine to medium grain, damp, brown, no odor, gravelly	
2								Total Depth = 2' BGL	2
4									4
6									6
8									8
10									10
12									12

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LOG OF BORING

Boring No.: SWMU 1-11
Start Date: 10/15/2012 1140
Finish Date: 10/15/2012 1220

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N 35°29.449' W 108°25.773'

Total Depth: 2' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1205	G/2S 2M/3J		38.9 71°F		100	**Fill (Silty Clay/Gravel (CL))** Very dense, compact, dry to damp, brown, no odor	0
2	1.5-2'	1220	G/2S 2M/3J		3.7 71°F			Total Depth = 2' BGL	2
4									4
6									6
8									8
10									10
12									12

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LOG OF BORING

Boring No.: SWMU 1-12
Start Date: 10/15/2012 1330
Finish Date: 10/15/2012 1500

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N 35°29.446' W 108°25.782'

Total Depth: 1' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Depth (ft.)	Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1445	G/2S 2M/3J		63 74°F		100	**Fill (Silty Clay/Gravel (CL))** Very dense, compact, dry to damp, brown, no odor, refusal at 1' bgl in gravel	0
	0.5-1'	1500	G/2S 2M/3J		4.4 74°F				
								Total Depth = 1' BGL	
2									2
4									4
6									6
8									8
10									10
12									12

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LOG OF BORING

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N 35°29.444' W 108°25.792'

Total Depth: 6' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Boring No.: SWMU 1-13
Start Date: 10/12/2012 1335
Finish Date: 10/12/2012 1500

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1405	G/2S 2M/3J		3.1 70°F		80	**Fill (Silty Clay (CL))** Low plasticity, stiff, dry to damp, brown, gravelly, no odor	0
2	1.5-2'	1425	G/2S 2M/3J						2
	2-4'	1435	G/2S 2M/3J		35.7 70°F		90	**Fill (Silty Clay (CL))** Similar to above, no odor	4
4	4-6' &Dup	1500	G/4S 4M/4J		15.6 70°F		90	**Fill (Silty Clay (CL))** Similar to above, reddish brown, no odor	6
6								Total Depth = 6' BGL	
8	EB101212	1620							8
10									10
12									12
14									14
16									16
18									18
20									20
22									22

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LOG OF BORING

Boring No.: SWMU 1-14
Start Date: 10/15/2012 1505
Finish Date: 10/15/2012 1555

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N 35°29.444' W 108°25.802'

Total Depth: 2' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Depth (ft.)	Sampling: Sample Depth	Sampling: Time	Sampling: Sample Type/ Container/No.	Sampling: Saturation	Sampling: Organic Vapor (ppm)	Sampling: USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1530	G/2S 2M/3J		5.7 72°F		100	**Fill (Silty Clay/Gravel (CL))** Firm, dry to damp, brown, no odor	0
2	1.5-2' &Dup	1555	G/4S 4M/6J		4.7 72°F		100	**Fill (Clay (CH))** High plasticity, firm, damp, brown, no odor	2
								Total Depth = 2' BGL	
4									4
6									6
8									8
10									10
12									12

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LOG OF BORING

Boring No.: SWMU 1-15
Start Date: 10/15/2012 1600
Finish Date: 10/15/2012 1630

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N 35°29.445' W 108°25.811'

Total Depth: 2' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Depth (ft.)	Sampling: Sample Depth	Sampling: Time	Sampling: Sample Type/ Container/No.	Sampling: Saturation	Sampling: Organic Vapor (ppm)	Sampling: USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1620	G/2S 2M/3J		5.7 70°F		100	**Fill (Silt/Silty Clay (ML/CL))** Firm, dry to damp, brown, no odor	0
	1.5-2'	1630	G/2S 2M/3J		9.3 70°F		100	**Fill (Clay (CH))** High plasticity, firm, damp, brown, no odor	
2								Total Depth = 2' BGL	2
4									4
6									6
8									8
10									10
12									12

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LOG OF BORING

Boring No.: SWMU 1-16
Start Date: 10/15/2012 1635
Finish Date: 10/15/2012 1705

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N 35°29.449' W 108°25.824'

Total Depth: 2' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1655	G/2S 2M/3J		7.7 69°F		100	**Fill (Silt/Gravel (ML))** Fine grain, loose, brown, dry, no odor	0
2	1.5-2'	1705	G/2S 2M/3J		5.7 69°F		100	**Fill (Silty Clay/Gravel (CL))** Moderate to high plasticity, firm, damp, reddish brown, no odor	2
								Total Depth = 2' BGL	
4									4
6									6
8									8
10									10
12									12

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LOG OF BORING

Boring No.: SWMU 1-17
Start Date: 10/15/2012 1710
Finish Date: 10/15/2012 1740

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N 35°29.458' W 108°25.827'

Total Depth: 1.5' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1730	G/2S 2M/3J		9.5 67°F		100	**Fill (Silt/Gravel (ML))** Fine grain, loose, dry, brown, no odor	0
	1-1.5'	1740	G/2S 2M/3J		6.7 67°F		100	**Fill (Silty Clay (CL))** Low to moderate plasticity, firm, damp, brown, no odor, refusal at 1.5' bgl in gravel	
2	EB101512	1800						Total Depth = 1.5' BGL	2
4									4
6									6
8									8
10									10
12									12
14									14

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LOG OF BORING

Boring No.: SWMU 1-18
Start Date: 10/16/2012 0940
Finish Date: 10/16/2012 1010

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N 35°29.460' W 108°25.829'

Total Depth: 1.5' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1000	G/2S 2M/3J		8.2 61°F		100	**Fill (Silt/Gravel (ML))** Fine grain, dry, brown, no odor	0
	1-1.5'	1010	G/2S 2M/3J		5.2 61°F		100	**Fill (Silty Clay (CL))** Low to moderate plasticity, firm, damp, brown, no odor, refusal at 1.5' bgl	
2								Total Depth = 1.5' BGL	2
4									4
6									6
8									8
10									10
12									12
14									14

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LOG OF BORING

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N 35°29.473' W 108°25.835'

Total Depth: 0.5' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Boring No.: SWMU 1-19
Start Date: 10/16/2012 1015
Finish Date: 10/16/2012 1035

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
0	0-0.5'	1035	G/2S/ 2M/3J		4.1 65°F		100	Ground Surface **Fill (Silt (ML))** Fine grain, loose, dry, brown, no odor, gravel at base, refusal at 0.5' bgl Total Depth = 0.5' BGL	0
2									2
4									4
6									6
8									8
10									10
12									12

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LOG OF BORING

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N 35°29.479' W 108°25.842'

Total Depth: 12' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Boring No.: SWMU 1-20
Start Date: 10/11/2012 1110
Finish Date: 10/11/2012 1300

Depth (ft.)	Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5' & Dup	1220	G/4S 4M/6J		21.7 74°F		60	**Silt/Silty Clay (ML/CL)** Low plasticity, loose to compact, dry, light brown, no odor	0
2	1.5-2'	1230	G/2S 2M/2J		4.6 74°F		60	**Silty Clay (CL)** Low plasticity, very stiff, dry, brown, no odor	2
4	4-6'	1245	G/2S 2M/3J		2.5 74°F		60	**Silty Clay (CL)** Similar to above, no odor	4
6					2.8 74°F		70	**Silty Clay (CL)** Similar to above, no odor	6
8					3.9 74°F		70	**Silty Clay (CL)** Similar to above, no odor, very dense at base, dry	8
10	10-12'	1300	G/2S 2M/3J		1.5 74°F		50	**Petrified Forest Formation - Mudstone** Very dense, dry/damp, reddish brown, no odor	10
12								Total Depth = 12' BGL	12
14									14
16									16
18									18
20									20
22									22

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LOG OF BORING

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N 35°29.486' W 108°25.840'

Total Depth: 0.5' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Boring No.: SWMU 1-21
Start Date: 10/16/2012 1040
Finish Date: 10/16/2012 1105

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5' &Dup	1105	G/4S 4M/6J		1.4 65°F		100	**Silt (ML)** Fine grain, loose, dry, brown, no odor, gravel at base, refusal at 0.5' bgl	0
								Total Depth = 0.5' BGL	
2									2
4									4
6									6
8									8
10									10
12									12
14									14

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LOG OF BORING

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N 35°29.494' W 108°25.843'

Total Depth: 2' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Boring No.: SWMU 1-22
Start Date: 10/16/2012 1110
Finish Date: 10/16/2012 1145

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
0								Ground Surface	0
	0-0.5'	1135	G/2S 2M/3J		4.9 65°F		100	**Fill (Silt)** Low plasticity, fine grain, loose, dry, brown, no odor	
	1.5-2'	1145	G/2S 2M/3J		6.8 65°F		100	**Silty Clay (CL)** Low plasticity, firm, dry to damp, brown, no odor	
2								Total Depth = 2' BGL	2
4									4
6									6
8									8
10									10
12									12

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LOG OF BORING

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N 35°29.507' W 108°25.840'

Total Depth: 0.5' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Boring No.: SWMU 1-23
Start Date: 10/16/2012 1150
Finish Date: 10/16/2012 1210

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1210	G/2S 2M/3J		3.7 75°F		100	**Silt/Gravel (ML)** Very fine grain, loose, dry, brown, no odor, refusal at 0.5' bgl in gravel	0
								Total Depth = 0.5' BGL	
2									2
4									4
6									6
8									8
10									10
12									12
14									14

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LOG OF BORING

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N 35°29.514' W 108°25.827'

Total Depth: 34' bgl
Ground Water: Saturated at 24' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Boring No.: SWMU 1-24
Start Date: 10/8/2012 1300
Finish Date: 10/8/2012 1705

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5' &Dup	1605	G/4S 4M/6J		4.6 76°F		60	**Silty Clay (CL)** Low plasticity, stiff, dry, brown, gravelly, no odor	0
2	1.5-2'	1615	G/2S 2M/3J		6.4 76°F		60	**Silty Clay (CL)** Similar to above, firm, no odor	2
4					14.4 76°F		80	**Silty Clay (CL)** Low plasticity, soft, damp, reddish brown, faint odor	4
6					22.9 76°F		60	**Silty Clay (CL)** Similar to above, no odor	6
8					13.3 71°F		80	**Silty Clay (CL)** Similar to above, trace gravel, no odor	8
10	10.5-11.5'	1630	G/2S 2M/3J		15.7 71°F		90	**Silty Clay (CL)** Similar to above	10
12					11.7 71°F		60	**Clayey Sand (SC)** Medium grain, compact, damp, brown, no odor, gravelly **Silty Clay (CL)** Low plasticity, soft, damp, reddish brown, no odor	12
14					17.8 71°F		90	**Silty Clay (CL)** Similar to above	14
16	16-18'	1640	G/2S 2M/3J		28 69°F		90	**Silty Clay (CL)** Similar to above **Sandy Clay/Clayey Sand (CL/SC)** Very fine grain, soft, moist, brown, no odor	16
18					27 69°F		90	**Sandy Clay (SC)** Similar to above, moist, odor	18
20					27.1 69°F		90	**Clayey Silt (ML)** Low plasticity, very fine, moist, odor, black discoloration in brown	20
22									22

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LOG OF BORING

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N 35°29.514' W 108°25.827'

Total Depth: 34' bgl
Ground Water: Saturated at 24' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Boring No.: SWMU 1-24
Start Date: 10/8/2012 1300
Finish Date: 10/8/2012 1705

Depth (ft.)	Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
24				24' bgl	17.7 69°F		90	**Clayey Silt (ML)** Similar to above, odor and black discoloration more abundant than above	24
26	24-26'	1655	G/2S 2M/3J		19.5 68°F		90	**Clayey Silt/Sand (ML/SC)** Very fine grain, compact, soft, moist to saturated, odor, black	26
28					22.8 68°F		80	**Clayey Silt/Sand (ML/SC)** Similar to above, very moist, stiff and gravelly at base	28
30					16.7 68°F		40	**Clayey Silt (ML)** Low plasticity, very soft, moist, black, odor	30
32					13.2 68°F		90	**Clayey Sand/Gravel (SC)** Medium grain, compact, very dense, moist to damp, black, odor	32
34	32-34'	1705	G/2S 2M/3J		10.9 68°F		90	**Clayey Sand/Gravel (SC)** Very dense, damp to dry, black	34
36								Total Depth = 34' BGL	36
38									38
40									40
42									42
44									44

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LOG OF BORING

Boring No.: SWMU 1-25
Start Date: 10/16/2012 1240
Finish Date: 10/16/2012 1315

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N 35°29.521' W 108°25.826'

Total Depth: 1' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1300	G/2S 2M/3J		4.1 77°F		100	**Fill (Sand/Gravel (SP))** Fine grain, loose, dry, brown, no odor	0
	0.5-1'	1315	G/2S 2M/3J		4.7 77°F		100	**Fill (Sand/Gravel (SP))** Similar to above, damp, no odor, refusal in gravel at 1' bgl	
2								Total Depth = 1' BGL	2
4									4
6									6
8									8
10									10
12									12
14									14

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LOG OF BORING

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N 35°29.525' W 108°25.817'

Total Depth: 0.5' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Boring No.: SWMU 1-26
Start Date: 10/16/2012 1320
Finish Date: 10/16/2012 1335

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
0								Ground Surface	0
	0-0.5'	1335	G/2S 2M/3J		6.5 79°F		100	**Fill (Silty Clay and Gravel (CL))** Low plasticity, firm, dry, brown, no odor, refusal at 0.5' bgl in gravel	
								Total Depth = 0.5' BGL	
2									2
4									4
6									6
8									8
10									10
12									12
14									14

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LOG OF BORING

Boring No.: SWMU 1-27
Start Date: 10/12/2012 0825
Finish Date: 10/12/2012 0915

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N 35°29.524' W 108°25.808'

Total Depth: 4' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	0900	G/2S 2M/3J		14.5 70°F		90	**Fill (Silty Clay (CL))** Low plasticity, stiff, damp, brown, no odor	0
2	1.5-2'	0915	G/2S 2M/3J		18.2 70°F		90	**Fill (Silty Clay (CL))** Similar to above, no odor	2
4								Total Depth = 4' BGL	4
6									6
8									8
10									10
12									12
14									14
16									16
18									18
20									20
22									22

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LOG OF BORING

Boring No.: SWMU 1-28
Start Date: 10/12/2012 0920
Finish Date: 10/12/2012 1010

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N 35°29.522' W 108°25.797'

Total Depth: 4' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	0950	G/2S 2M/3J		4.0 76°F		90	**Fill (Silty Clay (CL))** Low plasticity, compact to loose, dry to damp, light brown, no odor	0
2	1.5-2' &Dup	1010	G/4S 4M/6J		4.8 76°F		90	**Clayey Gravelly Sand (SC))** Loose to compact, medium grained sand, light brown, damp, no odor	2
4								Total Depth = 4' BGL	4
6									6
8									8
10									10
12									12
14									14
16									16
18									18
20									20
22									22

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LOG OF BORING

Boring No.: SWMU 1-29
Start Date: 10/16/2012 1420
Finish Date: 10/16/2012 1440

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N 35°29.522' W 108°25.789'

Total Depth: 0.5' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
0								Ground Surface	0
	0-0.5'	1440	G/2S 2M/3J		3.6 72°F		100	**Fill (Silty Clay and Gravel (CL))** Low plasticity, stiff, dry, brown, no odor, refusal at 0.5' bgl in gravel	
								Total Depth = 0.5' BGL	
2									2
4									4
6									6
8									8
10									10
12									12
14									14

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LOG OF BORING

Boring No.: SWMU 1-30
Start Date: 10/12/2012 1020
Finish Date: 10/12/2012 1210

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N 35°29.519' W 108°25.780'

Total Depth: 6' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1140	G/2S 2M/3J		4.6 70°F		80	**Fill (Silty Clay (CL))** Low plasticity, very stiff, dry to damp, brown, no odor	0
2	1.5-2'	1200	G/2S 2M/3J		6.6 70°F		90	**Fill (Silty Clay (CL))** Similar to above, damp, no odor	2
4	4-6'	1210	G/2S 2M/3J		6.7 70°F		90	**Clayey Sand (SC)** Medium grained, loose, damp, brown	4
6								Total Depth = 6' BGL	6
8									8
10									10
12									12
14									14
16									16
18									18
20									20
22									22

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LOG OF BORING

Boring No.: SWMU 1-31
Start Date: 10/16/2012 1445
Finish Date: 10/16/2012 1500

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N 35°29.513' W 108°25.778'

Total Depth: 0.5' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
0								Ground Surface	0
	0-0.5'	1500	G/2S 2M/3J		3.9 71°F		100	**Fill (Silty Clay and Gravel (CL))** Low plasticity, stiff, dry, brown, no odor, refusal in gravel at 0.5' bgl	
								Total Depth = 0.5' BGL	
2									2
4									4
6									6
8									8
10									10
12									12

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LOG OF BORING

Boring No.: SWMU 1-32
Start Date: 10/16/2012 1505
Finish Date: 10/16/2012 1540

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N 35°29.506' W 108°25.776'

Total Depth: 0.5' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Depth (ft.)	Sampling: Sample Depth	Sampling: Time	Sampling: Sample Type/ Container/No.	Sampling: Saturation	Sampling: Organic Vapor (ppm)	Sampling: USCS Class	Recovery (%)	Sample Description	Depth (ft.)
0								Ground Surface	0
	0-0.5' &Dup	1540	G/4S 4M/6J		0.7 71°F		100	**Fill (Silty Clay and Gravel (CL))** Low plasticity, stiff, dry, brown, no odor, refusal in gravel at 0.5' bgl	
								Total Depth = 0.5' BGL	
2									2
4									4
6									6
8									8
10									10
12									12

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LOG OF BORING

Boring No.: SWMU 1-33
Start Date: 10/16/2012 1545
Finish Date: 10/16/2012 1603

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N 35°29.496' W 108°25.775'

Total Depth: 0.5' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Depth (ft.)	Sampling: Sample Depth	Sampling: Time	Sampling: Sample Type/ Container/No.	Sampling: Saturation	Sampling: Organic Vapor (ppm)	Sampling: USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1603	G/2S 2M/3J		3.1 70°F		100	**Fill (Silty Clay and Gravel (CL))** Low plasticity, stiff, dry, brown, no odor, refusal in gravel at 0.5' bgl	0
								Total Depth = 0.5' BGL	
2									2
4									4
6									6
8									8
10									10
12									12

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LOG OF BORING

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N 35°29.488' W 108°25.773'

Total Depth: 0.5' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Boring No.: SWMU 1-34
Start Date: 10/16/2012 1615
Finish Date: 10/16/2012 1630

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1630	G/2S 2M/3J		3.2 69°F		100	**Fill (Silty Clay and Gravel (CL))** Low plasticity, stiff, dry, brown, no odor, refusal in gravel at 0.5' bgl	0
								Total Depth = 0.5' BGL	
2									2
4									4
6									6
8									8
10									10
12									12

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LOG OF BORING

Boring No.: SWMU 1-35
Start Date: 10/12/2012 1215
Finish Date: 10/12/2012 1310

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N 35°29.480' W 108°25.772'

Total Depth: 6' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1245	G/2S 2M/3J		0.8 76°F		90	**Fill (Silty Clay (CL))** Low plasticity, firm, damp, brown, no odor, gravelly	0
2	1.5-2'	1300	G/2S 2M/3J		4.7 76°F		90	**Fill (Silty Clay (CL))** Similar to above	2
4	4-6'	1310	G/2S 2M/3J		1.7 76°F		90	**Silty Clay/Clayey Silt (CL/ML)** Low plasticity, soft, damp, brown, no odor	4
6								Total Depth = 6' BGL	6
8									8
10									10
12									12
14									14
16									16
18									18
20									20
22									22

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LOG OF BORING

Boring No.: SWMU 1-36
Start Date: 10/16/2012 1635
Finish Date: 10/16/2012 1700

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N 35°29.472' W 108°25.770'

Total Depth: 0.5' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Depth (ft.)	Sampling: Sample Depth	Sampling: Time	Sampling: Sample Type/ Container/No.	Sampling: Saturation	Sampling: Organic Vapor (ppm)	Sampling: USCS Class	Recovery (%)	Sample Description	Depth (ft.)
0								Ground Surface	0
	0-0.5'	1700	G/2S 2M/3J		1.9 69°F		100	**Fill (Silty Clay and Gravel (CL))** Low plasticity, stiff, dry, brown, no odor, refusal at 0.5' bgl in gravel	
								Total Depth = 0.5' BGL	
2									2
4									4
6									6
8									8
10									10
12									12
14									14

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LOG OF BORING

Boring No.: SWMU 1-37
Start Date: 10/10/2012 1515
Finish Date: 10/10/2012 1740

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon

Total Depth: 18' bgl
Ground Water: Saturated @ 8.5' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Comments: N 35°29.444' W 108°25.816'; Temporary well (10-15' screen, 9-15' sand, 8-9' hole plug)

Depth (ft.)	Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description
								Ground Surface
0	0-0.5'	1700	G/2S 2M/3J		4.9 74°F		40	**Silty Clay (CL)** Low plasticity, stiff, dry, brown, no odor
2	1.5-2'	1715	G/2S 2M/2J		13.6 74°F		40	**Silty Clay (CL)** Low plasticity, soft, damp, reddish brown, no odor
4					12.8 74°F		90	**Silty Clay (CL)** Similar to above, no odor
6				8.5' bgl	16.6 74°F		40	**Silty Clay/Clay (CL/CH)** Similar to above, becomes a high plastic reddish brown clay, firm, damp, no odor
8	8-8.5'	1730	G/2S 2M/3J					
	8.5-9'	1740	G/2S 2M/2J		8.8 74°F		90	**Clay (CH)** High plasticity, firm, damp, reddish brown
10					14.6 73°F		90	**Clayey Sand (SC)** Fine grain, compact, moist to saturated, reddish brown
				12' bgl				**Clay (CH)** High plasticity, firm, damp, reddish brown, no odor
12	12-13'	1755	G/2S 2M/3J		14.6 73°F		90	**Clay (CH)** Similar to above, very stiff
	13-14'	1805	G/2S 2M/3J		11.4 73°F			**Clayey Silt/Sand (SC)** Very fine grain, loose, brown, saturated, no odor
14					12.3 73°F		90	**Clay (CH)** High plasticity, very stiff, reddish brown, no odor, damp
16							90	**Clay (CH)** Similar to above
	17-18'	1820	G/2S 2M/3J					**Petrified Forest Formation - Clay/Mudstone (CH)** Similar to above, becomes very dense, dry, trace of gray, no odor
18								Total Depth = 18' BGL
20	EB101012	1845						
22								

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LOG OF BORING

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N 35°29.500' W 108°25.841'

Total Depth: 8' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Boring No.: SWMU 1-38
Start Date: 10/11/2012 1330
Finish Date: 10/11/2012 1445

Depth (ft.)	Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1420	G/2S 2M/3J		10.3 75°F		60	**Silt/Silty Clay (ML/CL)** Low plasticity, soft to very stiff, brown to reddish brown, damp, no odor	0
2	1.5-2'	1430	G/2S 2M/3J		8.5 75°F		60	**Silty Clay (CL)** Similar to above, gravelly, no odor	2
4					8.2 75°F		20	**Silty Clay (CL)** Similar to above, no odor, gravelly	4
6	6-8'	1445	G/2S 2M/3J		11.7 75°F		60	**Petrified Forest Formation - Clay/Mudstone (CH)** Very dense, dry, reddish brown and gray, no odor	6
8								Total Depth = 8' BGL	8
10	EB101112	1545							10
12									12
14									14
16									16
18									18
20									20
22									22

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LOG OF BORING

Client: Western Refining Southwest, Inc.
Site: SWMU No. 1, Gallup Refinery
Job No.: UEC01693
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N 35°29.515' W 108°25.834'

Total Depth: 0.5' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **E**

Boring No.: SWMU 1-39
Start Date: 10/16/2012 1215
Finish Date: 10/16/2012 1235

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
0	0-0.5'	1235	G/2S 2M/3J		4.4 80°F		100	Ground Surface **Fill (Silt/Gravel (ML))** Low plasticity, very fine grain, loose, dry, brown, no odor, refusal at 0.5' bgl in gravel Total Depth = 0.5' BGL	0
2									2
4									4
6									6
8									8
10									10
12									12

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LOG OF BORING

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N35º29.440' W108º25.788'

Total Depth: 50' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35º29.440' **W** 108º25.788'

Boring No.: SWMU 14-1
Start Date: 7/16/2012 14:30
Finish Date: 7/18/2012 13:45

Depth (ft.)	Sampling: Sample Depth	Sampling: Time	Sampling: Sample Type/ Container/No.	Sampling: Saturation	Sampling: Organic Vapor (ppm)	Sampling: USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1615	G/2E/2M/2J		5.0 85ºF		100	**Fill (Silt/Clay)** Damp to dry, no odor, low plastic clay, brown	0
2	1.5-2'	1620	G/2E/2M/2J		12.6 85ºF				2
4					7.2 85ºF		100	**Silty Clay (CL)** Low plasticity, firm, damp, reddish brown, no odor	4
6					13.9 85ºF		100	**Silty Clay (CL)** Moderate plasticity, firm to soft, damp, reddish brown, no odor	6
8					13.2 85ºF		100	**Silty Clay (CL)** Similar to above, no odor	8
10	10-12'	1630	G/2E/2M/2J		21.0 85ºF		100	**Clay (CH)** High plasticity, soft, damp, reddish brown, no odor	10
12					105.9 85ºF		100	**Clay (CH)** Similar to above, odor	12
14					12.4 85ºF		100	**Silty Clay (CL)** Moderate plasticity, firm, damp, reddish brown, trace gravel throughout - pebbles, no odor	14
16					10.9 85ºF		80	**Silty Clay (CL)** Similar to above, no odor	16
					10.9 85ºF		80	**Silty Clay (CL)** Low to moderate plasticity, very stiff, damp, reddish brown, no odor, gravel present	

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LOG OF BORING

Boring No.: SWMU 14-1
Start Date: 7/16/2012 14:30
Finish Date: 7/18/2012 13:45

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N35º29.440' W108º25.788'

Total Depth: 50' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35º29.440' **W** 108º25.788'

Depth (ft.)	Sampling: Sample Depth	Sampling: Time	Sampling: Sample Type/ Container/No.	Sampling: Saturation	Sampling: Organic Vapor (ppm)	Sampling: USCS Class	Recovery (%)	Sample Description	Depth (ft.)
19					14.9 84ºF		80	**Silty Clay (CL)** Low plasticity, firm, damp to dry, reddish brown and gray, crumbly, no odor	19
21					15.8 84ºF		80	**Silty Clay (CL)** Similar to above	21
23					13.0 84ºF		90	**Silty Clay (CL)** Similar to above	23
25					13.7 84ºF		50	**Silty Clay (CL)** Similar to above	25
27					9.5 84ºF		90	**Silty Clay (CL)** Similar to above	27
29					9.6 84ºF		90	**Silty Clay (CL)** Similar to above	29
31					5.0 83ºF		80	**Silty Clay (CL)** Low plasticity, very stiff, damp to dry, reddish brown and gray, no odor	31
33					10.3 83ºF		90	**Silty Clay (CL)** Similar to above, reddish brown, no odor	33
35					9.9 83ºF		90	**Silty Clay (CL)** Similar to above, reddish brown and gray, no odor	35

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LOG OF BORING

Boring No.: SWMU 14-1
Start Date: 7/16/2012 14:30
Finish Date: 7/18/2012 13:45

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N35º29.440' W108º25.788'

Total Depth: 50' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35º29.440' **W** 108º25.788'

Depth (ft.)	Sampling: Sample Depth	Sampling: Time	Sampling: Sample Type/ Container/No.	Sampling: Saturation	Sampling: Organic Vapor (ppm)	Sampling: USCS Class	Recovery (%)	Sample Description	Depth (ft.)
37					3.0 83ºF		50	**Sandstone/Silty Sand (SS)** Fine grain, poorly cemented, reddish brown, dry to damp, no odor	37
39					8.2 83ºF		90	**Silty Clay (CL)** Low plasticity, stiff, damp, reddish brown, no odor, gray mottling	39
41					2.1 86ºF		90	**Clay (CL)** Low plasticity, very stiff, dry to damp, reddish brown, no odor	41
43					3.1 86ºF		60	**Clay (CL)** Similar to above	43
45					4.0 86ºF		70	**Clay (CL)** Similar to above, reddish brown and gray	45
47					4.3 86ºF		70	**Clay (CL)** Similar to above	47
49	48- 50'	7/18 1345	G/2E/ 2V/2J		3.2 86ºF		80	**Clay (CL)** Similar to above	49
51								Total Depth = 50' BGL	51
53									53

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WELL CONSTRUCTION

Well No.: OAPIS-1 (SWMU 14-2)
Start Date: 7/17/2012 14:30
Finish Date: 7/17/2012 17:30

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon

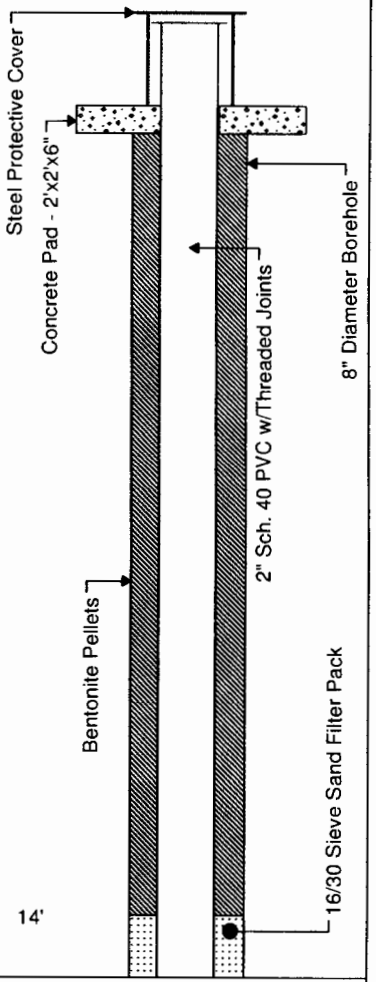
Total Depth: 26' bgl
Ground Water: Saturated @ 18' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35°29.442' **W** 108°25.781'

Comments: N35°29.442' W108°25.781'; Samples collected 7/19/2012 (SWMU 14-2 GW 1000, FB071712 1800, EB071712 1815)

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/Container/No	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description
0	0-0.5'	1610	G/2E/2V/2J		2.9 83ºF		100	**Fill (Clay/Gravel)** Brown, dry to damp, no odor
2	1.5-2'	1624	G/2E/2V/2J		280 83ºF		100	**Clay (CH)** Moderate plasticity, firm, damp, black and brown, odor
4					56.8 83ºF		90	**Silty Clay (CL)** Low plasticity, firm, damp, brown grading to black at 4' bgl, faint odor
6					69.4 83ºF		90	**Silty Clay (CL)** Similar to above, brown and black, trace sand, odor
8					87.5 83ºF		90	**Silty Clay (CL)** Similar to above, odor
10	8-10' &Dup	1645	G/4E/4V/4J		330 83ºF		90	**Silty Clay (CL)** Low plasticity, very soft, damp, dark brown and black, odor
12					294 83ºF		80	**Silty Clay (CL)** Similar to above
14					14.6 83ºF		70	**Silty Clay (CL)** Similar to above, faint odor
							70	**Clay (CH)** Moderate plasticity, stiff, damp, reddish brown, no odor

Ground Surface

Completion Results



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WELL CONSTRUCTION

Well No.: OAPIS-1 (SWMU 14-2)

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon

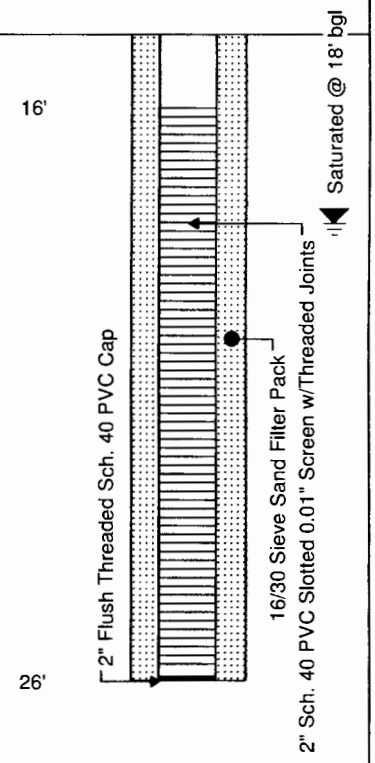
Total Depth: 26' bgl
Ground Water: Saturated @ 18' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35º29.442' **W** 108º25.781'

Start Date: 7/17/2012 14:30
Finish Date: 7/17/2012 17:30

Comments: N35º29.442' W108º25.781'; Samples collected 7/19/2012 (SWMU 14-2 GW 1000, FB071712 1800, EB071712 1815)

Depth (ft.)	Sampling: Sample Depth	Sampling: Time	Sampling: Sample Type/Container/No	Sampling: Saturation	Sampling: Organic Vapor (ppm)	Sampling: USCS Class	Recovery (%)	Sample Description
16					5.7 86ºF		90	**Clay (CH)** Similar to above, no odor
	16- 18'	1710	G/2E/ 2V/2J	18' ▼	10.7 86ºF		80	**Clay (CH)** Similar to above, no odor
18					-- --		90	**Clay (CH)** Similar to above, water in split spoon
20					17.9 83ºF		80	**Clay (CH)** Similar to above
22					12.8 83ºF		90	**Clay (CH)** Similar to above, gray and reddish brown, no odor
24	24- 25'	1730	G/2E/ 2V/2J		13.2 83ºF		70	**Clay (CH)** Similar to above
							-	**Clay (CH)** Similar to above
26								Total Depth = 26' BGL
28								
30								
32								

Completion Results



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LOG OF BORING

Boring No.: SWMU 14-3
Start Date: 7/18/2012 08:40
Finish Date: 7/18/2012 12:45

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N35º29.444' W108º25.779'

Total Depth: 26' bgl
Ground Water: Saturated @ 14' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35º29.444' **W** 108º25.779'

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1125	G/2E/2V/2J		14.3 83ºF		90	**Fill (Silt/Clay/Gravel)** Damp to dry, brown, no odor	0
2	1.5-2'	1200	G/2E/2V/2J		6.2 83ºF				2
					101 83ºF		70	**Silty Clay (CL)** Low plasticity, firm, damp, brown, odor, black discoloration, gravelly	
4					122 83ºF		80	**Silty Clay (CL)** Similar to above, odor, soft	4
6					104 83ºF		70	**Silty Clay (CL)** Similar to above, odor	6
8	8-10'	1215	G/2E/2V/2J		343 83ºF		80	**Silty Clay (CL)** Similar to above, strong odor	8
10					155 83ºF		70	**Silty Clay (CL)** Similar to above, odor	10
12	12-14'	1230	G/2E/2V/2J	14'	326 83ºF		80	**Silty Clay (CL)** Similar to above, odor	12
14					-- --		90	**Clay (CH)** Moderate plasticity, firm, saturated - water in spoon, reddish brown, gravelly at top, odor	14
16					-- --		--	**Clay (CH)** Similar to above, damp	16

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LOG OF BORING

Boring No.: SWMU 14-3
Start Date: 7/18/2012 08:40
Finish Date: 7/18/2012 12:45

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N35°29.444' W108°25.779'

Total Depth: 26' bgl
Ground Water: Saturated @ 14' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35°29.444' **W** 108°25.779'

Depth (ft.)	Sampling: Sample Depth	Sampling: Time	Sampling: Sample Type/ Container/No.	Sampling: Saturation	Sampling: Organic Vapor (ppm)	Sampling: USCS Class	Recovery (%)	Sample Description	Depth (ft.)
19					-- --		--	**Clay (CH)** Similar to above	19
21					8.5 83°F		80	**Clay (CH)** High plasticity, very stiff, damp, reddish brown, no odor	21
23					5.4 83°F		90	**Clay (CH)** Similar to above, reddish brown and gray, no odor	23
25	25.5-26'	1245	G/2E/ 2V/2J		2.3 83°F		90	**Silty Clay (CL)** Low plasticity, firm, damp, brown, no odor	25
27								Total Depth = 26' BGL	27
29									29
31									31
33									33
35									35

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LOG OF BORING

Boring No.: SWMU 14-4
Start Date: 7/17/2012 12:30
Finish Date: 7/17/2012 14:15

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N35º29.439' W108º25.782'

Total Depth: 20' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35º29.439' **W** 108º25.782'

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1318	G/2E/2V/2J		5.9 87ºF		90	**Fill (Gravel/Clay)** Damp, brown, no odor	0
2	1.5-2'	1330	G/2E/2V/2J		6.2 87ºF				2
					28.2 87ºF		90	**Silty Clay (CL)** Low plasticity, firm to soft, damp, brown, no odor	
4									4
					23.1 87ºF		90	**Silty Clay (CL)** Similar to above, no odor	
6									6
					19.2 87ºF		90	**Silty Clay (CL)** Similar to above, odor	
8									8
					581 87ºF		90	**Silty Clay (CL)** Moderate plasticity, soft, damp, brown and black, odor	
10	10-12'	1400	G/2E/2V/2J		711 87ºF		90	**Silty Clay (CL)** Similar to above, odor, brown	10
12									12
					34.5 87ºF		90	**Silty Clay (CL)** Similar to above, faint odor, gravel present	
14									14
					8.7 84ºF		100	**Clay (CH)** Moderate plasticity, stiff, damp, reddish brown, no odor	
16									16
					6.5 84ºF		90	**Clay (CH)** Similar to above, very stiff, no odor	

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LOG OF BORING

Boring No.: SWMU 14-4
Start Date: 7/17/2012 12:30
Finish Date: 7/17/2012 14:15

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N35º29.439' W108º25.782'

Total Depth: 20' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35º29.439' **W** 108º25.782'

Depth (ft.)	Sampling: Sample Depth	Sampling: Time	Sampling: Sample Type/ Container/No.	Sampling: Saturation	Sampling: Organic Vapor (ppm)	Sampling: USCS Class	Recovery (%)	Sample Description	Depth (ft.)
19	19.5-20'	1415	G/2E/ 2V/2J		2.5 84ºF	CH	90	**Clay (CH)** Similar to above, no odor	19
								Total Depth = 20' BGL	
21									21
23									23
25									25
27									27
29									29
31									31
33									33
35									35

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LOG OF BORING

Boring No.: SWMU 14-5
Start Date: 7/19/2012 14:25
Finish Date: 7/19/2012 15:15

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N35º29.441' W108º25.776'

Total Depth: 2' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35º29.441' **W** 108º25.776'

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5' &Dup	1500	G/4E/4V/4J		5.7 80ºF			**Fill (Gravel/Clay)**	0
	1.5-2'	1506	G/2E/2V/2J		7.4 80ºF		100	Damp, reddish brown, no odor	
2								Total Depth = 2' BGL	2
4									4
6									6
8									8
10									10
12									12
14									14
16									16

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LOG OF BORING

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N35º29.436' W108º25.781'

Total Depth: 18' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **W**

Boring No.: SWMU 14-6
Start Date: 10/9/2012 1200
Finish Date: 10/9/2012 1415

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1335	G/2S 2M/3J		0.7 69ºF		90	**Silty Clay (CL)** Low plasticity, stiff, dry to damp, brown, no odor	0
2	1.5-2'	1345	G/2S 2M/3J		3.9 69ºF		80	**Silty Clay (CL)** Similar to above, no odor	2
4					306 69ºF		70	**Silty Clay (CL)** Low plasticity, soft, damp, brown, odor, black staining	4
6					364 69ºF		70	**Silty Clay (CL)** Similar to above, odor	6
8					345 69ºF		80	**Clay (CH)** High plasticity, firm, damp, brown, odor	8
10	10-12'	1355	G 2M/3J		367 69ºF		80	**Clay (CH)** Similar to above, odor	10
12					13.6 69ºF		70	**Clay (CH)** Similar to above, dry, crumbly, odor, less intense to almost faint	12
14					10.5 69ºF		30	**Clay (CH)** High plasticity, very stiff/dense, dry to damp, no odor	14
16					4.6 70ºF		60	**Clay (CH)** High plasticity, very stiff/dense, dry to damp, no odor, reddish brown	16
18	17-18'	1410	G/2S 2M/3J					Total Depth = 18' BGL	18

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LOG OF BORING

Boring No.: SWMU 14-7
Start Date: 7/18/2012 17:25
Finish Date: 7/18/2012 19:20

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N35º29.437' W108º25.778'

Total Depth: 24' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35º29.437' **W** 108º25.778'

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1830	G/2E/2V/2J		141 81ºF		90	**Fill (Gravel/Clay)** Brown, damp, faint odor	0
2	1.5-2'	1850	G/2E/2V/2J		197 81ºF				2
					293 81ºF		90	**Silty Clay (CL)** Low plasticity, firm, damp, brown, odor, gravelly	
4					365 81ºF		90	**Silty Clay (CL)** Similar to above, strong odor	4
6	6-8'	1910	G/2E/2V/2J		935 81ºF		90	**Clay (CH)** High plasticity, stiff, damp, reddish brown, odor	6
8					649 84ºF		90	**Clay (CH)** Similar to above, dry, crumbly, calcareous, odor	8
10					-- --		--	**Clay (CH)** Similar to above, no recovery	10
12					265 84ºF		90	**Clay (CH/CL)** Similar to above, becomes gray and sandy at base, odor	12
14					108 84ºF		90	**Clay (CH)** High plasticity, very stiff, dry, brown with greenish gray sand in seams, odor	14
16					74 86ºF		60	**Clayey Sand (SC)** Fine grain, loose, damp, greenish gray, odor	16

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LOG OF BORING

Boring No.: SWMU 14-7
Start Date: 7/18/2012 17:25
Finish Date: 7/18/2012 19:20

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N35º29.437' W108º25.778'

Total Depth: 24' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35º29.437' **W** 108º25.778'

Depth (ft.)	Sampling: Sample Depth	Sampling: Time	Sampling: Sample Type/ Container/No.	Sampling: Saturation	Sampling: Organic Vapor (ppm)	Sampling: USCS Class	Recovery (%)	Sample Description	Depth (ft.)
19					9.9 87ºF		70	**Clayey Sand/Sandy Clay (SC/CL)** Similar to above, trace CH reddish brown clay at base, no odor	19
21					3.2 87ºF		95	**Clay (CH)** High plasticity, very stiff, dry to damp, reddish brown, no odor	21
23	23.5-24'	1920	G/2E/ 2V/2J		3.3 87ºF		80	**Clay (CH)** Similar to above	23
25								Total Depth = 24' BGL	25
27									27
29									29
31									31
33									33
35									35

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LOG OF BORING

Boring No.: SWMU 14-8
Start Date: 7/19/2012 11:15
Finish Date: 7/19/2012 11:45

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N35°29.445' W108°25.766'

Total Depth: 2' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35°29.445' **W** 108°25.766'

Depth (ft.)	Sampling: Sample Depth	Sampling: Time	Sampling: Sample Type/ Container/No.	Sampling: Saturation	Sampling: Organic Vapor (ppm)	Sampling: USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1127	G/2E/2V/2J		8.2 82°F		100	**Fill (Gravel/Clay/Sand)** Dry to damp, brown to black, odor	0
2	1.5-2' &Dup	1140	G/4E/4V/4J		3717 82°F			Total Depth = 2' BGL	2
4									4
6									6
8									8
10									10
12									12
14									14
16									16

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LOG OF BORING

Boring No.: SWMU 14-9
Start Date: 7/18/2012 14:00
Finish Date: 7/18/2012 17:15

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N35º29.446' W108º25.757'

Total Depth: 14' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35º29.446' **W** 108º25.757'

Depth (ft.)	Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5' &Dup	1620	G/4E/4V/2J		4.9 74ºF		100	**Fill (Silt/Gravel)** Loose, dry, brown	0
	1.5-2'	1630	G/2E/2V/2J		106 74ºF		90	**Fill (Clay)** Low plasticity, soft, damp, brown, odor	
2					1712 74ºF		70	**Fill (Clay)** Similar to above, strong odor, damp	2
4	4-6'	1640	G/2E/2V/2J		1959 74ºF		90	**Sandy Clay (CL)** Moderate to low plasticity, firm to soft, dark brown, damp, strong odor	4
6					582 74ºF		90	**Sandy Clay (CL)** Similar to above, odor	6
8					10.9 74ºF		90	**Silty Clay (CL)** Low to moderate plasticity, firm, damp, brown, no odor	8
10					11.3 74ºF		90	**Clay (CH)** High plasticity, stiff, damp, brown, no odor	10
12							90	**Clay (CH)** Similar to above, no odor	12
	13-14'	1700	G/2E/2V/2J		10.8 74ºF		90	**Silty Clay (CL)** Low plasticity, stiff, damp, brown, no odor	
14								Total Depth = 14' BGL	14
16									16

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LOG OF BORING

Boring No.: SWMU 14-10
Start Date: 7/19/2012 10:20
Finish Date: 7/19/2012 11:10

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N35º29.443' W108º25.772'

Total Depth: 2' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35º29.443' **W** 108º25.772'

Depth (ft.)	Sampling: Sample Depth	Sampling: Time	Sampling: Sample Type/ Container/No.	Sampling: Saturation	Sampling: Organic Vapor (ppm)	Sampling: USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1100	G/2E/2V/2J		0.3 80ºF		100	**Fill (Gravel/Clay)** Dry, brown, no odor	0
2	1.5-2'	1105	G/2E/2V/2J		0.4 80ºF			Total Depth = 2' BGL	2
4									4
6									6
8									8
10									10
12									12
14									14
16									16

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LOG OF BORING

Boring No.: SWMU 14-11
Start Date: 7/19/2012 13:20
Finish Date: 7/19/2012 13:55

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N35º29.447' W108º25.755'

Total Depth: 2' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35º29.447' **W** 108º25.755'

Depth (ft.)	Sampling: Sample Depth	Sampling: Time	Sampling: Sample Type/ Container/No.	Sampling: Saturation	Sampling: Organic Vapor (ppm)	Sampling: USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1333	G/2E/2V/2J		5.3 80ºF		100	**Fill (Gravel/Clay)** Damp, brown, no odor	0
2	1.5-2'	1338	G/2E/2V/2J		38.5 80ºF			Total Depth = 2' BGL	2
4									4
6									6
8									8
10									10
12									12
14									14
16									16

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LOG OF BORING

Boring No.: SWMU 14-12
Start Date: 7/19/2012 12:00
Finish Date: 7/19/2012 12:20

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N35º29.441' W108º25.768'

Total Depth: 2' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35º29.441' **W** 108º25.768'

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1205	G/2E/2V/2J		949 84ºF		100	**Clay (CH)** High plasticity, soft, damp, brown to black, strong odor	0
2	1.5-2'	1212	G/2E/2V/2J		1094 84ºF			Total Depth = 2' BGL	2
4									4
6									6
8									8
10									10
12									12
14									14
16									16

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LOG OF BORING

Boring No.: SWMU 14-13
Start Date: 7/19/2012 12:20
Finish Date: 7/19/2012 12:50

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N35°29.442' W108°25.762'

Total Depth: 2' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35°29.442' **W** 108°25.762'

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
0								Ground Surface	0
	0-0.5'	1236	G/2E/2V/2J		300 87°F		100	**Clay (CH)** High plasticity, soft, damp, dark brown to black, odor, sand lense from 0.75 to 1.25' bgl	
2	1.5-2'	1245	G/2E/2V/2J		975 87°F			Total Depth = 2' BGL	2
4									4
6									6
8									8
10									10
12									12
14									14
16									16

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LOG OF BORING

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N35º29.444' W108º25.757'

Total Depth: 2' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35º29.444' **W** 108º25.757'

Boring No.: SWMU 14-14
Start Date: 7/19/2012 12:55
Finish Date: 7/19/2012 13:20

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
0								Ground Surface	0
0	0-0.5'	1307	G/2E/2V/2J		567 80ºF		100	**Clay (CL)** Low plasticity, soft, damp, dark brown, odor	0
2	1.5-2'	1312	G/2E/2V/2J		1028 80ºF		100	**Clayey Sand (SC)** Fine grain, compact, damp, black, odor	2
								Total Depth = 2' BGL	
4									4
6									6
8									8
10									10
12									12
14									14
16									16

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LOG OF BORING

Boring No.: SWMU 14-15
Start Date: 7/19/2012 17:00
Finish Date: 7/19/2012 17:20

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N35º29.438' W108º25.767'

Total Depth: 2' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35º29.438' **W** 108º25.767'

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1714	G/2E/2V/1J		2.8 84ºF		100	**Fill (Gravel/Sand)** Red sand, damp, no odor	0
2	1.5-2'	1719	G/2E/2V/1J		5000 84ºF		100	**Clayey Sand (SC)** Fine grain, compact, damp, gray to black, strong odor	2
								Total Depth = 2' BGL	
4									4
6									6
8									8
10									10
12									12
14									14
16									16

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LOG OF BORING

Boring No.: SWMU 14-16
Start Date: 7/19/2012 16:30
Finish Date: 7/19/2012 17:00

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N35º29.442' W108º25.763'

Total Depth: 2' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35º29.442' **W** 108º25.763'

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1645	G/2E/2V/1J		10.8 86ºF		100	**Fill (Silt/Sand)** Very fine grain, loose, damp, brown	0
2	1.5-2'	1651	G/2E/2V/1J		375.5 86ºF		100	**Clay (CH)** High plasticity, soft, damp, brown and black, odor	2
								Total Depth = 2' BGL	
4									4
6									6
8									8
10									10
12									12
14									14
16									16

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LOG OF BORING

Boring No.: SWMU 14-17
Start Date: 7/19/2012 15:45
Finish Date: 7/19/2012 16:30

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N35º29.442' W108º25.756'

Total Depth: 2' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35º29.442' **W** 108º25.756'

Depth (ft.)	Sampling: Sample Depth	Sampling: Time	Sampling: Sample Type/ Container/No.	Sampling: Saturation	Sampling: Organic Vapor (ppm)	Sampling: USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1611	G/2E/2V/1J		10.9 86ºF		100	**Fill (Clay/Silt)** Damp, brown, no odor	0
2	1.5-2'	1618	G/2E/2V/1J		898 86ºF		100	**Clay (CH)** High plasticity, soft, damp, brown to black, odor, oily	2
								Total Depth = 2' BGL	
4									4
6									6
8									8
10									10
12									12
14									14
16									16

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LOG OF BORING

Boring No.: SWMU 14-18
Start Date: 7/19/2012 13:55
Finish Date: 7/19/2012 14:25

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N35º29.445' W108º25.751'

Total Depth: 2' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35º29.445' **W** 108º25.751'

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1408	G/2E/2V/2J		5.0 80ºF		100	**Fill (Silt/Sand/Gravel)** Damp, brown, no odor	0
2	1.5-2'	1415	G/2E/2V/2J		2537 80ºF		100	**Clayey Sand** Fine grain sand, compact, damp, black, strong odor	2
								Total Depth = 2' BGL	
4									4
6									6
8									8
10									10
12									12
14									14
16									16

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LOG OF BORING

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N35º29.445' W108º25.744'

Total Depth: 2' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35º29.445' **W** 108º25.744'

Boring No.: SWMU 14-19
Start Date: 7/19/2012 15:15
Finish Date: 7/19/2012 15:45

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
0								Ground Surface	0
0	0-0.5'	1526	G/2E/2V/2J		4.4 86ºF		100	**Fill (Silt/Sand Clay)** Damp, reddish brown, no odor	0
2	1.5-2'	1533	G/2E/2V/2J		5.1 86ºF			Total Depth = 2' BGL	2
4									4
6									6
8									8
10									10
12									12
14									14
16									16

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LOG OF BORING

Boring No.: SWMU 14-20
Start Date: 7/19/2012 17:20
Finish Date: 7/19/2012 17:55

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket

Total Depth: 1' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N 35º29.436' **W** 108º25.739'

Comments: N35º29.436' W108º25.739'; Blank samples collected 7/19/2012 (FB071912 @1800, EB071912 @1815)

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5' &Dup	1750	G/4E/ 4V/2J		2.0 84ºF		100	**Fill (Gravel/Sand)** Compacted, very dense, dry, brown, no odor	0
								Total Depth = 1' BGL	
2									2
								Refusal at 1' bgl, no sample	
4									4
6									6
8									8
10									10
12									12
14									14
16									16

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LOG OF BORING

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N35º29.431' W108º25.765'

Total Depth: 10' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **W**

Boring No.: SWMU 14-21
Start Date: 10/9/2012 1445
Finish Date: 10/9/2012 1600

Depth (ft.)	Sampling: Sample Depth	Sampling: Time	Sampling: Sample Type/ Container/No.	Sampling: Saturation	Sampling: Organic Vapor (ppm)	Sampling: USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1535	G/2S 2M/3J		10.5 71ºF		40	**Silty Clay (CL)** Low plasticity, stiff, dry to damp, brown, no odor	0
2	1.5-2'	1545	G/2S 2M/3J		4.6 71ºF		40	**Silty Clay (CL)** Similar to above	2
4					8.6 71ºF		90	**Silty Clay (CL)** Low plasticity, soft, damp, brown, no odor	4
6					7.6 71ºF		90	**Silty Clay (CL)** Similar to above	6
8	8-10'	1600	G/2S 2M/3J		4.5 71ºF		90	**Silty Clay (CL)** Similar to above	8
10								Total Depth = 10' BGL	10
12									12
14									14
16									16

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LOG OF BORING

Boring No.: SWMU 14-22
Start Date: 10/9/2012 1610
Finish Date: 10/9/2012 1730

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon
Comments: N35º29.432' W108º25.758'

Total Depth: 10' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **W**

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1645	G/2S 2M/3J		2.9 70ºF		70	**Silty Clay (CL)** Low plasticity, stiff, dry, brown, no odor	0
2	1.5-2'	1655	G/2S 2M/3J		7.3 70ºF		40	**Silty Clay (CL)** Similar to above	2
4	4-6' &Dup	1720	G/4S 4M/6J		7.9 70ºF		90	**Silty Clay (CL)** Low plasticity, soft, damp, brown, no odor	4
6					7.3 70ºF		80	**Silty Clay (CL)** Similar to above	6
8	8-10'	1730	G/2S 2M/3J		4.9 70ºF		90	**Silty Clay (CL)** Moderate plasticity, very soft, damp, reddish brown, no odor	8
10								Total Depth = 10' BGL	10
12									12
14									14
16									16

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LOG OF BORING

Boring No.: SWMU 14-23
Start Date: 10/10/2012 1145
Finish Date: 10/10/2012 1415

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon

Total Depth: 22' bgl
Ground Water: Saturated @ 16' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **W**

Comments: N35º29.449' W108º25.749'; Temporary well set from 15-20' bgl

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
								Ground Surface	
0	0-0.5'	1345	G/2S 2M/3J		11 77ºF		70	**Fill (Silty Clay (CL))** Low plasticity, stiff, dry, brown, no odor	0
2	1.5-2'	1355	G/2S 2M/3J		14.8 77ºF		70	**Fill (Silty Clay (CL))** Similar to above	2
4					13.6 77ºF		90	**Fill (Silty Clay (CL))** Similar to above	4
6					385 77ºF		90	**Clayey Silt/Sand (SC)** Fine grain, loose, damp, brown, odor	6
8					112 77ºF		60	**Silty Clay (CL)** Moderate plasticity, soft, damp, odor, brown	8
10					315 76ºF		90	**Silty Clay (CH)** High plasticity, soft, damp, brown, odor	10
12	12-14'	1405	G/ 2M/3J		398 76ºF		90	**Silty Clay (CH)** Similar to above, odor	12
14	14-16'	1415	G/2S 2M/3J	▼ 16'	52 76ºF		90	**Clay (CH)** Similar to above, odor	14
16					120 75ºF		50	**Sandy Clay (CL)** Moderate plasticity, very dense, damp, brown, odor, water in spoon, soupy	16

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LOG OF BORING

Boring No.: SWMU 14-23
Start Date: 10/10/2012 1145
Finish Date: 10/10/2012 1415

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow-Stem Auger
Sampling Method: Split Spoon

Total Depth: 22' bgl
Ground Water: Saturated @ 16' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **W**

Comments: N35º29.449' W108º25.749'; Temporary well set from 15-20' bgl

Depth (ft.)	Sampling: Sample Depth	Sampling: Time	Sampling: Sample Type/ Container/No.	Sampling: Saturation	Sampling: Organic Vapor (ppm)	Sampling: USCS Class	Recovery (%)	Sample Description	Depth (ft.)
19							--	No Recovery	19
21							--	No Recovery	21
23								Total Depth = 22' BGL	23
25									25
27									27
29									29
31									31
33									33
35									35

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LOG OF BORING

Client: Western Refining Southwest, Inc.
Site: SWMU No. 14 - Gallup Refinery
Job No.: UEC01655
Geologist: Tracy Payne
Driller: --
Drilling Rig: --
Drilling Method: Hand Auger
Sampling Method: Auger Bucket
Comments: N35º29.438' W108º25.751'

Total Depth: 2' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **W**

Boring No.: SWMU 14-24
Start Date: 10/17/2012 0940
Finish Date: 10/17/2012 1030

Depth (ft.)	Sampling: Sample Depth	Time	Sample Type/ Container/No.	Saturation	Organic Vapor (ppm)	USCS Class	Recovery (%)	Sample Description	Depth (ft.)
0								Ground Surface	0
	0-0.5'	1015	G/2S 2M/3J		3.0 60ºF		100	**Silty Clay (CL)** Low plasticity, firm, dry to damp, brown, no odor	
2	1.5-2'	1030	G/2S 2M/3J		4.0 60ºF			Total Depth = 2' BGL	2
4									4
6									6
8									8
10									10
12									12
14									14
16									16

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Appendix E

Analytical Data Reports

Appendix F

Quality Assurance/Quality Control Review

Data Usability Summary
Western Refining Company

Data Validation Introduction: This summary presents data verification results for soil and water samples collected from the Gallup Refinery Solid Waste Management Units (SWMUs) 1 and 14. The data review was performed in accordance with the requirements of the US EPA *Functional Guidelines for Organic and Inorganic Data Review* and adherence to project objectives and quality assurance and control parameters set by the project laboratory Hall Environmental Analysis Laboratory, Inc.

Consistent with project objectives this sampling and analysis event provides current data on concentrations of chemicals of concern (COCs) in soil and ground water at the SWMUs.

A total of 234 samples were collected in July and October 2012 using standard procedures for the industry. Soil and water samples were submitted to Hall Environmental Analysis Laboratory, including quality assurance samples consisting of fourteen Equipment Blanks, ten Trip Blanks, four Field Blanks and five Methanol Blanks. Table 1 presents a summary of the field and laboratory sample identifications and sample media.

Water analytical results for the listed samples are reported on milligram per liter basis; soil on a milligram per kilogram basis. Non-detected results are reported as less than the value of the sample detection limit (SDL) with method quantitation limit data meeting acceptance limits.

All anomalies were noted in the quality control (QC) data associated with each data package.

Analyses requested included:

- Volatile organic compounds (VOCs) by USEPA Method 8260B;
- Semi-volatile organic compounds (SVOCs) by USEPA Method 8270C;
- Gasoline, diesel and motor oil range organics by SW-846 Method 8015B;
- Total recoverable metals by SW-846 Method 6010/6020;
- Cyanide by SW-846 Method 9012; and
- Mercury by USEPA Method 7470.

Quality Control Parameters Reviewed: The following QC parameters were examined:

- Chain-of-Custody (C-O-C);
- Sample preservation and temperature upon laboratory receipt;
- Holding times;
- Blank contamination (method, equipment, trip and field blanks);
- Surrogate Recovery (for organic parameters);
- Laboratory Control Sample (LCS) recovery and Relative Percent Difference (RPD);
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recovery and RPD;
- Duplicates (field and laboratory duplicates); and
- Other applicable QC parameters.

Data qualifiers used to qualify the analytical results associated with QC parameters outside of established data quality objectives are defined below.

- JH – The analyte was positively identified, however the result should be considered an estimate with a potential high bias.

- JL – The analyte was positively identified, however the result should be considered an estimate with a potential low bias.
- UJ – The reporting limit should be considered an estimated value.
- R – Quality control indicates that the data is not usable.

Results for the sampling event that required qualification based on this DUS are summarized in Table 2. Results qualified as "JH," "JL" or "UJ" are of acceptable quality and may be used quantitatively to fulfill project objectives. However, results qualified as "R" should be rejected and not used for this project.

Chain-of-Custody: The C-O-C documentation associated with project samples was found to be complete. C-O-Cs included sample identification, date and time of collection, requested parameters and relinquished/received signatures. All samples were received in the appropriate containers in good condition and met the laboratory's acceptance criteria. All sample numbers (field identification) on the C-O-C were cross-referenced to laboratory ID numbers and corresponding QC data. The laboratory correctly conducted analyses listed on the C-O-C

Sample Preservation and Temperature Upon Laboratory Receipt: Samples collected were received preserved and intact by Hall Environmental Laboratories, Inc. A few of the aqueous samples intended for metal analyses required additional preservation upon receipt. This extra step in the laboratory necessitated the qualification of some results as shown in Table 2. Data qualification for temperature was not required as samples were received at a temperature of 6.0 degrees Celsius or lower.

Holding Times: No data qualification for holding times was required as samples were extracted and analyzed within method-specified holding times.

Method Blanks: According to the LRCs and QC data summaries, method blanks were analyzed at the appropriate frequency. The few instances in which target compounds were detected in method blanks, the laboratory re-analyzed the sample with another batch. Therefore, no qualification was required for method blank contamination.

Trip Blanks: Trip blanks were analyzed as appropriate. Qualification was unnecessary as target organic compounds were not detected in the trip blank samples.

Field/Equipment Blanks: Field and equipment blanks were analyzed as appropriate. Qualification was unnecessary as target organic compounds were not detected in those samples.

Methanol Blanks: Methanol blanks were analyzed for VOCs. No analytes were detected in the methanol blanks above the respective laboratory reporting limits.

Surrogate Recovery: Surrogate recoveries for organic and inorganic analyses were performed at the required frequency and were within the acceptable ranges with a few exceptions. None of the exceptions required qualification, indicating that the method was in control and the data not adversely affected.

Laboratory Control Samples (LCS): LCS/LCS duplicates were performed at the required frequency and were within acceptance limits for percent recovery and reproducibility with the following exceptions.

- The LCS percent recovery for Trichloroethene (TCE) associated with eight samples was above acceptable limits. As TCE was not detected in those samples, no qualification was necessary.

- The reproducibility for 4-Nitrophenol and Pentachlorophenol associated with three samples were above acceptable limits. As neither compound was detected in those samples, no qualification was necessary.

- The LCS percent recovery for N-NItrosodi-n-propylamine associated with twenty samples was above acceptable limits. As the compound was not detected in those samples, no qualification was necessary.

- The LCS percent recovery for Selenium associated with eight samples was above acceptable limits. As the compound was not detected in those samples, no qualification was necessary.

Based on the LRCs, initial calibration and continuing calibration data met method requirements. Additionally, internal standards, analytical duplicate data and interference check standards were acceptable.

Matrix Spike (MS)/Matrix Spike Duplicate (MSD): MS/MSD samples were performed at the required frequency and MS/MSD percent recoveries and reproducibility were within acceptable limits except for the following:

- SWMU 1-1. MS recoveries for Acenapthene and Pyrene were low; N-Nitrosodi-n-propylamine and 4-Nitrophenol were unacceptably low.

- SWMU 1-5. MS recoveries for Antimony and Selenium were unacceptably low.

- SWMU 1-13. MS recovery for Diesel Range Organics was low.

- SWMU 1-17. MS recovery for Selenium was low; Antimony unacceptably low.

- SWMU 1-24. MS recovery for Antimony was unacceptably low. Selenium reproducibility was above acceptable limits but no additional qualification was required.

- SWMU 1-28. MS recovery for Antimony was low.

- SWMU 1-37. MS recovery for Diesel Range Organics was low.

- SWMU 14-2. MS recoveries for Antimony, Selenium, Vanadium and Zinc were low.

- SWMU 14-6. MS recovery for Gasoline Range Organics was low. Selenium, 1,2,4-Trichlorobenzene, 1,4-Dichlorobenzene, N-Nitrosodi-n-propylamine and Gasoline Range Organics reproducibilities were above acceptable limits but no additional qualification was required.

- SWMU 14-7. MS recovery for Antimony was high. N-Nitrosodi-n-propylamine reproducibility was unacceptable but no additional qualification was required.

- SWMU 14-10. MS recovery for Mercury was high.

- SWMU 14-19. MS recoveries for Antimony and Selenium were low. Antimony reproducibility was unacceptable but no additional qualification was required.

- SWMU 14-22. MS recoveries for Antimony, Chromium, Selenium and Zinc were low.

- SWMU 14-23. MS recoveries for Cobalt, Lead, Nickel and Selenium were low. Antimony reproducibility was above acceptable limits but no additional qualification was required.

These results are listed with the appropriate qualification in Table 2.

Field Precision – Field Duplicate Data: Field duplicate precision calculations were performed for sixteen duplicate sample sets. Precision was not calculated for an individual analyte if not detected in both the sample and duplicate. When not detected in either the sample or the duplicate, the analyte RDL was used as the concentration in the non-detected sample (Table 3). A field duplicate precision of 20% target determined the qualification shown in Table 3. Although a smaller actual difference between sample/duplicate results indicates a reduced chance of problems with reported results, all "J" qualified results should be viewed as estimates.

Summary: Qualified results are listed in Table 2. The analytical data are usable for the purpose of determining COC concentrations with the exception of the Antimony, Selenium, 4-Nitrophenol and N-Nitrosodi–n-propylamine results requiring "R" qualification. All rejections were required by very low MS recovery of non-detect compounds, but this only occurred in a small number of samples.

Table 1. Cross Reference List - Field and Laboratory ID Numbers

Lab ID	Field ID	Date Sampled	Media
1210372-001	SWMU 1-1 (2-4')	10/5/2012	Soil
1210372-002	SWMU 1-1 (10-12')	10/5/2012	Soil
1210372-003	SWMU 1-1 (13-14')	10/5/2012	Soil
1210372-004	SWMU 1-8 (16-18')	10/5/2012	Soil
1210372-005	SWMU 1-8 (19-20')	10/5/2012	Soil
1210372-006	SWMU 1-8 (4-6')	10/5/2012	Soil
1210372-007	SWMU 1-8 (10-12')	10/5/2012	Soil
1210372-008	SWMU 1-8 (12-14')	10/5/2012	Soil
1210372-009	SWMU 1-8 (16-18')	10/5/2012	Soil
1210372-010	EB100512	10/5/2012	Water
1210372-011	Trip Blank		Water
1210372-012	SWMU 1-4 GW	10/5/2012	Water
1210372-013	SWMU 1-5 GW	10/5/2012	Water
1210372-014	SWMU 1-8 GW	10/5/2012	Water
1210372-015	SWMU 1-7 (16-18')	10/4/2012	Soil
1210372-016	SWMU 1-6 (10-11')	10/4/2012	Soil
1210372-017	SWMU 1-6 (11-12')	10/4/2012	Soil
1210372-018	SWMU 1-7 (12-14')	10/4/2012	Soil
1210372-019	SWMU 1-7 (14-16')	10/4/2012	Soil
1210372-020	SWMU 1-6 (2-4')	10/4/2012	Soil
1210372-021	SWMU 1-6 (2-4') DUP	10/4/2012	Soil
1210372-022	SWMU 1-6 (4-6')	10/4/2012	Soil
1210372-023	SWMU 1-6 (7.5-8')	10/4/2012	Soil
1210372-024	EB100412	10/4/2012	Water
1210372-025	Trip Blank		Water
1210372-026	SWMU 1-4 GW	10/4/2012	Water
1210372-027	SWMU 1-6 GW	10/4/2012	Water
1210372-028	SWMU 1-7 GW	10/4/2012	Water
1210332-001	SWMU 1-4 (10-12') DUP	10/3/2012	Soil
1210332-002	SWMU 1-4 (17-18')	10/3/2012	Soil
1210332-003	SWMU 1-4 (23-24')	10/3/2012	Soil
1210332-004	Trip Blank		Water
1210332-005	SWMU 1-3 GW	10/3/2012	Water
1210332-006	SWMU 1-4 (8-10')	10/3/2012	Soil
1210332-007	SWMU 1-4 (10-12')	10/3/2012	Soil
1210332-008	SWMU 1-5 (26-27')	10/3/2012	Soil
1210332-009	SWMU 1-5 (27-28')	10/3/2012	Soil
1210332-010	EB100312	10/3/2012	Water
1210332-011	MeOH Blank 100312	10/3/2012	MEOH BLAN
1210332-012	SWMU 1-5 (10-12')	10/3/2012	Soil
1210332-013	SWMU 1-5 (14-16')	10/3/2012	Soil
1210332-014	SWMU 1-5 (16-18')	10/3/2012	Soil
1210332-015	SWMU 1-5 (24-25')	10/3/2012	Soil
1210279-001	SWMU 1-2 (6-8')	10/2/2012	Soil
1210279-002	SWMU 1-2 (10-11')	10/2/2012	Soil
1210279-003	SWMU 1-2 (14-16')	10/2/2012	Soil
1210279-004	SWMU 1-2 (17-17.25')	10/2/2012	Soil
1210279-005	SWMU 1-2 (19.5-20')	10/2/2012	Soil
1210279-006	SWMU 1-2 GW	10/2/2012	Water
1210279-007	Trip Blank		Water
1210279-008	SWMU 1-3 (2-4')	10/2/2012	Soil
1210279-009	SWMU 1-3 (10-11')	10/2/2012	Soil

Table 1. Cross Reference List - Field and Laboratory ID Numbers

Lab ID	Field ID	Date Sampled	Media
1210279-010	SWMU 1-3 (11-11.25')	10/2/2012	Soil
1210279-011	SWMU 1-3 (18.5-19.5')	10/2/2012	Soil
1210279-012	SWMU 1-3 (19.5-20')	10/2/2012	Soil
1210279-013	EB100212	10/2/2012	Water
1210521-001	SWMU 1-24 (0-0.5')	10/8/2012	Soil
1210521-002	SWMU 1-24 (0-0.5') DUP	10/8/2012	Soil
1210521-003	SWMU 1-24 (1.5-2')	10/8/2012	Soil
1210521-004	SWMU 1-24 (10.5-11.5')	10/8/2012	Soil
1210521-005	SWMU 1-24 (16-18')	10/8/2012	Soil
1210521-006	SWMU 1-24 (24-26')	10/8/2012	Soil
1210521-007	SWMU 1-24 (32-34')	10/8/2012	Soil
1210521-008	MeOH Blank	10/8/2012	MEOH (SOIL)
1210653-001	SWMU 1-37 (0-0.5')	10/10/2012	Soil
1210653-002	SWMU 1-37 (1.5-2')	10/10/2012	Soil
1210653-003	SWMU 1-37 (8-8.5')	10/10/2012	Soil
1210653-004	SWMU 1-37 (8.5-9')	10/10/2012	Soil
1210653-005	SWMU 1-37 (12-13')	10/10/2012	Soil
1210653-006	SWMU 1-37 (13-14')	10/10/2012	Soil
1210653-007	SWMU 1-37 (17-18')	10/10/2012	Soil
1210660-001	SWMU 1-24 GW	10/10/2012	Water
1210660-002	SWMU 1-24 GW DUP	10/10/2012	Water
1210660-003	Trip Blank		Water
1210660-004	EB101012	10/10/2012	Water
1210692-001	SWMU 1-20 (0-0.5')	10/11/2012	Soil
1210692-002	SWMU 1-20 (0-0.5') DUP	10/11/2012	Soil
1210692-003	SWMU 1-20 (1.5-2')	10/11/2012	Soil
1210692-004	SWMU 1-20 (4-6')	10/11/2012	Soil
1210692-005	SWMU 1-20 (10-12')	10/11/2012	Soil
1210692-006	SWMU 1-38 (0-0.5')	10/11/2012	Soil
1210692-007	SWMU 1-38 (1.5-2')	10/11/2012	Soil
1210692-008	SWMU 1-38 (6-8')	10/11/2012	Soil
1210692-009	SWMU 1-27 (0-0.5')	10/12/2012	Soil
1210692-010	SWMU 1-27 (1.5-2')	10/12/2012	Soil
1210692-011	SWMU 1-28 (0-0.5')	10/12/2012	Soil
1210692-012	SWMU 1-28 (1.5-2')	10/12/2012	Soil
1210692-013	SWMU 1-28 (1.5-2') DUP	10/12/2012	Soil
1210692-014	SWMU 1-30 (0-0.5')	10/12/2012	Soil
1210692-015	SWMU 1-30 (1.5-2')	10/12/2012	Soil
1210692-016	SWMU 1-30 (4-6')	10/12/2012	Soil
1210692-017	SWMU 1-35 (0-0.5')	10/12/2012	Soil
1210692-018	SWMU 1-35 (1.5-2')	10/12/2012	Soil
1210692-019	SWMU 1-35 (4-6')	10/12/2012	Soil
1210692-020	MeOH Blank	10/12/2012	MEOH (SOIL)
1210692-021	SWMU 1-13 (0-0.5')	10/12/2012	Soil
1210692-022	SWMU 1-13 (1.5-2')	10/12/2012	Soil
1210692-023	SWMU 1-13 (2-4')	10/12/2012	Soil
1210692-024	SWMU 1-13 (4-6')	10/12/2012	Soil
1210692-025	SWMU 1-13 (4-6') DUP	10/12/2012	Soil
1210692-026	SWMU 1-37 GW	10/11/2012	Water
1210692-027	EB101112	10/11/2012	Water
1210692-028	EB101212	10/12/2012	Water
1210692-029	Trip Blank		Water

Table 1. Cross Reference List - Field and Laboratory ID Numbers

Lab ID	Field ID	Date Sampled	Media
1210811-001	SWMU 1-9 (0-0.5')	10/15/2012	Soil
1210811-002	SWMU 1-9 (1.5-2')	10/15/2012	Soil
1210811-003	SWMU 1-10 (0-0.5')	10/15/2012	Soil
1210811-004	SWMU 1-10 (1.5-2')	10/15/2012	Soil
1210811-005	SWMU 1-11 (0-0.5')	10/15/2012	Soil
1210811-006	SWMU 1-11 (1.5-2')	10/15/2012	Soil
1210811-007	SWMU 1-12 (0-0.5')	10/15/2012	Soil
1210811-008	SWMU 1-12 (0.5-1')	10/15/2012	Soil
1210811-009	SWMU 1-14 (0-0.5')	10/15/2012	Soil
1210811-010	SWMU 1-14 (1.5-2')	10/15/2012	Soil
1210811-011	SWMU 1-14 (1.5-2') DUP	10/15/2012	Soil
1210811-012	SWMU 1-15 (0-0.5')	10/15/2012	Soil
1210811-013	SWMU 1-15 (1.5-2')	10/15/2012	Soil
1210811-014	SWMU 1-16 (0-0.5')	10/15/2012	Soil
1210811-015	SWMU 1-16 (1.5-2')	10/15/2012	Soil
1210811-016	SWMU 1-17 (0-0.5')	10/15/2012	Soil
1210811-017	SWMU 1-17 (1-1.5')	10/15/2012	Soil
1210811-018	EB101512	10/15/2012	Water
1210856-001	SWMU 1-31 (0-0.5')	10/16/2012	Soil
1210856-002	SWMU 1-32 (0-0.5')	10/16/2012	Soil
1210856-003	SWMU 1-32 (0-0.5') DUP	10/16/2012	Soil
1210856-004	SWMU 1-33 (0-0.5')	10/16/2012	Soil
1210856-005	SWMU 1-34 (0-0.5')	10/16/2012	Soil
1210856-006	SWMU 1-36 (0-0.5')	10/16/2012	Soil
1210858-001	SWMU 1-18 (0-0.5')	10/16/2012	Soil
1210858-002	SWMU 1-18 (1-1.5')	10/16/2012	Soil
1210858-003	SWMU 1-19 (0-0.5')	10/16/2012	Soil
1210858-004	SWMU 1-21 (0-0.5')	10/16/2012	Soil
1210858-005	SWMU 1-21 (0-0.5') DUP	10/16/2012	Soil
1210858-006	SWMU 1-22 (0-0.5')	10/16/2012	Soil
1210858-007	SWMU 1-22 (1.5-2')	10/16/2012	Soil
1210858-008	MeOH Blank	10/16/2012	MEOH (SOIL)
1210859-001	SWMU 1-23 (0-0.5')	10/16/2012	Soil
1210859-002	SWMU 1-39 (0-0.5')	10/16/2012	Soil
1210859-003	SWMU 1-25 (0-0.5')	10/16/2012	Soil
1210859-004	SWMU 1-25 (0.5-1')	10/16/2012	Soil
1210859-005	SWMU 1-26 (0-0.5')	10/16/2012	Soil
1210859-006	SWMU 1-29 (0-0.5')	10/16/2012	Soil
1207748-001	SWMU 14-1 (0-0.5')	7/16/2012	Soil
1207748-002	SWMU 14-1 (1.5-2')	7/16/2012	Soil
1207748-003	SWMU 14-1 (10-12')	7/16/2012	Soil
1207900-001	SWMU 14-3 (0-0.5')	7/18/2012	Soil
1207900-002	SWMU 14-3 (1.5-2')	7/18/2012	Soil
1207900-003	SWMU 14-3 (8-10')	7/18/2012	Soil
1207900-004	SWMU 14-3 (12-14')	7/18/2012	Soil
1207900-005	SWMU 14-3 (22.5-26')	7/18/2012	Soil
1207900-006	SWMU 14-1 (48-50')	7/18/2012	Soil
1207900-007	SWMU 14-3 GW	7/18/2012	Water
1207900-008	FB071812	7/18/2012	Water
1207900-009	Trip Blank		Water
1207917-001	SWMU 14-4 (0-0.5')	7/17/2012	Soil
1207917-002	SWMU 14-4 (1.5-2')	7/17/2012	Soil

Table 1. Cross Reference List - Field and Laboratory ID Numbers

Lab ID	Field ID	Date Sampled	Media
1207917-003	SWMU 14-4 (10-12')	7/17/2012	Soil
1207917-004	SWMU 14-4 (19.5-20')	7/17/2012	Soil
1207917-005	SWMU 14-2 (0-0.5')	7/17/2012	Soil
1207917-006	SWMU 14-2 (1.5-2')	7/17/2012	Soil
1207917-007	SWMU 14-2 (8-10')	7/17/2012	Soil
1207917-008	SWMU 14-2 (8-10') DUP	7/17/2012	Soil
1207917-009	SWMU 14-2 (16-18')	7/17/2012	Soil
1207917-010	SWMU 14-2 (24-25')	7/17/2012	Soil
1207917-011	FB071712	7/17/2012	Water
1207917-012	EB071712	7/17/2012	Water
1207917-013	Trip Blank		Water
1207922-001	SWMU 14-9 (0-0.5')	7/18/2012	Soil
1207922-002	SWMU 14-9 (0-0.5') DUP	7/18/2012	Soil
1207922-003	SWMU 14-9 (1.5-2')	7/18/2012	Soil
1207922-004	SWMU 14-9 (4-6')	7/18/2012	Soil
1207922-005	SWMU 14-9 (13-14')	7/18/2012	Soil
1207922-006	SWMU 14-7 (0-0.5')	7/18/2012	Soil
1207922-007	SWMU 14-7 (1.5-2')	7/18/2012	Soil
1207922-008	SWMU 14-7 (6-8')	7/18/2012	Soil
1207922-009	SWMU 14-7 (23.5-24')	7/18/2012	Soil
1207922-010	EB071812	7/18/2012	Water
1210860-001	SWMU 14-24 (0-0.5')	10/17/2012	Soil
1210860-002	SWMU 14-24 (1.5-2')	10/17/2012	Soil
1210860-003	EB101712	10/17/2012	Water
1210860-004	SWMU 14-OAPIS-1GW	10/16/2012	Water
1210860-005	EB101612	10/16/2012	Water
1210860-006	Trip Blank		Water
1210656-001	SWMU 14-23 (0-0.5')	10/10/2012	Soil
1210656-002	SWMU 14-23 (1.5-2')	10/10/2012	Soil
1210656-003	SWMU 14-23 (12-14')	10/10/2012	Soil
1210656-004	SWMU 14-23 (14-16')	10/10/2012	Soil
1210585-001	EB100912	10/9/2012	Water
1210585-002	FB100912	10/9/2012	Water
1210583-001	SWMU 14-22 (0-0.5')	10/9/2012	Soil
1210583-002	SWMU 14-22 (1.5-2')	10/9/2012	Soil
1210583-003	SWMU 14-22 (4-6')	10/9/2012	Soil
1210583-004	SWMU 14-22 (4-6') DUP	10/9/2012	Soil
1210583-005	SWMU 14-22 (8-10')	10/9/2012	Soil
1210582-001	SWMU 14-6 (0-0.5')	10/9/2012	Soil
1210582-002	SWMU 14-6 (1.5-2')	10/9/2012	Soil
1210582-003	SWMU 14-6 (10-12')	10/9/2012	Soil
1210582-004	SWMU 14-6 (17-18')	10/9/2012	Soil
1210582-005	SWMU 14-21 (0-0.5')	10/9/2012	Soil
1210582-006	SWMU 14-21 (1.5-2')	10/9/2012	Soil
1210582-007	SWMU 14-21 (8-10')	10/9/2012	Soil
1207940-001	SWMU 14-10 (0-0.5')	7/19/2012	Soil
1207940-002	SWMU 14-10 (1.5-2')	7/19/2012	Soil
1207940-003	SWMU 14-8 (0-0.5')	7/19/2012	Soil
1207940-004	SWMU 14-8 (1.5-2')	7/19/2012	Soil
1207940-005	SWMU 14-8 (1.5-2') DUP	7/19/2012	Soil
1207940-006	SWMU 14-12 (0-0.5')	7/19/2012	Soil
1207940-007	SWMU 14-12 (1.5-2')	7/19/2012	Soil

Table 1. Cross Reference List - Field and Laboratory ID Numbers

Lab ID	Field ID	Date Sampled	Media
1207940-008	SWMU 14-13 (0-0.5')	7/19/2012	Soil
1207940-009	SWMU 14-13 (1.5-2')	7/19/2012	Soil
1207940-010	SWMU 14-14 (0-0.5')	7/19/2012	Soil
1207940-011	SWMU 14-14 (1.5-2')	7/19/2012	Soil
1207940-012	SWMU 14-11 (0-0.5')	7/19/2012	Soil
1207940-013	SWMU 14-11 (1.5-2')	7/19/2012	Soil
1207940-014	SWMU 14-18 (0-0.5')	7/19/2012	Soil
1207940-015	SWMU 14-18 (1.5-2')	7/19/2012	Soil
1207940-016	SWMU 14-5 (0-0.5')	7/19/2012	Soil
1207940-017	SWMU 14-5 (0-0.5') DUP	7/19/2012	Soil
1207940-018	SWMU 14-5 (1.5-2')	7/19/2012	Soil
1207940-019	SWMU 14-19 (0-0.5')	7/19/2012	Soil
1207940-020	SWMU 14-19 (1.5-2')	7/19/2012	Soil
1207940-021	SWMU 14-17 (0-0.5')	7/19/2012	Soil
1207940-022	SWMU 14-17 (1.5-2')	7/19/2012	Soil
1207940-023	SWMU 14-16 (0-0.5')	7/19/2012	Soil
1207940-024	SWMU 14-16 (1.5-2')	7/19/2012	Soil
1207940-025	SWMU 14-15 (0-0.5')	7/19/2012	Soil
1207940-026	SWMU 14-15 (1.5-2')	7/19/2012	Soil
1207940-027	SWMU 14-20 (0-0.5')	7/19/2012	Soil
1207940-028	SWMU 14-20 (0-0.5') DUP	7/19/2012	Soil
1207940-029	SWMU 14-2 GW	7/19/2012	Water
1207940-030	FB071912	7/19/2012	Water
1207940-031	EB071912	7/19/2012	Water
1207940-032	Trip Blank		Water
1207940-033	MEOH Blank	7/19/2012	MEOH BLAN

Table 2. TRRP Data Qualification

Analyte	Sample ID	Lab ID	Method	Sample Date	Result	Units	Qualifier
4-Nitrophenol	SWMU 1-1 (2-4')	1210372-001	8270C	10/5/12	<1.2538	mg/kg	R
N-Nitrosodi-n-propylamine	SWMU 1-1 (2-4')	1210372-001	8270C	10/5/12	<1.003	mg/kg	R
Pyrene	SWMU 1-1 (2-4')	1210372-001	8270C	10/5/12	1.5	mg/kg	JL
4-Nitrophenol	SWMU 1-1 (10-12')	1210372-002	8270C	10/5/12	<0.251	mg/kg	R
N-Nitrosodi-n-propylamine	SWMU 1-1 (10-12')	1210372-002	8270C	10/5/12	<0.2008	mg/kg	R
Pyrene	SWMU 1-1 (10-12')	1210372-002	8270C	10/5/12	<0.2008	mg/kg	UJ
4-Nitrophenol	SWMU 1-1 (13-14')	1210372-003	8270C	10/5/12	<0.2484	mg/kg	R
N-Nitrosodi-n-propylamine	SWMU 1-1 (13-14')	1210372-003	8270C	10/5/12	<0.1987	mg/kg	R
Pyrene	SWMU 1-1 (13-14')	1210372-003	8270C	10/5/12	<0.1987	mg/kg	UJ
Antimony	SWMU 1-5 (10-12')	1210332-012	6010/6020	10/3/12	<12.5	mg/kg	R
Selenium	SWMU 1-5 (10-12')	1210332-012	6010/6020	10/3/12	<12.5	mg/kg	R
Antimony	SWMU 1-5 (14-16')	1210332-013	6010/6020	10/3/12	<12.5	mg/kg	R
Selenium	SWMU 1-5 (14-16')	1210332-013	6010/6020	10/3/12	<12.5	mg/kg	R
Antimony	SWMU 1-5 (16-18')	1210332-014	6010/6020	10/3/12	<12.5	mg/kg	R
Selenium	SWMU 1-5 (16-18')	1210332-014	6010/6020	10/3/12	<12.5	mg/kg	R
Pyrene	SWMU 1-5 (16-18')	1210332-014	8270C	10/3/12	<0.1993	mg/kg	UJ
Antimony	SWMU 1-5 (24-25')	1210332-015	6010/6020	10/3/12	<12.5	mg/kg	R
Selenium	SWMU 1-5 (24-25')	1210332-015	6010/6020	10/3/12	<12.5	mg/kg	R
Antimony	SWMU 1-5 (26-27')	1210332-008	6010/6020	10/3/12	<2.5	mg/kg	R
Selenium	SWMU 1-5 (26-27')	1210332-008	6010/6020	10/3/12	<2.5	mg/kg	R
Antimony	SWMU 1-5 (27-28')	1210332-009	6010/6020	10/3/12	<12.5	mg/kg	R
Selenium	SWMU 1-5 (27-28')	1210332-009	6010/6020	10/3/12	<12.5	mg/kg	R
Antimony	SWMU 1-13 (1.5-2')	1210692-022	6010/6020	10/12/2012	<5.0004	mg/kg	UJL
Antimony	SWMU 1-13 (2-4')	1210692-023	6010/6020	10/12/2012	<4.9999	mg/kg	UJL
Antimony	SWMU 1-13 (4-6')	1210692-024	6010/6020	10/12/2012	<4.9997	mg/kg	UJL
Antimony	SWMU 1-13 (4-6') DUP	1210692-024	6010/6020	10/12/2012	<5	mg/kg	UJL
Antimony	SWMU 1-17 (0-0.5')	1210811-016	6010/6020	10/15/2012	<5	mg/kg	R
Selenium	SWMU 1-17 (0-0.5')	1210811-016	6010/6020	10/15/2012	<5	mg/kg	UJL
Antimony	SWMU 1-17 (1-1.5')	1210811-017	6010/6020	10/15/2012	<5	mg/kg	R
Selenium	SWMU 1-17 (1-1.5')	1210811-017	6010/6020	10/15/2012	<5	mg/kg	UJL
Antimony	SWMU 1-20 (0-0.5') DUP	1210692-002	6010/6020	10/11/2012	<12.5	mg/kg	UJL
Antimony	SWMU 1-20 (1.5-2')	1210692-003	6010/6020	10/11/2012	<12.5002	mg/kg	UJL
Antimony	SWMU 1-24 (24-26')	1210521-006	6010/6020	10/8/2012	<12.5	mg/kg	R
Antimony	SWMU 1-24 (32-34')	1210521-007	6010/6020	10/8/2012	<12.5	mg/kg	R
Antimony	SWMU 1-27 (1.5-2')	1210692-010	6010/6020	10/12/2012	<12.5004	mg/kg	UJL
Antimony	SWMU 1-28 (0-0.5')	1210692-011	6010/6020	10/12/2012	<5	mg/kg	UJL
Antimony	SWMU 1-28 (1.5-2')	1210692-012	6010/6020	10/12/2012	<5	mg/kg	UJL
Diesel Range Organics (DRO)	SWMU 1-28 (1.5-2')	1210692-012	6010/6020	10/12/2012	<10.0301	mg/kg	UJ
Antimony	SWMU 1-28 (1.5-2') DUP	1210692-013	6010/6020	10/12/2012	<12.4997	mg/kg	UJL
Diesel Range Organics (DRO)	SWMU 1-28 (1.5-2') DUP	1210692-013	6010/6020	10/12/2012	<9.9305	mg/kg	UJ
Antimony	SWMU 1-2 GW	1210279-006	6010/6020	10/2/2012	<0.0125	mg/l	UJL
Arsenic	SWMU 1-2 GW	1210279-006	6010/6020	10/2/2012	0.063	mg/l	JL
Barium	SWMU 1-2 GW	1210279-006	6010/6020	10/2/2012	56	mg/l	JL
Beryllium	SWMU 1-2 GW	1210279-006	6010/6020	10/2/2012	0.21	mg/l	JL
Cadmium	SWMU 1-2 GW	1210279-006	6010/6020	10/2/2012	<0.05	mg/l	UJL
Chromium	SWMU 1-2 GW	1210279-006	6010/6020	10/2/2012	0.31	mg/l	JL
Cobalt	SWMU 1-2 GW	1210279-006	6010/6020	10/2/2012	0.53	mg/l	JL
Cyanide	SWMU 1-2 GW	1210279-006	9012	10/2/2012	0.037	mg/l	JL
Iron	SWMU 1-2 GW	1210279-006	6010/6020	10/2/2012	140	mg/l	JL
Lead	SWMU 1-2 GW	1210279-006	6010/6020	10/2/2012	1.7	mg/l	JL
Manganese	SWMU 1-2 GW	1210279-006	6010/6020	10/2/2012	95	mg/l	JL
Mercury	SWMU 1-2 GW	1210279-006	7470	10/2/2012	0.00027	mg/l	JL

Table 2. TRRP Data Qualification

Analyte	Sample ID	Lab ID	Method	Sample Date	Result	Units	Qualifier
Nickel	SWMU 1-2 GW	1210279-006	6010/6020	10/2/2012	0.95	mg/l	JL
Selenium	SWMU 1-2 GW	1210279-006	6010/6020	10/2/2012	0.059	mg/l	JL
Silver	SWMU 1-2 GW	1210279-006	6010/6020	10/2/2012	<0.125	mg/l	UJL
Vanadium	SWMU 1-2 GW	1210279-006	6010/6020	10/2/2012	<1.25	mg/l	UJL
Zinc	SWMU 1-2 GW	1210279-006	6010/6020	10/2/2012	1.1	mg/l	JL
Antimony	SWMU 1-3 GW	1210332-005	6010/6020	10/3/2012	<0.0025	mg/l	UJL
Arsenic	SWMU 1-3 GW	1210332-005	6010/6020	10/3/2012	0.015	mg/l	JL
Barium	SWMU 1-3 GW	1210332-005	6010/6020	10/3/2012	0.54	mg/l	JL
Beryllium	SWMU 1-3 GW	1210332-005	6010/6020	10/3/2012	0.0066	mg/l	JL
Cadmium	SWMU 1-3 GW	1210332-005	6010/6020	10/3/2012	<0.002	mg/l	UJL
Chromium	SWMU 1-3 GW	1210332-005	6010/6020	10/3/2012	0.015	mg/l	JL
Cobalt	SWMU 1-3 GW	1210332-005	6010/6020	10/3/2012	0.043	mg/l	JL
Cyanide	SWMU 1-3 GW	1210332-005	9012	10/3/2012	0.032	mg/l	JL
Iron	SWMU 1-3 GW	1210332-005	6010/6020	10/3/2012	20	mg/l	JL
Lead	SWMU 1-3 GW	1210332-005	6010/6020	10/3/2012	0.057	mg/l	JL
Manganese	SWMU 1-3 GW	1210332-005	6010/6020	10/3/2012	2.1	mg/l	JL
Mercury	SWMU 1-3 GW	1210332-005	7470	10/3/2012	<0.0002	mg/l	UJL
Nickel	SWMU 1-3 GW	1210332-005	6010/6020	10/3/2012	0.35	mg/l	JL
Selenium	SWMU 1-3 GW	1210332-005	6010/6020	10/3/2012	0.0097	mg/l	JL
Silver	SWMU 1-3 GW	1210332-005	6010/6020	10/3/2012	<0.005	mg/l	UJL
Vanadium	SWMU 1-3 GW	1210332-005	6010/6020	10/3/2012	<0.05	mg/l	UJL
Zinc	SWMU 1-3 GW	1210332-005	6010/6020	10/3/2012	0.068	mg/l	JL
Antimony	SWMU 1-6 GW	1210372-027	6010/6020	10/4/2012	<0.005	mg/l	UJL
Arsenic	SWMU 1-6 GW	1210372-027	6010/6020	10/4/2012	0.054	mg/l	JL
Barium	SWMU 1-6 GW	1210372-027	6010/6020	10/4/2012	3.4	mg/l	JL
Beryllium	SWMU 1-6 GW	1210372-027	6010/6020	10/4/2012	0.041	mg/l	JL
Cadmium	SWMU 1-6 GW	1210372-027	6010/6020	10/4/2012	<0.02	mg/l	UJL
Chromium	SWMU 1-6 GW	1210372-027	6010/6020	10/4/2012	0.16	mg/l	JL
Cobalt	SWMU 1-6 GW	1210372-027	6010/6020	10/4/2012	0.27	mg/l	JL
Cyanide	SWMU 1-6 GW	1210372-027	9012	10/4/2012	0.028	mg/l	JL
Iron	SWMU 1-6 GW	1210372-027	6010/6020	10/4/2012	94	mg/l	JL
Lead	SWMU 1-6 GW	1210372-027	6010/6020	10/4/2012	0.29	mg/l	JL
Manganese	SWMU 1-6 GW	1210372-027	6010/6020	10/4/2012	39	mg/l	JL
Mercury	SWMU 1-6 GW	1210372-027	7470	10/4/2012	0.00021	mg/l	UJL
Nickel	SWMU 1-6 GW	1210372-027	6010/6020	10/4/2012	0.55	mg/l	JL
Selenium	SWMU 1-6 GW	1210372-027	6010/6020	10/4/2012	0.024	mg/l	JL
Silver	SWMU 1-6 GW	1210372-027	6010/6020	10/4/2012	<0.05	mg/l	UJL
Vanadium	SWMU 1-6 GW	1210372-027	6010/6020	10/4/2012	<0.5	mg/l	UJL
Zinc	SWMU 1-6 GW	1210372-027	6010/6020	10/4/2012	0.88	mg/l	JL
Antimony	SWMU 1-7 GW	1210372-028	6010/6020	10/4/2012	<0.005	mg/l	UJL
Arsenic	SWMU 1-7 GW	1210372-028	6010/6020	10/4/2012	0.046	mg/l	JL
Barium	SWMU 1-7 GW	1210372-028	6010/6020	10/4/2012	3.2	mg/l	JL
Beryllium	SWMU 1-7 GW	1210372-028	6010/6020	10/4/2012	0.051	mg/l	JL
Cadmium	SWMU 1-7 GW	1210372-028	6010/6020	10/4/2012	<0.02	mg/l	UJL
Chromium	SWMU 1-7 GW	1210372-028	6010/6020	10/4/2012	0.17	mg/l	JL
Cobalt	SWMU 1-7 GW	1210372-028	6010/6020	10/4/2012	0.16	mg/l	JL
Cyanide	SWMU 1-7 GW	1210372-028	9012	10/4/2012	0.052	mg/l	JL
Iron	SWMU 1-7 GW	1210372-028	6010/6020	10/4/2012	130	mg/l	JL
Lead	SWMU 1-7 GW	1210372-028	6010/6020	10/4/2012	0.34	mg/l	JL
Manganese	SWMU 1-7 GW	1210372-028	6010/6020	10/4/2012	33	mg/l	JL
Mercury	SWMU 1-7 GW	1210372-028	7470	10/4/2012	0.00034	mg/l	UJL
Nickel	SWMU 1-7 GW	1210372-028	6010/6020	10/4/2012	0.46	mg/l	JL
Selenium	SWMU 1-7 GW	1210372-028	6010/6020	10/4/2012	0.022	mg/l	JL
Silver	SWMU 1-7 GW	1210372-028	6010/6020	10/4/2012	<0.05	mg/l	UJL

Table 2. TRRP Data Qualification

Analyte	Sample ID	Lab ID	Method	Sample Date	Result	Units	Qualifier
Vanadium	SWMU 1-7 GW	1210372-028	6010/6020	10/4/2012	<0.5	mg/l	UJL
Zinc	SWMU 1-7 GW	1210372-028	6010/6020	10/4/2012	0.42	mg/l	JL
Antimony	SWMU 1-8 GW	1210372-014	6010/6020	10/5/2012	<0.005	mg/l	UJL
Arsenic	SWMU 1-8 GW	1210372-014	6010/6020	10/5/2012	0.032	mg/l	JL
Barium	SWMU 1-8 GW	1210372-014	6010/6020	10/5/2012	4.7	mg/l	JL
Beryllium	SWMU 1-8 GW	1210372-014	6010/6020	10/5/2012	0.0065	mg/l	JL
Cadmium	SWMU 1-8 GW	1210372-014	6010/6020	10/5/2012	<0.004	mg/l	UJL
Chromium	SWMU 1-8 GW	1210372-014	6010/6020	10/5/2012	0.058	mg/l	JL
Cobalt	SWMU 1-8 GW	1210372-014	6010/6020	10/5/2012	0.053	mg/l	JL
Cyanide	SWMU 1-8 GW	1210372-014	9012	10/5/2012	0.018	mg/l	JL
Iron	SWMU 1-8 GW	1210372-014	6010/6020	10/5/2012	39	mg/l	JL
Lead	SWMU 1-8 GW	1210372-014	6010/6020	10/5/2012	0.078	mg/l	JL
Manganese	SWMU 1-8 GW	1210372-014	6010/6020	10/5/2012	7.9	mg/l	JL
Mercury	SWMU 1-8 GW	1210372-014	7470	10/5/2012	<0.0002	mg/l	UJL
Nickel	SWMU 1-8 GW	1210372-014	6010/6020	10/5/2012	0.11	mg/l	JL
Selenium	SWMU 1-8 GW	1210372-014	6010/6020	10/5/2012	0.0075	mg/l	JL
Silver	SWMU 1-8 GW	1210372-014	6010/6020	10/5/2012	<0.01	mg/l	UJL
Vanadium	SWMU 1-8 GW	1210372-014	6010/6020	10/5/2012	<0.1	mg/l	UJL
Zinc	SWMU 1-8 GW	1210372-014	6010/6020	10/5/2012	0.11	mg/l	JL
Antimony	SWMU 1-24 GW	1210660-001	6010/6020	10/10/2012	<0.005	mg/l	UJL
Arsenic	SWMU 1-24 GW	1210660-001	6010/6020	10/10/2012	0.052	mg/l	JL
Barium	SWMU 1-24 GW	1210660-001	6010/6020	10/10/2012	17	mg/l	JL
Beryllium	SWMU 1-24 GW	1210660-001	6010/6020	10/10/2012	0.032	mg/l	JL
Cadmium	SWMU 1-24 GW	1210660-001	6010/6020	10/10/2012	<0.004	mg/l	UJL
Chromium	SWMU 1-24 GW	1210660-001	6010/6020	10/10/2012	0.14	mg/l	JL
Cobalt	SWMU 1-24 GW	1210660-001	6010/6020	10/10/2012	0.11	mg/l	JL
Cyanide	SWMU 1-24 GW	1210660-001	9012	10/10/2012	0.059	mg/l	JL
Iron	SWMU 1-24 GW	1210660-001	6010/6020	10/10/2012	160	mg/l	JL
Lead	SWMU 1-24 GW	1210660-001	6010/6020	10/10/2012	0.49	mg/l	JL
Manganese	SWMU 1-24 GW	1210660-001	6010/6020	10/10/2012	43	mg/l	JL
Mercury	SWMU 1-24 GW	1210660-001	7470	10/10/2012	0.00022	mg/l	JL
Nickel	SWMU 1-24 GW	1210660-001	6010/6020	10/10/2012	0.21	mg/l	JL
Selenium	SWMU 1-24 GW	1210660-001	6010/6020	10/10/2012	0.023	mg/l	JL
Silver	SWMU 1-24 GW	1210660-001	6010/6020	10/10/2012	<0.01	mg/l	UJL
Vanadium	SWMU 1-24 GW	1210660-001	6010/6020	10/10/2012	0.2	mg/l	JL
Zinc	SWMU 1-24 GW	1210660-001	6010/6020	10/10/2012	0.27	mg/l	JL
Antimony	SWMU 1-24 GW DUP	1210660-002	6010/6020	10/10/2012	<0.005	mg/l	UJL
Arsenic	SWMU 1-24 GW DUP	1210660-002	6010/6020	10/10/2012	0.058	mg/l	JL
Barium	SWMU 1-24 GW DUP	1210660-002	6010/6020	10/10/2012	20	mg/l	JL
Beryllium	SWMU 1-24 GW DUP	1210660-002	6010/6020	10/10/2012	0.032	mg/l	JL
Cadmium	SWMU 1-24 GW DUP	1210660-002	6010/6020	10/10/2012	<0.004	mg/l	UJL
Chromium	SWMU 1-24 GW DUP	1210660-002	6010/6020	10/10/2012	0.16	mg/l	JL
Cobalt	SWMU 1-24 GW DUP	1210660-002	6010/6020	10/10/2012	0.11	mg/l	JL
Cyanide	SWMU 1-24 GW DUP	1210660-002	9012	10/10/2012	0.081	mg/l	JL
Iron	SWMU 1-24 GW DUP	1210660-002	6010/6020	10/10/2012	180	mg/l	JL
Lead	SWMU 1-24 GW DUP	1210660-002	6010/6020	10/10/2012	0.55	mg/l	JL
Manganese	SWMU 1-24 GW DUP	1210660-002	6010/6020	10/10/2012	39	mg/l	JL
Mercury	SWMU 1-24 GW DUP	1210660-002	7470	10/10/2012	0.00027	mg/l	JL
Nickel	SWMU 1-24 GW DUP	1210660-002	6010/6020	10/10/2012	0.21	mg/l	JL
Selenium	SWMU 1-24 GW DUP	1210660-002	6010/6020	10/10/2012	0.02	mg/l	JL
Silver	SWMU 1-24 GW DUP	1210660-002	6010/6020	10/10/2012	<0.01	mg/l	UJL
Vanadium	SWMU 1-24 GW DUP	1210660-002	6010/6020	10/10/2012	0.18	mg/l	JL
Zinc	SWMU 1-24 GW DUP	1210660-002	6010/6020	10/10/2012	0.28	mg/l	JL
Diesel Range Organics (DRO)	SWMU 1-37 GW	1210692-026	8015B	10/11/2012	1	mg/l	JL
Antimony	SWMU 14-3 GW	1207900-007	6010/6020	7/18/2012	<0.0025	mg/l	UJL
Arsenic	SWMU 14-3 GW	1207900-007	6010/6020	7/18/2012	0.024	mg/l	JL
Barium	SWMU 14-3 GW	1207900-007	6010/6020	7/18/2012	2.8	mg/l	JL
Beryllium	SWMU 14-3 GW	1207900-007	6010/6020	7/18/2012	0.042	mg/l	JL
Cadmium	SWMU 14-3 GW	1207900-007	6010/6020	7/18/2012	<0.02	mg/l	UJL
Chromium	SWMU 14-3 GW	1207900-007	6010/6020	7/18/2012	0.38	mg/l	JL

Table 2. TRRP Data Qualification

Analyte	Sample ID	Lab ID	Method	Sample Date	Result	Units	Qualifier
Cobalt	SWMU 14-3 GW	1207900-007	6010/6020	7/18/2012	0.12	mg/l	JL
Iron	SWMU 14-3 GW	1207900-007	6010/6020	7/18/2012	120	mg/l	JL
Lead	SWMU 14-3 GW	1207900-007	6010/6020	7/18/2012	0.19	mg/l	JL
Manganese	SWMU 14-3 GW	1207900-007	6010/6020	7/18/2012	45	mg/l	JL
Mercury	SWMU 14-3 GW	1207900-007	7470	7/18/2012	0.00011	mg/l	JL
Nickel	SWMU 14-3 GW	1207900-007	6010/6020	7/18/2012	0.18	mg/l	JL
Selenium	SWMU 14-3 GW	1207900-007	6010/6020	7/18/2012	0.0096	mg/l	JL
Silver	SWMU 14-3 GW	1207900-007	6010/6020	7/18/2012	<0.05	mg/l	UJL
Vanadium	SWMU 14-3 GW	1207900-007	6010/6020	7/18/2012	0.52	mg/l	JL
Zinc	SWMU 14-3 GW	1207900-007	6010/6020	7/18/2012	1.1	mg/l	JL
Chloride	SWMU 14-OAPIS-1GW	1210860-004		10/16/2012	<0.5	mg/l	UJL
Selenium	EB101612	1210860-005	6010/6020	10/16/2012	<0.001	mg/l	UJL
Chloride	EB101612	1210860-005		10/16/2012	1900	mg/l	JL
Fluoride	EB101612	1210860-005		10/16/2012	2.9	mg/l	JH
Sulfate	EB101612	1210860-005		10/16/2012	100	mg/l	JHE
Selenium	EB101712	1210860-003	6010/6020	10/17/2012	<0.001	mg/l	UJL
Chloride	EB101712	1210860-003		10/17/2012	<0.5	mg/l	UJL
Cyanide	SWMU 14-1 (48-50')	1207900-006	9012	7/18/2012	<0.5	mg/kg	UJL
Antimony	SWMU 14-2 (0-0.5')	1207917-005	6010/6020	7/17/2012	4	mg/kg	JL
Selenium	SWMU 14-2 (0-0.5')	1207917-005	6010/6020	7/17/2012	<12.5	mg/kg	UJL
Vanadium	SWMU 14-2 (0-0.5')	1207917-005	6010/6020	7/17/2012	31	mg/kg	JL
Zinc	SWMU 14-2 (0-0.5')	1207917-005	6010/6020	7/17/2012	17	mg/kg	JL
Antimony	SWMU 14-2 (1.5-2.0')	1207917-006	6010/6020	7/17/2012	3.6	mg/kg	JL
Selenium	SWMU 14-2 (1.5-2.0')	1207917-006	6010/6020	7/17/2012	<12.501	mg/kg	UJL
Vanadium	SWMU 14-2 (1.5-2.0')	1207917-006	6010/6020	7/17/2012	21	mg/kg	JL
Zinc	SWMU 14-2 (1.5-2.0')	1207917-006	6010/6020	7/17/2012	35	mg/kg	JL
Antimony	SWMU 14-2 (8-10')	1207917-007	6010/6020	7/17/2012	0.82	mg/kg	JL
Selenium	SWMU 14-2 (8-10')	1207917-007	6010/6020	7/17/2012	<2.5	mg/kg	UJL
Vanadium	SWMU 14-2 (8-10')	1207917-007	6010/6020	7/17/2012	20	mg/kg	JL
Zinc	SWMU 14-2 (8-10')	1207917-007	6010/6020	7/17/2012	37	mg/kg	JL
Antimony	SWMU 14-2 (8-10') Dup	1207917-008	6010/6020	7/17/2012	0.63	mg/kg	JL
Selenium	SWMU 14-2 (8-10') Dup	1207917-008	6010/6020	7/17/2012	<2.5	mg/kg	UJL
Vanadium	SWMU 14-2 (8-10') Dup	1207917-008	6010/6020	7/17/2012	23	mg/kg	JL
Zinc	SWMU 14-2 (8-10') Dup	1207917-008	6010/6020	7/17/2012	64	mg/kg	JL
Antimony	SWMU 14-2 (16-18')	1207917-009	6010/6020	7/17/2012	4.7	mg/kg	JL
Selenium	SWMU 14-2 (16-18')	1207917-009	6010/6020	7/17/2012	<12.5	mg/kg	UJL
Vanadium	SWMU 14-2 (16-18')	1207917-009	6010/6020	7/17/2012	22	mg/kg	JL
Zinc	SWMU 14-2 (16-18')	1207917-009	6010/6020	7/17/2012	26	mg/kg	JL
Antimony	SWMU 14-2 (24-25')	1207917-010	6010/6020	7/17/2012	3.3	mg/kg	JL
Selenium	SWMU 14-2 (24-25')	1207917-010	6010/6020	7/17/2012	<12.5	mg/kg	UJL
Vanadium	SWMU 14-2 (24-25')	1207917-010	6010/6020	7/17/2012	52	mg/kg	JL
Zinc	SWMU 14-2 (24-25')	1207917-010	6010/6020	7/17/2012	31	mg/kg	JL
Cyanide	SWMU 14-3 (8-10')	1207900-003	9012	7/18/2012	<0.5	mg/kg	UJL
Cyanide	SWMU 14-3 (25.5-26')	1207900-005	9012	7/18/2012	<0.5	mg/kg	UJL
2,4-Dinitrotoluene	SWMU 14-6 (0-0.5')	1210582-001	8270C	10/9/2012	<0.9987	mg/kg	UJ
Gasoline Range Organics (GRO	SWMU 14-6 (0-0.5')	1210582-001	8015B	10/9/2012	<5	mg/kg	UJ
2,4-Dinitrotoluene	SWMU 14-6 (1.5-2')	1210582-002	8270C	10/9/2012	<0.9924	mg/kg	UJ
Gasoline Range Organics (GRO	SWMU 14-6 (1.5-2')	1210582-002	8015B	10/9/2012	<5	mg/kg	UJ
2,4-Dinitrotoluene	SWMU 14-6 (10-12')	1210582-003	8270C	10/9/2012	<0.9901	mg/kg	UJ
Gasoline Range Organics (GRO	SWMU 14-6 (10-12')	1210582-003	8015B	10/9/2012	220	mg/kg	JL
2,4-Dinitrotoluene	SWMU 14-6 (17-18')	1210582-004	8270C	10/9/2012	<0.499	mg/kg	UJ
Gasoline Range Organics (GRO	SWMU 14-6 (17-18')	1210582-004	8015B	10/9/2012	<5	mg/kg	UJ
Antimony	SWMU 14-7 (0-0.5')	1207922-006	6010/6020	7/18/2012	5.3	mg/kg	JH
N-Nitrosodi-n-propylamine	SWMU 14-7 (0-0.5')	1207922-006	8270C	7/18/2012	<1.008	mg/kg	R
N-Nitrosodi-n-propylamine	SWMU 14-7 (1.5-2')	1207922-007	8270C	7/18/2012	<0.403	mg/kg	R
Antimony	SWMU 14-7 (6-8')	1207922-008	6010/6020	7/18/2012	4.5	mg/kg	JH
N-Nitrosodi-n-propylamine	SWMU 14-7 (6-8')	1207922-008	8270C	7/18/2012	<0.398	mg/kg	R
Antimony	SWMU 14-7 (23.5-24')	1207922-009	6010/6020	7/18/2012	4.6	mg/kg	JH
N-Nitrosodi-n-propylamine	SWMU 14-7 (23.5-24')	1207922-009	8270C	7/18/2012	<0.199	mg/kg	R
Mercury	SWMU 14-10 (0-0.5')	1207940-001	7470	7/19/2012	0.32	mg/kg	JH

Table 2. TRRP Data Qualification

Analyte	Sample ID	Lab ID	Method	Sample Date	Result	Units	Qualifier
Mercury	SWMU 14-10 (1.5-2.0')	1207940-002	7470	7/19/2012	0.21	mg/kg	JH
Antimony	SWMU 14-19 (0-0.5')	1207940-019	6010/6020	7/19/2012	<12.5	mg/kg	UJL
Selenium	SWMU 14-19 (0-0.5')	1207940-019	6010/6020	7/19/2012	<12.5	mg/kg	UJL
Antimony	SWMU 14-19 (1.5-2.0')	1207940-020	6010/6020	7/19/2012	<12.5	mg/kg	UJL
Selenium	SWMU 14-19 (1.5-2.0')	1207940-020	6010/6020	7/19/2012	<12.5	mg/kg	UJL
2,4-Dinitrotoluene	SWMU 14-21 (0-0.5')	1210582-005	8270C	10/9/2012	<0.499	mg/kg	UJ
2,4-Dinitrotoluene	SWMU 14-21 (1.5-2')	1210582-006	8270C	10/9/2012	<0.4988	mg/kg	UJ
2,6-Dinitrotoluene	SWMU 14-21 (8-10')	1210582-007	8270C	10/9/2012	<0.4957	mg/kg	UJ
Antimony	SWMU 14-22 (0-0.5')	1210583-001	6010/6020	10/9/2012	<12.5	mg/kg	UJL
Chromium	SWMU 14-22 (0-0.5')	1210583-001	6010/6020	10/9/2012	12	mg/kg	JL
Selenium	SWMU 14-22 (0-0.5')	1210583-001	6010/6020	10/9/2012	<12.5	mg/kg	UJL
2,4-Dinitrotoluene	SWMU 14-22 (0-0.5')	1210583-001	8270C	10/9/2012	<0.4987	mg/kg	UJ
Antimony	SWMU 14-22 (1.5-2')	1210583-002	6010/6020	10/9/2012	<5	mg/kg	UJL
Chromium	SWMU 14-22 (1.5-2')	1210583-002	6010/6020	10/9/2012	10	mg/kg	JL
Selenium	SWMU 14-22 (1.5-2')	1210583-002	6010/6020	10/9/2012	<5	mg/kg	UJL
2,4-Dinitrotoluene	SWMU 14-22 (1.5-2')	1210583-002	8270C	10/9/2012	<0.4944	mg/kg	UJ
Antimony	SWMU 14-22 (4-6')	1210583-003	6010/6020	10/9/2012	<5	mg/kg	UJL
Chromium	SWMU 14-22 (4-6')	1210583-003	6010/6020	10/9/2012	7.6	mg/kg	JL
Selenium	SWMU 14-22 (4-6')	1210583-003	6010/6020	10/9/2012	<5	mg/kg	UJL
2,4-Dinitrotoluene	SWMU 14-22 (4-6')	1210583-003	8270C	10/9/2012	<0.5045	mg/kg	UJ
Antimony	SWMU 14-22 (4-6') DUP	1210583-004	6010/6020	10/9/2012	<5	mg/kg	UJL
Chromium	SWMU 14-22 (4-6') DUP	1210583-004	6010/6020	10/9/2012	6.8	mg/kg	JL
Selenium	SWMU 14-22 (4-6') DUP	1210583-004	6010/6020	10/9/2012	<5	mg/kg	UJL
Antimony	SWMU 14-22 (8-10')	1210583-005	6010/6020	10/9/2012	<5	mg/kg	UJL
Chromium	SWMU 14-22 (8-10')	1210583-005	6010/6020	10/9/2012	9.3	mg/kg	JL
Selenium	SWMU 14-22 (8-10')	1210583-005	6010/6020	10/9/2012	<5	mg/kg	UJL
Antimony	SWMU 14-23 (0-0.5')	1210656-001	6010/6020	10/10/2012	<5	mg/kg	R
Cobalt	SWMU 14-23 (0-0.5')	1210656-001	6010/6020	10/10/2012	3.4	mg/kg	JL
Lead	SWMU 14-23 (0-0.5')	1210656-001	6010/6020	10/10/2012	4.2	mg/kg	JL
Nickel	SWMU 14-23 (0-0.5')	1210656-001	6010/6020	10/10/2012	5.9	mg/kg	JL
Selenium	SWMU 14-23 (0-0.5')	1210656-001	6010/6020	10/10/2012	<5	mg/kg	UJL
Diesel Range Organics (DRO)	SWMU 14-23 (0-0.5')	1210656-001	8015B	10/10/2012	45	mg/kg	JL
Antimony	SWMU 14-23 (1.5-2')	1210656-002	6010/6020	10/10/2012	<5	mg/kg	R
Cobalt	SWMU 14-23 (1.5-2')	1210656-002	6010/6020	10/10/2012	3.7	mg/kg	JL
Lead	SWMU 14-23 (1.5-2')	1210656-002	6010/6020	10/10/2012	7.6	mg/kg	JL
Nickel	SWMU 14-23 (1.5-2')	1210656-002	6010/6020	10/10/2012	6.5	mg/kg	JL
Selenium	SWMU 14-23 (1.5-2')	1210656-002	6010/6020	10/10/2012	<5	mg/kg	UJL
Diesel Range Organics (DRO)	SWMU 14-23 (1.5-2')	1210656-002	8015B	10/10/2012	32	mg/kg	JL
Antimony	SWMU 14-23 (12-14')	1210656-003	6010/6020	10/10/2012	<5	mg/kg	R
Cobalt	SWMU 14-23 (12-14')	1210656-003	6010/6020	10/10/2012	4	mg/kg	JL
Lead	SWMU 14-23 (12-14')	1210656-003	6010/6020	10/10/2012	3.7	mg/kg	JL
Nickel	SWMU 14-23 (12-14')	1210656-003	6010/6020	10/10/2012	7.2	mg/kg	JL
Selenium	SWMU 14-23 (12-14')	1210656-003	6010/6020	10/10/2012	<5	mg/kg	UJL
Antimony	SWMU 14-23 (14-16')	1210656-004	6010/6020	10/10/2012	<5	mg/kg	R
Cobalt	SWMU 14-23 (14-16')	1210656-004	6010/6020	10/10/2012	4	mg/kg	JL
Lead	SWMU 14-23 (14-16')	1210656-004	6010/6020	10/10/2012	3.5	mg/kg	JL
Nickel	SWMU 14-23 (14-16')	1210656-004	6010/6020	10/10/2012	6.8	mg/kg	JL
Selenium	SWMU 14-23 (14-16')	1210656-004	6010/6020	10/10/2012	<5	mg/kg	UJL
Selenium	SWMU 14-24 (0-0.5')	1210860-001	6010/6020	10/17/2012	<5	mg/kg	UJL
Selenium	SWMU 14-24 (1.5-2')	1210860-002	6010/6020	10/17/2012	<5	mg/kg	UJL

U - Consider analyte not detected.

UJ - Reporting limit itself considered an estimate.

JL - Analyte detected and identified. Associated numerical value is approximate analyte concentration. Bias in result likely to be low.

JH - Analyte detected and identified. Associated numerical value is approximate analyte concentration. Bias in result likely to be high.

UJL - Reporting limit itself considered an estimate; biased low.

UJH - Reporting limit itself considered an estimate; biased high.

E - Result above quantitation range.

R - Result rejected.

Table 3. Field Precision

JULY/OCTOBER 2012 FIELD DUPLICATE ANAYSES[1]

Analyte	Sample[2]	Duplicate[2]	Units	RPD%	Qualified
SWMU 1-24 GW					
Arsenic	0.052	0.058	mg/L	-10.9	
Barium	17	20	mg/L	-16.2	
Beryllium	0.032	0.032	mg/L	0.0	
Chromium	0.14	0.16	mg/L	-13.3	
Cobalt	0.11	0.11	mg/L	0.0	
Cyanide	0.059	0.081	mg/L	-31.4	J
Iron	160	180	mg/L	-11.8	
Lead	0.49	0.55	mg/L	-11.5	
Manganese	43	39	mg/L	9.8	
Mercury	0.00022	0.00027	mg/L	-20.4	J
Nickel	0.21	0.21	mg/L	0.0	
Selenium	0.023	0.02	mg/L	14.0	
Vanadium	0.2	0.18	mg/L	10.5	
Zinc	0.27	0.28	mg/L	-3.6	
1,2,4-Trimethylbenzene	0.015	0.014	mg/L	6.9	
Acetone	0.052	0.064	mg/L	-20.7	J
Benzene	0.02	0.019	mg/L	5.1	
Ethylbenzene	0.0089	0.0088	mg/L	1.1	
Methyl tert-butyl ether (MTBE)	0.065	0.07	mg/L	-7.4	
Naphthalene	0.022	0.021	mg/L	4.7	
Toluene	0.018	0.019	mg/L	-5.4	
Xylenes, Total	0.038	0.036	mg/L	5.4	
1-Methylnaphthalene	0.01	0.011	mg/L	-9.5	
2,4-Dimethylphenol	0.23	0.26	mg/L	-12.2	
Naphthalene	0.011	0.012	mg/L	-8.7	
Diesel Range Organics (DRO)	1.9	1.9	mg/L	0.0	
Gasoline Range Organics (GRO)	1.9	1.9	mg/L	0.0	
SWMU 1-4 (10-12')					
Barium	360	870	mg/kg	-82.9	J
Chromium	3.7	6.4	mg/kg	-53.5	J
Cobalt	2	3.1	mg/kg	-43.1	J
Iron	5300	9200	mg/kg	-53.8	J
Lead	3.1	4.4	mg/kg	-34.7	J
Manganese	550	1400	mg/kg	-87.2	J
Nickel	2.9	5	mg/kg	-53.2	J
Vanadium	12.5	19	mg/kg	-41.3	J
Acetone	0.0153	0.0116	mg/kg	27.5	J
SWMU 1-6 (2-4')					
Barium	660	930	mg/kg	-34.0	J
Chromium	6.1	7	mg/kg	-13.7	
Cobalt	3.5	3.9	mg/kg	-10.8	
Iron	9600	10000	mg/kg	-4.1	
Lead	5.4	5	mg/kg	7.7	
Manganese	1000	830	mg/kg	18.6	
Nickel	5	5.2	mg/kg	-3.9	
Vanadium	25	24	mg/kg	4.1	
Zinc	25	13	mg/kg	63.2	J
Acetone	0.477	0.46	mg/kg	3.6	
Ethylbenzene	0.00563	0.00112	mg/kg	133.6	J

Table 3. Field Precision

Analyte	Sample[2]	Duplicate[2]	Units	RPD%	Qualified
Xylenes, Total	0.0431	0.00863	mg/kg	133.3	J
SWMU 1-13 (4-6')					
Barium	120	290	mg/kg	-82.9	J
Beryllium	0.71	0.68	mg/kg	4.3	
Chromium	7.8	7.3	mg/kg	6.6	
Cobalt	4.1	4	mg/kg	2.5	
Iron	11000	11000	mg/kg	0.0	
Lead	2.5	3	mg/kg	-18.2	
Manganese	320	310	mg/kg	3.2	
Nickel	6.6	6.5	mg/kg	1.5	
Vanadium	17	16	mg/kg	6.1	
Zinc	14	14	mg/kg	0.0	
Acetone	0.0561	0.0645	mg/kg	-13.9	
Methyl tert-butyl ether (MTBE)	0.003	0.00604	mg/kg	-67.3	J
SWMU 1-14 (1.5-2')					
Barium	360	240	mg/kg	40.0	J
Beryllium	0.75	0.81	mg/kg	-7.7	
Chromium	11	11	mg/kg	0.0	
Cobalt	4.4	5	mg/kg	-12.8	
Iron	13000	15000	mg/kg	-14.3	
Lead	4.1	1	mg/kg	121.6	J
Manganese	430	350	mg/kg	20.5	J
Nickel	7.6	8.3	mg/kg	-8.8	
Vanadium	19	28	mg/kg	-38.3	J
Zinc	16	21	mg/kg	-27.0	J
Acetone	0.0202	0.0139	mg/kg	37.0	J
SWMU 1-20 (0-0.5')					
Barium	740	840	mg/kg	-12.7	
Beryllium	0.71	0.94	mg/kg	-27.9	J
Chromium	19	23	mg/kg	-19.0	
Cobalt	4	5.4	mg/kg	-29.8	J
Iron	15000	19000	mg/kg	-23.5	J
Lead	2.6	3.4	mg/kg	-26.7	J
Manganese	650	680	mg/kg	-4.5	
Mercury	0.038	0.037	mg/kg	2.7	
Nickel	6.9	8.5	mg/kg	-20.8	J
Vanadium	22	32	mg/kg	-37.0	J
Zinc	22	28	mg/kg	-24.0	J
1,2,4-Trimethylbenzene	0.0014	0.00184	mg/kg	-27.2	J
2-Butanone	0.022	0.0314	mg/kg	-35.2	J
Acetone	3.31	3.98	mg/kg	-18.4	
Benzene	0.00137	0.00188	mg/kg	-31.4	J
Ethylbenzene	0.0448	0.0622	mg/kg	-32.5	J
Isopropylbenzene	0.0021	0.00282	mg/kg	-29.3	J
Toluene	0.00197	0.00386	mg/kg	-64.8	J
Xylenes, Total	0.279	0.379	mg/kg	-30.4	J
SWMU 1-21 (0-0.5')					
Barium	440	290	mg/kg	41.1	J
Beryllium	0.77	0.89	mg/kg	-14.5	
Chromium	9.9	11	mg/kg	-10.5	
Cobalt	4.1	4.5	mg/kg	-9.3	

Table 3. Field Precision

Analyte	Sample[2]	Duplicate[2]	Units	RPD%	Qualified
Iron	14000	17000	mg/kg	-19.4	
Lead	2.6	2.3	mg/kg	12.2	
Manganese	450	470	mg/kg	-4.3	
Nickel	7.5	8.4	mg/kg	-11.3	
Vanadium	19	22	mg/kg	-14.6	
Zinc	17	18	mg/kg	-5.7	
Acetone	0.0144	0.0316	mg/kg	-74.8	J
Benzene	0.00183	0.00178	mg/kg	2.8	
Toluene	0.00147	0.00111	mg/kg	27.9	J
SWMU 1-24 (0-0.5')					
Barium	220	180	mg/kg	20.0	
Chromium	9.5	9.6	mg/kg	-1.0	
Cobalt	5.1	4.4	mg/kg	14.7	
Iron	20000	10000	mg/kg	66.7	J
Lead	9.3	7.8	mg/kg	17.5	
Manganese	520	290	mg/kg	56.8	J
Nickel	9	8.5	mg/kg	5.7	
Vanadium	24	18	mg/kg	28.6	J
Zinc	34	29	mg/kg	15.9	
1,2,4-Trimethylbenzene	0.00108	0.00156	mg/kg	-36.4	J
2-Butanone	0.00862	0.0082	mg/kg	5.0	
Acetone	0.095	0.0811	mg/kg	15.8	
Benzene	0.000878	0.00094	mg/kg	-6.8	
Ethylbenzene	0.0008	0.000989	mg/kg	-21.1	J
Toluene	0.0023	0.0029	mg/kg	-23.1	J
Trichlorofluoromethane	0.00328	0.00436	mg/kg	-28.3	J
Diesel Range Organics (DRO)	14	11	mg/kg	24.0	J
Motor Oil Range Organics (MRO)	50.5051	71	mg/kg	-33.7	J
SWMU 1-28 (1.5-2')					
Barium	570	630	mg/kg	-10.0	
Beryllium	0.41	0.75	mg/kg	-58.6	J
Chromium	5.2	6	mg/kg	-14.3	
Cobalt	2.7	4.1	mg/kg	-41.2	J
Iron	8800	10000	mg/kg	-12.8	
Lead	1.4	3.1	mg/kg	-75.6	J
Manganese	430	680	mg/kg	-45.0	J
Nickel	3.7	4.8	mg/kg	-25.9	J
Vanadium	12	22	mg/kg	-58.8	J
Zinc	8.8	12.4997	mg/kg	-34.7	J
Acetone	54.1	34.8	mg/kg	43.4	J
Benzene	2.53	2.48	mg/kg	2.0	
Toluene	3.54	2.86	mg/kg	21.3	J
Xylenes, Total	2.38	1.64	mg/kg	36.8	J
SWMU 1-32 (0-0.5')					
Barium	600	580	mg/kg	3.4	
Beryllium	0.64	0.66	mg/kg	-3.1	
Chromium	17	21	mg/kg	-21.1	J
Cobalt	4	5.1	mg/kg	-24.2	J
Iron	14000	19000	mg/kg	-30.3	J
Lead	6.3	8	mg/kg	-23.8	J
Manganese	440	540	mg/kg	-20.4	J

Table 3. Field Precision

Analyte	Sample[2]	Duplicate[2]	Units	RPD%	Qualified
Mercury	0.13	0.13	mg/kg	0.0	
Nickel	13	16	mg/kg	-20.7	J
Vanadium	22	28	mg/kg	-24.0	J
Zinc	36	43	mg/kg	-17.7	
1,2,4-Trimethylbenzene	0.00179	0.00207	mg/kg	-14.5	
1,3,5-Trimethylbenzene	0.0008	0.000842	mg/kg	-5.1	
Acetone	0.0551	0.0483	mg/kg	13.2	
Benzene	0.0014	0.00134	mg/kg	4.4	
Ethylbenzene	0.00107	0.00105	mg/kg	1.9	
Toluene	0.00442	0.00384	mg/kg	14.0	
Xylenes, Total	0.00394	0.00404	mg/kg	-2.5	
Diesel Range Organics (DRO)	19	29	mg/kg	-41.7	J
Motor Oil Range Organics (MRO)	100	200	mg/kg	-66.7	J
SWMU 14-2 (8-10')					
Antimony	0.82	0.63	mg/kg	26.2	J
Arsenic	1.6	2.1	mg/kg	-27.0	J
Barium	400	400	mg/kg	0.0	
Beryllium	0.58	0.7	mg/kg	-18.8	
Chromium	76	97	mg/kg	-24.3	J
Cobalt	3.7	4.2	mg/kg	-12.7	
Iron	14000	16000	mg/kg	-13.3	
Lead	4.6	5.7	mg/kg	-21.4	J
Manganese	400	330	mg/kg	19.2	
Mercury	0.29	1.5	mg/kg	-135.2	J
Nickel	6.6	7.5	mg/kg	-12.8	
Vanadium	20	23	mg/kg	-14.0	
Zinc	37	64	mg/kg	-53.5	J
1,2,4-Trimethylbenzene	6.2	5.4	mg/kg	13.8	
1,2-Dibromoethane (EDB)	0.29	0.26	mg/kg	10.9	
1,2-Dichloropropane	0.16	0.14	mg/kg	13.3	
1,3,5-Trimethylbenzene	0.39	0.29	mg/kg	29.4	J
1-Methylnaphthalene	16	15	mg/kg	6.5	
2-Chlorotoluene	1	0.1	mg/kg	163.6	J
2-Methylnaphthalene	17	17	mg/kg	0.0	
4-Isopropyltoluene	0.45	0.42	mg/kg	6.9	
Acetone	8.5	8.1	mg/kg	4.8	
Benzene	0.22	0.25	mg/kg	-12.8	
Ethylbenzene	1.1	1	mg/kg	9.5	
Isopropylbenzene	0.33	0.33	mg/kg	0.0	
Naphthalene	3	2.9	mg/kg	3.4	
n-Butylbenzene	0.66	0.62	mg/kg	6.3	
n-Propylbenzene	0.69	0.63	mg/kg	9.1	
sec-Butylbenzene	0.34	0.31	mg/kg	9.2	
Xylenes, Total	1	0.95	mg/kg	5.1	
1-Methylnaphthalene	16	19	mg/kg	-17.1	
2-Methylnaphthalene	16	20	mg/kg	-22.2	J
Bis(2-chloroethyl)ether	1.012	0.67	mg/kg	40.7	J
Naphthalene	2.5	3.1	mg/kg	-21.4	J
Phenanthrene	3	3.3	mg/kg	-9.5	
Diesel Range Organics (DRO)	3300	11000	mg/kg	-107.7	J
Gasoline Range Organics (GRO)	210	250	mg/kg	-17.4	

Table 3. Field Precision

Analyte	Sample[2]	Duplicate[2]	Units	RPD%	Qualified
SWMU 14-5 (0-0.5')					
Barium	490	460	mg/kg	6.3	
Beryllium	0.68	0.53	mg/kg	24.8	J
Chromium	63	29	mg/kg	73.9	J
Cobalt	5.3	3.9	mg/kg	30.4	J
Cyanide	0.6	0.5	mg/kg	18.2	
Iron	18000	12000	mg/kg	40.0	J
Lead	14	9.9	mg/kg	34.3	J
Manganese	550	870	mg/kg	-45.1	J
Mercury	0.27	0.23	mg/kg	16.0	
Nickel	9.8	7.1	mg/kg	32.0	J
Vanadium	26	19	mg/kg	31.1	J
Zinc	190	160	mg/kg	17.1	
1,1,2,2-Tetrachloroethane	0.00104	0.001	mg/kg	3.9	
Acetone	0.0181	0.0116	mg/kg	43.8	J
Benzene	0.001	0.000652	mg/kg	42.1	J
Toluene	0.000344	0.00079	mg/kg	-78.7	J
Trichlorofluoromethane	0.001	0.000315	mg/kg	104.2	J
Benzoic acid	0.44	2.509	mg/kg	-140.3	J
Diesel Range Organics (DRO)	300	280	mg/kg	6.9	
Gasoline Range Organics (GRO)	5.4	20	mg/kg	-115.0	J
Motor Oil Range Organics (MRO)	240	220	mg/kg	8.7	
SWMU 14-8 (1.5-2.0')					
Barium	690	410	mg/kg	50.9	J
Beryllium	0.88	0.93	mg/kg	-5.5	
Chromium	10	11	mg/kg	-9.5	
Cobalt	4.7	5	mg/kg	-6.2	
Iron	13000	14000	mg/kg	-7.4	
Lead	5	3.7	mg/kg	29.9	J
Manganese	190	210	mg/kg	-10.0	
Nickel	7.9	8.5	mg/kg	-7.3	
Vanadium	18	21	mg/kg	-15.4	
Zinc	15	17	mg/kg	-12.5	
1,2,4-Trimethylbenzene	6.7	8.4	mg/kg	-22.5	J
1,2-Dibromoethane (EDB)	0.31	0.43	mg/kg	-32.4	J
1,2-Dichloropropane	0.23	0.27	mg/kg	-16.0	
1,3,5-Trimethylbenzene	2.2	2.7	mg/kg	-20.4	J
1-Methylnaphthalene	2	2.1	mg/kg	-4.9	
2-Chlorotoluene	1	0.11	mg/kg	160.4	J
2-Methylnaphthalene	2.3	2.5	mg/kg	-8.3	
4-Isopropyltoluene	0.44	0.53	mg/kg	-18.6	
Acetone	7.1	6.9	mg/kg	2.9	
Benzene	0.35	0.33	mg/kg	5.9	
Ethylbenzene	3.8	4.7	mg/kg	-21.2	J
Isopropylbenzene	0.97	1.2	mg/kg	-21.2	J
Naphthalene	1.1	1.3	mg/kg	-16.7	
n-Butylbenzene	0.58	0.69	mg/kg	-17.3	
n-Propylbenzene	1.4	1.7	mg/kg	-19.4	
sec-Butylbenzene	0.47	0.62	mg/kg	-27.5	J
Toluene	1.4	1.7	mg/kg	-19.4	
Xylenes, Total	9.3	12	mg/kg	-25.4	J

Table 3. Field Precision

Analyte	Sample[2]	Duplicate[2]	Units	RPD%	Qualified
1-Methylnaphthalene	3.6	1.5	mg/kg	82.4	J
2-Methylnaphthalene	4.2	1.6	mg/kg	89.7	J
Benzoic acid	2.3	1.3	mg/kg	55.6	J
Naphthalene	1.5	0.77	mg/kg	64.3	J
Phenanthrene	1.1	0.995	mg/kg	10.0	
Pyrene	0.6	0.995	mg/kg	-49.5	J
Diesel Range Organics (DRO)	4300	3600	mg/kg	17.7	
Gasoline Range Organics (GRO)	170	240	mg/kg	-34.1	J
SWMU 14-9 (0-0.5')					
Barium	480	490	mg/kg	-2.1	
Beryllium	0.58	1	mg/kg	-53.2	J
Chromium	13	22	mg/kg	-51.4	J
Cobalt	3.8	5.9	mg/kg	-43.3	J
Cyanide	0.5	1	mg/kg	-66.7	J
Iron	14000	18000	mg/kg	-25.0	J
Lead	5.5	40	mg/kg	-151.6	J
Manganese	1800	460	mg/kg	118.6	J
Mercury	0.68	0.32	mg/kg	72.0	J
Nickel	6.3	11	mg/kg	-54.3	J
Vanadium	18	29	mg/kg	-46.8	J
Zinc	44	57	mg/kg	-25.7	J
1,1,2,2-Tetrachloroethane	0.00043	0.001	mg/kg	-79.7	J
1,2,4-Trimethylbenzene	0.002	0.00895	mg/kg	-126.9	J
1,3,5-Trimethylbenzene	0.000458	0.00292	mg/kg	-145.8	J
1-Methylnaphthalene	0.0674	0.137	mg/kg	-68.1	J
2-Methylnaphthalene	0.107	0.239	mg/kg	-76.3	J
4-Isopropyltoluene	0.001	0.000342	mg/kg	98.1	J
Acetone	0.00307	0.00472	mg/kg	-42.4	J
Benzene	0.001	0.000381	mg/kg	89.6	J
Ethylbenzene	0.000542	0.00285	mg/kg	-136.1	J
Isopropylbenzene	0.001	0.000323	mg/kg	102.3	J
Naphthalene	0.0183	0.0471	mg/kg	-88.1	J
n-Butylbenzene	0.000177	0.000938	mg/kg	-136.5	J
n-Propylbenzene	0.001	0.000675	mg/kg	38.8	J
sec-Butylbenzene	0.001	0.000284	mg/kg	111.5	J
Toluene	0.000262	0.00171	mg/kg	-146.9	J
Xylenes, Total	0.00282	0.0168	mg/kg	-142.5	J
1-Methylnaphthalene	1.5	1.5	mg/kg	0.0	
2-Methylnaphthalene	1.9	1.7	mg/kg	11.1	
3+4-Methylphenol	0.4	1	mg/kg	-85.7	J
Benzoic acid	0.59	0.79	mg/kg	-29.0	J
Bis(2-ethylhexyl)phthalate	2.6	1	mg/kg	88.9	J
Phenanthrene	1.7	1.9	mg/kg	-11.1	
Diesel Range Organics (DRO)	1000	1000	mg/kg	0.0	
Gasoline Range Organics (GRO)	20	27	mg/kg	-29.8	J
SWMU 14-20 (0-0.5')					
Barium	940	890	mg/kg	5.5	
Beryllium	0.69	0.76	mg/kg	-9.7	
Chromium	9.4	8.7	mg/kg	7.7	
Cobalt	5.2	7	mg/kg	-29.5	J
Iron	13000	14000	mg/kg	-7.4	

Table 3. Field Precision

Analyte	Sample[2]	Duplicate[2]	Units	RPD%	Qualified
Lead	2.7	3	mg/kg	-10.5	
Manganese	650	910	mg/kg	-33.3	J
Mercury	0.0064	0.007	mg/kg	-9.0	
Nickel	6.9	8	mg/kg	-14.8	
Vanadium	21	24	mg/kg	-13.3	
Zinc	17	22	mg/kg	-25.6	J
Trichlorofluoromethane	0.000525	0.001	mg/kg	-62.3	J
Gasoline Range Organics (GRO)	1.7	5	mg/kg	-98.5	J
SWMU 14-22 (4-6')					
Barium	170	170	mg/kg	0.0	
Beryllium	0.89	0.84	mg/kg	5.8	
Chromium	7.6	6.8	mg/kg	11.1	
Cobalt	4.3	3.9	mg/kg	9.8	
Iron	13000	12000	mg/kg	8.0	
Lead	4	4.2	mg/kg	-4.9	
Manganese	370	230	mg/kg	46.7	J
Nickel	7.2	6.5	mg/kg	10.2	
Vanadium	13	12	mg/kg	8.0	
Zinc	13	12	mg/kg	8.0	
Acetone	0.0151	0.0149	mg/kg	1.3	
Benzene	0.0019	0.00171	mg/kg	10.5	
Toluene	0.00162	0.0012	mg/kg	29.8	J

[1]RPD not calculated if analyte not detected in sample and duplicate.

[2]RDL used for ND if analyte not detected in either sample or duplicate.

RPD% = ((SR-DR)*200)/(SR+DR)