Western Refining
GALLUP

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WNR LISTED NYSE

October 26, 2010

Mr. James P. Bearzi
State of New Mexico Environment Department
2905 Rodeo Park Drive East
Santa Fe, New Mexico 87505-6303

OCT 2010

RE: RESPONSE TO NOTICE OF DISAPPROVAL [DATED JUNE 7, 2010]
CORRECTIVE MEASURES IMPLEMENTATION WORK PLAN
SOLID WASTE MANAGEMENT UNIT (SWMU) NO. 1
AERATION BASIN
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-GRCC-09-003

Dear Mr. Bearzi:

The following responses have been prepared to address your comments of June 7, 2010. As Western Refining Southwest Inc. ("Western") is now pursuing close in-place of the Aeration Lagoons and EP-1, the Corrective Measures Implementation Work Plan dated July 2009 requires revisions beyond those necessary to address your comments. In addition, many of the comments in the June 7, 2010 Notice of Disapproval are no longer relevant. Responses, where relevant, to individual comments are presented below. Additional text was added to Section 1 to clarify that SWMU No. 1 – Aeration Basin, as described in the RCRA Post-Closure Care Permit, includes both of the aeration lagoons (AL-1 and AL-2) and EP-1. The corrected reference to Aeration Basin has also been made to the report title and the Executive Summary.

Comment 1
In Section 2 (Background), page 4, the Permittee states "[t]his CMI Work Plan is submitted pursuant to the requirements of Provision IV.B.9 of the Post Closure Care Permit issued by the NMED on August 17, 2000 and the requirements of the OCD Discharge Permit issued August 23, 2007." Section IV.B.9 of the Post-Closure Care Permit (Permit) references an alternative Corrective Action Approach that is divided into Voluntary Corrective Action or Expedited Cleanup (EP) (Item a) and Voluntary Corrective Measures (Item b), neither of which apply to closure of Aeration Lagoon 1 (AL-1) and Aeration Lagoon (AL-2). The Permittee must revise the Work Plan to state that the Work Plan was submitted pursuant to the requirements of Section IV.B of the Post-Closure Care Permit.

Response
The reference in Section 2 (Background) to Provision IV.B.9 of the Post-Closure Care Permit will be changed to Provision IV.B in subsequent versions of the CMI Work Plan.

Comment 2
In Section 2.1 (Aeration Lagoons AL-1 and AL-2), page 4, the Permittee states '[m]onitoring data of the effluent from the two benzene air strippers, which discharges

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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) may have entered into these impoundments." The Permittee did not comply with Comment 3 of NMED's May 6, 2009 NOD that required the Permittee to revise the paragraph to clearly state benzene has been detected at concentrations above 0.5 mg/L which exceed the toxicity characteristic maximum concentration for benzene. It has been documented and demonstrated through analytical testing that benzene above the toxicity characteristic of 0.5 mg/L has entered into the Aeration Lagoons. The revised Work Plan must clearly state that wastewater characteristic for benzene (D018) was discharged to the Aeration Lagoons.

Response
The referenced text in Section 2.1 as been revised in the CMI Work Plan to state "Monitoring data of the effluent from the two 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 the aeration lagoons."

Comment 3
In Section 2.1 (Aeration Lagoons AL-1 and AL-2), page 4 and 5, the Permittee states "Western has reviewed the operation of the lagoons and has determined that the lagoons have met the definition of aggressive biological treatment using high [rate] aeration as defined in 40 CFR 261.31. Therefore, the sludges generated in the aeration lagoons are exempted from the listing as F037 and F038 wastes under this definition. Appendix A documents the operation details (aerator horsepower and unit retention times) supporting this documentation." NMED does not agree the sludges in the Aeration Lagoons are exempt from the F037 and F038 listings. The regulations in 40 CFR 261.31(b)(3)(1) and (ii) for F037 and F038 wastes state "[s]ludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement." The sludges removed from AL-1, AL-2, and EP-1 are not exempt from the F037/F038 listing, unless the Permittee can demonstrate the aerators have continuously operated since 1991 with no downtime. Additionally, there are several incidents where F037/F038 has been generated in the Evaporation Pond 1 (EP-1), Evaporation Pond 2 (EP-2), and Aeration Lagoons. In August and September 2005, the Permittee experienced various API separator upsets that resulted in the release of oil and sludge (K051) from the API separator (without treatment) to AL-1 and Al-2, EP-1, and EP-2. F037 and F038 waste were likely generated in AL-1 and AL-2; it is not clear if the hydraulic retention time (40 CFR 261.31(b)(2)(i)) was met. In 2006, there was a period when two aerators in Al-2 were not operating due to pump failure; this could also result in the generation of F037/F038 waste. Additionally, in 2008, the aerators in AL-1 and Al-2 were shut down for a period time to conduct sediment sampling. During this time F037/F038 listed wastes were generated (see Appendix B of the Work Plan). The Permittee must revise the Work Plan to remove all statements that the sludges in the Aeration Lagoons are exempt from the F037 and F038 listing.

Response
Western does not entirely agree with NMED's characterization of the sludges present in AL-1, AL-2 or EP-1 as listed hazardous waste; however, as the CMI Work Plan will be revised to close AL-1, AL-2 and EP-1 in-place this classification issue will not impact the closure activities. All statements that the sludges in the aerations lagoons are exempt

from F037 and F038 listings have been removed from Section 2.1 and Appendix A (IDW Management Plan).

Comment 4

From the data in Appendix A (Documentation of Aggressive Biological Treatment in Aeration Lagoons (per 40 CFR 261.31)), it is not clear if the flow volumes from the API separator and weir box overflow pipes into the aeration lagoons were considered when calculating the hydraulic retention times (NMED notes that the overflow pipes are no longer operational at this time, but were part of the system previously). The Permittee must revise the Work Plan to discuss these details.

Response

The flow rate reported in Appendix A does not include the periodic flows through the weir box overflow pipes. However, if one adds additional flow from the weir box it only reduces the retention time that was calculated in Appendix A, which was already well below the desired five days. The calculation in Appendix A will be annotated in the revised submittal to note that the calculations do not include potential additional flows that periodically discharge through the weir box overflow pipes.

Comment 5

The Permittee may request a "no longer contained in" determination for the sludges/sediment/soils removed from the lagoons and EP-1. If the Permittee chooses to request such a determination, the Permittee must revise the Work Plan so that in addition to the TCLP sampling required in 40 CFR 261 Subpart C (Characteristic of Hazardous Waste), the sludges and sediment samples must also be analyzed for totals of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), diesel range organics (DRO), gasoline range organics (GRO), motor oil range organics (MRO), and RCRA 8 metals.

Response

It is not anticipated that a "no longer contained in" determination will be necessary with the proposed closure in-place; however, if a "no longer contained in" determination is to be requested, such as possibly with relocation of lightly impacts soils from near the Old API Separator, then analyses will be conducted pursuant to NMED's direction."

Comment 6

In Section 2 (Background), page 4, the Permitee states "[t]his section presents background information for each of the lagoons and EP-1, including a review of the historical waste management activities for each location to identify the following: type and characteristics for all waste and all contaminants handled in the subject SWMU, known and possible sources of contamination, history of operations, and prior investigations." Beginning in 2005, the Permittee has had various upsets to the API separator and the weir box which have released oil/sludge/treated and untreated wastewater to the Aeration Lagoons and EP-1. A summary of these events was not addressed in the Work Plan; these events are relevant to the type and characteristics of waste and contaminants present at the units. The Permittee must revise the Work Plan to include a summary of the various upsets to the API separator and weir box that have resulted in releases to the Aeration Lagoons and EP-1.

Response

A description of the intermittent upsets has been added to Section 2.1.

Comment 7
In Section 4.1 (Planned Activities), page 12, the Permittee states "[p]rior to implementation of corrective measures, GWM-1, GWM-2, and GWM-3 will be plugged and abandoned in accordance with all applicable regulatory requirements." Once the wastewater treatment system has been installed and the Aeration Lagoons are closed, the Permittee will be required to continue to monitor the groundwater in this area. No revision to the Work Plan is necessary; however, the Permittee must take into consideration that new monitoring wells must be installed in the vicinity of the Aeration Lagoons and EP-1.

Response
No response required.

Comment 8
In Sections 4.1.1 (EP-1 Pilot Study and Maintenance) and Section 4.1.2 (Implement Selected Remedy), the Permittee proposes to conduct a pilot study to evaluate the effectiveness of biological degradation (bioremediation) of organic compounds in the sludges in Evaporation Pond 1. If successful, the Permittee will apply the same bioremediation method to the Aeration Lagoons. NMED does not approve the pilot study because it will not allow closure of the Aeration Lagoons and EP-1 to be completed in a timely manner. The Permittee must revise the Work Plan to remove all references to the pilot study.

Response
Comment not applicable to "closure in-place."

Comment 9
In Section 4.1.1 (EP-1 Pilot Study and Maintenance), page 14 and 15, the Permittee affirms that if the pilot study yields no added benefit to minimize the wastes, then the Permittee will dewater the Aeration Lagoons and EP-1 and characterize the solids to be transported offsite. The Permittee states on page 15, paragraph 2 that "[c]onfirmation samples will be collected from the excavated surfaces (base and sidewalls of EP-1) to demonstrate the removal of characteristically hazardous waste after the completion of all activities conducted within EP-1. Confirmation samples will be analyzed for hazardous characteristics in accordance with 40 CFR 261, Subpart-C Characteristics of Hazardous Waste. After sampling confirms that all characteristically hazardous materials have been removed, then wastewater flows from the new WWTP will be redirected to EP-1." A non-hazardous sample does not mean the sample is not contaminated. The Permittee must analyze the confirmation samples for DRO extended, GRO, SVOCs, VOCs, and RCRA metals. All confirmation soil samples must meet the applicable NMED Soil Screening Levels (SSLs) before the Aeration Lagoons can be backfilled and the process wastewater routed back to EP-1. The Permittee must revise the Work Plan to address these sampling requirements.

Response
Comment not applicable to "closure in-place" of EP-1.

Comment 10
In Section 4.1.3 (AL-1 and AL-2 Surrounding Soils and Dikes), page 15, the Permittee states "[t]he dike wall between AL-1 and AL-2 will not be sampled since the entire wall

will be excavated for disposal. Only exterior dike walls outside of AL-1 and AL-2 will be sampled to identify potential impacts from activities." The Permittee must revise the Work Plan to describe how the dike wall between AL-1 and AL-2 will be removed, where the soils will be stockpiled, describe the characterization that will be conducted to determine soil disposal options, and describe the chemical analyses that will be conducted on the soil samples.

Response
Comment not applicable to "closure in-place."

Comment 11
In Section 4.1.3 (AL-1 and AL-2 Surrounding Soils and Dikes), page 15, the Permittee states "[o]nly exterior dike walls outside of AL-1 and AL-2 will be sampled to identify potential impacts from activities." The Permittee then states in bullet one, page 16, that "[d]ikes will be sampled at the center line along the length of the dike every 25 feet at depths of 0-6 inches and 18-24 inches below the ground surface (bgs) using a hand auger to characterize dike soils that would have reasonably come in contact with wastewaters (see Figure 4-3 for a representation of proposed sample locations)." The Permittee must collect dike wall samples from the dike/wall between the Aeration Lagoons and EP-1 and collect side-wall samples around EP-1. The Permittee must also make it clear that the "exterior dike wall" sample locations are the same locations as the "dike soil sample" locations identified as the blue triangle within a circle symbol in Figure 4-3. The Permittee must revise the Work Plan to include the additional sampling and clarify if the exterior dike wall sample locations are the same locations as the dike soil sample locations (represented by a blue triangle within a circle) in Figure 4-3.

Response
Most elements of Comment No. 11 are not applicable to "closure in-place" but the revised CMI Work Plan will continue to include sampling of surrounding soils to ensure all impacted soils are contained beneath the cover system. The sampling of surrounding soils is discussed in new Section 4.1.

Comment 12
In Section 4.1.3 (Al-1 and AL-2 Surrounding Soils and Dikes), page 16, under Surrounding Soils, the Permittee states "[s]urface soils (0-6") and subsurface (18-24") soils surrounding the dikes outside the AL-1 and AL-2 will be collected pursuant to Section 4.4.2." However, there appears to be no Section 4.4.2 in the Work Plan. The Permittee must revise the Work Plan to reference the correct section.

Response
Subsequent versions of the CMI Work Plan will be checked to confirm correct cross referencing.

Comment 13
In Section 4.1.3 (Al-1 and AL-2 Surrounding Soils and Dikes), page 16, (Surrounding Soils), the Permittee describes the chemical analytical methods to be used for the surrounding soil samples. The surrounding soil samples must also be analyzed for RCRA 8 metals. The Permittee must revise the Work Plan to include this analysis.

Response

The list of analyses for the "surrounding soils" already includes Skinner List inorganics, which actually includes all of the RCRA 8 metals plus several additional metals. Western has maintained these analyses in new Section 4.1.8 of the revised CMI Work Plan.

Comment 14

In Section 4.1.3 (Al-1 and AL-2 Surrounding Soils and Dikes), page 17, the Permittee states "[t]he two benzene strippers were constructed on a concrete slab." In addition to removing the benzene strippers, the Permittee must also remove the concrete slab and collect soil samples from beneath the concrete slab and the ancillary piping at the locations of joints and intersections. The Permittee must revise the Work Plan to address removal of the concrete slab and the collection of additional soil samples. The proposed analytical methods must include Skinner list metals. The Permittee must also include a figure showing the additional sampling locations.

Response

The revised CMI Work Plan (new Section 4.3) includes removal of the concrete pad, which lies beneath the benzene strippers. A duplicative discussion regarding removal of the benzene strippers was in Section 2.2 and it has been removed. Additional text has been added to Section 4.3 to distinguish between the two "existing" strippers (the strippers in operation when the CAFO became effective on August 26, 2009) and the new stripper that was added as part of the interim measures. All three of these strippers will be removed but only the two "existing" strippers will be dismantled. The collection of soil samples beneath the pad and around the pad is included in the Investigation Work Plan for SWNU No. 14 Old API Separator. Analyses for Skinner list metals (inorganics) will be included in the Investigation Work Plan for SWNU No. 14 Old API Separator.

Comment 15

In Section 4.1.3 (AL-1 and AL-2 Surrounding Soils and Dikes), page 17, the Permittee discusses dismantling the benzene strippers and states "[t]he surface and subsurface soils surrounding the concrete slab will be investigated for the presence of contaminants according to the following specifications:

- *Surface soils (0-6" below ground surface (bgs)) will be collected at the four corners of the slab (Figure 4-3).*
- *Subsurface soils (18-24" bgs) will be collected at all four sample locations.*
- *Investigative soil borings will be advanced to a minimum depth of 10 feet or deeper as warranted by PID screening or visual appearances. The boring will be logged for physical properties and visual appearances. Groundwater will be sampled if contacted."*

It is not clear if the surface and subsurface soil locations are the same locations as the investigative soil borings. The Permittee must revise the text and figure(s) in the Work Plan to clearly identify the locations for the surface, subsurface, and investigative soil boring locations.

Response

The sampling of soils beneath and around the benzene strippers is now included in the revised Investigation Work Plan for SWNU No. 14 Old API Separator. The text will be revised to clarify the Scope of Work for sampling of soils near the benzene strippers.

Comment 16

In Section 4.1.3 (Al-1 and AL-2 Surrounding Soils and Dikes), page 17 and 18, the Permittee states "[c]onfirmation samples will be collected to demonstrate complete removal of affected soils. A minimum of one sample per excavation face, including sidewalls and the bottom of the excavation, will be collected, with additional samples, as necessary, so that no single sample represents more than 400 square feet." The Permittee must revise the Work Plan to clarify the procedures and methods used to collect the confirmation samples. Additionally, the Permittee must clarify the term "excavation face" (e.g.; three samples will be collected from the bottom floor of the excavations and two from each side wall, total of 11 samples). All confirmation soil samples must be discrete.

Response

Comment not applicable to "closure in-place."

Comment 17

In Section 4.1.4 (EP-1 Solids Disposal) and Section 4.1.5 (Dewater and Stabilize AL-1 and AL-2 Sludge), page 18, the Permittee states "[p]ortland cement or fly ash will be added to the sludge to improve physical strength and reduce moisture content prior to excavation out of the lagoons. Once the sludge has been dewatered and stabilized, it will be re-located to EP-1 for stockpiling." In the revised Work Plan, the Permittee must provide the source and analytical data to identify the composition of the fly ash. Also the addition of fly ash or Portland cement to the sludge seems contrary to the Permittee's desire to reduce the volume of material removed from the Aeration Lagoons. The Permittee seems to be attempting to reduce the volume of material for off-site disposal through dewatering and bioremediation, but then proposes to increase the volume by the addition of fly ash or Portland cement. The Permittee must clarify this contradiction and revise the Work Plan accordingly

Response

The anticipated source of fly ash is the nearby Escalante Power Plant or the power plant near Snowflake, Arizona. A copy of the analysis of the fly ash from the power plant near Snowflake Arizona is included. As discussed in Section 4.4.1, Western will evaluate the possible use of alternative materials (e.g., Portland cement, quicklime and kiln dust) to identify the most effective reagent(s) to stabilize the sludge. This study will be completed prior to implementation of the final closure so as not to impact the schedule and the results of the study will be presented to NMED along with available analyses of any material(s) selected for use.

Comment 18

In Section 4.1.5 (Dewater and Stabilize AL-1 and AL-2 Sludge), page 18, the Permittee states "[o]nce the sludge has been dewatered and stabilized, it will be re-located to EP-1 for stockpiling." Since the Permittee will not be conducting the pilot study, the Permittee may consider removing the sludge from Aeration Lagoons for disposal rather than relocating them to EP-1. The Permittee must revise the Work Plan to clarify this or provide reasons for relocating to the sludges instead of arranging for disposal and revise the Work Plan accordingly.

Response
Comment not applicable to "closure in-place."

Comment 19
In Section 4.1.4 (EP-1 Solids Disposal), page 18, the Permittee states "EP-1 solids stockpiles will be sampled for waste characterization prior to transport. Multiple samples will be collected from each stockpile to generate a representative homogenous composite sample for laboratory analysis. All samples will be analyzed for hazardous characteristics in accordance with 40 CFR 261, Subpart C – Characteristics of Hazardous Waste, volatile and semi-volatile organics (EPA SW-846 Method 8260 and 8270), diesel range organics (DRO), gasoline range organics (GRO), motor oil range organics (ORO), iron, manganese, and the Skinner List for inorganics." The Permittee must revise the Work Plan to address the following:

a. *All samples analyzed for VOCs must be discrete and not composite.*

b. *The Permittee must describe how the composite samples will be collected (e.g.; five samples will be collected and sent to the analytical laboratory for homogenization; five sub-samples will be placed in an 8 ounce glass jar).*

c. *The Permittee must analyze the composite samples for Skinner list metals.*

d. *The Permittee must propose the number of samples to be collected per unit volume of excavated soil that is representative of the stockpile (e.g., 10 samples per 100 cubic yards).*

Response
Comment not applicable to "closure in-place."

Comment 20
In Section 4.1.6 (Stockpile and Characterize AL-1 and AL-2), page 19, the Permittee states "[s]ludges not exhibiting hazardous characteristics will be containerized in open ended trucks or roll-off boxes for transport to the landfill for disposal." The Permittee must note: listed waste must be managed as hazardous waste unless the Permittee obtains a no-longer contained-in determination from NMED; additional analysis maybe required by the disposal facility; and all manifests must be kept on site for NMED review if requested. If the Permittee considers any of this material to be used as backfill, additional analysis will be required by NMED and the Permittee must obtain permission from NMED and OCD to determine if the material can be used onsite. These requirements must be addressed in the revised Work Plan.

Response
The portion of the comment related to transport to a landfill is not applicable to "closure in-place." Western acknowledges the requirement to obtain NMED permission to use materials for backfill that are not already at the lagoons or EP-1. This type of request may occur for lightly impacted soils near the benzene strippers or the Old API Separator.

Comment 21
In Section 4.1.7 (Confirmation Sampling at AL-1 and AL-2), page 19, the Permittee states "[a]fter the removal of sludge material and the upper one foot of native clay liner

material..." The term native clay liner material is misleading, because a liner was not installed at the base of the Aeration Lagoons or EP-1. The Permittee must revise the Work Plan to remove the term liner and state "[a]fter the removal of sludge material and the upper one foot of native clay..." See Comment 29.

Response
Comment not applicable to "closure in-place" as this section of the Work Plan has been removed.

Comment 22
In Section 4.1.7, the Permittee discusses confirmation sampling at AL-1 and AL-2 and states "[a]fter the removal of sludge material and the upper one foot of native clay liner material, the underlying lagoon soils will be sampled along all faces of the excavation with an approximate spacing of 40 feet between sample grid locations (Figure 4-3). Sample results will be compared to NMED residential Soil Screening Levels (SSLs). Locations exhibiting constituent concentrations in excess of NMED SSLs will be further excavated and excavated soils will be stockpiled in EP-1 in anticipation of transport and disposal. Newly excavated faces will be re-sampled at a spacing grid of every 20 feet to confirm removal of impacted material." The Permittee must incorporate the following requirements into the revised Work Plan and revise figures as necessary:

a. *The Permittee must collect confirmation soil samples from the Aeration Lagoons and EP-1 along all faces of the excavation with an approximate spacing of 30 feet between sample grid locations instead of 40 feet.*

b. *The Permittee states the newly excavated faces will be resampled at a spacing grid of every 20 feet to confirm removal of impacted material. The Permittee must clarify this statement; it is not clear how samples will be obtained every 20 feet (i.e., will 20 feet surrounding the location of the contamination be excavated).*

c. *The Permittee must include language that specifies that discrete rather than composite confirmation samples will be collected.*

d. *The Permittee must also collect samples from five feet below the base of the excavation in order to demonstrate that contaminants have not migrated below the Aeration Lagoons and EP-1. The number of confirmation samples from five feet below the base of the excavation must be half of the total confirmation samples collected (e.g., if 20 confirmation samples are collected at the base of the excavation, then an additional 10 samples must be collected from five feet below the base of excavation). The Permittee must include these sample locations on a figure to be included with the revised Work Plan.*

e. *All sidewall confirmation samples must be collected from two locations; one soil sample must be collected on the sidewall at the base of the excavation and the other soil sample must be collected on the side wall that corresponds approximately five feet below the base of the average water line.*

f. *The Permittee must also collect sidewall samples from three feet into the sidewall to demonstrate contamination has not migrated laterally. The*

Permittee must collect a minimum of one sample per side wall (approximately 10) from locations approximately five feet below the base of the water line at the three-foot depth from the excavation limits. These sidewall confirmation sample locations must be identified in a figure.

Response
Paragraphs a through e are not applicable to the "closure in-place" remedy. To address comment "f" and to demonstrate that all impacted soils are contained beneath the final cover system, Western will install a series of soil borings around the perimeter of the aeration lagoons and EP-1. The boring locations are included on revised Figure 4-2. The details on the sample collection and analysis are included in revised Section 4.1.

Comment 23
The Permittee must revise Figure 4-3 to label all structures. This includes the benzene stripper unit, the unit located northeast from the northeast corner of the benzene stripper unit, and the unit located southeast from the southeast corner of the benzene stripper unit.

Response
Figure 4-3 (now Figure 4-2) has been changed to include labels showing the location of the benzene strippers, Old API Separator (the unit located southeast from the southeast corner of the benzene stripper unit) and the box located northeast from the northeast corner of the benzene stripper unit will be removed from the figure as there is nothing in this location.

Comment 24
In Section 4.2.1 (Soil Sample Field Screening and Logging), page 19, the Permittee states "[s]amples obtained from borings will be screened in the field on 2.5 foot intervals for evidence of contaminants." The Permittee must clarify that samples obtained from borings includes samples collected from hand dug locations.

Response
The text in new Section 4.1.2 has been revised to include a reference to samples collected with hand augers, as applicable. It should be noted that screening will not be used to select sample intervals at the "shallow sample" locations, as samples will be collected from 0-6" and 18-24" at each of these locations for analysis without excluding any samples based on a lack of field indications of contamination.

Comment 25
In Section 4.2.3 (Groundwater Sample Collection), page 21, the Permittee states "[i]f soil sample analysis indicates the presence of constituents at concentrations and depths capable of impacting groundwater, groundwater will be sampled and analyzed." The Permittee must collect a sample of groundwater if the groundwater is encountered regardless of whether or not the soil samples indicate the presence of contaminants. The Permittee must revise the Work Plan accordingly.

Response
The work plan has been revised in Section 4.1.3 to specify that ground water samples will be collected if ground water is encountered during the completion of soil boring operations.

Comment 26
In Section 4.2.8 (Chemical Analyses), the Permittee discusses the chemical analyses that will be conducted. However, this section does not discuss the analysis for 40 CFR 261 Subpart C – Characteristics for Hazardous Waste (e.g., discuss sampling for TCLP versus total metals). The Permittee must revise the section to include sampling for the determination of hazardous waste.

Response
As the closure in-place remedy does not result in the generation of materials for off-site disposal, sampling for "characteristics for hazardous waste" will not be relevant except possibly for investigation derived waste, which is discussed in Appendix A.

Comment 27
In Section 4.2.9 (Data Quality Objectives), page 27, it appears that the Permittee does not complete the last sentence of paragraph 3 and states "[i]n addition, sample collection techniques..." In the revise Work Plan, the Permittee must complete this sentence.

Response
The omitted text "(e.g., field monitoring and decontamination of sampling equipment) will be utilized to help ensure representative results." has been be added to revised Section 4.1.9.

Comment 28
The Permittee must revise Figure 4-2 (Flow Chart) to incorporate the changes required by this NOD (e.g., remove the reference to the pilot study).

Response
Figure 4-2 (Flow Chart) has been removed from the revised Work Plan, as the simpler in-place closure activities do not warrant a Flow Chart.

Comment 29
In Section 4.1.7 (Confirmation Sampling at AL-1 and AL-2), page 19, the Permittee states "[a]fter the removal of sludge material and the upper one foot of native clay liner material, the underlying lagoon soils will be sampled along all faces of the excavation..." Then in Figure 4-2 the fifth box in the left column, the Permittee states "[c]ollect AL confirmation samples from bottom liner and side walls." The first passage implies the one foot native clay "liner" will be removed, while the second indicates the "liner" will not be removed. The Permittee must clarify this discrepancy in the revised Work Plan. See Comments 21 and 22.

Response
Comment not applicable to "closure in-place"; Section 4.1.7 removed.

Comment 30
In Appendix D (Investigation Management Plan), the Permittee discusses that drill cuttings and used soil cores will be stored in 55-gallon drums and analyzed for ignitability, corrosivity, reactivity, and toxicity. If the material is not characteristically hazardous, additional analysis may be required by the disposal facility. If the Permittee considers using the material on-site, additional analysis must be conducted to determine the disposal options for the soils and the use approved by NMED. The results must also

meet NMED residential soil screening standards. The investigation report must document all disposal activities. No revision to the text is necessary.

Response
None required.

Comment 31
In Appendix D (Investigation Management Plan), the Permittee states "[t]he IDW may be characterized for disposal based on the known or suspected contaminants potentially present in the waste. It was assumed that there are no listed wastes present in environmental media at any of the planned investigation areas." The Permittee cannot assume there are no listed wastes in the media where the investigation will take place. Potential listed wastes that could be present in the soils resulting from the various releases to the Aeration Lagoons and EP-1 include D018, F037, F038, and K051 listed wastes. The Permittee must revise Appendix D to remove the above quote. (See Comment 3).

Response
The reference to listed waste has been removed.

Comment 32
Upon completion of all cleanup activities, the Permittee must obtain permission from NMED prior to leveling the dikes and bringing the Aeration Lagoons to final grade. The Permittee must include a statement referring to this in the Work Plan.

Response
Comment not applicable to "closure in-place."

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

Certification

I certify that the information contained in or accompanying this submission is true, accurate and complete. As to those identified portions of this submission for which I cannot personally verify the truth and accuracy, I certify as the company official having supervisory responsibility for the person(s) who, acting upon my direct instructions, made the verification, that this information is true, accurate, and complete.

Respectfully,

Mark B. Turri

Mr. Mark B. Turri
Refinery Manager
Western Refining Southwest, Inc. – Gallup Refinery

cc R. Broyles EPA
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Corrective Measures Implementation Work Plan
Solid Waste Management Unit (SWMU) No. 1
Aeration Basin

Western Refining

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

EPA ID# NMD000333211

July 2009
Revised October 2010

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Corrective Measures Implementation Work Plan

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Executive Summary

The Gallup Refinery, which is located 17 miles east of Gallup, New Mexico, has been in operation since the 1950s. Pursuant to the terms and conditions of the facility Post-Closure Care Permit and 20.4.1.500 New Mexico Administrative Code, this Corrective Measures Implementation Work Plan has been prepared for the Aeration Basin that is listed as Solid Waste Management Unit (SWMU) No. 1 in Appendix A of the Post-Closure Care Permit.

The planned activities include:

- Sampling of the soils surrounding the Aeration Basin;
- In-situ stabilization of sludges in the Aeration Basin; and
- Construction of a final cover system over the area encompassing the Aeration Basin.

The three benzene strippers immediately upstream of the Aeration Basin (later referred as "the three benzene strippers") will be removed and the two original strippers will be dismantled.

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 1-1 presents the refinery location and the regional vicinity.

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 Aeration Basin, which is designated as SWMU No. 1 in the facilities 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. Appendices I-1 and I-2 of the Post-Closure Permit Application are included as Appendix A to this work plan. Figure No. 1 Aeration Basin Site (located in Appendix I-1) shows the Aeration Basin to include 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 labeled in Figure No. 1 Aeration Basin Site 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, which is shown on Appendix I-2 Figure No. 1 Evaporation Pond Site (see Appendix A). 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.

All oil refineries produce process wastewater, which today must be managed in accordance with a variety of environmental requirements intended to assure adequate and appropriate protection of public health and the environment. Two federal regulatory programs [the Clean Water Act and the Resource Conservation and Recovery Act (RCRA)] have major significance for Gallup Refinery process wastewater. The State of New Mexico has primacy over the RCRA program. In addition there are other state regulatory programs with varying applicability, including those administered by New Mexico Oil Conservation Division (OCD).

Initially beginning in 1972 under the Clean Water Act regulatory program, EPA promulgated petroleum refinery wastewater management requirements pursuant to the NPDES permit program. The principal federal regulations implementing this CWA program as it applies to petroleum refineries are found at 40 C.F.R. Parts 122 and 419. The Gallup Refinery, like other oil refineries impacted by 40 C.F.R. Part 419, had implemented a series of process wastewater treatment operations, including primary treatment of wastewaters with an oil/water separator and secondary biological treatment in wastewater ponds to further reduce organics in the petroleum refinery wastewater. The two ponds where such biological degradation of organics occurs at the Gallup Refinery are referred to as Aeration Lagoon No, 1 (AL-1) (the inlet aeration lagoon) and Aeration Lagoon No. 2 (AL-2).

The RCRA regulations promulgated by EPA on November 19, 1980 identified hazardous wastewaters and sludges generated by petroleum refineries. Initially these regulations applied only to certain sludges created by petroleum refinery wastewater management, such as API oil/water separator sludge which was listed as K051 hazardous waste. In 1990 a significant revision to these regulations identified most petroleum refinery process wastewater as benzene characteristic hazardous waste (D018). The listing of primary and secondary sludges (F037/F038) by EPA as hazardous (effective in 1991) effectively mandated a certain level of biological treatment and retention time in the biological treatment impoundments at the Gallup Refinery to exclude the sludges from the new listings. The compliance strategy employed aggressive biological treatment (ABT) of wastewaters in the aeration lagoons followed by management in evaporation ponds.

Additional upgrades to the wastewater treatment system are planned that will eliminate the need for the aeration lagoons. An engineering design and construction plan for the replacement of the existing aeration lagoons with a tank-based system has been prepared by Western Refining pursuant to the requirements of the OCD Discharge Permit (GW-032) approved August 23,

2007. The corrective measures at AL-1 and AL-2 are an integral part of the wastewater treatment upgrade.

This Corrective Measures Implementation (CMI) Work Plan communicates the intended sequence of events and planned activities for the corrective measures at AL-1, AL-2 and EP-1. The Work Plan is written for review by NMED with the intent of approval for the described events, methods and procedures. Once approval of the CMI WP has been received and within 90 days of demonstrating that the upgraded wastewater treatment system is achieving treatment criteria as specified in an approved Process Design Report for Wastewater Treatment Plant Workplan, Western Refining will commence the activities as described to permanently remove AL-1, AL-2, EP-1, and the three benzene strippers from service and implement the approved corrective measures.

Section 2
Background

This section presents background information for each of the lagoons and EP-1, including a review of historical waste management activities for each location to identity the following:

- Type and characteristics of all waste and all contaminants handled in the subject SWMU;
- Known and possible sources of contamination;
- History of operations; and
- Prior investigations.

This CMI Work Plan addresses the proposed corrective measures at the aeration lagoons (AL-1 and AL-2), which consist of two separate manmade earthen lagoons connected in series, and EP-1. This CMI Work Plan is submitted pursuant to the requirements of Provision IV.B. of the Post-Closure Care Permit issued by the NMED on August 17, 2000 and the requirements of the OCD Discharge Permit issued August 23, 2007. The corrective action standard for AL-1, AL-2, and EP-1 is based on Section IV.B (Corrective Action for SWMUs) of the Permit and 20.4.1.500 NMAC (incorporating 40 CFR 264.101) of the Hazardous Waste Management Regulations.

2.1 Aeration Lagoons AL-1 and AL-2

The two aeration lagoons were constructed in 1987 and have been in operation since that time. The aeration lagoons cover an area approximately 275 feet by 150 feet and have an estimated holding capacity of 1 million gallons. Three benzene air strippers are located between the refinery's API separator and the aeration lagoons to prevent characteristically hazardous waste from being discharged to the aeration lagoons. In addition to being identified as a SWMU, the lagoons are subject to the jurisdiction of the New Mexico Oil Conservation Division (OCD), which regulates potential releases under the OCD Discharge Permit (GW-032).

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. Western has reviewed the operation of the lagoons to determine if they meet the definition of aggressive biological treatment using high rate aeration as defined in 40 CFR 261.31. Appendix B documents the operational details (aerator horsepower and unit

retention times) for the aeration lagoons. Since Western Refining does not desire to operate these impoundments as hazardous waste surface impoundments, the aeration lagoons and EP-1 will be closed in-place. The land-based aeration treatment units will be replaced with tank-based treatment units.

2.1.1 Operational History

The refinery process wastewater generated (approximately 130 gallons per minute (gpm) average flows measured by totalizer at API separator outlet for calendar year 2008) at the Gallup Refinery is managed first by physical treatment in an API separator, then the volatile components are removed via benzene air strippers. The final treatment (biological) occurs in two aeration lagoons operated in series (AL-1 and AL-2). The lagoons 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 130 gallons per minute (gpm) for calendar year 2008. Totalizer readings were recorded weekly. Daily average flows were calculated based on elapsed time between readings. Western is in the process of installing a real time electronic data system that will capture minute by minute flow data.

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. In July 2007, impacted bank soils were removed from the aeration lagoons (AL-1 and AL-2), EP-1 and evaporation pond EP-2 following a release of oily wastewater from the refinery wastewater conveyance system. The excavated materials were appropriately disposed off site pursuant to NMED's letter dated Aug 15, 2007. No other maintenance activities have occurred to date.

2.1.3 Historical Site Investigations

Soil sampling was conducted near the aeration lagoons during the RFI in the early 1990s. 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. 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. 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. The absence of significant migration of BTEX contaminants confirms the highly impermeable characteristic of the confining clays.

Two groundwater monitoring wells (GWM-1 and GMW-2) were installed immediately down-gradient of the aeration lagoons in 2004. Analyses of groundwater samples collected at GWM-1 and GMW-2 have indicated only very low concentrations of constituents such as BTEX and methyl tertiary butyl ether (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 GMW-3 were dry during the 2007 annual sampling event.

In 2008 GWM-1 was sampled on July 10 and results are submitted to NMED annually. 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 not scheduled for sampling during the 2008 annual sampling event.

An investigation of the aeration lagoons 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 in Appendix C. 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.

Trihydro used the software program SurvCAD to produce calculations estimating the volumes of sediment in each lagoon. Appendix E of the Trihydro Report found in Appendix C of this report provides the input parameters used in the program. The SurvCAD program produced the following estimates for sediment in the two lagoons.

Table 2-1
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

Trihydro notes that the observed distinction between the two types of sediment 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 found in Appendix C of this report.

2.2 The Three Benzene Strippers

The three benzene stripper units were installed as part of the wastewater treatment system. No record of previous spills or releases is noted. An investigation of the area near the benzene strippers will be conducted pursuant to an Investigation Work Plan prepared for the Old API Separator.

2.3 EP-1

2.3.1 Operational History

The refinery wastewater treatment facility contains a series of ponds constructed in the late 1950s and 1980s. The ponds have been in continuous service since their initial construction. EP-1 is an earthen pond with bermed, earthen sidewalls.

2.3.2 Prior Maintenance Activities

No documentation of prior dredging exists for EP-1, with the exception of the limited removal of sediments from dike surfaces in 2007.

2.3.3 Historical Site Investigations

The investigation of the area near EP-1, which was conducted during the early 1990s (RFI), is discussed above in Section 2.1.

In 2008, Trihydro Corporation was hired to estimate quantities of material in the wastewater treatment units, including EP-1. The report notes that 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, 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.

Table 2-2
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

Section 3
Site Conditions

3.1 Surface Conditions

A topographic map of the area near the aeration lagoons and EP-1 is included as Figure 3-1. Local site topographic features include high ground in the southeast gradually decreasing to 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 ponds is at an approximate elevation of 6,910 feet above mean sea level (msl).

The soils in the immediate vicinity of the aeration ponds 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. The southern end of the aeration lagoons are constructed within the bordering Simitarq-Celavar sandy loams. Rehobeth soil properties include a pH ranging from 8 to 9 standard units and salinity (naturally occurring and typically measuring up to approximately 8 mmhos/cm). The Simitarq-Celevar soils are well drained with a conservative permeability of 0.20 in/hr and minimal salinity. Simitarq soils have nearly neutral pH values ranging from 7.2 to 7.4 standard units.

Regional surface water features include the refinery evaporation ponds and aeration lagoons and a number of small ponds (one cattle water pond and two small unnamed spring fed ponds). 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. The Rio Puerco continues to the east to the confluence with the Rio Grande. The South Fork of the Puerco River is intermittent and retains flow only during and immediately following precipitation events.

3.2 Subsurface Conditions

The shallow subsurface soils consist of fluvial and alluvial deposits comprised of clay and silt with minor inter-bedded sand layers. Very low permeability bedrock (e.g., claystones and siltstones) underlie the surface soils and effectively form an aquitard. The Chinle Formation, which is Upper Triassic, crops out over a large area on the southern margin of the San Juan Basin. The uppermost recognized local member is the Petrified Forest and the Sonsela Sandstone Bed is the uppermost recognized regional aquifer. Aquifer test of the Sonsela Bed

northeast of Prewitt indicated a transmissivity of greater than 100 ft^2/day (Stone and others, 1983). The Sonsela Sandstone's highest point occurs southeast of the site and slopes downward to the northwest as it passes under the refinery. The Sonsela Sandstone forms a water-bearing reservoir with artesian conditions throughout the central and western portions of the refinery property.

The diverse properties and complex, irregular stratigraphy of the surface soils across the site cause a wide range of hydraulic conductivity ranging from less than 10^{-2} cm/sec for gravel like sands immediately overlying the Chinle Formation to 10^{-8} cm/sec in the clay soils located near the surface (Western Refining, 2009). Generally, shallow groundwater at the refinery follows the upper contact of the Chinle Formation with prevailing flow from the southeast to the northwest.

Three new monitoring wells were recently installed near the API Separator (KA-1, KA-2, and KA-3). The predominantly lithology of the materials overlying the Chinle Formation was logged as a sandy lean clay. The boring log for GMW-1, which is located immediately west of AL-2, indicated that clay was present from the land surface to a depth of 21.5 feet, where a sandy gravel extend from 21.5 feet to 24 feet at the top of a mudstone bedrock (Petrified Forest Member of the Chinle Formation).

The location of the three groundwater monitoring wells located adjacent to the aeration lagoons and evaporation pond is presented in Figure 4-2. A copy of the boring log for GWM-1 is provided in Appendix E. Historical analyses of groundwater collected at GWM-1 and GWM-2 indicated low concentrations of BTEX and methyl tertiary butyl ether (MTBE). The occurrence of shallow groundwater in the area is sporadic and temporal, as displayed with the recent absence of groundwater in GWM-2 and GWM-3, as discussed above.

Section 4
Scope of Services

To facilitate the final design process and allow timely selection of a contractor, the site investigation activities of the surrounding soils will be conducted prior to any other actions. This investigation is scheduled to start within 60 days of NMED approval of the CMI Work Plan. The benzene strippers will be removed and corrective actions (e.g., stabilization of sludges and construction of cover system) will be implemented within 90 days of demonstrating that the upgraded wastewater treatment system is achieving treatment criteria as specified in the approved Process Design Report for Wastewater Treatment Plant Workplan. Figure 4-1 provides a detailed schedule for all anticipated activities. The schedule is based on two assumed milestones, including NMED approval of the CMI Work Plan by June 1, 2011 and successful completion of the new wastewater treatment plant (i.e., achievement of all discharge limits as required by the CAFO) by May 31, 2012.

Prior to implementation of corrective measures, GWM-1, GWM-2, and GWM-3 will be plugged and abandoned in accordance with all applicable regulatory requirements. The plugging activities will be conducted concurrently with the investigation.

The proposed remedy is closure in-place of AL-1, AL-2 and EP-1. Western completed an evaluation of potential remedies for the aeration lagoons and EP-1 and a summary of the corrective measures evaluation is included in Appendix F. The activities detailed below will be conducted in accordance with applicable New Mexico regulations (20.4.1.500), incorporating 40 CFR §264.101 and Provision IV.B. of the Gallup Refinery's RCRA Post-Closure Care Permit. In addition, as AL-1, AL-2, and EP-1 are surface impoundments as defined in 40 CFR §260.10 appropriate technical performance criteria for closure and post-closure care are found in 40 CFR §264.228. The Scope of Services includes the following activities, which are discussed in more detail below:

- Site investigation around the perimeter of final cover system
- Cessation of flows into impoundments and drying of sludge;
- Removal of benzene strippers and associated piping;
- In-situ stabilization of waste materials; and
- Construction of final cover system.

4.1 Perimeter Investigation

An investigation of soils that lie beyond the lateral extent of the final cover system will be conducted to ensure that all impacted soils are placed beneath the cover system. This investigation will include surface (0-6") and shallow subsurface (18-24") samples collected on 50-foot spacings around the planned perimeter of the cover system (Figure 4-2). In addition, soil borings will be installed around the perimeter as shown in Figure 4-2 to determine if constituents have migrated laterally from the surface impoundments. The sample locations will be within approximately five feet of the edge of the cover system.

4.1.1 Soil Sample Field Screening and Logging

Samples obtained from the soil borings (i.e., penetrations below two feet) will be screened in the field on 2.5 foot intervals for evidence of contaminants. Field screening results will be recorded on the exploratory boring and excavation logs. Field screening results will be 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. Additional screening for site- or release-specific characteristics such as pH or for specific compounds using field test kits may be conducted where appropriate.

Visual screening includes examination of soil samples for evidence of staining caused by petroleum-related compounds or other substances that may cause staining of natural soils such as elemental sulfur or cyanide compounds. Headspace vapor screening targets volatile organic compounds and involves placing a soil sample in a plastic sample bag or a foil sealed container allowing space for ambient air. The container will be sealed and then shaken gently to expose the soil to the air trapped in the container. The sealed container will be allowed to rest for a minimum of 5 minutes while vapors equilibrate. Vapors present within the sample bag's headspace will then be measured by inserting the probe of the instrument in a small opening in the bag or through the foil. The maximum value and the ambient air temperature will be recorded on the field boring or test pit log for each sample.

The monitoring instruments will be calibrated each day to the manufacturer's standard for instrument operation. A photo-ionization detector (PID) equipped with a 10.6 or higher electron volt (eV) lamp or a combustible gas indicator will be used for VOC field screening. Field screening results may be site- and boring-specific and the results may vary with instrument type, the media screened, weather conditions, moisture content, soil type, and type of

contaminant, therefore, all conditions capable of influencing the results of field screening will be recorded on the field logs.

The physical characteristics of the samples (such as mineralogy, ASTM soil classification, moisture content, texture, color, presence of stains or odors, and/or field screening results), depth where each sample was obtained, method of sample collection, and other observations will be recorded in the field log by a qualified geologist or engineer. Detailed logs of each boring will be completed in the field by a qualified engineer or geologist. Additional information, such as the presence of water-bearing zones and any unusual or noticeable conditions encountered during drilling, will be recorded on the logs.

Quality Assurance/Quality Control (QA/QC) samples will be collected to monitor the validity of the soil sample collection procedures as follows:

- Field duplicates will be collected at a rate of 10 percent;
- Equipment blanks will be collected from all sampling apparatus at a frequency of one per day; and
- Field blanks will be collected at a frequency of one per day.

4.1.2 Drilling Activities

Soil borings will be drilled using either cone penetrometer (CPT), hollow-stem auger or if necessary, air rotary methods including ODEX. The drilling equipment will be properly decontaminated before drilling each boring. The "shallow sample" locations where 0-6" and 18-24" samples will be collected for analysis may be completed using a decontaminated hand auger.

The NMED will be notified as early as practicable if conditions arise or are encountered that do not allow the advancement of borings to the specified depths or at planned sampling locations. Appropriate actions (e.g., installation of protective surface casing or relocation of borings to a less threatening location) will be taken to minimize any negative impacts from investigative borings. If contamination is detected at the water table, then the boring will be drilled five feet below the water table or to refusal, whichever occurs first. Soil samples will be collected continuously and logged by a qualified geologist or engineer.

Both sample information and visual observations of the cuttings and core samples will be recorded on the boring log. Known site features and/or site survey grid markers will be used as

references to locate each boring. The boring locations will be measured to the nearest foot, and locations will be recorded on a scaled site map upon completion of each boring.

4.1.3 Groundwater Sample Collection

If groundwater is encountered in the soil borings, then groundwater will be sampled and analyzed. Groundwater samples will be collected within 24 hours of the completion of well purging using dedicated bailers or disposal bailers. Alternatively, well sampling may also be conducted in accordance with the NMED's Position Paper *Use of Low-Flow and other Non-Traditional Sampling Techniques for RCRA Compliant Groundwater Monitoring* (October 30, 2001, as updated). Sample collection methods will be documented in the field monitoring reports. The samples will be transferred to the appropriate, clean, laboratory-prepared containers provided by the analytical laboratory. Sample handling and chain-of-custody procedures will be in accordance with the procedures presented below in Section 4.1.4.

Groundwater samples intended for metals analysis will be submitted to the laboratory as total metals samples. QA/QC samples will be collected to monitor the validity of the groundwater sample collection procedures as follows:

Field duplicate water samples will be obtained at a frequency of ten percent, with a minimum, of one duplicate sample per sampling event;

Field blanks will be obtained at a minimum frequency of one per day. Field blanks will be generated by filling sample containers in the field with deionized water and submitting the samples, along with the groundwater samples, to the analytical laboratory for the appropriate analyses.

Equipment rinsate blanks will be obtained for chemical analysis at the rate of ten percent or a minimum of one rinsate blank per sampling day. Equipment rinsate blanks will be collected at a rate of one per sampling day if disposable sampling equipment is used. Rinsate samples will be generated by rinsing deionized water through unused or decontaminated sampling equipment. The rinsate sample will be placed in the appropriate sample container and submitted with the groundwater samples to the analytical laboratory for the appropriate analyses.

Trip blanks will accompany laboratory sample bottles and shipping and storage containers intended for VOC analyses. Trip blanks will consist of a sample of analyte-free deionized water prepared by the laboratory and placed in an appropriate sample container. The trip blank will be

prepared by the analytical laboratory prior to the sampling event and will be kept with the shipping containers and placed with other water samples obtained from the site each day. Trip blanks will be analyzed at a frequency of one for each shipping container of samples to be analyzed for VOCs.

4.1.4 Sample Handling

At a minimum, the following procedures will be used at all times when collecting samples during investigation, corrective action, and monitoring activities:

1. Neoprene, nitrile, or other protective gloves will be worn when collecting samples. New disposable gloves will be used to collect each sample;

2. All samples collected of each medium for chemical analysis will be transferred into clean sample containers supplied by the project analytical laboratory with the exception of soil, rock, and sediment samples obtained in Encore® samplers. Sample container volumes and preservation methods will be in accordance with the most recent standard EPA and industry accepted practices for use by accredited analytical laboratories. Sufficient sample volume will be obtained for the laboratory to complete the method-specific QC analyses on a laboratory-batch basis; and

3. Sample labels and documentation will be completed for each sample following procedures discussed below. Immediately after the samples are collected, they will be stored in a cooler with ice or other appropriate storage method until they are delivered to the analytical laboratory. Standard chain-of-custody procedures, as described below, will be followed for all samples collected. All samples will be submitted to the laboratory soon enough to allow the laboratory to conduct the analyses within the method holding times. At a minimum, all samples will be submitted to the laboratory within 48 hours after their collection.

Chain-of-custody and shipment procedures will include the following:

1. Chain-of-custody forms will be completed at the end of each sampling day, prior to the transfer of samples off site.

2. Individual sample containers will be packed to prevent breakage and transported in a sealed cooler with ice or other suitable coolant or other EPA or industry-wide accepted method. The drainage hole at the bottom of the cooler will be sealed and secured in case of sample container leakage. Temperature blanks will be included with each shipping container.

3. Each cooler or other container will be delivered directly to the analytical laboratory.

4. Glass bottles will be separated in the shipping container by cushioning material to prevent breakage.

5. Plastic containers will be protected from possible puncture during shipping using cushioning material.

6. The chain-of-custody form and sample request form will be shipped inside the sealed storage container to be delivered to the laboratory.

7. Chain-of-custody seals will be used to seal the sample-shipping container in conformance with EPA protocol.

8. Signed and dated chain-of-custody seals will be applied to each cooler prior to transport of samples from the site.

9. Upon receipt of the samples at the laboratory, the custody seals will be broken, the chain-of-custody form will be signed as received by the laboratory, and the conditions of the samples will be recorded on the form. The original chain-of-custody form will remain with the laboratory and copies will be returned to the relinquishing party.

10. Copies of all chain-of-custody forms generated as part of sampling activities will be maintained on-site.

4.1.5 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 will be contained and characterized using methods based on the boring location, boring depth, drilling method, and type of contaminants suspected or encountered. All purged groundwater and decontamination water will be characterized prior to disposal unless it is disposed in the refinery wastewater treatment system upstream of the API Separator. An IDW management plan is included as Appendix D.

4.1.6 Field Equipment Calibration

Field equipment requiring calibration will be calibrated to known standards, in accordance with the manufacturers' recommended schedules and procedures. At a minimum, calibration checks will be conducted daily, or at other intervals approved by the Department, and the instruments will be recalibrated, if necessary. Calibration measurements will be recorded in the daily field logs. If field equipment becomes inoperable, its use will be discontinued until the necessary repairs are made. In the interim, a properly calibrated replacement instrument will be used.

4.1.7 Documentation of Field Activities

Daily field activities, including observations and field procedures, will be recorded in a field log book. Copies of the completed forms will be maintained in a bound and sequentially numbered field file for reference during field activities. Indelible ink will be used to record all field activities. Photographic documentation of field activities will be performed, as appropriate. The daily record of field activities will include the following:

1. Site or unit designation;
2. Date;
3. Time of arrival and departure;
4. Field investigation team members including subcontractors and visitors;
5. Weather conditions;
6. Daily activities and times conducted;
7. Observations;
8. Record of samples collected with sample designations and locations specified;
9. Photographic log, as appropriate;
10. Field monitoring data, including health and safety monitoring;
11. Equipment used and calibration records, if appropriate;
12. List of additional data sheets and maps completed;
13. An inventory of the waste generated and the method of storage or disposal; and
14. Signature of personnel completing the field record.

4.1.8 Chemical Analyses

All samples collected for laboratory analysis will be submitted to an accredited laboratory. The laboratory will use the most recent standard EPA and industry-accepted analytical methods for target analytes as the testing methods for each medium sampled. Chemical analyses will be performed in accordance with the most recent EPA standard analytical methodologies and extraction methods.

Groundwater and soil samples will be analyzed 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 range (C5-C10), diesel range (>C10-C28), and motor oil range (>C28-C36) organics.
- Groundwater and soil samples will also be analyzed for the following Skinner List metals using the indicated analytical methods.

Table 4-1
Inorganic Analytical Methods

Analyte	Analytical Method
Antimony	SW-846 method 6010/6020
Arsenic	SW-846 method 6010/6020
Barium	SW-846 method 6010/6020
Beryllium	SW-846 method 6010/6020
Cadmium	SW-846 method 6010/6020
Chromium	SW-846 method 6010/6020
Cobalt	SW-846 method 6010/6020
Cyanide	SW-846 method 335.4/335.2 mod
Lead	SW-846 method 6010/6020
Mercury	SW-846 method 7470/7471
Nickel	SW-846 method 6010/6020
Selenium	SW-846 method 6010/6020
Silver	SW-846 method 6010/6020
Vanadium	SW-846 method 6010/6020
Zinc	SW-846 method 6010/6020
Iron	SW-846 method 6010/6020
Manganese	SW-846 method 6010/6020

As discussed previously, if collected, groundwater field measurements will be obtained for pH, specific conductance, dissolved oxygen concentrations, oxidation-reduction potential, and temperature.

4.1.9 Data Quality Objectives

The Data Quality Objectives (DQOs) were developed to ensure that newly collected data are of sufficient quality and quantity to address the projects goals, including Quality Assurance/Quality Control (QA/QC) issues (EPA, 2006). The project goals are established to determine and evaluate the presence, nature, and extent of releases of contaminants at specified SWMUs. The type of data required to meet the project goals includes chemical analyses of soil, sediment and possibly groundwater to determine if there has been a release of contaminants at the individual SWMUs.

The quantity of data is SWMU specific and is based on the historical operations at individual locations. Method detection limits should be 20% or less of the applicable background levels, cleanup standards and screening levels.

Additional DQOs include precision, accuracy, representativeness, completeness, and comparability. Precision is a measurement of the reproducibility of measurements under a given set of circumstances and is commonly stated in terms of standard deviation or coefficient of variation (EPA, 1987). Precision is also specific to sampling activities and analytical performance. Sampling precision will be evaluated through the analyses of duplicate field samples and laboratory replicates will be utilized to assess laboratory precision.

Accuracy is a measurement in the bias of a measurement system and may include many sources of potential error, including the sampling process, field contamination, preservation, handling, sample matrix, sample preparation, and analysis techniques (EPA, 1987). An evaluation of the accuracy will be performed by reviewing the results of field/trip blanks, matrix spikes, and laboratory QC samples.

Representativeness is an expression of the degree to which the data accurately and precisely represent the true environmental conditions. Sample locations and the number of samples have been selected to ensure the data is representative of actual environmental conditions. Based on SWMU specific conditions, this may include either biased (i.e., judgmental) locations/depths or unbiased (systematic grid samples) locations. In addition, sample collection techniques (e.g., field monitoring and decontamination of sampling equipment) will be utilized to help ensure representative results.

Completeness is defined as the percentage of measurements taken that are actually valid measurements, considering field QA and laboratory QC problems. EPA Contract Laboratory Program (CLP) data has been found to be 80-85% complete on a nationwide basis and this has been extrapolated to indicate that Level III, IV, and V analytical techniques will generate data that are approximately 80% complete (EPA, 1987). As an overall project goal, the completeness goal is 85%; however, some samples may be critical based on location or field screening results and thus a sample –by-sample evaluation will be performed to determine if the completeness goals have been obtained.

Comparability is a qualitative parameter, which expresses the confidence with which one data set can be compared to another. Industry standard sample collection techniques and routine

EPA analytical methods will be utilized to help ensure data are comparable to historical and future data. Analytical results will be reported in appropriate units for comparison to historical data and cleanup levels.

4.2 Drying of Sludge

Upon completion of construction and testing of the refinery's new wastewater treatment plant (WWTP), effluent flows from the new WWTP to AL-1 will cease. Once effluent flows to AL-1 have ceased, the Old API Separator, benzene strippers, aeration lagoons, and EP-1 will no longer be required and will be taken out of service. Abandonment and demolition of the Old API Separator is addressed under a separate Work Plan for SWMU No. 14. Abandonment and demolition of the benzene strippers is discussed in Section 4.3.

Cessation of effluent flows will also allow work to begin on closure of the aeration lagoons and EP-1. The first step in closure of the aeration lagoons and EP-1 will be to pump the remaining fluids in AL-1 and AL-2 to the new API Separator. Any remaining fluids in EP-1 will be allowed to gravity drain to EP-2 as occurs under current operations.

Following draining of the impoundments, the sediment/sludge in the impoundments will be allowed to air dry until a crust has formed on the surface, which essentially stops the air-drying process. The schedule includes eight weeks for air drying of the sediment/sludge in the impoundments. Once the crust has formed, in-situ stabilization of the sludges will take place as described in Section 4.4

4.3 Removal of Benzene Strippers

Once flow to the aeration lagoons and EP-1 has ceased, the three benzene stripper units become obsolete. The two benzene strippers, which were operating as part of the wastewater treatment unit when the Complaint and Consent Agreement and Final Order (CAFO) became effective on August 26, 2009, will be dismantled. Piping will be disconnected from the API separator, and the unit packing will be disposed. Then the units will be triple rinsed. All rinsate will be routed to the WWTP for treatment. The two original benzene strippers were constructed on a concrete slab, which will be removed. Removal of the concrete slab will be completed as part of the activities to be conducted at SWMU No. 14 (Old API Separator).

4.4 In-Situ Stabilization

4.4.1 Treatability Study

A treatability study will be performed as part of the final design of the final cover system (i.e., before the scheduled date to redirect flows from the impoundments) to determine acceptable reagents for solidifying the AL-1, AL-2 and EP-1 sediment/sludge. Flyash from coal-fired power plants, kiln dust from cement kilns, quicklime, and Portland cement will be evaluated. The nearest available sources of those materials will be identified and costs estimated for purchase and delivery of the materials. Samples of reagents deemed to be potentially cost-effective will then be obtained from the suppliers along with representative samples of the impoundments' sediment/sludge.

In order to evaluate the most effective reagent(s) that would efficiently react with and stabilize the sediments and sludges, the sediment and sludge samples will be mixed with varying proportions of each reagent. The samples will be mixed in approximately 16 oz. containers and allowed to cure (i.e., hydrate and harden) for 7 days. It is currently anticipated that testing of up to 3 reagents at 3 admixture percentages each will be sufficient to determine the best stabilization recipe(s).

For this project, slope stability of the closed impoundments is not a concern due to the presence of competent subsurface soils and the relatively low height of the closed unit above surrounding grade. As such, the sediment/sludge only need to be stabilized to prevent excessive long-term settlement and to have sufficient strength to support the largest expected loads, which will be large construction equipment used for placement of overlying materials. For a project of this size, a Caterpillar D6 or similar sized bulldozer, would likely impose the highest load on the stabilized sediment/sludge. Based on experience, a conservative indicator that the stabilized materials will support the maximum anticipated loading and not be subject to excessive long-term settlement is an unconfined compressive strength of 10 psi (approximately 1,450 psf), or greater. Accordingly, the unconfined compressive strength of each stabilized sample will be determined using a pocket penetrometer, a handheld device used to estimate the unconfined compressive strength of soils. The best recipe(s) will be the one(s) that require the least cost/cubic yard of reagent needed to achieve a compressive strength of at least 10 psi.

4.4.2 Stabilization Procedures

Periods of high winds are common in the project area. Reagents can easily become airborne and create nuisance issues for downwind receptors if they are not handled correctly. Following are two options for effectively introducing reagent to the impoundment sediment/sludge in a potentially high-wind environment.

If a granular reagent such as pebble quicklime or a granular bedash is determined to be the best reagent, these materials can be introduced and mixed into the impoundment sediment/sludge utilizing a standard bucket on a long-reach excavator with minimal nuisance dust generation during moderately windy conditions. A long-reach excavator with a 60-foot boom could be used for the Aeration Lagoons due to their configuration and the relatively shallow thickness of the soft sediments and sludge. This type of excavator could reach virtually all of the material in both lagoons working from the lagoons' perimeter berms. A long-reach excavator would most likely be complemented with a low ground-pressure bulldozer in the evaporation pond due to its larger footprint and shallower sludge depths.

If a more powder-like reagent such as flyash or Portland cement is selected as the best reagent, this material will be delivered in pneumatic tanker trucks, which would be parked adjacent to the impoundments. The flyash or cement would be pneumatically pumped (pumping using pressurized air) via high-pressure hoses from the tanker trucks to an excavator injector attachment designed especially for the purpose of mixing reagents with high-moisture solids. Injectors of the type being proposed would introduce the reagent directly into the sediment and sludge without exposing the reagent to the wind. The injectors accomplish this via delivery ports at the end of multiple heavy-duty steel "fingers" that have the same pivoting motion as a bucket attachment at the end of an excavator boom. With this equipment setup, the excavator would initially work off of the impoundments' perimeter berms, stabilizing material out to its maximum reach in a strip. Once a strip along the perimeter is stabilized, the excavator would move out onto the solid material and work in successive strips into and across each impoundment.

Reagent admixture control in either of the above mixing scenarios would be implemented by estimating the volume of sediment/sludge in a given mixing area (i.e. a square equal to the reach of the excavator) and introducing the appropriate tonnage of reagent to that mixing area based on the treatability study. Although the initial treatability study would provide a base recipe

for the stabilization process, the amount of reagent used would be adjusted as needed based on real-time observations and evaluations of the mixing process in the field.

4.5 Construction of Final Cover System

4.5.1 Run-on Prevention

Prior to beginning excavation and backfilling within the impoundments, earthen berms and/or drainage swales will be placed around portions of the perimeter berms of the impoundments. The earthen berms and/or drainage swales will be placed, as required, to prevent the run-on of stormwater into the impoundments once excavation and backfilling commence.

The berms or drainage swales may be temporary or permanent as best suits the contractor's construction activities, though the permanent perimeter drainage system is currently anticipated to be drainage swales where run-on is a concern. Based on the preliminary design concept of the final cover sloping downward from east to west, it is anticipated that run-on control berms or swales will be required on the east side and partially on the north and south sides of the impoundments' perimeter berm. Design of permanent drainage improvements related to closure of the impoundments is discussed in Section 4.6.

4.5.2 Excavation and Backfilling

Following completion of stabilization activities, the surface of the stabilized sediment/sludge in each impoundment will be relatively flat. However, RCRA final cover systems typically have slopes of between two and five percent to provide for robust long-term drainage of stormwater off the final cover. To create an adequate slope in a cost effective manner that minimizes disturbance of areas outside the impoundments, the preliminary final closure design of the impoundments anticipates partially excavating the impoundments' containment berms for use as backfill. The resulting backfill will be placed in 6 to 8-inch lifts compacted to at least 90% standard Proctor density and graded at the final cover design slopes to provide a firm subgrade for placement of the clay cap component of the final cover system. If backfill material is required in excess of what is obtained from the partial excavation of the containment berms, clayey soils from the same borrow source as used for clay cap construction will be used as backfill.

Preconstruction testing of the berm soils and construction quality assurance testing of the backfill will be done in accordance with testing requirements detailed in Section 4.5.3 for clay cap construction with the exception that no permeability testing will be required.

Following completion of subgrade placement, the subgrade will be surveyed at the minimum frequency of one point per 5,000 square feet (e.g., 70 feet by 70 feet grid) so the thickness of the clay cap may be confirmed after construction.

4.5.3 Clay Cap Construction

4.5.3.1 Preconstruction and Construction Quality Assurance Testing

Prior to constructing the cover system, preconstruction testing will be conducted on the source soil materials for the clay cap. The clay capping materials are anticipated to come from an onsite source. Construction quality assurance testing will also be performed on the in-place clay cap. The following table presents the materials requirements for the clay cap component of the cover system.

Table 4-2
Clay Cap Component Cover System Materials Requirements

Test Parameters	Value
Plasticity Index	15, Minimum
Liquid Limit	30, Minimum
Percent Passing the No. 200 Sieve	30% Minimum
Percent Passing the one-inch sieve	100% Minimum
In-Place Hydraulic Conductivity	1×10^{-7} cm/s, Maximum
In-Place Density	95% of Standard Proctor Maximum Dry Density, Minimum
In-Place Moisture Content	0% to 5% over the Standard Proctor Optimum Moisture Content

At least one preconstruction test will be performed for each soil type, significant change in soil, or per borrow source. The tests that will be performed are:

- Atterberg Limits;
- Sieve Analysis (percent passing 1 ½-inch, No. 40 and No. 200 Sieve);
- Moisture Content;
- Standard Proctor; and

- Permeability (soil remolded to 95% of its Standard Proctor maximum dry density at 1% ± ½% above its optimum moisture content).

During construction of the clay cap component, tests will be taken of the in-place density and moisture content of compacted lifts. Density will be measured using a nuclear density gauge, drive cylinder or sand cone methods. Moisture content may be determined in the field using either the nuclear gauge, oven, direct-heating or microwave methods. Confirmatory laboratory moisture content determinations will also be performed to check for any systematic errors in the field moisture content determinations.

Any testing area that does not meet the project specifications will require reworking and retesting until a passing condition is achieved. Undisturbed samples of the in-place clay cap component will be obtained using a thin wall tube samples for the laboratory determination of the coefficient of permeability. Voids resulting from density testing or undisturbed sampling will be filled with bentonite or a bentonite and soil mixture.

The minimum testing frequencies for the clay cap are listed below.

Table 4-3
Clay Cap Minimum Testing Frequencies

Test	Frequency
In-place density	Minimum of 1 test per 5,000 ft^2 per 6 inches of depth (but no less than 5 tests per each 6-inch lift)
In-place moisture content	1 per density test
Standard Proctor moisture-density relationship	1 per every significant change in soil or change in borrow (these tests may be considered pre-construction tests)
Undisturbed permeability	Minimum 1 per 20 field density tests (but at least 1 test per each 6-inch lift)
Percent passing No. 200 sieve	Minimum 1 per each 20 field densities
Atterberg Limits	Minimum 1 per each 20 field densities
Laboratory moisture content	Minimum 1 per each 5 field densities

4.5.3.2 Clay Placement

A 24-inch thick clay cap will be constructed over the prepared subgrade to the approximate limits shown on Figure 4-2. Prior to placement, the clay soils may require processing to breakup any large clods and to adjust the moisture content. The soil may be processed in a staging area or it may be placed as a loose 6 to 8-inch thick lift and processed in place prior to

compaction. For moisture adjustments, water will be spread evenly on the surface of the soil and then be thoroughly mixed and evenly distributed throughout the lift by disking, tilling or other satisfactory means. If water adjustments are not needed, disking or tilling may still be required to breakup large clods.

After processing, approximate 6 to 8-inch thick loose lifts will be compacted with a large sheeps-foot or tamp-foot roller with prongs long enough to totally penetrate the thickness of the lift. The roller will make sufficient passes to produce a relatively homogenous blend of the clay cap materials. Typically compaction equipment producing at least 1500 pounds of force along each linear foot of its drum length and making a sufficient number of passes (a minimum of six) produces the desired blending effect. Roller weights may be varied provided that the soil fill is satisfactorily blended during compaction.

Each lift will be compacted to specifications and tested to check that proper compaction has been achieved prior to placement of the overlying lift. Any areas which fail to meet the compaction criteria will be reworked and retested. Also, the surface of each lift will be scarified one to two inches deep so that it bonds to each subsequent lift. The finished surface of the clay cap will be surveyed on the same grid pattern as the subgrade to check its thickness prior to placing overlying components.

The surface of the clay cap will be covered as soon as possible after completion with a 12-mil HDPE moisture retention liner to prevent desiccation. Areas where the clay cap has been exposed for extended periods will be inspected for desiccation cracks. If significant cracks are present, the surface of the clay cap will be wetted and reworked to close the cracks before overlying components are placed. Joints in the moisture retention liner shall have a minimum of 4 inches of overlap of the sheets being joined and be sealed using 4"-wide (minimum) tape recommended by the liner manufacturer. The moisture retention liner will be anchored in a clay backfilled trench around the perimeter of the clay cap. The depth of the liner in the trench will be at least 12 inches. To protect the integrity of the moisture retention liner from the overlying rock armor layer, a protective 12-oz geotextile will be placed over the liner prior to placement of the rock and clay backfill in the perimeter trench.

4.6 Rock Armor Layer

A rock armor layer consisting of approximately eight inches of 1½-inch low-fines crushed limestone will be placed over the 12-oz protective geotextile layer of the final cover system. A rock armor layer will protect the clay cap from the elements and is better suited to the site's arid climate where vegetation is difficult to establish and maintain, which would diminish the effectiveness of a vegetated soil protective layer. Low-fines is specified for the crushed limestone to facilitate lateral drainage of stormwater through the rock armor and discourage the growth of vegetation within the layer.

Section 5
References

EPA, 1987, Data Quality Objectives for Remedial Response Activities; United States Environmental Protection Agency, Office of Emergency and Remedial Response and Office of Waste Programs Enforcement, OSWER Directive 9355.0-7B, 85p

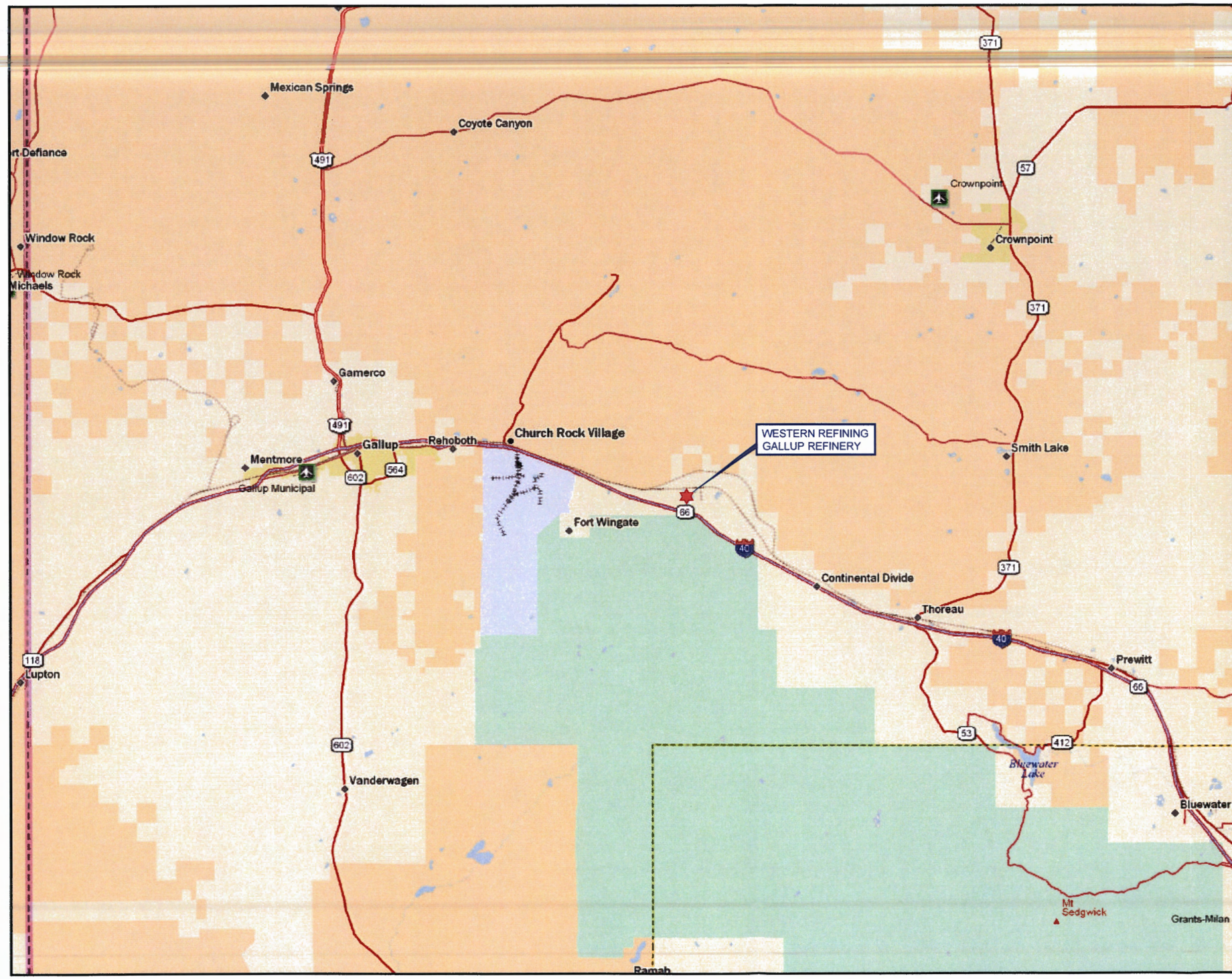
EPA, 2006, Guidance on Systematic Planning Using the Data Quality Objectives Process, United States Environmental Protection Agency, Office of Environmental Information; EPA/240/B-06/001, p. 111.

Stone, W.J., Lyford, F.P., Frenzel, P.F., Mizel, N.H., and Padgett, E.T., 1983, Hydrogeology and Water Resources of San Juan Basin, New Mexico; Hydrogeologic Report 6, New Mexico Bureau of Mines and Mineral Resources, p. 70.

Trihydro Corporation, 2008, Aeration Lagoons 1 and 2 Evaporation Pond 1 – Sediment Investigation, Western Refining Company, Gallup Refinery, Gallup New Mexico, p. 14.

Western Refining Company, 2009, Facility-wide Groundwater Monitoring Plan: Gallup Refinery, p. 97.

Figures



Map Source: DeLorme Street Atlas USA 2007 Plus.

N

0 5
SCALE IN MILES

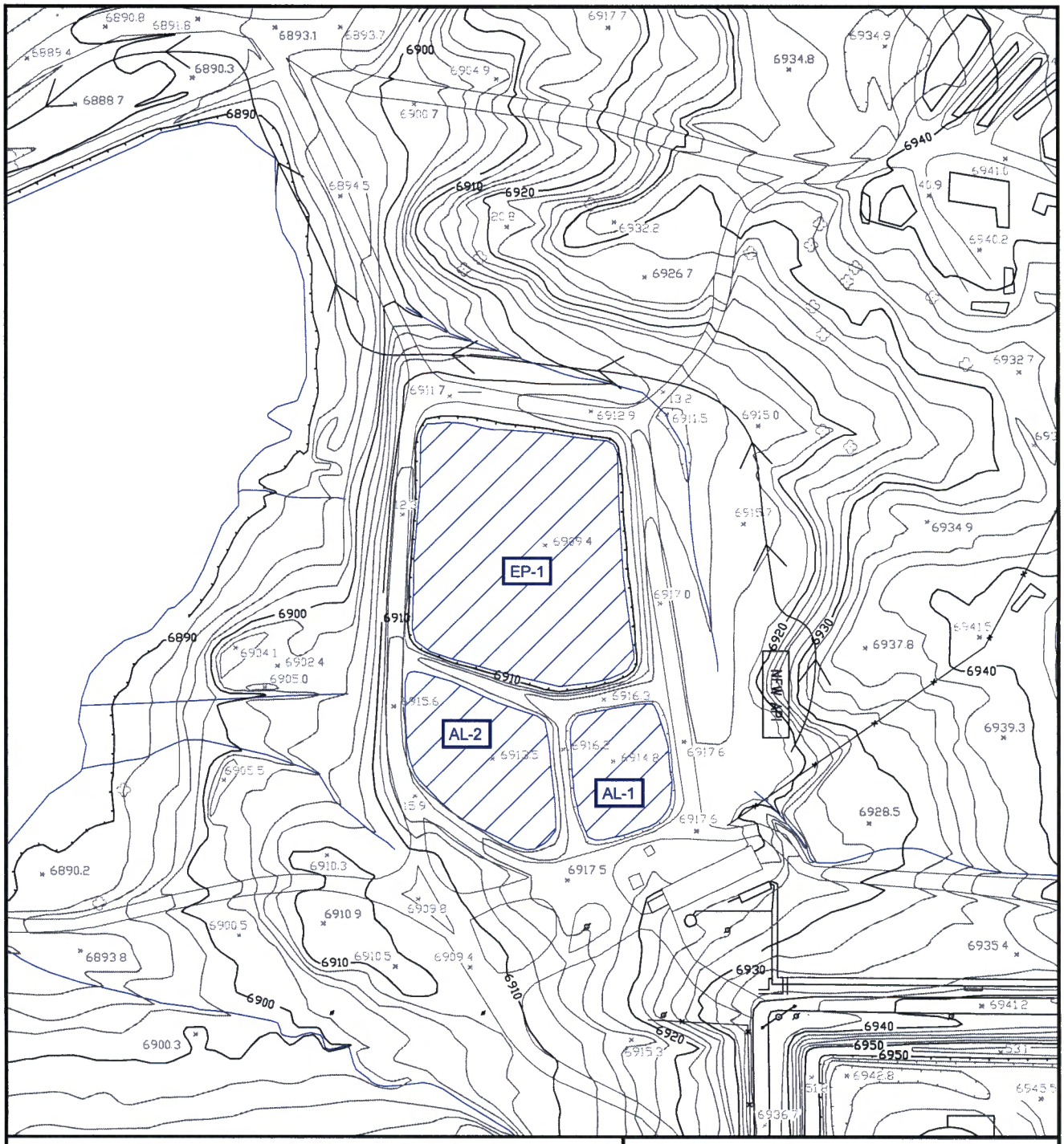
Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining	DATE: 07/26/09	FILE: WestRef-B35

FIGURE 1-1
SITE LOCATION MAP
GALLUP REFINERY

RPS

404 Camp Craft Road
Austin, Texas 78746



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

0 150
SCALE IN FEET

QUADRANGLE LOCATION

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining	DATE: 07/26/09	FILE: WestRef-A33

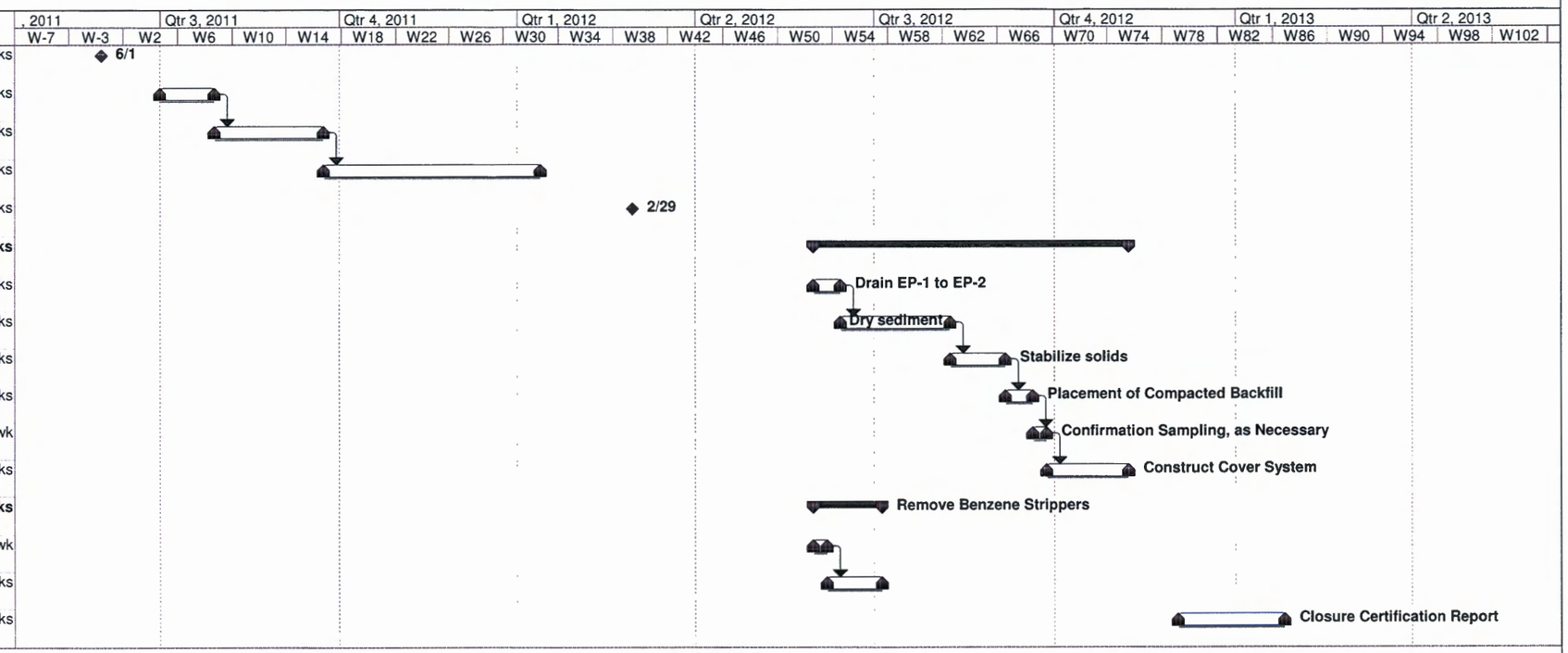
FIGURE 3-1
TOPOGRAPHIC MAP
GALLUP REFINERY

RPS

404 Camp Craft Road
Austin, Texas 78746

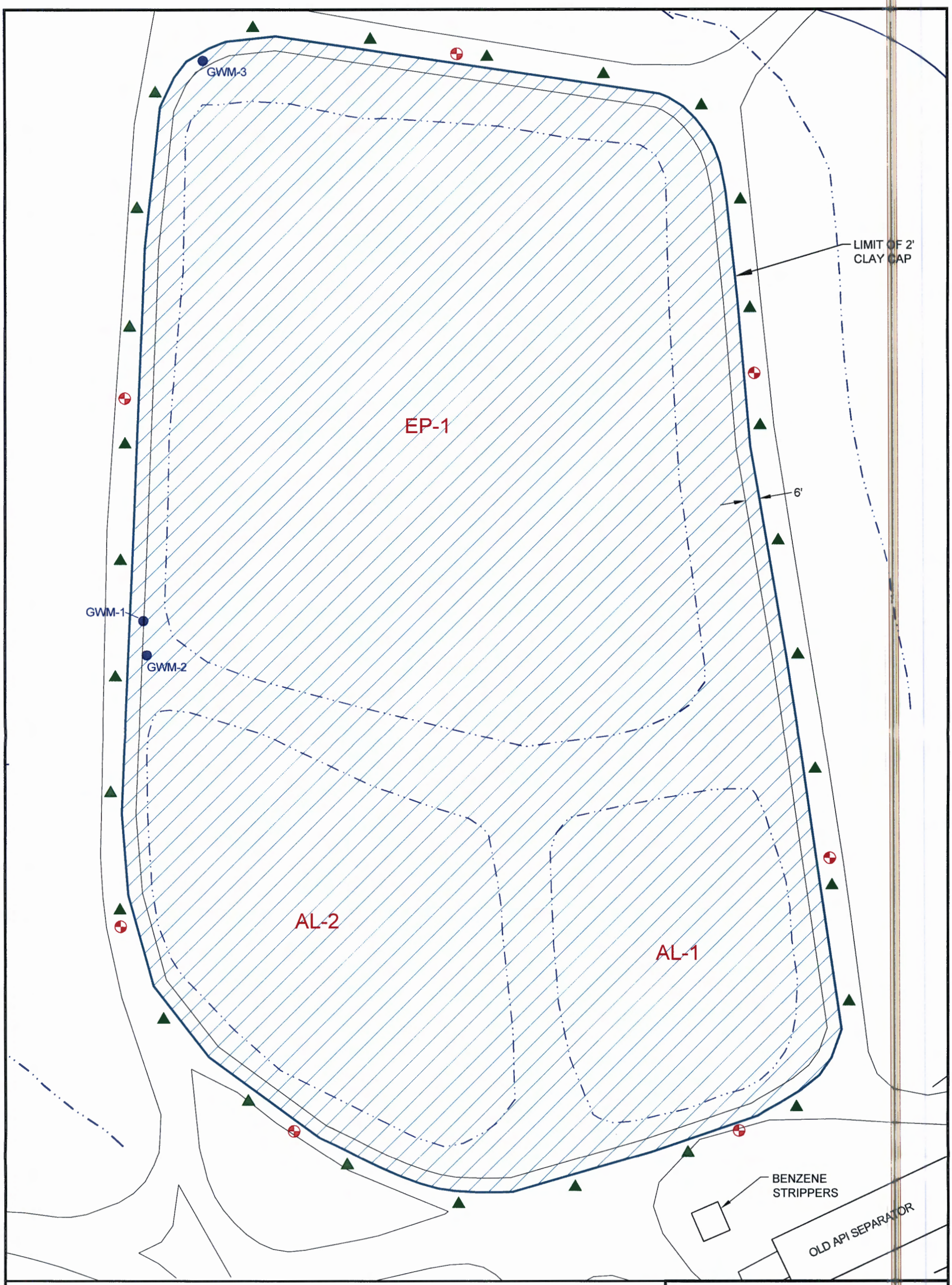
Figure 4-1
CMI Work Plan Schedule

ID	Task Name	Duration
1	**Approval of CMI Work Plan**	0 wks
2	**Sample Surrounding Soils & Geotech; plug wells**	4 wks
3	**Engineering, Construction & Bid Documents**	8 wks
4	**Bidding Process & - Contract Execution**	16 wks
5	**Start up DGF and MPPE units**	0 wks
6	**Aeration Lagoons & Evaporation Pond #1**	**23 wks**
7	Drain EP-1 to EP-2	2 wks
8	Dry sediments	8 wks
9	Stabilize solids	4 wks
10	Placement of Compacted Backfill	2 wks
11	Confirmation Sampling, as Necessary	1 wk
12	Construct Cover System	6 wks
13	**Remove Benzene Strippers**	**5 wks**
14	Remove from service	1 wk
15	Dismantle	4 wks
16	**Closure Certification Report**	8 wks



Project: In-place closure schedule
Date: Thu 9/23/10

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone



LEGEND

PERIMETER SOIL BORING LOCATION

SURROUNDING SOIL SAMPLE LOCATION [SURFACE (0-6"), SUBSURFACE (18-24")]

GWM-1 GROUNDWATER WELL LOCATION [TO BE PLUGGED AND ABANDONED]

CLAY CAP

N

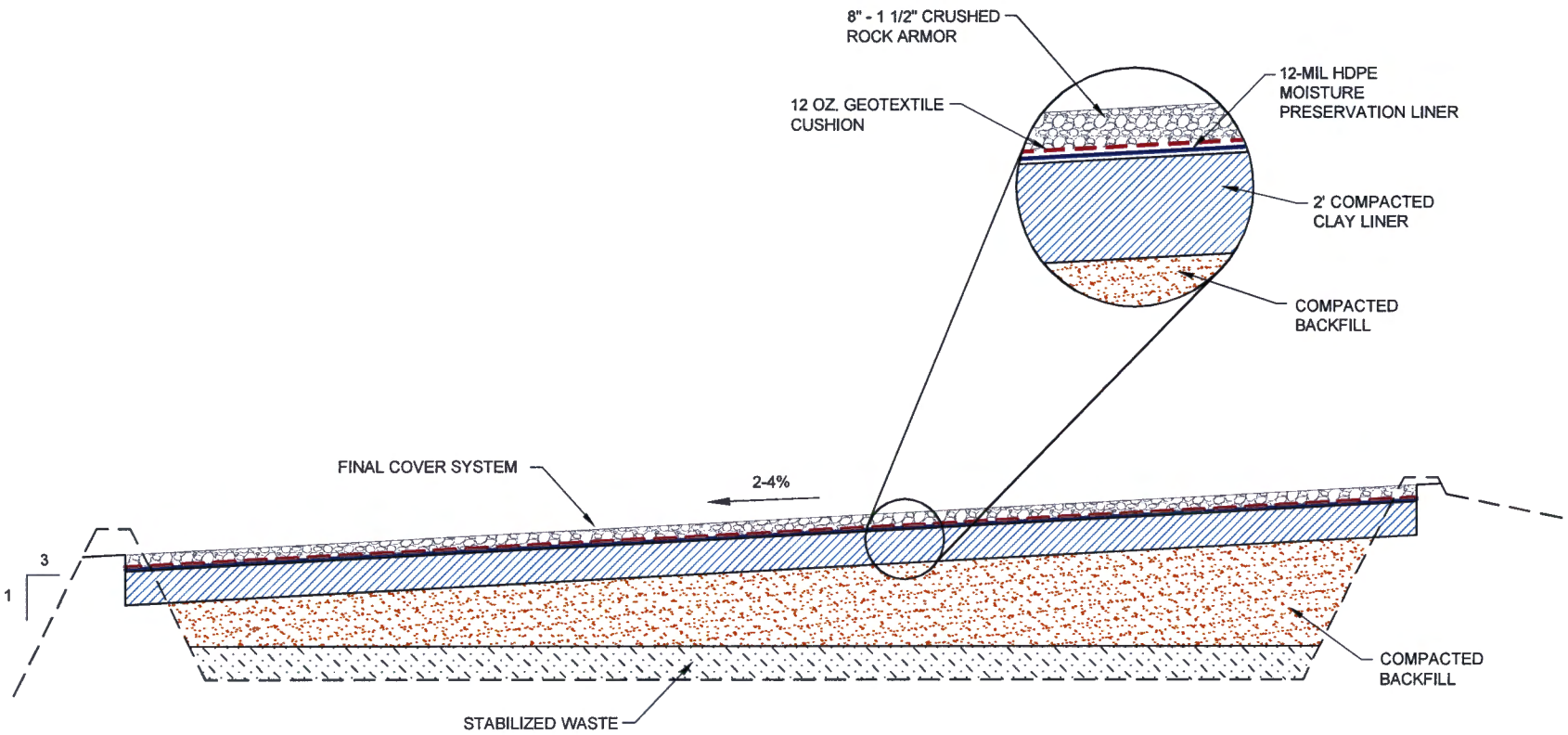
0 40
SCALE IN FEET

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining | DATE: 09/21/10 | FILE: WestRef-B67

FIGURE 4-2
PROPOSED SAMPLE LOCATIONS
GALLUP REFINERY

RPS
404 Camp Craft Road
Austin, Texas 78746



NOT TO SCALE

Western Refining
GALLUP REFINERY

PROJ. NO.:Western Refining	DATE:09/14/10	FILE: WestRef-A44

FIGURE 4-3
SCHEMATIC EAST-WEST CROSS SECTION
GALLUP REFINERY

RPS
404 Camp Craft Road
Austin, Texas 78746

Appendix A

Appendices I-1 and I-2 of the RCRA Post-Closure Permit Application

RCRA
PART A AND PART B
POST-CLOSURE
PERMIT APPLICATION

LAND TREATMENT UNIT
GIANT REFINING COMPANY
CINIZA REFINERY

REVISION 0

VOLUME III
APPENDICES I-1 THROUGH I-13

SUBMITTED TO: NEW MEXICO ENVIRONMENT DEPARTMENT
HAZARDOUS AND RADIOACTIVE MATERIALS BUREAU
P.O. BOX 26110
SANTA FE, NEW MEXICO 87502

DATE: MAY 2000

PREPARED BY: CINIZA REFINERY
ROUTE 3, BOX 7
GALLUP, NEW MEXICO 87301

APPENDICES

Appendix

I-1 Aeration Basin - SWMU No. 1 Summary

I-2 Evaporation Ponds - SWMU No. 2 Summary

I-3 Empty Container Storage Area - SWMU No. 3 Summary

I-4 Old Burn Pit - SWMU No. 4 Summary

I-5 Landfill Areas - SWMU No. 5 Closure Certification

I-6 Tank Farm—Leaded Gasoline Tanks - SWMU No. 6 Summary

I-7 Fire Training Area - SWMU No. 7 Summary

I-8 Railroad Rack Lagoon - SWMU No. 8 Summary

I-9 Drainage Ditch and the Inactive Land Farm - SWMU No. 9 and No. 14 Summary

I-10 Sludge Pits - SWMU No. 10 Summary

I-11 Secondary Oil Skimmer - SWMU No. 11 Summary

I-12 Contact Wastewater Collection System - SWMU No. 12 Summary

I-13 Drainage Ditch Between API Evaporation Ponds and Neutralization Tank Evaporation Ponds - SWMU No. 13 Summary

APPENDIX I-1

Aeration Basin - SWMU No. 1 Summary

SWMU # 1 Summary Report

Aeration Basins
Ciniza Refinery
McKinley County, New Mexico

Prepared for:

Ciniza Refinery
Giant Refining Company
Route 3, Box 7
Gallup, New Mexico 87301

Prepared by:

Practical Environmental Services, Inc.
1444 Wazee Street, Suite 225
Denver, Colorado 80202

Job No. 98-205-03

April 23, 1998

1.0 EXECUTIVE SUMMARY

Practical Environmental Services, Inc. (PES) has been retained by Giant-Ciniza Refinery (Ciniza) to perform a visual inspection, data evaluation, and status assessment for the aeration basins located within the Ciniza Refinery, in McKinley County, New Mexico.

The aeration basins site was identified as a Solid Waste Management Unit (SWMU), and designated as SWMU #1, during a RCRA Facility Investigation conducted at the refinery in the early 1990's. This investigation included soil sampling and analysis, determined that no significant impact had occurred, and recommended no further action (NFA).

In 1994, the Environmental Protection Agency Region VI Office (EPA) concurred in this finding, approved cessation of the investigative process, but requested ongoing soil monitoring. Monitoring samples were collected and analyzed in 1996, and the results confirmed that no significant impact has occurred.

This summary report for SWMU #1 has been prepared in conjunction with submittal of a Resource Conservation and Recovery Act (RCRA) Part B permit application covering post closure care of the Ciniza Refinery Land Treatment Unit. All investigative activities for SWMU #1 have been completed. This assessment is summarized as follows.

- ⇒ The aeration basins continue in active service treating wastewater at the refinery and are functioning normally.
- ⇒ Containment berms and basin sidewalls have been inspected and are intact and stable.
- ⇒ Local soil underlying the basins predominantly consists of bentonitic clays and silts having a very low hydraulic conductivity.
- ⇒ Soil sampling and analysis was conducted during an initial site investigation and subsequent monitoring assessment. Trace organic contaminants were detected below corrective action levels. The site was recommended for NFA and approved by the EPA.
- ⇒ SWMU #1 has been characterized in accordance with current applicable state and federal regulations, and the available data indicate that no significant environmental impact or migration has occurred.

2.0 BACKGROUND

During 1987, a RCRA Facility Assessment was conducted at the Ciniza Refinery. This assessment identified various "units of concern" and recommended further evaluation. A RCRA Facility Investigation (RFI) was subsequently conducted and the aeration basins site was identified as SWMU #1.

Applied Earth Sciences (AES) investigated the aeration basins site during the early 1990s. Soil samples were collected and analyzed. No organic contaminants were detected in any sample. Trace metals were detected in all samples; of which, a few samples indicated levels slightly above ambient background concentration.

As a result of the investigation, AES recommended no further action for this SWMU. Results and recommendations were reported to the EPA in 1991. The EPA approved the NFA finding in 1994, with the added provision that soil monitoring be performed every five years.

3.0 SITE LOCATION AND DESCRIPTION

SWMU #1 is located within the Ciniza Refinery's property boundary. This refinery is located on the north side of Interstate 40, approximately 17 miles east of Gallup, New Mexico. Within the refinery, SWMU #1 is located west of the tank farm, northwest of the flare, and adjacent to the API separator. See Figure No. 1 for location details.

The aeration basins are a component of the refinery wastewater treatment system. Effluent water from the API separator is directed to an air stripper for removal of VOCs and then passed on to the aeration basins for oxygenation and biological stimulation prior to evaporation.

SWMU #1 consists of three man-made earthen basins connected in series. The first two basins are equipped with aeration pumps which are used to oxygenate the water. The last basin serves as a holding pond upstream of the evaporation ponds. The three basins are located adjacent to each other on a site measuring approximately 500 feet by 450 feet. Total hydraulic holding capacity is approximately 2 million gallons.

The aeration basins were constructed in 1987 and have been in continuous operation since that time.

4.0 SITE INSPECTION

During the week of March 23, 1998, an on-site inspection was performed. Photographs are included in the appendix to this report. Observations are noted as follows:

- The aeration basins were observed in active service treating effluent wastewater from the air strippers. Aeration pumps were observed running and the system was functioning normally.

- Berms and sidewalls were visually inspected on all three basins. All were found to be intact and stable. No erosion, damage, or sign of containment failure was observed. A dark mineral dust coating was observed around the interior perimeter of the basins.

- Native shrubs and grasses were observed growing around the perimeter of all basins. Downwind vegetation was also discolored by the dark mineral dust, but otherwise was not found to be distressed.

- Local soil in the vicinity of the aeration basins presented as bentonitic clays and silts. Similar soil strata from a neighboring SWMU exhibited a hydraulic conductivity of less than 10^{-7} cm/sec.

5.0 DATA REVIEW

Soil samples from around the perimeter of the aeration basin site were collected and analyzed during the initial site investigation and a subsequent monitoring assessment. Samples were collected at multiple depths and at both upgradient and downgradient locations. Several borings were angled to collect samples from beneath the basins.

In 1991, the initial site investigation collected samples from six locations and four depths ranging from 4 to 16 feet below ground surface. Analysis found no detection of VOCs or SVOCs in any sample. Trace metals were detected in all samples; of which, six samples indicated levels slightly above ambient background concentration.

In 1996, monitoring samples were collected and analyzed. Six locations were sampled at depths ranging from 4 to 20 feet below ground surface. Analysis again found no detection of VOCs and SVOCs in 25 of the samples. However, two samples collected adjacent to the inlet aeration basin at a depth of 4 feet detected trace quantities of BTEX; of which, xylenes at 2.2 mg/kg was the highest detection. Confirmatory samples were subsequently collected and analyzed. One resample showed non-detect and the other detected trace ethylbenzene at 0.61 mg/kg.

State of New Mexico corrective action levels for BTEX in soil is 50 mg/kg total and 10 mg/kg of benzene. Three of 53 samples indicated trace BTEX, the highest of which was less than 5 mg/kg total; well below the 50 mg/kg action level.

6.0 ASSESSMENT

Based on the site inspection and data review, the aeration basins site is assessed as follows.

- The aeration basins are in active service, functioning normally, and performing the necessary task of oxygenating wastewater and stimulating biological activity.

- The aeration basins are properly designed and located in an appropriate geologic setting in which the underlying bentonitic soil has a very low hydraulic conductivity which effectively serves as an aquiclude.

- Trace detection of BTEX constituents near the sidewalls of the inlet aeration basin is common and predictable for this service. The absence of BTEX at depth and at all other locations is confirmatory of the highly impermeable characteristic of the confining soil. This location and low level of detection are indicative of no significant impact or migration.

- Trace detection of metals at levels slightly above ambient background concentration is likely due to normal soil variation.

- The no further action finding that was recommended by AES and approved by the EPA is appropriate for this site.

- The next soil monitoring event is scheduled for 2001. If this sampling and analysis confirms previous findings, further monitoring is unnecessary and should be discontinued.

7.0 PROFESSIONAL ENGINEER'S CERTIFICATION

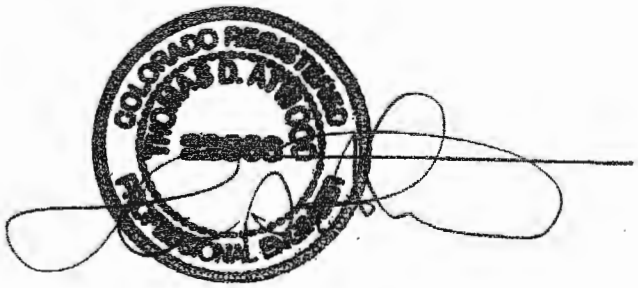
This summary report for SWMU #1 has been prepared under the direct supervision and control of a Registered Professional Engineer.

Client: Ciniza Refinery
Giant Refining Company
Route 3, Box 7
Gallup, New Mexico 87301

Job No.: 98-205-03

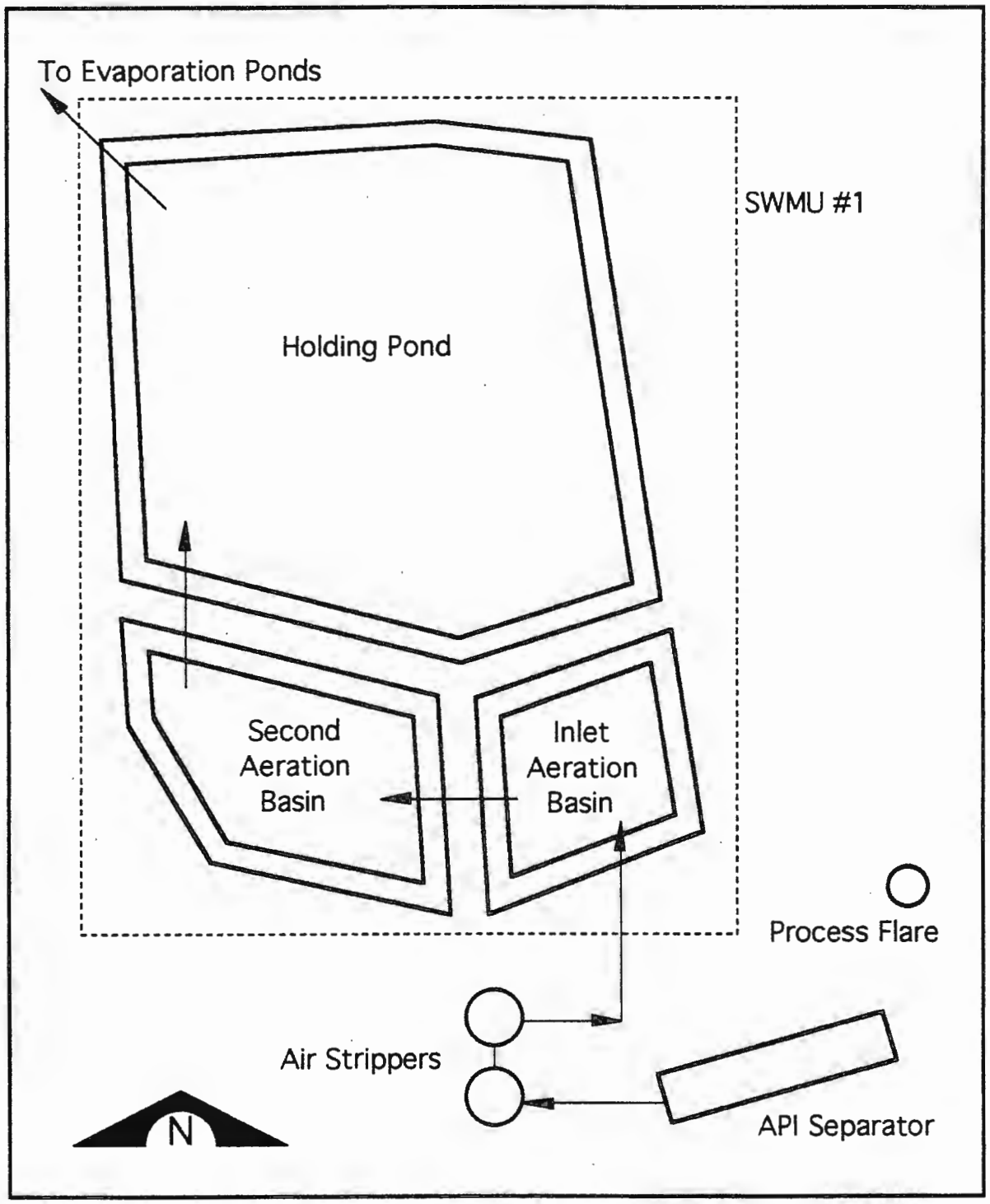
Date: April 23, 1998

Prepared and Certified by:



Thomas D. Atwood, P.E.
Colorado Registration No. 22866

Figure No. 1
Aeration Basin Site



Site Inspection Photographs

View of Aeration Basin

Close-up of Aeration Pumps

APPENDIX I-2

Evaporation Ponds - SWMU No. 2 Summary

SWMU #2 Summary Report

Evaporation Ponds
Ciniza Refinery
McKinley County, New Mexico

Prepared for:

Ciniza Refinery
Giant Refining Company
Route 3, Box 7
Gallup, New Mexico 87301

Prepared by:

Practical Environmental Services, Inc.
1444 Wazee Street, Suite 225
Denver, Colorado 80202

Job No. 98-205-03

April 23, 1998

1.0 EXECUTIVE SUMMARY

Practical Environmental Services, Inc. (PES) has been retained by Giant-Ciniza Refinery (Ciniza) to perform a visual inspection, data evaluation, and status assessment for the evaporation ponds located within the Ciniza Refinery, in McKinley County, New Mexico.

The evaporation pond area was identified as a Solid Waste Management Unit (SWMU), and designated as SWMU #2, during a RCRA Facility Investigation (RFI) conducted at the refinery in the early 1990's. This investigation included both soil and groundwater sampling and analysis, determined that no significant impact had occurred, and recommended no further action (NFA).

In 1994, the Environmental Protection Agency Region VI Office (EPA) concurred in this finding, approved cessation of the investigative process, and requested follow-up monitoring at seven groundwater wells. Monitoring samples are scheduled to be collected and analyzed during May 1998.

This summary report for SWMU #2 has been prepared in conjunction with submittal of a Resource Conservation and Recovery Act (RCRA) Part B permit application covering post closure care of the Ciniza Refinery Land Treatment Unit. All investigative activities for SWMU #2 have been completed. This assessment is summarized as follows.

- ⇒ The evaporation ponds continue in active service evaporating waste-water at the refinery and are functioning normally.
- ⇒ Containment berms and basin sidewalls have been inspected and are intact and stable.
- ⇒ Local soil underlying the ponds predominantly consists of bentonitic clays and silts having a very low hydraulic conductivity.
- ⇒ Soil and groundwater sampling and analysis was conducted during an initial site investigation. Trace organic contaminants were detected below corrective action levels. The site was recommended for NFA and approved by the EPA.
- ⇒ SWMU #2 has been characterized in accordance with current applicable state and federal regulations, and the available data indicate that no significant environmental impact or migration has occurred.

2.0 BACKGROUND

During 1987, a RCRA Facility Assessment was conducted at the Ciniza Refinery. This assessment identified various "Solid Waste Management Units" and recommended further evaluation. A RCRA Facility Investigation was subsequently conducted and the evaporation ponds site was identified as SWMU #2.

Applied Earth Sciences (AES) investigated the evaporation pond area during the early 1990s. Soil and groundwater samples were collected and analyzed. No organic contaminants were detected in any groundwater sample. Similarly, most soil samples indicated no detection of organics; however, trace amounts of toluene were detected in a few samples.

Trace metals were detected in both soil and groundwater samples; of which, a few samples indicated levels slightly above ambient background concentration.

As a result of the investigation, AES recommended no further action for this SWMU. Results and recommendations were reported to the EPA in 1991. The EPA approved the NFA finding in 1994, with the provision that on-going groundwater monitoring be performed every five years.

3.0 SITE LOCATION AND DESCRIPTION

SWMU #2 is located within the Ciniza Refinery's property boundary. This refinery is located on the north side of Interstate 40, approximately 17 miles east of Gallup, New Mexico. Within the refinery, SWMU #2 is located to the west of the process unit and tankfarm area on a lower flat plain. See Figure No. 1 for location details.

The evaporation ponds are part of the refinery wastewater treatment system. Effluent water from the aeration basins is directed to these ponds and allowed to evaporate.

There are 15 ponds of varying size having a total surface area of approximately 110 acres. All are man-made earthen basins with bermed sidewalls. Water depth typically ranges from 2 to 4 feet, with an average of 3 feet. Total hydraulic holding capacity is approximately 100 million gallons. Some berms incorporate a perimeter road.

The initial evaporation ponds were constructed in the late 1950's. Additional ponds were constructed at various times thereafter. The evaporation ponds have been in continuous service since initial construction.

4.0 SITE INSPECTION

During the week of March 23, 1998, an on-site inspection was performed. Photographs are included in the appendix to this report. Observations are noted as follows:

- The evaporation ponds were observed in active service treating effluent wastewater from the aeration basins. All 15 ponds contained water. Freeboard space was evident on all ponds.

- Containment berms and sidewalls were visually inspected on all ponds. All were found to be intact and stable. No erosion, damage, or sign of containment failure was observed.

- No soil staining or distressed vegetation was observed at or in the vicinity of any pond. No discoloration or hydrocarbon sheen was evident on any of the ponds.

- Local soil in the vicinity of the evaporation ponds presents as bentonitic clays and silts. Similar soil strata from a neighboring SWMU exhibited a hydraulic conductivity of less than 10^{-7} cm/sec.

- Perimeter roads are located on the berms surrounding several of the ponds. These roads are used for access and inspection.

5.0 DATA REVIEW

Soil samples from around the perimeter of the evaporation ponds were collected and analyzed during the initial site investigation. Samples were collected at multiple depths and at both upgradient and downgradient locations. Several borings were angled to collect samples from beneath the ponds.

The initial site investigation found no detection of VOCs or SVOCs in 46 of the 54 soil samples collected. Trace amounts of toluene were detected in eight samples; of which, 5 mg/kg is the highest reported detection and the remaining seven samples detected less than 0.5 mg/kg. Trace butylbenzylphthalate was also detected in one sample at a concentration of 0.3 mg/kg.

State of New Mexico corrective action levels for BTEX in soil is 50 mg/kg total and 10 mg/kg of benzene. Eight of 54 samples indicated trace BTEX, the highest of which was 5 mg/kg total; well below the 50 mg/kg action level.

Trace metals were also detected in all soil samples; of which, most tested within the range of normal background concentration. A few samples indicated slightly elevated levels of chromium and nickel.

Groundwater samples were collected from seven monitoring wells in the vicinity of the evaporation ponds. Sampling points included upgradient and downgradient locations.

The initial site investigation found no detection of VOCs or SVOCs in any of the groundwater samples collected.

Trace metals were detected in all groundwater samples. A few samples indicated slightly elevated levels of cadmium and selenium.

Per EPA request, groundwater monitoring samples are scheduled to be collected and analyzed during May 1998.

6.0 ASSESSMENT

Based on the site inspection and data review, the evaporation pond area is assessed as follows.

- The evaporation ponds are in active service, functioning normally, and performing the necessary task of evaporating wastewater.

- The evaporation ponds are properly designed and located in an appropriate geologic setting in which the underlying bentonitic soil has a very low hydraulic conductivity which effectively serves as an aquiclude.

- Trace detection of toluene and butylbenzylphthalate in various soil samples presents no logical or consistent pattern of release, is well is below action levels, and may represent anomalous data. This low level of contaminant detection is indicative of no significant impact or migration.

- Trace detection of metals at levels slightly above ambient background concentration is likely due to normal soil variation.

- The absence of organic contaminants in underlying groundwater is confirmatory of the highly impermeable characteristic of the confining soil.

- The no further action finding that was recommended by AES and approved by the EPA is appropriate for this site.

- The next groundwater monitoring event is scheduled for 2003. If this sampling and analysis confirms previous findings, further monitoring is unnecessary and should be discontinued.

7.0 PROFESSIONAL ENGINEER'S CERTIFICATION

This summary report for SWMU #2 has been prepared under the direct supervision and control of a Registered Professional Engineer.

Client: Ciniza Refinery
Giant Refining Company
Route 3, Box 7
Gallup, New Mexico 87301

Job No.: 98-205-03

Date: April 23, 1998

Prepared and Certified by:

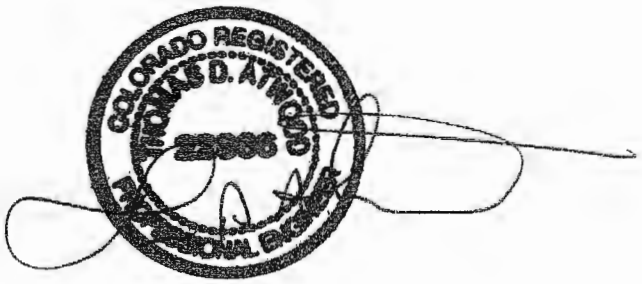


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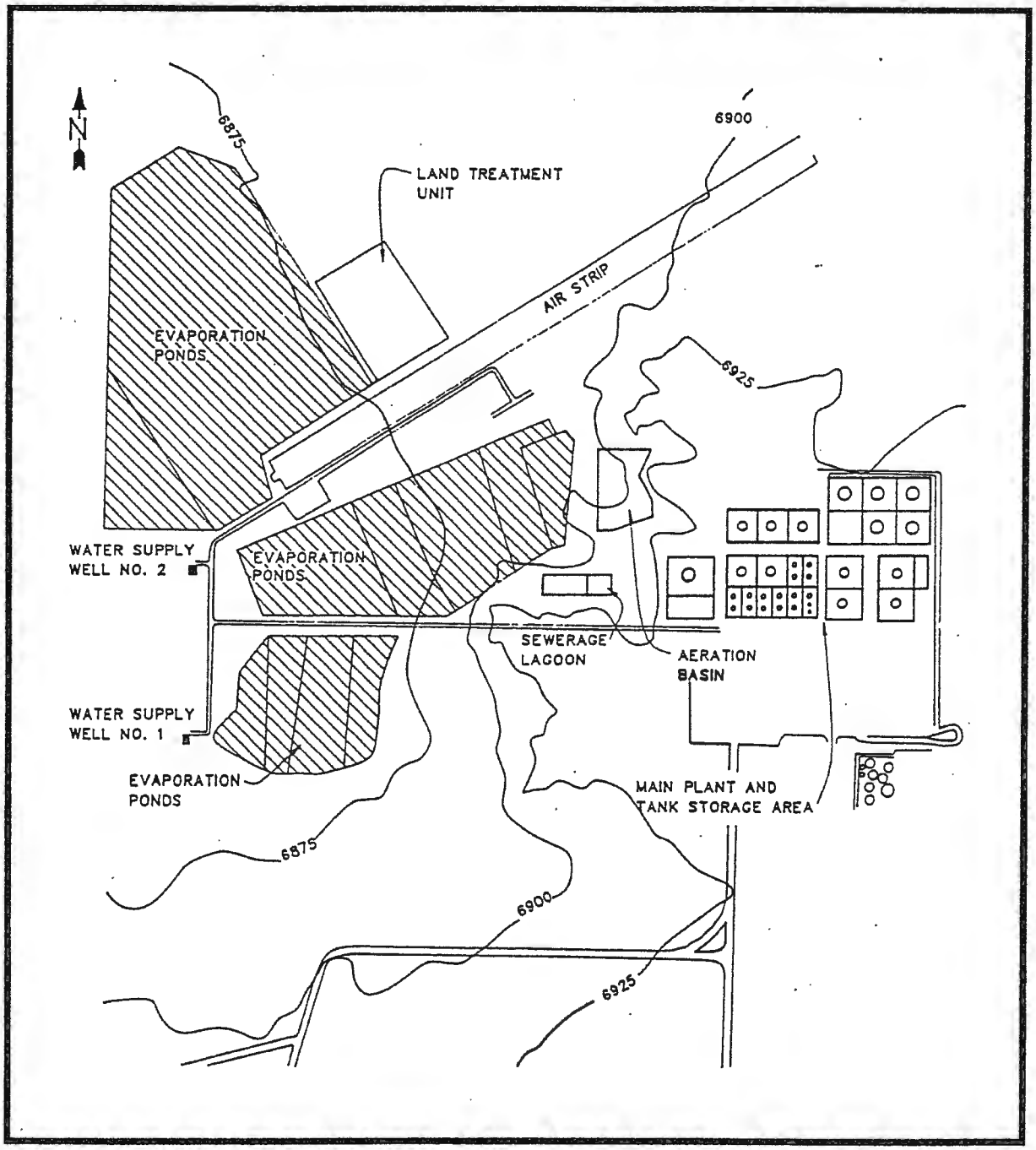
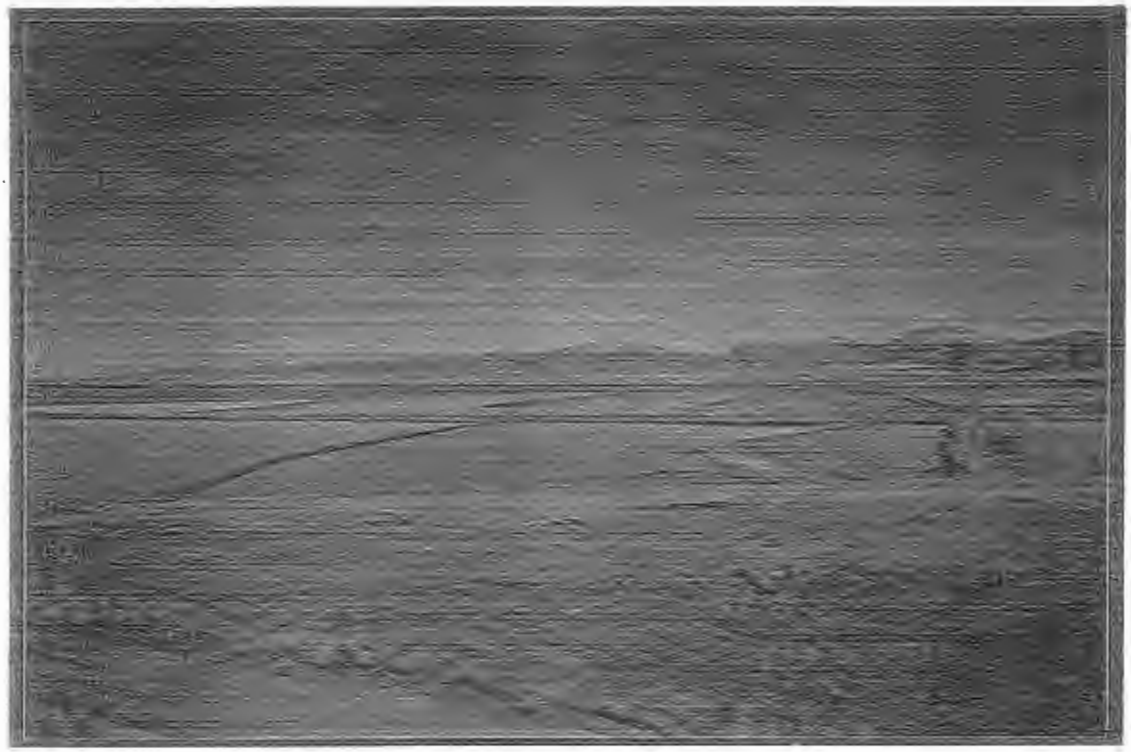
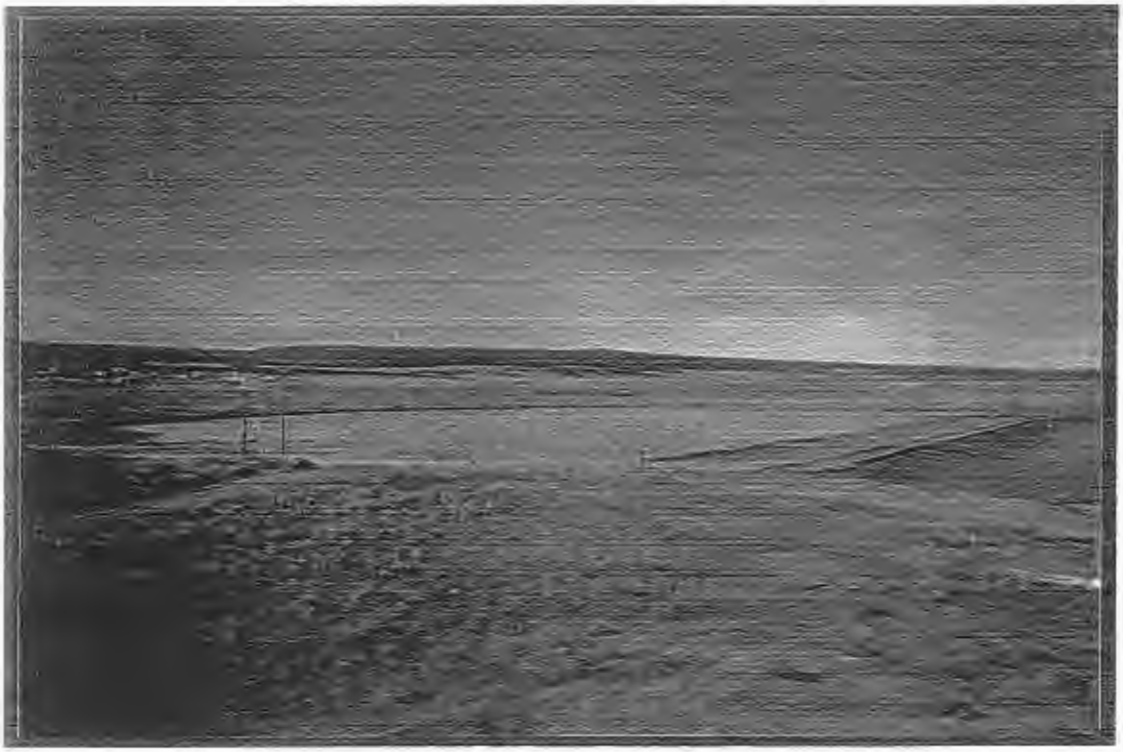
Figure No. 1
Evaporation ponds Site



Site Inspection Photographs



Evaporation Ponds Overview – Looking Northwest



Evaporation Pond – South Section

Appendix B

Documentation of Aggressive Biological Treatment in Aeration Lagoons
(per 40 CFR 261.31)

Aeration Lagoons Hydraulic Retention Time and Aerator HP

(b) Listing Specific Definitions: (1) For the purposes of the F037 and F038 listings, oil/water solids is defined as oil and/or water and/or solids and (2) for the purposes of the F037 and F038 listings, aggressive biological treatment units are defined as units which employ one of the following four treatment methods: activated sludge; trickling filter; rotating biological contactor for the continuous accelerated biological oxidation of wastewaters; or high-rate aeration. High-rate aeration is a system of surface impoundments or tanks, in which intense mechanical aeration is used to completely mix the wastes, enhance biological activity, and (A) the units employ a minimum of 6 hp per million gallons of treatment volume; and either (B) the hydraulic retention time of the unit is no longer than 5 days; or (C) the hydraulic retention time is no longer than 30 days and the unit does not generate a sludge that is a hazardous waste by the Toxicity Characteristic.

HP per gallon Treatment Capacity:

Provided there are 3 aerators in AL-1 rated at 15 hp each =45 hp total

The volume of AL-1 is estimated at 395,900 gallons

Therefore, the HP per gallon treatment capacity is: 45 hp/395,900 gals = 0.000114 hp/gal

Or 114 hp/Mgal which is greater than the 6 hp/Mgal threshold

Hydraulic Retention Times:

Aeration Lagoon 1 Volume = 0.36 acre x 43,560 sq ft/acre x 3/4x4.5ftx7.48 gal/cu ft = 395,900 gallons

Aeration Lagoon 2 Volume = 0.56 acre x 43,560 sq ft/acre x 3/4 x 4.5ft x 7.48 gal/cu ft = 615,800 gallons

(AL-1 depth measured in March 2006 by J. Lieb and S. Morris. Assume AL-2 depth is same. Use factor of 3/4 to account for sloped bottoms.)

The average daily water flow to the aeration lagoons from API separator is 130 gpm x 60 min/hr x 24 hr/day = 187,200 gpd (130 gpm determined by totalized flow)
hydraulic retention at AL-1 = 395,900gals/187,200 gals/day = 2.1 days

hydraulic retention at AL-2 = 615,800gals/187,200 gals/day = 3.3 days

Both hydraulic retention times are less than the 5 day threshold.

Note: The flow rates listed above do not include periodic flows through the weir box overflow pipes. If these periodic flows were included, then the retention times would be even lower.

Appendix C

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

Project #: 697-019-001

PREPARED BY: Trihydro Corporation

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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

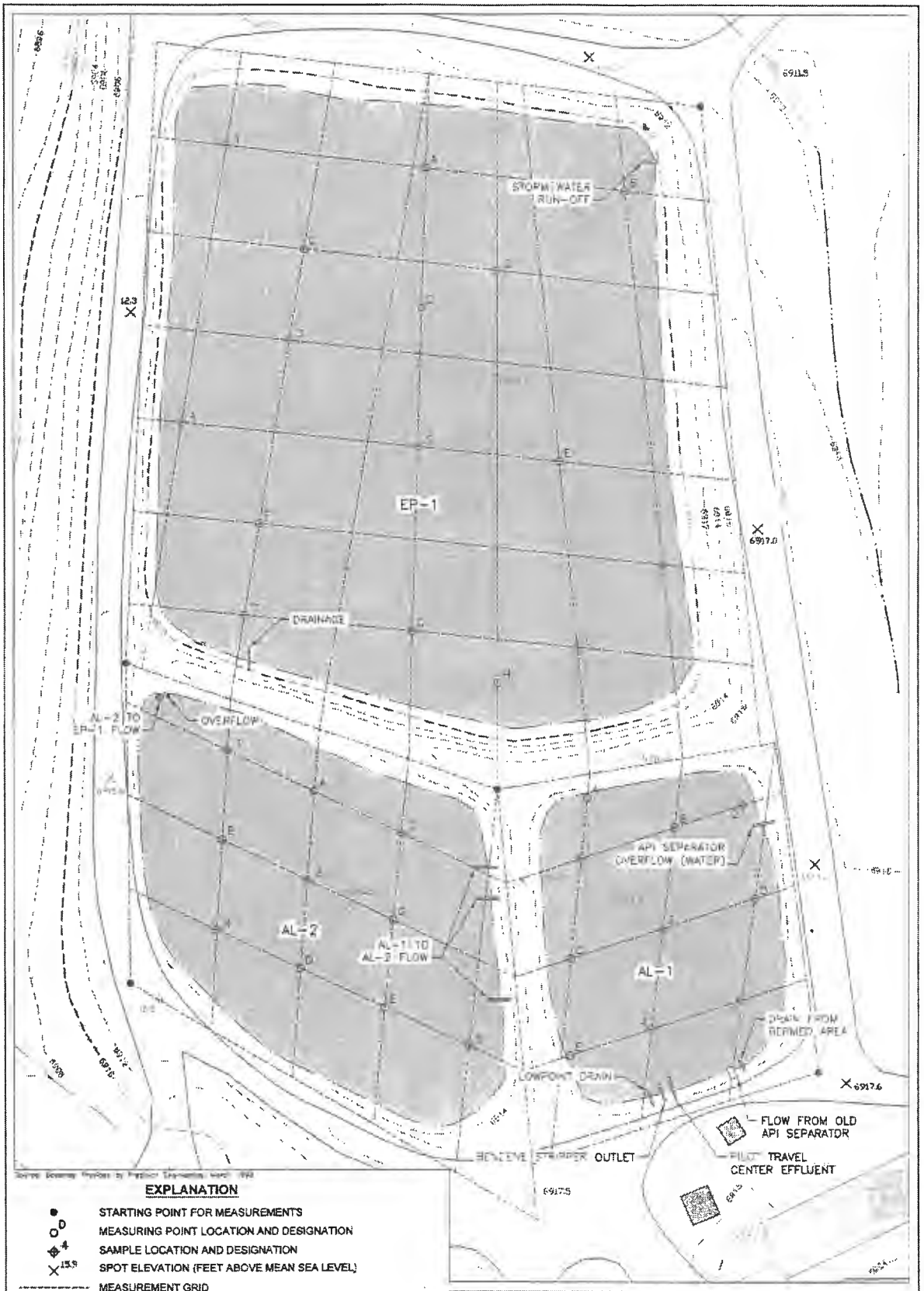
Evaporation Pond 1						
Measuring Point	Depth to Soft Sediment	Soft Sediment Thickness	Depth to Hardpack	Hardpack Thickness	Total Depth	Total Sediment Thickness
EP1-1	5.5	2.2	None	None	7.7	2.2
EP1-2	9.7	1.3	None	None	11.0	1.3
EP1-3	7.9	1.7	None	None	9.6	1.7
EP1-4	7.8	1.5	None	None	9.3	1.5
EP1-5	11.4	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 3. 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)	[illegible]	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	[illegible]	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	[illegible]	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	8.7	1.7	4	10	15	ND	ND	ND	1.7	0.85	0.82	12
AL1-4-SS	5.6	190000	ND	280	9.8	9.5	280	0.46	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	190	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	0.98	18
AL1-2-HP	3.0	200000	37000	260	6	[illegible]	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	78000	ND	590	9.3	[illegible]	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	[illegible]	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	[illegible]	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	6.9	8.4	350	0.42	14	24	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	16	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	[illegible]	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	[illegible]	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	[illegible]	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	0.55	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	8.1	8.5	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	9.8	[illegible]	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	[illegible]	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	0.83	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	[illegible]	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 concentration)		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)		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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

FIGURES



EXPLANATION

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

N

0 40'

Trihydro CORPORATION
1252 Commerce Drive
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.

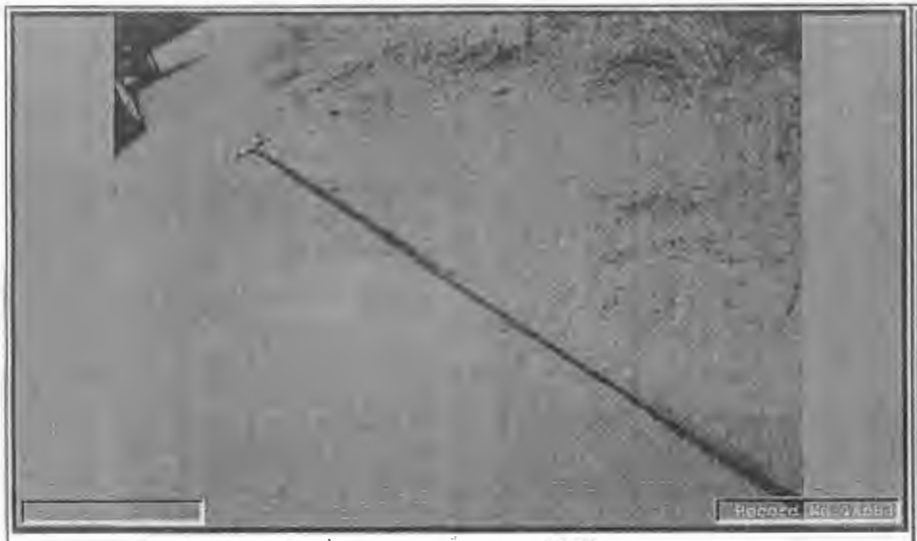
Date: 4/8/2008 Direction: W Taken By: SS
File: evap ponds 004.jpg Job Number: 697-019-001

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

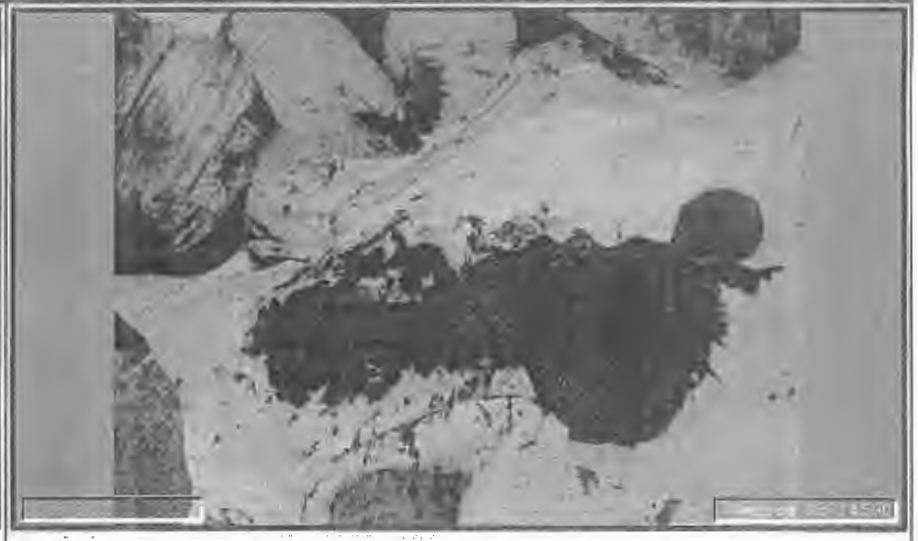
Date: 4/10/2008 Direction: W Taken By: SS
File: evap ponds 011.jpg Job Number: 697-019-001

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

Western Refining Company Gallup Refinery
Photograph Archive

PhotoArchive, 4-Snapshots Per Page

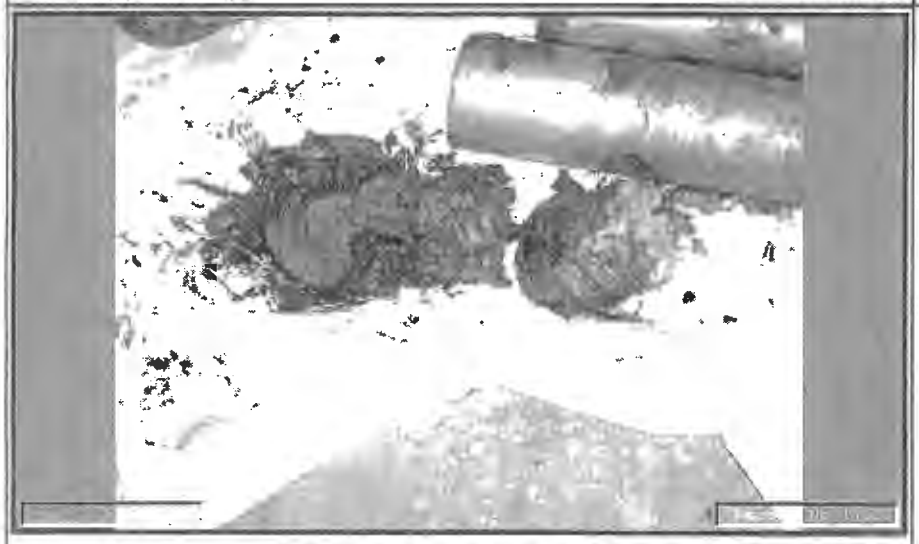
Date Printed 5/30/2008 9:30:23 AM

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:	AL1-1	Sample Date:	4/10/2008
Location:	Aeration Lagoon 1	Sample Time SS:	1710
Samplers:	GP/SM	Sample Time HP:	1525
Weather:	Cold, windy	Photo Numbers:	23-27

Sample Description

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

Sample Depth SS: 4.5' - 5'

Sample Depth HP: 5.3' - 5.7'

Sample Description:

Soft Sediment:

3.5' - 4.2' Black sludge, fluid, organic odor.

4.2' to 5' Black sludge, silty, green staining, soft, organic odor.

Note: upper portion of SS lost upon extraction - very fluid.

Hard Pack Sediment: 4.8' to 5.7' Refusal at 5.7'.

4.8' to 5.3' Black sludge, silty, abundant fibrous roots, some green staining, very soft, organic odor.

5.3' to 5.7' Grey clay, some silt/fine sand, green staining, soft, plastic, slight 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:	AL1-2	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 ENVIRONMENTAL ANALYSIS LABORATORY

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

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

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
- 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:**	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	86.3	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
- 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:**	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
- 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
Lab Order: 0804138
Project: Evaporation Pond/Aeration Lagoon
Lab ID: 0804138-02

Client Sample ID: EP1-4
Collection Date: 4/9/2008 6:00:00 PM
Date Received: 4/11/2008
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 11:36:15 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 11:36:15 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
- 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:**	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	50		mg/Kg	1	4/17/2008
Phenanthrene	210	30		mg/Kg	1	4/17/2008

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- 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:**	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:

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- 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
Lab Order: 0804138
Project: Evaporation Pond/Aeration Lagoon
Lab ID: 0804138-02

Client Sample ID: EP1-4
Collection Date: 4/9/2008 6:00:00 PM
Date Received: 4/11/2008
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
- 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:**	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:

- * 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:**	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:

- * 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:**	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	28.5-122		%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:

*	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 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:

*	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 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:

- * 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:**	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	34.8-151		%REC	1	4/17/2008
Surr: Nitrobenzene-d5	91.2	26.5-122		%REC	1	4/17/2008
Surr: Phenol-d5	79.0	37.6-118		%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
- 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:**	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:

- * 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:**	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
- 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:**	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	35.5-141		%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	86.5-121		%REC	10	4/19/2008 4:12:55 PM

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:**	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	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
- 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:**	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	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	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	26.5-122		%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
- 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:**	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
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	50		mg/Kg	1	4/17/2008
Phenanthrene	84	30		mg/Kg	1	4/17/2008

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:**	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	1.6		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	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
- 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:**	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	37.6-118		%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
- 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:**	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:

- * 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:**	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:

*	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
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:

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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:**	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:

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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:**	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	68.7-122		%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	88.5-121		%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
- 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:**	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
Lab Order: 0804138
Project: Evaporation Pond/Aeration Lagoon
Lab ID: 0804138-10

Client Sample ID: AL1-2-SS
Collection Date: 4/10/2008 5:25:00 PM
Date Received: 4/11/2008
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
- 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:**	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
- 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:**	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	28.1-129		%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	0.65	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:

- * 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:**	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 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
Lab Order: 0804138
Project: Evaporation Pond/Aeration Lagoon
Lab ID: 0804138-12

Client Sample ID: AL1-4-SS
Collection Date: 4/10/2008 5:55:00 PM
Date Received: 4/11/2008
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
- 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:**	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
- 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
Lab Order: 0804138
Project: Evaporation Pond/Aeration Lagoon
Lab ID: 0804138-12

Client Sample ID: AL1-4-SS
Collection Date: 4/10/2008 5:55:00 PM
Date Received: 4/11/2008
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
						Analyst: BDH
EPA METHOD 8260B: VOLATILES						
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
- 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:**	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
- 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:**	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	64	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:

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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:**	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:

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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:**	AL1-5-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	95.9	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	86.5-121		%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
- 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:**	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	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:**	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	50		mg/Kg	1	4/18/2008
Phenanthrene	240	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:**	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	82.9	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	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
- 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:**	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
- 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:**	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	84.2	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	37.6-118		%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
- 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:**	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	96.4	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 8015B: 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
- 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-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	2.5		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
Lab Order: 0804138
Project: Evaporation Pond/Aeration Lagoon
Lab ID: 0804138-20

Client Sample ID: BD-1
Collection Date: 4/8/2008
Date Received: 4/11/2008
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	50		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	89.8	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
Lab Order: 0804138
Project: Evaporation Pond/Aeration Lagoon
Lab ID: 0804138-20

Client Sample ID: BD-1
Collection Date: 4/8/2008
Date Received: 4/11/2008
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
- 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:**	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	54-131		%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
Lab Order: 0804138
Project: Evaporation Pond/Aeration Lagoon
Lab ID: 0804138-24

Client Sample ID: Trip Blank
Collection Date:
Date Received: 4/11/2008
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
- 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:**	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	1.6		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
- 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-I-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
- 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:**	AL2-1-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:

*	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 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	68.7-122		%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	98.1	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	46		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
- 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
Lab Order: 0804138
Project: Evaporation Pond/Aeration Lagoon
Lab ID: 0804138-26

Client Sample ID: AL2-2-HP
Collection Date: 4/8/2008 3:15:00 PM
Date Received: 4/11/2008
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	94.1	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
- 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/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	86.5-121		%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
Lab Order: 0804138
Project: Evaporation Pond/Aeration Lagoon
Lab ID: 0804138-27

Client Sample ID: AL2-3-HP
Collection Date: 4/8/2008 12:15:00 PM
Date Received: 4/11/2008
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 8015B: 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	9.8	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	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
- 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-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
- 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-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	0.50		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
- 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-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
Lab Order: 0804138
Project: Evaporation Pond/Aeration Lagoon
Lab ID: 0804138-28

Client Sample ID: AL2-4-HP
Collection Date: 4/8/2008 10:15:00 AM
Date Received: 4/11/2008
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: SCC
Diesel Range Organics (DRO)	140000	5000		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	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
- 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:**	AL2-4-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
- 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:**	AL2-4-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
- 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
Lab Order: 0804138
Project: Evaporation Pond/Aeration Lagoon
Lab ID: 0804138-28

Client Sample ID: AL2-4-HP
Collection Date: 4/8/2008 10:15:00 AM
Date Received: 4/11/2008
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	84.4-119		%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
- 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:**	AL2-5-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 10:01:18 AM
Selenium	ND	25		mg/Kg	10	4/23/2008 9:44:13 AM
Silver	ND	0.25		mg/Kg	1	4/28/2008 10:01:18 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
- 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:**	AL2-5-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	50		mg/Kg	1	4/20/2008
Phenanthrene	ND	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:**	AL2-5-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	63.7	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	5.8	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:

*	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 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	0.60		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	0.60		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
- 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
Lab Order: 0804138
Project: Evaporation Pond/Aeration Lagoon
Lab ID: 0804138-30

Client Sample ID: AL2-1-SS
Collection Date: 4/9/2008 10:40:00 AM
Date Received: 4/11/2008
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	1.8		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
- 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:**	AL2-1-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
- 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:**	AL2-1-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
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	58.9	35.5-141		%REC	1	4/20/2008
Surr: 2-Fluorobiphenyl	62.1	30.4-128		%REC	1	4/20/2008
Surr: 2-Fluorophenol	87.4	28.1-129		%REC	1	4/20/2008
Surr: 4-Terphenyl-d14	43.7	34.6-151		%REC	1	4/20/2008
Surr: Nitrobenzene-d5	78.8	26.5-122		%REC	1	4/20/2008
Surr: Phenol-d5	75.3	37.6-118		%REC	1	4/20/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
Toluene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
Ethylbenzene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
1,2,4-Trimethylbenzene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
1,3,5-Trimethylbenzene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
Naphthalene	ND	1.0		mg/Kg	10	4/20/2008 6:59:11 AM
1-Methylnaphthalene	ND	2.0		mg/Kg	10	4/20/2008 6:59:11 AM
2-Methylnaphthalene	ND	2.0		mg/Kg	10	4/20/2008 6:59:11 AM
Acetone	ND	7.5		mg/Kg	10	4/20/2008 6:59:11 AM
Bromobenzene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
Bromoform	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
Bromomethane	ND	1.0		mg/Kg	10	4/20/2008 6:59:11 AM
2-Butanone	ND	5.0		mg/Kg	10	4/20/2008 6:59:11 AM
Carbon disulfide	ND	5.0		mg/Kg	10	4/20/2008 6:59:11 AM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/20/2008 6:59:11 AM
Chlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
Chloroethane	ND	1.0		mg/Kg	10	4/20/2008 6:59:11 AM
Chloroform	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
Chloromethane	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 6:59:11 AM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/20/2008 6:59:11 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 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	98.5	86.5-121		%REC	10	4/20/2008 6:59:11 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 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	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:**	AL2-2-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	50		mg/Kg	1	4/20/2008
Phenanthrene	230	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:**	AL2-2-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	0.50		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	98.2	68.7-122		%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	86.5-121		%REC	10	4/20/2008 9:20:52 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:**	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	84-136		%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

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 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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- 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
Lab Order: 0804138
Project: Evaporation Pond/Aeration Lagoon
Lab ID: 0804138-32

Client Sample ID: AL2-3-SS
Collection Date: 4/9/2008 10:00:00 AM
Date Received: 4/11/2008
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	0.54	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
- 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 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
- 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:**	AL2-4-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

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:**	AL2-4-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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- 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:**	AL2-4-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	79.3-126		%REC	10	4/20/2008 10:32:02 AM
Surr: Dibromofluoromethane	93.9	64.4-119		%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	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:

- * 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:**	AL2-5-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	0.50		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	0.50		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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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 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	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:

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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:**	EP1-1
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
- 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:**	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**
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

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:**	EP1-2
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:

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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:**	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:

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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:**	EP1-2
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-Dichloropropane	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	68.7-122		%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
- 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

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)	45.88	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	0.1608	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	24.64	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

Method: EPA Method 8260B: VOLATILES
Sample ID: mb-15641 *MBLK* Batch ID: 15641 Analysis Date: 4/19/2008 12:03:32 PM

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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:

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: 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)	0.7805	mg/Kg	0.050	78.1	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
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits
H Holding times for preparation or analysis exceeded
ND Not Detected at the 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

Method: EPA Method 8260B: VOLATILES
Sample ID: 5ml rb II *MBLK* Batch ID: R28173 Analysis Date: 4/19/2008 6:07:13 AM

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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:

E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits
H Holding times for preparation or analysis exceeded
ND Not Detected at the 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 8260B: VOLATILES									
Sample ID: 5ml rb ll		*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 ll		*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

Sample ID labels checked by: AS / AT
Initials

Checklist completed by: Signature 4/11/08 Date

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 _____

1 of 3

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: GP/SM
Cooler Temp(including CF): 3.5 (0.0)
Sample Temperature: 3.5

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,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	RCRA metals (Pb/Cr)				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:
4/11/08	14:55	[signature]	[signature] 4/11/08 1455
Date:	Time:	Relinquished by:	Received by:

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.

nafs

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 #: 697-019-001
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. 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,NO3,NO2,PO4,SO4)	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 4/11/09			X							X	X	X				
4.9.08	1000	AL2-3-SS-MSD	4oz/2	None	-32 -18 AT 4/11/09			X							X	X	X				
4.9.08	~~[illegible]~~	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	1645	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	4/11/09	4/11/09				
		~~EB041~~ Trip Blank	40mL/2	HCl	-24			X 4/11/09 AT							X	X AT	X AT				

Date:	Time:	Relinquished by:	Received by:
4/11/08	14:55		4/11/08 1455
Date:	Time:	Relinquished by:	Received by:

Remarks: 4/11/08

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

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: GD/SM
Cooler Temp(including CF): [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 LAD C				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				
4.9.08	1555	AL2-2-SS	4oz/oz	None	-31			X							X	X	X				
4.9.08	1000	AL2-3-SS	4oz/oz	None	-32			X							X	X	X				
4.9.08	1025	AL2-4-SS	4oz/oz	None	-33			X							X	X	X				
4.9.08	940	AL2-5-SS	4oz/oz	None	-34			X							X	X	X				
4.9.08	1625pm	EP1-1	4oz/oz	None	-35			X							X	X	X				
4.9.08	1645pm	EP1-2	4oz/oz	None	-36			X							X	X	X				

Date:	Time:	Relinquished by:	Received by:
4/11/08	14:55	[signature]	[signature] 4/11/08 1455
Date:	Time:	Relinquished by:	Received by:

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.

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	14.54	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 11:25:46 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	2.358	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	17.55	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:

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

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

Trihydro CORPORATION

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? 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.	Yes
2. Were sample chain-of-custody (COC) forms complete? 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.	Yes
3. Were detection limits in accordance with the QAPP, permit, or method, or indicated as acceptable by the Tier 1 validator? 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.	Yes
4. Were the requested analytical methods in compliance with the QAPP, permit, or COC? Comments: Analytical methods appeared to be acceptable and were verified during the Tier 1 validation.	Yes
5. Were samples received in good condition within method specified requirements? 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.	Yes
6. Were samples analyzed within method specified or technical holding times? Comments: Method specified holding times were met for the analyses reported.	Yes
7. Were reported units appropriate for the associated sample matrix/matrices and method(s) of analyses? Comments: Sample results were reported in units of mg/kg, which are acceptable units for the soil matrix.	Yes
8. Do the laboratory reports include all constituents requested to be reported as indicated by the Tier 1 validator? Comments: Reported constituents were in accordance with those requested and are acceptable according to the Tier 1 validator.	Yes
9. Were data qualification flags used by the laboratory? 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.	Yes
10. Was there indication from the laboratory that the initial or continuous calibration verification results were within acceptable limits? 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.	N/A
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? Comments: One method blank was analyzed for each batch.	Yes
12. Were method blank detections reported for this data set? Comments: No method blank detections were reported with this data set.	No

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? Comments: Three equipment blanks and one trip blank were collected and reported with these samples. Therefore, blanks were collected on a 10% basis.	Yes
19. Were detections found in trip blanks, equipment blanks, or field blanks? Comments: No detections were found in the blanks.	No
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? Comments: Sample BD-1 is a duplicate of AL2-2-SS and BD-2 is a duplicate of AL2-4-SS.	Yes
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? 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.	Yes
22. Were laboratory duplicate RPD values within laboratory-specified limits? Comments: Laboratory duplicates were not reported by the laboratory.	N/A
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 D

Investigation Derived Waste Management Plan

Investigation Derived Waste (IDW) Management Plan

All IDW will be properly characterized and disposed of in accordance with all federal, State, and local rules and regulations for storage, labeling, handling, transport, and disposal of waste. The IDW may be characterized for disposal based on the known or suspected contaminants potentially present in the waste.

A dedicated decontamination area will be setup prior to any sample collection activities. The decontamination pad will be constructed so as to capture and contain all decontamination fluids (e.g., wash water and rinse water) and foreign materials washed off the sampling equipment. The fluids will be pumped directly into suitable storage containers (e.g., labeled 55-gallon drums), which will be located at satellite accumulation areas until the fluids are disposed in the refinery wastewater treatment system upstream of the API separator. The solids captured in the decontamination pad will be shoveled into 55-gallon drums and stored at the designated satellite accumulation area pending proper waste characterization for off-site disposal.

Drill cuttings generated during installation of soil borings and monitoring wells will be placed directly into 55-gallon drums and staged in the satellite accumulation area pending results of the waste characterization sampling. The portion of soil cores, which are not retained for analytical testing, will be placed into the same 55-gallon drums used to store the associated drill cuttings.

The solids (e.g., drill cuttings and used soil cores) will be characterized by testing to determine if there are any hazardous characteristics in accordance with 40 Code of Federal Regulations (CFR) Part 261. This includes tests for ignitability, corrosivity, reactivity, and toxicity. If the materials are not characteristically hazardous, then further testing will be performed pursuant to the requirements of the facility to which the materials will be transported. Depending upon the results of analyses for individual investigation soil samples, additional analyses may include TPH and polynuclear aromatic hydrocarbons (PAHs).

Purge water generated during groundwater sampling activities will be containerized in 55-gallons drums and then disposed in the refinery wastewater treatment system upstream of the API separator. All miscellaneous waste materials (e.g., discarded gloves, packing materials, etc.) will be placed into the refinery's solid waste storage containers for off-site disposal.

Appendix E

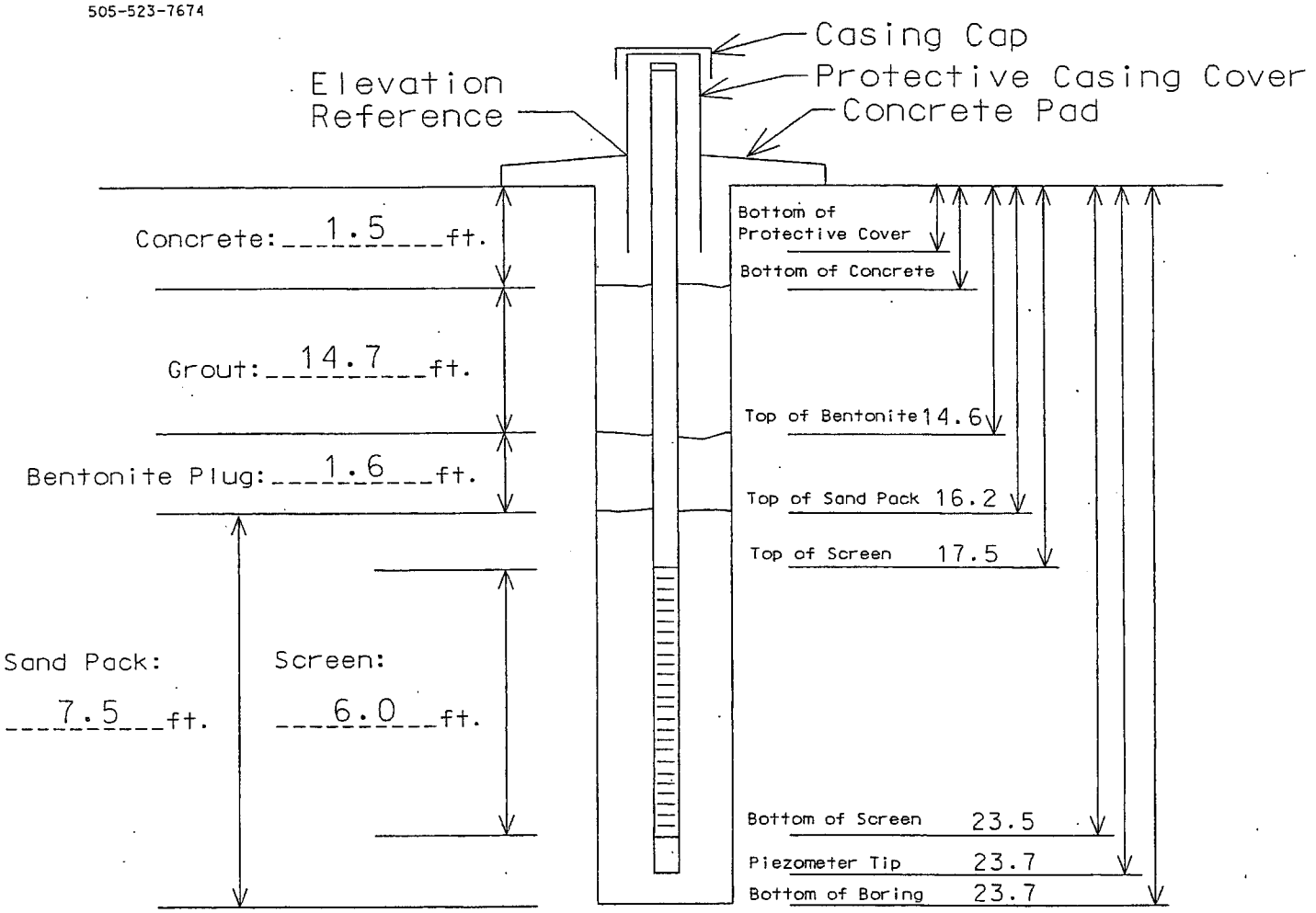
Soil Boring Logs

PRECISION ENGINEERING, INC.

505-523-7674

Installation Diagram

Monitoring Well No. GWM-1



Boring Diameter: 8 5/8"

Sand Type: 20-40 SILICA

Bollards, Type/Size: NONE INSTALLED

Bentonite: 3/8" CHIPS

Screen Type/Size: 2", #10 SLOT, SCH 40 PVC

Cement/Grout: 6% BENTONITE/CEMENT

Riser Type/Size: 2", SCH 40 PVC

Water: NONE

Locking Expandable Casing Plug? YES

Site Northing: TBD

Other: ---

Bottom Cap Used? YES

Site Easting: TBD

Project #: 03-118

Project Name: PDND 1 GROUNDWATER OBSERVATION

Elevation: TBD

Sheet: 1 OF 2
Bore Point: SW corner of Pond 1

Precision Engineering, Inc.
P.O. Box 422
Las Cruces, NM 88004
505-523-7674

File #: 03-118
Site: Ciniza
Boundry Wells

Water Elevation: Not Encountered
Boring No.: GWM-1

Elevation: TBD
Date: 7/8/2004

Log of Test Borings

LAB #	DEPTH	BLOW COUNT	PLOT	SCALE	MATERIAL CHARACTERISTICS (MOISTURE, CONDITION, COLOR,ETC.)	%M	LL	PI	CLASS.
	0-1.5		o/o/o/o/ o/o/o/o/ o/o/o/o/		**Clay**, gravelly, red-brown, wet				
	1.5-20.0		///////// /////////	 2.5 5.0 7.5 10.0 15.0 20.0	**Clay**, red-brown, wet				
	20-21.5		///////// ///////// /////////		**Clay**, black, wet,				

SIZE & TYPE OF BORING: 4-1/4" ID Hollow Stemmed Auger **LOGGED BY:** NS

C:\unzipped\Boundry Well Locations\[GWM-1.xls]Sheet1

Sheet: 2 OF 2
Bore Point: SW corner of Pond 1

Precision Engineering, Inc.
P.O. Box 422
Las Cruces, NM 88004
505-523-7674

File #: 03-118
Site: Ciniza
Boundry Wells

Water Elevation: Not Encountered
Boring No.: GWM-1

Log of Test Borings

Elevation: TBD
Date: 7/8/2004

LAB #	DEPTH	BLOW COUNT	PLOT	SCALE	MATERIAL CHARACTERISTICS (MOISTURE, CONDITION, COLOR,ETC.)	%M	LL	PI	CLASS.
	21.5-24.0		////////// //////////	22.0	**Sand**, gravelly				
	22.5-24.0		////////// ////////// //////////		**Petrified Forest Formation, Painted Desert Member, Mudstone**, weathered, red-purple, reduction spots, hard, moist, blocky/crumbly				
	24.0			25.0	T.D.				
					Screened interval 18-24'				
				30.0					
				35.0					
				40.0					
					Clay, black, wet,				

SIZE & TYPE OF BORING: 4-1/4" ID Hollow Stemmed Auger **LOGGED BY:** NS

C:\unzipped\Boundry Well Locations\[GWM-1.xls]Sheet2

Appendix F

Corrective Measures Evaluation

RPS

404 Camp Craft Rd., Austin, Texas 78746, USA
T +1 512 347 7588 F +1 512 347 8243 W www.rpsgroup.com

Corrective Measures Evaluation Report
Solid Waste Management Unit (SWMU) No. 1
Aeration Basin

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

EPA ID# NMD000333211

October 2010

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Executive Summary

A Corrective Measures Evaluation (CME) has been completed for the two wastewater aeration lagoons (AL-1 and AL-2) and EP-1 at the Western Refining Southwest - Gallup Refinery. The Aeration Basin, which is listed in the facility's Post-Closure Care Permit as Solid Waste Management Unit (SWMU) No. 1, includes AL-1, AL-2, and EP-1. The aeration lagoons and EP-1 were not designed or permitted to manage hazardous waste but received wastewater that exhibited the toxicity characteristic for benzene (D018) and may have deposited listed primary sludges (F037). The facility plans to close AL-1, AL-2 and EP-1 and replace them with a tank-based treatment system.

The CME was conducted to evaluate applicable corrective measures alternatives and identify a recommended alternative to complete closure of the three surface impoundments. The CME identified the following corrective measures alternatives:

1. No action;
2. Stabilization, excavation and offsite disposal of wastes and associated impacted soils to effect a "clean" closure of the SWMUs;
3. In-place treatment of wastes to effect either a "clean" or "in-place" closure of the SWMUs; and
4. In-place closure of the SWMUs by solidifying the wastes following by construction of a cover system.

The CME evaluated applicable or relevant and appropriate requirements (ARARs) for the corrective measures alternatives and conducted an initial screening of them. Following the screening step, the remaining alternatives of clean closure by offsite disposal (option 2) and in-place closure with a cover system (option 4) were further evaluated using the corrective measures criteria of technical feasibility, effectiveness, implementability, human health and ecological protectiveness, and cost. Based on the evaluation of the corrective measures criteria, the in-place (option 4) closure alternative was identified as the recommended corrective measure.

Section 1
Introduction

Western Refining Southwest, Inc. (Western) – Gallup Refinery is planning to upgrade its wastewater treatment system by constructing a tank-based system that will eliminate the need for the existing aeration lagoons and EP-1. The aeration lagoons and EP-1 were not designed or permitted to manage hazardous waste but received wastewater that exhibited the toxicity characteristic for benzene (D018) and may have deposited listed primary sludges (F037).

The Corrective Measures Evaluation (CME) described herein was conducted for AL-1, AL-2 and EP-1 to evaluate applicable corrective measure alternatives and identify a recommended alternative to complete the closures of the three surface impoundments. Consistent with the July 27, 2007 Order issued by the New Mexico Environmental Department to Western's Bloomfield, the CME was conducted by evaluating the following criteria for each corrective measure alternative retained after an initial screening exercise:

- Applicability - addresses the suitability of the corrective action option for containment or remediation of the contaminants in the relevant media with regard to protection of human health and the environment;
- Technical Feasibility – describes the uncertainty in designing, constructing, and operating a specific remedial alternative;
- Effectiveness – assesses the ability of the corrective measure to mitigate the measured or potential impact of contamination in a medium under the current and projected site conditions;
- Implementability – characterizes the degree of difficulty involved during the construction and operation of the corrective measure;
- Human Health and Ecological Protectiveness – evaluates the short-term and long-term hazards to human health and the environment of implementing the corrective measure; and
- Cost – evaluates the anticipated cost of implementing the corrective measure.

The remaining sections of this CME report are identified as follows:

- Section 2. Background and Site Conditions – this section provides a brief overview of the background information and site conditions for the aeration lagoons and EP-1;
- Section 3. Identification and Preliminary Screening of Corrective Measures Alternatives – this section identifies the remedial alternative evaluated for the CME and

provides an initial screening of the alternatives, considering the applicable regulatory issues;

- Section 4. Evaluation of Corrective Measure Alternatives – this section evaluates the remedial alternatives that passed the initial screening step using the criteria of technical feasibility, effectiveness, implementability, human health and ecological protectiveness, and cost.

- Section 5. Selection of Corrective Measure. This section describes the corrective measure selected from the evaluation of alternatives.

Section 2
Background and Site Conditions

This section presents background information for the aeration lagoons and EP-1, and a summary of site conditions in the area of the surface impoundments. Detailed discussions of the background and site conditions are provided in the Corrective Measures Implementation (CMI) Work Plan.

2.1 Background Information

The aeration lagoons (AL-1 and AL-2) and EP-1 consist of three separate earthen lagoons connected in series. The aeration lagoons and EP-1 were constructed in 1987 and cover an area approximately 450 feet by 150 feet. AL-1 and AL-2 are equipped with surface aerators to oxygenate the water and stimulate biological activity

Three benzene air strippers are located between the refinery's API separator and the aeration lagoons to prevent characteristically hazardous waste from being discharged to the aeration lagoons. However, monitoring data of the effluent from the benzene strippers has indicated that wastewaters with concentrations of benzene above the toxicity characteristic (TC) regulatory threshold of 0.5 mg/l (D018) have entered these impoundments. There have also been instances where listed primary sludge (F037) may have been deposited in AL-1 and/or AL-2 during periods when the aerators were not properly functioning. An investigation conducted in 2008 estimated the following volumes of sludge in the aeration lagoons and EP-1:

- AL-1: 1,693 cubic yards (cy);
- AL-2: 3,834 cy
- EP-1: 3,178 cy

Since Western does not desire to operate these impoundments as hazardous waste surface impoundments, the aeration lagoons and EP-1 will be closed.

2.2 Site Conditions

The shallow subsurface soils in the area of the surface impoundments consist of fluvial and alluvial deposits comprised of clay and silt with minor inter-bedded sand layers. Very low permeability bedrock (e.g., claystones and siltstones) underlie these deposits (Geoscience Consultants, Ltd, 1985). Prior to the construction of the currently configured aeration lagoons and EP-1 in 1987, a previously existing sludge pond (Pond No. 1) was present in this location.

In addition to geotechnical testing that was conducted to support design and construction of the new aerated impoundments, soil samples were collected from beneath the previously existing pond to evaluate vertical migration of constituents through the underlying soils. These analyses indicate that there had not been significant vertical migration of organic constituents through the lower permeability soils beneath the original Pond No. 1 (see Appendix B). Soil sampling was also conducted near the aeration lagoons and EP-1 during the RCRA Facility Investigation (RFI) conducted in the early 1990s. The analytical results from the RFI samples indicated that no significant impact had occurred and thus no further action was required for aeration lagoons and EP-1. Periodic on-going soil sampling conducted at the surface impoundments since the RFI has also indicated no significant impacts to the subsurface soils. The RFI concluded that the impoundments were located 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.

Section 3
Identification and Preliminary Screening of Corrective Measures Alternatives

Potential alternatives for mitigating hazards to human health and the environment from the aeration lagoons and EP-1 are identified in this section of the CME report. There are numerous potential alternatives that could be considered under the general response action categories of no action, institutional controls, containment actions, removal actions, and treatment. However, the following potential response alternatives have been identified as realistic options that may be capable of remediating existing conditions at the three surface impoundments:

- Stabilization, excavation and offsite disposal of wastes and associated impacted soils to effect a "clean" closure of the SWMUs;
- In-situ biological treatment of wastes to affect an "in-place" or "clean" closure of the SWMUs (the in-place option would include institutional control mechanism; and
- In-situ solidifying the wastes following by construction of a cover system to affect an "in-place" closure. This option would also include an institutional control.

The following response action alternatives have been subject to preliminary screening and removed from further evaluation in Section 4 of the CME report:

- No Action. This response action provides a baseline for comparison of the other response actions and would rely on natural attenuation and/or institutional control mechanisms to mitigate affected media. Obviously, the no action alternative would not meet federal and State closure regulatory standards in that it would not provide protection of human health and environment for releases of hazardous wastes or constituents [see 40 CFR §264.101(a)].
- In-Situ Biological Treatment. This alternative may reduce the toxicity of the organic constituents in the wastes associated with the surface impoundments. However, the active aeration occurring in the aeration basin has already resulted in substantial biological treatment of the wastes. The organic constituents remaining in the wastes consist primarily as long-chained hydrocarbons that are resistant to biological treatment. In addition, biological treatment would not be effective in reducing the concentrations of metals remaining in the wastes. As a consequence, the treatment option would not be effective as a corrective measure without combining it with the options of offsite disposal or in-place closure. In addition, any reduction of concentrations of constituents in the treated wastes would not likely change the classification of the materials from hazardous to non-hazardous wastes because of the potential of listed hazardous wastes (i.e., F037) being present and "mixed" with the non-hazardous wastes [see 40 CFR 261.3(a)(2)(iv)].

The offsite disposal and capping options will be maintained for further evaluation in Section 4 of this CME report.

Section 4
Evaluation of Corrective Measures Alternatives

As discussed in Section 3, the following corrective measures alternatives have been retained to evaluate using the CME criteria of applicability, technical feasibility, effectiveness, implementability, human health and ecological protectiveness, and cost:

- Stabilization, excavation, and offsite disposal of wastes and associated impacted soils to effect a "clean" closure of the SWMUs ("offsite disposal");

- In-situ solidifying the wastes following by construction of a cover system to affect an "in-place" closure ("in-place closure"). This option would also include an institutional control.

A comparison of the two remedial alternatives in relation to the CME criteria is provided as follows:

- Applicability. The offsite disposal and the in-place closure options are both applicable alternatives for the remediation of the aeration basins and EP-1. Both options are commonly employed as corrective measures for SWMUs and regulated hazardous waste units and have been shown to provide long-term protection to human health and the environment.

- Technical Feasibility.

  Offsite Disposal. The stabilization, excavation, transportation and offsite disposal of waste sludge and impacted soils is a technically feasible remedial option. There are available commercial/industrial (hazardous and non-hazardous) disposal facilities that can treat and/or dispose of the wastes in accordance with State and federal regulations. However, it may not be feasible to remove all the affected soils to affect a "clean closure" of the surface impoundments in the event that it becomes technically infeasible or cost prohibitive to remove all the contaminated soils and/or groundwater from the closure area.

  In-Place Closure. The solidification of wastes followed by the construction of cover system is a technically feasible and commonly employed option for the closure of both hazardous and non-hazardous refinery surface impoundments.

- Effectiveness.

  Offsite Disposal. The successful removal of all wastes and associated contaminated soils would obviously eliminate the potential of future exposure to waste constituents at the closure area. If all waste and/or impacted media could not be removed, then "clean closure" would not be achieved.

  In-Place Closure. The solidification of wastes followed by the construction of cover system will provide long-term protection against exposure to waste constituents provided that post-closure maintenance is conducted. Solidification of the waste will result in

elimination of any free liquids and the construction of the clay cap will essentially eliminate any future infiltration of water through the closed surface impoundments. These activities in combination with the low permeability of the natural subsoils will act to prevent any future releases of hazardous constituents to ground water. Information concerning the design and construction of the surface impoundments is included in Appendix B. An extensive effort was conducted to ensure that the impoundments would retain free liquids. The resulting construction will also be very effective in containing the stabilized waste materials.

- Implementability. Both options are commonly implemented closure alternatives for refinery surface impoundments.

- Human Health and Ecological Protectiveness.

  Offsite Disposal. The offsite disposal will provide human health and ecological protectiveness if properly implemented. The workers conducting the excavation would need to be properly trained and utilize personal protective equipment (PPE). The equipment will need to be decontaminated before exiting the closure area. The selected disposal facility would need to be designed and constructed to provide assurance that the disposed wastes are secure and do not pose a potential future threat to human health or the environment. The excavated materials that require disposal in a hazardous waste landfill will have to be transported long distances on public roadways and this will present a short-term low risk of exposure

  In-Place Closure. The solidification of wastes followed by the construction of a cover system will provide long-term protection to human health and the environment provided that the closure is conducted by trained workers with PPE and a Construction Quality Assurance Program is implemented to ensure that technical specifications for the closure are followed. As discussed in Section 2, the soils underlying the impoundments exhibit low-permeability that, along with the cover system, will minimize potential migration of waste constituents during the post-closure period. Post-closure maintenance and monitoring will also be conducted to ensure the long-term protectiveness of the corrective measure. In addition, the institutional control will prevent unknowing disturbance of the closure area.

- Cost. Estimated costs for the offsite disposal and in-place closure options are $3,475,000 and $1,010,000, respectively. Summaries of the cost breakdown for each of the two alternatives are provided in Appendix A. As shown in the appendix, the major cost component for the offsite disposal alternative is the disposal cost since the removed materials would be classified as hazardous waste due to the potential presence of listed primary sludge (F037).

Based on an evaluation of the aforementioned criteria, the "In-Place Closure Alternative" provides the best balance. The impacted waste and soils can be reliably contained and will pose a relatively low long-term threat, and this alternative can be implemented at a significant cost savings.

Section 5
Selected Corrective Measures

The selected remedial alternative for the aeration lagoons and EP-1 is in-situ solidifying the wastes following by construction of a cover system to affect an "in-place" closure. This alternative utilizes a combination of remedial categories, including stabilization, containment (cover system) and institutional controls. A detailed description of the corrective measure is provided in the CMI work plan. A summary of the corrective measure elements is provided as follows:

- Perimeter Investigation. Prior to construction activities, an investigation of soils that lie beyond the lateral extent of the final cover system will be conducted to ensure that all impacted soils are placed beneath the cover system.

- Drying and Stabilization of Sludge. Following draining of the impoundments, the sediment/sludge in the impoundments will be allowed to air dry followed by stabilization by appropriate reagents (e.g., fly ash, cement kiln dust). A treatability study will be conducted prior to stabilization to identify the suitable reagent and mixing ratio.

- Clay Cap. A 24-inch thick clay cap will be constructed over a prepared subgrade. The construction of the cap will follow a construction quality assurance plan to ensure that the cap meets the specifications provided in the CMI work plan.

- Final Cover. A rock armor layer consisting of approximately eight inches of 1½-inch low-fines crushed limestone will be placed over the clay cap components of the final cover system.

Section 6
References

Geoscience Consultants, Ltd., 1985, Discharge Plan Application for Giant Refining Company Ciniza Refinery Gallup, New Mexico, p. 59.

Appendix A

Cost Estimates

Table A-1
Closure Cost Estimate - Offsite Disposal
Aeration Lagoons AL-1, AL-2, and EP-1

Item	Description	Quantity	Units	Unit Cost	Cost
	Professional Services				
1	Investigation & soil confirmation sampling	1	LS	$129,000	$129,000
2	Final closure report	1	LS	$20,000	$20,000
3	Project administration (engineering, bidding, construction administration, etc.)	1	LS	$316,000	$316,000
	Demolition				
4	Dismantling and disposal of benzene strippers	1	LS	$5,000	$5,000
	Construction				
5	Mobilization	1	LS	$25,000	$25,000
6	Administrative costs (office facilities & staff, H&S plan, SWPPP, insurance, equipment decon, QA/QC, etc.)	1	LS	$28,000	$28,000
7	Dewater lagoons (3 ft water over 0.8 ac) & dispose at API Separator (100' distance). Drain EP-1 (7 ft water over 1.6 ac) to EP-2 at no cost.	800,000	Gal	$0.011	$9,000
8	Stabilize ALs & EP-1sludges in place	8,800	CY	$25	$220,000
9	Dispose 0% of stabilized sludges as special waste[1]	0	CY	$55	$0
10	Dispose 100% of stabilized sludges as hazardous waste[2]	9,700	CY	$250	$2,425,000
11	Excavate top 1 ft of clay liner (AL-1 & AL-2)	850	CY	$7	$6,000
12	Dispose 50% of excavated clay as special waste[3]	425	CY	$55	$23,000
13	Dispose 50% of excavated clay as hazardous waste[4]	425	CY	$250	$106,000
14	Sludge characterization sampling - one per 100 CY[5]	96	EA	$610	$59,000
15	Backfill lagoons	6,000	CY	$15	$90,000
16	Demobilization	1	LS	$14,000	$14,000
	TOTAL				**$3,475,000**

Notes

1 Assumes 10% increase in sludge volume due to stabilization and disposal at Waste Management landfill in San Juan (TPH > 1,000 ppm, metals < 20X rule)

2 Assumes 10% increase in sludge volume due to stabilization and disposal at U.S. Ecology landfill in Battie, NV (<500 mg/kg volatiles).

3 Assumes disposal of liner soils at same location as nonhazardous sludges.

4 Assumes disposal of liner soils at same location as hazardous sludges.

5 Assumes one sample per 100 CY analyzed for Haz Characteristics per 40 CFR 261 ($140), TCLP Skinner Metals ($190), TCLP BTEX ($130), TPH ($90) + 10% markup

Table A-2
Closure Cost Estimate - In-Place Closure
Aeration Lagoons (AL-1 & AL-2) and EP-1

Item	Description	Quantity	Units	Unit Cost	Cost
	Professional Services				
1	Investigation soil sampling	1	LS	$56,000	$56,000
2	Final closure report	1	LS	$20,000	$20,000
3	Project administration (engineering, bidding, construction administration, etc.)	1	LS	$92,000	$92,000
	Demolition				
4	Dismantling and disposal of benzene strippers	1	LS	$5,000	$5,000
	Construction				
5	Mobilization	1	LS	$39,000	$39,000
6	Administrative costs (office facilities & staff, H&S plan, SWPPP, insurance, equipment decon, QA/QC, etc.)	1	LS	$28,000	$28,000
7	Dewater lagoons (3 ft water over 0.8 ac) & dispose at API Separator (100' distance). Drain EP-1 (7 ft water over 1.6 ac) to EP-2 at no cost.	800,000	Gal	$0.011	$9,000
8	Stabilize sludges in place in aeration lagoons and EP-1	8,800	CY	$25	$220,000
9	Balanced cut & backfill of lagoons & EP-1	10,400	CY	$10.50	$109,000
10	2-ft compacted clay cap over AL-1, AL-2, & EP-1	8,600	CY	$13.00	$112,000
11	12-mil HDPE flexible membrane liner clay cover	115,000	SF	$0.40	$46,000
12	12-oz. geotextile fabric liner protective cover	12,800	SY	$3.30	$42,000
13	8" - 1.5-inch crushed rock final cover	2,900	CY	$53.00	$154,000
14	Drainage improvements	1	LS	$50,000	$50,000
15	Demobilization	1	LS	$24,000	$24,000
	TOTAL				**$1,010,000**

Appendix B

Information Related to the Design and Construction of the Aeration Lagoons and EP-1

GIANT
REFINING COMPANY

ROUTE 3, BOX 7 • GALLUP, NEW MEXICO 87301
(505) 722-3833 • TWX 910-981-0504

August 28, 1986

RECEIVED
SEP - 2 1986
OIL CONSERVATION DIVISION
- SANTA FE

Mr. David B. Boyer
Environmental Bureau Chief
New Mexico Oil Conservation Division
P.O. Box 2088
State Land Office Bldg.
Santa Fe, NM 87501-2088

RE: GW-32 Aeration Basin Design

Dear Mr. Boyer:

Enclosed is the information on our aeration basin requested by your office.

The three attachments are:

Geoscience's Technical Specifications
Fox Engineering's Soil Study Report, and
Data taken on organics migration in the existing pond bottom.

We are currently preparing a bid package to select a contractor for this work. Excavation will proceed as soon as one is chosen and your approval is received. We have not yet specified the aeration equipment, but the aerators will most likely be a surface mechanical type in order to maximize the units flexibility. In addition, we plan to remove the remaining organic sludge and apply it to the Land Treatment Area as the first phase of construction.

If you have any questions regarding this information, please contact Bob McClenahan of my staff.

Very truly yours,

Carl D. Shook

Carl D. Shook
Vice President Refining Operations

CDS:ds

cc: File
Carlos Guerra, Esq.,Giant Industries
Claude Schleyer, Geoscience Consultants, Ltd.
Bob McClenahan, Jr.

TECHNICAL SPECIFICATIONS FOR CONSTRUCTION OF AN AERATED LAGOON API SEPARATOR EFFLUENT TREATMENT FACILITY

GIANT REFINING CO. - CINIZA PLANT

Revised August 5, 1986

Prepared for:

GIANT REFINING CO.
Ciniza Plant
Route 3, Box 7
Gallup, New Mexico 87301

Prepared by:

Geoscience Consultants, Ltd.
500 Copper Avenue, NW
Suite 325
Albuquerque, New Mexico 87102

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SECTION I

GENERAL CONDITIONS

I-1. DEFINITIONS:

The term "Engineer" as used herein means the engineer or construction inspector duly appointed or authorized to represent the owner.

I-2. VISIT TO SITE AND CONDITIONS:

Bidders are requested to visit the site and inform themselves concerning all the conditions under which the work is to be done. Failure to visit the site will in no way relieve the Contractor from the responsibility of furnishing any materials and performing any work that may be required to complete the contract in strict accordance with the true intent and meaning of the specifications without additional expense to the owner.

Information contained in the specifications as it relates to quantities or conditions at the site is furnished only for the convenience of the bidders, and no guarantee of the accuracy of the information is made or implied.

I-3. EXISTING UTILITIES AND STRUCTURES:

The Contractor shall be held responsible for any damage to existing utilities and structures which may be encountered during construction operations. All utilities and structures encountered shall be maintained in good operating condition, and be protected from damage by the Contractor. Utilities and structures which are damaged by the Contractor shall be immediately repaired at the Contractor's expense. The repairs will be made with the same type of materials which were damaged, and the repair work shall be done in a method acceptable to the Engineer.

I-4. TOOLS, PLANT AND EQUIPMENT:

If, at any time before the commencement of or during the progress of the work, tools, plant or equipment, in the opinion of the Engineer, seem to be insufficient, inefficient or inappropriate to secure the quality of the work required or the proper rate of progress, the Engineer may order the Contractor to increase their efficiency, to improve their character, to augment their number, or to substitute new tools, plant or equipment as the case may be, and the Contractor must conform to such order; but the failure of the Engineer to demand such increase of efficiency, number or improvement shall not relieve the Contractor of his obligation to secure the quality of work and rate of progress necessary to complete the work within the time required by the contract to the satisfaction of the owner.

I-5. QUALITY OF MATERIALS:

It is the intent of these specifications that new first-class materials shall be used throughout the work and that they shall be incorporated in such a manner as to produce complete construction work which is workmanlike and acceptable in every detail. Only materials which conform to the requirements of these specifications shall be incorporated in the work.

All materials not conforming to the requirements of these specifications shall be considered defective and shall be removed from the work; if in place, they shall be removed by the Contractor at his expense and replaced with acceptable materials. Upon failure of the Contractor to comply forthwith with any order of the Engineer pursuant to the provisions of this article, the Engineer shall have authority to remove and replace defective materials and to deduct the cost of removal and replacement for any moneys due, or to become due, the Contractor.

When requested by the Engineer, the Contractor shall furnish a complete written statement of the origin, composition and manufacture of any or all materials that are to be used in the work.

I-6. COPIES OF DRAWINGS FURNISHED:

The owner will furnish to the Contractor, free of charge, all copies of drawings and specifications reasonably necessary for the execution of the work.

I-7. CONTRACTORS NOTICE OF COMPLIANCE:

The Contractor shall give all notices and comply with all applicable State laws and regulations and local ordinances, rules and regulations bearing on the conduct of the work as drawn and specified. If the Contractor observes that the drawings and specifications are at variance therewith, he shall promptly notify the Engineer in writing, and any necessary changes shall be adjusted as provided in the contract of changes in the work. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Engineer, he shall bear all costs arising therefrom.

I-8. POINTS AND INSTRUCTIONS:

The Contractor shall provide reasonable and necessary opportunities and facilities for setting points and making measurements. He shall not proceed until he has made timely demands upon the Engineer for, and has received from him, such points and instructions as may be necessary as the work progresses. The work shall be done in strict conformity with such points and instructions.

The Contractor shall carefully preserve bench marks, reference points and stakes, and in case of willful or careless destruction, he shall be charged with the resulting expense and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.

I-9. CLIMATIC CONDITIONS:

The Engineer may order the Contractor to suspend any work that may be subject to damage by climatic conditions. In the event of any such ordered suspension of work, the Contractor will be granted an extension of time equal to but not in excess of the period of delay occasioned by the conditions bringing about the suspension. No extra payment will be allowed for expenses due to any suspension of work ordered as a result of weather conditions.

I-10. MATERIALS:

The Contractor will be required to furnish all materials and equipment necessary to complete the work satisfactorily and in accordance with the specifications. All materials furnished by the Contractor may be subject to inspection and approval by the Engineer, and any rejected materials shall be promptly replaced with satisfactory materials at no additional expense to the owner.

Any reference to trade names and/or catalog numbers is intended to be descriptive but not restrictive, and is only to indicate to prospective bidders articles that will be satisfactory. Bids on other trade names or catalog numbers will be considered, provided each bidder clearly states on the face of his proposal what he intends to furnish, or provides with his bid a cut or illustration or other descriptive matter which will indicate the character of the article covered by his bid.

I-11. INSPECTION:

All workmanship, equipment, and materials will be subject to inspection at any time by the Engineer. If, during the course of the work or at any time, such inspection indicated that materials used or work performed is not in accordance with the contract requirements, the owner will order the Contractor to make all necessary corrections, and if conditions warrant, to halt the work operations until the corrections have been made. Any such work stoppages ordered for the above reasons shall not be deemed acceptable justification for extension of the contract time or for additional compensation.

I-12. ACCEPTANCE OF PROJECT:

When all work or materials required by the drawings and specifications for the project have been performed and furnished acceptance of the work will be given by the owner. The acceptance of the work will be given in writing and until such acceptance the Contractor will be responsible for the work covered by the Contract. The Contractor's responsibility will cease, except as provided by guarantees, when acceptance of the work is given.

I-13. SHOP DRAWINGS:

The Contractor shall submit to the owner for approval one copy of shop drawings, manufacturer's data or catalog sheets for each item of equipment and materials to be furnished. No work shall commence on any item until the applicable materials have been approved.

I-14. GUARANTEES:

All work shall be constructed in compliance with standard construction codes, and must be guaranteed for a period of one year from the date of final acceptance. Equipment and supplies installed by the Contractor shall have a manufacturer's written guarantee of performance. Any component of this project which fails to function satisfactorily, according to the specifications, shall be replaced or repaired by the Contractor at no expense to the owner. Claims to the guarantee may be made by the owner at any time during the 1 year guarantee period and adjustments shall be made by the Contractor in a timely manner.

SECTION II

TECHNICAL PROVISIONS - SEWAGE TREATMENT LAGOON

II-1. SCOPE:

The work within this section consists of furnishing all labor, equipment, materials, and incidentals in connection with constructing an aerated lagoon in the area indicated on the construction drawings in strict accordance with the drawings and these specifications. The lagoon will be constructed on the site of existing Lagoon No. I of the Giant Industries Oil Refinery at Ciniza, near Gallup, New Mexico.

II-2. MATERIALS:

A. Pipe, Joints, and Fittings

1. Polyvinyl Chloride Pipe

All PVC pipe shown on the drawings shall be class 160, SDR 26, PVC water pipe, meeting ASTM D2241, and ASTM D1784, Type I, Grade I, PVC 1120, rigid polyvinyl chloride (PVC) pipe. Fittings for joining PVC pipe in special structures shall be cast iron conforming to quality requirements of AWWA C110. Pipe joints shall be made with rubber gaskets as recommended by the pipe manufacturer and approved by the Engineer.

2. Ductile Iron Pipe: All ductile iron pipe shall be Type I, meeting AWWA C150, and AWWA C151. Joints shall meet AWWA C111, and fittings shall meet AWWA C110.

3. Gate Valves and Boxes: Gate valves shall be of cast iron body construction, bronze mounted, solid wedge, resilient seal, with 2 inch square operating nut, 150 psi operating pressure, nonrising stems and conform to AWWA C500. All valves used on PVC pipe shall be equal to the Watrous 500 series.

One valve key shall operate all valves and two such keys shall be furnished to the engineer by the Contractor.

All valves boxes shall be cast iron and of the sliding type, sized for use with the appropriate valve to the finished grade. Valve boxes shall be Tyler Series 6855, or equal. All valve boxes shall be provided with locking covers. Lids for gate valves shall be marked "Sewer". Collars shall be constructed as indicated in the plans and detail drawings. Two valve keys for use on all valve covers shall be provided to the engineer.

4. Concrete: Concrete shall be as-specified in Section III.

5. Wastewater Lines: Wastewater Lines shall be as specified in Section IV.

6. Parshall Flume: A 3" Parshall Flume, made of polyester reinforced fiberglass sealed with smooth white gel coat shall be provided. It shall be equal to that manufactured by Hinde Engineering Co. of California, Inc. Recommended supplier is Barnhardt - Taylor, Inc. 2501 Alamo, SE Albuquerque, NM 87106.

II-3. LAGOON EARTHWORK

A. Soils Testing and Inspection: The engineer shall supply to the contractor the results of a pre-construction soil study indicating the baseline modified proctor density, in accordance with ASTM D1557 or latest revision. Additional tests may be provided at the contractor's request and expense. These results shall be used as the basis for determination of acceptability of all compaction under this contract.

During the course of construction, periodic checks of soil compaction will be made as directed by the Engineer to assure compliance with these specifications.

B. Clearing and Grubbing: The area within the limits shown on the drawings and extending a minimum of 5 feet beyond the embankment foundation limits shall be cleared of all objectionable material, to include trees, logs, stumps, brush, vegetation, and rubbish to a minimum depth of 1 foot. Stumps and roots larger than 1 1/2 inches in diameter shall be removed to a depth of 3 feet below subgrade. Spoil material shall be collected and removed by the Contractor to a location selected by the Contractor and approved by the Engineer. The existing drain and transfer pipes shall be removed from the berm on the west side.

C. Excavation: Excavation shall be performed at such places as are indicated on the drawings, and to the lines, grades and elevations shown.

During the process of excavation, the grade shall be maintained in such condition that it will be well drained at all times. When necessary, temporary drains and drainage ditches shall be installed to intercept or divert surface water which may affect the prosecution or condition of the work.

The rough excavation shall be carried to such depth that sufficient material will be left above the designated grade to allow for compaction to this grade. Should the Contractor

through negligence or other fault, excavate below the designated lines, he shall replace such excavation with approved material in an approved manner and condition, at his own expense.

All soft or unstable material, and material which will not readily compact when rolled or tamped, shall be removed as directed by the Engineer, and replaced with suitable material. All sand lenses and other permeable zones will be excavated to a minimum depth of 2 feet below the finish grade and shall be removed and deposited adjacent to the lagoon site as directed by the Engineer. The top 6 inches of excavated areas comprising the final embankment shall be compacted to a density equal to 90% of maximum density as determined by the Modified Proctor Test, ASTM D1557 or latest revision. Such a sand lens is thought to exist on the east side as evidenced by a readily observed natural seep.

D. General Fill Methods: Prior to placement of compacted fill in any section, the foundation of such section shall be loosened thoroughly by scarifying, plowing or harrowing to a depth of 8 inches. After removal of roots or other debris turned up in the process of loosening, the entire surface of the area shall be compacted to 90% of maximum density as determined by the Modified Proctor Test, ASTM D1557 or latest revision.

After an 8" loose layer of fill material has been deposited and spread, it shall be harrowed if required to break up and blend the materials, unless harrowing is to be performed to obtain uniform moisture distribution. Harrowing, if required, shall be performed with a spring-tooth harrow, or other approved harrow, to a depth of at least 8 inches. If one pass of harrowing does not accomplish the breaking up and blending of the materials, additional passes of the harrow may be required. When the moisture content and the condition of the layer is satisfactory, the lift shall be compacted to 90% of maximum density as determined by the Modified Proctor Test, ASTM D1557 or latest revision. Backfill placed adjacent to structures shall be compacted to 90% of maximum density as determined by the Modified Proctor Test, ASTM D1557 or latest revision. Portions of the fill which are not accessible to the roller shall be placed in 8-inch layers and compacted to the required density by approved mechanical tampers.

E. Dike Embankments: The dike embankments shall be constructed with approved excavated material obtained from the lagoon site or nearby approved borrow sites, shall be placed in 8 inch thick layers and compacted to a density equal to 90% of that of the maximum dry density as determined by the Modified Proctor Test, ASTM D1557 or latest revision.

Compacted surfaces of fill materials shall be lightly scarified to break up stratification before the succeeding layer is placed upon it. When fill is placed against the existing slopes, the existing slopes shall be deeply benched to prevent construction of a slip surface.

All embankments shall be filled and compacted as specified above, to the lines, grades and elevations as shown on the plans or as directed by the Engineer, with all surfaces trimmed and fine graded so as to produce a neat, regular appearance.

Rolling of the embankment areas shall be done with an approved sheepsfoot or segmented steel wheeled compactor. Any irregularities or depressions that develop under rolling shall be corrected by loosening the material at these places and adding, removing or replacing material until the surface is smooth and uniform. Any portion of the area which is not accessible to a roller shall be compacted to the required density by approved mechanical tampers.

All soft or unstable material and material which will not readily compact when rolled or tamped, shall be removed as directed by the Engineer, and replaced with suitable material. All permeable zones will be excavated to a minimum depth of 2 feet below the finish grade and shall be removed and deposited adjacent to the lagoon site as directed by the Engineer. The top 8 inches of excavated areas comprising the final embankment shall be compacted to a density equal to 90% of maximum density as determined by the Modified Proctor Test, ASTM D1557 or latest revision.

F. Lagoon Bottom: The lagoon bottom shall be constructed to the finished grade as shown on the drawings, and shall be as smooth as possible at all points. The bottom of the lagoon shall be checked for smoothness and accuracy with surveying instruments, and if any portion is found to vary more than two tenths (0.20) of a foot above or below the finished grade, such portions shall be scarified, reshaped and recompacted until the required accuracy is obtained.

The top 8 inches of the lagoon bottom shall be scarified and compacted to a density equal to 90% of the maximum dry density as determined by the Modified Proctor Test, ASTM D1556 or latest revision. Compaction and rolling shall conform to all provisions as specified under "Dike Embankment". All soft and yielding material, and material which will not readily compact when rolled or tamped, shall be removed, and replaced with suitable material as directed by the Engineer. All sand lenses and other permeable zones will be excavated to a minimum of 2 feet below finish grade and shall be removed and deposited adjacent to the lagoon site as directed by the Engineer. Backfill for these areas shall be obtained from the most select

material encountered in excavation as designated by the Engineer.

G. Key Trench: To reduce the possibility of piping through the soils and to reduce settlement, a key trench shall be excavated along the interior edge of the existing embankment on the western edge of the existing pond. The key trench should be a minimum of five (5) feet deep and a minimum of ten (10) feet in width at the base. The side slopes should be no steeper than 1 1/2:1 (horizontal: vertical). The bottom of the key trench should be moisture conditioned and compacted as described under "General Fill Methods". The key trench shall then be back-filled with controlled structural fill as detailed in "General Fill Methods". Schematic drawings of the key trench are presented in the plans. The foundation for the interior dikes shall be prepared as described in in "General Fill Methods" and as directed by the engineer.

H. Sludge Drains Protection: Since there is a potential for seepage or leakage along the sludge drain pipes, it is necessary that the pipes be supported by at least two (2) feet of controlled structural fill as described under "General Fill Methods". This fill zone shall consist of either excavated and recompacted foundation soils or borrow soils from other areas on the site. the excavation and recompaction shall extend at least two (2) feet beyond the perimeter of the pipes. Prior to replacement of excavated soils, the moisture conditioning and densification treatment described under "General Fill Methods" shall be performed along the sludge drain alignments. The recompacted materials should be placed at optimum moisture content (± 2%) and compacted to a dry density of at least 90% of the maximum dry density as determined in accordance with ASTM D-1557.

As a further control of seepage along the sludge trains, seepage collars shall be installed along the drain pipes as described in "Special Structures".

I. Natural Seepage Area: Flow from the natural seepage will create unfavorable conditions for the abutment of the interior embankment on the East side of the pond between Cell 1 and Cell 3, and the flow shall be diverted around the pond. A cut off trench shall be excavated east of the abutment area down to weathered shale bedrock or dry, low permeability soils. A perforated drain pipe shall be installed, and the trench backfilled to near the surface with clean gravel. The drain pipe shall drain to a gravity outfall downhill from the pond.

J. Permanent Reference Markers: Permanent reference markers shall be installed along the embankment centerlines for possible future monitoring of embankment settlement. Two markers shall be placed in the crest of each embankment, and two reference

markers placed in areas away from embankment fill on natural soils. These shall be permanent markers cast in concrete.

K. Trenches and Excavations: All trenches and excavations greater than five (5) feet deep must be sloped, shored, sheeted, braced, or otherwise supported according to OSHA construction safety and health standards. Where unstable soil conditions are encountered in trenches shallower than five (5) feet, these trenches must also be sloped, shored, or supported.

Material excavated from the trench or spoil must be placed a minimum of two (2) feet from the edge of the excavation or trench. The spoil must be barricaded or retained in an effective manner such that no loose material can fall into the excavation or trench. Additional measures shall be taken to provide an adequate support system in trenches which are excavated below the water table, in backfill areas, in loose unstable soils, and in "brittle" clays.

II-4. MOISTURE CONTROL:

The materials in each layer of the fill shall contain the amount of moisture, within the limits specified below, necessary to obtain the desired compaction.

The moisture content shall be as uniform as practicable throughout any one layer of selected materials and shall be ± 2% of the optimum moisture content or as directed by the engineer. Material that is too wet shall be spread and permitted to dry, assisted by discing or harrowing, if necessary, until the moisture content is reduced to an amount within the specified limits. When material is too dry, the Contractor shall be required to wet each layer of the fill, and harrowing or other approved methods shall be required to work the moisture into the material until a uniform distribution or moisture is obtained. Water applied on a layer of fill shall be accurately controlled in an amount so that free water shall not appear on the surface during or subsequent to rolling. Should too much water be added to any fill so that the material is too wet to obtain the desired compaction, the rolling and all work on that section of the fill shall be delayed until the moisture content of the material is reduced to an amount within the specified limits.

If, in the opinion of the Engineer, the top or contact surfaces of a partial fill section become too dry to permit suitable bond between these surfaces and the additional fill to be placed thereon, the Contractor shall loosen the dried materials by scarifying or discing to such depths as may be directed by the Engineer and shall dampen the loosened material to an acceptable moisture content, and shall compact this layer in accordance with the applicable requirements.

II-5. SURPLUS EXCAVATION MATERIAL:

The surplus excavated material from the lagoon site not used for construction of the embankment dikes and other construction, shall be disposed and wasted in those areas adjacent to the lagoon site as directed by the Engineer during construction. No extra compensation shall be made for this disposal and wasting.

II-6. SPECIAL STRUCTURES:

A. Lagoon Inlet Piping Structure: The lagoon inlet piping shall be constructed as shown on the drawings. The lagoon inlet piping structure shall include all piping from the existing API separator extending to and including the distribution box and inlet collars. This includes the connection of new pipe to the existing outlet of the existing API separator. Materials and construction shall be as indicated in Section II. Provision must be made for continued operation of the API Separator during construction. Pumping of the effluent may be required in order to make the new pipe connection to the API Separator.

B. Lagoon Transfer Structures: The lagoon inter-connecting structures shall be constructed as shown on the drawings. Piping conforming to ASTM D2241 shall be required. Materials and construction shall be as indicated in Section II and applicable drawings.

C. Lagoon Sludge Drain Structures: The lagoon sludge drain structures shall be constructed as shown on the drawings. Piping conforming to ASTM D2241 shall be required. The discharge ends of the sludge drain structures shall have flanged connections to facilitate the connection and fittings to be used for sludge removal. They shall also have flange type valves, and concrete splash pads and collars as shown on the detail drawings. Materials and construction shall be as indicated in Section II.

D. Seepage Collars: Seepage collars shall be fitted on pipes traversing the berms as shown on the drawings. They shall be made of concrete reinforced with 6" x 6" 10 x 10 WWF. The minimum dimensions for 6" pipes shall be 3' x 3' x 1' thick and for 12" pipes shall be 4' x 4' x 1' thick. On the berm slopes, the seepage collars may be combined with concrete pads as shown on the drawings.

II-7. CLEANUP:

Upon completion of the work, the entire site shall be cleared of all debris, and the ground surface shall be finished to smooth, uniform slopes and shall present a neat and workmanlike appearance. Cleanup shall be considered an incidental item and no additional payment shall be made for it, but rather its costs shall be merged with the applicable pay

item regardless of whether cleanup is specifically included in the measurement and payment section.

II-8. AS-BUILT DRAWINGS:

The contractor shall be responsible for keeping accurate records of all installed items under this section of the specifications, and indicating revisions of the furnished construction drawings in sufficient detail to be accepted by the Engineer for as-built drawings. For the Contractor's information sufficient detail under this contract means that the Contractor shall take accurate measurements and record them on the drawings to provide the minimum information of at least two swing ties and distance to permanent objects and/or marker posts for the location of any stabilization material placed; the location and depth of rock encountered; the location of any berm center line corners; all centerline distances; and berm and bottom elevations at all corners and centers; and control structure elevations. Also to be noted on the plans is the final elevation of all access lids, inverts, and ground immediately adjacent to the access lid and the distance and angles between the access structures.

The recording of the as-built information is considered an integral part of the progress of this construction and shall be reviewed with the Engineer in determining progress under this contract.

II-9. MEASUREMENT AND PAYMENT:

A. Lagoon Construction: The payment for the lagoon, including hauling; grubbing, clearing topsoil, excavation, embankment construction, moisture control, bottom construction, diversion ditches, surplus excavation, as-builts, and clean-up shall be merged with and paid for at the lump sum Bid Price. A topographic map and Earthwork Summary, Section V, are presented as guides for use in determining the earth work required.

This shall be full compensation for the construction of the sewage lagoon except for the below items.

B. Transfer Structures: Payment for construction of transfer structures shall be based on the lump sum bid price and shall include all compensation for form work, concrete, reinforcing steel, piping, valves, valve boxes, labor, equipment, miscellaneous material, as-builts, and clean-up required to provide complete and operational structures as indicated in the plans and detail drawings.

C. Inlet Structure: Payment for construction of the inlet structures shall be based on the lump sum bid price and shall include compensation for all piping, valves, flume, form work, concrete, reinforcing steel, labor, miscellaneous material, as-builts, and clean-up required to provide a complete and operational structure as indicated in the plans and detail drawings.

D. Sludge Removal Structures: Payment for construction of the sludge removal structures shall be based on the lump sum bid price and shall include compensation for all piping, valves, form work, concrete, reinforcing steel, labor, miscellaneous material, as-builts, and clean-up required to provide complete and operational structures as indicated in the plans and detail drawings.

II-10. SUBMITTALS:

1. Earth work equipment to be used

2. Manufacturers specification sheets for:
   a. pipe
   b. pipe fittings
   c. valves
   d. valve boxes
   e. parshall flume

SECTION III

CONCRETE

III-1. SCOPE:

The work covered by this section of the specifications consists of furnishing all plant, labor, equipment and other materials necessary to perform all concrete work, complete, in strict accordance with this section of the specifications and the applicable drawings, subject to the terms and conditions of the contract.

III-2. GENERAL:

Concrete Classifications: Unless otherwise indicated, all concrete shall have a compressive strength of not less than 4,000 pounds per square inch as determined from test cylinders at 28 days, made, cured, and broken in accordance with Standard ASTM Methods.

III-3. TESTING OF CONCRETE:

During the progress of the work, a reasonable number of compression tests shall be made when and if required by the Engineer. Each test shall consist of not less than 3 cylinders. At least one test shall be made for each 50 cubic yards of concrete placed. All cylinders shall be made and tested in accordance with the Standard Methods of the American Society for Testing Materials. The contractor shall pay for all expenses in connection with the tests and shall furnish to the Engineer certified reports on the tests.

III-4. RESPONSIBILITY OF CONTRACTOR FOR STRENGTH:

It is the intent of these specifications that the contractor shall guarantee to the Owner that concrete of the specified compressive strength is incorporated in the structures and that the responsibility for producing the required grades of concrete is assumed by the contractor.

Should the average strength shown by test cylinders fall below the strengths required, the Engineer shall require a change in the amount of cement, or grading of aggregate, or of the ratio of the water of the cement used, or any, or all. If the tests disclose that the strength of the concrete is insufficient for the structure as built, the Engineer may condemn the part of the structure in which concrete of insufficient strength has been placed and the contractor, at his cost, shall remove and replace such concrete with concrete meeting with these specifications.

III-5. MIXING:

The concrete shall be mixed in an approved batch machine or mixer. The ingredients shall be accurately measured before being placed in the mixer. Measuring boxes or other approved measuring apparatus shall be used so that the proportions can be accurately determined. The quantities of water to be added, which will vary with the degrees of dryness of the material and with the weather conditions, shall be accurately measured for each batch of concrete.

Means shall be provided by which a measured quantity of water can be introduced at any stage of the process. The mixing shall be done in a thorough and satisfactory manner and shall continue until every particle of aggregate is completely covered with mortar. The mixing time for each batch shall not be less than 1 minute after the materials are in the mixer. The entire contents of the drum shall be discharged before recharging.

III-6. READY MIX CONCRETE:

Ready mix concrete may be used provided the strength, density and other requirements of these specifications can be met and provided that the concrete conforms to ASTM Designation C94-58 or latest revision thereof, using Type II cement.

Retempering of concrete which has partly hardened will not be permitted.

III-7. CONSISTENCY:

All reinforced concrete which is required to be spaded or puddled in forms or around reinforcement shall be of such consistency that:

a. All aggregates will float uniformly throughout the mass, without settling or segregating.

b. When dripped directly from the discharge chute of the mixer, it will flatten out at the center of the pile but will stand up at the edges, the pile spreading from internal expansion and not be flowing.

c. It will flow sluggishly when tamped or spaded.

d. It can be readily puddled into the corners and angles of forms, and around reinforcement steel.

e. It can be readily spaded to the bottom of the pour or to a depth of several feet at any time within 30 minutes after placing.

A desirable consistency is one which results in a very slight accumulation of water at the top of a layer several feet in thickness, but with no segregation or accumulation of laitance.

If, through accident, intention, or error in mixing, any concrete shall contain an excess amount of water, and in the opinion of the Engineer, is too wet, such concrete shall not be incorporated in the work, but shall be discharged as waste material.

III-8. PLACING CONCRETE:

Before beginning a run of concrete, surfaces of the forms, reinforcing steel, and concrete previously placed, shall be thoroughly cleaned of hardened concrete or foreign materials. Forms shall be thoroughly wetted or oiled.

Concrete shall be placed in the forms immediately after mixing. It shall be so deposited that the aggregates are not separated. Dropping the concrete any considerable distance, depositing large quantities at any point and running or working it along the forms, or any other practice tending to cause segregation of the ingredients, will not be allowed. It shall be compacted by continuous mechanical tamping. Care shall be taken to fill every part of the forms, to work the coarser aggregate back from the face, and to force the concrete under and around the reinforcement without displacing it.

The concrete shall be deposited in continuous horizontal layers and, wherever practicable, concrete in structures shall be deposited continuously for each monolithic section of the work. Chutes used for conveying shall be mortar tight.

Work shall be so arranged that each part of the work shall be poured as a unit, if this is possible. Where necessary to stop pouring concrete, the work shall be brought up in level courses and against a vertical stop board.

The placing of concrete under water, where permitted, must be done by special approved methods.

III-9. PLACING IN COLD WEATHER:

No concrete shall be placed without the specific permission of the Engineer when the air temperature is at or below 35 degrees F.

If concreting in freezing weather is permitted by the Engineer, care shall be taken to prevent the use of any frozen material. In addition to adequate provision for protecting the concrete against chilling or freezing, the contractor shall be required to heat the water and aggregate so that when deposited in the forms, the concrete will have a temperature of not less than 50 degrees F. nor more than 100 degrees F. The concrete shall be adequately protected so as to maintain this temperature for a minimum of 72 hours after it has been placed and a temperature above 32 degrees F. for a period of two additional days. The work shall be done entirely at the contractor's risk.

No chemicals or other foreign matter shall, without the approval of the

Engineer, be added to the concrete for the purpose of preventing freezing.

III-10. CONSTRUCTION JOINTS:

Construction joints shall be located as shown upon the plans and at other points as may be necessary during construction, provided that the location and nature of additional joints shall be approved by the Engineer. In general, joints shall be located at points of minimum sheer, shall be perpendicular to the principal lines of stress, and shall have suitable keys having areas of approximately 1/3 of the area of the joints.

In resuming work, the surface of the concrete previously placed, shall be thoroughly cleaned of dirt, scum, laitance, or other soft material and shall be roughened. The surface shall then be thoroughly washed with clean water and covered with cement mortar, after which concreting may proceed.

III-11. FINISH OF CONCRETE SURFACES:

All surfaces exposed to view shall be free from conspicuous lines, affects, or other irregularities caused by defects in the forms. If for any reason this requirement is not met, or if there are any conspicuous honeycombs, the Engineer may require the correction of the defects by rubbing with carborundum bricks and water until a satisfactory finish is obtained. Floors shall be finished monolithically by screening and troweling to a smooth, hard finish.

Immediately after removing the forms, all wires or other exposed metal shall be cut back to the concrete surface, and the depression thus made shall be pointed with mortar and then rubbed smooth. Any honeycomb or other defect determined by the Engineer to require treatment shall be cut out to a depth sufficient to expose the reinforcement and immediately dry packed with mortar and rubbed smooth. Exposed concrete shall be hand rubbed with carborundum brick and water to give a continuously uniform appearance. Air holes to be filled with grout and excess rubbed off.

III-12. CURING CONCRETE:

Exposed surface of concrete shall be protected from premature drying for a period of at least 7 days. The Engineer may require the frequent wetting of the concrete and the use of means to protect it from the direct rays of the sun.

III-13. PLACING REINFORCEMENT:

All reinforcement, when placed, shall be free from mill scale, loose or thick rust, dirt, paint, oil or grease, and shall present a clean surface. When bending is required, it shall be accurately and neatly done. The placing and fastening of reinforcement shall be approved by the Engineer before any concrete is deposited. Care shall be taken not

to disturb the reinforcement after the concrete has taken its initial set.

III-14. FORMS:

Forms shall be so designed and constructed that they may be removed without injuring the concrete. The material to be used in the forms for exposed surfaces shall be sized and dressed lumber or metal in which all bolt and rivet heads are countersunk. In either case, a plain smooth surface of the desired contour must be obtained. Undressed lumber may be built true to line and if necessary to close cracks due to shrinkage, shall be thoroughly soaked in water. Forms for re-entrant angles shall be filleted, and for corners shall be chamfered. Dimensions affecting the construction of subsequent portions of the work shall be carefully checked after the forms are erected and before any concrete is placed. The interior surfaces of the forms shall be adequately oiled with a non-staining mineral oil to insure the non-adhesion of mortar.

Form lumber which is to be used a second time, must be free from bulge or warp and shall be thoroughly cleaned. The forms shall be inspected immediately preceding the placing of concrete; and bulging or warping shall be remedied and all dirt, sawdust, shavings, or other debris within the form shall be removed. No wood device of any kind used to separate forms shall be permitted to remain in the finished work. Temporary openings shall be placed at the bottom of the column and wall forms and at other points where necessary to facilitate cleaning and inspection immediately before depositing concrete.

III-15. REMOVAL OF FORMS:

Removal of form work shall depend on the weather conditions and shall be subjected to the approval of the Engineer. The minimum time for removal of forms unless otherwise approved by the Engineer, shall be 3 days after the concrete has been poured for walls, beam sides, and columns; slab forms and beam soffits may be removed in 7 days, provided a reasonable amount of vertical supports are retained. These vertical supports shall remain until the supported slabs and beams are able to withstand the superimposed load without undue deflection or damage of any kind. Under any circumstances, the removal of the forms shall be performed at the risk of the Contractor.

III-16. MATERIALS:

a. Cement: All cement used in the work shall be a well-known brand of sulfate resistive Portland Cement, and shall conform to the "Standard Specifications for Portland Cement", Serial Designation C150, Type II of the American Society for Testing Materials, and latest revision thereof.

b. Acceptance or Rejection of Cement: The acceptance or rejections of cement shall rest with the Engineer and any cement failing to meet the requirements specified herein may be

rejected at his direction. All rejected cement shall be plainly marked for identification, shall be immediately removed from the work, and shall not again be offered for inspection. Cement kept in storage for several months may be subject to repeated tests if required.

c. Water: All water used in mixing mortar or concrete shall be free from acid, alkali, oil, salt, vegetable or other matter in sufficient quantity to be injurious to the finished product, and shall be reasonably clear.

d. Fine Aggregate: The fine aggregate for concrete shall consist of the best available sand and shall be composed of sharp, clean, hard, durable grains and shall be sensibly free from lumps, clay balls, soft or flaky material, salt, alkali, organic matter and loam and conform to ASTM Designation C33-57 or latest revision thereof. Fine aggregate shall be graded from coarse to fine within the limits shown in the following table.

Sieve Size	Total Passing, % in Weight
3/8"	100
No. 4	95 - 100
No. 16	45 - 80
No. 50	5 - 30
No. 100	0 - 8

e. Coarse Aggregate: Coarse aggregate shall consist of the best available river gravel or crushed limestone or other approved material. Coarse aggregate shall be clean, tough, sound, durable rock and shall not contain harmful quantities of foreign material and to conform to ASTM Designation C33 or latest revision thereof. Samples shall be submitted to the Engineer for approval before any aggregate is used in the work. The coarse aggregate shall be uniformly graded from coarse to fine and shall conform approximately to the following gradation requirements:

For Concrete in Members Less Than 8" in Thickness	Percentage Passing Various Screens
Passing a 1-1/2" Screen	100
Passing a 3/4" Screen	40 - 70
Passing a 1/4" Screen	0 - 5

In case the concrete resulting from the mixture of the aggregates is not of a workable character or does not make the

proper finished surface, the Engineer may require a different grading in order to secure the desired result.

III-17. STEEL REINFORCEMENT:

All reinforcing steel shall be welded wire fabric as designated in the drawings. The Engineer reserves the right to require a test of the reinforcing material.

III-18. EMBEDDED ITEMS:

Before placing concrete, care shall taken to determine that all embedded items are firmly and securely fastened in place as indicated on the drawings. Embedded items shall be free of oil and other foreign matter such as loose coatings of rust, paint, and scale.

III-19. NONSHRINK GROUT:

Use applicable following mix where nonshrink grout is specified or desirable in connection with structures.

a. Unexposed Surfaces: Where discoloration from rust stains are not objectionable, use nonshrink grout proportioned by weight as follows. One part Portland cement; 3 parts clean, well graded sand screened through No. 4 sieve; 1/4 part Embeco, manufactured by Master Builders Company, Cleveland, Ohio, or approved equal; and sufficient water to obtain required consistency.

b. Surfaces Exposed to Sight or Weather: Basic proportions as above, except surface shall be furnished 1/4" low, and then 1/4" of plaster made from cement mortar shall be used to match adjoining concrete work. Mortar having lost plasticity or ability to adhere to surfaces shall be wasted and not used.

III-20. PATCHING CONCRETE:

Concrete out of level or alignment, or defective areas which cannot be patched satisfactorily, shall be removed and replaced. Patching shall be done in a workmanlike manner to restore original quality and appearance, using applicable nonshrink grout as specified for the location. Patched areas unsatisfactory in workmanship or appearance shall be filled or removed and replaced, as directed. Tie holes shall be filled and defective areas patched immediately following removal of forms. Defective areas shall be chipped to solid concrete or a minimum depth of one inch, the patching area and surrounding space wetted liberally, and mortar forced into place and compacted. Mortar shall be finished flush and to match adjacent areas and cured as specified for concrete.

III-21. GROUTING PIPES:

Annular spaces around pipes passing through masonry or concrete shall be filled with nonshrink grout finished flush with faces of walls and bottoms of slabs, and built up to form a cone terminating not less than 3 inches above floor level where leakproof construction is specified or required.

SECTION IV

WASTEWATER PIPELINES

IV-1. SCOPE:

This section covers the construction of the wastewater lines, including connections to existing API Separator.

IV-2. GENERAL:

Wastewater pipelines, conforming to these specifications and of the respective size shown on the drawings for the particular location, shall be constructed to proper line and grade, resulting in an unobstructed conduit having a smooth and uniform invert.

IV-3. TRENCHING AND BACKFILLING:

Bottom of trench shall be manually graded and shaped to provide uniform support for lower quadrant of pipe throughout each entire length, with recesses excavated to receive bells. Final grading and shaping shall be done only when the trench bottom is dry and pipe laying is ready to proceed. Material obtained from final preparation of trench bottom may be deposited along the sides of pipe already placed provided pipe alignment is not disturbed and there is no interference with construction of joints.

IV-4. INSTALLATION OF PIPELINES:

Pipe shall not be laid when trench or weather conditions are unsuitable for such work. Water shall be kept out of the trench. All pipe and fittings shall be protected to prevent entrance of foreign material.

Pipe laying shall proceed up grade, with spigots pointing in direction of flow. Trench bottom shall be shaped to receive and support lower quadrant of pipe barrel, with recesses at bells, and entire run of pipe straight and true to grade. Pipe shall be inspected for defects prior to being placed and interior of bell and exterior of spigot cleaned carefully. The joints shall form a continuous watertight conduit with a uniform interior surface and shall provide for slight movement of any pipe in the line due to expansion, contraction, settlement or lateral displacement.

IV-5. PVC PLASTIC SEWER PIPE:

The PVC Plastic Sewer pipe shall meet the following: Gasket jointed, designed and manufactured for use as sanitary sewer pipe, in accordance with ASTM standard D-3034 or D-3212 as they apply. Gaskets will conform to ASTM F-477 standard specifications. Each shipment shall be accompanied by a certificate from the manufacturer certifying that the material has been tested in accordance with ASTM D 1784 and conforms with the

above requirements. All materials must be inspected on the job site for purposes of rejecting defective or damaged pipe.

IV-6. ALIGNMENT OF SEWERS:

Sewers may be checked by the Engineer to determine whether any displacement of the pipe has occurred. These tests will be made with artificial light or by the sunlight reflected in the sewer lines with mirrors. If the illuminated interior of the pipe shows poor alignment, displaced pipe, or any other defects, the defects shall be corrected by the Contractor at his own expense.

IV-7. TESTING SEWER MAINS:

Testing for watertightness of the completed sewer lines must be performed by surcharging the system with water and measuring exfiltration.

The maximum allowable exfiltration, including the distribution box, shall not exceed 50 gallons per 24 hours per 1,000 feet of sewer, per inch of pipe diameter.

The average internal pressure in the system under test shall not be greater than five pounds per square inch (11.6 ft. head), and the maximum internal pressure in any part of the system under test shall not be greater than 10.8 pounds per square inch (25 ft. head).

The Contractor shall make any necessary repairs to reduce exfiltration leakage below the specified rate, and at his own expense. Pipe having cracked or broken barrels shall be replaced.

Sufficient leakage tests will be required to assure the Engineer that the materials and workmanship are acceptable.

All labor, equipment, and materials (including water) necessary for making the tests shall be furnished by the Contractor.

SECTION V

EARTH WORK SUMMARY

Total Area (sq. ft.)	166,550
Compaction Factor (shrink at 90% compaction)	8.6%
Volume of Cut (CY)	9,630
Volume of Fill (CY)	6,648
Volume of Compacted Fill	7,220
Excess Material (CY)	2,410
Cut Area (sq. ft.)	95,500
Fill Area (sq. ft.)	71,050
Average Depth of Cut (ft.)	2.72
Average Depth of Fill (ft.)	2.53

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GEOTECHNICAL INVESTIGATION

THREE CELL SLUDGE POND

GIANT INDUSTRIES REFINERY

CINIZA, NEW MEXICO

Prepared for:

Geoscience Consultants, Ltd.

Job No: 0118980

July 22, 1986

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APPENDIX C

SLOPE STABILITY ANALYSIS C-1

GENERAL

This report presents the results of a geotechnical investigation conducted at the site of the proposed three (3) cell sludge pond, to be located northwest of the Giant Industries Refinery, Ciniza, New Mexico. The location of this project is shown on the Site Location Map, Figure 1.

The investigation was made to determine the geotechnical criteria pertinent to design and to determine special precautions which should be taken into consideration during design and construction of the sludge pond. Included in this report are recommendations and conclusions concerning slope stability, seepage, drainage, settlement, general geotechnical design criteria, and guideline specifications for quality control testing during construction.

The conclusions, recommendations, and design criteria presented are based on data compiled during the field investigation, on the results of laboratory testing, and upon the applicable standards of our profession at the time this report was prepared. Data gathered during the geotechnical investigation is presented on the attached figures and Appendices A through C.

SITE CONDITIONS

The proposed three (3) cell sludge pond will be constructed from an existing pond located north of the API burn-off tower, which is located northwest of the main facilities of the refinery. Access to the pond is by way of unimproved dirt roads.

Gently rolling, small hills are located toward the north and east of the existing pond. Relatively flat ground and a waste water ditch are located toward the south, while relatively flat ground and large sludge ponds are located toward the west.

The existing pond consists of 1:1 (horizontal:vertical) slopes on both the interior and exterior. The north, east, and south slopes of the pond are all primarily cut slopes with one (1) to two (2) feet of fill placed on top. The west slope consists of some cut slopes with seven (7) feet of fill placed on top of the natural soils. The bottom of the pond gently slopes down toward the northwest corner to a local elevation of eighty-two (82) feet. The crest of the pond is ten (10) feet wide and has a local elevation of ninety-six (96) feet. A sludge drain and an effluent transfer pipe are located north of test hole 1. At the time of the field investigation, the bottom of the pond was very muddy and had areas of ponded effluent and sludge.

In the area of test hole 3 and the proposed cell 1, there is

a relatively large natural seepage area. This area is very muddy and has a moderate growth of small bushes and weeds. The remainder of the site has a scattered growth of weeds, grasses, and small bushes.

PROPOSED CONSTRUCTION

The proposed three (3) cell sludge pond will be constructed utilizing the embankments of the existing pond with the addition of three (3) interior embankments. The additional embankments and the additional fill to be placed on the existing embankments will consist of homogeneous materials obtained from the bottom of the pond and possibly from adjacent hill sides to the north and east of the site. The pond will hold very slightly oily water and sewage from the refinery and the Giant Travel Center.

The crest of the pond embankments will be at a local elevation of ninety-six (96) feet and will be ten (10) feet wide. The base of the embankments will be from seventy (70) to eighty (80) feet wide. The bottom of the pond will be cut into the natural soils at a local elevation of eighty-two (82) feet. The maximum effluent level will be at a local elevation of ninety-four (94) feet giving a maximum effluent depth of twelve (12) feet and a minimum free board of two (2) feet. The interior embankment slopes will have a maximum slope of 2:1 (horizontal:vertical) and the exterior (downstream) slopes will

have a maximum slope of 3:1.

The inlet pipes for the pond will be located in the southern end of cells 1 and 2. Effluent transfer pipes will inter-connect all three (3) cells. Effluent transfer pipes will also be located on the western sides of cells 2 and 3 to transfer effluent out of the pond. The effluent transfer pipes will be at a local elevation of ninety-four (94) feet. Sludge drains will be located near the bottom of cells 2 and 3 on the western sides.

FIELD AND LABORATORY TESTING

To evaluate the site subsurface conditions, three (3) exploratory borings were advanced at the locations indicated on the Test Hole Location Plan, Figure 2. The test holes were drilled with a CME 55 truck mounted drill rig equipped with six (6) inch hollowstem continuous flight auger.

During drilling, penetration tests were performed and relatively undisturbed soil samples were obtained in typical soil strata. The depth at which the samples were taken and the penetration tests performed are indicated on the Logs of Test Holes, Figures 3 and 4. In addition, bulk samples of the embankment materials were obtained for laboratory testing. During the field investigation an in-situ permeability test was conducted in the embankment fill material. The field

permeability test was performed using two (2) inch diameter casing and falling head methods. Permeability test results are presented on Table A-2.

All samples were inspected and classified in our laboratory. The Unified Soil Classification System was used for identification. Laboratory tests were conducted on both the undisturbed and bulk samples in accordance with the applicable ASTM Standards to determine the grain size distribution, moisture-density relationship of the soils, Atterberg Limits, cohesion, and permeability. Test results are presented in Appendix A.

SUBSURFACE CONDITIONS

As shown on the Logs of Test Holes, Figures 3 and 4, the subsurface conditions vary with depth and are fairly uniform across the site. The test holes encountered a variable amount of embankment fill. The fill consists of clayey to very clayey sand, which is moist and medium dense. Beneath the embankment fill the test holes encountered slightly sandy to sandy clay and clayey to very clayey sand. The clay is stiff to very stiff and moist to wet, while the sand is loose to medium dense and moist. The clay is moderately plastic. With depth the test holes encountered weathered shale with occasional sandstone interbeds. The shale is clayey, slightly sandy, hard, and slightly moist.

Test hole 3, which was drilled adjacent to a natural seepage area, encountered water at a depth of three and one-half (3.5) feet below the surface. The water is perched on top of the weathered shale layer, which was encountered at a depth of twelve (12) feet. Groundwater was not encountered in the other test holes to a depth of forty (40) feet.

The clayey sands and sandy clays encountered in the test holes are relatively stable at their natural moisture content but are susceptible to a decrease in void ratio and subsequent settlement upon an increase in moisture content. Refer to the Swell-Consolidation Tests, Figures A-1 and A-2.

EMBANKMENT ANALYSIS AND DESIGN

In order to decrease post-construction settlement and reduce the potential for piping beneath the embankment, a foundation treatment which will decrease both the moisture sensitivity and permeability of the foundation soils is recommended for this structure. This treatment includes excavation and replacement of a portion of the natural soils beneath the proposed embankments. This treatment will provide a foundation for the embankments that is less susceptible to post-construction settlement and will decrease the permeability of the foundation. Both a seepage and a settlement analysis were performed for the embankments, and

both are discussed in more detail in following sections of this report.

KEY TRENCH

To reduce the possibility of piping through the soils and to reduce settlement, a key trench should be excavated along the interior edge of the existing embankment on the western edge of the existing pond. The key trench should be a minimum of five (5) feet deep and a minimum of ten (10) feet in width at the base. The side slopes should be no steeper than 1 1/2:1 (horizontal:vertical). The bottom of the key trench should be moisture conditioned and compacted as described under "Foundation Preparation". The key trench should then be backfilled with controlled structural fill as detailed in Appendix B. Schematic drawings of the key trench are presented on the Embankment Cross Sections, Figures 5 and 6.

FOUNDATION PREPARATION

The foundation preparation will include clearing, grubbing, and stripping of the foundation area, and the densification of the foundation and abutment materials in place. All uncompacted fill and oily or wet materials should be completely removed from the site prior to foundation preparation.

The entire area within the limits of the embankments, together with an area extending a minimum of five (5) feet horizontally beyond the embankment foundation limits should be thoroughly cleared, grubbed, and stripped of all organic or unsuitable materials to a minimum depth of one (1) foot. In addition all tap roots, lateral roots, or other projections over one and one-half (1.5) inches in diameter within the foundation area shall be removed to a depth of three (3) feet below the natural surface of the ground. The existing sludge drain and effluent transfer pipe should be removed unless it will be refurbished for use in the new pond.

Borrow areas should be completely stripped prior to a borrow operation. The depth of stripping of the borrow area shall be sufficient to insure that borrow materials will contain no deleterious or organic materials.

Prior to the placement of the embankment fill, and subsequent to the excavation of the key trench, the ground surface resulting from stripping should be scarified to a minimum depth of eight (8) inches. The soils should then be brought to optimum moisture content (±2%) and then compacted to a minimum of 90% of maximum density as determined by ASTM D-1557. The resulting compacted foundation should be smooth and free of ruts, boulders, and other uneven features and should meet the required

density.

EMBANKMENT PLACEMENT

The gradation and distribution of material throughout the embankments shall be free of lenses, pockets, streaks, and layers of material differing substantially in texture or gradation from surrounding materials. Some blending of borrow materials may be required. Successive loads of material shall be placed at locations on the fill as directed by the Soils Engineer. No fill shall be placed upon a frozen or thawing surface nor shall snow or frozen earth be incorporated in the embankments. The slope of compacted fill against which additional fill is to be placed shall be dressed back to materials with the required compaction and moisture content immediately prior to placement of additional fill materials against the in-place materials. The existing embankment slopes and cut slopes should be heavily benched prior to placement of embankment fill to avoid constructing a slip surface.

The embankment fill shall consist of clayey sands and sandy clays obtained from designated borrow areas and foundation excavation. It is our opinion that materials on the site which are free of deleterious substances will be suitable for use as fill and that all materials which were auger drilled can be excavated by conventional equipment. Fill material shall contain

no cobbles larger than three (3) inches and shall contain a minimum of thirty-five (35) percent soil by weight passing a Number 200 Sieve.

The fill materials shall contain the optimum moisture (±2%) necessary for compaction. The fill materials shall be compacted to within a minimum of 90% and a maximum of 95% of the maximum density as determined by ASTM D-1557. As soon as practicable after commencement of construction of any section of the embankment, the central portion should be raised or crowned with grades not to exceed 2% so that the surface of the fill will drain freely. If the compacted surface of any layer of material is determined to be too smooth to bond properly with succeeding layers during construction, it shall be loosened by discing or by any other approved method, before the succeeding layer is placed upon it. Compacted surfaces of fill materials shall be lightly scarified to break up stratification before the succeeding layer is placed upon it.

Any areas of the pond bottom requiring fill placement should be treated as foundation areas, and fill should be compacted to within a minimum of 90% and a maximum of 95% of maximum density as determined by ASTM D-1557. When fill is placed against the existing slopes the existing slopes shall be deeply "benched". This will prevent construction of a potential slip surface.

A shrinkage factor of 9% may be used for earthwork calculations. This is an average value based on laboratory tests of typical soils found on the site and assumed ground surface subsidence due to foundation soil preparation.

STABILITY ANALYSIS

The stability evaluation of earth slopes requires that a mathematical model be established to accurately simulate the conditions of the proposed embankments. For this analysis, the Modified Bishop method of slope stability analysis was employed, i. e., a common slice and slip circle method. This method utilized principals of static analysis where certain conditions are assumed, so that an idealized system can be created for model simulation. The primary assumption in this analysis is that the materials composing the embankments are isotropic and homogeneous in each unitized stratum. Different conditions were incorporated into the analysis by simulating phreatic surface and rapid drawdown conditions. The analysis was conducted at the maximum embankment section. Material properties used in the analysis area as follows:

	Cohesion (psf)	Angle of Internal Friction (degrees)	Total Unit Weight (pcf)
Embankment Fill	5000	0	133
Foundation Soils	2630	0	119

These material values are average values determined from the field and laboratory test data.

Static and pseudo-static analyses were conducted for interior slopes at 2:1 (horizontal:vertical) and exterior slopes of 3:1. Seismic analysis was based on a pseudo-static acceleration of 0.1g. Rapid drawdown conditions were simulated and analyzed on the interior slope, and steady state seepage conditions were simulated and analyzed on the exterior slope. The minimum factor of safety for each slope, and the condition under which it occurs, are as follows:

Slope	Factor of Safety	Condition
Exterior	Greater than 4	dry - static
3:1	Greater than 4	dry-pseudo-static
	Greater than 4	saturated steady state seepage pseudo-static
Interior	Greater than 4	dry-static
2:1	Greater than 4	dry-pseudo-static
	Greater than 4	rapid drawdown pseudo-static

The critical slip circles are shown on the Stability Analysis, Appendix C. Based on this analysis, it is our opinion that the slopes will be safe, with the possibility of minor maintenance requirements on the upstream or downstream faces, due to minor slippage and possible erosion. To minimize erosion from precipitation, it is recommended that the exterior embankment slopes be vegetated with grass or covered with riprap. If the pond remains dry for a lengthy period after containment of effluent, the interior slopes should be inspected for excessive dessication cracking prior to refilling.

SETTLEMENT ANALYSIS

A settlement analysis was performed on the subject structure and its foundation to determine the total amount of settlement which may be expected during and subsequent to construction.

The results of the settlement analysis indicate that total static settlement, exclusive of the effects of foundation preparation, will be approximately one (1) inch. We estimate that approximately one-half of the total settlement will occur during construction.

Based on the type of material that will be used for embankment construction, the type of materials which exist for

foundations, and considering foundation preparation procedures, it is our opinion that these settlement estimates are conservative, and that actual settlement will not be damaging to the subject structure.

Some settlement and cracking could occur if seismic loading should occur while the embankment and foundation are saturated. However, based upon the strength of the foundation and embankment materials, significant damage resulting from liquefaction or dynamic consolidation is not anticipated.

SEEPAGE AND DRAINAGE CONDITIONS

Seepage analyses were conducted for the embankments using flownet techniques, Darcy's law, and applying the results of the field and laboratory investigations. These analytical techniques are based on steady state seepage and laminar flow conditions. The results of these analyses indicate that the total flow at maximum pond level under steady state seepage conditions will be less than 3 x 10-6 cubic feet per day per foot of embankment at maximum section. Exit velocities at the downstream toe are not critical. Average permeabilities from field and laboratory investigations were utilized in the calculations. However, the permeability of the soils can be highly variable, and actual flows may vary from that determined by analysis.

SLUDGE DRAINS

Since there is a potential for seepage or leakage along the sludge drain pipes it is recommended that the pipes be supported by at least two (2) feet of controlled structural fill. This fill zone may consist of either excavated and recompacted foundation soils or borrow soils from other areas in the site. The excavation and recompaction should extend at least two (2) feet beyond the perimeter of the pipes. Prior to replacement of excavated soils, the moisture conditioning and densification treatment described for "foundation treatment" should be performed along the sludge drain alignments. The recompacted materials should be placed at optimum moisture content (±2%) and compacted to a dry density of at least 90% of the maximum dry density as determined in accordance with ASTM D-1557.

As a further control of seepage area along the sludge drains, it is recommended that seepage collars be installed along the drain pipes.

NATURAL SEEPAGE AREA

Flow from the natural seepage will create unfavorable conditions for the abutment of the interior embankment on the east side of the pond between Cell 1 and Cell 3. The flow should be diverted around the sludge pond. A cut off trench should be

excavated east of the abutment area. The trench should be excavated down to weathered shale bedrock or dry, low permeability soils. A perforated drain pipe should be installed, and the trench should be backfilled to near the surface with clean gravel. The drain pipe should drain to a gravity outfall downhill from the pond.

PERMANENT REFERENCE MARKERS

It is recommended that permanent reference markers be installed along the embankment centerlines for possible future monitoring of embankment settlement. At least two markers should be placed in the crest of the embankment, and two reference markers should be placed in areas away from embankment fill on natural soils. These should be permanent markers, preferably cast in concrete.

TRENCHES AND EXCAVATIONS

All trenches and excavations greater than five (5) feet deep must be sloped, shored, sheeted, braced, or otherwise supported according to OSHA construction safety and health standards. Where unstable soil conditions are encountered in trenches shallower than five (5) feet, these trenches must also be sloped, shored, or supported.

Material excavated from the trench or spoil must be placed a minimum of two (2) feet from the edge of the excavation or trench. The spoil should be barricaded or retained in an effective manner such that no loose material can fall into the excavation or trench. Additional measures should be taken to provide an adequate support system in trenches which are excavated below the water table, in backfill areas, in loose unstable soils, and in "brittle" clays.

CONSULTATION

The recommendations outlined are based on our understanding of the current plans for the proposed structure. In the event that any changes in the nature, design or the location of the structure as set forth in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and the conclusions of this report are modified or verified in writing.

In any subsurface investigation it is necessary to assume that the soil conditions do not vary greatly from the conditions encountered in the test holes. The analyses and recommendations submitted in this report are based in part upon the data obtained from the soil borings. The nature and extent of any variations between the soil borings may not become evident until construction. Therefore, it is recommended that we be retained

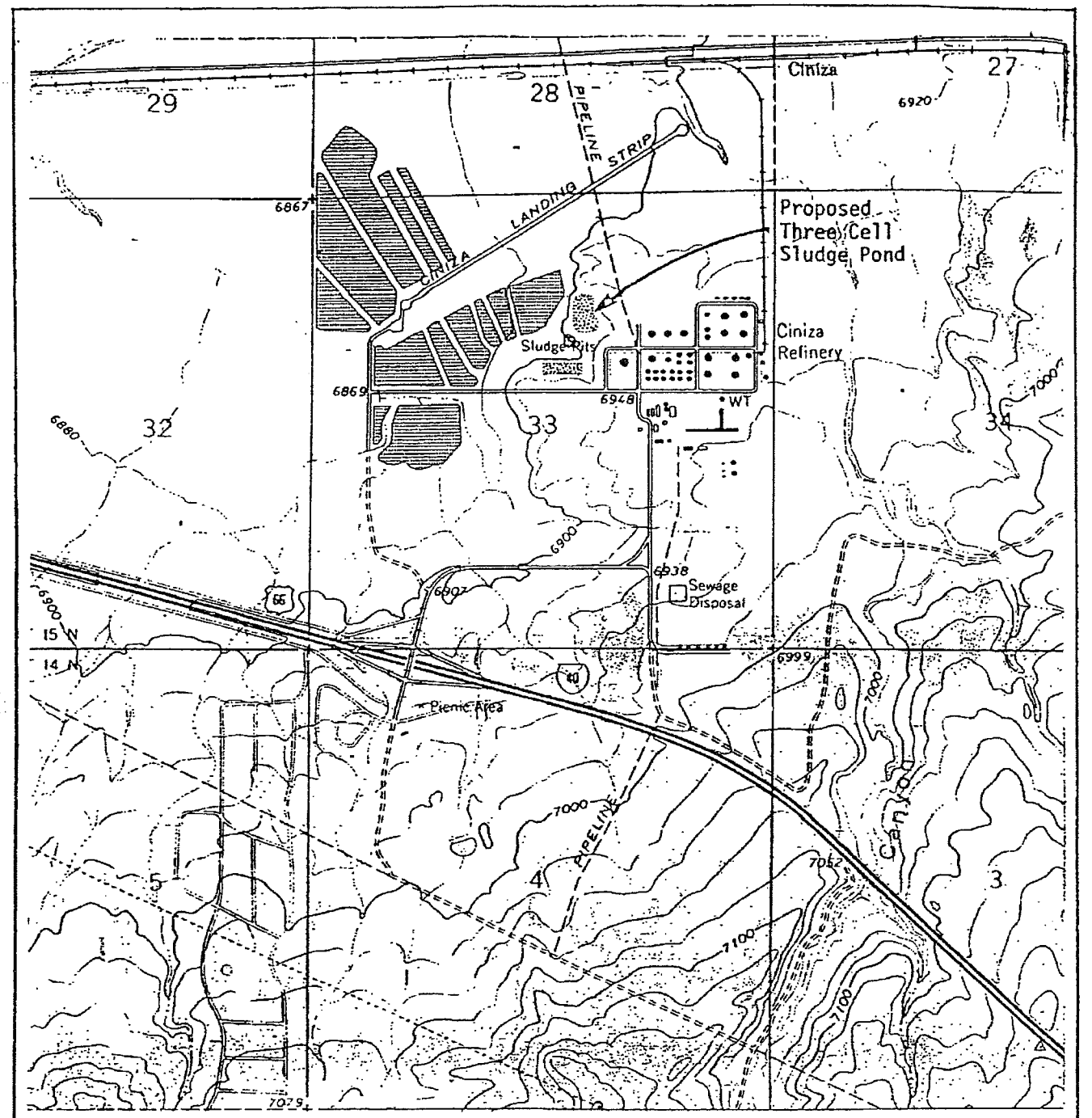
to provide engineering services during excavation for the foundation and during embankment construction. This is to observe compliance with the design assumptions and to allow changes in the event that subsurface conditions differ from those anticipated prior to start of construction.

Fox & Associates of NM, Inc.

John R. Dickey
Staff Geotechnical Engineer

Reviewed by:

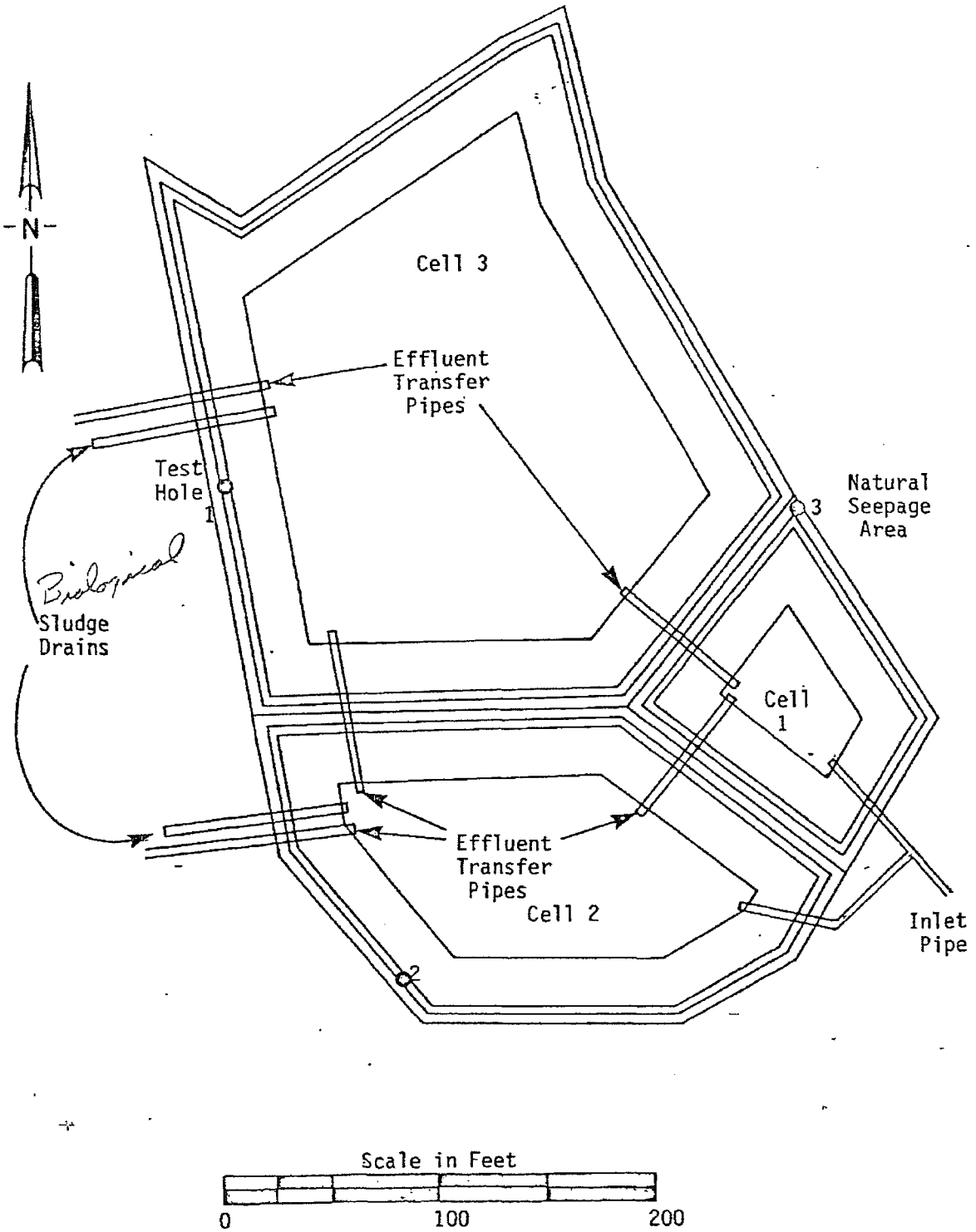
Martin D. Vinyard, P. E.
Vice President



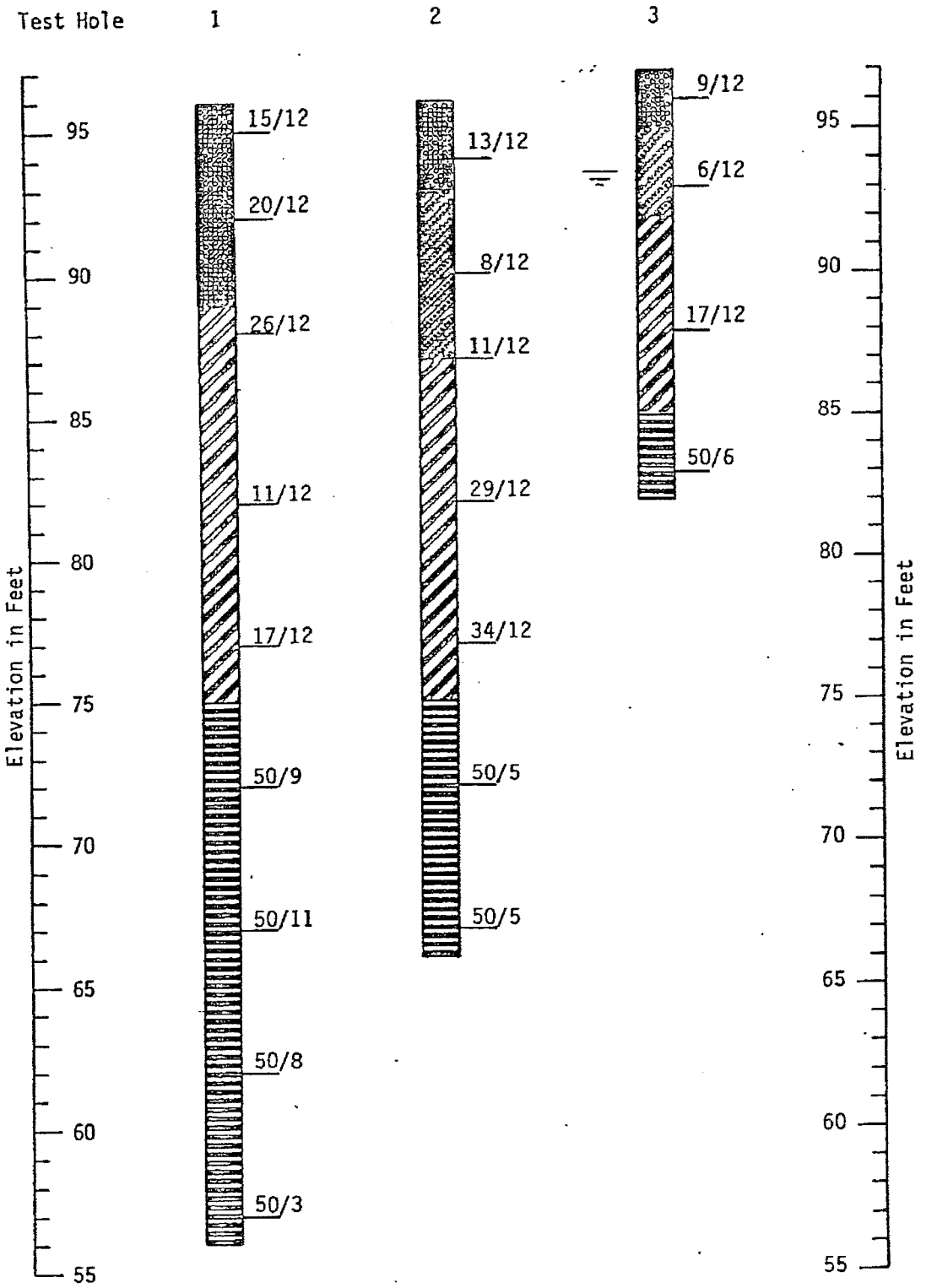
Scale in Miles

0 1/2 1

VICINITY MAP	Job No: 0118980
FOX Consulting Engineers and Geologists	Date: 7/22/86
	Figure 1



TEST HOLE LOCATION PLAN	Job No: 0118980
FOX Consulting Engineers and Geologists	Date: 7/22/86
	Figure 2



LOGS OF TEST HOLES	Job No: 0118980
FOX Consulting Engineers and Geologists	Date: 7/22/86
	Figure 3

LEGEND

EMBANKMENT FILL, sand, medium to fine-grained, clayey to very clayey, medium dense, moist, reddish brown

CLAY, slightly sandy to sandy, stiff to very stiff, moist to wet, reddish brown (CL)

SAND, medium to fine-grained, clayey to very clayey, loose to medium dense, moist, reddish brown (SC)

WEATHERED SHALE, occasional sandstone interbeds, clayey, slightly sandy, hard, slightly moist, reddish brown

indicates water table at time of drilling

NOTES

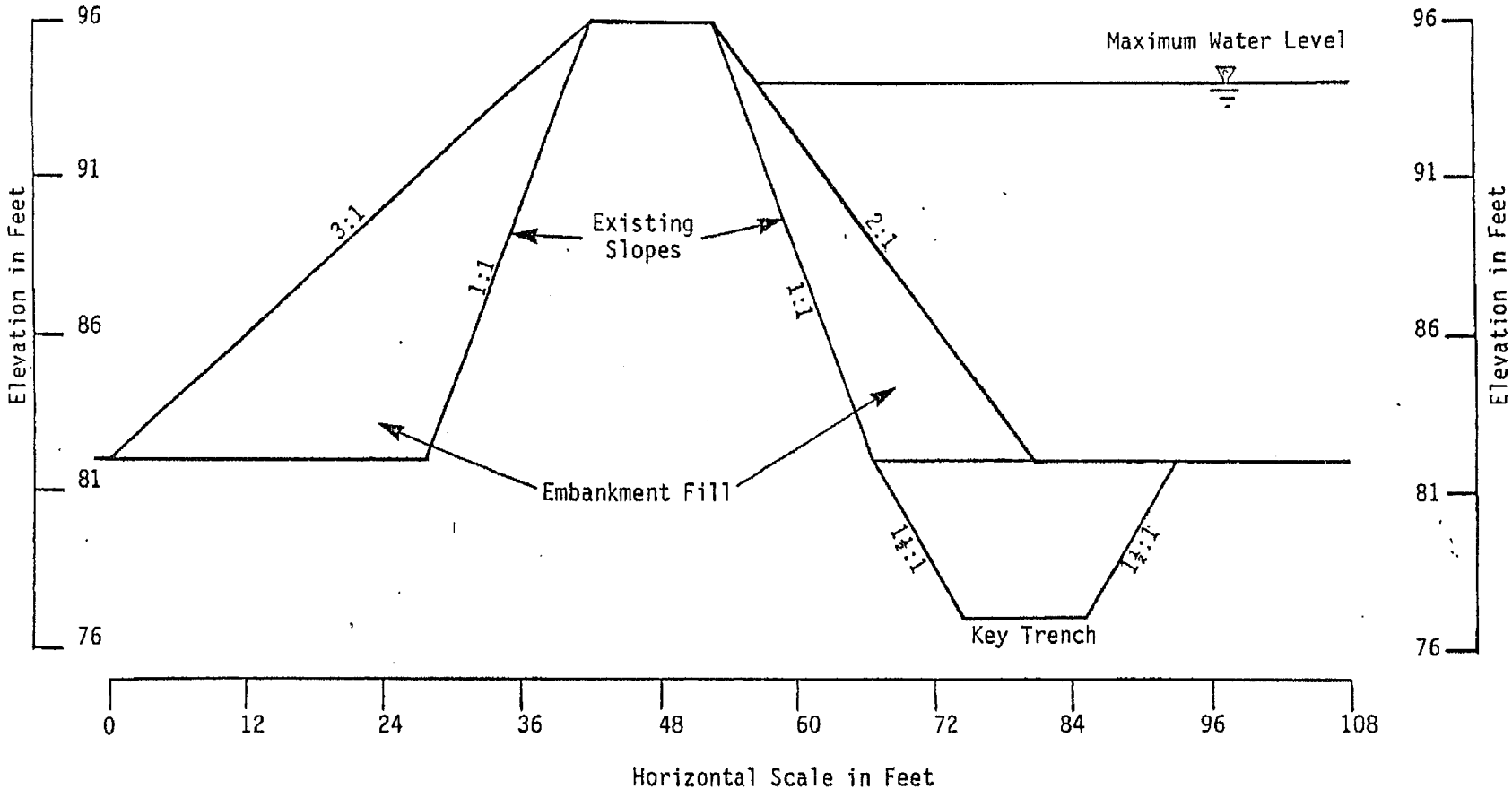
1. Test holes were drilled on June 5, 1986, with a 6 inch diameter hollowstem continuous flight power auger.

2. (47/12) location of Standard Penetration Test; indicates that 47 blows with a 140 pound hammer, falling 30 inches, were required to drive a 2 inch diameter sampler 12 inches.

3. The locations of borings were determined by measurement from existing topography. Elevations of borings were approximately determined by interpolation between topographic map contours. The locations and elevations of the borings should be considered accurate only to the degree implied by the method used.

4. The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

LOGS OF TEST HOLES	Job No: 0118980
FOX Consulting Engineers and Geologists	Date: 7/22/86
	Figure 4



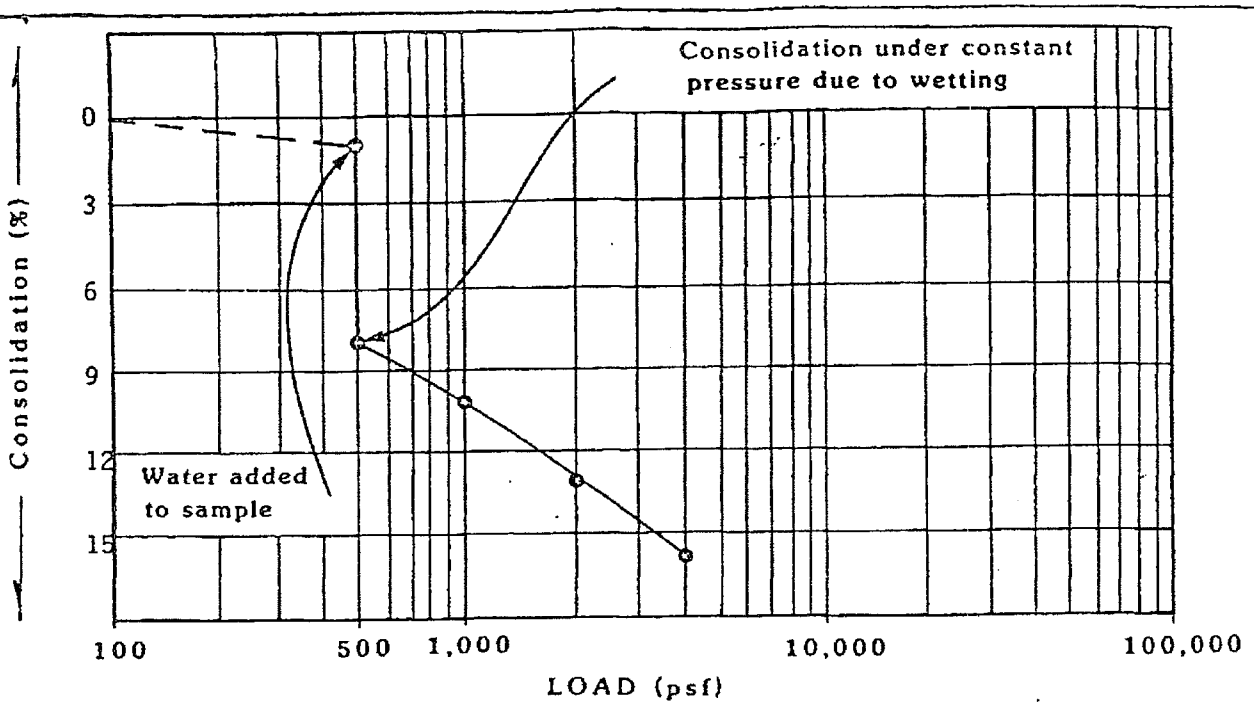
EXTERIOR EMBANKMENT CROSS SECTION

FOX Consulting Engineers and Geologists

Job No:	0118980
Date:	7/22/86
Figure	5

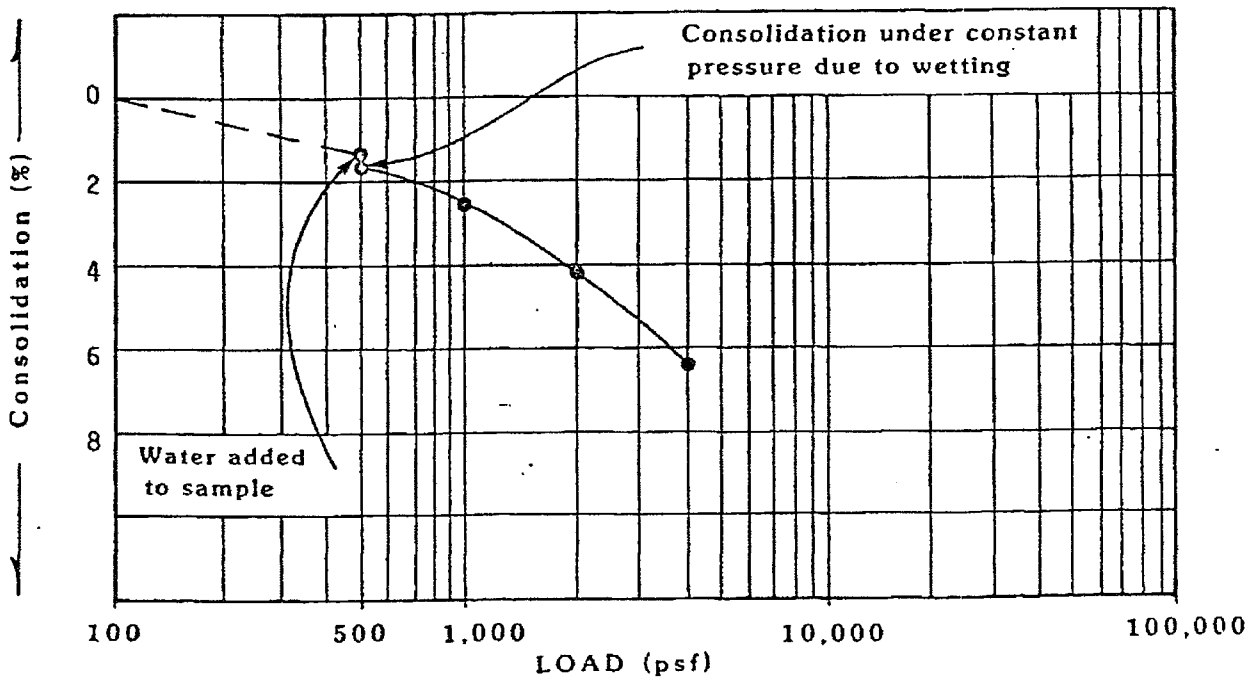
APPENDIX A

RESULTS OF FIELD AND LABORATORY TEST DATA



Sample of clayey SAND from test hole 1 at depth 4 feet.

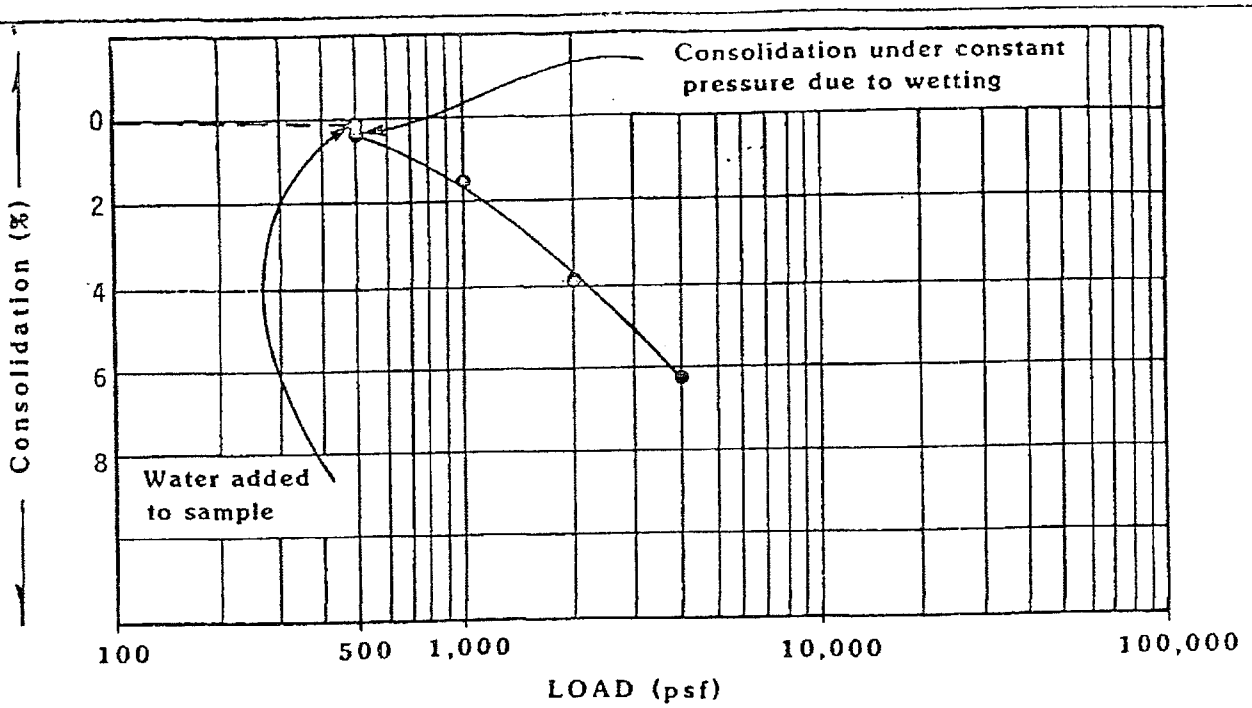
Natural Moisture Content 4.9 % Natural Dry Density 102 pcf.



Sample of very clayey SAND from test hole 2 at depth 6 feet.

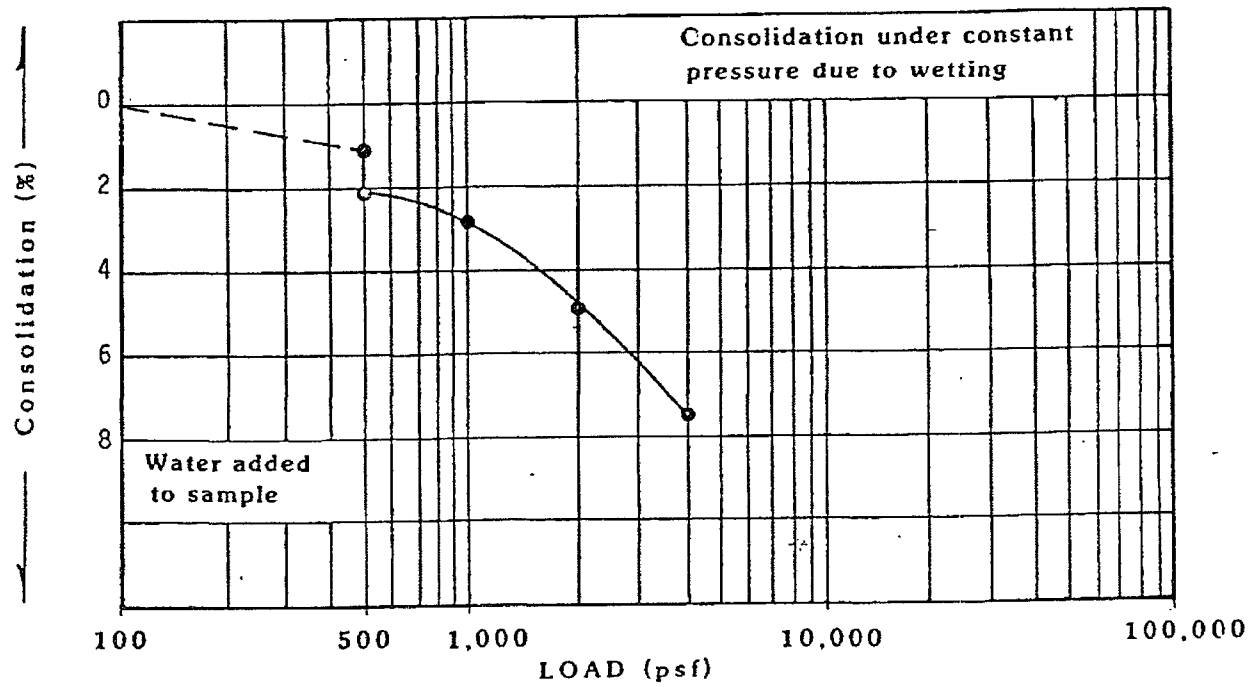
Natural Moisture Content 17.8 % Natural Dry Density 111 pcf.

SWELL - CONSOLIDATION TESTS	Job No: 0118980
FOX Consulting Engineers and Geologists	Date: 7/22/86
	Figure A-1



Sample of sandy CLAY from test hole 2 at depth 9 feet.

Natural Moisture Content 24.4 % Natural Dry Density 95 pcf.

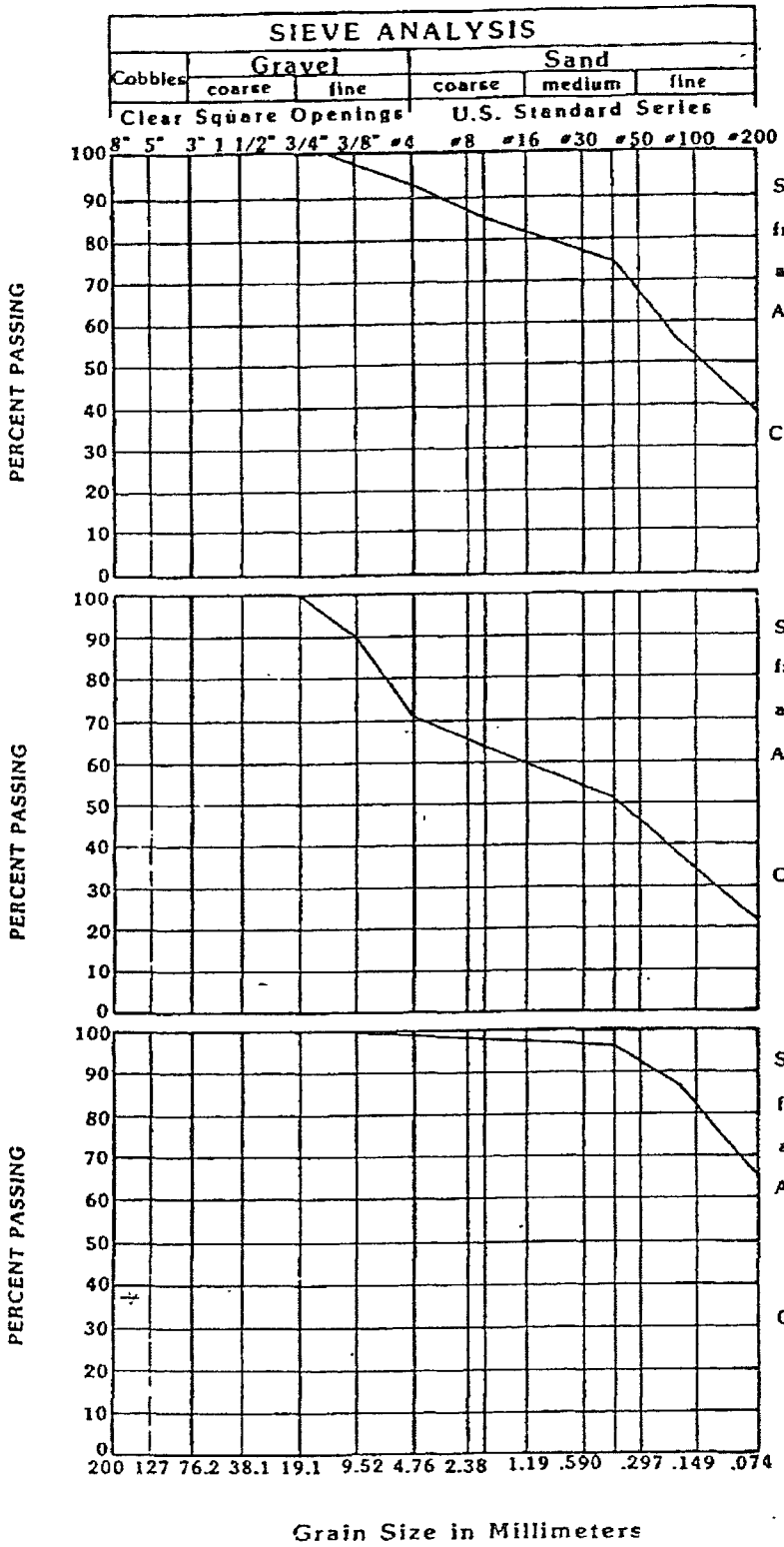


Sample of clayey SAND from test hole 3 at depth 4 feet.

Natural Moisture Content 14.5 % Natural Dry Density 112 pcf.

SWELL - CONSOLIDATION TESTS	Job No: 0118980
FOX Consulting Engineers and Geologists	Date: 7/22/86
	Figure A-2

SLR-86



Sample of very clayey SAND
from test hole 1
at depth 1 feet.
Atterberg limits:
Liquid Limits 29
Plasticity Index 14
Classification: Unified SC

Sample of clayey SAND
from test hole 1
at depth 4 feet.
Atterberg Limits:
Liquid Limits 26
Plasticity Index 8
Classification: Unified SC

Sample of sandy CLAY
from test hole 1
at depth 8 feet.
Atterberg Limits:
Liquid Limits 31
Plasticity Index 11
Classification: Unified CL

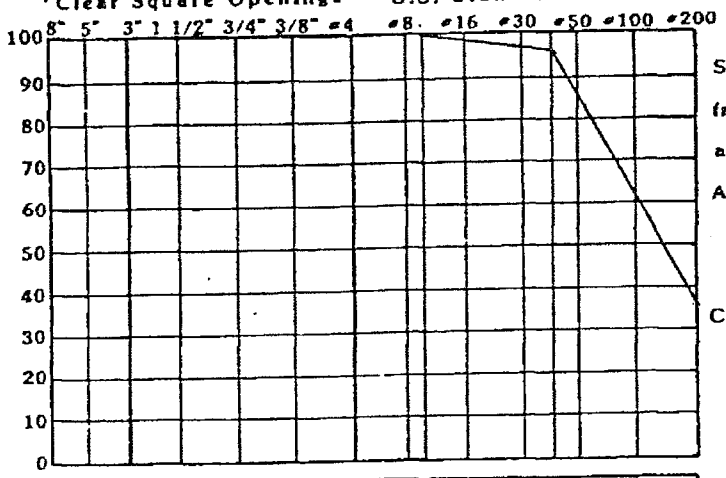
MECHANICAL ANALYSIS CHART	Job No: 0118980
FOX Consulting Engineers and Geologists	Date: 7/22/86
	Figure A-3

SIEVE ANALYSIS

Cobbles	Gravel		Sand		
	coarse	fine	coarse	medium	fine

Clear Square Openings: 8" 5" 3" 1 1/2" 3/4" 3/8" #4

U.S. Standard Series: #8 #16 #30 #50 #100 #200



Sample of clayey SAND

from test hole 2

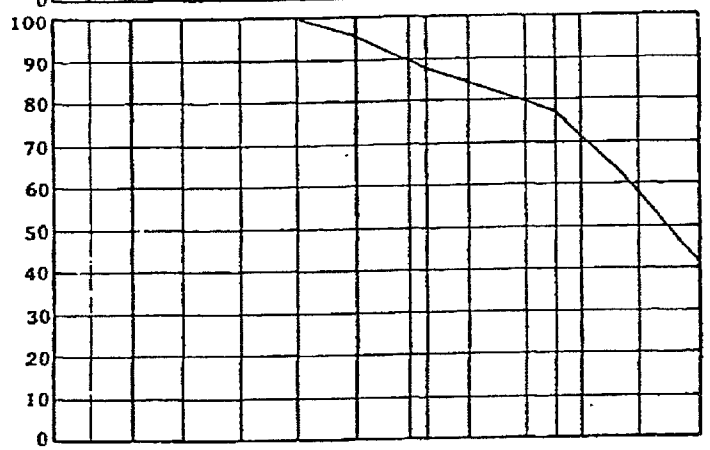
at depth 2 feet.

Atterberg limits:

Liquid Limits

Plasticity Index

Classification: Unified SC



Sample of very clayey SAND

from test hole 2

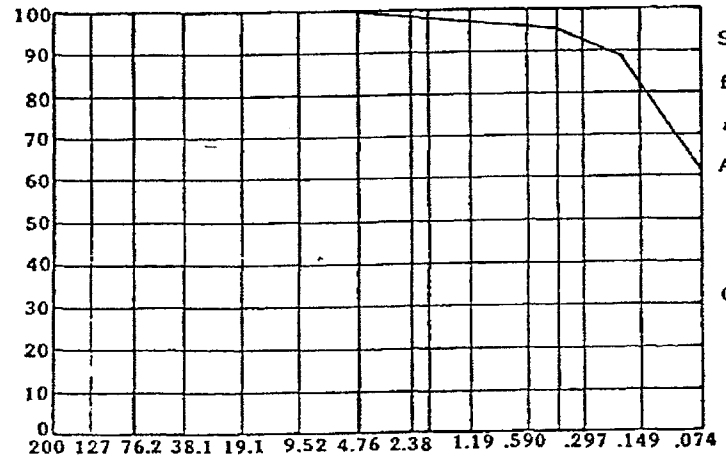
at depth 6 feet.

Atterberg Limits:

Liquid Limits 32

Plasticity Index 15

Classification: Unified SC



Sample of sandy CLAY

from test hole 2

at depth 9 feet.

Atterberg Limits:

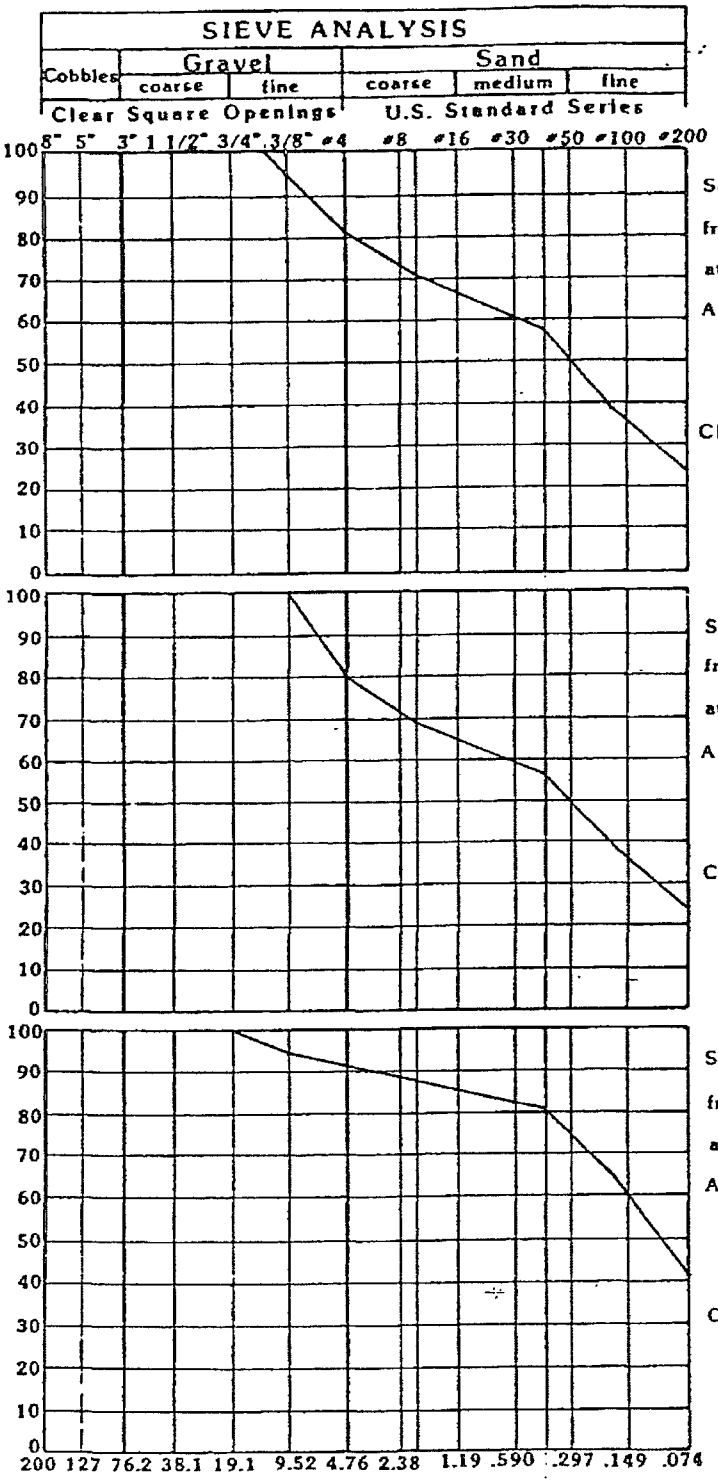
Liquid Limits 36

Plasticity Index 13

Classification: Unified CL

Grain Size in Millimeters

MECHANICAL ANALYSIS CHART	Job No: 0118980
FOX Consulting Engineers and Geologists	Date: 7/22/86
	Figure A-4



Sample of clayey SAND
from test hole 3
at depth 1 feet.
Atterberg limits:
Liquid Limits –
Plasticity Index –
Classification: Unified SC

Sample of clayey SAND
from test hole 3
at depth 4 feet.
Atterberg Limits:
Liquid Limits 28
Plasticity Index 11
Classification: Unified SC

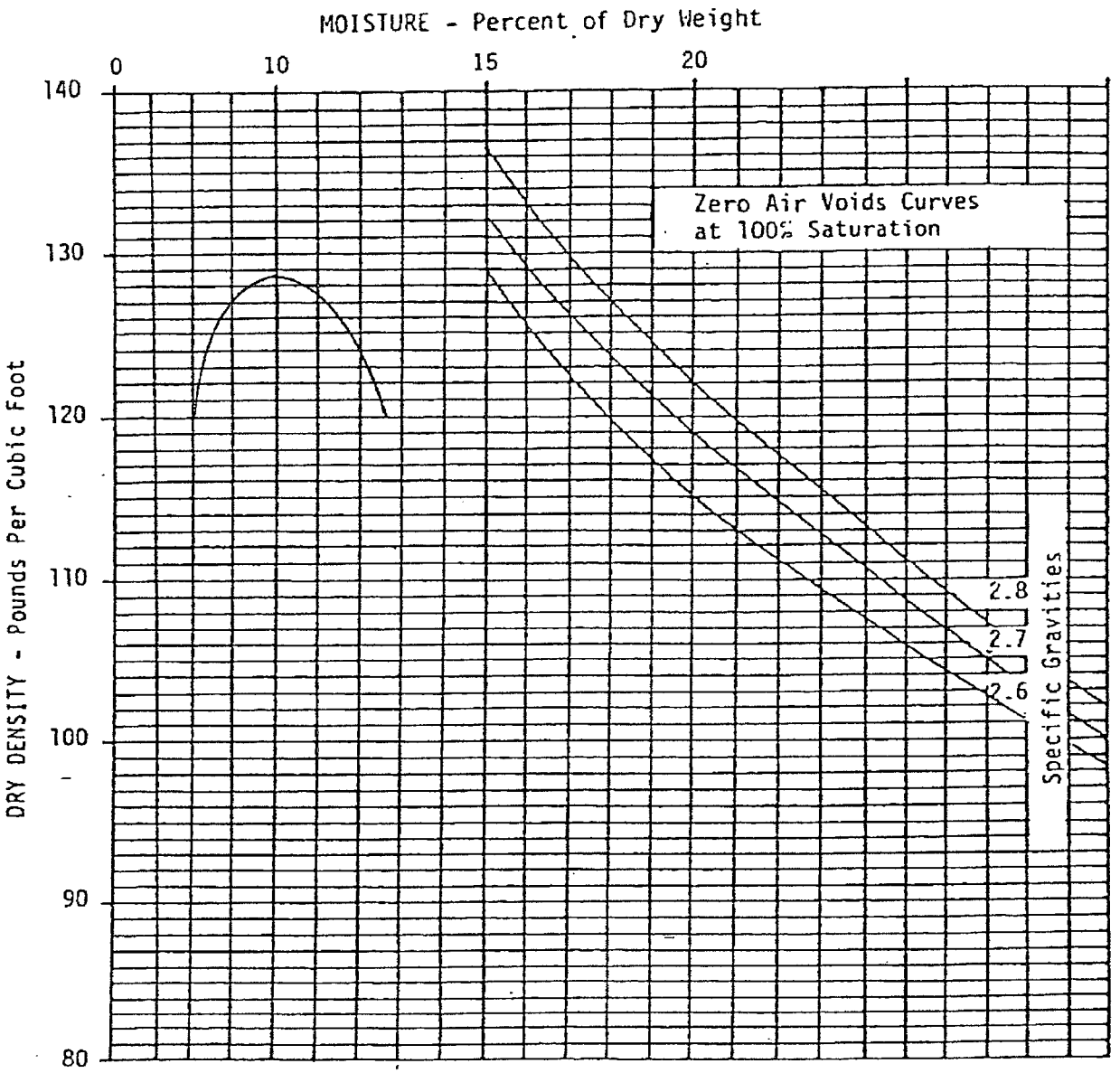
Sample of very clayey SAND
from test hole 1 and 2
at depth 0-10 feet.
Atterberg Limits:
Liquid Limits 28
Plasticity Index 10
Classification: Unified SC

MECHANICAL ANALYSIS CHART	Job No: 0118980
FOX Consulting Engineers and Geologists	Date: 7/22/86
	Figure A-5

FOX Consulting Engineers and Geologists

F.M. FOX & ASSOCIATES, INC
3412 BRYN MAWR DRIVE, N.E
ALBUQUERQUE, NEW MEXICO 87107
(505) 345-3681 — FMFOX

COMPACTION TEST RESULTS



Maximum Dry Density (pcf) 128.7
Optimum Moisture Content (%) 10.0
Amount of Material Finer Than #200 Sieve 41%
Atterberg Limits: LL 28 PL 18 PI 10
Sample Description: very clayey SAND (SC)
From: combined materials from test holes 1 and 2
Compaction Test Procedure: ASTM D-1557, Method C

NOTE:
NV indicates No Value
NP indicates Non Plastic

FIGURE A-6

SUMMARY OF LABORATORY TEST DATA

Test Hole No.	Depth of Sample (ft)	Natural Dry Density (pcf)	Natural Moisture Content (%)	Atter-berg Limits LL	PI	Sieve Analysis % Passing 3/4"	1/2"	3/8"	No.4	No.10	No.40	No.80	No.200	Soil Description
1	1	109	9.2	29	14	-	100	98	93	86	75	57	39	very clayey SAND (SC)
1	4	102	4.9	26	8	100	93	90	71	63	51	35	22	clayey SAND (SC)
1	8	110	14.9	31	11	-	-	100	99	99	97	87	66	sandy CLAY (CL)
2	2	110	4.0	32	14	-	-	-	-	100	97	70	36	clayey SAND (SC)
2	6	111	17.8	32	15	-	-	100	96	88	78	62	42	very clayey SAND (SC)
2	9	95	24.4	36	13	-	-	-	100	98	96	89	61	sandy CLAY (CL)
3	1	105	13.9	-	-	-	100	95	81	71	58	39	23	clayey SAND (SC)
3	4	112	14.5	28	11	-	-	100	80	69	57	39	24	clayey SAND (SC)
Bulk Sample				28	10	100	96	95	92	87	81	64	41	very clayey SAND (SC)

Job No: 0118980
Date: 7/22/86
Table: 1

SUMMARY OF LABORATORY TEST DATA

Unconfined Compression Test

Test Hole No.	Depth of Sample (ft)	Unconfined Compressive Strength (psf)
1	1	6236
1	8	13251
2	6	926
2	9	633
Bulk Sample of typical embankment materials (remolded to 90% of maximum density)		29000

Job No: 0118980
Date: 7/22/86
Table: 1 Cont.

RESULTS OF PERMEABILITY TESTING

Hole No.	Depth (ft)	Permeability (ft/min)	Type of Test
1	4	3.87×10^{-6} 2.0×10^{-6} cm/sec	Lab - Undisturbed - Falling Head
1	4	5.90×10^{-6} 3.0×10^{-6} cm/sec	Field - Falling Head
2	2	2.94×10^{-8} 1.49×10^{-8} cm/sec	Lab - Undisturbed - Falling Head
Bulk Sample	Combined	3.06×10^{-8} 1.56×10^{-8} cm/sec	Lab - Remolded - Falling Head

Job No: 0118980
Date: 7/22/86
Table: 2

APPENDIX B

GUIDELINE SPECIFICATIONS FOR EARTHWORK

Section I
ENVIRONMENTAL PROTECTION

INDEX

1. General
2. Preconstruction Survey
3. Protection of Land Areas
4. Protection of Vegetation and Shrubs
5. Protection of Water Resources
6. Waste Disposal
7. Burning
8. Dust Control
9. Erosion Control
10. Corrective Action
11. Post-Construction Cleanup or Obliteration

1. GENERAL. The Contractor shall perform all work in such a manner as to minimize the polluting of air, water or land, and shall, within reasonable limits, control noise and the disposal of solid waste materials, as well as other pollutants.

2. PRECONSTRUCTION SURVEY. Prior to the start of any on-site construction activities, the Contractor and the Owner, or his designated representative, shall make a joint survey after which the Contractor shall prepare a brief report indicating on a layout plan, the condition of the site including shrubs and grassed areas immediately adjacent to the site of the work and adjacent to his storage area and access routes. This report will be signed by both parties upon mutual agreement as to its accuracy and completeness.

3. PROTECTION OF LAND AREAS. Except for any work or storage areas and access routes specifically assigned for use of the Contractor under this contract, the land areas outside the limits of permanent work performed under this contract shall be preserved in their present conditions.

4. PROTECTION OF WATER RESOURCES. The Contractor shall control the disposal of fuels, oils, bitumens, acids, or other harmful materials, both on and off the work areas, and shall comply with applicable Federal, State, County and Municipal laws concerning pollution of rivers and streams while performing work under this contract. Special measures shall be taken to prevent chemicals, fuels, oils, greases, and bituminous materials from entering public waters.

6. WASTE DISPOSAL. Any waste materials resulting from the work under this contract, that is dumped in unauthorized areas, shall be removed by the Contractor, and the area restored to the condition of the adjacent undisturbed areas. Where directed, contaminated ground shall be excavated, disposed of as approved, and replaced with suitable fill materials, all at the expense of the Contractor.

7. BURNING. Air pollution restrictions applicable to this project shall conform to all Federal, State, County, and Municipal regulations.

8. DUST CONTROL. The Contractor shall maintain all excavations, stockpiles, access roads, waste areas and all work areas free from excess dust to such reasonable degree as to avoid causing a hazard or nuisance to himself or others. Approved temporary methods consisting of sprinkling, chemical treatment, or similar methods will be permitted to control dust. Dust control shall be performed as the work proceeds and whenever a dust nuisance or hazard occurs.

9. EROSION CONTROL. Surface drainage from cuts and fill within the construction limits, whether or not completed, and from borrow and waste disposal areas, shall be graded to control erosion within acceptable limits. Temporary control measures shall be provided and maintained until permanent drainage facilities are completed and operative.

10. CORRECTIVE ACTION. The Contractor shall, upon receipts of a notice in writing of any noncompliance with the foregoing provisions, take immediate corrective action. If the Contractor fails or refuses to comply promptly, the Owner or his representative may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time loss due to any such stop order shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor, unless it was later determined that the Contractor was in compliance.

11. POST-CONSTRUCTION CLEANUP OR OBLITERATION. The Contractor shall, unless otherwise instructed in writing by the Owner, obliterate all signs of temporary construction facilities, such as haul roads, work areas, service areas, structures, stockpiles or excess or waste materials, and other vestiges of construction prior to final acceptance of the work. In addition, the Contractor shall be required to vegetate or revegetate any exposed slopes, fills or other areas exposed or constructed as part of this contract.

Section 2
CLEARING AND GRUBBING

INDEX

1. General
2. Definitions
3. Special Requirements
4. Clearing
5. Grubbing
6. Disposal of Debris

1. GENERAL. The Contractor shall perform all work in such a manner as to minimize the polluting of air, water or land, and shall, within reasonable limits, control noise and the disposal or solid waste materials, as well as, other pollutants.

2. DEFINITIONS. For the purpose of this section, the terms used herein shall be defined as follows:

2.1 Trees shall be defined as wood growth two (2) inches or more in diameter measured at a point six (6) inches from the ground on the level, or uphill side as applicable, and is six (6) feet or more in height measured from the ground on the level or uphill side as applicable.

2.2 Brush shall be defined as brush and other growth not covered by the definitions of trees or vegetation.

2.3 Vegetation shall be defined as all heavy growth of crops, grass and weeds.

2.4 Debris shall be defined as down timber, logs, stumps, snags and miscellaneous material determined by the Engineer.

2.5 Rubbish shall be defined as garbage, clothing, cloth and paper.

2.6 Objectionable Matter shall be defined as material not suitable for embankments or foundations. Materials containing debris, brush, roots, sod, or other perishable materials will not be considered as suitable. Wet or oily materials will also not be considered as suitable.

3. SPECIAL REQUIREMENTS

3.1 Protection of Existing Vegetation. In performing the work under this section, the Contractor shall protect the existing vegetation to remain in place as specified in the Section, ENVIRONMENTAL PROTECTION.

4. CLEARING. Clearing shall consist of the complete removal of all obstructions above the ground surface in accordance with the following:

4.1 Embankment. All trees, brush, vegetation, miscellaneous structures, miscellaneous construction debris, and rubbish shall be cleared within the limits of the embankment structure. For these specifications, the limits of the embankment include the entire area to be covered by the embankment together with strips of five (5) feet width beyond and contiguous thereto.

4.2 Structures, Riprap, Channels, and Ditches to be Constructed or Placed Under this Contract. All trees, brush, vegetation, miscellaneous construction debris, and rubbish shall be cleared within the limits of the work.

4.3 Borrow Areas. Clearing of borrow areas is required and shall be to the extent necessary to provide materials free from objectionable material.

4.4 Waste Areas. All trees, brush, vegetation, miscellaneous structures, miscellaneous construction debris, and rubbish shall be cleared within the limits of all required waste fill areas. Clearing of other waste areas will not be required.

5. GRUBBING. Grubbing shall consist of the removal of all stumps, roots, buried logs, boulders, and other objectionable matter.

5.1 Embankment. The entire area within the limits of the embankment, together with strips five (5) feet wide beyond and contiguous thereto, shall be thoroughly grubbed as required above in paragraph 5. In addition, all tap roots, lateral roots, or other projections over 1.5 inches in diameter within the foundation area shall be removed to a depth of three (3) feet below the natural surface of the ground.

5.2 Structures to be Constructed Under this Contract. The entire area within the limits of all structures shall be thoroughly grubbed as required above in paragraph 5.

5.3 Channels, Riprap, or Ditches to be Constructed or Placed Under this Contract. Grubbing as specified above in paragraph 5 will be required within the limits of all channels, ditches, and riprap. In addition, all exposed stumps, roots and other obstructions shall be removed from slopes and bottoms of channels, ditches, and riprap after excavation is completed.

5.4 Filling of Holes. All holes caused by grubbing operations shall be filled in layers to the lower level of adjacent excavation operations, and each layer tamped to a density equal to the adjoining undisturbed material.

6. DISPOSAL OF DEBRIS. All logs, brush, and other debris which are the products of the clearing and grubbing operations shall be disposed of as specified in the Section, ENVIRONMENTAL PROTECTION.

Section 3
EXCAVATION

INDEX

1. General
2. Definitions
3. Classification
4. Excavation

1. GENERAL. Excavation shall consist of removal, hauling, stockpiling (if required), and disposal of any class of material necessary for the construction of the embankment or associated structures. The excavation shall be to the lines and grades shown on the drawings. Care should be exercised by the Contractor not to excavate below the grades shown on the drawings. Any excessive excavation due to the fault or negligence of the Contractor shall be backfilled to grade with compacted fill, by and at the expense of the Contractor.

2. DEFINITIONS.

2.1 Suitable Materials include material that is free of debris, roots, organic matter, frozen matter, and which is free of stones with any dimension greater than one half of the specified loose layer thickness.

2.2 Unsuitable Materials include all material that contains debris, roots, organic matter, frozen matter, stones with any dimension greater than one half of the specified loose layer thickness, or other materials that are determined by the Engineer as unsuitable. Otherwise suitable materials, which are unsuitable due to excess moisture content, will not be classified as unsuitable material unless it cannot be dried by manipulation, aeration, or blending with other materials satisfactorily as determined by the Engineer.

3. CLASSIFICATION. All excavation shall be considered to fall within the "Common" excavation classification.

4. EXCAVATION.

4.1 Disposal of Materials. Excavated materials which are suitable for use in the embankment or other fills may be placed directly therein, or stockpiled for future use. All embankments and backfills shall be constructed of suitable earth material from required excavation.

4.2 Excess and Unsuitable Material unsuitable for foundation or embankment material shall be disposed in waste or spoil areas as approved by the Owner or his designated representative. Compaction of waste fill will not be required, but waste fill

areas shall be left in a neat and sightly condition, sloped to provide drainage as approved by the Engineer. The cost of disposal of waste and excess material from required excavation, and the cost of placing and spreading the material in designated or approved waste fill areas, and the dressing of slopes in the waste fill areas, shall be subsidiary to the embankment construction.

Section 4
EMBANKMENT

INDEX

1. Applicable Publications
2. General
3. Definitions
4. General Provision
5. Materials
6. Placement
7. Moisture Control
8. Compaction
9. Uncompacted Fill
10. Slides
11. Field Density and Laboratory Compaction Tests

1. APPLICABLE PUBLICATIONS. The following standards of the issues listed below, but referred to hereafter by the basic designation only, form a part of this specification to the extent indicated by the references thereto.

AMERICAN SOCIETY OF TESTING AND MATERIALS STANDARDS (ASTM)

D 422	Particle Size Analysis of Soils
D 423	Liquid Limit of Soils
D 424	Plastic Limit and Plasticity Index of Soils
D 1557	Moisture-Density Relations of Soils Using a 10 Pound Hammer and an 18-inch Drop
D 1556	Density of Soils In-Place by the Sand Cone Method
D 2216	Laboratory Determination of Moisture Content of Soil
D 2922	Density of Soils and Soil Aggregate In-Place by Nuclear Method
D 3017	Moisture Content of Soil and Soil Aggregate In-Place by Nuclear Methods

2. GENERAL. The work covered by this section shall consist of furnishing all plant, labor, equipment, and materials, and performing all operations in connection with preparing embankment, foundations, and placing and compacting fills and backfills in accordance with the contract drawings and their specifications.

3. DEFINITIONS.

3.1 Embankment as used in these specifications is defined as the earth fill portions of the pond structure, composed of the following:

3.1.1 Homogeneous Embankment Fill shall consist of clayey sands and sandy clays obtained from designated borrow areas. The material shall contain no cobbles larger than three

(3) inches in any dimension and shall contain a minimum of thirty-five (35) percent soil by weight passing a Number 200 Sieve.

3.2 Compacted Fill includes all fill, except backfill, deposited in layers and compacted by rolling or tamping.

3.3 Backfill as used in these specifications, is defined as the excavation refill which cannot be placed around or adjacent to the structure, until the structure is completed, or until a specified time interval has elapsed after completion.

4. GENERAL PROVISIONS.

4.1 Lines and Grades. The embankments shall be constructed to the lines, grades, and cross sections indicated on the drawings, unless otherwise directed by the Engineer. The Owner reserves the right to increase or decrease the foundation widths or the embankment slopes, or to make such other changes in the embankment sections as may be deemed necessary to produce a safe structure.

4.2 Conduct of Work. The Contractor shall maintain the embankment in a satisfactory condition at all times until final completion and acceptance of all work under the contract. If, in the opinion of the Engineer, the hauling equipment causes horizontal shears or slicken sides, rutting, quaking, heaving, cracking, or excessive deformation of the embankment, the Contractor shall limit the type, load or travel speed of the hauling equipment on the embankment. An approved embankment material which is lost in transit, or rendered unsuitable after being placed in the embankment, and before final acceptance of the work, shall be replaced by the Contractor in a satisfactory manner, and no additional payment will be made therefor. The Contractor shall excavate and remove from the embankment any material which the Engineer considers objectionable, and shall also dispose of such material, and refill the excavated areas as directed, all at no cost to the Owner. The Contractor may be required to remove, at his own expense, any embankment material placed outside of prescribed slope lines.

4.3 Haul Roads. Haul roads shall be located and constructed as approved by the Owner. They shall be designed to maintain the intended traffic, to be free-draining, and shall be maintained in good condition throughout the contract period, unless otherwise directed by the Engineer. Dust control may be required.

4.4 Stockpiling from Required Excavation Areas. When the excavation from required common excavations progresses at a faster rate than placement in the fill is being accomplished, such excavated material shall be stockpiled. No payment will be made for such stockpiling nor for the reloading and hauling of

this material to its final position in the embankment.

4.5 Quality Control Sampling and Testing. During the construction, the Engineer shall sample and test the embankment materials and the compacted fills and backfills for conformance with all specification requirements. All sampling and testing, including the equipment, labor and laboratory facilities necessary to perform the tests as herein required, shall be at the expense of the Owner.

5. MATERIALS.

5.1 General. The origin of any fill material in no way determines where it may be used in the embankment. Materials for embankment fills shall be secured from required excavations indicated on the drawings. The intention is to use the most suitable materials obtainable from these sources. Material to be wasted will be specifically designated by the Engineer at the time the material is excavated. Materials containing brush, roots, sod, or other perishable materials will not be considered suitable.

6. PLACEMENT.

6.1 Foundation Preparation. No fill shall be placed on any part of the embankment foundation until such areas have been prepared as specified below, and have been inspected and approved by the Engineer. The ground surface resulting from stripping, clearing, grubbing operations and removal of man-made fill should be brought to optimum moisture content (±2%). Moisture may be added to the foundation surface by temporary sprinkler systems, water tankers, or by ditching, diking, and flooding. The depth of moisture penetration shall be verified by the Engineer prior to compaction of the foundation materials. Subsequent to approval by the Engineer, the entire foundation area should be compacted to a minimum of 90% of maximum density as determined by ASTM D-1557. The resulting compacted foundation should be free of ruts, boulders and other uneven features.

6.2 General. The gradation and distribution of materials throughout the embankment shall be free from lenses, pockets, streaks, and layers of material differing substantially in texture or gradation from surrounding material of the same class. Successive loads of material shall be dumped at locations on the fill as directed or approved by the Engineer. No fill shall be placed upon a frozen surface, nor shall snow, ice, or frozen earth be incorporated in the embankment. Slope of compacted fill against which additional fill is to be placed shall be dressed back to materials with the required compaction and moisture content immediately prior to placement of additional fill materials against the in-place materials.

6.3 Rate of Placement. Unless otherwise directed, the embankment shall be maintained at approximately the same level regardless of the number of types of materials being placed.

6.4 Spreading. After dumping or depositing, the materials shall be spread by bulldozers, or other approved means in approximately horizontal layers over the entire fill areas. Unless otherwise directed, the thickness of layers shall not be more than eight (8) inches before compaction. As soon as practicable after commencement of construction of any section of the embankment, the central portion thereof shall be raised or crowned with grades not to exceed 2% so that the surface of the fill will drain freely and shall be so maintained throughout construction. If the compacted surface of any layer of material is determined to be too smooth to bond properly with the succeeding layers, it shall be loosened by discing, or by any other approved method, before the succeeding layer is placed thereon. Compacted surfaces of previous fill material layers shall be lightly scarified to break up stratification before the succeeding layer is placed thereon. During the dumping and spreading process, the Contractor shall maintain at all times a force of men adequate to remove all roots and debris from all embankment materials. Stones so removed shall be spoiled as directed. Roots and debris shall be removed from the embankment and disposed of in an approved manner. The entire surface of any section of the embankment under construction shall be maintained in such condition that construction equipment can travel on any part of any one section. Ruts in the surface of any layer shall be filled satisfactorily before compacting. Existing slopes against which fill is to be placed shall be deeply benched.

7. MOISTURE CONTROL. The materials in each layer of the fill shall contain the optimum moisture-content (±2%), or as directed by the Engineer as necessary to obtain the required compaction of 90% to 95% of maximum density. Material that is not within the specified limits after compaction shall be reworked, regardless of density.

7.1 Fill Material. The moisture content after compaction shall be as uniform as practicable throughout any one layer of fill materials.

7.2 Quality Control Sampling and Testing. Samples of fill materials for quality control moisture content and laboratory compaction tests shall be taken at scheduled or periodic intervals during construction. The samples shall be representative of the material being placed and compacted, shall be of such size, weight or volume to be representative of the material samples, and shall be the size, weight or volume required for moisture content and laboratory compaction tests. Samples for moisture content tests shall be taken from sources of materials, or from materials placed on the fill before or after

compaction.

7.2.1 Moisture Content Tests. Moisture content tests of samples shall be performed in accordance with ASTM D 2216 or D 3017. Results of moisture content tests shall be compared to optimum moisture content of the material to verify conformance with specification moisture control requirements prior to placement of the next layer of fill materials.

7.2.2 Laboratory Compaction Tests. Laboratory compaction tests to determine optimum moisture content and maximum density characteristics of representative samples of fill materials shall be in accordance with ASTM D 1557. Gradation and Atterberg Limits tests shall be performed on each laboratory compaction test sample.

8. COMPACTION.

8.1 Equipment. Compaction equipment shall consist of towed or self-propelled, static or vibratory, sheepsfoot or segmented steel wheeled compactors. All compaction equipment shall be properly maintained and shall be of sufficient size and weight so as to obtain the specified compaction with a reasonable number of passes, and shall be approved by the Engineer. The use of equipment causing rutting of the fill surface shall be discontinued.

8.1.1 Power Tampers. Compaction of material, in areas where it is impracticable to use equipment as provided above, shall be performed by the use of approved power tampers.

8.2 Fill Material. After a layer of fill material has been dumped and spread, it shall be disced, if required, to break up and blend the fill materials, unless discing, as specified under paragraph 7, is performed to obtain uniform moisture distribution. Discing shall be performed with a heavy disc plow, or other approved means, to the full depth of the layer. If one pass of the disc does not accomplish the breaking up and blending of the materials, additional passes of the disc may be required, but in no case will more than three passes of the disc on any one layer be required for this purpose.

When the moisture content and the condition of the layer is satisfactory, the lift shall be compacted to a minimum of 90% and to a maximum of 95% of maximum density as determined by ASTM D-1557.

The Contractor shall be required to add moisture in the borrow areas, if, in the opinion of the Engineer, the proper and uniform moisture content cannot be obtained by adding moisture on the fill surface. Portions of the fill which are not accessible to the roller shall be placed in four (4) inch layers, loose

measurement, and compacted with power tampers to a degree equal to that obtained on the other portions of the compacted fill by rolling as specified. Dumping, spreading, sprinkling, and compacting may be performed at the same time at different points along a section when there is sufficient area to permit these operations to proceed simultaneously. When, in the prosecution of the work, excavation precedes fill to such an extent that the materials excavated cannot be placed directly in the embankment, such materials shall be stockpiled at approved locations adjacent to the work until their use is authorized. No additional payment will be made for such stockpiling, nor for the reloading and hauling of this material to its final position.

9. UNCOMPACTED FILL. Material to be disposed of in the required uncompacted fill areas shall be placed in the areas indicated on the drawings, or otherwise required. The fill shall be dumped and spread in horizontal layers not to exceed (12) inches in thickness. Compaction other than that obtained by the controlled movement of the hauling and spreading equipment over the area will not be required.

10. SLIDES. In the event of slides in any part of the embankment prior to final acceptance of the work, the Contractor shall remove material from the slide area as directed, and shall rebuild such portion of the embankment. In case it is determined that the slide was caused through the fault of the Contractor, the removal and disposal of material and the rebuilding of the embankment shall be performed without cost to the Owner; the work will be paid for at the applicable contract unit prices for excavation common and compacted fill or backfill.

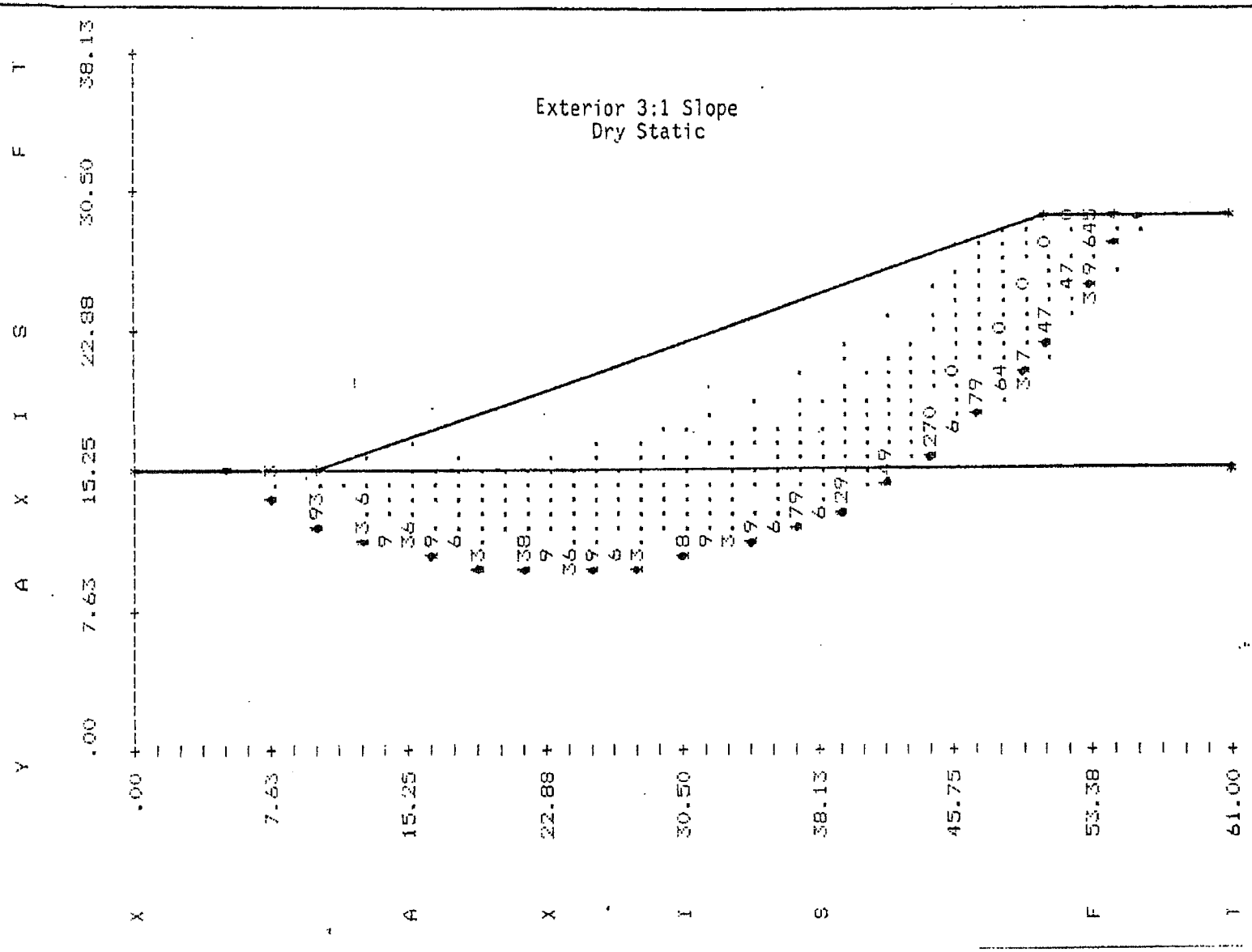
11. FIELD DENSITY AND LABORATORY COMPACTION TESTS.

11.1 Sampling and Testing. Sampling and testing of each principal type of material shall be the responsibility of the Engineer or his representative.

11.2 Moisture-Density Determination. Tests for the determination of maximum density and optimum moisture shall be performed in accordance with the requirements of ASTM D-1557. The above testing shall include Atterberg Limits, Mechanical Analysis and Specific Gravity, if requested by the Engineer. A moisture-density determination test will be performed for each principal type of material, or combination of materials encountered or utilized.

11.3 Density Control. Density shall be controlled in the field in accordance with ASTM D-1556, or by approved nuclear devices in accordance with ASTM D-2922 and D-3017. A minimum of one test shall be made for each 1,000 square yards, or less, for each layer. Deficiencies in construction shall be corrected by the Contractor at no additional cost to the Owner.

APPENDIX C
SLOPE STABILITY ANALYSIS



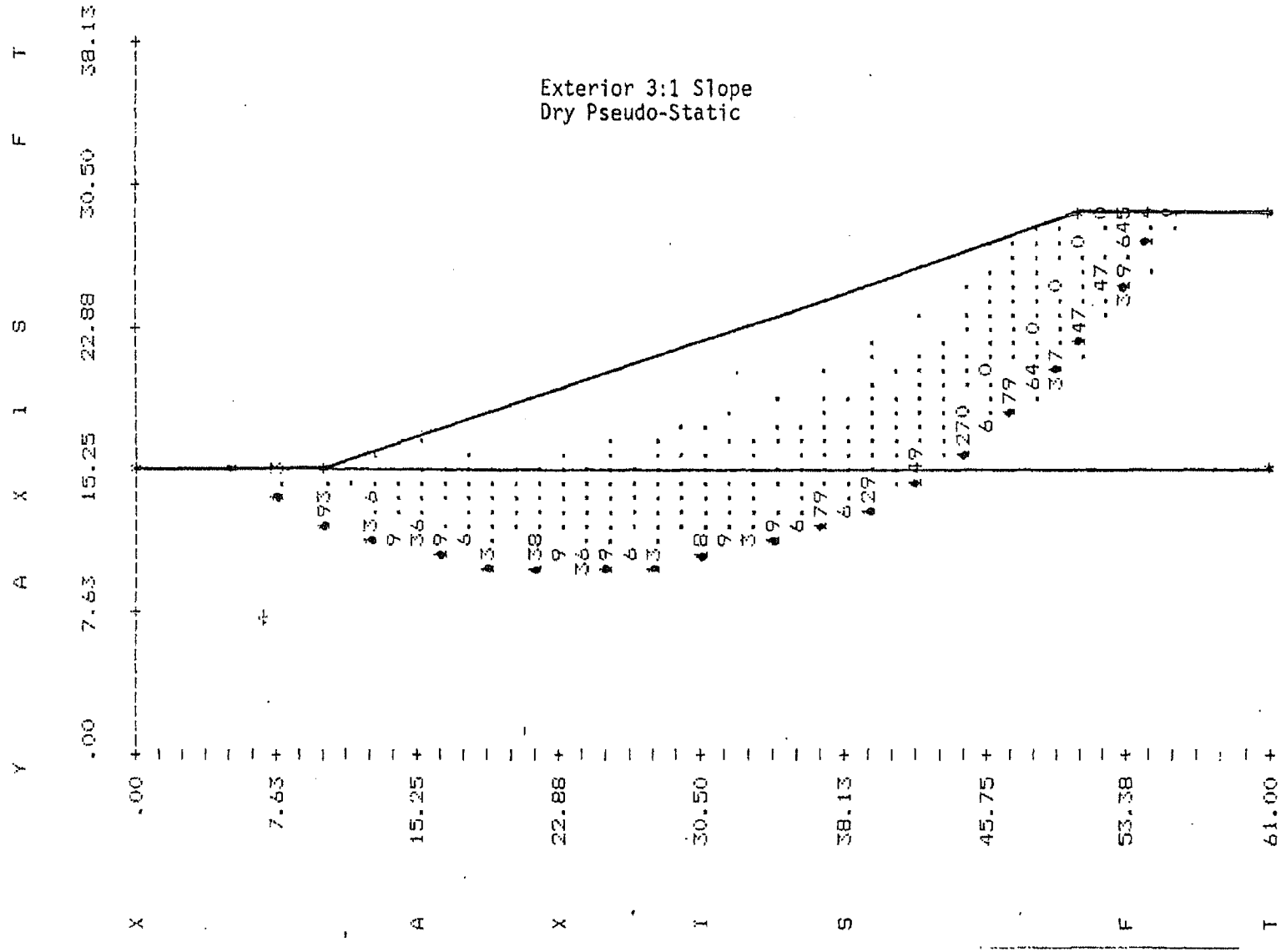
SLOPE STABILITY ANALYSIS

FOX Consulting Engineers and Geologists

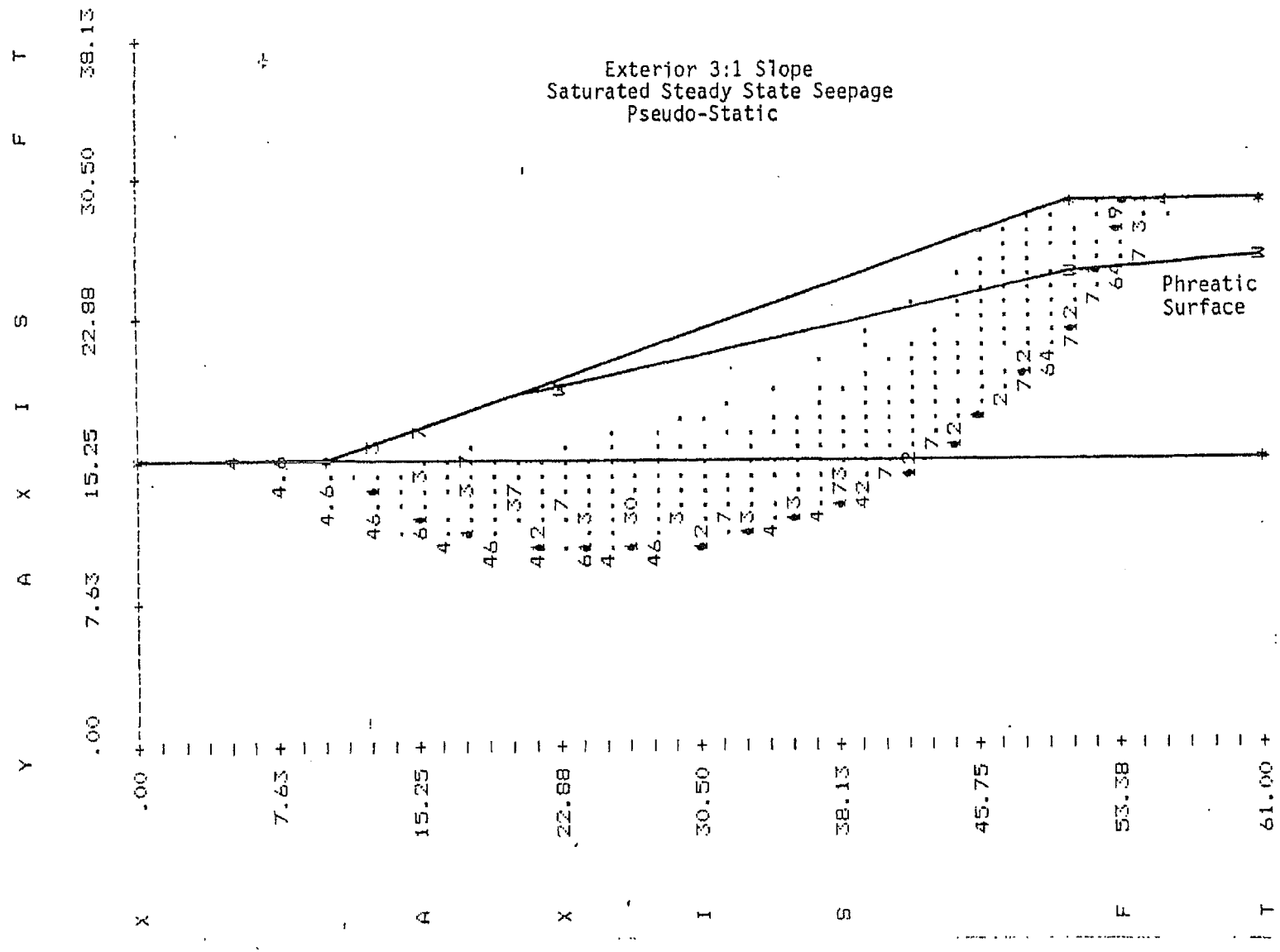
Job No: 0118980

Date: 7/22/86

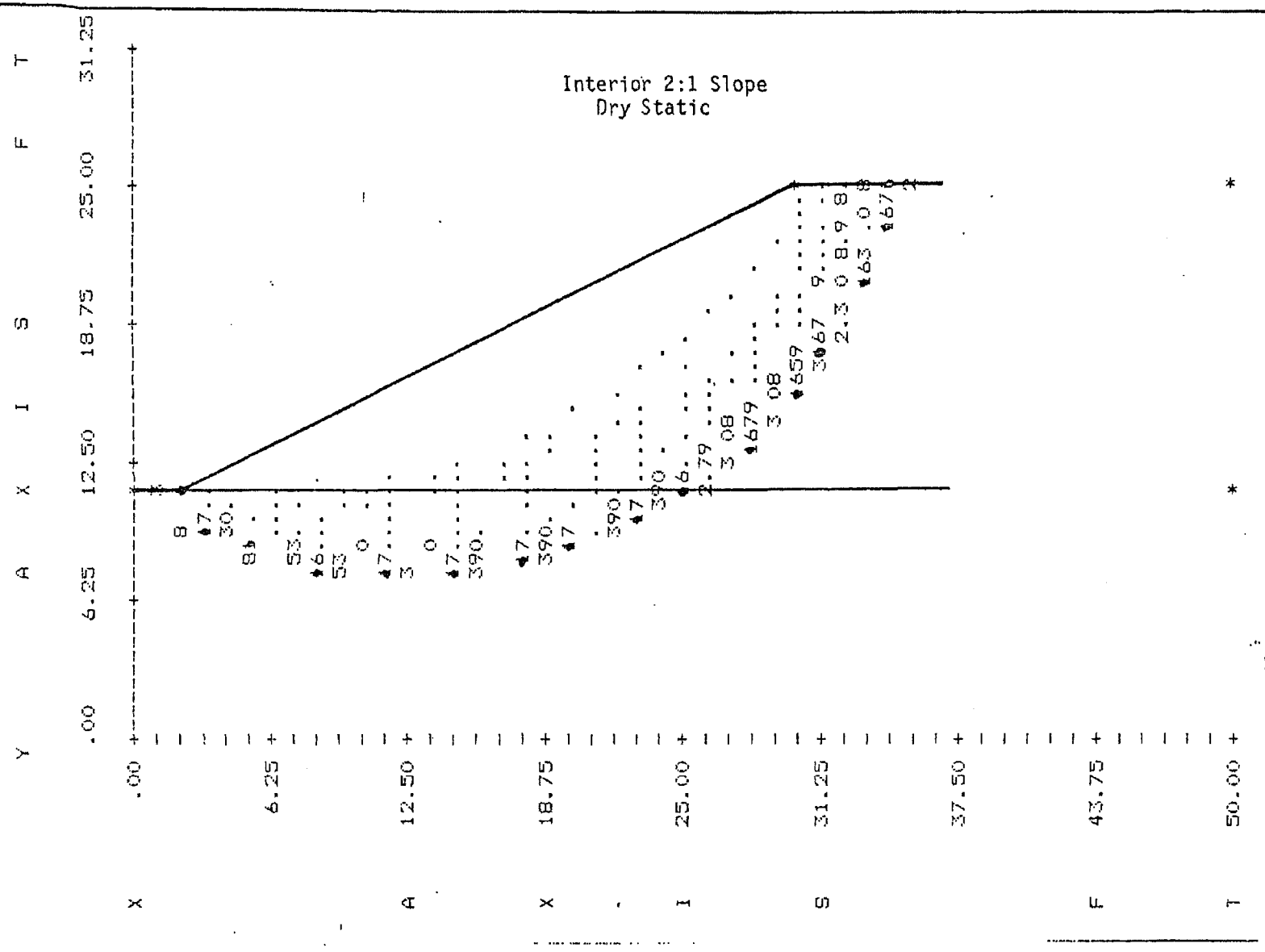
Figure C-1



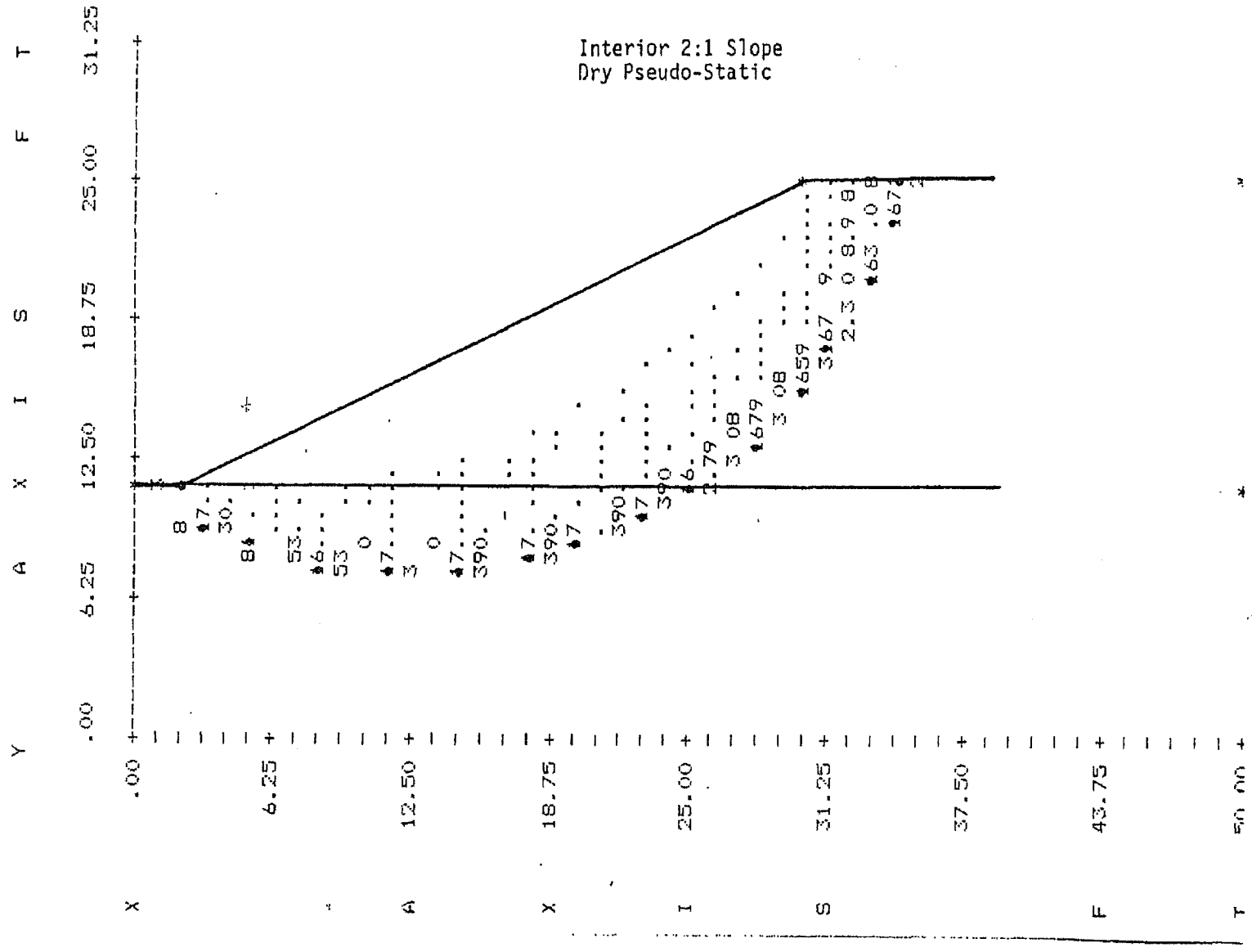
SLOPE STABILITY ANALYSIS	Job No: 0118980
FOX Consulting Engineers and Geologists	Date: 7/22/86
	Figure C-2



SLOPE STABILITY ANALYSIS	Job No: 0118980
FOX Consulting Engineers and Geologists	Date: 7/22/86
	Figure C-3



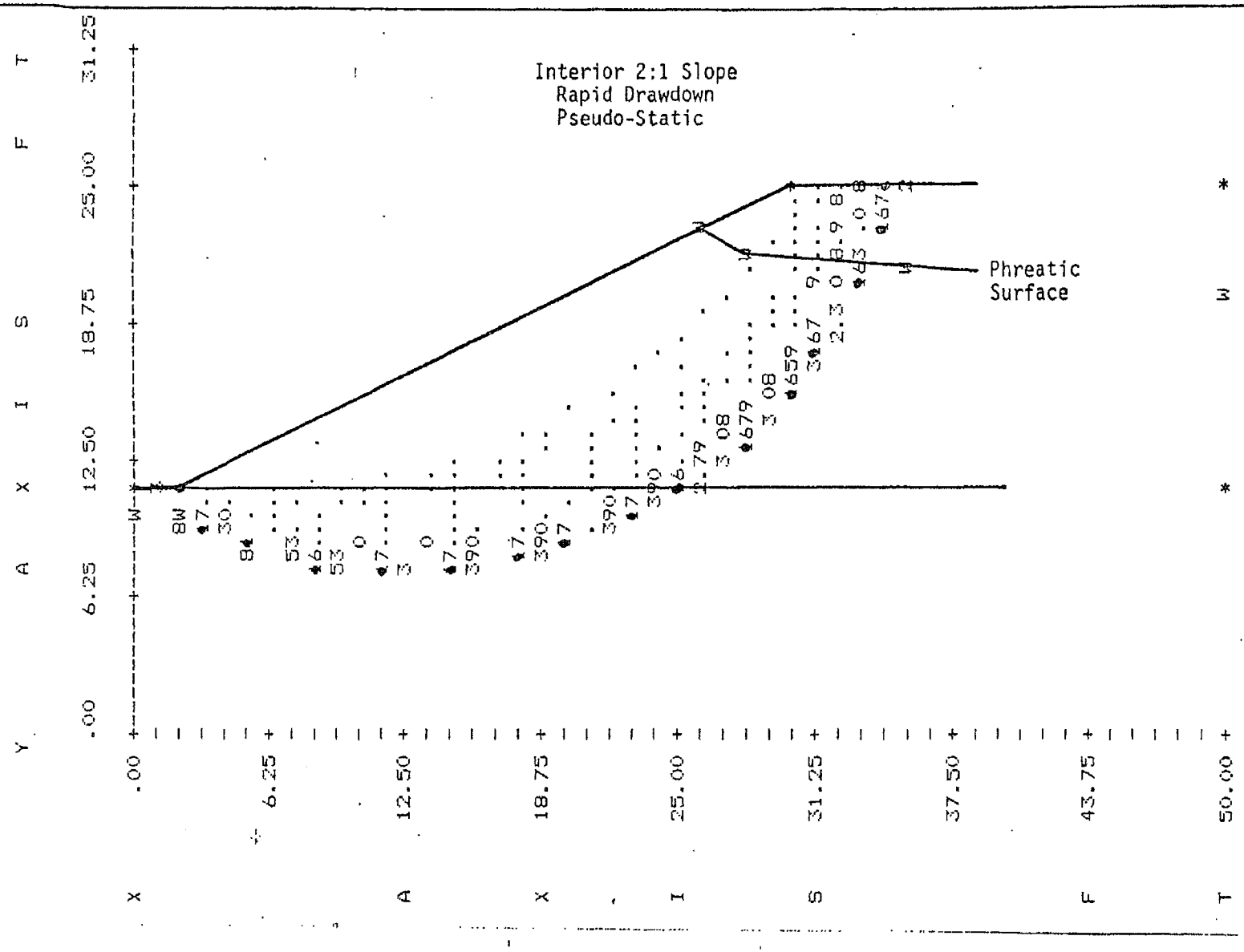
SLOPE STABILITY ANALYSIS	Job No: 0118980
FOX Consulting Engineers and Geologists	Date: 7/22/86
	Figure C-4



SLOPE STABILITY ANALYSIS

FOX Consulting Engineers and Geologists

Job No:	0118980
Date:	7/22/86
Figure	C-5



SLOPE STABILITY ANALYSIS	Job No: 0118980
FOX Consulting Engineers and Geologists	Date: 7/22/86
	Figure C-6

Geoscience
Consultants, Ltd.

August 20, 1986

Mr. Bob McClenahan
Giant Refining Company
Ciniza Refinery
Route 3, Box 7
Gallup, NM 87301

RE: Pond No. 1 Soil Samples

Dear Mr. McClenahan:

Enclosed are copies of the laboratory report on soil samples taken from the bottom of Pond No. 1 on June 5, 1986.

Samples 8606051035, 40, 45 and 50 were taken from the approximate center of the pond bottom at depths of 2, 4, 6 and 8 feet.

Samples 8606051100, 05, 10 and 15 were taken from the northwest corner of the pond bottom at depths of 2, 4, 6 and 8 feet.

Samples 8606051130, 35, 40, 45 and 50 were taken from the southwest area at depths of 2, 4, 6, 8 and 10 feet.

It can be concluded from these results that there has been no significant migration of hazardous constituents from Pond No. 1 and that further excavation or treatment of the soil under the pond prior to lagoon construction should not be necessary.

These results should be sent to NMOCD along with the plans and specs for the aerated lagoon by August 30, 1986.

Yours very truly,
GEOSCIENCE CONSULTANTS, LTD.

Claude Schleyer

Claude Schleyer, P.E.
Senior Engineer

CS/ls/GIANT/MCCLE002.LTR

Enclosures

Headquarters
500 Copper Avenue N.W., Suite 325
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(505) 842-0001

Washington Area Office
5513 Twin Knolls Rd., Suite 216
Columbia, Maryland 21045
(301) 596-3760

FROM: Assaigai Analytical Laboratories
7300 Jefferson NE
Albuquerque, NM 87109

TO: Geoscience Consultants Ltd.
500 Copper NW Suite 325
Albuquerque, NM 87102

DATE: 22 July 1986
0927

ANALYTE — SAMPLE ID/ ANALYTICAL RESULTS

	8606051105 Lagoon No 1	8606051110 Lagoon No 1	8606051115 Lagoon No 1	8606051130 Lagoon No 1	8606051135 Lagoon No 1
Benzene	<0.1 ug/g	<0.1 ug/g	<0.1 ug/g	<0.1 ug/g	<0.1 ug/g
Toluene	0.2 ug/g	0.3 ug/g	0.3 ug/g	0.2 ug/g	0.2 ug/g
Xylenes	0.3 ug/g	0.5 ug/g	0.6 ug/g	0.5 ug/g	1.2 ug/g
Napthalene	ND	ND	4.7 ug/g	6.1 ug/g	ND
Acenaphthene	ND	0.1 ug/g	ND	ND	ND
Acenaphythylene	ND	0.7 ug/g	ND	ND	ND
Anthracene	0.1 ug/g	2.3 ug/g	0.1 ug/g	ND	ND
Phenanathrene	0.1 ug/g	2.3 ug/g	0.1 ug/g	ND	ND
Fluoranthene	ND	ND	ND	ND	ND
Fluorene	0.3 ug/g	0.3 ug/g	0.2 ug/g	ND	ND
Pyrene	ND	ND	ND	ND	ND
Benzo(a)anthracene	3.9 ug/g	ND	ND	ND	ND
Benzo(a)pyrene	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND
Benzo(j)fluoranthene	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND
Chrysene	5.5 ug/g	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND
Dibenz(a,h)acridine	ND	ND	ND	ND	ND
Dibenz(a,j)acridine	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	ND	ND	ND	ND	ND
7H-Dibenzo(c,g)carbazole	ND	ND	ND	ND	ND
Dibenzo(a,e)pyrene	ND	ND	ND	ND	ND
Dibenzo(a,h)pyrene	ND	ND	ND	ND	ND
Dibenzo(a,i)pyrene	ND	ND	ND	ND	ND
Ideno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND
3-Methylcholanthrene	ND	ND	ND	ND	ND

FROM: Assaigai Analytical Laboratories
7300 Jefferson NE
Albuquerque, NM 87109

TO: Geoscience Consultants Ltd.
500 Copper NW Suite 325
Albuquerque, NM 87102

DATE: 22 July 1986
0927

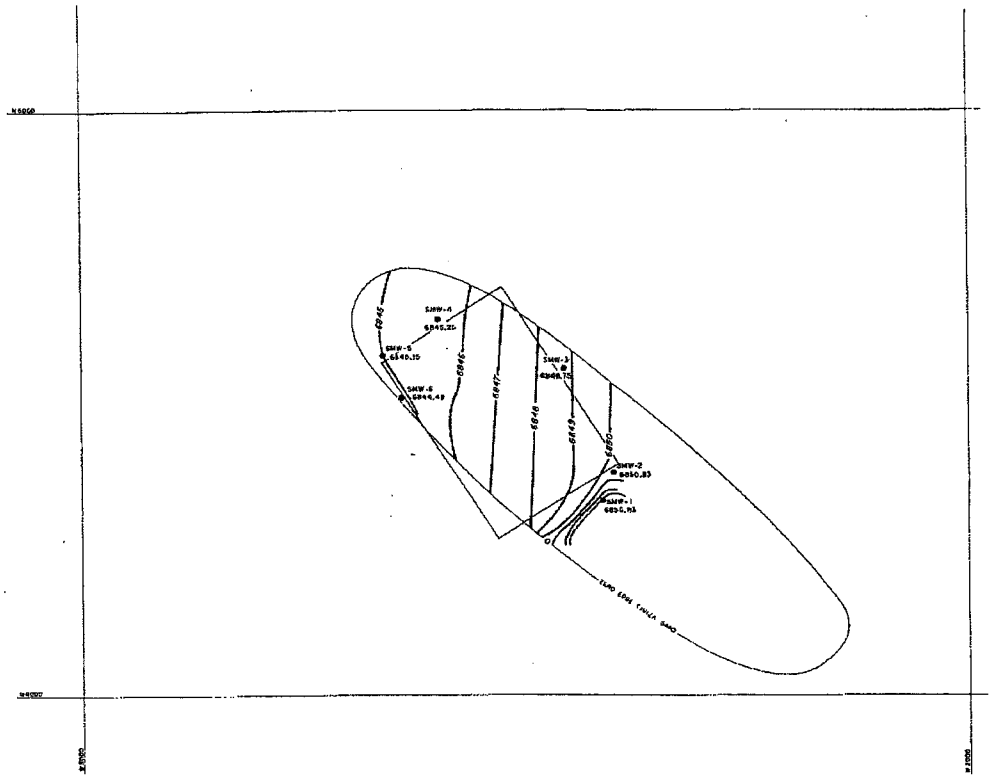
ANALYTE	SAMPLE ID/ ANALYTICAL RESULTS				
	8606051035 Lagoon No 1	8606051040 Lagoon No 1	8606051045 Lagoon No 1	8606051050 Lagoon No 1	8606051100 Lagoon No 1
Benzene	<0.1 ug/g	<0.1 ug/g	<0.1 ug/g	<0.1 ug/g	<0.1 ug/g
Toluene	0.5 ug/g	0.3 ug/g	0.3 ug/g	0.2 ug/g	0.3 ug/g
Xylenes	0.6 ug/g	0.2 ug/g	0.5 ug/g	0.4 ug/g	0.5 ug/g
Napthalene	1.8 ppm	ND	ND	0.1 ug/g	ND
Acenaphthene	ND	ND	ND	ND	ND
Acenaphythylene	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	0.1 ug/g	ND
Phenanathrene	ND	ND	ND	0.1 ug/g	ND
Fluoranthene	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND
Benzo(a)anthracene	4.7 ug/g	0.6 ug/g	1.3 ug/g	0.7 ug/g	ND
Benzo(a)pyrene	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	3.3 ug/g	ND	ND	ND
Benzo(g,h,i,)perylene	ND	ND	ND	ND	ND
Benzo(j)fluoranthene	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	2.2 ug/g	ND	ND	ND
Chrysene	6.6 ug/g	0.8 ug/g	1.9 ug/g	0.8 ug/g	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND
Dibenz(a,h)acridine	ND	ND	ND	ND	ND
Dibenz(a,j)acridine	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	ND	ND	ND	ND	ND
7H-Dibenzo(c,g)carbazole	ND	ND	ND	ND	ND
Dibenzo(a,e)pyrene	ND	ND	ND	ND	ND
Dibenzo(a,h)pyrene	ND	ND	ND	ND	ND
Dibenzo(a,i)pyrene	ND	ND	ND	ND	ND
Ideno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND
3-Methylcholanthrene	ND	ND	ND	ND	ND

FROM: Assaigai Analytical Laboratories
7300 Jefferson NE
Albuquerque, NM 87109

TO: Geoscience Consultants Ltd.
500 Copper NW Suite 325
Albuquerque, NM 87102

DATE: 22 July 1986
0927

ANALYTE	SAMPLE ID/ ANALYTICAL RESULTS			NOMINAL DETECTION LIMITS
	8606051140 Lagoon No 1	8606051145 Lagoon No 1	8606051150 Lagoon No 1	
Benzene	0.2 ug/g	<0.1 ug/g	<0.1 ug/g	0.1 ug/g
Toluene	0.3 ug/g	0.2 ug/g	0.2 ug/g	0.1 ug/g
Xylenes	0.2 ug/g	0.4 ug/g	0.9 ug/g	0.1 ug/g
Napthalene	1.7 ug/g	10.4 ug/g	ND	0.1 ug/g
Acenaphthene	ND	0.2 ug/g	ND	0.1 ug/g
Acenaphythylene	ND	1.9 ug/g	ND	0.1 ug/g
Anthracene	0.4 ug/g	ND	ND	0.1 ug/g
Phenanathrene	ND	0.5 ug/g	ND	0.1 ug/g
Fluoranthene	ND	ND	ND	0.1 ug/g
Fluorene	ND	1.8 ug/g	0.1 ug/g	0.1 ug/g
Pyrene	ND	ND	ND	0.1 ug/g
Benzo(a)anthracene	ND	ND	ND	0.1 ug/g
Benzo(a)pyrene	ND	ND	ND	0.1 ug/g
Benzo(b)fluoranthene	ND	ND	ND	0.1 ug/g
Benzo(g,h,i,)perylene	ND	ND	ND	0.1 ug/g
Benzo(j)fluoranthene	ND	ND	ND	0.1 ug/g
Benzo(k)fluoranthene	ND	ND	ND	0.1 ug/g
Chrysene	ND	ND	ND	0.1 ug/g
Dibenzo(a,h)anthracene	ND	ND	ND	0.1 ug/g
Dibenz(a,h)acridine	ND	ND	ND	0.1 ug/g
Dibenz(a,j)acridine	ND	ND	ND	0.1 ug/g
Dibenz(a,h)anthracene	ND	ND	ND	0.1 ug/g
7H-Dibenzo(c,g)carbazole	ND	ND	ND	0.1 ug/g
Dibenzo(a,e)pyrene	ND	ND	ND	0.1 ug/g
Dibenzo(a,h)pyrene	ND	ND	ND	0.1 ug/g
Dibenzo(a,i)pyrene	ND	ND	ND	0.1 ug/g
Ideno(1,2,3-cd)pyrene	ND	ND	ND	0.1 ug/g
3-Methylcholanthrene	ND	ND	ND	0.1 ug/g



EXPLANATION

● SMW-1 6856.83 MONITOR WELL WATER LEVEL ELEVATIONS

6850 WATERLEVEL CONTOUR

CONTOUR INTERVAL = 1.0 FEET
GRID LINES MATCH PLATES 1, 2

N (MAGNETIC)

0 200
FEET

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PLATE 3
WATER-LEVEL ELEVATIONS
CINIZA SAND

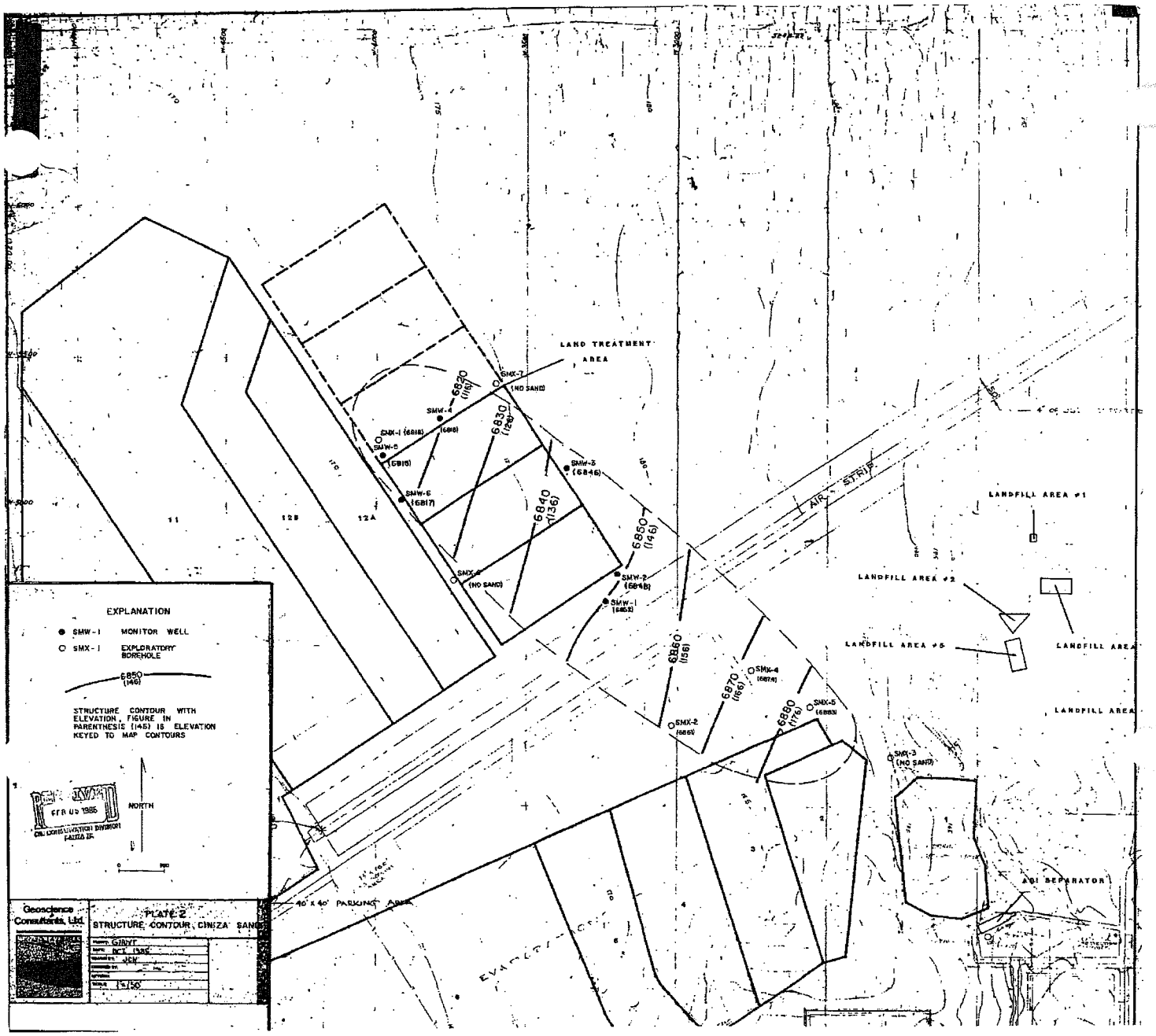
LAND TREATMENT AREA
AIR STRIP
LANDFILL AREA #1
LANDFILL AREA #2
LANDFILL AREA #5
LANDFILL AREA
LANDFILL AREA
OIL SEPARATOR
40' x 40' PARKING AREA
EVACUATION CITY
SMW-1
SMW-2
SMW-3
SMW-4
SMW-5
SMW-6
SMX-1 (6818)
SMX-2 (6861)
SMX-3 (NO SAND)
SMX-4 (6874)
SMX-5 (6883)
SMX-6 (NO SAND)
SMX-7 (NO SAND)
6820 (116)
6830 (126)
6840 (136)
6850 (146)
6860 (156)
6870 (166)
6880 (176)
11
12B
12A
EXPLANATION
SMW-1 MONITOR WELL
SMX-1 EXPLORATORY BOREHOLE
6850 (146)
STRUCTURE CONTOUR WITH ELEVATION, FIGURE IN PARENTHESIS (146) IS ELEVATION KEYED TO MAP CONTOURS
NORTH
FEB 05 1985
OIL CONSERVATION DIVISION
SANTA FE
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PLATE 2
STRUCTURE CONTOUR CINIZA SAND
GJRVT
OCT 1985
JEN
1"=50'