Western Refining
GALLUP

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April 12, 2011

APR 2011

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

RE: RESPONSE TO NOTICE OF DISAPPROVAL [DATED JANUARY 18, 2011]
CORRECTIVE MEASURES IMPLEMENTATION WORK PLAN
SOLID WASTE MANAGEMENT UNIT (SWMU) NO. 1 - AERATION BASIN
WESTERN REFINING COMPANY, SOUTHWEST, INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-GRCC-09-003

Dear Mr. Bearzi:

The Corrective Measures Evaluation, which is Appendix F of the Corrective Measures Implementation Work Plan for Solid Waste Management Unit (SWMU) No. 1 - Aeration Basin (dated October 2010), has been revised pursuant to comments received from the New Mexico Environment Department (NMED). Responses to individual comments are presented below and the revised Corrective Measures Evaluation (CME) report is enclosed.

Comment 1

In the Executive Summary the Permittee discusses "clean" closure and closure in-place. The Aeration Lagoons are a Solid Waste Management Unit (SWMU) and are therefore subject to corrective action under 40 CFR 264.101 not closure under 40 CFR 264 Subpart G. Corrective action will be complete when the remedy is implemented and any long-term monitoring and maintenance is in place. Revise all references to closure throughout the CME Report *(see also* Section 3, Section 4, Section 5) to reflect the proper terminology for the regulatory framework.

Response: Western Refining Company, Southwest, Inc. ("Western") has reviewed all applicable regulations and other requirements (e.g., the Complaint and Consent Agreement and Final Order (CAFO), which was issued by the United States Environmental Protection Agency on August 26, 2009) that apply to the referenced corrective measures implementation work plan. In NMED's previous NOTICE OF DISAPPROVAL, dated May 6, 2009, NMED stated, "NMED does not consider Aeration Lagoon 1 and Aeration Lagoon 2 (AL-1 and AL-2) to be interim status units. NMED has determined this document to be a Corrective Measures Implementation Work Plan for a Solid Waste Management Unit (SWMU) listed in Appendix A of the Post-Closure Care Permit." Western subsequently changed the title of the document as directed. In Section 2 of the CMI work plan, the following text was added to further clarify the applicable standards under the CMI work plan as specified by NMED, "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." In the comment above, NMED has stated again that the aeration lagoons are subject to corrective action under 40 CFR 264.101, not closure under 40 CFR 264 Subpart G.

However, in reviewing the CAFO under the listing of EPA Violations, paragraph No. 30 states, "AL-1 is a "Hazardous Waste Management Unit", as that term is defined in NMAC §20.4.1.100 [40 CFR §260.10]." In addition, the following requirements are specified in paragraph No. 100 (revised August 31, 2010), "The Respondent has submitted a workplan for closure of AL-1 and AL-2 to NMED . . . . The Respondent must comply with all NMED's requirements for closure including any established schedules." Western wants to make certain that the CMI work plan and the ensuing corrective actions at the aeration lagoons are compliant with all applicable requirements, and requests written confirmation that if corrective actions are completed pursuant to 20.4.1.500 NMAC (incorporating 40 CFR 264.101), that this will also satisfy the requirements of the EPA CAFO relevant to the aeration lagoons. Does the use of the term "closure" in the EPA CAFO intend that the aeration lagoons are to be closed pursuant to the closure performance standards of 40 CFR 264.111 or 265.111? Western does not want to be at risk of EPA or future NMED staff revisiting the corrective actions completed pursuant to 40 CFR 264.101 and possibly asserting that the aeration lagoons should have been "closed" pursuant to the regulations applicable to hazardous waste management units.

As directed, Western has revised the CME Report and has replaced the terms "clean" closure with Corrective Action Complete without Controls and "closure in-place" with Corrective Action Complete with Controls.

Comment 2

The Permittee states in the Executive Summary that "[t]he 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." NMED considers Evaporation Pond 1 (EP-1) to be part of SWMU 2. Revise the CME Report accordingly.

Response: Western would like to work with NMED to resolve this matter once and for all time. Western did an extensive review of all relevant historical documents and provided a detailed explanation (see Section 1 and Appendix A of the CMI work plan revised October 2010) of why the one cell in the Aeration Basin without aeration pumps (i.e., holding pond), is actually part of the Aeration Basin, and the fact that SWMU No. 1 is the Aeration Basin, not the aeration lagoons. NMED has not provided any explanation or documentation to support its stated position. If NMED is in possession of documentation that clearly shows that SWMU No. 1 is limited to only two of the cells (i.e., aeration lagoons) within the Aeration Basin, then Western would like to include this information in the CMI Work Plan so that there is not any potential confusion in the future when addressing SWMU No. 2 Evaporation Ponds. Please share any such information so that this seemingly simple matter can be resolved clearly.

If the decision is made that the Aeration Basin includes SWMU No. 1 and part of SWMU No. 2, then additional revisions to the CMI work plan will be required to explain that the proposed actions address both SWMU No. 1 and part of SWMU No. 2.

Comment 3

The CME Report lacks sufficient discussion of the source(s) of contamination, the potential migration pathways for exposure to contaminants, fate and transport of contaminants, potential receptors (including ecological receptors) affected by contamination at the site, and the regulatory criteria. (e.g., cleanup standards, risk-based screening levels) for the site. Revise the CME Report accordingly.

Response: Additional discussion on the sources, migration pathways, and potential receptors has been added to Section 2.2. The regulatory criteria are specified in Section 3.

Comment 4

The CME Report lacks sufficient detail in the long-term monitoring and maintenance in Section 4 (Evaluation of Corrective Measures Alternatives) under the "Human Health and Ecological Protectiveness" heading. Revise the CME Report to discuss monitoring and maintenance in detail for all remedial alternatives that may be required, and include the costs of long-term monitoring and maintenance in the Cost Estimate section.

Response: Additional detail and associated costs for long-term monitoring and maintenance have been added to Section 4.

Comment 5

In Section 2.2 (Site Conditions), page 2, the Permittee states, "[i]n 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 the aeration lagoons and EP-1." Since the geotechnical report (1986) and the RFI Report (the early 1990s) were submitted, over twenty years of wastewater treatment has occurred creating a potential for contaminant migration into the native soil beneath the impoundments. The Permittee must present evidence that contamination has not infiltrated the native soil below the impoundments or reached shallow groundwater. The Permittee must propose to sample beneath the Aeration Lagoons and Evaporation Pond 1 as part of any corrective action remedy proposed in the CME, with the qualification that contamination discovered during the investigation may affect the implementation of the selected remedy.

Response: Western would like to clarify that the soil sampling conducted in 1986 and again in 1990 occurred after the original "Evaporation Pond No. 1" had been in operation since the 1950s, thus the samples were collected after wastewater had been impounded for approximately 30 years plus. As NMED stated, over twenty years of wastewater treatment has occurred since these samples were collected, but a new potential for contaminant migration was not created after the samples were collected. In fact, the addition of aeration in AL-1 and AL-2 should have reduced concentrations of constituents in the Aeration Basin and thus potentially reduced the potential for migration of higher concentrations of constituents through the underlying soils.

If the selected remedy is to leave waste in-place and place a protective cover over the Aeration Basin, then it should not be necessary or useful to collect soil samples from beneath the Aeration Basin. If on the other hand, the selected remedy is removal, then of course soil samples would be required beneath the Aeration Basin to determine when the remedy is complete. The current Scope of Services in Section 4 of the CMI work plan is remedy-specific and thus the investigation is based on the remedy recommended in the CME report. Details of any future investigation should be included in the Section 4 of the CMI work plan and not in the

CME report. The CMI work plan will be revised based on the final remedy selected by the NMED. The discussion in Section 4 has been revised to better explain the requirement for additional vertical investigation with the "stabilization, excavation, and offsite disposal" corrective measure alternative and the potential costs for the investigation.

Comment 6

A discussion of groundwater must be included in the CME Report. The Permittee must address the groundwater monitoring and any contamination found in the groundwater potentially related the Aeration Lagoons and EP-1. The Permittee may need to install additional monitoring wells. Revise the CME Report to include a discussion of groundwater monitoring for all alternatives.

Response: Groundwater monitoring has been included for each of the remedial alternatives. Section 2.2 Site Conditions has been revised to include existing information on groundwater conditions based on monitoring wells located immediately adjacent to the surface impounds. Sections 3 and 4 are both revised to include groundwater monitoring for each alternative and the associated costs.

Comment 7

In Section 3 (Identification and Preliminary Screening of Corrective Measures Alternatives), the Permittee states that, "[t]he following response action alternatives have been subject to preliminary screening and removed from further evaluation in Section 4 of the CME Report." The Permitee then lists the no action alternative and in-situ biological treatment. The Permittee must retain the no further action alternative as a baseline comparison for the remaining proposed alternatives. Additionally, the Permittee must use the same criteria to eliminate or retain the alternatives and must analyze the alternatives separately. While the CME Report seems to be written with the on-site disposal option as the optimal choice, the Permittee must nevertheless present all remedial alternatives objectively. Revise Section 4 of the CME Report to reflect these changes.

Response: The CME Report has been revised to retain the no action alternative as directed. The revised Section 4 presents a more detailed analysis of the alternatives using the same evaluation criteria for all alternatives, with each alternative evaluated separately. This is followed by a comparative analysis between the two retained "action" alternatives.

Comment 8

In Section 4 (Evaluation of Corrective Measures Alternatives), under the "Technical Feasibility" heading, regarding off-site disposal, the Permittee states, "[h]owever, 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." This statement is overly vague. Provide much more detail as to the reasons why it may not be technically feasible to remove the contaminated soil from the aeration lagoons and EP-1. Revise the CME Report to discuss in detail the reasoning behind elimination and/or retention of remedial alternatives. Additionally, *see* Comment 1.

Response: Section 4 has been revised to expand the evaluation of each alternative and additional explanation is included for each assessment of the various criteria (e.g., technical feasibility) under which all the retained alternatives compared. For example, the discussion on

the technical practicability of removing all contaminated media to achieve Corrective Action Complete without Controls has been revised to provide more specific details.

Comment 9

In Section 4 (Evaluation of Corrective Measures Alternatives), under the "Effectiveness" heading, regarding off-site disposal, the Permittee states, "[t]he 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." If all waste and affected media cannot be removed, the Permittee would implement institutional controls, groundwater monitoring, engineering controls, and other methods to protect human health and the environment. The metric of achieving "clean closure" seems out of place when the other alternative also does not achieve "clean closure." This section should adhere to the description of "effectiveness" in Section 1 (Introduction) which states "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." Generally, use the definitions in Section 1 (applicability, technical feasibility, effectiveness, implementability, human health and ecological protectiveness, and cost) to guide the discussion of the remedial alternatives. Additionally, use the same criteria to eliminate or retain the alternatives and must analyze the alternatives separately. Revise the CME Report to discuss the effectiveness of the remedial alternatives in more detail and more clarity.

Response: The discussion on effectiveness in Section 4 has been revised to evaluate the effectiveness assuming that the alternative is implemented as designed (e.g., "clean" closure or a full removal action is obtained without limitation). The discussion has been expanded to provide more detail.

Comment 10

In Section 4 (Evaluation of Corrective Measures Alternatives), under the "Effectiveness" heading, regarding in-place closure, the Permittee states, "[t]hese activities in combination with the low permeability of the natural subsoils will act to prevent any future releases of hazardous constituents to groundwater. 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." While the soils underlying the impoundments have low permeability, the Permittee has not shown that contamination has not migrated into the native subsoil or to groundwater *(see* also Comment 5). Additionally, the statement "[a]n extensive effort was conducted" is overly vague; the Permittee must describe the effort since Appendix B is a design plan and no report of the construction activities (e.g., the work plan recommends a foundation treatment, but it is not clear whether this was done or not) are provided. Also, the statement "[t]he resulting construction will also be very effective in containing the stabilized waste materials" does not explain how the resulting construction will be effective in containing the waste. Provide more detail and explanation as to how the construction will be effective. The Permittee must show that the impoundments were properly constructed, that contamination has not migrated into the subsurface, and how the construction of the in-place alternative will effectively contain the contamination. Revise the CME Report to address these issues.

Response: Section 4 of the CME report has been revised as directed. It should be noted that the CME report text states, "[t]hese activities in combination with the low permeability of the

natural subsoils will act to prevent any future releases of hazardous constituents to groundwater." NMED is correct that the CME does not state that there has not been any migration of constituents into native subsoil or to groundwater, as Western has been directed to submit the CMI Work Plan prior to an investigation to determine if there are any releases from the impoundments. The discussion in the CME report for the "in-place closure", now referred to as "containment" is evaluating the potential for migration of constituents into the underlying soils and/or groundwater after the waste are stabilized and a very low permeability cap is placed over the impoundments. This is a significantly different condition than when the surface impoundments are in operation, holding free liquids, and the potential presence of constituents in the underlying soils and/or groundwater as the result of past operations is not reflective of future conditions if free liquids are removed, waste stabilized, and a very low permeability cap is placed over the impoundments. Also, the effectiveness of the containment alternative is not dependent upon the proper construction of the original surface impoundments. The fact is that the underlying native soils have a very low permeability, regardless of the actions taken at the land surface during construction of the surface impoundments to improve upon existing conditions.

Comment 11

In Section 4 (Evaluation of Corrective Measures Alternatives), under the "Human Health and Ecological Protectiveness" heading regarding in-place closure, the Permittee states "[i]n addition, the institutional control will prevent unknowing disturbance of the closure area." Revise the CME Report to discuss institutional controls that will be used at the site, particularly those used to protect the area from disturbance.

Response: Section 4 has been revised to specify the types of institutional controls that would be utilized to protect the area from disturbance under the containment alternative.

Comment 12

The Cost Estimates (Appendix A) do not contain the level of detail necessary for NMED to conduct an adequate evaluation. Include line-item cost estimates for each activity, including, but not limited to, unit costs for labor, equipment, materials, waste management and disposal, maintenance, sampling and reporting. Revise the CME Report accordingly.

Response:

The cost estimates in Appendix A have been revised to include additional details on the estimated costs, including costs for groundwater monitoring and on-going maintenance costs.

If there are any questions regarding the responses or revisions to the CME Report, please contact me at (505) 722-0217. An electronic version of the revised CME Report is enclosed that identifies where changes have been made in red-line strikeout format.

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.

Sincerely,

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

cc J. Kieling, NMED HWB without enclosure
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Corrective Measures Evaluation Report
Solid Waste Management Unit (SWMU) No. 1
Aeration Basin

Western Refining

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

EPA ID# NMD000333211

October 2010
(Revised April 2011)

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Solid Waste Management Unit (SWMU) No. 1
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Western Refining Southwest, Inc.
Gallup Refinery
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October 2010
(Revised April 2011)

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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 address the three surface impoundments. The CME identified the following corrective measures alternatives:

1. No action;
2. Stabilization, excavation and off-site disposal of wastes and associated impacted soils;
3. In-place treatment of wastes; and
4. In-place stabilization of 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 no action, off-site disposal and containment with a cover system 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 containment corrective measure alternative was identified as the recommended corrective measure.

Section 1
Introduction

The Gallup Refinery is located approximately 17 miles east of Gallup, New Mexico along the north side of Interstate Highway I-40 in McKinley County. The physical address is I-40, Exit #39 Jamestown, New Mexico 87347. The Gallup Refinery is located on 810 acres. Figure 1 presents the refinery location and the regional vicinity.

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 address the three surface impoundments. Consistent with the July 27, 2007 Order issued by the New Mexico Environmental Department to Western's Bloomfield Refinery, 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 (Figure 2). The aeration lagoons and EP-1 were constructed in 1987 and cover an area approximately 440 feet by 230 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 the 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.

Two groundwater monitoring wells (GWM-1 and GMW-2) were installed immediately down-gradient of AL-2 in 2004. Three monitoring wells (KA-1, KA-2, and KA-3) were installed immediately east of AL-1 near the New API Separator in 2007. Wells KA-1 and KA-2 were plugged in 2008 and three new wells (NAPIS 1, NAPIS 2, and NAPIS 3) were installed near the New API Separator (Figure 2). The predominantly lithology of the materials overlying the Chinle Formation was logged as a sandy lean clay. The boring log for GMW-1 indicated that clay was present from the land surface to a depth of 21.5 feet, where a sandy gravel extends from 21.5 feet to 24 feet at the top of a mudstone bedrock (Petrified Forest Member of the Chinle Formation). Analyses of groundwater samples collected at GWM-1, GMW-2, and NAPIS 2 have indicated low concentrations of constituents such as BTEX and methyl tertiary butyl ether (MTBE) that would indicate a potential for historical releases from the lagoons and/or nearby SWMUs. GWM-3 is also located immediately adjacent to EP-1. Both GWM-2 and GMW-3 were dry during the 2007 annual sampling event but did have approximately one foot of water present in the wells in 2010.

On July 10, 2008, a water sample was collected at GWM-1 and the results were submitted to NMED in the 2008 Annual Monitoring Report. Detections at concentrations greater than New Mexico Water Quality Standards (WQS) (20.6.2.3103 NMAC) included benzene (0.011 mg/L), manganese (3.6 mg/L) and iron (14 mg/L), vs. the standards of 0.01 mg/l, 0.2 mg/l, and 1.0 mg/l, respectively. 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. The results of some more recent analyses conducted in 2010 are shown below.

Sample ID	Date	Arsenic	Barium	Iron	Manganese	Benzene
New Mexico WQS		0.1	1.0	1.0	0.2	0.01
GMW-1	3/4/2010	0.074	0.38	12	2.7	0.012
	7/20/2010	0.15	1.1	14	2.9	0.008
	9/16/2010	0.12	1.2	15	2.9	.00075
GWM-2	9/16/2010	NA	NA	NA	NA	<0.001
	10/4/2010	NA	NA	NA	NA	<0.001
GWM-3	9/16/2010	NA	NA	NA	NA	<0.001
	10/4/2010	NA	NA	NA	NA	<0.001

NA – not analyzed

Units – mg/l

The historical sampling data of environmental media discussed above has revealed limited impacts beyond the impoundments. The primary source of potential contaminants is the sludge material that is contained within the surface impoundments. An investigation of the aeration basin was conducted in April 2008 to characterize the volume and nature of sediments in each aeration lagoon and EP-1. 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. Twenty eight samples of the sludge were collected and analyzed for gasoline range organics (GRO) and diesel range organics (DRO) by EPA method 8015, semi-volatile organics by EPA method 8270, volatile organics by EPA method 8260, and RCRA metals by EPA methods 6010C and 7471.

DRO was detected in all of the 28 samples with concentrations ranging from 7,200 mg/kg to 370,000 mg/kg. GRO was detected in 11 samples with concentrations ranging from 25,000 mg/kg to 37,000 mg/kg. The semi-volatile organic compounds detected included benzo(a)anthracene, chrysene, fluorene, 2-methylnaphthalene, 3+4-methylnaphthalene, naphthalene, phenanthrene, phenol, and pyrene. Volatile organics detected included benzene, toluene, ethylbenzene, MTBE, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, 1-

methylnaphthalene, 2-methylnaphthalene, carbon disulfide, Isopropylbenzene, 4-isopropyltoluene, n-butylbenzene, n-propylbenzene, sec-butylbenzene, and xylenes. Arsenic, barium, cadmium, chromium, lead, and mercury were detected in each of the samples.

The analytical results for each of the detected constituents are shown in Table 1. The concentrations are compared to the NMED's soil screening levels as taken from the *Technical Background Document for Development of Soil Screening Levels (*Revision 5.0, dated August 2009) and *Total Petroleum Hydrocarbon (TPH) Screening Guidelines* (dated October 2006). For constituents without a NMED screening level, the EPA Regional Screening levels (updated November 2010) are included where available. The concentrations that exceed the lower of the screening levels for industrial/occupational and construction worker pathways are indicated in bold font.

The residential screening levels are also included in Table 1; however, as the aeration basin is located within a portion of the refinery property actively used for industrial purposes and there is security to prevent unauthorized human access to the area, residential receptors are not currently relevant for this area. For all of the detected constituents except barium, the screening level for the soil-to-groundwater pathway is lower than either the residential or industrial screening levels, therefore the extent of remediation required may not be driven by the direct contact pathway. While many of the detected constituents have concentrations over the screening level for the soil-to-groundwater pathway based on a default dilution attenuation factor of 1.0, only four constituents (DRO, MRO, arsenic, and benzo(a)anthracene) have concentrations that exceed the industrial/occupational and/or construction worker pathway screening levels.

Based on current land use activities, the most likely pathway for exposure to constituents known to exist at the aeration basin is the direct contact pathway for humans to constituents in sludge and immediately adjacent surface soils. During the operational life of the aeration basin, there is limited potential for direct contact to the sludge. However, once the units are no longer operational and free liquids are removed from the impoundments, direct contact would be more likely to occur. Similarly, during active operations there have not been significant documented exposures to ecological receptors. If operations ceased at the impoundments, then there could be an increased potential for ecological exposures; however, continued operations at nearby facilities (e.g., the new API Separator, flare tower, and the planned new wastewater treatment plant) make this area generally unattractive to wildlife.

As discussed above, the native soils have low permeability and thus there is limited potential for significant vertical migration of constituents from the aeration basin to the underlying aquifer, which occurs sporadically near the top of the Chinle Formation. Additional investigation of subsurface conditions near the impoundments may be necessary to fully characterize the potential for lateral transport but existing information (i.e., prevalence of low permeability vadose zone soils) indicates a generally low potential for lateral transport of COCs.

Section 3
Development and 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 potential response alternatives described below have been identified as realistic options that may be capable of remediating existing conditions at the three surface impoundments.

3.1 Corrective Action Objectives

The corrective action objectives are medium-specific goals for protecting human health and the environment. There are three different environmental media (surface water, groundwater, and soil), which may be impacted, but as explained below corrective measure alternatives are not developed for groundwater. The water and sludge material, which has accumulated in the bottom of the impoundments, is known to be impacted. Historic sampling of the soils, which form the natural liner for the impoundments, has shown limited impacts to the upper portion of the vadose zone soils. A detailed investigation has not been conducted to delineate the impacts to soils but it is assumed for purposes of development of the corrective measures alternatives that the upper one feet of soil beneath the impoundments is impacted and will require some type of remediation. These impacts are assumed to extend to the soils that make up the perimeter dikes for the impoundments. As discussed above in Section 2.2, there is evidence of potential impacts to groundwater based on detection of constituents in groundwater samples collected from monitoring wells located immediately adjacent to the impoundments. However, there is not sufficient information currently available to determine if any response action will be required for groundwater or to support development of corrective measure alternatives for groundwater.

The contaminants of concern are identified in Table 1 and include total petroleum hydrocarbons, metals, semi-volatile organics, and volatile organic constituents. All of these constituents except barium and pyrene have concentrations in the sludge/sediment that are above the default screening levels, which have been established by NMED and EPA to protect groundwater from constituents leaching from soils. In addition to the soil-to-groundwater pathway, the corrective

measure alternatives have to eliminate the direct contact pathway (i.e., oral, dermal, and inhalation) for industrial/occupational and construction worker exposures to impacted sludge and soils with concentrations exceeding the screening levels provided in Table 1. A review of the screening levels in Table 1 indicates that on average the soil-to-groundwater screening levels are three orders of magnitude lower than the direct contact screening levels. Therefore, if the site is addressed to be protective of the soil-to-groundwater pathway there will not be an exceedence of NMED cumulative risks goals for the direct contact pathway of 1×10^{-5} for carcinogenic constituents or a hazard index of 1.0 for non-carcinogenic constituents.

The volume of impacted sediments is estimated at 8,651 cubic yards, as discussed above in Section 2.1. The aeration basin covers an area approximately 440 feet by 230 feet. Assuming a depth of one foot for the impacted soils, the volume of impacted soils is estimated to be 3,800 cubic yards in-place. The volume of water in the impoundments is estimated to be 800,000 gallons.

3.2 Development of Corrective Measure Alternatives

Generally, corrective measures may include treatment, containment, excavation, extraction, disposal, institutional actions, or a combination of these. The potentially applicable technology types (e.g., chemical treatment, immobilization, capping, etc.) and process options (e.g., ion exchange vs. oxidation/reduction) are first reduced by evaluating the options with respect to technical implementability. This is done by using available site information on contaminant types and concentrations and other relevant site features to eliminate technologies and/or particular process options that are not technically capable of being implemented to meet the corrective action objectives. The only technology type that is eliminated based on technical implementability is extraction, which would normally only be used to address impacts to groundwater and not soil.

The process options selected for the treatment technology include stabilization and in-situ biological treatment. Stabilization is a process that is commonly used for sludges for both in-situ options and in preparation for off-site disposal. Stabilization has been demonstrated at many sites to have a high rate of success in regards to both short-term and long-term effectiveness. In-situ biological treatment is a treatment process that has been used at the aeration lagoons since the 1980s and has also been shown to be successful at a large number of sites with petroleum hydrocarbons.

The technology chosen for the containment corrective measure is capping. The most commonly employed process options for capping include; clay with soil cover, asphalt, concrete, and multimedia caps (e.g., clay with composite liner). The high potential for desiccation of a clay cap with soil cover in the semi-arid climate at the Gallup Refinery makes this process option less desirable. Similarly, asphalt and concrete placed over the predominantly clay soils could be subject to cracking with expansion and contraction of the clay soils. The selected process option is a multimedia cap, which includes a 24-inch thick clay cap with a 12-mil HDPE moisture retention liner to prevent desiccation. A protective 12-oz geotextile will be placed over the HDPE liner prior to placement of a rock armor layer consisting of eight inches of 1½-inch low-fines crushed limestone.

The excavation technology is widely used to address impacted soils. The process would normally include the use of heavy earth moving equipment (e.g., backhoes, long-reach trackhoes, and/or bulldozers) to physically remove the impacted soils and place them into appropriate containers for off-site transport. Disposal is commonly combined with excavation and is the process of physically transporting the impacted materials to a permitted disposal facility (e.g., a permitted hazardous waste landfill).

The general corrective measure of institutional controls (i.e., administrative and/or legal controls) includes a number of possible technologies including access restrictions and monitoring. Access restrictions could be used to ensure the long-term effectiveness of any corrective measures that need to endure over a long period of time without physical encroachment. The possible process options for access restrictions include the addition of provisions within the RCRA post-closure care permit preventing excavation or any other similar activities that could threaten the integrity of a cap placed over the aeration basin, the placement of permanent signs surrounding the aeration basin to inform of the presence of buried waste and the restriction of activities compromising the integrity of the cover system, and filing of a notice in the county deed records to inform potential future owners of the presence of buried waste and a limitation on land use for only industrial purposes. It should also be noted that any such institutional controls would be enforceable under the EPA CAFO, as an element of the final CMI work plan. Monitoring could also be used to ensure long-term effectiveness of any corrective measures that did not result in a Corrective Action Complete without Controls determination. The process options for monitoring include routine site inspections and monitoring of groundwater to confirm the continued performance of physical controls (e.g., a cap over stabilized waste).

Corrective measure alternatives are developed by combining the various remedial technologies and appropriate process options for each to make realistic alternatives that are capable of addressing existing environmental conditions and achieving the aforementioned corrective action objectives at the three surface impoundments. The following corrective measure alternatives have been developed for preliminary screening:

- No Action – The aeration basin would be left as is after operations cease when the new wastewater treatment plant is brought on-line;
- "Off-site Disposal" – Stabilization, excavation and off-site disposal of wastes and associated impacted soils to effect Corrective Action Complete without Controls;
- "Treatment" – In-situ biological treatment of wastes to effect Corrective Action Complete without Controls; and
- "Containment" – In-situ solidifying the wastes following by construction of a cover system to effect Corrective Action Complete with Controls. This option would also include an institutional control.

Each of these alternatives, except the "no action" alternative, will also include removal and treatment of the water in the new onsite wastewater treatment plant and monitoring of groundwater. Normally, only alternatives that do not achieve Corrective Action Complete without Controls would require groundwater monitoring. For example, the reliance upon a cap to prevent exposure to waste and the generation of leachate that could affect groundwater usually also includes monitoring of groundwater to ensure that leachate is not affecting the underlying groundwater. Because groundwater conditions are not fully known at this time, Western has included groundwater monitoring as an element for each of the three alternatives. The specifics of the anticipated monitoring requirements are explained below for each of the alternatives.

Under the "no action" alternative, no technology would be actively applied to the aeration basin; however, it is likely that the water in the impoundments would evaporate and there would be some natural degradation of organic constituents present in the sludge. This alternative provides a baseline against which to compare the other alternatives.

The "off-site disposal" alternative includes stabilization of the sludge material such that it could be transported off-site for disposal as hazardous waste. The underlying one foot of native soil would also be excavated for off-site disposal. Recent sampling of soils beneath the impoundments has not been conducted and therefore the depth of excavation could extend deeper. Confirmation samples collected after removal of upper one foot of soil (or additional

depths, as necessary) would be used for vertical delineation of the impacted soils. The excavation activities would result in the destruction of existing monitoring wells (e.g., GMW-1, GMW-2, and GMW-3), therefore, after completion of all removal activities, monitoring wells would be replaced (three on the down-gradient side of the former impoundments and one on the up-gradient side) to evaluate if historical operations have impacted groundwater. For cost estimation purposes, it is assumed that groundwater would be monitored annually for five years and the details are included in the cost estimates in Appendix A.

The "treatment" alternative relies upon the existing strains of microbes that have been established within the impoundments during the operation of the aeration units since the 1980s. Additional micronutrients would be added as necessary to maximize the degradation rates. The aeration units could also be operated to help maintain aerobic conditions, which are normally more effective at degradation of organic constituents than anaerobic conditions. The thickness of the underlying impacted soil would be investigated during the sludge treatment phase and the resultant volume of impacted soils would also factor into the decision process of the most effective manner to address the impacted soils. It is anticipated that the upper soil horizon would be tilled and micronutrients added to facilitate biodegradation in the soil horizon after the overlying sludges have been remediated. Groundwater monitoring would be conducted post-corrective action in the same manner as described above for the off-site disposal alternative.

The "containment" alternative includes in-situ stabilization of the sludge to control any future leaching of constituents and establishment of physical characteristics to support placement of a cover system. As described above, the cover system included for evaluation of this alternative includes a 24-inch thick clay cap, a 12-mil HDPE moisture retention liner, protective 12-oz geotextile, and a rock armor layer. Institutional controls would be used to ensure the long-term effectiveness of this alternative. These include; the addition of provisions within the RCRA post-closure care permit preventing excavation or any other similar activities that could threaten the integrity of a cap placed over the aeration basin, the placement of permanent signs surrounding the aeration basin to inform of the presence of buried waste and the restriction of activities compromising the integrity of the cover system, and filing of a notice in the county deed records to inform potential future landowners of the presence of buried waste and a limitation on land use for only industrial purposes. Annual inspections and repairs, as necessary, of the cap would also be performed to ensure long-term effectiveness. Semi-annual groundwater monitoring would be conducted as specified in the post-closure care RCRA permit. The cost estimate includes monitoring for a 30 year period.

The corrective measure alternatives were subjected to preliminary screening considering short-term and long-term aspects of effectiveness and implementability. Based on this screening process, the following alternative was removed from further evaluation in Section 4 of the CME report:

> In-Situ Biological Treatment. This alternative should 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 using a cap. 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 no action, offsite disposal, and containment alternatives are retained 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:

- Offsite Disposal – Stabilization, excavation, and offsite disposal of wastes and associated impacted soils to effect Corrective Action Complete without Controls and short-term groundwater monitoring;
- Containment – In-situ solidifying the wastes followed by construction of a cover system to effect Corrective Action Complete with Controls. This option would also include institutional controls and long-term groundwater monitoring; and
- No action, which provides a baseline for comparison to the other alternatives.

The purpose of this detailed analysis of alternatives is to support the selection of an appropriate corrective measure. Each of the alternatives is assessed against the evaluation criteria listed above and described below.

Applicability – Applicability addresses the overall suitability for the corrective action options for containment or treatment of the contaminants in the sludge and soils with regard to protection of human health and the environment.

Technical Feasibility – Technical feasibility describes the uncertainty in designing, constructing, and operating a specific corrective measure alternative. This includes an evaluation of historical applications of the corrective measure alternative including performance, reliability, and minimization of hazards.

Effectiveness – Effectiveness assess 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. This also includes the anticipated duration for the technology to attain regulatory compliance. In general, all corrective measures (excluding the no action alternative) may have the ability to mitigate impacts at the site, but not all corrective measures will be equally effective at achieving the desired cleanup goals to the degree and within the same timeframe as other alternatives.

Implementability – Implementability characterizes the degree of difficulty involved during the installation, construction, and operation of the corrective measure. Operation and maintenance of the alternative is discussed under this evaluation criteria.

Human Health and Ecological Protectiveness - Under this criteria, the short-term (remedy implementation-related) and long-term (remedy operation-related) hazards to human health and the environment of implementing the corrective measure are evaluated. The assessment looks at whether the technology will create a hazard or increase existing hazards and the possible methods of hazard reduction.

Cost – The cost of implementing the corrective measure is estimated and is divided into the capital costs associated with construction, installation, evaluation, permitting, and reporting of the effectiveness of the alternative and continuing costs associated with operating, maintaining, monitoring, testing, and reporting on the use and effectiveness of the technology.

4.1 Off-site Disposal Alternative

Regarding applicability, the off-site disposal alternative is a suitable alternative for the aeration basin in that removal of the impacted sludge and soils would result in a high degree of protection of human health and the environment. The impacted media would no longer be present and therefore, the potential threat of exposure would be eliminated.

The technical feasibility evaluation is more difficult because the final depth of excavation is not currently known. Stabilization, excavation, and transport for off-site disposal are all considered to be well proven technologies and their application at the aeration basin is technically feasible at shallow to moderate depths (e.g., up to ten feet). The uncertainty is associated with the required depth of excavation to removal all soils with concentrations of constituents above the applicable screening levels. Groundwater samples collected from GMW-1, GMW-2, and NAPIS 2, which are located near the aeration basin, have indicated the presence of site-related constituents. GMW-1 is screened across a sand interval that occurs at a depth of 21.5 to 24 feet, where the impacted groundwater was observed. If constituents from the aeration basin have migrated vertically to a depth of 21.5 feet, then excavation to these depths could become technically infeasible. In order to establish safe side slopes and/or shoring to allow for excavations below ten feet, the structural integrity of adjacent features (e.g., the new API Separator) could be seriously impacted. In fact, it may be technically infeasible to remove all impacted soils without destroying the new API Separator.

The effectiveness (i.e., the ability of the stabilization, excavation and disposal to mitigate the measured or potential impact of contamination in sludge and soils under the current and projected site conditions) is considered to be high for this alternative. The off-site disposal alternative is generally considered to be one of the most effective of all alternatives in addressing long-term risk at the remediation site. The timeframe for implementation is estimated at two to three months, assuming that the depth of excavation does not exceed one foot as included in the cost estimates. Excavation of depths up to ten feet could extend the required time by as much as four to six months. A timeframe has not been evaluated for excavation depths greater than ten feet, due to technical impracticability considerations.

Implementability characterizes the degree of difficulty involved during the installation, construction, and operation of the corrective measure. The sludge should be amenable to stabilization and excavation for transport of the stabilized material should not present any technical difficulties. Shallow (e.g., one foot) excavation depths for impacted soils will not present any technical difficulties, but if the excavation were to extend much deeper (e.g., great than ten feet) the level of difficult increases dramatically. There should not be any operation and maintenance required for this alternative, although groundwater monitoring is included to further assess potential historical impacts.

Regarding protection of human health and the environment, both short-term (remedy implementation-related) and long-term (remedy operation-related) hazards are evaluated. There could be short-term hazards during the implementation of the remedy, including the potential for exposure of site workers to constituents in the sludge and impacted soil, and the threat of exposure to the public during transport of the stabilized waste and soils to the off-site disposal facilities. On-site workers will have applicable training based on their job responsibilities and appropriate personal protective equipment (e.g., protective suits, gloves, boots, etc.) will be used to minimize the threat of exposure. There could be short-term risks to on-site workers if excavation depths increase, resulting in work within a "confined space" with the potential for engulfment. It is anticipated that the non-hazardous waste could be deposed at the nearby San Juan County landfill, thus reducing the potential risk during transport. The hazardous waste is anticipated to be transported over public highways for a distance of 700 miles to Beatty, Nevada. There are no long-term (remedy operation-related) risks anticipated at the aeration basins; however, the waste will be placed in off-site landfills so any long-term threats associated with the wastes are transferred to the new disposal locations.

The anticipated costs for implementing the off-site disposal corrective measure are predominantly capital expenditures associated with implementation of the remedy and reporting of the effectiveness of the alternative. A detailed cost estimate is included in Appendix A and the total for this alternative is $7,450,000. The cost estimate is based on an excavation depth of one foot for the underlying soils and it is possible that the impacts may extend deeper, which would result in a higher cost than shown in Appendix A. The estimated costs assume that the stabilized sludge and 50% of the impacted soil will have to be disposed as a hazardous waste due to the potential presence of listed hazardous waste and that the remaining 50% of the impacted soils can be disposed as non-hazardous waste based on potential approval by NMED of a contained-in determination. Sufficient information is not currently available to quantify the likelihood that cost will be higher, but certainly there is a possibility of higher costs than stated for this alternative. The estimated cost does include groundwater monitoring for five years but this is not considered to be a true operation and maintenance cost for the off-site disposal option. If groundwater is determined to be impacted, then a separate corrective measure could be required.

4.2 Containment Alternative

Regarding applicability, the containment alternative is a suitable alternative for the aeration basin in that containment of the impacted sludge and soils would result in a high degree of protection of human health and the environment. The impacted media (sludge and soils) would be contained beneath a cover system that is capable of preventing the infiltration of surface water through the waste and generation of leachate. The cover system would also prevent direct contact exposures (e.g., dermal, ingestion and inhalation) to the constituents present in the stabilized sludge and any underlying soils that are impacted.

The containment alternative is technically feasible. Stabilization of waste is a common practice and a treatability study could ensure the correct stabilization agents and mixtures to ensure the desired performance criteria are achieved. The installation of a cover system over the stabilized waste is also a commonly applied technology with a high level of long-term performance. There is no aspect of this alternative that presents uncertainty in its technical feasibility.

The effectiveness (i.e., the ability of stabilization and capping to mitigate the measured or potential impact of contamination in sludge and soils under the current and projected site conditions) is considered to be high for this alternative. Containment should be very effective under current site conditions. The aeration basin is located well within the boundaries of the

property owned by the refinery and the site is secured to prevent trespass or any other activities that could threaten the integrity of the cover system. The projected site conditions do not include any type of on-site activities (e.g., residential development or excavation for utilities) that would threaten the effectiveness of the "containment" alternative. The aeration basin is located in a remote, generally rural area where future development of the actual aeration basin site is very unlikely. There is ample open space in this area of the State to accommodate future development well into the future without a reasonable need or desire to develop the active refinery property even if refining operations ceased in the future.

Implementability characterizes the degree of difficulty involved during the installation, construction, and operation of the corrective measure. The sludge should be readily amenable to stabilization and grading, as necessary, to support placement of the cover system. It is anticipated that the clay material and rock armor to be used in the cover system is readily available from local sources. The HDPE moisture retention liner and protective 12-oz geotextile material is also readily available from numerous vendors that have trained personnel to correctly install the materials. This alternative does require routine inspections and maintenance, as necessary, to ensure the long-term performance of the cover system. Any necessary repairs can be easily implemented. Groundwater monitoring is anticipated and the installation of monitoring wells and collection of groundwater samples are common activities at remediation sites that do not pose any implementation problems.

Regarding protection of human health and the environment, both short-term (remedy implementation-related) and long-term (remedy operation-related) hazards are evaluated. There could be short-term hazards during implementation of the remedy through potential exposure of site workers to constituents in the sludge as it is stabilized. There should be minimal potential for contact with impacted soils and on-site workers will have applicable training based on their job responsibilities and appropriate personal protective equipment (e.g., protective suits, gloves, boots, etc.) will be used to minimize the threat of exposure. The potential long-term risk would be from failure of the cover system. Geotextile and rock armor layers are placed over the clay cap and moisture barrier to protect the cap and help ensure its long-term reliability. The site will also be graded to control stormwater run-on and run-off, which could otherwise potentially threaten the integrity of the cover system. Routine inspections and institutional controls will also be used to ensure long-term protection. Signs posted around the perimeter of the cover system will inform of the presence of the cover system and the buried waste materials, and the requirement to avoid any disturbance of the area. A deed notice may

also be used to inform potential future owners of the presence of buried waste materials and the post-closure care requirements for the property. Groundwater monitoring would be conducted to ensure the cover system is being effective in preventing future releases of constituents to the underlying groundwater. The requirements to perform routine inspections, groundwater monitoring, and maintain institutional controls can be enforced through the RCRA Post-Closure Care Permit.

The anticipated costs for implementing the "containment" corrective measure include capital expenditures associated with implementation of the remedy and reporting of the effectiveness of the alternative, and long-term maintenance costs. A detailed cost estimate is included in Appendix A and the total for this alternative is $1,380,000. The estimated cost does include semi-annual groundwater monitoring for 30 years to monitor groundwater conditions beneath the aeration basin and annual inspections and reporting on site conditions. If groundwater is determined to be impacted from historical operations (i.e., pre-corrective measures), then a separate corrective measure could be required to address the groundwater impacts.

4.3 No Action Alternative

Regarding applicability, the no action alternative is a not suitable alternative for the aeration basin because it would provide little to no protection of human health and the environment. The impacted media (sludge and soils) would remain exposed and the potential threat of exposure would be not be addressed.

Technically, this alternative can be implemented, but it is not feasible in regards to addressing the corrective action objectives. Natural degradation of the organic constituents may occur without any intervention but this action is not capable of addressing the metals present in the sludge and would take a very long time, and may never, reduce organic concentrations to achieve the corrective measure objectives.

The no action alternative will not be effective. Any natural biodegradation that may occur without any supplemental actions being taken will be very slow resulting in the potential for exposures to occur under current site conditions. The fact that metals are present, which are not amenable to biodegradation means that the potential for exposure would continue under projected future site conditions.

Implementability characterizes the degree of difficulty involved during the installation, construction, and operation of the corrective measure. This alternative does not include any action and thus is easily implemented.

Regarding protection of human health and the environment, both short-term (remedy implementation-related) and long-term (remedy operation-related) hazards are assessed. There would no short-term or long-term hazards created through implementation or operation of the no action alternative. At the same time, existing hazards would not be addressed, thus there would be an on-going potential for exposures to potential human and ecological receptors.

The anticipated cost for implementing the "no action" corrective measure alternative is assumed to be $0. Because no action is being taken to address the aeration basin under this alternative, it is assumed that groundwater monitoring would not be conducted either.

4.4 Comparative Analysis

A comparative analysis of the off-site disposal and containment corrective measure alternatives in relation to the CME criteria is provided as follows:

- Applicability. The off-site disposal and the containment options are both applicable alternatives for the remediation of the aeration basin. 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.

  Off-site Disposal. The stabilization, excavation, transportation and off-site 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 effect Corrective Action Complete without Controls of the surface impoundments in the event that it becomes technically infeasible or cost prohibitive to remove all the contaminated soils and/or groundwater.

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

- Effectiveness.

  Off-site Disposal. The successful removal of all wastes and associated contaminated soils would eliminate the potential of current and future exposure to waste constituents at the aeration basin.

Containment. The solidification of wastes followed by the construction of a 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 future releases of hazardous constituents to groundwater. Information concerning the design and construction of the surface impoundments is included in Appendix B. An extensive design effort for the original aeration basin was conducted to ensure that the impoundments would retain free liquids.

- Implementability.

  Off-site Disposal. Off-site disposal is a commonly implemented alternative for refinery surface impoundments. Assuming the depth of soil impacts are not too deep (e.g., greater than 10 feet), this alternative can be implemented. If soil impacts are deeper, then there would most likely be problems safely excavating the deeper soils near existing surface features (e.g., the new API Separator).

  Containment. There are no identified limitations on implementability of the containment alternative. Stabilization of the waste and placement of cover systems are commonly used technologies for refinery surface impoundments and site conditions are favorable for implementation of this alternative.

- Human Health and Ecological Protectiveness.

  Off-site Disposal. The off-site 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

  Containment. 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 corrective action 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 controls will prevent unknowing disturbance of the closure area.

- Cost. Estimated costs for the off-site disposal and containment options are $7,450,000 and $1,380,000, 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 off-site disposal alternative is the disposal cost since the removed

waste materials would be classified as hazardous waste due to the potential presence of listed primary sludge (F037). While the cost for the containment alternative can be estimated with a fairly high level of confidence, the cost estimate for the disposal alternative is much less certain. If impacted soils extend to depths greater than one foot, as assumed in the cost estimate, then the cost for the off-site disposal option will increase and could increase significantly as the impacts are found deeper.

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

Section 5
Selected Corrective Measures

The selected corrective measure alternative for the aeration basin is in-situ solidifying the wastes following by construction of a cover system to effect Corrective Action Complete with Controls. This alternative utilizes a combination of remedial technologies, including treatment (stabilization), containment (cover system) and institutional controls. A detailed design of the corrective measure will be 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 planned 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. A 12-mil HDPE moisture retention liner and a protective 12-oz geotextile will be placed over the clay cap.

- 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.

Tables

Table 1
Sludge Samples Analytical Data Summary
Western Refining Southwest, Inc. - Gallup Refinery

		TPH			Metals						SVOCs										
Sample ID	Sample Depth (ft below top of sediment)	DRO (mg/kg)	MRO (mg/kg)	GRO (mg/kg)	Mercury (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Benzo(a) anthracene (mg/kg)	Chrysene (mg/kg)	Fluorene (mg/kg)	2-Methyl naphthalene as SVOC (mg/kg)	3+4-Methylphenol (mg/kg)	Naphthalene as SVOC (mg/kg)	Phenanthrene (mg/kg)	Phenol (mg/kg)	Pyrene (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)
AL1-1-SS	4.8	**71000**	ND	300	19	**29**	140	0.64	44	23	ND	ND	ND	190	ND	53	50	34	ND	3.6	17
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
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
AL1-4-SS	5.6	**190000**	ND	280	9.5	9.5	280	0.48	24	38	ND	33	91	530	ND	94	200	ND	44	4.2	19
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
AL1-1-HP	5.5	**7200**	ND	240	3.1	11	150	1.2	40	23	ND	ND	ND	23	6.2	6.7	8.4	6.7	ND	1.2	6.8
AL1-2-HP	3.0	**200000**	**37000**	260	5	**32**	350	1.4	51	110	ND	34	40	260	98	65	140	54	ND	2.4	11
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
AL1-4-HP	5.1	**76000**	**ND**	590	8.3	**47**	310	1.4	60	220	ND	31	ND	340	ND	90	84	ND	ND	3.2	22
AL1-5-HP	3.4	**130000**	**25000**	670	18	**31**	450	0.79	46	110	ND	ND	47	460	47	110	130	ND	ND	9	48
AL2-1-SS	6.0	**50000**	ND	ND	8.4	**20**	260	6.6	30	48	ND	ND	ND	ND	150	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	NDN	ND	2.1
AL2-3-SS	0.5	**300000**	**29000**	ND	8.9	8.4	350	0.42	14	24	ND	32	43	300	ND	ND	250	ND	47	ND	1.2
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
AL2-5-SS	0.5	**370000**	ND	430	6.8	4.6	310	0.31	12	18	ND	ND	70	550	ND	85	250	ND	36	2.3	18
AL2-1-HP	7.4	**120000**	**28000**	ND	7.4	**18**	81	2.4	29	32	ND	42	ND	ND	99	ND	50	ND	38	ND	0.6
AL2-2-HP	9.8	**130000**	ND	ND	6.4	**20**	300	0.73	22	39	ND	ND	36	140	36	ND	93	ND	ND	ND	1.1
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
AL2-4-HP	8.4	**140000**	**29000**	ND	6.4	**21**	270	5.2	45	55	ND	ND	ND	57	100	ND	55	43	ND	ND	1.1
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
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
EP1-2	1.1	**150000**	ND	ND	4.4	17	190	0.58	24	18	ND	ND	ND	58	34	ND	71	ND	ND	ND	0.51
EP1-3	1.5	**110000**	ND	ND	5.1	6.5	220	0.43	13	15	ND	ND	47	140	60	ND	130	ND	ND	ND	0.68
EP1-4	1.1	**130000**	**27000**	ND	9.6	**26**	330	6.4	41	39	ND	ND	59	180	86	ND	210	ND	40	ND	0.65
EP1-5	1.1	**120000**	ND	ND	6	**23**	150	0.97	23	22	ND	57	42	130	140	ND	150	ND	48	ND	0.69
EP1-6	0.8	**180000**	**26000**	ND	4.1	3.2	330	0.26	8.8	16	ND	40	70	210	ND	ND	150	ND	41	ND	0.63
EP1-7	1.0	**200000**	**25000**	ND	4.4	3.6	280	0.27	8.3	9.7	**35**	74	77	260	ND	ND	240	ND	70	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
Screening Levels																					
Residential		200	200	NE	7.71	3.90	15,600	77.90	219	400	6.21	621	2,290	310 [1]	NE	45	1,830	18,300	1,720	16	5,570
Industrial/Occupational		200	200	NE	49.90	17.70	224,000	1,120	2,920	800	23.40	2,340	24,400	4100 [1]	NE	252	20,500	205,000	18,300	85	57,900
Construction worker		NE	NE	NE	63.60	65.40	4,350	309	449	800	213	20,600	8,910	NE	NE	702	7,150	68,800	6,680	471	21,100
Soil-to-groundwater DAF= 1.0		NE	NE	NE	0.03	0.26	6,030	1.37	2.11	NE	0.32	32.60	25	0.75 [1]	NE	0.0042	83.4	6.3	112	0.0019	1.38

SS- soft sediment, HP - hard park sediment, NE - not established

Screening levels from NMED guidance (Technical Background Document for Development of Soil Screening Levels (Revision 5.0, dated August 2009) and Total Petroleum Hydrocarbon (TPH) Screening Guidelines (dated October 2006)

Chromium screening levels conservatively based on Chromium VI

1 - EPA Regional Screening Levels (updated November 2010)

20 Bolded values exceed lower of industrial/occupational and construction worker screening levels

Table 1
Sludge Samples Analytical Data Summary
Western Refining Southwest, Inc. - Gallup Refinery

		VOCs													
Sample ID	Sample Depth (ft below top of sediment)	Ethylbenzene (mg/kg)	MTBE (mg/kg)	1,2,4 -Trimethyl benzene (mg/kg)	1,3,5-Trimethyl benzene (mg/kg)	Napthalene as VOC (mg/kg)	1-Methyl napthalene (mg/kg)	2-Methyl naphthalene as VOC (mg/kg)	Carbon disulfide (mg/kg)	Isopropyl benzene (mg/kg)	4-Isopropyl toluene (mg/kg)	n-Butylbenzne (mg/kg)	n-Propyl benzene (mg/kg)	sec-Butylbenzene (mg/kg)	Xylenes (mg/kg)
AL1-1-SS	4.8	4.3	ND	11	2.7	10	13	21	ND	0.64	ND	0.65	1.4	ND	27
AL1-2-SS	2.3	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	1.8	ND	6.7	1.7	4	10	15	ND	ND	ND	1.7	0.85	0.82	12
AL1-4-SS	5.6	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	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	2.9	ND	12	3.3	7.2	15	22	ND	0.72	0.54	2.7	1.7	0.96	18
AL1-2-HP	3.0	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	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	11	ND	37	10	21	29	46	ND	1.6	0.84	7	5.9	1.8	60
AL1-5-HP	3.4	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AL2-2-SS	4.5	0.72	ND	4.5	1.1	5.8	26	37	ND	ND	ND	1	ND	ND	4.9
AL2-3-SS	0.5	ND	ND	2.9	0.54	4.6	21	27	ND	ND	ND	0.66	ND	ND	2.8
AL2-4-SS	3.0	0.56	ND	4.1	0.72	5.4	24	30	ND	ND	ND	1.1	ND	ND	4
AL2-5-SS	0.5	6.4	ND	17	5.6	15	43	35	ND	1.7	1	3.4	3	2	39
AL2-1-HP	7.4	ND	ND	0.93	ND	ND	2.5	2.4	ND	ND	ND	ND	ND	ND	1.9
AL2-2-HP	9.8	ND	ND	3	0.71	3.2	11	15	ND	ND	ND	0.56	ND	ND	3.8
AL2-3-HP	9.1	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	ND	ND	ND	ND	1.6	5.7	7.2	ND	ND	ND	ND	ND	ND	3.2
AL2-5-HP	7.5	ND	ND	1.1	ND	1.2	5.4	6.6	5.8	ND	ND	ND	ND	ND	1.8
EP1-1	1.1	ND	ND	1.5	ND	2.6	12	16	ND	ND	ND	ND	ND	ND	ND
EP1-2	1.1	ND	ND	1.4	ND	1.4	5.8	7.7	ND	ND	ND	ND	ND	ND	1
EP1-3	1.5	ND	ND	1.2	ND	1.3	4.9	6.8	ND	ND	ND	ND	ND	ND	1.1
EP1-4	1.1	ND	ND	1.3	ND	1.7	6	7.6	ND	ND	ND	ND	ND	ND	1.2
EP1-5	1.1	ND	ND	1.5	ND	1.9	7.1	10	ND	ND	ND	ND	ND	ND	1.7
EP1-6	0.8	ND	ND	2.2	ND	2.8	15	19	ND	ND	ND	ND	ND	ND	1.3
EP1-7	1.0	ND	ND	1.7	ND	1.7	9.1	12	ND	ND	ND	ND	ND	ND	ND
EP1-8	1.5	ND	ND	1.2	ND	1.6	8.1	11	ND	ND	ND	ND	ND	ND	ND
Screening Levels															
Residential		70	NE	62 [1]	780 [1]	45	22 [1]	310 [1]	1,940	NE	NE	NE	NE	NE	1,090
Industrial/Occupational		385	NE	260 [1]	10000 [1]	252	99 [1]	4100 [1]	7,540	NE	NE	NE	NE	NE	3,610
Construction worker		6,630	NE	NE	NE	702	NE	NE	5,890	NE	NE	NE	NE	NE	3,130
Soil-to-groundwater DAF= 1.0		0.0146	NE	0.021 [1]	0.52 [1]	0	0.012 [1]	0.75 [1]	0.252	NE	NE	NE	NE	NE	0.176

SS- soft sediment, HP - hard park sediment, NE - not established

Screening levels from NMED guidance (Technical Background Document for Development of Soil Screening Levels (Revision 5.0, dated August 2009) and Total Petroleum Hydrocarbon (TPH) Screening Guidelines (dated October 2006)

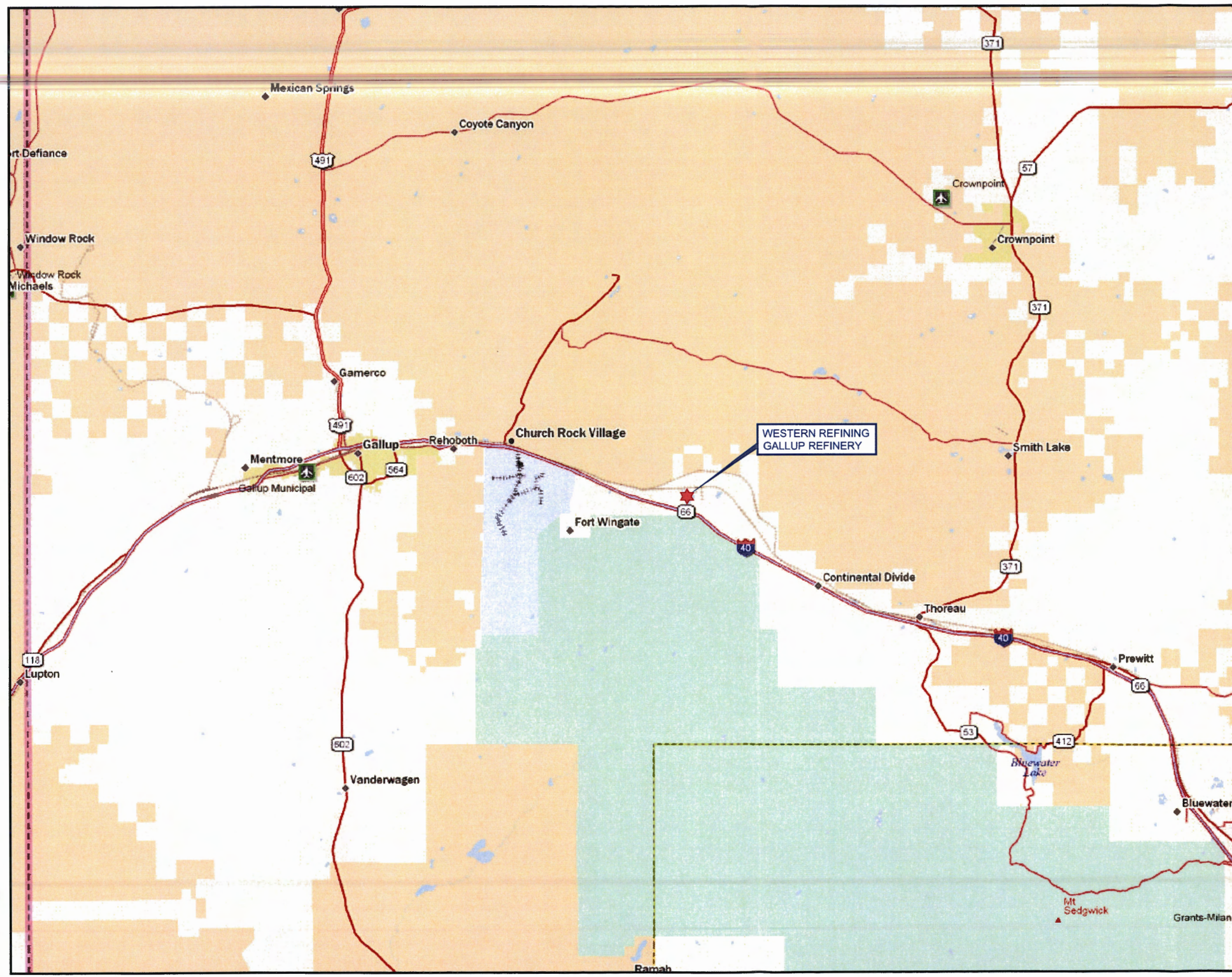
Chromium screening levels conservatively based on Chromium VI

1 - EPA Regional Screening Levels (updated November 2010)

20 Bolded values exceed lower of industrial/occupational and construction worker screening levels

Figures

Map Source: DeLorme Street Atlas USA 2007 Plus.



N

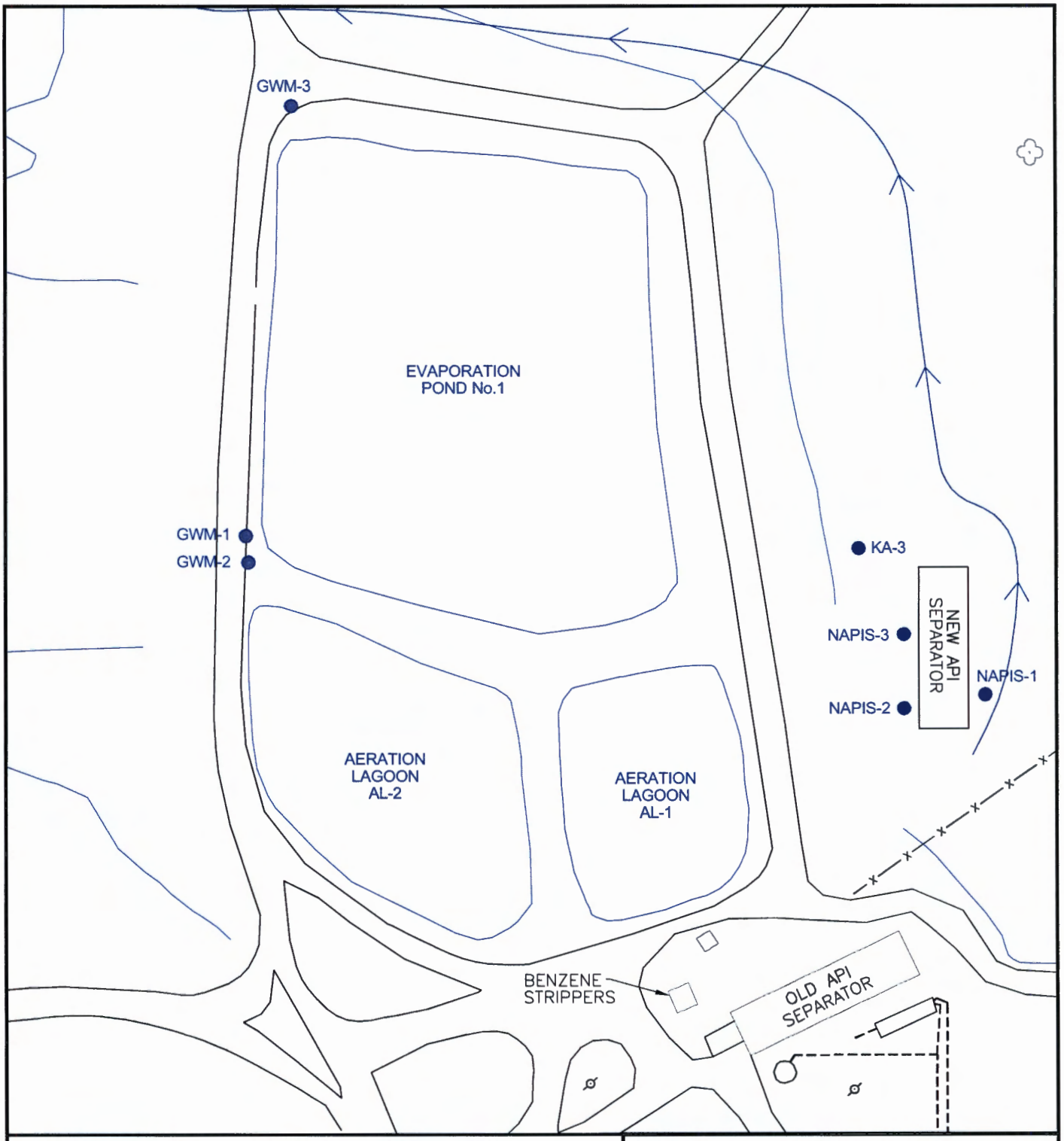
0 5
SCALE IN MILES

Western Refining
GALLUP REFINERY

PROJ. NO.: Western Refining	DATE: 11/10/09	FILE:WestRef-B47

FIGURE 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.

LEGEND

GWM-1 ● MONITORING WELL LOCATION

- - - - - - - - PIPELINE

N

0 80

SCALE IN FEET

QUADRANGLE LOCATION

Western Refining

GALLUP REFINERY

PROJ. NO.: Western Refining	DATE: 03/02/11	FILE: WestRef-A46

FIGURE 2
SITE MAP
GALLUP REFINERY

RPS

404 Camp Craft Road
Austin, Texas 78746

Appendix A

Cost Estimates

Table A-2.1
Closure Cost Estimate - Containment Alternative
Aeration Lagoons (AL-1 & AL-2) and EP-1
March 29, 2011

Item	Description	Quantity	Units	Unit Cost	Cost	Comments
	Professional Services					
1	Investigation soil sampling	1	LS	$128,000	$128,000	See Table A-2.2 for detailed estimate of unit cost
2	Final closure report	1	LS	$20,000	$20,000	Unit cost = 120 hrs @ average labor cost of $165/hr + $200 expenses
3	Operations and Maintenance	1	LS	$246,000	$246,000	See Table A-2.3 for detailed estimate of unit cost
4	Project administration (engineering, bidding, construction administration, etc.)	1	LS	$103,000	$103,000	Project administration unit cost = 10% of subtotal of Items 5 - 15
	Demolition					
5	Dismantling and disposal of benzene strippers	1	LS	$5,000	$5,000	Dismantling: 4 hrs x 3 men x 3 strippers x $60/hr = $2,200 Triple rinsing & loading of metal & packing and rinse water transport: 4 hrs x 2 men x 3 strippers x $60/hr = $1,500 Rinse water disposed at onsite treatment plant and metal recycled Packing transport & disposal as special waste @ Waste Management's San Juan landfill: 10 CY @ $55/CY = $550 Equipment & misc. expenses: $750
	Construction					
6	Mobilization	1	LS	$39,000	$39,000	Mobilization unit cost = 5% of subtotal of Items 8 - 15
7	Administrative costs (office facilities & staff, H&S plan, SWPPP, insurance, equipment decon, QA/QC, etc.)	1	LS	$39,000	$39,000	Administrative unit cost = 5% of subtotal items 8 - 15
8	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	$0.012	$10,000	Material: Fuel 6/Days x $75 = $500 Labor: 6/Days x $800/Day = $5,000 Equipment: Pump, hoses, misc equipment: 6/Days x $650/day = $4,000
9	Stabilize sludges in place in aeration lagoons and EP-1	8,800	CY	$25	$223,000	Material: Fly Ash - 2,010 tons x $73.00/ton = $147,000 Labor: 15/Days x $2,300/day = $35,000 Equipment: Excavator and Dozer + Fuel - 15/Days x $2,700 = $41,000
10	Balanced cut & backfill of lagoons & EP-1	10,400	CY	$10.70	$111,000	Labor: 11/Days x $2,300 = $26,000 Equipment: Excavator, Dozer and Compactor + Fuel - 11/Days x $3,700 = $41,000 3-24yd^3 End Dumps - 11/Days x $4,000 = $44,000
11	2-ft compacted clay cap over AL-1, AL-2, & EP-1	8,600	CY	$15.30	$132,000	Labor: 11/Days x $2,300 = $26,000 Equipment: 2-Excavators, Dozer and Compactor + Fuel - 11/Days x $5,500 = $61,000 3-24yd3 End Dumps - 11/Days x $4,000 = $44,000
12	12-mil HDPE flexible membrane liner clay cover	115,000	SF	$0.42	$48,000	Material: 3 - 19.5' x 1,800' rolls w/ joint tape delivered x 1.2 tax & contractor markup = $26,000 Subcontracttor Installation: $0.20/sf = $22,000
13	12-oz. geotextile fabric liner protective cover	12,800	SY	$3.40	$44,000	Material: $1.50/sy x 1.2 tax, shipping and contractor markup = $23,000 Labor: 5/Days x $2,300 = $12,000 Equipment: All Terain Fork Lift + Fuel - 5/Days x $1,150 = $6,000 & $1,500 for Misc. Eqpmt
14	8" - 1.5-inch crushed rock final cover	2,900	CY	$53.50	$155,000	Material: $21/ton delivered from Gallup Sand and Gravel x 1.35 ton/cy x 1.0856 tax & contractror markup = $40.00/cy Labor: 6.5/Days x $2,300 = $15,000 Equipment: Excavator, Dozer and Compactor and Fuel 6.5/Days x $3,700 = $24,000
15	Drainage improvements	1	LS	$50,000	$50,000	Based on experience, $50,000 is conservative allowance for miscellaneous drainage improvements (e.g. drainage swale grading and permanent erosion control measures) that will be required as part of site closure.
16	Demobilization	1	LS	$24,000	$24,000	Demobilization unit cost = 3% of subtotal of Items 8 - 15
	TOTAL				**$1,380,000**	

Quantities

Cover area (ft2)	115,000
8" - 1.5-inch crushed rock final cover (cy)	2,900
2-ft compacted clay cap over AL-1, AL-2, & EP-1 (cy)	8,600
12-oz. geotextile fabric liner protective cover (sy)	12,800
12-mil HDPE flexible membrane liner clay cover (ft2)	115,000

Table A-1.1
Closure Cost Estimate - Offsite Disposal Alternative
Aeration Lagoons (AL-1 & AL-2) and EP-1
March 29, 2011

Item	Description	Quantity	Units	Unit Cost	Cost	Comments
	Professional Services					
1	Investigation & soil confirmation sampling	1	LS	$56,000	$56,000	See Table A-1.2 for detailed estimate of unit cost
2	Final closure report	1	LS	$20,000	$20,000	Unit cost = 120 hrs @ average labor cost of $165/hr + $200 expenses
3	Groundwater Monitoring and Reporting	1	LS	$15,000	$15,000	See Table A-1.3 for detailed estimate of unit cost
4	Project administration (engineering, bidding, construction administration, etc.)	1	LS	$146,000	$146,000	Project administration unit cost = 2% of subtotal of Items 5 - 18
	Demolition					
5	Dismantling and disposal of benzene strippers	1	LS	$5,000	$5,000	Dismantling: 4 hrs x 3 men x 3 strippers x $60/hr = $2,200 Triple rinsing & loading of metal & packing and rinse water transport: 4 hrs x 2 men x 3 strippers x $60/hr = $1,500 Rinse water disposed at onsite treatment plant and metal recycled Packing transport & disposal as special waste @ Waste Management's San Juan landfill: 10 CY @ $55/CY = $550 Equipment & misc. expenses: $750
	Construction					
6	Mobilization	1	LS	$70,000	$70,000	Mobilization unit cost = 1% of subtotal of Items 8 - 18
7	Administrative costs (office facilities & staff, H&S plan, SWPPP, insurance, equipment decon, QA/QC, etc.)	1	LS	$140,000	$140,000	Project administration unit cost = 2% of subtotal of Items 8 - 18
8	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	$0.012	$10,000	Material: Fuel 6/Days x $75 = $500 Labor: 6/Days x $800/Day = $5,000 Equipment: Pump, hoses, misc equipment: 6/Days x $650/day = $4,000
9	Stabilize sludges in place in aeration lagoons and EP-1	8,800	CY	$25.30	$223,000	Material: Fly Ash - 2,010 tons x $73.00/ton = $147,000 Labor: 15/Days x $2,300/day = $35,000 Equipment: Excavator and Dozer + Fuel - 15/Days x $2,700 = $41,000
10	Load 9,700 CY of stabilized sludges for transportation to US Ecology's hazardous waste landfill in Battie, NV[1]	12	Days	$6,750	$81,000	Labor: 12/Days x $2,300 = $28,000 Equipment: 2 Excavators, Dozer + Fuel - 12/Days x $4,400 = $53,000
10	Transportation of stabilized sludges to U.S. Ecology Battie, NV landfill	485	Load	$2,920	$1,416,000	Subcontractor: Environmental Evolutions - 20 CY End Dump Trucks
11	Dispose 100% of stabilized sludges as hazardous waste	9,700	CY	$390	$3,783,000	Base disposal fee at U.S. Ecology's NV landfill + 30% contractor markup
12	Excavate top 1 ft of clay liner (AL-1, AL-2 & EP-1)	3,800	CY	$7.40	$28,000	Labor: 5.5/Days x $2,300 = $13,000 Equipment: Excavator, Dozer + Fuel - 5.5/Days x $2,700 = $15,000
13	Load, transport & dispose of 50% of excavated clay as special waste	1,900	CY	$117.50	$223,000	Labor: 4/Days x $2,300 = $9,000 Equipment: Excavator, Dozer + Fuel - 4/Days x $2,700 = $11,000 Transportation to WM's Painted Dessert Landfill: 95 Loads x $735/Load + 30% Contractor Markup = $91,000 Disposal fee at WM's Painted Desert Landfill + 30% Contractor Markup: $59/CY
14	Load 1,900 CY of excavated clay for transportation to US Ecology Battie, NV landfill	4	Days	$5,000	$20,000	Labor: 4/Days x $2,300 = $9,000 Equipment: Excavator, Dozer + Fuel - 4/Days x $2,700 = $11,000
15	Transportation of excavated clay as hazardous waste to U.S. Ecology Battie, NV landfill	95	Load	$2,920	$277,000	Equipment: Environmental Evolutions - 20 CY End Dump Trucks
16	Dispose 50% of excavated clay as hazardous waste	1,900	CY	$390	$741,000	Base disposal fee at U.S. Ecology's NV landfill + 30% contractor markup
17	Sludge characterization sampling - one per 100 CY[2]	97	EA	$610	$59,000	
18	Backfill lagoons	6,200	CY	$15.20	$94,000	Backfill material excavated from onsite Labor: 8/Days x $2,300 = $18,000 Equipment: 2-Excavators, Dozer and Compactor + Fuel - 8/Days x $5,500 = $44,000 3-24yd3 End Dumps - 8/Days x $4,000 = $32,000
19	Demobilization	1	LS	$35,000	$35,000	Demobilization unit cost = 0.5% of subtotal of Items 8 - 18
	TOTAL				**$7,450,000**	

Notes
1 Assumes 10% increase in sludge volume due to stabilization
2 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-1.2
Investigation & Confirmation Sampling Cost Estimate - Off-Site Disposal Alternative
Aeration Lagoons (AL-1 & AL-2) & EP-1
March 25, 2011

Analysis	# of Samples	Cost/Sample	Cost
Dike & Surrounding Soils Characterization Samples			
8260B	101	$90	$9,090
8270C	101	$220	$22,220
8015B (GRO, DRO, MRO)	101	$90	$9,090
Skinner List Metals & Fe, Mn	101	$185	$525
Sampling Labor	five 8-hour days	$75/hour	$3,000
Sampling Equipment	two days	$1500/day	$3,000
		Subtotal	**$47,000**
Benzene Stripper Area Characterization Samples			
8260B	11	$90	$990
8270C	11	$220	$2,420
8015B (GRO, DRO, MRO)	11	$90	$990
Skinner List Metals & Fe, Mn	11	$185	$2,035
Sampling Labor	one 8-hour day	$75/hour	$600
Sampling Equipment	one day	$1500/day	$1,500
		Subtotal	**$8,500**
AL-1 & AL-2 Confirmation Samples			
8260B	0	$90	$0
8270C	0	$220	$0
8015B (GRO, DRO, MRO)	0	$90	$0
Skinner List Metals & Fe, Mn	0	$185	$0
Sampling Labor	four 8-hour days	$75/hour	$0
		Subtotal	**$0**
		Total	**$56,000**

GRO - Gasoline Range Organics
DRO - Diesel Range Organics
MRO - Motor Oil Range Organics
AL - Aeration Lagoon

Table A-1.3
Groundwater Sampling Cost Estimate - Off-Site Disposal Alternative
Aeration Lagoons (AL-1 & AL-2) & EP-1
March 25, 2011

MONITORING WELL CONSTRUCTION				
Activity	**Units**	**Quantity**	**Rate**	**Costs**
Mobilization	each	1	$500.00	$500
drilling, continuous sampling (1)	feet	100	$13.80	$1,380
pressure washer	day	4	$125.00	$500
decon of auger/samples	feet	100	$1.50	$150
2" PVC well materials	feet	100	$14.50	$1,450
4" steel upright surface completion with pad	each	4	$450.00	$1,800
55-gallon drums	each	12	$47.00	$564
			Subtotal	**$6,400**

GROUNDWATER SAMPLING AND ANALYSIS					
Analysis	**Frequency**	**# of Sample Locations**	**Total # of Samples (2)**	**Cost/Sample**	**Cost per Year**
8260	Annual	4	6	$45	$270
8015B (GRO, DRO, MRO)	Annual	4	6	$75	$450
Total Hg (7470)	Annual	4	6	$30	$180
labor during annual sampling events -- 12 hours X $65/hr					$780
				Subtotal	**$1,680**
Costs for well installation and 5 years monitoring					**$15,000**

Notes:
Well installion costs are inclusive of labor
1 - includes four monitoring wells to a depth of 25 feet
2 - Includes additional QA/QC samples

TABLE A-2.2
Investigation & Confirmation Sampling Cost Estimate - Containment Alternative
Aeration Lagoons (AL-1 & AL-2) and EP-1
March 25, 2011

Analysis	# of Samples	Cost/Sample	Cost
Dike & Surrounding Soils Characterization Samples			
8260B	101	$90	$9,090
8270C	101	$220	$22,220
8015B (GRO, DRO, MRO)	101	$90	$9,090
Skinner List Metals & Fe, Mn	101	$185	$525
Sampling Labor	five 8-hour days	$75/hour	$3,000
Sampling Equipment	two days	$1500/day	$3,000
		Subtotal	**$47,000**
Benzene Stripper Area Characterization Samples			
8260B	11	$90	$990
8270C	11	$220	$2,420
8015B (GRO, DRO, MRO)	11	$90	$990
Skinner List Metals & Fe, Mn	11	$185	$2,035
Sampling Labor	one 8-hour day	$75/hour	$600
Sampling Equipment	one day	$1500/day	$1,500
		Subtotal	**$8,500**
AL-1, AL-2 & EP-1 Confirmation Samples			
8260B	116	$90	$10,440
8270C	116	$220	$25,520
8015B (GRO, DRO, MRO)	116	$90	$10,440
Skinner List Metals & Fe, Mn	116	$185	$21,460
Sampling Labor	eight 8-hour days	$75/hour	$4,800
		Subtotal	**$72,660**
		Total	**$128,000**

GRO - Gasoline Range Organics
DRO - Diesel Range Organics
MRO - Motor Oil Range Organics
AL - Aeration Lagoon

Table A-2.3
Operation and Maintenance Cost Estimate - Containment Alternative
March 25, 2011

MONITORING WELL CONSTRUCTION				
Activity	**Units**	**Quantity**	**Rate**	**Cost**
Mobilization	each	1	$500.00	$500
drilling, continuous sampling (1)	feet	100	$13.80	$1,380
pressure washer	day	4	$125.00	$500
decon of auger/samples	feet	100	$1.50	$150
2" PVC well materials	feet	100	$14.50	$1,450
4" steel upright surface completion with pad	each	4	$450.00	$1,800
55-gallon drums	each	12	$47.00	$564
			Subtotal	**$6,300**

GROUNDWATER SAMPLING AND ANALYSIS					
Analysis	**Frequency**	**# of Sample Locations**	**Total # of Samples (2)**	**Cost/Sample**	**Cost per Year**
8260	Semi-annual	4	12	$45	$540
8015B (GRO, DRO, MRO)	Semi-annual	4	12	$75	$900
Total Hg (7470)	Semi-annual	4	12	$30	$360
labor during semi-annual sampling events -- 24 hours X $65/hr					$1,560
				Subtotal	**$3,360**
Costs for 30 years monitoring					**$101,000**

ANNUAL INSPECTIONS AND REPORTING				
Activity	**Units**	**Quantity**	**Rate**	**Costs**
Annual Inspections	each	30	$600.00	$18,000
Annual Inspection & Monitoring Reports	each	30	$4,000.00	$120,000
			Subtotal	**$138,000**
			TOTAL	**$246,000**

notes:
well installion costs are inclusive of labor
1 - includes four monitoring wells to a depth of 25 feet
2 - Includes additional QA/QC samples

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.

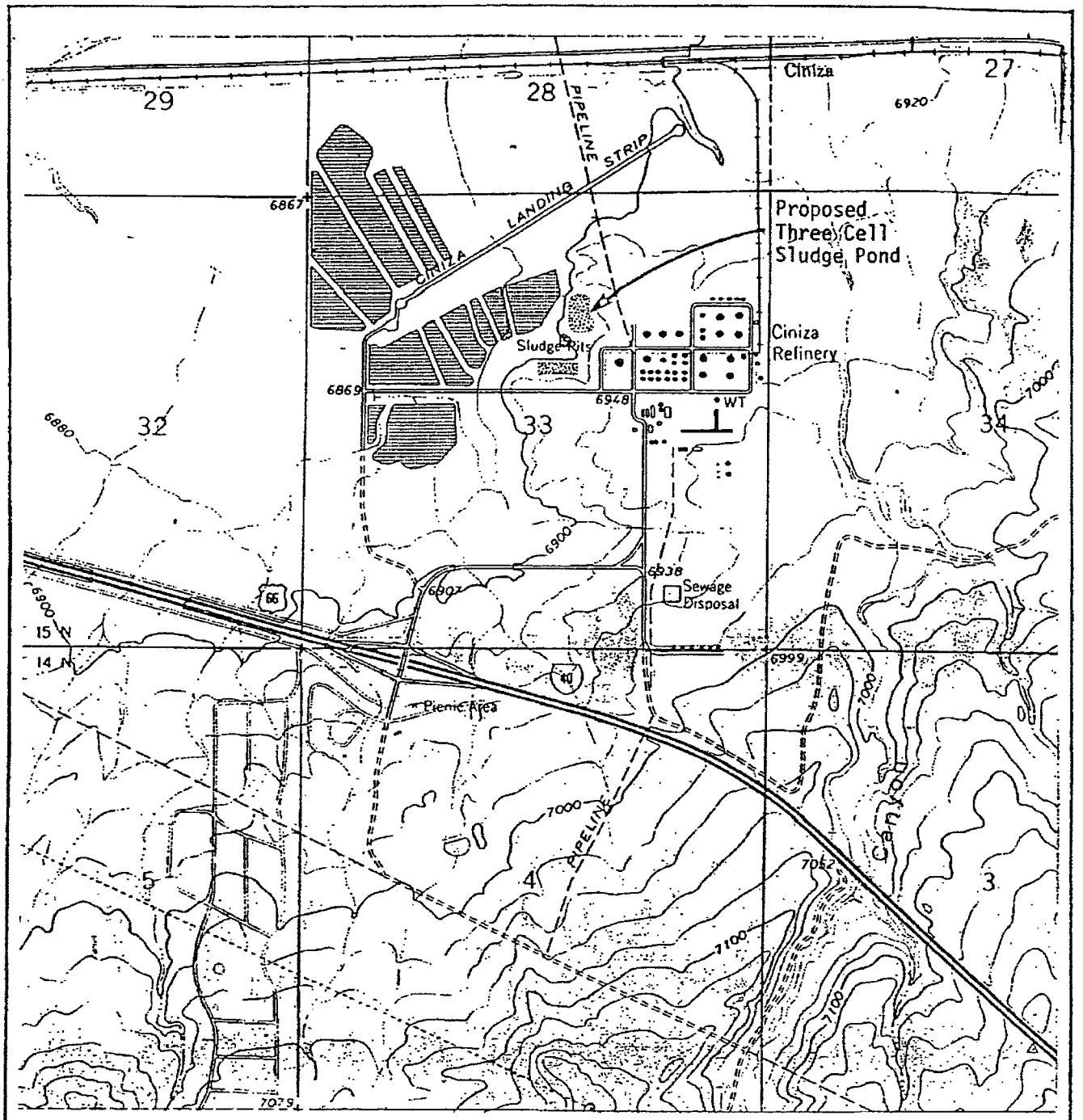
In any subsurface investigation it is necessary to assume that the soil conditions do not vary greatly from the conditions encountered in the test holes. The analyses and recommendations submitted in this report are based in part upon the data obtained from the soil borings. The nature and extent of 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. Reviewed by:

John R. Dickey
Staff Geotechnical Engineer

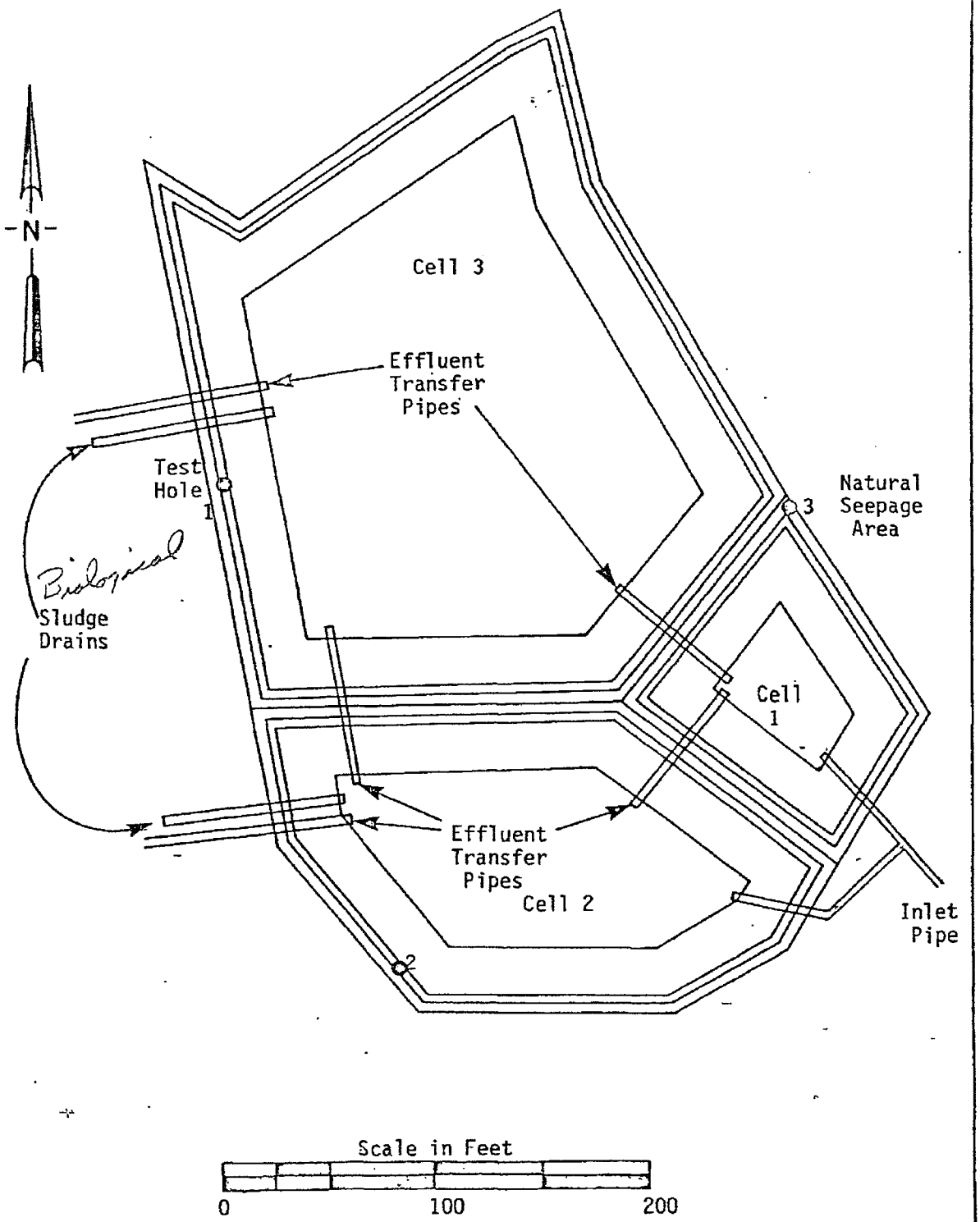
Martin D. Vinyard, P. E.
Vice President



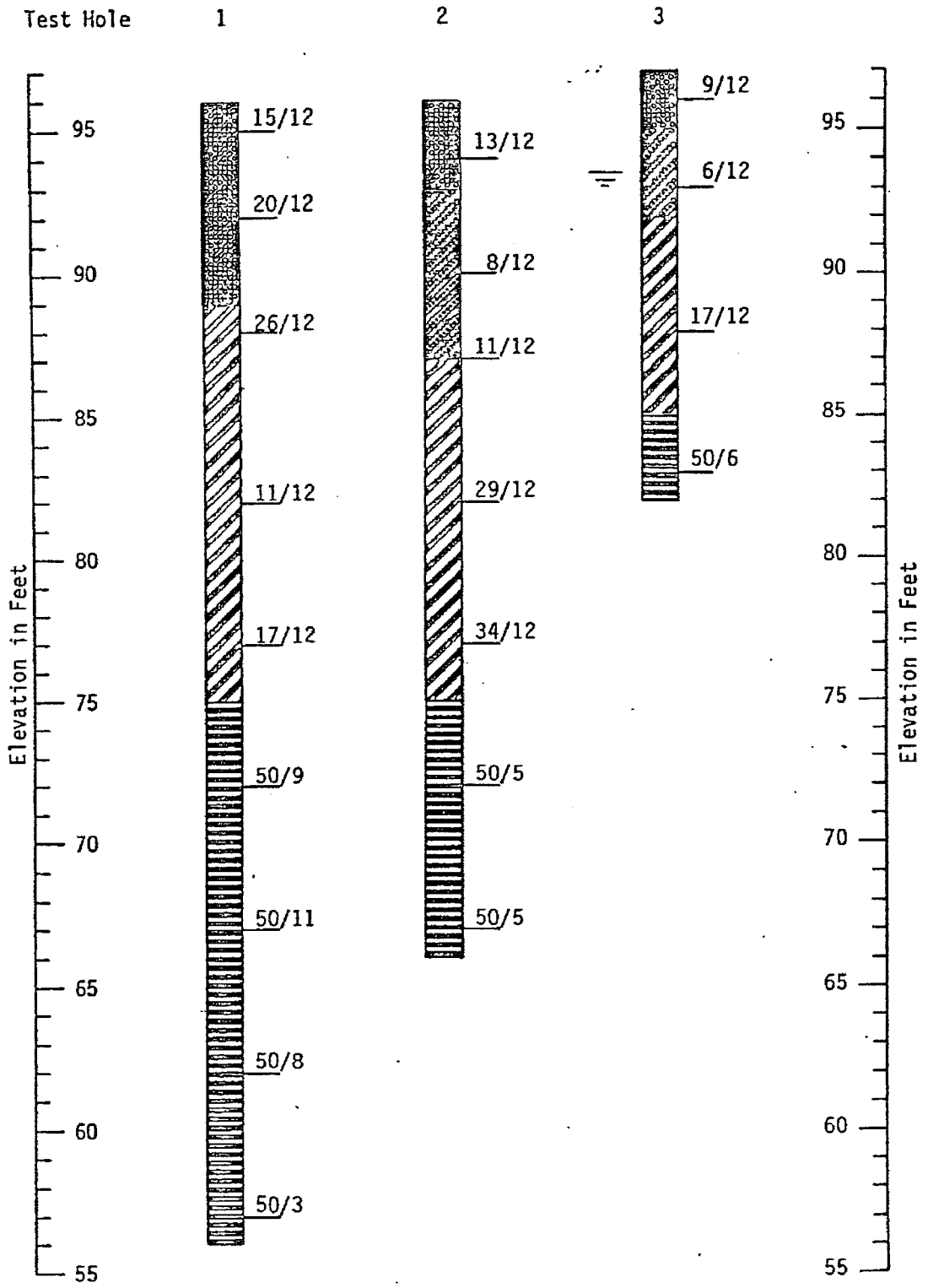
Scale in Miles

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

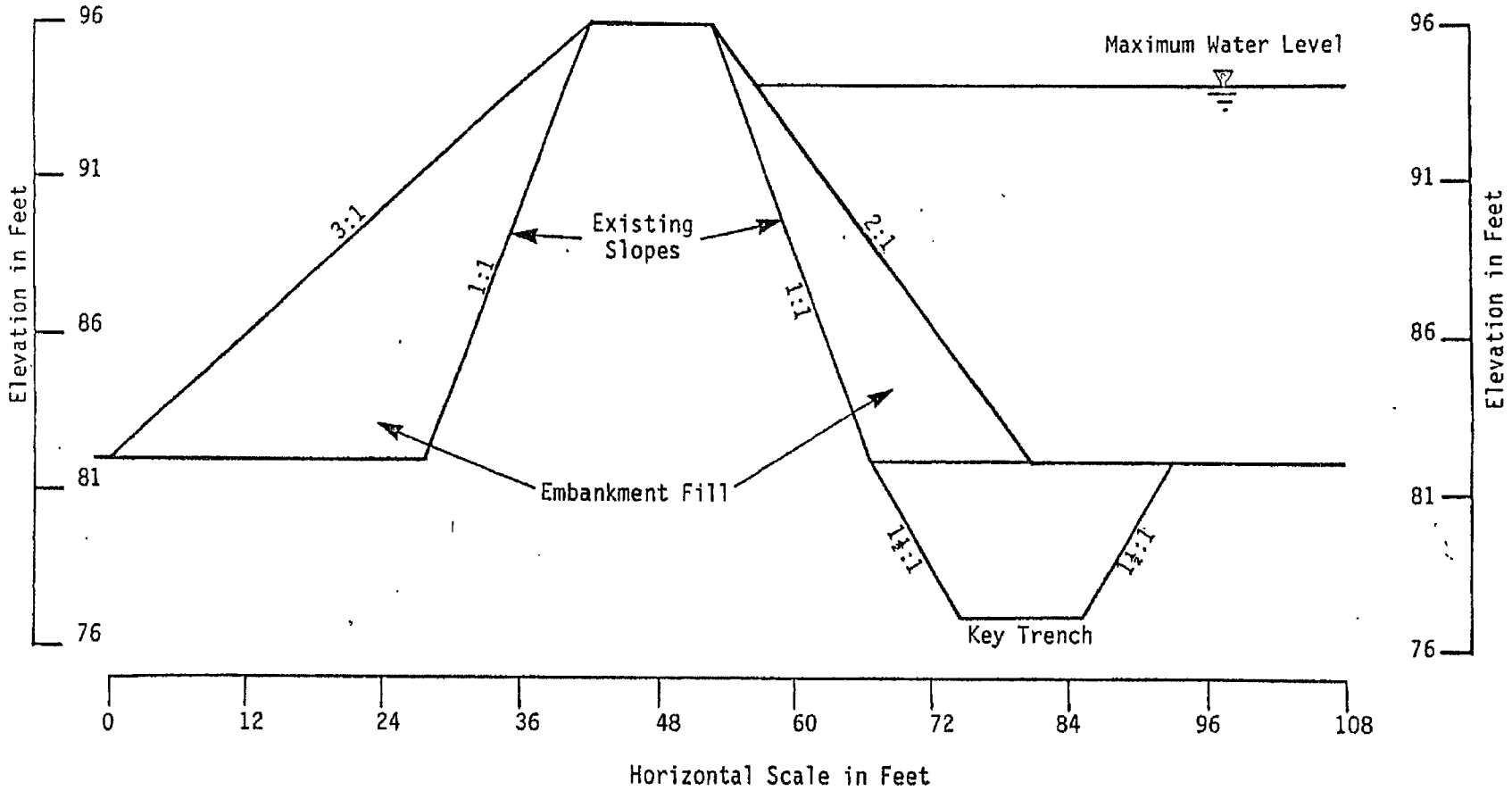
1. Test holes were drilled on June 5, 1986, with a 6 inch djameter hollowstem continuous flight power auger.

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



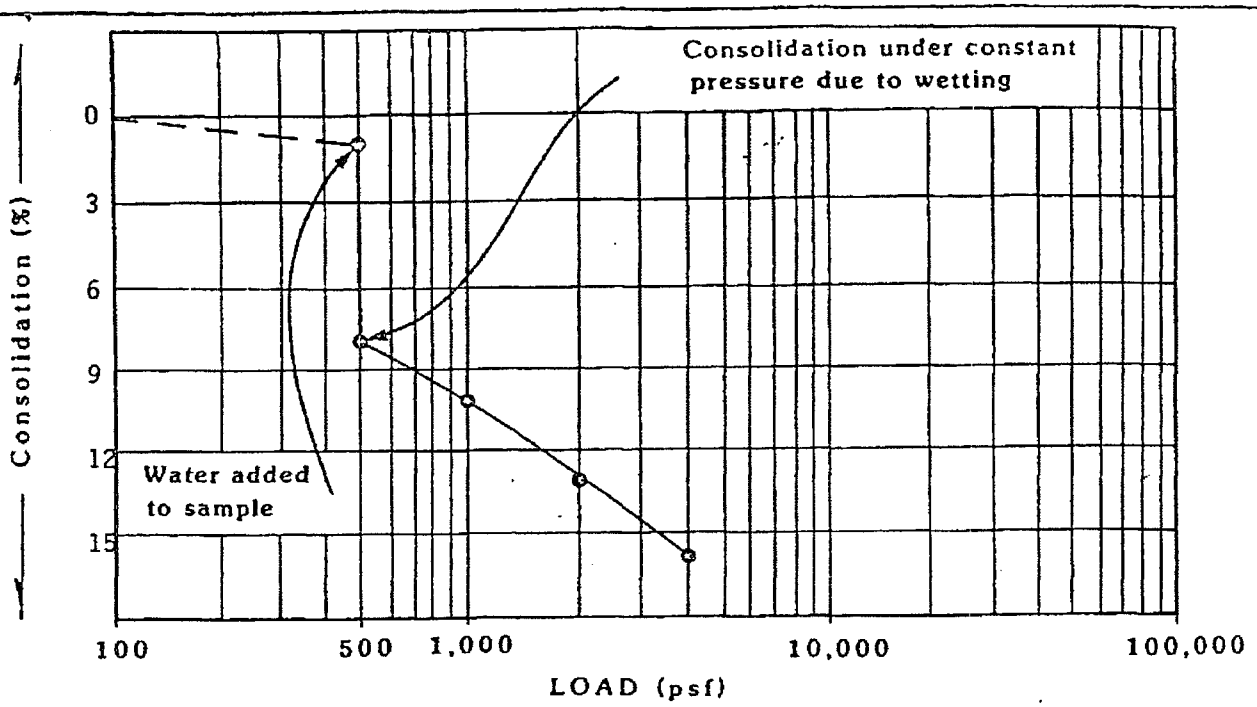
EXTERIOR EMBANKMENT CROSS SECTION

FOX Consulting Engineers and Geologists

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

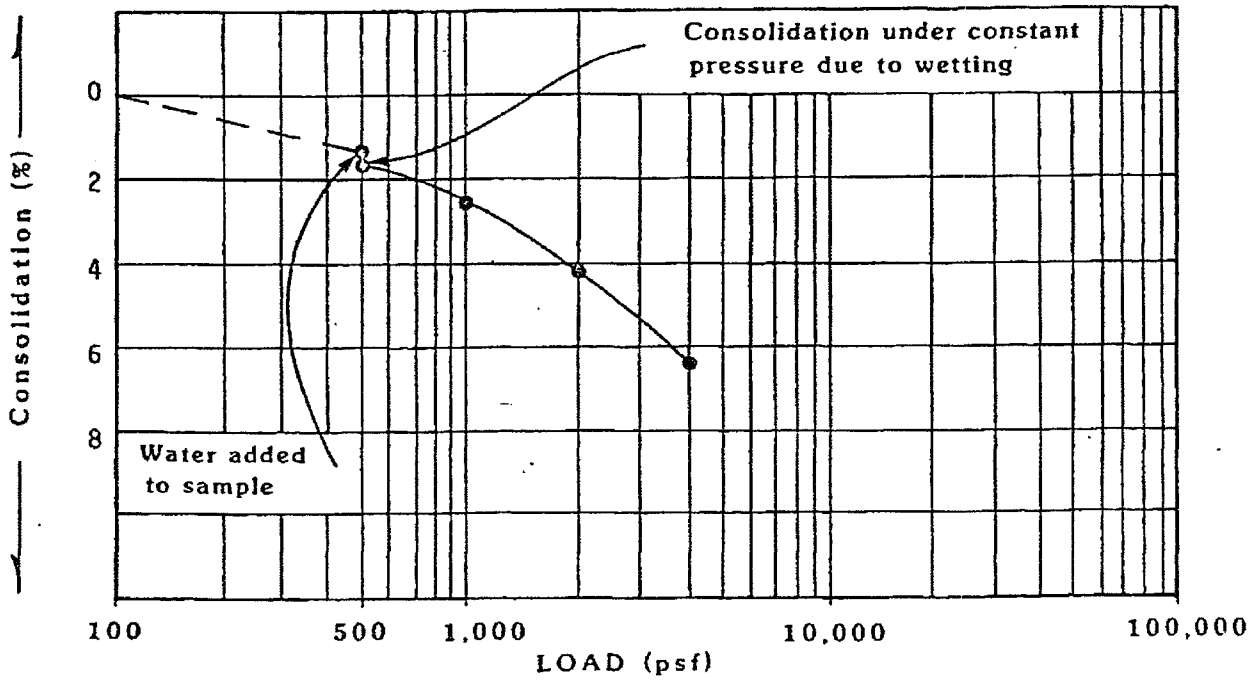
APPENDIX A

RESULTS OF FIELD AND LABORATORY TEST DATA



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

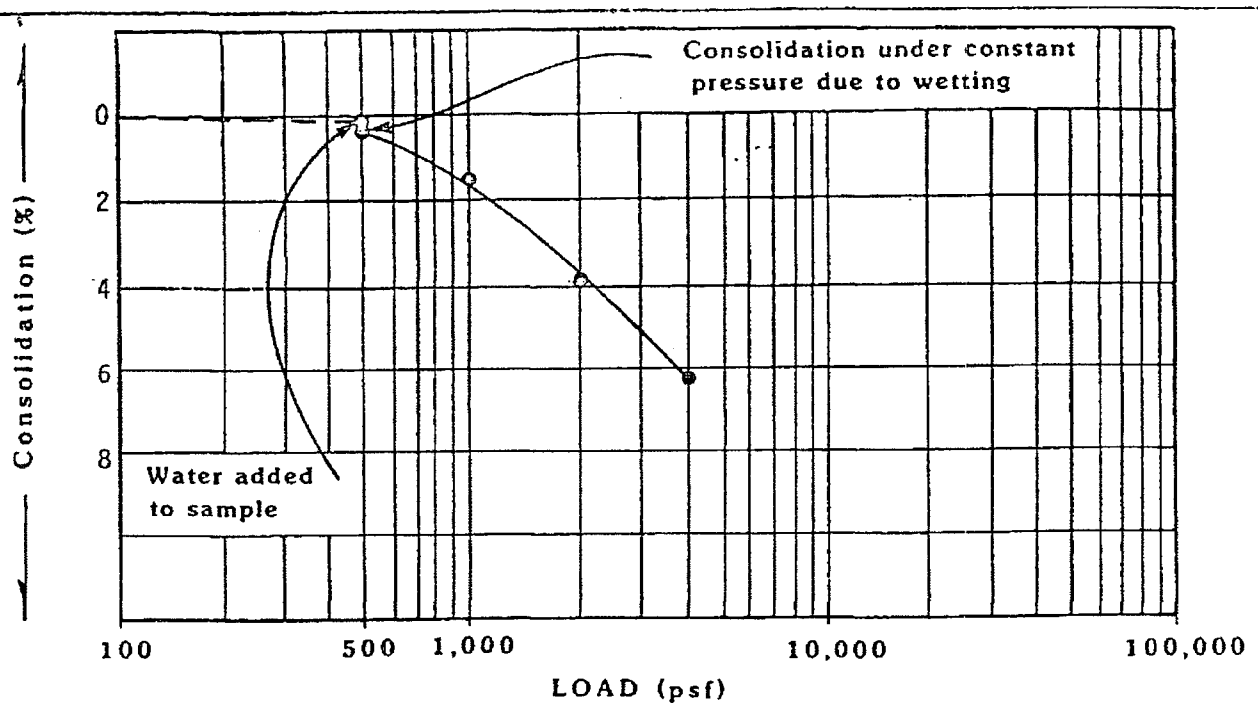
Natural Moisture Content 4.9 % Natural Dry Density 102 pcf.



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

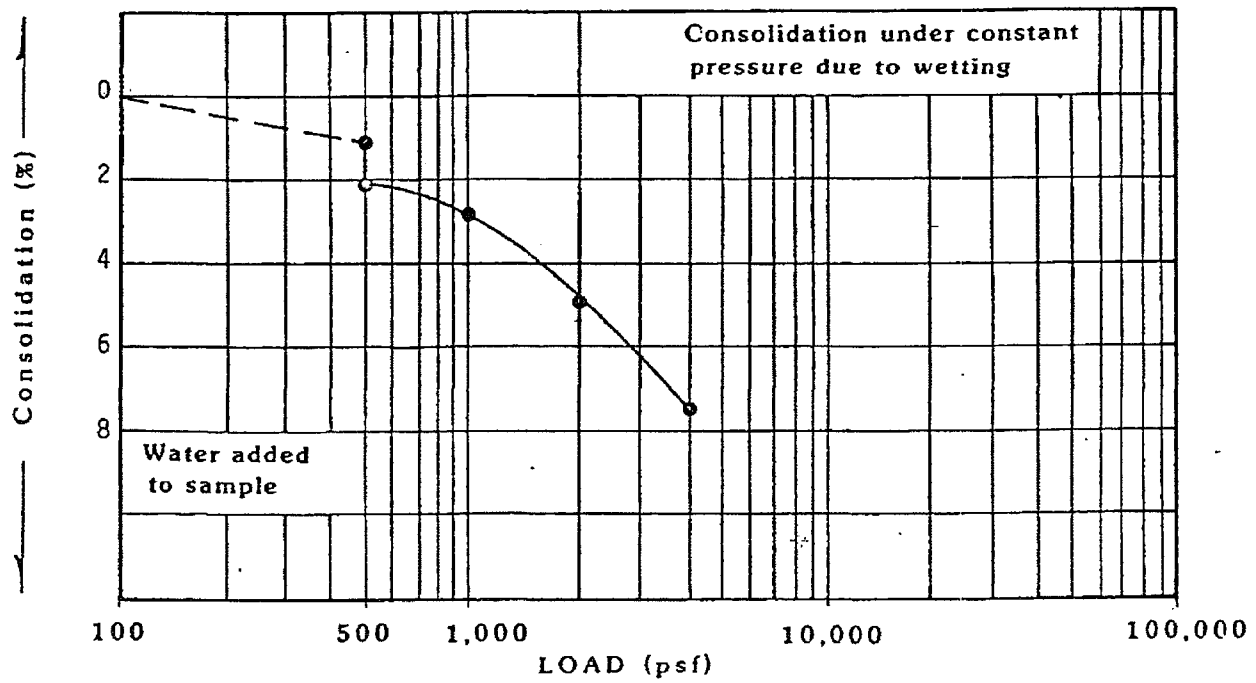
Natural Moisture Content 17.8 % Natural Dry Density 111 pcf.

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.

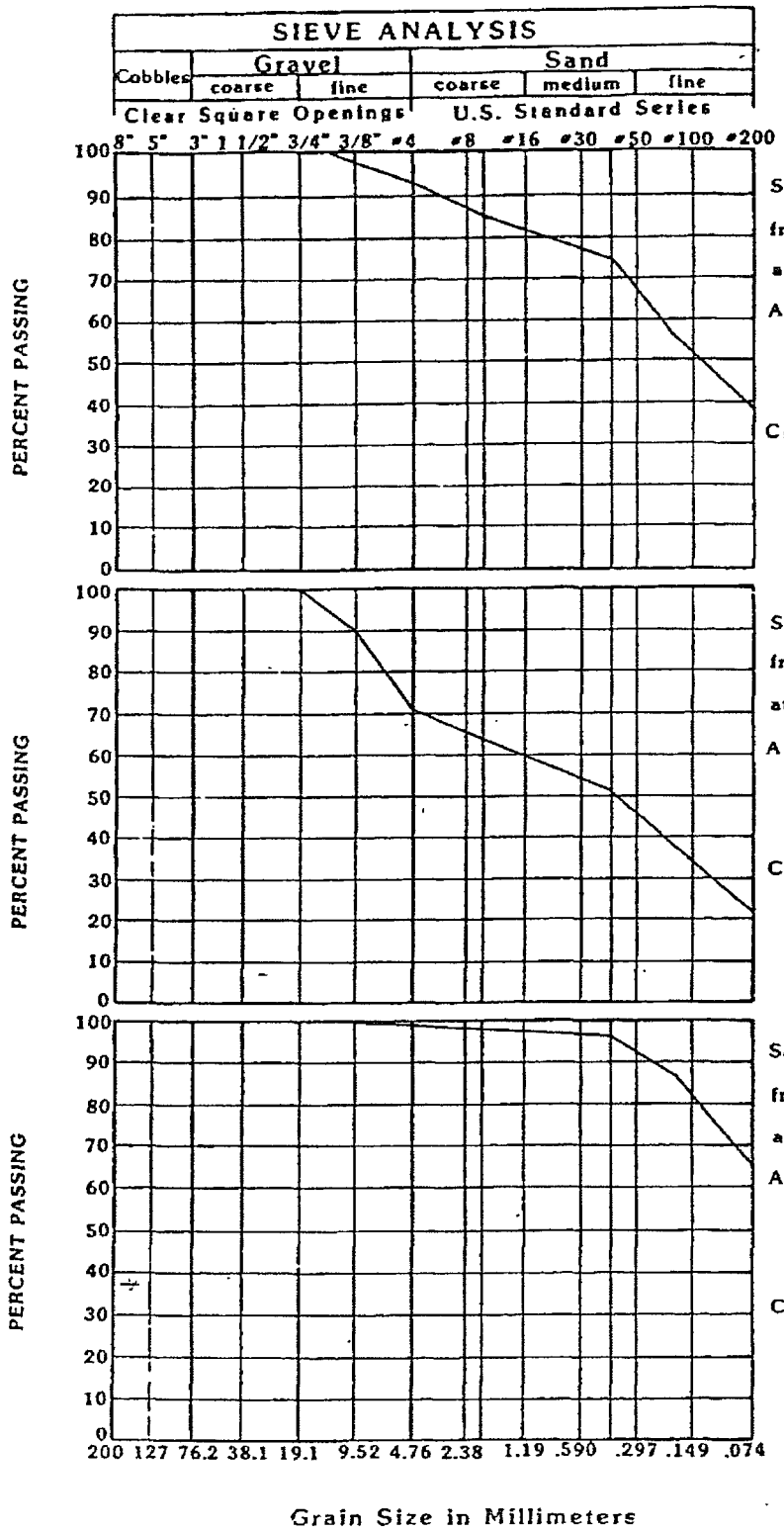


Sample of clayey SAND from test hole 3 at depth 4 feet.

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

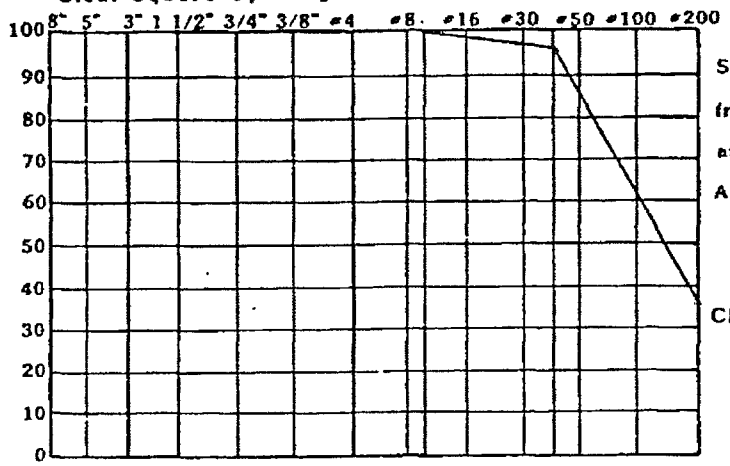
Sample of sandy CLAY
from test hole 1
at depth 8 feet.
Atterberg Limits:
Liquid Limits 31
Plasticity Index 11
Classification: Unified CL

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

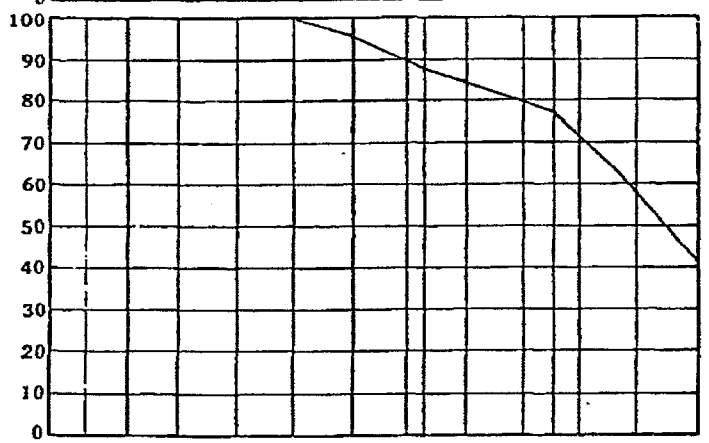
SIEVE ANALYSIS

Cobbles	Gravel		Sand		
	coarse	fine	coarse	medium	fine

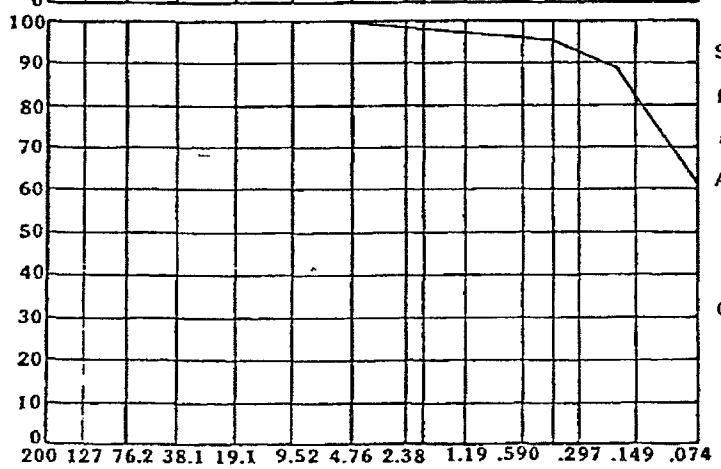
Clear Square Openings — U.S. Standard Series



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

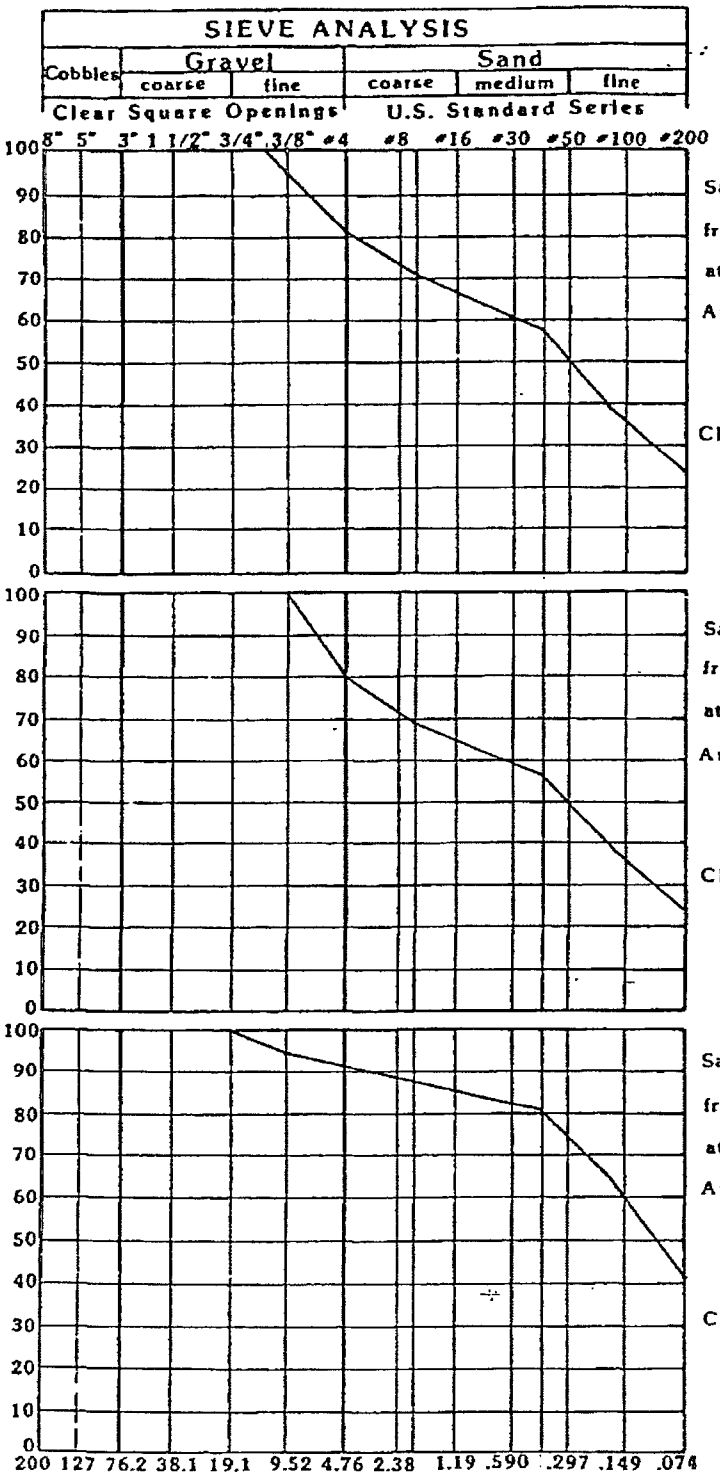


Sample of sandy CLAY
from test hole 2
at depth 9 feet.
Atterberg Limits:
Liquid Limits 36
Plasticity Index 13
Classification: Unified CL

Grain Size in Millimeters

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

SIEVE ANALYSIS



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

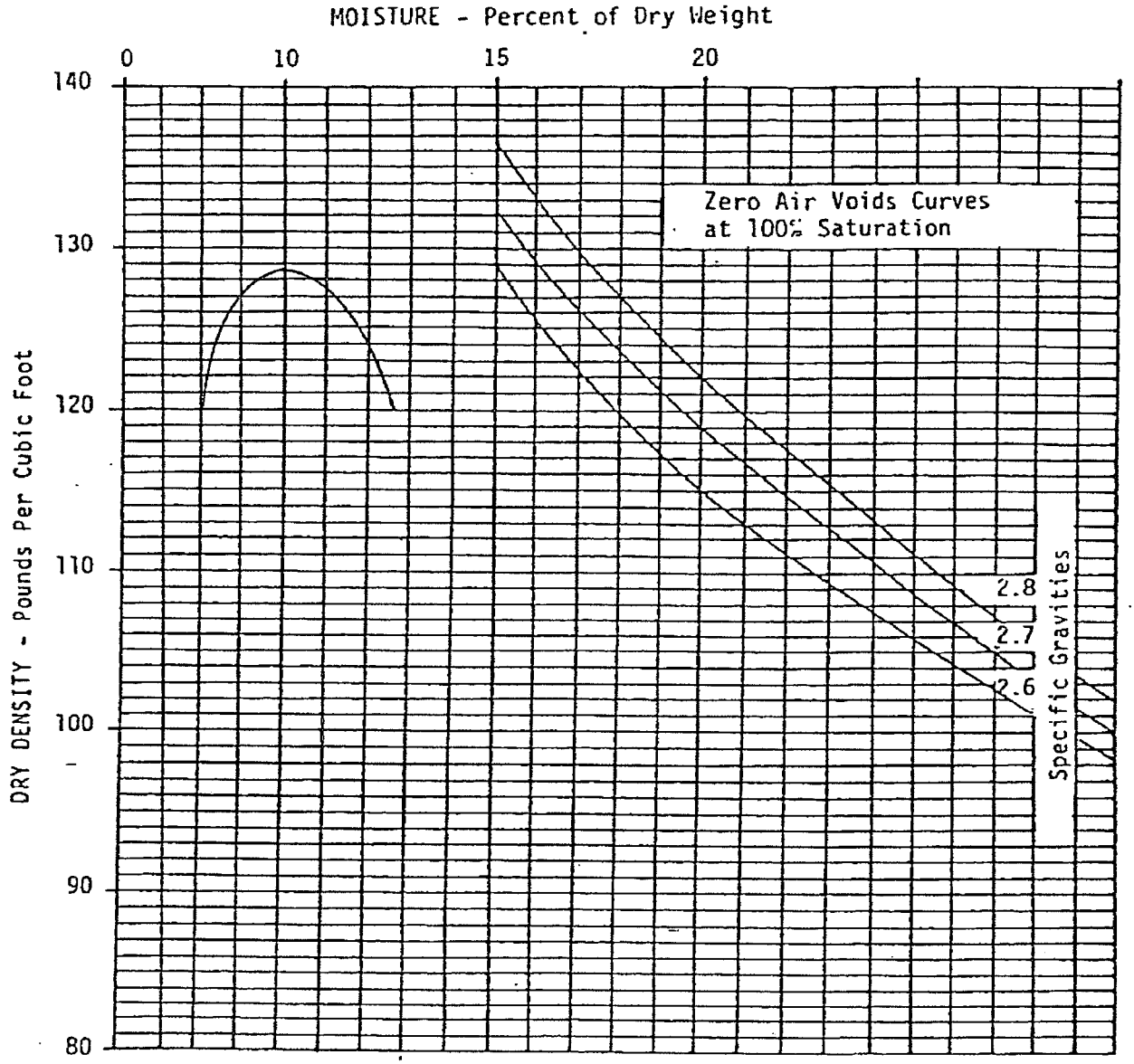
Sample of very clayey SAND
from test hole 1 and 2
at depth 0-10 feet.
Atterberg Limits:
Liquid Limits 28
Plasticity Index 10
Classification: Unified SC

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.

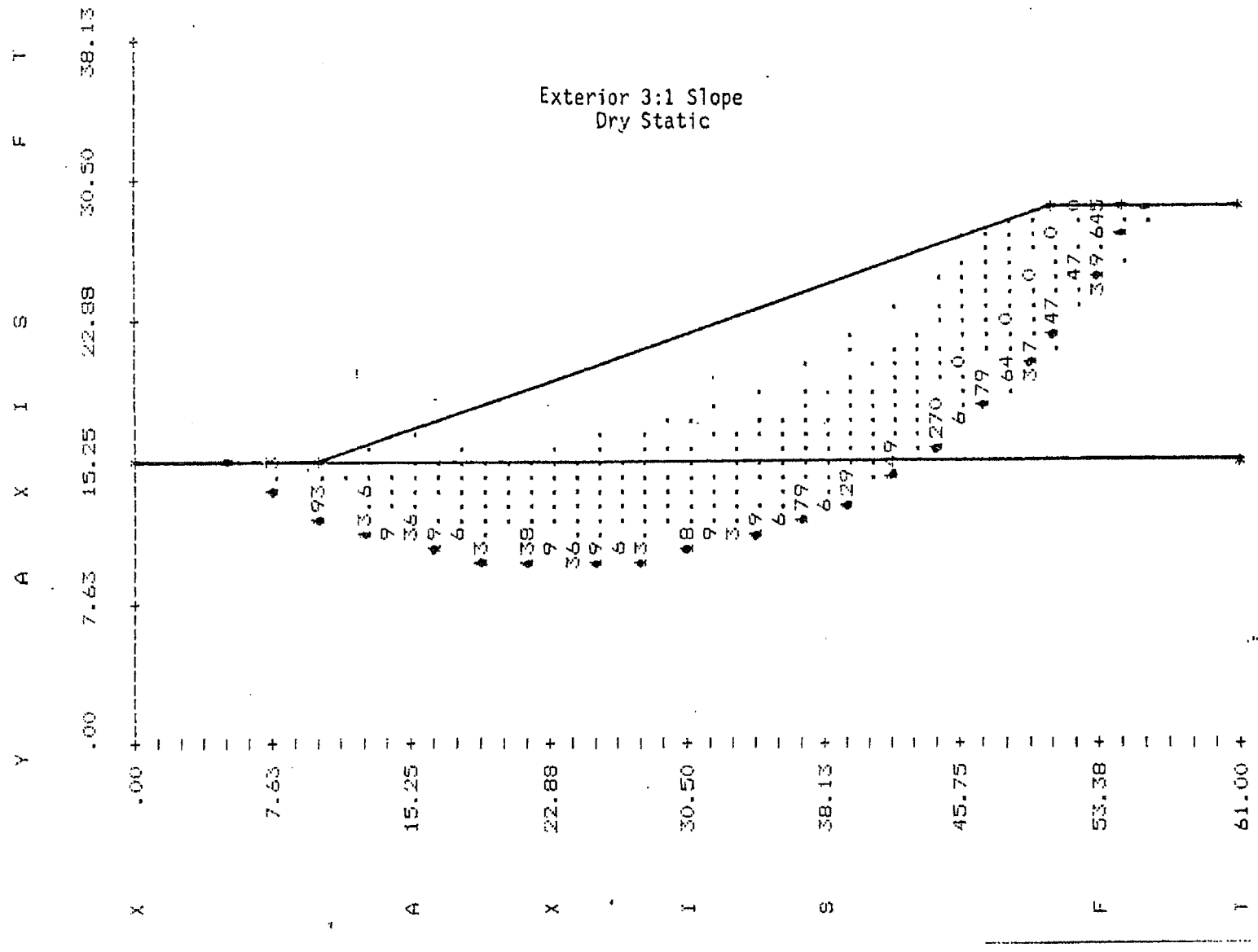
11. FIELD DENSITY AND LABORATORY COMPACTION TESTS.

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



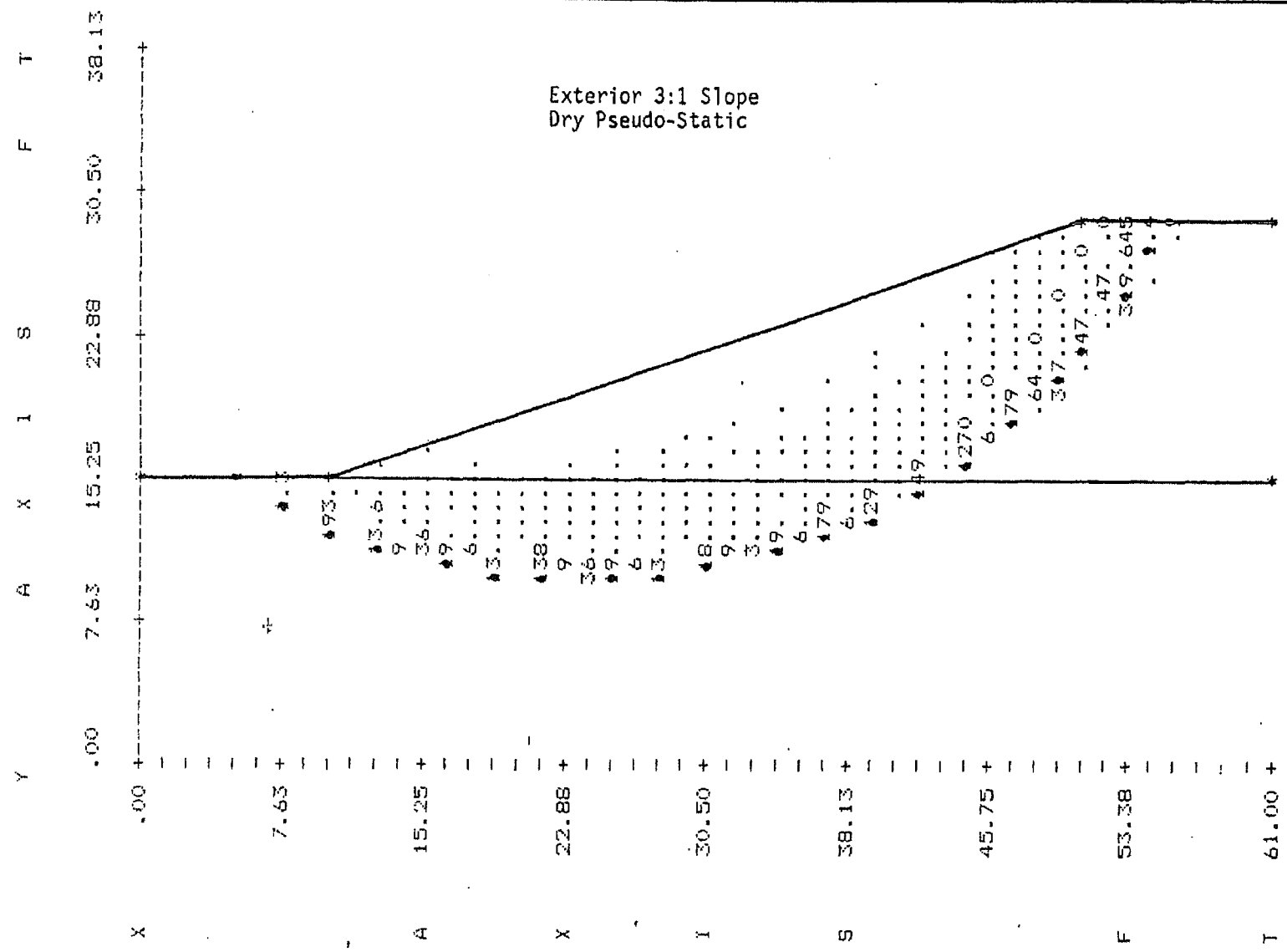
SLOPE STABILITY ANALYSIS

FOX Consulting Engineers and Geologists

Job No: 0118980

Date: 7/22/86

Figure C-1



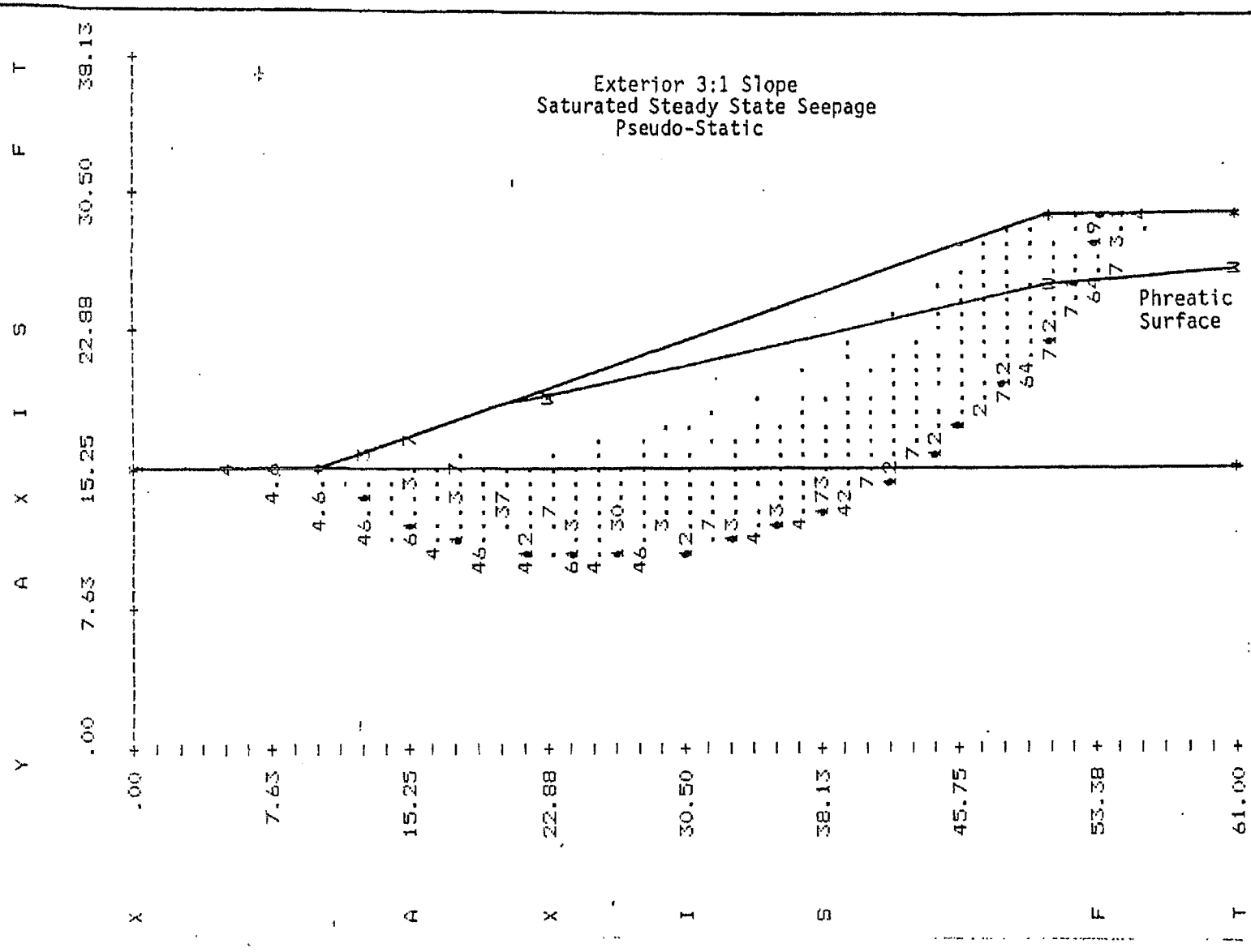
SLOPE STABILITY ANALYSIS

FOX Consulting Engineers and Geologists

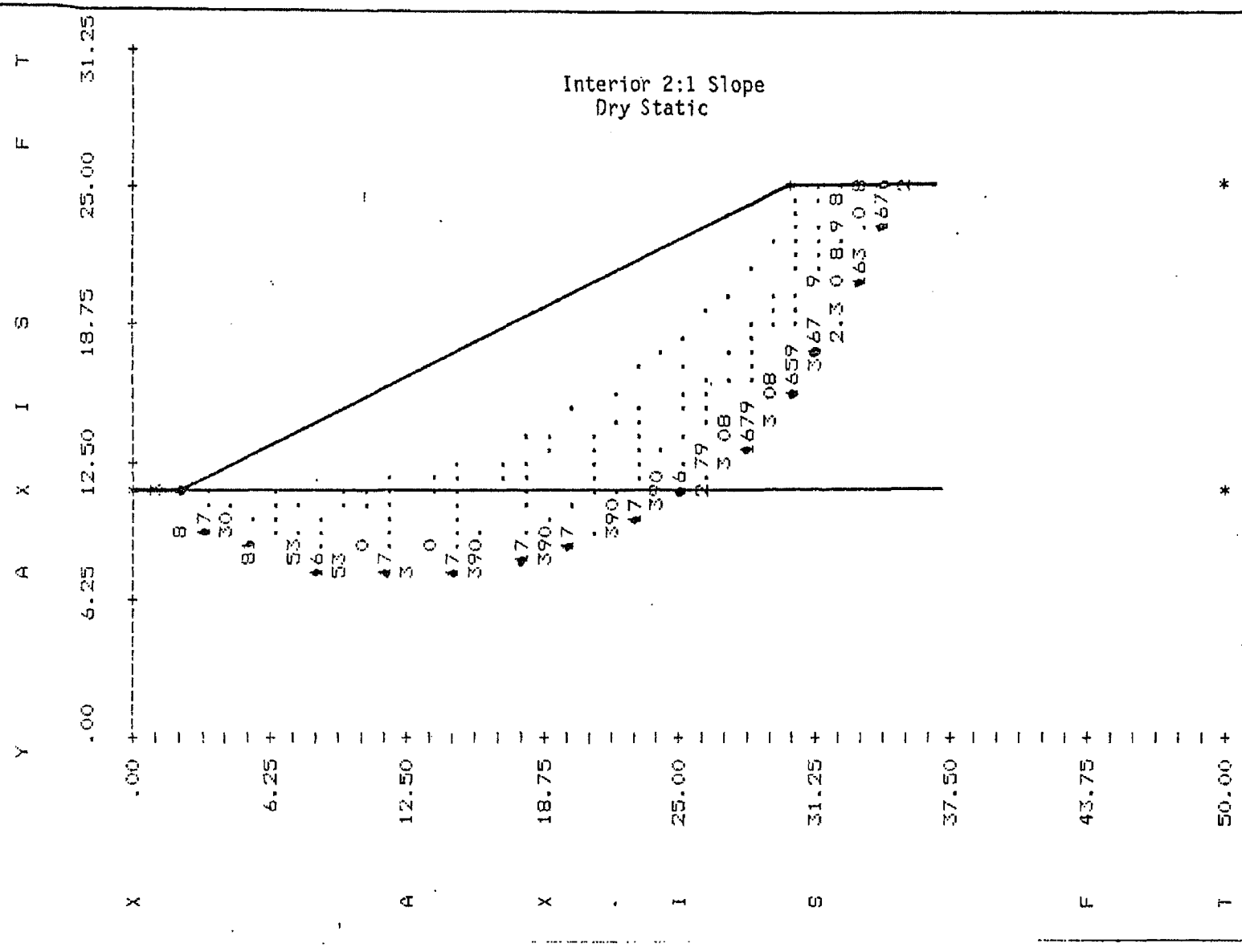
Job No: 0118980

Date: 7/22/86

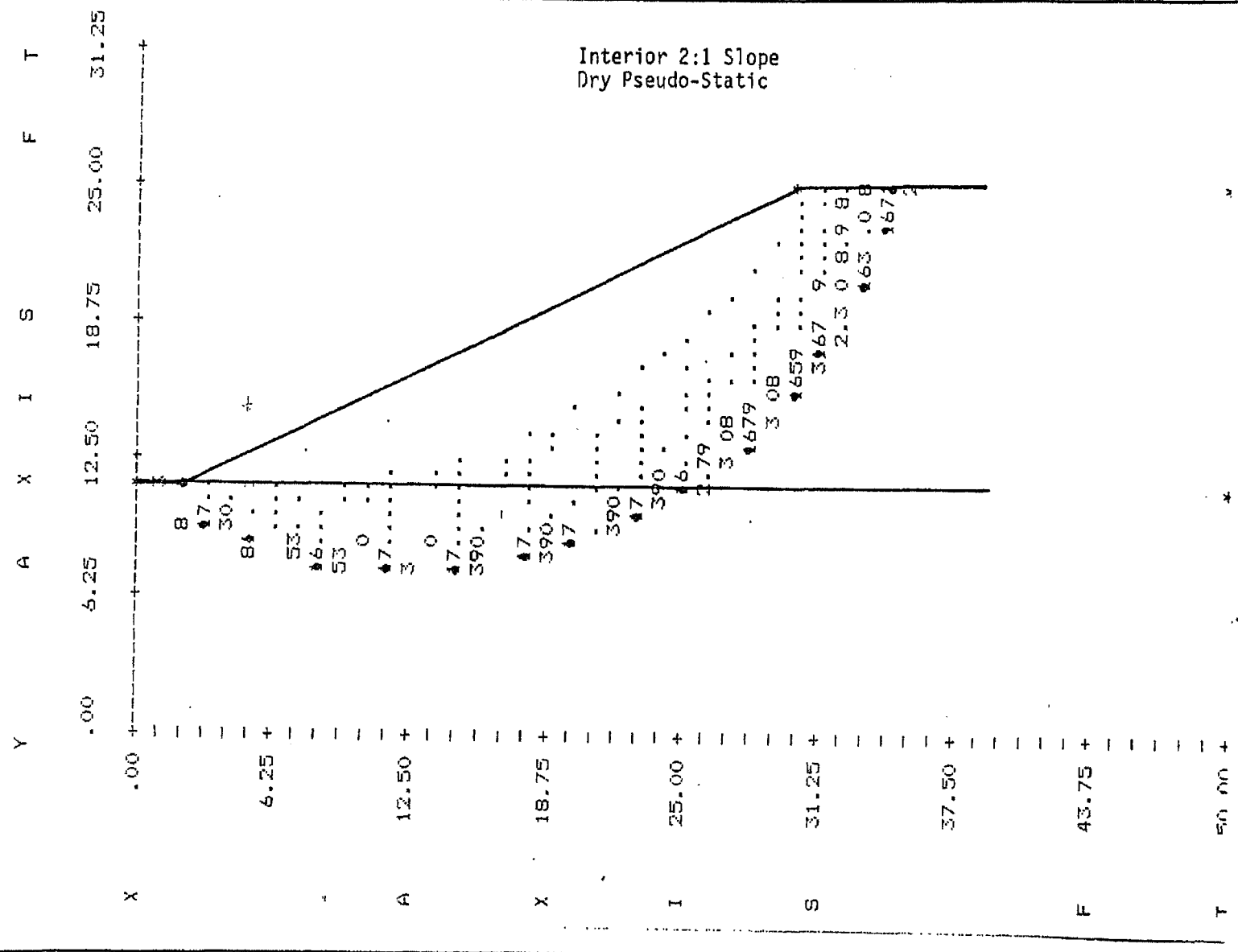
Figure C-2



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



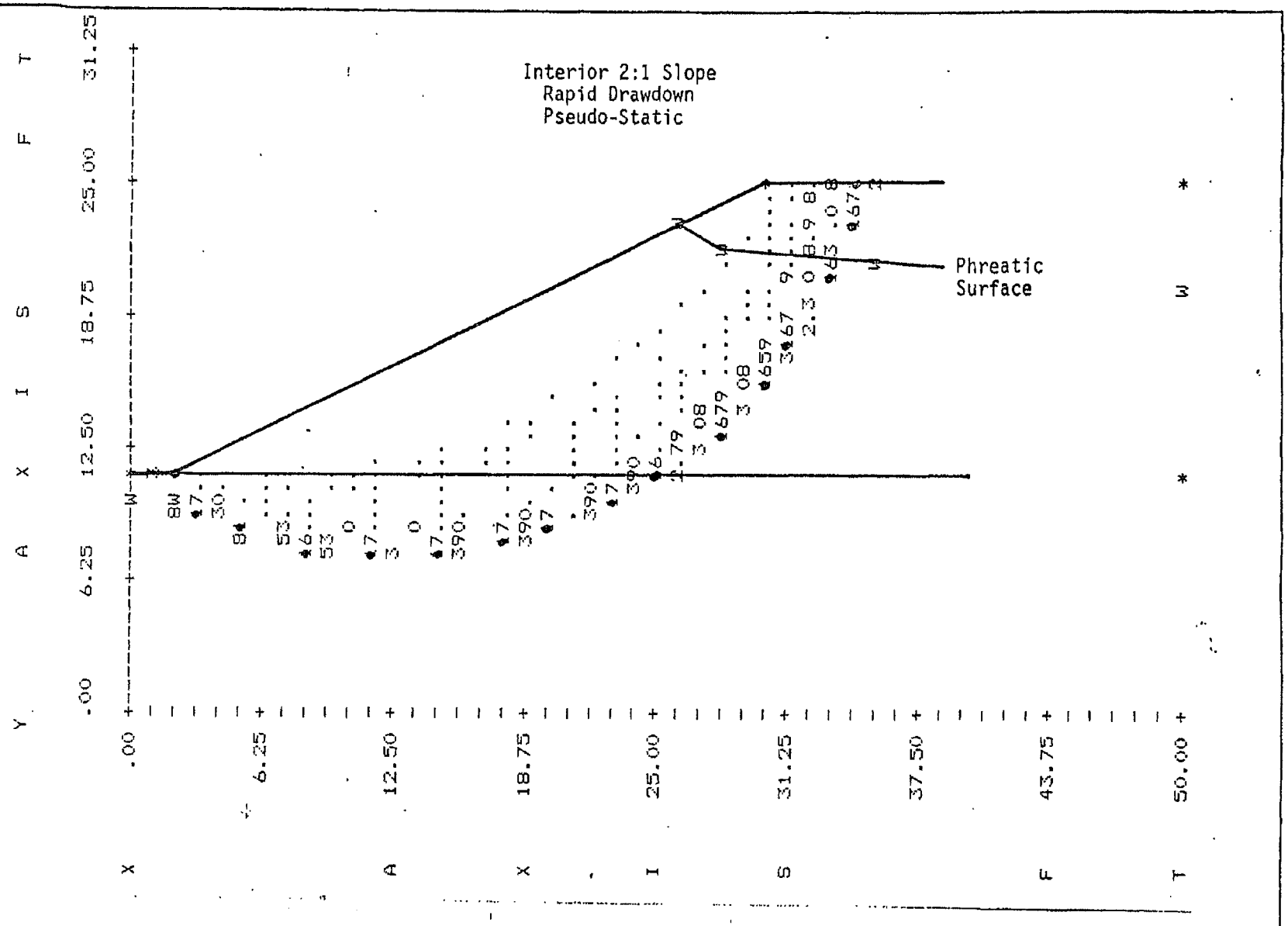
SLOPE STABILITY ANALYSIS	Job No: 0118980
FOX Consulting Engineers and Geologists	Date: 7/22/86
	Figure C-4



SLOPE STABILITY ANALYSIS

FOX Consulting Engineers and Geologists

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



SLOPE STABILITY ANALYSIS

FOX Consulting Engineers and Geologists

Job No:	0118980
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, P.E.
Senior Engineer

CS/ls/GIANT/MCCLE002.LTR

Enclosures

Headquarters
500 Copper Avenue N.W., Suite 325
Albuquerque, New Mexico 87102
(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

ANALYTE	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

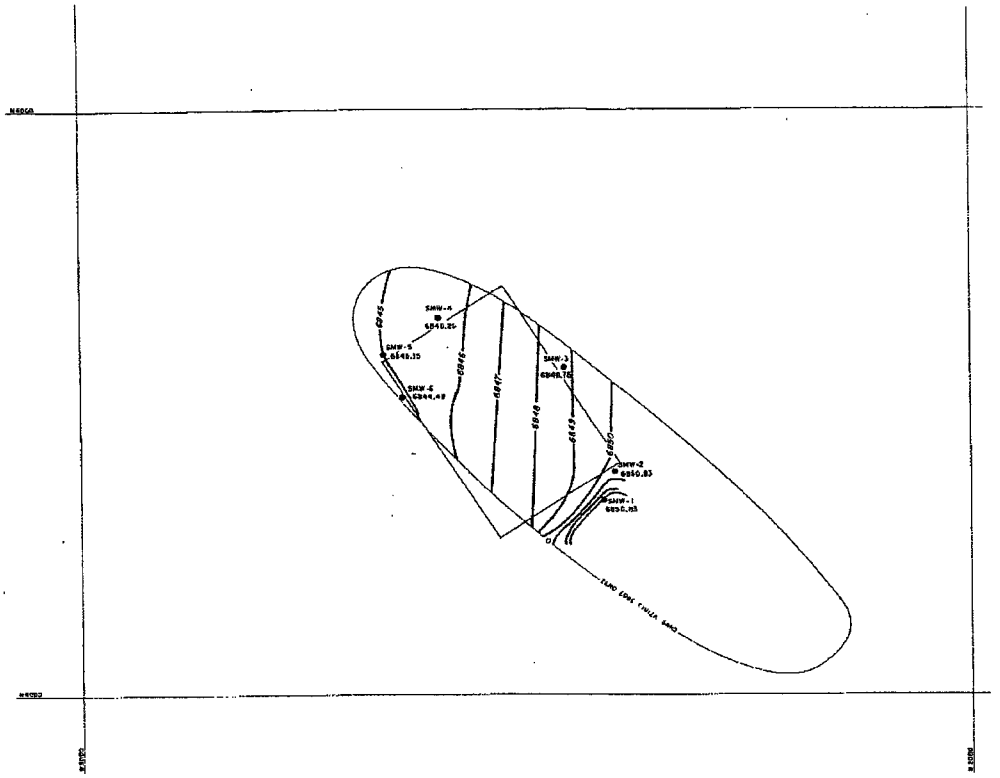
ANALYTE	SAMPLE ID/ ANALYTICAL RESULTS				
	8606051035 Lagoon No 1	8606051040 Lagoon No 1	8606051045 Lagoon No 1	8606051050 Lagoon No 1	8606051100 Lagoon No 1
Benzene	<0.1 ug/g	<0.1 ug/g	<0.1 ug/g	<0.1 ug/g	<0.1 ug/g
Toluene	0.5 ug/g	0.3 ug/g	0.3 ug/g	0.2 ug/g	0.3 ug/g
Xylenes	0.6 ug/g	0.2 ug/g	0.5 ug/g	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 6850.83 — MONITOR WELL WATER LEVEL ELEVATIONS

6850 — WATER-LEVEL CONTOUR

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

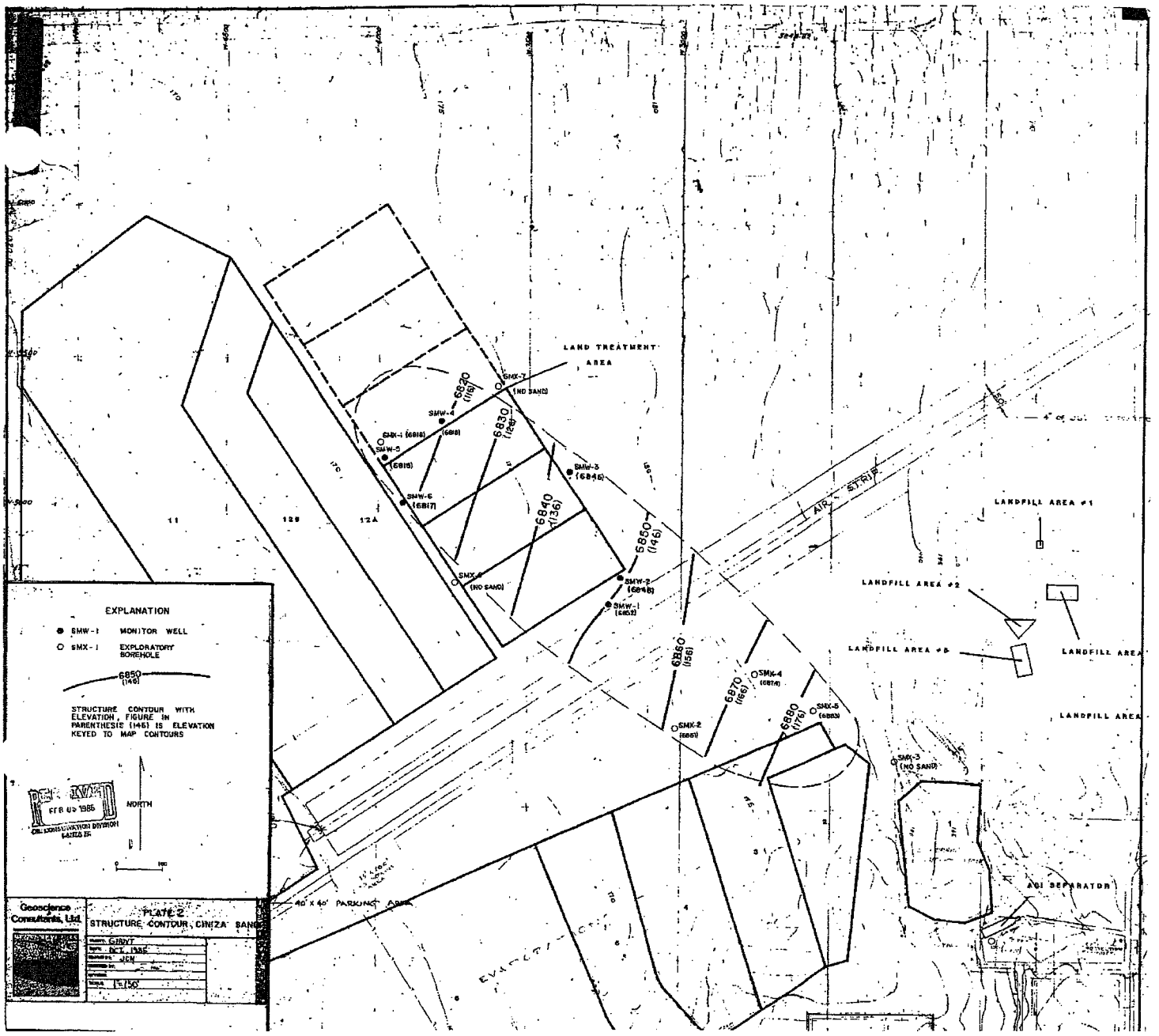
NORTH

0 150
FEET

Geoscience Consultants, Ltd.

PLATE 3
WATER-LEVEL ELEVATIONS
CINIZA SAND

DATE
DRAWN
REVISED
CHECKED BY
APPROVED
FILE


LAND TREATMENT AREA
SMX-7 (NO SAND)
SMW-4 (688)
SMX-1 (6816)
SMW-5 (6815)
SMW-6 (6817)
SMW-3 (6846)
SMX-6 (NO SAND)
SMW-2 (6848)
SMW-1 (6852)
6820 (156)
6830 (126)
6840 (136)
6850 (146)
6860 (156)
6870 (166)
6880 (176)
SMX-4 (687.4)
SMX-5 (688.3)
SMX-2 (686.1)
SMX-3 (NO SAND)
11
12B
12A
AIR STRIP
LANDFILL AREA #1
LANDFILL AREA #2
LANDFILL AREA #3
LANDFILL AREA
LANDFILL AREA
AGI SEPARATOR
40' X 40' PARKING AREA
EVAPORATION PONDS
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 03 1986
OIL CONSERVATION DIVISION SANTA FE
Geoscience Consultants, Ltd.
PLATE 2
STRUCTURE CONTOUR, CINIZA SAND
GAWT
OCT. 1985
JCN
1"=50'

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

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Executive Summary

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

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

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

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

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

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1.0 INTRODUCTION

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

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

2.0 RECONNAISSANCE FIELD EVENT

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

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

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

3.0 DEVIATIONS FROM APPROVED PLAN

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

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

4.0 FIELD INVESTIGATION

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

4.1 SITE CONDITIONS

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

4.2 SEDIMENT INVESTIGATION METHODOLOGY

4.2.1 SAMPLE AND SEDIMENT MEASUREMENT LOCATIONS

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

4.2.2 SEDIMENT MEASUREMENTS

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

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

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

4.2.3 SEDIMENT SAMPLING

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

4.2.3.1 SAMPLING METHODS AND PROCEDURES – AERATION LAGOONS

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

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

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

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

4.2.3.2 SAMPLING METHODS AND PROCEDURES – EVAPORATION POND 1

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

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

4.2.4 EQUIPMENT DECONTAMINATION PROCEDURES

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

4.2.5 FIELD DOCUMENTATION AND LOGGING

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

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

4.3 SEDIMENT CHARACTERISTICS

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

4.3.1 SEDIMENT CHARACTERISTICS – AERATION LAGOONS 1 AND 2

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

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

4.3.2 SEDIMENT CHARACTERISTICS – EVAPORATION POND 1

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

4.4 INVESTIGATION DERIVED WASTE

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

5.0 REGULATORY CRITERIA

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

6.0 ANALYTICAL RESULTS

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

6.1 TOTAL PETROLEUM HYDROCARBONS (TPH)

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

6.2 METALS

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

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

6.3 SEMI-VOLATILE ORGANIC COMPOUNDS

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

6.4 VOLATILE ORGANIC COMPOUNDS

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

6.5 QUALITY ASSURANCE/QUALITY CONTROL PROTOCOL

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

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

7.0 CONCLUSIONS

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

7.1 SEDIMENT VOLUMES

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

7.2 SEDIMENT CHARACTERIZATION

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

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

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

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

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

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

TABLES

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

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

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

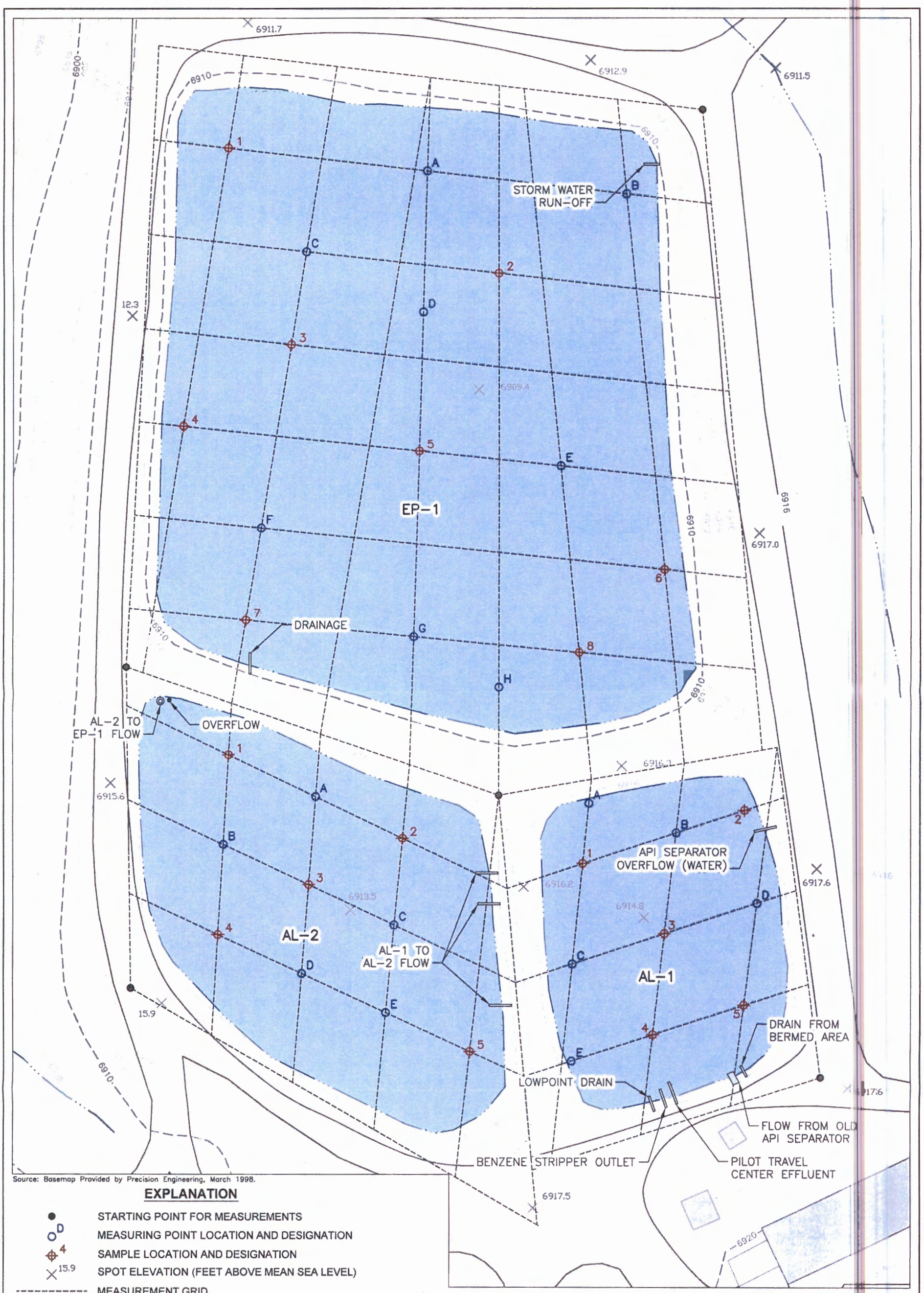
Evaporation Pond 1						
Measuring Point	Depth to Soft Sediment	Soft Sediment Thickness	Depth to Hardpack	Hardpack Thickness	Total Depth	Total Sediment Thickness
EP1-1	5.5	2.2	None	None	7.7	2.2
EP1-2	9.7	1.3	None	None	11.0	1.3
EP1-3	7.9	1.7	None	None	9.6	1.7
EP1-4	7.8	1.5	None	None	9.3	1.5
EP1-5	11.4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

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

		TPH			Metals						SVOCs										VOCs															
Sample ID	Sample Depth (ft below top of sediment)	DRO (mg/kg)	MRO (mg/kg)	GRO (mg/kg)	Mercury (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Benzo(a) anthracene (mg/kg)	Chrysene (mg/kg)	Fluorene (mg/kg)	2-Methyl naphthalene as SVOC (mg/kg)	3+4-Methylphenol (mg/kg)	Naphthalene as SVOC (mg/kg)	Phenanthrene (mg/kg)	Phenol (mg/kg)	Pyrene (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	MTBE (mg/kg)	1,2,4-Trimethyl benzene (mg/kg)	1,3,5-Trimethyl benzene (mg/kg)	Napthalene as VOC (mg/kg)	1-Methyl napthalene (mg/kg)	2-Methyl naphthalene as VOC (mg/kg)	Carbon disulfide (mg/kg)	Isopropyl benzene (mg/kg)	4-Isopropyl toluene (mg/kg)	n-Butylbenzne (mg/kg)	n-Propyl benzene (mg/kg)	sec-Butylbenzene (mg/kg)	Xylenes (mg/kg)
AL1-1-SS	4.8	71000	ND	300	**19**	*29*	140	0.64	44	23	ND	ND	ND	190	ND	53	50	34	ND	3.6	17	4.3	ND	11	2.7	10	13	21	ND	0.64	ND	0.65	1.4	ND	27
AL1-2-SS	2.3	190000	25000	560	**11**	11	190	0.69	19	79	ND	ND	70	460	42	79	210	35	39	5.1	32	10	1.1	26	6.7	19	42	44	ND	1.8	1	2.6	4.7	1.9	56
AL1-3-SS	3.3	54000	ND	170	**7**	12	210	0.18	16	25	ND	ND	36	200	ND	41	84	ND	ND	1.3	5.7	1.8	ND	6.7	1.7	4	10	15	ND	ND	ND	1.7	0.85	0.82	12
AL1-4-SS	5.6	190000	ND	280	**9.5**	9.5	280	0.48	24	38	ND	33	91	530	ND	94	200	ND	44	4.2	19	5.7	ND	18	4.1	14	28	45	ND	0.79	0.56	1.3	2.4	1.3	33
AL1-5-SS	0.8	220000	ND	280	**9.9**	12	360	0.2	13	30	ND	ND	84	600	ND	110	220	ND	ND	5.9	24	6.1	1.1	16	4	14	29	43	ND	1.2	0.71	3	2.5	1.2	35
AL1-1-HP	5.5	7200	ND	240	**3.1**	11	150	1.2	40	23	ND	ND	ND	23	6.2	6.7	8.4	6.7	ND	1.2	6.8	2.9	ND	12	3.3	7.2	15	22	ND	0.72	0.54	2.7	1.7	0.96	18
AL1-2-HP	3.0	200000	37000	260	**5**	*32*	350	1.4	51	**110**	ND	34	40	260	98	65	140	54	ND	2.4	11	3.4	ND	10	2.8	6.5	14	20	ND	0.58	ND	2.1	1.5	0.8	20
AL1-3-HP	3.8	110000	ND	150	**6.7**	11	220	0.12	16	22	ND	ND	40	200	ND	36	100	ND	ND	2	7	1.9	ND	8.3	2	5.9	15	20	ND	0.51	0.53	2.1	1.2	0.89	12
AL1-4-HP	5.1	76000	ND	590	**8.3**	*47*	310	1.4	60	**220**	ND	31	ND	340	ND	90	84	ND	ND	3.2	22	11	ND	37	10	21	29	46	ND	1.6	0.84	7	5.9	1.8	60
AL1-5-HP	3.4	130000	25000	670	**18**	*31*	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**	*20*	260	6.6	30	48	ND	ND	ND	ND	150	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AL2-2-SS	4.5	260000	31000	ND	**6.8**	13	500	0.32	21	24	ND	ND	98	450	ND	38	230	ND	ND	ND	2.1	0.72	ND	4.5	1.1	5.8	26	37	ND	ND	ND	1	ND	ND	4.9
AL2-3-SS	0.5	300000	29000	ND	**8.9**	8.4	350	0.42	14	24	ND	32	43	300	ND	ND	250	ND	47	ND	1.2	ND	ND	2.9	0.54	4.6	21	27	ND	ND	ND	0.66	ND	ND	2.8
AL2-4-SS	3.0	250000	35000	ND	**8.1**	14	190	0.42	16	32	ND	ND	44	190	ND	44	210	ND	ND	ND	1.6	0.56	ND	4.1	0.72	5.4	24	30	ND	ND	ND	1.1	ND	ND	4
AL2-5-SS	0.5	370000	ND	430	**6.8**	4.6	310	0.31	12	18	ND	ND	70	550	ND	85	250	ND	36	2.3	18	6.4	ND	17	5.6	15	43	35	ND	1.7	1	3.4	3	2	39
AL2-1-HP	7.4	120000	28000	ND	**7.4**	*18*	81	2.4	29	32	ND	42	ND	ND	99	ND	50	ND	38	ND	0.6	ND	ND	0.93	ND	ND	2.5	2.4	ND	ND	ND	ND	ND	ND	1.9
AL2-2-HP	9.8	130000	ND	ND	**6.4**	*20*	300	0.73	22	39	ND	ND	36	140	36	ND	93	ND	ND	ND	1.1	ND	ND	3	0.71	3.2	11	15	ND	ND	ND	0.56	ND	ND	3.8
AL2-3-HP	9.1	110000	ND	ND	**2.1**	9.8	280	0.26	15	12	ND	ND	32	110	44	ND	89	ND	ND	ND	0.53	0.62	ND	3.8	0.87	3.4	12	17	ND	ND	ND	0.89	ND	ND	4.3
AL2-4-HP	8.4	140000	29000	ND	**6.4**	*21*	270	5.2	45	55	ND	ND	ND	57	100	ND	55	43	ND	ND	1.1	ND	ND	ND	ND	1.6	5.7	7.2	ND	ND	ND	ND	ND	ND	3.2
AL2-5-HP	7.5	51000	ND	ND	**4.7**	14	160	0.62	53	23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1	ND	ND	1.1	ND	1.2	5.4	6.6	5.8	ND	ND	ND	ND	ND	1.8
EP1-1	1.1	200000	ND	ND	**6.8**	5.4	400	0.45	9.7	16	ND	45	53	370	53	31	330	ND	47	ND	0.51	ND	ND	1.5	ND	2.6	12	16	ND	ND	ND	ND	ND	ND	ND
EP1-2	1.1	150000	ND	ND	**4.4**	17	190	0.58	24	18	ND	ND	ND	58	34	ND	71	ND	ND	ND	0.51	ND	ND	1.4	ND	1.4	5.8	7.7	ND	ND	ND	ND	ND	ND	1
EP1-3	1.5	110000	ND	ND	**5.1**	6.5	220	0.43	13	15	ND	ND	47	140	60	ND	130	ND	ND	ND	0.68	ND	ND	1.2	ND	1.3	4.9	6.8	ND	ND	ND	ND	ND	ND	1.1
EP1-4	1.1	130000	27000	ND	**9.6**	*26*	330	6.4	41	39	ND	ND	59	180	86	ND	210	ND	40	ND	0.65	ND	ND	1.3	ND	1.7	6	7.6	ND	ND	ND	ND	ND	ND	1.2
EP1-5	1.1	120000	ND	ND	**6**	*23*	150	0.97	23	22	ND	57	42	130	140	ND	150	ND	48	ND	0.69	ND	ND	1.5	ND	1.9	7.1	10	ND	ND	ND	ND	ND	ND	1.7
EP1-6	0.8	180000	26000	ND	**4.1**	3.2	330	0.26	8.8	16	ND	40	70	210	ND	ND	150	ND	41	ND	0.63	ND	ND	2.2	ND	2.8	15	19	ND	ND	ND	ND	ND	ND	1.3
EP1-7	1.0	200000	25000	ND	**4.4**	3.6	280	0.27	8.3	9.7	*35*	74	77	260	ND	ND	240	ND	70	ND	ND	ND	ND	1.7	ND	1.7	9.1	12	ND	ND	ND	ND	ND	ND	ND
EP1-8	1.5	150000	ND	ND	**4.9**	11	120	0.8	58	15	ND	ND	41	110	ND	ND	120	ND	ND	ND	0.54	ND	ND	1.2	ND	1.6	8.1	11	ND	ND	ND	ND	ND	ND	ND
EPA Maximum Concentration of Contaminants for the Toxicity Characteristic (X 20 to adjust for total constituent concentrations)		NA	NA	NA	**4**	**100**	**2000**	**20**	**100**	**100**	NA	NA	NA	NA	NA	NA	NA	NA	NA	**10**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NMED Table A-1 Soil Screening Levels (Industrial)		*NA*	*NA*	*NA*	*10000***	*17.7*	*100000*	*564*	*3400**	*800*	*23.4*	*2310*	*26500*	*NA*	*NA*	*300*	*20500*	*100000*	*30900*	*25.8*	*252*	*128*	*984*	*213*	*69.2*	*300*	*NA*	*NA*	*460*	*389*	*NA*	*62.1*	*62.1*	*60.6*	*82*

*Chromium VI screening level used.
**Elemental Mercury screening level used.
Bold concentrations indicate exceedence of EPA Maximum Concentration of Contaminants for the Toxicity Characteristic.
Highlighted italic concentrations indicate exceedence of NMED Table A-1 Soil Screening Levels (Industrial).

FIGURES



Trihydro CORPORATION
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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: 072SAMPPOINT200804

APPENDIX A

INVESTIGATION PHOTOS

Sampling with hand auger at AL2-3

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

Extracting auger core from auger at AL2-3.

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

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

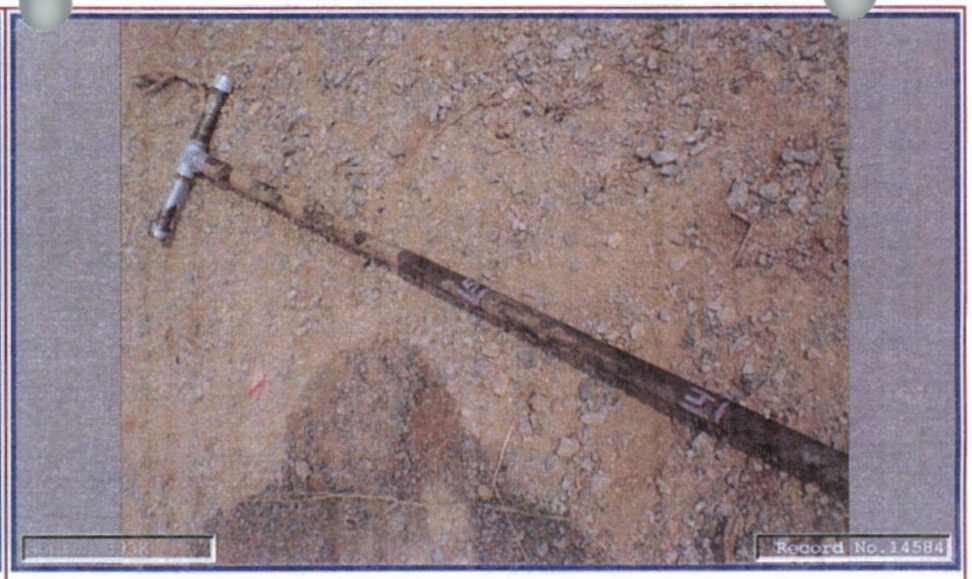
Date: 4/8/2008 Direction: N Taken By: SS
File: evap ponds 005.jpg Job Number: 697-019-001

Filling AL2-3 sample jar.

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

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

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



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

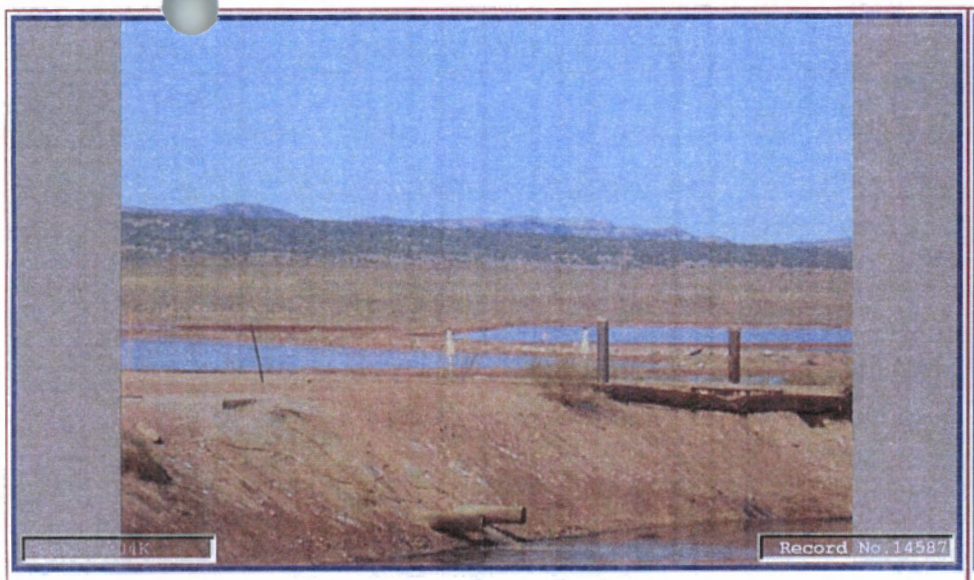
Date: 4/9/2008 Direction: E Taken By: SS
File: evap ponds 008.jpg Job Number: 697-019-001

Storm water run-off pipe - Evaporation Pond 1

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

Overflow drain - Evaporation Pond 1

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



Drainage pipes - Evaporation Pond 1

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

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

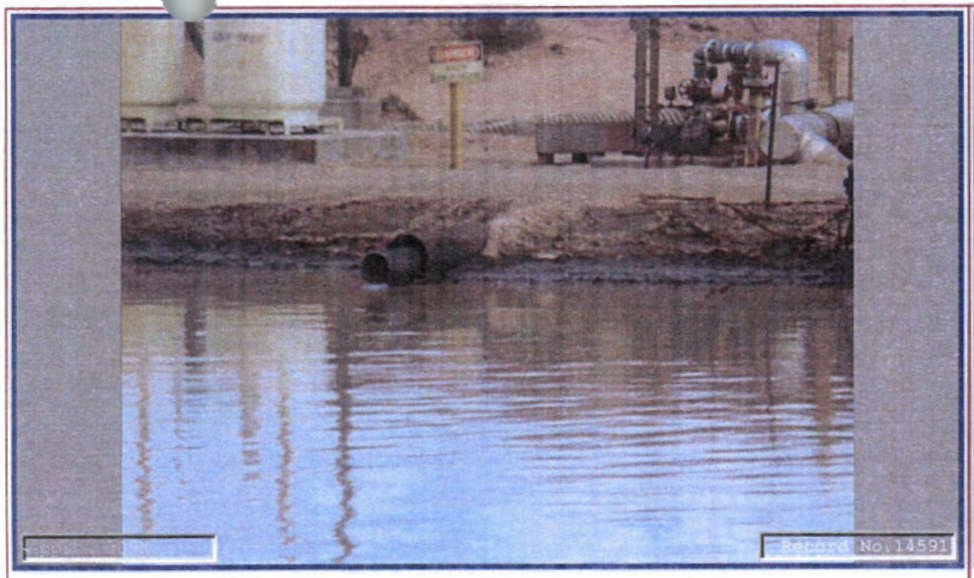
Date: 4/10/2008 Direction: W Taken By: SS
File: evap ponds 012.jpg Job Number: 697-019-001

Extracted sample from AL2-4 auger.

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

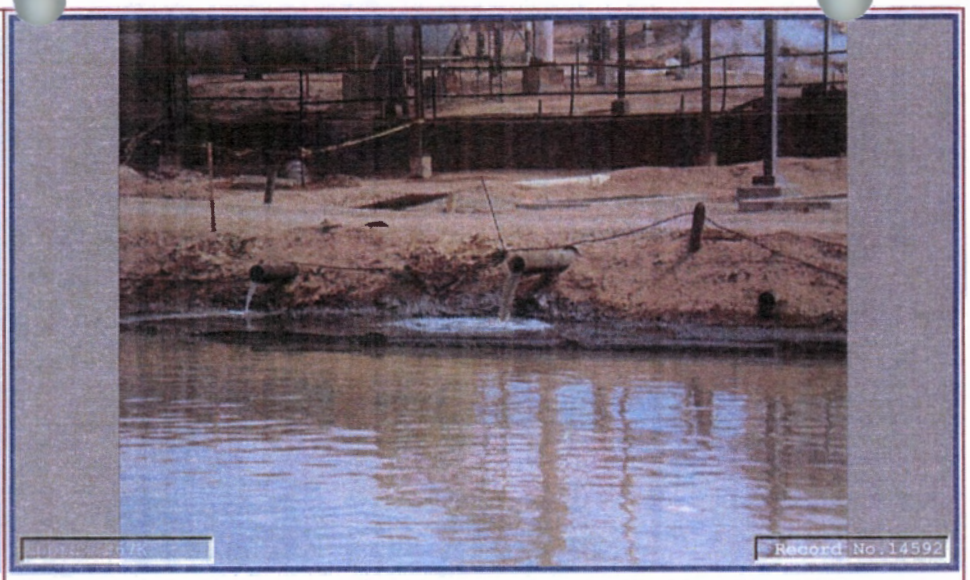
Extracted sample from AL2-4 auger - close up.

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



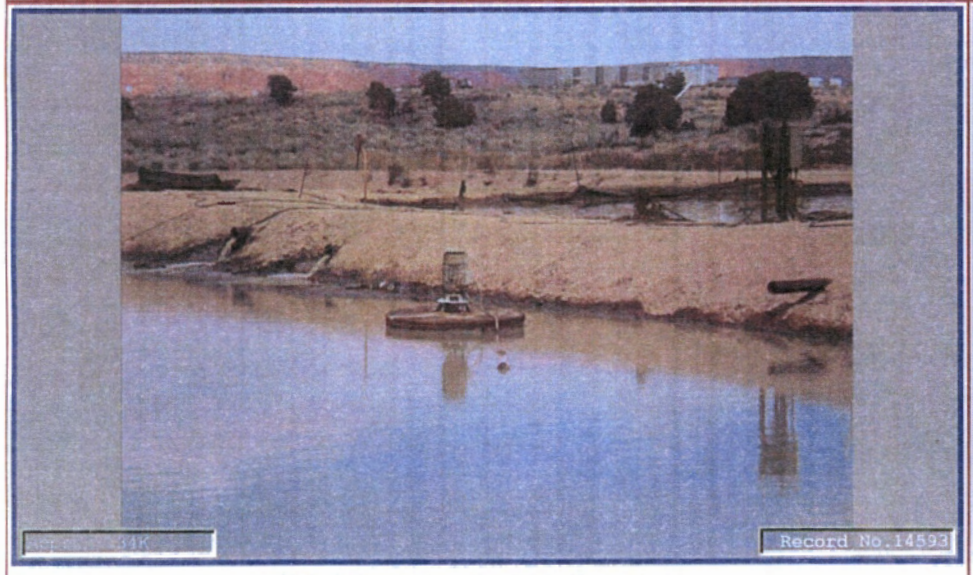
AL1 pipe - API separator water section overflow.

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



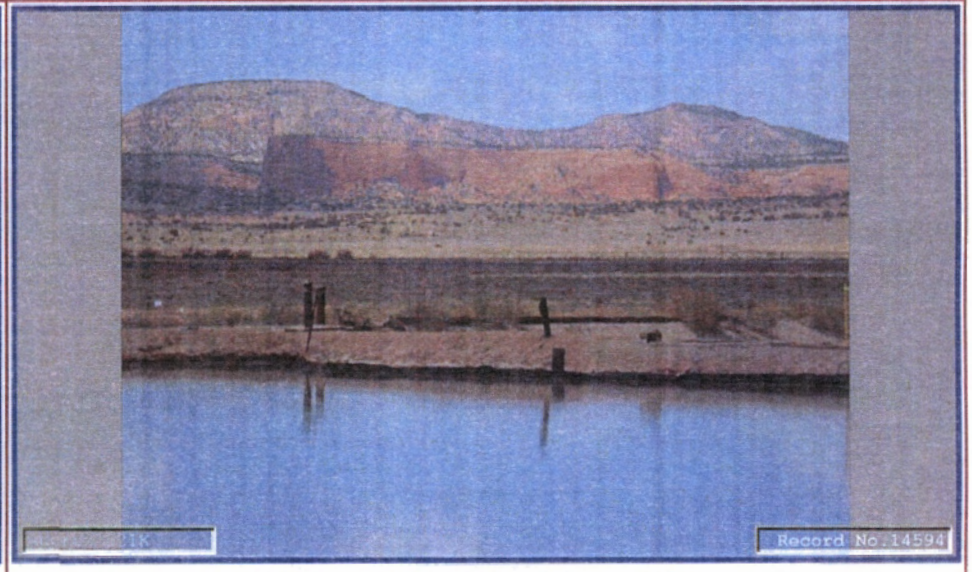
AL1 pipes - (left - pilot travel ctr effluent) (middle - benzene stripper outlet) (right low point drain).

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



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

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



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

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

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

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

Sampling AL1-3 with Sediment Sampler.

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

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

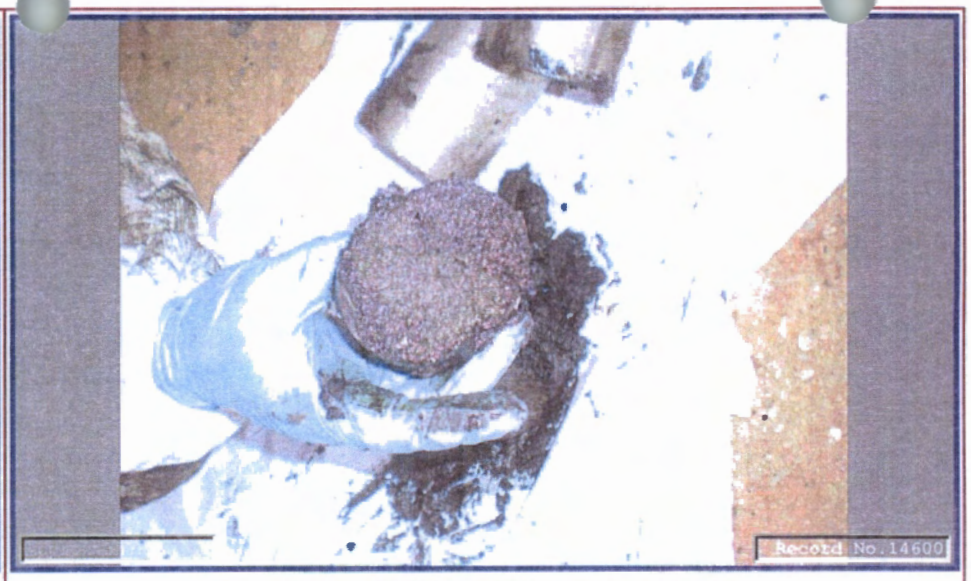
Date: 4/10/2008 Direction: N/A Taken By: SS
File: evap ponds 021.jpg Job Number: 697-019-001

same as above, better shot of the clay.

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

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

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



AL1-1 showing the fibrous roots and green staining.

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

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

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

APPENDIX B

SEDIMENT SAMPLE FORMS

Sediment Sampling Field Form

Project Name:	Gallup Refinery	Sample Media:	Sediment
Sample ID:	AL1-1	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

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

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

"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	4/16/2008 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
- 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
Phenol	ND	30		mg/Kg	1	4/17/2008
Pyrene	ND	30		mg/Kg	1	4/17/2008
Pyridine	ND	75		mg/Kg	1	4/17/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/17/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/17/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/17/2008
Surr: 2,4,6-Tribromophenol	53.6	35.5-141		%REC	1	4/17/2008
Surr: 2-Fluorobiphenyl	65.7	30.4-128		%REC	1	4/17/2008
Surr: 2-Fluorophenol	66.3	28.1-129		%REC	1	4/17/2008
Surr: 4-Terphenyl-d14	41.9	34.6-151		%REC	1	4/17/2008
Surr: Nitrobenzene-d5	81.0	26.5-122		%REC	1	4/17/2008
Surr: Phenol-d5	70.0	37.6-118		%REC	1	4/17/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Toluene	0.68	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Ethylbenzene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
1,2,4-Trimethylbenzene	1.2	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
1,3,5-Trimethylbenzene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Naphthalene	1.3	1.0		mg/Kg	10	4/19/2008 1:50:50 PM
1-Methylnaphthalene	4.9	2.0		mg/Kg	10	4/19/2008 1:50:50 PM
2-Methylnaphthalene	6.8	2.0		mg/Kg	10	4/19/2008 1:50:50 PM
Acetone	ND	7.5		mg/Kg	10	4/19/2008 1:50:50 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Bromoform	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Bromomethane	ND	1.0		mg/Kg	10	4/19/2008 1:50:50 PM
2-Butanone	ND	5.0		mg/Kg	10	4/19/2008 1:50:50 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/19/2008 1:50:50 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/19/2008 1:50:50 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Chloroethane	ND	1.0		mg/Kg	10	4/19/2008 1:50:50 PM
Chloroform	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
Chloromethane	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 1:50:50 PM
1,2-Dibromo-3-chloropropane	* ND	1.0		mg/Kg	10	4/19/2008 1:50:50 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: SCC
Diesel Range Organics (DRO)	130000	5000		mg/Kg	50	4/16/2008 10:17:20 PM
Motor Oil Range Organics (MRO)	27000	25000		mg/Kg	50	4/16/2008 10:17:20 PM
Surr: DNOP	0	61.7-135	S	%REC	50	4/16/2008 10:17:20 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/18/2008 4:38:57 AM
Surr: BFB	111	84-138		%REC	20	4/18/2008 4:38:57 AM
EPA METHOD 7471: MERCURY						Analyst: SNV
Mercury	9.6	1.6		mg/Kg	50	4/18/2008 4:33:14 PM
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Arsenic	26	2.5		mg/Kg	1	4/21/2008 9:26:55 AM
Barium	330	1.0		mg/Kg	10	4/21/2008 11:36:15 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

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 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	7.8	2.0		mg/Kg	10	4/19/2008 2:26:21 PM
Acetone	ND	7.5		mg/Kg	10	4/19/2008 2:26:21 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
Bromoform	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
Bromomethane	ND	1.0		mg/Kg	10	4/19/2008 2:26:21 PM
2-Butanone	ND	5.0		mg/Kg	10	4/19/2008 2:26:21 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/19/2008 2:26:21 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/19/2008 2:26:21 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
Chloroethane	ND	1.0		mg/Kg	10	4/19/2008 2:26:21 PM
Chloroform	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
Chloromethane	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 2:26:21 PM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/19/2008 2:26:21 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

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

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- 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	34.6-161		%REC	1	4/17/2008
Surr: Nitrobenzene-d5	103	26.5-122		%REC	1	4/17/2008
Surr: Phenol-d5	87.3	37.6-118		%REC	1	4/17/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Toluene	0.69	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Ethylbenzene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
1,2,4-Trimethylbenzene	1.5	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
1,3,5-Trimethylbenzene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Naphthalene	1.9	1.0		mg/Kg	10	4/19/2008 3:01:46 PM
1-Methylnaphthalene	7.1	2.0		mg/Kg	10	4/19/2008 3:01:46 PM
2-Methylnaphthalene	10	2.0		mg/Kg	10	4/19/2008 3:01:46 PM
Acetone	ND	7.5		mg/Kg	10	4/19/2008 3:01:46 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Bromoform	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Bromomethane	ND	1.0		mg/Kg	10	4/19/2008 3:01:46 PM
2-Butanone	ND	5.0		mg/Kg	10	4/19/2008 3:01:46 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/19/2008 3:01:46 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/19/2008 3:01:46 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Chloroethane	ND	1.0		mg/Kg	10	4/19/2008 3:01:46 PM
Chloroform	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
Chloromethane	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 3:01:46 PM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/19/2008 3:01:46 PM

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

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

Qualifiers:

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- E Value above quantitation range
- 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	35.6-141		%REC	1	4/17/2008
Surr: 2-Fluorobiphenyl	88.0	30.4-128		%REC	1	4/17/2008
Surr: 2-Fluorophenol	99.0	28.1-129		%REC	1	4/17/2008
Surr: 4-Terphenyl-d14	43.9	34.6-151		%REC	1	4/17/2008
Surr: Nitrobenzene-d5	91.4	26.5-122		%REC	1	4/17/2008
Surr: Phenol-d5	81.5	37.6-118		%REC	1	4/17/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	2.4	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Toluene	11	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Ethylbenzene	3.4	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
1,2,4-Trimethylbenzene	10	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
1,3,5-Trimethylbenzene	2.8	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Naphthalene	6.5	1.0		mg/Kg	10	4/19/2008 4:12:55 PM
1-Methylnaphthalene	14	2.0		mg/Kg	10	4/19/2008 4:12:55 PM
2-Methylnaphthalene	20	2.0		mg/Kg	10	4/19/2008 4:12:55 PM
Acetone	ND	7.5		mg/Kg	10	4/19/2008 4:12:55 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Bromoform	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Bromomethane	ND	1.0		mg/Kg	10	4/19/2008 4:12:55 PM
2-Butanone	ND	5.0		mg/Kg	10	4/19/2008 4:12:55 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/19/2008 4:12:55 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/19/2008 4:12:55 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Chloroethane	ND	1.0		mg/Kg	10	4/19/2008 4:12:55 PM
Chloroform	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
Chloromethane	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 4:12:55 PM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/19/2008 4:12:55 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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 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:

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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	**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	38.5	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	0.69	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/Aeration 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:

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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:**	AL1-4-HP
Lab Order:	0804138	**Collection Date:**	4/10/2008 10:50:00 AM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-07	**Matrix:**	SOIL

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: SCC
Diesel Range Organics (DRO)	130000	5000		mg/Kg	50	4/17/2008 3:23:56 AM
Motor Oil Range Organics (MRO)	25000	25000		mg/Kg	50	4/17/2008 3:23:56 AM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 3:23:56 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	670	100		mg/Kg	20	4/18/2008 11:22:52 PM
Surr: BFB	112	84-138		%REC	20	4/18/2008 11:22:52 PM
EPA METHOD 7471: MERCURY						Analyst: SNV
Mercury	18	3.3		mg/Kg	100	4/18/2008 4:42:27 PM
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Arsenic	31	2.5		mg/Kg	1	4/21/2008 10:54:58 AM
Barium	450	1.0		mg/Kg	10	4/21/2008 11:52:18 AM
Cadmium	0.79	0.10		mg/Kg	1	4/21/2008 10:54:58 AM
Chromium	46	0.30		mg/Kg	1	4/21/2008 10:54:58 AM
Lead	110	2.5		mg/Kg	10	4/28/2008 8:44:11 AM
Selenium	ND	25		mg/Kg	10	4/21/2008 11:52:18 AM
Silver	ND	0.25		mg/Kg	1	4/21/2008 10:54:58 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	30		mg/Kg	1	4/17/2008
Acenaphthylene	ND	30		mg/Kg	1	4/17/2008
Aniline	ND	30		mg/Kg	1	4/17/2008
Anthracene	ND	30		mg/Kg	1	4/17/2008
Azobenzene	ND	30		mg/Kg	1	4/17/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/17/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/17/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/17/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/17/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/17/2008
Benzoic acid	ND	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:**	AL1-5-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	26	2.0		mg/Kg	10	4/19/2008 6:00:00 PM
2-Methylnaphthalene	42	2.0		mg/Kg	10	4/19/2008 6:00:00 PM
Acetone	ND	7.5		mg/Kg	10	4/19/2008 6:00:00 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
Bromoform	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
Bromomethane	ND	1.0		mg/Kg	10	4/19/2008 6:00:00 PM
2-Butanone	ND	5.0		mg/Kg	10	4/19/2008 6:00:00 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/19/2008 6:00:00 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/19/2008 6:00:00 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
Chloroethane	ND	1.0		mg/Kg	10	4/19/2008 6:00:00 PM
Chloroform	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
Chloromethane	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 6:00:00 PM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/19/2008 6:00:00 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

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

Qualifiers:

*	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:

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Dibromomethane	ND	1.0		mg/Kg	10	4/19/2008 6:35:13 PM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/19/2008 6:35:13 PM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/19/2008 6:35:13 PM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/19/2008 6:35:13 PM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/19/2008 6:35:13 PM
2-Hexanone	ND	5.0		mg/Kg	10	4/19/2008 6:35:13 PM
Isopropylbenzene	0.64	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/19/2008 6:35:13 PM
Methylene chloride	ND	1.5		mg/Kg	10	4/19/2008 6:35:13 PM
n-Butylbenzene	0.65	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
n-Propylbenzene	1.4	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Styrene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/19/2008 6:35:13 PM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/19/2008 6:35:13 PM
Vinyl chloride	ND	0.50		mg/Kg	10	4/19/2008 6:35:13 PM
Xylenes, Total	27	1.0		mg/Kg	10	4/19/2008 6:35:13 PM
Surr: 1,2-Dichloroethane-d4	94.3	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	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	35	30		mg/Kg	1	4/17/2008
Pyrene	39	30		mg/Kg	1	4/17/2008
Pyridine	ND	75		mg/Kg	1	4/17/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/17/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/17/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/17/2008
Surr: 2,4,6-Tribromophenol	39.2	35.5-141		%REC	1	4/17/2008
Surr: 2-Fluorobiphenyl	38.1	30.4-128		%REC	1	4/17/2008
Surr: 2-Fluorophenol	90.5	28.1-129		%REC	1	4/17/2008
Surr: 4-Terphenyl-d14	38.1	34.6-151		%REC	1	4/17/2008
Surr: Nitrobenzene-d5	91.2	26.5-122		%REC	1	4/17/2008
Surr: Phenol-d5	71.3	37.6-118		%REC	1	4/17/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	5.1	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Toluene	32	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Ethylbenzene	10	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Methyl tert-butyl ether (MTBE)	1.1	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
1,2,4-Trimethylbenzene	26	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
1,3,5-Trimethylbenzene	6.7	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Naphthalene	19	1.0		mg/Kg	10	4/19/2008 7:10:34 PM
1-Methylnaphthalene	42	2.0		mg/Kg	10	4/19/2008 7:10:34 PM
2-Methylnaphthalene	44	4.0		mg/Kg	20	4/21/2008 1:12:46 PM
Acetone	ND	7.5		mg/Kg	10	4/19/2008 7:10:34 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Bromoform	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Bromomethane	ND	1.0		mg/Kg	10	4/19/2008 7:10:34 PM
2-Butanone	ND	5.0		mg/Kg	10	4/19/2008 7:10:34 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/19/2008 7:10:34 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/19/2008 7:10:34 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Chloroethane	ND	1.0		mg/Kg	10	4/19/2008 7:10:34 PM
Chloroform	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
Chloromethane	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 7:10:34 PM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/19/2008 7:10:34 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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	0.18	0.10		mg/Kg	1	4/21/2008 11:04:36 AM
Chromium	16	0.30		mg/Kg	1	4/21/2008 11:04:36 AM
Lead	25	0.25		mg/Kg	1	4/28/2008 8:19:16 AM
Selenium	ND	25		mg/Kg	10	4/21/2008 12:11:18 PM
Silver	ND	0.25		mg/Kg	1	4/21/2008 11:04:36 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	30		mg/Kg	1	4/18/2008
Acenaphthylene	ND	30		mg/Kg	1	4/18/2008
Aniline	ND	30		mg/Kg	1	4/18/2008
Anthracene	ND	30		mg/Kg	1	4/18/2008
Azobenzene	ND	30		mg/Kg	1	4/18/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/18/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/18/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/18/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzoic acid	ND	50		mg/Kg	1	4/18/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/18/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/18/2008
Carbazole	ND	30		mg/Kg	1	4/18/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/18/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/18/2008

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

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

Qualifiers:

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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:**	AL1-3-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:

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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:**	AL1-3-SS
Lab Order:	0804138	**Collection Date:**	4/10/2008 5:35:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-11	**Matrix:**	SOIL

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

Qualifiers:

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

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

Qualifiers:

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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:

- * 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 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
Lab Order: 0804138
Project: Evaporation Pond/Aeration Lagoon
Lab ID: 0804138-14

Client Sample ID: EP1-6
Collection Date: 4/9/2008 7:10:00 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)	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:

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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: 0804138-14

Client Sample ID: EP1-6
Collection Date: 4/9/2008 7:10:00 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	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
- 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:**	EP1-6
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
Lab Order: 0804138
Project: Evaporation Pond/Aeration Lagoon
Lab ID: 0804138-15

Client Sample ID: EP1-7
Collection Date: 4/9/2008 7:35:00 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)	200000	5000		mg/Kg	50	4/17/2008 9:01:21 AM
Motor Oil Range Organics (MRO)	25000	25000		mg/Kg	50	4/17/2008 9:01:21 AM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 9:01:21 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/19/2008 12:53:17 AM
Surr: BFB	102	84-138		%REC	20	4/19/2008 12:53:17 AM
EPA METHOD 7471: MERCURY						Analyst: SNV
Mercury	4.4	1.6		mg/Kg	50	4/28/2008 2:41:25 PM
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Arsenic	3.6	2.5		mg/Kg	1	4/21/2008 11:15:14 AM
Barium	280	1.0		mg/Kg	10	4/21/2008 12:21:53 PM
Cadmium	0.27	0.10		mg/Kg	1	4/21/2008 11:15:14 AM
Chromium	8.3	0.30		mg/Kg	1	4/21/2008 11:15:14 AM
Lead	9.7	0.25		mg/Kg	1	4/28/2008 8:29:20 AM
Selenium	27	25		mg/Kg	10	4/21/2008 12:21:53 PM
Silver	ND	0.25		mg/Kg	1	4/21/2008 11:15:14 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Acenaphthene	ND	30		mg/Kg	1	4/18/2008
Acenaphthylene	ND	30		mg/Kg	1	4/18/2008
Aniline	ND	30		mg/Kg	1	4/18/2008
Anthracene	ND	30		mg/Kg	1	4/18/2008
Azobenzene	ND	30		mg/Kg	1	4/18/2008
Benz(a)anthracene	35	30		mg/Kg	1	4/18/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/18/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/18/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzoic acid	ND	60		mg/Kg	1	4/18/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/18/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/18/2008
Carbazole	ND	30		mg/Kg	1	4/18/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/18/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/18/2008

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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	62.9	26.5-122		%REC	1	4/18/2008
Surr: Phenol-d5	60.7	37.6-118		%REC	1	4/18/2008
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Toluene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Ethylbenzene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Methyl tert-butyl ether (MTBE)	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
1,2,4-Trimethylbenzene	1.7	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
1,3,5-Trimethylbenzene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
1,2-Dichloroethane (EDC)	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
1,2-Dibromoethane (EDB)	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Naphthalene	1.7	1.0		mg/Kg	10	4/19/2008 11:54:29 PM
1-Methylnaphthalene	9.1	2.0		mg/Kg	10	4/19/2008 11:54:29 PM
2-Methylnaphthalene	12	2.0		mg/Kg	10	4/19/2008 11:54:29 PM
Acetone	ND	7.5		mg/Kg	10	4/19/2008 11:54:29 PM
Bromobenzene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Bromodichloromethane	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Bromoform	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Bromomethane	ND	1.0		mg/Kg	10	4/19/2008 11:54:29 PM
2-Butanone	ND	5.0		mg/Kg	10	4/19/2008 11:54:29 PM
Carbon disulfide	ND	5.0		mg/Kg	10	4/19/2008 11:54:29 PM
Carbon tetrachloride	ND	1.0		mg/Kg	10	4/19/2008 11:54:29 PM
Chlorobenzene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Chloroethane	ND	1.0		mg/Kg	10	4/19/2008 11:54:29 PM
Chloroform	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
Chloromethane	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
2-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
4-Chlorotoluene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
cis-1,2-DCE	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
cis-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/19/2008 11:54:29 PM
1,2-Dibromo-3-chloropropane	ND	1.0		mg/Kg	10	4/19/2008 11:54:29 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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 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:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Dibromomethane	ND	1.0		mg/Kg	10	4/20/2008 12:29:39 AM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/20/2008 12:29:39 AM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/20/2008 12:29:39 AM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/20/2008 12:29:39 AM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/20/2008 12:29:39 AM
2-Hexanone	ND	5.0		mg/Kg	10	4/20/2008 12:29:39 AM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/20/2008 12:29:39 AM
Methylene chloride	ND	1.5		mg/Kg	10	4/20/2008 12:29:39 AM
n-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Styrene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/20/2008 12:29:39 AM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/20/2008 12:29:39 AM
Vinyl chloride	ND	0.50		mg/Kg	10	4/20/2008 12:29:39 AM
Xylenes, Total	ND	1.0		mg/Kg	10	4/20/2008 12:29:39 AM
Surr: 1,2-Dichloroethane-d4	96.9	68.7-122		%REC	10	4/20/2008 12:29:39 AM
Surr: 4-Bromofluorobenzene	90.7	79.3-126		%REC	10	4/20/2008 12:29:39 AM
Surr: Dibromofluoromethane	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 8016B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	350000	5000		mg/Kg	50	4/17/2008 5:27:25 PM
Motor Oil Range Organics (MRO)	52000	25000		mg/Kg	50	4/17/2008 5:27:25 PM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 5:27:25 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/19/2008 1:53:15 AM
Surr: BFB	103	84-138		%REC	20	4/19/2008 1:53:15 AM
EPA METHOD 7471: MERCURY						Analyst: **SNV**
Mercury	5.5	1.6		mg/Kg	50	4/28/2008 2:51:14 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **NMO**
Arsenic	14	2.5		mg/Kg	1	4/23/2008 8:07:03 AM
Barium	210	1.0		mg/Kg	10	4/23/2008 9:21:38 AM
Cadmium	0.40	0.10		mg/Kg	1	4/23/2008 8:07:03 AM
Chromium	16	0.30		mg/Kg	1	4/23/2008 8:07:03 AM
Lead	29	0.25		mg/Kg	1	4/28/2008 9:36:28 AM
Selenium	ND	25		mg/Kg	10	4/23/2008 9:21:38 AM
Silver	ND	0.25		mg/Kg	1	4/28/2008 9:36:28 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	30		mg/Kg	1	4/18/2008
Acenaphthylene	ND	30		mg/Kg	1	4/18/2008
Aniline	ND	30		mg/Kg	1	4/18/2008
Anthracene	ND	30		mg/Kg	1	4/18/2008
Azobenzene	ND	30		mg/Kg	1	4/18/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/18/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/18/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/18/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzoic acid	ND	50		mg/Kg	1	4/18/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/18/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/18/2008
Carbazole	ND	30		mg/Kg	1	4/18/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/18/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/18/2008

Qualifiers:

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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:**	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
Lab Order: 0804138
Project: Evaporation Pond/Aeration Lagoon
Lab ID: 0804138-19

Client Sample ID: BD-2
Collection Date: 4/9/2008
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	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
- 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: 0804138-19

Client Sample ID: BD-2
Collection Date: 4/9/2008
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 1:05:19 AM
Dibromomethane	ND	1.0		mg/Kg	10	4/20/2008 1:05:19 AM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/20/2008 1:05:19 AM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/20/2008 1:05:19 AM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/20/2008 1:05:19 AM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/20/2008 1:05:19 AM
2-Hexanone	ND	5.0		mg/Kg	10	4/20/2008 1:05:19 AM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/20/2008 1:05:19 AM
Methylene chloride	ND	1.5		mg/Kg	10	4/20/2008 1:05:19 AM
n-Butylbenzene	0.72	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
Styrene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/20/2008 1:05:19 AM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/20/2008 1:05:19 AM
Vinyl chloride	ND	0.50		mg/Kg	10	4/20/2008 1:05:19 AM
Xylenes, Total	3.1	1.0		mg/Kg	10	4/20/2008 1:05:19 AM
Surr: 1,2-Dichloroethane-d4	98.6	68.7-122		%REC	10	4/20/2008 1:05:19 AM
Surr: 4-Bromofluorobenzene	93.1	79.3-126		%REC	10	4/20/2008 1:05:19 AM
Surr: Dibromofluoromethane	105	64.4-119		%REC	10	4/20/2008 1:05:19 AM
Surr: Toluene-d8	101	86.5-121		%REC	10	4/20/2008 1:05:19 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/18/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/18/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Chrysene	48	30		mg/Kg	1	4/18/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/18/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/18/2008
Dibenzofuran	ND	30		mg/Kg	1	4/18/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/18/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/18/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/18/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/18/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/18/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/18/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/18/2008
Fluoranthene	ND	38		mg/Kg	1	4/18/2008
Fluorene	100	30		mg/Kg	1	4/18/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/18/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/18/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/18/2008
Hexachloroethane	ND	30		mg/Kg	1	4/18/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/18/2008
Isophorone	ND	75		mg/Kg	1	4/18/2008
2-Methylnaphthalene	540	38		mg/Kg	1	4/18/2008
2-Methylphenol	ND	75		mg/Kg	1	4/18/2008
3+4-Methylphenol	30	30		mg/Kg	1	4/18/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/18/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/18/2008
Naphthalene	48	30		mg/Kg	1	4/18/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/18/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/18/2008
Nitrobenzene	ND	75		mg/Kg	1	4/18/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/18/2008
Pentachlorophenol	ND	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	**Client Sample ID:**	BD-1
Lab Order:	0804138	**Collection Date:**	4/8/2008
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-20	**Matrix:**	SOIL

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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	64-131		%REC	1	4/19/2008 12:33:24 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: SCC
Diesel Range Organics (DRO)	120000	5000		mg/Kg	50	4/17/2008 12:54:40 PM
Motor Oil Range Organics (MRO)	28000	25000		mg/Kg	50	4/17/2008 12:54:40 PM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 12:54:40 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/19/2008 2:53:20 AM
Surr: BFB	98.4	84-138		%REC	20	4/19/2008 2:53:20 AM
EPA METHOD 7471: MERCURY						Analyst: SNV
Mercury	7.4	1.6		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	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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	66.7-122		%REC	10	4/20/2008 4:02:15 AM
Surr: 4-Bromofluorobenzene	94.9	79.3-126		%REC	10	4/20/2008 4:02:15 AM
Surr: Dibromofluoromethane	96.1	64.4-119		%REC	10	4/20/2008 4:02:15 AM
Surr: Toluene-d8	101	86.5-121		%REC	10	4/20/2008 4:02:15 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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 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	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/Acration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-26	**Matrix:**	SOIL

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

Qualifiers:

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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:**	AL2-2-HP
Lab Order:	0804138	**Collection Date:**	4/8/2008 3:15:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-26	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
Phenol	ND	30		mg/Kg	1	4/18/2008
Pyrene	ND	30		mg/Kg	1	4/18/2008
Pyridine	ND	75		mg/Kg	1	4/18/2008
1,2,4-Trichlorobenzene	ND	30		mg/Kg	1	4/18/2008
2,4,5-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
2,4,6-Trichlorophenol	ND	30		mg/Kg	1	4/18/2008
Surr: 2,4,6-Tribromophenol	52.0	35.5-141		%REC	1	4/18/2008
Surr: 2-Fluorobiphenyl	79.6	30.4-128		%REC	1	4/18/2008
Surr: 2-Fluorophenol	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	**Client Sample ID:**	AL2-3-HP
Lab Order:	0804138	**Collection Date:**	4/8/2008 12:15:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-27	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: SCC
Diesel Range Organics (DRO)	110000	5000		mg/Kg	50	4/17/2008 2:02:53 PM
Motor Oil Range Organics (MRO)	ND	25000		mg/Kg	50	4/17/2008 2:02:53 PM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 2:02:53 PM
EPA METHOD 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:

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

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	140000	6000		mg/Kg	50	4/17/2008 2:36:57 PM
Motor Oil Range Organics (MRO)	29000	26000		mg/Kg	50	4/17/2008 2:36:57 PM
Surr: DNOP	0	61.7-135	S	%REC	50	4/17/2008 2:36:57 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	100		mg/Kg	20	4/19/2008 4:23:35 AM
Surr: BFB	104	84-138		%REC	20	4/19/2008 4:23:35 AM
EPA METHOD 7471: MERCURY						Analyst: **SNV**
Mercury	6.4	1.6		mg/Kg	50	4/28/2008 3:10:53 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **NMO**
Arsenic	21	2.5		mg/Kg	1	4/23/2008 8:20:15 AM
Barium	270	1.0		mg/Kg	10	4/23/2008 9:41:16 AM
Cadmium	5.2	0.10		mg/Kg	1	4/23/2008 8:20:15 AM
Chromium	45	0.30		mg/Kg	1	4/23/2008 8:20:15 AM
Lead	55	2.5		mg/Kg	10	4/28/2008 11:27:26 AM
Selenium	ND	25		mg/Kg	10	4/23/2008 9:41:16 AM
Silver	ND	0.25		mg/Kg	1	4/28/2008 9:49:16 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	30		mg/Kg	1	4/18/2008
Acenaphthylene	ND	30		mg/Kg	1	4/18/2008
Aniline	ND	30		mg/Kg	1	4/18/2008
Anthracene	ND	30		mg/Kg	1	4/18/2008
Azobenzene	ND	30		mg/Kg	1	4/18/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/18/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/18/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/18/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/18/2008
Benzoic acid	ND	50		mg/Kg	1	4/18/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/18/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/18/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/18/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/18/2008
Carbazole	ND	30		mg/Kg	1	4/18/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/18/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/18/2008

Qualifiers:

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

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

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- 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	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/20/2008 6:23:38 AM
Methylene chloride	ND	1.5		mg/Kg	10	4/20/2008 6:23:38 AM
n-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
Styrene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/20/2008 6:23:38 AM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/20/2008 6:23:38 AM
Vinyl chloride	ND	0.50		mg/Kg	10	4/20/2008 6:23:38 AM
Xylenes, Total	1.8	1.0		mg/Kg	10	4/20/2008 6:23:38 AM
Surr: 1,2-Dichloroethane-d4	96.2	68.7-122		%REC	10	4/20/2008 6:23:38 AM
Surr: 4-Bromofluorobenzene	97.7	79.3-126		%REC	10	4/20/2008 6:23:38 AM
Surr: Dibromofluoromethane	102	64.4-119		%REC	10	4/20/2008 6:23:38 AM
Surr: Toluene-d8	98.9	86.5-121		%REC	10	4/20/2008 6:23:38 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT: Western Refining Southwest, Gallup
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	1.6		mg/Kg	50	4/28/2008 3:17:26 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **NMO**
Arsenic	20	2.5		mg/Kg	1	4/23/2008 8:31:41 AM
Barium	260	1.0		mg/Kg	10	4/23/2008 9:46:52 AM
Cadmium	6.6	0.10		mg/Kg	1	4/23/2008 8:31:41 AM
Chromium	30	0.30		mg/Kg	1	4/23/2008 8:31:41 AM
Lead	48	2.5		mg/Kg	10	4/28/2008 11:29:02 AM
Selenium	ND	25		mg/Kg	10	4/23/2008 9:46:52 AM
Silver	ND	0.25		mg/Kg	1	4/28/2008 10:03:47 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	30		mg/Kg	1	4/20/2008
Acenaphthylene	ND	30		mg/Kg	1	4/20/2008
Aniline	ND	30		mg/Kg	1	4/20/2008
Anthracene	ND	30		mg/Kg	1	4/20/2008
Azobenzene	ND	30		mg/Kg	1	4/20/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/20/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/20/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/20/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/20/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/20/2008
Benzoic acid	ND	50		mg/Kg	1	4/20/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/20/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/20/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/20/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/20/2008
Carbazole	ND	30		mg/Kg	1	4/20/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/20/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/20/2008

Qualifiers:
- * Value exceeds Maximum Contaminant Level
- 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	98.6	86.5-121		%REC	10	4/20/2008 6:59:11 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 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
Lab Order: 0804138
Project: Evaporation Pond/Aeration Lagoon
Lab ID: 0804138-31

Client Sample ID: AL2-2-SS
Collection Date: 4/8/2008 3:55:00 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	4/20/2008 9:20:52 AM
Dibromomethane	ND	1.0		mg/Kg	10	4/20/2008 9:20:52 AM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/20/2008 9:20:52 AM
1,1-Dichloroethene	ND	0.60		mg/Kg	10	4/20/2008 9:20:52 AM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,3-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
2,2-Dichloropropane	ND	1.0		mg/Kg	10	4/20/2008 9:20:52 AM
1,1-Dichloropropene	ND	1.0		mg/Kg	10	4/20/2008 9:20:52 AM
Hexachlorobutadiene	ND	1.0		mg/Kg	10	4/20/2008 9:20:52 AM
2-Hexanone	ND	5.0		mg/Kg	10	4/20/2008 9:20:52 AM
Isopropylbenzene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
4-Isopropyltoluene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
4-Methyl-2-pentanone	ND	5.0		mg/Kg	10	4/20/2008 9:20:52 AM
Methylene chloride	ND	1.5		mg/Kg	10	4/20/2008 9:20:52 AM
n-Butylbenzene	1.0	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
n-Propylbenzene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
sec-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
Styrene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
tert-Butylbenzene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,1,1,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,1,2,2-Tetrachloroethane	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
Tetrachloroethene (PCE)	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
trans-1,2-DCE	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
trans-1,3-Dichloropropene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	10	4/20/2008 9:20:52 AM
1,2,4-Trichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,1,1-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,1,2-Trichloroethane	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
Trichloroethene (TCE)	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
Trichlorofluoromethane	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
1,2,3-Trichloropropane	ND	1.0		mg/Kg	10	4/20/2008 9:20:52 AM
Vinyl chloride	ND	0.50		mg/Kg	10	4/20/2008 9:20:52 AM
Xylenes, Total	4.9	1.0		mg/Kg	10	4/20/2008 9:20:52 AM
Surr: 1,2-Dichloroethane-d4	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	84-138		%REC	20	4/19/2008 6:24:07 AM
EPA METHOD 7471: MERCURY						Analyst: **SNV**
Mercury	8.9	1.6		mg/Kg	50	4/28/2008 3:41:55 PM
EPA METHOD 6010B: SOIL METALS						Analyst: **NMO**
Arsenic	8.4	2.5		mg/Kg	1	4/23/2008 8:36:55 AM
Barium	350	1.0		mg/Kg	10	4/23/2008 9:56:28 AM
Cadmium	0.42	0.10		mg/Kg	1	4/23/2008 8:36:55 AM
Chromium	14	0.30		mg/Kg	1	4/23/2008 8:36:55 AM
Lead	24	1.2		mg/Kg	5	4/28/2008 11:33:35 AM
Selenium	ND	25		mg/Kg	10	4/23/2008 9:56:28 AM
Silver	ND	0.25		mg/Kg	1	4/28/2008 10:08:51 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **JDC**
Acenaphthene	ND	30		mg/Kg	1	4/20/2008
Acenaphthylene	ND	30		mg/Kg	1	4/20/2008
Aniline	ND	30		mg/Kg	1	4/20/2008
Anthracene	ND	30		mg/Kg	1	4/20/2008
Azobenzene	ND	30		mg/Kg	1	4/20/2008
Benz(a)anthracene	ND	30		mg/Kg	1	4/20/2008
Benzo(a)pyrene	ND	30		mg/Kg	1	4/20/2008
Benzo(b)fluoranthene	ND	30		mg/Kg	1	4/20/2008
Benzo(g,h,i)perylene	ND	75		mg/Kg	1	4/20/2008
Benzo(k)fluoranthene	ND	30		mg/Kg	1	4/20/2008
Benzoic acid	ND	50		mg/Kg	1	4/20/2008
Benzyl alcohol	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroethoxy)methane	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroethyl)ether	ND	30		mg/Kg	1	4/20/2008
Bis(2-chloroisopropyl)ether	ND	30		mg/Kg	1	4/20/2008
Bis(2-ethylhexyl)phthalate	ND	75		mg/Kg	1	4/20/2008
4-Bromophenyl phenyl ether	ND	30		mg/Kg	1	4/20/2008
Butyl benzyl phthalate	ND	30		mg/Kg	1	4/20/2008
Carbazole	ND	30		mg/Kg	1	4/20/2008
4-Chloro-3-methylphenol	ND	75		mg/Kg	1	4/20/2008
4-Chloroaniline	ND	75		mg/Kg	1	4/20/2008

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:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

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

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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:

- * 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 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:

*	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 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:

*	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 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:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-1
Lab Order:	0804138	**Collection Date:**	4/9/2008 6:25:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-35	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/20/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/20/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/20/2008
Chrysene	45	30		mg/Kg	1	4/20/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/20/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/20/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/20/2008
Dibenzofuran	ND	30		mg/Kg	1	4/20/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/20/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/20/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/20/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/20/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/20/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/20/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/20/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/20/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/20/2008
Fluoranthene	ND	38		mg/Kg	1	4/20/2008
Fluorene	53	30		mg/Kg	1	4/20/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/20/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/20/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/20/2008
Hexachloroethane	ND	30		mg/Kg	1	4/20/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/20/2008
Isophorone	ND	75		mg/Kg	1	4/20/2008
2-Methylnaphthalene	370	38		mg/Kg	1	4/20/2008
2-Methylphenol	ND	75		mg/Kg	1	4/20/2008
3+4-Methylphenol	53	30		mg/Kg	1	4/20/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/20/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/20/2008
Naphthalene	31	30		mg/Kg	1	4/20/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/20/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/20/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/20/2008
Nitrobenzene	ND	75		mg/Kg	1	4/20/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/20/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/20/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/20/2008
Phenanthrene	330	30		mg/Kg	1	4/20/2008

Qualifiers:
- * Value exceeds Maximum Contaminant Level
- 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	88.0	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	98.7	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	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:**	EP1-2
Lab Order:	0804138	**Collection Date:**	4/9/2008 6:45:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-36	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: JDC
2-Chloronaphthalene	ND	38		mg/Kg	1	4/20/2008
2-Chlorophenol	ND	30		mg/Kg	1	4/20/2008
4-Chlorophenyl phenyl ether	ND	30		mg/Kg	1	4/20/2008
Chrysene	ND	30		mg/Kg	1	4/20/2008
Di-n-butyl phthalate	ND	75		mg/Kg	1	4/20/2008
Di-n-octyl phthalate	ND	30		mg/Kg	1	4/20/2008
Dibenz(a,h)anthracene	ND	30		mg/Kg	1	4/20/2008
Dibenzofuran	ND	30		mg/Kg	1	4/20/2008
1,2-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
1,3-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
1,4-Dichlorobenzene	ND	30		mg/Kg	1	4/20/2008
3,3'-Dichlorobenzidine	ND	38		mg/Kg	1	4/20/2008
Diethyl phthalate	ND	30		mg/Kg	1	4/20/2008
Dimethyl phthalate	ND	30		mg/Kg	1	4/20/2008
2,4-Dichlorophenol	ND	30		mg/Kg	1	4/20/2008
2,4-Dimethylphenol	ND	45		mg/Kg	1	4/20/2008
4,6-Dinitro-2-methylphenol	ND	75		mg/Kg	1	4/20/2008
2,4-Dinitrophenol	ND	75		mg/Kg	1	4/20/2008
2,4-Dinitrotoluene	ND	75		mg/Kg	1	4/20/2008
2,6-Dinitrotoluene	ND	75		mg/Kg	1	4/20/2008
Fluoranthene	ND	38		mg/Kg	1	4/20/2008
Fluorene	ND	30		mg/Kg	1	4/20/2008
Hexachlorobenzene	ND	30		mg/Kg	1	4/20/2008
Hexachlorobutadiene	ND	30		mg/Kg	1	4/20/2008
Hexachlorocyclopentadiene	ND	30		mg/Kg	1	4/20/2008
Hexachloroethane	ND	30		mg/Kg	1	4/20/2008
Indeno(1,2,3-cd)pyrene	ND	38		mg/Kg	1	4/20/2008
Isophorone	ND	75		mg/Kg	1	4/20/2008
2-Methylnaphthalene	58	38		mg/Kg	1	4/20/2008
2-Methylphenol	ND	75		mg/Kg	1	4/20/2008
3+4-Methylphenol	34	30		mg/Kg	1	4/20/2008
N-Nitrosodi-n-propylamine	ND	30		mg/Kg	1	4/20/2008
N-Nitrosodiphenylamine	ND	30		mg/Kg	1	4/20/2008
Naphthalene	ND	30		mg/Kg	1	4/20/2008
2-Nitroaniline	ND	30		mg/Kg	1	4/20/2008
3-Nitroaniline	ND	30		mg/Kg	1	4/20/2008
4-Nitroaniline	ND	38		mg/Kg	1	4/20/2008
Nitrobenzene	ND	75		mg/Kg	1	4/20/2008
2-Nitrophenol	ND	30		mg/Kg	1	4/20/2008
4-Nitrophenol	ND	30		mg/Kg	1	4/20/2008
Pentachlorophenol	ND	50		mg/Kg	1	4/20/2008
Phenanthrene	71	30		mg/Kg	1	4/20/2008

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- 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:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Apr-08*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	EP1-2
Lab Order:	0804138	**Collection Date:**	4/9/2008 6:45:00 PM
Project:	Evaporation Pond/Aeration Lagoon	**Date Received:**	4/11/2008
Lab ID:	0804138-36	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Dibromochloromethane	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
Dibromomethane	ND	1.0		mg/Kg	10	4/20/2008 12:18:36 PM
1,2-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
1,3-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
1,4-Dichlorobenzene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
Dichlorodifluoromethane	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
1,1-Dichloroethane	ND	1.0		mg/Kg	10	4/20/2008 12:18:36 PM
1,1-Dichloroethene	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
1,2-Dichloropropane	ND	0.50		mg/Kg	10	4/20/2008 12:18:36 PM
1,3-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	66.3	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	65.8	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	65.7	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

Method: EPA Method 8270C: Semivolatiles
Sample ID: mb-15669 *MBLK* Batch ID: 15669 Analysis Date: 4/17/2008

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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 II		*MBLK*			Batch ID:	R28173	Analysis Date:	4/19/2008 6:07:13 AM	
4-Methyl-2-pentanone	ND	µg/L	10						
Methylene Chloride	ND	µg/L	3.0						
n-Butylbenzene	ND	µg/L	1.0						
n-Propylbenzene	ND	µg/L	1.0						
sec-Butylbenzene	ND	µg/L	1.0						
Styrene	ND	µg/L	1.0						
tert-Butylbenzene	ND	µg/L	1.0						
1,1,1,2-Tetrachloroethane	ND	µg/L	1.0						
1,1,2,2-Tetrachloroethane	ND	µg/L	2.0						
Tetrachloroethene (PCE)	ND	µg/L	1.0						
trans-1,2-DCE	ND	µg/L	1.0						
trans-1,3-Dichloropropene	ND	µg/L	1.0						
1,2,3-Trichlorobenzene	ND	µg/L	1.0						
1,2,4-Trichlorobenzene	ND	µg/L	1.0						
1,1,1-Trichloroethane	ND	µg/L	1.0						
1,1,2-Trichloroethane	ND	µg/L	1.0						
Trichloroethene (TCE)	ND	µg/L	1.0						
Trichlorofluoromethane	ND	µg/L	1.0						
1,2,3-Trichloropropane	ND	µg/L	2.0						
Vinyl chloride	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	1.5						
Sample ID: 100ng lcs II		*LCS*			Batch ID:	R28173	Analysis Date:	4/19/2008 5:38:04 AM	
Benzene	21.72	µg/L	1.0	109	86.8	120			
Toluene	18.58	µg/L	1.0	92.9	64.1	127			
Chlorobenzene	17.96	µg/L	1.0	89.8	82.4	113			
1,1-Dichloroethene	25.96	µg/L	1.0	130	86.5	132			
Trichloroethene (TCE)	21.13	µg/L	1.0	106	77.3	123			

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name WESTERN REFINING GALLU

Date Received: 4/11/2008

Work Order Number 0804138

Received by: AT

Sample ID labels checked by: AS / AT
Initials

Checklist completed by: _____ 4/11/08
Signature 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 _____

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 #: 1097-019-001
Project Manager: Regina Allen
Sampler: GP/SM
On Ice: Yes
Sample Temperature: 3 °C

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 (Ag/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	245pm	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.

hof 5

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: ☒ Yes ☐ No
Sample Temperature: 3.4 °C

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 6010C				Air Bubbles (Y or N)
4.10.08	1800	AL1-SS	4oz/2	None	-13			X							X	X	X				
4.9.08	7:10pm	EP1-6	4oz/2	None	-14			X							X	X	X				
4.9.08	7:35pm	EP1-7	4oz/2	None	-15			X							X	X	X				
4.9.08	7:17pm	EP1-8	4oz/2	None	-16			X							X	X	X				
4.9.08	1000	AL2-3-SS-MS	4oz/2	None	32 -17 4/11/08			X							X	X	X				
4.9.08	1000	AL2-3-SS-MSD	4oz/2	None	-32 -18 4/11/08			X							X	X	X				
4.9.08		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						
		~~EB04~~ Trip Blank	40mL/2	HCl	-24			X							X	X	X				

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: 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,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	RCRA metals (ICP)				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/02	None	-31			X							X	X	X				
4.9.08	1000	AL2-3-SS	4oz/02	None	-32			X							X	X	X				
4.9.08	1025	AL2-4-SS	4oz/02	None	-33			X							X	X	X				
4.9.08	940	AL2-5-SS	4oz/02	None	-34			X							X	X	X				
4.9.08	6:25 pm	EP1-1	4oz/02	None	-35			X							X	X	X				
4.9.08	6:45 pm	EP1-2	4oz/02	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	**CASE NARRATIVE**
Project:	Evaporation Pond/Aeration Lagoon	
Lab Order:	0804138	

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	51.5	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
- 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

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?	Yes
Comments: Three equipment blanks and one trip blank were collected and reported with these samples. Therefore, blanks were collected on a 10% basis.	
19. Were detections found in trip blanks, equipment blanks, or field blanks?	No
Comments: No detections were found in the blanks.	
20. Was the number of field duplicates collected equal to at least 10% of the total number of samples, or as required by the project guidelines, QAPP, SAP, or permit, or as indicated by the Tier 1 validator?	Yes
Comments: Sample BD-1 is a duplicate of AL2-2-SS and BD-2 is a duplicate of AL2-4-SS.	
21. Were field duplicate RPD values less than the upper RPD limit (soil [50%], water [30%], or air/vapor [25%]), as specified by the laboratory or method?	Yes
Comments: Most RPD values were acceptable with the exception of the RPD for 2-methylnaphthalene (Method 8270C) between AL2-4-SS and BD-2. As a result, all 2-methylnaphthalene was qualified. The other associated RPD values were acceptable.	
22. Were laboratory duplicate RPD values within laboratory-specified limits?	N/A
Comments: Laboratory duplicates were not reported by the laboratory.	
23. General Comments: The analyses were reported as being acceptable by the laboratory.	

Table 1. Qualification Summary, Western Refining Southwest, Gallup, New Mexico (0804138)

Analyte	Client Sample ID	Laboratory Assigned ID	Laboratory Result	Reviewer Qualifier	Reason for Qualification
Gasoline Range Organics	All Samples	All Samples	Detections	J	High MS and MSD results indicating a possible high bias
2-Methylnaphthalene (Method 8270C)	All Samples	All Samples	Detections/Non-Detections	J/UJ	High RPD (>100%) in the duplicate indicating poor repeatability
VOCs	AL2-2-SS	0804138-31	Detections/Non-Detections	J/UJ	Low surrogate recovery
VOCs	All Samples	All Samples	Detections/Non-Detections	J/UJ	Severe Matrix Interference
SVOCs	All Samples	All Samples	Detections/Non-Detections	J/UJ	Severe Matrix Interference
Mercury	All Samples	All Samples	Detections/Non-Detections	J/UJ	Severe Matrix Interference

J – Indicates estimated detection.
UJ – Indicates estimated detection below the reporting limit.

Table 2. Field Duplicate Summary, Western Refining Southwest, Gallup, New Mexico (0804138)

Parent Sample: AL2-2-SS / Duplicate Sample: BD-1			
Analyte	**Laboratory Result (mg/kg)**	**Duplicate Result (mg/kg)**	**Relative Percent Difference (RPD)**
Diesel Range Organics	260000	220000	16.7%
Motor Oil Organics	31000	ND(25000)	DL
Mercury	6.8	11	47.2%
Arsenic	13	12	8.0%
Barium	500	420	17.4%
Cadmium	0.32	0.46	35.9%
Chromium	21	22	4.7%
Lead	24	26	8.0%
Chrysene	ND(30)	48	DL
Fluorene	98	100	2.0%
2-Methylnaphthalene – 8270C	450	540	18.2%
3,4-methylphenol	ND(30)	30	DL
Naphthalene	38	48	23.3%
Phenanthrene	230	300	26.4%
Pyrene	ND(30)	56	DL
Toluene	2.1	1.3	47.1%
Ethylbenzene	0.72	ND(0.5)	DL
1,2,4-Trimethylbenzene	4.5	2.9	43.2%
1,3,5-Trimethylbenzene	1.1	0.61	57.3%*
Naphthalene	5.8	5.1	12.8%
1-Methylnaphthalene - 8260	26	23	12.2%
2-Methylnaphthalene - 8260	37	34	8.5%
n-Butylbenzene	1.0	0.65	42.4%
Xylenes	4.9	3.1	45.0%

Field duplicate RPD control limits should not exceed 30% for water, 50% for soil, or 25% for air or vapor as established by USEPA Region 1 Laboratory Data Validation Function Guidelines for Evaluation of Organic Analysis, December 1996.

DL – indicates that one result was detected and the other was non-detect. For the DL noted values, the detected value was within 2x the reporting limit and no qualification was required.
* - Indicates that one or both of the determinations was less than five times the reporting limit and a valid RPD could not be calculated; therefore, no data will be qualified.

Parent Sample: AL2-4-SS / Duplicate Sample: BD-2			
Analyte	**Laboratory Result (mg/kg)**	**Duplicate Result (mg/kg)**	**Relative Percent Difference (RPD)**
Diesel Range Organics	250000	350000	33.3%
Motor Oil Organics	35000	52000	39.1%
Mercury	8.1	5.5	38.2%
Arsenic	14	14	0.0%
Barium	190	210	10.0%
Cadmium	0.42	0.4	4.9%
Chromium	16	16	0.0%
Lead	32	29	9.8%
Chrysene	ND(30)	49	DL
Dibenzofuran	ND(30)	36	DL
Fluorene	44	130	98.9%*
2-Methylnaphthalene – 8270C	**190**	**640**	**108.4%**
3,4-methylphenol	ND(30)	35	DL
Naphthalene	44	67	41.4%
Phenanthrene	210	310	38.5%
Pyrene	ND(30)	51	DL
Toluene	1.6	1.2	28.6%
Ethylbenzene	0.56	ND(0.5)	DL
1,2,4-Trimethylbenzene	4.1	3.6	13.0%
1,3,5-Trimethylbenzene	0.72	0.56	25.0%
Naphthalene	5.4	4.1	27.4%
1-Methylnaphthalene - 8260	24	21	13.3%
2-Methylnaphthalene - 8260	30	24	22.2%
n-Butylbenzene	1.1	0.72	41.8%
Xylenes	4.0	3.1	25.4%

Field duplicate RPD control limits should not exceed 30% for water, 50% for soil, or 25% for air or vapor as established by USEPA Region 1 Laboratory Data Validation Function Guidelines for Evaluation of Organic Analysis, December 1996.

DL – indicates that one result was detected and the other was non-detect. For the DL noted values, the detected value was within 2x the reporting limit and no qualification was required.
* - Indicates that one or both of the determinations was less than five times the reporting limit and a valid RPD could not be calculated; therefore, no data will be qualified.

APPENDIX E

SURVCAD VOLUME CALCULATIONS

072SediVols200805-Vol-AL1-HP-SS

Volume Report Aeration Lagoon 1 Soft Sediment 5/30/2008 10:51

Comparing GRiD file:
H:/Projects/WesternRefining/Gallup/072-697-016/CADD/SurvCadData/AL1-HP.grd
and GRiD file: H:/Projects/WesternRefining/Gallup/072-697-016/CADD/SurvCadData/AL1-SS.grd

Grid corner locations: 6164.05,4854.71 to 6328.05,5025.71

Grid resolution X: 164, Y: 171 Grid cell size X: 1.00, Y: 1.00

Area in Cut : 0.0 S.F., 0.00 Acres

Area in Fill: 12,324.8 S.F., 0.28 Acres

Total inclusion area: 12,324.8 S.F., 0.28 Acres

Cut to Fill ratio: 0.00

Average Fill Depth: 3.21

Max Fill Depth: 5.88

Cut (C.Y.) / Area (acres): 0.00

Fill (C.Y.) / Area (acres): 5173.59

Cut volume: 0.0 C.F., 0.00 C.Y.

Fill volume: 39,522.8 C.F., 1,463.81 C.Y.

072SediVols200805-Vol-AL1-TD-HP

Volume Report Aeration Lagoon 1 Hardpack Sediment 5/30/2008 10:50

Comparing GRiD file:
H:/Projects/WesternRefining/Gallup/072-697-016/CADD/SurvCadData/AL1-TD.grd
and GRiD file: H:/Projects/WesternRefining/Gallup/072-697-016/CADD/SurvCadData/AL1-HP.grd

Grid corner locations: 6164.05,4854.71 to 6328.05,5025.71

Grid resolution X: 164, Y: 171 Grid cell size X: 1.00, Y: 1.00

Area in Cut : 0.0 S.F., 0.00 Acres

Area in Fill: 12,324.8 S.F., 0.28 Acres

Total inclusion area: 12,324.8 S.F., 0.28 Acres

Cut to Fill ratio: 0.00

Average Fill Depth: 0.50

Max Fill Depth: 2.47

Cut (C.Y.) / Area (acres): 0.00

Fill (C.Y.) / Area (acres): 808.43

Cut volume: 0.0 C.F., 0.00 C.Y.

Fill volume: 6,175.9 C.F., 228.74 C.Y.

072SediVols200805-Vol-AL2-HP-SS

Volume Report Aeration Lagoon 2 Soft Sediment 5/30/2008 10:49

Comparing GRiD file:
H:/Projects/WesternRefining/Gallup/072-697-016/CADD/SurvCadData/AL2-HP.grd
and GRiD file: H:/Projects/WesternRefining/Gallup/072-697-016/CADD/SurvCadData/AL2-SS.grd

Grid corner locations: 5968.13,4838.96 to 6183.13,5067.96

Grid resolution X: 215, Y: 229 Grid cell size X: 1.00, Y: 1.00

Area in Cut : 0.0 S.F., 0.00 Acres

Area in Fill: 19,902.8 S.F., 0.46 Acres

Total inclusion area: 19,902.8 S.F., 0.46 Acres

Cut to Fill ratio: 0.00

Average Fill Depth: 4.62

Max Fill Depth: 8.50

Cut (C.Y.) / Area (acres): 0.00

Fill (C.Y.) / Area (acres): 7450.55

Cut volume: 0.0 C.F., 0.00 C.Y.

Fill volume: 91,913.4 C.F., 3,404.20 C.Y.

072SediVols200805-Vol-AL2-TD-HP

Volume Report Aeration Lagoon 2 Hardpack Sediment 5/30/2008 10:47

Comparing GRiD file:
H:/Projects/WesternRefining/Gallup/072-697-016/CADD/SurvCadData/AL2-TD.grd
and GRiD file: H:/Projects/WesternRefining/Gallup/072-697-016/CADD/SurvCadData/AL2-HP.grd

Grid corner locations: 5968.13,4838.96 to 6183.13,5067.96

Grid resolution X: 215, Y: 229 Grid cell size X: 1.00, Y: 1.00

Area in Cut : 0.0 S.F., 0.00 Acres

Area in Fill: 19,902.8 S.F., 0.46 Acres

Total inclusion area: 19,902.8 S.F., 0.46 Acres

Cut to Fill ratio: 0.00

Average Fill Depth: 0.58

Max Fill Depth: 2.09

Cut (C.Y.) / Area (acres): 0.00

Fill (C.Y.) / Area (acres): 940.99

Cut volume: 0.0 C.F., 0.00 C.Y.

Fill volume: 11,608.5 C.F., 429.95 C.Y.

072SediVols200805-Vol-EP1-SS-TD

Volume Report Evaporation Pond 1 5/30/2008 11:03

Comparing GRiD file:
H:/Projects/WesternRefining/Gallup/072-697-016/CADD/SurvCadData/EP1-TD.grd
and GRiD file: H:/Projects/WesternRefining/Gallup/072-697-016/CADD/SurvCadData/EP1-SS.grd

Grid corner locations: 5981.50,5014.46 to 6297.50,5341.46

Grid resolution X: 316, Y: 327 Grid cell size X: 1.00, Y: 1.00

Area in Cut : 0.0 S.F., 0.00 Acres

Area in Fill: 53,891.7 S.F., 1.24 Acres

Total inclusion area: 53,891.7 S.F., 1.24 Acres

Cut to Fill ratio: 0.00

Average Fill Depth: 1.59

Max Fill Depth: 5.04

Cut (C.Y.) / Area (acres): 0.00

Fill (C.Y.) / Area (acres): 2568.95

Cut volume: 0.0 C.F., 0.00 C.Y.

Fill volume: 85,813.1 C.F., 3,178.26 C.Y.