Western Refining
GALLUP

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June 30, 2011

JUL 2011

John E. Kieling
NMED – HWB
2905 Rodeo Park Drive East
Building 1
Santa Fe, NM 87505-6303

Re: Notice of Disapproval – Annual Ground Water Monitoring Report:
Gallup Refinery 2009, Western Refining Company, Southwest, Inc.
Gallup Refinery.
HWB-WRG-10-007
EPA ID #NMD000333211

Dear Mr. Kieling:

In response to the Notice of Disapproval – 2009 Annual Ground Water Monitoring Report, Western Refining Company, Southwest, Inc., has prepared the following response to comments listed.

Comment 1

The format of the Ground Water Monitoring Report for the past four years (2006-2010) has made the review process difficult for several reasons. The Permittee failed to follow the monitoring schedule and analyze the samples according to the analytical suites in the OCD Discharge Permit (GW-032) and did not provide a discussion of deviations from the OCD Discharge Permit. Data table formatting is hard to follow making it difficult for NMED to review. Additionally, data (ground water data and elevation data) presented in tables are inconsistent and sometimes incorrect.

Response: The above comments have been noted. Western Refining has obtained Depauli Engineering & Surveying, LLC to survey all active wells for the following elevations: Top of casing elevations; steel lid; ground elevations inside steel sleeve, and ground elevations. Depth to bottom of well will also be rechecked on all active wells. Corrected Well Data Summary Table and survey information will be supplied on or before August 1, 2011 as directed by NMED correspondence "Requirement to Resurvey Groundwater Monitoring Wells and Recovery Wells, dated 6/6/2011.

Comment 2

The Permittee has not complied with all requirements included in NODs from previous Annual Groundwater Monitoring Reports:

a) Comment 10 in the NOD providing comments on the OCD 2006 Annual Ground water Report (January 16, 2008), states "[t]he Permittee must revise all tables in the Report to report all water/product measurements in units of hundredths of a foot. All future reports must report water/product measurements in hundredths of foot and not in inches." Similarly, Comment 19 from the NOD dated March 26, 2009 described recovery well information that was presented in feet and inches and that were rounded. NMED responded that "[i]n future Annual reports, all measurements must be measured to an accuracy of 0.01 foot and be presented in the tables in feet...[i]f data are collected in inches, they must be converted to feet and the Permittee must explain how the conversions are completed and include any applicable equations or conversion factors." The reported units for the well casing stick up lengths for the tables in Section 9.0 (Annual Well Data Summary Table) are presented in inches.

Response: All future applicable tables will be revised to reflect measurement units to the nearest hundredths of foot (0.01). See response to Comment 1 for well casing stick up lengths.

b) Comment 8 in the NOD providing comments on the OCD 2007 Annual Ground water Report (and OCD Addendum) dated March 26, 2009 states, "[i]f the Permittee did not sample Potable Well #3 [PW-3] in 2008; it must be sampled in 2009. The Discharge Plan states this well is to be sampled every 3 years starting in 2008. However, because samples from this well had detections of 2-methylnapthalene exceeding the WQCC standard, the well must be sampled annually, unless otherwise directed by NMED." PW-3 was not sampled in 2009. The Permittee must sample well PW-3 during the next monitoring event and annual thereafter until further notice.

Response: PW-3 was not sampled as required in 2009 because directive from NMED was not communicated to the field technician responsible for sampling. Annual sampling of PW-3 was conducted in 2010 and will continue annually as directed by NMED.

c) Comment 10 in the NOD providing comments on the OCD 2007 Annual Ground water Report (and OCD Addendum) dated March 26, 2009, states, "[t]he Permittee analyzed some samples for RCRA metals and other samples for the larger list of WQCC metals. The Discharge Permit requires all samples to be analyzed for the WQCC metals list." According to the monitoring schedule in Section 2.0 (Scope of Activities 2009) RCRA 8 Metals are listed under the "Parameters of Analysis" for OW-50 and OW-52, KA-3, NAPIS-1, 2 and 3. The Permittee must analyze all water samples obtained from these wells for WQCC metals list.

Response: All future metals sampling will include the WQCC totals and dissolved metals list.

d) Comment 16 in the NOD providing comments on the Rejected Annual Ground water Report: Gallup Refinery – 2008 dated January 26, 2010 states, "[m]any of the tables are poorly organized and include inaccurate numbers and notes... [i]t is important to present the data in a clear and organized manner, because NMED uses the tables to review the Report and also as reference material." Although there has been improvement in the presentation of the data in this Report, NMED continues to have difficulty reviewing the data (ground water data and well elevations and measurements) due to the substandard method of presentation.

Response: An example of the Data Table attached to "Rejection Annual Ground water Monitoring Report – Gallup Refinery 2008 was used as a template for all Data Tables as requested by NMED. See answer to Comment 1 for well elevations.

The Permittee continues to fail to comply with the requirements of the NODs issued by NMED. Review past NODs dating back to 2006 and submit all future reports that comply with those NOD comments in addition to the comments provided in this letter. The Permittee has access to the Bloomfield Refinery's Annual Ground water Report which may be used as a template, especially in the formatting of the tables. Further noncompliance with NMED's directions may result in an enforcement action.

Comment 3

Section 2.0 (Scope of Activities 2009), pages 15-16, provides a table of monitoring schedule for the wells and surface water locations sampled during the reporting period. It appears that there are several typographical errors on this table.

a) BW-1A is reported as being sampled on 7/6/2009, however, BW-1A was not sampled during this reporting period. BW-1C was sampled. Explain this discrepancy in the response letter.

Response: Section 2, Monitoring Schedule will be revised to show "Date Sampled" and "Date Inspected" as separate columns. BW-1A is normally a dry well and during the 2009 Annual inspection it was noted that there was a water level. However, the water level was 0.03 feet and there was not enough water to bail for sampling. The findings of BW-1A were noted on the Annual Well Sampling logs in Appendix C and again referenced in Section 6.6.2 Wells with Constituent Levels below Standards.

b) BW-2A and BW-3A are mentioned twice in the table. Correct this discrepancy in future reports.

Response: Future tables will be updated with correct information.

c) According to the laboratory analytical data, BW-1C, 2A, 2B, 2C, 3B, and 3C were sampled 7/6/2009 and 8/3/2009, but the table only mentions the July 2009 sample date. Explain this discrepancy in the response letter.

Response: During the initial annual sampling conducted on July 6, 2009 on the boundary wells General Chemistry parameters were inadvertently missed. NMED was contacted on July 31, 2009 regarding omission of General Chemistry parameters and the Gallup Refinery was instructed to sample for General Chemistry only which was conducted on August 6, 2009. A Well Sampling Log for August 6, 2009 re-sampling was completed and is included in Appendix C.

d) RCRA 8 Metals are listed under the "Parameters of Analysis" for OW-50 and OW-52, KA-3, NAPIS 1, 2 and 3. According to the OCD Discharge Permit, these wells must be analyzed for WQCC metals. Explain this discrepancy in the response letter (see Comment 2c).

Response: Sampling was conducted per letter received from NMED "Requirement to Install Monitoring Wells", dated May 28, 2009, paragraph 2 item e, states, "...initial sampling must analyze for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), RCRA 8 metals, gasoline range organics (GRO), diesel range organics (DRO) extended, and general chemistry parameters." On June 4, 2010, "Approval with Modification..." paragraph 2 lists WQCC metals (total and dissolved) as sampling requirements. Correct sample method has been implemented upon receipt of June 4, 2010 letter.

e) MW-2 is missing the sampling date, which is 7/16/2009. Add the sampling date to future reports.

Response: All future tables will be revised to reflect correct dates.

f) Under "Parameters of Analysis" for PW-2, PW-3 and PW-4, cyanide is misspelled. Correct this typographical error in future reports.

Response: All future reports will be checked for typographical errors and corrected.

g) PW-3 should have been sampled annually per Comment 8 of NMED's NOD Letter dated March 26, 2009. Explain this discrepancy in the response letter (see Comment 2b).

Response: See response to Comment 2b.

Comment 4

Section 2.0 (Scope of Activities 2009), pages 17, provides a table of the sampling frequency for the historical NAPIS spills. NMED has reviewed the OCD Discharge Permit and understands the table was directly copied form the OCD Discharge Permit. However, to provide consistency in the table formatting, revise future tables to present the list of analytes rather than the analytical method information. The analytical method

must be discussed in the appropriate section of future Work Plans and reports. No response required.

Response: All future tables will reflect list of analytes and discussed in appropriate sections of report.

Comment 5

Section 2.1 (New Monitoring Well Installations), page 17, states "[t]wo new shallow ground water observation wells (OW-50 and OW-52) were installed in October 2009, north of OW-13 and down gradient of OW-29 and PW-30. These wells were installed per NMED HWB request dated 5/28/09 '*Requirement to Install Monitoring Wells*' to determine if any constituent has migrated north, northwest of the refinery and potentially offsite... [t]hese two wells were added to the annual update to the Refinery Wide Ground water Monitoring Plan to be sampled on a quarterly basis for the following parameters: VOC, SVOC, DRO/GRO, RCRA8 Metals, and General Chemistry." According to the monitoring schedule, OW-50 and OW-52 were sampled on November 17, 2009 and note 11 states that the "[n]ew wells [were] drilled and installed on 10/5 and 10/7/2009 down gradient of OW-13 and OW-29. [The f]irst samples [were] collected by AMEC Earth and Environmental, Inc."

a) Clarify the date(s) samples were collected from OW-50 and OW-52.

Response: Water samples for OW-50 and OW-52 were collected by AMEC Earth and Environmental, Inc. on November 16, 2009.

b) The results of the samples collected by AMEC Earth and Environmental, Inc. are not reported in Section 6.0 (Ground water Monitoring Results) or in the tables in Section 8.0 (Data Tables). The chemical analytical results for samples collected from these wells on November 17, 2009 also are not discussed in the Report. In future reports, all samples collected, including initial sampling results for newly installed wells must be discussed in the Report and all laboratory data must be submitted with the Report.

Response: A "New Monitoring Wells Installation Report and Initial Sampling Results: Gallup Refinery" was submitted to NMED in December 2009 for OW-50 and OW-52 and was therefore not included in 2009 Annual Report. In the future any and all information will be made a part of the Annual Report.

c) The Permittee lists RCRA 8 metals as a parameter for analysis for OW-50 and OW-52. According to NMED's NOD dated March 26, 2009, "[t]he Discharge Permit requires all samples to be analyzed for the WQCC metals list." Explain this discrepancy in the response letter (see Comment 2c).

Response: See response to Comment 3d

Comment 6

Section 6.1 (Monitoring Wells That have Constituent Levels above Standards), OW-13, OW-14, OW-29, OW-30, page 25, paragraph 1 and 2, there are spelling errors with the following constituents: xylene, 1,2,4-trimethylbenzene and sec-butylbenzene. Correct these typographical errors in future reports.

Response: See response to Comment 3f.

Comment 7

Section 6.1 (Monitoring Wells That have Constituents Levels Above Standards), NAPIS-1, NAPIS-2, NAPIS-3, KA-3, page 26, states "[g]round water samples were analyzed for BTEX, 8021B plus MTBE, SVOC, DRO, GRO, RCRA8 Metals and General Chemistry." According to the NMED's NOD dated March 26, 2009, "[t]he Discharge Permit requires all samples to be analyzed for the WQCC metals list." Explain this discrepancy in the response letter (see Comment 3d).

Response: Field technician used the 2007 approved Sample Schedule which lists WQCC metals and RCRA list constituents. Field technician was not fully informed that totals and dissolved was required for the WQCC analysis. This has been addressed and all future analysis for WQCC metals will include totals and dissolved.

Comment 8

Section 6.1 (Monitoring Wells That have Constituent Levels Above Standards), NAPIS-1, NAPIS-2, NAPIS-3, KA-3, page 27, paragraph 1, states, "[d]ue to the close proximity of NAPIS 3 and KA-3 these wells were mis-identified by the field technician. NAPIS 3 was identified as KA-3 and KA-3 was identified as NAPIS-3 when samples were labeled. As a result analytical lab data received for these wells did not correspond to the correct well. Analytical lab data received for these wells have been manually corrected on the data sheets with the correct well identification." The laboratory data has been reviewed and all of the data sheets have not been corrected. Provide corrected data sheets (e.g., laboratory data and chain of custodies) to replace the current data sheets in the Report. Verify that this discrepancy did not carry over to monitoring activities (e.g., water level measurements and water chemistry measurements) in the response letter and include corrected tables as necessary.

Response: All field notes and lab data from 2008 to present have been re-checked for accuracy. The only samples that were labeled incorrectly were on August 31, 2009 in which the technician caught the error and notified Hall Laboratories that the NAPIS-3 and KA-3 sample labels had been switched and authorized Hall Laboratories to change the identification of the sample on the Chain of Custody before any analysis was run. Therefore Hall Laboratory Order #0909044, dated 9/11/09 has the correct information pertaining to the NAPIS-3 and KA-3 analysis. Hall Laboratory Order No.0905544 dated 6/17/09, Hall Laboratory Order No. 0906335 dated July 2, 2009 and Hall Laboratory

Order No. 0911470 dated December 10, 2009 hand corrected copies submitted with the 2009 Annual Ground Water Report should be removed and replaced with the original uncorrected reports (Attachment 1). Data Tables in Section 8 for NAPIS-3 and KA-3 have been corrected (copies attached as Attachment 2) and no changes are required on the Field Logs in Appendix C. Language has been changed to reflect correct data in Section 6.1, page 27 and in Section 7.0, last paragraph, page 32. (Copies attached as Attachment 2 and are flagged as to where corrections have been made).

Comment 9

Section 6.2 (Wells with Constituent Levels below Standards), pages 27-30, discusses the results from sampling and monitoring for the Report; however, the subsections are inconsistent when describing the analyses for each well. For example, on page 27, the section describing the activities at OW-11 lists the parameters for analyses as general chemistry, VOC, MTBE, SVOC, and WQCC metals. On page 30, there is no discussion of the analyses conducted for the samples collected from evaporation ponds 1-8. In future reports provide consistency by listing the analyses conducted for all ground water and surface impoundment samples.

Response: All future reports will have discussions on analyses found in all ground water and surface impoundment samples.

Comment 10

Section 6.2 (Wells with Constituent Levels below Standards), OW-11, page 27, paragraph 2, states, "[u]ranium was also present in this well at 0.216 ppm below the NMWQS and EPA MCLS but above the RRSL of 0.11 ppm." The NMWQS and EPA MCL for uranium is 0.03 mg/L. The uranium concentration detected in the sample obtained from OW-11 exceeds all of the screening levels. The WQCC screening levels presented in Appendix B have recently been updated and the updated screening levels can be found in *Title 20: Environmental Protection, Chapter 6: Water Quality, Part 2: Ground and Surface Water Protection, Item: 3103 (20.6.2.3103)* with the following link: http://www.nmcpr.state.nm.us/nmac/parts/title20/20.006.0002.htm. Correct all tables that inaccurately report uranium screening levels in future Annual Reports.

Response: Corrections will be made in all future reports with the most current version of the standards at time of submittal.

Comment 11

Section 6.2 (Wells with Constituent Levels below Standards), BW-3B, BW-3C, page 28, discusses sampling and monitoring that was conducted at these two wells; however, there is no mention of the results for BW-3A. The monitoring schedule on page 15 in Section 2 reports that BW-3A was sampled on 7/6/2009. In the response letter, explain why this information is missing from Section 6.2 and the laboratory data and provide the data for BW-3A, if available.

Response: During the 2009 annual sampling event, BW-3A was found to be a dry well and was not included in Section 6, 6.2 Wells with Constituent Levels below Standards. No lab analysis is available as there was no water found in the well for sampling.

Comment 12

Section 6.2 (Wells with Constituent Levels below Standards), PW-2, PW-3, PW-4, page 29, paragraph 1, states, "PW-3 annual sampling was not done in 2009 as requested by NMED HWB, resulting from the detection of 2-methylnapthalene in 2007 of 0.032ppm. PW-3 was sampled in 2008 and results were non-detect." Comment 8 from NMED's NOD dated March 26, 2009, states "[i]f the Permittee did not sample Potable Well #3 in 2008, it must be sampled in 2009. The Discharge Plan states this well is to be sampled every 3 years starting with 2008. However, because samples from this well had detections of 2-methylnapthalene exceeding the WQCC standard, the well must be sampled annually, unless otherwise directed by NMED. This information must be included in future Annual Reports. Pending the sampling results, the sampling frequency for this well may be modified." NMED did not direct the Permittee to discontinue ground water sample collection from PW-3 in 2009. The Permittee was directed to collect a sample in 2009 if the sample was not collected in 2008. Further, the Permittee was also directed to sample this well annually. The Permittee must continue sampling at PW-3 annually until otherwise directed by NMED.

Response: See response to Comment 3g.

Comment 13

Section 7.0 (Conclusions), page 32, East Side Ground Water, states "[t]wo new wells (OW-50 and OW-52) were installed in October 2009 did not reveal the presence of MTBE and Benzene." The Permittee cannot draw any conclusions or make statements about the presence of constituents in the vicinity of OW-50 and OW-52 because all of the analytical results for OW-50 and OW-52 were not provided in the Report. Although laboratory data was provided for samples collected in November 2009, the laboratory data for October 2009 was not provided. The October 2009 laboratory data for these wells must be submitted with the response letter (see Comment 5).

Response: There were no samples collected in October 2009 by AMEC Environmental. Initial samples were collected on November 17, 2009 by AMEC Environmental.

Comment 14

The following comments pertain to Section 8.0 (Data Tables):

a) Several tables throughout this section have blank cells that are not explained in the "Notes" section. Also, there are some tables with asterisks (*) either with or without

numerical values in cells. In future reports provide a reference in the "Notes" section of the tables for all symbols.

Response: Future tables will be revised with notes for explanation of blank cells.

b) Several tables throughout this section contain text and numerical values that do not fit in the cell. In future reports, format the tables so that all text and numerical values are complete and legible.

Response: Future tables will be formatted to "Times New Roman" font, 12 pitch.

c) Several tables throughout this section are missing borders and dividers that separate the individual cells in the tables. In future reports, format the tables to include all cell borders and dividers.

Response: Future tables will be formatted with borders, dividers.

d) In future reports, number the data tables. Numbering the tables aids the review process and the tables can easily be referenced in the Report. For example, the tables on pages 36-37 can be numbered as tables 8.2: Ground water Data Tables – GWM-1, 8.2.1: Summary of BTEX detected in GWM-1 (2006-2009), 8.2.2: Summary of VOC & SVOC detected in GWM-1 (2007-2009), 8.2.3: Summary of Recoverable metals detected in GWM-1 (2006-2009), and 8.2.4: Summary of General Chemistry parameters in GWM-1 (2006-2009).

Response: Future tables will be identified with page numbers for easy reference.

e) Several tables throughout this section are inconsistent when reporting results and screening levels. For example, page 39, Summary of Recoverable Metals detected in SMW-2 and SMW-4 (2006-2009), reports the arsenic RSL of 0.000045 mg/l but the RSL for magnesium as 6E-05mg/L. In future reports, consistently report all screening levels and results as ordinary decimal notation up to 4 decimal places (e.g., 0.1234 mg/L) and provide in scientific notation if greater than 4 (e.g., 4.5E-06 mg/L).

Response: All future reports will be formatted up to four decimal places.

f) Several tables throughout this section are inconsistent with font size and font type. In future reports provide tables with consistent formatted font sizes and type. If the table does not fit on 8.5" x 11" paper, use 11" x 17" sized paper instead. Also provide page numbers on the tables (see attached example).

Response: See response to Comment 14b.

g) In the "Notes" section on page 36, Summary of BTEX detected in GWM-1 (2006-2009), states "2007 samples were taken on January 1, 2008 due to inclement weather condition in 2007." This statement appears to be a typographical error because

the samples mentioned in the note are not in the table. In future reports provide the data mentioned in the "Notes" section or remove the statement.

Response: All future reports in the "Notes" section will be revised to reflect current data.

h) On page 38, Summary of BTEX detected in SWM-2 and SMW-4 (2005-2009), states "[t]hese wells were not sampled in 2006." It also appears that SMW-2 was not sampled in 2007. In the response letter, explain why sampling was not conducted in 2006 for both wells in 2007 only for SMW-2.

Response: SMW-2 was not required to be sampled in 2006. 2007 annual sampling activities were conducted on January 1, 2008 due to inclement weather conditions in December 2007.

i) On Page 39, Summary of Recoverable Metals detected in SMW-2 and SMW-4 (2006-2009), the reported SMW-4 results are from 10/28/2006. This result contradicts the statement from the previous table on page 38. In the response letter, explain why this sample was not analyzed for BTEX, SVOCs, VOCs, and general chemistry.

Response: Entry on Page 39, Table Summary of Recoverable Metals..., for SMW-4 date should read 10/12/2005. The date 10/28/2006 was carried over from another well. SMW-4 was not required to be sampled in 2006.

j) On Pages 40, 45, 52, and 58, Summary of DRO and GRO Detected, the table reports TPH screening levels. In future reports, reference which TPH screening guideline table (2a or 2b) was used as the source for the screening levels.

Response: TPH screening guideline reference will be identified in future reports.

k) On Page 44, Summary of Recoverable Metals in NAPIS Wells (2008-2009), the results for seven metals (Ca, Mg, K, Na, Ba, Dr, and Pb) are listed for wells GWM-1, SMW2, and SMW-4. However on page 37 and 39, the results for 12 or 13 metals are reported for GWM-1, SWM-2 and SWM-4. In future a report, consistently report all metals analyzed or note that only results with detects are presented in the subject table.

Response: In future tables, results will be clearly identified and/or explained in the "Note" section.

l) On Page 50, Summary of Recoverable Metals Detected in Process Wells (2008), the EPA MCL for uranium is reported as 0 mg/L. This is a typographical error. The EPA MCL for uranium is 0.03 mg/L. In future reports ensure that all screening levels are correctly reported.

Response: See response to Comment 10.

m) Page 50, Summary of Recoverable Metals Detected in Process Wells (2004-2009), the results are presented in chronological order from previous sampling event to the current sampling event. In future reports, be consistent when reporting sample dates starting with the most recent sample date and sequentially to the oldest sample date in all tables. Also report all data for the past four years.

Response: All future reports will be listed with the most recent sampling date to oldest date for the past four years.

n) On age 51, Summary of Recoverable Metals in Monitoring Wells (2006-2009), "--" defines non-detect results. The barium result for MW-1 (8/4/2008) is reported as <0.02 mg/L which is also non-detect. In future reports, provide non-detect results using the "<" and the detection or reporting limit for the constituent that is included in the laboratory report.

Response: All future tables which show non-detect will be identified using the "<" and the reporting limit for the constituent included in the laboratory report.

o) On Page 53, Summary of BTEX detected in Outfalls (2009), there are several results that are greater than the RSL that are not bolded. In the benzene result column, samples collected for AL-2 to EP-1 on 12/2/2008 (0.012 mg/L) and 3/11/2008 (0.19 mg/L) are greater than the tap water RSL (0.00041 mg/L). In future reports provide consistency when highlighting results greater than applicable screening levels.

Response: All future tables will be bolded and highlighted accordingly.

p) On Page 53, Summary of BTEX detected in Outfalls (2009), there are several results that are italicized but there is no explanation for highlighting the result. In future reports provide foot notes that explain all highlighted results.

Response: All future tables will contain "notes" for explanation of highlighted, bolded, italicized entries.

Comment 15

The following comments pertain to Section 9.09 (Annual Well Date Summary Table – 2009):

a) Define all points of measurement for each elevation and depth measured (e.g., top of casing, ground surface) and define the measuring points in the Report, as well as identify them in the table.

Response: See response to Comment 1.

b) On Page 67, column "Total Well Depth (ft)," reports OW-12 (7/29/2009) as 145***. The corresponding note states, "OW-12 Annual inspection revealed well depth

measurement to be 126 feet instead of 145 feet as listed." In the response letter, explain why the incorrect measurement was not replaced with the correct measurement in the table and provide the correct measurement in future reports.

Response: The language used may have been misleading. In 2008 during the annual inspection/sampling event, pump used to purge this well would only go down approximately 126 feet. Well may have collapsed or may have an obstruction in the well casing or sediment may have settled at the bottom of this well. This finding was not verified and therefore total well depth was left as is. This well will be re-evaluated to determine correct total depth of the well before corrections are made to the data table. See also response to Comment 1.

c) On Pages 67-70, it appears the measurements in the "Stick-up length (ft)" column are incorrect. The units of measure are defined as feet, but the measurements appear to be reported in inches. Verify the units of measurement and, if in inches, convert to feet. In future reports, all measurements must be reported in feet (see Comment 2a).

Response: See response to Comment 1.

d) On Page 67, column "Ground Level Elevations (ft)***," the corresponding note states, "Western has determined that in the past, these ground level elevations have been incorrectly marked as well casing rim elevations. However, from a review of the well logs, we have determined that the elevation levels were in the table as rim casing levels when they should have been listed as ground surface elevations." It appears that all of the elevations and depths reported in this table are still incorrect. The ground level elevations and the well casing rim elevations are reported as the same elevation for many of the wells. According to the stick-up length measurements, none of the wells were installed with the casing rims flush with the ground surface. It also appears that the accuracy of the total depth of the wells is incorrect for many of the wells. The well logs were reviewed by comparing the listed table elevations to those recorded in the well logs, but the elevations in the well logs also appear to be incorrect. The Permittee must provide a corrected well data summary table revised in accordance with the attached example table.

It appears that all the wells need to be resurveyed to provide accurate information. NMED will address resurveying all wells at the refinery in a separate letter.

Response: See response to Comment 1.

e) On Pages 67-70, it appears that the measurements in the "Well Casing Bottom Elevations" are incorrect. In the response letter, describe the method used to determine this elevation.

Response: Well casing bottom elevations were taken directly from the well logs. There will be a slight difference in total well depth as all wells have been re-surveyed. Depth to

bottom of well will be rechecked and correct information will be supplied on or before August 1, 2011 as directed by NMED correspondence "Requirement to Resurvey Ground water Monitoring Wells and Recovery Wells, dated 6/6/2011.

f) The measurements in the table are presented in chronological order from previous sampling to current sampling. In future reports, be consistent when reporting measurement dates starting with the most recent measurement date sequentially back to the oldest measurement date.

Response: All future tables will be reported with most recent data in chronological order.

g) Throughout this section, there are inconsistencies with font size and font type. In future reports provide tables with consistent formatted font sizes and type. If the table does not fit on 8.5" x 11" paper, use 11" x 17" sized paper instead. Also include page numbers on the tables (see the attached example).

Response: See response to Comment 14b.

Comment 16

On Pages 72-73, Figures 2 (Topographic Map 1. (Gallup Refinery Site)) and 3 (Aerial Photograph 1 (Gallup Refinery)), there is no scale or north indicator. Provide the scale and north indicator on all maps provided in future reports.

Response: All future maps will have the North indicator and scale information where applicable.

Comment 17

On Page 75, Figure 5 (Localized Scale 1), the north indicator is obscured and there are no arrows to indicate the direction of flow. Provide the north indicator and direction of flow on all appropriate figures in future reports.

Response: All future maps will have indicators, markers, arrows, clearly marked and visible.

Comment 18

On Figure 6 (Well Locations 1 (Active Wells)), the symbols for some of the monitoring wells are bolded (e.g., Sonsela wells) and some are not (e.g., Chinle/Alluvium interface wells and process wells). In future reports, bold all symbols representing monitoring wells to make their locations more visible.

Response: See response to Comment 16 and 17. .

Comment 19

On Figure 6 (Well Locations 1 (Active Wells)), the numbered tanks within the vicinity of RW-5 and RW-6 are not legible. Provide a legible font for these tanks in future reports.

Response: See response to Comment 16 and 17.

Comment 20

Throughout the review process, NMED found it difficult to compare the data to the laboratory results because of inconsistencies with the sample IDs and their corresponding locations. When compared to the OCD Discharge Permit and the Facility Wide Ground water Monitoring Plan: Gallup Refinery (Ground water Monitoring Plan), dated June 2010, it was difficult to match up the sampling schedule sample IDs and Report Sample IDs to the laboratory data. In the future, the sampling schedule must be revised to provide the sample location description with the corresponding sample ID. The sample IDs must be consistently used throughout the monitoring period without modification to the names. The sample IDs must be consistent in the sampling schedule, the Ground Water Monitoring Plan, the Report, chain of custody forms, and analytical data. The sample locations must be easily be identified with corresponding sample ID on the chain of custody forms and all reported laboratory data.

Response: All sample IDs will be clearly identified.

Comment 21

The following comments pertain to the table in Appendix A (Separate Phase Hydrocarbons Recovered (RW-1)):

a) There are several measurements on the first page of the table that are in feet and inches. Convert all measurements to feet (to an accuracy of 0.01 foot) in future reports. For example, on the first page, date of measurement 2/22/2005 the depth to the product is 32'-5 ½". Report the measurement as 32.46 feet.

Response: See response to Comment 2.

b) There are several notes with the measurement column (e.g., 3/11 to 3/19/05 "Started Pumping Well on 3/11/05"). Provide separate columns for the method of removing the product (Method) and status of removal (Status). See the attached example table. Revise the table in future reports. Additionally, the notes within the measurement columns do not provide information about the initial depth to product, depth to water, and product thickness prior to product removal. There are also instances where the pump is stopped to obtain measurements, but there is no information or indication if the measurement was collected the same day. For future monitoring events, record

measurements prior to starting product removal activities and upon ceasing removal activities.

Response: All purging activities will be reported in future reports.

c) When reporting the measurement time, "hrs" does not have to follow the time. Remove this from future reports.

Response: All future reports "hrs" will be removed.

d) The table contains different font types and sizes. Be consistent with font size and type in future reports. If the table does not fit on 8.5" x 11" paper use 11" x 17" sized paper instead. Also provide page numbers on the tables (see attached example).

Response: See response to Comment 14b.

e) It appears that there is a typographical error associated with the volume of product bailed/pumped for the RW-1 sample dated 10/28/2009 which is reported as 0.19 gallons. The recovery well inspection log for 10/28/2009 reports the volume of product bailed/pumped as 0.15 gallons. Correct the error in future reports.

Response: All future reports, data will be verified in each entry.

f) Currently, the table reports the total product and water removed for all reporting periods. Add another table to provide a total for each year (e.g., 2005, 2006, 2007, 2008, and 2009) and provide a combined total for all years. See the attached table as an example. Also, verify that the totals add up to the reported total volume of water and product removed and include this date in future reports.

Response: All future tables will be revised.

Comment 22

The following comments pertain to Appendix B (Listing of Applicable Standards):

a) Provide page numbers for all appendices in future reports.

Response: All future reports, page numbers will be applied to Appendices.

b) The WQCC screening levels presented in Appendix B have recently been updated and the updated screening levels can be found in Title *20: Environmental Protection, Chapter 6: Water quality, Part 2: Ground and Surface Water Protection, Item: 3103* (20.6.2.3103). Report these standards in table format and include the table in future Annual Reports (See also Comment 10).

Response: See response to Comment 10.

c) Identify the TPH screening level table used to derive the comparison values (see Comment 14j).

Response: See response to Comment 14j.

d) Provide references for all tables in Appendix B.

Response: Future reports references will be listed for tables used in Appendix B.

Comment 23

The following comments pertain to Appendix C (Well and Field Logs):

a) Include the full name in the title "Annual Well Sampling, Inspection, and Field Logs."

Response: All future reports will include the full title.

b) According to Section 6.1 (Monitoring Wells that have Constituent Levels above Standards), NAPIS-1, NAPIS-2, NAPIS-3, KA-3, the field technician swapped the laboratory containers for the NAPIS-3 and KA-3 samples. NMED has reviewed the field notes/log and did not find any notes pertaining to the mix up. Verify that only the samples were switched and not the field measurements obtained during the sampling and provide a discussion in the response letter. Also, provide field notes/logs that support the discussion.

Response: See response to Comment 8.

c) Section 9.0 (Annual Well Date Summary Table – 2009), Appendix A (RW-1 Hydrocarbon Recovery Log), and the Recovery well inspection logs included in Appendix C all report the depth to product, depth to water, and product thickness. Appendix A and the recovery well inspection logs report the same measurements for all three parameters, but different values are reported in the data tables in Section 8.0. Provide the source of the measurements reported in Section 8.0. If all three sections are supposed to report the same measurements, explain the discrepancy in the response letter and provide replacement tables for Section 8.0 with the correct values.

Response: Typographical errors occurred when transferring numbers to the Well Data Summary Table in Section 9. There are no data tables generated for the recovery wells (RW-1, RW-2, RW-5, RW-6) as these wells are not sampled, only monitored for product recovery. See response to Comment 15e regarding the Well Data Summary Table.

d) According to the recovery well inspection logs, 0.23 gallons of product was recovered from RW-6 for 2009. Also, in the second, third, and fourth quarter, a thickness of at least 0.2 feet of product was reported but only a small amount of product was

removed from RW-6. RW-1 contained 0.19 feet of product in the fourth quarter and 0.15 gallons of product was bailed from the well, but 0.22 feet of product was detected in RW-6 and only 0.04 gallons was removed. In the response letter, explain the variation in product recovery in RW-1 and RW-6 and why the amount recovered for 2009 was not included in the Report.

Response: In RW-6 a submersible pneumatic bladder pump is used to remove product/water and collected into a 55 gallon drum. Visible layer of product on the top is then measured and calculated as best as possible for volume. In RW-1, the recovery well is hand bailed using a 3 foot disposable hand bailer and placed in a 5 gallon bucket. Before each bucket is emptied, the visible product layer is measured and calculated as best as possible for volume. There is no accurate, scientific method used for measurement on product recovery. Product recovery was mentioned in Section 7, East Side Ground Water, page 32.

Comment 24

NMED did not review Appendix D through H and J through L. These documents were submitted as a requirement for the OCD Discharge Permit and are subject to review by OCD.

Response: No response required.

Comment 25

The following comments pertain to Appendix I (New Well Drilling Logs, Survey and Lab Data):

a) NMED reviewed this appendix and did not find drilling logs for the new wells. Provide the drilling logs and well construction diagrams for OW-50 and OW-52 with the response letter.

Response: A copy of the New Well Installation Report submitted in December 2009 is attached as Attachment 3.

b) The monitoring schedule footnote for OW-50 and OW-52 in Section 2.0 (Scope of Activities 2009) states "[n]ew wells [were] drilled and installed on 10/5 and 10/7/2009 down gradient of OW-13 and OW-29. [The f]irst samples [were] collected by AMEC Earth and Environmental, Inc." These sample results were not included in this appendix. Include this data with the response letter (see Comment 5).

Response: Lab data was included in Appendix I of Report and is included in the New Well Installation Report as Attachment 3. See also response to Comment 5a.

c) The data provided in this appendix reports barium concentrations detected in samples obtained from OW-50 and OW-52 as 0.042 mg/L and 0.027mg/L, respectively. Although these concentrations are less than the screening level for barium (1.0 mg/L, New Mexico Water Quality Standards (NMWQS), they were not mentioned in the Report. All detected concentrations must be reported in the appropriate tables and discussed in future reports. Include the detected concentrations in the next annual report.

Response: All future reports will list all activities for the reporting year.

d) Provide photos of the new wells to show the well casing structure. Section 9.0 (Annual Well Data Summary Table) reports a stick up length of 32.50 feet (inches?) for OW-50 but the top of the casing elevation and ground surface elevation for OW-50 are the same value (6914.37 feet). The stick up length listed for OW-52 is 26.6 feet (inches?), the top of casing elevation is 6907.68 feet and the ground surface elevation is 6906.26 feet. Explain these discrepancies in the response letter.

Response: See response to Comment 1. Photos of OW-50 and OW-52 are enclosed as Attachment 4.

Comment 26

In Appendix M (Analytical Data), all of the data sheets for NAPS-3 and KA-3 have not been corrected. Section 6.1 (Monitoring Wells That have Constituent Levels above Standards), states, "[a]nalytical lab data received for [NAPIS-3 and KA-3] have been manually corrected on the data sheets with the correct well identification." Provide the corrected data sheets (e.g., laboratory data and chain of custody forms) with the response letter (see also Comments 7 and 24b).

Response: See response to Comment 8.

Comment 27

NMED understands that the OCD Discharge Permit was followed to conduct the sampling and monitoring activities during 2009, however the Annual Ground water Monitoring Plan was approved August 25, 2010 and should have been implemented for the second sampling event in 2010. The approved Annual Groundwater Monitoring Plan must be implemented for the 2011 sampling and all future monitoring and sampling until a revision is approved by NMED.

Response: The approved Monitoring Plan was received August 25, 2010; First quarter and second quarter sampling events were already conducted prior to receipt of the approved Monitoring Plan on August 25, 2010. The Third quarter sampling event was conducted using the approved Plan and all future sampling events will be conducted according to the approved Monitoring Plan unless otherwise directed by NMED HWB.

OCD COMMENTS

Comment 1

The operator places responsibility on NMED to notify OCD when line testing activities are being conducted at the site. The operator must provide direct notification to OCD at least 72 hours in advance of line testing under the discharge permit.

Appendix I: New Well Drilling Logs, Survey, Lab Data

Response: NMED and OCD are notified via e-mail by Western Refining environmental specialist 72 hours in advance of any line testing scheduled.

Comment 2

Based on NMED's recent evaluation of survey datum and observations of the hydro geologic depiction of ground water flow direction and hydraulic gradients, OCD is in agreement with NMED that the wells need to be resurveyed to establish corrected datum for all future hydro geologic information (e.g., flow diagrams) based on each aquifer system (see NMED Comment 15d).

Response: See response to NMED Comment 1.

Comment 3

It has come to OCD's attention that Hall Environmental Laboratory appears to have low or unacceptable recovery for several constituents, such as phenols, pyrene, and other SVOCs. RPDs were not reported in this report, which is considered unacceptable by EPA QA/QC Lab Standards. The operator must work with the laboratory to ensure that acceptable standards are attained for the QA/QC analytical data results.

Appendix K: Temporary Landfarm Analytical Results.

Response: Hall Environmental has reviewed the two lab orders (0812512 and 0906596) and found no issues regarding QA/QC with the analytical lab reports referenced in Appendix K. Attached is an e-mail from Hall Laboratories addressing the QA/QC concern. (Attachment 5).

Comment 4

It has come to OCD's attention that the Central LF Cell 91 and 110 exhibited chloride concentrations of 1900 and 650 ppm, respectively on 12/22/2008. Currently, the operator is working with OCD to comply with the OCD discharge permit performance standards so that soil from the landfarm can be reused elsewhere at the facility. The operator is also currently working to develop background criteria under OCD DP by May of 2011.

Response: A report "A Proposed Background Soil Concentrations, Oil Conservation Division Landfarms" was submitted to OCD on May 16, 2011.

Please feel free to contact me if you have any questions or concerns.

Respectfully submitted,

Ed Riege
Environmental Manager

Attachments (1 – 5)
cc: C. Chavez, OCD w/attach.
K. Van Horn, NMED HWB w/attach.
M. Turri, WNR w/o attach.
C. Johnson, WNR w/o attach.

ATTACHMENTS 1 – 5

CONTENTS

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Wednesday, June 17, 2009

Gaurav Rajen
Western Refining Southwest, Gallup
Rt. 3 Box 7
Gallup, NM 87301

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

RE: 2009 2nd Quarter NAPIS

Order No.: 0905544

Dear Gaurav Rajen:

Hall Environmental Analysis Laboratory, Inc. received 4 sample(s) on 5/29/2009 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

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
Texas Lab# T104704424-08-TX

Hall Environmental Analysis Laboratory, Inc. **Date:** *17-Jun-09*

CLIENT: Western Refining Southwest, Gallup
Project: 2009 2nd Quarter NAPIS
Lab Order: 0905544

CASE NARRATIVE

Analytical Comments for METHOD 8021BTEX/ 8015GRO SAMPLE NAPIS-2: necessary dilution; due to surfactants present in sample.

Analytical Comments for METHOD 300_W, ALL SAMPLES: reporting NO3 and PO4 outside of EPA holdtime. Preserved values inconsistent with unpreserved values.

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Jun-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-1
Lab Order:	0905544	**Collection Date:**	5/28/2009 8:05:00 AM
Project:	2009 2nd Quarter NAPIS	**Date Received:**	5/29/2009
Lab ID:	0905544-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	6/2/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/2/2009
Surr: DNOP	114	58-140		%REC	1	6/2/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	6/5/2009 11:27:27 PM
Surr: BFB	81.1	59.9-122		%REC	1	6/5/2009 11:27:27 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	6/5/2009 11:27:27 PM
Benzene	ND	1.0		µg/L	1	6/5/2009 11:27:27 PM
Toluene	ND	1.0		µg/L	1	6/5/2009 11:27:27 PM
Ethylbenzene	ND	1.0		µg/L	1	6/5/2009 11:27:27 PM
Xylenes, Total	ND	2.0		µg/L	1	6/5/2009 11:27:27 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/5/2009 11:27:27 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/5/2009 11:27:27 PM
Surr: 4-Bromofluorobenzene	86.1	65.9-130		%REC	1	6/5/2009 11:27:27 PM
EPA METHOD 8310: PAHS						Analyst: **JMP**
Naphthalene	ND	2.0		µg/L	1	6/11/2009 10:23:13 PM
1-Methylnaphthalene	ND	2.0		µg/L	1	6/11/2009 10:23:13 PM
2-Methylnaphthalene	ND	2.0		µg/L	1	6/11/2009 10:23:13 PM
Acenaphthylene	ND	2.5		µg/L	1	6/11/2009 10:23:13 PM
Acenaphthene	ND	5.0		µg/L	1	6/11/2009 10:23:13 PM
Fluorene	ND	0.80		µg/L	1	6/11/2009 10:23:13 PM
Phenanthrene	ND	0.60		µg/L	1	6/11/2009 10:23:13 PM
Anthracene	ND	0.60		µg/L	1	6/11/2009 10:23:13 PM
Fluoranthene	ND	0.30		µg/L	1	6/11/2009 10:23:13 PM
Pyrene	ND	0.30		µg/L	1	6/11/2009 10:23:13 PM
Benz(a)anthracene	ND	0.070		µg/L	1	6/11/2009 10:23:13 PM
Chrysene	ND	0.20		µg/L	1	6/11/2009 10:23:13 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	6/11/2009 10:23:13 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	6/11/2009 10:23:13 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	6/11/2009 10:23:13 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	6/11/2009 10:23:13 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	6/11/2009 10:23:13 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	6/11/2009 10:23:13 PM
Surr: Benzo(e)pyrene	55.4	44.8-104		%REC	1	6/11/2009 10:23:13 PM
EPA METHOD 300.0: ANIONS						Analyst: **TAF**
Fluoride	1.2	0.10		mg/L	1	6/9/2009 10:17:40 AM
Chloride	150	1.0		mg/L	10	6/9/2009 10:35:04 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Estimated value
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: *17-Jun-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-1
Lab Order:	0905544	**Collection Date:**	5/28/2009 8:05:00 AM
Project:	2009 2nd Quarter NAPIS	**Date Received:**	5/29/2009
Lab ID:	0905544-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **TAF**
Nitrogen, Nitrate (As N)	0.31	0.10	H	mg/L	1	6/9/2009 10:17:40 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	6/9/2009 10:17:40 AM
Sulfate	71	5.0		mg/L	10	6/9/2009 10:35:04 AM
EPA METHOD 7470: MERCURY						Analyst: **MMS**
Mercury	ND	0.00020		mg/L	1	6/3/2009 3:15:12 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **TES**
Arsenic	ND	0.020		mg/L	1	6/5/2009 3:55:58 PM
Barium	0.091	0.020		mg/L	1	6/5/2009 3:55:58 PM
Cadmium	ND	0.0020		mg/L	1	6/5/2009 3:55:58 PM
Calcium	57	1.0		mg/L	1	6/5/2009 3:55:58 PM
Chromium	ND	0.0060		mg/L	1	6/5/2009 3:55:58 PM
Lead	ND	0.0050		mg/L	1	6/5/2009 3:55:58 PM
Magnesium	11	1.0		mg/L	1	6/5/2009 3:55:58 PM
Potassium	ND	1.0		mg/L	1	6/5/2009 3:55:58 PM
Selenium	ND	0.050		mg/L	1	6/5/2009 3:55:58 PM
Silver	ND	0.0050		mg/L	1	6/5/2009 3:55:58 PM
Sodium	390	5.0		mg/L	5	6/9/2009 2:02:56 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **BDH**
Specific Conductance	1900	0.010		µmhos/cm	1	6/1/2009
SM4500-H+B: PH						Analyst: **BDH**
pH	7.82	0.1		pH units	1	5/29/2009

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	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: *17-Jun-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-2
Lab Order:	0905544	**Collection Date:**	5/28/2009 8:40:00 AM
Project:	2009 2nd Quarter NAPIS	**Date Received:**	5/29/2009
Lab ID:	0905544-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	3.4	1.0		mg/L	1	6/2/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/2/2009
Surr: DNOP	113	58-140		%REC	1	6/2/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	0.53	0.25		mg/L	5	6/6/2009 8:44:44 PM
Surr: BFB	86.4	59.9-122		%REC	5	6/6/2009 8:44:44 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Methyl tert-butyl ether (MTBE)	130	25		µg/L	10	6/6/2009 12:28:39 AM
Benzene	28	5.0		µg/L	5	6/6/2009 8:44:44 PM
Toluene	ND	5.0		µg/L	5	6/6/2009 8:44:44 PM
Ethylbenzene	5.3	5.0		µg/L	5	6/6/2009 8:44:44 PM
Xylenes, Total	ND	10		µg/L	5	6/6/2009 8:44:44 PM
1,2,4-Trimethylbenzene	ND	5.0		µg/L	5	6/6/2009 8:44:44 PM
1,3,5-Trimethylbenzene	ND	5.0		µg/L	5	6/6/2009 8:44:44 PM
Surr: 4-Bromofluorobenzene	94.9	65.9-130		%REC	5	6/6/2009 8:44:44 PM
EPA METHOD 8310: PAHS						Analyst: **JMP**
Naphthalene	30	2.0		µg/L	1	6/11/2009 10:43:29 PM
1-Methylnaphthalene	4.2	2.0		µg/L	1	6/11/2009 10:43:29 PM
2-Methylnaphthalene	2.3	2.0		µg/L	1	6/11/2009 10:43:29 PM
Acenaphthylene	ND	2.5		µg/L	1	6/11/2009 10:43:29 PM
Acenaphthene	ND	5.0		µg/L	1	6/11/2009 10:43:29 PM
Fluorene	ND	0.80		µg/L	1	6/11/2009 10:43:29 PM
Phenanthrene	ND	0.60		µg/L	1	6/11/2009 10:43:29 PM
Anthracene	ND	0.60		µg/L	1	6/11/2009 10:43:29 PM
Fluoranthene	ND	0.30		µg/L	1	6/11/2009 10:43:29 PM
Pyrene	ND	0.30		µg/L	1	6/11/2009 10:43:29 PM
Benz(a)anthracene	ND	0.070		µg/L	1	6/11/2009 10:43:29 PM
Chrysene	ND	0.20		µg/L	1	6/11/2009 10:43:29 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	6/11/2009 10:43:29 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	6/11/2009 10:43:29 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	6/11/2009 10:43:29 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	6/11/2009 10:43:29 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	6/11/2009 10:43:29 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	6/11/2009 10:43:29 PM
Surr: Benzo(e)pyrene	83.5	44.8-104		%REC	1	6/11/2009 10:43:29 PM
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Fluoride	1.7	0.10		mg/L	1	6/9/2009 8:24:42 PM
Chloride	210	2.0		mg/L	20	6/9/2009 8:42:06 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- B Analyte detected in the associated Method Blank
- E Estimated value
- 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: *17-Jun-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-2
Lab Order:	0905544	**Collection Date:**	5/28/2009 8:40:00 AM
Project:	2009 2nd Quarter NAPIS	**Date Received:**	5/29/2009
Lab ID:	0905544-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Nitrogen, Nitrate (As N)	0.16	0.10	H	mg/L	1	6/9/2009 8:24:42 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	6/9/2009 8:24:42 PM
Sulfate	22	0.50		mg/L	1	6/9/2009 8:24:42 PM
EPA METHOD 7470: MERCURY						Analyst: **MMS**
Mercury	ND	0.00020		mg/L	1	6/3/2009 3:17:00 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **TES**
Arsenic	ND	0.020		mg/L	1	6/5/2009 4:00:15 PM
Barium	0.65	0.020		mg/L	1	6/5/2009 4:00:15 PM
Cadmium	ND	0.0020		mg/L	1	6/5/2009 4:00:15 PM
Calcium	51	1.0		mg/L	1	6/5/2009 4:00:15 PM
Chromium	ND	0.0060		mg/L	1	6/5/2009 4:00:15 PM
Lead	ND	0.0050		mg/L	1	6/5/2009 4:00:15 PM
Magnesium	9.9	1.0		mg/L	1	6/5/2009 4:00:15 PM
Potassium	ND	1.0		mg/L	1	6/5/2009 4:00:15 PM
Selenium	ND	0.050		mg/L	1	6/5/2009 4:00:15 PM
Silver	ND	0.0050		mg/L	1	6/5/2009 4:00:15 PM
Sodium	290	5.0		mg/L	5	6/9/2009 2:05:43 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **NSB**
Specific Conductance	1400	0.010		µmhos/cm	1	6/10/2009
SM4500-H+B: PH						Analyst: **NSB**
pH	7.51	0.1	H	pH units	1	6/10/2009

Qualifiers:			
	*	Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	E	Estimated value	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: *17-Jun-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	KA-3
Lab Order:	0905544	**Collection Date:**	5/28/2009 9:30:00 AM
Project:	2009 2nd Quarter NAPIS	**Date Received:**	5/29/2009
Lab ID:	0905544-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	6/2/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/2/2009
Surr: DNOP	118	58-140		%REC	1	6/2/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	0.32	0.050		mg/L	1	6/6/2009 9:15:13 PM
Surr: BFB	95.3	59.9-122		%REC	1	6/6/2009 9:15:13 PM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Methyl tert-butyl ether (MTBE)	130	25		µg/L	10	6/6/2009 12:59:05 AM
Benzene	3.3	1.0		µg/L	1	6/6/2009 9:15:13 PM
Toluene	1.2	1.0		µg/L	1	6/6/2009 9:15:13 PM
Ethylbenzene	ND	1.0		µg/L	1	6/6/2009 9:15:13 PM
Xylenes, Total	ND	2.0		µg/L	1	6/6/2009 9:15:13 PM
1,2,4-Trimethylbenzene	1.1	1.0		µg/L	1	6/6/2009 9:15:13 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/6/2009 9:15:13 PM
Surr: 4-Bromofluorobenzene	97.4	65.9-130		%REC	1	6/6/2009 9:15:13 PM
EPA METHOD 8310: PAHS						Analyst: **JMP**
Naphthalene	47	2.0		µg/L	1	6/11/2009 11:03:43 PM
1-Methylnaphthalene	ND	2.0		µg/L	1	6/11/2009 11:03:43 PM
2-Methylnaphthalene	ND	2.0		µg/L	1	6/11/2009 11:03:43 PM
Acenaphthylene	ND	2.5		µg/L	1	6/11/2009 11:03:43 PM
Acenaphthene	ND	5.0		µg/L	1	6/11/2009 11:03:43 PM
Fluorene	ND	0.80		µg/L	1	6/11/2009 11:03:43 PM
Phenanthrene	ND	0.60		µg/L	1	6/11/2009 11:03:43 PM
Anthracene	ND	0.60		µg/L	1	6/11/2009 11:03:43 PM
Fluoranthene	ND	0.30		µg/L	1	6/11/2009 11:03:43 PM
Pyrene	ND	0.30		µg/L	1	6/11/2009 11:03:43 PM
Benz(a)anthracene	ND	0.070		µg/L	1	6/11/2009 11:03:43 PM
Chrysene	ND	0.20		µg/L	1	6/11/2009 11:03:43 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	6/11/2009 11:03:43 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	6/11/2009 11:03:43 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	6/11/2009 11:03:43 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	6/11/2009 11:03:43 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	6/11/2009 11:03:43 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	6/11/2009 11:03:43 PM
Surr: Benzo(e)pyrene	64.6	44.8-104		%REC	1	6/11/2009 11:03:43 PM
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Fluoride	1.6	0.10		mg/L	1	6/9/2009 9:16:55 PM
Chloride	260	2.0		mg/L	20	6/9/2009 9:34:21 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Estimated value
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: *17-Jun-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	KA-3
Lab Order:	0905544	**Collection Date:**	5/28/2009 9:30:00 AM
Project:	2009 2nd Quarter NAPIS	**Date Received:**	5/29/2009
Lab ID:	0905544-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Nitrogen, Nitrate (As N)	0.22	0.10	H	mg/L	1	6/9/2009 9:16:55 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	6/9/2009 9:16:55 PM
Sulfate	66	10		mg/L	20	6/9/2009 9:34:21 PM
EPA METHOD 7470: MERCURY						Analyst: **MMS**
Mercury	ND	0.00020		mg/L	1	6/3/2009 3:18:47 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **TES**
Arsenic	ND	0.020		mg/L	1	6/5/2009 4:04:12 PM
Barium	0.29	0.020		mg/L	1	6/5/2009 4:04:12 PM
Cadmium	ND	0.0020		mg/L	1	6/5/2009 4:04:12 PM
Calcium	71	1.0		mg/L	1	6/5/2009 4:04:12 PM
Chromium	ND	0.0060		mg/L	1	6/5/2009 4:04:12 PM
Lead	ND	0.0050		mg/L	1	6/5/2009 4:04:12 PM
Magnesium	11	1.0		mg/L	1	6/5/2009 4:04:12 PM
Potassium	ND	1.0		mg/L	1	6/5/2009 4:04:12 PM
Selenium	ND	0.050		mg/L	1	6/5/2009 4:04:12 PM
Silver	ND	0.0050		mg/L	1	6/5/2009 4:04:12 PM
Sodium	330	5.0		mg/L	5	6/9/2009 2:08:32 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **BDH**
Specific Conductance	1700	0.010		µmhos/cm	1	5/29/2009
SM4500-H+B: PH						Analyst: **BDH**
pH	7.71	0.1		pH units	1	5/29/2009

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Estimated value
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: *17-Jun-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	Trip Blank
Lab Order:	0905544	**Collection Date:**	
Project:	2009 2nd Quarter NAPIS	**Date Received:**	5/29/2009
Lab ID:	0905544-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **DAM**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	6/6/2009 1:29:39 AM
Surr: BFB	83.8	59.9-122		%REC	1	6/6/2009 1:29:39 AM
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	6/6/2009 1:29:39 AM
Benzene	ND	1.0		µg/L	1	6/6/2009 1:29:39 AM
Toluene	ND	1.0		µg/L	1	6/6/2009 1:29:39 AM
Ethylbenzene	ND	1.0		µg/L	1	6/6/2009 1:29:39 AM
Xylenes, Total	ND	2.0		µg/L	1	6/6/2009 1:29:39 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/6/2009 1:29:39 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/6/2009 1:29:39 AM
Surr: 4-Bromofluorobenzene	90.5	65.9-130		%REC	1	6/6/2009 1:29:39 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level
E	Estimated value
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: 2009 2nd Quarter NAPIS **Work Order:** 0905544

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions									
Sample ID: 0905544-01DMSD		*MSD*			Batch ID:	**R34017**	Analysis Date:		6/9/2009 11:27:18 AM
Fluoride	1.692	mg/L	0.10	92.9	75.3	117	0.480	20	
Nitrogen, Nitrate (As N)	2.835	mg/L	0.10	101	82.4	109	4.49	20	
Phosphorus, Orthophosphate (As P)	4.989	mg/L	0.50	99.8	74.5	116	3.36	20	
Sample ID: MB		*MBLK*			Batch ID:	**R34017**	Analysis Date:		6/9/2009 9:08:02 AM
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MB-2		*MBLK*			Batch ID:	**R34017**	Analysis Date:		6/9/2009 8:44:27 PM
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MB		*MBLK*			Batch ID:	**R34021**	Analysis Date:		6/9/2009 9:58:01 AM
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MB		*MBLK*			Batch ID:	**R34036**	Analysis Date:		6/10/2009 6:34:04 AM
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: LCS		*LCS*			Batch ID:	**R34017**	Analysis Date:		6/9/2009 9:25:26 AM
Fluoride	0.5035	mg/L	0.10	101	90	110			
Chloride	4.837	mg/L	0.10	96.7	90	110			
Nitrogen, Nitrate (As N)	2.445	mg/L	0.10	97.8	90	110			
Phosphorus, Orthophosphate (As P)	4.853	mg/L	0.50	97.1	90	110			
Sulfate	9.700	mg/L	0.50	97.0	90	110			
Sample ID: LCS-2		*LCS*			Batch ID:	**R34017**	Analysis Date:		6/9/2009 9:01:51 PM
Fluoride	0.5140	mg/L	0.10	103	90	110			
Chloride	4.830	mg/L	0.10	96.6	90	110			
Nitrogen, Nitrate (As N)	2.457	mg/L	0.10	98.3	90	110			
Phosphorus, Orthophosphate (As P)	4.849	mg/L	0.50	97.0	90	110			
Sulfate	9.785	mg/L	0.50	97.9	90	110			
Sample ID: LCS		*LCS*			Batch ID:	**R34021**	Analysis Date:		6/9/2009 10:15:26 AM
Fluoride	0.4765	mg/L	0.10	95.3	90	110			
Chloride	4.816	mg/L	0.10	96.3	90	110			

Qualifiers:

E	Estimated value	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: 2009 2nd Quarter NAPIS

Work Order: 0905544

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions									
Sample ID: LCS		*LCS*			Batch ID: **R34021**		Analysis Date:	6/9/2009 10:15:26 AM	
Nitrogen, Nitrate (As N)	2.496	mg/L	0.10	99.8	90	110			
Phosphorus, Orthophosphate (As P)	4.682	mg/L	0.50	93.6	90	110			
Sulfate	9.763	mg/L	0.50	97.6	90	110			
Sample ID: LCS		*LCS*			Batch ID: **R34036**		Analysis Date:	6/10/2009 6:51:28 AM	
Fluoride	0.4943	mg/L	0.10	98.9	90	110			
Chloride	4.799	mg/L	0.10	96.0	90	110			
Nitrogen, Nitrate (As N)	2.507	mg/L	0.10	100	90	110			
Phosphorus, Orthophosphate (As P)	4.862	mg/L	0.50	97.2	90	110			
Sulfate	9.795	mg/L	0.50	97.9	90	110			
Sample ID: 0905544-01DMS		*MS*			Batch ID: **R34017**		Analysis Date:	6/9/2009 11:09:54 AM	
Fluoride	1.684	mg/L	0.10	91.2	75.3	117			
Nitrogen, Nitrate (As N)	2.711	mg/L	0.10	96.2	82.4	109			
Phosphorus, Orthophosphate (As P)	4.824	mg/L	0.50	96.5	74.5	116			
Method: EPA Method 8015B: Diesel Range									
Sample ID: MB-19231		*MBLK*			Batch ID: **19231**		Analysis Date:	6/2/2009	
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-19231		*LCS*			Batch ID: **19231**		Analysis Date:	6/2/2009	
Diesel Range Organics (DRO)	6.666	mg/L	1.0	133	74	157			
Sample ID: LCSD-19231		*LCSD*			Batch ID: **19231**		Analysis Date:	6/2/2009	
Diesel Range Organics (DRO)	6.644	mg/L	1.0	133	74	157	0.335	23	
Method: EPA Method 8015B: Gasoline Range									
Sample ID: 5ML RB		*MBLK*			Batch ID: **R33978**		Analysis Date:	6/5/2009 8:52:07 AM	
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 2.5UG GRO LCS		*LCS*			Batch ID: **R33978**		Analysis Date:	6/6/2009 12:38:53 PM	
Gasoline Range Organics (GRO)	0.5664	mg/L	0.050	113	80	115			
Sample ID: 2.5UG GRO LCSD		*LCSD*			Batch ID: **R33978**		Analysis Date:	6/6/2009 1:09:14 PM	
Gasoline Range Organics (GRO)	0.5490	mg/L	0.050	110	80	115	3.12	8.39	

Qualifiers:

E	Estimated value	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: 2009 2nd Quarter NAPIS **Work Order:** 0905544

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R33978**	Analysis Date:		6/5/2009 8:52:07 AM
Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5						
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R33978**	Analysis Date:		6/5/2009 7:23:20 PM
Methyl tert-butyl ether (MTBE)	18.36	µg/L	2.5	91.8	51.2	138			
Benzene	19.32	µg/L	1.0	96.6	85.9	113			
Toluene	19.52	µg/L	1.0	97.6	86.4	113			
Ethylbenzene	19.52	µg/L	1.0	97.6	83.5	118			
Xylenes, Total	59.44	µg/L	2.0	99.1	83.4	122			
1,2,4-Trimethylbenzene	20.87	µg/L	1.0	104	83.5	115			
1,3,5-Trimethylbenzene	19.57	µg/L	1.0	97.9	85.2	113			
Sample ID: 100NG BTEX LCSD		*LCSD*			Batch ID:	**R33978**	Analysis Date:		6/5/2009 7:53:53 PM
Methyl tert-butyl ether (MTBE)	19.06	µg/L	2.5	95.3	51.2	138	3.72	28	
Benzene	19.61	µg/L	1.0	98.0	85.9	113	1.49	27	
Toluene	19.70	µg/L	1.0	98.5	86.4	113	0.918	19	
Ethylbenzene	19.64	µg/L	1.0	98.2	83.5	118	0.613	10	
Xylenes, Total	59.29	µg/L	2.0	98.8	83.4	122	0.253	13	
1,2,4-Trimethylbenzene	20.32	µg/L	1.0	102	83.5	115	2.71	21	
1,3,5-Trimethylbenzene	19.46	µg/L	1.0	97.3	85.2	113	0.594	10	
Method: EPA Method 7470: Mercury									
Sample ID: MB-19251		*MBLK*			Batch ID:	**19251**	Analysis Date:		6/3/2009 2:48:07 PM
Mercury	ND	mg/L	0.00020						
Sample ID: LCS-19251		*LCS*			Batch ID:	**19251**	Analysis Date:		6/3/2009 2:49:56 PM
Mercury	0.004931	mg/L	0.00020	98.6	80	120			
Sample ID: LCS-19251		*LCSD*			Batch ID:	**19251**	Analysis Date:		6/3/2009 2:51:45 PM
Mercury	0.004947	mg/L	0.00020	98.9	80	120	0.335	0	

Qualifiers:

E	Estimated value	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: 2009 2nd Quarter NAPIS **Work Order:** 0905544

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA 6010B: Total Recoverable Metals									
Sample ID: MB-19242		*MBLK*			Batch ID: **19242**		Analysis Date:	6/5/2009 2:43:07 PM	
Arsenic	ND	mg/L	0.020						
Barium	ND	mg/L	0.010						
Cadmium	ND	mg/L	0.0020						
Calcium	ND	mg/L	0.50						
Chromium	ND	mg/L	0.0060						
Lead	ND	mg/L	0.0050						
Magnesium	ND	mg/L	0.50						
Potassium	ND	mg/L	1.0						
Selenium	ND	mg/L	0.050						
Silver	ND	mg/L	0.0050						
Sodium	ND	mg/L	0.50						
Sample ID: LCS-19242		*LCS*			Batch ID: **19242**		Analysis Date:	6/5/2009 2:46:20 PM	
Arsenic	0.4901	mg/L	0.020	98.0	80	120			
Barium	0.4583	mg/L	0.010	91.7	80	120			
Cadmium	0.4703	mg/L	0.0020	94.1	80	120			
Calcium	49.57	mg/L	0.50	99.1	80	120			
Chromium	0.4595	mg/L	0.0060	91.9	80	120			
Lead	0.4750	mg/L	0.0050	95.0	80	120			
Magnesium	49.91	mg/L	0.50	99.8	80	120			
Potassium	53.49	mg/L	1.0	107	80	120			
Selenium	0.4778	mg/L	0.050	95.6	80	120			
Silver	0.5023	mg/L	0.0050	100	80	120			
Sodium	53.05	mg/L	0.50	106	80	120			

Qualifiers:

E	Estimated value	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: 5/29/2009

Work Order Number 0905544 — Received by: ARS

Checklist completed by: Signature — 5/29/09 Date — Sample ID labels checked by: Initials

Matrix: — Carrier name UPS

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 ☐		Number of preserved bottles checked for pH:
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 ☐	*<2 >12 unless noted below.*
Container/Temp Blank temperature?	**1.5°**	*<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 Gallup Refinery

Mailing Address: PO 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: 2009 2nd QTR NAPIS

Project #:

Project Manager: G. Rajen

Sampler: C. Johnson

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.1

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	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 0905564	BTEX + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Gen Chem				Air Bubbles (Y or N)
5/28/09	0805	H_2O	NAPIS-1	3VOA	HCl	-1	X															
				3VOA	HCl	-1			X													
				1-500ml	HNO_3	-1							X									
				1L-Amber	None	-1						X										
				1-500	None	-1												X				
				1-125	H_2SO_4	-1												X				
				1-500	HNO_3	-1												X				
5/28/09	0840		NAPIS-2	3-VOA	HCl	-2	X															
				2-VOA	HCl	-2		X														
				1-500ml	HNO_3	-2							X									
				1L Amber	None	-2						X										
				1-500ml	None	-2												X				

Date: 5/28/09 Time: 1020 Relinquished by:

Date: Time: Relinquished by:

Received by: Date: 5/29/09 Time: 1210

Received by: Date: Time:

Remarks: GenChem - Cations, Anions, pH Cond. 8015B - GRO-DRO extended.

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 Gallup Refinery

Mailing Address: Pt 3 Box 7 Gallup, NM 87301

Phone #: 505 722 3833

email or Fax#: 505 722 0210

QA/QC Package:
- [x] Standard
- [ ] Level 4 (Full Validation)
- [ ] Other
- [ ] EDD (Type)

Turn-Around Time:
- [x] Standard
- [ ] Rush

Project Name: 2009 2nd QTR NAPIS

Project #:

Project Manager: G. Rajen

Sampler: C Johnson

On Ice: [x] Yes [ ] No

Sample Temperature: 4

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 0905514
5/28/09	0840	H2O	NAPIS-2	1-125ml	H2SO4	-2
	11			1-500	HNO3	-2
5/28/09	0930		KA-3	3-VOA	HCl	-3
				3-VOA	HCl	-3
				1-500	HNO3	-3
				1-L Amb.	None	-3
				1-500	None	-3
				1-125	H2SO4	-3
				1-500	HNO3	-3
			TRIP BLANK			-4

Analysis Request

HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	GenChem				Air Bubbles (Y or N)
-2												X				
-2												X				
-3	X															
-3			X													
-3							X									
-3						X										
-3												X				
-3												X				
-3												X				
-4																

Date:	Time:	Relinquished by:	Received by:	Date	Time
5/28/09	1030			5/29/09	12:00
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: GenChem: Cations, Anions, pH Conductivity
8015B: GRO/DRO extended.

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Thursday, July 02, 2009

Gaurav Rajen
Western Refining Southwest, Gallup
Rt. 3 Box 7
Gallup, NM 87301

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

RE: 2009 2nd QTR NAPIS

Order No.: 0906335

Dear Gaurav Rajen:

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 6/17/2009 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

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
Texas Lab# T104704424-08-TX

Hall Environmental Analysis Laboratory, Inc.

Date: *02-Jul-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-3
Lab Order:	0906335	**Collection Date:**	6/15/2009 10:15:00 AM
Project:	2009 2nd QTR NAPIS	**Date Received:**	6/17/2009
Lab ID:	0906335-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	6/22/2009
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	6/22/2009
Surr: DNOP	123	58-140		%REC	1	6/22/2009
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	6/20/2009 10:54:50 AM
Surr: BFB	77.5	59.9-122		%REC	1	6/20/2009 10:54:50 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	6/20/2009 10:54:50 AM
Benzene	ND	1.0		µg/L	1	6/20/2009 10:54:50 AM
Toluene	ND	1.0		µg/L	1	6/20/2009 10:54:50 AM
Ethylbenzene	ND	1.0		µg/L	1	6/20/2009 10:54:50 AM
Xylenes, Total	ND	2.0		µg/L	1	6/20/2009 10:54:50 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/20/2009 10:54:50 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/20/2009 10:54:50 AM
Surr: 4-Bromofluorobenzene	85.7	65.9-130		%REC	1	6/20/2009 10:54:50 AM
EPA METHOD 8310: PAHS						Analyst: **JMP**
Naphthalene	ND	2.0		µg/L	1	6/29/2009 6:45:47 PM
1-Methylnaphthalene	ND	2.0		µg/L	1	6/29/2009 6:45:47 PM
2-Methylnaphthalene	ND	2.0		µg/L	1	6/29/2009 6:45:47 PM
Acenaphthylene	ND	2.5		µg/L	1	6/29/2009 6:45:47 PM
Acenaphthene	ND	5.0		µg/L	1	6/29/2009 6:45:47 PM
Fluorene	ND	0.80		µg/L	1	6/29/2009 6:45:47 PM
Phenanthrene	ND	0.60		µg/L	1	6/29/2009 6:45:47 PM
Anthracene	ND	0.60		µg/L	1	6/29/2009 6:45:47 PM
Fluoranthene	ND	0.30		µg/L	1	6/29/2009 6:45:47 PM
Pyrene	ND	0.30		µg/L	1	6/29/2009 6:45:47 PM
Benz(a)anthracene	ND	0.070		µg/L	1	6/29/2009 6:45:47 PM
Chrysene	ND	0.20		µg/L	1	6/29/2009 6:45:47 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	6/29/2009 6:45:47 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	6/29/2009 6:45:47 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	6/29/2009 6:45:47 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	6/29/2009 6:45:47 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	6/29/2009 6:45:47 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	6/29/2009 6:45:47 PM
Surr: Benzo(e)pyrene	45.4	28.3-111		%REC	1	6/29/2009 6:45:47 PM
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Fluoride	0.46	0.10		mg/L	1	6/25/2009 11:24:38 PM
Chloride	1200	10		mg/L	100	6/26/2009 12:39:46 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- 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: *02-Jul-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-3
Lab Order:	0906335	**Collection Date:**	6/15/2009 10:15:00 AM
Project:	2009 2nd QTR NAPIS	**Date Received:**	6/17/2009
Lab ID:	0906335-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **RAGS**
Nitrate (As N)+Nitrite (As N)	18	4.0		mg/L	20	6/26/2009 12:57:11 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	6/25/2009 11:24:38 PM
Sulfate	330	10		mg/L	20	6/25/2009 11:42:03 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **DAM**
Specific Conductance	4200	0.010		µmhos/cm	1	6/19/2009
SM4500-H+B: PH						Analyst: **DAM**
pH	8.23	0.1		pH units	1	6/19/2009

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Estimated value	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		

ENVIRONMENTAL SCIENCE CORP.

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Est. 1970

REPORT OF ANALYSIS

June 26, 2009

Anne Thorne
Hall Environmental Analysis Laborat
4901 Hawkins NE
Albuquerque, NM 87109

ESC Sample # : L408295-01

Date Received : June 18, 2009
Description :

Site ID :

Sample ID : NAPIS-3

Project # : 0906335

Collected By :
Collection Date : 06/15/09 10:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	BDL	0.00020	mg/l	7470A	06/19/09	1
Arsenic	BDL	0.020	mg/l	6010B	06/25/09	1
Barium	0.14	0.0050	mg/l	6010B	06/25/09	1
Cadmium	BDL	0.0050	mg/l	6010B	06/25/09	1
Calcium	49.	0.50	mg/l	6010B	06/25/09	1
Chromium	BDL	0.010	mg/l	6010B	06/25/09	1
Lead	BDL	0.0050	mg/l	6010B	06/25/09	1
Magnesium	6.8	0.10	mg/l	6010B	06/25/09	1
Potassium	4.2	0.50	mg/l	6010B	06/25/09	1
Selenium	BDL	0.020	mg/l	6010B	06/25/09	1
Silver	BDL	0.010	mg/l	6010B	06/25/09	1
Sodium	840	0.50	mg/l	6010B	06/25/09	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.

Reported: 06/26/09 12:34 Printed: 06/26/09 12:34

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Est. 1970

Hall Environmental Analysis Laboratory
Anne Thorne
4901 Hawkins NE

Albuquerque, NM 87109

Quality Assurance Report
Level II

L408295

June 26, 2009

Laboratory Blank

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
Mercury	< .0002	mg/l			WG427240	06/24/09 18:40
Arsenic	< .02	mg/l			WG427956	06/25/09 15:05
Barium	< .005	mg/l			WG427956	06/25/09 15:05
Cadmium	< .005	mg/l			WG427956	06/25/09 15:05
Calcium	< .5	mg/l			WG427956	06/25/09 15:05
Chromium	< .005	mg/l			WG427956	06/25/09 15:05
Lead	< .005	mg/l			WG427956	06/25/09 15:05
Magnesium	< .1	mg/l			WG427956	06/25/09 15:05
Potassium	< .5	mg/l			WG427956	06/25/09 15:05
Selenium	< .02	mg/l			WG427956	06/25/09 15:05
Silver	< .01	mg/l			WG427956	06/25/09 15:05
Sodium	< .5	mg/l			WG427956	06/25/09 15:05

Duplicate

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
Mercury	mg/l	0.00020	0.00020	0.00	20	L408290-16	WG427240
Arsenic	mg/l	0.00	0.00	0.00	20	L408277-06	WG427956
Barium	mg/l	0.00870	0.00870	0.00	20	L408277-06	WG427956
Cadmium	mg/l	0.00	0.00	0.00	20	L408277-06	WG427956
Calcium	mg/l	268.	268.	0.00	20	L408277-06	WG427956
Chromium	mg/l	0.0100	0.0100	0.00	20	L408277-06	WG427956
Lead	mg/l	0.00	0.00	0.00	20	L408277-06	WG427956
Magnesium	mg/l	112.	116.	3.51	20	L408277-06	WG427956
Potassium	mg/l	1.26	1.26	0.730	20	L408277-06	WG427956
Selenium	mg/l	0.00	0.00	0.00	20	L408277-06	WG427956
Silver	mg/l	0.00	0.00360	NA	20	L408277-06	WG427956
Sodium	mg/l	216.	215.	0.465	20	L408277-06	WG427956

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
Mercury	mg/l	0.005	0.00298	59.6	85-115	WG427240
Arsenic	mg/l	1.13	1.02	90.3	85-115	WG427956
Barium	mg/l	1.13	1.07	94.7	85-115	WG427956
Cadmium	mg/l	1.13	1.08	95.6	85-115	WG427956
Calcium	mg/l	11.3	10.7	94.7	85-115	WG427956
Chromium	mg/l	1.13	1.08	95.2	85-115	WG427956
Lead	mg/l	1.13	1.07	94.7	85-115	WG427956
Magnesium	mg/l	11.3	10.5	92.9	85-115	WG427956
Potassium	mg/l	11.3	10.5	93.2	85-115	WG427956
Selenium	mg/l	1.13	1.01	89.4	85-115	WG427956
Silver	mg/l	1.13	0.992	87.8	85-115	WG427956
Sodium	mg/l	11.3	10.3	91.2	85-115	WG427956

Matrix Spike

Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Mercury	mg/l	0.00226	0.00	.003	75.0	70-130	L408287-16	WG427240
Arsenic	mg/l	1.01	0.00	1.13	89.4	75-125	L408277-06	WG427956
Barium	mg/l	1.01	0.00870	1.13	88.7	75-125	L408277-06	WG427956

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

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Hall Environmental Analysis Laboratory
Anne Thorne
4901 Hawkins NE

Albuquerque, NM 87109

Quality Assurance Report
Level II

L408295

June 26, 2009

Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Arsenic	mg/l	1.03	0.0228	1.13	89.7	75-125	L408277-06	WG427956
Barium	mg/l	1.04	0.0104	1.13	91.6	75-125	L408277-06	WG427956
Cadmium	mg/l	1.04	0.00	1.13	92.0	75-125	L408277-06	WG427956
Calcium	mg/l	282.	268.	11.3	124.	75-125	L408277-06	WG427956
Chromium	mg/l	0.994	0.00	1.13	88.0	75-125	L408277-06	WG427956
Lead	mg/l	1.02	0.0106	1.13	89.6	75-125	L408277-06	WG427956
Magnesium	mg/l	123.	116.	11.3	61.9*	75-125	L408277-06	WG427956
Potassium	mg/l	11.6	1.36	11.3	90.6	75-125	L408277-06	WG427956
Selenium	mg/l	0.938	0.00	1.13	83.0	75-125	L408277-06	WG427956
Silver	mg/l	0.154	0.00360	1.13	13.3*	75-125	L408277-06	WG427956
Sodium	mg/l	27.2	16.3	11.3	96.5	75-125	L408277-06	WG427956

Analyte	Units	MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
Mercury	mg/l	0.00228	0.00225	94.3	70-130	2.22	20	L408297-06	WG427240
Arsenic	mg/l	1.03	1.01	91.2	75-125	1.96	20	L408277-06	WG427956
Barium	mg/l	1.04	1.01	91.6	75-125	2.93	20	L408277-06	WG427956
Cadmium	mg/l	1.04	1.01	92.0	75-125	2.93	20	L408277-06	WG427956
Calcium	mg/l	284.	282.	141.593*	75-125	0.707	20	L408277-06	WG427956
Chromium	mg/l	1.02	0.994	90.	75-125	2.60	20	L408277-06	WG427956
Lead	mg/l	1.03	1.00	91.2	75-125	2.96	20	L408277-06	WG427956
Magnesium	mg/l	126.	123.	88.5	75-125	2.41	20	L408277-06	WG427956
Potassium	mg/l	11.7	11.6	91.5	75-125	0.858	20	L408277-06	WG427956
Selenium	mg/l	0.955	0.933	84.5	75-125	2.33	20	L408277-06	WG427956
Silver	mg/l	0.135	0.154	11.628*	75-125	13.1	20	L408277-06	WG427956
Sodium	mg/l	27.7	27.2	97.0	75-125	0.367	20	L408277-06	WG427956

Batch number /Run number / Sample number cross reference

WG427240: R788395: L408295-01
WG427956: R794626: L408295-01

* * Calculations are performed prior to rounding of reported values .
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: 2009 2nd QTR NAPIS

Work Order: 0906335

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions									
Sample ID: MB		*MBLK*			Batch ID: **R34247**		Analysis Date:	6/25/2009 6:52:14 AM	
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.20						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MB		*MBLK*			Batch ID: **R34272**		Analysis Date:	6/26/2009 8:53:28 AM	
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.20						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MB2		*MBLK*			Batch ID: **R34272**		Analysis Date:	6/27/2009 5:46:59 AM	
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.20						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: LCS		*LCS*			Batch ID: **R34247**		Analysis Date:	6/25/2009 7:09:38 AM	
Fluoride	0.5127	mg/L	0.10	103	90	110			
Chloride	4.953	mg/L	0.10	99.1	90	110			
Nitrate (As N)+Nitrite (As N)	3.496	mg/L	0.20	99.9	90	110			
Phosphorus, Orthophosphate (As P)	5.025	mg/L	0.50	101	90	110			
Sulfate	9.953	mg/L	0.50	99.5	90	110			
Sample ID: LCS		*LCS*			Batch ID: **R34272**		Analysis Date:	6/26/2009 9:10:52 AM	
Fluoride	0.5035	mg/L	0.10	101	90	110			
Chloride	4.834	mg/L	0.10	96.7	90	110			
Nitrate (As N)+Nitrite (As N)	3.400	mg/L	0.20	97.1	90	110			
Phosphorus, Orthophosphate (As P)	4.824	mg/L	0.50	96.5	90	110			
Sulfate	9.754	mg/L	0.50	97.5	90	110			
Sample ID: LCS2		*LCS*			Batch ID: **R34272**		Analysis Date:	6/27/2009 6:04:24 AM	
Fluoride	0.4872	mg/L	0.10	97.4	90	110			
Chloride	4.831	mg/L	0.10	96.6	90	110			
Nitrate (As N)+Nitrite (As N)	3.403	mg/L	0.20	97.2	90	110			
Phosphorus, Orthophosphate (As P)	4.852	mg/L	0.50	97.0	90	110			
Sulfate	9.656	mg/L	0.50	96.6	90	110			

Qualifiers:

- E Estimated value
- 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: 2009 2nd QTR NAPIS

Work Order: 0906335

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range									
Sample ID: MB-19416		*MBLK*			Batch ID:	**19416**	Analysis Date:		6/22/2009
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-19416		*LCS*			Batch ID:	**19416**	Analysis Date:		6/22/2009
Diesel Range Organics (DRO)	5.286	mg/L	1.0	106	74	157			
Sample ID: LCSD-19416		*LCSD*			Batch ID:	**19416**	Analysis Date:		6/22/2009
Diesel Range Organics (DRO)	5.124	mg/L	1.0	102	74	157	3.12	23	
Method: EPA Method 8015B: Gasoline Range									
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R34172**	Analysis Date:		6/19/2009 9:36:06 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 2.5UG GRO LCS		*LCS*			Batch ID:	**R34172**	Analysis Date:		6/20/2009 5:19:49 AM
Gasoline Range Organics (GRO)	0.5442	mg/L	0.050	109	80	115			

Qualifiers:

E	Estimated value	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: 2009 2nd QTR NAPIS **Work Order:** 0906335

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 5ML RB		*MBLK*			Batch ID: **R34172**		Analysis Date:	6/19/2009 9:36:06 AM	
Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5						
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
Sample ID: B 41		*MBLK*			Batch ID: **R34172**		Analysis Date:	6/20/2009 7:21:32 AM	
Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5						
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID: **R34172**		Analysis Date:	6/19/2009 8:42:30 PM	
Methyl tert-butyl ether (MTBE)	23.37	µg/L	2.5	117	51.2	138			
Benzene	23.42	µg/L	1.0	117	85.9	113			S
Toluene	22.19	µg/L	1.0	111	86.4	113			
Ethylbenzene	21.26	µg/L	1.0	106	83.5	118			
Xylenes, Total	62.13	µg/L	2.0	104	83.4	122			
1,2,4-Trimethylbenzene	19.01	µg/L	1.0	95.0	83.5	115			
1,3,5-Trimethylbenzene	18.78	µg/L	1.0	93.9	85.2	113			
Sample ID: 100NG GRO LCS-II		*LCS*			Batch ID: **R34172**		Analysis Date:	6/20/2009 6:51:05 AM	
Methyl tert-butyl ether (MTBE)	22.18	µg/L	2.5	55.0	51.2	138			
Benzene	23.07	µg/L	1.0	114	85.9	113			S
Toluene	22.40	µg/L	1.0	110	86.4	113			
Ethylbenzene	21.38	µg/L	1.0	106	83.5	118			
Xylenes, Total	62.50	µg/L	2.0	104	83.4	122			
1,2,4-Trimethylbenzene	19.21	µg/L	1.0	94.3	83.5	115			
1,3,5-Trimethylbenzene	19.01	µg/L	1.0	94.2	85.2	113			

Qualifiers:

- E Estimated value
- 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: 2009 2nd QTR NAPIS

Work Order: 0906335

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8310: PAHs									
Sample ID: MB-19407		*MBLK*			Batch ID: **19407**		Analysis Date:	6/29/2009 3:44:09 PM	
Naphthalene	ND	µg/L	2.0						
1-Methylnaphthalene	ND	µg/L	2.0						
2-Methylnaphthalene	ND	µg/L	2.0						
Acenaphthylene	ND	µg/L	2.5						
Acenaphthene	ND	µg/L	5.0						
Fluorene	ND	µg/L	0.80						
Phenanthrene	ND	µg/L	0.60						
Anthracene	ND	µg/L	0.60						
Fluoranthene	ND	µg/L	0.30						
Pyrene	ND	µg/L	0.30						
Benz(a)anthracene	ND	µg/L	0.070						
Chrysene	ND	µg/L	0.20						
Benzo(b)fluoranthene	ND	µg/L	0.10						
Benzo(k)fluoranthene	ND	µg/L	0.070						
Benzo(a)pyrene	ND	µg/L	0.070						
Dibenz(a,h)anthracene	ND	µg/L	0.070						
Benzo(g,h,i)perylene	ND	µg/L	0.080						
Indeno(1,2,3-cd)pyrene	ND	µg/L	0.080						
Sample ID: LCS-19407		*LCS*			Batch ID: **19407**		Analysis Date:	6/30/2009 6:07:49 PM	
Naphthalene	27.21	µg/L	2.0	34.0	20.5	109			
1-Methylnaphthalene	30.10	µg/L	2.0	37.5	23.1	116			
2-Methylnaphthalene	30.24	µg/L	2.0	37.8	19.5	112			
Acenaphthylene	37.81	µg/L	2.5	47.1	27.5	119			
Acenaphthene	37.59	µg/L	5.0	47.0	31	117			
Fluorene	2.960	µg/L	0.80	36.9	17.1	109			
Phenanthrene	1.900	µg/L	0.60	47.3	25.5	112			
Anthracene	2.110	µg/L	0.60	52.5	25.8	119			
Fluoranthene	4.290	µg/L	0.30	53.5	27.2	122			
Pyrene	3.350	µg/L	0.30	41.8	24.1	118			
Benz(a)anthracene	0.4200	µg/L	0.070	52.4	31.1	125			
Chrysene	2.120	µg/L	0.20	52.7	32.8	119			
Benzo(b)fluoranthene	0.6700	µg/L	0.10	66.9	24.4	117			
Benzo(k)fluoranthene	0.2800	µg/L	0.070	56.0	28.4	132			
Benzo(a)pyrene	0.2600	µg/L	0.070	51.8	32.4	119			
Dibenz(a,h)anthracene	0.5500	µg/L	0.070	54.9	33.9	120			
Benzo(g,h,i)perylene	0.5100	µg/L	0.080	51.0	35.2	113			
Indeno(1,2,3-cd)pyrene	1.240	µg/L	0.080	61.9	33.6	115			
Sample ID: LCSD-19407		*LCSD*			Batch ID: **19407**		Analysis Date:	6/29/2009 4:24:33 PM	
Naphthalene	27.75	µg/L	2.0	34.7	20.5	109	1.97	32.1	
1-Methylnaphthalene	30.78	µg/L	2.0	38.4	23.1	116	2.23	32.7	
2-Methylnaphthalene	30.92	µg/L	2.0	38.7	19.5	112	2.22	34	
Acenaphthylene	38.19	µg/L	2.5	47.6	27.5	119	1.00	38.8	
Acenaphthene	37.61	µg/L	5.0	47.3	31	117	0.584	38.6	
Fluorene	3.340	µg/L	0.80	41.6	17.1	109	12.1	29.3	

Qualifiers:

- E Estimated value
- 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: 2009 2nd QTR NAPIS

Work Order: 0906335

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8310: PAHs									
Sample ID: LCSD-19407		*LCSD*			Batch ID:	19407	Analysis Date:	6/29/2009 4:24:33 PM	
Phenanthrene	2.020	µg/L	0.60	50.2	25.5	112	6.12	25	
Anthracene	2.140	µg/L	0.60	53.2	25.8	119	1.41	23.9	
Fluoranthene	4.410	µg/L	0.30	55.0	27.2	122	2.76	15.7	
Pyrene	3.390	µg/L	0.30	42.3	24.1	118	1.19	15.3	
Benz(a)anthracene	0.4100	µg/L	0.070	51.1	31.1	125	2.41	19	
Chrysene	2.010	µg/L	0.20	50.0	32.8	119	5.33	16.6	
Benzo(b)fluoranthene	0.5700	µg/L	0.10	56.9	24.4	117	16.1	21.7	
Benzo(k)fluoranthene	0.2900	µg/L	0.070	58.0	28.4	132	3.51	19.4	
Benzo(a)pyrene	0.2500	µg/L	0.070	49.8	32.4	119	3.92	16.7	
Dibenz(a,h)anthracene	0.5500	µg/L	0.070	54.9	33.9	120	0	17.3	
Benzo(g,h,i)perylene	0.5200	µg/L	0.080	52.0	35.2	113	1.94	18	
Indeno(1,2,3-cd)pyrene	1.260	µg/L	0.080	62.9	33.6	115	1.60	17.7	

Qualifiers:

- E Estimated value
- 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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name WESTERN REFINING GALLU | Date Received: 6/17/2009

Work Order Number 0906335 | Received by: ARS

Checklist completed by: _____ Signature | 6/17/09 Date | Sample ID labels checked by: TSB Initials

Matrix: | Carrier name: UPS

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 ☐		Number of preserved bottles checked for pH:
Water - VOA vials have zero headspace? No VOA vials submitted ☐		Yes ☑	No ☐	3>2
Water - Preservation labels on bottle and cap match?	Yes ☑	No ☐	N/A ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	*<2 >12 unless noted below.*
Container/Temp Blank temperature?	**14.2°**	*<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 Gallup Refinery
Mailing Address: Rt 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: 2009 2nd QTR NAPIS
Project #: NAPIS-3
Project Manager: G. Rajen
Sampler: C Johnson
On Ice: ☒ Yes ☐ No
Sample Temperature: 4

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	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No 0906355	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Gen Chem				Air Bubbles (Y or N)
6/5/09	1105	H2O	NAPIS-3	3-VOA	HCl	1	X															
				3-VOA	HCl	1			X													
				1-500	HNO3	1							X									
				1-L	None	1						X										
				1-500	HNO3	1												X				
				1-500	None	1												X				
				1-125	H_2SO_4	1												X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
6/5/09	1058				
Date:	Time:	Relinquished by:	Received by:	6/17/09	10:50

Remarks: Gen Chem: Cations, Anions pH, cond.
8015B - GRO/DRO extended

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

COVER LETTER

Thursday, December 10, 2009

Gaurav Rajen
Western Refining Southwest, Gallup
Rt. 3 Box 7
Gallup, NM 87301

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

RE: 4th Qtr NAPIS

Order No.: 0911470

Dear Gaurav Rajen:

Hall Environmental Analysis Laboratory, Inc. received 5 sample(s) on 11/24/2009 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

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,

for Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901
AZ license # AZ0682
ORELAP Lab # NM100001
Texas Lab# T104704424-08-TX

Hall Environmental Analysis Laboratory, Inc.

Date: *10-Dec-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-1
Lab Order:	0911470	**Collection Date:**	11/23/2009 1:15:00 PM
Project:	4th Qtr NAPIS	**Date Received:**	11/24/2009
Lab ID:	0911470-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/30/2009 9:41:28 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/30/2009 9:41:28 AM
Surr: DNOP	105	58-140		%REC	1	11/30/2009 9:41:28 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	12/3/2009 1:16:29 PM
Surr: BFB	76.9	55.2-107		%REC	1	12/3/2009 1:16:29 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	12/3/2009 1:16:29 PM
Benzene	ND	1.0		µg/L	1	12/3/2009 1:16:29 PM
Toluene	1.6	1.0		µg/L	1	12/3/2009 1:16:29 PM
Ethylbenzene	ND	1.0		µg/L	1	12/3/2009 1:16:29 PM
Xylenes, Total	ND	2.0		µg/L	1	12/3/2009 1:16:29 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/3/2009 1:16:29 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/3/2009 1:16:29 PM
Surr: 4-Bromofluorobenzene	80.7	65.9-130		%REC	1	12/3/2009 1:16:29 PM
EPA METHOD 8310: PAHS						Analyst: **JAT**
Naphthalene	ND	2.0		µg/L	1	12/2/2009 9:13:38 PM
1-Methylnaphthalene	ND	2.0		µg/L	1	12/2/2009 9:13:38 PM
2-Methylnaphthalene	ND	2.0		µg/L	1	12/2/2009 9:13:38 PM
Acenaphthylene	ND	2.5		µg/L	1	12/2/2009 9:13:38 PM
Acenaphthene	ND	5.0		µg/L	1	12/2/2009 9:13:38 PM
Fluorene	ND	0.80		µg/L	1	12/2/2009 9:13:38 PM
Phenanthrene	ND	0.60		µg/L	1	12/2/2009 9:13:38 PM
Anthracene	ND	0.60		µg/L	1	12/2/2009 9:13:38 PM
Fluoranthene	ND	0.30		µg/L	1	12/2/2009 9:13:38 PM
Pyrene	ND	0.30		µg/L	1	12/2/2009 9:13:38 PM
Benz(a)anthracene	ND	0.070		µg/L	1	12/2/2009 9:13:38 PM
Chrysene	ND	0.20		µg/L	1	12/2/2009 9:13:38 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	12/2/2009 9:13:38 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	12/2/2009 9:13:38 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	12/2/2009 9:13:38 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	12/2/2009 9:13:38 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	12/2/2009 9:13:38 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	12/2/2009 9:13:38 PM
Surr: Benzo(e)pyrene	89.9	28.3-111		%REC	1	12/2/2009 9:13:38 PM
EPA METHOD 300.0: ANIONS						Analyst: **LJB**
Fluoride	1.4	0.10		mg/L	1	11/24/2009 8:17:29 PM
Chloride	170	2.0		mg/L	20	11/24/2009 8:34:53 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	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: *10-Dec-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-1
Lab Order:	0911470	**Collection Date:**	11/23/2009 1:15:00 PM
Project:	4th Qtr NAPIS	**Date Received:**	11/24/2009
Lab ID:	0911470-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **LJB**
Nitrogen, Nitrate (As N)	1.8	0.10		mg/L	1	11/24/2009 8:17:29 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/24/2009 8:17:29 PM
Sulfate	100	10		mg/L	20	11/24/2009 8:34:53 PM
EPA METHOD 7470: MERCURY						Analyst: **IC**
Mercury	ND	0.00020		mg/L	1	11/25/2009 5:11:47 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **RAGS**
Arsenic	ND	0.020		mg/L	1	12/7/2009 6:37:11 PM
Barium	0.20	0.020		mg/L	1	12/7/2009 6:37:11 PM
Cadmium	ND	0.0020		mg/L	1	12/7/2009 6:37:11 PM
Calcium	58	1.0		mg/L	1	12/7/2009 6:37:11 PM
Chromium	0.0077	0.0060		mg/L	1	12/7/2009 6:37:11 PM
Lead	ND	0.0050		mg/L	1	12/7/2009 6:37:11 PM
Magnesium	13	1.0		mg/L	1	12/7/2009 6:37:11 PM
Potassium	3.7	1.0		mg/L	1	12/7/2009 6:37:11 PM
Selenium	ND	0.050		mg/L	1	12/7/2009 6:37:11 PM
Silver	ND	0.0050		mg/L	1	12/7/2009 6:37:11 PM
Sodium	390	5.0		mg/L	5	12/7/2009 7:53:15 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **MMS**
Specific Conductance	2000	0.010		µmhos/cm	1	12/1/2009 1:21:43 PM
SM4500-H+B: PH						Analyst: **MMS**
pH	7.39	0.1		pH units	1	11/25/2009 12:27:15 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	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: *10-Dec-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-2
Lab Order:	0911470	**Collection Date:**	11/23/2009 11:40:00 AM
Project:	4th Qtr NAPIS	**Date Received:**	11/24/2009
Lab ID:	0911470-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	2.7	1.0		mg/L	1	11/30/2009 10:17:57 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/30/2009 10:17:57 AM
Surr: DNOP	104	58-140		%REC	1	11/30/2009 10:17:57 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	0.78	0.050		mg/L	1	12/4/2009 12:20:27 PM
Surr: BFB	123	55.2-107	S	%REC	1	12/4/2009 12:20:27 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	94	2.5		µg/L	1	12/4/2009 12:20:27 PM
Benzene	32	1.0		µg/L	1	12/4/2009 12:20:27 PM
Toluene	1.0	1.0		µg/L	1	12/4/2009 12:20:27 PM
Ethylbenzene	9.3	1.0		µg/L	1	12/4/2009 12:20:27 PM
Xylenes, Total	ND	2.0		µg/L	1	12/4/2009 12:20:27 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/4/2009 12:20:27 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/4/2009 12:20:27 PM
Surr: 4-Bromofluorobenzene	107	65.9-130		%REC	1	12/4/2009 12:20:27 PM
EPA METHOD 8310: PAHS						Analyst: **JAT**
Naphthalene	46	2.0		µg/L	1	12/2/2009 9:33:48 PM
1-Methylnaphthalene	ND	2.0		µg/L	1	12/2/2009 9:33:48 PM
2-Methylnaphthalene	ND	2.0		µg/L	1	12/2/2009 9:33:48 PM
Acenaphthylene	ND	2.5		µg/L	1	12/2/2009 9:33:48 PM
Acenaphthene	ND	5.0		µg/L	1	12/2/2009 9:33:48 PM
Fluorene	9.0	0.80		µg/L	1	12/2/2009 9:33:48 PM
Phenanthrene	1.7	0.60		µg/L	1	12/2/2009 9:33:48 PM
Anthracene	ND	0.60		µg/L	1	12/2/2009 9:33:48 PM
Fluoranthene	ND	0.30		µg/L	1	12/2/2009 9:33:48 PM
Pyrene	ND	0.30		µg/L	1	12/2/2009 9:33:48 PM
Benz(a)anthracene	ND	0.070		µg/L	1	12/2/2009 9:33:48 PM
Chrysene	ND	0.20		µg/L	1	12/2/2009 9:33:48 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	12/2/2009 9:33:48 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	12/2/2009 9:33:48 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	12/2/2009 9:33:48 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	12/2/2009 9:33:48 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	12/2/2009 9:33:48 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	12/2/2009 9:33:48 PM
Surr: Benzo(e)pyrene	68.4	28.3-111		%REC	1	12/2/2009 9:33:48 PM
EPA METHOD 300.0: ANIONS						Analyst: **LJB**
Fluoride	1.6	0.10		mg/L	1	11/24/2009 8:52:18 PM
Chloride	220	2.0		mg/L	20	11/24/2009 9:09:43 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	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: *10-Dec-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-2
Lab Order:	0911470	**Collection Date:**	11/23/2009 11:40:00 AM
Project:	4th Qtr NAPIS	**Date Received:**	11/24/2009
Lab ID:	0911470-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **LJB**
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	11/24/2009 8:52:18 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/24/2009 8:52:18 PM
Sulfate	13	0.50		mg/L	1	11/24/2009 8:52:18 PM
EPA METHOD 7470: MERCURY						Analyst: **IC**
Mercury	ND	0.00020		mg/L	1	11/25/2009 5:13:31 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **RAGS**
Arsenic	ND	0.020		mg/L	1	12/7/2009 6:41:19 PM
Barium	1.1	0.10		mg/L	5	12/7/2009 7:56:07 PM
Cadmium	ND	0.0020		mg/L	1	12/7/2009 6:41:19 PM
Calcium	56	1.0		mg/L	1	12/7/2009 6:41:19 PM
Chromium	ND	0.0060		mg/L	1	12/7/2009 6:41:19 PM
Lead	ND	0.0050		mg/L	1	12/7/2009 6:41:19 PM
Magnesium	11	1.0		mg/L	1	12/7/2009 6:41:19 PM
Potassium	ND	1.0		mg/L	1	12/7/2009 6:41:19 PM
Selenium	ND	0.050		mg/L	1	12/7/2009 6:41:19 PM
Silver	ND	0.0050		mg/L	1	12/7/2009 6:41:19 PM
Sodium	350	5.0		mg/L	5	12/7/2009 7:56:07 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **MMS**
Specific Conductance	1500	0.010		µmhos/cm	1	12/1/2009 1:23:38 PM
SM4500-H+B: PH						Analyst: **MMS**
pH	7.16	0.1		pH units	1	11/25/2009 12:31:23 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	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: *10-Dec-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-3
Lab Order:	0911470	**Collection Date:**	11/23/2009 11:10:00 AM
Project:	4th Qtr NAPIS	**Date Received:**	11/24/2009
Lab ID:	0911470-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/30/2009 10:54:10 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/30/2009 10:54:10 AM
Surr: DNOP	107	58-140		%REC	1	11/30/2009 10:54:10 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	12/3/2009 2:47:33 PM
Surr: BFB	81.4	55.2-107		%REC	1	12/3/2009 2:47:33 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	12/3/2009 2:47:33 PM
Benzene	ND	1.0		µg/L	1	12/3/2009 2:47:33 PM
Toluene	ND	1.0		µg/L	1	12/3/2009 2:47:33 PM
Ethylbenzene	ND	1.0		µg/L	1	12/3/2009 2:47:33 PM
Xylenes, Total	ND	2.0		µg/L	1	12/3/2009 2:47:33 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/3/2009 2:47:33 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/3/2009 2:47:33 PM
Surr: 4-Bromofluorobenzene	86.7	65.9-130		%REC	1	12/3/2009 2:47:33 PM
EPA METHOD 8310: PAHS						Analyst: **JAT**
Naphthalene	ND	2.0		µg/L	1	12/2/2009 9:54:02 PM
1-Methylnaphthalene	ND	2.0		µg/L	1	12/2/2009 9:54:02 PM
2-Methylnaphthalene	ND	2.0		µg/L	1	12/2/2009 9:54:02 PM
Acenaphthylene	ND	2.5		µg/L	1	12/2/2009 9:54:02 PM
Acenaphthene	ND	5.0		µg/L	1	12/2/2009 9:54:02 PM
Fluorene	ND	0.80		µg/L	1	12/2/2009 9:54:02 PM
Phenanthrene	ND	0.60		µg/L	1	12/2/2009 9:54:02 PM
Anthracene	ND	0.60		µg/L	1	12/2/2009 9:54:02 PM
Fluoranthene	ND	0.30		µg/L	1	12/2/2009 9:54:02 PM
Pyrene	ND	0.30		µg/L	1	12/2/2009 9:54:02 PM
Benz(a)anthracene	ND	0.070		µg/L	1	12/2/2009 9:54:02 PM
Chrysene	ND	0.20		µg/L	1	12/2/2009 9:54:02 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	12/2/2009 9:54:02 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	12/2/2009 9:54:02 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	12/2/2009 9:54:02 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	12/2/2009 9:54:02 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	12/2/2009 9:54:02 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	12/2/2009 9:54:02 PM
Surr: Benzo(e)pyrene	71.9	28.3-111		%REC	1	12/2/2009 9:54:02 PM
EPA METHOD 300.0: ANIONS						Analyst: **LJB**
Fluoride	0.49	0.10		mg/L	1	11/24/2009 9:27:08 PM
Chloride	1100	10		mg/L	100	11/25/2009 12:19:41 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	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: *10-Dec-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	NAPIS-3
Lab Order:	0911470	**Collection Date:**	11/23/2009 11:10:00 AM
Project:	4th Qtr NAPIS	**Date Received:**	11/24/2009
Lab ID:	0911470-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **LJB**
Nitrogen, Nitrate (As N)	15	2.0		mg/L	20	11/24/2009 9:44:33 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/24/2009 9:27:08 PM
Sulfate	370	10		mg/L	20	11/24/2009 9:44:33 PM
EPA METHOD 7470: MERCURY						Analyst: **IC**
Mercury	ND	0.00020		mg/L	1	11/25/2009 5:15:16 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **RAGS**
Arsenic	ND	0.020		mg/L	1	12/7/2009 6:58:49 PM
Barium	0.15	0.020		mg/L	1	12/7/2009 6:58:49 PM
Cadmium	ND	0.0020		mg/L	1	12/7/2009 6:58:49 PM
Calcium	46	1.0		mg/L	1	12/7/2009 6:58:49 PM
Chromium	0.0072	0.0060		mg/L	1	12/7/2009 6:58:49 PM
Lead	ND	0.0050		mg/L	1	12/7/2009 6:58:49 PM
Magnesium	8.8	1.0		mg/L	1	12/7/2009 6:58:49 PM
Potassium	5.4	1.0		mg/L	1	12/7/2009 6:58:49 PM
Selenium	ND	0.050		mg/L	1	12/7/2009 6:58:49 PM
Silver	ND	0.0050		mg/L	1	12/7/2009 6:58:49 PM
Sodium	930	20		mg/L	20	12/8/2009 12:21:32 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **MMS**
Specific Conductance	4400	0.010		µmhos/cm	1	12/1/2009 1:25:31 PM
SM4500-H+B: PH						Analyst: **MMS**
pH	7.91	0.1		pH units	1	11/25/2009 12:35:29 PM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Estimated value	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: *10-Dec-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	KA-3
Lab Order:	0911470	**Collection Date:**	11/23/2009 12:45:00 PM
Project:	4th Qtr NAPIS	**Date Received:**	11/24/2009
Lab ID:	0911470-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/30/2009 11:30:56 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/30/2009 11:30:56 AM
Surr: DNOP	108	58-140		%REC	1	11/30/2009 11:30:56 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	0.19	0.050		mg/L	1	12/3/2009 3:48:16 PM
Surr: BFB	93.9	55.2-107		%REC	1	12/3/2009 3:48:16 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	77	2.5		µg/L	1	12/3/2009 3:48:16 PM
Benzene	ND	1.0		µg/L	1	12/3/2009 3:48:16 PM
Toluene	ND	1.0		µg/L	1	12/3/2009 3:48:16 PM
Ethylbenzene	ND	1.0		µg/L	1	12/3/2009 3:48:16 PM
Xylenes, Total	ND	2.0		µg/L	1	12/3/2009 3:48:16 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/3/2009 3:48:16 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/3/2009 3:48:16 PM
Surr: 4-Bromofluorobenzene	100	65.9-130		%REC	1	12/3/2009 3:48:16 PM
EPA METHOD 8310: PAHS						Analyst: **JAT**
Naphthalene	33	2.0		µg/L	1	12/2/2009 10:14:13 PM
1-Methylnaphthalene	22	2.0		µg/L	1	12/2/2009 10:14:13 PM
2-Methylnaphthalene	ND	2.0		µg/L	1	12/2/2009 10:14:13 PM
Acenaphthylene	ND	2.5		µg/L	1	12/2/2009 10:14:13 PM
Acenaphthene	ND	5.0		µg/L	1	12/2/2009 10:14:13 PM
Fluorene	2.9	0.80		µg/L	1	12/2/2009 10:14:13 PM
Phenanthrene	2.5	0.60		µg/L	1	12/2/2009 10:14:13 PM
Anthracene	ND	0.60		µg/L	1	12/2/2009 10:14:13 PM
Fluoranthene	ND	0.30		µg/L	1	12/2/2009 10:14:13 PM
Pyrene	ND	0.30		µg/L	1	12/2/2009 10:14:13 PM
Benz(a)anthracene	0.070	0.070		µg/L	1	12/2/2009 10:14:13 PM
Chrysene	ND	0.20		µg/L	1	12/2/2009 10:14:13 PM
Benzo(b)fluoranthene	ND	0.10		µg/L	1	12/2/2009 10:14:13 PM
Benzo(k)fluoranthene	ND	0.070		µg/L	1	12/2/2009 10:14:13 PM
Benzo(a)pyrene	ND	0.070		µg/L	1	12/2/2009 10:14:13 PM
Dibenz(a,h)anthracene	ND	0.070		µg/L	1	12/2/2009 10:14:13 PM
Benzo(g,h,i)perylene	ND	0.080		µg/L	1	12/2/2009 10:14:13 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	12/2/2009 10:14:13 PM
Surr: Benzo(e)pyrene	63.1	28.3-111		%REC	1	12/2/2009 10:14:13 PM
EPA METHOD 300.0: ANIONS						Analyst: **LJB**
Fluoride	1.3	0.10		mg/L	1	11/24/2009 10:01:58 PM
Chloride	610	5.0		mg/L	50	11/25/2009 12:37:05 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- B Analyte detected in the associated Method Blank
- E Estimated value
- 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: *10-Dec-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	KA-3
Lab Order:	0911470	**Collection Date:**	11/23/2009 12:45:00 PM
Project:	4th Qtr NAPIS	**Date Received:**	11/24/2009
Lab ID:	0911470-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **LJB**
Nitrogen, Nitrate (As N)	3.2	0.10		mg/L	1	11/24/2009 10:01:58 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/24/2009 10:01:58 PM
Sulfate	120	10		mg/L	20	11/24/2009 10:19:23 PM
EPA METHOD 7470: MERCURY						Analyst: **IC**
Mercury	ND	0.00020		mg/L	1	11/25/2009 5:17:02 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **RAGS**
Arsenic	ND	0.020		mg/L	1	12/7/2009 7:02:42 PM
Barium	0.55	0.020		mg/L	1	12/7/2009 7:02:42 PM
Cadmium	ND	0.0020		mg/L	1	12/7/2009 7:02:42 PM
Calcium	100	5.0		mg/L	5	12/7/2009 8:04:34 PM
Chromium	ND	0.0060		mg/L	1	12/7/2009 7:02:42 PM
Lead	ND	0.0050		mg/L	1	12/7/2009 7:02:42 PM
Magnesium	19	1.0		mg/L	1	12/7/2009 7:02:42 PM
Potassium	2.0	1.0		mg/L	1	12/7/2009 7:02:42 PM
Selenium	ND	0.050		mg/L	1	12/7/2009 7:02:42 PM
Silver	ND	0.0050		mg/L	1	12/7/2009 7:02:42 PM
Sodium	480	5.0		mg/L	5	12/7/2009 8:04:34 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **MMS**
Specific Conductance	2900	0.010		µmhos/cm	1	12/1/2009 1:27:23 PM
SM4500-H+B: PH						Analyst: **MMS**
pH	7.31	0.1		pH units	1	11/25/2009 12:39:35 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	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: *10-Dec-09*

CLIENT:	Western Refining Southwest, Gallup	**Client Sample ID:**	Trip Blank
Lab Order:	0911470	**Collection Date:**	
Project:	4th Qtr NAPIS	**Date Received:**	11/24/2009
Lab ID:	0911470-05	**Matrix:**	TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	12/3/2009 4:49:04 PM
Surr: BFB	85.3	55.2-107		%REC	1	12/3/2009 4:49:04 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	12/3/2009 4:49:04 PM
Benzene	ND	1.0		µg/L	1	12/3/2009 4:49:04 PM
Toluene	ND	1.0		µg/L	1	12/3/2009 4:49:04 PM
Ethylbenzene	ND	1.0		µg/L	1	12/3/2009 4:49:04 PM
Xylenes, Total	ND	2.0		µg/L	1	12/3/2009 4:49:04 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	12/3/2009 4:49:04 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	12/3/2009 4:49:04 PM
Surr: 4-Bromofluorobenzene	92.7	65.9-130		%REC	1	12/3/2009 4:49:04 PM

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Western Refining Southwest, Gallup
Project: 4th Qtr NAPIS **Work Order:** 0911470

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions											
Sample ID: MB		*MBLK*				Batch ID:	**R36326**	Analysis Date:	11/24/2009 7:42:40 PM		
Fluoride	ND	mg/L	0.10								
Chloride	ND	mg/L	0.10								
Nitrogen, Nitrate (As N)	ND	mg/L	0.10								
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: MB		*MBLK*				Batch ID:	**R36344**	Analysis Date:	11/25/2009 11:44:51 AM		
Fluoride	ND	mg/L	0.10								
Chloride	ND	mg/L	0.10								
Nitrogen, Nitrate (As N)	ND	mg/L	0.10								
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: LCS		*LCS*				Batch ID:	**R36326**	Analysis Date:	11/24/2009 8:00:05 PM		
Fluoride	0.5089	mg/L	0.10	0.5	0	102	90	110			
Chloride	4.999	mg/L	0.10	5	0	100	90	110			
Nitrogen, Nitrate (As N)	2.548	mg/L	0.10	2.5	0	102	90	110			
Phosphorus, Orthophosphate (As P)	5.084	mg/L	0.50	5	0	102	90	110			
Sulfate	10.03	mg/L	0.50	10	0	100	90	110			
Sample ID: LCS		*LCS*				Batch ID:	**R36344**	Analysis Date:	11/25/2009 12:02:16 PM		
Fluoride	0.5325	mg/L	0.10	0.5	0	107	90	110			
Chloride	5.149	mg/L	0.10	5	0	103	90	110			
Nitrogen, Nitrate (As N)	2.643	mg/L	0.10	2.5	0	106	90	110			
Phosphorus, Orthophosphate (As P)	5.289	mg/L	0.50	5	0	106	90	110			
Sulfate	10.47	mg/L	0.50	10	0	105	90	110			
Method: EPA Method 8015B: Diesel Range											
Sample ID: MB-20702		*MBLK*				Batch ID:	**20702**	Analysis Date:	11/29/2009 7:23:03 PM		
Diesel Range Organics (DRO)	ND	mg/L	1.0								
Motor Oil Range Organics (MRO)	ND	mg/L	5.0								
Sample ID: LCS-20702		*LCS*				Batch ID:	**20702**	Analysis Date:	11/29/2009 7:58:44 PM		
Diesel Range Organics (DRO)	5.932	mg/L	1.0	5	0	119	74	157			
Method: EPA Method 8015B: Gasoline Range											
Sample ID: 5ML RB		*MBLK*				Batch ID:	**R36424**	Analysis Date:	12/3/2009 9:43:08 AM		
Gasoline Range Organics (GRO)	ND	mg/L	0.050								
Sample ID: 5ML RB		*MBLK*				Batch ID:	**R36448**	Analysis Date:	12/4/2009 9:48:19 AM		
Gasoline Range Organics (GRO)	ND	mg/L	0.050								
Sample ID: 2.5UG GRO LCS		*LCS*				Batch ID:	**R36424**	Analysis Date:	12/3/2009 7:50:57 PM		
Gasoline Range Organics (GRO)	0.4506	mg/L	0.050	0.5	0	90.1	80	115			

Qualifiers:

E	Estimated value	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: 4th Qtr NAPIS **Work Order:** 0911470

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles											
Sample ID: 5ML RB		*MBLK*				Batch ID: **R36424**		Analysis Date:	12/3/2009 9:43:08 AM		
Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5								
Benzene	ND	µg/L	1.0								
Toluene	ND	µg/L	1.0								
Ethylbenzene	ND	µg/L	1.0								
Xylenes, Total	ND	µg/L	2.0								
1,2,4-Trimethylbenzene	ND	µg/L	1.0								
1,3,5-Trimethylbenzene	ND	µg/L	1.0								
Sample ID: 5ML RB		*MBLK*				Batch ID: **R36448**		Analysis Date:	12/4/2009 9:48:19 AM		
Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5								
Benzene	ND	µg/L	1.0								
Toluene	ND	µg/L	1.0								
Ethylbenzene	ND	µg/L	1.0								
Xylenes, Total	ND	µg/L	2.0								
1,2,4-Trimethylbenzene	ND	µg/L	1.0								
1,3,5-Trimethylbenzene	ND	µg/L	1.0								
Sample ID: 100NG BTEX LCS		*LCS*				Batch ID: **R36424**		Analysis Date:	12/3/2009 9:24:43 PM		
Methyl tert-butyl ether (MTBE)	16.98	µg/L	2.5	20	0.144	84.2	51.2	138			
Benzene	21.02	µg/L	1.0	20	0	105	85.9	113			
Toluene	20.84	µg/L	1.0	20	0	104	86.4	113			
Ethylbenzene	20.38	µg/L	1.0	20	0.088	101	83.5	118			
Xylenes, Total	61.05	µg/L	2.0	60	0	102	83.4	122			
1,2,4-Trimethylbenzene	19.63	µg/L	1.0	20	0.29	96.7	83.5	115			
1,3,5-Trimethylbenzene	19.33	µg/L	1.0	20	0.12	96.1	85.2	113			

Qualifiers:

E	Estimated value	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: 4th Qtr NAPIS **Work Order:** 0911470

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8310: PAHs											
Sample ID: MB-20743		*MBLK*				Batch ID:	**20743**	Analysis Date:	12/2/2009 8:13:09 PM		
Naphthalene	ND	µg/L	2.0								
1-Methylnaphthalene	ND	µg/L	2.0								
2-Methylnaphthalene	ND	µg/L	2.0								
Acenaphthylene	ND	µg/L	2.5								
Acenaphthene	ND	µg/L	5.0								
Fluorene	ND	µg/L	0.80								
Phenanthrene	ND	µg/L	0.60								
Anthracene	ND	µg/L	0.60								
Fluoranthene	ND	µg/L	0.30								
Pyrene	ND	µg/L	0.30								
Benz(a)anthracene	ND	µg/L	0.070								
Chrysene	ND	µg/L	0.20								
Benzo(b)fluoranthene	ND	µg/L	0.10								
Benzo(k)fluoranthene	ND	µg/L	0.070								
Benzo(a)pyrene	ND	µg/L	0.070								
Dibenz(a,h)anthracene	ND	µg/L	0.070								
Benzo(g,h,i)perylene	ND	µg/L	0.080								
Indeno(1,2,3-cd)pyrene	ND	µg/L	0.080								
Sample ID: LCS-20743		*LCS*				Batch ID:	**20743**	Analysis Date:	12/2/2009 8:33:18 PM		
Naphthalene	60.57	µg/L	2.0	80	0	75.7	20.5	109			
1-Methylnaphthalene	67.54	µg/L	2.0	80.2	0	84.2	23.1	116			
2-Methylnaphthalene	61.70	µg/L	2.0	80	0	77.1	19.5	112			
Acenaphthylene	60.20	µg/L	2.5	80.2	0	75.1	27.5	119			
Acenaphthene	69.28	µg/L	5.0	80	0	86.6	31	117			
Fluorene	3.800	µg/L	0.80	8.02	0	47.4	17.1	109			
Phenanthrene	2.500	µg/L	0.60	4.02	0	62.2	25.5	112			
Anthracene	3.350	µg/L	0.60	4.02	0	83.3	25.8	119			
Fluoranthene	6.150	µg/L	0.30	8.02	0	76.7	27.2	122			
Pyrene	5.620	µg/L	0.30	8.02	0	70.1	24.1	118			
Benz(a)anthracene	0.6700	µg/L	0.070	0.802	0	83.5	31.1	125			
Chrysene	3.240	µg/L	0.20	4.02	0	80.6	32.8	119			
Benzo(b)fluoranthene	0.7200	µg/L	0.10	1.002	0	71.9	24.4	117			
Benzo(k)fluoranthene	0.6200	µg/L	0.070	0.5	0	124	28.4	132			
Benzo(a)pyrene	0.3800	µg/L	0.070	0.502	0	75.7	32.4	119			
Dibenz(a,h)anthracene	0.7800	µg/L	0.070	1.002	0	77.8	33.9	120			
Benzo(g,h,i)perylene	0.7300	µg/L	0.080	1	0	73.0	35.2	113			
Indeno(1,2,3-cd)pyrene	1.710	µg/L	0.080	2.004	0	85.3	33.6	115			
Method: EPA Method 7470: Mercury											
Sample ID: MB-20729		*MBLK*				Batch ID:	**20729**	Analysis Date:	11/25/2009 4:41:21 PM		
Mercury	ND	mg/L	0.00020								
Sample ID: LCS-20729		*LCS*				Batch ID:	**20729**	Analysis Date:	11/25/2009 4:43:07 PM		
Mercury	0.005101	mg/L	0.00020	0.005	0	102	80	120			

Qualifiers:

E	Estimated value	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: 4th Qtr NAPIS **Work Order:** 0911470

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA 6010B: Total Recoverable Metals											
Sample ID: MB-20747		*MBLK*				Batch ID:	**20747**	Analysis Date:	12/1/2009 1:49:50 PM		
Arsenic	ND	mg/L	0.020								
Cadmium	ND	mg/L	0.0020								
Calcium	ND	mg/L	0.50								
Chromium	ND	mg/L	0.0060								
Lead	ND	mg/L	0.0050								
Magnesium	ND	mg/L	0.50								
Potassium	ND	mg/L	1.0								
Selenium	ND	mg/L	0.050								
Sodium	ND	mg/L	0.50								
Sample ID: MB-SPLP #2		*MBLK*				Batch ID:	**20747**	Analysis Date:	12/1/2009 1:55:59 PM		
Arsenic	ND	mg/L	0.020								
Cadmium	ND	mg/L	0.0020								
Calcium	ND	mg/L	0.50								
Chromium	ND	mg/L	0.0060								
Lead	ND	mg/L	0.0050								
Magnesium	ND	mg/L	0.50								
Potassium	ND	mg/L	1.0								
Selenium	ND	mg/L	0.050								
Sodium	ND	mg/L	0.50								
Sample ID: MB-20747		*MBLK*				Batch ID:	**20747**	Analysis Date:	12/2/2009 4:28:58 PM		
Barium	ND	mg/L	0.010								
Cadmium	ND	mg/L	0.0020								
Chromium	ND	mg/L	0.0060								
Lead	ND	mg/L	0.0050								
Sample ID: MB-20747		*MBLK*				Batch ID:	**20747**	Analysis Date:	12/7/2009 5:40:29 PM		
Arsenic	ND	mg/L	0.020								
Barium	ND	mg/L	0.010								
Cadmium	ND	mg/L	0.0020								
Calcium	ND	mg/L	0.50								
Chromium	ND	mg/L	0.0060								
Lead	ND	mg/L	0.0050								
Magnesium	ND	mg/L	0.50								
Potassium	ND	mg/L	1.0								
Selenium	ND	mg/L	0.050								
Silver	ND	mg/L	0.0050								
Sodium	ND	mg/L	0.50								
Sample ID: LCS-20747		*LCS*				Batch ID:	**20747**	Analysis Date:	12/1/2009 1:52:48 PM		
Arsenic	0.5070	mg/L	0.020	0.5	0	101	80	120			
Cadmium	0.4860	mg/L	0.0020	0.5	0	97.2	80	120			
Calcium	50.34	mg/L	0.50	50	0	101	80	120			
Chromium	0.4872	mg/L	0.0060	0.5	0	97.4	80	120			
Lead	0.4802	mg/L	0.0050	0.5	0	96.0	80	120			
Magnesium	50.59	mg/L	0.50	50	0	101	80	120			

Qualifiers:

E	Estimated value	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: 4th Qtr NAPIS **Work Order:** 0911470

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA 6010B: Total Recoverable Metals											
Sample ID: LCS-20747		*LCS*				Batch ID:	**20747**	Analysis Date:	12/1/2009 1:52:48 PM		
Potassium	52.24	mg/L	1.0	50	0	104	80	120			
Selenium	0.4811	mg/L	0.050	0.5	0	96.2	80	120			
Sodium	53.74	mg/L	0.50	50	0	107	80	120			
Sample ID: LCS-20747		*LCS*				Batch ID:	**20747**	Analysis Date:	12/2/2009 4:31:54 PM		
Barium	0.4757	mg/L	0.010	0.5	0	95.1	80	120			
Cadmium	0.4823	mg/L	0.0020	0.5	0	96.5	80	120			
Chromium	0.4811	mg/L	0.0060	0.5	0	96.2	80	120			
Lead	0.4773	mg/L	0.0050	0.5	0	95.5	80	120			
Sample ID: LCS-20747		*LCS*				Batch ID:	**20747**	Analysis Date:	12/7/2009 5:43:26 PM		
Arsenic	0.5037	mg/L	0.020	0.5	0	101	80	120			
Barium	0.4784	mg/L	0.010	0.5	0	95.7	80	120			
Cadmium	0.4862	mg/L	0.0020	0.5	0	97.2	80	120			
Calcium	50.77	mg/L	0.50	50	0	102	80	120			
Chromium	0.4828	mg/L	0.0060	0.5	0	96.6	80	120			
Lead	0.4792	mg/L	0.0050	0.5	0	95.8	80	120			
Magnesium	51.01	mg/L	0.50	50	0	102	80	120			
Potassium	52.95	mg/L	1.0	50	0	106	80	120			
Selenium	0.4711	mg/L	0.050	0.5	0	94.2	80	120			
Silver	0.4968	mg/L	0.0050	0.5	0	99.4	80	120			
Sodium	54.24	mg/L	0.50	50	0	108	80	120			

Qualifiers:

E	Estimated value	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: **11/24/2009**

Work Order Number **0911470** Received by: **ARS**

Checklist completed by: _____ 11/24/09 Sample ID labels checked by: _____
Signature Date Initials

Matrix: Carrier name: FedEx

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?	**1.6°**	*<6° C Acceptable* If given sufficient time to cool.		

Number of preserved bottles checked for pH: 12

<2 >12 unless noted below.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: Western Refining
Gallup Refinery
Mailing Address: Rt 3 Box A
Gallup NM 87301
Phone #: 505 722 3833
email or Fax#: 722 0210

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____
Project Name: 4th QTR NAPIS
Project #:
Project Manager: G Rajan
Sampler: Cheryl Johnson
On Ice: ☒ Yes ☐ No
Sample Temperature: 4.6

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	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 0911140	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Gen Chem				Air Bubbles (Y or N)
11/23/09	1315	H_2O	NAPIS-1	3-VOA	HCl	1			X													
				3-VOA	HCl	1	X															
				500ml	HNO_3	1							X									
				1L Amb	None	1						X										
				1-500	HNO_3	1												X				
				1-125	H_2SO_4	1												X				
				1-500	None	1												X				
	1140		NAPIS-2	3-VOA	HCl	2	X															
				3-VOA	HCl	2			X													
				500ml	HNO_3	2							X									
				1L Amber	None	2						X										
				1-500	HNO_3	2												X				

Date: 11/23/09 Time: 1438 Relinquished by:
Date: Time: Relinquished by:

Received by: Date Time: 8:45 11/24/09
Received by: Date Time:

Remarks: Gen Chem - Anions, Cations
EC, pH /A 11/24/09

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
Gallup Refinery
Mailing Address: Rt 3 Box 7
Gallup NM 87301
Phone #: 505 722 3833
email or Fax#: 722 0210
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 4th QTR NAPIS
Project #:
Project Manager: G Rogers
Sampler: Cheryl Johnson
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.5

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA) Tun Mem					Air Bubbles (Y or N)
11/23/09	1140	H2O	NAPIS 2	125 ml	H2SO4	1 2											X					
				500 ml	None	1 2											X					
	1110		NAPIS 3	3 VOA	HCl	11/24 2 3	X															
				3 VOA	HCl	2 3			X													
				1L Amb	None	2 3						X										
				500 ml	HNO3	2 3							X									
				500 ml	HNO3	2 3											X					
				125 ml	H2SO4	2 3											X					
				500 ml	None	2 3											X					
	1245		KA-3	3 VOA	HCl	3 4	X															
				3 VOA	HCl	3 4			X													
				1L Amb	None	3 4						X										

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/24/09	1438			11/24/09	8:45
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: Western Refining
Gallup Refinery
Mailing Address: Rt 3 Box 7
Gallup NM 87301
Phone #: 505 722 3833
email or Fax#: 722 0210
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 4th QTR NAPPLS
Project #:
Project Manager: G Rajen
Sampler: Cheryl Johnson
On Ice: ☒ Yes ☐ No
Sample Temperature: 4.6

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	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 509114210	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Gen Chem				Air Bubbles (Y or N)
11/23/09	1245	H_2O	KA-3	500ml	HNO_3	4							X									
"	"	"	"	500ml	HNO_3	4												X				
"	"	"	"	125ml	H_2SO_4	4												X				
"	"	"	"	500ml	None	4												X				
			TRIP Blank			5																

Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
11/23/09	1430					
Date:	Time:	Relinquished by:	Received by:	11/24/09	8:45	

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.

These shallow wells are located around the NAPIS. NAPIS-1 is an up gradient well on the southeast side of the NAPIS. NAPIS-2 is located immediately down gradient on the southwest side of the NAPIS. KA-3 and NAPIS 3 are located on the west side at the north end. Due to the close proximity of NAPIS 3 and KA 3 these wells were mis-identified by the field technician. NAPIS 3 was identified as KA-3 and KA-3 was identified as NAPIS-3 when samples were taken during the third quarter sampling event on 8/31/2009. Samples only were mis-labeled and when field technician found the error, immediately notified Hall Laboratory to make correction on the Chain of custody before they ran the sample. Analytical lab data received for these wells correspond to the correct well identification.

NAPIS-1 has no detectable levels of contaminants. NAPIS-2 has shown elevated levels of benzene 0.019 ppm to a high of 0.032 ppm which are above the NMWQS of 0.01 ppm. MTBE levels of 0.09 ppm to a high of 0.13 ppm which is above the RRSL of 0.012 ppm). KA-3 shows a benzene level of 0.0033 ppm for the third quarter only and MTBE levels declining from 0.11 ppm first quarter to a low of 0.077 ppm in the fourth quarter. No contaminants have been detected in NAPIS 3. SVOCs were detected in NAPIS 2 and KA-3. In NAPIS 2 second quarter results showed 0.0042 ppm of 1-Methylnaphthalene above the RRSL of 0.0023 ppm; 0.03ppm of naphthalene exceeding the RRSL of 0.00014 ppm and trace levels of fluorene, 2-methylnaphthalene and phenanthrene. In the fourth quarter, KA-3, benz(a)anthracene was detected at 0.00007 ppm above the RRSL standard of 2.9E-05 ppm. High levels of chloride were also detected in KA-3 ranging from 340 ppm to 610 ppm. NAPIS 3 also showed levels of chloride ranging from 1200 ppm to 1100 ppm above the NMWQS of 250 ppm. NAPIS 2 also showed GRO level ranging from 4.3 ppm first quarter to 2.7 ppm fourth quarter, above the NM TPH screening level of 0.2 ppm. Constituent concentrations vs. time are depicted in figures 19 through 21.

6.2 Wells with Constituent Levels below Standards.[1]

OW-11

OW-11 is sampled on an annual basis. Ground water samples were analyzed for General Chemistry, VOC, MTBE, SVOC, and WQCC Metals. Well was sampled on July 27, 2009.

BTEX plus MTBE were at non-detectable levels. SVOCs and VOCs also non-detect. Arsenic was detected at 0.00202 ppm above the 0.1 ppm NMWQS. Uranium was also present in this well at 0.216 ppm below the NMWQS and EPA MCLS but above the RRSL of 0.11 ppm. General chemistry results showed that fluoride (2.0 ppm) and sulfate (950 ppm) were present at levels greater than the NMWQS for fluoride (1.6 ppm) and sulfate (600 ppm).

OW-12

[1] These wells may have other contaminants present at levels greater than applicable standards, such as sulfates.

7.0 Conclusions

This section is an overview of conclusions for the monitoring program required by the permit.

Ground Water Monitoring

There are a total of thirty-nine monitoring wells distributed within the boundaries of the refinery of which, sixteen monitoring wells are located along the perimeter of the aeration lagoons and evaporation ponds. There are two major sections of the refinery which we have defined as the East and the West side for periodic monitoring.

East Side Ground Water

Ground water monitoring activities on the East side have shown that Methyl-Tert Butyl Ether (MTBE) is present in the four well locations (OW-13, OW-14, OW-29, and OW-30) on the northeast corner of the active refinery perimeter. In three wells OW-14, OW-29 and OW-30, the MTBE is in the range of 0.021 ppm to 1.3 ppm and at levels above the RRSL of 0.012 ppm. In OW-13 trace levels of MTBE was detected in the third quarter of 2009 (0.0023 ppm) which is below the RRSL (0.012ppm). Benzene detected in OW-14 (0.074 ppm) in the third quarter 2009 is above the NMWQS for drinking water (0.01 ppm). Down gradient wells (OW-13, OW-29, and OW-30) show non-detectable levels for benzene, (below levels of detection of analytical methods). Two new wells (OW-50 and OW-52) were installed in October 2009 did not reveal the presence of MTBE and Benzene.

Within the perimeter of the active refinery in this north-east section, there are several shallow recovery wells from which separate-phase hydrocarbons have been recovered and still continue to be recovered, of the order of 1.78 gallons total in 2009.

West Side Monitoring

The West side consists of ground water monitoring wells near the aeration lagoons and alongside a series of large evaporation ponds. Immediately down gradient of the refinery's oil/water separator, a sample from a shallow ground water monitoring well (NAPIS-2) had MTBE at a level ranging from 0.089 ppm to 1.3 ppm greater than the RRSL of 0.012 ppm. Benzene levels ranged from 1st quarter 0.019 ppm to fourth quarter results of 0.032 ppm, greater than the NMWQS of 0.01 ppm.

MTBE has also been detected in KA-3 with levels ranging between 0.077 ppm to 0.17 ppm for 2009. Elevated levels of arsenic and manganese have also been detected in GWM-1 above the NMWQS. Monitoring of well GWM-1 in 2009 has shown benzene concentrations (0.0089 ppm) above the US EPA's MCLs of 0.005 ppm and MTBE level of 0.085 ppm in 2009 greater than the RRSL standard of 0.012 ppm.

GROUND WATER DATA TABLES – NAPIS WELLS

BTEX plus MTBE detected in NAPIS wells. (2008-2009)

Sample ID	Collection Date	Method	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
Standards	NMWQS		0.01	0.75	0.75	0.62	NS
	EPA MCLS		0.005	1	0.7	10	NS
	RRSL		0.00041	2.3	0.0015	0.2	0.012
NAPIS 1	11/23/09	EPA 8260B	--	.0016	--	--	--
	8/11/09	EPA 8260B	--	--	--	--	--
	5/28/2009	EPA 8260B	--	--	--	--	--
	3/24/2009	EPA 8260B	--	0.0001	--	--	--
	11/10/2008	EPA 8260B	--	--	--	--	--
	9/30/2008	EPA 8260B	--	--	--	--	Not Analyzed
	7/9/2008	EPA 8260B	--	--	--	--	--
KA-1R	4/11/2008	EPA 8260B	--	--	--	--	--
NAPIS 2	11/23/2009	EPA 8260B	**0.032**	0.001	**0.0093**	--	**0.094**
	8/11/2009	EPA 8260B	**0.057**	--	**0.022**	--	**0.089**
	5/28/2009	EPA 8260B	**0.028**	--	**0.0053**	--	**0.13**
	3/24/2009	EPA 8260B	**0.019**	0.0011	**0.0081**	--	**0.09**
	11/10/2008	EPA 8260B	**0.025**		**0.011**		**0.18**
	9/30/2008	EPA 8260B	**0.016**		**0.0016**	0.0041	Not Analyzed
	7/9/2008	EPA 8260B	**0.013**		**0.011**	0.0056	**0.2**
KA-2R	4/11/2008	EPA 8260B	**0.91**	0.019	**0.051**	0.12	**0.32**
NAPIS 3	11/23/2009	EPA 8260B	--	--	--	--	--
	8/31/2009	EPA 8260B	--	--	--	--	**0.17**
	6/15/2009	EPA 8260B	--	--	--	--	--
	3/25/2009	EPA 8260B	--	--	--	--	--
	11/10/2008	EPA 8260B	--	--	--	--	--
	9/30/2008	EPA 8260B	Not enough water to Sample – Dry				
	7/9/2008	EPA 8260B	--	--	--	--	--
KA 3	11/23/2009	EPA 8260B	--	--	--	--	**0.077**
	8/31/2009	EPA 8260B	--	--	--	--	**0.17**
	5/28/2009	EPA 8260B	0.0033	0.0012	--	--	**0.13**
	3/25/2009	EPA 8260B	--	--	--	--	**0.11**
	11/10/2008	EPA 8260B	--	--	--	--	0.13

Napis 1 and 2 – Third Quarter MTBE not analyzed.

Notes: NS = No Standards;
-- = No Detect;
Bold Values represent Values above the applicable standard.
**Samples combined with Annual Sampling Event*

Summary of SVOCs in NAPIS wells (2008 – 2009)

Sample ID	Collection Date	Method	BENZ(A)ANTHRACENE (mg/L)	FLUORENE (mg/L)	1-METHYLNAPHTHALENE (mg/L)	2-METHYLNAPHTHALENE (mg/L)	NAPHTHALENE (mg/L)	PHENANTHRENE (mg/L)
Standards	NMWQS		NS	NS	NS	NS	NS	NS
	EPA MCLS		NS	NS	NS	NS	NS	NS
	RRSL		2.9E-05	1.5	0.0023	0.15	0.00014	NS
NAPIS 1	11/23/2009	EPA 8310	--	--	--	--	--	--
	8/11/2009	EPA 8310	--	--	--	--	--	--
	5/28/2009	EPA 8310	--	--	--	--	--	--
	3/24/2009	EPA 8310	--	--	--	--	--	--
NAPIS 2	11/23/2009	EPA 8310	--	0.009	--	--	**0.046**	0.0017
	8/11/2009	EPA 8310	--	0.0073	--	--	--	0.0037
	5/28/2009	EPA 8310	--	--	**0.0042**	0.0023	**0.03**	
	3/24/09	EPA 8310	--	--	--	--	--	--
	11/10/2008	EPA 8310		0.00099				
KA-3	11/23/2009	EPA 8310	**0.00007**	0.0029	0.022	--	**0.033**	0.0025
	8/31/2009	EPA 8310	--	--	--	--	--	--
	6/15/2009	EPA 8310	--	--	--	--	**0.047**	--
	3/24/2009	EPA 8310	--	--	--	--	--	--

Notes: NS = No Standards;
-- = No Detect;
Bold Values represent Values above the applicable standard.
**Samples combined with Annual Sampling Event*

Summary of General Chemistry detected in NAPIS Wells (2008-2009)

Sample ID	Collection Date	Method	Fl (mg/L)	Cl (mg/L)	Nitrate + Nitrate as N	Sulfate	pH	Specific Conductance (mmhos/cm)
Standards	NMWQS		1.6	250	10	600	6 to 9	NS
	EPA MCLS		4	250	10 Nitrate 1 Nitrite	250	6 to 9	10
	RRSL		NS	NS	58 / 3.7	NS	NS	NS
NAPIS 1	11/23/2009	GEN CHEM	1.4	170	1.8	100	7.39	**2000**
	8/11/2009	GEN CHEM	1.2	160	0.54	93	7.67	**1800**
	5/28/2009	GEN CHEM	1.2	150	0.31	71	7.82	**1900**
	3/24/2009	GEN CHEM	0.69	120	--	38	7.69	**2000**
	11/10/2008	GEN CHEM	0.73	160	1.6	63	7.30	**1900**
	9/30/08	GEN CHEM	General Chemistry Parameters not requested					
	7/9/2008	GEN CHEM	1.4	180	--	98	7.27	**1900**
	4/11/2008	GEN CHEM	0.79	170	0.55		7.26	**2000**
NAPIS 2	11/23/2009	GEN CHEM	**1.6**	220	--	13	7.16	**1500**
	8/11/2009	GEN CHEM	**1.7**	250	--	17	7.56	**1500**
	5/28/2009	GEN CHEM	**1.7**	210	0.16	22	7.51	**1400**
	3/24/2009	GEN CHEM	1.5	240	--	23	7.47	**1800**
	11/10/2008	GEN CHEM	1.4	200		32	7.21	**1600**
	9/30/2008	GEN CHEM	General Chemistry Parameters not requested					
	7/9/2008	GEN CHEM	1.1	**270**	--	33	7.18	**2000**
	4/11/2008	GEN CHEM	0.92	**360**	--	42	7	**2100**
NAPIS 3	11/23/2009	GEN CHEM	0.49	**1100**	**15**	**310**	7.91	**4400**
	8/31/2009	GEN CHEM	0.47	**1000**	**14**	<10	8.07	**4000**
	6/15/2009	GEN CHEM	0.46	**1200**	**18**	**330**	8.23	**4200**
	3/25/2009	GEN CHEM	0.3	**1200**	<1.0-14	**340**	8.11	**5200**
	11/10/2008	GEN CHEM	1.1	**1100**	<1.0/2.6	**310**	8.05	**4300**
	9/30/2008	GEN CHEM	Not enough water to sample - DRY					
	7/9/2008	GEN CHEM	0.46	1100	9.1	**270**	8.29	4200
KA 3	11/23/2009	GEN CHEM	0.49	1100	**15**	**370**	7.91	4400
	8/31/2009	GEN CHEM	0.47	1000	**14**	--	8.07	4000
	5/28/2009	GEN CHEM	0.46	1200	**18**	**330**	8.23	4200
	3/25/2009	GEN CHEM	0.43	1200	**14**	**340**	8.11	5200
	11/10/2008	GEN CHEM	1.1	1100		**310**	8.05	4300

Napis 1 & 2: Began sampling in second quarter of 2008. NAPIS 3 began sampling in third quarter 2008. KA-3 began sampling in fourth quarter of 2008.

Notes: NS = No Standards;
-- = No Detect;
Bold Values represent Values above the applicable standard.

Summary of Recoverable Metals in NAPIS Wells (2008-2009)

Sample ID	Collection Date	Method	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Na (mg/L)	Ba (mg/L)	Cr (mg/L)	Pb (mg/L)
Standards	NMWQS		NS	NS	NS	NS	1	0.05	0.05
	EPA MCLS		NS	NS	NS	NS	2	0.1	0.015*
	RRSL		NS	6E-05	NS	NS	7.3	NS	NS
NAPIS 1	11/23/2009	EPA 6010B	58	**13**	3.7	390	0.2	0.0077	--
	8/11/2009	EPA 6010B	56	**11**	1.7	380	0.11	--	--
	5/28/2009	EPA 6010B	57	**11**	--	390	0.091	--	--
	3/24/2009	EPA 6010B	67	**12**	--	340	0.1	--	--
	11/10/2008	EPA 6010B	78	**14**	1.2	390	0.13		
	9/30/2008	EPA 6010B	6010B parameters not analyzed						
	7/9/2008	EPA 6010B	70	**12**	2.1	430			
KA-1R	4/11/2008	EPA 6010B	72	**13**	1.5	370			
NAPIS 2	11/23/2009	EPA 6010B	56	**11**	--	350	**1.1**	--	--
	8/11/2009	EPA 6010B	57	**11**	--	300	0.94	--	--
	5/28/2009	EPA 6010B	51	**9.9**	--	290	0.65	--	--
	3/24/2009	EPA 6010B	53	**10**	--	280	0.76	--	
	11/10/2008	EPA 6010B		**50**	0.0065	9.7	0.42		
	7/9/2008	EPA 6010B	70	**13**	--	360			
KA-2R	4/11/2008	EPA 6010B	110	**19**	1.3	380			
NAPIS 3	11/23/2009	EPA 6010B	46	**8.8**	5.4	930	0.15	0.0072	--
	8/31/2009	EPA 6010B	39	**6.4**	4.0	870	0.092	--	--
	6/15/2009	EPA 6010B	49	**6.8**	4.2	840	0.14	--	--
	3/25/2009	EPA 6010B	47	**6.5**	3.9	880	0.13	--	--
	11/10/2008	EPA 6010B	41	**6.6**	4.4	960			
	9/30/2008	EPA 6010B	Not Enough Water to Sample - Dry						
	7/9/2008	EPA 6010B	65	**7.8**	4.1	910			
KA 3	11/23/2009	EPA 6010B	53	**8.9**	0.73	330	0.22	--	--
	8/31/2009	EPA 6010B	100	**19**	2.0	480	0.55	--	--
	5/28/2009	EPA 6010B	71	**11**	--	330	0.29	--	--
	3/25/2009	EPA 6010B	67	**10**	--	360	0.22	--	--

Notes: NS = No Standards;
-- = No Detect;
Bold Values represent Values above the applicable standard.

Summary of DRO/GRO detected in NAPIS Wells (2008-2009)

Sample ID	Collection Date	Method	DRO (mg/L)	GRO (mg/L)
Standards	NMWQS			
	EPA MCLS			
	RRSL			
	NM TPH Screening Guidelines *		0.2	0.2
NAPIS 1	11/23/2009	EPA 8015B	--	--
	8/11/2009	EPA 8015B	--	--
	5/28/2009	EPA 8015B	--	--
	3/24/2009	EPA 8015B	--	--
	11/10/2008	EPA 8015B	--	--
	9/30/2008	EPA 8015B	--	--
	7/9/2008	EPA 8015B	--	--
KA-1R	4/11/2008	EPA 8015B	--	--
NAPIS 2	11/23/2009	EPA 8015B	**2.7**	**0.78**
	8/11/2009	EPA 8015B	**2.9**	**0.62**
	5/28/2009	EPA 8015B	**3.4**	**0.53**
	3/24/2009	EPA 8015B	**4.3**	**0.37**
	11/10/2008	EPA 8015B	**4**	**0.59**
	9/30/2008	EPA 8015B	**3.9**	**0.45**
	7/9/2008	EPA 8015B	**2.4**	**0.74**
KA-2R	4/11/2008	EPA 8015B	**1.5**	**2.2**
NAPIS 3	11/23/2009	EPA 8015B	--	--
	8/31/2009	EPA 8015B	--	--
	6/15/2009	EPA 8015B	--	--
	3/25/2009	EPA 8015B	--	--
	11/10/2008	EPA 8015B	--	--
	9/30/2008	EPA 8015B	Not enough water - Dry	
	7/9/2008	EPA 8015B	--	--
KA 3	11/23/2009	EPA 8015B	--	0.19
	8/31/2009	EPA 8015B	1.4	**0.52**
	5/28/2009	EPA 8015B	--	**0.32**
	3/25/2009	EPA 8015B	--	0.18
	11/10/2008	EPA 8015B	--	0.15

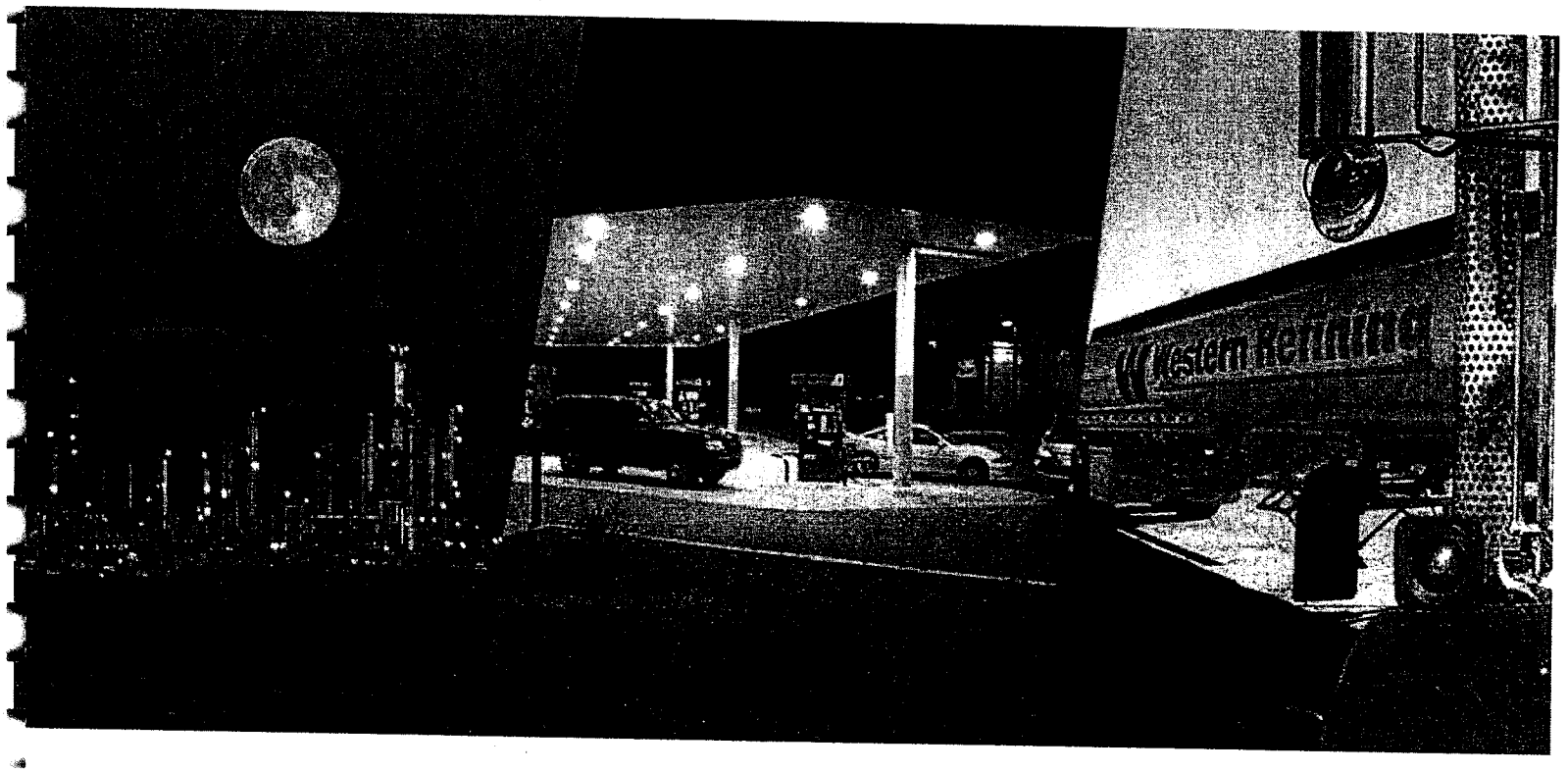
**Limit set by direct ingestion of ground water contaminated with unknown oil. When the exposure from ground water is via inhalation, and not direct ingestion, the TPH guideline for unknown oil is 50 ppm.*

Notes: NS = No Standards;
-- = No Detect;
Bold Values represent Values above the applicable standard.

New Monitoring Wells Installation Report and Initial Sampling Results: Gallup Refinery

Western Refining
Gallup, New Mexico

December 2009



New Monitoring Wells Installation Report and Initial Sampling Results: Gallup Refinery

Western Refining
Gallup, New Mexico

December 2009

Prepared by:

Gaurav Rajen, Ph.D.
Environmental Engineer

Reviewed by:

Ed Riege, M.P.H.
Environmental Manager

Executive Summary

This report, "New Monitoring Wells Installation Report and Initial Sampling results", has been prepared in response to requirements stated in a letter from the New Mexico Environment Department's Hazardous Waste Bureau dated May 28, 2009 (see Appendix A). This report contains the well logs, well construction details, survey data, and initial sampling results.

Well OW-50 is located north and slightly west of existing wells OW-29 and OW-30. This well is located at coordinates - **N 35° 29' 44.9" and W 108° 25' 25.0"** This well is constructed to a depth of 63 feet. The water-bearing sand and gravel layer (of interest to this project and as mandated by NMED/HWB) was encountered at approximately 53 feet below the ground surface. A screen of 15 feet in length (screen size of 0.01 inches) exists from a depth (below ground surface) of 48 feet to 63 feet. This screen is located from 5 feet above and 10 feet below the groundwater upper surface.

Well OW-52 is located farther west of OW-50, and almost due north from existing well OW-13. This well is located at coordinates - **N 35° 29' 47.0" and W 108° 25' 31.1"**. This well is constructed to a depth of 79 feet. The water-bearing sand and gravel layer (of interest to this project and as mandated by NMED/HWB) was encountered at approximately a little less than 70 feet below the ground surface. A screen of 15 feet in length (screen size of 0.01 inches) exists from a depth (below ground surface) of 64 feet to 79 feet. This screen is located from approximately 5 feet above and approximately 10 feet below the groundwater upper surface.

Water samples were obtained on November 17, 2009, and tested for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), RCRA 8 metals, gasoline range organics (GRO), diesel range organics (DRO) extended. The data are presented in the report. No VOCs, SVOCs, GRO, or DRO were detected. Only the metal Barium was detected in the samples.

Table 1 presents the current sampling schedule for these wells. These two wells have been added to the facility-wide groundwater monitoring plan.

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Introduction

This report, "New Monitoring Wells Installation Report and Initial Sampling results", has been prepared in response to requirements stated in a letter from the New Mexico Environment Department's Hazardous Waste Bureau dated May 28, 2009 (see Appendix A).

This report contains the well logs, well construction details, survey data, and initial sampling results.

These two wells have been installed as a part of groundwater monitoring program at the Gallup Refinery to assess the nature and extent of potential impacts to groundwater from historic refinery operations, as well as become quickly aware of any levels of contaminants found in groundwater that exceed compliance standards.

1.1. Facility Ownership and Operation

This Plan pertains to the Western Refining Southwest Inc. Gallup Refinery located at Exit 39 on Interstate I-40. This refinery is known as the Gallup Refinery and is located at Jamestown New Mexico, approximately 17 miles east of Gallup. Figure 1 shows the regional location of the Gallup Refinery.

The owner is:

	Western Refining	(parent corporation)
	123 W. Mills Avenue	
	El Paso, TX 79901	
Operator:	Western Refining Southwest Inc	(postal address)
	Route 3, Box 7	
	Gallup, New Mexico 87301	
	Western Refining Southwest Inc	(physical address)
	I-40, Exit 39	
	Jamestown, New Mexico 87347	

SIC code 2911 (petroleum refining) applies to the Gallup Refinery.

The following regulatory identification and permit governs the Gallup Refinery:

- U.S. EPA ID Number NMD000333211
- OCD Discharge Permit No. GW-032

The facility status is corrective action/compliance. Annual and quarterly groundwater sampling is conducted at the facility to evaluate present contamination.

The refinery is situated on an 810 acre irregular shaped tract of land that is substantially located within the lower one quarter of Section 28 and throughout Section 33 of Township 15 North, Range 15 West of the New Mexico Prime Meridian. A small component of the property lies within the northeastern one quarter of Section 4 of

Township 14 North, Range 15 West. Figure 2 is a topographic map showing the general layout of the refinery in comparison to the local topography.

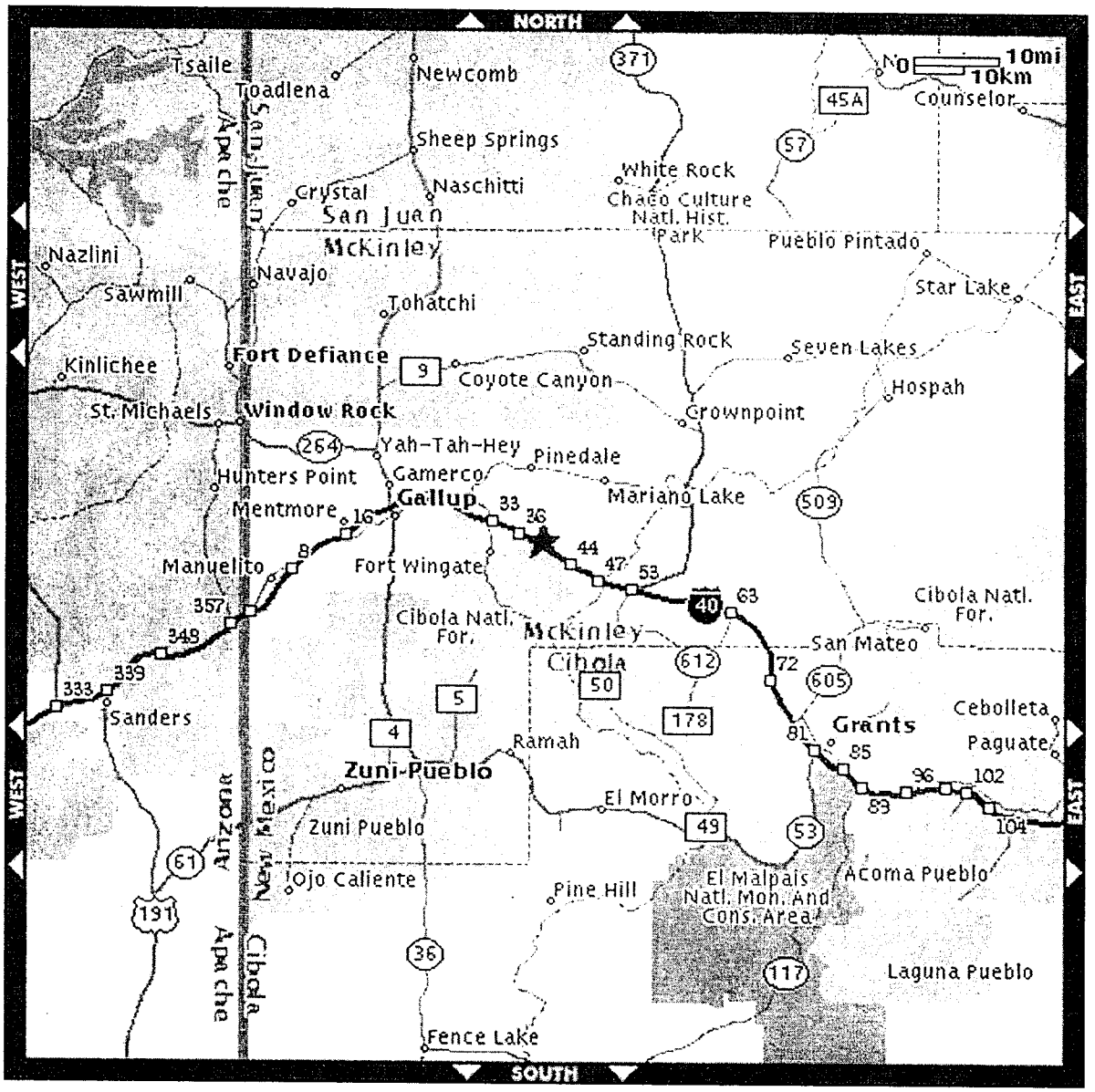

Figure 1: Regional map showing the location of the Gallup Refinery (red star along Interstate-40, 20 miles east of the City of Gallup).

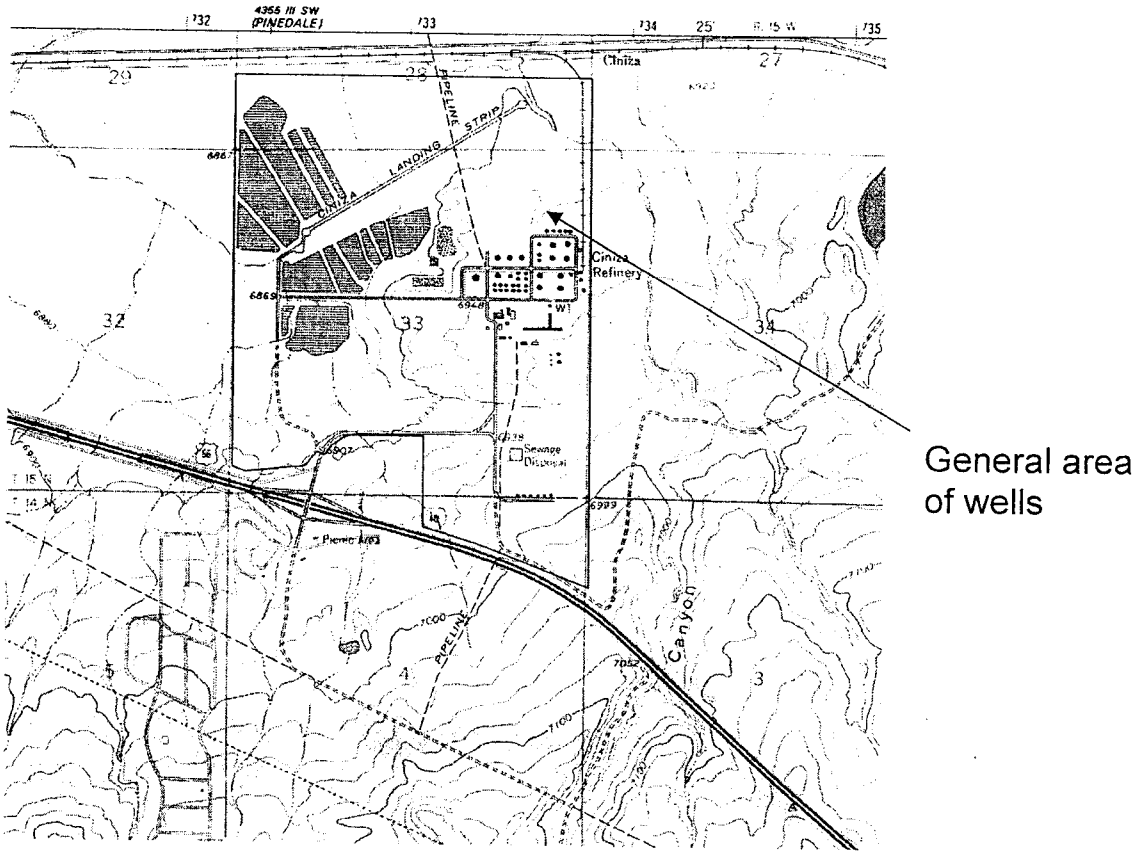

Figure 2: Topographic Map of the Gallup Refinery Site - USGS Topographical Map - Gallup Quadrangle (Revised 1980)

Well Locations, Installation and Construction Details

AMEC Earth and Environmental Inc. (AMEC) is the company contracted by Western Refining to carry out the well installation and initial sample collection. Two new monitoring wells have been installed. These wells have been designated as OW-50 and OW-52 (described below). A copy of the driller's logs and well construction details are provided in Appendix B in a report prepared by AMEC. [1]

Initial drilling activities commenced on October 1, 2009. Drilling was completed on October 5, 2009, and the wells were fully developed within 10 days of being drilled (as mandated by the NMED/HWB) by October 9, 2009. Figure 3 depicts their locations. Adjacent to both of the completed wells, about 10 feet away, initial borings were abandoned because of difficulties encountered with swelling clay and the preliminary use of an air rotary drill with insufficient depth penetrating capability. Drilling was completed using a hollow stem auger and the CME-75 truck-mounted drill.

During drilling, cutting soils were tested with a photo-ionization detector (PID). There were non-detectable levels in all soils other than at the location of OW-50, at which location soils from 35-45 feet depth were found to give a vapor concentration of 1 ppm. As groundwater occurs at 53 feet it possible that the PID was detecting methane from the decomposition of organic matter. The analytical results do not show any hydrocarbons, VOCs or SVOCs in groundwater. Given the low levels of hydrocarbons detected by the PID, soils were disposed on-site.

For both of these completed wells the casing is made of Schedule 40 PVC of 2 inches diameter. The backfill is an expansive grout, the seal is bentonite, and the filter pack is 10/20 silica sand.

Well OW-50 is located north and slightly west of existing wells OW-29 and OW-30. This well is located at coordinates - **N 35° 29' 44.9" and W 108° 25' 25.0"** The ground surface elevation is 6929 feet. This well is constructed to a depth of 63 feet. The water-bearing sand and gravel layer (of interest to this project and as mandated by NMED/HWB) was encountered at approximately 53 feet below the ground surface. A screen of 15 feet in length (screen size of 0.01 inches) exists from a depth (below ground surface) of 48 feet to 63 feet. This screen is located from 5 feet above and 10 feet below the groundwater upper surface. Figure 4 shows some of the material from this location at 55 feet.

Well OW-52 is located farther west of OW-50, and almost due north from existing well OW-13. This well is located at coordinates - **N 35° 29' 47.0" and W 108° 25' 31.1"**. The ground surface elevation is 6823 feet. This well is constructed to a depth of 79 feet. The water-bearing sand and gravel layer (of interest to this project and as mandated by NMED/HWB) was encountered at approximately a little less than 70 feet below the

[1] The drillers log describes OW-50 as MW-2A, and OW-52 as MW-1A.

ground surface. A screen of 15 feet in length (screen size of 0.01 inches) exists from a depth (below ground surface) of 64 feet to 79 feet. This screen is located from approximately 5 feet above and approximately 10 feet below the groundwater upper surface.

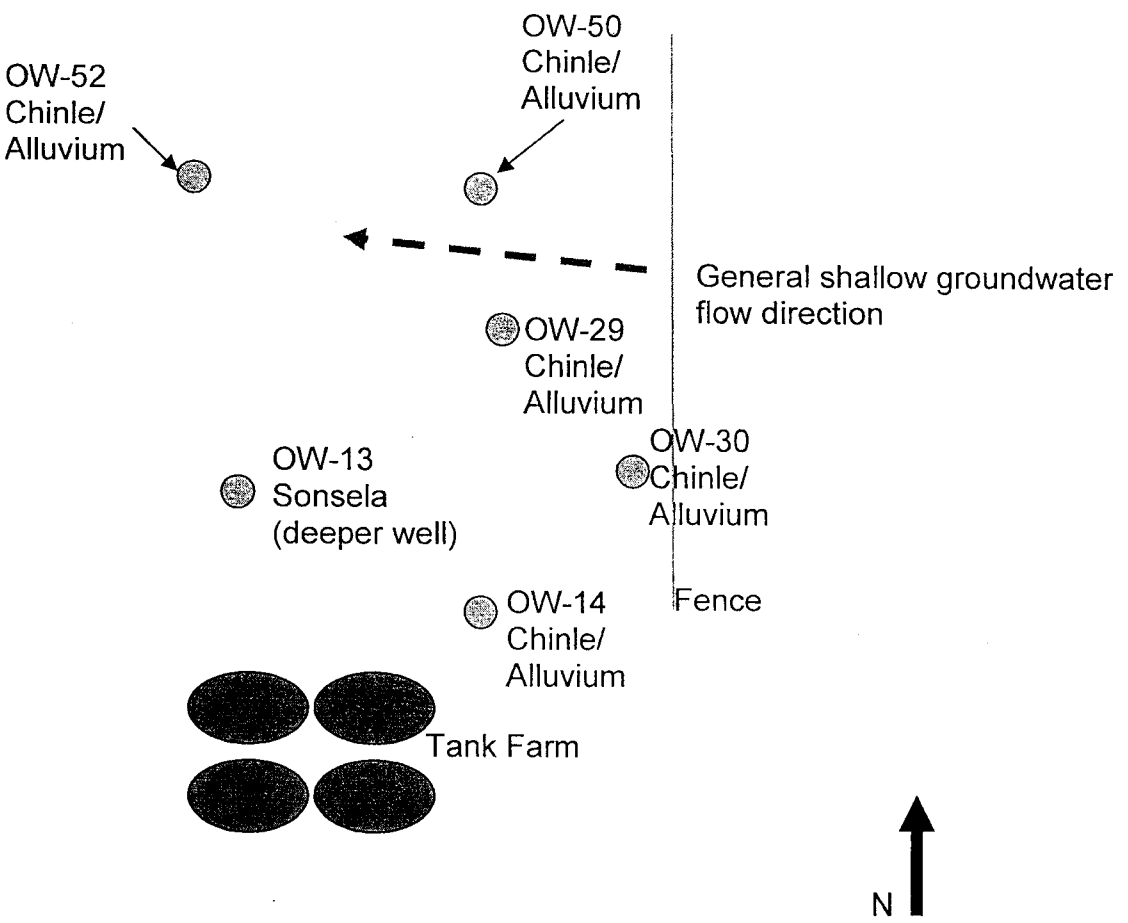

Figure 3: General locations of wells OW-50 and OW-52, including other nearby existing monitoring wells at the Gallup Refinery

Figure 4: A photograph of material from OW-50 of a water-bearing sandstone and gravel layer at 55 feet

Sampling Activities and Results

Groundwater sample collection was conducted on November 17, 2009, by AMEC personnel. Table 1 describes the analytical tests specified by the NMED/HWB. The field notes and logs are provided in Appendix C. Purged groundwater was assumed clean and disposed off at the well site by AMEC personnel. In the future, Western Refining will ensure that purged groundwater is disposed off in the refinery's wastewater treatment system if it is of unknown quality.

Table 1: Summary of sampling locations, frequencies, and tests required

LOCATION	FREQUENCY	TEST METHOD
OW-50	Quarterly	VOCs (8260B) , SVOCs (8310), DRO extended, GRO(8015B), RCRA 8 metals, and GEN CHEM
OW-52	Quarterly	VOCs (8260B) , SVOCs (8310), DRO extended, GRO(8015B), RCRA 8 metals, and GEN CHEM

The analytical results are attached in Appendix D. All the results have shown **non-detectable levels of hydrocarbons, VOCs, and SVOCs**. The only metal detected was **Barium – at 0.042 ppm in well OW-50, and 0.027 ppm in well OW-52**. **All other metals are at non-detectable levels**. Although AMEC personnel had planned to also test for general chemistry parameters, this was not specified as a required test due to an oversight. In the next quarter we will ensure that general chemistry parameters are also tested.

The levels of Barium are higher in OW-50 which is located at the edge of the refinery property and which is monitoring shallow groundwater flowing in from off-site. The levels of Barium are lower at OW-52 which is more within the refinery property. It is unlikely, therefore, that the trace levels of Barium we are finding are linked to the refinery's activities.

As stated by the US Environmental Protection Agency in a Technical fact Sheet on Barium[2], background levels in the US for soils range from 100-3000 ppm of barium. Barium occurs naturally in almost all (99.4%) surface waters examined, in concentrations of 0.002 to 0.340 ppm, with an average of 0.043 ppm. The drinking water Maximum Contaminant level is 2 ppm. The drinking water of many communities in New Mexico contains concentrations of barium that may be 10 times higher than the drinking water standard.

[2] US EPA, Technical fact Sheet – Barium
available at: http://www.epa.gov/ogwdw000/pdfs/factsheets/ioc/tech/barium.pdf

Conclusions

Two new monitoring wells have been established in a shallow sand and gravel layer as required by the NMED/HWB.

A set of sampling results have established that all levels of hydrocarbons, VOCs, and SVOCs are at non-detectable levels. All metals are at non-detectable levels, other than Barium at generally expected naturally-occurring levels.

9 December 2009
AMEC Project No. 9-517-000057

Ms. Michelle Young
Western Refining: Gallup Refinery
Route 3, Box 7
Gallup, NM 87301

Re: Letter Report for Monitoring Well Construction

Dear Ms. Young:

AMEC Earth and Environmental, Inc. (AMEC) is pleased to submit this letter report documenting groundwater monitoring well activities at the Western Refinery facility located near Gallup, New Mexico.

Site Background

The project site is located at the Gallup Refinery located north of I-40. The area to the north of the existing refinery consists of an open area. Access roads run through these open areas in the northeast portion of the property. Previously constructed monitor wells are located throughout the property.

Investigation Activities Conducted

AMEC drilled two (2) groundwater monitor wells (MW-1A, MW-2A) to depths of between 50 and 79 feet using a CME-75 truck mounted drill rig in the northeast corner of the property. A site plan showing the location of the new monitoring wells is attached.

The original two monitor wells (MW-1, MW-2) were abandoned due to difficult subsurface conditions. Two replacement wells were drilled (MW-1A, MW-2A). Soil samples from MW-1 and MW-2 were obtained at several depth intervals and tested for VOC's with a photo ionization detector (PID). Results are shown in Table 1 below.

Table 1
Photo Ionization Detector (PID) Results
Collected on October 1 and 2, 2009

Sample Depth (ft)	MW-1	Sample Depth (ft)	MW-2
60	ND**	5	ND
65	ND	10	ND
70	ND	15	ND
		20	ND
		25	ND
		30	ND
		35	1.1*
		40	1.1
		45	1.1

* Concentration in parts per million (ppm)
** ND = Not detected within limits of PID

If you have questions regarding the information contained within this letter report, please do not hesitate to contact us at 505.821.1801. AMEC appreciates the opportunity to provide Phase 2 investigation and reporting services to Vigil and Associates and looks forward to working with you again.

Best Regards,

AMEC Earth and Environmental, Inc.

Jeff Cotter for

Lee J. Mitchell, P.E.
Project Engineer

Ralph E. Crockett, P.E.
Senior Geotechnical Engineer

Copies: Addressee (3)

AMEC Earth & Environmental, Inc.
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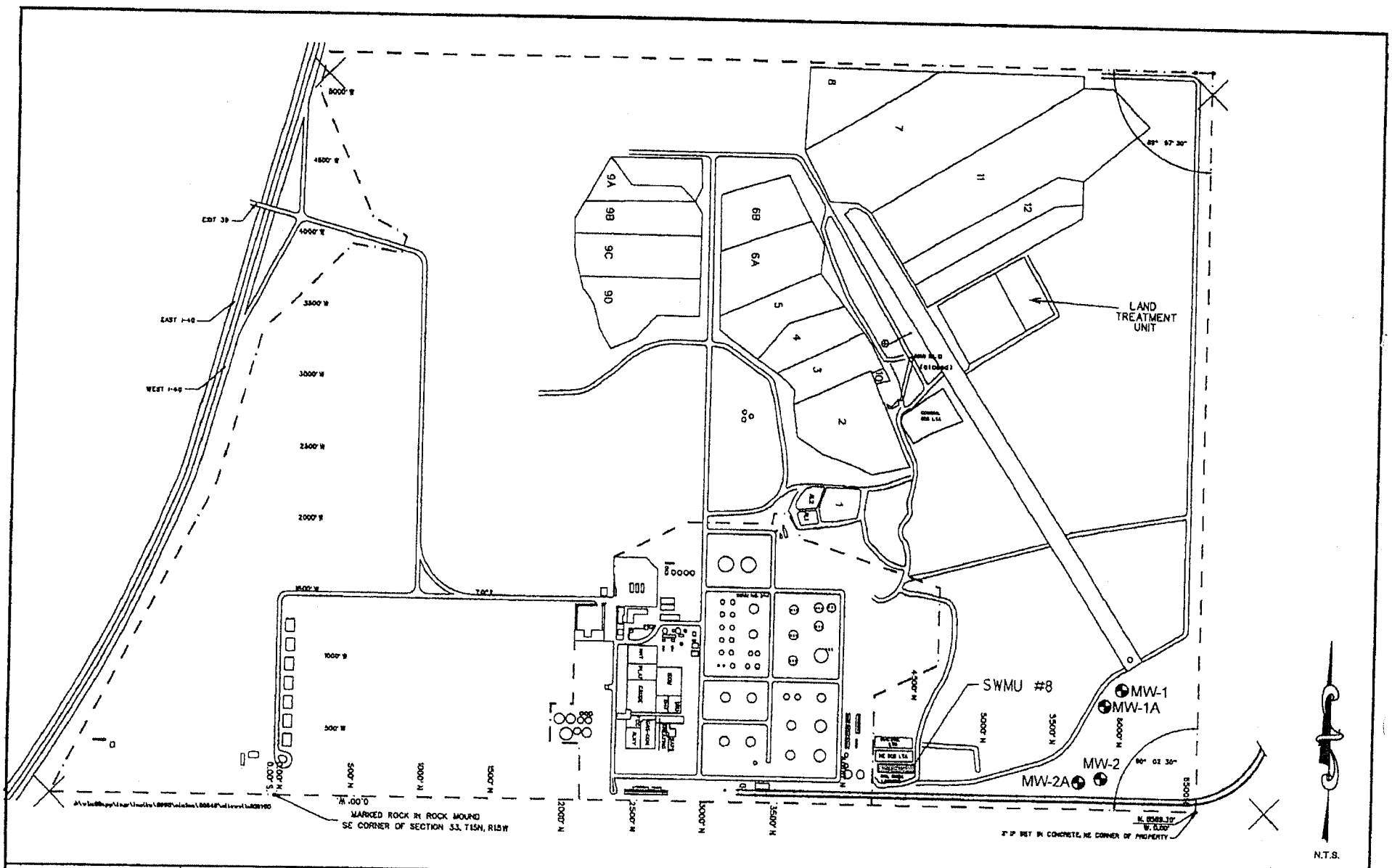
Albuquerque, New Mexico 87113
Telephone: 505/821-1801
Fax: 505/821-7371
www.amec.com

APPENDIX A

SITE PLAN

SOIL BORING LOGS

WELL CONSTRUCTION DIAGRAMS



CLIENT LOGO	CLIENT: WESTERN REFINERIES	DWN BY: BDP	PROJECT: GALLUP REFINERY	REV. NO.: A
		CHK'D BY: N/A		DATE: NOV 2009
AMEC Earth & Environmental 3519 Jefferson Rd NE Albuquerque, New Mexico 87113	amec	DATUM: N/A	TITLE: SOIL BORING LOCATION PLAN	PROJECT NO: 9-517-000057
		PROJECTION: N/A		FIGURE No. 1
		SCALE: AS SHOWN		

GROUNDWATER PURGE AND SAMPLING FIELD DATA SHEET

1. PROJECT INFORMATION

WELL ID: OW-50

Project Number: 9-517-057 Task Number: _____ Date: 11/17/09 Time: 12:30

Client: Western Refinery Personnel: J. Cotter

Project Location: Western Refinery - GALLUP Weather: Clear 50°F

2. WELL DATA

Casing Diameter: 2" inches Type of Casing: PVC

Screen Diameter: 2" inches (d) Type of Screen: PVC Screen Length: 15

Total Depth of Well from TOC: 63' feet

Depth to Static Water from TOC: 18.20 feet

Depth to Product from TOC: N/A feet

Length of Water Column (h): 44.8 feet Calculated Casing Volume: 7.6 gal (3 to 5 times one well volume)

Purge Volume Calculation (one casing volume = 0.041d²h):

23 9915

Note: 2-inch well = 0.167 gal/ft 4-inch well = 0.667 gal/ft

3. PURGE DATA

Purge Method: MonSoon Pump

Materials: Pump/Bailer _____

Materials: Rope/Tubing _____

Was well purged dry? ☐ Yes ☐ No Pumping Rate: _____ gal/min

Equipment Model(s)

1. _____

2. _____

Time	Cum. Gallons Removed	pH	Temp (Units)	Spec. Cond. (Units)	Eh (Units)	DO (Units)	Turbidity (NTU)	Other: ORP	Comments
12:56	3	7.79	12.47	638		0.56		-22.9	Purge Start
13:03	7	7.82	12.50	661		0.06		-23.3	Clear
13:08	12	7.83	12.50	668		0.04		-22.2	mostly Clear
13:18	22	7.84	12.50	674		0.03		-21.3	clear
13:19	23	7.84	12.50	674		0.03		-21.3	Sample End.

4. SAMPLING DATA

Method(s): MonSoon + Flow Cell

Materials: Pump/Bailer ↔

Materials: Tubing/Rope — Poly Tubing

Depth to Water at Time of Sampling: _____ Field Filtered? ☑ Yes ☐ No

Sample ID: OW-50 Sample Time: 13:20 # of Containers: 8

Duplicate Sample Collected? ☐ Yes ☑ No ID:

Analyses Requested:

6010 C

8260 B

8270

8015B - GRO - DRO

5. COMMENTS

GROUNDWATER PURGE AND SAMPLING FIELD DATA SHEET

1. PROJECT INFORMATION

WELL ID: OW-52

Project Number: 9-517-057 Task Number: _____ Date: 11/17/09 Time: 11:17

Client: Western Refinery Personnel: J. Cotter

Project Location: GALLUP, NM Weather: Clear 40°F

2. WELL DATA

Casing Diameter: 2" inches Type of Casing: PVC

Screen Diameter: 2" inches (d) Type of Screen: CO 10 PVC Screen Length: 15'

Total Depth of Well from TOC: 79' feet

Depth to Static Water from TOC: 16.75 feet

Depth to Product from TOC: NA feet

Length of Water Column (h): 62.25 feet Calculated Casing Volume: 10 gal (3 to 5 times one well volume)

Purge Volume Calculation (one casing volume = 0.041d²h): 3 | 9 9 15

Note: 2-inch well = 0.167 gal/ft 4-inch well = 0.667 gal/ft

3. PURGE DATA

Purge Method: Monsoon Pump Equipment Model(s)

Materials: Pump/Bailer _____ 1. _____

Materials: Rope/Tubing _____ 2. _____

Was well purged dry? ☐ Yes ☐ No Pumping Rate: 1.5 gal/min

Time	Cum. Gallons Removed	pH	Temp (Units)	Spec. Cond. (Units)	Eh (Units)	DO (Units)	Turbidity (NTU)	Other: ORP	Comments	
11:45	5	7.97	12.24	665		0.20		-87.5	Muddy	START
11:55	15	7.89	12.21	667		0.05		-60.6	Clear	
12:05	25	7.84	12.19	671		0.03		-58.1	Clear	
12:10	30	7.83	12.19	674				-56.5	"	End Purge

4. SAMPLING DATA

Method(s): Monsoon + Flow Cell

Materials: Pump/Bailer _____

Materials: Tubing/Rope POLY - Tubing

Depth to Water at Time of Sampling: _____ Field Filtered? ☑ Yes ☐ No

Sample ID: OW-52 Sample Time: 12:30 # of Containers: 8

Duplicate Sample Collected? ☐ Yes ☑ No ID:

Analyses Requested:

8260B - VOCs

8270 - SVOCs

RCRA Metals 6010

DRO GRO 8015

5. COMMENTS

1L AMBER = 8270 SVOCS

Chain-of-Custody Record

Client: Western Refining - Gallup

Mailing Address: Route 3, Box 7
Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other ______

☐ EDD (Type) ______

Turn-Around Time:
☑ Standard ☐ Rush ______

Project Name: New Monitoring Wells

Project #:

Project Manager: Gaurav Rajen

Sampler:

On Ice: ☐ Yes ☐ No

Sample Temperature:

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
11-17-09	12:20	H_2O	OW-50	6 x 40ml's 1 x 1L 1 x 120ml's	$HgCl_2$	
11-17-09	13:20	H_2O	OW-50	" "	+ HNO_3	

Analysis Request

Sample	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	6010C RCRA metals	8015B GRO/DRO			Air Bubbles (Y or N)
OW-50 (12:20)										X	X	X	X			
OW-50 (13:20)										X	X	X	X			

Date	Time	Relinquished by	Received by	Date	Time
11-17-09	1600	[signature]	[signature]		1600

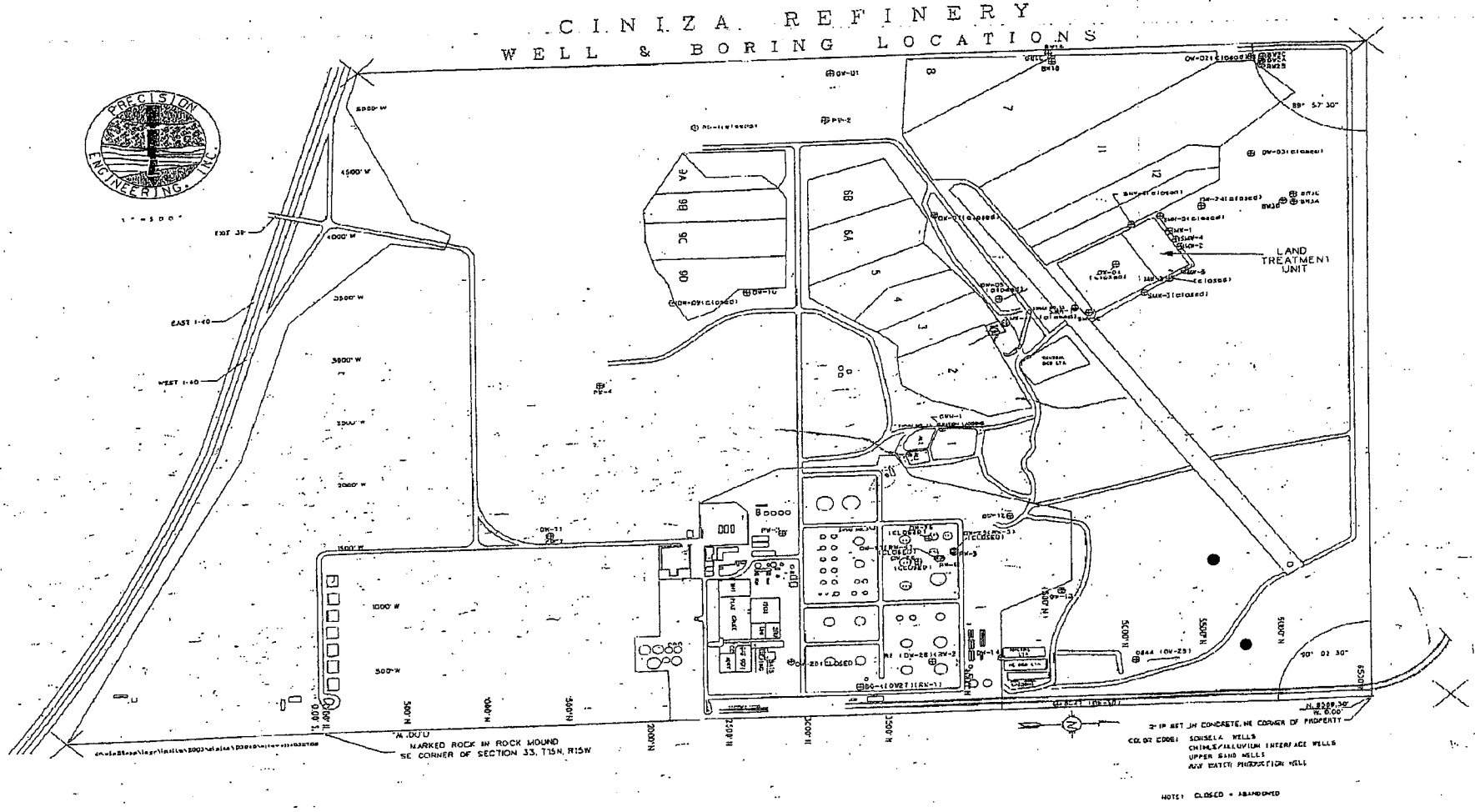
Remarks:
Bill TO Western Refining - Gallup
Per Gaurav Rajen

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.

Figure 1

Monitoring Well Location ●

Monitoring well locations are approximate



PROJECT Gallup Refinery Monitoring Wells
Gallup, New Mexico

JOB NO. 9517-000057 DATE 10/5/09

LOG OF TEST BORING NO. MW-1

LOCATION See Site Plan
RIG TYPE CME-75
BORING TYPE Air Rotary
SURFACE ELEV.
DATUM

Depth in Feet	Continuous Penetration Resistance	Graphic Soil Log	Sample	Sample Type	Blows/6-in. 140 lb. 30" free-fall drop hammer	Downhole LEL/PID	Headspace PID (ppm)	Unified Soil Classification	ANALYTICAL SAMPLE NUMBER	VISUAL CLASSIFICATION
0								SM		**SILTY SAND**, fine grained, reddish-brown
5				BS				CH	PID - 0	**CLAY**, high plasticity, red-brown, moist
10				BS						
15				BS						
20				BS						
▼ 25				BS						
30				BS						
35				BS						
40				BS				CH	PID - 0	**CLAY**, trace of silt and sand, high plasticity, dark brown, moist trace of gravel at 41', gravel up to 1/4"
45				BS				CH	PID - 0	**CLAY**, some silt, high plasticity, pink-brown, moist
50										

ENV BH NO WELL 9517-057 GALLUP REFINERY GPJ AGRA_ALB.GDT 12/9/09

GROUNDWATER

	DEPTH	HOUR	DATE
▽	70.7	16:30	10/1/09
▼	25.4	7:30	10/2/09

SAMPLE TYPE

A-ANALYTICAL SAMPLE
BS-BULK SAMPLE

PROJECT Gallup Refinery Monitoring Wells
Gallup, New Mexico

JOB NO. 9517-000057 **DATE** 10/5/09

LOG OF TEST BORING NO. MW-1

LOCATION See Site Plan
RIG TYPE CME-75
BORING TYPE Air Rotary
SURFACE ELEV.
DATUM

Depth in Feet	Continuous Penetration Resistance	Graphic Soil Log	Sample	Sample Type	Blows/6-in. 140 lb. 30" free-fall drop hammer	Downhole LEL/PID	Headspace PID (ppm)	Unified Soil Classification	ANALYTICAL SAMPLE NUMBER	VISUAL CLASSIFICATION
50				BS				CH	PID - 0.0	**CLAY**, some silt, high plasticity, pink-brown, moist trace of calcareous cementation nodules at 50' - 59'
55				BS						
60				BS				CH	PID - 0.0	**CLAY**, some silt, some calcareous cementation nodules, high plasticity, light purple
65									PID - 0.0	pink-brown at 64' - 67' light purple at 67'
▽ 70									PID - 0.0	**SILTY SAND TO SAND**, fine grained, nonplastic, light purple and white, some calcareous cementation nodules, very moist at 72' - 74'
75										End of boring at 74'
80										
85										
90										
95										
100										

ENV BH NO WELL 9517-057 GALLUP REFINERY.GPJ AGRA_ALB.GDT 12/9/09

GROUNDWATER

	DEPTH	HOUR	DATE
▽	70.7	16:30	10/1/09
▼	25.4	7:30	10/2/09

SAMPLE TYPE

A-ANALYTICAL SAMPLE
BS-BULK SAMPLE

PROJECT Gallup Refinery Monitoring Wells
Gallup, New Mexico

JOB NO. 9517-000057 DATE 10/2/09

LOG OF TEST BORING NO. MW-2

LOCATION N35° 29' 45.1", W 108° 25' 25"
RIG TYPE CME-75
BORING TYPE Air Rotary
SURFACE ELEV. 6748.00
DATUM

Depth in Feet	Continuous Penetration Resistance	Graphic Soil Log	Sample	Sample Type	Blows/6-in. 140 lb. 30" free-fall drop hammer	Downhole LEL/PID	Headspace PID (ppm)	Unified Soil Classification	ANALYTICAL SAMPLE NUMBER	VISUAL CLASSIFICATION
0								CH		CLAY, high plasticity, reddish-brown
5				BS					PID - 0.0	
10				BS					PID - 0.0	
15				BS					PID - 0.0	
20				BS					PID - 0.0	
25				BS					PID - 0.0	
30				BS					PID - 0.0	
35				BS					PID - 1.1 ppm	
40				BS					PID - 1.0 ppm	trace of calcareous cementation at 40', dark brown
45				BS					PID - 1.1 ppm	
50										

ENV BH NO WELL 9517-057 GALLUP REFINERY.GPJ AGRA_ALB.GDT 12/9/09

GROUNDWATER

	DEPTH	HOUR	DATE
▽	none		
▼			

SAMPLE TYPE

A-ANALYTICAL SAMPLE
BS-BULK SAMPLE

PROJECT Gallup Refinery Monitoring Wells
Gallup, New Mexico

JOB NO. 9517-000057 **DATE** 10/2/09

LOG OF TEST BORING NO. MW-2

LOCATION N35° 29' 45.1", W 108° 25' 25"
RIG TYPE CME-75
BORING TYPE Air Rotary
SURFACE ELEV. 6748.00
DATUM

Depth in Feet	Continuous Penetration Resistance	Graphic Soil Log	Sample	Sample Type	Blows/6-in. 140 lb. 30" free-fall drop hammer	Downhole LEL/PID	Headspace PID (ppm)	Unified Soil Classification	ANALYTICAL SAMPLE NUMBER	VISUAL CLASSIFICATION
50										Borehole plugged at 50' due to swelling clay
55										
60										
65										
70										
75										
80										
85										
90										
95										
100										

ENV BH NO WELL 9517-057 GALLUP REFINERY.GPJ AGRA_ALB.GDT 12/9/09

GROUNDWATER

	DEPTH	HOUR	DATE
▽	none		
▼			

SAMPLE TYPE

A-ANALYTICAL SAMPLE
BS-BULK SAMPLE

Figure 1: OW-52 – looking east

Figure 2: OW-52 with cover off.

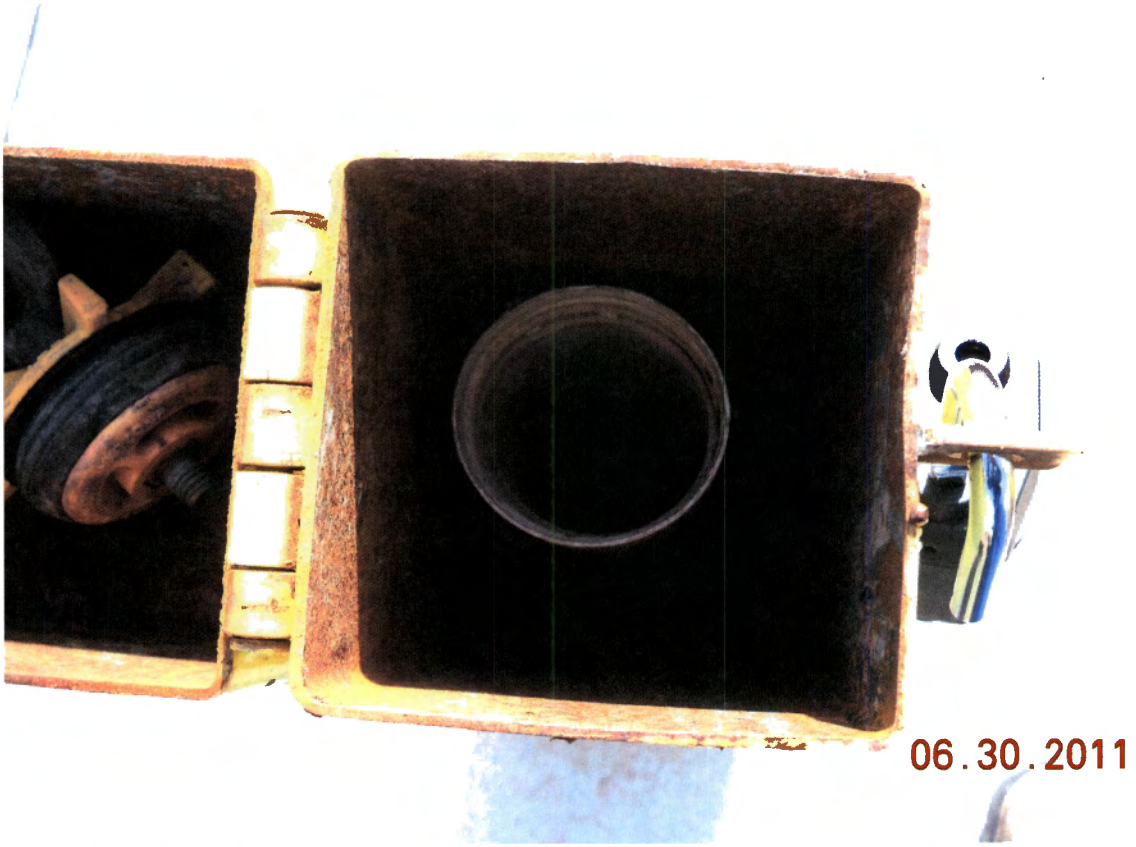


Figure 3: OW-52 pipe plug off.

Figure 4: OW-52 with pipe plug on.

Figure 5: OW-50 – looking northeast.

Figure 6: OW-50 – looking northeast uncovered.

Figure 7: OW-50 top view

Figure 8: OW-50 with cap off

Johnson, Cheryl

From: Andy Freeman [andy@hallenvironmental.com]
Sent: Wednesday, May 18, 2011 9:40 AM
To: Johnson, Cheryl; Riege, Ed
Cc: Larsen, Thurman
Subject: RE: OCD Comments

Ed,

Hall Environmental has reviewed the two lab orders (0812512 and 0906596) and we find no issues regarding QA/QC with these two reports. According to Cheryl Johnson, these are the only two lab order #'s listed in appendix K. If OCD or Western Refining would like us to review any other lab order #'s please let us know. Hall Environmental follows strict QA/QC guidelines. Hall Environmental just completed its 2011 NELAC on-site audit and received the following comments from the auditors:

"We would like to thank the management and staff for their hospitality, openness, and honesty during the on-site assessment conducted at Hall Environmental Analysis Laboratory located in Albuquerque, NM on April 5-7th. The on-site assessment was conducted to fulfill the NELAC requirement following a renewal application."

"We found Hall to have an excellent Quality System with analysts and managers that are truly dedicated to quality data. The training files were very complete; the sample receiving personnel were impeccable in their documentation of conversations and changes made by customers over the phone. The internal audits and management reviews were thorough and done with a true spirit of improvement of the lab's processes. All of the analysts went out of their way to be fully available for interviews and that was greatly appreciated given our time constraints. We know how much an audit can disrupt a lab's work flow, and we are grateful for your efforts."

Thank you,

Andy Freeman
Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
505-345-3975
505-345-4107 fax
andy@hallenvironmental.com
www.hallenvironmental.com
** Hall Environmental is now testing for BOD, total coliform, and E.coli enumeration in-house.

-----Original Message-----
From: Johnson, Cheryl [mailto:Cheryl.Johnson@wnr.com]
Sent: Wednesday, May 18, 2011 8:39 AM
To: Andy Freeman; Riege, Ed
Cc: Larsen, Thurman
Subject: RE: OCD Comments

Morning Andy: Order #s are 0812512 dated 1-5-09 and 0906596 dated 7-10-09.

Thanks, cj

Cheryl Johnson
Environmental Specialist

Western Refining - Gallup Refinery
Route 3 Box 7

Gallup, NM 87301
505 722 0231 Direct
505 722 0210 Fax
505 722 3833 Main
cheryl.johnson@wnr.com

-----Original Message-----
From: Andy Freeman [mailto:andy@hallenvironmental.com]
Sent: Wednesday, May 18, 2011 8:32 AM
To: Riege, Ed
Cc: Johnson, Cheryl; Larsen, Thurman
Subject: RE: OCD Comments

Hi Ed,

I will certainly prepare a response for you on this. Could you provide the lab order #?

Thank you,

Andy Freeman
Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
505-345-3975
505-345-4107 fax
andy@hallenvironmental.com
www.hallenvironmental.com
** Hall Environmental is now testing for BOD, total coliform, and E.coli enumeration in-house.

-----Original Message-----
From: Riege, Ed [mailto:Ed.Riege@wnr.com]
Sent: Wednesday, May 18, 2011 7:31 AM
To: Andy Freeman
Cc: Johnson, Cheryl; Larsen, Thurman
Subject: OCD Comments

Andy,
We received a letter yesterday addressing our 2009 Groundwater Annual Report. Please see OCD Comment 3 on the attached pg 15 of this report. Please prepare a response for Gallup to use to address this with OCD.

Thanks
Ed

Ed Riege
Environmental Manager

Western Refining
Gallup Refinery
Route 3 Box 7
Gallup, NM 87301
(505) 722-0217
ed.riege@wnr.com