District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
Revised June 6, 2013

For temporary pits, below-grade tanks, and multi-well fluid management pits, submit to the appropriate NMOCD District Office.
For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

15901

Pit, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application

Type of action:
- ☐ Below grade tank registration
- ☒ Permit of a pit or proposed alternative method
- ☒ Closure of a pit, below-grade tank, or proposed alternative method
- ☐ Modification to an existing permit/or registration
- ☐ Closure plan only submitted for an existing permitted or non-permitted pit, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

OIL CONS. DIV DIST. 3
FEB 03 2017

1.
Operator: Western Refining Southwest, Inc. OGRID #: 26595
Address: #50 County Road 4990, Bloomfiled, NM 87413
Facility or well name: WDW #2
API Number: 30-045-35747 OCD Permit Number:
U/L or Qtr/Qtr H SE/NE Section 27 Township 29N Range 11W County: San Juan
Center of Proposed Design: Latitude N36.698609 Longitude W107.970351 NAD: ☐ 1927 X 1983
Surface Owner: ☐ Federal ☐ State X Private ☐ Tribal Trust or Indian Allotment

2.
X **Pit:** Subsection F, G or J of 19.15.17.11 NMAC
Temporary: X Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A ☐ Multi-Well Fluid Management Low Chloride Drilling Fluid X yes ☐ no
☐ Lined ☐ Unlined Liner type: Thickness 20 mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other
X String-Reinforced
Liner Seams: X Welded ☐ Factory ☐ Other Volume: 18,077 bbl Dimensions: L 145' x W 70 x 10'

3.
☐ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: bbl Type of fluid:
Tank Construction material:
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other
Liner type: Thickness mil ☐ HDPE ☐ PVC ☐ Other

4.
☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

5.
Fencing: Subsection D of 19.15.17.11 NMAC *(Applies to permanent pits, temporary pits, and below-grade tanks)*
☐ Chain link, six feet in height, two strands of barbed wire at top *(Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)*
☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet
X Alternate. Please specify Plan to utilize existing fencing

52

6.

Netting: Subsection E of 19.15.17.11 NMAC *(Applies to permanent pits and permanent open top tanks)*

☐ Screen ☐ Netting ☐ Other_____

☐ Monthly inspections (If netting or screening is not physically feasible)

7.

Signs: Subsection C of 19.15.17.11 NMAC

☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

X Signed in compliance with 19.15.16.8 NMAC

8.

Variances and Exceptions:

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

☒ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.

☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

9.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. **Siting criteria does not apply to drying pads or above-grade tanks.**

General siting

Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank. ☒ Yes ☐ No ☐ NA
- ☐ NM Office of the State Engineer - iWATERS database search; ☐ USGS; ☒ Data obtained from nearby wells

Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit . ☒ Yes ☐ No ☐ NA
NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. **(Does not apply to below grade tanks)** ☐ Yes ☒ No
- Written confirmation or verification from the municipality; Written approval obtained from the municipality

Within the area overlying a subsurface mine. **(Does not apply to below grade tanks)** ☐ Yes ☒ No
- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division

Within an unstable area. **(Does not apply to below grade tanks)** ☐ Yes ☒ No
- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map

Within a 100-year floodplain. **(Does not apply to below grade tanks)** ☐ Yes ☒ No
- FEMA map

Below Grade Tanks

Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark). ☐ Yes ☐ No
- Topographic map; Visual inspection (certification) of the proposed site

Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;. ☐ Yes ☐ No
- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

Temporary Pit using Low Chloride Drilling Fluid (maximum chloride content 15,000 mg/liter)

Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.) ☐ Yes ☒ No
- Topographic map; Visual inspection (certification) of the proposed site

Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application. ☐ Yes ☒ No
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300feet of any other fresh water well or spring, in existence at the time of the initial application. ☐ Yes ☒ No
NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

Within 100 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Temporary Pit Non-low chloride drilling fluid	
Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application; - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Permanent Pit or Multi-Well Fluid Management Pit	
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No

10.

Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☒ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
- ☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☒ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☒ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☒ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

11.

Multi-Well Fluid Management Pit Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ A List of wells with approved application for permit to drill associated with the pit.
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
- ☐ Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

12.
Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including H_2S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

13.
Proposed Closure: 19.15.17.13 NMAC
Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

Type: X Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☐ Below-grade Tank ☐ Multi-well Fluid Management Pit ☐ Alternative

Proposed Closure Method: X Waste Excavation and Removal
- ☐ Waste Removal (Closed-loop systems only)
- ☐ On-site Closure Method (Only for temporary pits and closed-loop systems)
  - ☐ In-place Burial ☐ On-site Trench Burial
- ☐ Alternative Closure Method

14.
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- ☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

15.
Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC
Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 25 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☒ Yes ☐ No ☐ NA
Ground water is between 25-50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☒ NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☒ NA
Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☒ No
Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☒ No
Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	

adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☒ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☒ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☒ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☒ No

16.
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- ☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☒ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection E of 19.15.17.13 NMAC
- ☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19.15.17.11 NMAC
- ☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☒ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☒ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☒ Waste Material Sampling Plan - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☒ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
- ☒ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☒ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

17.
Operator Application Certification:

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): John C. Thompson Title: Engineer/Agent for Western Refining Southwest Inc.

Signature: J. C. Thompson Date: 7/7/2016

e-mail address: john@walsheng.net Telephone: 505-327-4892

18.
OCD Approval: ☐ Permit Application (including closure plan) ☒ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature: [signature] **Approval Date:** 4/12/17

Title: Environmental Spec. **OCD Permit Number:**

19.
Closure Report (required within 60 days of closure completion): 19.15.17.13 NMAC

Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed. OCD 11/18/16

☒ **Closure Completion Date:**

20.
Closure Method:

☒ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)

☐ If different from approved plan, please explain.

21.
Closure Report Attachment Checklist: ***Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.***

- ☒ Proof of Closure Notice (surface owner and division)
- ☐ Proof of Deed Notice (required for on-site closure for private land only)
- ☒ Plot Plan (for on-site closures and temporary pits)
- ☒ Confirmation Sampling Analytical Results (if applicable)
- ☒ Waste Material Sampling Analytical Results (required for on-site closure)
- ☒ Disposal Facility Name and Permit Number
- ☐ Soil Backfilling and Cover Installation
- ☐ Re-vegetation Application Rates and Seeding Technique
- ☒ Site Reclamation (Photo Documentation)

On-site Closure Location: Latitude Longitude NAD: ☐ 1927 ☐ 1983

22.

Operator Closure Certification:

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): John C. Thompson Title: Agent / Engineer

Signature: John C. Thompson Date: 2/1/2017

e-mail address: johne walsheng.net Telephone: 505-327-4892

Western Refining, Southwest Inc. (Western)
WDW #2
Closure Plan

In accordance with Rule 19.15.17.9 NMAC and 19.15.17.13 NMAC the following information describes the closure requirements of the temporary pits.

All closure activities will include proper documentation and be available for review upon request and will be submitted to OCD within 60 days of the pit closure. Closure report will be filed on C-144 and incorporated the following:

- Detail on Capping and Covering, where applicable
- Plot Plan (Pit diagram)
- Inspection reports
- Sampling Results
- C-105
- Copy of Deed Notice will be filed with County Clerk

General Plan

1 All free standing liquids will be allowed to evaporate or will be removed at the start of the pit closure process from the pit and disposed of in a division-approved facility or recycle, reuse or reclaim the liquids in a manner that the appropriate division district office approves

Ran the cuttings pit through a centrifuge and drying unit to speed up de-water process. Once the majority of the free standing liquid was removed the cuttings were allowed to air dry. Verbal communication was maintained throughout the process with the Aztec office of the NMOCD.

2 The preferred method of closure for all temporary pits will be to remove all of the contents of the reserve pit including the liner, pursuant to Subsection B of 19.15.17.13.C(1)

Sample results indicated that all values were below the accepted values in sub-section (D) of 19.15.17.13, so the pit was scheduled to be closed by removing all of the cuttings and hauling them to Envirotech landfarm; permit number NM-01-0011

3 Prior to closure, the surface owner shall (which in this case is the same as the operator) be notified at least 72 hrs but not more than one week prior to Western Refinery's proposed closure plan using a means that provides proof of notice i.e., certified mail, return receipt requested.

The surface owner (Western Refining) was provided 72 hour notice of closing operations. Copy of Certified letter attached.

4 Within 6 months of the Rig Off status occurring Western will ensure that temporary pits are closed and re-contoured to match the pre-drilling condition of the area.

The reserve pit was closed within the permitted time frame. The area where the pit was constructed was previously used as a retention holding pond for rainwater runoff and once the cuttings and liner were removed and the soil beneath the pit was tested, the reserve pit was returned to its original pre-drilling shape and the area will continue to be a holding pond for rain water runoff. See attached email from landowner (Western) requesting reserve pit area to be reclaimed in a manner that it will be used for stormwater retention/slit trap rather than being covered up and reclaimed.

5 Notice of Closure will be given to the Aztec Division office 72 hours but not more than one week of closure via email, or verbally, The notification of closure will include the following:
   i. Operator's name
   ii. Location by Unit Letter, Section, Township, and Range. Well name and API Number

An email was sent to Cory Smith w/ NMOCD Aztec office and subsequent phone calls were made by Kelly Robinson (Western Environmental Supervisor & land owner representative) to the NMOCD office to notify of closure activities. See attached email chain for confirmation.

6 All contents, including synthetic pit liners, will be removed and hauled to an approved landfarm and or landfill in San Juan County.

The cuttings were mixed with non-waste containing, earthen material in order to assist the solidification process. The solidification process was accomplished by using a combination of a centrifuge and natural drying with mechanical mixing. Pit contents were mixed with non-waste, earthen material to a consistency that is deemed as safe and stable. The mixing ratio consisted of not more than 3 parts clean to 1 part pit contents. The waste mixture passed the paint filter test (EPA SW-846)and the analyticals/lab results are attached.

7 Once of all the pit contents and liner have been removed a five point composite sample will be taken of the soil beneath the reserve pit using sampling tools and all samples tested per 19.15.17.13 (C). The concentration of any contaminant in the stabilized soil cannot be higher than the parameters listed in Table I of 19.15.17.13 NMAC (see below). In the event that the criteria are not met, Western will contact the NMOCD Aztec office and obtain approval before continuing with any pit closure operations as per 19.15.17.13.C.3.(B).

A five point composite sample was taken beneath the reserve pit as required by 19.15.17.13 (C). All of results were below the parameters of Table I and the analyticals/lab results are attached.

Table I of 19.15.17.13:

Components	*Tests Method*	*Limit (mg/Kg)*
Benzene	EPA SW-846 8021B or 8015M	10
BTEX	EPA SW-846 8021B or 8260B	50
TPH	EPA SW-846 418.1	100
Chlorides	EPA 300.1	600

8 Upon completion of pit content removal and testing, the pit area will be backfilled with the original earthen material that was excavated to build the reserve pit. The cover shall include one foot of suitable material (with chloride concentrations less than 600 mg/Kg) to establish vegetation at the site, or the background thickness of topsoil, whichever is greater

The area where the pit was constructed was used as a holding pond/rainwater diversion and once the cuttings and liner were removed the reserve pit was backfilled and re-contoured where necessary and then the area has been constructed, to return it to its predrilling purpose as a holding pond/rainwater diversion pond.

9 Re-contouring of location will match fit, shape, line, form and texture of the surrounding area. Re-shaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be placed in areas where needed to prevent erosion on a large scale. Final re-contour shall have a uniform appearance with smooth surface, fitting the natural landscape

The area where the pit was constructed was used as a holding pond/rainwater diversion and once the cuttings and liner were removed the reserve pit was backfilled and re-contoured where necessary and then the area has been constructed, to return it to its predrilling purpose as a holding pond/rainwater diversion pond as per the landowners (Western) request. Email attached.

10 Because the temporary pit is located within the active portion of the refinery the area will not be re-seeded.

No seeded will be required as per the permit.

11 Because the contents of the pit will be removed no marker indicating the location of the pit will be required.

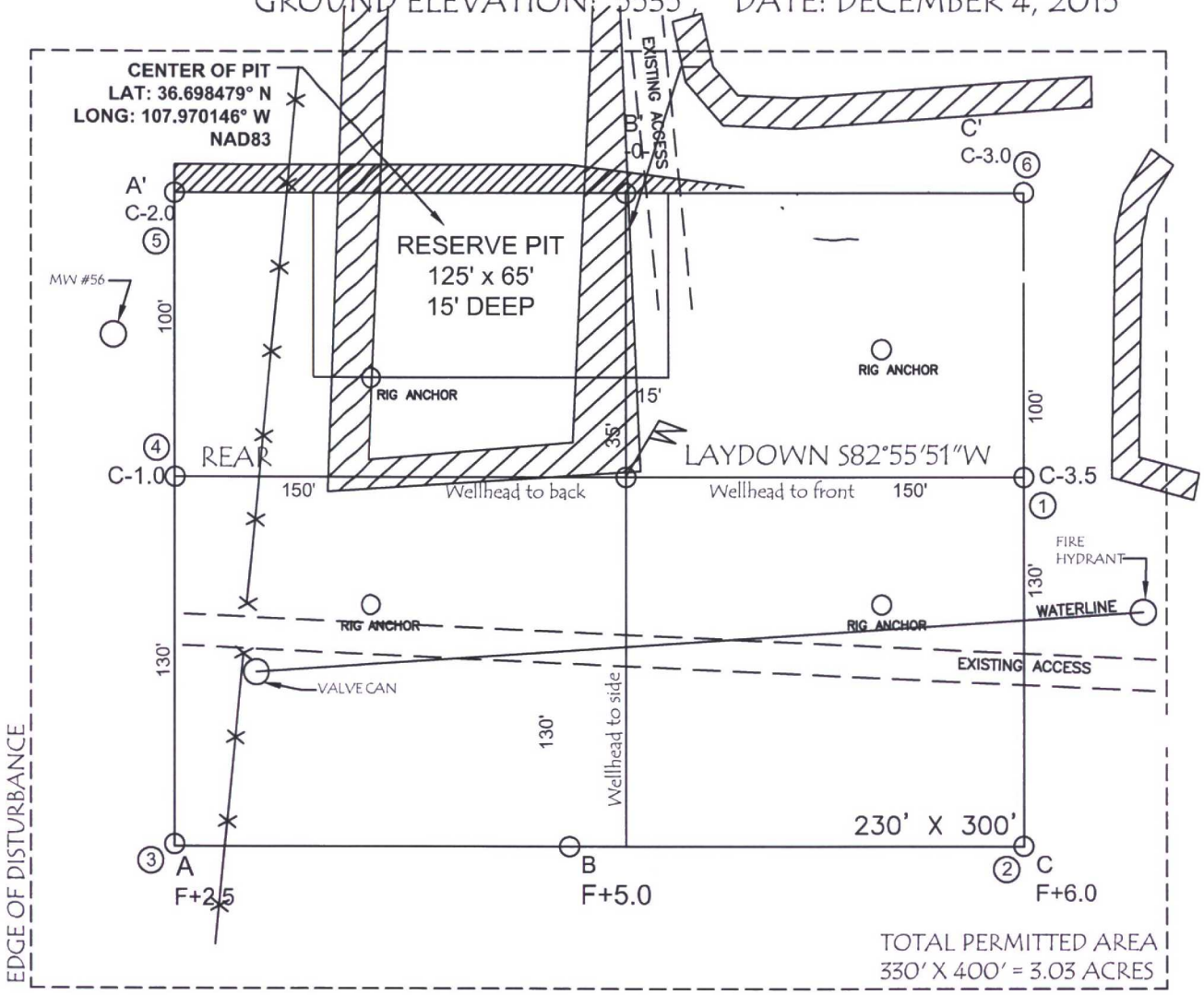
No marker will be installed as per the permit.

WESTERN REFINING

SWD #2, 2028' FNL & 111' FEL

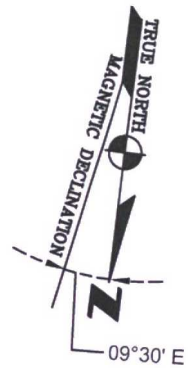
SECTION 27, T-29-N, R-11-W, NMPM, SAN JUAN COUNTY, NM

GROUND ELEVATION: 5535', DATE: DECEMBER 4, 2015



LATITUDE: 36°41.9162' N
LONGITUDE: 107°58.1837' W
NAD27

LATITUDE: 36.698609° N
LONGITUDE: 107.970351° W
NAD83



NOTES:

1. VECTOR SURVEYS IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELL PAD AND OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.
2. RESERVE PIT DIKE: TO BE 8' ABOVE DEEP SIDE (OVERFLOW - 3' WIDE AND 1' ABOVE SHALLOW SIDE).

Scale: 1" = 60'

John Thompson

From: Robinson, Kelly <Kelly.Robinson@wnr.com>
Sent: Friday, February 03, 2017 8:43 AM
To: John Thompson
Subject: FW: Pit Closure Sample Results - WDW-2 (API# 30-045-35747)

Sir,

Here is the notification and confirmed approval to start backfilling the Pit.

Kelly R. Robinson I Environmental Supervisor
Western Refining I 111 County Road 4990 I Bloomfield, NM87413
(o) 505-632-4166 I (c) 505-801-5616 I (e) kelly.robinson@wnr.com

From: Robinson, Kelly
Sent: Thursday, December 01, 2016 2:03 PM
To: 'Smith, Cory, EMNRD' <Cory.Smith@state.nm.us>; Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>
Cc: Krakow, Matt <Matt.Krakow@wnr.com>; Schmaltz, Randy <Randy.Schmaltz@wnr.com>; Hains, Allen <Allen.Hains@wnr.com>; Dooling, Frank <Frank.Dooling@wnr.com>; Roberts, Dale <Dale.Roberts@wnr.com>; Powell, Brandon, EMNRD <Brandon.Powell@state.nm.us>
Subject: RE: Pit Closure Sample Results - WDW-2 (API# 30-045-35747)

Thank you, Sir!

Have a great rest of your week!

Kelly R. Robinson I Environmental Supervisor
Western Refining I 111 County Road 4990 I Bloomfield, NM87413
(o) 505-632-4166 I (c) 505-801-5616 I (e) kelly.robinson@wnr.com

From: Smith, Cory, EMNRD [mailto:Cory.Smith@state.nm.us]
Sent: Thursday, December 01, 2016 1:49 PM
To: Robinson, Kelly <Kelly.Robinson@wnr.com>; Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>
Cc: Krakow, Matt <Matt.Krakow@wnr.com>; Schmaltz, Randy <Randy.Schmaltz@wnr.com>; Hains, Allen <Allen.Hains@wnr.com>; Dooling, Frank <Frank.Dooling@wnr.com>; Roberts, Dale <Dale.Roberts@wnr.com>; Powell, Brandon, EMNRD <Brandon.Powell@state.nm.us>
Subject: RE: Pit Closure Sample Results - WDW-2 (API# 30-045-35747)

This email was sent by an external sender. Please use caution when opening attachments, clicking web links, or replying until you have verified this email sender.

Good Afternoon Kelly,

Vanessa is out of the office on personal leave for the remained of the week. After reviewing the laboratory results, Western may continue with backfilling and closure of the Temporary pit as results are below the closure requirements.

Regards,

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

From: Robinson, Kelly [mailto:Kelly.Robinson@wnr.com]
Sent: Thursday, December 1, 2016 11:59 AM
To: Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>
Cc: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Krakow, Matt <Matt.Krakow@wnr.com>; Schmaltz, Randy <Randy.Schmaltz@wnr.com>; Hains, Allen <Allen.Hains@wnr.com>; Dooling, Frank <Frank.Dooling@wnr.com>; Roberts, Dale <Dale.Roberts@wnr.com>
Subject: Pit Closure Sample Results - WDW-2 (API# 30-045-35747)

Good Afternoon Ma'am,

Western Refining Southwest, Inc. ("Western") is submitting for NMOCD's review the results from the Pit Closure Sampling Activities conducted at the Western Refining Bloomfield Terminal on November 18, 2016. Sampling activities included the collection of one 5-point composite sample collected at the base of the drilling pit. A representative of NMOCD – Aztec Office was on-site to witness the sampling activities. The sample results indicate that the pit soil concentrations of benzene, toluene, ethylbenzene, xylenes, and total petroleum hydrocarbons are below their respective laboratory reporting limits. Chloride was detected as a concentration of 32 mg/kg, which is below the 600 mg/kg closure limit pursuant to Table 1 of NMAC 19.15.17.13. A copy of the analytical results is attached for your reference.

At this time, Western is requesting approval from NMOCD to proceed with backfilling the pit area. If you have any questions regarding this information or would like to discuss this topic further, please feel free to contact us at your convenience.

Thank you for your time, and have a great day!

Sincerely,

Kelly R. Robinson I Environmental Supervisor
Western Refining I 111 County Road 4990 I Bloomfield, NM87413
(o) 505-632-4166 I (c) 505-801-5616 I (e) kelly.robinson@wnr.com

John Thompson

From: Robinson, Kelly <Kelly.Robinson@wnr.com>
Sent: Friday, February 03, 2017 9:16 AM
To: John Thompson

To whom it may concern,

Western Refining Southwest, Inc. is giving notice that the area on our land that was used for the drilling reserve pit will be reclaimed in a manner that allows for storm water retention pond (silt trap) rather than re-contouring and re-shaping as it was prior to construction of the pit and associated WDW #2.

Sincerely,

Kelly R. Robinson I Environmental Supervisor
Western Refining I 111 County Road 4990 I Bloomfield, NM87413
(o) 505-632-4166 I (c) 505-801-5616 I (e) kelly.robinson@wnr.com

Submit To Appropriate District Office
Two Copies
District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-105
Revised August 1, 2011

1. WELL API NO.
30-045-35747

2. Type of Lease
☐ STATE X FEE ☐ FED/INDIAN

3. State Oil & Gas Lease No.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

4. Reason for filing:

X **COMPLETION REPORT** (Fill in boxes #1 through #31 for State and Fee wells only)

X **C-144 CLOSURE ATTACHMENT** (Fill in boxes #1 through #9, #15 Date Rig Released and #32 and/or #33; attach this and the plat to the C-144 closure report in accordance with 19.15.17.13.K NMAC)

5. Lease Name or Unit Agreement Name

6. Well Number:
WDW #2

OIL CONS. DIV DIST. 3
FEB 03 2017

7 Type of Completion:
☐ NEW WELL ☐ WORKOVER ☐ DEEPENING ☐ PLUGBACK ☐ DIFFERENT RESERVOIR X OTHER (Injection Well)

8. Name of Operator
Western Refining, Southwest, Inc.

9. OGRID
267595

10. Address of Operator
#50 County Road 4990 (PO Box 159), Bloomfield, NM 87413

11. Pool name or Wildcat
SWD; Entrada

12.Location	Unit Ltr	Section	Township	Range	Lot	Feet from the	N/S Line	Feet from the	E/W Line	County
Surface:	H	27	29N	11W		2028'	North	111'	East	San Juan
BH:	H	27	29N	11W		2028'	North	111'	East	San Juan

13. Date Spudded	14. Date T.D. Reached	15. Date Rig Released	16. Date Completed (Ready to Produce)	17. Elevations (DF and RKB, RT, GR, etc.)
8/15/2016	9/6/2016	9/9/2016	12/16/2016	5535' GL (15'KB)

18. Total Measured Depth of Well	19. Plug Back Measured Depth	20. Was Directional Survey Made?	21. Type Electric and Other Logs Run
7525' KB	7458' KB	No	DEN/NEUT/IND/GR, CBL

22. Producing Interval(s), of this completion - Top, Bottom, Name
Entrada Injection Zone: 7312' – 7470'

23. **CASING RECORD** (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13-3/8"	48# H40	298'	17-1/2"	420sx (496 cf)	Circ cement to surface
9-5/8"	36# J55	3500'	12-1/4"	1460 sx (1951 cf)	Circ cement to surface
7"	23# L80	7525'	8-3/4"	1030sx (1324 cf)	Circ cement to surface

24. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN

25. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
4-1/2"	7230'	7230'

26. Perforation record (interval, size, and number)
7440' – 7470'– 120 holes
7394' – 7424' – 120 holes
7376' – 7390'– 48 holes
7358' – 7368'– 40 holes
7331' – 7351'– 80 holes
7312' – 7331– 76 holes; Total of 123' net formation, 492 holes, 0.41' EHD

27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
7312' – 7470'	2500 gals of 15% HCL & 525 ea. RCN ball sealers

28. **PRODUCTION**

Date First Production	Production Method *(Flowing, gas lift, pumping - Size and type pump)*	Well Status *(Prod. or Shut-in)*
N/A	Injection Well	Waiting on Surface Facility Installation

Date of Test	Hours Tested	Choke Size	Prod'n For Test Period	Oil - Bbl	Gas - MCF	Water - Bbl.	Gas - Oil Ratio
N/A							

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API - *(Corr.)*

29. Disposition of Gas *(Sold, used for fuel, vented, etc.)*
N/A

30. Test Witnessed By
N/A

31. List Attachments C144 (plus attachments), Plat

32. If a temporary pit was used at the well, attach a plat with the location of the temporary pit.
Attached

33. If an on-site burial was used at the well, report the exact location of the on-site burial:

Cuttings were hauled off X Latitude Longitude NAD 1927 1983

I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief

Signature [signature] Printed Name John Thompson Title Agent/Engineer Date 1/13/2016

E-mail Address john@walsheng.net

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well and not later than 60 days after completion of closure. When submitted as a completion report, this shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, items 11, 12 and 26-31 shall be reported for each zone.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico		Northwestern New Mexico	
T. Anhy	T. Canyon	T. Ojo Alamo 515'	T. Penn A"
T. Salt	T. Strawn	T. Kirtland 625'	T. Penn. "B"
B. Salt	T. Atoka	T. Fruitland 1203'	T. Penn. "C"
T. Yates	T. Miss	T. Pictured Cliffs 1718'	T. Penn. "D"
T. 7 Rivers	T. Devonian	T. Cliff House 3337'	T. Leadville
T. Queen	T. Silurian	T. Menefee 3389'	T. Madison
T. Grayburg	T. Montoya	T. Point Lookout 4045'	T. Elbert
T. San Andres	T. Simpson	T. Mancos 4432'	T. McCracken
T. Glorieta	T. McKee	T. Gallup 5606'	T. Ignacio Otzte
T. Paddock	T. Ellenburger	Base Greenhorn 6117'	T.Granite
T. Blinebry	T. Gr. Wash	T. Dakota 6161'	
T.Tubb	T. Delaware Sand	T. Morrison 6417'	
T. Drinkard	T. Bone Springs	T.Todilto 7276'	
T. Abo	T.	T. Entrada 7308'	
T. Wolfcamp	T.	T. Wingate	
T. Penn	T.	T. Chinle	
T. Cisco (Bough C)	T.	T. Permian	

OIL OR GAS SANDS OR ZONES

No. 1, from.....to..... No. 3, from.....to.....

No. 2, from.....to..... No. 4, from.....to.....

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....feet.....

No. 2, from.....to.....feet.....

No. 3, from.....to.....feet.....

LITHOLOGY RECORD (Attach additional sheet if necessary)

From	To	Thickness In Feet	Lithology		From	To	Thickness In Feet	Lithology

Cuttings

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 16, 2016

Matt Krakow
Western Refining Southwest, Inc.
#50 CR 4990
Bloomfield, NM 87413
TEL: (505) 632-4135
FAX (505) 632-3911

RE: DWD # 2 OrderNo.: 1609437

Dear Matt Krakow:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/9/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1609437**
Date Reported: **9/16/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: DWD # 2
Lab ID: 1609437-001 **Matrix:** SOIL

Client Sample ID: Drill Cuttings
Collection Date: 9/8/2016 11:00:00 AM
Received Date: 9/9/2016 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	130	7.5		mg/Kg	5	9/15/2016 2:04:59 PM	27522
MERCURY, TCLP						Analyst: **pmf**	
Mercury	ND	0.020		mg/L	1	9/14/2016 1:03:06 PM	27477
EPA METHOD 6010B: TCLP METALS						Analyst: **MED**	
Arsenic	ND	5.0		mg/L	1	9/15/2016 6:40:56 AM	27479
Barium	ND	100		mg/L	1	9/15/2016 6:40:56 AM	27479
Cadmium	ND	1.0		mg/L	1	9/15/2016 6:40:56 AM	27479
Chromium	ND	5.0		mg/L	1	9/15/2016 6:40:56 AM	27479
Lead	ND	5.0		mg/L	1	9/15/2016 6:40:56 AM	27479
Selenium	ND	1.0		mg/L	1	9/15/2016 6:40:56 AM	27479
Silver	ND	5.0		mg/L	1	9/15/2016 6:40:56 AM	27479
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	140	9.7		mg/Kg	1	9/13/2016 3:48:29 PM	27445
Motor Oil Range Organics (MRO)	85	48		mg/Kg	1	9/13/2016 3:48:29 PM	27445
Surr: DNOP	113	70-130		%Rec	1	9/13/2016 3:48:29 PM	27445
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	120	5.0		mg/Kg	1	9/13/2016 11:40:15 AM	27448
Surr: BFB	307	68.3-144	S	%Rec	1	9/13/2016 11:40:15 AM	27448
EPA METHOD 8270C TCLP						Analyst: **DAM**	
2-Methylphenol	ND	200		mg/L	1	9/14/2016 3:34:05 PM	27476
3+4-Methylphenol	ND	200		mg/L	1	9/14/2016 3:34:05 PM	27476
Phenol	ND	200		mg/L	1	9/14/2016 3:34:05 PM	27476
2,4-Dinitrotoluene	ND	0.13		mg/L	1	9/14/2016 3:34:05 PM	27476
Hexachlorobenzene	ND	0.13		mg/L	1	9/14/2016 3:34:05 PM	27476
Hexachlorobutadiene	ND	0.50		mg/L	1	9/14/2016 3:34:05 PM	27476
Hexachloroethane	ND	3.0		mg/L	1	9/14/2016 3:34:05 PM	27476
Nitrobenzene	ND	2.0		mg/L	1	9/14/2016 3:34:05 PM	27476
Pentachlorophenol	ND	100		mg/L	1	9/14/2016 3:34:05 PM	27476
Pyridine	ND	5.0		mg/L	1	9/14/2016 3:34:05 PM	27476
2,4,5-Trichlorophenol	ND	400		mg/L	1	9/14/2016 3:34:05 PM	27476
2,4,6-Trichlorophenol	ND	2.0		mg/L	1	9/14/2016 3:34:05 PM	27476
Cresols, Total	ND	200		mg/L	1	9/14/2016 3:34:05 PM	27476
Surr: 2-Fluorophenol	25.4	15-123		%Rec	1	9/14/2016 3:34:05 PM	27476
Surr: Phenol-d5	23.7	15-118		%Rec	1	9/14/2016 3:34:05 PM	27476
Surr: 2,4,6-Tribromophenol	40.4	15-170		%Rec	1	9/14/2016 3:34:05 PM	27476
Surr: Nitrobenzene-d5	65.9	15-129		%Rec	1	9/14/2016 3:34:05 PM	27476
Surr: 2-Fluorobiphenyl	51.4	15-135		%Rec	1	9/14/2016 3:34:05 PM	27476

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: DWD # 2
Lab ID: 1609437-001 **Matrix:** SOIL

Client Sample ID: Drill Cuttings
Collection Date: 9/8/2016 11:00:00 AM
Received Date: 9/9/2016 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C TCLP						Analyst: **DAM**	
Surr: 4-Terphenyl-d14	31.5	15-144		%Rec	1	9/14/2016 3:34:05 PM	27476
VOLATILES BY 8260B/1311						Analyst: **BCN**	
Benzene	ND	0.50		mg/L	1	9/16/2016 10:40:00 AM	27520
2-Butanone	ND	200		mg/L	1	9/16/2016 10:40:00 AM	27520
Carbon Tetrachloride	ND	0.50		mg/L	1	9/16/2016 10:40:00 AM	27520
Chlorobenzene	ND	100		mg/L	1	9/16/2016 10:40:00 AM	27520
Chloroform	ND	6.0		mg/L	1	9/16/2016 10:40:00 AM	27520
1,4-Dichlorobenzene	ND	7.5		mg/L	1	9/16/2016 10:40:00 AM	27520
1,2-Dichloroethane (EDC)	ND	0.50		mg/L	1	9/16/2016 10:40:00 AM	27520
1,1-Dichloroethene	ND	0.70		mg/L	1	9/16/2016 10:40:00 AM	27520
Hexachlorobutadiene	ND	0.50		mg/L	1	9/16/2016 10:40:00 AM	27520
Tetrachloroethene (PCE)	ND	0.70		mg/L	1	9/16/2016 10:40:00 AM	27520
Trichloroethene (TCE)	ND	0.50		mg/L	1	9/16/2016 10:40:00 AM	27520
Vinyl chloride	ND	0.20		mg/L	1	9/16/2016 10:40:00 AM	27520
Surr: 1,2-Dichloroethane-d4	94.6	70-130		%Rec	1	9/16/2016 10:40:00 AM	27520
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	9/16/2016 10:40:00 AM	27520
Surr: Dibromofluoromethane	98.8	70-130		%Rec	1	9/16/2016 10:40:00 AM	27520
Surr: Toluene-d8	97.3	70-130		%Rec	1	9/16/2016 10:40:00 AM	27520

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

Qualifiers:

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

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	160913044
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1609437
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	160913044-001	**Sampling Date**	9/8/2016	**Date/Time Received**	9/13/2016 11:40 AM
Client Sample ID	1609437-001B / DRILL CUTTINGS			**Sampling Time**	11:00 AM
Matrix	Solid				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide (reactive)	ND	mg/Kg	1	9/15/2016	MER	SW846 CH7	
Ignitability	Negative			9/15/2016	ETL	EPA 1030	
pH	10.43	ph Units		9/14/2016	KMC	EPA 9045	
Reactive sulfide	40.0	mg/kg	25	9/15/2016	KMC	SW846 CH7	

Authorized Signature

Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 160913044
Project Name: 1609437

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Reactive sulfide	0.18	mg/kg	0.2	90.0	70-130	9/15/2016	9/15/2016
Cyanide (reactive)	0.492	mg/kg	0.5	98.4	70-130	9/15/2016	9/15/2016

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
160913044-001	Reactive sulfide	40.0	85	mg/kg	50	90.0	70-130	9/15/2016	9/15/2016
160913044-001	Cyanide (reactive)	ND	11.3	mg/kg	12.5	90.4	60-140	9/15/2016	9/15/2016

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide (reactive)	11.2	mg/kg	12.5	89.6	0.9	0-25	9/15/2016	9/15/2016

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide (reactive)	ND	mg/Kg	1	9/15/2016	9/15/2016
Reactive sulfide	ND	mg/kg	1	9/15/2016	9/15/2016

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013,NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609437**

16-Sep-16

Client: Western Refining Southwest, Inc.

Project: DWD # 2

Sample ID	**MB-27522**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**27522**	RunNo:	**37228**					
Prep Date:	**9/15/2016**	Analysis Date:	**9/15/2016**	SeqNo:	**1156264**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-27522**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**27522**	RunNo:	**37228**					
Prep Date:	**9/15/2016**	Analysis Date:	**9/15/2016**	SeqNo:	**1156265**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.4	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609437**

16-Sep-16

Client: Western Refining Southwest, Inc.

Project: DWD # 2

Sample ID **LCS-27445**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **27445**	RunNo: **37139**
Prep Date: **9/12/2016**	Analysis Date: **9/13/2016**	SeqNo: **1152405** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.7	62.6	124			
Surr: DNOP	5.1		5.000		102	70	130			

Sample ID **MB-27445**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **27445**	RunNo: **37139**
Prep Date: **9/12/2016**	Analysis Date: **9/13/2016**	SeqNo: **1152406** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		103	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609437**

16-Sep-16

Client: Western Refining Southwest, Inc.

Project: DWD # 2

Sample ID **LCS-27448**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **27448**	RunNo: **37145**
Prep Date: **9/12/2016**	Analysis Date: **9/13/2016**	SeqNo: **1152768** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	80	120			
Surr: BFB	1000		1000		99.8	68.3	144			

Sample ID **MB-27448**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **27448**	RunNo: **37145**
Prep Date: **9/12/2016**	Analysis Date: **9/13/2016**	SeqNo: **1152769** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	910		1000		90.7	68.3	144			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609437**

16-Sep-16

Client: Western Refining Southwest, Inc.

Project: DWD # 2

Sample ID **MB-27520**	SampType: **MBLK**	TestCode: **Volatiles by 8260B/1311**
Client ID: **PBS**	Batch ID: **27520**	RunNo: **37243**
Prep Date: **9/15/2016**	Analysis Date: **9/16/2016**	SeqNo: **1155975** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.50								
2-Butanone	ND	200								
Carbon Tetrachloride	ND	0.50								
Chlorobenzene	ND	100								
Chloroform	ND	6.0								
1,4-Dichlorobenzene	ND	7.5								
1,2-Dichloroethane (EDC)	ND	0.50								
1,1-Dichloroethene	ND	0.70								
Hexachlorobutadiene	ND	0.50								
Tetrachloroethene (PCE)	ND	0.70								
Trichloroethene (TCE)	ND	0.50								
Vinyl chloride	ND	0.20								
Surr: 1,2-Dichloroethane-d4	0.19		0.2000		95.4	70	130			
Surr: 4-Bromofluorobenzene	0.20		0.2000		102	70	130			
Surr: Dibromofluoromethane	0.19		0.2000		97.1	70	130			
Surr: Toluene-d8	0.20		0.2000		99.2	70	130			

Sample ID **LCS-27520**	SampType: **LCS**	TestCode: **Volatiles by 8260B/1311**
Client ID: **LCSS**	Batch ID: **27520**	RunNo: **37243**
Prep Date: **9/15/2016**	Analysis Date: **9/16/2016**	SeqNo: **1156118** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.35	0.30	0.4000	0	88.2	70	130			
Chlorobenzene	0.38	0.30	0.4000	0	95.9	70	130			
1,1-Dichloroethene	0.34	0.30	0.4000	0	84.2	70	130			
Trichloroethene (TCE)	0.34	0.30	0.4000	0	85.3	58.7	129			
Surr: 1,2-Dichloroethane-d4	0.19		0.2000		95.0	70	130			
Surr: 4-Bromofluorobenzene	0.20		0.2000		102	70	130			
Surr: Dibromofluoromethane	0.19		0.2000		95.2	70	130			
Surr: Toluene-d8	0.20		0.2000		99.5	70	130			

Sample ID **1609437-001AMS**	SampType: **MS**	TestCode: **Volatiles by 8260B/1311**
Client ID: **Drill Cuttings**	Batch ID: **27520**	RunNo: **37243**
Prep Date: **9/15/2016**	Analysis Date: **9/16/2016**	SeqNo: **1156396** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.40	0.30	0.4000	0	100	70	130			
Chlorobenzene	0.40	0.30	0.4000	0	101	70	130			
1,1-Dichloroethene	0.36	0.30	0.4000	0	91.1	70	130			
Trichloroethene (TCE)	0.38	0.30	0.4000	0	95.0	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609437**

16-Sep-16

Client: Western Refining Southwest, Inc.
Project: DWD # 2

Sample ID **1609437-001AMS**	SampType: **MS**	TestCode: **Volatiles by 8260B/1311**							
Client ID: **Drill Cuttings**	Batch ID: **27520**	RunNo: **37243**							
Prep Date: **9/15/2016**	Analysis Date: **9/16/2016**	SeqNo: **1156396**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.19		0.2000		95.7	70	130			
Surr: 4-Bromofluorobenzene	0.20		0.2000		101	70	130			
Surr: Dibromofluoromethane	0.19		0.2000		97.3	70	130			
Surr: Toluene-d8	0.20		0.2000		98.2	70	130			

Sample ID **1609437-001AMSD**	SampType: **MSD**	TestCode: **Volatiles by 8260B/1311**							
Client ID: **Drill Cuttings**	Batch ID: **27520**	RunNo: **37243**							
Prep Date: **9/15/2016**	Analysis Date: **9/16/2016**	SeqNo: **1156397**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.50	0.30	0.4000	0	124	70	130	21.2	20	R
Chlorobenzene	0.52	0.30	0.4000	0	129	70	130	24.3	20	R
1,1-Dichloroethene	0.46	0.30	0.4000	0	114	70	130	22.2	20	R
Trichloroethene (TCE)	0.48	0.30	0.4000	0	119	70	130	22.6	20	R
Surr: 1,2-Dichloroethane-d4	0.19		0.2000		96.9	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.20		0.2000		102	70	130	0	0	
Surr: Dibromofluoromethane	0.20		0.2000		98.7	70	130	0	0	
Surr: Toluene-d8	0.20		0.2000		98.9	70	130	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609437**

16-Sep-16

Client: Western Refining Southwest, Inc.
Project: DWD # 2

Sample ID **mb-27476**	SampType: **MBLK**	TestCode: **EPA Method 8270C TCLP**
Client ID: **PBS**	Batch ID: **27476**	RunNo: **37197**
Prep Date: **9/13/2016**	Analysis Date: **9/14/2016**	SeqNo: **1154168** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylphenol	ND	200								
3+4-Methylphenol	ND	200								
Phenol	ND	200								
2,4-Dinitrotoluene	ND	0.13								
Hexachlorobenzene	ND	0.13								
Hexachlorobutadiene	ND	0.50								
Hexachloroethane	ND	3.0								
Nitrobenzene	ND	2.0								
Pentachlorophenol	ND	100								
Pyridine	ND	5.0								
2,4,5-Trichlorophenol	ND	400								
2,4,6-Trichlorophenol	ND	2.0								
Cresols, Total	ND	200								
Surr: 2-Fluorophenol	0.078		0.2000		39.0	15	123			
Surr: Phenol-d5	0.072		0.2000		35.8	15	118			
Surr: 2,4,6-Tribromophenol	0.15		0.2000		74.1	15	170			
Surr: Nitrobenzene-d5	0.058		0.1000		58.2	15	129			
Surr: 2-Fluorobiphenyl	0.050		0.1000		49.8	15	135			
Surr: 4-Terphenyl-d14	0.055		0.1000		55.4	15	144			

Sample ID **lcs-27476**	SampType: **LCS**	TestCode: **EPA Method 8270C TCLP**
Client ID: **LCSS**	Batch ID: **27476**	RunNo: **37197**
Prep Date: **9/13/2016**	Analysis Date: **9/14/2016**	SeqNo: **1154169** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylphenol	0.093	0.010	0.1000	0	93.0	37.6	110			
3+4-Methylphenol	0.23	0.010	0.2000	0	115	30.5	149			
2,4-Dinitrotoluene	0.089	0.010	0.1000	0	89.5	24.9	93.7			
Hexachlorobenzene	0.095	0.010	0.1000	0	94.8	40	114			
Hexachlorobutadiene	0.067	0.010	0.1000	0	66.9	37.4	119			
Hexachloroethane	0.060	0.010	0.1000	0	60.3	33.8	105			
Nitrobenzene	0.082	0.010	0.1000	0	81.8	33.4	115			
Pentachlorophenol	0.081	0.010	0.1000	0	80.7	27.9	90.3			
Pyridine	0.037	0.010	0.1000	0	36.6	29.3	105			
2,4,5-Trichlorophenol	0.099	0.010	0.1000	0	99.5	34	118			
2,4,6-Trichlorophenol	0.095	0.010	0.1000	0	94.9	34.1	109			
Cresols, Total	0.32	0.010	0.3000	0	108	30	136			
Surr: 2-Fluorophenol	0.067		0.2000		33.7	15	123			
Surr: Phenol-d5	0.062		0.2000		30.9	15	118			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609437**

16-Sep-16

Client: Western Refining Southwest, Inc.

Project: DWD # 2

Sample ID **lcs-27476**	SampType: **LCS**	TestCode: **EPA Method 8270C TCLP**
Client ID: **LCSS**	Batch ID: **27476**	RunNo: **37197**
Prep Date: **9/13/2016**	Analysis Date: **9/14/2016**	SeqNo: **1154169** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2,4,6-Tribromophenol	0.12		0.2000		61.1	15	170			
Surr: Nitrobenzene-d5	0.049		0.1000		49.3	15	129			
Surr: 2-Fluorobiphenyl	0.040		0.1000		40.2	15	135			
Surr: 4-Terphenyl-d14	0.045		0.1000		45.3	15	144			

Sample ID **1609437-001ams**	SampType: **MS**	TestCode: **EPA Method 8270C TCLP**
Client ID: **Drill Cuttings**	Batch ID: **27476**	RunNo: **37197**
Prep Date: **9/13/2016**	Analysis Date: **9/14/2016**	SeqNo: **1154175** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylphenol	0.032	0.010	0.1000	0	31.8	43.1	114			S
3+4-Methylphenol	0.064	0.010	0.2000	0	31.9	37.8	128			S
2,4-Dinitrotoluene	0.052	0.010	0.1000	0	51.6	36.5	125			
Hexachlorobenzene	0.051	0.010	0.1000	0	51.4	41.4	108			
Hexachlorobutadiene	0.024	0.010	0.1000	0	24.3	30.4	101			S
Hexachloroethane	0.024	0.010	0.1000	0	24.2	37.3	115			S
Nitrobenzene	0.054	0.010	0.1000	0	53.9	40.2	132			
Pentachlorophenol	0.033	0.010	0.1000	0	32.6	8.72	103			
Pyridine	ND	0.010	0.1000	0	3.08	9.36	106			S
2,4,5-Trichlorophenol	0.035	0.010	0.1000	0	34.7	16.5	123			
2,4,6-Trichlorophenol	0.035	0.010	0.1000	0	35.1	11.3	117			
Cresols, Total	0.096	0.010	0.3000	0	31.9	23.2	151			
Surr: 2-Fluorophenol	0.049		0.2000		24.4	15	123			
Surr: Phenol-d5	0.045		0.2000		22.5	15	118			
Surr: 2,4,6-Tribromophenol	0.077		0.2000		38.5	15	170			
Surr: Nitrobenzene-d5	0.057		0.1000		57.1	15	129			
Surr: 2-Fluorobiphenyl	0.043		0.1000		43.2	15	135			
Surr: 4-Terphenyl-d14	0.033		0.1000		32.7	15	144			

Sample ID **1609437-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8270C TCLP**
Client ID: **Drill Cuttings**	Batch ID: **27476**	RunNo: **37197**
Prep Date: **9/13/2016**	Analysis Date: **9/14/2016**	SeqNo: **1154176** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylphenol	0.025	0.010	0.1000	0	25.5	43.1	114	22.3	28.4	S
3+4-Methylphenol	0.051	0.010	0.2000	0	25.4	37.8	128	22.6	29.4	S
2,4-Dinitrotoluene	0.040	0.010	0.1000	0	39.7	36.5	125	26.1	24.7	R
Hexachlorobenzene	0.043	0.010	0.1000	0	43.2	41.4	108	17.2	20	
Hexachlorobutadiene	0.018	0.010	0.1000	0	17.6	30.4	101	32.0	29	RS
Hexachloroethane	0.018	0.010	0.1000	0	17.8	37.3	115	30.3	25.2	RS

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609437**

16-Sep-16

Client: Western Refining Southwest, Inc.

Project: DWD # 2

Sample ID **1609437-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8270C TCLP**
Client ID: **Drill Cuttings**	Batch ID: **27476**	RunNo: **37197**
Prep Date: **9/13/2016**	Analysis Date: **9/14/2016**	SeqNo: **1154176** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrobenzene	0.045	0.010	0.1000	0	45.2	40.2	132	17.6	26.9	
Pentachlorophenol	0.025	0.010	0.1000	0	24.6	8.72	103	27.9	59.2	
Pyridine	ND	0.010	0.1000	0	2.88	9.36	106	0	48	S
2,4,5-Trichlorophenol	0.025	0.010	0.1000	0	25.0	16.5	123	32.5	70.8	
2,4,6-Trichlorophenol	0.028	0.010	0.1000	0	27.7	11.3	117	23.7	78	
Cresols, Total	0.076	0.010	0.3000	0	25.4	23.2	151	22.5	30.8	
Surr: 2-Fluorophenol	0.043		0.2000		21.6	15	123	0	0	
Surr: Phenol-d5	0.038		0.2000		18.8	15	118	0	0	
Surr: 2,4,6-Tribromophenol	0.059		0.2000		29.4	15	170	0	0	
Surr: Nitrobenzene-d5	0.048		0.1000		47.9	15	129	0	0	
Surr: 2-Fluorobiphenyl	0.036		0.1000		36.2	15	135	0	0	
Surr: 4-Terphenyl-d14	0.027		0.1000		27.4	15	144	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609437**

16-Sep-16

Client: Western Refining Southwest, Inc.

Project: DWD # 2

Sample ID	**MB-27477**	SampType:	**MBLK**	TestCode:	**MERCURY, TCLP**					
Client ID:	**PBW**	Batch ID:	**27477**	RunNo:	**37179**					
Prep Date:	**9/13/2016**	Analysis Date:	**9/14/2016**	SeqNo:	**1153530**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.020								

Sample ID	**LCS-27477**	SampType:	**LCS**	TestCode:	**MERCURY, TCLP**					
Client ID:	**LCSW**	Batch ID:	**27477**	RunNo:	**37179**					
Prep Date:	**9/13/2016**	Analysis Date:	**9/14/2016**	SeqNo:	**1153531**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.020	0.005000	0	92.6	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609437**

16-Sep-16

Client: Western Refining Southwest, Inc.
Project: DWD # 2

Sample ID	**MB-27479**	SampType:	**MBLK**		TestCode:	**EPA Method 6010B: TCLP Metals**				
Client ID:	**PBW**	Batch ID:	**27479**		RunNo:	**37196**				
Prep Date:	**9/13/2016**	Analysis Date:	**9/15/2016**		SeqNo:	**1154106**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0								
Barium	ND	100								
Cadmium	ND	1.0								
Chromium	ND	5.0								
Lead	ND	5.0								
Selenium	ND	1.0								
Silver	ND	5.0								

Sample ID	**LCS-27479**	SampType:	**LCS**		TestCode:	**EPA Method 6010B: TCLP Metals**				
Client ID:	**LCSW**	Batch ID:	**27479**		RunNo:	**37196**				
Prep Date:	**9/13/2016**	Analysis Date:	**9/15/2016**		SeqNo:	**1154107**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0	0.5000	0	104	80	120			
Barium	ND	100	0.5000	0	94.3	80	120			
Cadmium	ND	1.0	0.5000	0	98.6	80	120			
Chromium	ND	5.0	0.5000	0	94.4	80	120			
Lead	ND	5.0	0.5000	0	92.1	80	120			
Selenium	ND	1.0	0.5000	0	101	80	120			
Silver	ND	5.0	0.1000	0	101	80	120			

Sample ID	**1609437-001AMS**	SampType:	**MS**		TestCode:	**EPA Method 6010B: TCLP Metals**				
Client ID:	**Drill Cuttings**	Batch ID:	**27479**		RunNo:	**37196**				
Prep Date:	**9/13/2016**	Analysis Date:	**9/15/2016**		SeqNo:	**1154113**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0	0.5000	0	105	75	125			
Barium	ND	100	0.5000	1.155	96.1	75	125			
Cadmium	ND	1.0	0.5000	0	99.6	75	125			
Chromium	ND	5.0	0.5000	0	92.9	75	125			
Lead	ND	5.0	0.5000	0	91.4	75	125			
Selenium	ND	1.0	0.5000	0	96.7	75	125			
Silver	ND	5.0	0.1000	0	101	75	125			

Sample ID	**1609437-001AMSD**	SampType:	**MSD**		TestCode:	**EPA Method 6010B: TCLP Metals**				
Client ID:	**Drill Cuttings**	Batch ID:	**27479**		RunNo:	**37196**				
Prep Date:	**9/13/2016**	Analysis Date:	**9/15/2016**		SeqNo:	**1154117**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0	0.5000	0	105	75	125	0	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609437**

16-Sep-16

Client: Western Refining Southwest, Inc.

Project: DWD # 2

Sample ID	**1609437-001AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 6010B: TCLP Metals**
Client ID:	**Drill Cuttings**	Batch ID:	**27479**	RunNo:	**37196**
Prep Date:	**9/13/2016**	Analysis Date:	**9/15/2016**	SeqNo:	**1154117** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	100	0.5000	1.155	96.0	75	125	0	20	
Cadmium	ND	1.0	0.5000	0	100	75	125	0	20	
Chromium	ND	5.0	0.5000	0	93.2	75	125	0	20	
Lead	ND	5.0	0.5000	0	91.4	75	125	0	20	
Selenium	ND	1.0	0.5000	0	96.0	75	125	0	20	
Silver	ND	5.0	0.1000	0	101	75	125	0	20	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Southw Work Order Number: 1609437 RcptNo: 1

Received by/date: AG 09/09/16

Logged By: Lindsay Mangin 9/8/2016 7:30:00 AM

Completed By: Lindsay Mangin 9/9/2016 9:09:43 AM

Reviewed By: WJS 09/12/16

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.9	Good	Yes			

Chain-of-Custody Record

Client: Western Refining

Mailing Address: 50 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4169

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☐ Standard ☒ Rush ASAP

Project Name:
DWD #2

Project #:
PO# 126155 22

Project Manager:
Matt Kraklow

Sampler: Matt Kraklow

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.9

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. 1609437	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals TCLP	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA) TCLP	8270 (Semi-VOA) TCLP	RCI				Air Bubbles (Y or N)
9-8-16	11:00	Soil	Drill Cuttings	2-8oz Jar	Cool	-001			X				X			X	X	X				

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
9-8-16	1520			9-8-16	1520
9-8-16	1445		Christa Walls	9/8/16	1445

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.

9/8/16 2100 Chr Walls 09/09/16 0730

Soil under liner

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 30, 2016

Kelly Robinson
Western Refining Southwest, Inc.
#50 CR 4990
Bloomfield, NM 87413
TEL: (505) 632-4135
FAX (505) 632-3911

RE: WDW #2 OrderNo.: 1611B19

Dear Kelly Robinson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 11/19/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1611B19**
Date Reported: **11/30/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Inc.
Project: WDW #2
Lab ID: 1611B19-001 **Matrix:** SOIL

Client Sample ID: Pit Base
Collection Date: 11/18/2016 11:15:00 AM
Received Date: 11/19/2016 8:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 418.1: TPH						Analyst: **MAB**	
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	11/30/2016 12:00:00 PM	28888
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	32	30		mg/Kg	20	11/29/2016 10:13:17 PM	28906
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.024		mg/Kg	1	11/22/2016 7:44:56 PM	28828
Toluene	ND	0.048		mg/Kg	1	11/22/2016 7:44:56 PM	28828
Ethylbenzene	ND	0.048		mg/Kg	1	11/22/2016 7:44:56 PM	28828
Xylenes, Total	ND	0.097		mg/Kg	1	11/22/2016 7:44:56 PM	28828
Surr: 1,2-Dichloroethane-d4	85.1	70-130		%Rec	1	11/22/2016 7:44:56 PM	28828
Surr: 4-Bromofluorobenzene	92.9	70-130		%Rec	1	11/22/2016 7:44:56 PM	28828
Surr: Dibromofluoromethane	90.0	70-130		%Rec	1	11/22/2016 7:44:56 PM	28828
Surr: Toluene-d8	98.3	70-130		%Rec	1	11/22/2016 7:44:56 PM	28828

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611B19**

30-Nov-16

Client: Western Refining Southwest, Inc.
Project: WDW #2

Sample ID **MB-28906**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **28906**	RunNo: **39040**							
Prep Date: **11/29/2016**	Analysis Date: **11/29/2016**	SeqNo: **1221189**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID **LCS-28906**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **28906**	RunNo: **39040**							
Prep Date: **11/29/2016**	Analysis Date: **11/29/2016**	SeqNo: **1221190**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.5	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611B19**

30-Nov-16

Client: Western Refining Southwest, Inc.
Project: WDW #2

Sample ID **MB-28888**	SampType: **MBLK**	TestCode: **EPA Method 418.1: TPH**							
Client ID: **PBS**	Batch ID: **28888**	RunNo: **39052**							
Prep Date: **11/29/2016**	Analysis Date: **11/30/2016**	SeqNo: **1221548**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	ND	20								

Sample ID **LCS-28888**	SampType: **LCS**	TestCode: **EPA Method 418.1: TPH**							
Client ID: **LCSS**	Batch ID: **28888**	RunNo: **39052**							
Prep Date: **11/29/2016**	Analysis Date: **11/30/2016**	SeqNo: **1221549**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	110	20	100.0	0	112	80.7	121			

Sample ID **LCSD-28888**	SampType: **LCSD**	TestCode: **EPA Method 418.1: TPH**							
Client ID: **LCSS02**	Batch ID: **28888**	RunNo: **39052**							
Prep Date: **11/29/2016**	Analysis Date: **11/30/2016**	SeqNo: **1221550**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	110	20	100.0	0	114	80.7	121	2.33	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611B19**

30-Nov-16

Client: Western Refining Southwest, Inc.

Project: WDW #2

Sample ID **mb-28828**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **28828**	RunNo: **38902**
Prep Date: **11/21/2016**	Analysis Date: **11/22/2016**	SeqNo: **1217426** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		87.1	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		92.2	70	130			
Surr: Dibromofluoromethane	0.46		0.5000		91.5	70	130			
Surr: Toluene-d8	0.49		0.5000		98.3	70	130			

Sample ID **lcs-28828**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS**	Batch ID: **28828**	RunNo: **38902**
Prep Date: **11/21/2016**	Analysis Date: **11/22/2016**	SeqNo: **1217427** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	98.0	70	130			
Toluene	1.1	0.050	1.000	0	109	70	130			
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		88.0	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		95.5	70	130			
Surr: Dibromofluoromethane	0.45		0.5000		90.7	70	130			
Surr: Toluene-d8	0.48		0.5000		96.2	70	130			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Southw Work Order Number: 1611B19 RcptNo: 1

Received by/date: CM 11/19/16

Logged By: Anne Thorne 11/19/2016 8:15:00 AM

Completed By: Anne Thorne 11/21/2016

Reviewed By: 11/21/16

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.2	Good	Yes			

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: Western Refining

Mailing Address: 111 CR 4990
Bloomfield, NM 87413

Phone #: 505-632-4166

Email or Fax#: Kelly.Robinson@wnr.com

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

Accreditation
NELAP ☐ Other _____

EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: WDW #2

Project #:

Project Manager: Kelly Robinson

Sampler: Matt Kraker

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.2

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1611819	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	BTEX (8260B)	TPH (418.1)	Chlorides (300.1)		Air Bubbles (Y or N)
11/8/16	11:15	Soil	PIT BASE	(1) 4oz	NONE	001												X	X	X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/18/16	1605	Kelly Robinson	[signature]	11/18/16	1605
11/18/16	1942	[signature]	[signature]	11/19/16	0815

Remarks:

P.O. 12618132

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.

December 10, 2016

VIA CERTIFIED MAIL

Attn: Kelly Robinson
#50 County Road 4990
PO Box 159
Bloomfield, NM 87413

COPY

Re: Pit Closure Notification - WDW #2

Dear Ms. Robinson,

In accordance with Rule 19.15.17.9 NMAC and 19.15.17.13 NMAC you are being notified of the pending closure of the temporary reserve pit that was utilized while drilling the WDW #2 on Western Refining property

If you have any questions or need additional information please feel free to call me at (505) 327-4892.

Sincerely,

John Thompson
Walsh Engineering & Production
Agent/Engineer for Western Refining Southwest

Temporary Pit Inspection Form

Well Name:	WDW #2
Legals:	Sec 27/T29N/11W

Inspectors Name:	JT	JT	JT	JT	JT	JT	JT	JT	JT
	1	2	3	4	5	6	7	8	9
Date of Inspection	8/15/2016	8/16/2016	8/17/2016	8/18/2016	8/19/2016	8/20/2016	8/21/2016	8/22/2016	8/23/2016
Well sign on Location (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y
Any Liner Breeches (Y/N)	N	N	N	N	N	N	N	N	N
HC's on top of pit (Y/N)	N	N	N	N	N	N	N	N	N
Free of Trash/Debris (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y
Fence Integrity Good (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dead Wildlife in Pit (Y/N)	N	N	N	N	N	N	N	N	N
Freeboard 2' or greater (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y
Comments:									

JT	JT	JT	JT	JT	JT	JT	JT	JT	JT	JT	JT
10	11	12	13	14	15	16	17	18	19	20	21
8/24/2016	8/25/2016	8/26/2016	8/27/2016	8/28/2016	8/29/2016	8/30/2016	8/31/2016	9/1/2016	9/2/2016	9/3/2016	9/4/2106
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
N	N	N	N	N	N	N	N	N	N	N	N
N	N	N	N	N	N	N	N	N	N	N	N
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
N	N	N	N	N	N	N	N	N	N	N	N
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

JT	JT	JT	JT	FD	FD	FD	FD	FD	FD	FD	FD
22	23	24	25	26	27	28	29	30	31	32	33
9/5/2016	9/6/2016	9/7/2016	9/8/2016	9/9/2016	9/10/2016	9/10/2016	9/11/2016	9/12/2016	9/13/2016	9/14/2016	9/15/2016
Y	Y	Y	Y	y	y	y	y	y	y	y	y
N	N	N	N	N	N	N	N	N	N	N	N
N	N	N	N	N	N	N	N	N	N	N	N
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
N	N	N	N	N	N	N	N	N	N	N	N
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
				moving Rigs off	Moving Rigs off						

FD	FD	FD	FD	FD	FD	FD	FD	FD	FD	FD	FD
34	35	36	37	38	39	40	41	42	43	44	45
9/16/2016	9/17/2016	9/18/2016	9/19/2016	9/20/2016	9/21/2016	9/22/2016	9/23/2016	9/24/2016	9/25/2016	9/26/2016	9/27/2016
y	y	y	y	y	y	y	y	y	y	y	y
N	N	N	N	N	N	N	N	N	N	N	N
N	N	N	N	N	N	N	N	N	N	N	N
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
N	N	N	N	N	N	N	N	N	N	N	N
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

FD	FD	FD	FD	FD	fd	fd	fd	fd	fd	fd
46	47	48	49	50	51	52	53	54	55	56
9/28/2016	9/29/2016	9/30/2016	10/1/2016	10/2/2016	10/3/2016	10/4/2016	10/5/2016	10/6/2016	10/7/2016	10/8/2016
y	y	y	y	y	Y	Y	Y	Y	Y	Y
N	N	N	N	N	N	N	N	N	N	N
N	N	N	N	N	N	N	N	N	N	N
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
N	N	N	N	N	N	N	N	N	N	N
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

fd	fd	fd	fd	fd	fd	fd	fd	fd	fd	fd	fd	fd
57	58	59	60	61	62	63	64	65	66	67	68	69
10/9/2016	10/10	10/11	10/12	10/13	10/14	10/15	10/16	10/17	10/18	10/19	10/20	10/21
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
N	N	N	N	N	N	N	N	N	N	N	N	N
N	N	N	N	N	N	N	N	N	N	N	N	N
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
N	N	N	N	N	N	N	N	N	N	N	N	N
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

fd	fd	fd	fd	fd	fd	fd	fd	fd	fd	fd	fd	fd
70	71	72	73	74	75	76	77	78	79	80	81	82
10/22	10/23	10/24	10/25	10/26	10/27	10/28	10/29	10/30	10/31	1-Nov	11/2/2016	11/3/2016
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
N	N	N	N	N	N	N	N	N	N	N	N	N
N	N	N	N	N	N	N	N	N	N	N	N	N
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
N	N	N	N	N	N	N	N	N	N	N	N	N
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

fd	fd	fd	fd	fd	fd	fd	fd	fd	fd	fd
83	84	85	86	87	88	89	90	91	92	93
11/4/2016	11/5/2016	11/6/2016	11/7/2016	11/8/2016	11/9/2016	11/10/2016	11/11/2016	11/12/2016	11/13/2016	11/14/2016
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
N	N	N	N	N	N	N	N	N	N	N
N	N	N	N	N	N	N	N	N	N	N
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
N	N	N	N	N	N	N	N	N	N	N
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

fd	FD
94	
11/15/2016	11/16/2016
Y	
N	
N	
Y	
Y	
N	
Y	

PIT WAS BACKFILLED AND THE LAND WAS RECONTOURED TO SHAPE ORIGINAL STORMWATER RETENTION POND