NM2 - ____10____

OCD Approved/Closed C-141 for the July 15, 2022 Vadose Zone Release Notification

March 11, 2022

Jones, Brad, EMNRD

From:	Stuart Hyde <shyde@ensolum.com></shyde@ensolum.com>
Sent:	Tuesday, November 8, 2022 2:54 PM
То:	Jones, Brad, EMNRD
Cc:	Devin Hencmann
Subject:	[EXTERNAL] Bisti Landfarm Closed C-141
Attachments:	nrm2019558816_03_11_2022_C-141 Closure Approval.pdf

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Brad,

Link to C-141 incident. OCD Online: Imaging (nm.gov)



Stuart Hyde, LG Senior Geologist 970-903-1607 Ensolum, LLC in f 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-141 Revised August 24, 2018 Submit to appropriate OCD District office

Incident ID	NRM2019558816
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Western Refining Southwest, Inc.	OGRID: N/A
Contact Name: Greg McCartney	Contact Telephone: 419-310-4888
Contact email: gjmccartney@marathonpetroleum.com	Incident # (assigned by OCD)
Contact mailing address: 539 S Main Street, Room M-7081	Findlay, OH 45840

Location of Release Source

Latitude 36.402015

Longitude -<u>108.116614</u> (NAD 83 in decimal degrees to 5 decimal places)

Site Name: Bisti Landfarm	Site Type: Centralized Surface Waste Management Facility
Date Release Discovered: June 15, 2020	API# (<i>if applicable</i>) Landfarm Permit NM-2-0010

Unit Letter	Section	Township	Range	County
Ι	16	25N	12W	San Juan

Surface Owner: State Federal Tribal Private (Name: Western Refining Southwest, Inc.)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	Yes No
Condensate	Volume Released (bbls)	Volume Recovered (bbls)
🗌 Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
Other (describe):	Volume/Weight Released (provide units): Unknown	Volume/Weight Recovered (provide units): N/A
Petroleum and chloride		
impacted soil		

Cause of Release:

Elevated concentrations of chloride have been detected in soil at the Bisti Landfarm beneath the treatment zone at depths of approximately 4 feet below ground surface (bgs). Impacted soil (non-exempt, non-hazardous) originating from operations at pipelines, crude storage stations, and refineries waste was disposed of at the NMOCD permitted centralized surface waste management facility for remediation by landfarming between 1998 and 2004. In addition, with prior NMOCD approval, process wastewater evaporation pond sludge containing elevated chloride concentrations was brought to the landfarm in 2004. One soil sample from this waste stream was analyzed and contained a chloride concentration of 1,100 milligrams per kilogram (mg/kg). Regular vadose zone monitoring at the landfarm facility has indicated that chloride is present in subsurface soils.

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Oil Conservation Division

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Was this a major	If YES, for what reason(s) does the responsible party consider this a major release?
release as defined by	If TES, for what reason(s) does the responsible party consider this a major release?
19.15.29.7(A) NMAC?	
19.13.29.7(A) NMAC?	
🗌 Yes 🖂 No	
If YES, was immediate no	otice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

 \square The source of the release has been stopped.

The impacted area has been secured to protect human health and the environment.

Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: <u>Greg McCartney</u>	Title: <u>Senior Environmental Professional</u>
Signature: Drigos & Melat 7-6-2020	Date: <u>7/6/2020</u>
email: <u>gjmccartney@marathonpetroleum.com</u>	Telephone: <u>419-310-4888</u>
OCD Only	
Received by:	Date:

Received by OCD: 12/7/2022 4:08:58 PM

Oil Conservation Division

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Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	>200 (ft bgs)
Did this release impact groundwater or surface water?	Yes X No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	🗌 Yes 🗴 No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	🗌 Yes 🏝 No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	🗌 Yes 🗶 No
Are the lateral extents of the release 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?	🗌 Yes 🕅 No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	Yes X No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	🗌 Yes 🗴 No
Are the lateral extents of the release within 300 feet of a wetland?	Yes X No
Are the lateral extents of the release overlying a subsurface mine?	Yes X No
Are the lateral extents of the release overlying an unstable area such as karst geology?	Yes X No
Are the lateral extents of the release within a 100-year floodplain?	Yes X No
Did the release impact areas not on an exploration, development, production, or storage site?	X Yes 🗌 No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: Each of the following items must be included in the report.

- X Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- x Field data
- x Data table of soil contaminant concentration data
- x Depth to water determination
- X Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- X Boring or excavation logs
- Photographs including date and GIS information
- X Topographic/Aerial maps
- x Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

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regulations all operators are r public health or the environm failed to adequately investiga addition, OCD acceptance of and/or regulations. Printed Name: Greg M Signature: Bryord J email: gjmccartney@n	mation given above is true and complete t required to report and/or file certain releas nent. The acceptance of a C-141 report by the and remediate contamination that pose a C-141 report does not relieve the operat AcCartney	te notifications and perform co to the OCD does not relieve the a threat to groundwater, surfa tor of responsibility for compl	prrective actions for rele coperator of liability sho ce water, human health liance with any other feo vironmental Professio	ases which may endanger ould their operations have or the environment. In deral, state, or local laws
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<u>Remediation Plan Checklist</u>: Each of the following items must be included in the plan.

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Remediation Plan

Detailed description of proposed remediation technique Scaled sitemap with GPS coordinates showing delineation points х x Estimated volume of material to be remediated x Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC x Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required) Deferral Requests Only: Each of the following items must be confirmed as part of any request for deferral of remediation. Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction. Extents of contamination must be fully delineated. Contamination does not cause an imminent risk to human health, the environment, or groundwater. I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. Senior Environmental Professional Greg McCartney Printed Name: Title: Dogog & Milat Date: 10/29/2020 Signature: gjmccartney@marathonpetroleum.com 419-310-4888 Telephone: email: **OCD Only** Received by: Date: Approved Approved with Attached Conditions of Approval Denied Deferral Approved Signature: Date:

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Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: Each of the following items must be included in the closure report.				
x A scaled site and sampling diagram as described in 19.15.29.11 NMAC				
Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)				
X Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)				
X Description of remediation activities				
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete. Printed Name: Greg McCartney Title: Senior Environmental Professional Signature: Dreg JMJMM Date: 10/29/2020 email: gjmccartney@marathonpetroleum.com Telephone: 419-310-4888				
OCD Only				
Received by:	Date:			
Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.				
Closure Approved by: Nelson Velez	Date: 03/11/2022			
Closure Approved by: <u>Nelson Velez</u> Printed Name: <u>Nelson Velez</u>	Date: 03/11/2022 			





SITE CHARACTERIZATION REPORT AND VARIANCE REQUEST

BISTI LANDFARM 711 PERMIT NM-02-0010 SAN JUAN COUNTY, NEW MEXICO

OCTOBER 2020

Prepared for:

WESTERN REFINING SOUTHWEST, INC. 111 County Road 4990 Bloomfield, New Mexico 87413

Prepared by:

LT ENVIRONMENTAL, INC. 848 East Second Avenue Durango, Colorado 81301 970.385.1096

SITE CHARACTERIZATION REPORT AND VARIANCE REQUEST

BISTI LANDFARM SAN JUAN COUNTY, NEW MEXICO

Project Number: 029520002 NMOCD Incident Number: NRM2019558816

Prepared by:

Stuart Hyde, L.G. LTE Project Geologist October 29, 2020

Date

Ashley L. Ager

Reviewed by:

Ashley Ager, PG LTE Senior Geologist October 29, 2020

Date

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1.0 INTRODUCTION

On behalf of Western Refining Southwest, Inc. (Western), LT Environmental (LTE) has prepared this *Site Characterization Report and Variance Request* for the Bisti Landfarm 711 Permit NM-02-0010 (Site). Specifically, total petroleum hydrocarbons (TPH) and chloride were detected in vadose zone monitoring soil samples at concentrations above background and/or laboratory practical quantitation limits (PQLs) during the first quarter monitoring event in March 2020. These conditions are defined as a "release" of TPH and chloride in the regulations governing surface waste management facilities (19.15.36 [Part 36] of the New Mexico Administrative Code [NMAC]). In response and as recommended by the New Mexico Oil Conservation Division (NMOCD), a Form C-141 (*Release Notification*) was prepared by LTE and submitted to the Aztec, New Mexico NMOCD District 1 office on June 15, 2020. The vadose zone release will therefore be addressed under the criteria set forth in 19.15.29 NMAC (Part 29).

Based on the definition of a release in Part 36 and soil sampling results conducted as part of vadose zone monitoring requirements, several releases have occurred at the Site between 2015 and 2020. In an effort to address all potential releases under Part 29, Western conducted drilling activities to vertically and laterally delineate soil impacts at the Site. This report summarizes historical monitoring sampling results and recent delineation sampling results, and evaluates appropriate constituents of concern (COCs) and applicable standards. Based on site characterization information and anticipated imminent reclamation, a variance that is equally protective of public health and environment is proposed to address the presence of TPH and chloride in soils at the Site.

1.1 SITE DESCRIPTION AND HISTORY

The Site occupies approximately 28 acres in Section 16, Township 25 North, Range 12 West in San Juan County, New Mexico (Figure 1). In addition, the Site/landfarm is located on a 640 acre parcel of land which is privately owned by Western Refining Southwest, Inc. In 1998, Giant Industries, Arizona (Giant) permitted the Site as a surface waste management facility through the NMOCD under former Rule 711. Petroleum hydrocarbon impacted soil was originally disposed of at the Site in three treatment cells depending on the origin of the soil: the API Cell, Crude Cell, and Cell 1. The Crude Cell is further divided into four source zones containing material originating from Pettigrew, East Line, Bisti, and West Line.

In 2007, the NMOCD promulgated new rules (Part 36) pertaining to surface waste management facilities and required compliance with the new transitional provisions. Western acquired the Site from Giant in June 2007, however, no new cells or lifts had been added to the landfarm since 2004, prior to Western's purchase of the property. Cell 1 is no longer tilled or monitored based on a letter dated March 8, 2004, from the NMOCD to Giant stating Cell 1 was approved for discontinued maintenance. Western has continued to monitor and maintain the API Cell and the Crude Cell using the Rule 711 and provisional requirements of Part 36. TPH and chloride were detected during the March 2020 landfarm monitoring event in vadose zone soils at concentrations determined to be a release. After discussions with the NMOCD, Western submitted a Form C-141 *Release Notification* on July 6, 2020. The Form C-141 was submitted for the release discovered in March 2020, as well as historical releases identified at the Site between 2015 and 2020. Western initiated a subsurface investigation to delineate the chloride and TPH based on Part 29, which required multiple site visits. To complete the investigation and provide this report, Western requested and NMOCD granted a 45-day extension to the original report deadline of September 14, 2020 (approval attached as Appendix A).



2.0 SITE CHARACTERIZATION AND CLOSURE CRITERIA

As part of the site investigation, LTE assessed local geology/hydrogeology and nearby sensitive receptors according to 19.15.29.11 NMAC. This information is further discussed below.

2.1 GEOLOGY AND HYDROGEOLOGY

Based on United States Geological Survey (USGS) geologic mapping, the Site is located within the Tertiary Nacimiento Formation. In the report titled *Hydrogeology and Water Resources of San Juan Basin, New Mexico* (Stone, Lyford, Frenzel, Mizell, & Padgett, 1983), the Nacimiento Formation is characterized by interbedded black carbonaceous mudstones and white, coarse grained sandstones. This formation ranges in thickness from 418 to 2,232 feet. The Nacimiento Formation overlies the Ojo Alamo sandstone formation, which is the shallowest water bearing unit beneath the Site (Stone et. al., 1983 and Kernodle, 1996).

2.2 SITE RECEPTORS

Assessment of potential nearby receptors was conducted through desktop reviews of topographic maps, Federal Emergency Management Administration (FEMA) Geographic Information System (GIS) maps, United States Geological Survey (USGS) Geographic Information System (GIS) maps, New Mexico Office of the State Engineer (NMOSE) database, and aerial photographs as well as site specific observations. Applicable receptors for the Site include the following:

• **Groundwater:** Groundwater at the Site is estimated to be greater than 100 feet, as described in the original Rule 711 Permit (NM-02-0010) and approved by the NMOCD. The closest water well is located approximately 3.2 miles east of the Site (SJ-00079) and is screened at depths between 1,927 and 2,550 feet below ground surface (bgs) in the Cliff House and Allison formations. This well was installed by Shell Oil Company in 1957 for drilling and production operations of nearby oil wells. The next closest water well is a livestock well located 3.3 miles northeast (SJ-01716) with a reported depth-to-water of 210 feet bgs. Figure 2 presents water well locations near the Site.

Additionally, a tributary to the ephemeral West Fork of Gallegos Canyon is located approximately 2,000 lateral feet from the Site and is approximately 160 vertical feet lower in elevation than the Site.

- Wellhead Protection Area: As shown on Figure 2, no wellhead protection areas are located within a half mile of the Site.
- **Significant Watercourse:** There are no continuously flowing or other significant watercourses located within 300 feet of the Site (Figure 3).
- Lakebed, Sinkhole, or Playa Lake: There are no lakebeds, sinkholes, or playa lakes located within 200 feet of the Site (Figure 2 and Figure 3).
- Occupied Permanent Residence or Structures: As shown on Figure 3, there are no occupied permanent residences, schools, hospitals, institutions, and/or churches located within 300 feet of the Site (field verified by LTE personnel in September 2020).



- Domestic/Stock Springs, Private Water Wells, and Other Freshwater Springs or Water Wells: The Site is not located within 500 feet of a spring or private, domestic fresh water well and is not located within 1,000 feet of any other fresh water well or spring (Figure 2).
- Incorporated Municipal Boundaries or Defined Municipal Fresh Water Well Field: The Site is not located within an incorporated municipal boundary or defined municipal fresh water well field (Figure 3).
- Wetland: No wetlands are located within 300 feet of the Site according to the United States Fish and Wildlife Service National Wetland Inventory (Figure 3).
- **Subsurface Mine:** No active or abandoned subsurface mines are present in the vicinity of the Site according to the New Mexico Energy, Minerals, and Natural Resources Department (NM EMNRD) and the Energy Information Administration. This information was confirmed with Mr. Mike Thompson of the NM EMNRD in September 2020.
- **Unstable Area:** The Site is located within the Nacimiento geologic formation, which is not associated with karst geologic features. No faults or seismic activity are present within the Site vicinity. As such, unstable areas, as defined in 19.15.2 NMAC, are not located in the vicinity of the Site based on USGS geologic maps.
- **100-Year Floodplain:** The Site is located within an "area of minimal flood hazard, Zone X" according to the FEMA map number 35039C0875D, and is not located within the 100-year floodplain or a floodway (river channel or watercourse and adjacent land area reserved to discharge base flood without cumulatively increasing the water surface elevation more than a designated height) as shown on Figure 4.

2.3 CLOSURE CRITERIA

Based on the site characterization information presented above, groundwater is present at depths greater than 100 feet and no sensitive receptors are present within the radii presented in 19.15.29.11 NMAC. As such, Table 1 Closure Criteria (19.15.29.12[E] NMAC) applicable at the Site are as follows:

- Chloride: 20,000 milligrams per kilogram (mg/kg);
- TPH (Gasoline Range Organics [GRO] + Diesel Range Organics [DRO] + Motor Oil Range Organics [MRO]): 2,500 mg/kg;
- GRO+DRO: 1,000 mg/kg;
- Total BTEX (benzene, toluene, ethylbenzene, and xylenes): 50 mg/kg; and
- Benzene: 10 mg/kg.

According to 19.15.29.13.D NMAC, reclamation of areas no longer in use must contain a minimum of four feet of non-waste containing, uncontaminated, earthen material. This is defined in Part 29 as soil containing less than 600 mg/kg of chloride. There is no specific reference to TPH in the reclamation requirements. However, the NMOCD's *Procedures for Implementation of the Spill Rule*, dated September 6, 2019, interprets uncontaminated material to include TPH concentrations less than 100 mg/kg.



3.0 HISTORICAL SITE SAMPLING AND RESULTS

Petroleum hydrocarbon impacted soil was originally treated by landfarming at the Site in three treatment cells. Cells were divided based on the origin of the incoming soil: the API Cell, Crude Cell, and Cell 1. The Crude Cell is further divided into four source zones containing material originating from Pettigrew (located within the API Cell), East Line, Bisti, and West Line source areas. These boundaries are shown on Figure 5.

Historical sampling at the Site has followed protocols for monitoring presented in the original surface waste management facility permit issued under Rule 711, as well as the updated regulations in Part 36. The following monitoring requirements have been conducted in accordance with Rule 711 and Part 36:

- Rule 711:
 - Quarterly collection of one discrete sample from each treatment cell/source area, collected in vadose zone soil, for laboratory analyses of TPH-GRO, TPH-DRO, and BTEX compounds (benzene, toluene, ethylbenzene, and xylenes).
 - Annual collection of one discrete sample from each treatment cell/source area, collected in vadose zone soil, for laboratory analysis of major cations/anions (chloride, sulfate, alkalinity, bicarbonate, carbonate, calcium, manganese, potassium, and sodium) and heavy metals (arsenic, barium, cadmium, chromium, lead, selenium, silver, and mercury).
- Part 36:
 - Semi-annual collection of one composite sample from each treatment cell, collected within treatment zone soil, for TPH, DRO+GRO, and chloride.
 - Semi-annual collection of four discrete samples from each treatment cell/source area, collected in vadose zone soil, for TPH, DRO+GRO, BTEX, and chloride.
 - Collection of four discrete samples from each treatment cell/source area every five years, collected from vadose zone soil for the additional metals arsenic, barium, cadmium, chromium, lead, selenium, silver, uranium, copper, iron, manganese, mercury, and zinc.

Samples collected from the treatment zone are compared to Treatment Zone Closure Performance Standards in Part 36 to monitor attenuation of contaminants and the potential for additional lifts and/or landfarm closure. Samples collected in the vadose zone are compared to site background concentrations and/or laboratory PQLs. If concentrations detected in vadose zone samples exceed the respective site background concentrations or PQL, further sampling and assessment is required to confirm if a release has occurred at the Site as defined in Part 36. During the March 2020 release re-sampling event, vadose zone soil samples were collected and analyzed for constituents listed in the New Mexico Water Quality Control Commission (NMWQCC) regulations, 20.6.2.3103 NMAC, including volatile organic compounds (VOCs by EPA Method 8260), benzo(a)pyrene, polychlorinated biphenyls (PCBs), cyanide, and radiochemistry.

The sections below summarize historical results obtained under vadose monitoring requirements in Part 36 between 2015 and 2020 at the Site in order to describe the release. Since a release can only occur in the vadose zone in Part 36, treatment zone monitoring results are not discussed.



3.1 BACKGROUND CONCENTRATIONS

In accordance with Part 711, one "background" soil sample was collected at the Site prior to the construction of the landfarm. This original background sample was collected in March 1998 and analyzed for a limited list of constituents required by Part 711. One additional "background" samples was collected in September 2015 and analyzed for additional constituents as requested by the NMOCD. Background concentrations are summarized in Table 1.

3.2 VADOSE ZONE CHLORIDE RESULTS

Based on historical data, chloride has been detected in the vadose zone monitoring samples collected from 4 feet below the naturally occurring ground surface (below treated soil) above the site background concentration of 50 mg/kg, as well as the most stringent standard in Part 29 of 600 mg/kg. Figure 6A presents historical vadose zone sampling locations and associated chloride concentration ranges detected at the Site. Elevated chloride concentrations are primarily located within the API Cell and the Pettigrew source area of the Crude Cell (also located within the boundary of the API Cell). Tables 2 and 3 summarize historical vadose zone analytical results collected during ongoing monitoring events for the API and Crude Cells, respectively.

3.3 VADOSE ZONE TPH AND BTEX RESULTS

Based on historical data, TPH also has been detected in vadose zone monitoring samples (collected from 4 feet below the naturally occurring ground surface) above the site background concentration of 20 mg/kg, as well as the most stringent standard in Part 29 of 100 mg/kg. Figure 7A presents historical sampling locations and summarizes TPH concentration ranges detected at the Site. Elevated TPH concentrations are located within the East Line and West Line source areas of the Crude Cell. BTEX has not been detected above laboratory reporting limits in any vadose zone samples collected from either the Crude or API Cells at the Site. Tables 2 and 3 summarize historical vadose zone analytical results collected during ongoing monitoring events for the API and Crude Cells, respectively.

3.4 VADOSE ZONE CATIONS/ANIONS AND METALS CONSTITUENTS

During annual monitoring events, five-year monitoring events, and release re-sampling events, cations/anions and metals constituents were analyzed in vadose zone soils at the Site. Constituent concentrations were compared to site background concentrations to assess whether a "release" had occurred. Tables 2 and 3 summarize historical vadose zone analytical results collected during ongoing monitoring events for the API and Crude Cells, respectively.

3.5 VADOSE ZONE RELEASE RE-SAMPLING RESULTS AND PART 29 RELEASE REPORTING

Several constituents were detected above site background concentrations in vadose zone soils during monitoring events conducted between 2015 and 2020. In response, LTE re-sampled vadose zone soils in accordance with Part 36 (19.15.36.15[E][5]). Soil samples collected during the re-sampling event were analyzed for the following constituents: TPH, BTEX, chloride, anions/cations, metals, VOCs, benzo(a)pyrene, PCBs, phenol, cyanide, and radiochemistry. Re-sampling soil analytical results collected at the Site are summarized in Table 4.



3.5.1 Proposed Constituents of Concern

Several constituents have been detected at the Site during historical sampling events. Of these constituents, the following have been detected above the site background concentrations: TPH, chloride, sulfate, alkalinity, bicarbonate, carbonate, fluoride, nitrate, arsenic, barium, calcium, copper, iron, magnesium, manganese, potassium, sodium, and zinc. For constituents that exceeded site background concentrations, LTE has evaluated the resultant concentrations in the following order to identify COCs proposed to be addressed under Part 29:

- 1. Comparison to NMOCD Table 1 Closure Criteria (19.15.29.12 NMAC);
- 2. Comparison to NMOCD Reclamation Standards (19.15.29.13 NMAC);
- 3. Regional Background Concentrations (further described below);
- 4. Comparison to Table 1 of 40 Code of Federal Regulations (C.F.R) 261.24(b); then
- 5. Comparison to the Most Conservative (lowest) New Mexico Environment Department (NMED) Soil Screening Levels presented in the *Risk Assessment Guidance for Site Investigations and Remediation Volumes I and II* (NMED, 2017, NMED, 2019).

Only chloride and TPH are included as COCs on Table 1 Closure Criteria in Part 29. Detailed review of resultant concentrations suggest arsenic, barium, calcium, copper, iron, magnesium, manganese, potassium, sodium, and zinc concentrations detected during historical sampling events are within regional background concentrations for the San Juan Basin. The values of these results are either within 10 percent (%) of the established background concentration at the Site or correspond to published regional soil conditions. Because soil treated at the landfarm originated from multiple locations in the San Juan Basin, regional background concentrations established for the San Juan Basin were used to compare soil analytical results. USGS Paper 1134-C, *Geochemical Variability of Natural Soils and Reclaimed Mine-Spoil Soils in the San Juan Basin, New Mexico* (USGS, 1981), was used to compare soil sample concentrations of inorganic constituents to regional background concentrations and further eliminated the above listed parameters as COCs.

All detected concentrations of fluoride and nitrate were below the NMED soil screening levels for both human health and ecological protection. Lastly, sulfate, alkalinity, bicarbonate, and carbonate are general soil chemistry parameters. There are no soil screening levels established for these parameters by the NMOCD (19.15.29 NMAC), EPA (C.F.R. 261.23[b]), or NMED (NMED, 2017, NMED, 2019). These constituents/parameters also have been eliminated as COCs for the Site.

Based on the evaluation of potential COCs, chloride and TPH are proposed as final COCs to address under Part 29. Chloride and TPH concentrations have exceeded the NMOCD Reclamation Standards in historical samples and have been further assessed during the delineation activities described in the following sections.



4.0 2020 SITE DELINEATION ACTIVITIES

Historically, vadose zone samples have been collected at a depth of 4 feet below naturally occurring ground surface (below treated soils per Part 36), which is approximately 4.5 to 5 feet below current surface grade (assuming 6 to 8 inches of treated soils). To expand on the historical vadose zone sampling results in the API and Crude Cells at the Site, Western advanced soil borings to delineate the lateral and vertical extents of chloride and TPH in soil. Vertical delineation of soil was also intended to differentiate chloride and TPH concentrations above and below 4 feet bgs in order to delineate impacts in accordance with both the NMOCD Reclamation Standards (top 4 feet) and Table 1 Closure Criteria (below 4 feet for sites where groundwater is greater than 100 feet bgs).

Western utilized a track-mounted direct-push probe rig to advance borings SB01 to SB33 and a hand auger to advance borings SB33 to SB59 at the Site. Both drilling methods were recorded using a handheld Global Positing System (GPS) unit. Soil lithology was logged by an LTE geologist and described based on the Unified Soil Classification System (USCS) as specified in American Society for Testing and Materials (ASTM) D2488. Boring logs are attached as Appendix B. Soil was also inspected for visual staining and the presence or absence of odor. The soil was characterized by visually inspecting the soil samples, field screening the soil headspace using a photoionization detector (PID) to monitor for the presence of organic vapors, and field screening for the presence of chloride using Hach[®] Quantab[®] titrator stripes. Drilling and sampling equipment was decontaminated prior to each use. Completed borings were filled with hydrated bentonite from the total depth to ground surface.

Figures 6B and 7B present the delineation boring locations for chloride and TPH, respectively, in relation to historical results. In total, 58 borings were advanced at the Site ranging in depth from 4 to 16 feet bgs. Delineation activities and results are further described below.

4.1 SOIL BORING RESULTS

As stated above, soil borings were advanced to depths ranging from 4 to 16 feet bgs. In general, lithologies ranged from sandy silt/silty sand to sand. Groundwater and/or saturated soils were not encountered in any of the borings advanced during this work.

4.2 CHLORIDE DELINEATION ACTIVITIES

To assess historical chloride impacts, 34 borings were advanced in Pettigrew and Bisti source areas of the Crude Cell and within the API Cell at the Site. During drilling, Hach[®] Quantab[®] titrator strips were utilized to field screen for chloride in the soil and assess the necessity to advance borings deeper and/or advance additional borings for lateral delineation. Chloride field screening was performed at 1 to 2-foot intervals to the terminal boring depths. At least one soil sample was collected for analysis from each boring at a depth between 0 and 4 feet bgs that contained the highest field screening result. Generally, up to two additional soil samples were collected from each boring: one sample between 4 feet bgs and the terminal depth of the boring that contained the highest field screening results (if the boring was greater than 6 feet deep); and one at the terminal depth of the boring.

Samples were placed directly into pre-cleaned jars and labeled with location, date, time, sampler, and method of analysis and immediately placed on ice. Strict chain-of-custody procedures were followed



during transport of the samples to Hall Environmental Analysis Laboratory, Inc. (HEAL) in Albuquerque, New Mexico. Samples were analyzed for chloride by EPA Method 300.0.

4.2.1 Chloride Analytical Results

Based on analytical results, chloride concentrations did not exceed the Table 1 Closure Criteria (19.15.29.12 NMAC) of 20,000 mg/kg in any soil samples collected at depths greater than 4 feet bgs. However, several soil samples collected within the top 4 feet of the landfarm surface exceeded the Reclamation Standard of 600 mg/kg. Based on these results, chloride exceedances compared to appropriate standards are confined to the top 4 feet of soil bgs.

Analytical data from this delineation event provide more refined results both laterally and vertically through discrete samples and supersede historical data collected at the Site for defining areas of impacted soil. Boring locations and laboratory analytical results indicate that full vertical and lateral delineation of chloride at the Site was achieved during this sampling event. Elevated chloride concentrations are located within the API Cell and the Pettigrew source area of the Crude Cell (also located within the boundary of the API Cell). Chloride concentrations within the top 4 feet bgs range from 620 mg/kg to 3,500 mg/kg. Based on the delineation analytical results as compared to the Reclamation Standard of 600 mg/kg, an aerial extent of approximately 19,500 square feet of soil are impacted by elevated chloride. Assuming a maximum depth of 4 feet, approximately 2,888 cubic yards of soil exceeds 600 mg/kg in the top four feet of the landfarm.

Boring locations and chloride analytical results are presented on Figure 6B. The area of chloride impacted soil is also presented on Figure 8. Chloride analytical results are presented in Table 5. Analytical laboratory reports and chain-of-custody documentation are attached as Appendix C.

4.3 TPH DELINEATION ACTIVITIES

To assess historical TPH impacts, 24 borings were advanced in East Line and West Line source areas of the Crude Cell at the Site. During drilling, a PID was utilized to field screen the soil headspace for volatile organic vapors related to petroleum hydrocarbons. The PID results were used to assess the necessity to advance borings deeper and/or advance additional borings for lateral delineation. TPH field screening was performed at 1 to 2-foot intervals from the ground surface to the terminal boring depths. At least one soil sample was collected for analysis from each boring at depths ranging from 0 to 4 feet bgs that contained the highest field screening result. Generally, up to two additional soil samples were collected from each boring: one sample between 4 feet bgs and the terminal depth of the boring that contained the highest field screening results (if the boring was greater than 6 feet deep); and one at the terminal depth of the boring.

Samples were placed directly into pre-cleaned jars and labeled with location, date, time, sampler, and method of analysis and immediately placed on ice. Strict chain-of-custody procedures were followed during transport of the samples to HEAL. Samples were analyzed for TPH (as GRO, DRO, and MRO) by EPA Method 8015 M/D.

4.3.1 TPH Analytical Results

Based on analytical results, TPH concentrations did not exceed the Table 1 Closure Criteria (19.15.29.12 NMAC) of 2,500 mg/kg in any of the analyzed soil samples collected during the delineation sampling.



However, several soil samples collected within the top 4 feet of the landfarm surface exceeded the Reclamation Standard of 100 mg/kg. Based on these results, TPH exceedances compared to appropriate standards are confined to the top 4 feet of soil bgs and predominantly consist of MRO-, then DRO-range petroleum hydrocarbons, with no GRO-range hydrocarbon detected.

Boring locations and laboratory analytical results indicated that full vertical and lateral delineation of TPH at the Site was achieved during this sampling event. Elevated TPH concentrations are primarily located within the East Line source area, with a small area of elevated TPH located in the West Line source area, both located within the Crude Cell. As with chloride, analytical data from this delineation event provides more refined results and supersede historical data for defining areas of impacted soil. TPH concentrations within the top 4 feet of soil range between 114 and 1,000 mg/kg. Based on the delineation analytical results as compared to the Reclamation Standard, an aerial extent of approximately 14,500 square feet of soil are impacted by elevated TPH. Assuming a maximum depth of 4 feet, approximately 2,148 cubic yards of soil contain TPH exceeding 100 mg/kg.

Boring locations and TPH analytical results are summarized on Figure 7B. The area of TPH impacted soil is also presented on Figure 9. TPH analytical results are presented in Table 6. Analytical laboratory reports and chain-of-custody documentation also are attached as Appendix C.

4.4 SITE DELINEATION CONCLUSIONS

As presented above, chloride and TPH impacts have been fully delineated at the Site. Chloride and TPH concentrations are below Table 1 Closure Criteria. Concentrations exceeding the Reclamation Standards exist in the top 4 feet of soil. Figure 10 presents the impacted areas as compared to the entire landfarm boundary.



5.0 VARIANCE REQUEST

This Site presents an unusual circumstance, with one NMOCD regulation (Part 36) assigning a release at the landfarm due to concentrations exceeding background concentrations and/or laboratory PQLs from samples collected in the vadose zone beneath a landfarm. These elevated concentrations are to be addressed by another regulation (Part 29), under which the Closure Criteria requiring remediation are met. However, Part 29 includes an additional requirement that no waste containing, uncontaminated material exist in the top four feet of a release location for reclamation. Part 29 defines waste-containing, uncontaminated material as containing less than 600 mg/kg chloride and the NMOCD has suggested a TPH standard of 100 mg/kg apply to further define uncontaminated material. At this location, the NMOCD permitted a landfarm for waste to be treated at the ground surface. Typically, Treatment Zone Closure Performance Standards defined in Part 36 are used to determine if a permitted landfarm can proceed with closure and reclamation and the Reclamation Standards in Part 29 would not apply at all. Based on historical treatment zone monitoring conducted at the Site, the treated soil is in compliance with Part 36 Treatment Zone Closure Performance Standards. See the attached Graphic 1 for a visual representation of the conflict between Part 29 and Part 36 standards.

No soil has been accepted at the landfarm in 16 years and Western's ultimate goal is to close the landfarm. Before that can be accomplished, Western must address the historical vadose zone releases (as defined by Part 36) and receive closure of those releases from NMOCD under Part 29. Once that is completed, Western intends to proceed with closure of the landfarm, which includes extensive reclamation requirements specific to landfarms in Part 36.

Western has attempted in this report to transition the vadose zone release(s) to Part 29 by establishing appropriate COCs and delineating those COCs both vertically and laterally. The result is identification of soil that contains TPH and chloride concentrations that meet Part 29 Table 1 Closure Criteria but do not meet the Reclamation Standards for the top four feet of areas that are specifically *no longer in use*.

Based on continued maintenance and monitoring of the landfarm until final closure under Part 36 is achieved, a review of potential receptors located at and near the Site, and the type and extent of delineated impacts, Western requests a variance to the Reclamation Standards in Part 29 on the basis that application of Table 1 Closure Criteria and Part 36 reclamation requirements are equally or better protective of public health and environment. Western specifically requests, under Part 29, to apply Table 1 Closure Criteria for sites where groundwater is greater than 100 feet bgs to the entire vertical section of the Site. These criteria would apply to all soils below ground surface and include the following constituent concentrations: 20,000 mg/kg chloride, 2,500 mg/kg TPH, 1,000 mg/kg GRO+DRO, 50 mg/kg BTEX, and 10 mg/kg benzene.

The variance request is equally protective of fresh water, public health, and the environment for the following reasons:

• As presented in Section 2.2., the standards assigned are protective of the identified nearby potential receptors that would be exposed to the residual TPH and chloride concentrations that remain;



- Twenty-two (22) years of empirical data collected through ongoing landfarm monitoring, plus more recent delineation data, provide evidence that elevated concentrations of TPH and chloride are not migrating offsite and have not migrated vertically below 6 feet bgs;
- The source of the release is not active and no new source material has been added to the Site since 2004;
- Chloride is not toxic to humans or wildlife, and is generally regulated for protection of vegetation and groundwater quality;
- TPH concentrations detected at the Site predominantly consist of MRO range petroleum hydrocarbons that are immobile and less toxic to human and ecological receptors than lighterrange hydrocarbons. The hydrocarbon signature is characteristic of historically impacted soil that is undergoing attenuation with only the most stable hydrocarbon constituents remaining.
- The hydrocarbon concentrations are compliant with two other existing standards in New Mexico, both of which were established for the protection of public health and environment:
 - The hydrocarbon concentrations detected in Part 36 treatment zone monitoring samples are compliant with Part 36 Treatment Zone Closure Performance Standards.
 - Hydrocarbon concentrations in delineation and vadose zone monitoring samples are in compliance with soil screening levels for residential human-health and ecological exposures, as presented in Table 6-1 of the NMED *Risk Assessment Guidance for Site Investigations and Remediation*, Volumes I and II, also established for the protection of public health and environment.
- According to NMOCD's Guidelines for Part 29, the purpose of the reclamation standard is reclamation of all areas disturbed by the remediation and closure with a primary purpose of re-establishing vegetative growth.
 - The Reclamation Standard attempts to reduce chloride concentrations in the soil root zone (the A and B horizons of the soil profile). Based on field screening and analytical results, the majority of elevated chloride concentrations present at the Site are located at depths greater than 3 feet bgs. According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), the Site is located within the Doak-Sheppard-Shiprock soil profiles (Appendix D). According to the NRCS, only the Doak soil profile consists of both A and B soil horizons (plant root zones) up to depths of 41 inches bgs. The Sheppard and Shiprock soil types only consist of A horizons up to 3 inches with no B horizon. Based on this information, reclaimed vegetation at the Site will likely not be affected by elevated chloride concentrations present at depths below 3 feet bgs;
 - Western will ultimately apply Part 36 reclamation requirements, which achieve the same reclamation purpose and are more extensive than Part 29. Specifically, Part 36 requires that "Re-vegetation...shall consist of establishment of a vegetative cover equal to seventy percent of the native perennial vegetative cover (unimpacted by overgrazing, fire, or other intrusion damaging to native vegetation) or scientifically documented ecological description consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintenance of that cover through two successive growing seasons."



- Western will be required to continue vadose zone monitoring throughout the Part 36 closure activities. Any potential evidence of migration or elevated impacts will be documented and addressed.
- The NMOCD will not release Western's financial assurance for the landfarm until "the operator has successfully re-vegetated the site" and has met the revegetation requirement.

Based on the arguments presented above, LTE and Western believe that the residual TPH and chloride concentrations remaining at the Site do not pose a risk to fresh water, human health, or the environment. Leaving them in place is equally protective of public health and environment, except potentially for revegetation. However, landfarm closure under Part 36 will require adherence to similar reclamation requirements and extensive monitoring to ensure revegetation is successful.

To further this argument, LTE has conducted an informal evaluation of alternative remedial approaches should the Reclamation Standard in Part 29 be enforced. There are few remedial technologies effective in remediating chloride and TPH as primarily MRO and DRO. The most effective remedial method is excavation and disposal at a landfarm/landfill ("dig-and-haul"), which has its own negative environmental and social consequences from increased greenhouse gases, additional heavy truck traffic, and decreased landfill capacity. Industry accepted tools and methods have been created to evaluate unforeseen impacts of alternative remediation technologies. To evaluate the excavation scenarios, we utilized SiteWiseTM which was developed by Battelle and the US Navy.

To remove chloride impacts to 4 feet bgs, approximately 2,888 cubic yards of soil would be removed and transported 32 miles for disposal. This would be the addition of 288 heavy trucks making roundtrips from the site to the landfill, which can cause increased dust, noise, traffic, and safety concerns. In addition, the remediation method would contribute 75.8 metric tons of carbon dioxide (CO₂) equivalent greenhouse gases (GHGs). This amount of GHGs is equivalent to driving a passenger vehicle 189,444 miles.

To remove TPH impacts to 4 feet bgs, approximately 2,148 cubic yards of soil would be removed and transported for disposal. This would be an additional 214 heavy trucks making round trips. In addition, the remedy would contribute 57.1 metric tons of CO_2 equivalent GHGs, which is equivalent to driving a passenger vehicle 142,576 miles.

The chloride and TPH areas do not overlap and if the variance is not granted and dig-and-haul is required, then the total cumulative GHGs emitted in the process would be 132.9 metric tons, which is equivalent to a passenger car driving 332,020 miles. It appears that approach would be more harmful to public health and the environment under consideration of cumulative impact.

Alternatively, the Site can be remediated utilizing native plants for phytoremediation. However, if implemented prior to landfarm closure/post-closure activities under Part 36, a remediation approach using phytoremediation would require significant time, water, and ultimately delay final reclamation of the landfarm under Part 36. Alternatively, phytoremediation can be applied during closure/post-closure reclamation of the landfarm under Part 36, if necessary, and would achieve reclamation goals on a faster timeline by allowing landfarm closure and reclamation to proceed concurrently with remediation.



6.0 CLOSURE REQUEST

The primary purpose of the Bisti Landfarm has been to remediate petroleum contaminated soil originating from release sites in the San Juan Basin. To this end, the landfarm has successfully remediated TPH and BTEX concentrations to below the Treatment Zone Closure Performance Standards presented in 19.15.36.15 NMAC based on monitoring required in Part 36. However, vadose zone monitoring requirements in Part 36 have identified releases based on comparison of detected concentrations to background results and laboratory PQLs. Based on conversations with NMOCD, the releases must be addressed under Part 29. Site characterization and delineation results indicate the COCs are chloride and TPH and that the concentrations present at the Site meet Table 1 Closure Criteria, but are not compliant with Reclamation Standards applicable to the top four feet of areas to be reclaimed after remediation.

Based on the arguments presented in Section 5.0, LTE and Western respectfully request a variance to the Reclamation Standard in Part 29. The variance includes applying Table 1 Closure Criteria to the entire vertical section of soil and reclaiming the Site under Part 36 requirements. Based on site conditions and concentrations compliant with other New Mexico environmental standards, LTE and Western do not believe the residual concentrations of chloride and TPH pose an elevated risk to fresh water, human health, or the environment. In addition, the landfarm closure and post-closure reclamation and monitoring requirements under Part 36 will ensure that the requested variance offers equal or better protection to groundwater and vegetation and that the Site will ultimately be reclaimed properly.

As such, Western requests NMOCD approval that no further action is required at the Site to remediate residual chloride and TPH concentrations under Part 29.



7.0 REFERENCES

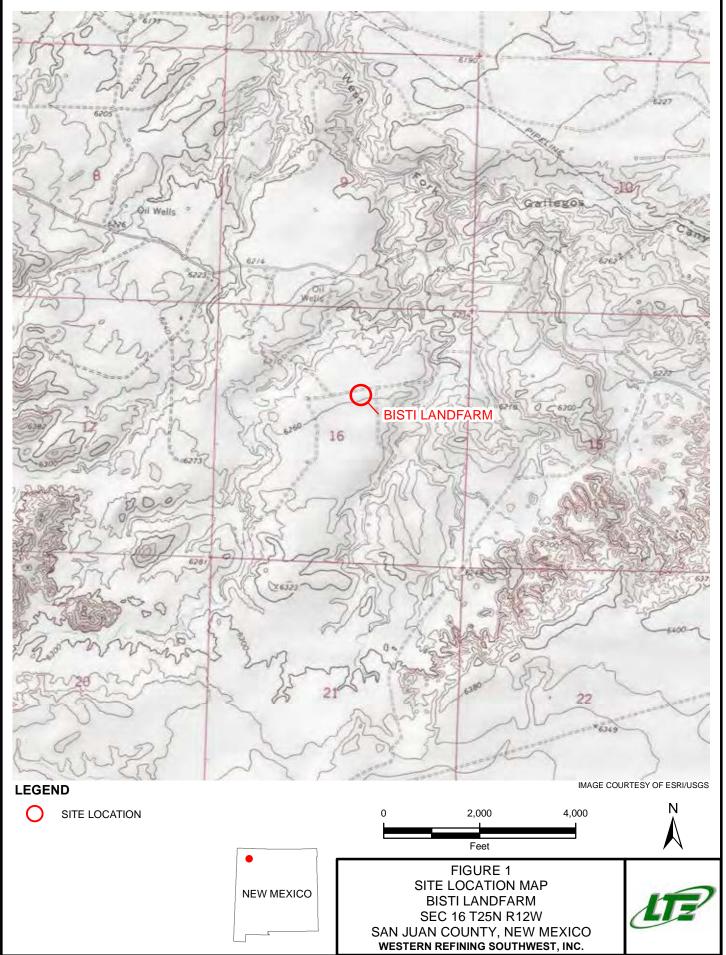
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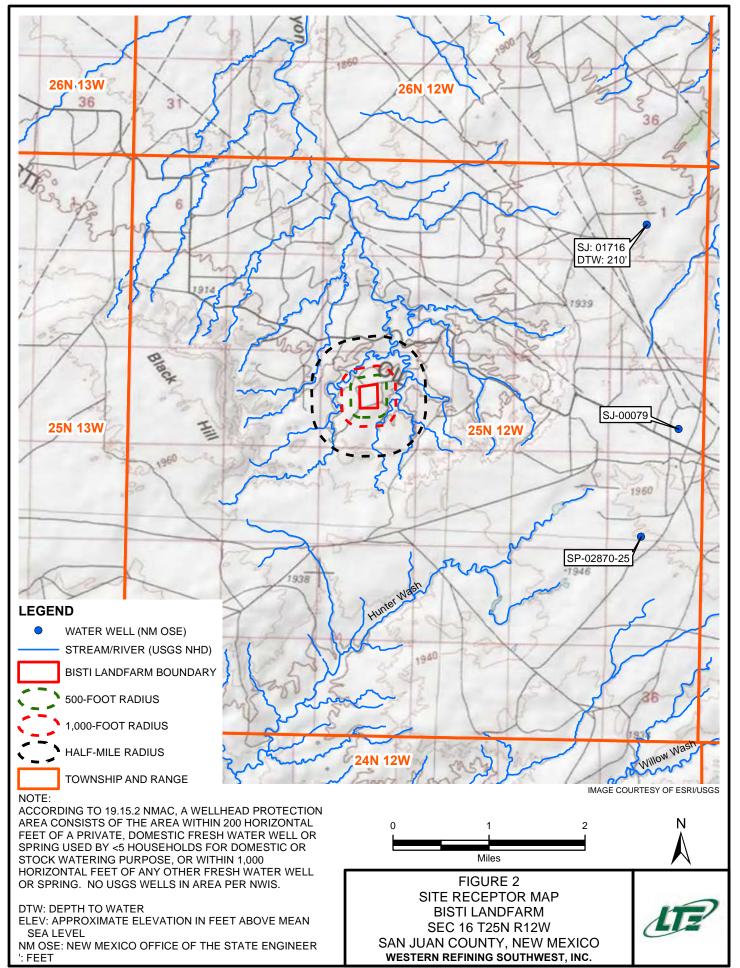
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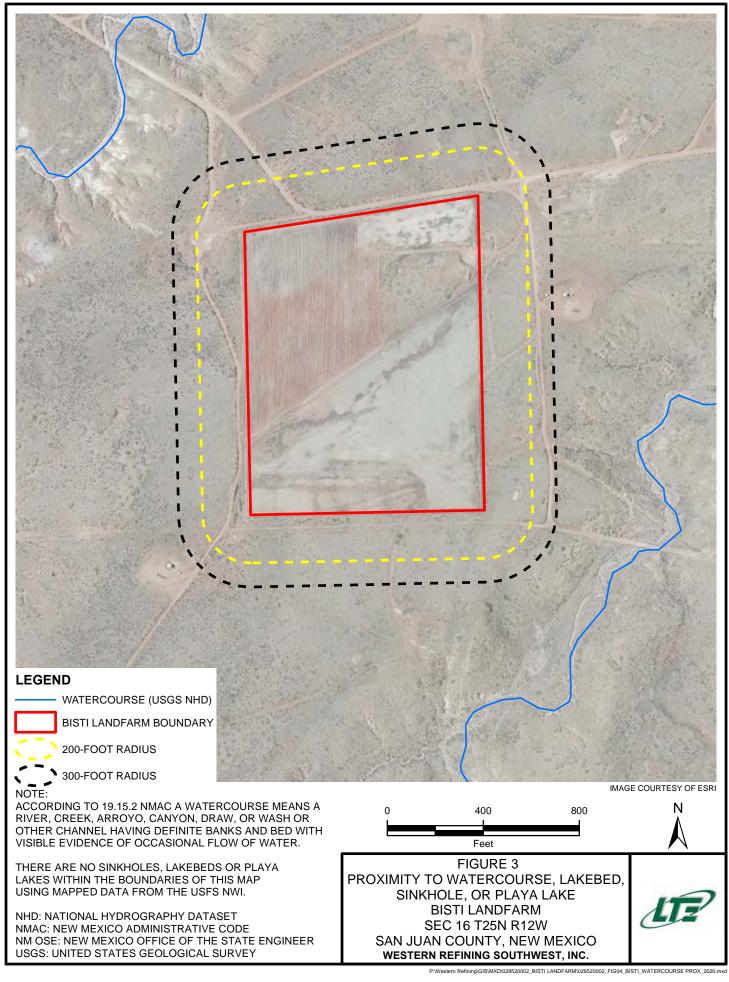
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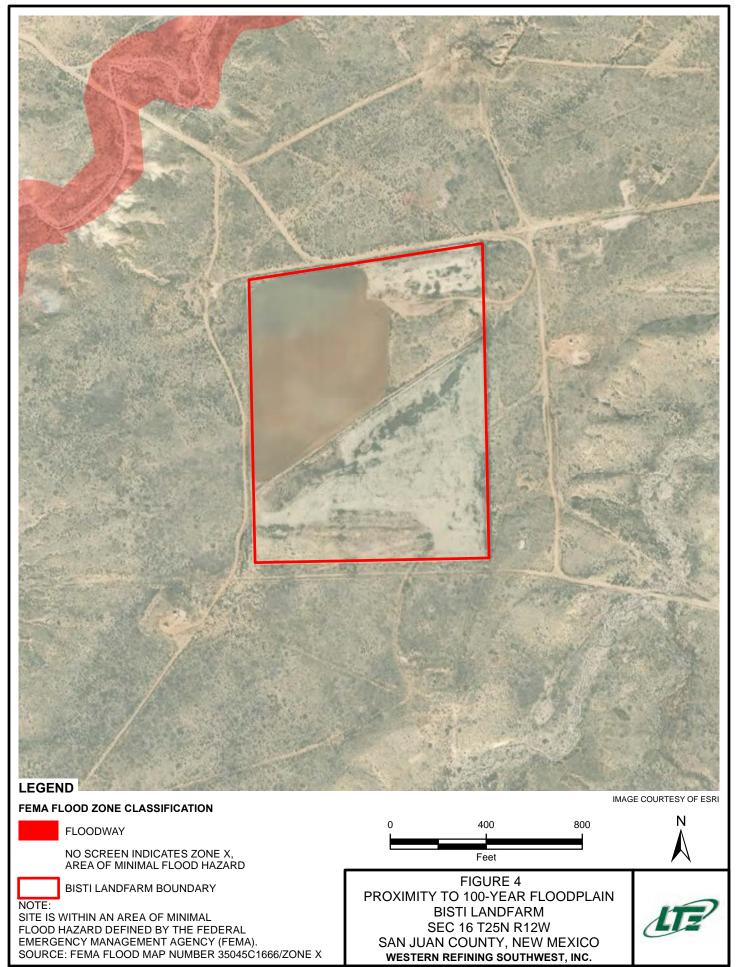




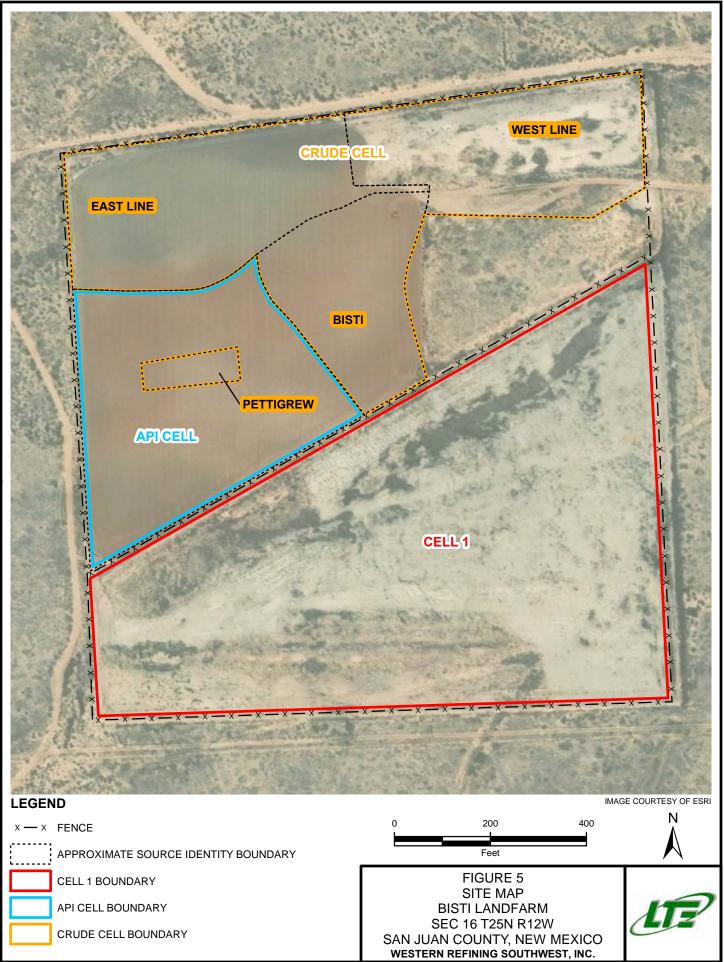
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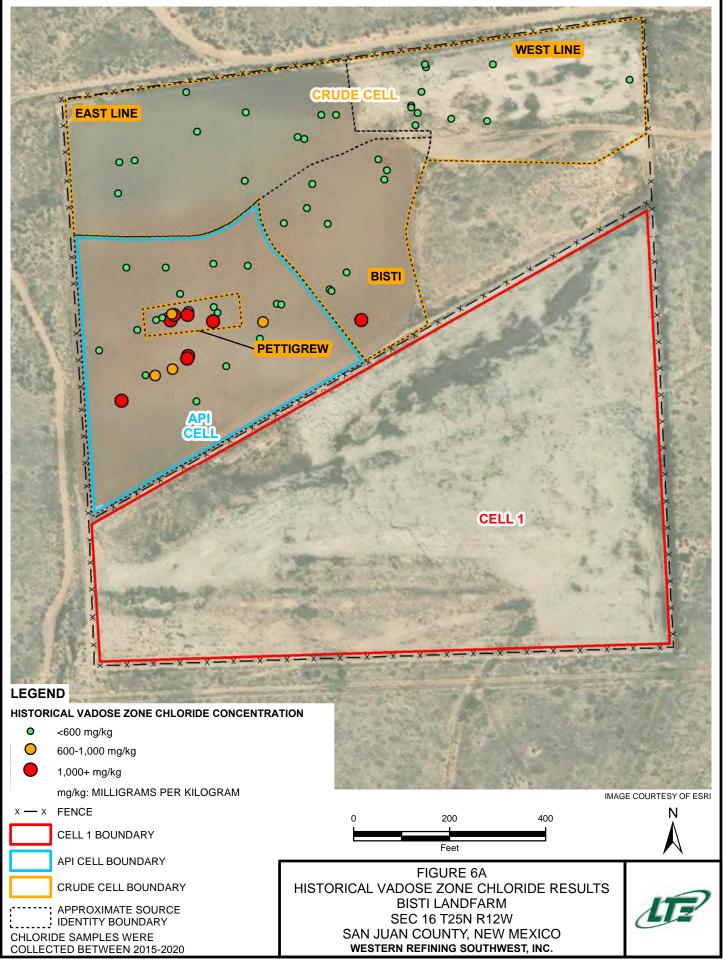




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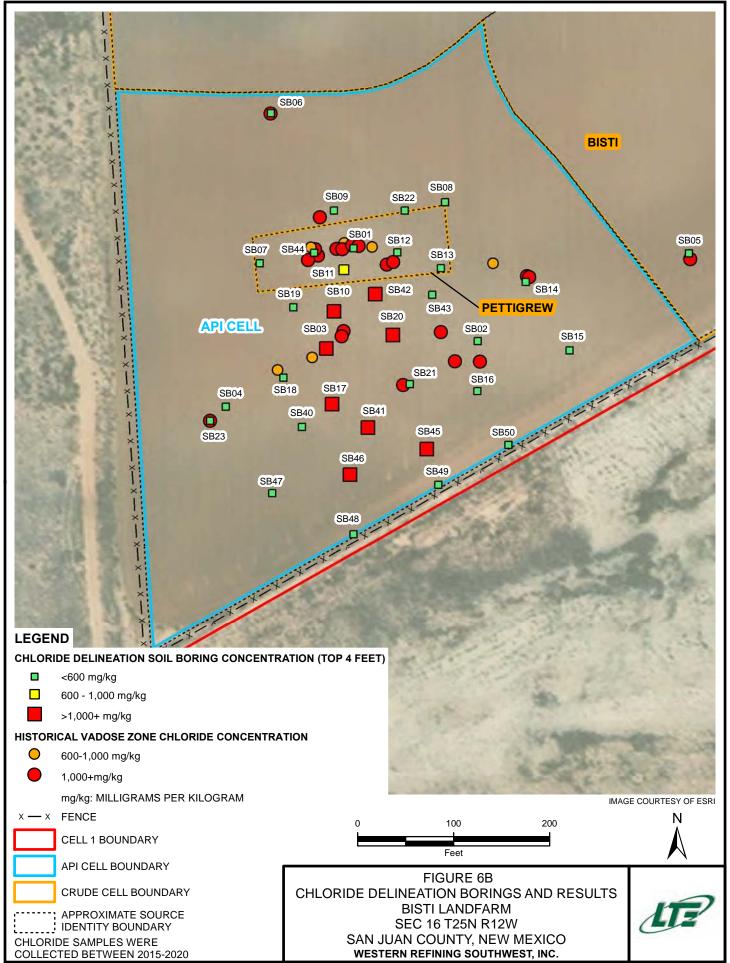


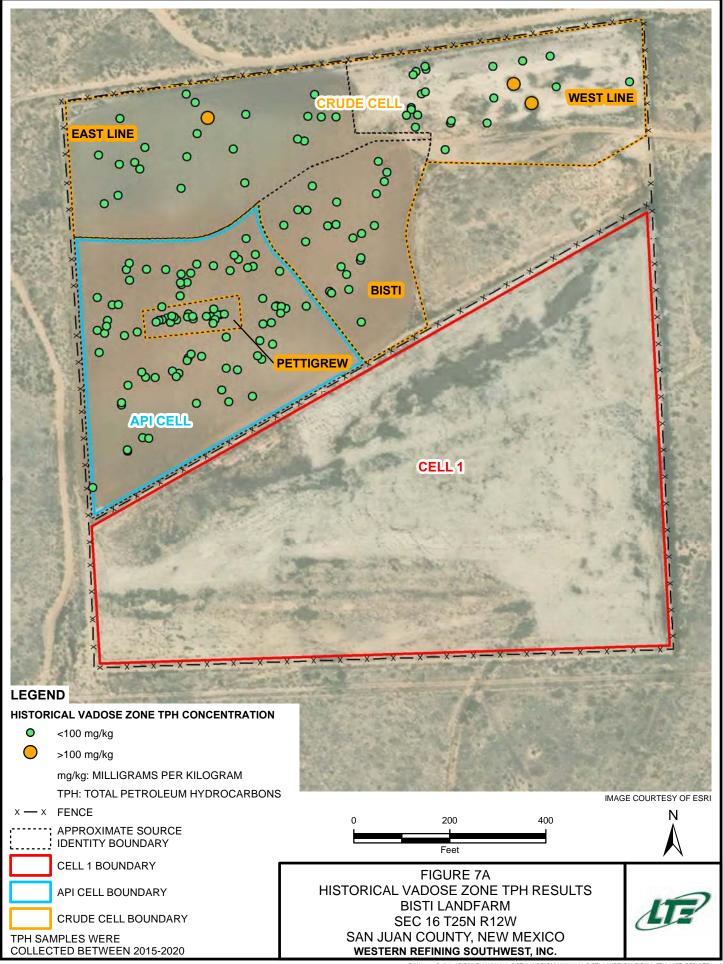
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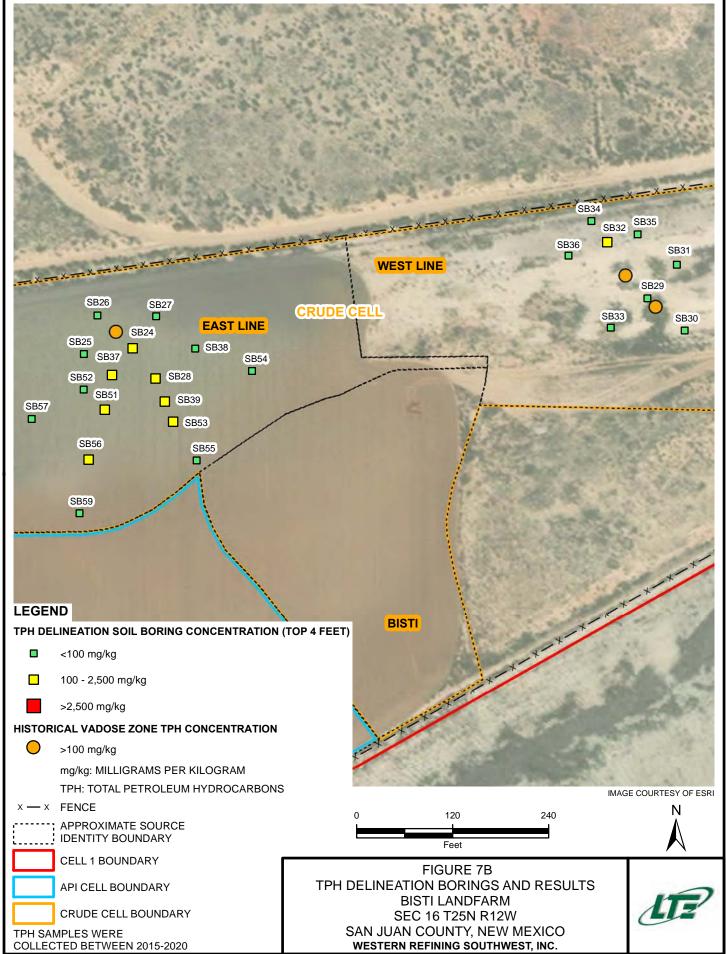
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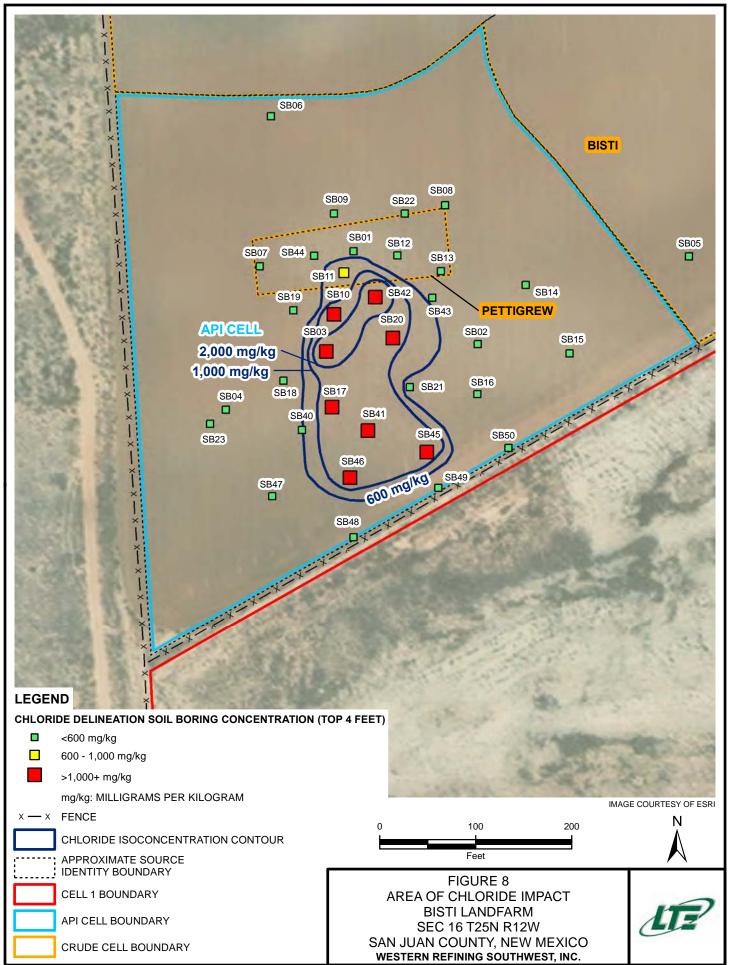


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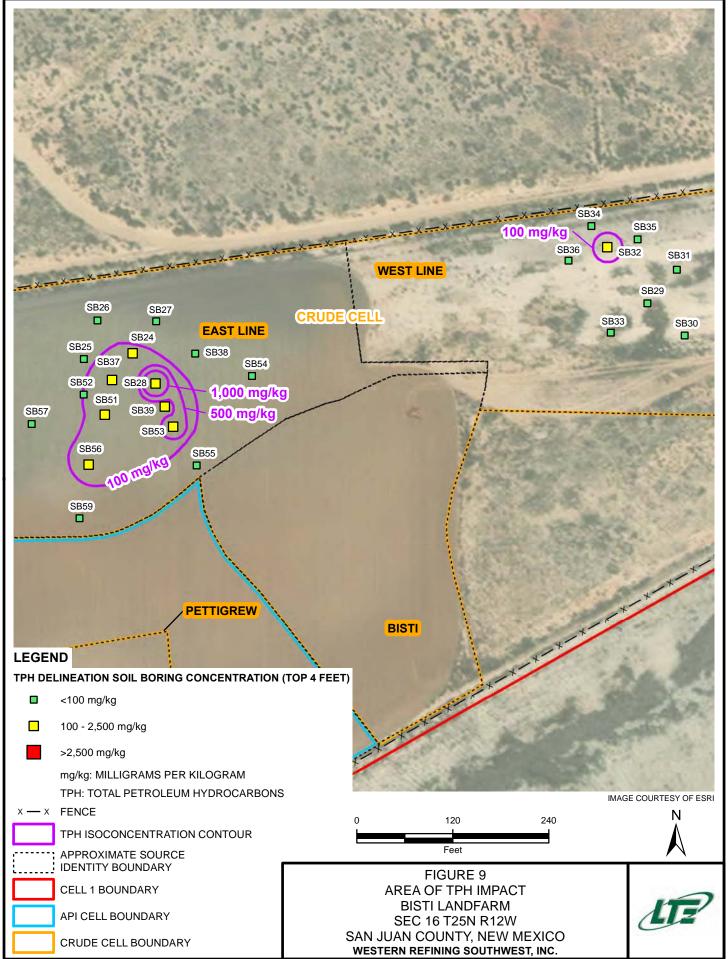


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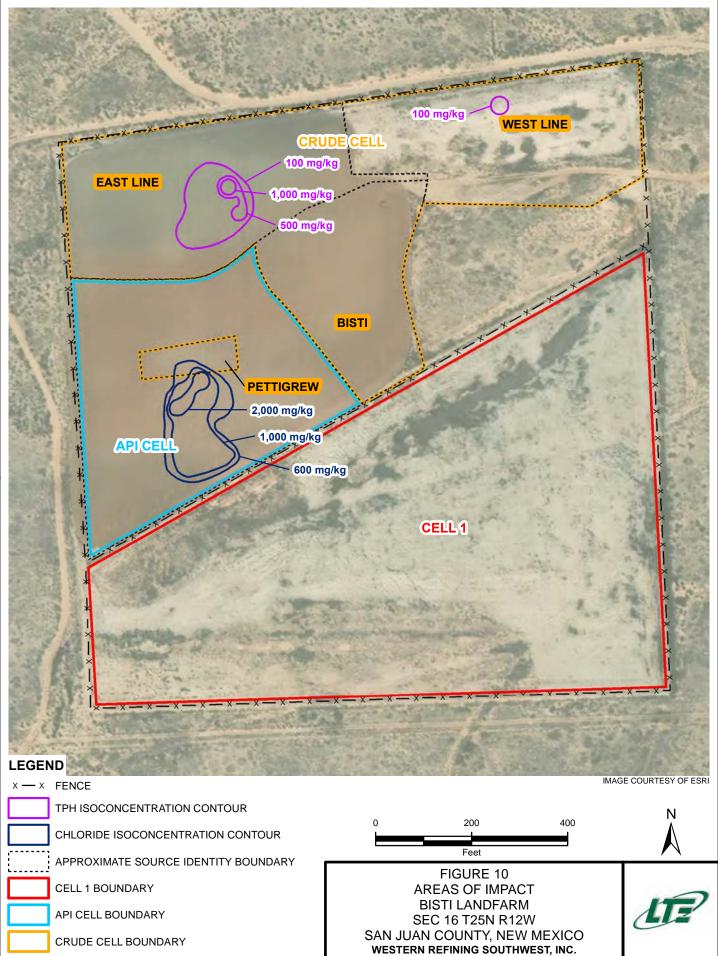
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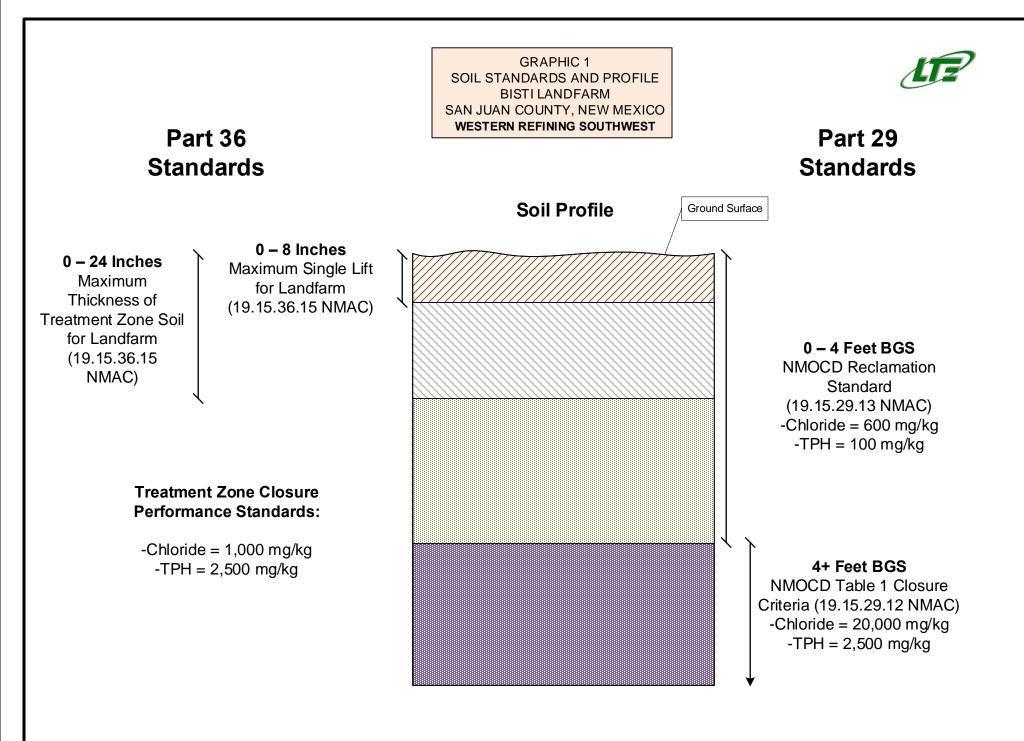


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TABLES



TABLE 1 BACKGROUND AND SOIL-SCREENING LEVEL CONCENTRATIONS

ANALYTE	UNITS	1998 Background Sample Concentrations 27-Mar-98	2015 Updated Background Sample Concentrations	San Juan Basin Soil Composition, Regional Background Concentrations (USGS, 1)
Petroleum Hydrocarbons by EPA Method 8015M/D				
Gasoline Range Organics (GRO)	mg/kg	NA	<4.8	NE
Diesel Range Organics (DRO)	mg/kg	<50	<9.9	NE
Motor Oil Range Organics (MRO)	mg/kg	NA	<50	NE
Total Petroleum Hydrocarbons by Method 418.1 or 8015M/D				
TPH (DRO+GRO+MRO)	mg/kg	NA	<20	NE
Volatile Organic Compounds by EPA Method 8260B				
benzene	mg/kg	NA	<0.048	NE
toluene	mg/kg	NA	<0.048	NE
ethylbenzene	mg/kg	NA	<0.048	NE
methyl tert-butyl ether (MTBE)	mg/kg	NA	<0.048	NE
1,2-dichloroethane (EDC)	mg/kg	NA	<0.048	NE
1,2-dibromoethane (EDB)	mg/kg	NA	<0.048	NE
naphthalene	mg/kg	NA	<0.095	NE
1-methylnaphthalene	mg/kg	NA	<0.19	NE
2-methylnaphthalene	mg/kg	NA	<0.19	NE
bromodichloromethane	mg/kg	NA	<0.048	NE
bromoform (tribromomethane)	mg/kg	NA	<0.048	NE
bromomethane	mg/kg	NA	<0.14	NE
carbon tetrachloride (tetrachloromethane)	mg/kg	NA	<0.048	NE
chlorobenzene (monochlorobenzene)	mg/kg	NA	<0.048	NE
chloroform (trichloromethane)	mg/kg	NA	<0.048	NE
chloromethane	mg/kg	NA	<0.14	NE
cis-1,2-dichloroethene (cis-1,2-DCE)	mg/kg	NA	<0.048	NE
cis-1,3-dichloropropene	mg/kg	NA	<0.048	NE
1,2-dichlorobenzene	mg/kg	NA	<0.048	NE
1,4-dichlorobenzene	mg/kg	NA	<0.048	NE
dichlorodifluoromethane	mg/kg	NA	<0.048	NE
1,1-dichloroethane	mg/kg	NA	<0.048	NE
1,1-dichloroethene	mg/kg	NA	<0.048	NE
1,2-dichloropropane	mg/kg	NA	<0.048	NE
1,1-dichloropropene	mg/kg	NA	<0.095	NE
hexachlorobutadiene	mg/kg	NA	<0.095	NE
methylene chloride (dichloromethane)	mg/kg	NA	<0.14	NE
styrene	mg/kg	NA	<0.048	NE
1,1,2,2-tetrachloroethane	mg/kg	NA	<0.048	NE
tetrachloroethene (PCE)	mg/kg	NA	<0.048	NE
trans-1,2-dichloroethene (trans-1,2-DCE)	mg/kg	NA	<0.048	NE
trans-1,3-dichloropropene	mg/kg	NA	<0.048	NE

TABLE 1 BACKGROUND AND SOIL-SCREENING LEVEL CONCENTRATIONS

ANALYTE	UNITS	1998 Background Sample Concentrations 27-Mar-98	2015 Updated Background Sample Concentrations 1-Sep-15	San Juan Basin Soil Composition, Regional Background Concentrations (USGS, 1)
1,2,4-trichlorobenzene	mg/kg	NA	<0.048	NE
1,1,1-trichloroethane	mg/kg	NA	<0.048	NE
1,1,2-trichloroethane	mg/kg	NA	<0.048	NE
trichloroethene (TCE)	mg/kg	NA	<0.048	NE
trichlorofluoromethane	0, 0		<0.048	NE
	mg/kg	NA		
vinyl chloride (chloroethene) xylenes, total	mg/kg mg/kg	NA NA	<0.048 <0.095	NE NE
Polycyclic Aromatic Hydrocarbons by EPA Method 8270				
Benzo(a)pyrene	mg/kg	NA	<0.0099	NE
Total Phenol by Method 9066				
Total Phenol	mg/kg	NA	<0.67	NE
Metals by EPA Method 6010/6020				
Arsenic	mg/kg	2.8	NA	1.7 - 7.6
Barium	mg/kg	180	NA	330 - 1,200
Cadmium	mg/kg	<1.3	NA	NE
Calcium	mg/kg	2,500	NA	4,000 - 34,000
Chromium	mg/kg	<5.0	NA	5.5 - 40
Copper	mg/kg	NA	3.2	1.6 - 19
Iron	mg/kg	NA	7,200	4,400 - 15,000
Lead	mg/kg	6.8	NA	6 - 19
Magnesium	mg/kg	1,300	NA	1,100 - 7,200
Manganese	mg/kg	NA	150	81 - 1,000
Mercury	mg/kg	<0.5	NA	NE
Potassium	mg/kg	810	NA	17,000 - 31,000
Selenium	mg/kg	<2.5	NA	NE
Silver	mg/kg	<1.3	NA	NE
Sodium	mg/kg	90	NA	7,000 - 17,000
Uranium	mg/kg	NA	<4.9	NE
Zinc	mg/kg	NA	14	14 - 44
Polychlorinated Biphenyls by EPA Method 8082				
Aroclor 1016	mg/kg	NA	<0.020	NE
Aroclor 1221	mg/kg	NA	<0.020	NE
Aroclor 1232	mg/kg	NA	<0.020	NE
Aroclor 1242	mg/kg	NA	<0.020	NE
Aroclor 1248	mg/kg	NA	<0.020	NE
Aroclor 1254	mg/kg	NA	<0.020	NE
Aroclor 1260	mg/kg	NA	<0.020	NE
Cyanide by Method 9012B				
Cyanide	mg/kg	NA	<0.25	NE

TABLE 1 BACKGROUND AND SOIL-SCREENING LEVEL CONCENTRATIONS

BISTI LANDFARM SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

ANALYTE	UNITS	1998 Background Sample Concentrations 27-Mar-98	2015 Updated Background Sample Concentrations	San Juan Basin Soil Composition, Regional Background Concentrations (USGS, 1)
Anions by EPA Method 300.0				
Chloride	mg/kg	<50	NA	NE
Fluoride	mg/kg	NA	0.84	NE
Nitrogen, Nitrate (As N)	mg/kg	NA	<0.30	NE
Sulfate	mg/kg	140	NA	NE
pH by Method SM4500-H+B				
рН	pH units	NA	7.89	NE
Radiochemistry by EPA Method 901.1				
Radium-226 **	pCi/g	NA	0.737 +/- 0.242	NE
Radium-228 **	pCi/g	NA	0.806 +/- 0.338	NE
General Chemistry		Ī		
Total Alkalinity (carbonate/bicarbonate)	mg/kg	136	NA	NE

Notes:

(1) - background soil concentrations based on Table 4 values (soil considered to have potential for use as topsoil), USGS Paper 1134-C,

Geochemical Variability of Natural Soils and Reclaimed Mine-Spoil Soils in the San Juan Basin, New Mexico.

(2) - the lower cleanup standard is used for site reclamation within the top four feet of soil

TPH - Total Petroleum Hydrocarbons

mg/kg - milligrams per kilogram

DRO - diesel range organics

GRO - gasoline range organics

BTEX - benzene, toluene, ethylbenzene, total xylenes

NA - Not Analyzed

NE - Not Established

NMAC - New Mexico Administrative Code

NMOCD - New Mexico Oil and Gas Conservation Division

NMOCD Closure Criteria from July 2018 rule, Table 1; >100 feet to groundwater

PQL - practical quantitation limit

USGS - United Stated Geological Survey

< indicates result is less than the stated laboratory method practical quantitation limit

** - screening level from ATSDR Toxicological Profile for Radium

Gray shading indicates the site background concentrations and/or PQL used for monitoring purposes

TABLE 2 2015 - 2020 API CELL VADOSE ZONE SOIL ANALYTICAL RESULTS

BISTI LANDFARM SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

Analyte	PQL	NMOCD Table 1 Closure Criteria (NMAC 19.15.29)	Site Background Concentrations (27-Mar-98 and 1-Sept-15)	San Juan Basin Soil Composition (USGS, 1)	Minimum Detected Concentration	Maximum Detected Concentration
TPH (mg/kg)						
TPH Method: 8015	50	100/2,500 (2)	<50	NE	<9.1	<50
TPH GRO	4.8	Combined 1,000	<4.8	NE	<4.6	<5.0
TPH DRO	9.9	combined 1,000	<9.9	NE	<9.1	<10
TPH MRO	50	NE	<50		<50	<51
TPH Method: 418.1	20	100/2,500 (2)	<20	NE	<18	<20
BTEX (mg/kg)						
Benzene	0.048	10.0	<0.048	NE	< 0.023	< 0.050
Toluene	0.048	NE	<0.048	NE	< 0.023	< 0.050
Ethylbenzene	0.048	NE	<0.048	NE	<0.023	<0.050
Xylenes	0.048	NE	<0.048	NE	< 0.093	<0.010
Total BTEX	0.048	50.0	<0.048	NE	< 0.093	<0.10
General Chemistry (mg/kg)						
Chloride	38	600/20,000 (2)	<50	NE	1.80	4,800
Sulfate (3)	110	NE	140	NE	84.0	800
Alkalinity (3)	NE	NE	136	NE	60.0	120
Bicarbonate (3)	21	NE	110	NE	73.0	128
Carbonate (3)	5	NE	26	NE	147	147
Metals (mg/kg)						
Arsenic	2.4	NE	2.8	1.7 - 7.6	<2.4	<2.8
Barium	0.097	NE	180	330 - 1,200	46.0	170
Cadmium	0.097	NE	<1.3	NE	< 0.097	<0.15
Calcium	25	NE	2,500	4,000 - 34,000	1,500	3,200
Total Chromium	0.29	NE	<5.0	5.5 - 40	1.40	3.20
Copper	0.29	NE	3.2	1.6 - 19	1.50	2.70
Iron	120	NE	7,200	4,400 - 15,000	4,700	6,700
Lead	0.24	NE	6.8	6 - 19	1.30	2.40
Magnesium	25	NE	1,300	1,100 - 7,200	940	940
Manganese	0.097	NE	150	81 - 1,000	87.0	130
Mercury	0.031	NE	<0.5	NE	< 0.032	< 0.034
Potassium	50	NE	810	17,000 - 31,000	500	670
Selenium	2.5	NE	<2.5	NE	<2.4	<.4.4
Silver	0.24	NE	<1.3	NE	<0.24	<0.29
Sodium	25	NE	90	7,000 - 17,000	93.0	3,600
Uranium	4.9	NE	<4.9	NE	<4.9	<5.0
Zinc	2.4	NE	14	14 - 44	8.90	13.0

Notes:

(1) - background soil concentrations based on Table 4 values (soil considered to have potential for use as topsoil), USGS Paper

1134-C, Geochemical Variability of Natural Soils and Reclaimed Mine-Spoil Soils in the San Juan Basin, New Mexico.

(2) - the lower cleanup standard is used for site reclamation within the top four feet of soil

(3) - sulfate, alkalinity, bicarbonate, and carbonate are general chemistry soil parameters, not chemicals. There are no soil

screening levels for these parameters included in the EPA Regional Screening Levels (RSLs) or the NMED risk assessment guidance BTEX - benzene, toluene, ethylbenzene, total xylenes

DRO - diesel range organics GRO - gasoline range organics

mg/kg - milligrams per kilogram

NE - Not Established

NMAC - New Mexico Administrative Code NMED - New Mexico Environment Department

NMOCD - New Mexico Oil and Gas Conservation Division

PQL - practical quantitation limit

TPH - Total Petroleum Hydrocarbons

USGS - United Stated Geological Survey

 ${\mbox{-}}$ indicates result is less than the stated laboratory method practical quantitation limit

Bold indicates concentration exceeds the higher of background concentrations or NMOCD Table 1 Closure Criteria

TABLE 3 2015 - 2020 CRUDE CELL VADOSE ZONE SOIL ANALYTICAL RESULTS

BISTI LANDFARM SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

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Analyte	PQL	NMOCD Table 1 Closure Criteria (NMAC 19.15.29)	Site Background Concentrations (27-Mar-98 and 1-Sept-15)	San Juan Basin Soil Composition (USGS, 1)	Minimum Detected Concentration	Maximum Detected Concentration
TPH (mg/kg)						
TPH Method: 8015	50	100/2,500 (2)	<50	NE	15.0	106
TPH GRO	4.8	Combined 1,000	<4.8	NE	<4.6	<5.0
TPH DRO	9.9	Combined 1,000	<9.9	NE	10.0	53
TPH MRO	50	NE	<50		61.0	61.0
TPH Method: 418.1	20	100/2,500 (2)	<20	NE	26.0	91.0
BTEX (mg/kg)						
Benzene	0.048	10.0	<0.048	NE	< 0.023	< 0.050
Toluene	0.048	NE	<0.048	NE	< 0.023	< 0.050
Ethylbenzene	0.048	NE	<0.048	NE	< 0.023	< 0.050
Xylenes	0.048	NE	<0.048	NE	< 0.093	< 0.010
Total BTEX	NE	50.0	<0.048	NE	< 0.093	<0.10
General Chemistry (mg/k	g)					
Chloride	<50	600/20,000 (2)	<50	NE	1.60	3,500
Sulfate (3)	110	NE	140	NE	14.0	340
Alkalinity (3)	NE	NE	136	NE	46.0	534
Bicarbonate (3)	21	NE	110	NE	56.0	510
Carbonate (3)	5	NE	26	NE	<4	<4
Metals (mg/kg)						
Arsenic	2.4	NE	2.8	1.7 - 7.6	2.50	3.40
Barium	0.097	NE	180	330 - 1,200	40.0	1,100
Cadmium	0.097	NE	<1.3	NE	< 0.097	<5.0
Calcium	25	NE	2,500	4,000 - 34,000	1,100	7,000
Total Chromium	0.29	NE	<5.0	5.5 - 40	0.670	3.50
Copper	0.29	NE	3.2	1.6 - 19	1.60	3.80
Iron	120	NE	7.200	4.400 - 15.000	4,500	8,900
Lead	0.24	NE	6.8	6 - 19	1.20	6.40
Magnesium	25	NE	1,300	1,100 - 7,200	890	1,700
Manganese	0.097	NE	150	81 - 1.000	84.0	320
Mercury	0.03	NE	<0.5	NE	< 0.0029	< 0.034
Potassium	50	NE	810	17,000 - 31,000	360	1,100
Selenium	2.5	NE	<2.5	NE	<2.4	<12
Silver	0.24	NE	<1.3	NE	< 0.24	<4.8
Sodium	25	NE	90	7,000 - 17,000	45.0	2,800
Uranium	4.9	NE	<4.9	NE	<4.8	<25
Zinc	2.4	NE	14	14 - 44	8.50	17.0

Notes:

(1) - background soil concentrations based on Table 4 values (soil considered to have potential for use as topsoil), USGS Paper 1134-C, Geochemical Variability of Natural Soils and Reclaimed Mine-Spoil Soils in the San Juan Basin, New Mexico.

 (2) - the lower cleanup standard is used for site reclamation within the top four feet of soil
 (3) - sulfate, alkalinity, bicarbonate, and carbonate are general chemistry soil parameters, not chemicals. There are no soil screening levels for these parameters included in the EPA Regional Screening Levels (RSLs) or the NMED risk assessment guidance document.

tor these parameters included in the EPA Regional Scr BTEX - benzene, toluene, ethylbenzene, total xylenes DRO - diesel range organics GRO - gasoline range organics mg/kg - miligrams per kilogram NE - Not Established

NE - Not Established NMAC - New Mexico Administrative Code NMED - New Mexico Environment Department NMOCD - New Mexico Oil and Gas Conservation Division PQL - practical quantitation limit TPH - Total Petroleum Hydrocarbons

USGS - United Stated Geological Survey < indicates result is less than the stated laboratory method practical quantitation limit Bold indicates concentration exceeds the higher of background concentrations or NMOCD Table 1 Closure Criteria

TABLE 4 RELEASE RE-SAMPLING VADOSE ZONE SOIL ANALYTICAL RESULTS

								CRL	DE CELL							API CELL				
ANALYTE	UNITS	NMOCD Table 1 Closure Criteria (NMAC 19.15.29)	Site Background Concentration (27-Mar-98 and 1-Sept-15)	San Juan Basin Soil Composition (USGS, 1)	Westline Vadose Zone	Eastline Vadose Zone	Bisti Vadose Zone	Pettigrew Vadose Zone	CRUDE01	CRUDE02	CRUDE03	CRUDE04	API Vadose Zone -1	API Vadose Zone -2	API Vadose Zone -3	API Vadose Zone -4	API01	API02	API03	API04
					4-May-15	4-May-15	4-May-15	4-May-15	5-May-20	5-May-20	5-May-20	5-May-20	4-May-15	4-May-15	4-May-15	4-May-15	5-May-20	5-May-20	5-May-20	5-May-20
Petroleum Hydrocarbons by EPA Method 8015M/D																				ļ/
Gasoline Range Organics (GRO)	mg/kg	Combined 1,000	<4.8	NE	<5.0	<4.9	<5.0	<5.0	<4.7	<4.7	<4.7	<5.0	<5.0	<5.0	<5.0	<4.9	<5.0	<4.7	<4.9	<4.9
Diesel Range Organics (DRO)	mg/kg		<9.9	NE	<9.9	18	<9.9	<10	<9.8	<9.0	100	19	<10	<9.9	<9.9	<10	<9.2	<8.9	<9.7	<9.5
Motor Oil Range Organics (MRO)	mg/kg	NE	<50	NE	<49	<49	<50	<50	<49	<45	150	<49	<50	<50	<50	<51	<46	<44	<48	<47
Total Petroleum Hydrocarbons by Method 418.1 or 8015M/D																				
ТРН	mg/kg	100/2,500 (2)	<20	NE	<20	74	<20	<20	<19	<20	300	68	<20	<20	53	<20	<19	<19	<19	<18
Volatile Organic Compounds by EPA Method 8260B																				
benzene	mg/kg	10.0	<0.048	NE	<0.050	<0.049	<0.050	<0.050	<0.024	< 0.023	<0.024	<0.025	<0.050	<0.050	<0.050	<0.049	<0.025	<0.023	< 0.024	<0.025
toluene	mg/kg	NE	<0.048	NE	<0.050	<0.049	<0.050	<0.050	<0.047	<0.047	<0.047	<0.050	<0.050	<0.050	<0.050	<0.049	<0.050	<0.047	< 0.049	<0.049
ethylbenzene	mg/kg	NE	<0.048	NE	<0.050	<0.049	<0.050	<0.050	<0.047	<0.047	<0.047	<0.050	< 0.050	<0.050	<0.050	<0.049	<0.050	<0.047	<0.049	<0.049
methyl tert-butyl ether (MTBE)	mg/kg	NE	<0.048	NE	NA	NA	NA	NA	<0.047	<0.047	<0.047	<0.050	NA	NA	NA	NA	<0.050	<0.047	<0.049	<0.049
1,2-dichloroethane (EDC)	mg/kg	NE	<0.048	NE	<0.050	<0.049	<0.050	<0.050	<0.047	<0.047	<0.047	<0.050	<0.050	<0.050	<0.050	<0.049	<0.050	<0.047	<0.049	<0.049
1,2-dibromoethane (EDB)	mg/kg	NE	<0.048	NE	<0.050	<0.049	<0.050	<0.050	<0.047	<0.047	<0.047	<0.050	<0.050	<0.050	<0.050	<0.049	< 0.050	<0.047	<0.049	<0.049
naphthalene	mg/kg	NE	<0.095	NE	<0.25	<0.25	<0.25	<0.25	<0.094	<0.093	<0.095	<0.099	<0.25	<0.25	<0.25	<0.25	<0.099	<0.094	<0.097	<0.099
1-methylnaphthalene	mg/kg	NE	<0.19	NE	<0.25	<0.25	<0.25	<0.25	<0.19	<0.19	<0.19	<0.20	<0.25	<0.25	<0.25	<0.25	<0.20	<0.19	<0.19	<0.20
2-methylnaphthalene	mg/kg	NE	<0.19	NE	<0.25	<0.25	<0.25	<0.25	<0.19	<0.19	<0.19	<0.20	<0.25	<0.25	<0.25	<0.25	<0.20	<0.19	<0.19	<0.20
bromodichloromethane	mg/kg	NE	<0.048	NE	NA	NA	NA	NA	<0.047	<0.047	< 0.047	<0.050	NA	NA	NA	NA	<0.050	<0.047	<0.049	<0.049
bromoform (tribromomethane)	mg/kg	NE	<0.048	NE	NA	NA	NA	NA	<0.047	<0.047	<0.047	<0.050	NA	NA	NA	NA	<0.050	<0.047	<0.049	<0.049
bromomethane	mg/kg	NE	<0.14	NE	NA	NA	NA	NA	<0.14	<0.14	<0.14	<0.15	NA	NA	NA	NA	<0.15	<0.14	<0.15	<0.15
carbon tetrachloride (tetrachloromethane)	mg/kg	NE	<0.048	NE	<0.050	<0.049	<0.050	<0.050	<0.047	<0.047	<0.047	<0.050	<0.050	<0.050	<0.050	<0.049	<0.050	<0.047	<0.049	<0.049
chlorobenzene (monochlorobenzene)	mg/kg	NE	<0.048	NE	NA	NA	NA	NA	< 0.047	<0.047	< 0.047	<0.050	NA	NA	NA	NA	< 0.050	<0.047	<0.049	< 0.049
chloroform (trichloromethane)	mg/kg	NE	<0.048	NE	< 0.050	< 0.049	<0.050	<0.050	<0.047	<0.047	< 0.047	< 0.050	<0.050	<0.050	<0.050	<0.049	< 0.050	< 0.047	< 0.049	< 0.049
chloromethane	mg/kg	NE	<0.14	NE	NA	NA	NA	NA	<0.14	<0.14	<0.14	<0.15	NA	NA	NA	NA	< 0.15	<0.14	<0.15	<0.15
cis-1,2-dichloroethene (cis-1,2-DCE)	mg/kg	NE NE	<0.048 <0.048	NE NE	NA	NA	NA	NA	<0.047 <0.047	<0.047 <0.047	<0.047 <0.047	<0.050 <0.050	NA	NA	NA	NA	<0.050 <0.050	<0.047 <0.047	<0.049 <0.049	<0.049 <0.049
cis-1,3-dichloropropene	mg/kg	NE	<0.048	NE	NA	NA	NA	NA	<0.047	< 0.047	<0.047	<0.050	NA	NA	NA	NA	< 0.050	<0.047	< 0.049	<0.049
1,2-dichlorobenzene	mg/kg	NE	<0.048	NE	NA	NA	NA	NA	<0.047	<0.047	<0.047		NA	NA	NA	NA		<0.047		<0.049
1,4-dichlorobenzene	mg/kg	NE	<0.048	NE	NA	NA	NA	NA	<0.047	< 0.047	<0.047	<0.050 <0.050	NA	NA	NA	NA	<0.050 <0.050	< 0.047	<0.049 <0.049	<0.049
dichlorodifluoromethane	mg/kg mg/kg	NE	<0.048	NE	<0.050	<0.049	<0.050	<0.050	<0.047	<0.047	<0.047	<0.050	<0.050	<0.050	<0.050	<0.049	<0.050	<0.047	< 0.049	<0.049
1,1-dichloroethane	mg/kg	NE	<0.048	NE	<0.050	<0.049	<0.050	<0.050	<0.047	<0.047	<0.047	<0.050	<0.050	<0.050	<0.050	<0.049	<0.050	<0.047	<0.049	<0.049
1,1-dichloroethene 1,2-dichloropropane	mg/kg	NE	<0.048	NE	NA	NA	NA	NA	<0.047	<0.047	<0.047	<0.050	NA	NA	NA	NA	< 0.050	<0.047	<0.049	<0.049
1,2-dichloropropane 1,1-dichloropropene	mg/kg	NE	<0.095	NE	NA	NA	NA	NA	<0.047	<0.047	<0.047	<0.050	NA	NA	NA	NA	<0.050	<0.047	<0.049	<0.049
hexachlorobutadiene	mg/kg	NE	<0.095	NE	NA	NA	NA	NA	<0.094	<0.093	< 0.095	< 0.099	NA	NA	NA	NA	< 0.099	< 0.094	<0.097	< 0.099
methylene chloride (dichloromethane)	mg/kg	NE	<0.14	NE	<0.15	<0.15	<0.15	<0.15	<0.14	<0.14	<0.14	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.14	<0.15	<0.15
styrene	mg/kg	NE	<0.048	NE	NA	NA	NA	NA	<0.047	<0.047	<0.047	< 0.050	NA	NA	NA	NA	< 0.050	<0.047	<0.049	<0.049
1,1,2,2-tetrachloroethane	mg/kg	NE	<0.048	NE	<0.050	< 0.049	<0.050	<0.050	<0.047	<0.047	<0.047	<0.050	<0.050	<0.050	<0.050	<0.049	<0.050	<0.047	<0.049	<0.049
tetrachloroethene (PCE)	mg/kg	NE	<0.048	NE	< 0.050	<0.049	<0.050	< 0.050	<0.047	<0.047	< 0.047	< 0.050	<0.050	< 0.050	< 0.050	< 0.049	< 0.050	<0.047	< 0.049	<0.049
trans-1,2-dichloroethene (trans-1,2-DCE)	mg/kg	NE	<0.048	NE	NA	NA	NA	NA	<0.047	<0.047	<0.047	<0.050	NA	NA	NA	NA	< 0.050	<0.047	< 0.049	<0.049
trans-1,3-dichloropropene	mg/kg	NE	<0.048	NE	NA	NA	NA	NA	<0.047	<0.047	< 0.047	<0.050	NA	NA	NA	NA	< 0.050	<0.047	< 0.049	< 0.049
1,2,4-trichlorobenzene	mg/kg	NE	<0.048	NE	NA	NA	NA	NA	<0.047	<0.047	< 0.047	<0.050	NA	NA	NA	NA	< 0.050	<0.047	< 0.049	< 0.049
1,1,1-trichloroethane	mg/kg	NE	<0.048	NE	< 0.050	< 0.049	<0.050	<0.050	<0.047	<0.047	< 0.047	<0.050	<0.050	<0.050	<0.050	<0.049	<0.050	<0.047	< 0.049	< 0.049
1,1,2-trichloroethane	mg/kg	NE	<0.048	NE	< 0.050	< 0.049	<0.050	<0.050	<0.047	<0.047	< 0.047	<0.050	<0.050	<0.050	<0.050	<0.049	<0.050	<0.047	< 0.049	< 0.049
trichloroethene (TCE)	mg/kg	NE	<0.048	NE	<0.050	<0.049	<0.050	<0.050	<0.047	<0.047	<0.047	<0.050	<0.050	<0.050	<0.050	<0.049	<0.050	<0.047	<0.049	<0.049
trichlorofluoromethane	mg/kg	NE	<0.048	NE	NA	NA	NA	NA	<0.047	<0.047	<0.047	<0.050	NA	NA	NA	NA	<0.050	<0.047	<0.049	<0.049
vinyl chloride (chloroethene)	mg/kg	NE	<0.048	NE	<0.050	<0.049	<0.050	<0.050	<0.047	<0.047	<0.047	<0.050	<0.050	<0.050	<0.050	<0.049	<0.050	<0.047	< 0.049	<0.049
xylenes, total	mg/kg	NE	<0.095	NE	<0.10	<0.098	<0.10	<0.10	<0.094	<0.093	<0.095	<0.099	<0.10	<0.10	<0.10	<0.098	<0.099	<0.094	<0.097	<0.099

TABLE 4 RELEASE RE-SAMPLING VADOSE ZONE SOIL ANALYTICAL RESULTS

						CRU	UDE CELL				API CELL									
ANALYTE	UNITS	NMOCD Table 1 Closure Criteria (NMAC 19.15.29)	Site Background Concentration (27-Mar-98 and 1-Sept-15)	San Juan Basin Soil Composition (USGS, 1)	Westline Vadose Zone	Eastline Vadose Zone	Bisti Vadose Zone	Pettigrew Vadose Zone	CRUDE01	CRUDE02	CRUDE03	CRUDE04	API Vadose Zone -1	API Vadose Zone -2	API Vadose Zone -3	API Vadose Zone -4	API01	API02	API03	API04
					4-May-15	4-May-15	4-May-15	4-May-15	5-May-20	5-May-20	5-May-20	5-May-20	4-May-15	4-May-15	4-May-15	4-May-15	5-May-20	5-May-20	5-May-20	5-May-20
Polycyclic Aromatic Hydrocarbons by EPA Method 8270																				
Benzo(a)pyrene	mg/kg	NE	<0.0099	NE	<0.0099	<0.0099	<0.010	<0.010	<0.020	<0.020	<0.020	<0.020	<0.0099	<0.0099	<0.010	<0.010	<0.020	<0.020	<0.020	<0.020
Total Phenol by Method 9066		i i			1															
Total Phenol	mg/kg	NE	<0.67	NE	<2.58	<2.74	<2.63	<2.625	<0.670	<0.670	<0.670	<0.670	<2.655	<2.635	<2.615	<2.62	<0.670	<0.670	<0.670	<0.670
Metals by EPA Method 6010/6020		1 1																		
Arsenic	mg/kg	NE	2.8	1.7 - 7.6	<2.4	<2.4	<2.4	<2.4	<4.9	<4.8	<5.0	<5.1	<2.5	<2.4	<2.5	<2.4	<4.8	<5.1	<5.0	<5.1
Barium	mg/kg	NE	180	330 - 1,200	180	69	66	58	64	130	52	87	92	44	64	150	40	62	150	36
Cadmium	mg/kg	NE	<1.3	NE	<0.096	< 0.097	<0.097	< 0.098	<0.20	<0.19	<0.20	<0.20	<0.099	<0.097	<0.10	< 0.097	<0.19	<0.21	<0.20	<0.20
Calcium	mg/kg	NE	2,500	4,000 - 34,000	NA	NA	NA	NA	3,300	3,400	3,100	7,000	NA	NA	NA	NA	1,400	2,300	5,500	1,500
Chromium	mg/kg	NE	<5.0	5.5 - 40	1.9	2.5	1.6	1.7	2.3	1.9	2.6	2.9	1.9	1.9	1.8	2.1	1.4	1.6	2.5	1.3
Copper	mg/kg	NE	3.2	1.6 - 19	1.7	3.5	2.1	2.3	2.5	2.0	2.1	3.2	2.3	2.3	2.4	2.3	1.5	1.6	2.9	1.3
Iron	mg/kg	NE	7,200	4,400 - 15,000	5,700	6,600	4,400	4,800	5,000	4,800	4,500	6,600	5,000	5,100	5,300	5,200	4,200	4,400	5,700	4,000
Lead	mg/kg	NE	6.8	6 - 19	2.0	3.10	1.9	2.0	0.84	1.3	1.7	1.5	1.9	2.0	2.1	2.1	1.7	1.2	1.6	1.6
Magnesium	mg/kg	NE	1,300	1,100 - 7,200	NA	NA	NA	NA	1,000	1,000	890	1,600	NA	NA	NA	NA	930	990	1,200	800
Manganese	mg/kg	NE	150	81 - 1,000	130	130	110	95	100	100	84	100	110	98	110	140	130	99	140	150
Mercury	mg/kg	NE	<0.5	NE	< 0.034	<0.033	< 0.032	< 0.031	<0.033	<0.035	< 0.034	< 0.034	< 0.034	< 0.033	< 0.035	< 0.032	< 0.034	<0.031	< 0.033	<0.033
Potassium	mg/kg	NE	810	17,000 - 31,000	NA	NA	NA	NA	870	770	620	1,100	NA	NA	NA	NA	600	630	1,000	500
Selenium	mg/kg	NE	<2.5	NE	<2.4	<2.4	<2.4	<2.4	<4.9	<4.8	<5.0	<5.1	<2.5	<2.4	<2.5	<2.4	<4.8	<5.1	<5.0	<5.1
Silver	mg/kg	NE	<1.3	NE	<0.24	<0.24	<0.24	<0.24	<0.49	<0.48	<0.50	<0.51	<0.25	<0.24	<0.25	<0.24	<0.48	<0.51	<0.50	<0.51
Sodium	mg/kg	NE	90	7,000 - 17,000	NA	NA	NA	NA	1,600	67	100	140	NA	NA	NA	NA	72	140	2,100	<51
Uranium	mg/kg	NE	<4.9	NE	<4.8	<4.9	<4.8	<4.9	<9.8	<9.6	<10	<10	<5.0	<4.9	<5.0	<4.8	<9.7	<10	<10	<10
Zinc	mg/kg	NE	14	14 - 44	11	15	9	11	11	11	9.8	14	11	10	11	11	9.6	9.2	13	8.4
Polychlorinated Biphenyls by EPA Method 8082																				
Aroclor 1016	mg/kg	NE	<0.020	NE	<0.020	<0.020	<0.020	< 0.020	<0.024	<0.025	<0.025	<0.024	<0.020	<0.020	<0.020	<0.020	< 0.024	< 0.024	< 0.025	< 0.024
Aroclor 1221	mg/kg	NE	<0.020	NE	<0.020	<0.020	<0.020	< 0.020	<0.024	< 0.025	<0.025	< 0.024	<0.020	<0.020	< 0.020	< 0.020	< 0.024	< 0.024	< 0.025	< 0.024
Aroclor 1232	mg/kg	NE	<0.020	NE	<0.020	<0.020	< 0.020	< 0.020	< 0.024	< 0.025	< 0.025	<0.024	<0.020	<0.020	< 0.020	< 0.020	<0.024	< 0.024	< 0.025	< 0.024
Aroclor 1242	mg/kg	NE	<0.020	NE	< 0.020	<0.020	< 0.020	< 0.020	< 0.024	< 0.025	<0.025	<0.024	<0.020	<0.020	< 0.020	< 0.020	< 0.024	< 0.024	< 0.025	< 0.024
Aroclor 1248	mg/kg	NE	<0.020	NE	< 0.020	<0.020	<0.020	<0.020	<0.024	<0.025	<0.025	<0.024	<0.020	<0.020	< 0.020	<0.020	<0.024	< 0.024	< 0.025	< 0.024
Aroclor 1254	mg/kg	NE	<0.020	NE	<0.020	<0.020	<0.020	<0.020	<0.024	<0.025	<0.025	<0.024	<0.020	<0.020	< 0.020	<0.020	<0.024	< 0.024	< 0.025	< 0.024
Aroclor 1260	mg/kg	NE	<0.020	NE	<0.020	<0.020	<0.020	<0.020	<0.024	<0.025	<0.025	<0.024	<0.020	<0.020	<0.020	<0.020	<0.024	<0.024	<0.025	<0.024
Cyanide by Method 9012B		i i																		
Cyanide	mg/kg	NE	<0.25	NE	<0.257	<0.273	<0.263	<0.261	<0.250	<0.250	<0.250	<0.250	<0.266	<0.26	<0.26	<0.26	<0.250	<0.250	<0.250	<0.250
Anions by EPA Method 300.0		i i																		
Chloride	mg/kg	600/20,000 (2)	<50	NE	<7.5	12	24	310	800	<7.5	<7.5	8.9	140	<1.5	13	1,800	<7.5	8.0	370	<7.5
Fluoride	mg/kg	NE	0.84	NE	2.3	1.6	1.5	1.1	<1.5	<1.5	<1.5	1.7	2.4	1.6	0.81	1.7	1.6	<1.5	2.2	<1.5
Nitrogen, Nitrate (As N)	mg/kg	NE	<0.30	NE	<1.5	1.7	5.7	15	25	3.2	<1.5	15	24	3.8	2.3	3.1	<1.5	3.1	25	<1.5
Sulfate (3)	mg/kg	NE	140	NE	62	340	25	89	940	16	470	120	1,000	10	130	130	18	19	900	<7.5
pH by Method SM4500-H+B																				
рН	pH units	NE	7.89	NE	8.20	7.95	8.78	8.30	8.77	8.39	7.94	8.16	9.11	8.75	8.53	7.99	8.75	9.14	9.38	8.59

TABLE 4 RELEASE RE-SAMPLING VADOSE ZONE SOIL ANALYTICAL RESULTS

BISTI LANDFARM SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

								CRU	JDE CELL							API	CELL			
ANALYTE	UNITS	NMOCD Table 1 Closure Criteria (NMAC 19.15.29)	Concentration	San Juan Basin Soil Composition (USGS, 1)	Westline Vadose Zone	Eastline Vadose Zone	Bisti Vadose Zone	Pettigrew Vadose Zone	CRUDE01	CRUDE02	CRUDE03	CRUDE04	API Vadose Zone -1	API Vadose Zone -2	API Vadose Zone -3	API Vadose Zone -4	API01	API02	API03	API04
					4-May-15	4-May-15	4-May-15	4-May-15	5-May-20	5-May-20	5-May-20	5-May-20	4-May-15	4-May-15	4-May-15	4-May-15	5-May-20	5-May-20	5-May-20	5-May-20
Radiochemistry by EPA Method 901.1																				
Radium-226 (4)	pCi/g	NE	0.737 +/- 0.242	NE	0.612 ± 0.201	0.611 ± 0.175	0.523 ± 0.181	0.742 ± 0.192	0.464 +/- 0.0981	0.455 +/- 0.108	0.666 +/- 0.186	0.898 +/- 0.142	0.572 ± 0.155	0.539 ± 0.153	0.586 ± 0.138	0.700 ± 0.177	0.512 +/- 0.191	0.584 +/- 0.127	0.446 +/- 0.103	0.563 +/- 0.142
Radium-228 (4)	pCi/g	NE	0.806 +/- 0.338	NE	0.599 ±0.376	0.738 ± 0.342	0.805 ± 0.288	0.877 ± 0.279	0.510 +/- 0.136	0.493 +/- 0.167	0.549 +/- 0.125	0.622 +/- 0.167	0.852 ± 0.245	0.969 ± 0.326	0.495 ± 0.382	0.430 ± 0.511	0.646 +/- 0.298	0.590 +/- 0.178	0.501 +/- 0.135	0.645 +/- 0.210
General Chemistry																				
Total Alkalinity (carbonate/bicarbonate) (3)	mg/kg	NE	136	NE	NA	NA	NA	NA	148	94	63	98	NA	NA	NA	NA	92	93	182	90

Notes: (1) - background soil concentrations based on Table 4 values (soil considered to have potential for use as topsoil), USGS Paper 1134-C, Geochemical Variability of Natural Soils and Reclaimed Mine-Spoil Soils in the San Juan Basin, New Mexico.

(2) - the lower cleanup standard is used for site reclamation within the top four feet of soil

(3) - sulfate is a general chemistry soil parameter, not chemical. There are no soil screening levels for these parameters included in the EPA Regional Screening Levels (RSLs) or the NMED risk assessment guidance document.
 (4) - screening level from ATSDR Toxicological Profile for Radium BTEX - benzene, toluene, ethlybenzene, total xylenes

DRO - diesel range organics GRO - gasoline range organics

mg/kg - milligrams per kilogram NA - Not Analyzed NE - Not Established

NMAC - New Mexico Administrative Code

NMED - New Mexico Environment Department

NMOCD - New Mexico Oil and Gas Conservation Division

NMOCD Closure Criteria from July 2018 rule, Table 1; >100 feet to groundwater PQL - practical quantitation limit TPH - Total Petroleum Hydrocarbons

USGS - United Stated Geological Survey

Bold indicates concentration exceeds the higher of NMOCD Closure Criteria or site/regional background concentrations

TABLE 52020 CHLORIDE DELINEATION SOIL ANALYTICAL RESULTS

Boring Location	Soil Sample ID	Sample Date	Sample Depth (ft)	Chloride Field Test Strips (ppm)	Chloride (mg/kg)
NMOCD Table 1 C	losure Criteria (NM	AC 19.15.29)		NE	600/20,000 (1)
			0-1	<112	
			1-2	<112	
			2-3	<112	
	SB01@3'-4'	8/11/2020	3-4	444	340
			4-6	548	
SB01	SB01@6'-8'	8/11/2020	6-8	1,168	1,000
			8-10	1,020	
			10-12	1,168	
			12-14	648	
	SB01@14'-16'	8/11/2020	14-16	396	490
			0-1	<112	
			1-2	<112	
			2-3	232	
	SB02@3'-4'	8/11/2020	3-4	544	360
	SB02@4'-6'	8/11/2020	4-6	2,128	2,400
SB02			6-8	1,624	
			8-10	1,852	
			10-12	1,852	
			12-14	1,624	
	SB02@14'-16'	8/11/2020	14-16	820	680
			0-1	444	
			1-2	1,520	
			2-3	1,248	
	SB03@3'-4'	8/11/2020	3-4	2,288	2,200*
SB03			4-6	1,624	
			6-8	1,412	
	SB03@8'-10'	8/11/2020	8-10	2,289	2,200
	SB03@10'-12'	8/11/2020	10-12	760	640
	SB04@0'-1'	8/11/2020	0-1	136	89
			1-2	<112	
			2-3	<112	
			3-4	<112	
SB04			4-6	<112	
	SB04@6'-8'	8/11/2020	6-8	136	120
			8-10	136	
	SB04@10'-12'	8/11/2020	10-12	136	100
			0-1	<112	
			1-2	<112	
	SB05@2'-3'	8/11/2020	2-3	<112	<59
			3-4	<112	
SB05			4-6	<112	
	SB05@6'-8'	8/11/2020	6-8	<112	<60
			8-10	<112	
	SB05@10'-12'	8/11/2020	10-12	<112	<60

TABLE 5 2020 CHLORIDE DELINEATION SOIL ANALYTICAL RESULTS

Boring Location	Soil Sample ID	Sample Date	Sample Depth (ft)	Chloride Field Test Strips (ppm)	Chloride (mg/kg)
NMOCD Table 1 C	losure Criteria (NM	AC 19.15.29)		NE	600/20,000 (1)
			0-1	<124	
			1-2	<124	
	SB06@2'-3'	8/11/2020	2-3	<124	<60
SB06			3-4	<124	
3600			4-6	<124	
	SB06@6'-8'	8/11/2020	6-8	<124	<60
			8-10	<124	
	SB06@10'-12'	8/11/2020	10-12	<124	<59
			0-1	<124	
	SB07@1'-2'	8/11/2020	1-2	<124	<60
			2-3	<124	
SB07			3-4	<124	
3007			4-6	<124	
	SB07@6'-8'	8/11/2020	6-8	<124	<59
			8-10	<124	
	SB07@10'-12'	8/11/2020	10-12	<124	61
	SB08@0'-1'	8/11/2020	0-1	152	<60
			1-2	<124	
			2-3	<124	
67.00			3-4	<124	
SB08			4-6	<124	
	SB08@6'-8'	8/11/2020	6-8	<124	<60
			8-10	<124	
	SB08@10'-12'	8/11/2020	10-12	184	110
			0-1	<124	
			1-2	<124	
SB09	SB09@2'-3'	8/11/2020	2-3	<124	<60
3809			3-4	<124	
	SB09@4'-'6	8/11/2020	4-6	<124	<60
	SB09@6'-8'	8/11/2020	6-8	<124	<60
			0-1	<124	
			1-2	<124	
SB10			2-3	676	
3810	SB10@3'-4'		3-4	1,712	1,600**
			4-6	1,408	
			6-8	1,980	
			0-1	<122	
			1-2	<122	
6044			2-3	312	
SB11	SB11@3'-4'	8/11/2020	3-4	704	620**
	SB11@4'-6'	8/11/2020	4-6	884	
	SB11@6'-8'	8/11/2020	6-8	1,424	

TABLE 5 2020 CHLORIDE DELINEATION SOIL ANALYTICAL RESULTS

Boring Location	Soil Sample ID	Sample Date	Sample Depth (ft)	Chloride Field Test Strips (ppm)	Chloride (mg/kg)
NMOCD Table 1 Cl	osure Criteria (NM	AC 19.15.29)		NE	600/20,000 (1)
			0-1	<122	
			1-2	<122	
			2-3	164	
SB12	SB@3'-4'	8/12/2020	3-4	648	130
			4-6	232	
			6-8	1,168	
			0-1	<122	
			1-2	164	
SB13			2-3	196	
3013	SB13@3'-4'	8/12/2020	3-4	196	160
	SB13@4'-6'	8/12/2020	4-6	232	89
	SB13@6'-8'	8/12/2020	6-8	444	360
			0-1	<122	
			1-2	<122	
CD14	SB14@2'-3'	8/12/2020	2-3	<122	160
SB14			3-4	<122	
	SB14@4'-6'	8/12/2020	4-6	352	280
	SB14@6'-8'	8/12/2020	6-8	648	77
			0-1	<122	
	SB15@1'-2'	8/12/2020	1-2	312	320
SB15			2-3	164	
3013			3-4	312	
	SB15@4'-6'	8/12/2020	4-6	544	520
	SB15@6'-8'	8/12/2020	6-8	760	190
			0-1	<122	
			1-2	<122	
SB16	SB16@2'-3'	8/12/2020	2-3	<122	150
3010			3-4	<122	
	SB16@4'-6'	8/12/2020	4-6	928	160
	SB16@6'-8'	8/12/2020	6-8	736	1,100
			0-1	<122	
			1-2	232	
SB17			2-3	164	
	SB17@3'-4'	8/12/2020	3-4	268	1,200**
	SB17@4'-6'	8/12/2020	4-6	1,424	1,400
	SB17@6'-8'	8/12/2020	6-8	1,732	1,200
			0-1	<122	
			1-2	<122	
SB18	SB18@2'-3'	8/12/2020	2-3	164	140
3010			3-4	<122	
	SB18@4'-6'	8/12/2020	4-6	<122	93
	SB18@6'-8'	8/12/2020	6-8	134	720

TABLE 5 2020 CHLORIDE DELINEATION SOIL ANALYTICAL RESULTS

Boring Location	Soil Sample ID	Sample Date	Sample Depth (ft)	Chloride Field Test Strips (ppm)	Chloride (mg/kg)
NMOCD Table 1 C	osure Criteria (NM	AC 19.15.29)		NE	600/20,000 (1)
			0-1	<122	
	SB19@1'-2'	8/12/2020	1-2	<122	<60
			2-3	<122	
SB19			3-4	<122	
	SB19@4'-6'	8/12/2020	4-6	<122	<59
	SB19@6'-8'	8/12/2020	6-8	<122	<61
			0-1	<122	
			1-2	164	
6820			2-3	136	
SB20	SB20@3'-4'	8/12/2020	3-4	1,520	1,900**
	SB20@4'-6'	8/12/2020	4-6	1,092	2,500
	SB20@6'-8'	8/12/2020	6-8	1,248	3,600
			0-1	<122	
			1-2	<122	
6021	SB21@2'-3'	8/12/2020	2-3	312	560
SB21			3-4	268	
	SB21@4'-6'	8/12/2020	4-6	3,024	1,800
	SB21@6'-8'	8/12/2020	6-8	648	1,400
			0-1	<122	
			1-2	<122	
SB22	SB22@2'-3'	8/12/2020	2-3	<122	<59
3022			3-4	<122	
	SB22@4'-6'	8/12/2020	4-6	<122	<60
	SB22@6'-8'	8/12/2020	6-8	<122	<60
			0-1	<122	
			1-2	<122	
SB23	SB23@2'-3'	8/12/2020	2-3	216	120
3023			3-4	<122	
	SB23@4'-6'	8/12/2020	4-6	184	130
	SB23@6'-8'	8/12/2020	6-8	<122	150
	SB40@1'	9/1/2020	1	268	330
			2	148	
SB40			3	148	
			4.5	2,124	
	SB40@6'	9/1/2020	6	1,172	1,400
			1	148	
	SB41@2'	9/1/2020	2	316	1,700**
SB41			3	148	
			4.5	1,860	
	SB41@6'	9/1/2020	6	1,016	640

TABLE 5 2020 CHLORIDE DELINEATION SOIL ANALYTICAL RESULTS

Boring Location	Soil Sample ID	Sample Date	Sample Depth (ft)	Chloride Field Test Strips (ppm)	Chloride (mg/kg)
NMOCD Table 1 Cl	osure Criteria (NM	AC 19.15.29)		NE	600/20,000 (1)
			0-1	268	
			1-2	464	
SB42			2-3	1,020	
	SB42@4'	9/1/2020	3-4	2,440	3,500**
	SB42@6'	9/1/2020	4-6	2,440	4,900
			0-1	<120	
			1-2	<120	
SB43	SB43@3'	9/1/2020	2-3	<120	180
			3-4	<120	
	SB43@6'	9/1/2020	4-6	<120	690
			1	224	
			2	224	
	SB44@3'	9/1/2020	3	364	430
			4	464	
SB44			6	1,016	
			8	1,016	
			10	516	
	SB44@12'	9/1/2020	12	148	320
			13		
	SB45@1'	9/8/2020	0-1	628	1,500**
			1-2	464	
SB45			2-3	268	
			3-4	184	
	SB45@6'	9/8/2020	4-6	412	370
			0-1	184	
			1-2	268	
SB46			2-3	688	
	SB46@4'	9/8/2020	3-4	748	1,600**
	SB46@6'	9/8/2020	4-6	948	1,900
	SB47@1'	9/8/2020	0-1	<120	82
			1-2	<120	
SB47			2-3	<120	
			3-4	<120	
	SB47@6'	9/8/2020	4-6	<120	63
			0-1	<120	
			1-2	<120	
SB48	SB48@3'	9/8/2020	2-3	<120	<60
			3-4	<120	
	SB48@6'	9/8/2020	4-6	<120	<60

TABLE 52020 CHLORIDE DELINEATION SOIL ANALYTICAL RESULTS

BISTI LANDFARM SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

Boring Location	Boring Location Soil Sample ID		Sample Depth (ft)	Chloride Field Test Strips (ppm)	Chloride (mg/kg)
NMOCD Table 1 C	losure Criteria (NM	AC 19.15.29)		NE	600/20,000 (1)
			0-1	<120	
			1-2	<120	
SB49	SB49@3-4'	9/14/2020	2-3	120	220
			3-4	184	
	SB49@4-6'	9/14/2020	4-6	<120	140
	SB50@0-1'	9/14/2020	0-1	148	240
			1-2	<120	
SB50			2-3	<120	
			3-4	<120	
	SB50@4-6'	9/14/2020	4-6	<120	<60

Notes:

mg/kg - milligrams per kilograms

NMAC - New Mexico Administrative Code

NMOCD - New Mexico Oil Conservation Division

< - indicates result is less than the stated laboratory method practical quantitation limit

BOLD - indicates results exceed the NMOCD Table 1 Closure Criteria (NMAC 19.15.29.12)

** - asterisks indicate results exceed the NMOCD Reclamation Standard (NMAC 19.15.29.13)

(1) - the lower cleanup standard is used for site reclamation within the top four feet of soil

TABLE 6 2020 TPH DELINEATION SOIL ANALYTICAL RESULTS

Boring Location	Soil Sample ID	Sample Date	Sample Depth (ft)	PID	TPH-GRO	TPH-DRO (mg/Kg)	TPH-MRO	TPH
NMOCD Table 1 C	losure Criteria (NM	AC 19.15.29)		(ppm) NE	(mg/Kg) NE	(mg/kg) NE	(mg/Kg) NE	(mg/kg) 100/2,500 (1)
	SB24@0'-1'	8/12/2020	0-1	5.7	<4.8	51	63	114**
			1-2	4.9				
			2-3	3.5				
SB24			3-4	4.2				
	SB24@4'-6'	8/12/2020	4-6	3.1	<5.0	<9.4	<47	<47
	SB24@6'-8'	8/12/2020	6-8	3.6	<4.8	<9.6	<48	<48
			0-1	2.2				
			1-2	2.2				
SB25			2-3	1.5				
0010	SB25@3'-4'	8/12/2020	3-4	3.6	<4.9	<9.8	<49	<49
	SB25@4'-6'	8/12/2020 8/12/2020	4-6 6-8	1.7 1.3	<4.6 <4.7	24 <9.8	51 <49	75 <49
	SB25@6'-8'	8/12/2020			<4.7	\ 5.0	N#5	N45
			0-1	2.5				
			1-2	2.4				
SB26	 SB26@3'-4'	 8/12/2020	2-3 3-4	2.6 2.8	<4.7	<9.6	<48	<48
	SB26@4'-6'	8/12/2020	4-6	1.7	<4.9	15	<47	15
	SB26@6'-8'	8/12/2020	6-8	4.5	<4.8	<9.4	<47	<47
	-		0-1	2				
			0-1 1-2	2				
			2-3	1.9				
SB27	SB27@3'-4'	8/12/2020	3-4	2.6	<4.7	<9.8	<49	<49
	SB27@4'-6'	8/12/2020	4-6	1.5	<4.9	13	<48	13
	SB27@6'-8'	8/12/2020	6-8	1.5	<4.7	<9.8	<49	<49
			0-1	2.5				
	SB28@1'-2'	8/12/2020	1-2	5.8	<4.7	490	510	1,000**
6000			2-3	5.8				
SB28			3-4	4.6				
	SB28@4'-6'	8/12/2020	4-6	3.0	<4.7	160	240	400
	SB28@6'-8'	8/12/2020	6-8	2.6	<4.6	<9.4	<47	<47
	SB29@0'-1'	8/12/2020	0-1	1.1	<4.8	21	75	96
			1-2	0.8				
SB29			2-3	0.7				
	 SB29@4'-6'	 8/12/2020	3-4 4-6	0.8 0.7	<4.6	<9.4	<47	<47
	SB29@6'-8'	8/12/2020	6-8	1.7	<4.6	<9.6	<48	<48
	-							
			0-1 1-2	2.0 1.8				
	 SB30@2'-3'	 8/12/2020	2-3	2.6	<4.7	<8.7	<44	<44
SB30			3-4	2.6				
	SB30@4'-6'	8/12/2020	4-6	0.8	<4.9	37	150	187
	SB30@6'-8'	8/12/2020	6-8	3.4	<4.9	<9.2	<46	<46
			0-1	1.5				
			1-2	0.9				
6024			2-3	2.0				
SB31	SB31@3'-4'	8/12/2020	3-4	2.6	<4.6	<9.3	<47	<47
	SB31@4'-6'	8/12/2020	4-6	1.5	<4.8	10	47	57
	SB31@6'-8'	8/12/2020	6-8	0.9	<4.7	<9.3	<46	<46
			0-1	2.1				
	SB32@1'-2'	8/12/2020	1-2	2.7	<5.0	33	120	153**
SB32			2-3	2.2				
		8/12/2020	3-4	2.6				
	SB32@4'-6' SB32@6'-8'	8/12/2020 8/12/2020	4-6 6-8	1.8 2.0	<4.7 <4.9	23 <9.9	120 <49	143 <49
			0-1	1.4				
	 SB33@2'-3'		1-2 2-3	1.4 1.7	<4.8	<9.7	<48	<48
SB33	SB33@2 -3		3-4	1.7	<4.0	<9.7		
	SB33@4'-6'		4-6	1.1	<4.7	<9.6	<48	<48
	SB33@6'-8'		6-8	3.0	<4.9	<9.7	<48	<48
	2							

TABLE 6 2020 TPH DELINEATION SOIL ANALYTICAL RESULTS

Boring Location	Soil Sample ID	Sample Date	Sample Depth (ft)	PID (ppm)	TPH-GRO (mg/Kg)	TPH-DRO (mg/Kg)	TPH-MRO (mg/Kg)	TPH (mg/kg)
NMOCD Table 1 C	losure Criteria (NN	IAC 19.15.29)	1	NE	NE	NE	NE	100/2,500 (1)
	SB34@1'	9/1/2020	0-1	4.0	<3.8	<10	<50	<50
			1-2	1.6				
SB34			2-3	1.2				
			3-4	0.7				
	SB34@6'	9/1/2020	4-6	0.5	<4.1	13	<46	13
			0-1	0.0				
			1-2	0.0				
SB35	SB35@3'	9/1/2020	2-3	0.2	<3.9	<9.2	<46	<46
	 SP25@6'	 9/1/2020	3-4 4-6	0.0 0.0	<4.0	<9.4	<47	<47
	SB35@6'							
	SB36@1'	9/1/2020	0-1	0.0	<4.3	9.7	<48	9.7
6006			1-2 2-3	0.0 0.0				
SB36			3-4	0.0				
	SB36@6'	9/1/2020	4-6	0.0	<3.5	<8.4	<42	<42
	SB37@1'	9/1/2020	0-1	0.6	<4.1	95	150	245**
			1-2	0.2				
SB37			2-3	0.1				
0007			3-4	0.0				
	SB37@6'	9/1/2020	4-6	0.4	<3.9	<9.6	<48	<48
	SB38@1'	9/1/2020	0-1	2.8	<3.8	<10	<50	<50
			1-2	1.3				
SB38			2-3	1.0				
			3-4	1.0				
	SB38@6'	9/1/2020	4-6	0.6	<3.6	<9.9	<50	<50
			0-1	0.9				
	SB39@2'	9/1/2020	1-2	1.0	<4.7	140	300	440**
SB39			2-3	0.4				
	 SB39@6'	 9/1/2020	3-4 4-6	0.1 0.0	<4.4	<9.9	<49	<49
	SB51@0-1'	9/14/2020	0-1 1-2	0.2 0.0	<4.6	120	190	310**
SB51			2-3	0.0				
3631			3-4	0.0				
	SB51@4-6'	9/14/2020	4-6	0.0	<3.7	<9.7	<48	<48
	SB52@0-1'	9/14/2020	0-1	0.7	<3.8	<9.1	<45	<45
	<u> </u>		1-2	0.3				
SB52			2-3	0.4				
			3-4	0.0				
	SB52@4-6'	9/14/2020	4-6	0.1	<3.9	<9.7	<48	<48
			0-1	0.0				
	SB53@1-2'	9/14/2020	1-2	0.0	<3.9	200	450	650**
SB53			2-3	0.0				
	SB53@4-6'	9/14/2020	3-4 4-6	0.0 0.0	<3.8	<10	<50	<50
	SB54@0-1'	9/14/2020	0-1	1.7	<4.4	<9.8	<49	<49
SB54			1-2 2-3	1.5 1.7				
5554			3-4	1.7				
	SB54@4-6'	9/14/2020	4-6	1.3	<3.6	31	89	120
	SB55@0-1'	9/25/2020	0-1	0.2	<4.0	<9.8	<49	<49
			1-2	0.0				
			2-3	0.0				
SB55			3-4	0.0				
			4-5	0.0				
	SB55@5-6'	9/25/2020	5-6	0.0	<3.3	<9.5	<48	<48
							1	1

TABLE 6 2020 TPH DELINEATION SOIL ANALYTICAL RESULTS

BISTI LANDFARM SAN JUAN COUNTY, NEW MEXICO WESTERN REFINING SOUTHWEST, INC.

Boring Location	Soil Sample ID	Sample Date	Sample Depth (ft)	PID (ppm)	TPH-GRO (mg/Kg)	TPH-DRO (mg/Kg)	TPH-MRO (mg/Kg)	TPH (mg/kg)
NMOCD Table 1 C	losure Criteria (NM	AC 19.15.29)		NE	NE	NE	NE	100/2,500 (1)
	SB56@0-1'	9/25/2020	0-1	3.2	<3.6	57	180	237**
			1-2	2.0				
			2-3	2.3				
SB56			3-4	2.3				
			4-5	2.2				
	SB56@5-6'	9/25/2020	5-6	1.8	<3.7	<9.0	<45	<45
			0-1	0.9				
	SB57@1-2'	9/25/2020	1-2	1.1	<4.7	<9.8	<49	<49
			2-3	0.8				
SB57			3-4	0.7				
			4-5	0.5				
	SB57@5-6'	9/25/2020	5-6	0.5	<3.5	<9.0	<45	<45
	SB59@0-1'	9/25/2020	0-1	2.0	<4.7	<9.1	<46	<46
			1-2	1.9				
			2-3	1.9				
SB59			3-4	1.6				
			4-5	1.5				
	SB59@5-6'	9/25/2020	5-6	0.9	<4.6	<9.6	<48	<48

Notes:

mg/kg - milligrams per kilograms

DRO - diesel range organics

GRO - gasoline range organics

MRO - motor oil range organics

NE - Not Established

NMAC - New Mexico Administrative Code

NMOCD - New Mexico Oil Conservation Division

PID - photoionization detector

TPH- total petroleum hydrocarbons

 $\!<\!$ - indicates result is less than the stated laboratory method practical quantitation limit

BOLD - indicates results exceed the NMOCD Table 1 Closure Criteria (NMAC 19.15.29.12)

** - asterisks indicate results exceed the NMOCD Reclamation Standard (NMAC 19.15.29.13)

 $({\bf 1})$ - the lower cleanup standard is used for site reclamation within the top four feet of soil

Received by OCD: 12/3/2022 4:08:58 RM



From:	Smith, Cory, EMNRD
To:	McCartney, Gregory J.
Cc:	Hyde, Stuart; Hencmann, Devin
Subject:	RE: Release NRM201958816 - Bisti Landfarm Request for Site Characterization Report and Remediation Plan Extension
Date:	Monday, September 14, 2020 8:02:20 AM
Attachments:	image002.png image003.png image004.png

Mr. McCartney,

OCD approves Marthon Petroleum's extension request to please submit the site characterization and remediation plan no later then October 29, 2020

Please include this approval in your report.

Thank you,

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: Hyde, Stuart <shyde@ltenv.com>
Sent: Friday, September 11, 2020 2:54 PM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Cc: Hencmann, Devin <dhencmann@ltenv.com>; McCartney, Gregory J.
<gjmccartney@marathonpetroleum.com>
Subject: [EXT] RE: Release NRM201958816 - Bisti Landfarm Request for Site Characterization Report and Remediation Plan Extension

Cory,

I wanted to check in before the weekend on the report extension request the Bisti Landfarm. Thanks and have a great weekend.

Stuart Hyde, LG Project Geologist 970.385.1096 *direct* 970.903.1607 *cell*

From: Hyde, Stuart
Sent: Thursday, September 10, 2020 8:31 AM
To: Smith, Cory, EMNRD <<u>Cory.Smith@state.nm.us</u>>

Cc: Hencmann, Devin <<u>Devin.Hencmann@wsp.com</u>>; McCartney, Gregory J. <<u>gjmccartney@marathonpetroleum.com</u>>

Subject: RE: Release NRM201958816 - Bisti Landfarm Request for Site Characterization Report and Remediation Plan Extension

Sorry Cory, I missed a 5 in there. NRM2019558816. Please see attached approval email.

From: Smith, Cory, EMNRD <<u>Cory.Smith@state.nm.us</u>>
Sent: Thursday, September 10, 2020 7:51 AM
To: Hyde, Stuart <<u>Stuart.Hyde@wsp.com</u>>
Cc: Hencmann, Devin <<u>Devin.Hencmann@wsp.com</u>>; McCartney, Gregory J.
<gjmccartney@marathonpetroleum.com>
Subject: RE: Release NRM201958816 - Bisti Landfarm Request for Site Characterization Report and
Remediation Plan Extension

Stuart,

The provided incident# isn't located in our system I think it's a few numbers short.

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: Stuart Hyde <<u>shyde@ltenv.com</u>>
Sent: Wednesday, September 9, 2020 4:42 PM
To: Smith, Cory, EMNRD <<u>Cory.Smith@state.nm.us</u>>
Cc: Devin Hencmann <<u>dhencmann@ltenv.com</u>>; McCartney, Gregory J.
<gimccartney@marathonpetroleum.com>
C triate [SYT] B_device NPM420105 0216 = Distribute [System 16]

Subject: [EXT] Release NRM201958816 - Bisti Landfarm Request for Site Characterization Report and Remediation Plan Extension

Cory,

The 90-day deadline for the Site Characterization Report and Remediation Plan for Bisti Landfarm (see attached C-141) is September 14, 2020. To date, LTE has conducted three sampling events as part of site characterization activities. In all, 48 soil borings have been advanced at the site thus far, but the most recent laboratory analytical results indicate additional samples are needed to finalize horizontal and vertical delineation. Additionally, weather conditions have caused delays in field work this week. Because of the unexpected multiple site visits required to achieve full delineation and the need for additional subsurface samples, LT Environmental and Western are requesting a 45-day extension to the report submittal with a new deadline of October 29, 2020.

Please call or email with any questions regarding this request. Thank you and talk to you soon.



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-LAEmHhHzdJzBITWfa4Hqs7pbKI

Received by OCD: 12/3/2022 4:08:58 RM



Gravel Pac 10-20 S	ilica San		Detector:	PID/	Quantab			of Boring/Wel Date: Logged By: Drilling Mer Seal: Hydrate	B/11 E. Carro thod: Dir	LOG/MONITORING	Project: Bisti LF De Project Number: 02952 Drilled By: Earth Sampling Method: Conti Grout: Bentonite-Cemen	elineation 0002 worx nous t Slurry
Casing Typ Sche Screen Typ	edule 40	PVC		Slot:		_		Diameter:	2"	Length:	Hole Diameter:	Depth to Liquid:
Sche	edule 40		20		10"				2"	Length:	Total Depth:	Depth to Water:
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type		Lithology/Re	marks	Well
< 112	Dry		NO		0	-		5M	Dry, Sand San	1005c, light red some site	brown, time Bilt, some fine	
<188	D		N		2	7	85%					
/2</td <td>D</td> <td></td> <td>N</td> <td>SBOI</td> <td>3</td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	D		N	SBOI	3	-						
<i>444</i> ~	D		N 	3'-4'	4							
<i>54</i> 8	0 D	_	N		5		060					
See berou	m		\sim		7	2	60	5P-5M	moisi Some	⁵ ; Сатрась, Гев 5115	l brown, Sand	

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									Boring/Well #	SBOI	
									Project:	Bisti LF	
								1	Project #	029520002 8/11/2020	
				<u> </u>					Date	81112920	
Qtab (ppm)	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Litho	logy/Remarks	Well Completion
i,168	m		N	580) G-8'	7 _	-		SP-SM	SAA		
1,020	M		N		9			SP	Moist, lt trace silt	brown, fine Sund,	
1,166	m		N		10 11	-		58	5AA		
648	- M	-			_12	-		SP	Moist, blown trale silb	litbrown, Sand	
	m	-	_	s'B01 14'-16'	14	- - - -		5P	SAA, gravel	@ 19'	
396					15 _ - 16 _	-					
					17	-					

				E A A			1 N	E	Proud member FWSP BORING LOG/MONITORING V Il Number: SBO 2 B/11/2026 E. Carroll/ C. McGinn	Project: Bisti LF De Project Number: 02952 Drilled By:	lineation 0002
Elevation:	6 260	6	Detector:	PID/	Quantab	6 month		Drilling Me		Earthy Sampling Method: Contin	
	^{ck:} Silica San							Seal: Hydrate	ed Bentonite Chips	Grout: Bentonite-Cement	
	edule 40	PVC						Diameter:	2" Length:	Hole Diameter:	Depth to Liquid:
Screen Typ Scho	^{pe:} edule 40	PVC		Slot: 0.0)10"			Diameter:	Length: 2" //A	Total Depth:	Depth to Water:
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery		Lithology/Ren	narks	Well Completion
<112	Dry		N		0 -	-		ML	Dry, it reddish brow Silt	m, sandy	NO Well
2112	Dry		N		2	-		ML	SAA	9	
232	m		N						Moist, reddish brown	n, silby Sand	
544	m		N	5802 3'-4'	-	-		SP-SM	SAA		
2,128	m		N	5802 4'-C'	5 -			5P-SM	SAA		
	m		N		7						

										12-0	
									Boring/Well # Project:	5802	
									Project #	Bisti LF	
									Date	029520002 6/11/26	
	11			3 +		1		×	Udle	0/11/0	1
Qtab (ppm)	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type		ology/Remarks	Well Completion
1,624	M		N		7	-		SP	moist, reddis trace silt	h brown, mad Sand	
1,852	m		N		9			SP	Moist, Yell Mottling, fin	ow brown, russ in sand, some site	
1,852	M		N		10			SP	SAA		
1,674	m		N		12	•		59	SAA		
4,20	М	\sim		5BOR 14'-16'	14			5P	SAN		
					- <u>16</u> 						
					18					1	<u>†</u>

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							1N N	ot	5B03 8/11/2020	VELL COMPLETION Project: Bisti LF De Project Number: 02952 Drilled By:	elineation
Elevation:	G, 260	6	Detector:		Quantab		100	Drilling Me	E. Carroll/ C. McGinn thod: Direct Push	Earth Sampling Method: Conti	
Gravel Pac 10-20 S	^{k: 6} ilica San								d Bentonite Chips	Grout: Bentonite-Cemen	t Slurry
Casing Typ Sche Screen Typ	edule 40	PVC		Slot:				Diameter:	Length: 2" NA Length:	Hole Diameter:	Depth to Liquid:
Sche	edule 40		/:)10"		<u> </u>		2"/A		MA
Qtab (ppm)	Moisture	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Ren	narks	Well Completion
444	D		N		0	-		ML	Pry, red brown,		Mowell
1,526	m		N		2	-		ML	moist, dark red bro Silb SAA	wn, Sandy	
1248	m		N		3	•		ML	SAA		
2,288	m		N		4	5803 3'-4'		SM	moist, It brown, Si		
 G24	M		\mathcal{N}		5 -			5P	Moist, it brown, n trace silt	red Sand,	
See below	m		N		6			5P	5 Ar	N	

								i.	Boring/Well #	SB03	
									Project:	02950062	
									Project #	BISBI LF	
	0			++		r -			Date	814	
Qtab (ppm)	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithc	ology/Remarks	Well Completion
1,412	m		N		7	-		SP	SAA.		
2,281	т		N	5B03 8'-10'	9	-		SP	Moisz, dark t trace si	prown, fine Sand It	
760	m			5803 10'-12'	10 -			5P	5 A A		
			<i>N</i>		12	-					
					13 _	-					
					14 15						
					16	-					
					17	-					
					18	-					+

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										\$		
			B	E.	N.		1 N		proud member WSP			
							0.50	BORING LOG/MONITORING WELL COMPLETION DIAGRAM				
								Boring/Well Number: SB04 Project: Bisti LF De			lineation	
	the second second							Date:	5/11/2020	Project Number: 029520002		
								Logged By:	E. Carroll/ C. McGinn	Drilled By: Earthworx		
Elevation:	6,260	6	Detector: PID/Quantab				197.2	Drilling Met		Sampling Method:		
Gravel Pack 10-20 S	k:							Seal:		Continous Grout: Bentonite-Cement Slurry		
Casing Type	e:							Hydrated Bentonite Chips Diameter: Length: 2"		Hole Diameter:	Depth to Liquid:	
Schedule 40 PVC			Slot:				_	Diameter:	Length:	Total Depth:	Depth to Water:	
	Schedule 40 PVC 0.010" 2" NA 12'										NA	
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Ch lordie pp m	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Re	emarks	Well Completion	
136	M		N	5804 0'-1'	· 0´ _			ML	Moist, red brow	n, sandy silt	No well	
<122 102	M		N		1	-		ML	SAN			
×122	h		N		3	-		ML	5Am			
<172	_				4			5M	moist, It redbrow	n, silty sand		
<177	γη		\mathcal{N}		5 -			SM	SAN	5 8 8		
00					6	-						
					7	-					+	

			Þ							- 2	
									Boring/Well #	5804	
									Project:	Bisti LF	
									Project #	029520002	
									Date	5/1/	
Qtab (ppm)	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type		ology/Remarks	Well Completion
136	m		N		7	5804 G'-8'		SP	moist It brace silb	brown, fine sond,	
136	D		\mathcal{N}		9 -	-		Sp	Dry, gray rust mottlin sand, grav	(brown, some ng, fine to medium rel © 8'	
136	d		N		11	- 5 Bo4 - 10'-12'		SP	544		
					13	-					
					14 15						
نيد					16						
					17						-

				E A	X	¥.		B	A proud member of WSP BORING LOG/MONITORING WELL COMPLETION DIAGRAM Vell Number:
		3. Constant	Rosen .			Ring		Date:	5B05 Bisti LF Delineation 8/11/2026 Project Number: 029520002
Elevation:	1	-	Detector:	3			Take A	logged By:	y: Drilled By: E. Carroll/ C. McGinn Earthworx
Gravel Pag	6,20	66	Detector	PID/	Quantab			Drilling Met	Direct Push Continous
	Silica San	d							ted Bentonite Chips Bentonite-Cement Slurry
	edule 40	PVC		Clate					2" NA 2" NA
	edule 40	PVC		Slot: 0.0	10"			Diameter:	: Length: Total Depth: Depth to Water:
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)		Recovery	Soil/Rock Type	Lithology/Remarks Well Completion
2127	m		N		0	-		ML	Moist, dark red brown, sandy <u>No Well</u> Silb
<122	m		N		2	-			SAA
< 177	m		N	5805 2'-3'	3	- 5805 - Arg'		ML	moist, it red brown, sity sound
<122	m		N		4	-		ML	SAA
<122	m		Nx		5 -	-		SP-SM SM	Moist, It red brown, fine Sand, trace Silb Some
<i>(1)2</i>	m		- //	5B03 6'-8'	6 7 	-		5M	maiso, it brown, fine sand touch sile some

										10.0	
									Boring/Well #	5805	
									Project:	Bisti LF 029520002 8/4/20	
									Project #	029520002	
									Date	8/4/20	
Qtab (ppm)	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lith	ology/Remarks	Well Completion
<127	m		N		7	-		SM	Moist, ye to med San	llow brown, fine nd, some sitt	
<127			N	5805	- 10 -	-		5M	SAA		
7422	nn			1011	11						
					13	+					
					14 - 15	-					
					15 -	+					
					17	+ 					
					18	+					

							1		proud member WSP		
			1.1						ORING LOG/MONITORING V	VELL COMPLETION	DIAGRAM
		1	ato -	3		State -	11	Boring/Wel	I Number: 5BOG	Project: Bisti LF De	lineation
		1 may	All and a second			-		Date:	8/11/2020	Project Number: 029520	
A LAND	e-/pe	-	ALC THE A	7		The second	Cit	Logged By:	8	Drilled By:	
Elevation:	and the	-	Detector:	The see	-	531	1	Drilling Met	E. Carroll/ C. McGinn	Earthv Sampling Method:	vorx
Gravel Pac	6,26	6		PID/	Quantab			Seal:	Direct Push	Contin	nous
10-20 S	ilica San	d						Hydrate	d Bentonite Chips	Grout: Bentonite-Cement	Slurry
	edule 40	PVC						Diameter:	Length: 2" MA	Hole Diameter:	Depth to Liquid:
Screen Typ				Slot: 0.0	10"			Diameter:	Length: 2"	Total Depth:	Depth to Water:
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ftbgs.)	Sample Run	Recovery		Lithology/Ren		Well Completion
Z174	м		\sim		0	-		ML	moist, It red brown	, Sandy Sill .	
2174	m		N		2			ML	SAA		
<124	m		N	5BOG 21-31		-		ML	SAA		
<124	М		N		4	-		SM	moist, it brown,	silby Sana	
2124	m		\sim		5	-		5M	SAA		
					-6 			SM	ኝ ሉ	-	

			_				_				
									Boring/Well #	SBOG	
									Project:	Bisti LF	
									Project #	02952002	
	r	· · · · ·		r					Date	8/11 12020	
Qtab (ppm)	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery			logy/Remarks	Well Completion
<124	m		N	5806 6'-8'	7 -	-			moist gray Silt	brown, Sand, Some	
<124	W		N		9 -	-		SM	MOISE IT b Some Si	rown, fine Sand It	+ + + + + + + + + + + +
(1)4	m		N	5806 10'12'	10 11 			5M	SAA		
						-					
					15	-					
					16 17 18	-		a.			

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Contents	6,26	6	Detector:	PID/	Quantab			B	proud member WSP BORING LOG/MONITORING W Number: <u>5807</u> <u>8/11/2070</u> E. Carroll/ C. McGinn thod: Direct Push	/ELL COMPLETION Project: Bisti LF De Project Number: 02952 Drilled By: Earth Sampling Method: Conti	elineation 20002 worx
	Silica San	d						_{Seal:} Hydrate	d Bentonite Chips	Grout: Bentonite-Cemen	t Slurry
Casing Ty Sch Screen Ty	edule 40	PVC		Slot:	_				2" Length:	Hole Diameter:	Depth to Liquid:
	edule 40	PVC			10"			Diameter:	2" Length:	Total Depth:	Depth to Water:
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Rem	narks	Well Completion
≪124 7124	m		\sim		0	-		ML	moist, dark red bi Sand	own, Siltγ	
< 124	m		N	5807 1'-2'	2	-		ML	Moist it red brown,	Silty Sand	
<124	m		N		3			ML	SAN		
<124	m		\mathcal{N}		4			ML	SAN		
<124	m		Ň		5 -			ML	SAA		
< 124	m		N	SB07 6'-8'	7			SM	moist, light brown Silb	, fine soud	

										20 - 7	
									Boring/Well #	5807	
									Project:	Bisti LF	
									Project #	029520002 8/11/2020	
								<u> </u>	Date	5/11/2020	1
Qtab (ppm)	Moisture Content	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithc	logy/Remarks	Well Completion
z 174	m		N		7 _ 8 _ 9 _				Moist, It trace Sil	brown, fine Sand t	
<124	m		N	5807 101-101	10			sP	5AA		
					12	 - - -					
					14	-					
					15	-					
					16 17						
					18	+					

Elevation	6.26	6	Detector:	PID/0	Quantab		1 N	of Boring/Wel Date:	<u>5808</u> 8/11/2026 E. Carroll/C. McGinn	VELL COMPLETION D Project: Bisti LF Del Project Number: 029520 Drilled By: Earthw Sampling Method: Contin	ineation 1002 /orx
Gravel Pa 10-20 Casing Ty	Silica San	d						Seal: Hydrate Diameter:	d Bentonite Chips Length:	Grout: Bentonite-Cement	
Sch Screen Ty	edule 40	PVC		Slot:					2" //A Length:	21	Depth to Water:
	edule 40		/2 E		10"		<u> </u>	ŀ	2" // A	Total Depth:	NA
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)		Recovery	Soil/Rock Type	Lithology/Rem	arks	Well Completion
152	m		N	5B08 0-1	0 _	-		ML	moise, dark red bro	un, sandy silt	No well
C174	m		N		2	-		ML		-	
< 124	m		N		3	-		ML	SAA	-	
<124	m		N		4	-		ML	Moisz, It brown, silty	r Sand -	
<124	m		N		5 -	•		SM	moiso, It brown, fir Some silt	ie Sand	
<124	m		N	5B08 6-8	7			SM	SAA		

Ē		-							_				
L											Boring/Well #	5808	
L											Project:	Bisti LF	
Т											Project #	029520002	
											Date	8/ 11/ 2020	
	Qtab	(mqq)	Moisture Content	Vapor (ppm)	Staining	Sample #	(ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Litho	ology/Remarks	Well Completion
							7			SP	moise, it trace sil	brown, fine sond b	
	<12	4	m		N		10	-					
	184		m		N	5808 10-17	11	-		5P	Moist, day med sand	rk brown, fine to trace silt	
							12 13 14 15 16 17						
							- 18	-				,	Ŧ

			5	E			1	to	proud member WSP		
			a sitt					Boring/We	ORING LOG/MONITORING V	VELL COMPLETION Project:	DIAGRAM
		TRATES	-11: ×			Contraction of the second		Date:	<u>\$809</u>	Bisti LF De Project Number:	elineation
Contraction State			An and	2 - 1			No.	Logged By:	8/11/2020	02952 Drilled By:	20002
Elevation:	四角		Detector:	- Property			1	Drilling Met	E. Carroll/ C. McGinn	Earth Sampling Method:	worx
Gravel Pac	6,26 k:	ic		PID/	Quantab		_		Direct Push	Conti	nous
	ilica San	d							d Bentonite Chips	Grout: Bentonite-Cemen	
Sche	edule 40	PVC							Length: 2" MA	Hole Diameter:	Depth to Liquid:
Screen Typ Sche	e: edule 40	PVC		Slot: 0.0)10"			Diameter:	Length: 2"	Total Depth:	Depth to Water:
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Ren		Well Completion
<124	m		N		0	-		ML	moist, red brown, s	Sandy Silt	NO WE!
< 124	m		N	5809 2-3	2	-		ML	SAA		
<124	m		N		3	-		ML	SAN		
<174	m		N		4_4	- -		5M	moist, it brown, fi Some silt	ne sand	
<124	m		N	5809 4-6	5 -	-		SM	SAA		
<174	m		N	5B09 6-8	7			SМ	SAA		

Gravel Pac 10-20 S Casing Typ Sche Screen Typ	C, 260 ck: Silica Sar edule 40	nd PVC	Detector:	Slot:	Quantab			Date: Date: Logged By: Drilling Me Seal: Hydrate Diameter: Diameter:	SB10 Pro SI1112020 Pro E. Carroll/ C. McGinn Dri thod: Sar Direct Push Gro ed Bentonite Chips Bet Length: Hol Length: Tot	oject: Bisti LF Del oject Number: 029520 illed By: Earthw mpling Method: Contin out: entonite-Cement ile Diameter: 2 ¹¹ tal Denth:	ineation 0002 vorx ous Slurry Depth to Liquid:
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery		2" <u>//A</u> Lithology/Remark	ks	Well Completion
2174 2174	m		N			-		ML ML	moist, it red brown, SAA	Sandy Silb -	NO Well
6710	m		N N		2	- - - -			moist, dark red brown,	, Silty Saud	
17/2 20/2	m		N		4			SM SM	SAR Moist light brown, f Some Silt	ine sand	
	m		N		6			5M	SAN		

		X	Si				Î.		Roud member WSP	
1/948 - Mile								1	DRING LOG/MONITORING WELL COMPLETION	DIAGRAM
		A	the second	指公				Boring/Well	SB11 Bisti LF De	lineation
		10 m	BOR LIVE A 11	1		1 ett		Date:	8/11/20 Project Number: 02952	20002
				3			Take a	Logged By:	E. Carroll/ C. McGinn Drilled By:	worx
levation:	6,76	G	Detector:		Quantab	a) - Conservation (1998)		Drilling Meth		nous
iravel Pack	c:			107	Quantab			Seal: Hydrated	Grout: Bentonite Chips Bentonite-Cemen	
asing Type								Diameter:	Length: Hole Diameter:	Depth to Liquid:
creen Type				Slot:	4.011			Diameter:	Length: Total Depth:	Depth to Water:
	dule 40		<u>≥</u> ε	0.0	10					10/1
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Remarks	Well Completion
2122	D		N		0	-		ML	Dry, It brown, compare sandy Silt	, <u>Mo well</u>
<	m		N		2	-		AAT SM	moise, red brown, sandy silb	
312	m		N		3	-		SM	SAA	
764	m		N	5B11 3'-4'	4			SM	Moist, red brown, silby Sand	
<i>76</i> 4	m		\mathcal{N}	5811 4'-c'	5	- -		SP	moist, It brown sand, trace Silt	
1,424	m		N	58 II 6'-8'	7	+ + + + +		SP	SAA	

						X	•		of	proud member WSP ORING LOG/MONITORING W	VELL COMPLETION D	IAGRAM
			1	the state			Summer	and the second	Boring/Wel	INUMBER: SB/2	Project: Bisti LF Deli	
			3ª	ATT - I A				友	Date: Logged By:	8/12/2020	Project Number: 029520 Drilled By:	002
	Elevation:		and and	Detector:	1		A DE LA	100		E. Carroll/ C. McGinn	Earthw Sampling Method:	orx
	Gravel Pack	6,26	6		PID/	Quantab			Seal:	Direct Push	Grout:	ous
	10-20 Si Casing Type	ilica San	d							d Bentonite Chips	Bentonite-Cement Hole Diameter:	Slurry Depth to Liquid:
		dule 40	PVC		Slot:					2" MA	2"	MA Depth to Water:
		dule 40		ے بر	0.0)10"				2" //// 	Total Depth:	NA
	Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Ren	narks	Well Completion
	<172	D	-	\sim		0	-		ML	Dry, 10050, It red brow	: 	No well
	<122	m		\sim		2	-			Moist, roose, red brow	n, SandySilt - -	
	1CH	m		N		3	-			SAA	-	
_	648	m		N		4	-		5701	moist, 100se, red brow	6-	
	232	m		\sim		5_	-		SM	Moiss, loose, it brow Some sill	n, fine Sand -	
	1,168	m		N		- <u>6</u>	-		5M	SAA	- - - - -	

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			Ŋ	E	X	2 2	12		proud member WSP	41.J	
			. it						ORING LOG/MONITORING		DIAGRAM
		1	the state			Number	210	Boring/Wel	Number: 5813	Project: Bisti LF De	lineation
	No.	20 mil				Nation of		Date:	8/12/2020	Project Number: 02952	0002
	-//2	() ()	Angell .	3	北学		K.S.	logged By:		Drilled By:	
Elevation:		And the	Detector:	Berto Art	- Section of the	a marine	10	Drilling Met	E. Carroll/ C. McGinn	Earth Sampling Method:	worx
Gravel Pac	6,26	6		PID/	Quantab		_	Seal:	Direct Push	Conti	nous
10-20 S	ilica San	d						Hydrate	d Bentonite Chips	Grout: Bentonite-Cement	
Casing Typ Sche	e: edule 40	PVC						Diameter:	2" Length:	Hole Diameter:	Depth to Liquid:
Screen Typ				Slot:	10"			Diameter:	Length: 2" A	Total Depth:	Depth to Water:
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery		Lithology/Re		Well Completion
L }}	P		N		0	-		ML	Dry, 1005e, red brow	n, Sandy Silb	NO Well
164 1 84	m		N		2	-		SM	moise, red brown,	Sandy Silt	
196	m		N		3	-		5M	SAA		
196	'n		N	5B13 3-41	4	-		,	moist, red brown		
232	m		N	5B13 4-G	5 - -			5M	Moist, It brown, Some Silt	Fine Sand	
444	Ĭп		N	5B13 6-8'	6 	-		5M	SAA		

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	\$		5		X		11	of	proud member WSP		NAGRAM
		Jose States	ALL T				No. of the lot of the	Boring/Wel	Number: 8114 8112120	Project: Bisti LF Del Project Number: 029520	ineation
Colored etc. Elevation:	G. 26	6	Detector:	PID/	Quantab		THE REAL	Logged By: Drilling Met	E. Carroll/ C. McGinn	Drilled By: Earthworx Sampling Method: Continous	
Casing Typ Sche	ilica San ^{e:} edule 40							Diameter:	d Bentonite Chips Length: 2" MA	Grout: Bentonite-Cement Hole Diameter:	Depth to Liquid:
Screen Typ Sche	Schedule 40 PVC 0.010"							Diameter:	Length: 2" MA	Total Depth: 6	Depth to Water:
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery		Lithology/Rem	narks	Well Completion
<122	D		N		0 _ - 1	-		ML	Pry, red brown, sandy	- 5:12 -	ND Well
(122	m		N		2			ML	SAN	- - - -	
<122	m		N	5814 2-3'	-3-1	-		5	moist, red brown, si	- - 	- -
<177	m		N		4	- - -		5M	moist, It brown, fi Some silb	ne Sand - -	
352	m		N	5B14 4'-6'	5	•		SM	5 A A	- - - - - - - - - - 	
648	M		N	5Bi4 G'-8`	7	- - -		SM	5 4 4		

Gravel Pack 10-20 S	ilica San		Detector:	PID/	Quantab			Date: Logged By: Drilling Met Seal:	5875 8/12/26 E. Carroll/ C. McGinn	Project: Bisti LF D Project Number: 0295 Drilled By: Earth Sampling Method: Cont Grout:	Delineation 20002 1worx inous
Casing Type Sche Screen Type	dule 40	PVC		Clash.					2" Length:	Hole Diameter:	Depth to Liquid:
Sche	e: edule 40			Slot: 0.0)10"			Diameter:	Length: 2" //A	Total Depth: 6 ¹	Depth to Water:
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/R		Well Completion
くか	m		N		0			ML	Moist, dark red t silt	vown, sandy	
312	m		N	5B15 1'-2'	2	•		ML	SAA		
164	m		N		3	-		SM	moist It bro-ded Sand	brown, Silby	
312	m		N		4			SM	SAA		
544	D		R/	GB15 4'-6'	5 -			5M	Dry, It brown, fi Some silt	ine Sand _t	
7100	Ð		N	5B15 6-8'	6 			SM	5AA		

			B				1 N N	of Boring/Wel Date:	proud member WSP ORING LOG/MONITORING W INumber: S'BIG 8/12/26 E. Carroll/ C. McGinn	/ELL COMPLETION D Project: Bisti LF Del Project Number: 029520 Drilled By: Earthw	ineation
	6,26	6	Detector:	PID/(Quantab			Drilling Met	^{hod:} Direct Push	Sampling Method: Contin	ous
	ilica San	d						A	d Bentonite Chips	Grout: Bentonite-Cement	
	edule 40	PVC						Diameter: Diameter:	Length: 2" 1/A	Hole Diameter:	Depth to Liquid:
Screen Type	Schedule 40 PVC 0.010"								Length: 2" MA	Total Depth:	Depth to Water:
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Rem	narks	Well Completion
<172	M		N		0 -	-		ML	maist, red brown,	Sandy Silt -	N.o WCII
e 122	m		N		2	-		ML	SAA	-	
2122	M		N	5B16 2'-3'	3			5M	moist, red brown,	Silty Sand	
<177	M		N		4	-		SM	SAA	-	
928	m		N	5 B16 4'-c'	5 _			S.M	moise, it brown, f Some silt	ine sand	
736	m		N	5816 6'-8'	7			5 M	SAA	-	

		~~		E CE			1 N	A	proud member WSP		
	N .		A						ORING LOG/MONITORING V	VELL COMPLETION	DIAGRAM
		A	the					Boring/Wel	Number: 5817	Project: Bisti LF De	lineation
		- AND	AL ALLAND			1 STR		Date:	8/12/20	Project Number: 02952	
	- Alas		A CONTRACTOR	4			£.	ogged By:		Drilled By:	
Elevation:	國際已		Detector:	Provente			1	Drilling Met	E. Carroll/ C. McGinn	Earth Sampling Method:	worx
6	,260	a la		PID/	Quantab				Direct Push	Conti	nous
	ilica San	d						^{Seal:} Hydrate	d Bentonite Chips	Grout: Bentonite-Cement	t Slurry
Casing Type Sche	edule 40	PVC						Diameter:	Length: 2" MA	Hole Diameter:	Depth to Liquid:
Screen Typ	e:			Slot:				Diameter:	Length:	Total Depth: 81	Depth to Water:
	dule 40		2 5	0.0)10"				2" // /4		NA
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Rer	narks	Well Completion
					0			ML	moist, red brown, Sa	ndy silt	No well
2127	m		N		1	-					
								MI	SAA		t
2321	m		N		2	-		1.10			
164	m		N		-	-		SM	moist red brown,	Silty Sand	$\frac{1}{4}$
					3	-			SAA		+
268	m		N		4	-		ςM	27.7		÷
i,424	m		N		5	-		SP-SM	moist, it brown, few silt	Fine Sand	
i, 732	m		N			-		SP-SM	SAA		

					X	2	1	B	proud member wsp ORING LOG/MONITORING		DIAGRAM
		1 designed	and a			Section		Boring/Wel	SB18		elineation
		3ª	Reason .					Date:	8/12	Project Number: 02952	20002
Cogetyle t				7		a and	加加	.ogged By:	E. Carroll/ C. McGinn	Drilled By: Earth	worx
Elevation:	6,76	6	Detector:	PID/	Quantab			Drilling Met	birect Push	Sampling Method:	nous
Gravel Pack	ilica San	nd						Seal: Grout: Hydrated Bentonite Chips Bentonite-Ceme			
	edule 40	PVC						Diameter:	Length: 2" NA	Hole Diameter: \mathcal{D}''	Depth to Liquid:
Screen Type Sche		PVC		Slot: 0.0	10"			Diameter:	Length: 2" MA	Total Depth:	Depth to Water:
Qtab (ppm)	Schedule 40 PVC 0.010" Moisture Moisture Moisture Woisture Woisture Content Bab HC Staining: Mab Content Bab Content <td>Soil/Rock Type</td> <td>Lithology/Re</td> <td>emarks</td> <td>Well Completion</td>							Soil/Rock Type	Lithology/Re	emarks	Well Completion
<177 <177	N		N		0	-		ML ML	Moise, red brown, si SAA	andy Silb	
icu	m	1	N	5B18 2-3	2	-		SM	moist, It redbr Sand	own, Silty	
C 7r	m		N		4	• • •		SP-SM	moist, light bri Sand Few Silt SAA	own, fine	
<177	m		N	5818 4'-6'	5	-					
134	m		N	5818 6'-8'	7			SP-SM	SAA	1	

	K		5	E SA	X		1	of	proud member WSP ORING LOG/MONITORING V	VELL COMPLETION	DIAGRAM
		ß	12.00					Boring/Wel		Project: Bisti LF De	
		3. Out						Date:	8/12/20	Project Number: 02952	0002
ostalises				- Aller	(Inde	PR. ST	加加	Logged By:	E. Carroll/ C. McGinn	Drilled By: Earthy	worx
Elevation:	6,260	2	Oetector:	PID/	Quantab			Drilling Met	bod: Direct Push	Sampling Method: Contii	nous
Gravel Pac 10-20 S Casing Typ	Silica San	d							d Bentonite Chips	Grout: Bentonite-Cement	
	edule 40	PVC		Slot:					2" VA	Bentonite-Cement	Depth to Liquid:
Sche	Schedule 40 PVC 0.010"							Diameter:	2" Length:	Total Depth: 81	Depth to Water:
Qtab (ppm)	Moisture Content	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Rer	narks	Well Completion		
L127	m		N		0	-		ML	moise, red brown,	sandy Silt	NO Uell
<177	m		N	5B19 1-2	2	-			SAA		
202	m		N						moist, red brown, s		
2122	m		N		-4-			SM	moist It. brawn few silt SAA	, fine sand	
77</td <td>m</td> <td></td> <td>N</td> <td>5819 4-6</td> <td>5 -</td> <td></td> <td></td> <td>5M</td> <td>SAA</td> <td></td> <td></td>	m		N	5 8 19 4-6	5 -			5M	SAA		
Llər	m		N	5B <i>i</i> 9 6-8	7			5M	SAN		

	$\langle $			E P	N		1	Aj	proud member WSP		
			1.2	291 I			100	В	ORING LOG/MONITORING V	VELL COMPLETION	DIAGRAM
		1	the second					Boring/Well	Number: 5820	Project: Bisti LF De	elineation
	N	NO RES						Contra 1	8/12/20	Project Number: 02952	
	1000		- And -			in the set	The state	Logged By:		Drilled By:	
Elevation:	1 0 (and the	Detector:	Non-constation		11	- join	Drilling Met		Earth Sampling Method:	
Gravel Pack	<u>Ç, 260</u> 	0		PID/(Quantab			Seal:	Direct Push	Grout:	nous
10-20 S Casing Type	ilica Sano	d						Hydrate	d Bentonite Chips	Bentonite-Cemen	t Slurry Depth to Liquid:
Sche	dule 40	PVC		Slot:					2" NA	2	MA Depth to Water:
Screen Type Sche	e: edule 40	PVC			10"			Diameter:	Length: 2" MA	Total Depth:	MA
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Rer	narks	Well Completion
<192	m		N		0	-		ML	moist, red brown,	sandy silt	- No well
164	m		N		2	-		<u>L</u>	SAA moist red brown,	Silty Sright	
136	m		N		3	-			SAA	andy seew	
1,520	m		N	5870 3'-4'	4	-				fine sond	+
1 ₁ 092	m		N	5B20 4'-G'	5 -	-		SM	moisz, It brown, Some Sils		
1,248	m		N	5B20 6'-8'	-6	-		SM	SAA		

Casing Typ Sche Screen Typ	e: e: edule 40	d PVC	Detector:	Slot:	Quantab		1 N	of Boring/Wel Date: Logged By: Drilling Met Seal: Hydrate Diameter:	SB21 SB21 SB21 SB21 SB21 Construction E. Carroll/ C. McGinn Direct Push d Bentonite Chips Length: Length: Length:	WELL COMPLETION Project: Bisti LF De Project Number: 02952 Drilled By: Earth Sampling Method: Contii Grout: Bentonite-Cemen: Hole Diameter: 2 '' Total Depth:	lineation 0002 worx nous t Slurry Depth to Liquid: MA Depth to Water:
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	2" <i>NA</i> Lithology/Re		Well Completion
2/22 2/22 312 358 3,034 3,034 3,034 3,034 3,034	m m m	>		SB2101-8 582104-6, 182102-3	0 1 2 3 4 5 6			ML ML SM SM	Moist, red brow GAA Moist, redbrown, SAA Moist, light brow few sills Maxed out low rang Used high range SAA low range Qtab	Silty Sand n, filoc Sand	

1

		2		1					proud member WSP		
			1 de la						ORING LOG/MONITORING W	ELL COMPLETION	DIAGRAM
		1	44					Boring/Well	Number: 5B 22	Project: Bisti LF Del	ineation
		A PART						Date:	8112/2020	Project Number: 029520	0002
	10-0			7		14	f. er	Logged By:		Drilled By: Earthy	
Elevation:			Detector:	-		A Contraction	10	Drilling Met		Sampling Method:	
Gravel Pack	<u>6, 76</u> «	0		PID/0	Quantab			Seal:	Direct Push	Grout:	ious
10-20 S Casing Type	ilica San	d						Hydrate	d Bentonite Chips	Bentonite-Cement	Slurry Depth to Liquid:
Sche	edule 40	PVC		Clash					2"	2"	NA Depth to Water:
Screen Typ Sche	e: edule 40	PVC		Slot: 0.0	10"			Diameter:	Length: 2" MA	Total Depth:	MA
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Ren	narks	Well Completion
€ 112	m		N		0	-		ML	moist, red brown,	sandy silt	NO WCII - -
<112	m		N		-	-		ML	SAR		
2112	m		N	5822 21-3	3	-			SAA		
£72	m		N		4	-		SM	moise, it brown, Some silt	fine Sand	
422	m		\sim	5822 4'-6'	5	- - - -		5M	moist, It brown, few silb	fine Sand	
<112	m		N	9877 6'-8'	-6 	-		SM	SAN		

Gravel Pac 10-20 S Casing Typ	Silica San	d	Detector:	PID/0	Quantab		1 N	of B Boring/Wel Date: Logged By: Logged By: Drilling Met Seal: Hydrate Diameter:	5823 8/12/20 E. Carroll/ C. McGinn	VELL COMPLETION I Project: Bisti LF De Project Number: 029520 Drilled By: Earthy Sampling Method: Contir Grout: Bentonite-Cement Hole Diameter: 2	lineation 0002 vorx nous
Screen Typ Sche	Schedule 40 PVC 0.010"							Diameter:	Length: 2" MA	Total Depth:	Depth to Water:
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #		Sample Run	Recovery	Soil/Rock Type	Lithology/Ren	Well Completion	
<190	m		N		0 1	-		ML	moist, red brown	sandy Sill .	NO Well
2177	m		N		2	-		ML	B SAN		
216	m		N	5873 21-3'	3	-		SM	moist, red brown,	Silly Sand	
<172	m		N		4			SM	SAA		
184	m		N	5823 4'-C'	5			5M	moist, It. brown, some silt	fime sand	
<195	m			5B23 G'-8'	7	-		5M	moist, gray brow sand sew silt,	wn, Fine rust moztles	

				E S	X			of	Droud member WSP	i.	
			1.5				a se			Project:	DIAGRAM
			the second				No.	Boring/Wel	SB24	Bisti LF De	lineation
		-	Ten an an	10		North House		Date:	6/12/20	Project Number: 02952	0002
	and a		-	3	1	1 Alter	L.W.	ogged By:	E. Carroll/ C. McGinn	Drilled By: Earthy	vorx
Elevation	C 2/		Detector:			No. Boomparts	820	Drilling Met	hod:	Sampling Method:	
Gravel Pa	<u>6, 260</u> ck:	2		PID/0	Quantab		_	Seal:	Direct Push	Grout:	nous
	-20 Silica Sand								d Bentonite Chips	Bentonite-Cement	Slurry Depth to Liquid:
Sch	Schedule 40 PVC								2" NA	2''	Depth to Water:
									Diameter: Length: Total Depth:		
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Ren	narks	Well Completion
	D	5.7	N	SB∂4 0 [:] −1'	0	-		ML	Dry, gray brown, Sand		No well
	D	4.9	N		2	-		ML	Dry, realbrown, S	Silty Sand	
	D	3.5	N		3	-		ML	SAA		
	D	4.2	N		4	-		ML	SAA		
	m	3.1	N	5B74 4'-C'	5	-		SP.SM	maise It brown few silt	fine sand	
	M	3.6	N	5B74 G'-8'	7 -	-		SP.SM	moist, red brown, little silf	fine Sand	

Gravel Pac 10-20 S Casing Typ Sche Screen Typ	oilica Sar e: edule 40	id) PVC	Detector:	Slot:	Quantab			of Boring/Wel Date: Logged By: Drilling Met Seal: Hydrate Diameter:	Direct Push d Bentonite Chips 2" Length: Length:	/ELL COMPLETION D Project: Bisti LF Deli Project Number: 029520 Drilled By: Earthw Sampling Method: Contine Grout: Bentonite-Cement S Hole Diameter: 2 1/ Total Depth:	neation 002 orx ous Slurry Depth to Liquid: MA Depth to Water:
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery		2" NA		Well Completion
	D	2.2	N		0	-		ML	Dry, gray brown	n, Silby Sand-	No well
	D	2.2	N		2	-		ML	SAN gray/black discolora	tion @ 21	
	D	1.5	N		3	-		MY	SAA	-	
	D	3.6	N	9825 31-4	4	-		ML	SAA	-	
	m	17	\sim	5825 4'-6'	5			SM	try arey brow Sen Maist, It brow Sand Some	n, fine Silt	
	m	1.3	N	5825 6'-8'	7	-		GP-SM	moise, red brown, f few silt	ine Sand	

					X			of	DRING LOG/MONITORING W	/ELL COMPLETION E Project: Bisti LF Del	
		3. Alling	ar	-		Vern		Date:	6/ 12/2020	Project Number: 029520	0002
Elevation:			Detector:	7		14.	Contra to	Logged By:	E. Carroll/ C. McGinn	Drilled By: Earthw Sampling Method:	/orx
Gravel Pack	<u>6,265</u> ĸ	6		PID/	Quantab			Seal:	Direct Push	Contin	ous
10-20 S Casing Type		d						Hydrated Bentonite Chips Bentonite-Cement Diameter: Length: Hole Diameter:			Depth to Liquid:
Screen Typ	Schedule 40 PVC							Diameter:	Length:	Total Depth:	MA Depth to Water:
			/خ		10"				2" // Ą	8	NA
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Rem	narks	Well Completion
	D	2.5	N		0 -	-		ML	Dry, gray, Silt,	- - -	No well
	D	2.4	N		2	- - -			Dry, red brown, sou	sity sand	
	D	2.6	N	(2.26	3	-		SM SM	SAA	-	
	D	2.8	N	5B26 3'-4'	4	-				Fine to med	
	т	1,7	N	5B76 4'-6'	5 -	-		Spsn	moist, 1t brown, 1 sand, few silt	-	
	m	4.5 B	N	5876 6'-8'	6 	-		ср. sм	moïst, red brown, fi little Silt	ine to med sand	

Gravel Pac	ilica San		Detector:	PID/C	Quantab			of Boring/Well Date: Logged By: Drilling Met Seal:	5077 <i>Eligl: 30.20</i> E. Carroll/ C. McGinn	Project: Bisti LF De Project Number: 02952 Drilled By: Earthy Sampling Method: Contin Grout: Bentonite-Cement	lineation 0002 vorx nous
	edule 40	PVC		Slot:			-	2" NA 2" Diameter: Length: Total Depth:			Depth to Water:
	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	0.0 Sample #		Sample Run	Recovery		2" MA		Wr Well Completion
	D	9 _{.0}	N		0	-		ML	Dry, black laray Few Silt, Charcoa	med Sand	
	D	9 _{.0}	N		2	-		ML	SAR Moist, red brann,	Silly Soud	
	m	19	N		-	-					+
	m	2.6	N	5827 3-4	4	-			SAA Dry. light brown	fine Sond	
	m	1.5	N	587 4-6	5 -	-			Pry, light brown, Some silt		
	m	15	N	5B27 G-8	-6 	-		SM-SP	moist, red brown, fear silt	fine sand	

Gravel Pac 10-20 S Casing Typ Sche Screen Typ Sche	e: e: edule 40 e: edule 40	nd) PVC) PVC	Detector:	Slot: 0.C	Quantab			Boring/We Date: Logged By: Drilling Me Seal: Hydrate Diameter: Diameter:	5B 28 8/12/ 20 26 E. Carroll/ C. McGinn	VELL COMPLETION D Project: Project Number: 029520 Drilled By: Earthw Sampling Method: Contin: Grout: Bentonite-Cement. Hole Diameter: 1 Total Depth: 8	ineation 1002 Porx ous
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Ren	narks	Well Completion
	D	2,5	N		0	•			Ury, gray, med so	-	NO WE"
	D	5,8	N	5828 11-21	2	÷		GP-SM	Pry, deurk brown, n few Sills SAA	red Sand,	
	D	5.8	N		3	-			moist, red brown	-	-
	m	4.6	N		4	-			D. Lot 15	-	
	Đ	3.0	N	5B78 4 ^L 6'	5			કી	Pry, loose, light 1 Sand trace sil	C.4111	
	D	2.6	N	5B28 6'-8'				SP	moist, dark red b Sand, fer Silt	orown, fine	

			5	No.		3	1 N	of	proud member WSP		DIAGRAM
1.20			a star					Boring/We		Project:	
		AND AND		2 No				Date:	8/12/20	Bisti LF De	
1		-		2		10	E.	logged By:		O2952 Drilled By:	
Elevation:			Detector:	and the second		all and		Drilling Me		Earth Sampling Method:	worx
Gravel Pa				PID/	Quantab		_	Seal:	Direct Push	Conti Grout:	nous
10-20 S Casing Typ	Silica Sar	nd						Hydrate	d Bentonite Chips Length:	Bentonite-Cemen Hole Diameter:	t Slurry Depth to Liquid:
Screen Ty	edule 40) PVC		Slot:			2" Diameter: Length: Total Depth:				Depth to Water:
Sch	edule 40	1	25		10"				2"		
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Ren	narks	Well Completion
	D	11	N	5829 0'-1	0	-		GP	Dry, light brown,	Sand & grave	
	D	0.8	N		2	-		SM	Dry, red brown, S	filty Sand	
	D	0.7	N		3			SM	SAN		
	D	0.8	N		4			SM	SAR		
	D	0-7	N	5829 4-6'	5			sp	Dry, light brown, t trace silt	cine sand	
	D	1.7	N	5829 6'-8'	7			SP	SAN	2	

Casing Typ Sche Screen Typ	ilica Sar e: edule 40	nd) PVC	Detector:	Slot:	Quantab		1 N	of Boring/We Date: Logged By: Drilling Me Seal: Hydrate Diameter:	7630 8/12/20 E. Carroll/ C. McGinn thod: Direct Push ed Bentonite Chips 2" Length: Length:	VELL COMPLETION Project: Bisti LF De Project Number: 029520 Drilled By: Earthw Sampling Method: Contir Grout: Bentonite-Cement Hole Diameter: 1/ Total Depth: 5/	lineation 0002 vorx nous Slurry Depth to Liquid:
Otab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery		2" MA Lithology/Ren		Well Completion
	D	2.0	N		0	-		SP	Dry, gray, med gravel	Sand, few	No well
	D	1.8	N		2	- - -			Dry, red brown,	Silby Sond	
	0	2.6	N	5830 2'-3'	3			SM	SAN		
	D	2.6	N		4	-			SAA De 114 Cond	R anniel	
	D	0,8	N	5B30 4'-6'	5			GP	Dry, Whibe, Sand	& 9101 C	
	D	3.4	N	5B30 6'-8'	7	-		SPM	meisz, fight yellow Sand, Some silt	browny fine	

Gravel Pac 10-20 S Casing Typ Sche Screen Typ	G, 2G Silica Sar Secure Secure 40	nd) PVC	Detector:	Slot:	Quantab			Boring/We Date: Logged By Drilling Me Seal:	E. Carroll/ C. McGinn athod: Direct Push ed Bentonite Chips Length: 2"	VELL COMPLETION D Project: Bisti LF Del Project Number: 029520 Drilled By: Earthw Sampling Method: Contin Grout: Bentonite-Cement Hole Diameter: 2 '' Total Depth: & '	ineation 1002 vorx ous
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Rem	arks	Well Completion
	D	1.5	N		0	-		GP	Dry, brown, Sand	and graver -	No well
	D	0-9	N		2			SM	Diry, red brown, sill	by Sand	-
	D	2.0	N					5M	SAA		-
	D	2.6	N	5B31 3`-4'	4			5P	Drv, light brown, few silb	fine sand,	
	D	5%	N	5B31 4'-6'	5			58	SAA	-	
1	D	0:	N	583) 6'-8'	7 -			SP	SAA	+	

Casing Typ Sch Screen Typ	6,26 k: Silica Sa e: edule 40	nd D PVC	Detector:	Slot:	Quantab			Date: Date: Dogged By: Drilling Me Seal: Hydrate Diameter: Diameter:	E. Carroll/ C. McGinn	WELL COMPLETION Project: Bisti LF De Project Number: 02952 Drilled By: Earthy Sampling Method: Contin Grout: Bentonite-Cement Hole Diameter: 11 Total Depth:	lineation 0002 worx nous
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Ren	narks	Well Completion
	0 0 0 0	2.1 2.7 2.7 2.6 1.8	N N N N N	5832 1'-2' 5832 4-6'	0			ML GP SM SM SM			
-	m	2.0	1	5832 6'-8'	-6 7 			Śм	moiss, brown, med Silt, rust moteli	. Sand, Sew _	

Gravel Pac 10-20 S Casing Typ Sche Screen Typ	ilica Sar e: edule 40	nd) PVC	Detector:	Slot:	Quantab			Date: Date: Dogged By: Drilling Me Seal: Hydrate Diameter: Diameter:	5833 <i>Blpt 2020</i> E. Carroll/ C. McGinn	Project: Bisti LF Du Project Number: 02952 Drilled By:	elineation 20002 worx nous
Qtab (ppm)	Moisture Content	Vapor (ppm)	HC Staining?/ Chlordie ppm	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Rer	narks	Well Completion
	D	1.4	N		0	-		GP	Dry gray Sand	and graves	wo well
	D	1.4	N		2	-		SM	Dry red brown	Silty Sand	
	D	1.7	N	5833 3'-3'	3			SM	SAA	/	
	D	1.6	N		4				SAA		
	D	1.1	N	5B33 4-6'	5			5P-5M	Dry, It brown, fir traffew silt	ne Sand	
12	D	3.0	N	5833 6 ¹ 8'	7			SPSM	SAA gravel @6	.5′	

à 40

	Elevation: Gravel Pac	6,20 k:	66	Detector:		PID		î N	BORIN Boring/Wel	>5597 9/1/2020 EC	rado 81301	dfarm 002
	Casing Typ	ie:						-	Bentonite Bentonite Diameter: Length: Hole Diameter:			Depth to Liquid:
	Screen Typ	e:			Slot:				Diameter: Length: Total Depth: Dept			Depth to Water:
< (april	Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Ren	narks	Well Completion
			4.0 1.6 1.2 0.7 0.5		5834 @0-1' 5834 @4-6'	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15			0-6" 5M 6"-6"	ty, brown/gre Sand, no odor, Dry, red-brown Sand, no od gray/white a last d"	-	

Elevation: Gravel Pac Casing Ty	6, 2 ek:	66	Detector:		PID		Î N	BORI Boring/We Date: Logged By Drilling Me Seal:	EC	rado 81301	dfarm 002
Screen Ty	pe:			Slot:				Diameter: Length: Total Depth: Dep			Depth to Water:
Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	6	Lithology/Rer		Well Completion
		0.0 0.0 0.0 0.0		5875 02-3 4875 05-6	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15			SM SM	0-6": pry, brown sand, no odar 6"-6' pry the silty sand in clary in las	l-brown, 1-brown, 10 odar, t d"	

Elevation: Gravel Paci Casing Typ		6	Detector:		PID		Î N	BORIN Boring/We Date: Logged By Drilling Me Seal:	>5556 9/1/2020 EC	rado 81301	dfarm 002
Screen Typ	e:			Slot:				Diameter:	Length:	Total Depth:	Depth to Water:
Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Rer	1narks	Well Completion
		0.0 0.0 0.0		5836 CO-1'	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15			SM SM	0-6", Dry brown silty sand, no 6"-6'; Dry, red silty sand, no gry/white cla bottom of bo	Igray odar brown odar, my E	

Elevation: Gravel Pac Casing Typ	b, d ck: pe:	66	Detector:		PID		N	Boring/We Date: Logged By Drilling Mo Seal:	EC	rado 81301	ndfarm 0002 E
Screen Ty	pe:			Slot:				Diameter:	Length:	Total Depth:	Depth to Water:
Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Reco		Lithology/Ren		Well Completion
		0.6 0.3 0.1 0.0		5837 CO-1' 5837 C5-6'	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15			SM ML SM	0-6": Lt brown sand, no odor 6"-31: Red-brow sand, no odo 31-5": Durk red sandy silt, no 5-6": Lt brown sand, no odor	silty -	

Elevation: Gravel Pac Casing Typ	6106 ck:	6	Detector:		PID		↑ N	BORID Boring/We Date: Logged By Drilling Me Seal:	EC	rado 81301 Froject: Project: Bisti Lan Project Number: 029520 Drilled By: LTE Sampling Method: Continu Grout: Bentonite Hole Diameter:	dfarm 002
Screen Typ	pe:			Slot:				Diameter:	Length:	3" Total Depth:	Depth to Water:
Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Ren		Well Completion
		2.8 1.3 1.0 (.0 0.6		5838 CO-1' 5838 E 4-6	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15			SM ML SM	0-6": It brown s No odar 6"-3': red-brown no odar 3'-5': Dark red-b gandy silt, no 5'-6': It brown Sand, no odar	oder	

Elevation: Gravel Pac Casing Typ		66	Detector:		PID		↑ N	BORIU Boring/We Date: Logged By Drilling Me Seal:	k C	rado 81301 ELL COMPLETIC Project: Bisti Lan Project Number: 029520 Drilled By: LTE Sampling Method: Continu Grout: Bentonite Hole Diameter:	dfarm 0002
Screen Typ	be:			Slot:				Diameter:	Length:	3" Total Depth:	Depth to Water:
Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery		Lithology/Rer		Well Completion
		D.9 1.0 0.4 D.1		5839 01-2 5839 01-2 5839 01-6	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15			SM ML SM	D-6", It brown no odor ("-3'= Red-brow Jand, no odor 3'-G': Dar In red- sandy silt, n 5'-6': Lt brown Sund, no odo	silt7	

	-											
							1	1 N	Ľ	PAdvancing Oppor	tunity	
							4	5 U.		848 E. 2nd Ave		
									1	Durango, Color	rado 81301	
									BORI	NG LOG/MONITORING W	ELL COMPLETIC	N DIAGRAM
									Boring/We		Project:	
									Date;		Bisti Lan	dfarm
									Date.	9/1/2020	Project Number: 029520	002
									Logged By	EL	Drilled By:	
	Elevation:	ENL	(Detector:			2		Drilling Mo		LTE Sampling Method:	
	Crowel Day	6,260	>		_	PID (hunt	25		Hand Auger	Continu	ious
	Gravel Pac	К:							Seal: Ber	ntonite	Grout: Bentonite	
	Casing Typ	e:							Diameter:	Length:	Hole Diameter:	Depth to Liquid:
	Screen Typ	e:			Slot:		_		Diameter:	Length:	3" Total Depth:	Depth to Water:
									Diameter.	Lengin.	Total Depth:	Depin to water:
1 er	c G	ب ب	Î	ng?	#			~	×			
9	trati stan	stur	dd)	Staining?	ple	Depth	Sample	Ver	oil/Roc Type	Litheless/Dem		Well
0	Penetration Resistance	Moisture Content	Vapor (ppm)	CSt	Sample #	(ft. bgs.)	Run	Recovery	Soil/Rock Type	Lithology/Ren		Completion
	<u>₽</u>		Š	HC				-	S			
	268		0.0		SRUD	0	1			O-11 1+ brown 50	1ty sand -	Novell
	205		00		00-1	1	-		SM	no odor		-
	341-2		m 0								-	
	144		0.0			2	-			1'-4: Red brown	silty -	-
	148		0.0			3	·			Eand, no ado	r ' -	
	2,124		0.0			4	·			0-1' Lt brown si no odor 1'-4': Red brown Eand, no odo 4'-6': Lt brown no odor	silty sand	-
	<u></u>				1040	5			SM		1	-
	1172		0.0		5840 05-6	3 -	-		m	no oder	-	-
		-			61	6					-	-
						_ +					-	
						7					-	-
						8 1					1	
						9					-	
						10	1				-	
							1				-	
						11					1	
						12					+	
						T	1				1	
						13 					4	-
						14					+	
						Ţ					1	
						15					25	

								1 N	BORIT Boring/We	Advancing Opport 848 E. 2nd Ave Durango, Color NG LOG/MONITORING W ^{II Number:} 513 4 1	rado 81301 ELL COMPLETIC Project: Bisti Lan	
									Date: Logged By	9/1/2020	Project Number: 029520 Drilled By:	002
	Elevation:	62	66	Detector:		PHD Q	a.L.L		Drilling Me		LTE Sampling Method:	
	Gravel Pac					410 00	and they	/	Seal: Ber	Hand Auger	Grout: Bentonite	1005
	Casing Typ								Diameter:	Length:	Hole Diameter: 3"	Depth to Liquid:
	Screen Typ	e:			Slot:				Diameter:	Length:	Total Depth:	Depth to Water:
Ellpru)	Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Reco		Lithology/Ren		Well Completion
	316 148 1860		×× 0.0 0.0 0.(••0		5841 61-3 5841 64-6	0 1 2 3 4 5 6 7		L		0-1': Lt brown s no oder 1-1': Red brown vo oder 4-6: Lt brown Sand, no oder	silty sand	Noveu
						8 9 10 11 12 13 14 15					- - - - - - - - - - - - - - - - - - -	

								1 N	Ľ	Advancing Oppor		
										848 E. 2nd Ave		
										Durango, Color	rado 81301	
									BORI	NG LOG/MONITORING W	ELL COMPLETIC	N DIAGRAM
									Boring/We		Project: Bisti Lan	
									Date:	9/1/2020	Project Number: 029520	
									Logged By:		Drilled By:	
	Elevation:	6,2	16	Detector:		DHD A	unter		Drilling Me	thod:	Sampling Method:	
	Gravel Pac			I			no. nay		Seal:	Hand Auger	Grout:	ous
	Casing Typ	e:			_				Diameter:	Length:	Bentonite	Depth to Liquid:
										Dongti.	3"	Depth to Exquid.
	Screen Typ	e:			Slot:				Diameter:	Length:	Total Depth:	Depth to Water:
CICANA	Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Ren	narks	Well Completion
	268					0				0-1-14	alte -	No well
		-				1			- · · ·	Va-Lt grown	-	
	464				-	2	1		524	sund, no ode		
	1090				(TAL)					0-2': (+ brown sand, no ode 2-4': Ked-brow Sand, no ode 4-6': (+ brown	n silty.	-
	2440				584) C3-4	4				sand, no odu	~ •	-
					5840	5			SM		-16 -	-
	2446			1	04-6'	. 1				4-6: Ct brown	5.17 -	
						6	-			sund, no ado	-	
						7					1	1
						8					-	
						9					-	
						10					7	
						11					-	
						T					+	
						12					-	
						13					-	-
						14					+	-
						15						2

Elevation: Gravel Pack: Casing Type:	716	Detector:		PHT G	lume		BORIN Boring/Wei Date: Logged By: Drilling Me Seal:	51545 9/1/2020 EC	rado 81301 /ELL COMPLETIC Project: Bisti Lan Project Number: 029520 Drilled By: LTE Sampling Method: Continu Grout: Bentonite Hole Diameter:	1dfarm 0002 3
Screen Type:			Slot:				Diameter:	Length:	3" Total Depth:	Depth to Water:
Penetration Resistance Moisture	Content	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Reco	•1	Lithology/Rer		Well Completion
	2120 2130 2130 2130 365		5843 Q2-3' SB43 C4-6'	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15			SM SM	0-2': Lt brown Sand, no oder 2'-4': hed-brown Sand, no oder Gand, no oder Sand, no oder	silty n, silty i silty	

Elevation: Gravel Pack:	Detector:		PLD (Juantes	^	BORIN Boring/We Date: Logged By Drilling Me Seal:	5844 9/1/2020 5H	rado 81301	dfarm 002
Casing Type:		Slot:				Diameter: Diameter:	Length:	Hole Diameter: 3"	Depth to Liquid:
bereen Type.		1			r—	Diameter:	Length:	Total Depth:	Depth to Water:
Penetration Resistance Moisture Content	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Rer	narks	Well Completion
	234 224 224 264 164 016 016 016 216 216	5844, 2233 5844, 21-12 01-12	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15			SM SP	0-6': Lt brown silty rand, m 6'-13': Yellow to nedium sa	brown, fire	

Elevation: 6 Gravel Pack: Casing Type:	166	Defector:		PHD Q		• N	BORI Boring/We Date: Logged By Drilling Me Seal:)1345 9/8/2020 CM	Project: Project: Project Number: 029520 Drilled By: LTI Sampling Method: Contin Grout: Bentonite Hole Diameter:	ndfarm 0002 E
Screen Type:			Slot:				Diameter:	Length:	3" Total Depth:	Depth to Water:
Penetration Resistance Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery		Lithology/Rer		Well Completion
	678 464 768 184 417		5845 Cori	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15			SM SM	0-1': Red/C+ 4 silly sand, swa	no odor	

Gravel Pack:	966	Detector:		PHD* (Quente	N N	Boring/We Date: Logged By Drilling Me Seal:	5846 9/8/2020 EM	e Drado 81301	ndfarm 0002 E
Casing Type: Screen Type:			Slot:				Diameter:	Length:	Hole Diameter: 3"	Depth to Liquid:
Penetration Resistance Moisture	Content Vapor (npm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Re	Total Depth:	Well Completion
	884 268 688 748 948		5846 C.G'	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15				0-1': Red-brown - Silt, up od 2-4': Red-brown Sund, no odo 4-6': Lt brown Silby Sund,	-red	

•

Elevation: 6, Gravel Pack: Casing Type:	266 D	etector:	PHD (e namte	١	Boring/We Date: Logged By: Drilling Me Seal:	>1547 9/8/2020 CM	Ve Orado 81301 WELL COMPLETI Project: Bisti La Project Number: 02952 Drilled By: LT Sampling Method: Contir Grout: Bentonite Hole Diameter:	ndfarm 0002 E
Screen Type:		Slot:				Diameter:	Length:	3" Total Depth:	Depth to Water:
Penetration Resistance Moisture Content	Vapor (ppm)	HC Staining? Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/R		Well Completion
	<120 2120 2120 2120 2120	7845 Q 1'	1 2 3 4			мL 5м 5м	0-1': Aed-brow Sand, no oc p-3': Red-brow Sund 3-6': Lt brown Silly Sand	randysilt an silly an silly n-red , no o door	

Gravel Pack:	LGG Det	ector:	HTD G	luan te	n N	BORIT Boring/We Date: Logged By Drilling Me Seal:	5548 9/8/2020 CM	rado 81301	dfarm 1002
Casing Type: Screen Type:		Slot:				Diameter:	Length:	Hole Diameter: 3"	Depth to Liquid:
	1-1-1					Diameter:	Length:	Total Depth:	Depth to Water:
Penetration Resistance Moisture Content	Vapor (ppm. Cl (pp.m.	HC Staining? Sample #	Depth (ft. bgs.)	Sample Run	Reco	V-1	Lithology/Ren		Well Completion
	2126 2130 2130 2130	5848 583' 0.6'	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15		2	ML	0-3': Bed/brow Silt, no odo 3-6': Lt brown Silt, no od		

Elevation: 6, Gravel Pack: Casing Type:	266	Detector:		BND 🔇	aun fr	^	BORID Boring/We Date: Logged By Drilling Me Seal:	5B49 9/14/2020 EC	Project: Project: Project Number: 029520 Drilled By: LTE Sampling Method: Continu Grout: Bentonite Hole Diameter:	dfarm 002
Screen Type:		S	Slot:				Diameter:	Length:	3" Total Depth:	Depth to Water:
Penetration Resistance Moisture Content	Vapor (ppus)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Rer	narks	Well Completion
	2120 2120 126 184 2126		5849 03-4 51849 24-6	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15			SM SM	0-6', brown- silty sund i	red no odor	

Elevation: Gravel Pack:	Detector:	LEHD Q		n N	BORIT Boring/We Date: Logged By Drilling Me Seal:	5850 9/14/2020 EC	rado 81301	dfarm 0002
Casing Type: Screen Type:	<u> </u>				Diameter:	Length:	Hole Diameter: 3"	Depth to Liquid:
	Slot:			_	Diameter:	Length:	Total Depth:	Depth to Water:
Penetration Resistance Moisture Content	HC Staining? Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Ren	narks	Well Completion
		0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15			SM SM	0-d': Red-brown Sand, no oc d-6': Lt brown Sand, no o	silty sitty	

Elevation: Gravel Pac Casing Typ	6,2, ek:	66	Detector:		PID		N	BORIN Boring/We Date: Logged By Drilling Me Seal:	5851 9/14/2020 EC	rado 81301	dfarm 0002
Screen Typ	pe:			Slot:				Diameter:	Length:	3" Total Depth:	Depth to Water:
Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Rer	narks	Well Completion
		0.0 0.0 0.0 0.0		5851 CU-6	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15			5M SM	0-6': Lt brow silty sand,	n-red no oder	

Elevation: Gravel Pack: Casing Type:	7266	Detector:		PID		N	BORII Boring/We Date: Logged By Drilling Me Seal:	7850 9/14/2020 EC	rado 81301 ELL COMPLETIC Project: Bisti Lan Project Number: 029520 Drilled By: LTE Sampling Method: Continu Grout: Bentonite Hole Diameter:	dfarm 002
Screen Type:			Slot:				Diameter:	Length:	3" Total Depth:	Depth to Water:
Penetration Resistance Moisture	Content Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Rer	narks	Well Completion
	0.7 0.3 0.4 0.0 0.1		5852 Co-l' 5852 CH-6	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15			SM ML	O'd': Ut brown sand, us od 2-4': red brown silt, us odd	-red silly -	

Elevation: Gravel Pack: Casing Type:	266	Detector:		PID		N	BORIN Boring/Wel Date: Logged By: Drilling Me Seal:	5855 9/14/2020 EC	rado 81301	dfarm 1002
Screen Type:			Slot:				Diameter:	Length:	3" Total Depth:	Depth to Water:
Penetration Resistance Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Rer	narks	Well Completion
	0.0 20 0.0		5853. C.1-d SES3 C4-6'	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15				0-3': Lt brown- sandy silt 3-6': red brown Sand, no oc		

Elevation: Gravel Pacl Casing Typ	k:	762	Detector:		PID			BORID Boring/We Date: Logged By Drilling Me Seal:	5854 9/14/2020 EC	rado 81301	dfarm 1002
Screen Type	e:			Slot;			_	Diameter:	Length:	3" Total Depth:	Depth to Water:
Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Rer	narks	Well Completion
		1.7 1.5 1.7 1.3 1.3		51354 00-1 5854 04-6	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15			SM SM	0-6': Lt Sons 5216y Sand	n-red 1 no odor	

Elevation: Gravel Pack: Casing Type:	6,266	Detector		PID		Î N	BORID Boring/We Date: Logged By Drilling Me Seal: Ber	5555 9/25/2020 Internet Hand Auger	Project: Project: Project Number: 0295200 Drilled By: LTE Sampling Method: Contimu Grout: Bentonite	dfarm 002 ; ious
Screen Type:			Slot:				Diameter: Diameter:	Length:	Hole Diameter: 3" Total Depth:	Depth to Liquid: Depth to Water:
Penetration Resistance Moisture	Content Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Rer	narks	Well Completion
	0.2 0.0 0.0 0.0 0.0		5855 Co-1	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15			5M 5M	0-3': Lt brown, Sand, no od 3-6'i red-brow Sund, no od	silly or silly or	

Elevation: Gravel Pack Casing Type		6	Detector:		PID		N	Boring/We Date: Logged By Drilling Me Seal:	>856 - 9/25/2020 54	rado 81301	ndfarm D002 E
Screen Type	:			Slot:				Diameter:	Length:	Total Depth:	Depth to Equit.
Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Rer	narks	Well Completion
		3.7 2.0 2.3 2.3 3.3 1.8		5856 CU-1 CU-5	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15				0-3': Lt brown Sund, no Do 3-6: red brow Sand, no odo	-	

Elevation: Gravel Pack: Casing Type:			Detector:		PID		N	BORID Boring/We Date: Logged By Drilling Me Seal:	5857 9/25/2020 54	rado 81301	dfarm 1002
Screen Type:	:			Slot:				Diameter:	Length:	3" Total Depth:	Depth to Water:
Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Rer	narks	Well Completion
		0.9 1.1 0.8 0.7 0.5		5857 CH-5	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15				0-3': Lt brown sand, no od 3-6': red-brow sand, no od	2	

Elevation: Gravel Pac	6,20	(6	Detector:		PID		N	BORIT Boring/We Date: Logged By Drilling Me Seal:	5859 9/25/2020 54	e orado 81301	dfarm 0002
Casing Typ				Slat				Diameter:	Length:	Hole Diameter: 3"	Depth to Liquid:
Screen Typ	1		<u><u></u></u>	Slot:				Diameter:	Length:	Total Depth:	Depth to Water:
Penetration Resistance	Moisture Content	Vapor (ppm)	HC Staining?	Sample #	Depth (ft. bgs.)	Sample Run	Recovery	Soil/Rock Type	Lithology/Re	marks	Well Completion
		2.0 1.9 1.6 1.5 0.9		5859 GO-1 7859 C4-6	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15			SM SM	0-3': Lt brown no oder 3-6': red-brow Sand, no ode		

Received by OCD: 12/3/2022 4:08:58 RM





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

August 13, 2020

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

RE: Bisti LF

OrderNo.: 2008618

Dear Stuart Hyde:

Hall Environmental Analysis Laboratory received 9 sample(s) on 8/12/2020 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 qualifiers 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 #NM0901

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

						Analytical Report Lab Order 2008618	
Hall Er	nvironmental Ana	lysis Laboratory, In	с.			Date Reported: 8/13/2	2020
CLIENT:	Western Refining Southw	vest, Inc.	Client	Sample II	D:SB	01 @ 3'-4'	
Project:	Bisti LF		Coll	ection Dat	e: 8/1	1/2020 10:40:00 AM	1
Lab ID:	2008618-001	Matrix: SOIL	Ree	ceived Dat	e: 8/1	2/2020 8:00:00 AM	
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analy	st: CJS
Chloride		340	60	mg/Kg	20	8/12/2020 10:43:27 A	M 54358

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 10

vironmental Analy	vsis Lahoratory In	ſ	Lab Order 2008618				
	• •	Client	-		301 @ 6'-8'		
2008618-002	Matrix: SOIL	Re	ceived Dat	e: 8/1	2/2020 8:00:00 AM		
	Result	RL Qu	ual Units	DF	Date Analyzed	Batch	
HOD 300.0: ANIONS	4000	<u> </u>		20	,	st: CJS	
	Western Refining Southwest, Inc. Bisti LF 2008618-002 Matrix: SOIL Result	Bisti LF Coll 2008618-002 Matrix: SOIL Re Result RL Qu HOD 300.0: ANIONS	Western Refining Southwest, Inc. Client Sample II Bisti LF Collection Dat 2008618-002 Matrix: SOIL Result RL Qual Units HOD 300.0: ANIONS	Western Refining Southwest, Inc. Client Sample ID: SE Bisti LF Collection Date: 8/1 2008618-002 Matrix: SOIL Result RL Qual Units HOD 300.0: ANIONS	Intervision Date Reported: 8/13/2 Date Reported: 8/13/2 Western Refining Southwest, Inc. Client Sample ID: SB01 @ 6'-8' Bisti LF Collection Date: 2008618-002 Matrix: SOIL Received Date: 8/12/2020 8:00:00 AM Result RL Qual Units DF Date Analyzed HOD 300.0: ANIONS		

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 2 of 10

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Released to Imaging: 12/7/2022 4211711 PM

Hall En	I Environmental Analysis Laboratory, In ENT: Western Refining Southwest, Inc.		Analytical ReportLab Order 2008618Date Reported: 8/13/2020				
CLIENT:	Western Refining Southw	rest, Inc.	Client	Sample I	D:SB	01 @ 14'-16'	
Project:	Bisti LF		Coll	ection Dat	e: 8/1	1/2020 11:05:00 AM	1
Lab ID:	2008618-003	Matrix: SOIL	Ree	ceived Dat	e: 8/1	2/2020 8:00:00 AM	
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analys	st: CJS
Chloride		490	60	mg/Kg	20	8/12/2020 11:08:16 A	M 54358

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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		lucia I abanatany Ind				Analytical Report Lab Order 2008618			
Hall Er	Hall Environmental Analysis Laboratory, Inc.				Date Reported: 8/13/2020				
CLIENT:	Western Refining Southw	vest, Inc.	Client	Sample II	D:SB	02 @ 3'-4'			
Project:	Bisti LF		Coll	ection Dat	e: 8/1	1/2020 11:45:00 AM	1		
Lab ID:	2008618-004	Matrix: SOIL	Received Date: 8/12/2020 8:00:00 AM						
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch		
EPA MET	HOD 300.0: ANIONS					Analy	st: CJS		
Chloride		360	60	mg/Kg	20	8/12/2020 11:20:41 A	M 54358		

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Released to Imaging: 12/7/2022 4214711 PM

Hall Er	Environmental Analysis Laboratory, I T: Western Refining Southwest, Inc.		Analytical ReportLab Order 2008618Date Reported: 8/13/2020				
CLIENT: Western Refining Southwest, Inc. Project: Bisti LF		est, Inc. Matrix: SOIL	Coll		e: 8/1	02 @ 4'-6' 1/2020 11:55:00 AM 2/2020 8:00:00 AM	I
Analyses		Result	RL Qu	ual Units	DF	Date Analyzed	Batch
EPA MET Chloride	HOD 300.0: ANIONS	2400	150	mg/Kg	50	Analy 8/12/2020 12:59:57 P	st: CJS M 54358

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- D Sample Diluted Due to MatrixH Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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•		с.	Analytical Report Lab Order 2008618 Date Reported: 8/13/2020				
Project:Bisti LFLab ID:2008618-006Matrix: SOIL	Client S	Client Sample ID: SB02 @ 14'-16' Collection Date: 8/11/2020 12:00:00 PM					
					2/2020 8:00:00 AM Date Analyzed	Batch	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Released to Imaging: 12/7/2022 4211711 PM

Hall En	I Environmental Analysis Laboratory, I ENT: Western Refining Southwest, Inc.		C.			Analytical Report Lab Order 2008618	020	
CLIENT: Western Refining Southwest, Inc. Project: Bisti LF		st, Inc.	Client Sample ID: SB03 @ 3'-4' Collection Date: 8/11/2020 12:30:00 PM					
Lab ID: Analyses	2008618-007	Matrix: SOIL Result				2/2020 8:00:00 AM Date Analyzed	Batch	
EPA MET Chloride	HOD 300.0: ANIONS	2200	60	mg/Kg	20		st: CJS M 54358	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Analy	zsis Laboratory. Ind	P.			Analytical Report Lab Order 2008618 Date Reported: 8/13/2	020
	Western Refining Southwes Bisti LF		Client	-		203 @ 8'-10' 1/2020 12:31:00 PM	
Lab ID:	2008618-008	Matrix: SOIL	Re	ceived Dat	e: 8/1	2/2020 8:00:00 AM	
Analyses		Result	RL Qu	ial Units	DF	Date Analyzed	Batch
EPA MET Chloride	HOD 300.0: ANIONS	2200	60	mg/Kg	20	Analy: 8/12/2020 12:10:18 P	st: CJS M 54358

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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U oll E r	winonmontal Anal	vaia Laboratory. In	0			Analytical Report Lab Order 2008618				
	Hall Environmental Analysis Laboratory, Inc.				Date Reported: 8/13/2020					
CLIENT:	Western Refining Southwe	est, Inc.	Client	t Sample II	D:SB	803 @ 10'-12'				
Project:	Bisti LF		Coll	ection Dat	e: 8/1	1/2020 12:32:00 PM				
Lab ID:	2008618-009	Matrix: SOIL	Re	ceived Dat	e: 8/1	2/2020 8:00:00 AM				
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch			
EPA MET	HOD 300.0: ANIONS					Analys	st: CJS			
Chloride		640	59	mg/Kg	20	8/12/2020 12:47:32 P	M 54358			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Client:	Western I	Refining S	outhwe	st, Inc.							
Project:	Bisti LF										
Sample ID: M	B-54358	SampT	Type: m k	olk	Tes	tCode: EF	PA Method	300.0: Anion	s		
Client ID: PI	BS	Batcl	h ID: 54 :	358	F	RunNo: 7 1	009				
Prep Date: 8	3/12/2020	Analysis D	Date: 8/	12/2020	5	SeqNo: 24	475210	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID: LC	CS-54358	SampT	Гуре: Ics	;	Tes	tCode: EF	PA Method	300.0: Anion	S		
Client ID: LC	CSS	Batc	h ID: 54	358	F	RunNo: 7 1	009				
Prep Date: 8	3/12/2020	Analysis D	Date: 8/	12/2020	5	SeqNo: 24	175211	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14	1.5	15.00	0	92.3	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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2008618

13-Aug-20

WO#:

wed by OCD: 12/7/2022 4:08:58 PM	Hall Environmental		Laboratory Iawkins NE		Page 144	-,
ANALYSIS LABORATORY	Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: clients.hallenvironmental.com			Sar	nple Log-In Check List	
Client Name: Western Refining Southwest, Inc.	Work Order Number	200861	8		RcptNo: 1	
Received By: Isaiah Ortiz 8/*	12/2020 8:00:00 AM			1-0	2-X	
Completed By: Emily Mocho 8/	12/2020 8:32:29 AM					
Reviewed By: DAD 8/12/20						
Chain of Custody						
1. Is Chain of Custody complete?		Yes 🗸]	No 🗌	Not Present	
2. How was the sample delivered?		<u>Courier</u>				
Log In 3. Was an attempt made to cool the samples?				No 🗌	🗖	
5. Was an altempt made to cool the samples?		Yes 🗸		No 🗌	NA	
4. Were all samples received at a temperature of >	0° C to 6.0°C	Yes 🔽	1	No 🗌		
5. Sample(s) in proper container(s)?		Yes 🗸	I	No 🗌		
5. Sufficient sample volume for indicated test(s)?		Yes 🔽	Ν	lo 🗌		
7. Are samples (except VOA and ONG) properly pre	served?	Yes 🗸	Ν	lo 🗌		
3. Was preservative added to bottles?		Yes	N	lo 🗸	NA 🗌	
9. Received at least 1 vial with headspace <1/4" for a	AQ VOA?	Yes 🗌	N	lo 🗌		
0. Were any sample containers received broken?		Yes 🗌	1	No 🔽	# of preserved bottles checked	
 Does paperwork match bottle labels? (Note discrepancies on chain of custody) 		Yes 🗸	Ν	lo 🗌	for pH: (<2 or >12, inless noted)	
2. Are matrices correctly identified on Chain of Custo	ody?	Yes 🗸	N	lo 🗌	Adjusted?	
3. Is it clear what analyses were requested?		Yes 🗸	N	lo 🗌		
 Were all holding times able to be met? (If no, notify customer for authorization.) 		Yes 🗸	N	lo 🗌	Checked by: SPA 8.12.2	O
pecial Handling (if applicable)						
5. Was client notified of all discrepancies with this o	rder?	Yes 🗌	٢	lo 🗌	NA 🗹	
Person Notified:	Date:					
By Whom:	Via:	eMail	Phone	Fax	In Person	
Regarding:						
Client Instructions:						
6. Additional remarks:						
7. <u>Cooler Information</u>						
Cooler No Temp °C Condition Seal Inf 1 0.2 Good Not Pres	an a	eal Date	Signe	d By		

Page 1 of 1

Receive	d by	OCL): 12 /	3/20	22 4	:08	:58 RM																		2	of 330
	ANAL YSTS LABORATORY	www.hallenvironmental.com	Albuquerque, NM 87109	Fax 505-345-4107	Analysis Request		Po4,⊧O4	(A	0	(AO\ -iməć	CL)F, -I 8270 (5 Total C													Third O Hand	· CONTOILE ILENV. COM	OSUD as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.
	ANAL	whalle		10	An				elet	əM 8	АЯЭЯ				0.000 KS								~		00	d data wi
		MM	kins	345-3		-	SMISC	1 December 1			PAHs b														50	ontracte
			4901 Hawkins NE	Tel. 505-345-3975			5904	_			8081 P										_	रे हैं।			Please	/ sub-co
			4901	Tel.		(0	NM \ O		_															arks:	0	ity. An)
						1-					X TEX /							-						Remarks:		possibil
	Same Dav			1-3-1	3750		yele	1 C McGinn		-20 /re/ 0.7 (°C)	HEAL No. 2008618	100	002	003	004	005	200	007	800	0 09				Date Time $S_{II}/I_{2,225}$ 1815	LI L	8 1 Z 70
l Time:	Rush	-	ti LF		45001837	ager:	Stuure Hyde	CON SOIL	101000000	Cooler Temp(including CF): 0.2	Preservative Type	1000								>)				Via: ANA	Via:	
Turn-Around	□ Standard	Project Name:	Bisti	Project #:	FO #	Project Manag	54	Sampler: E. On Ice:	# of Coolers:	Cooler Temp	Container Type and #	254 1	Vites							>				Received by:	Received by:	contracted to other a
Chain-of-Custody Record	Western Refining	3		HO			Level 4 (Full Validation)	□ Az Compliance □ Other	PTr.		Matrix Sample Name	Soil 5801@ 3'-4'	1 580106.5'	1000	5802 @ 3'-4'	580204'-6'	O 14'-	5803@ 31-41	\$803@ 8'-10'					Relinquished by:	Relinquished by:	If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories
nain	ives	re	Vddress	Fin	1000	Fax#:	ackage: ard	ation: C	Type)		Time	1040	1109	1105	145	1155	1200	1236	1231	1723				Time: RS15	Time:	lecessary,
Ū	Client:		Mailing Address:		Phone #:	email or Fax#:	QA/QC Package:	Accreditation:	Type)	2	Date T	6/11 1	-				1			2				Date: T	Date: Time:	IT LOU

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

August 19, 2020

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

RE: Bisti Landfarm

OrderNo.: 2008667

Dear Gregory McCartney:

Hall Environmental Analysis Laboratory received 20 sample(s) on 8/12/2020 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 qualifiers 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 #NM0901

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Er	vironmental Analy	ysis Laboratory, In	с.			Analytical Report Lab Order 2008667 Date Reported: 8/19/2	2020
CLIENT: Project:	Western Refining Southwese Bisti Landfarm	st, Inc.		t Sample II ection Dat		04@ 0-1' 1/2020 1:00:00 PM	
Lab ID:	2008667-001	Matrix: SOIL	Received Date: 8/12/2020 8:00:00 AM				
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA MET Chloride	HOD 300.0: ANIONS	89	60	mg/Kg	20	Analy 8/16/2020 11:09:42 F	st: MRA M 54448

Qualifiers:

- Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Anal	ysis Laboratory, Inc	с.			Analytical Report Lab Order 2008667 Date Reported: 8/19/2	2020
Project:	Western Refining Southwe Bisti Landfarm			t Sample II ection Dat		04@ 6-8' 1/2020 1:07:00 PM	
Lab ID:	2008667-002	Matrix: SOIL				2/2020 8:00:00 AM	
Analyses		Result	RL Qu	ial Units	DF	Date Analyzed	Batch
EPA MET Chloride	HOD 300.0: ANIONS	120	60	mg/Kg	20	Analy 8/16/2020 11:22:03 P	rst: MRA PM 54448

Qualifiers:

- Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Ana	lysis Laboratory, II	ıc.			Analytical Report Lab Order 2008667 Date Reported: 8/19/2	2020	
CLIENT: Project:	Western Refining Southw Bisti Landfarm	est, Inc.		-		04@ 10-12' 1/2020 1:10:00 PM		
Lab ID:	2008667-003	Matrix: SOIL			Date: 8/12/2020 8:00:00 AM			
Analyses		Result	RL Qu	ual Units	DF	Date Analyzed	Batch	
EPA MET	HOD 300.0: ANIONS					Analy	rst: JMT	
Chloride		100	60	mg/Kg	20	8/17/2020 11:59:21 A	M 54460	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	nvironmental Anal	ysis Laboratory, Ir	nc.			Analytical Report Lab Order 2008667 Date Reported: 8/19/2	2020
Project:	Western Refining Southwe Bisti Landfarm		Coll		e: 8/1	1/2020 1:43:00 PM	
Lab ID: Analyses	2008667-004	Matrix: SOIL Result				2/2020 8:00:00 AM Date Analyzed	Batch
EPA MET Chloride	HOD 300.0: ANIONS	ND	59	mg/Kg	20	Analy 8/17/2020 12:36:23 F	vst: JMT PM 54460

Qualifiers:

- Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	nvironmental Anal	ysis Laboratory, Ir	nc.			Analytical Report Lab Order 2008667 Date Reported: 8/19/2	2020		
Project:	Western Refining Southwe Bisti Landfarm 2008667-005	est, Inc. Matrix: SOIL	Coll	Client Sample ID: SB05@ 6-8' Collection Date: 8/11/2020 1:44:00 PM Received Date: 8/12/2020 8:00:00 AM					
Analyses		Result	RL Qu	ual Units	DF	Date Analyzed	Batch		
EPA MET Chloride	HOD 300.0: ANIONS	ND	60	mg/Kg	20	Analy 8/17/2020 12:48:44 F	vst: JMT PM 54460		

Qualifiers:

- Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Analy	ysis Laboratory, In	с.			Analytical Report Lab Order 2008667 Date Reported: 8/19/2	020
CLIENT: Project: Lab ID:	Western Refining Southwes Bisti Landfarm 2008667-006	st, Inc. Matrix: SOIL	Coll	ection Dat	e: 8/1	05@ 10-12' 1/2020 1:45:00 PM 2/2020 8:00:00 AM	
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS	ND	60	mg/Kg	20	Analys 8/17/2020 1:01:04 PM	st: JMT 54460

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	nvironmental Analy	ysis Laboratory, Ir	nc.			Analytical Report Lab Order 2008667 Date Reported: 8/19/2	2020
CLIENT: Project: Lab ID:	Western Refining Southwes Bisti Landfarm 2008667-007	st, Inc. Matrix: SOIL	Coll	B06@ 2-3' /11/2020 2:15:00 PM			
Analyses	2008007-007	Result				2/2020 8:00:00 AM Date Analyzed	Batch
EPA MET Chloride	HOD 300.0: ANIONS	ND	60	mg/Kg	20	Analy 8/17/2020 1:13:25 PM	st: JMT / 54460

Qualifiers:

- Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	nvironmental Anal	ysis Laboratory, In	ic.			Analytical Report Lab Order 2008667 Date Reported: 8/19/2	2020
CLIENT: Project: Lab ID:	Western Refining Southwe Bisti Landfarm 2008667-008	st, Inc. Matrix: SOIL	Coll		306@ 6-8' 1/2020 2:19:00 PM 2/2020 8:00:00 AM		
Analyses		Result	RL Qu	ual Units	DF	Date Analyzed	Batch
EPA MET Chloride	HOD 300.0: ANIONS	ND	60	mg/Kg	20	Analy 8/17/2020 1:25:46 PN	st: JMT / 54460

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	nvironmental Analy	vsis Laboratory, In	c.			Analytical Report Lab Order 2008667 Date Reported: 8/19/2	020
CLIENT: Project: Lab ID:	Western Refining Southwes Bisti Landfarm 2008667-009	t, Inc. Matrix: SOIL	Coll	ection Dat	e: 8/1	06@ 10-12' 1/2020 2:18:00 PM 2/2020 8:00:00 AM	
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA MET Chloride	HOD 300.0: ANIONS	ND	59	mg/Kg	20	Analy: 8/17/2020 1:38:07 PM	st: JMT 54460

Qualifiers:

- Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Released to Imaging: 12/7/2022 4211711 PM

Hall Er	nvironmental Anal	ysis Laboratory, Iı	nc.			Analytical Report Lab Order 2008667 Date Reported: 8/19/2	2020
Project:	Western Refining Southwe Bisti Landfarm		Coll		e: 8/1	1/2020 2:45:00 PM	
Lab ID: Analyses	2008667-010	Matrix: SOIL Result				2/2020 8:00:00 AM Date Analyzed	Batch
EPA MET Chloride	HOD 300.0: ANIONS	ND	60	mg/Kg	20	Analy 8/17/2020 1:50:27 PM	rst: JMT A 54460

Qualifiers:

- Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Anal	ysis Laboratory, Ir	nc.			Analytical Report Lab Order 2008667 Date Reported: 8/19/2	020		
Project:	Western Refining Southwe Bisti Landfarm 2008667-011	st, Inc. Matrix: SOIL	Coll	ection Dat	nple ID: SB07@ 6-8' n Date: 8/11/2020 2:48:00 PM				
Analyses	2008007-011	Result				2/2020 8:00:00 AM Date Analyzed	Batch		
EPA MET Chloride	HOD 300.0: ANIONS	ND	59	mg/Kg	20	Analy 8/17/2020 2:27:30 PM	st: JMT 1 54460		

Qualifiers:

- Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Released to Imaging: 12/7/2022 4211711 PM

Hall Er	nvironmental Ana	lysis Laboratory, In	с.			Analytical Report Lab Order 2008667 Date Reported: 8/19/2	:020
CLIENT:	Western Refining Southw	vest, Inc.	Client	t Sample II	D: SB	807@ 10-12	
Project:	Bisti Landfarm		Coll	ection Dat	e: 8/1	1/2020 2:50:00 PM	
Lab ID:	2008667-012	Matrix: SOIL	Re	ceived Dat	e: 8/1	2/2020 8:00:00 AM	
Analyses		Result	RL Qu	ial Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analys	st: JMT
Chloride		61	60	mg/Kg	20	8/17/2020 2:39:50 PM	1 54460

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Anal	ysis Laboratory, II	nc.			Analytical Report Lab Order 2008667 Date Reported: 8/19/2	:020
CLIENT: Project: Lab ID:	Western Refining Southwe Bisti Landfarm 2008667-013	est, Inc. Matrix: SOIL	Coll		e: 8/1	308@ 0-1' 1/2020 3:23:00 PM 2/2020 8:00:00 AM	
Analyses		Result				Date Analyzed	Batch
EPA MET Chloride	HOD 300.0: ANIONS	ND	60	mg/Kg	20	Analy 8/17/2020 2:52:10 PM	st: JMT 1 54460

Qualifiers:

- Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Analy	sis Laboratory, Inc	Analytical Report Lab Order 2008667 Date Reported: 8/19/2020 Client Sample ID: SB08@ 6-8' Collection Date: 8/11/2020 3:21:00 PM Received Date: 8/12/2020 8:00:00 AM RL Qual Units DF Date Analyzed Batch Analyst: JMT				
	Western Refining Southwest	, Inc.		-			
Project:	Bisti Landfarm		Coll	ection Dat	e: 8/1	1/2020 3:21:00 PM	
Lab ID:	2008667-014	Matrix: SOIL	Re	ceived Dat	e: 8/1	2/2020 8:00:00 AM	
Analyses		Result	RL Qu	ial Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analys	st: JMT
Chloride		ND	60	mg/Kg	20	8/17/2020 3:04:31 PM	54460

Qualifiers:

- Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Anal	ysis Laboratory, Iı	ıc.			Analytical Report Lab Order 2008667 Date Reported: 8/19/2	2020
CLIENT:	Western Refining Southwe	st, Inc.	Client	t Sample II	D: SB	808@ 10-12'	
Project:	Bisti Landfarm		Coll	lection Dat	e: 8/1	1/2020 3:17:00 PM	
Lab ID:	2008667-015	Matrix: SOIL	Re	ceived Dat	e: 8/1	2/2020 8:00:00 AM	
Analyses		Result	RL Qu	ial Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analy	st: JMT
Chloride		110	60	mg/Kg	20	8/17/2020 3:16:52 PM	1 54460

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	nvironmental Ana	lysis Laboratory, Ir	nc.			Analytical Report Lab Order 2008667 Date Reported: 8/19/2	020						
CLIENT: Project:	Western Refining Southw Bisti Landfarm	est, Inc.		t Sample II lection Date		09@ 2-3' 1/2020 3:48:00 PM							
Lab ID:	2008667-016	Matrix: SOIL	Re	Received Date: 8/12/2020 8:00:00 AM									
Analyses		Result	RL Qu	ial Units	DF	Date Analyzed	Batch						
EPA MET	HOD 300.0: ANIONS					Analy	st: JMT						
Chloride		ND	60	mg/Kg	20	8/17/2020 3:29:12 PM	54460						

Qualifiers:

- Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Ana	lysis Laboratory, Inc	2.			Analytical Report Lab Order 2008667 Date Reported: 8/19/2	020
CLIENT: Project:	Western Refining Southw Bisti Landfarm	est, Inc.		t Sample II ection Dat		09@ 4-6' 1/2020 3:51:00 PM	
Lab ID:	2008667-017	Matrix: SOIL	Ree	ceived Dat	e: 8/1	2/2020 8:00:00 AM	
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analy	st: JMT
Chloride		ND	60	mg/Kg	20	8/17/2020 3:41:34 PM	1 54460

Qualifiers:

- Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 17 of 21

Hall Er	nvironmental Anal	ysis Laboratory, Ir	nc.			Analytical Report Lab Order 2008667 Date Reported: 8/19/2	2020
CLIENT: Project: Lab ID:	Western Refining Southwe Bisti Landfarm 2008667-018	st, Inc. Matrix: SOIL	Coll		e: 8/1	09@ 6-8' 1/2020 3:50:00 PM 2/2020 8:00:00 AM	
Analyses	2000007 010	Result				Date Analyzed	Batch
EPA MET Chloride	HOD 300.0: ANIONS	ND	60	mg/Kg	20	Analy 8/17/2020 3:53:55 PN	st: JMT / 54460

Qualifiers:

- Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Anal	ysis Laboratory, Iı	ıc.			Analytical Report Lab Order 2008667 Date Reported: 8/19/2	2020
CLIENT:	Western Refining Southwe	st, Inc.	Client	t Sample II	D: SB	310@ 3-4'	
Project:	Bisti Landfarm		Coll	ection Dat	e: 8/1	1/2020 4:20:00 PM	
Lab ID:	2008667-019	Matrix: SOIL	Re	ceived Dat	e: 8/1	2/2020 8:00:00 AM	
Analyses		Result	RL Qu	ial Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analy	st: JMT
Chloride		1600	59	mg/Kg	20	8/17/2020 4:06:16 PM	<i>I</i> 54460

Qualifiers:

- Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Anal	ysis Laboratory, Iı	nc.			Analytical Report Lab Order 2008667 Date Reported: 8/19/2	2020
CLIENT: Project:	Western Refining Southwe Bisti Landfarm	st, Inc.		t Sample II ection Dat		311@ 3-4' 1/2020 4:52:00 PM	
Lab ID:	2008667-020	Matrix: SOIL	Ree	ceived Dat	e: 8/1	2/2020 8:00:00 AM	
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analy	st: JMT
Chloride		620	60	mg/Kg	20	8/17/2020 5:08:01 PN	1 54477

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

	tern Refining Southwest, Inc. Landfarm			
Sample ID: MB-54448	SampType: mblk	TestCode: EPA Method	300.0: Anions	
Client ID: PBS	Batch ID: 54448	RunNo: 71150		
Prep Date: 8/16/2020	Analysis Date: 8/16/2020	SeqNo: 2480689	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride	ND 1.5			
Sample ID: LCS-54448	SampType: Ics	TestCode: EPA Method	300.0: Anions	
Client ID: LCSS	Batch ID: 54448	RunNo: 71150		
Prep Date: 8/16/2020	Analysis Date: 8/16/2020	SeqNo: 2480690	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride	14 1.5 15.00	0 94.2 90	110	
Sample ID: MB-54460	SampType: mblk	TestCode: EPA Method	300.0: Anions	
Client ID: PBS	Batch ID: 54460	RunNo: 71156		
Prep Date: 8/17/2020	Analysis Date: 8/17/2020	SeqNo: 2480954	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride	ND 1.5			
Sample ID: LCS-54460	SampType: Ics	TestCode: EPA Method	300.0: Anions	
Client ID: LCSS	Batch ID: 54460	RunNo: 71156		
Prep Date: 8/17/2020	Analysis Date: 8/17/2020	SeqNo: 2480955	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride	14 1.5 15.00	0 91.6 90	110	
Sample ID: MB-54477	SampType: mblk	TestCode: EPA Method	300.0: Anions	
Client ID: PBS	Batch ID: 54477	RunNo: 71156		
Prep Date: 8/17/2020	Analysis Date: 8/17/2020	SeqNo: 2480989	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride	ND 1.5			
Sample ID: LCS-54477	SampType: Ics	TestCode: EPA Method	300.0: Anions	
Client ID: LCSS	Batch ID: 54477	RunNo: 71156		
Prep Date: 8/17/2020	Analysis Date: 8/17/2020	SeqNo: 2480990	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride	14 1.5 15.00	0 94.1 90	110	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

2008667

19-Aug-20

WO#:

HALL ENVIRC ANALY LABOR		Hall Environmen	490 Albuquerq 975 FAX:	1 Hawkins N ue, NM 8710 505-345-410	VE 09 (07	Sample Log-In Check Lis							
	Western Refining Southwest, Inc.	Work Order Num	oer: 2008	3667		RcptNo: 1							
Received By:	Isaiah Ortiz	8/12/2020 8:00:00 /	AM		7	SBace	4						
Completed By:	Leah Baca	8/12/2020 2:45:11 I	РМ		Int	Bace							
Reviewed By:	51°A 8.12.	20		,	- 2007	<i>.</i>							
Chain of Custo	ody												
1. Is Chain of Cus	stody complete?		Yes	✓	No		Not Present						
2. How was the sa	ample delivered?		Cour	ier									
Log In													
	t made to cool the sam	ples?	Yes		No		NA						
4. Were all sample	es received at a temper	ature of >0° C to 6.0°C	Yes		No		NA 🗌						
5 0 1 () :													
5. Sample(s) in pr	oper container(s)?		Yes	\checkmark	No								
6. Sufficient sample	le volume for indicated	test(s)?	Yes	\checkmark	No								
	cept VOA and ONG) p		Yes		No								
8. Was preservativ	ve added to bottles?		Yes		No		NA 🗌						
9. Received at leas	st 1 vial with headspace	<1/4" for AQ VOA?	Yes		No		NA 🗹						
10. Were any samp	ble containers received	broken?	Yes		No	\checkmark	# of preserved						
11 Does nanenwork	match bottle labels?		Yes		No		bottles checked for pH:						
and a second	cies on chain of custod	y)	res		No		(<2 or >12 unless r	noted)					
12. Are matrices co	rrectly identified on Cha	in of Custody?	Yes	\checkmark	No		Adjusted?						
13. Is it clear what a	analyses were requeste	d?	Yes	\checkmark	No			1.					
	times able to be met?		Yes	\checkmark	No		Checked by: GM 8	12/20					
(If no, notify cus	tomer for authorization.)											
Special Handlin	ng (if applicable)												
15. Was client notif	fied of all discrepancies	with this order?	Yes		No		NA 🗹						
Person N	otified:	Date:	Transfer a second	generalis entre Canade Land	di Unitettaria	n and the same of the							
By Whom	1:	Via:	eMa	ail 🗌 Pho	ne] Fax	In Person						
Regarding	g:	an an an ann an an an an an an an an ann an a	#18-19-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	www.comerce.comerce.com	NO 7-0 14-0607	* 0.4360.003.37	NARAH CANANA MANANA						
Client Ins	tructions:	n ar fer formen her beneftet for en sen af de server som støre for at sette som som som som som som som som so	and a transmission of the Research		Marcha Colle Barlad	anderson in de	ana na mana na						
16. Additional rem	arks:												
17. Cooler Inform	ation												
Cooler No	Temp °C Condition	Seal Intact Seal No	Seal Da	to Ci	gned	Du							

Page 1 of 1

eceived			: 12/	3/20	22 4	:08:	:58 PM				a cho shi na shu							-							Page	e 169	of 3
	ANALYSIS LABORATORY	www.hallenvironmental.com	4901 Hawkins NE - Albuquerque, NM 87109		Analysis	°0¢ (0	S "⁰Ođ SWIS(SWIS(bCB, ² O \ WK	N) / DK 14.1) 14.1) 102	^О\$ 0 ^{3;} 10 0 9 20 9 20 2 ВС	1 5D((esticio y 83 3 Met 3 Met 3 Met 3 Met	ВТЕХ / ТРН:80 8081 Р ВО81 Р В260 (У 8260 (У 8270 (5 10tal C 10tal C												21	Remarks:	Shyde @Itemu.	Please CC. CLarroll & Item. Com	3/12/20 0500
		LF			ide	(1		MCGINN		0.2° (°C)	HEAL No.	100-	-002	-003	100-	200-	-006	-00J	-00\$	-009	-010	-011	-012	Time	8/11/2020 1815	Date Time	8/12/20 08:00
d Time:	d 🗆 Rush_	IE: BISFI	837	1	tout My	lager:	Stuart Myde	110	Le Yes		Preservative Type	0001	•	1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 - 1940 -				••• • • • • • •				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	A.	Via:	Walt	Via:	Comin
Turn-Around T	K Standard	Project Name:	B#45001	Project #:	Å	Project Manag	St	Sampler:	Un Ice: # of Coolers:	Cooler Tem	Container Type and #	20/1	1	incol								1	X	Received by:	1 churt	Received by:	10-1
Chain-of-Custody Record	n Refining	Mr Carbney	5 539 main Sc	45840	素能	and the second second	Level 4 (Full Validation)				Sample Name	5804 @ 0-1,	5B04 @6'-8'	5804@10,-13,	580502'-3'	5B05 @6'-8'	5805 @ 101-171	5B06 @ 71-3'	5806 @ 6'-5'	5806 @ 10'-12'	580701-21	580700 d'-8'	5B67@ 10'-17		" current	id by:	WHWar
n-of-Cu	restern	re- M.	4	Findlar OH						-	Matrix	0 5011	7 1		3			1.5	~		1	1	e)	Relinquished by:	1	Relinquished by	5 10
Chaiı	1	3	Mailing Address:	Fin	Phone #:	email or Fax#:	QA/QC Package:	Accreditation:			e Time	11 1300	1367	13/0	1343	1344	1345	1415	14/9	1418	1445	1449	1450		8/1/18/18/5	Time:	2019/2020
lansa	Client:			1017	Pho	ema	QAIG AS	Acc			Date	8/11	e span										3	Date:	118	Date:	-

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eived	by C	0CD •): 12/	/3/2	022	4:08	:58 PN															Page	e 170 of
HALL ENVIRONMENTAL	ANALYSIS LABORATOR		4901 Hawkins NF - Alburuerune NM 87109		1el. 202-542-59/5 Fax 505-545-410/ Analysis Request	*0	SIMS	1.1) 8270: 1.1)	3/26 202 20 1 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2	bic bo bf bf bf bf bf bf bf bf bf bf bf bf bf	estic Meth 8 Mc 8 Mc 8 Mc 8 Mc 8 Mc	TPH:80 8081 P PAHs I 8260 (/ 8260 (/ 70th; T 70tal C (3 70tal C	× (*	×			×	X			oc. shydeptenv. www.	ecample thur com
												X TEX /							- 2			Remarks	
			3				le	C. Mcain	D No	200	20 per 0.2. (°C)	HEAL No.	0	-010	-015	-010-	-017	- 018	210-	-029		Date Time 8/1/220 1815	Date Time
-ime:	□ Rush		Landfarm		0183750	tger:	aft t	E. Carroll	10		(including CF): 0. 2	Preservative Type	(00)	1	_					1		Nia:	Via:
	🖄 Standard	Project Name:	Bistic	Project #:	120054	Project Manager:	Stuar		On Ice:	# of Coolers:	Cooler Temp(including CF):	Container Type and #		-			-	-	~	>		Received by:	Received by:
Chain-of-Custody Record	Refining	hurd J	Main ct	H dealo	01201 110	and the second second with the second s	- 1 evel 4 (Evill Velidation)					Sample Name	5808 @ 0'-1'	58080 W-8'	SBDX@ 10'- 12'	5809033,	SB09,04'-6'	SB0900-8'	SBID 034'	SB11 @ 3' - 4'		d by:	the how
ain-ot-Cu	Client: Western	micart	Mailing Address: 529 Mun Ct	die . Os	ncalad, C	ax#:	kage:	1.000		ype) PUE		Time Matrix	1533 So 11	1521	1517	1548 =	1551	1550	1 DE MI	1052 V		ne: Relinquished by:	ne: Relinquished by:
CP	Client:	102ML	Mailing Add	L	Phone #:	email or Fax#:	QA/QC Package:	Accreditation:		EDD (T		Date Tin	SI 00-11-8	1	- iz	47	2		n1	2 >		Date: Time:	Date: Time:



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

August 20, 2020

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

RE: Bisti Landfarm

OrderNo.: 2008700

Dear Stuart Hyde:

Hall Environmental Analysis Laboratory received 34 sample(s) on 8/13/2020 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 qualifiers 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 #NM0901

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Er	vironmental Ana	lysis Laboratory, In	с.			Analytical Report Lab Order 2008700 Date Reported: 8/20/2	020		
CLIENT:	Western Refining Southwe	est, Inc.	Client	t Sample II	D: SB	12 @ 3'-4'			
Project:	Bisti Landfarm		Coll	ection Dat	ate: 8/12/2020 9:14:00 AM				
Lab ID:	2008700-001	Matrix: SOIL	Re	ceived Dat	e: 8/1	3/2020 7:55:00 AM			
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch		
EPA MET	HOD 300.0: ANIONS					Analys	st: JMT		
Chloride		130	60	mg/Kg	20	8/17/2020 5:20:20 PM	54477		

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Released to Imaging: 12/7/2022 4214711 PM

Hall Er	vironmental Analy	8700-002 Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM Result RL Qual Units DF Date Analyzed Ba 0 300.0: ANIONS Analyst: JM			020		
CLIENT: Project: Lab ID:	Bisti Landfarm		Coll	ection Dat	e: 8/1	2/2020 9:39:00 AM	
Analyses	2008700-002						Batch
EPA MET Chloride	HOD 300.0: ANIONS	160	59	mg/Kg	20	Analy 8/17/2020 5:57:24 PM	-

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	nvironmental Analy	8700-003 Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM Result RL Qual Units DF Date Analyzed Ba 300.0: ANIONS Analyst: JM				020	
CLIENT: Project: Lab ID:	Western Refining Southwestern Refining Southwestern Bisti Landfarm 2008700-003		Coll	ection Dat	e: 8/1	2/2020 9:40:00 AM	
Analyses		Result	RL Qu	ual Units	DF	Date Analyzed	Batch
EPA MET Chloride	HOD 300.0: ANIONS	89	60	mg/Kg	20	Analy: 8/17/2020 6:34:26 PM	-

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	b ID: 2008700-004 Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM nalyses Result RL Qual Units DF Date Analyzed Batch PA METHOD 300.0: ANIONS Analyst: JMT)20		
CLIENT: Project:	e	est, Inc.		-			
Lab ID:		Matrix: SOIL	0.011				
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analys	st: JMT
Chloride		360	60	mg/Kg	20	8/17/2020 7:11:29 PM	54477

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	Ab ID: 2008700-005 Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM Inalyses Result RL Qual Units DF Date Analyzed Bat PA METHOD 300.0: ANIONS Analyst: JM			020			
CLIENT: Project:	e	est, Inc.		-			
Lab ID:	2008700-005	Matrix: SOIL	Re	ceived Dat	e: 8/1	3/2020 7:55:00 AM	
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analy	st: JMT
Chloride		160	60	mg/Kg	20	8/17/2020 7:23:50 PM	1 54477

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	b ID: 2008700-006 Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM nalyses Result RL Qual Units DF Date Analyzed Bate PA METHOD 300.0: ANIONS Analyst: JMT			2020			
CLIENT: Project:	•	vest, Inc.		-			1
Lab ID:		Matrix: SOIL					1
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch
	HOD 300.0: ANIONS					,	-
Chloride		280	60	mg/Kg	20	8/17/2020 7:36:11 PM	1 54477

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	nvironmental Anal	Collection Date: 8/12/2020 10:14:00 AM Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM Result RL Qual Units DF Date Analyzed Ba				2020	
CLIENT: Project: Lab ID:	Western Refining Southwe Bisti Landfarm 2008700-007		Coll	ection Dat	e: 8/1	2/2020 10:14:00 AN	-
Analyses	2000700-007						Batch
EPA MET Chloride	HOD 300.0: ANIONS	77	60	mg/Kg	20	Analy 8/17/2020 7:48:31 PM	-

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Anal	700-008 Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM Result RL Qual Units DF Date Analyzed Ba				2020	
CLIENT: Project: Lab ID:	Western Refining Southwe Bisti Landfarm 2008700-008		Coll	ection Dat	e: 8/1	2/2020 11:07:00 AM	-
Analyses		Result	RL Qu	ual Units	DF	Date Analyzed	Batch
EPA MET Chloride	HOD 300.0: ANIONS	320	59	mg/Kg	20	Analy 8/17/2020 8:00:53 PM	-

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	b ID: 2008700-009 Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM nalyses Result RL Qual Units DF Date Analyzed Bat PA METHOD 300.0: ANIONS Analyst: JMT				2020		
CLIENT: Project:	e	est, Inc.		-			1
Lab ID:	2008700-009	Matrix: SOIL	Ree	ceived Date	e: 8/1	3/2020 7:55:00 AM	
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA MET Chloride	HOD 300.0: ANIONS	520	60	mg/Kg	20	Analy 8/17/2020 8:13:14 PM	-

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Ana	lysis Laboratory, Inc	Analytical Report Lab Order 2008700 Inc. Date Reported: 8/20/20.					
CLIENT: Project:	Western Refining Southw Bisti Landfarm	vest, Inc.		t Sample II ection Dat		15 @ 6'-8' 2/2020 11:10:00 AM	1	
Lab ID:	2008700-010	Matrix: SOIL	Re	ceived Dat	e: 8/1	3/2020 7:55:00 AM	1	
Analyses		Result	RL Qu	ial Units	DF	Date Analyzed	Batch	
EPA MET	HOD 300.0: ANIONS					Analy	st: JMT	
Chloride		190	61	mg/Kg	20	8/17/2020 8:25:35 PM	1 54477	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Anal	ysis Laboratory, Inc	Inc. Analytical Report Lab Order 2008700 Date Reported: 8/20/2					
CLIENT: Project: Lab ID:	Western Refining Southwe Bisti Landfarm 2008700-011	est, Inc. Matrix: SOIL	Client Sample ID: SB16 @ 2'-3' Collection Date: 8/12/2020 11:30:0 Received Date: 8/13/2020 7:55:00			2/2020 11:30:00 AM		
Analyses		Result	RL Q	ual Units	DF	Date Analyzed	Batch	
EPA MET Chloride	HOD 300.0: ANIONS	150	60	mg/Kg	20	Analys 8/17/2020 8:37:56 PM	st: JMT 54477	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	nvironmental Anal	ysis Laboratory, In	с.			Analytical Report Lab Order 2008700 Date Reported: 8/20/2	020		
CLIENT: Project: Lab ID:	Western Refining Southwe Bisti Landfarm 2008700-012	st, Inc. Matrix: SOIL	Collec			Client Sample ID: SB16 @ 4'-6' Collection Date: 8/12/2020 11:35:00 AM Received Date: 8/13/2020 7:55:00 AM			
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch		
EPA MET	HOD 300.0: ANIONS	160	60	mg/Kg	20	Analy 8/17/2020 8:50:17 PM	st: JMT 1 54477		

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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nvironmental Anal	ysis Laboratory, In	с.		Analytical Report Lab Order 2008700 Date Reported: 8/20/2020				
Western Refining Southwe Bisti Landfarm 2008700-013	st, Inc. Matrix: SOIL	Colle			Client Sample ID: SB16 @ 6'-8' Collection Date: 8/12/2020 11:40:00 AM			
	Result	RL Qu	al Units	DF	Date Analyzed	Batch		
HOD 300.0: ANIONS	1100	60	mg/Kg	20	Analy: 8/17/2020 9:02:37 PM	st: JMT 54477		
	Western Refining Southwe Bisti Landfarm 2008700-013	Western Refining Southwest, Inc. Bisti Landfarm 2008700-013 Matrix: SOIL Result HOD 300.0: ANIONS	Bisti Landfarm Coll 2008700-013 Matrix: SOIL Re Result RL Qu HOD 300.0: ANIONS	Western Refining Southwest, Inc. Client Sample II Bisti Landfarm Collection Dat 2008700-013 Matrix: SOIL Received Dat Result RL Qual Units HOD 300.0: ANIONS	Western Refining Southwest, Inc. Client Sample ID: SB Bisti Landfarm Collection Date: 8/1 2008700-013 Matrix: SOIL Result RL Qual Units HOD 300.0: ANIONS	Lab Order 2008700 Date Reported: 8/20/2 Western Refining Southwest, Inc. Client Sample ID: SB16 @ 6'-8' Bisti Landfarm Collection Date: 8/12/2020 11:40:00 AM 2008700-013 Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM Result RL Qual Units DF Date Analyzed HOD 300.0: ANIONS Analyse		

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Analy	ysis Laboratory, Inc	Analytical Report Lab Order 2008700 Date Reported: 8/20/2					
CLIENT: Project:	Western Refining Southwes Bisti Landfarm	st, Inc.		t Sample II ection Date		17 @ 3'-4' 2/2020 12:10:00 PM		
Lab ID:	2008700-014	Matrix: SOIL	0.011		1	3/2020 7:55:00 AM	-	
Analyses		Result	RL Qu	ial Units	DF	Date Analyzed	Batch	
EPA MET Chloride	HOD 300.0: ANIONS	1200	60	mg/Kg	20	Analy: 8/17/2020 9:39:39 PM	st: JMT 1 54477	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Analy	vsis Laboratory, Inc	2.	Analytical Report Lab Order 2008700 Date Reported: 8/20/2	0			
CLIENT: Project:	Western Refining Southwes Bisti Landfarm	t, Inc.		t Sample II ection Date		17 @ 4'-6' 2/2020 12:12:00 PM		
Lab ID:	2008700-015	Matrix: SOIL	Re	ceived Date	e: 8/1	3/2020 7:55:00 AM	-	
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch	
EPA MET Chloride	HOD 300.0: ANIONS	1400	60	mg/Kg	20	Analy: 8/17/2020 9:51:59 PM	st: JMT 1 54477	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Anal	ysis Laboratory, Inc	Analytical Report Lab Order 2008700 Date Reported: 8/20/				
CLIENT: Project:	Western Refining Southwe Bisti Landfarm	est, Inc.	Client Sample ID: SB17 @ 6'-8' Collection Date: 8/12/2020 12:15:0				1
Lab ID:	2008700-016	Matrix: SOIL	Rec	ceived Date	e: 8/1	3/2020 7:55:00 AM	
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA MET Chloride	HOD 300.0: ANIONS	1200	60	mg/Kg	20	Analy 8/17/2020 10:04:20 P	rst: JMT PM 54477

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall En	vironmental Analysis	s Laboratory, Inc.	,		Analytical Report Lab Order 2008700 Date Reported: 8/20/2020			
	Western Refining Southwest, In Bisti Landfarm	1C.	Client Sample ID: SB18 @ 2'-3' Collection Date: 8/12/2020 12:20					
Lab ID: Analyses	2008700-017	Matrix: SOIL Result				3/2020 7:55:00 AM Date Analyzed	Batch	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Anal	ysis Laboratory, Inc	2.		Analytical Report Lab Order 2008700 Date Reported: 8/20/2020			
CLIENT: Project:	Western Refining Southwe Bisti Landfarm 2008700-018		Client Sample ID: SB18 @ 4'-6' Collection Date: 8/12/2020 12:28:00 PM Received Date: 8/13/2020 7:55:00 AM					
Analyses		Result	RL Q	ual Units	DF	Date Analyzed	Batch	
EPA MET Chloride	HOD 300.0: ANIONS	93	61	mg/Kg	20	Analy 8/17/2020 10:28:59 F	st: JMT M 54477	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Anal	ysis Laboratory, In	с.		Analytical Report Lab Order 2008700 Date Reported: 8/20/2020				
CLIENT: Project: Lab ID:	Western Refining Southwe Bisti Landfarm 2008700-019	est, Inc. Matrix: SOIL	Colle			Client Sample ID: SB18 @ 6'-8' Collection Date: 8/12/2020 12:25:00 PM Received Date: 8/13/2020 7:55:00 AM			
Analyses		Result	RL Qu	ual Units	DF	Date Analyzed	Batch		
EPA MET Chloride	HOD 300.0: ANIONS	720	60	mg/Kg	20	Analy 8/17/2020 10:41:19 F	st: JMT M 54477		

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Ana	lysis Laboratory, Inc	Analytical Report Lab Order 2008700 Date Reported: 8/20/202				
CLIENT: Project:	Western Refining Southw Bisti Landfarm	vest, Inc.		t Sample II ection Dat		19 @ 1'-2' 2/2020 12:57:00 PM	ſ
Lab ID:	2008700-020	Matrix: SOIL	0011			3/2020 7:55:00 AM	L
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analy	st: JMT
Chloride		ND	60	mg/Kg	20	8/17/2020 11:18:22 P	PM 54484

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Ana	lysis Laboratory, Inc	Analytical Report Lab Order 2008700 Date Reported: 8/20/2020				
	Western Refining Southw	vest, Inc.		t Sample II			
Project: Lab ID:	Bisti Landfarm 2008700-021	Matrix: SOIL	001			2/2020 12:53:00 PM 3/2020 7:55:00 AM	L
Analyses		Result	RL Qu	ial Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analy	st: JMT
Chloride		ND	59	mg/Kg	20	8/17/2020 11:30:43 P	M 54484

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Ana	lysis Laboratory, Inc	2.			Analytical Report Lab Order 2008700 Date Reported: 8/20/2	2020	
CLIENT: Project:	Western Refining Southw Bisti Landfarm	est, Inc.		t Sample II		19 @ 6'-8' 2/2020 12:52:00 PM		
Lab ID:	2008700-022	Matrix: SOIL	001			3/2020 7:55:00 AM		
Analyses		Result	RL Q	ual Units	DF	Date Analyzed	Batch	
EPA MET	HOD 300.0: ANIONS					Analy	st: JMT	
Chloride		ND	61	mg/Kg	20	8/18/2020 12:32:25 A	M 54484	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Anal	ysis Laboratory, In	c.			Analytical Report Lab Order 2008700 Date Reported: 8/20/2	2020	
CLIENT:	Western Refining Southwe	est, Inc.	Client	t Sample II	D: SB	20 @ 3'-4'		
Project:	Bisti Landfarm		Coll	Collection Date: 8/12/2020 1:26:00 PM				
Lab ID:	2008700-023	Matrix: SOIL	Re	ceived Dat	e: 8/1	3/2020 7:55:00 AM		
Analyses		Result	RL Qu	ial Units	DF	Date Analyzed	Batch	
EPA MET	HOD 300.0: ANIONS					Analy	st: JMT	
Chloride		1900	60	mg/Kg	20	8/18/2020 12:44:46 A	M 54484	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Anal	ysis Laboratory, Inc	с.			Analytical Report Lab Order 2008700 Date Reported: 8/20/2	2020			
CLIENT:	Western Refining Southwe	st, Inc.		t Sample II						
Project:	Bisti Landfarm		Colle			Collection Date: 8/12/2020 1:27:00 PM				
Lab ID:	2008700-024	Matrix: SOIL	Re	ceived Dat	e: 8/1	3/2020 7:55:00 AM				
Analyses		Result	RL Qu	ial Units	DF	Date Analyzed	Batch			
EPA MET	HOD 300.0: ANIONS					Analy	st: JMT			
Chloride		2500	150	mg/Kg	50	8/18/2020 11:04:34 P	M 54484			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Ana	lysis Laboratory, Inc	с.			Analytical Report Lab Order 2008700 Date Reported: 8/20/2	2020
CLIENT: Project:	Western Refining Southw Bisti Landfarm	rest, Inc.		t Sample II ection Dat		20 @ 6'-8' 2/2020 1:24:00 PM	
Lab ID:	2008700-025	Matrix: SOIL	0.011			3/2020 7:55:00 AM	
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analy	st: JMT
Chloride		3600	150	mg/Kg	50	8/18/2020 11:16:55 P	M 54484

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Analy	vsis Laboratory, Inc	2.			Analytical Report Lab Order 2008700 Date Reported: 8/20/2	020			
CLIENT:	Western Refining Southwest	st, Inc.	Client	t Sample II	D: SB	21 @ 2'-3'				
Project:	Bisti Landfarm		Col			Collection Date: 8/12/2020 1:40:00 PM				
Lab ID:	2008700-026	Matrix: SOIL	Re	ceived Dat	e: 8/1	3/2020 7:55:00 AM				
Analyses		Result	RL Qu	ial Units	DF	Date Analyzed	Batch			
EPA MET	HOD 300.0: ANIONS					Analys	st: JMT			
Chloride		560	60	mg/Kg	20	8/18/2020 1:21:48 AM	54484			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Ana	lysis Laboratory, Inc	2.			Analytical Report Lab Order 2008700 Date Reported: 8/20/20	020
CLIENT: Project:	Western Refining Southwe Bisti Landfarm	est, Inc.		t Sample II lection Dat		21 @ 4'-6' 2/2020 1:43:00 PM	
Lab ID:	2008700-027	Matrix: SOIL	Re	ceived Dat	e: 8/1	3/2020 7:55:00 AM	
Analyses		Result	RL Qu	ial Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analys	t: JMT
Chloride		1800	61	mg/Kg	20	8/18/2020 1:34:08 AM	54484

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Ana	lysis Laboratory, Ind	с.			Analytical Report Lab Order 2008700 Date Reported: 8/20/2	020
	Western Refining Southw	est, Inc.		Sample II		21 @ 6'-8' 2/2020 1:42:00 PM	
Project: Lab ID:	Bisti Landfarm 2008700-028	Matrix: SOIL	0011			2/2020 1:42:00 PM 3/2020 7:55:00 AM	
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analys	st: JMT
Chloride		1400	60	mg/Kg	20	8/18/2020 1:46:29 AN	54484

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	nvironmental Analy	vsis Laboratory, In	ıc.			Analytical Report Lab Order 2008700 Date Reported: 8/20/2	020
Project:	Western Refining Southwes Bisti Landfarm		Coll		e: 8/1	2/2020 2:16:00 PM	
Lab ID: Analyses	2008700-029	Matrix: SOIL Result				3/2020 7:55:00 AM Date Analyzed	Batch
EPA MET Chloride	HOD 300.0: ANIONS	ND	59	mg/Kg	20	Analy 8/18/2020 1:58:50 AM	st: JMT 1 54484

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Anal	ysis Laboratory, Ir	ıc.			Analytical Report Lab Order 2008700 Date Reported: 8/20/2	2020	
	Western Refining Southwe	st, Inc.		t Sample II				
Project: Lab ID:	Bisti Landfarm 2008700-030	Matrix: SOIL	001			2/2020 2:13:00 PM 3/2020 7:55:00 AM		
Analyses		Result	RL Qu	ual Units	DF	Date Analyzed	Batch	
EPA MET	HOD 300.0: ANIONS					Analy	st: JMT	
Chloride		ND	60	mg/Kg	20	8/18/2020 2:35:51 AN	1 54484	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Anal	ysis Laboratory, Ir	ıc.			Analytical Report Lab Order 2008700 Date Reported: 8/20/2	020
CLIENT: Project:	Western Refining Southwe Bisti Landfarm	st, Inc.		t Sample II		522 @ 6'-8' 2/2020 2:15:00 PM	
Lab ID:	2008700-031	Matrix: SOIL	001			3/2020 7:55:00 AM	
Analyses		Result	RL Qu	ial Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analy	st: JMT
Chloride		ND	60	mg/Kg	20	8/18/2020 2:48:11 AN	1 54484

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 31 of 35

Hall Er	nvironmental Anal	ysis Laboratory, In	c.			Analytical Report Lab Order 2008700 Date Reported: 8/20/2	020	
CLIENT: Project:	Western Refining Southwe Bisti Landfarm	est, Inc.		t Sample II lection Dat		23 @ 2'-3' 2/2020 2:37:00 PM		
Lab ID:	2008700-032	Matrix: SOIL	Re	ceived Dat	e: 8/1	3/2020 7:55:00 AM	.55:00 AM	
Analyses		Result	RL Qu	ual Units	DF	Date Analyzed	Batch	
EPA MET	HOD 300.0: ANIONS					Analy	st: JMT	
Chloride		120	60	mg/Kg	20	8/18/2020 3:00:31 AN	1 54484	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 32 of 35

Hall Er	nvironmental Anal	ysis Laboratory, In	ic.			Analytical Report Lab Order 2008700 Date Reported: 8/20/2	020
CLIENT: Project:	Western Refining Southwe Bisti Landfarm	st, Inc.		t Sample II lection Dat		23 @ 4'-6' 2/2020 2:28:00 PM	
Lab ID:	2008700-033	Matrix: SOIL	Re	ceived Dat	e: 8/1	3/2020 7:55:00 AM	
Analyses		Result	RL Qu	ual Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analy	st: JMT
Chloride		130	60	mg/Kg	20	8/18/2020 3:12:51 AM	1 54484

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 33 of 35

Hall Er	nvironmental Anal	ysis Laboratory, Ir	ıc.			Analytical Report Lab Order 2008700 Date Reported: 8/20/2	020
CLIENT: Project:	Western Refining Southwe Bisti Landfarm	st, Inc.		t Sample II ection Dat		323 @ 6'-8' 2/2020 2:29:00 PM	
Lab ID:	2008700-034	Matrix: SOIL	001			3/2020 7:55:00 AM	
Analyses		Result	RL Qu	ıal Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analy	st: JMT
Chloride		150	60	mg/Kg	20	8/18/2020 3:25:12 AN	1 54484

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 34 of 35

Client:	Weste	ern Refining Southwest, Inc.				
Project:	Bisti I	Landfarm				
Sample ID:	MB-54477	SampType: mblk	TestCode: EPA Method	300.0: Anions		
Client ID:	PBS	Batch ID: 54477	RunNo: 71156			
	8/17/2020	Analysis Date: 8/17/2020	SeqNo: 2480989	Units: mg/Kg		
T Tep Date.	8/17/2020			onits. mg/kg		
Analyte			SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit	Qual
Chloride		ND 1.5				
Sample ID:	LCS-54477	SampType: Ics	TestCode: EPA Method	300.0: Anions		
Client ID:	LCSS	Batch ID: 54477	RunNo: 71156			
Prep Date:	8/17/2020	Analysis Date: 8/17/2020	SeqNo: 2480990	Units: mg/Kg		
Analyte		Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit	Qual
Chloride		14 1.5 15.00	0 94.1 90	110		
Sample ID:	MB-54484	SampType: mblk	TestCode: EPA Method	300.0: Anions		
Client ID:	PBS	Batch ID: 54484	RunNo: 71156			
Prep Date:	8/17/2020	Analysis Date: 8/17/2020	SeqNo: 2481027	Units: mg/Kg		
Analyte		Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit	Qual
Chloride		ND 1.5				
Sample ID:	LCS-54484	SampType: Ics	TestCode: EPA Method	300.0: Anions		
Client ID:	LCSS	Batch ID: 54484	RunNo: 71156			
Prep Date:	8/17/2020	Analysis Date: 8/17/2020	SeqNo: 2481028	Units: mg/Kg		
Analyte		Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit	Qual
Chloride		14 1.5 15.00	0 93.6 90	110		

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 35 of 35

2008700

20-Aug-20

WO#:

•

			TEL: 505-345-	ental Analysis Labor. 4901 Hawkir. Albuquerque, NM 8 -3975 FAX: 505-345- nts.hallenvironmentai	ns NE 17109 San 4107	nple Log-In C	Page Check List
Client Name:	Western R Southwest		Work Order Nur	nber: 2008700		RcptNo	1
Received By:	Cheyenne	e Cason	8/13/2020 7:55:00) AM			
Completed By	: Emily Mo	cho	8/13/2020 9:13:33	3 AM			
Reviewed By:	Lo		8/13/20				
<u>Chain of Cu</u>	ustody						
1. Is Chain of	Custody comp	lete?		Yes 🗹	No 🗌	Not Present	
2. How was the	ne sample deliv	vered?		Courier			
Log In 3. Was an atte	empt made to	cool the samp	les?	Yes 🗹	No 🗌	NA 🗔	
4. Were all sa	mples received	l at a tempera	ture of >0° C to 6.0°C	Yes 🔽	No 🗌	NA 🗌	
5. Sample(s) i	in proper conta	iner(s)?		Yes 🗹	No 🗌		
6. Sufficient sa	ample volume f	or indicated te	est(s)?	Yes 🔽	No 🗌		
7. Are samples	s (except VOA	and ONG) pro	perly preserved?	Yes 🔽	No 🗌		
8. Was preser	vative added to	bottles?		Yes	No 🗹	NA 🗌	
9. Received at	least 1 vial wit	h headspace	<1/4" for AQ VOA?	Yes	No 🗌		
10. Were any s	ample containe	ers received b	roken?	Yes 🗔	No 🗹	# of preserved bottles checked	
11. Does papen (Note discre	work match bo pancies on cha)	Yes 🔽	No 🗌	for pH:	12 unless noted)
12. Are matrices	s correctly iden	tified on Chair	n of Custody?	Yes 🗹	No 🗆	Adjusted	
13. Is it clear wh			?	Yes 🔽	No 🗌		1. a clist
14. Were all hol (If no, notify	ding times able customer for a			Yes 🗹	No 🗌	Checked by	WC 8/131
Special Hand	dling (if app	licable)					
15. Was client i	notified of all di	screpancies v	vith this order?	Yes	No 🗌		1
Perso	on Notified:	Annon Anno Carlos Anno Anno Anno Anno Anno Anno Anno An	Date				
By W			Via:	eMail 🗌 P	hone 🗌 Fax	In Person	
Rega	instructions:		ninge information and a second and a second and a second second second second second second second second second			humose:	
L		Control Statistical Statistics of the statistics		I. ATTACTOR CONTRACTOR OF TAXABLE CONTRACTOR OF TA	CONTRACTOR NUMBER OF STREET, ST		
16. Additional r	remarks:						
17. <u>Cooler Info</u>						I	
Cooler N	lo Temp °C 3.3	Condition Good	Seal Intact Seal No Not Present	Seal Date	Signed By		
2	3.9	Good	Not Present		· ····································		
3	0.3	Good	Not Present				
4	0.6	Good	Not Present				

Page 1 of 1

Ullent: & UNESEEN REFINING Cree Mcontney Mailing Address: 539 main 56	A Standard Project Name: $\hat{p}_i \hat{\zeta}_{\vec{x}}$,	Rush <i>L</i> F	49		ANAL ANAL www.hi 4901 Hawkins NE	w.hall	FN YSI envirol Albuq	ALL ENVIRON NALYSIS LABC www.hallenvironmental.com ns NE - Albuquerque, NM 8	HALL ENVIRONMENTAL ANALYSIS LABORATORY www.hallenvironmental.com kins NE - Albuquerque, NM 87109	ived by OCD: 12/
Findlay OH	Project #:	4500183750	Te	el. 505	Tel. 505-345-3975	3975 Al	Fax Ialysis		505-345-4107 Request	
email or Fax#: QA/QC Package:	Project Manager:	ct. Hv de		s,8C	SMI		* 05.'*0		(juəsdA	
Az Compliance Qther	Sampler: E. Carl oil On Ice: 30 Yes					S	d- <u>'</u> ZON''	(∀(Aresent/	
-J.(J.A	# of Coolers: 4					etals	_) UUU (
Matrix Sample Name	Cooler Temp(maturing cr); 2,2 Container Preservative Type and # Type	E: え。 ^以 cm/以 (°C) vative HEAL No 7.00 % 7.0()	BTEX / M	iteaq 1808	ntem) 8 va BDB (Meth B va sHA⊂	M 8 AADF	 AOV) 0326	, mə2) 0728	Total Colific	
Soi I	1				1					
		002			 					
SR13 @4'-6'		003								
5813 @'6'-8'		004								
5014@ 21-3'		005								
5314 @ 41-6°		006								
58140 61-8		000								
		800								
58150 :		603								
58150 6'-8'		010								
~		110								
L 5316 0 41-6'		210			<u> </u>		~			
), 3	Received by: Via:	Sate Time	Remarks: 3.3 0.	33.3	Ψ.	\sim	[™] ⊶4	3 40	0.3 40 20,3 . 34 402	3.9
Relinquished by:	3	<u>1</u>		Mease	0	S.	2220	רא מ צ ב	PLANNIC TECHNICOM	ge 20
1911 PINTE Land	Nor Com	1 XIA /m GAS				<u>ل</u>		y ÷		, o o j

eased to Imaging: 12/1/2022 4214:11 PMM

HALL ENVIRONMENTAL ANALYSIS LABORATORY www.hallenvironmental.com kins NE - Albuquerque, NM 87109 345-3975 Fax 505-345-4107 Analysis Request	C) اج, -Br, -NO ₃ , -NO ₂ , PO ₄ , SO 4 8260 (VOA) Total Coliform (Present/Absent) (fnesdA/mesent)						Shyde @ Itenv. Corn Ecarreit @ Itenv. Corn be clearly notated on the analytical report.
ANALL ANALL ANALY Www.halle 4901 Hawkins NE - A	BTEX / MTBE / TMB's (8021) TPH:8015D(GRO / DRO / MRO) 8081 Pesticides/8082 PCB's EDB (Method 504.1) PAHs by 8310 or 8270SIMS RCRA 8 Metals RCRA 8 Metals						Remarks: Please C: possibility. Any sub-contracted data will
ind Time: ard <u>Rush</u> ame: Bi5ti LF 4500 (§ 3750	Hyde 11/c.Mcc:nn See Remend (°C) Mive HEALNO	013	015	018	019 020 021	- 022 023 024	Time
Turn-Around Time:	le \	1 26h 1					Received by: Received by: CMC CL
Chain-of-Custody Record Levestor Resining Cree McCertney Ig Address: 539 main 54 Eindlay, 011.	□ Level 4 (Full Va Compliance er F Sample Name	1 SBIG @ 6'-6' 5B17@ 3'- 4	5BIT @ 4' -6' 5BIT @ 6' - 5'	021-3 021-3	52140 6'-8' 5B190 :		Relinquished by: EEE CULCUL Relinguished by: AALAC semples submitted to Hall Environmental may be sut
Client: Cuestern Client: Cuestern Mailing Address: 539 Find Phone #:		1140 50%	2/61	3261	1325 2551	1252 1252	Time: Relinqui 1500 E Time: Relingui 1914 U
Hone #: Client: Clien	email or Fax#: QA/QC Package: ACCreditation: Date Time Date Time	\$113			a and a second sec		Date: Bate: Date:

Received by OCD: 12/3/2022 4	1:08:58 PM						Page 210 of 330
 HALL ENVIRONMENTAL HALL ENVIRONMENTAL ANALYSIS LABORATORY www.hallenvironmental.com Wwwins NE - Albuquerque, NM 87109 Hawkins NE - Albuquerque, NM 87109 Tel. 505-345-3975 Fax 505-345-4107 Tel. 505-345-3975 Request 	EDB (Method 504.1) EDB (Method 504.1) SCRA 8 Metals SCRA 8 Metals SCRO (VOA) S260 (VOA) S270 (Semi-VOA) S270 (Semi-VOA) S270 (Semi-VOA) S270 (Semi-VOA) S270 (Semi-VOA)	3					Please cc: Shyde & Isenv. com ecorroli & Isenv. com sub-contracted data will be clearly notated on the analytical report.
9. 50 H	8081 Pesticides/8082 PCB's	, 					
4901	ГРН:8015D(GRO / DRO / MRO)						Remarks: possibility. A
	31EX / MTBE / TMB's (8021)						Rem
Turn-Around Time: Standard Rush Project Name: 2020 BiSH 25 Landfarm Project #: 4500183750		(00)	120	029	031 032 033	V 034	d by: Via: Date Time R MM + MM + R/N/257 = d by: Via: Date Time COMM - S/S/20 - 0.755 to other accredited taboratories. This serves as notice of this
Turn-Arou	Project Mi Sampler: On Ice: # of Coole Cooler Te Container Type and			+		-	Received by Received by
Chain-of-Custody Record	l or Fax#: C Package: andard □ Level 4 (Full Validation) editation: □ Az Compliance ELAC □ Other DD (Type) ②) ∑ Time 1Matrix Sample Name	1334 Seit 5830 (01-8)	282104 10000	1416 58 20 21 - 5 1413 58 20 2' - 3' 1413 58 20 2' - 3'	1415 SB 280 U'-8' 1437 SB 28030 U'-8' 1428 SB 230 U'-U'	1 bet	ime: Relinquished by: KO Eucle Current ime: Relinquished by:)914 Muc + U.U. necessary, samples submitted to Hall Environmental may be subco
Clier Phon	emai ΩASt ΔACre Pate Date	ac.e.s	<u>-</u>			~	Date: J G. V. J Date: T Date: T Mr. M. V. V
Released to Imaging: 12/7/202	2 4211511 PM						



August 20, 2020

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

RE: 2020 Bisti Landfarm

OrderNo.: 2008697

Hall Environmental Analysis Laboratory

TEL: 505-345-3975 FAX: 505-345-4107

Website: clients.hallenvironmental.com

4901 Hawkins NE

Albuquerque, NM 87109

Dear Stuart Hyde:

Hall Environmental Analysis Laboratory received 30 sample(s) on 8/13/2020 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 qualifiers 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 #NM0901

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Surr: DNOP

Analytical Report

8/19/2020 12:20:25 AM 54410

Hall En	vironmental Analy	vsis Laboratory, I	nc.			Lab Order 2008697 Date Reported: 8/20/202	20
CLIENT:	Western Refining Southwes	t, Inc.	Cl	ient Sample II	D: SE	324 @ 0-1'	
Project:	2020 Bisti Landfarm		(Collection Dat	e: 8/1	2/2020 2:48:00 PM	
Lab ID:	2008697-001	Matrix: SOIL	DIL Received Date: 8/13/2020 7:55:00 AM				
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA MET	HOD 8015D MOD: GASOLI	NE RANGE				Analyst	DJF
Gasoline	Range Organics (GRO)	ND	4.8	mg/Kg	1	8/15/2020 3:01:00 PM	54403
Surr: B	FB	101	70-130	%Rec	1	8/15/2020 3:01:00 PM	54403
EPA MET	HOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	CLP
Diesel Ra	ange Organics (DRO)	51	9.2	mg/Kg	1	8/19/2020 12:20:25 AM	54410
Motor Oil	Range Organics (MRO)	63	46	mg/Kg	1	8/19/2020 12:20:25 AM	54410

97.1

30.4-154

%Rec

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 34

Surr: DNOP

Analytical Report

8/19/2020 12:44:40 AM 54410

Hall Environmental Analy	sis Laboratory, I	lnc.			Lab Order 2008697 Date Reported: 8/20/20	20
CLIENT: Western Refining Southwest	, Inc.	Cli	ient Sample II	D: SF	324 @ 4'-6'	
Project: 2020 Bisti Landfarm		0	Collection Dat	e: 8/2	12/2020 2:49:00 PM	
Lab ID: 2008697-002	Matrix: SOIL	Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM				
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLIN	IE RANGE				Analyst	: DJF
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	8/15/2020 3:29:44 PM	54403
Surr: BFB	103	70-130	%Rec	1	8/15/2020 3:29:44 PM	54403
EPA METHOD 8015M/D: DIESEL RAM	IGE ORGANICS				Analyst	: CLP
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	8/19/2020 12:44:40 AN	54410
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	8/19/2020 12:44:40 AN	54410

121

30.4-154

%Rec

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Diesel Range Organics (DRO)

Surr: DNOP

Motor Oil Range Organics (MRO)

Analytical Report

8/19/2020 1:09:06 AM

8/19/2020 1:09:06 AM

8/19/2020 1:09:06 AM

54410

54410

54410

Hall En	vironmental Analy	sis Laboratory, 1	Inc.			Lab Order 2008697 Date Reported: 8/20/20	020		
CLIENT: V	Western Refining Southwes	t, Inc.	Clie	ent Sample II	D: SE	324 @ 6'-8'			
Project: 2	2020 Bisti Landfarm		Co	ollection Dat	e: 8 /1	12/2020 2:50:00 PM			
Lab ID:	2008697-003	Matrix: SOIL	Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM						
Analyses		Result	RL (Qual Units	DF	Date Analyzed	Batch		
EPA METH	IOD 8015D MOD: GASOLI	NE RANGE				Analys	t: DJF		
Gasoline F	Range Organics (GRO)	ND	4.8	mg/Kg	1	8/15/2020 3:58:29 PM	54403		
Surr: BF	В	110	70-130	%Rec	1	8/15/2020 3:58:29 PM	54403		
EPA METH	IOD 8015M/D: DIESEL RA	NGE ORGANICS				Analys	t: CLP		

ND

ND

118

9.6

48

30.4-154

mg/Kg

mg/Kg

%Rec

1

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 3 of 34

Diesel Range Organics (DRO)

Surr: DNOP

Motor Oil Range Organics (MRO)

Analytical Report

8/19/2020 1:33:29 AM

8/19/2020 1:33:29 AM

8/19/2020 1:33:29 AM

54410

54410

54410

Hall Ei	nvironmental Analy	sis Laboratory, I	Inc.			Lab Order 2008697 Date Reported: 8/20/20	20	
CLIENT:	Western Refining Southwes	t, Inc.	Clien	t Sample II	D: SE	325 @ 3'-4'		
Project:	2020 Bisti Landfarm		Col	lection Dat	e: 8/1	2/2020 3:00:00 PM		
Lab ID:	2008697-004	Matrix: SOIL	Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM					
Analyses		Result	RL Q	ual Units	DF	Date Analyzed	Batch	
EPA MET	THOD 8015D MOD: GASOLI	NE RANGE				Analys	: DJF	
Gasoline	e Range Organics (GRO)	ND	4.9	mg/Kg	1	8/15/2020 4:27:15 PM	54403	
Surr: I	BFB	106	70-130	%Rec	1	8/15/2020 4:27:15 PM	54403	
EPA MET	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analys	:: CLP	

ND

ND

120

9.8

49

30.4-154

mg/Kg

mg/Kg

%Rec

1

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 4 of 34

Motor Oil Range Organics (MRO)

Surr: DNOP

Analytical Report

8/19/2020 1:57:56 AM

8/19/2020 1:57:56 AM

54410

54410

1

1

mg/Kg

%Rec

Hall E	nvironmental Analy	sis Laboratory, 1	Inc.	Lab Order 2008697 Date Reported: 8/20/2020					
CLIENT:	Western Refining Southwes	t, Inc.	Clie	nt Sample II	D: SE	25 @ 4'-6'			
Project:	2020 Bisti Landfarm		Co	llection Dat	e: 8/1	2/2020 3:01:00 PM			
Lab ID:	2008697-005	Matrix: SOIL	Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM						
Analyses	5	Result	RL Ç	Qual Units	DF	Date Analyzed	Batch		
EPA MET	THOD 8015D MOD: GASOLI	NE RANGE				Analyst	: DJF		
Gasoline	e Range Organics (GRO)	ND	4.6	mg/Kg	1	8/15/2020 4:56:07 PM	54403		
Surr: I	BFB	106	70-130	%Rec	1	8/15/2020 4:56:07 PM	54403		
EPA MET	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	: CLP		
Diesel R	ange Organics (DRO)	24	9.5	mg/Kg	1	8/19/2020 1:57:56 AM	54410		

51

88.5

48

30.4-154

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Surr: DNOP

Analytical Report

8/19/2020 2:22:23 AM 54410

8/19/2020 2:22:23 AM 54410

Hall E	nvironmental Analy	sis Laboratory, 1	lnc.		Lab Order 2008697 Date Reported: 8/20/2020				
CLIENT:	Western Refining Southwes	t, Inc.	Clie	nt Sample II	D: SE	325 @ 6'-8'			
Project:	2020 Bisti Landfarm		Co	llection Dat	e: 8/1	2/2020 3:02:00 PM			
Lab ID:	2008697-006	Matrix: SOIL	Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM						
Analyses		Result	RL (Qual Units	DF	Date Analyzed	Batch		
EPA MET	THOD 8015D MOD: GASOLI	NE RANGE				Analys	: DJF		
Gasoline	e Range Organics (GRO)	ND	4.7	mg/Kg	1	8/15/2020 5:24:53 PM	54403		
Surr: I	BFB	110	70-130	%Rec	1	8/15/2020 5:24:53 PM	54403		
EPA MET	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analys	: CLP		
Diesel R	ange Organics (DRO)	ND	9.8	mg/Kg	1	8/19/2020 2:22:23 AM	54410		

ND

121

49

30.4-154

mg/Kg

%Rec

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 6 of 34

Surr: DNOP

Analytical Report

8/19/2020 2:46:51 AM

8/19/2020 2:46:51 AM

54410

54410

Hall E	nvironmental Analy	sis Laboratory, 1	[nc.		Lab Order 2008697 Date Reported: 8/20/2020				
CLIENT:	Western Refining Southwes	t, Inc.	Clie	nt Sample II	D: SE	26 @ 3'-4'			
Project:	2020 Bisti Landfarm		Co	llection Dat	e: 8/1	2/2020 3:09:00 PM			
Lab ID:	2008697-007	Matrix: SOIL	Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM						
Analyses		Result	RL C	Qual Units	DF	Date Analyzed	Batch		
EPA MET	THOD 8015D MOD: GASOLI	NE RANGE				Analyst	: DJF		
Gasoline	e Range Organics (GRO)	ND	4.7	mg/Kg	1	8/15/2020 5:53:36 PM	54403		
Surr: I	BFB	103	70-130	%Rec	1	8/15/2020 5:53:36 PM	54403		
EPA MET	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	: CLP		
Diesel R	ange Organics (DRO)	ND	9.6	mg/Kg	1	8/19/2020 2:46:51 AM	54410		

ND

118

48

30.4-154

mg/Kg

%Rec

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Surr: DNOP

Analytical Report

8/14/2020 10:32:54 PM 54410

8/14/2020 10:32:54 PM 54410

Hall E	nvironmental Analy	sis Laboratory, 1	Lab Order 2008697 Inc. Date Reported: 8/20/2020						
CLIENT:	Western Refining Southwes	t, Inc.	Clie	nt Sample II	D: SE	326 @ 4'-6'			
Project:	2020 Bisti Landfarm		Co	llection Dat	e: 8/1	12/2020 3:10:00 PM			
Lab ID:	2008697-008	Matrix: SOIL	Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM						
Analyses		Result	RL (Qual Units	DF	Date Analyzed	Batch		
EPA MET	THOD 8015D MOD: GASOLI	NE RANGE				Analys	t: DJF		
Gasoline	e Range Organics (GRO)	ND	4.9	mg/Kg	1	8/15/2020 6:22:19 PM	54403		
Surr: I	BFB	104	70-130	%Rec	1	8/15/2020 6:22:19 PM	54403		
EPA MET	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analys	t: BRM		
Diesel R	ange Organics (DRO)	15	9.4	mg/Kg	1	8/14/2020 10:32:54 PM	1 54410		

ND

35.4

47

30.4-154

mg/Kg

%Rec

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Surr: DNOP

Analytical Report

8/19/2020 3:11:18 AM

54410

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Hall Er	vironmental Analy	vsis Laboratory, l	Lab Order 2008697 , Inc. Date Reported: 8/20/2020						
CLIENT:	Western Refining Southwest	it, Inc.	Cl	ient Sample II	D: SE	326 @ 6'-8'			
Project:	2020 Bisti Landfarm		(Collection Dat	e: 8/1	12/2020 3:11:00 PM			
Lab ID: 2008697-009 Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM									
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch		
EPA MET	HOD 8015D MOD: GASOLI	NE RANGE				Analyst	DJF		
Gasoline	Range Organics (GRO)	ND	4.8	mg/Kg	1	8/15/2020 6:50:58 PM	54403		
Surr: E	BFB	106	70-130	%Rec	1	8/15/2020 6:50:58 PM	54403		
EPA MET	HOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	CLP		
Diesel Ra	ange Organics (DRO)	ND	9.4	mg/Kg	1	8/19/2020 3:11:18 AM	54410		
Motor Oil	Range Organics (MRO)	ND	47	mg/Kg	1	8/19/2020 3:11:18 AM	54410		

118

30.4-154

%Rec

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Surr: DNOP

Motor Oil Range Organics (MRO)

Analytical Report

8/19/2020 3:35:34 AM 54410

8/19/2020 3:35:34 AM 54410

8/19/2020 3:35:34 AM 54410

Hall Environmental Analy	ysis Laboratory, I	Lab Order 2008697 , Inc. Date Reported: 8/20/20						
CLIENT: Western Refining Southwest	st, Inc.	Cli	ient Sample II	D: SE	327 @ 3'-4'			
Project: 2020 Bisti Landfarm		0	Collection Dat	e: 8 /1	2/2020 3:17:00 PM			
Lab ID: 2008697-010 Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM								
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch		
EPA METHOD 8015D MOD: GASOL	NE RANGE				Analys	t: DJF		
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	8/15/2020 7:19:38 PM	54403		
Surr: BFB	105	70-130	%Rec	1	8/15/2020 7:19:38 PM	54403		
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: CLP								

ND

ND

134

9.8

49

30.4-154

mg/Kg

mg/Kg

%Rec

1

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Analytical Report

8/19/2020 3:59:55 AM

8/19/2020 3:59:55 AM

8/19/2020 3:59:55 AM

Analyst: CLP

54410

54410

54410

Hall E	nvironmental Analy	vsis Laboratory, I	Inc.	Lab Order 2008697 C. Date Reported: 8/20/2020						
CLIENT:	Western Refining Southwes	st, Inc.	Clier	t Sample II	D: SE	327 @ 4'-6'				
Project:	2020 Bisti Landfarm		Col	llection Dat	e: 8 /1	2/2020 3:20:00 PM				
Lab ID:	2008697-011	Matrix: SOIL	R	eceived Dat	e: 8 /1	3/2020 7:55:00 AM				
Analyses		Result	RL Q	ual Units	DF	Date Analyzed	Batch			
EPA MET	THOD 8015D MOD: GASOLI	NE RANGE				Analyst	DJF			
Gasoline	e Range Organics (GRO)	ND	4.9	mg/Kg	1	8/15/2020 7:48:14 PM	54403			
Surr: I	BFB	105	70-130	%Rec	1	8/15/2020 7:48:14 PM	54403			

13

ND

86.8

9.6

48

30.4-154

mg/Kg

mg/Kg

%Rec

1

1

1

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

Qualifiers:

* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix

EPA METHOD 8015M/D: DIESEL RANGE ORGANICS

Diesel Range Organics (DRO)

Surr: DNOP

Motor Oil Range Organics (MRO)

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Surr: DNOP

Analytical Report

8/19/2020 4:24:16 AM

8/19/2020 4:24:16 AM

54410

54410

Hall E	nvironmental Analy	sis Laboratory, 1	Lab Order 2008697 , Inc. Date Reported: 8/20/202						
CLIENT:	: Western Refining Southwes	t, Inc.	Clie	nt Sample II	D: SB	27 @ 6'-8'			
Project:	2020 Bisti Landfarm		Co	ollection Dat	e: 8/1	2/2020 3:22:00 PM			
Lab ID:	2008697-012	Matrix: SOIL	Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM						
Analyses	3	Result	RL (Qual Units	DF	Date Analyzed	Batch		
EPA MET	THOD 8015D MOD: GASOLI	NE RANGE				Analys	: DJF		
Gasoline	e Range Organics (GRO)	ND	4.7	mg/Kg	1	8/15/2020 8:16:48 PM	54403		
Surr: I	BFB	104	70-130	%Rec	1	8/15/2020 8:16:48 PM	54403		
EPA MET	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analys	: CLP		
Discol P	ange Organics (DRO)	ND	9.8	mg/Kg	1	8/19/2020 4:24:16 AM	54410		

ND

127

49

30.4-154

mg/Kg

%Rec

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Surr: DNOP

Analytical Report

mg/Kg 10 8/14/2020 11:24:46 PM 54410

10 8/14/2020 11:24:46 PM 54410

Hall E	nvironmental Analy	sis Laboratory, 1	Lab Order 2008697 Inc. Date Reported: 8/20/2020						
CLIENT:	Western Refining Southwes	t, Inc.	Clie	ent Sample II): SB	28 @ 1'-2'			
Project:	2020 Bisti Landfarm		C	ollection Date	e: 8/1	2/2020 3:37:00 PM			
Lab ID:	2008697-013	Matrix: SOIL	Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM						
Analyses	3	Result	RL	Qual Units	DF	Date Analyzed	Batch		
EPA MET	THOD 8015D MOD: GASOLI	NE RANGE				Analyst	DJF		
Gasoline	e Range Organics (GRO)	ND	4.7	mg/Kg	1	8/15/2020 8:45:20 PM	54403		
Surr: I	BFB	101	70-130	%Rec	1	8/15/2020 8:45:20 PM	54403		
EPA MET	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	BRM		
Discol P	ange Organics (DRO)	490	95	mg/Kg	10	8/14/2020 11:24:46 PM	5//10		

510

0

470

S

%Rec

30.4-154

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Released to Imaging: 12/7/2022 4211711 PM

Surr: DNOP

Analytical Report

8/19/2020 4:48:21 AM 54410

8/19/2020 4:48:21 AM 54410

Hall E	nvironmental Analy	sis Laboratory, 1	[nc.		Lab Order 2008697 Date Reported: 8/20/2020				
CLIENT:	Western Refining Southwes	t, Inc.	Clie	nt Sample II	D: SE	328 @ 4'-6'			
Project:	2020 Bisti Landfarm		Co	llection Dat	e: 8/1	2/2020 3:36:00 PM			
Lab ID:	2008697-014	Matrix: SOIL	Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM						
Analyses	5	Result	RL (Qual Units	DF	Date Analyzed	Batch		
EPA MET	THOD 8015D MOD: GASOLI	NE RANGE				Analyst	DJF		
Gasoline	e Range Organics (GRO)	ND	4.7	mg/Kg	1	8/15/2020 9:13:56 PM	54403		
Surr: I	BFB	101	70-130	%Rec	1	8/15/2020 9:13:56 PM	54403		
EPA MET	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	: CLP		
Diesel R	ange Organics (DRO)	160	10	mg/Kg	1	8/19/2020 4:48:21 AM	54410		

240

95.9

50

30.4-154

mg/Kg

%Rec

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Surr: DNOP

Analytical Report

8/19/2020 5:12:20 AM

8/19/2020 5:12:20 AM

54410

54410

Hall E	nvironmental Analy	sis Laboratory, 1	Lab Order 2008697 Inc. Date Reported: 8/20/2020						
CLIENT:	Western Refining Southwes	t, Inc.	Clie	nt Sample II	D: SB	28 @ 6'-8'			
Project:	2020 Bisti Landfarm		Co	ollection Date	e: 8/1	2/2020 3:36:00 PM			
Lab ID:	2008697-015	Matrix: SOIL	R	Received Date	e: 8/1	3/2020 7:55:00 AM			
Analyses		Result	RL (Qual Units	DF	Date Analyzed	Batch		
EPA MET	THOD 8015D MOD: GASOLI	NE RANGE				Analyst	: DJF		
Gasoline	e Range Organics (GRO)	ND	4.6	mg/Kg	1	8/15/2020 9:42:27 PM	54403		
Surr: I	BFB	104	70-130	%Rec	1	8/15/2020 9:42:27 PM	54403		
EPA MET	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	: CLP		
Diesel R	ange Organics (DRO)	ND	9.4	mg/Kg	1	8/19/2020 5:12:20 AM	54410		

ND

126

47

30.4-154

mg/Kg

%Rec

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Surr: DNOP

Analytical Report

8/18/2020 7:32:52 PM 54431

Hall Environmental Ana	[nc.			Lab Order 2008697 Date Reported: 8/20/20	20			
CLIENT: Western Refining Southw	vest, Inc.	Client Sample ID: SB29 @ 0'-1'						
Project: 2020 Bisti Landfarm		(Collection Dat	e: 8/1	2/2020 3:50:00 PM			
Lab ID: 2008697-016	Matrix: SOIL		Received Dat	e: 8/1	13/2020 7:55:00 AM			
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch		
EPA METHOD 8015D MOD: GASO	LINE RANGE				Analyst	DJF		
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	8/15/2020 10:10:57 PM	54415		
Surr: BFB	102	70-130	%Rec	1	8/15/2020 10:10:57 PM	54415		
EPA METHOD 8015M/D: DIESEL R	ANGE ORGANICS				Analyst	: CLP		
Diesel Range Organics (DRO)	21	8.5	mg/Kg	1	8/18/2020 7:32:52 PM	54431		
Motor Oil Range Organics (MRO)	75	42	mg/Kg	1	8/18/2020 7:32:52 PM	54431		

110

30.4-154

%Rec

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Released to Imaging: 12/7/2022 4211711 PM

Surr: DNOP

Analytical Report

8/17/2020 6:26:31 PM

8/17/2020 6:26:31 PM

54431

54431

Hall E	nvironmental Analy	sis Laboratory, 1	[nc.	Lab Order 2008697 Date Reported: 8/20/2020					
CLIENT:	Western Refining Southwes	t, Inc.	Clien	t Sample II	D: SE	329 @ 4'-6'			
Project:	2020 Bisti Landfarm		Col	lection Dat	e: 8/1	2/2020 3:52:00 PM			
Lab ID:	2008697-017	Matrix: SOIL	Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM						
Analyses	3	Result	RL Q	ual Units	DF	Date Analyzed	Batch		
EPA ME	THOD 8015D MOD: GASOLI	NE RANGE				Analyst	DJF		
Gasoline	e Range Organics (GRO)	ND	4.6	mg/Kg	1	8/16/2020 1:30:10 AM	54415		
Surr:	BFB	98.1	70-130	%Rec	1	8/16/2020 1:30:10 AM	54415		
EPA ME	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	CLP		
Diesel R	ange Organics (DRO)	ND	9.4	mg/Kg	1	8/17/2020 6:26:31 PM	54431		

ND

90.6

47

30.4-154

mg/Kg

%Rec

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range

RL Reporting Limit

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Surr: DNOP

Analytical Report

8/17/2020 6:50:37 PM

8/17/2020 6:50:37 PM

54431

54431

Hall E	nvironmental Analy	sis Laboratory, 1	[nc.	Lab Order 2008697 Date Reported: 8/20/202				
CLIENT:	Western Refining Southwes	t, Inc.	Clie	nt Sample II	D: SB	29 @ 6'-8'		
Project:	2020 Bisti Landfarm		Co	llection Dat	e: 8/1	2/2020 3:54:00 PM		
Lab ID:	2008697-018	Matrix: SOIL	Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM					
Analyses	3	Result	RL (Qual Units	DF	Date Analyzed	Batch	
EPA ME	THOD 8015D MOD: GASOLI	NE RANGE				Analyst	: DJF	
Gasoline	e Range Organics (GRO)	ND	4.6	mg/Kg	1	8/16/2020 2:55:41 AM	54415	
Surr:	BFB	105	70-130	%Rec	1	8/16/2020 2:55:41 AM	54415	
EPA ME	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	: CLP	
Diesel R	ange Organics (DRO)	ND	9.6	mg/Kg	1	8/17/2020 6:50:37 PM	54431	

ND

97.1

48

30.4-154

mg/Kg

%Rec

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Surr: DNOP

Analytical Report

8/17/2020 7:14:41 PM

54431

1

%Rec

Hall E	nvironmental Anal	ysis Laboratory, l	[nc.			Lab Order 2008697 Date Reported: 8/20/20	20
CLIENT:	Western Refining Southwe	st, Inc.	Clie	ent Sample II	D: SE	30 @ 2'-3'	
Project:	2020 Bisti Landfarm		C	ollection Dat	e: 8/1	2/2020 4:00:00 PM	
Lab ID:	2008697-019	Matrix: SOIL	I				
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA MET	THOD 8015D MOD: GASOL	INE RANGE				Analyst	DJF
Gasoline	e Range Organics (GRO)	ND	4.7	mg/Kg	1	8/16/2020 3:24:08 AM	54415
Surr: I	BFB	106	70-130	%Rec	1	8/16/2020 3:24:08 AM	54415
EPA MET	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	CLP
Diesel R	ange Organics (DRO)	ND	8.7	mg/Kg	1	8/17/2020 7:14:41 PM	54431
Motor Oi	il Range Organics (MRO)	ND	44	mg/Kg	1	8/17/2020 7:14:41 PM	54431

104

30.4-154

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Surr: DNOP

Motor Oil Range Organics (MRO)

Analytical Report

8/18/2020 7:56:51 PM

8/18/2020 7:56:51 PM

8/18/2020 7:56:51 PM

54431

54431

54431

Hall E	nvironmental Analy	sis Laboratory,	lnc.			Lab Order 2008697 Date Reported: 8/20/2()20
CLIENT:	Western Refining Southwes	t, Inc.	Clien	t Sample II	D: SE	330 @ 4'-6'	
Project:	2020 Bisti Landfarm		Col	lection Dat	e: 8/1	2/2020 4:02:00 PM	
Lab ID: 2008697-020 Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM							
Analyses	5	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA ME	THOD 8015D MOD: GASOLI	NE RANGE				Analys	t: DJF
Gasoline	e Range Organics (GRO)	ND	4.9	mg/Kg	1	8/16/2020 3:52:38 AM	54415
Surr: I	BFB	106	70-130	%Rec	1	8/16/2020 3:52:38 AM	54415
EPA MET	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analys	t: CLP

37

150

98.7

9.2

46

30.4-154

mg/Kg

mg/Kg

%Rec

1

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Surr: DNOP

Motor Oil Range Organics (MRO)

Analytical Report

8/18/2020 7:18:02 PM

8/18/2020 7:18:02 PM

8/18/2020 7:18:02 PM

54467

54467

54467

Hall E	nvironmental Analy	sis Laboratory, I	lnc.			Lab Order 2008697 Date Reported: 8/20/20	20
CLIENT:	Western Refining Southwes	t, Inc.	Clien	t Sample II	D: SE	330 @ 6'-8'	
Project:2020 Bisti LandfarmCollection Date: 8/12/2020 4:01:00 PM							
Lab ID: 2008697-021 Matrix: SOIL Received Date: 8/13/2020 7:55:00							
Analyses		Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA ME	THOD 8015D MOD: GASOLI	NE RANGE				Analys	t: DJF
Gasoline	e Range Organics (GRO)	ND	4.9	mg/Kg	1	8/16/2020 4:21:10 AM	54415
Surr: BFB 106 70-130 %Rec 1 8/16/2020 4:21:10							54415
EPA MET	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analys	t: BRM

ND

ND

100

9.2

46

30.4-154

mg/Kg

mg/Kg

%Rec

1

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Surr: DNOP

Motor Oil Range Organics (MRO)

Analytical Report

8/18/2020 7:42:28 PM

8/18/2020 7:42:28 PM

8/18/2020 7:42:28 PM

54467

54467

54467

Hall Er	nvironmental Analy	vsis Laboratory, I	Inc.			Lab Order 2008697 Date Reported: 8/20/20)20	
CLIENT:	Western Refining Southwes	t, Inc.	Clie	ent Sample II	D: SE	331 @ 3'-4'		
Project:	2020 Bisti Landfarm		C	ollection Dat	e: 8 /1	12/2020 4:10:00 PM		
Lab ID: 2008697-022 Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM								
Analyses		Result	RL (Qual Units	DF	Date Analyzed	Batch	
EPA MET	THOD 8015D MOD: GASOLI	NE RANGE				Analys	t: DJF	
Gasoline	e Range Organics (GRO)	ND	4.6	mg/Kg	1	8/16/2020 4:49:40 AM	54415	
Surr: BFB 99.1 70-130 %Rec 1 8/16/2020 4:49:40 AM 544							54415	
EPA MET	EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: BRM							

ND

ND

100

9.3

47

30.4-154

mg/Kg

mg/Kg

%Rec

1

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Surr: DNOP

Analytical Report

8/19/2020 11:23:46 PM 54467

8/19/2020 11:23:46 PM 54467

1

1

mg/Kg

%Rec

Hall E	nvironmental Analy	sis Laboratory, 1	[nc.	Lab Order 2008697 Date Reported: 8/20/2020				
CLIENT:	: Western Refining Southwes	t, Inc.	Clie	nt Sample II	D: SB	31 @ 4'-6'		
Project:	2020 Bisti Landfarm		Co	ollection Dat	e: 8/1	2/2020 4:12:00 PM		
Lab ID:	2008697-023	Matrix: SOIL	Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM					
Analyses	3	Result	RL (Qual Units	DF	Date Analyzed	Batch	
EPA MET	THOD 8015D MOD: GASOLI	NE RANGE				Analys	: DJF	
Gasoline	e Range Organics (GRO)	ND	4.8	mg/Kg	1	8/16/2020 5:18:16 AM	54415	
Surr: I	BFB	107	70-130	%Rec	1	8/16/2020 5:18:16 AM	54415	
EPA MET	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analys	BRM	
Diesel R	ange Organics (DRO)	10	9.3	mg/Kg	1	8/19/2020 11:23:46 PM	54467	

47

98.9

46

30.4-154

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Surr: DNOP

Motor Oil Range Organics (MRO)

Analytical Report

8/18/2020 9:19:58 PM

8/18/2020 9:19:58 PM

8/18/2020 9:19:58 PM

54467

54467

54467

Hall Er	vironmental Analy	sis Laboratory, I	Inc.			Lab Order 2008697 Date Reported: 8/20/20)20
CLIENT:	Western Refining Southwes	t, Inc.	Cli	ent Sample II	D: SE	331 @ 6'-8'	
Project:	2020 Bisti Landfarm		C	ollection Dat	e: 8/1	2/2020 4:11:00 PM	
Lab ID: 2008697-024 Matrix: SOIL Received Date: 8/13/2020 7:55:00 All							
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA MET	HOD 8015D MOD: GASOLI	NE RANGE				Analys	t: DJF
Gasoline	Range Organics (GRO)	ND	4.7	mg/Kg	1	8/16/2020 5:47:01 AM	54415
Surr: BFB 105 70-130 %Rec 1 8/16/2020 5:47:01 AM 544							54415
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: BRM							

ND

ND

92.4

9.3

46

30.4-154

mg/Kg

mg/Kg

%Rec

1

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Surr: DNOP

Analytical Report

8/19/2020 11:48:22 PM 54467

8/19/2020 11:48:22 PM 54467

Hall E	nvironmental Analy	sis Laboratory, 1	[nc.			Lab Order 2008697 Date Reported: 8/20/20	20	
CLIENT:	: Western Refining Southwes	t, Inc.	Clier	nt Sample II	D: SB	32 @ 1'-2'		
Project:	2020 Bisti Landfarm		Collection Date: 8/12/2020 4:20:00 PM					
Lab ID:	2008697-025	Matrix: SOIL	Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM					
Analyses	5	Result	rl Q	ual Units	DF	Date Analyzed	Batch	
EPA ME	THOD 8015D MOD: GASOLI	NE RANGE				Analyst	: DJF	
Gasoline	e Range Organics (GRO)	ND	5.0	mg/Kg	1	8/16/2020 6:15:34 AM	54415	
Surr:	BFB	109	70-130	%Rec	1	8/16/2020 6:15:34 AM	54415	
EPA ME	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	BRM	
Discol	Range Organics (DRO)	33	9.8	mg/Kg	1	8/19/2020 11:48:22 PM	54467	

120

101

49

30.4-154

mg/Kg

%Rec

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Surr: DNOP

Analytical Report

8/20/2020 12:12:43 AM 54467

8/20/2020 12:12:43 AM 54467

Hall E	nvironmental Analy	sis Laboratory, 1	[nc.	Lab Order 2008697 Date Reported: 8/20/2020				
CLIENT:	Western Refining Southwes	t, Inc.	Clie	nt Sample II	D: SE	332 @ 4'-6'		
Project:	2020 Bisti Landfarm		Co	llection Dat	e: 8/1	2/2020 4:18:00 PM		
Lab ID:	2008697-026	Matrix: SOIL	Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM					
Analyses	3	Result	RL (Qual Units	DF	Date Analyzed	Batch	
	THOD 8015D MOD: GASOLI	NE RANGE				Analys	t: DJF	
Gasoline	e Range Organics (GRO)	ND	4.7	mg/Kg	1	8/16/2020 6:44:06 AM	54415	
Surr:	BFB	103	70-130	%Rec	1	8/16/2020 6:44:06 AM	54415	
EPA ME	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analys	t: BRM	
Diesel R	ange Organics (DRO)	23	9.8	mg/Kg	1	8/20/2020 12:12:43 AM	1 54467	

120

97.6

49

30.4-154

mg/Kg

%Rec

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Surr: DNOP

Analytical Report

8/18/2020 10:33:13 PM 54467

8/18/2020 10:33:13 PM 54467

Hall E	nvironmental Analy	sis Laboratory, 1	[nc.			Lab Order 2008697 Date Reported: 8/20/20	20	
CLIENT:	: Western Refining Southwes	t, Inc.	Clie	nt Sample II	D: SE	332 @ 6'-8'		
Project:	2020 Bisti Landfarm		Co	llection Dat	e: 8/1	2/2020 4:15:00 PM		
Lab ID:	2008697-027	Matrix: SOIL	Matrix: SOIL Received Date: 8/13/2020 7:55:00 AM					
Analyses	3	Result	RL (Qual Units	DF	Date Analyzed	Batch	
EPA MET	THOD 8015D MOD: GASOLI	NE RANGE				Analys	t: DJF	
Gasoline	e Range Organics (GRO)	ND	4.9	mg/Kg	1	8/16/2020 7:12:39 AM	54415	
Surr: I	BFB	101	70-130	%Rec	1	8/16/2020 7:12:39 AM	54415	
EPA MET	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analys	t: BRM	
Diesel R	ange Organics (DRO)	ND	9.9	mg/Kg	1	8/18/2020 10:33:13 PM	54467	

ND

101

49

30.4-154

mg/Kg

%Rec

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Surr: DNOP

Analytical Report

8/18/2020 10:57:37 PM 54467

8/18/2020 10:57:37 PM 54467

. . .

mg/Kg

%Rec

1

1

48

30.4-154

Hall Eı	nvironmental Analy	vsis Laboratory, 1	Inc.			Lab Order 2008697 Date Reported: 8/20/20	20
Project:	Western Refining Southwes 2020 Bisti Landfarm		Col		e: 8/	333 @ 3'-4' 12/2020 4:30:00 PM	
Lab ID:	2008697-028	Matrix: SOIL	Received Date: 8/13/2020 7:55:0				
Analyses		Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA MET	THOD 8015D MOD: GASOLI	NE RANGE				Analyst	DJF
Gasoline	e Range Organics (GRO)	ND	4.8	mg/Kg	1	8/16/2020 7:41:08 AM	54415
Surr: E	BFB	109	70-130	%Rec	1	8/16/2020 7:41:08 AM	54415
ΕΡΑ ΜΕΤ	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	BRM
Diesel R	ange Organics (DRO)	ND	9.7	mg/Kg	1	8/18/2020 10:57:37 PN	54467

ND

107

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Surr: DNOP

Analytical Report

8/18/2020 11:22:17 PM 54467

Hall E	nvironmental Anal	ysis Laboratory, l	Lab Order 2008697 Inc. Date Reported: 8/20/2020						
CLIENT:	Western Refining Southwe	st, Inc.	Clie	ent Sample II): SB	33 @ 4'-6'			
Project:	2020 Bisti Landfarm		Co	ollection Date	e: 8/1	2/2020 4:28:00 PM			
Lab ID:	2008697-029	Matrix: SOIL	F	Received Date: 8/13/2020 7:55:00 AM					
Analyses	3	Result	RL (Qual Units	DF	Date Analyzed	Batch		
EPA MET	THOD 8015D MOD: GASOL	INE RANGE				Analyst	DJF		
Gasoline	e Range Organics (GRO)	ND	4.7	mg/Kg	1	8/16/2020 8:09:42 AM	54415		
Surr: I	BFB	102	70-130	%Rec	1	8/16/2020 8:09:42 AM	54415		
EPA MET	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	BRM		
Diesel R	ange Organics (DRO)	ND	9.6	mg/Kg	1	8/18/2020 11:22:17 PM	54467		
Motor Oi	il Range Organics (MRO)	ND	48	mg/Kg	1	8/18/2020 11:22:17 PM	54467		

101

30.4-154

%Rec

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Surr: DNOP

Analytical Report

8/18/2020 11:46:38 PM 54467

8/18/2020 11:46:38 PM 54467

Hall E	nvironmental Analy	sis Laboratory, 1	[nc.	Lab Order 2008697 Date Reported: 8/20/2020										
CLIENT:	Western Refining Southwes	t, Inc.	Clier	Client Sample ID: SB33 @ 6'-8'										
Project:	2020 Bisti Landfarm		Collection Date: 8/12/2020 4:27:00 PM											
Lab ID:	2008697-030	Matrix: SOIL	R	eceived Dat	e: 8/1	3/2020 7:55:00 AM								
Analyses	5	Result	RL Q	Qual Units	DF	Date Analyzed	Batch							
EPA MET	THOD 8015D MOD: GASOLI	NE RANGE				Analys	t: DJF							
Gasoline	e Range Organics (GRO)	ND	4.9	mg/Kg	1	8/16/2020 8:38:15 AM	54415							
Surr: I	BFB	104	70-130	%Rec	1	8/16/2020 8:38:15 AM	54415							
EPA MET	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analys	t: BRM							
Diesel R	ange Organics (DRO)	ND	9.7	mg/Kg	1	8/18/2020 11:46:38 PM	1 54467							

ND

96.6

48

30.4-154

mg/Kg

%Rec

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

	Refining South sti Landfarm	west, Inc.							
Sample ID: MB-54431	SampType:	MBLK	Tes	tCode: EP	A Method	8015M/D: Die	esel Range	e Organics	
Client ID: PBS	Batch ID:	54431	F	RunNo: 71	115				
Prep Date: 8/14/2020	Analysis Date:	8/17/2020	5	SeqNo: 24	78838	Units: mg/K	g		
Analyte	Result PC	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)		10							
Motor Oil Range Organics (MRO)		50		405	00 (
Surr: DNOP	11	10.00		105	30.4	154			
Sample ID: LCS-54431	SampType:	LCS	Tes	tCode: EP	A Method	8015M/D: Die	esel Range	e Organics	
Client ID: LCSS	Batch ID:	54431	F	RunNo: 71	115				
Prep Date: 8/14/2020	Analysis Date:	8/17/2020	5	SeqNo: 24	79491	Units: mg/K	g		
Analyte	Result PC	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10 50.00	0	101	70	130			
Surr: DNOP	4.8	5.000		96.2	30.4	154			
Sample ID: LCS-54410	SampType:	LCS	Tes	tCode: EP	A Method	8015M/D: Die	esel Range	e Organics	
Client ID: LCSS	Batch ID:	54410	F	RunNo: 71	142				
Prep Date: 8/13/2020	Analysis Date:	8/14/2020	S	SeqNo: 24	80451	Units: mg/K	g		
Analyte	Result PG	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10 50.00	0	94.7	70	130			
Surr: DNOP	2.4	5.000		47.2	30.4	154			
Sample ID: MB-54410	SampType:	MBLK	Tes	tCode: EP	A Method	8015M/D: Die	esel Range	e Organics	
Client ID: PBS	Batch ID:	54410	F	RunNo: 71	142				
Prep Date: 8/13/2020	Analysis Date:	8/14/2020	S	SeqNo: 24	80454	Units: mg/K	g		
Analyte	Result PC	L 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	6.0	10.00		60.2	30.4	154			
Sample ID: LCS-54467	SampType:	LCS	Tes	tCode: EP	A Method	8015M/D: Die	esel Range	e Organics	
Client ID: LCSS	Batch ID:	54467	F	RunNo: 71	149				
Prep Date: 8/17/2020	Analysis Date:	8/18/2020	S	SeqNo: 24	82199	Units: mg/K	g		
Analyte	Result PC	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10 50.00	0	105	70	130			
Surr: DNOP	5.2	5.000		104	30.4	154			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

Released to Imaging: 12/7/2022 4211711 PM

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

2008697

20-Aug-20

	stern Refining S 0 Bisti Landfar		st, Inc.							
Sample ID: MB-54467	Samp	Type: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: PBS	Batc	h ID: 54	467	F	RunNo: 7	1149				
Prep Date: 8/17/2020	Analysis I	Date: 8/	18/2020	5	SeqNo: 24	482201	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MR	0) ND	50								
Surr: DNOP	10		10.00		105	30.4	154			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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2008697

20-Aug-20

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

	Refining Southv i Landfarm	vest, Inc.											
Sample ID: mb-54403	SampType:	MBLK	Tes	tCode: EF	PA Method	8015D Mod:	Gasoline I	Range					
Client ID: PBS	Batch ID:	54403	F	RunNo: 71	1094								
Prep Date: 8/13/2020	Analysis Date:	8/15/2020	5	SeqNo: 24	477848	Units: mg/K	ıg/Kg						
Analyte	Result PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Gasoline Range Organics (GRO) Surr: BFB	ND 5 510	.0 500.0		102	70	130							
Sample ID: Ics-54403	SampType:	LCS	Tes	tCode: EF	PA Method	8015D Mod:	Gasoline I	Range					
Client ID: LCSS	Batch ID:	54403	F	RunNo: 7 1	1094								
Prep Date: 8/13/2020	Analysis Date:	8/15/2020	S	SeqNo: 24	477849	Units: mg/K	(g						
Analyte	Result PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Gasoline Range Organics (GRO)		.0 25.00	0	92.2	70	130							
Surr: BFB	510	500.0		101	70	130							
Sample ID: mb-54415	SampType:	MBLK	Tes	tCode: EF	PA Method	8015D Mod:	Gasoline	Range					
Client ID: PBS	Batch ID:	54415	F	RunNo: 7 1	1105								
Prep Date: 8/13/2020	Analysis Date:	8/15/2020	5	SeqNo: 24	478196	Units: mg/K	g						
Analyte	Result PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Gasoline Range Organics (GRO) Surr: BFB	ND 5 530	.0 500.0		106	70	130							
Sample ID: Ics-54415	SampType:	LCS	Tes	tCode: EF	PA Method	8015D Mod:	Gasoline	Range					
Client ID: LCSS	Batch ID:	54415	F	RunNo: 7 1	1105								
Prep Date: 8/13/2020	Analysis Date:	8/15/2020	S	SeqNo: 24	478197	Units: mg/K	(g						
Analyte	Result PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Gasoline Range Organics (GRO)	24 5	.0 25.00	0	95.5	70	130							
Surr: BFB	540	500.0		107	70	130							
Sample ID: 2008697-016ams	SampType:	MS	Tes	tCode: EF	PA Method	8015D Mod:	Gasoline I	Range					
Client ID: SB29 @ 0'-1'	Batch ID:	54415	F	RunNo: 71	1105								
Prep Date: 8/13/2020	Analysis Date:	8/15/2020	S	SeqNo: 24	478199	Units: mg/K	íg						
Analyte	Result PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Gasoline Range Organics (GRO)		.7 23.36	0	96.6	49.2	122							
Surr: BFB	480	467.3		102	70	130							
Sample ID: 2008697-016amsd	SampType:	MSD	Tes	tCode: EF	PA Method	8015D Mod:	Gasoline	Range					
Client ID: SB29 @ 0'-1'	Batch ID:	54415	F	RunNo: 71	1105								
Prep Date: 8/13/2020	Analysis Date:	8/16/2020	S	SeqNo: 24	478200	Units: mg/K	g						
Analyte	Result PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range

RL Reporting Limit

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2008697

20-Aug-20

Client: Project:	Western F 2020 Bist	U		st, Inc.							
Sample ID: 200869	7-016amsd	SampT	ype: MS	SD	Tes	tCode: EF	PA Method	8015D Mod:	Gasoline	Range	
Client ID: SB29 @	0'-1'	Batch	n ID: 54	415	F	RunNo: 7 ′	1105				
Prep Date: 8/13/2	020	Analysis D	ate: 8/	16/2020	S	SeqNo: 24	478200	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organic	s (GRO)	21	4.6	23.21	0	91.2	49.2	122	6.36	20	
Surr: BFB		480		464.3		103	70	130	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 34 of 34

2008697

20-Aug-20

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			Hall Environmer TEL: 505-345-3 Website: clients	490 Albuquero 975 FAX:)I Hawkins I que, NM 871 505-345-41	^{NE} 109 Sar 107	Pag Sample Log-In Check List						
Client Name:	Western R Southwest		Work Order Num				RcptNo:	1					
Received By:	Cheyenne	Cason	8/13/2020 7:55:00 /	AM									
Completed By:	Emily Mo	cho	8/13/2020 8:44:55 /	٩M									
Reviewed By:	10		8/13/20										
<u>Chain of Cu</u>	stody												
1. Is Chain of (Custody comp	lete?		Yes	\checkmark	No 🗌	Not Present						
2. How was the	e sample deliv	ered?		Cou	rier								
<u>Log In</u> 3. Was an atte	mpt made to d	cool the sample	es?	Yes		No 🗌	NA 🗌						
4. Were all sam	ples received	at a temperat	ure of >0° C to 6.0°C	Yes		No 🗌							
5. Sample(s) in	proper conta	iner(s)?		Yes		No 🗌							
6. Sufficient sar	nple volume f	or indicated tes	st(s)?	Yes	\checkmark	No 🗌							
7. Are samples	(except VOA	and ONG) proj	perly preserved?	Yes	\checkmark	No 🗌							
8. Was preserve	ative added to	bottles?		Yes		No 🔽	NA 🗌						
9. Received at I	east 1 vial wit	h headspace <	1/4" for AQ VOA?	Yes		No 🗋	NA 🗹						
10. Were any sa	mple containe	ers received bra	oken?	Yes		No 🗹	# of preserved						
11. Does paperw (Note discrep		tle labels? iin of custody)		Yes		No 🗌	bottles checked for pH:	>12 unless noted)					
12, Are matrices			of Custody?	Yes	~	No 🛄	Adjusted?						
13. Is it clear what			•			No 🗌							
14. Were all hold		to be met?				No 🗌	Checked by	nc 8/13/2					
<u>Special Hand</u>		,											
15. Was client no	otified of all di	screpancies w	ith this order?	Yes		No 🗌							
Person	Notified:		Date:	F	·	. A							
By Wh			Via:	🔄 eMa	ail 🗌 Pho	one 🗌 Fax	In Person						
Regard	-	sa anoon	No. 2000 IIIIII IIIIIIIIIIIIIIIIIIIIIIIIII		WNH	ана алана							
Glient I	nstructions:						-1949-930000000000000000000000000000000000						
16. Additional re	marks:												
17. <u>Cooler Info</u>	rmation												
Cooler No		Condition	Seal Intact Seal No	Seal Da	ite S	igned By							
1	3.3	Contraction of the second seco	Not Present	an en an mar a DRTV al		- 19 19 19 19 19 19 19 19 19 19 19 19 19							
2	3.9		Not Present										
3	0.3		Not Present										
4	0.6	Good	Not Present										

Page 1 of 1

eceive	. >		: 12/	3/20	22 4	:08:	58 P)	M																		Pag	e 243	of :
ENVTDONMENTAL	SIS LABORATOR	l Ë	Albuquerque, NM 87109	Fax 505-345-4107	1		→sdA		(A	ο Λ -	(AC	1, F, B 270 (Sc Dtal Co	,8 ,8													Shude @ Iteov. Com	CCENTON @ ITENV. COM	
	7 5	ww.halle	ı	10	Aná				9	slet	эМ	VHs p	ষ														C G	
۲ ۳			4901 Hawkins NE	l. 505-345-3975				I	(1.40	g po	ptte	99 1 Pe M) 80	Ξ													300 C	7.4	0%0
			490	Tel.								15X /		×	X	×	\star	\times	×	\times	×	<u>ک</u>	\checkmark	×	\times	Remarks: 3,3±0 = ,	20204 8.0	0,6701
			Landfarm	_	ρ		Hudi	100	<u>, E. (annil</u>		CRemate (°C)	HEAL No.	L LUUXUUZ	DOI	002	603	004	005	<i>006</i>	DU 7	008	609	610	110	210	Date Time δ_{λ_2} δ_{λ_2}	Time	8/13/20 0755
ime:	□ Rush		Bisti Li		4500183750	er:		-	<u>Michini</u> Ves		ctuding CF); SC	Preservative	ype	1007	1										>	Via: AU	"Via:	Com
Turn-Around Time:	⊠ Standard	Project Name:) 060 <i>C</i>	Project #:	4500	Project Manage	Strank+		Sampler: C (M(C)) On Ice: % Yes	# of Coolers: 4		Container		40232											>	Received by:	Received by:	(m)
Chain-of-Custody Record	Client: WESTUN REFINING	(HOUL)	Muitast	01)				Level 4 (Full Validation)	iance			;	Sample Name	5834 C. 01.	SBaylo 4'-L'	Shaye u' 8'	58250 3'-4'	<u>58250 4'-6'</u>	SBASCO W-8'	5820 @ 31-41	SBJU @ 4'-U'	SBAUC $u^2 S^3$	SBJ10-3-4	SB2704'-U'	SRDTO u' 8'	Marine		la la
of-Cust	JUN R	TICED NUCLEURAN	539						Az Compliance	POF				JC 105	-SF	\ \$) St		1 SE	55	Se	1 S	1 St	l Si	<u>, v</u>	Relinquished by:	1.2	I'M Waller
Chain-	t wet	GIFPO	Mailing Address: 639	FINALAA	э#:	email or Fax#:	QA/QC Package:		:uo	(ed)			Lime	21448	HHA	1450	15DO	150(1503	1509	1510	1151)	1(5)	0°SI	1532	ime: 1810	ime:	Shirling 1914
-	Client		Mailin		Phone #:	email	QAQ	₹ A	Accreditati	¥ ⊟			Date	1 20 A	~										ightarrow	Date: ⊺ X, D D	Date:	S 12

Receiv			www.nallenvironmental.com 4901 Hawkins NF - Albucinerine NM 87109		Analysis Request	(tu	SMI20	04.1) or 827(, ₂ 0N , ₂ ,	-VO 103; 104;	lethd 9 Me 3r, 1 (AO)	8081 P EDB (<i>N</i> PPHs E 8260 (<i>Y</i> 8270 (5 70481 704800000000000000000000000000000000000											P	Chude Bite and Low	1/Case CC: Drydown Bitch, can 666	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.
			490	Tel.) XЭТ8 08:Н9Т	×	ĸ	×	X	X	x					Remarks:			lis possibility. A
					06		Hyde	C. McGinn		Drowned (°C)	HEAL No. 2008はイオ	025	026	027	028	029	030					Date Time CI .	0/12/2020 1810	K/13/m OFS	as. This serves as notice of the
Time:	□ Rush		561 LF	0010041	0916 810050	ger:	Stuart Hyde	. Carroll /	$\overline{\gamma}$	Gooler Temp(induding cF): Sec	Preservative Type	(00)	1			, 	رج		$\left(\right)$	ł			Wall-	(Lewr	ccredited Jaboratorie
Turn-Around	人 区 Standard	Project Name:	Bis	Project #:	r	Project Manager:	\$	Sampler: E.Carroil	# of Coolers:	Cooler Temp	Container Type and #	Zoh 1					>(Received by:	1-mut		Duracted to other a
Chain-of-Custody Record	Client: UNStern Refining		Mailing Address: 539 main 94	ØH	Phone #:	email or Fax#:	QA/QC Package: X Standard	□ Az Compliance □ Other	11.		Date Time Matrix Sample Name	6/12 K20 601) 583201'-2!		1 1615 SB3206'-8'	-	1 1628 1. 53 33 6 466'	<u>V 1627 - 58330 6'-8'</u>					Time: Reling	7 1640	Shr/min] 914 M.	If necessary, samples submitted to Hall Environmental may be subc



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

September 09, 2020

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

RE: Bisti Landfarm

OrderNo.: 2009086

Dear Gregory McCartney:

Hall Environmental Analysis Laboratory received 22 sample(s) on 9/2/2020 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 qualifiers 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 #NM0901

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Gasoline Range Organics (GRO)

Surr: BFB

Analytical Report Lab Order 2009086

9/2/2020 12:14:07 PM

9/2/2020 12:14:07 PM

54841

54841

Hall Environmental Analysis Laboratory, Inc.	
Han Environmental Analysis Laboratory, Inc.	Date Reported: 9/9/2020

CLIENT: Western Refining Southwest, Inc. Client Sample ID: SB34 @1' **Project:** Bisti Landfarm Collection Date: 9/1/2020 10:40:00 AM Lab ID: 2009086-001 Matrix: MEOH (SOIL) Received Date: 9/2/2020 8:05:00 AM Analyses Result **RL** Oual Units **DF** Date Analyzed Batch **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: BRM Diesel Range Organics (DRO) ND 10 mg/Kg 1 9/2/2020 4:35:26 PM 54891 Motor Oil Range Organics (MRO) ND 50 mg/Kg 1 9/2/2020 4:35:26 PM 54891 Surr: DNOP %Rec 54891 93.7 30.4-154 1 9/2/2020 4:35:26 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB

ND

96.5

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range

mg/Kg

%Rec

1

1

3.8

75.3-105

- J Analyte detected below quantitation limits
- P Sample pH Not In Range RL Reporting Limit
- Page 1 of 26

EPA METHOD 8015D: GASOLINE RANGE

Gasoline Range Organics (GRO)

Surr: BFB

Analytical Report Lab Order 2009086

Hall Environmental Analysis Laboratory, Inc.	
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Date Reported: 9/9/2020

9/2/2020 12:37:36 PM

9/2/2020 12:37:36 PM

Analyst: NSB

54841

54841

CLIENT: Western Refining Southwest, Inc	nc. Client Sample ID: SB34 @6'											
Project: Bisti Landfarm	ject: Bisti Landfarm Collection Date: 9/1/2020 10:4											
Lab ID: 2009086-002	Matrix: MEOH	I (SOIL)	Received Date	e: 9/2	2/2020 8:05:00 AM							
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch						
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	BRM						
Diesel Range Organics (DRO)	13	9.3	mg/Kg	1	9/2/2020 5:48:23 PM	54891						
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	9/2/2020 5:48:23 PM	54891						
Surr: DNOP	99.5	30.4-154	%Rec	1	9/2/2020 5:48:23 PM	54891						

ND

94.5

4.1

75.3-105

mg/Kg

%Rec

1

1

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

* **Qualifiers:**

- Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 2 of 26

Analytical Report Lab Order 2009086

D

Date Reported: 9/9/2020

CLIENT: Western Refining Southwest, Inc.	c. Client Sample ID: SB35 @3'							
Project: Bisti Landfarm	Collection Date: 9/1/2020 11:05:00 AM							
Lab ID: 2009086-003	Matrix: MEOH (SOIL) Received Date: 9/2/2020 8:05:00 AM							
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch		
EPA METHOD 8015M/D: DIESEL RANGE			Analyst	BRM				
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	9/2/2020 6:12:49 PM	54891		
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	9/2/2020 6:12:49 PM	54891		
Surr: DNOD	06.4	20 / 15/	% Poo	1	0/2/2020 6:12:40 PM	5/901		

Motor OII Range Organics (MRO)	ND	40	mg/kg	I	9/2/2020 6.12.49 PM	54691
Surr: DNOP	96.4	30.4-154	%Rec	1	9/2/2020 6:12:49 PM	54891
EPA METHOD 8015D: GASOLINE RANGE					Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.9	mg/Kg	1	9/2/2020 1:01:07 PM	54841
Surr: BFB	94.9	75.3-105	%Rec	1	9/2/2020 1:01:07 PM	54841

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range RL
 - Reporting Limit

Page 3 of 26

Analytical Report

Lab Order 2009086

Date Reported: 9/9/2020

9/2/2020 1:24:32 PM

9/2/2020 1:24:32 PM

Analyst: NSB

54841

54841

CLIENT: Western Refining Southwest, Inc.	Client Sample ID: SB35 @6'						
Project: Bisti Landfarm	Collection Date: 9/1/2020 11:07:00 AM						
Lab ID: 2009086-004	Matrix: MEOH (SOIL) Received Date: 9/2/2020 8:05:00 AM						
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch	
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	BRM	
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	9/2/2020 6:37:28 PM	54891	
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	9/2/2020 6:37:28 PM	54891	
Surr: DNOP	88.9	30.4-154	%Rec	1	9/2/2020 6:37:28 PM	54891	

EPA METHOD 8015D: GASOLINE RANGE		
Gasoline Range Organics (GRO)	ND	4.0
Surr: BFB	95.9	75.3-105

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range

mg/Kg

%Rec

1

1

RL Reporting Limit Page 4 of 26

Analytical Report Lab Order 2009086

Date Reported: 9/9/2020

CLIENT: Western Refining Southwest, Inc. Project: Bisti Landfarm	Client Sample ID: SB36 @1' Collection Date: 9/1/2020 11:10:00 AM						
Lab ID: 2009086-005	Matrix: MEOH (SOIL) Received Date: 9/2/2020 8:05:00 AM						
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch	
EPA METHOD 8015M/D: DIESEL RANGE			Analyst	BRM			
Diesel Range Organics (DRO)	9.7	9.5	mg/Kg	1	9/2/2020 7:01:58 PM	54891	
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	9/2/2020 7:01:58 PM	54891	
Surr: DNOP	91.7	30.4-154	%Rec	1	9/2/2020 7:01:58 PM	54891	

	51.7	5010-	/01/00	•	5/2/2020 7.01.50 T M	54051
EPA METHOD 8015D: GASOLINE RANGE					Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.3	mg/Kg	1	9/2/2020 1:48:07 PM	54841
Surr: BFB	92.2	75.3-105	%Rec	1	9/2/2020 1:48:07 PM	54841

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 5 of 26

NSB 54841 54841

Analytical Report Lab Order 2009086

Date Reported: 9/9/2020

CLIENT: Western Refining Southwest, Inc. Project: Bisti Landfarm	Client Sample ID: SB36 @6' Collection Date: 9/1/2020 11:15:00 AM						
Lab ID: 2009086-006	Matrix: MEOH (SOIL) Received Date: 9/2/2020 8:05:00 AM						
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch	
EPA METHOD 8015M/D: DIESEL RANGE				Analyst	BRM		
Diesel Range Organics (DRO)	ND	8.4	mg/Kg	1	9/2/2020 7:26:34 PM	54891	
Motor Oil Range Organics (MRO)	ND	42	mg/Kg	1	9/2/2020 7:26:34 PM	54891	
Surr: DNOP	90.7	30.4-154	%Rec	1	9/2/2020 7:26:34 PM	54891	

odii. Bitoi	00.1	00.4 104	/01/00		5/2/2020 1.20:04 I M	
EPA METHOD 8015D: GASOLINE RANGE					Analyst:	
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	9/2/2020 2:58:37 PM	
Surr: BFB	93.7	75.3-105	%Rec	1	9/2/2020 2:58:37 PM	

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 6 of 26

Analytical Report
Lab Order 2009086

Hall Environmental Analysis Laboratory, Inc.	D

Lab Order **2009086** Date Reported: **9/9/2020**

	HOD 8015M/D: DIESEL RANGE	ORGANICS					Analys	st: BRM
Analyses		Result	RL	Qua	Units	DF	F Date Analyzed	Batch
Lab ID:	2009086-007	Matrix: MEOH (SOIL	.)	Rece	ived Da	te: 9/	2/2020 8:05:00 AM	
Project:	Bisti Landfarm			Collec	tion Da	te: 9/	1/2020 11:37:00 AM	
CLIENT:	Western Refining Southwest, Inc.		С	lient S	ample]	D:S	B37 @1'	

Diesel Range Organics (DRO)	95	9.5	mg/Kg	1	9/3/2020 9:35:24 AM	54891
Motor Oil Range Organics (MRO)	150	47	mg/Kg	1	9/3/2020 9:35:24 AM	54891
Surr: DNOP	95.6	30.4-154	%Rec	1	9/3/2020 9:35:24 AM	54891
EPA METHOD 8015D: GASOLINE RANGE					Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.1	mg/Kg	1	9/2/2020 3:22:06 PM	54841

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 7 of 26

EPA METHOD 8015D: GASOLINE RANGE

Gasoline Range Organics (GRO)

Surr: BFB

Analytical Report Lab Order 2009086

Date Reported: 9/9/2020

9/2/2020 3:45:32 PM

9/2/2020 3:45:32 PM

Analyst: NSB

54841

54841

CLIENT: Western Refining Southwest, IncProject: Bisti LandfarmLab ID: 2009086-008		Client Sample ID: SB37 @6' Collection Date: 9/1/2020 11:38:00 AM Matrix: MEOH (SOIL) Received Date: 9/2/2020 8:05:00 AM					
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch	
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	BRM	
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	9/2/2020 8:15:31 PM	54891	
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	9/2/2020 8:15:31 PM	54891	
Surr: DNOP	90.1	30.4-154	%Rec	1	9/2/2020 8:15:31 PM	54891	

ND

95.1

3.9

75.3-105

mg/Kg

%Rec

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Surr: BFB

CLIENT: Western Refining Southwest, Inc.

Analytical Report
Lab Order 2009086

Hall Environmental Analysis Laboratory, Inc.	
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Lab Order **2009086** Date Reported: **9/9/2020**

9/2/2020 4:08:59 PM

54841

Client Sample ID: SB38 @1' Collection Date: 9/1/2020 11:40:00 AM

%Rec

1

Project:	Bisti Landfarm		(Collection Dat	e: 9/1	/2020 11:40:00 AM	
Lab ID:	2009086-009	Matrix: MEOF	H (SOIL)	Received Dat	e:9/2	2/2020 8:05:00 AM	
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch
	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	BRM
Diesel R	ange Organics (DRO)	ND	10	mg/Kg	1	9/2/2020 8:39:58 PM	54891
Motor O	il Range Organics (MRO)	ND	50	mg/Kg	1	9/2/2020 8:39:58 PM	54891
Surr:	DNOP	91.8	30.4-154	%Rec	1	9/2/2020 8:39:58 PM	54891
EPA ME	THOD 8015D: GASOLINE R	ANGE				Analyst	: NSB
Gasoline	e Range Organics (GRO)	ND	3.8	mg/Kg	1	9/2/2020 4:08:59 PM	54841

95.9

75.3-105

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Analytical Report Lab Order 2009086

9/2/2020 4:32:25 PM

9/2/2020 4:32:25 PM

Analyst: NSB

54841

54841

Hall Environmental Analysis Laboratory, Inc.	I
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Date Reported: 9/9/2020

CLIENT: Western Refining Southwest, Inc.		Cl	ient Sample II): SE	338 @6'	
Project: Bisti Landfarm		(Collection Date	e: 9/1	1/2020 11:48:00 AM	
Lab ID: 2009086-010	Matrix: MEOH	(SOIL)	Received Date	e: 9/2	2/2020 8:05:00 AM	
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	BRM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/2/2020 9:04:51 PM	54891
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/2/2020 9:04:51 PM	54891
Surr: DNOP	99.0	30.4-154	%Rec	1	9/2/2020 9:04:51 PM	54891

mg/Kg

%Rec

1

1

EPA METHOD 8015D: GASOLINE RANGE		
Gasoline Range Organics (GRO)	ND	3.6
Surr: BFB	95.2	75.3-105

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Gasoline Range Organics (GRO)

Surr: BFB

Analytical Report Lab Order 2009086

9/2/2020 4:55:55 PM

9/2/2020 4:55:55 PM

54841

54841

Hall Environmental Analysis Laboratory, Inc. Date Reported: 9/9/2020		
	Hall Environmental Analysis Laboratory, Inc.	Date Reported: 9/9/2020

CLIENT:	Western Refining Southwest, Inc.		Clie	nt Sample II): SE	339 @2'	
Project:	Bisti Landfarm		Со	llection Date	:: 9 /1	1/2020 12:00:00 PM	
Lab ID:	2009086-011	Matrix: MEOH	(SOIL) R	eceived Date	e: 9/2	2/2020 8:05:00 AM	
Analyses		Result	RL Q	Qual Units	DF	Date Analyzed	Batch
EPA MET	HOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	BRM
Diesel Ra	ange Organics (DRO)	140	19	mg/Kg	2	9/3/2020 9:59:43 AM	54891
Motor Oi	Range Organics (MRO)	300	94	mg/Kg	2	9/3/2020 9:59:43 AM	54891
Surr: [DNOP	90.7	30.4-154	%Rec	2	9/3/2020 9:59:43 AM	54891
EPA MET	HOD 8015D: GASOLINE RANGE					Analyst	NSB

ND

95.8

4.7

75.3-105

mg/Kg

%Rec

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits Sample pH Not In Range
- Р RL
 - Reporting Limit

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Released to Imaging: 12/7/2022 4211711 PM

Analytical Report
Lab Order 2009086

Analyst: NSB

54841

54841

Lab Order **2009086** Date Reported: **9/9/2020**

9/2/2020 5:19:24 PM

9/2/2020 5:19:24 PM

CLIENT: Western Refining Southwest, Inc. Project: Bisti Landfarm			ient Sample II Collection Date		339 @6' 1/2020 12:05:00 PM	
Lab ID: 2009086-012	Matrix: MEOH	(SOIL)	Received Date	e: 9/2	2/2020 8:05:00 AM	
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analys	t: BRM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	9/2/2020 9:53:45 PM	54891
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	9/2/2020 9:53:45 PM	54891
Surr: DNOP	92.0	30.4-154	%Rec	1	9/2/2020 9:53:45 PM	54891

Built Bhol	02.0	00.4 104	/01/00	•	
EPA METHOD 8015D: GASOLINE RANGE					
Gasoline Range Organics (GRO)	ND	4.4	mg/Kg	1	
Surr: BFB	94.7	75.3-105	%Rec	1	

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Anal	lysis Laboratory, Ir	nc.			Analytical Report Lab Order 2009086 Date Reported: 9/9/202	20
CLIENT:	Western Refining Southwa	est, Inc.	Client	t Sample I	D: SB	340 @1'	
Project:	Bisti Landfarm		Coll	ection Dat	e: 9/1	/2020 12:47:00 PM	
Lab ID:	2009086-013	Matrix: SOIL	Re	ceived Dat	e: 9/2	2/2020 8:05:00 AM	
Analyses		Result	RL Qu	ual Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analys	t: JMT
Chloride		330	60	mg/Kg	20	9/2/2020 6:21:21 PM	54886

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Analy	ysis Laboratory, In	IC.			Analytical Report Lab Order 2009086 Date Reported: 9/9/202	:0
CLIENT: Project: Lab ID:	Western Refining Southwes Bisti Landfarm 2009086-014	st, Inc. Matrix: SOIL	Coll		e: 9/1	40 @6' /2020 12:45:00 PM 2/2020 8:05:00 AM	
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS	1400	60	mg/Kg	20	Analys 9/2/2020 6:58:34 PM	t: JMT 54886

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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nple ID: SB41 @2' on Date: 9/1/2020 1:20:00 PM
ed Date: 9/2/2020 8:05:00 AM Units DF Date Analyzed Batch

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall En	vironmental Analy	vsis Laboratory, In	с.			Analytical Report Lab Order 2009086 Date Reported: 9/9/202	0
Project:	Western Refining Southwes Bisti Landfarm 2009086-016	t, Inc. Matrix: SOIL	Coll		e: 9/1	41 @6' /2020 1:22:00 PM /2020 8:05:00 AM	
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS	640	60	mg/Kg	20	Analys 9/2/2020 7:23:23 PM	t: JMT 54886

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall En	vironmental Analys	is Laboratory, Ind				Analytical Report Lab Order 2009086 Date Reported: 9/9/20	20
	Western Refining Southwest, Bisti Landfarm 2009086-017	• /	Clien Col		e: 9/1		
Analyses		Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA MET Chloride	HOD 300.0: ANIONS	3300	150	mg/Kg	50	Analys 9/4/2020 12:29:03 AM	st: CAS 54886

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	nvironmental Ana	lysis Laboratory, In	с.			Analytical Report Lab Order 2009086 Date Reported: 9/9/202	20
CLIENT:	Western Refining Southw	est, Inc.	Client	t Sample II	D: SB	42 @6'	
Project:	Bisti Landfarm		Coll	ection Dat	e: 9/1	/2020 2:00:00 PM	
Lab ID:	2009086-018	Matrix: SOIL	Re	ceived Dat	e: 9/2	2/2020 8:05:00 AM	
Analyses		Result	RL Qu	ıal Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analys	st: CAS
Chloride		4500	150	mg/Kg	50	9/4/2020 12:41:28 AM	54886

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Released to Imaging: 12/7/2022 4211711 PM

Hall Er	vironmental Analy	ysis Laboratory, In	I C.			Analytical Report Lab Order 2009086 Date Reported: 9/9/202	20
CLIENT: Project: Lab ID:	Western Refining Southwes Bisti Landfarm 2009086-019	st, Inc. Matrix: SOIL	Coll		e: 9/1	43 @3' /2020 2:20:00 PM /2020 8:05:00 AM	
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA MET Chloride	HOD 300.0: ANIONS	180	59	mg/Kg	20	Analys 9/2/2020 8:25:26 PM	st: JMT 54886

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Analy	vsis Laboratory, In	ic.			Analytical Report Lab Order 2009086 Date Reported: 9/9/202	20
CLIENT: Project: Lab ID:	Western Refining Southwes Bisti Landfarm 2009086-020	t, Inc. Matrix: SOIL	Coll		e: 9/1	43 @6' /2020 2:22:00 PM /2020 8:05:00 AM	
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA MET Chloride	HOD 300.0: ANIONS	690	60	mg/Kg	20	Analys 9/2/2020 8:37:51 PM	t: JMT 54886

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Released to Imaging: 12/7/2022 4211711 PM

Hall En	vironmental Analy	ysis Laboratory, In	c.			Analytical Report Lab Order 2009086 Date Reported: 9/9/202	:0
Project:	Western Refining Southwes Bisti Landfarm 2009086-021	st, Inc. Matrix: SOIL	Coll		e: 9/1	44 @3' /2020 2:46:00 PM /2020 8:05:00 AM	
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS	430	60	mg/Kg	20	Analys 9/2/2020 8:50:15 PM	t: JMT 54886

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Hall Er	vironmental Analy	vsis Laboratory, In	c.			Analytical Report Lab Order 2009086 Date Reported: 9/9/202	0
CLIENT: Project: Lab ID:	Western Refining Southwes Bisti Landfarm 2009086-022	t, Inc. Matrix: SOIL	Coll		e: 9/1	44 @12' /2020 2:48:00 PM 2/2020 8:05:00 AM	
Analyses	2009080-022	Result				Date Analyzed	Batch
EPA MET Chloride	HOD 300.0: ANIONS	320	60	mg/Kg	20	Analys 9/2/2020 9:02:40 PM	t: JMT 54886

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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	stern Refining Southwest, Inc. ti Landfarm			
Sample ID: MB-54886	SampType: mblk	TestCode: EPA Method	1 300.0: Anions	
Client ID: PBS	Batch ID: 54886	RunNo: 71554		
Prep Date: 9/2/2020	Analysis Date: 9/2/2020	SeqNo: 2501564	Units: mg/Kg	
Analyte	Result PQL SPK value S	PK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride	ND 1.5			
Sample ID: LCS-54886	SampType: Ics	TestCode: EPA Method	1 300.0: Anions	
Client ID: LCSS	Batch ID: 54886	RunNo: 71554		
Prep Date: 9/2/2020	Analysis Date: 9/2/2020	SeqNo: 2501565	Units: mg/Kg	
Analyte	Result PQL SPK value S	PK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride	14 1.5 15.00	0 95.9 90	110	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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2009086

09-Sep-20

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client:WesternProject:Bisti La	Refining Southwest, Inc. ndfarm			
Sample ID: 2009086-001AMS	S SampType: MS	TestCode: EPA Method	8015M/D: Diesel Range	e Organics
Client ID: SB34 @1'	Batch ID: 54891	RunNo: 71526		
Prep Date: 9/2/2020	Analysis Date: 9/2/2020	SeqNo: 2500726	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Diesel Range Organics (DRO)	47 9.7 48.36	0 96.2 47.4		
Surr: DNOP	4.4 4.836	91.6 30.4	154	
Sample ID: 2009086-001AMS	SD SampType: MSD	TestCode: EPA Method	8015M/D: Diesel Range	e Organics
Client ID: SB34 @1'	Batch ID: 54891	RunNo: 71526		
Prep Date: 9/2/2020	Analysis Date: 9/2/2020	SeqNo: 2500727	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Diesel Range Organics (DRO)	46 9.7 48.40	0 95.4 47.4	136 0.769	43.4
Surr: DNOP	4.4 4.840	91.5 30.4	154 0	0
Sample ID: LCS-54891	SampType: LCS	TestCode: EPA Method	8015M/D: Diesel Range	e Organics
Client ID: LCSS	Batch ID: 54891	RunNo: 71526		
Prep Date: 9/2/2020	Analysis Date: 9/2/2020	SeqNo: 2500763	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Diesel Range Organics (DRO)	50 10 50.00	0 101 70	130	
Surr: DNOP	4.6 5.000	92.2 30.4	154	
Sample ID: MB-54891	SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range	e Organics
Client ID: PBS	Batch ID: 54891	RunNo: 71526		
Prep Date: 9/2/2020	Analysis Date: 9/2/2020	SeqNo: 2500765	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) Surr: DNOP	ND 50	02.0 20.4	454	
	9.2 10.00	92.2 30.4	154	
Sample ID: LCS-54907	SampType: LCS	TestCode: EPA Method	8015M/D: Diesel Range	e Organics
Client ID: LCSS	Batch ID: 54907	RunNo: 71526		
Prep Date: 9/2/2020	Analysis Date: 9/4/2020	SeqNo: 2502752	Units: %Rec	
Analyte		SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Surr: DNOP	5.9 5.000	119 30.4	154	
Sample ID: MB-54907	SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range	e Organics
Client ID: PBS	Batch ID: 54907	RunNo: 71526		
Prep Date: 9/2/2020	Analysis Date: 9/4/2020	SeqNo: 2502753	Units: %Rec	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
			,	

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

- J Analyte detected below quantitation limits
- P Sample pH Not In Range

RL Reporting Limit

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2009086

09-Sep-20

Client: Project:	Westerr Bisti La	n Refining So Indfarm	outhwe	est, Inc.							
Sample ID: MB-5	4907	SampT						8015M/D: Die	esel Range	e Organics	
Client ID: PBS Prep Date: 9/2/	2020	Batch Analysis D	1D: 54		-	unNo: 71 SegNo: 2:		Units: %Red			
Analyte	2020	Result	PQL		SPK Ref Val		LowLimit	HighLimit	, %RPD	RPDLimit	Qual
Surr: DNOP		13		10.00		126	30.4	154			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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2009086

09-Sep-20

	rn Refining Southwe Landfarm	est, Inc.							
Sample ID: mb-54841 Client ID: PBS Prep Date: 9/1/2020	SampType: M Batch ID: 54 Analysis Date: 9	841	F	tCode: EF RunNo: 71 SeqNo: 25	546	8015D: Gaso Units: mg/K	0	e	
Analyte	Result PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO) Surr: BFB	ND 5.0 970	1000		97.1	75.3	105			
Sample ID: Ics-54841	SampType: LC					8015D: Gaso	line Rang	e	
Client ID: LCSS Prep Date: 9/1/2020	Batch ID: 54 Analysis Date: 9			RunNo: 7 1 SeqNo: 2 5		Units: mg/K	ģ		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO) Surr: BFB	21 5.0 1100	25.00 1000	0	85.7 107	72.5 75.3	106 105			S

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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2009086

09-Sep-20

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ANALY	ONMENTAL /SIS Ratory	Hall Environmenta Alb TEL: 505-345-397 Website: clients.ha	490 uquerq 5 FAX:	1 Hawkins Nl ue, NM 87109 505-345-4107	Sa	ample Log-In Check List
Client Name:	Western Refining Southw	Work Order Number	: 2009	9086		RcptNo: 1
Received By:	Cheyenne Cason	9/2/2020 8:05:00 AM				
Completed By:	Isaiah Ortiz	9/2/2020 8:31:37 AM			In	04
Reviewed By:	JR 9/2/20					,
Chain of Cust	tody					
1. Is Chain of Cu	istody complete?		Yes	\checkmark	No 🗌	Not Present
2. How was the	sample delivered?		Cou	ier		
<u>Log In</u> 3. Was an attem	pt made to cool the samples?		Yes	\checkmark	No 🗌	NA 🗌
4. Were all samp	les received at a temperature	of >0° C to 6.0°C	Yes	\checkmark	No 🗌	
5. Sample(s) in p	proper container(s)?		Yes	\checkmark	No 🗌]
6. Sufficient sam	ole volume for indicated test(s)?	Yes	\checkmark	No 🗌	
	except VOA and ONG) proper		Yes	\checkmark	No 🗌	
8. Was preservat	ive added to bottles?		Yes		No 🔽	NA 🗌
9. Received at lea	ast 1 vial with headspace <1/4	" for AQ VOA?	Yes		No 🗌	NA 🗹
	ple containers received broke		Yes		No 🗸	
	rk match bottle labels? ncies on chain of custody)		Yes		No 🗌	# of preserved bottles checked for pH: (<2_of >12 unless noted)
	orrectly identified on Chain of	Custody?	Yes	\checkmark	No 🗌	Adjusted?
	analyses were requested?		Yes	\checkmark	No 🗌	
	g times able to be met? stomer for authorization.)		Yes	\checkmark	No 🗌	Checked by m 9/2/20
Special Handli	ng (if applicable)					
15. Was client not	ified of all discrepancies with	this order?	Yes		No 🗌	NA 🗹
Person	Notified:	Date:	tere askonomisticad		and the second	×*
By Who	m:	Via:	eMa	ail 🗌 Phon	e 🗌 Fa	IX In Person
Regardin	ng:	al in terme of a later product to the characteristic statement and	LUCOLLED AND		and during the Discount	
Client In	structions:		and the second	dike to restrict devision of the		
16. Additional ren	narks:					
17. <u>Cooler Inforr</u> Cooler No 1	1.5.5 5.5 1.5.5 4.		Seal D	ate Sig	ned By	

Page 1 of 1

Received by OCD: 12/3/2022 4:08:58 PM

ALYSTS LABORATORY		- Albuquerque, NM 87109	5 Fax 505-345-4107	Analysis Request	(tn	əsqĄ	/Juəs	N ,	۸۵. ۵۵: ۱۵:	r, <i>1</i> (AO) ime	CRA 8 1, F, B 260 (V 270 (Sc 271 (Sc 270 (Sc 271 (Sc) (Sc 271 (Sc) (Sc 271 (Sc) (Sc) (Sc) (Sc) (Sc) (Sc) (Sc) (Sc)	2 2												.cc: shydeelten, con	ecarrolle Iten . com	jadams 2 I tonu. com
HALL		4901 Hawkins NE	Tel. 505-345-3975			CB, ² \ WB	1) 182 Р ВКО	, 0 / 98/s	е р səpi	ethc (5D(/ X∃T 108:H9 99 180 90 (Md 180 90) 80	E 8 11 ×	. ×	(X	×	X	\times	λ	\times	X	\times	×	×	Remarks:		
I urn-Around Time: Nex7 Day □ Standard & Rush 9/3/2020		Bist Landfarm	Project #:	PO# 4500183756	Project Manager:	Devin Henomann	Sampler: Josh Adams / Eric Carroll	t⊈ Yes □ No	olers: (Cooler Temp(including cF): 4, 3 -C. (= 4, 2	Preservative	(1) 407 2001 1009 05 6		CD3	004	005	00 6	LOQ	00 %	009	010		210 1 1	Via: Date Tir	1/20	We count 9/2/20 0805
Chain-ot-Custody Record	Greg McCottney	Mailing Address:		Phone #:	email or Fax#: Pro	ige:	Accreditation: Accreditation: Az Compliance Sar	□ Other	(pe) 70F			1 Pate Time Matrix Sample Name Typ	1043 SB34 @ C	5835 0	0	1110 SB36 @1'	1115 5836 661	1137 SB37 C1	1138 SB37 CC	1140 5B38 CI	1148 SB38 C6	1200 SB39 Q21	V 1205 V 5B30, PG	Relinquished by:	1546 WWWWWW	201819 Wedat

Receiv	ed by	v OC	D: 1	2/3/2	2020	4:0	8:58 1	PM ⁻						Τ		Τ							1	Pa	ge 279	of 330
HALL FUUTBONMENTAL	19	www.hallenvironmental.com	4901 Hawkins NE - Albuquerque, NM 87109	10	Analysis		SMIS	22203	8 10 ; , N(- \C 10 ³ 10 ³	y 83 8 Me 1r, 1 (AO)	V) 072	85 85 85 85 85 85 85				×							c: Shyde Itenu.com	6	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.
			901 F	Tel. 5(91 P8												i.v.		Any st
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				<u> </u>			.208) 8	- 2'8W		BF		/X=1	.9	+	-								 	Re		this pos
Next Day	91313030		andtarn		50		Henomann	S/Fric Carroll	ON D		3-0,1=4.2	HEAL No.	NOVOXU	12	015	910	C10	210	610	010	120	120		Date Time	bate Time $9/v/v$ $CSUD$	s. This serves as notice of t
d Time:	d 🕅 Rush	-	1		4500 183750		Cine	thish Alams	M Yes	 NESTERAT 	I	Preservative	Type						30 31 1			\rightarrow		Via: NAJ	Via: Court	accredited laboratorie
Turn-Around Time:	□ Standard	Project Name:	Disti	Project #:	10 # 0d	Project Manager:		Samular.	10000	# of Coolers:	Cooler Temp(including CF):	Container	Type and #	11.00.								}/		Received by:	Received by:	ocontracted to other
Chain-of-Custody Record	Western	McCartney						Az Compliance		PUL			Matrix Sample Name	_	SBUICZI	SBUICC		5B42 C6'	5843 @3'	5843061	5849 03	J SBHH @121		Relinquished by: Allun	Religenciand by:	samples submitted to Hall Environmental may be sut
Chain-	Client:	Greg	Mailing Address:		Phone #:	email or Fax#:	QA/QC Package:			EDD (Type)			9-1-20 12 47	1245	1320	1322	1355	1400	QXHI	1422	9441	8441 不		Date: Time: F	Time: 0 1819	If necessary, s



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

September 11, 2020

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

RE: Bisti Landfarm

OrderNo.: 2009470

Dear Gregory McCartney:

Hall Environmental Analysis Laboratory received 8 sample(s) on 9/9/2020 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 qualifiers 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 #NM0901

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Enviror	nmental Analysis	Laboratory, I	nc.	Analytical Report Lab Order: 2009470 Date Reported: 9/11/2020
	Western Refining Southw Bisti Landfarm	/est, Inc.		Lab Order: 2009470
Lab ID:	2009470-001		Collec	tion Date: 9/8/2020 12:00:00 PM
Client Sample ID:	: SB45@1'			Matrix: SOIL
Analyses		Result	RL Qua	l Units DF Date Analyzed Batch ID
EPA METHOD 30 Chloride	00.0: ANIONS	1500	60	Analyst: MRA mg/Kg 20 9/9/2020 10:14:03 AM 55039
Lab ID:	2009470-002		Collec	tion Date: 9/8/2020 11:09:00 AM
Client Sample ID:	SB45@6'			Matrix: SOIL
Analyses		Result	RL Qua	l Units DF Date Analyzed Batch ID
EPA METHOD 30	00.0: ANIONS			Analyst: MRA
Chloride		370	59	mg/Kg 20 9/9/2020 10:26:23 AM 55039
Lab ID:	2009470-003		Collec	tion Date: 9/8/2020 12:30:00 PM
Client Sample ID:	: SB46@4'			Matrix: SOIL
Analyses		Result	RL Qua	l Units DF Date Analyzed Batch ID
EPA METHOD 30	00.0: ANIONS			Analyst: MRA
Chloride		1600	60	mg/Kg 20 9/9/2020 10:38:43 AM 55039
Lab ID:	2009470-004		Collec	tion Date: 9/8/2020 12:28:00 PM
Client Sample ID:	SB46@6 '			Matrix: SOIL
Analyses		Result	RL Qua	l Units DF Date Analyzed Batch ID
EPA METHOD 30	00.0: ANIONS			Analyst: MRA
Chloride		1900	60	mg/Kg 20 9/9/2020 10:51:04 AM 55039
Lab ID:	2009470-005		Collec	tion Date: 9/8/2020 1:12:00 PM
Client Sample ID:	SB 47@1'			Matrix: SOIL
Analyses		Result	RL Qua	l Units DF Date Analyzed Batch ID
EPA METHOD 30	00.0: ANIONS			Analyst: MRA
Chloride		82	60	mg/Kg 20 9/9/2020 11:03:23 AM 55039

B Analyte detected in the associated

- B Analyte detected in the associated Method Blank
 E Value above quantitation range
 - E Value above quantitation rangeJ Analyte detected below quantitation limits
 - P Sample pH Not In Range
 - RL Reporting Limit

Page 1 of 3

.

PQL Practical Quanitative Limit S % Recovery outside of range due to dilution or matrix

H Holding times for preparation or analysis exceeded

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix

ND Not Detected at the Reporting Limit

*

D

Qualifiers:

Hall Enviror	nmental Analysis Labo	ratory, Inc.	,			Ι	Analytical Repor Lab Order: 200947(Date Reported: 9/1)	
	Western Refining Southwest, Inc Bisti Landfarm				L	ab C)rder: 2009	470	
Lab ID:	2009470-006		C	ollecti	on Date	: 9/8	8/2020 1:10:00 PM	Ν	
Client Sample ID:	SB47@6'				Matrix	: SC	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Bate	ch ID
EPA METHOD 30 Chloride	0.0: ANIONS	63	60		mg/Kg	20		alyst: I I AM :	MRA 55039
Lab ID:	2009470-007		C	ollecti	on Date	: 9/8	8/2020 2:10:00 PM	Л	
Client Sample ID:	SB48@3'				Matrix	sc:	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Bate	ch ID
EPA METHOD 30	0.0: ANIONS						Ar	alyst: I	MRA
Chloride		ND	60		mg/Kg	20	9/9/2020 11:28:05	5 AM	55039
Lab ID:	2009470-008		C	ollecti	on Date	: 9/8	8/2020 2:12:00 PM	Л	
Client Sample ID:	SB48@6'				Matrix	sc:	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Bate	ch ID
EPA METHOD 30	0.0: ANIONS						Ar	alyst: I	MRA
Chloride		ND	60		mg/Kg	20		•	55039

Qualifiers:

* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

E Value above quantitation range

Analyte detected in the associated Method Blank

- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Page 2 of 3

Client: Project:	Western Refining Southwe Bisti Landfarm	est, Inc.							
Sample ID: MB-550	39 SampType: m	blk	Tes	tCode: EPA Me	ethod	300.0: Anion	s		
Client ID: PBS	Batch ID: 55	039	F	RunNo: 71694					
Prep Date: 9/9/20	20 Analysis Date: 9	/9/2020	S	SeqNo: 250942	21	Units: mg/K	g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC Low	/Limit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND 1.5								
Sample ID: LCS-55	39 SampType: Ic	s	Tes	tCode: EPA Me	ethod	300.0: Anion	s		
Client ID: LCSS	Batch ID: 55	6039	F	RunNo: 71694					
Prep Date: 9/9/20	20 Analysis Date: 9	/9/2020	S	SeqNo: 250942	22	Units: mg/K	g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC Low	/Limit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15 1.5	15.00	0	97.8	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

2009470

11-Sep-20

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HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Albu TEL: 505-345-3975 Website: clients.ha	4901 H iquerque, FAX: 505	awkins NE NM 87109 -345-4107	Sam	ple Log-In Check List	
Client Name: Western Refining Southwest, Inc.	Work Order Number:	200947	0		RcptNo: 1	
Received By: Cheyenne Cason	9/9/2020 7:55:00 AM					
Completed By: Juan Rojas	9/9/2020 8:04:29 AM		4	and		
Reviewed By: CMa	1/9/20					
Chain of Custody				_	_	
1. Is Chain of Custody complete?		Yes 🔽]]	No 🗌	Not Present	
2. How was the sample delivered?		Courier				
Log In 3. Was an attempt made to cool the samples?		Yes 🔽	1 [No 🗌		
4. Were all samples received at a temperature	of >0° C to 6.0°C	Yes 🔽	1 [No 🗌	NA 🗌	
5. Sample(s) in proper container(s)?		Yes 🗸	1 [No 🗌		
6. Sufficient sample volume for indicated test(s)	?	Yes 🔽	Ν	lo 🗌		
7. Are samples (except VOA and ONG) properly	preserved?	Yes 🔽	N	lo 🗌		
8. Was preservative added to bottles?		Yes 🗌	N	lo 🗸	NA 🗌	
9. Received at least 1 vial with headspace <1/4	for AQ VOA?	Yes		lo 🗌	NA 🗹	/
10. Were any sample containers received broker	1?	Yes	1	No ☑	# of preserved	
11. Does paperwork match bottle labels?		Yes 🗸	Ν	lo 🗌	bottles checked for pH: (<2 or >12 unless noted)	
(Note discrepancies on chain of custody) 12. Are matrices correctly identified on Chain of (Custody?	Yes 🔽	N	lo 🗆	Adjusted?	
13. Is it clear what analyses were requested?		Yes 🔽		lo 🗌		
14. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🗹		lo 🗆 🛛	Checked by: JP 9 9 2	0
<u>Special Handling (if applicable)</u>				/		
15. Was client notified of all discrepancies with t	nis order?	Yes 🗌	1	No 🗌	NA 🗹	
Person Notified:	Date					
By Whom:	Via:	eMail	Phone	🗌 Fax	In Person	
Regarding: Client Instructions:						
16. Additional remarks:						
17. <u>Cooler Information</u> <u>Cooler No</u> Temp ^o C Condition Se 1 3.9 Good	al Intact Seal No S	eal Date	Signe	ed By		

Kece	ived L	by OC	C D: 1	2/3/	2022	4:0	98:58 PM		ю Y)	Air Bubbles	'										Pag	e 285 of	330	
	AL	K A										-									_			
	ENVIRONMENTAL	ABORAI UKY										-									-	٢	I report.	
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	RO		ue. N	345	Request					AOV) 80928											te	ite	tated o	
	IN S	N	Inerg	105		(*				8081 Pestici											2	3)	arly no	
	N I		anvironmental.com Albuquerque, NM 87109	Fax	Analysis		<u>55.09</u>	"ON		PCRA 8 Mer ID, F) snoinA									_	$\left - \right $	- Sec	Sin	ll be cle	
	0		' 9	10	An		(SMI	5 0728		0168) a'HA9											M	5	data wil	
	HALL		4901 Hawkins NE	505-345-3975				(1.4	09 P	EDB (Metho											\sim	\bigcirc	racted	
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			4	-						BTEX + MTE											Remarks:		sibility.	
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	M Rush 9/10/2020		M		750	F 1740C	5	Cartin Meginn	0=39	HEAL NO.	100-	200-	500-	1001	-005	-006	400-	200-			Date Time	9/ce CTSS	This serves as notice of t	
Time:			Marthar M		# 4500183750	Project Manager: Stucur+	M Hence	S Short	6	e e	100)							\rightarrow			1 Llack	ave 9	ccredited laboratories.	
Turn-Around Time:	- □ Standard	Project Name:	Bicti	Project #:	P04	Project Mana	Devin	Sampler: Travi	Sample Temperature: 2	Container Type and #	ZO h (1)	1						\rightarrow			Received by:	Received by:	ontracted to other a	
Chain-of-Custody Record		+ Callall					Level 4 (Full Validation)	16r	5	 Sample Request ID 	SR 45@ 1'	5B 45@ 6'	SRY6@ 4'	SBULL O. 6'	SRYTO 1'	5 47 Q 6'	SRUK @ 3'	SB48 @ 6'			shed by:	elinquished by: Univertive Caller	If necessary, amples 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	
-of-C	Wertern	Low W.	_	5					□ Other	Qd	Matrix	Soil						/ .	\geqslant				Relinquished by:	, samples st
hain	3	202	Addres		:#:	or Fax#:	Package	litation AP	EDD (Type)	Time	1200	11001	1730	8221	1312	011	1410	2111			Time:	Time:	If necessary	
Rele	polient:	o Im	aging Mailing	: 12	:# onoh	22 mail or Fax#	A/QC Package:	Accreditation	ă EDC	Date	8/6	-					_	\geq			Date:	Date:		



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

September 17, 2020

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

RE: Bisti Landfarm

OrderNo.: 2009752

Dear Gregory McCartney:

Hall Environmental Analysis Laboratory received 12 sample(s) on 9/15/2020 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 qualifiers 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 #NM0901

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

ng Southwest, Inc.	Client Sample ID: SB49 @ 3'-4'						
Matrix: SOIL	Client Sample ID: SB49 @ 3'-4' Collection Date: 9/14/2020 11:25:00 AM Received Date: 9/15/2020 8:17:00 AM						
Result	RL Qual Units DF Date Analyzed	Batch					
		t: JMT 55172					
	Matrix: SOIL	Matrix: SOIL Received Date: 9/15/2020 8:17:00 AM Result RL Qual Units DF Date Analyzed IONS Analysi					

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 15

Hall Er	nvironmental Analy	ysis Laboratory, In	IC.	Analytical Report Lab Order 2009752 Date Reported: 9/17/2020						
CLIENT: Project:	Western Refining Southwes Bisti Landfarm	st, Inc.		t Sample II lection Dat		49 @ 4'-6' 4/2020 11:30:00 AN	ſ			
Lab ID:	2009752-002	Matrix: SOIL	Re							
Analyses		Result	RL Qu	ual Units	DF	Date Analyzed	Batch			
EPA MET	HOD 300.0: ANIONS	140	60	mg/Kg	20	Analy 9/15/2020 1:54:49 PM	st: JMT / 55172			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 2 of 15

Hall Er	nvironmental Analy	ysis Laboratory, In	c.			Analytical Report Lab Order 2009752 Date Reported: 9/17/2	020
CLIENT: Project: Lab ID:	Western Refining Southwe Bisti Landfarm 2009752-003	st, Inc. Matrix: SOIL	Coll		e: 9/1	50 @ 0'-1' 4/2020 11:55:00 AM 5/2020 8:17:00 AM	Ĩ
Analyses		Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS	240	60	mg/Kg	20	Analy: 9/15/2020 2:07:10 PM	st: JMT 1 55172

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 3 of 15

Hall Er	vironmental Anal	ysis Laboratory, Ir	ıc.			Analytical Report Lab Order 2009752 Date Reported: 9/17/2	2020
Project:	Western Refining Southwe Bisti Landfarm		Coll		e: 9/1	4/2020 12:00:00 PM	[
Lab ID: Analyses	2009752-004	Matrix: SOIL Result				5/2020 8:17:00 AM Date Analyzed	Batch
EPA MET Chloride	HOD 300.0: ANIONS	ND	60	mg/Kg	20	Analy 9/15/2020 2:19:31 PN	st: JMT / 55172

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 4 of 15

Motor Oil Range Organics (MRO)

Surr: DNOP

Analytical Report Lab Order 2009752

Hall Environmental	Analysis	Laboratory, Inc.	
	•	• •	

Date Reported: 9/17/2020

9/15/2020 4:39:57 PM

9/15/2020 4:39:57 PM

55169

55169

CLIENT:	Western Refining Southwe	est, Inc.	Clien	t Sample II	D: SI	351 @ 0'-1'	
Project:	Bisti Landfarm		Col	lection Dat	e: 9/	14/2020 12:25:00 PM	
Lab ID:	2009752-005	Matrix: SOIL	Re	ceived Dat	e: 9/	15/2020 8:17:00 AM	
Analyses		Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA MET	THOD 8015D MOD: GASOL	INE RANGE				Analys	: JMR
Gasoline	e Range Organics (GRO)	ND	4.6	mg/Kg	1	9/15/2020 1:51:47 PM	55150
		103	70-130	%Rec	1	9/15/2020 1:51:47 PM	
Surr: I	DFD	105	70-130	/01/00		0/10/2020 1.01.11 1 11	55150
	^{ьгь} ГНО <mark>D 8015M/D: DIESEL</mark> R <i>I</i>		70-130	/01/00		Analys	

50

30.4-154

mg/Kg

%Rec

1

1

190

102

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range RL Reporting Limit
- Page 5 of 15

Diesel Range Organics (DRO)

Surr: DNOP

Motor Oil Range Organics (MRO)

Analytical Report
Lab Order 2009752

Lab Order 2009752 Date Reported: 9/17/2020

9/15/2020 2:11:56 PM

9/15/2020 2:11:56 PM

9/15/2020 2:11:56 PM

55169

55169

55169

CLIENT	Western Refining Southw	vest Inc	CI	ient Sample II) SI	351 @ 4'-6'	
Project:	Bisti Landfarm	icst, me.		-		14/2020 12:30:00 PM	
Lab ID:	2009752-006	Matrix: SOIL	·			15/2020 8:17:00 AM	
Analyses		Result	RL	Qual Units	DF	' Date Analyzed	Batch
EPA MET	THOD 8015D MOD: GASO	LINE RANGE				Analysi	t: JMR
Gasoline	e Range Organics (GRO)	ND	3.7	mg/Kg	1	9/15/2020 2:20:19 PM	55150
Surr: I	BFB	103	70-130	%Rec	1	9/15/2020 2:20:19 PM	55150
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analys	t: BRM

9.7

48

30.4-154

mg/Kg

mg/Kg

%Rec

1

1

1

ND

ND

95.9

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Analytical Report
Lab Order 2009752

Lab Order 2009752 Date Reported: 9/17/2020

CLIENT: Western Refining Southwe Project: Bisti Landfarm	st, Inc.		ient Sample II Collection Date		352 @ 0'-1' 14/2020 12:43:00 PM	
Lab ID: 2009752-007	Matrix: SOIL		Received Date	e:9/	15/2020 8:17:00 AM	
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOL	INE RANGE				Analyst	JMR
Gasoline Range Organics (GRO)	ND	3.8	mg/Kg	1	9/15/2020 2:48:47 PM	55150
Surr: BFB	98.3	70-130	%Rec	1	9/15/2020 2:48:47 PM	55150
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	BRM
Diesel Range Organics (DRO)	ND	9.1	mg/Kg	1	9/15/2020 3:02:32 PM	55169
Motor Oil Range Organics (MRO)	ND	45	mg/Kg	1	9/15/2020 3:02:32 PM	55169
Surr: DNOP	95.2	30.4-154	%Rec	1	9/15/2020 3:02:32 PM	55169

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Analytical Report
Lab Order 2009752

Hall Environmental	Analysis	Laboratory, Inc.	
	•	•	

Date Reported: 9/17/2020

Project:	Western Refining Southwe Bisti Landfarm				e: 9/	14/2020 12:50:00 PM	
Lab ID:	2009752-008	Matrix: SOIL				15/2020 8:17:00 AM	
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch
	THOD 8015D MOD: GASOL	INE RANGE				Analyst	JMR
Gasoline	e Range Organics (GRO)	ND	3.9	mg/Kg	1	9/15/2020 3:17:16 PM	55150
Surr:	BFB	103	70-130	%Rec	1	9/15/2020 3:17:16 PM	55150
EPA ME	THOD 8015M/D: DIESEL RA	ANGE ORGANICS				Analyst	BRM
Diesel R	ange Organics (DRO)	ND	9.7	mg/Kg	1	9/15/2020 3:26:43 PM	55169
Motor O	il Range Organics (MRO)	ND	48	mg/Kg	1	9/15/2020 3:26:43 PM	55169
Surr:	DNOP	95.0	30.4-154	%Rec	1	9/15/2020 3:26:43 PM	55169

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Project: Lab ID:

CLIENT: Western Refining Southwest, Inc. **Project:** Bisti Landfarm

2009752-009

Analytical Report Lab Order 2009752

Laboratory, Inc.	Date Reported: 9/17/2020
	Client Sample ID: SB53 @ 1'-2'
	Collection Date: 9/14/2020 1:05:00 PM
Matrix: SOIL	Received Date: 9/15/2020 8:17:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE	RANGE					Analys	t: JMR
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	9/15/2020 3:45:51 PM	55150
Surr: BFB	102	70-130		%Rec	1	9/15/2020 3:45:51 PM	55150
EPA METHOD 8015M/D: DIESEL RANGI	E ORGANICS					Analys	t: BRM
Diesel Range Organics (DRO)	200	88		mg/Kg	10	9/15/2020 12:58:54 PM	1 55169
Motor Oil Range Organics (MRO)	450	440		mg/Kg	10	9/15/2020 12:58:54 PM	1 55169
Surr: DNOP	0	30.4-154	s	%Rec	10	9/15/2020 12:58:54 PM	1 55169

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Analytical Report
Lab Order 2009752

Lab Order 2009/52 Date Reported: 9/17/2020

CLIENT: Western Refining South Project: Bisti Landfarm	west, Inc.	Client Sample ID: SB53 @ 4'-6' Collection Date: 9/14/2020 1:10:00 PM								
Lab ID: 2009752-010	Matrix: SOIL		Received Dat	e:9/	15/2020 8:17:00 AM					
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch				
EPA METHOD 8015D MOD: GAS	OLINE RANGE				Analyst	JMR				
Gasoline Range Organics (GRO)	ND	3.8	mg/Kg	1	9/15/2020 4:14:22 PM	55150				
Surr: BFB	102	70-130	%Rec	1	9/15/2020 4:14:22 PM	55150				
EPA METHOD 8015M/D: DIESEL	RANGE ORGANICS				Analyst	BRM				
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	9/15/2020 3:51:19 PM	55169				
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/15/2020 3:51:19 PM	55169				
Surr: DNOP	94.3	30.4-154	%Rec	1	9/15/2020 3:51:19 PM	55169				

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Analytical Report
Lab Order 2009752

Date Reported: 9/17/2020

CLIENT:	Western Refining Southwe	Client Sample ID: SB54 @ 0'-1'							
Project:	Bisti Landfarm		(Collection Dat	e: 9/	14/2020 1:50:00 PM			
Lab ID:	2009752-011	Matrix: SOIL		Received Dat	e: 9/	15/2020 8:17:00 AM			
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch		
EPA MET	THOD 8015D MOD: GASOL	INE RANGE				Analyst	JMR		
Gasoline	e Range Organics (GRO)	ND	4.4	mg/Kg	1	9/15/2020 4:42:50 PM	55150		
Surr: E	BFB	103	70-130	%Rec	1	9/15/2020 4:42:50 PM	55150		
EPA MET	THOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	BRM		
Diesel Ra	ange Organics (DRO)	ND	9.8	mg/Kg	1	9/15/2020 4:15:36 PM	55169		
Motor Oi	I Range Organics (MRO)	ND	49	mg/Kg	1	9/15/2020 4:15:36 PM	55169		
Surr: [DNOP	95.1	30.4-154	%Rec	1	9/15/2020 4:15:36 PM	55169		

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Diesel Range Organics (DRO)

Surr: DNOP

Motor Oil Range Organics (MRO)

Analytical Report Lab Order 2009752

Date Reported: 9/17/2020

9/15/2020 1:47:46 PM

9/15/2020 1:47:46 PM

9/15/2020 1:47:46 PM

55169

55169

55169

CLIENT:	Western Refining Southw	vest, Inc.	Clie	nt Sample II	D: SE	354 @ 4'-6'			
Project:	Bisti Landfarm		Collection Date: 9/14/2020 1:55:00 PM						
Lab ID:	2009752-012	Matrix: SOIL	Matrix: SOIL Received Date: 9/15/2020 8:17:00 AM						
Analyses		Result	RL (Qual Units	DF	Date Analyzed	Batch		
EPA ME	THOD 8015D MOD: GASO	LINE RANGE				Analys	t: JMR		
Gasoline	e Range Organics (GRO)	ND	3.6	mg/Kg	1	9/15/2020 5:11:22 PM	55150		
Surr:	BFB	101	70-130	%Rec	1	9/15/2020 5:11:22 PM	55150		
EPA ME	THOD 8015M/D: DIESEL F	RANGE ORGANICS				Analys	t: BRM		

31

89

95.3

9.3

47

30.4-154

mg/Kg

mg/Kg

%Rec

1

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range RL
 - Reporting Limit

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Client: Project:	Western Re Bisti Landf	U	outhwe	st, Inc.							
Sample ID: MB-5	5172	SampT	ype: m k	olk	Tes	tCode: EF	PA Method	300.0: Anion	S		
Client ID: PBS		Batch	ID: 55	172	F	lunNo: 7 1	878				
Prep Date: 9/15	5 /2020 A	Analysis D	ate: 9/	15/2020	S	eqNo: 25	515816	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID: LCS-	55172	SampT	ype: Ics	5	Tes	tCode: EF	A Method	300.0: Anion	S		
Client ID: LCSS	6	Batch	ID: 55	172	F	tunNo: 7 1	878				
Prep Date: 9/15	5 /2020	Analysis D	ate: 9/	15/2020	S	eqNo: 25	515817	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14	1.5	15.00	0	92.4	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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2009752

17-Sep-20

WO#:

Page 1

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Western Project: Bisti La	Refining Soundfarm	uthwe	st, Inc.							
Sample ID: LCS-55169	SampTy	pe: LC	S	Tes	tCode: EF	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: LCSS	Batch I	ID: 55	169	F	RunNo: 7	1855				
Prep Date: 9/15/2020	Analysis Da	te: 9/	15/2020	S	SeqNo: 2	514989	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.8	70	130			
Surr: DNOP	4.4		5.000		88.4	30.4	154			
Sample ID: MB-55169	SampTy	pe: ME	BLK	Tes	tCode: EF	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: PBS	Batch I	ID: 55	169	F	RunNo: 7	1855				
Prep Date: 9/15/2020	Analysis Da	te: 9/	15/2020	S	SeqNo: 2	514990	Units: mg/K	(g		
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	9.3		10.00		93.1	30.4	154			
Sample ID: 2009752-005AMS	SampTy	pe: MS	;	Tes	tCode: EF	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: SB51 @ 0'-1'	Batch I	ID: 55	169	F	RunNo: 7 ′	1855				
Prep Date: 9/15/2020	Analysis Da	te: 9/	15/2020	S	SeqNo: 2	515495	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	190	9.2	45.91	116.7	165	47.4	136			S
Surr: DNOP	4.8		4.591		104	30.4	154			
Sample ID: 2009752-005AMS	D SampTy	pe: MS	D	Tes	tCode: EF	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: SB51 @ 0'-1'	Batch I	ID: 55	169	F	RunNo: 7 ′	1855				
Prep Date: 9/15/2020	Analysis Da	te: 9/	15/2020	S	SeqNo: 2	515496	Units: mg/K	íg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	240	10	49.85	116.7	237	47.4	136	19.8	43.4	S
Surr: DNOP	5.4		4.985		108	30.4	154	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

2009752

17-Sep-20

	n Refining So andfarm	outhwes	st, Inc.							
Sample ID: Ics-55150	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015D Mod:	Gasoline	Range	
Client ID: LCSS	Batch	n ID: 55	150	F	RunNo: 7	1876				
Prep Date: 9/14/2020	Analysis D	ate: 9/	15/2020	S	SeqNo: 2	515733	Units: mg/k	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.0	70	130			
Surr: BFB	500		500.0		99.1	70	130			
Sample ID: mb-55150	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015D Mod:	Gasoline	Range	
Client ID: PBS	Batch	n ID: 55	150	F	RunNo: 7	1876				
Prep Date: 9/14/2020	Analysis D	ate: 9/	15/2020	S	SeqNo: 2	515734	Units: mg/k	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	510		500.0		103	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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2009752

17-Sep-20

	Page	302	of 330
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ANALY	ONMENTAL /SIS RATORY	Hall Environmental Albi TEL: 505-345-3975 Website: clients.ha	4901 Hawkin uquerque, NM 8 FAX: 505-345-	ns NE 17109 San 1107	nple Log-In Check List
Client Name:	Western Refining Southwest, Inc.	Work Order Number	2009752		RcptNo: 1
Received By:	Cheyenne Cason	9/15/2020 8:17:00 AM			
Completed By:	Emily Mocho	9/15/2020 8:18:24 AM			
Reviewed By:	Em 9/15/2	-0			
Chain of Cust	<u>tody</u>				
1. Is Chain of Cu	ustody complete?		Yes 🖌	No 🗌	Not Present
2. How was the	sample delivered?		<u>Courier</u>		
Log In 3. Was an attem	pt made to cool the sampl	es?	Yes 🖌	No 🗌	NA
4. Were all samp	les received at a temperat	ure of >0° C to 6.0°C	Yes 🔽	No 🗌	NA 🗌
5. Sample(s) in p	proper container(s)?		Yes 🖌	No 🗌	
6. Sufficient sam	ple volume for indicated te	st(s)?	Yes 🗹	No 🗌	
7. Are samples (e	except VOA and ONG) pro	perly preserved?	Yes 🖌	No 🗌	
8. Was preservat	ive added to bottles?		Yes	No 🔽	NA 🗌
9. Received at lea	ast 1 vial with headspace <	<1/4" for AQ VOA?	Yes 🗌	No 🗌	NA 🔽
10. Were any sam	ple containers received br	roken?	Yes 🗌	No 🗹	# of preserved
	rk match bottle labels? ncies on chain of custody)		Yes 🗹	No 🗌	bottles checked for pH: (<2 or >12 unless noted)
	orrectly identified on Chair		Yes 🗸	No 🗌	Adjusted?
13. Is it clear what	analyses were requested?	?	Yes 🗸	No 🗌	ellela.
	ng times able to be met? stomer for authorization.)		Yes 🗹	No 🗌	Checked by: CM 4/15/26
Special Handli	ng (if applicable)				
15. Was client not	tified of all discrepancies w	vith this order?	Yes	No 🗌	NA 🗸
Person 1	Notified:	Date:	1015 (0 a) and and and (0 a)	And a second	
By Who	m:	Via:	eMail P	hone 🗌 Fax	In Person
Regardir	ng:				
Client In	structions:				The second s
16. Additional ren	narks:				
17. <u>Cooler Inforr</u> Cooler No 1	Temp °C Condition 3.7 Good	Seal Intact Seal No S Yes	eal Date	Signed By	

Page 1 of 1

Received by OCD: 12/3/2022 4:08:58 PM

									1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1				Rec
ບ easea	hain	-of-Cl	Chain-of-Custody Record	Turn-Around Tim	Time:			Ì	HALLE		NOd.	ENVTDONMENTAL	
Client:	wes	Nestern	Resining	□ Standard		X Rush next day				SIS	LABO	LABORATOR	. >
	5100	M	Cart ne .	Project Name:		1			whaller	vironme	www.hallenvironmental.com		
Mailing A	Address	2		B	Bisti LF		4901	4901 Hawkins NE		Ibuquer	Albuquerque, NM 87109	87109	: 12/.
12/7				Project #:			Tel.	505-345-3975		Fax 50	Fax 505-345-4107	107	7/20
:# enoug				45	4500183750	0			Ana	Analysis Request	equest		22 4
2 42 2 Email or Fax#:	Fax#:			Project Manager:	ager:						(ìn		:08:
QA/QC Package:	'ackage: lard		Level 4 (Full Validation)	Stuart	ut Hyde	J	AM \ O			a (ha i	iəsdA\tr		58 PM
Accreditation:	ation:	□ Az Co	□ Az Compliance	Sampler: A	E. Carroll	CM [אם / כ	(1.40					
	(Type)			# of Coolers:	3-	2) (GB)g po	slst				
		÷		Cooler Temp(includi	(including CF): 3	6+0.(23.7 (°C)	19D(pdthc	əM 8	(AO			
Date	time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL NO.	X 218 19:19:19 19:	EDB (N 8081 b	PAHs b RCRA 8 C) F, E	v) 0928	S) 0728 D lbfoT	6. 	
9/14	2611	501	58490 3'-4'	7.4	Ceot	001							
-	1130	_	5849@ 41.61	-		002			×				
	1155		5850 Q0'-1'			603							
	1200		5850			004			X				
	1225		5B51 @ 0'-1'			005	×						
	1230		5B51 @ 41-61			006	X						
_	SHE1		58530 0'-1'			Loa	×						
	1250		53522 4'-6'			006	×						
	1305		58530 1'-2'			009	χ						
	1310		5853 @ 41-61			010	×						
	1350		5854 @ 0'-11			011	×						
	1355	\nearrow	58540 4"-6"	7	7	2	×						
Date: T	Time: 1520	Relinquished by:	ied by: U (artrad	Received by:	Via:	Date Time $q_{//4}/_{202.0}$	Remarks:		(1)	1100	Man Hank (am	5	Pag
Date: T	Time:	Relinquished by:	led by:	Received by:	Via:	Date Time	Plea	Please cc.	aluc	Juyace is train	176010		e 30
azallyilp	SHUN	Child	Martine Was Ince	Ene	COW	11 Su 0817			cran		10000		3 of 3
	necessary,	, samples sut	If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories.	bcontracted to other a	accredited laboratori	ies. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report	possibility. Any	/ sub-contrac	ted data will	be clearly n	iotated on the	e analytical report.	30



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

October 05, 2020

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

RE: Bisti Landfarm

OrderNo.: 2009G46

Dear Gregory McCartney:

Hall Environmental Analysis Laboratory received 12 sample(s) on 9/26/2020 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued September 29, 2020.

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. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report
Lab Order 2009G46

Hall Environmental Analysis Laboratory, Inc.	Date Reported: 10/5/2020
CLIENT: Western Refining Southwest, Inc.	Client Sample ID: SB55@0-1'
Project: Bisti Landfarm	Collection Date: 9/25/2020 10:30:00 AM

Lab ID: 2009G46-001	Matrix: MEOH	I (SOIL)	Received Dat	e: 9/	26/2020 9:24:00 AM	
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RA	ANGE ORGANICS				Analys	st: mb
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	9/28/2020 9:15:15 AM	55461
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	9/28/2020 9:15:15 AM	55461
Surr: DNOP	88.3	30.4-154	%Rec	1	9/28/2020 9:15:15 AM	55461
EPA METHOD 8015D: GASOLINE R	ANGE				Analys	st: RAA
Gasoline Range Organics (GRO)	ND	4.0	mg/Kg	1	9/26/2020 2:09:16 PM	G72180
Surr: BFB	90.3	75.3-105	%Rec	1	9/26/2020 2:09:16 PM	G72180

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Surr: BFB

G72180

Analytical Report Lab Order 2009G46

9/26/2020 3:19:58 PM

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 10/5/2020

1

%Rec

CLIENT	: Western Refining Southwest, Inc.		C	lient Sample II	D: SI	B55@5-6'	
Project:	Bisti Landfarm			Collection Dat	e: 9/	25/2020 10:35:00 AM	
Lab ID:	2009G46-002	Matrix: MEOH	(SOIL)	Received Dat	e: 9/	26/2020 9:24:00 AM	
Analyses	5	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA ME	THOD 8015M/D: DIESEL RANGE (ORGANICS				Analysi	: mb
Diesel F	Range Organics (DRO)	ND	9.5	mg/Kg	1	9/28/2020 9:43:48 AM	55461
Motor O	il Range Organics (MRO)	ND	48	mg/Kg	1	9/28/2020 9:43:48 AM	55461
Surr:	DNOP	83.3	30.4-154	%Rec	1	9/28/2020 9:43:48 AM	
							55461
EPA ME	THOD 8015D: GASOLINE RANGE					Analys	

91.9

75.3-105

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Analytical Report Lab Order 2009G46

Hall E	nvironmental Analysis l	Laboratory, Inc.	Date Reported: 10/5/2020
CLIENT	: Western Refining Southwest, Inc.		Client Sample ID: SB56@0-1'
Project:	Bisti Landfarm		Collection Date: 9/25/2020 11:00:00 AM
Lab ID:	2009G46-003	Matrix: MEOH (SOIL)	Received Date: 9/26/2020 9:24:00 AM

Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE OR	GANICS				Analys	t: mb
Diesel Range Organics (DRO)	57	9.3	mg/Kg	1	9/28/2020 11:21:55 AM	1 55461
Motor Oil Range Organics (MRO)	180	46	mg/Kg	1	9/28/2020 11:21:55 AM	1 55461
Surr: DNOP	104	30.4-154	%Rec	1	9/28/2020 11:21:55 AM	1 55461
EPA METHOD 8015D: GASOLINE RANGE					Analys	t: RAA
Gasoline Range Organics (GRO)	ND	3.6	mg/Kg	1	9/26/2020 3:43:30 PM	G72180
Surr: BFB	88.5	75.3-105	%Rec	1	9/26/2020 3:43:30 PM	G72180

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Surr: BFB

Analytical Report
Lab Order 2009G46

9/26/2020 4:07:05 PM G72180

Hall Environmental Analysis Laboratory, Inc.	Date Reported: 10/5/2020

CLIENT:	Western Refining Southwest, Inc.			C	lient Sa	ample II	D: SE	856@5-6'	
Project:	Bisti Landfarm			(Collect	ion Dat	e: 9/2	25/2020 11:10:00 AM	
Lab ID:	2009G46-004	Matrix:	MEOH	H (SOIL)	Recei	ved Dat	e: 9/2	26/2020 9:24:00 AM	
Analyses		Re	sult	RL	Qual	Units	DF	Date Analyzed	Batch
ΕΡΑ ΜΕΤ	HOD 8015M/D: DIESEL RANGE (ORGANICS	S					Analys	: mb
Diesel R	ange Organics (DRO)		ND	9.0		mg/Kg	1	9/28/2020 10:02:53 AN	55461
Motor Oi	I Range Organics (MRO)		ND	45		mg/Kg	1	9/28/2020 10:02:53 AM	55461
Surr: [DNOP		89.4	30.4-154		%Rec	1	9/28/2020 10:02:53 AN	55461
EPA MET	HOD 8015D: GASOLINE RANGE							Analys	RAA
Gasoline	Range Organics (GRO)		ND	3.7		mg/Kg	1	9/26/2020 4:07:05 PM	G72180

94.1

75.3-105

1

%Rec

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Surr: BFB

G72180

Analytical Report
Lab Order 2009G46

9/26/2020 4:30:36 PM

Hall Environmental Analysis Laboratory, Inc.	Date Reported: 10/5/2020

CLIENT:	Western Refining Southwest, Inc		C	lient Sample II	D: SI	357@1-2'	
Project:	Bisti Landfarm		(Collection Dat	e: 9/2	25/2020 11:20:00 AM	
Lab ID:	2009G46-005	Matrix: MEOH	H (SOIL)	Received Dat	e: 9/2	26/2020 9:24:00 AM	
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch
	THOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: mb
Diesel R	ange Organics (DRO)	ND	9.8	mg/Kg	1	9/28/2020 10:12:28 AN	55461
Motor O	il Range Organics (MRO)	ND	49	mg/Kg	1	9/28/2020 10:12:28 AN	55461
Surr:	DNOP	90.6	30.4-154	%Rec	1	9/28/2020 10:12:28 AN	55461
EPA ME	THOD 8015D: GASOLINE RANGE					Analyst	RAA
Gasoline	e Range Organics (GRO)	ND	4.7	mg/Kg	1	9/26/2020 4:30:36 PM	G72180

89.4

75.3-105

%Rec

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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D' (' I 10

Gasoline Range Organics (GRO)

Surr: BFB

Analytical Report Lab Order 2009G46

9/26/2020 4:54:12 PM

9/26/2020 4:54:12 PM

G72180

G72180

Hall Environmental Analysis Laboratory, Inc.	Date Reported: 10/5/2020
CLIENT: Western Refining Southwest, Inc.	Client Sample ID: SB57@5-6'

Project:	Bisti Landfarm		C	collection Date	e: 9/2	25/2020 11:25:00 AM	
Lab ID:	2009G46-006	Matrix: MEOH (SO	DIL)	Received Date	e: 9/2	26/2020 9:24:00 AM	
Analyses	3	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA ME	THOD 8015M/D: DIESEL RANG	E ORGANICS				Analyst:	mb
Diesel R	ange Organics (DRO)	ND	9.0	mg/Kg	1	9/28/2020 10:22:04 AM	55461
Motor O	il Range Organics (MRO)	ND	45	mg/Kg	1	9/28/2020 10:22:04 AM	55461
Surr:	DNOP	107 3	0.4-154	%Rec	1	9/28/2020 10:22:04 AM	55461
EPA ME	THOD 8015D: GASOLINE RAN	GE				Analyst	RAA

ND

87.4

3.5

75.3-105

mg/Kg

%Rec

1

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- в Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

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Surr: BFB

Analytical Report
Lab Order 2009G46

10/1/2020 4:14:30 PM 55562

Hall Environmental Analysis Laboratory, Inc.	Date Reported: 10/5/2020

CLIENT:	Western Refining Southwest, Inc.		C	lient Sample II	D: SI	359@0-1'	
Project:	Bisti Landfarm			Collection Dat	e: 9/	25/2020 12:10:00 PM	
Lab ID:	2009G46-009	Matrix: MEOI	H (SOIL)	Received Dat	e: 9/	26/2020 9:24:00 AM	
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch
	THOD 8015M/D: DIESEL RANGE (ORGANICS				Analyst:	BRM
Diesel R	ange Organics (DRO)	ND	9.1	mg/Kg	1	10/1/2020 12:56:02 AM	55574
Motor O	il Range Organics (MRO)	ND	46	mg/Kg	1	10/1/2020 12:56:02 AM	55574
Surr:	DNOP	112	30.4-154	%Rec	1	10/1/2020 12:56:02 AM	55574
EPA ME	THOD 8015D: GASOLINE RANGE					Analyst:	NSB
Gasoline	e Range Organics (GRO)	ND	4.7	mg/Kg	1	10/1/2020 4:14:30 PM	55562
-							

90.2

75.3-105

%Rec

1

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Diesel Range Organics (DRO)

Surr: DNOP

Surr: BFB

Motor Oil Range Organics (MRO)

Gasoline Range Organics (GRO)

EPA METHOD 8015D: GASOLINE RANGE

Analytical Report Lab Order 2009G46

Date Reported: 10/5/2020

10/1/2020 1:20:25 AM

10/1/2020 1:20:25 AM

10/1/2020 1:20:25 AM

10/1/2020 4:37:55 PM

10/1/2020 4:37:55 PM

55574

55574

55574

55562

55562

Analyst: NSB

	HOD 8015M/D: DIESEL RANGE (Analyst	
Analyses		Res	ult	RL	Qual	Units	DF	Date A	nalyzed	Batch
Lab ID:	2009G46-010	Matrix: N	MEOH (SOII	_)	Recei	ved Da	te: 9/2	26/2020	9:24:00 AM	
Project:	Bisti Landfarm				Collect	ion Da	te: 9/2	25/2020	12:15:00 PM	
CLIENT:	Western Refining Southwest, Inc.			C	lient Sa	ample I	D: SE	859@5-	6'	

9.6

48

4.6

30.4-154

75.3-105

mg/Kg

mg/Kg

%Rec

mg/Kg

%Rec

1

1

1

1

1

ND

ND

114

ND

88.0

D 0 1 0					a 1 1	
Refer to the C)() Summary re	eport and sample	e login checkli	st tor flagged ()	C data and i	preservation information.
There is the g	c building ic	port and bampr	e login encenn	or for magged Q	C dulu una	preser valion miormation.

Qualifiers:

- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range RL Reporting Limit
- Page 8 of 12

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Project:	Western I Bisti Lano	Refining So dfarm	outhwe	st, Inc.										
Sample ID:	2009G46-001AMS	SampT	ype: MS	6	Tes	tCode: EF	PA Method	8015M/D: Di	esel Range	e Organics				
Client ID:	SB55@0-1'	Batch	ID: 55	461	F	RunNo: 72	2183							
Prep Date:	9/26/2020	Analysis D	ate: 9/	28/2020	S	SeqNo: 2	530695	Units: mg/k	(g					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Diesel Range (Organics (DRO)	49	9.9	49.70	2.870	93.3	15	184						
Surr: DNOP		4.6		4.970		92.1	30.4	154						
Sample ID:	2009G46-001AMS	D SampT	ype: MS	SD	Tes	tCode: EF	PA Method	8015M/D: Die	esel Range	e Organics				
Client ID:	SB55@0-1'	Batch	ID: 55	461	F	RunNo: 72	2183							
Prep Date:	9/26/2020	Analysis D	ate: 9/	28/2020	S	SeqNo: 2	530696	Units: mg/k	íg					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Diesel Range (Organics (DRO)	45	10	49.75	2.870	84.9	15	184	8.72	23.9				
Surr: DNOP		4.1		4.975		82.3	30.4	154	0	0				
Sample ID:	Sample ID: LCS-55461 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics													
Client ID:	LCSS	Batch	ID: 55	461	F	RunNo: 72	2183							
Prep Date:	9/26/2020	Analysis D	ate: 9/	28/2020	S	SeqNo: 2	530703	Units: mg/k	g					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Diesel Range (Drganics (DRO)	46	10	50.00	0	92.1	70	130						
Surr: DNOP		4.2		5.000		84.7	30.4	154						
Sample ID:	MB-55461	SampT	ype: ME	BLK	Tes	tCode: EF	PA Method	8015M/D: Die	esel Range	e Organics				
Client ID:	PBS	Batch	ID: 55	461	F	RunNo: 72	2183							
Prep Date:	9/26/2020	Analysis D	ate: 9/	28/2020	S	SeqNo: 2	530704	Units: mg/k	(g					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
0	Organics (DRO)	ND	10											
-	e Organics (MRO)	ND	50											
Surr: DNOP		8.8		10.00		88.1	30.4	154						
Sample ID:	LCS-55574	SampT	ype: LC	s	Tes	tCode: EF	PA Method	8015M/D: Die	esel Range	e Organics				
Client ID:	LCSS	Batch	ID: 55	574	F	RunNo: 72	2293							
Prep Date:	9/30/2020	Analysis D	ate: 9/	30/2020	S	SeqNo: 2	535442	Units: mg/k	g					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
-	Organics (DRO)	47	10	50.00	0	94.5	70	130						
	Surr: DNOP 5.0 5.000 101 30.4 154													

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range

RL Reporting Limit

2009G46

05-Oct-20

Client: W	estern Refining	Southwe	st, Inc.							
Project: Bi	sti Landfarm									
Sample ID: MB-55574	Samp	Туре: МЕ	BLK	Tes	tCode: EF	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: PBS	Bate	ch ID: 55	574	R	unNo: 72	2293				
Prep Date: 9/30/2020	D Analysis	Date: 9/	30/2020	S	eqNo: 2	535445	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)) ND	10								
Motor Oil Range Organics (N	IRO) ND	50								
Surr: DNOP	10		10.00		103	30.4	154			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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2009G46

05-Oct-20

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Western Project: Bisti Lat	Refining Southw	vest, Inc.												
Sample ID: 2.5ug gro Ics	SampType: L	.CS	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	e						
Client ID: LCSS	Batch ID: 0	572180	F	RunNo: 7 2	2180									
Prep Date:	Analysis Date:	9/26/2020	5	SeqNo: 2	530540	Units: mg/k	٢g							
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual					
Gasoline Range Organics (GRO)	19 5.		0	77.3	72.5	106								
Surr: BFB	1000	1000		101	75.3	105								
Sample ID: 2009g46-001ams	SampType: N	IS	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	e						
Client ID: SB55@0-1'	Batch ID: 0	672180	F	RunNo: 7 2	2180									
Prep Date:	Analysis Date:	9/26/2020	5	SeqNo: 2	530559	Units: mg/k								
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual					
Gasoline Range Organics (GRO)	19 4.		0	93.4	61.3	114								
Surr: BFB	770	796.8		96.9	75.3	105								
Sample ID: 2009g46-001ams	d SampType: N	ISD	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	e						
Client ID: SB55@0-1' Batch ID: G72180 RunNo: 72180 Prep Date: Analysis Date: 9/26/2020 SeqNo: 2530560 Units: mg/Kg														
Prep Date: Analysis Date: 9/26/2020 SeqNo: 2530560 Units: mg/Kg														
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual					
Gasoline Range Organics (GRO)	17 4.	0 19.92	0	85.9	61.3	114	8.39	20						
Surr: BFB	810	796.8		102	75.3	105	0	0						
Sample ID: mb1	SampType: N	IBLK	TestCode: EPA Method 8015D: Gasoline Range											
Client ID: PBS	Batch ID: 0	372180	F	RunNo: 7 2	2180									
Prep Date:	Analysis Date:	9/26/2020	5	SeqNo: 2	530568	Units: mg/ #	٢g							
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual					
Gasoline Range Organics (GRO)	ND 5.													
Surr: BFB	950	1000		95.4	75.3	105								
Sample ID: Ics-55562	SampType: L	.CS	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	e						
Client ID: LCSS	Batch ID: 5	5562	F	RunNo: 7 2	2298									
Prep Date: 9/30/2020	Analysis Date:	10/1/2020	5	SeqNo: 2	537035	Units: mg/k	٢g							
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual					
Gasoline Range Organics (GRO)	22 5.		0	86.4	72.5	106								
Surr: BFB	960	1000		95.7	75.3	105								
Sample ID: mb-55562	SampType: N	IBLK	Tes	tCode: El	PA Method	8015D: Gasc	line Rang	e						
Client ID: PBS	Batch ID: 5	5562	F	RunNo: 72	2298									
Prep Date: 9/30/2020	Analysis Date:	10/1/2020	S	SeqNo: 2	537036	Units: mg/k	٢g							
Analyte	Result PQL	. SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual					

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

Released to Imaging: 12/7/2022 4211711 PM

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range

RL Reporting Limit

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2009G46

05-Oct-20

	Western Refining Southwest, Inc. Bisti Landfarm														
Sample ID: mb-5556	2 Samp	Туре: М	BLK	Tes	tCode: EF	PA Method	8015D: Gaso	line Rang	e						
Client ID: PBS	Bate	ch ID: 55	562	R	unNo: 72	2298									
Prep Date: 9/30/202	20 Analysis	Date: 10	0/1/2020	S	eqNo: 2	537036	Units: mg/K	g							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual					
Gasoline Range Organics (GRO) ND	5.0													
Surr: BFB	860		1000		85.5	75.3	105								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S

- Analyte detected in the associated Method Blank в
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

2009G46

05-Oct-20

WO#:

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HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Alb TEL: 505-345-3975 Website: clients.hc	490 uquerq 5 FAX:	1 Hawkins NE nue, NM 87109 505-345-4107	Sa	Sample Log-In Check Lis						
Client Name: Western Refining Southwest, Inc.	Work Order Number	200	9G46		RcptNo: 1						
Received By: Cheyenne Cason	9/26/2020 9:24:00 AM										
Completed By: Desiree Dominguez	9/26/2020 9:29:08 AM		-1	P-							
Reviewed By: DAD 9126/20											
Chain of Custody											
1. Is Chain of Custody complete?		Yes	\checkmark	No 🗌	Not Present						
2. How was the sample delivered?		Cou	ier								
Log In				_							
3. Was an attempt made to cool the samples?		Yes	\checkmark	No 🗌	NA						
4. Were all samples received at a temperature of	f >0° C to 6.0°C	Yes	\checkmark	No 🗌	NA 🗌						
5. Sample(s) in proper container(s)?		Yes	\checkmark	No 🗌							
6. Sufficient sample volume for indicated test(s)	2	Yes	\checkmark	No 🗌							
7_{\cdot} Are samples (except VOA and ONG) properly	preserved?	Yes	\checkmark	No 🗌							
8. Was preservative added to bottles?		Yes		No 🗹	NA 🗌						
9. Received at least 1 vial with headspace <1/4"	for AQ VOA?	Yes		No 🗌	NA 🔽						
10. Were any sample containers received broken	?	Yes		No 🗹	# of preserved bottles checked						
 Does paperwork match bottle labels? (Note discrepancies on chain of custody) 		Yes	\checkmark	No 🗌	for pH: (≠2 or >12 u	inless noted)					
2. Are matrices correctly identified on Chain of C	ustody?	Yes	\checkmark	No 🗌	Adjusted?						
13. Is it clear what analyses were requested?		Yes	\checkmark	No 🗌	Checked by:	alach					
14. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes	\checkmark	No 📋	Checked by:	1/ Clill					
Special Handling (if applicable)											
15. Was client notified of all discrepancies with th	is order?	Yes		No 🗌	NA 🗸						
Person Notified:	Date:		en ante de la contra de la compañía	Artiklekotto Hours,							
By Whom:	Via:	eMa	il 🗌 Phone	Fax	In Person						
Regarding:	n terrine la d'un de la tradició de la tradición de la developación de la tradición de la tradición de la tradición de	100.00.0110.0	Work and the transfer of a final difference	a beach constant of							
Client Instructions:				a ta di malangan da ma							
16. Additional remarks:											
17. <u>Cooler Information</u> Cooler No Temp °C Condition Sea 1 1.6 Good Yes	al Intact Seal No S	eal Da	ate Sign	ed By							

Page 1 of 1

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Turn-Around Time:	Candard	Project Name:	Bist	Project #:	P0#	Project Manager:	F	-	Sampler: On Ica:	# of Coolers:	Cooler Temp(including CF): (Container Type and #	(1) 457 (C)	4										7	Received by:	Received by:	an
Chain-of-Custody Record	Rebuing Southwest	art non	1				□ ava 4 (Eul Validation)		oliance			Sample Name	31355 20-1	5355056	5856 e 0-1'	5856 65-6	10-12 2525	535705-6	535800-1	53580546	5B540 C-1	5359 6 5-61	5860 0 1-21	5860 C.5-6'	ph:		to Kod Amatine Wattered Cover Cover 9/26/ 0924 3530 200
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0	Client:		Mailing		Phone #:	email o	QA/QC Packs		Accreditation:			Date	30/50/1	~										7	Date:	Date:	9/25/20

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San Juan County, New Mexico, Eastern Part

DS—Doak-Sheppard-Shiprock association, rolling

Map Unit Setting

National map unit symbol: 1wwf Elevation: 5,600 to 6,400 feet Mean annual precipitation: 6 to 10 inches Mean annual air temperature: 51 to 55 degrees F Frost-free period: 140 to 160 days Farmland classification: Not prime farmland

Map Unit Composition

Doak and similar soils: 40 percent Sheppard and similar soils: 30 percent Shiprock and similar soils: 20 percent Minor components: 10 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Doak

Setting

Landform: Fan remnants, mesas, stream terraces Landform position (three-dimensional): Tread, talf Down-slope shape: Convex, linear Across-slope shape: Convex, linear Parent material: Alluvium derived from sandstone and shale

Typical profile

A - 0 to 3 inches: loam Btk - 3 to 41 inches: clay loam Ck - 41 to 60 inches: loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Gypsum, maximum content: 2 percent
Maximum salinity: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water capacity: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): 2e Land capability classification (nonirrigated): 7e Hydrologic Soil Group: C Ecological site: R035XB001NM - Loamy Hydric soil rating: No

Description of Sheppard

Setting

Landform: Fan remnants, mesas, stream terraces, dunes Landform position (three-dimensional): Side slope, tread, talf Down-slope shape: Convex, linear Across-slope shape: Convex, linear Parent material: Eolian deposits over mixed alluvium

Typical profile

A - 0 to 3 inches: loamy fine sand C - 3 to 60 inches: loamy fine sand

Properties and qualities

Slope: 0 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): 4e Land capability classification (nonirrigated): 7e Hydrologic Soil Group: A Ecological site: R035XB007NM - Deep Sand Hydric soil rating: No

Description of Shiprock

Setting

Landform: Fan remnants, mesas, stream terraces Landform position (three-dimensional): Tread, talf Down-slope shape: Convex, linear Across-slope shape: Convex, linear Parent material: Eolian deposits over alluvium derived from sandstone

Typical profile

A - 0 to 3 inches: fine sandy loam

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CBk - 3 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Gypsum, maximum content: 2 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water capacity: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): 3e Land capability classification (nonirrigated): 7e Hydrologic Soil Group: A Ecological site: R035XB002NM - Sandy Hydric soil rating: No

Minor Components

Avalon

Percent of map unit: 5 percent Ecological site: R035XB003NM - Limy Hydric soil rating: No

Mayqueen

Percent of map unit: 2 percent Ecological site: R035XB007NM - Deep Sand Hydric soil rating: No

Monierco

Percent of map unit: 2 percent Ecological site: R035XB006NM - Shallow Hydric soil rating: No

Uffens

Percent of map unit: 1 percent Ecological site: R035XB005NM - Salt Flats Hydric soil rating: No

Data Source Information

Soil Survey Area: San Juan County, New Mexico, Eastern Part Survey Area Data: Version 16, Jun 8, 2020

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Remedial Alternatives	GHG Emissions	Total energy Used	Water Consumption	Electricity Usage	Onsite NO _x Emissions	Onsite SO _x Emissions	Onsite PM ₁₀ Emissions	Total NO _x Emissions	Total SO _x Emissions	Total PM ₁₀ Emissions	Risk	Accident Risk Injury
	metric ton	MMBTU	gallons	MWH	metric ton	metric ton	metric ton	metric ton	metric ton	metric ton	Fatality	Kisk injury
Chloride	75.87	1.34E+03	0.00E+00	0.00E+00	1.52E-02	3.87E-03	1.41E-03	2.40E-01	1.26E-01	5.83E-01	2.12E-04	2.23E-02
TPH	57.11	1.01E+03	0.00E+00	0.00E+00	1.13E-02	2.88E-03	1.05E-03	1.81E-01	9.71E-02	4.35E-01	1.57E-04	1.65E-02

Additional Sustainability Metrics

Remedial Alternatives	Non-Hazardous Waste Landfill Space	Hazardous Waste Landfill Space	Topsoil Consumption		Lost Hours - Injury	Percent Electricity from Renewable Sources	Final Cost with Footprint Reduction
	tons	tons	cubic yards	\$		%	\$
Chloride	3170.00	0.00E+00	2.89E+03	0.00E+00	1.78E-01	0.0%	0.00E+00
TPH	2360.00	0.00E+00	2.15E+03	0.00E+00	1.32E-01	0.0%	0.00E+00

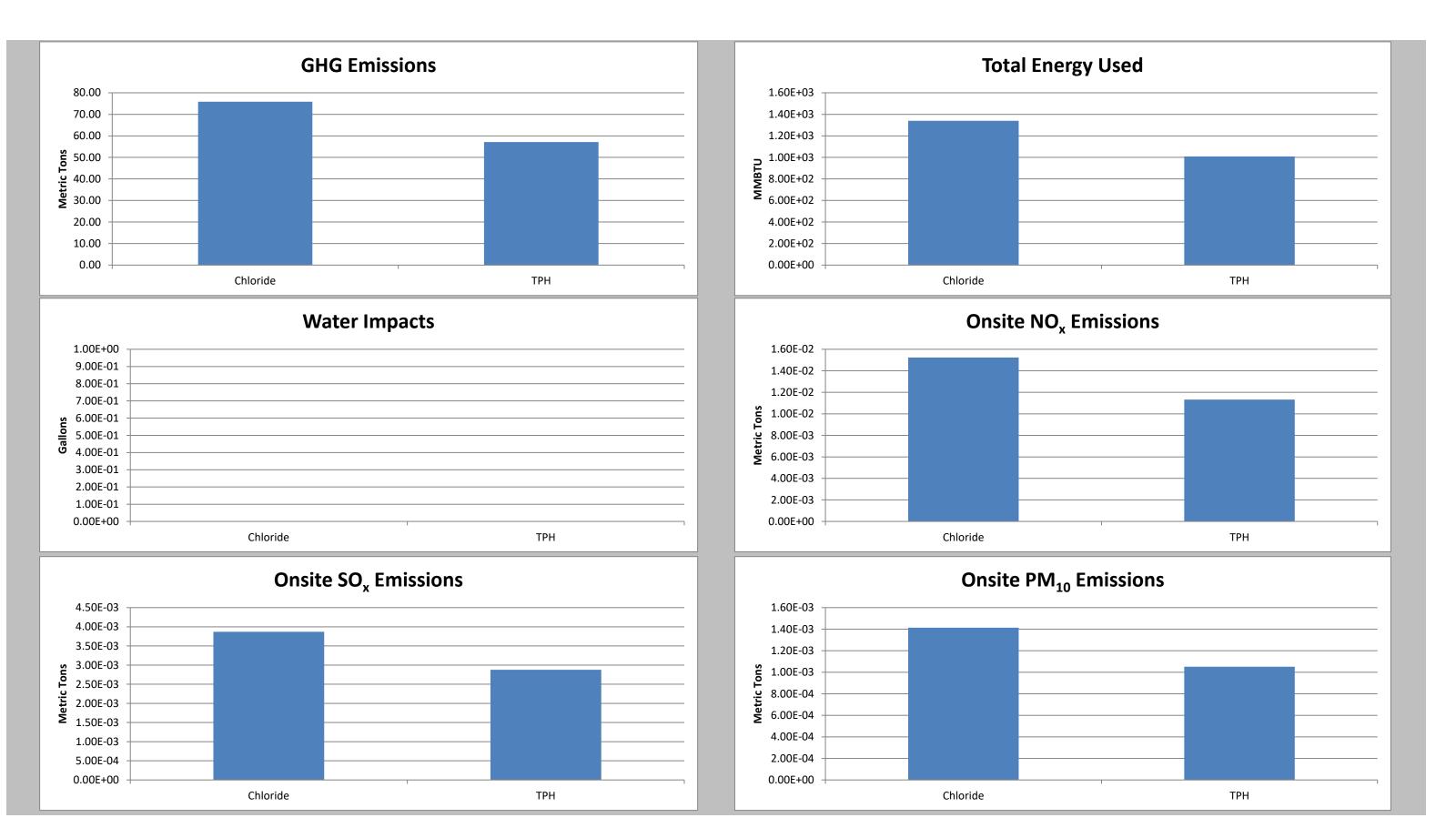
Relative Impact

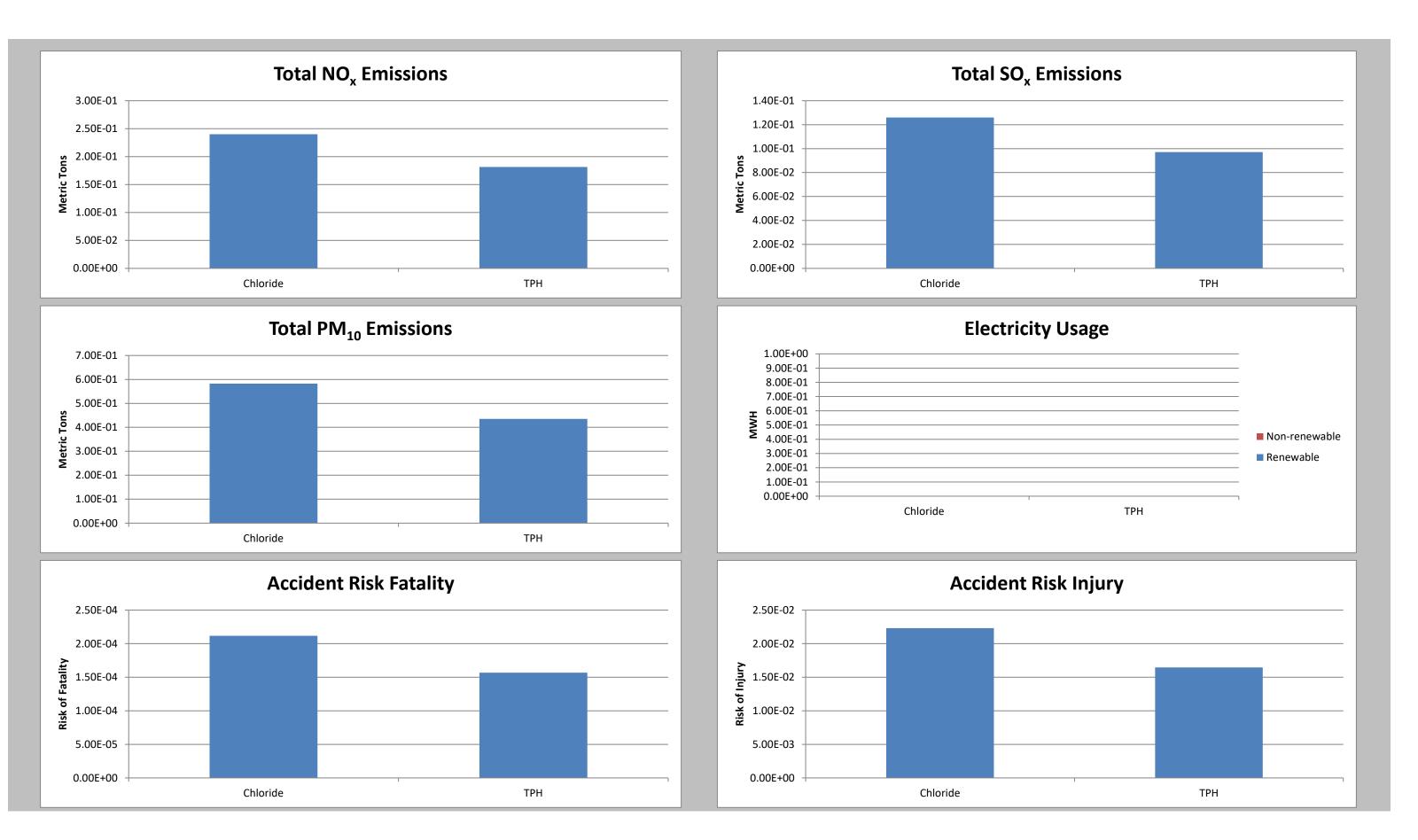
Remedial Alternatives	GHG Emissions	Energy Usage	Water Usage	Electricity Usage	Onsite NOx Emissions	Onsite SOx Emissions	Onsite PM10 Emissions	Total NOx emissions	Total SOx Emissions	Total PM10 Emissions	RISK	*Accident Risk Injury	Community Impacts	Resource s Lost
Chloride	High	High	Low	Low	High	High	High	High	High	High	Low	Low	user select	user select
ТРН	High	High	Low	Low	High	High	High	High	High	High	Low	Low	user select	user select

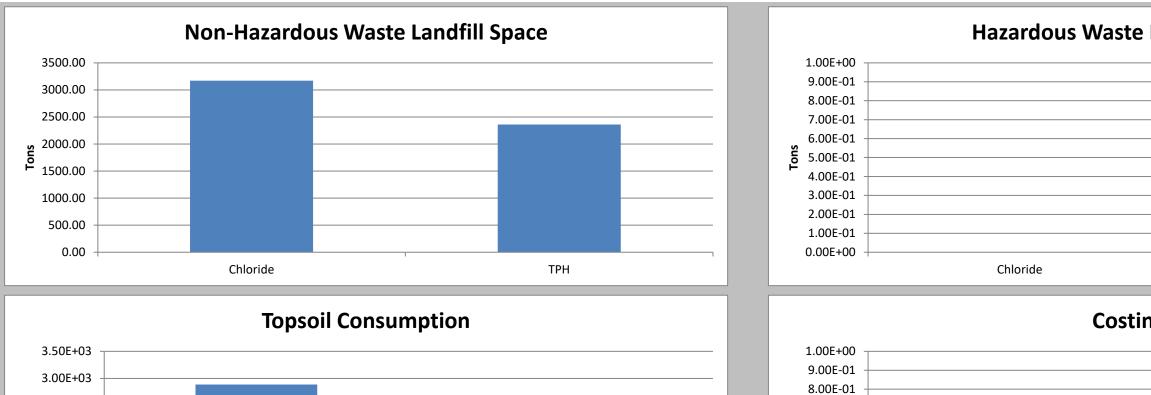
Relative Impact (User Override)

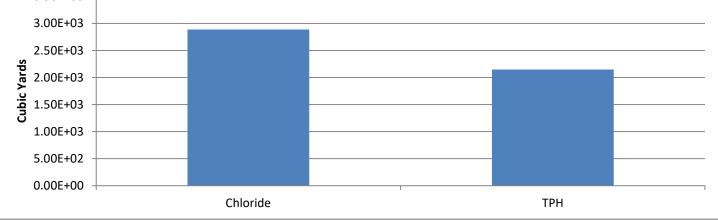
Remedial Alternatives	GHG Emissions	Energy Usage	Water Usage	Electricity Usage	Onsite NOx Emissions	Onsite SOx Emissions	Onsite PM10 Emissions	Total NOx Emissions	Total SOx Emissions	Total PM10 Emissions	I Risk	*Accident Risk Injury	Community Impacts	Resource s Lost
Chloride	High	High	Low	Low	High	High	High	High	High	High	Low	Low	user select	user select
ТРН	High	High	Low	Low	High	High	High	High	High	High	Low	Low	user select	user select

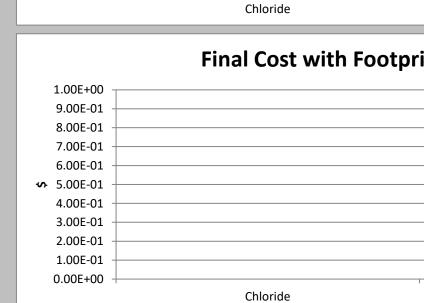
*Accident Risk is an estimate of how many accidents may occur. This risk is not the same as Cancer Risk, which is the probablity (for a single person) of getting cancer. Accident risk is not comparable to Cancer Risk due to inherent fundamental differences.











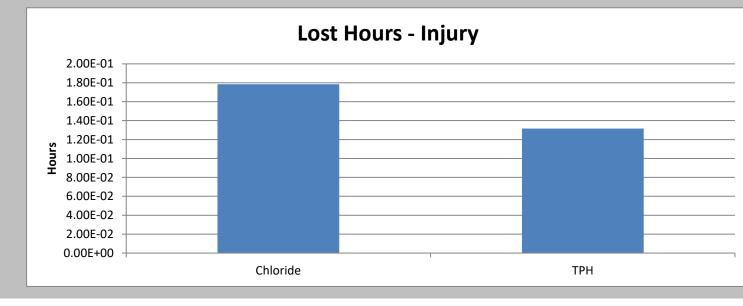
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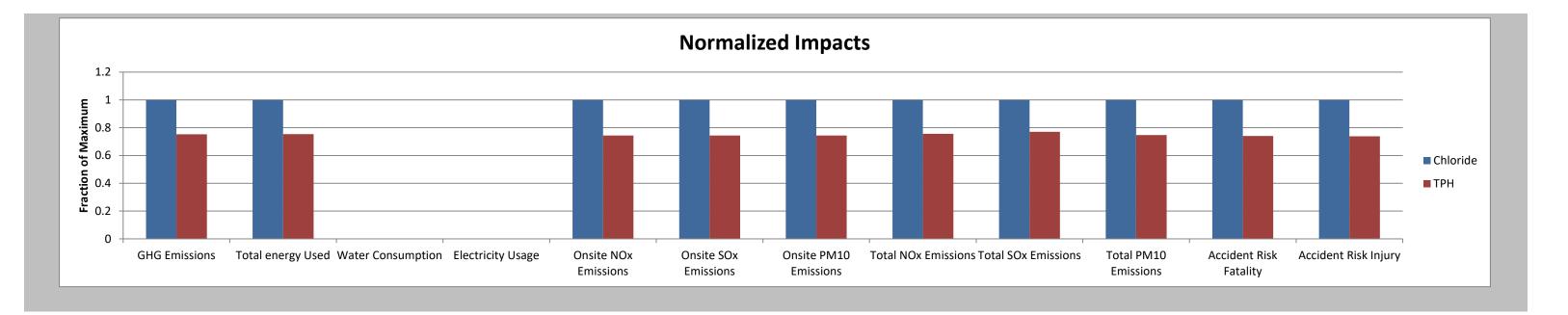
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Landfill Space	
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tprint Reduction	
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District I 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV 1220 S. St Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3470 Fax: (505) 476-3462

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

CONDITIONS

Operator:	OGRID:
Western Refining Southwest LLC	267595
539 South Main Street	Action Number:
Findlay, OH 45840	11026
	Action Type:
	[C-141] Release Corrective Action (C-141)

CONDITIONS

Created By		Condition Date
nvelez	None	3/11/2022

CONDITIONS

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Action 11026

District I 1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 District II

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

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CONDITIONS

Action 165104

Operator: OGRID: WESTERN REFINING COMPANY L.P. 264727 123 W. Mills Ave. Action Number: El Paso, TX 79901 165104 Action Type: [C-137] Non-Fee SWMF Submittal (SWMF NON-FEE SUBMITTAL)

CONDITIONS

CONDITIONS

		Condition
Ву		Date
bjones	None	12/7/2022