

NM2 - _10_

**RELEASE
RESPONSE
NOTICE**

April 22, 2020

Re: Attn: Brad Jones Bisti Landfarm (711 permit NM-02-0010) Release notification

 DELETE REPLY REPLY ALL FORWARD


...



Enviro, OCD, EMNRD

Thu 4/23/2020 8:34 AM

Mark as unread

To: Devin Hencmann <dhenemann@ltenv.com>; Brad Jones

Devin,

Thank you for providing notice and implementing the additional sampling required of 19.15.36.15.E(5) NMAC.

Brad

Brad A. Jones*Environmental Engineer**EMNRD Oil Conservation Division**1220 S. Saint Francis Drive**Santa Fe, New Mexico 87505**E-mail: brad.a.jones@state.nm.us**Office: (505) 476-3487**Fax: (505) 476-3462*

From: Devin Hencmann <dhenemann@ltenv.com>**Sent:** Wednesday, April 22, 2020 3:03 PM**To:** Enviro, OCD, EMNRD**Subject:** [EXT] Attn: Brad Jones Bisti Landfarm (711 permit NM-02-0010) Release notification

Brad,

Please see the attached release notification for the Bisti Landfarm.

Let me know if you have any questions or Comments.

Thank you,
Devin



Devin Hencmann
Project Geologist
(970) 385-1096 office
(970) 403-6023 cell
848 East 2nd Avenue, Durango CO 81301
www.ltenv.com



LT Environmental, Inc.

848 East Second Avenue
Durango, Colorado 81301
970.385.1096

April 16, 2020

Mr. Brad Jones
New Mexico Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

**RE: Notification of Release
711 Permit NM-02-0010
Western Refining Southwest, Inc.
Bisti Landfarm
San Juan County, New Mexico**

Dear Mr. Jones:

On behalf of Western Refining Southwest, Inc. (Western), LT Environmental (LTE) is submitting soil-sampling data collected at the Bisti Landfarm (the Site) on March 9th, during the first quarter of 2020 (Figure 1). Soil sampling activities were performed in accordance with New Mexico Landfarm permit Number NM-02-0010 (approved under "Rule 711") and the current requirements set forth in 19.15.36.15 of the New Mexico Administrative Code (NMAC), also known as "Rule 36". Results of the sampling are presented below, and this report serves as notification that certain constituents exceed the higher of the physical quantification limit (PQL) or background soil concentrations.

SITE DESCRIPTION

The Site occupies approximately 28 acres in the northwest quarter of the southeast quarter of Section 16, Township 25 North, Range 12 West in San Juan County, New Mexico (Figure 1). Petroleum hydrocarbon-impacted soil was originally disposed of at the Site in three treatment cells depending of the origin of the soil: the API Cell, Crude Cell, and Cell 1 (which was closed in 2004 and is no longer active). The Crude Cell is further divided into four source zones containing material originating from Pettigrew, East Line, Bisti, and West Line. These boundaries are shown on Figure 2.

VADOSE ZONE SOIL SAMPLING AND RESULTS

In accordance with Rule 36, semi-annual samples were collected from the vadose zone at depths of approximately 3 feet below native ground surface. For this sampling, four randomly selected, independent samples were collected from each treatment cell: four samples from the Crude Cell and four samples from the API Cell. Samples were analyzed for TPH by EPA Method 418.1, BTEX by EPA Method 8260B, and chloride by EPA Method 300.0.

TPH was detected above the background concentration/laboratory PQL in two samples: West Line Vadose Zone and East Line Vadose Zone. In addition, chloride was detected above the background concentration/laboratory PQL in five samples: Pettigrew Vadose Zone and all four samples collected from the API Cell. TPH and chloride were not detected in any of the remaining samples. In addition, BTEX compounds were not detected above laboratory PQLs in any of the collected samples. Semi-annual vadose-zone analytical results are summarized in Table 1. Sample locations are shown on Figure 3. Laboratory analytical reports are included in Attachment 1.

VADOSE ZONE RELEASE NOTIFICATION AND RECOMMENDATIONS

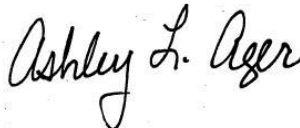
As defined in Subsection E of 19.15.36.15 NMAC, a “release” of several constituents to vadose-zone soils has occurred at the Site. Because a release has occurred in both the Crude Cell and API Cell, Western will conduct a re-sampling event in each cell. Specifically, four randomly selected, independent samples will be collected and analyzed from the vadose zone within each treatment cell. The results of this re-sampling event and a *Release Response Action Plan* will be submitted to NMOCD within 45 days of this notification for review and approval. The *Release Response Action Plan* will address any changes to the operation of the landfarm to prevent further contamination and, if necessary, outline a plan to remediate existing contamination.

Sincerely,

LT ENVIRONMENTAL, INC.



Stuart Hyde, LG
Project Geologist



Ashley Ager, PG
Senior Geologist

cc: Greg McCartney, Marathon Petroleum Company LP

Attachments:

Figure 1: Site Location Map

Figure 2: Site Map

Figure 3: Vadose Zone Sample Location Map

Table 1: 2020 Semi-Annual Vadose Zone Soil Analytical Results

Attachment 1: Analytical Laboratory Reports

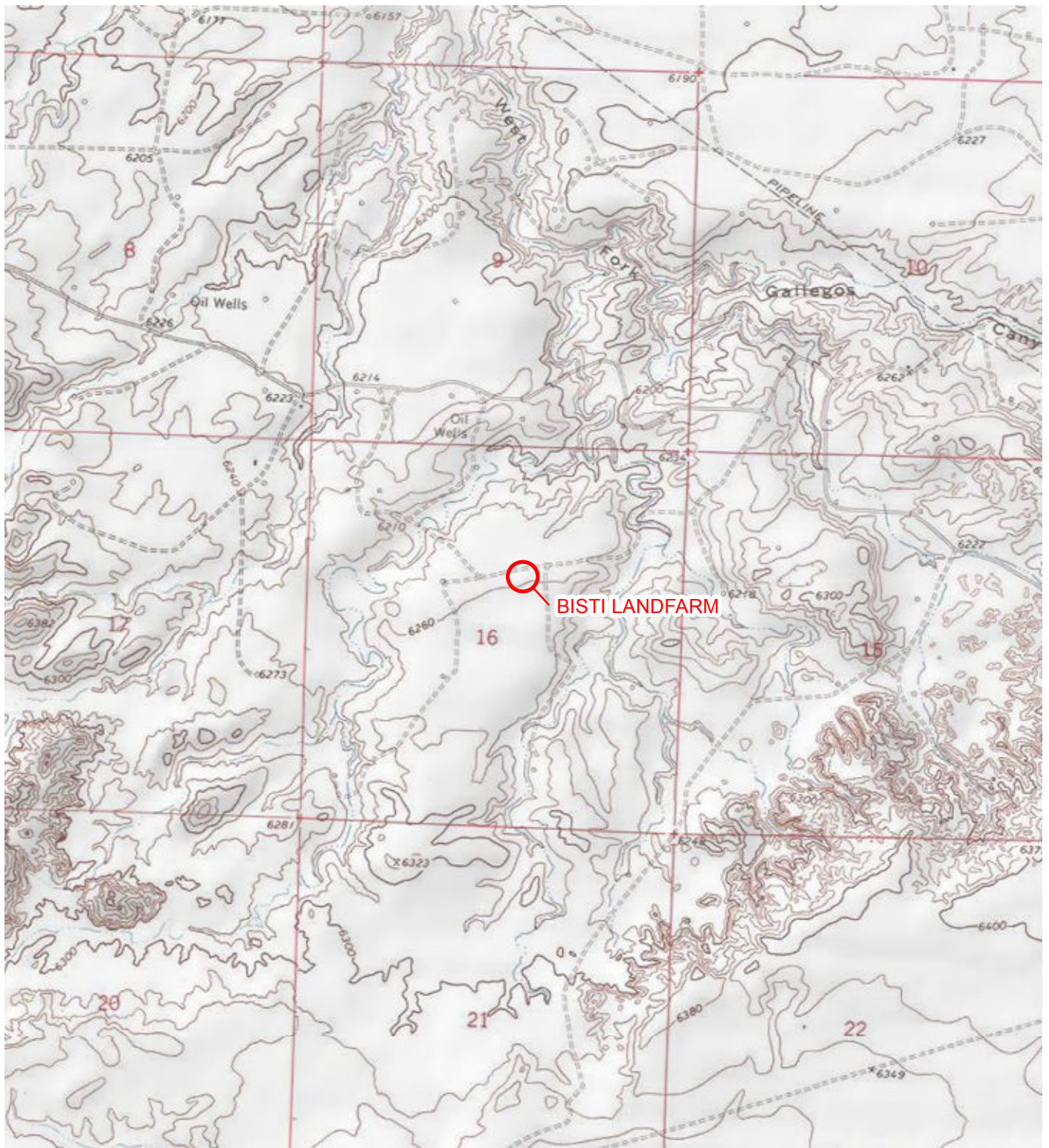
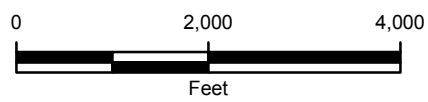


IMAGE COURTESY OF ESRI/USGS

LEGEND

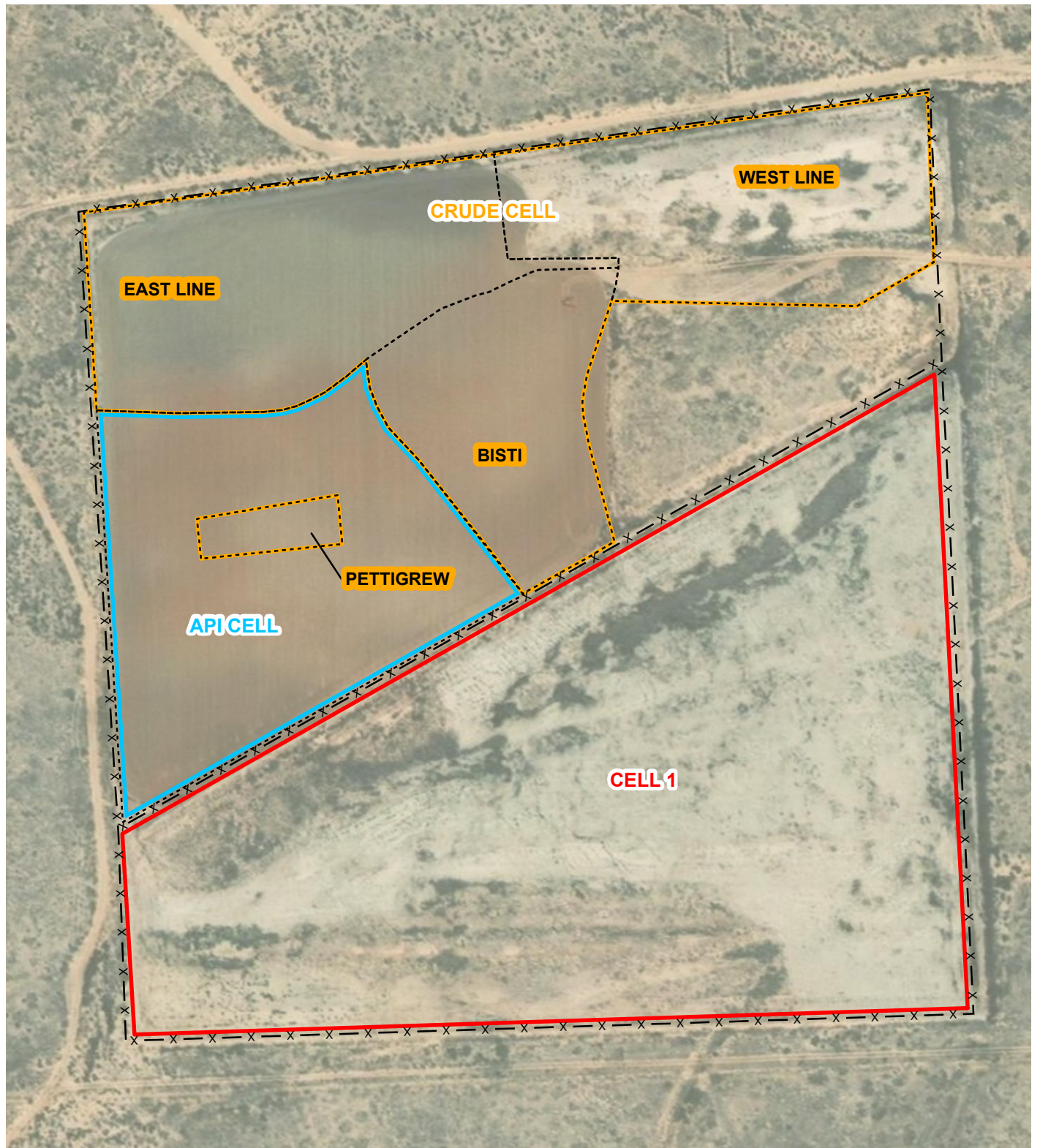
 SITE LOCATION



NEW MEXICO

FIGURE 1
SITE LOCATION MAP
BISTI LANDFARM
SEC 16 T25N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.





LEGEND

- x — x FENCE
- APPROXIMATE SOURCE IDENTITY BOUNDARY
- CELL 1 BOUNDARY
- API CELL BOUNDARY
- CRUDE CELL BOUNDARY

IMAGE COURTESY OF ESRI

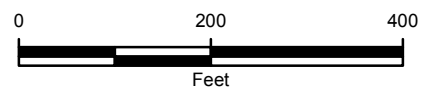
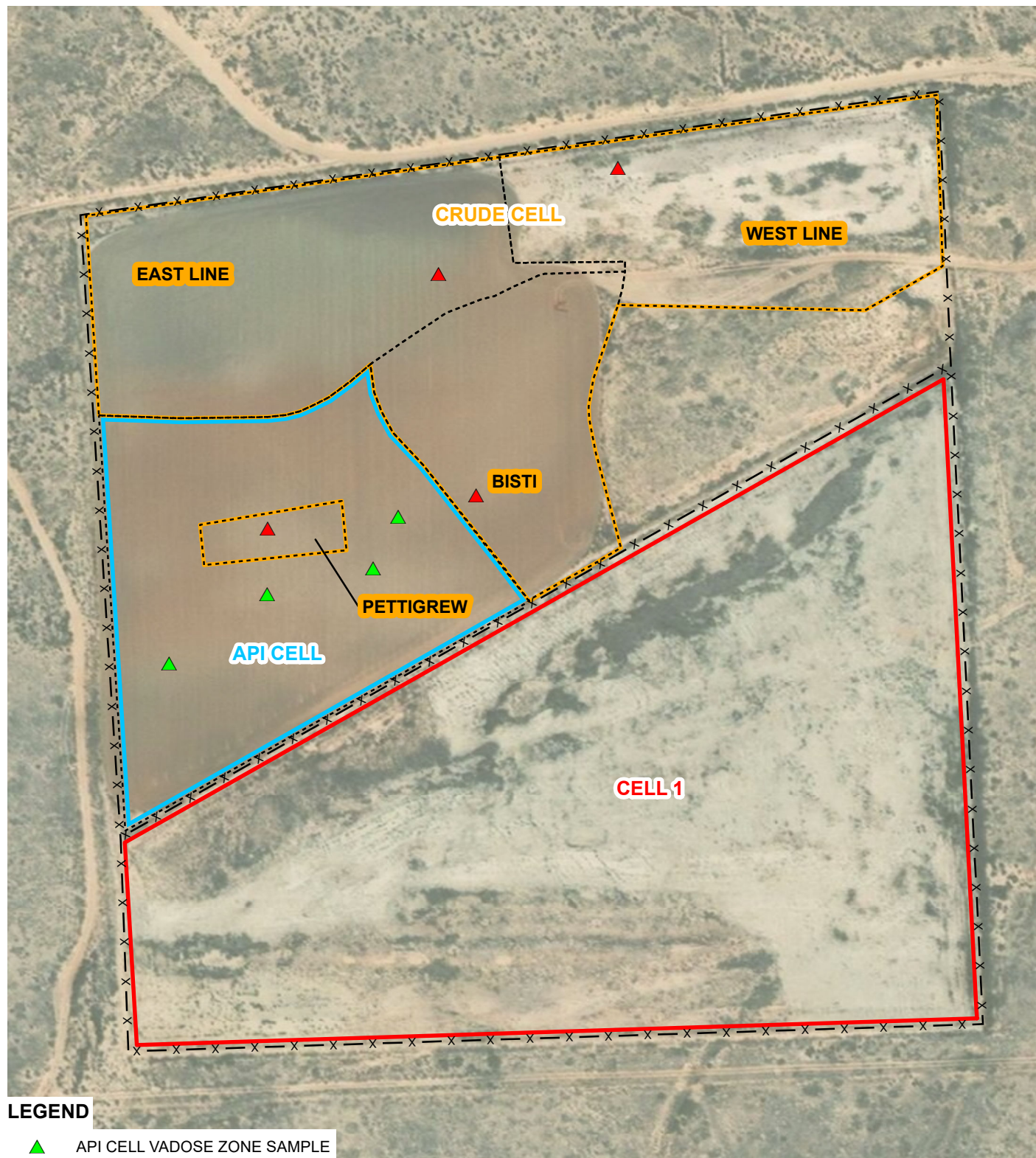


FIGURE 2
SITE MAP
BISTI LANDFARM
SEC 16 T25N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.





LEGEND

- ▲ API CELL VADOSE ZONE SAMPLE
- ▲ CRUDE CELL VADOSE ZONE SAMPLE
- x — x FENCE
- APPROXIMATE SOURCE IDENTITY BOUNDARY
- CELL 1 BOUNDARY
- API CELL BOUNDARY
- CRUDE CELL BOUNDARY

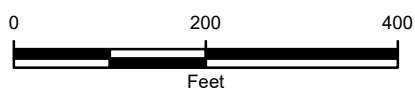


IMAGE COURTESY OF ESRI



FIGURE 3
VADOSE ZONE SAMPLE LOCATION MAP
BISTI LANDFARM
SEC 16 T25N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.



TABLE 1
2020 SEMI-ANNUAL VADOSE ZONE SOIL ANALYTICAL RESULTS

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

| Cell | Source Area | Sample ID | Sample Date | TPH 418.1 (mg/kg) | Benzene (mg/kg) | Toluene (mg/kg) | Ethylbenzene (mg/kg) | Total Xylenes (mg/kg) | Total BTEX (mg/kg) | Chloride (mg/kg) |
|--------------------------|-------------|-----------------------|------------------------|----------------------|--------------------|--------------------|-------------------------|--------------------------|-----------------------|---------------------|
| Crude Cell | West Line | West Line Vadose Zone | 9-Mar-20 | 340 | <0.025 | <0.050 | <0.050 | <0.10 | <0.10 | <60 |
| | East Line | East Line Vadose Zone | 9-Mar-20 | 32 | <0.025 | <0.049 | <0.049 | <0.099 | <0.099 | <60 |
| | Bisti | Bisti Vadose Zone | 9-Mar-20 | <20 | <0.023 | <0.047 | <0.047 | <0.094 | <0.094 | <60 |
| | Pettigrew | Pettigrew Vadose Zone | 9-Mar-20 | <20 | <0.023 | <0.047 | <0.047 | <0.094 | <0.094 | 650 |
| API Cell | API | API Vadose Zone 1 | 9-Mar-20 | <19 | <0.024 | <0.049 | <0.049 | <0.098 | <0.098 | 130 |
| | | API Vadose Zone 2 | 9-Mar-20 | <20 | <0.024 | <0.048 | <0.048 | <0.096 | <0.096 | 1,900 |
| | | API Vadose Zone 3 | 9-Mar-20 | <20 | <0.025 | <0.050 | <0.050 | <0.10 | <0.099 | 540 |
| | | API Vadose Zone 4 | 9-Mar-20 | <18 | <0.024 | <0.047 | <0.047 | <0.094 | <0.094 | 240 |
| Background Sample Result | | | 27-Mar-98 and 1-Sep-15 | <20 | <0.05 | <0.05 | <0.05 | <0.05 | <0.1 | <50 |

Notes:

mg/kg - milligrams per kilograms

DRO - diesel range organics

GRO - gasoline range organics

TPH- total petroleum hydrocarbons

NE - not established

NA - not analyzed

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

BOLD indicates results exceed the higher of the background sample result or practical quantitation limit





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

March 25, 2020

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

RE: 2020 Bisti Landfarm Semi Annual

OrderNo.: 2003469

Dear Gregory J. McCartney:

Hall Environmental Analysis Laboratory received 10 sample(s) on 3/10/2020 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,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003469

Date Reported: 3/25/2020

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: West Line Vadose

Project: 2020 Bisti Landfarm Semi Annual

Collection Date: 3/9/2020 12:06:00 PM

Lab ID: 2003469-001

Matrix: SOIL

Received Date: 3/10/2020 8:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|-----------------------------------------------|--------|--------|------|-------|----|----------------------|---------------------|
| EPA METHOD 418.1: TPH | | | | | | | Analyst: CFC |
| Petroleum Hydrocarbons, TR | 340 | 19 | | mg/Kg | 1 | 3/18/2020 | 51052 |
| EPA METHOD 300.0: ANIONS | | | | | | | Analyst: JMT |
| Chloride | ND | 60 | | mg/Kg | 20 | 3/14/2020 3:18:39 PM | 51105 |
| EPA METHOD 8260B: VOLATILES SHORT LIST | | | | | | | Analyst: JMR |
| Benzene | ND | 0.025 | | mg/Kg | 1 | 3/14/2020 7:13:00 AM | 51068 |
| Toluene | ND | 0.050 | | mg/Kg | 1 | 3/14/2020 7:13:00 AM | 51068 |
| Ethylbenzene | ND | 0.050 | | mg/Kg | 1 | 3/14/2020 7:13:00 AM | 51068 |
| Xylenes, Total | ND | 0.10 | | mg/Kg | 1 | 3/14/2020 7:13:00 AM | 51068 |
| Surr: 1,2-Dichloroethane-d4 | 82.6 | 70-130 | | %Rec | 1 | 3/14/2020 7:13:00 AM | 51068 |
| Surr: 4-Bromofluorobenzene | 97.6 | 70-130 | | %Rec | 1 | 3/14/2020 7:13:00 AM | 51068 |
| Surr: Dibromofluoromethane | 96.5 | 70-130 | | %Rec | 1 | 3/14/2020 7:13:00 AM | 51068 |
| Surr: Toluene-d8 | 101 | 70-130 | | %Rec | 1 | 3/14/2020 7:13:00 AM | 51068 |

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

| | | | | |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| Qualifiers: | * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| | D | Sample Diluted Due to Matrix | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits |
| | ND | Not Detected at the Reporting Limit | P | Sample pH Not In Range |
| | PQL | Practical Quantitative Limit | RL | Reporting Limit |
| | S | % Recovery outside of range due to dilution or matrix | | |
| | | | | |

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003469

Date Reported: 3/25/2020

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: East Line Vadose

Project: 2020 Bisti Landfarm Semi Annual

Collection Date: 3/9/2020 12:01:00 PM

Lab ID: 2003469-002

Matrix: SOIL

Received Date: 3/10/2020 8:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|-----------------------------------------------|--------|--------|------|-------|----|----------------------|---------------------|
| EPA METHOD 418.1: TPH | | | | | | | Analyst: CFC |
| Petroleum Hydrocarbons, TR | 32 | 19 | | mg/Kg | 1 | 3/18/2020 | 51052 |
| EPA METHOD 300.0: ANIONS | | | | | | | Analyst: JMT |
| Chloride | ND | 60 | | mg/Kg | 20 | 3/14/2020 3:31:04 PM | 51105 |
| EPA METHOD 8260B: VOLATILES SHORT LIST | | | | | | | Analyst: JMR |
| Benzene | ND | 0.025 | | mg/Kg | 1 | 3/14/2020 8:38:28 AM | 51068 |
| Toluene | ND | 0.049 | | mg/Kg | 1 | 3/14/2020 8:38:28 AM | 51068 |
| Ethylbenzene | ND | 0.049 | | mg/Kg | 1 | 3/14/2020 8:38:28 AM | 51068 |
| Xylenes, Total | ND | 0.099 | | mg/Kg | 1 | 3/14/2020 8:38:28 AM | 51068 |
| Surr: 1,2-Dichloroethane-d4 | 86.0 | 70-130 | | %Rec | 1 | 3/14/2020 8:38:28 AM | 51068 |
| Surr: 4-Bromofluorobenzene | 95.8 | 70-130 | | %Rec | 1 | 3/14/2020 8:38:28 AM | 51068 |
| Surr: Dibromofluoromethane | 92.2 | 70-130 | | %Rec | 1 | 3/14/2020 8:38:28 AM | 51068 |
| Surr: Toluene-d8 | 101 | 70-130 | | %Rec | 1 | 3/14/2020 8:38:28 AM | 51068 |

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

| | | | | |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| Qualifiers: | * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| | D | Sample Diluted Due to Matrix | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits |
| | ND | Not Detected at the Reporting Limit | P | Sample pH Not In Range |
| | PQL | Practical Quantitative Limit | RL | Reporting Limit |
| | S | % Recovery outside of range due to dilution or matrix | | |
| | | | | |

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003469

Date Reported: 3/25/2020

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: Bisti Vadose

Project: 2020 Bisti Landfarm Semi Annual

Collection Date: 3/9/2020 12:04:00 PM

Lab ID: 2003469-003

Matrix: SOIL

Received Date: 3/10/2020 8:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|-----------------------------------------------|--------|--------|------|-------|----|----------------------|---------------------|
| EPA METHOD 418.1: TPH | | | | | | | Analyst: CFC |
| Petroleum Hydrocarbons, TR | ND | 20 | | mg/Kg | 1 | 3/18/2020 | 51052 |
| EPA METHOD 300.0: ANIONS | | | | | | | Analyst: JMT |
| Chloride | ND | 60 | | mg/Kg | 20 | 3/14/2020 3:43:28 PM | 51105 |
| EPA METHOD 8260B: VOLATILES SHORT LIST | | | | | | | Analyst: JMR |
| Benzene | ND | 0.023 | | mg/Kg | 1 | 3/14/2020 9:06:57 AM | 51068 |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 3/14/2020 9:06:57 AM | 51068 |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 3/14/2020 9:06:57 AM | 51068 |
| Xylenes, Total | ND | 0.094 | | mg/Kg | 1 | 3/14/2020 9:06:57 AM | 51068 |
| Surr: 1,2-Dichloroethane-d4 | 77.7 | 70-130 | | %Rec | 1 | 3/14/2020 9:06:57 AM | 51068 |
| Surr: 4-Bromofluorobenzene | 96.6 | 70-130 | | %Rec | 1 | 3/14/2020 9:06:57 AM | 51068 |
| Surr: Dibromofluoromethane | 97.3 | 70-130 | | %Rec | 1 | 3/14/2020 9:06:57 AM | 51068 |
| Surr: Toluene-d8 | 98.6 | 70-130 | | %Rec | 1 | 3/14/2020 9:06:57 AM | 51068 |

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

| | | | | |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| Qualifiers: | * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| | D | Sample Diluted Due to Matrix | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits |
| | ND | Not Detected at the Reporting Limit | P | Sample pH Not In Range |
| | PQL | Practical Quantitative Limit | RL | Reporting Limit |
| | S | % Recovery outside of range due to dilution or matrix | | |
| | | | | |

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003469

Date Reported: 3/25/2020

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: Pettigrew Vadose

Project: 2020 Bisti Landfarm Semi Annual

Collection Date: 3/9/2020 12:00:00 PM

Lab ID: 2003469-004

Matrix: SOIL

Received Date: 3/10/2020 8:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|-----------------------------------------------|--------|--------|------|-------|----|----------------------|---------------------|
| EPA METHOD 418.1: TPH | | | | | | | Analyst: CFC |
| Petroleum Hydrocarbons, TR | ND | 20 | | mg/Kg | 1 | 3/18/2020 | 51052 |
| EPA METHOD 300.0: ANIONS | | | | | | | Analyst: JMT |
| Chloride | 650 | 60 | | mg/Kg | 20 | 3/14/2020 3:55:52 PM | 51105 |
| EPA METHOD 8260B: VOLATILES SHORT LIST | | | | | | | Analyst: JMR |
| Benzene | ND | 0.023 | | mg/Kg | 1 | 3/14/2020 9:35:28 AM | 51068 |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 3/14/2020 9:35:28 AM | 51068 |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 3/14/2020 9:35:28 AM | 51068 |
| Xylenes, Total | ND | 0.094 | | mg/Kg | 1 | 3/14/2020 9:35:28 AM | 51068 |
| Surr: 1,2-Dichloroethane-d4 | 84.4 | 70-130 | | %Rec | 1 | 3/14/2020 9:35:28 AM | 51068 |
| Surr: 4-Bromofluorobenzene | 94.6 | 70-130 | | %Rec | 1 | 3/14/2020 9:35:28 AM | 51068 |
| Surr: Dibromofluoromethane | 92.0 | 70-130 | | %Rec | 1 | 3/14/2020 9:35:28 AM | 51068 |
| Surr: Toluene-d8 | 106 | 70-130 | | %Rec | 1 | 3/14/2020 9:35:28 AM | 51068 |

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

| | | | | |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| Qualifiers: | * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| | D | Sample Diluted Due to Matrix | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits |
| | ND | Not Detected at the Reporting Limit | P | Sample pH Not In Range |
| | PQL | Practical Quantitative Limit | RL | Reporting Limit |
| | S | % Recovery outside of range due to dilution or matrix | | |
| | | | | |

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003469

Date Reported: 3/25/2020

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: API-1 Vadose

Project: 2020 Bisti Landfarm Semi Annual

Collection Date: 3/9/2020 12:07:00 PM

Lab ID: 2003469-005

Matrix: SOIL

Received Date: 3/10/2020 8:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|-----------------------------------------------|--------|--------|------|-------|----|-----------------------|---------------------|
| EPA METHOD 418.1: TPH | | | | | | | Analyst: CFC |
| Petroleum Hydrocarbons, TR | ND | 19 | | mg/Kg | 1 | 3/18/2020 | 51052 |
| EPA METHOD 300.0: ANIONS | | | | | | | Analyst: JMT |
| Chloride | 130 | 60 | | mg/Kg | 20 | 3/14/2020 4:08:16 PM | 51105 |
| EPA METHOD 8260B: VOLATILES SHORT LIST | | | | | | | Analyst: JMR |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 3/14/2020 10:03:53 AM | 51068 |
| Toluene | ND | 0.049 | | mg/Kg | 1 | 3/14/2020 10:03:53 AM | 51068 |
| Ethylbenzene | ND | 0.049 | | mg/Kg | 1 | 3/14/2020 10:03:53 AM | 51068 |
| Xylenes, Total | ND | 0.098 | | mg/Kg | 1 | 3/14/2020 10:03:53 AM | 51068 |
| Surr: 1,2-Dichloroethane-d4 | 85.2 | 70-130 | | %Rec | 1 | 3/14/2020 10:03:53 AM | 51068 |
| Surr: 4-Bromofluorobenzene | 95.5 | 70-130 | | %Rec | 1 | 3/14/2020 10:03:53 AM | 51068 |
| Surr: Dibromofluoromethane | 97.9 | 70-130 | | %Rec | 1 | 3/14/2020 10:03:53 AM | 51068 |
| Surr: Toluene-d8 | 101 | 70-130 | | %Rec | 1 | 3/14/2020 10:03:53 AM | 51068 |

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

| | | | | |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| Qualifiers: | * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| | D | Sample Diluted Due to Matrix | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits |
| | ND | Not Detected at the Reporting Limit | P | Sample pH Not In Range |
| | PQL | Practical Quantitative Limit | RL | Reporting Limit |
| | S | % Recovery outside of range due to dilution or matrix | | |
| | | | | |

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003469

Date Reported: 3/25/2020

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: API-2 Vadose

Project: 2020 Bisti Landfarm Semi Annual

Collection Date: 3/9/2020 12:08:00 PM

Lab ID: 2003469-006

Matrix: SOIL

Received Date: 3/10/2020 8:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|-----------------------------------------------|--------|--------|------|-------|----|-----------------------|---------------------|
| EPA METHOD 418.1: TPH | | | | | | | Analyst: CFC |
| Petroleum Hydrocarbons, TR | ND | 20 | | mg/Kg | 1 | 3/18/2020 | 51052 |
| EPA METHOD 300.0: ANIONS | | | | | | | Analyst: JMT |
| Chloride | 1900 | 60 | | mg/Kg | 20 | 3/14/2020 4:20:41 PM | 51105 |
| EPA METHOD 8260B: VOLATILES SHORT LIST | | | | | | | Analyst: JMR |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 3/14/2020 10:32:26 AM | 51068 |
| Toluene | ND | 0.048 | | mg/Kg | 1 | 3/14/2020 10:32:26 AM | 51068 |
| Ethylbenzene | ND | 0.048 | | mg/Kg | 1 | 3/14/2020 10:32:26 AM | 51068 |
| Xylenes, Total | ND | 0.096 | | mg/Kg | 1 | 3/14/2020 10:32:26 AM | 51068 |
| Surr: 1,2-Dichloroethane-d4 | 88.9 | 70-130 | | %Rec | 1 | 3/14/2020 10:32:26 AM | 51068 |
| Surr: 4-Bromofluorobenzene | 97.9 | 70-130 | | %Rec | 1 | 3/14/2020 10:32:26 AM | 51068 |
| Surr: Dibromofluoromethane | 98.0 | 70-130 | | %Rec | 1 | 3/14/2020 10:32:26 AM | 51068 |
| Surr: Toluene-d8 | 99.6 | 70-130 | | %Rec | 1 | 3/14/2020 10:32:26 AM | 51068 |

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

| | | | | |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| Qualifiers: | * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| | D | Sample Diluted Due to Matrix | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits |
| | ND | Not Detected at the Reporting Limit | P | Sample pH Not In Range |
| | PQL | Practical Quantitative Limit | RL | Reporting Limit |
| | S | % Recovery outside of range due to dilution or matrix | | |
| | | | | |

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003469

Date Reported: 3/25/2020

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: API-3 Vadose

Project: 2020 Bisti Landfarm Semi Annual

Collection Date: 3/9/2020 12:05:00 PM

Lab ID: 2003469-007

Matrix: SOIL

Received Date: 3/10/2020 8:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|-----------------------------------------------|--------|--------|------|-------|----|----------------------|---------------------|
| EPA METHOD 418.1: TPH | | | | | | | Analyst: CFC |
| Petroleum Hydrocarbons, TR | ND | 20 | | mg/Kg | 1 | 3/18/2020 | 51052 |
| EPA METHOD 300.0: ANIONS | | | | | | | Analyst: JMT |
| Chloride | 540 | 60 | | mg/Kg | 20 | 3/14/2020 4:33:06 PM | 51105 |
| EPA METHOD 8260B: VOLATILES SHORT LIST | | | | | | | Analyst: JMR |
| Benzene | ND | 0.025 | | mg/Kg | 1 | 3/14/2020 1:23:59 PM | 51068 |
| Toluene | ND | 0.050 | | mg/Kg | 1 | 3/14/2020 1:23:59 PM | 51068 |
| Ethylbenzene | ND | 0.050 | | mg/Kg | 1 | 3/14/2020 1:23:59 PM | 51068 |
| Xylenes, Total | ND | 0.099 | | mg/Kg | 1 | 3/14/2020 1:23:59 PM | 51068 |
| Surr: 1,2-Dichloroethane-d4 | 84.2 | 70-130 | | %Rec | 1 | 3/14/2020 1:23:59 PM | 51068 |
| Surr: 4-Bromofluorobenzene | 95.4 | 70-130 | | %Rec | 1 | 3/14/2020 1:23:59 PM | 51068 |
| Surr: Dibromofluoromethane | 93.3 | 70-130 | | %Rec | 1 | 3/14/2020 1:23:59 PM | 51068 |
| Surr: Toluene-d8 | 100 | 70-130 | | %Rec | 1 | 3/14/2020 1:23:59 PM | 51068 |

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

| | | | | |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| Qualifiers: | * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| | D | Sample Diluted Due to Matrix | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits |
| | ND | Not Detected at the Reporting Limit | P | Sample pH Not In Range |
| | PQL | Practical Quantitative Limit | RL | Reporting Limit |
| | S | % Recovery outside of range due to dilution or matrix | | |
| | | | | |

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003469

Date Reported: 3/25/2020

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: API-4 Vadose

Project: 2020 Bisti Landfarm Semi Annual

Collection Date: 3/9/2020 12:06:00 PM

Lab ID: 2003469-008

Matrix: SOIL

Received Date: 3/10/2020 8:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|-----------------------------------------------|--------|--------|------|-------|----|----------------------|---------------------|
| EPA METHOD 418.1: TPH | | | | | | | Analyst: CFC |
| Petroleum Hydrocarbons, TR | ND | 18 | | mg/Kg | 1 | 3/18/2020 | 51052 |
| EPA METHOD 300.0: ANIONS | | | | | | | Analyst: JMT |
| Chloride | 240 | 60 | | mg/Kg | 20 | 3/14/2020 4:45:30 PM | 51105 |
| EPA METHOD 8260B: VOLATILES SHORT LIST | | | | | | | Analyst: JMR |
| Benzene | ND | 0.024 | | mg/Kg | 1 | 3/14/2020 1:52:42 PM | 51068 |
| Toluene | ND | 0.047 | | mg/Kg | 1 | 3/14/2020 1:52:42 PM | 51068 |
| Ethylbenzene | ND | 0.047 | | mg/Kg | 1 | 3/14/2020 1:52:42 PM | 51068 |
| Xylenes, Total | ND | 0.094 | | mg/Kg | 1 | 3/14/2020 1:52:42 PM | 51068 |
| Surr: 1,2-Dichloroethane-d4 | 84.0 | 70-130 | | %Rec | 1 | 3/14/2020 1:52:42 PM | 51068 |
| Surr: 4-Bromofluorobenzene | 96.5 | 70-130 | | %Rec | 1 | 3/14/2020 1:52:42 PM | 51068 |
| Surr: Dibromofluoromethane | 93.4 | 70-130 | | %Rec | 1 | 3/14/2020 1:52:42 PM | 51068 |
| Surr: Toluene-d8 | 101 | 70-130 | | %Rec | 1 | 3/14/2020 1:52:42 PM | 51068 |

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

| | | | | |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| Qualifiers: | * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| | D | Sample Diluted Due to Matrix | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits |
| | ND | Not Detected at the Reporting Limit | P | Sample pH Not In Range |
| | PQL | Practical Quantitative Limit | RL | Reporting Limit |
| | S | % Recovery outside of range due to dilution or matrix | | |
| | | | | |

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003469

Date Reported: 3/25/2020

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: Crude Cell Treatment

Project: 2020 Bisti Landfarm Semi Annual

Collection Date: 3/9/2020 12:04:00 PM

Lab ID: 2003469-009

Matrix: SOIL

Received Date: 3/10/2020 8:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|---------------------|
| EPA METHOD 418.1: TPH | | | | | | | Analyst: CFC |
| Petroleum Hydrocarbons, TR | 110 | 18 | | mg/Kg | 1 | 3/18/2020 | 51052 |
| EPA METHOD 300.0: ANIONS | | | | | | | Analyst: JMT |
| Chloride | ND | 60 | | mg/Kg | 20 | 3/14/2020 5:22:45 PM | 51105 |
| EPA METHOD 8015D MOD: GASOLINE RANGE | | | | | | | Analyst: JMR |
| Gasoline Range Organics (GRO) | ND | 4.6 | | mg/Kg | 1 | 3/14/2020 2:21:22 PM | 51068 |
| Surr: BFB | 97.6 | 70-130 | | %Rec | 1 | 3/14/2020 2:21:22 PM | 51068 |
| EPA METHOD 8015M/D: DIESEL RANGE ORGANICS | | | | | | | Analyst: BRM |
| Diesel Range Organics (DRO) | 23 | 9.8 | | mg/Kg | 1 | 3/18/2020 1:49:56 PM | 51086 |
| Surr: DNOP | 92.8 | 55.1-146 | | %Rec | 1 | 3/18/2020 1:49:56 PM | 51086 |

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

| | | | | |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| Qualifiers: | * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| | D | Sample Diluted Due to Matrix | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits |
| | ND | Not Detected at the Reporting Limit | P | Sample pH Not In Range |
| | PQL | Practical Quantitative Limit | RL | Reporting Limit |
| | S | % Recovery outside of range due to dilution or matrix | | |

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 2003469

Date Reported: 3/25/2020

CLIENT: Western Refining Southwest, Inc.

Client Sample ID: API Cell Treatment

Project: 2020 Bisti Landfarm Semi Annual

Collection Date: 3/9/2020 12:09:00 PM

Lab ID: 2003469-010

Matrix: SOIL

Received Date: 3/10/2020 8:15:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|--------------------------------------------------|--------|----------|------|-------|----|----------------------|---------------------|
| EPA METHOD 418.1: TPH | | | | | | | Analyst: CFC |
| Petroleum Hydrocarbons, TR | 36 | 19 | | mg/Kg | 1 | 3/18/2020 | 51052 |
| EPA METHOD 300.0: ANIONS | | | | | | | Analyst: JMT |
| Chloride | 190 | 61 | | mg/Kg | 20 | 3/14/2020 5:35:09 PM | 51105 |
| EPA METHOD 8015D MOD: GASOLINE RANGE | | | | | | | Analyst: JMR |
| Gasoline Range Organics (GRO) | ND | 5.0 | | mg/Kg | 1 | 3/14/2020 2:50:02 PM | 51068 |
| Surr: BFB | 95.4 | 70-130 | | %Rec | 1 | 3/14/2020 2:50:02 PM | 51068 |
| EPA METHOD 8015M/D: DIESEL RANGE ORGANICS | | | | | | | Analyst: BRM |
| Diesel Range Organics (DRO) | 11 | 9.9 | | mg/Kg | 1 | 3/18/2020 2:33:55 PM | 51086 |
| Surr: DNOP | 88.4 | 55.1-146 | | %Rec | 1 | 3/18/2020 2:33:55 PM | 51086 |

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

| | | | | |
|--------------------|-----|-------------------------------------------------------|----|-------------------------------------------------|
| Qualifiers: | * | Value exceeds Maximum Contaminant Level. | B | Analyte detected in the associated Method Blank |
| | D | Sample Diluted Due to Matrix | E | Value above quantitation range |
| | H | Holding times for preparation or analysis exceeded | J | Analyte detected below quantitation limits |
| | ND | Not Detected at the Reporting Limit | P | Sample pH Not In Range |
| | PQL | Practical Quantitative Limit | RL | Reporting Limit |
| | S | % Recovery outside of range due to dilution or matrix | | |
| | | | | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2003469

25-Mar-20

Client: Western Refining Southwest, Inc.

Project: 2020 Bisti Landfarm Semi Annual

| | | | | | | | | | | |
|-----------------------------|---------------------------------|-------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: MB-51105 | SampType: mblk | TestCode: EPA Method 300.0: Anions | | | | | | | | |
| Client ID: PBS | Batch ID: 51105 | RunNo: 67316 | | | | | | | | |
| Prep Date: 3/13/2020 | Analysis Date: 3/14/2020 | SeqNo: 2320124 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | ND | 1.5 | | | | | | | | |

| | | | | | | | | | | |
|-----------------------------|---------------------------------|-------------------------------------------|---------------------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: LCS-51105 | SampType: lcs | TestCode: EPA Method 300.0: Anions | | | | | | | | |
| Client ID: LCSS | Batch ID: 51105 | RunNo: 67316 | | | | | | | | |
| Prep Date: 3/13/2020 | Analysis Date: 3/14/2020 | SeqNo: 2320125 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | 14 | 1.5 | 15.00 | 0 | 94.7 | 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 Quantitative 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2003469

25-Mar-20

Client: Western Refining Southwest, Inc.

Project: 2020 Bisti Landfarm Semi Annual

| | | | | | | | | | | |
|-----------------------------|---------------------------------|-------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: MB-51052 | SampType: MBLK | TestCode: EPA Method 418.1: TPH | | | | | | | | |
| Client ID: PBS | Batch ID: 51052 | RunNo: 67391 | | | | | | | | |
| Prep Date: 3/13/2020 | Analysis Date: 3/18/2020 | SeqNo: 2324193 Units: mg/Kg | | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Petroleum Hydrocarbons, TR | ND | 20 | | | | | | | | |

| | | | | | | | | | | |
|-----------------------------|---------------------------------|-------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Sample ID: LCS-51052 | SampType: LCS | TestCode: EPA Method 418.1: TPH | | | | | | | | |
| Client ID: LCSS | Batch ID: 51052 | RunNo: 67391 | | | | | | | | |
| Prep Date: 3/13/2020 | Analysis Date: 3/18/2020 | SeqNo: 2324194 Units: mg/Kg | | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Petroleum Hydrocarbons, TR | 120 | 20 | 100.0 | 0 | 124 | 62.5 | 123 | | | S |

| | | | | | | | | | | |
|------------------------------|---------------------------------|-------------------------------------------|-----------|-------------|------|----------|-----------|-------|----------|------|
| Sample ID: LCSD-51052 | SampType: LCSD | TestCode: EPA Method 418.1: TPH | | | | | | | | |
| Client ID: LCSS02 | Batch ID: 51052 | RunNo: 67391 | | | | | | | | |
| Prep Date: 3/13/2020 | Analysis Date: 3/18/2020 | SeqNo: 2324195 Units: mg/Kg | | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Petroleum Hydrocarbons, TR | 120 | 20 | 100.0 | 0 | 125 | 62.5 | 123 | 0.943 | 20 | 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 Quantitative 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2003469

25-Mar-20

Client: Western Refining Southwest, Inc.

Project: 2020 Bisti Landfarm Semi Annual

| | | | | | | | | | | |
|-----------------------------|---------------------------------|-----|-----------|------------------------------------------------------------|------|---------------------|-----------|------|----------|------|
| Sample ID: LCS-51086 | SampType: LCS | | | TestCode: EPA Method 8015M/D: Diesel Range Organics | | | | | | |
| Client ID: LCSS | Batch ID: 51086 | | | RunNo: 67313 | | | | | | |
| Prep Date: 3/13/2020 | Analysis Date: 3/16/2020 | | | SeqNo: 2320643 | | Units: mg/Kg | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 54 | 10 | 50.00 | 0 | 107 | 70 | 130 | | | |
| Surr: DNOP | 5.2 | | 5.000 | | 105 | 55.1 | 146 | | | |

| | | | | | | | | | | |
|-----------------------------|---------------------------------|-----|-----------|------------------------------------------------------------|------|---------------------|-----------|------|----------|------|
| Sample ID: MB-51086 | SampType: MBLK | | | TestCode: EPA Method 8015M/D: Diesel Range Organics | | | | | | |
| Client ID: PBS | Batch ID: 51086 | | | RunNo: 67313 | | | | | | |
| Prep Date: 3/13/2020 | Analysis Date: 3/16/2020 | | | SeqNo: 2320644 | | Units: mg/Kg | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | ND | 10 | | | | | | | | |
| Surr: DNOP | 11 | | 10.00 | | 109 | 55.1 | 146 | | | |

| | | | | | | | | | | |
|-----------------------------|---------------------------------|-----|-----------|------------------------------------------------------------|------|--------------------|-----------|------|----------|------|
| Sample ID: LCS-51100 | SampType: LCS | | | TestCode: EPA Method 8015M/D: Diesel Range Organics | | | | | | |
| Client ID: LCSS | Batch ID: 51100 | | | RunNo: 67313 | | | | | | |
| Prep Date: 3/13/2020 | Analysis Date: 3/17/2020 | | | SeqNo: 2321410 | | Units: %Rec | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: DNOP | 4.2 | | 5.000 | | 84.7 | 55.1 | 146 | | | |

| | | | | | | | | | | |
|-----------------------------|---------------------------------|-----|-----------|------------------------------------------------------------|------|--------------------|-----------|------|----------|------|
| Sample ID: MB-51100 | SampType: MBLK | | | TestCode: EPA Method 8015M/D: Diesel Range Organics | | | | | | |
| Client ID: PBS | Batch ID: 51100 | | | RunNo: 67313 | | | | | | |
| Prep Date: 3/13/2020 | Analysis Date: 3/17/2020 | | | SeqNo: 2321412 | | Units: %Rec | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: DNOP | 9.0 | | 10.00 | | 90.4 | 55.1 | 146 | | | |

| | | | | | | | | | | |
|-----------------------------|---------------------------------|-----|-----------|------------------------------------------------------------|------|--------------------|-----------|------|----------|------|
| Sample ID: LCS-51201 | SampType: LCS | | | TestCode: EPA Method 8015M/D: Diesel Range Organics | | | | | | |
| Client ID: LCSS | Batch ID: 51201 | | | RunNo: 67313 | | | | | | |
| Prep Date: 3/18/2020 | Analysis Date: 3/20/2020 | | | SeqNo: 2326279 | | Units: %Rec | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: DNOP | 3.9 | | 5.000 | | 77.7 | 55.1 | 146 | | | |

| | | | | | | | | | | |
|-----------------------------|---------------------------------|-----|-----------|------------------------------------------------------------|------|--------------------|-----------|------|----------|------|
| Sample ID: MB-51201 | SampType: MBLK | | | TestCode: EPA Method 8015M/D: Diesel Range Organics | | | | | | |
| Client ID: PBS | Batch ID: 51201 | | | RunNo: 67313 | | | | | | |
| Prep Date: 3/18/2020 | Analysis Date: 3/20/2020 | | | SeqNo: 2326281 | | Units: %Rec | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: DNOP | 8.6 | | 10.00 | | 86.0 | 55.1 | 146 | | | |

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 Quantitative 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2003469

25-Mar-20

Client: Western Refining Southwest, Inc.

Project: 2020 Bisti Landfarm Semi Annual

| Sample ID: 2003469-001ams | SampType: MS | TestCode: EPA Method 8260B: Volatiles Short List | | | | | | | | |
|-----------------------------|--------------------------|--------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: West Line Vadose | Batch ID: 51068 | RunNo: 67303 | | | | | | | | |
| Prep Date: 3/12/2020 | Analysis Date: 3/14/2020 | SeqNo: 2319857 Units: mg/Kg | | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 1.1 | 0.023 | 0.9242 | 0 | 116 | 70 | 130 | | | |
| Toluene | 1.1 | 0.046 | 0.9242 | 0 | 114 | 70 | 130 | | | |
| Ethylbenzene | 1.1 | 0.046 | 0.9242 | 0 | 119 | 70 | 130 | | | |
| Xylenes, Total | 3.3 | 0.092 | 2.773 | 0 | 120 | 70 | 130 | | | |
| Surr: 1,2-Dichloroethane-d4 | 0.40 | | 0.4621 | | 85.6 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 0.45 | | 0.4621 | | 97.0 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 0.44 | | 0.4621 | | 94.3 | 70 | 130 | | | |
| Surr: Toluene-d8 | 0.47 | | 0.4621 | | 101 | 70 | 130 | | | |

| Sample ID: 2003469-001amsd | SampType: MSD | TestCode: EPA Method 8260B: Volatiles Short List | | | | | | | | |
|-----------------------------|--------------------------|--------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: West Line Vadose | Batch ID: 51068 | RunNo: 67303 | | | | | | | | |
| Prep Date: 3/12/2020 | Analysis Date: 3/14/2020 | SeqNo: 2319858 Units: mg/Kg | | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 1.1 | 0.025 | 0.9843 | 0 | 112 | 70 | 130 | 2.76 | 20 | |
| Toluene | 1.1 | 0.049 | 0.9843 | 0 | 110 | 70 | 130 | 2.24 | 20 | |
| Ethylbenzene | 1.1 | 0.049 | 0.9843 | 0 | 116 | 70 | 130 | 4.38 | 0 | |
| Xylenes, Total | 3.4 | 0.098 | 2.953 | 0 | 115 | 70 | 130 | 2.50 | 0 | |
| Surr: 1,2-Dichloroethane-d4 | 0.42 | | 0.4921 | | 85.1 | 70 | 130 | 0 | 0 | |
| Surr: 4-Bromofluorobenzene | 0.46 | | 0.4921 | | 94.2 | 70 | 130 | 0 | 0 | |
| Surr: Dibromofluoromethane | 0.47 | | 0.4921 | | 94.9 | 70 | 130 | 0 | 0 | |
| Surr: Toluene-d8 | 0.49 | | 0.4921 | | 99.6 | 70 | 130 | 0 | 0 | |

| Sample ID: lcs-51068 | SampType: LCS | TestCode: EPA Method 8260B: Volatiles Short List | | | | | | | | |
|-----------------------------|--------------------------|--------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: LCSS | Batch ID: 51068 | RunNo: 67303 | | | | | | | | |
| Prep Date: 3/12/2020 | Analysis Date: 3/14/2020 | SeqNo: 2319874 Units: mg/Kg | | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 1.1 | 0.025 | 1.000 | 0 | 106 | 70 | 130 | | | |
| Toluene | 1.0 | 0.050 | 1.000 | 0 | 104 | 70 | 130 | | | |
| Ethylbenzene | 1.1 | 0.050 | 1.000 | 0 | 108 | 70 | 130 | | | |
| Xylenes, Total | 3.2 | 0.10 | 3.000 | 0 | 106 | 70 | 130 | | | |
| Surr: 1,2-Dichloroethane-d4 | 0.42 | | 0.5000 | | 84.6 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 0.46 | | 0.5000 | | 91.1 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 0.47 | | 0.5000 | | 93.4 | 70 | 130 | | | |
| Surr: Toluene-d8 | 0.49 | | 0.5000 | | 97.7 | 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 Quantitative 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2003469

25-Mar-20

Client: Western Refining Southwest, Inc.

Project: 2020 Bisti Landfarm Semi Annual

| Sample ID: mb-51068 | SampType: MBLK | TestCode: EPA Method 8260B: Volatiles Short List | | | | | | | | |
|-----------------------------|---------------------------------|---------------------------------------------------------|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: 51068 | RunNo: 67303 | | | | | | | | |
| Prep Date: 3/12/2020 | Analysis Date: 3/14/2020 | SeqNo: 2319876 Units: mg/Kg | | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | ND | 0.025 | | | | | | | | |
| Toluene | ND | 0.050 | | | | | | | | |
| Ethylbenzene | ND | 0.050 | | | | | | | | |
| Xylenes, Total | ND | 0.10 | | | | | | | | |
| Surr: 1,2-Dichloroethane-d4 | 0.45 | | 0.5000 | | 90.5 | 70 | 130 | | | |
| Surr: 4-Bromofluorobenzene | 0.47 | | 0.5000 | | 93.6 | 70 | 130 | | | |
| Surr: Dibromofluoromethane | 0.48 | | 0.5000 | | 95.6 | 70 | 130 | | | |
| Surr: Toluene-d8 | 0.51 | | 0.5000 | | 102 | 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 Quantitative 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2003469

25-Mar-20

Client: Western Refining Southwest, Inc.

Project: 2020 Bisti Landfarm Semi Annual

| | | | | | | | | | | |
|-------------------------------|---------------------------------|-----|-----------|-------------------------------------------------------|------|---------------------|-----------|------|----------|------|
| Sample ID: lcs-51068 | SampType: LCS | | | TestCode: EPA Method 8015D Mod: Gasoline Range | | | | | | |
| Client ID: LCSS | Batch ID: 51068 | | | RunNo: 67303 | | | | | | |
| Prep Date: 3/12/2020 | Analysis Date: 3/14/2020 | | | SeqNo: 2319913 | | Units: mg/Kg | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 23 | 5.0 | 25.00 | 0 | 90.0 | 70 | 130 | | | |
| Surr: BFB | 490 | | 500.0 | | 97.8 | 70 | 130 | | | |

| | | | | | | | | | | |
|-------------------------------|---------------------------------|-----|-----------|-------------------------------------------------------|------|---------------------|-----------|------|----------|------|
| Sample ID: mb-51068 | SampType: MBLK | | | TestCode: EPA Method 8015D Mod: Gasoline Range | | | | | | |
| Client ID: PBS | Batch ID: 51068 | | | RunNo: 67303 | | | | | | |
| Prep Date: 3/12/2020 | Analysis Date: 3/14/2020 | | | SeqNo: 2319915 | | Units: mg/Kg | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND | 5.0 | | | | | | | | |
| Surr: BFB | 480 | | 500.0 | | 96.3 | 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 Quantitative 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



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

Sample Log-In Check List

Client Name: **Western Refining Southw**

Work Order Number: **2003469**

RcptNo: 1

Received By: **Yazmine Garduno**

3/10/2020 8:15:00 AM

Yazmine Garduno

Completed By: **Leah Baca**

3/11/2020 10:31:22 AM

Leah Baca

Reviewed By: **ENH**

3/11/20

Chain of Custody

1. Is Chain of Custody sufficiently complete? Yes ☒ No ☐ Not Present ☐
2. How was the sample delivered? Client

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☒ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☒ 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 ☒
11. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
13. Is it clear what analyses were requested? Yes ☒ No ☐
14. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

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

Adjusted? _____

Checked by: **DAD 3/11/20**

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

| Cooler No | Temp $^{\circ}\text{C}$ | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|-----------|-------------------------|-----------|-------------|---------|-----------|-----------|
| 1 | 1.5 | Good | | | | |
| 2 | 2.9 | Good | | | | |

