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 | nAPP2104155952 |
| District RP | |
| Facility ID | |
| Application ID | |

# Release Notification

## Responsible Party

| | |
|---|---|
| Responsible Party Hilcorp Energy Company | OGRID 372171 |
| Contact Name Kate Kaufman | Contact Telephone 346-237-2275 |
| Contact email kkaufman@hilcorp.com | Incident # nAPP2215935656 |
| Contact mailing address 382 Road 3100, Aztec NM 87410 | |

## Location of Release Source

Latitude 36.801763 Longitude -107.976922
*(NAD 83 in decimal degrees to 5 decimal places)*

| | |
|---|---|
| Site Name Vasaly 2 SWD | Site Type: Saltwater Disposal |
| Date Release Discovered: 6/2/2022 | API# *30-045-29936* |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| B | 22 | 030N | 011W | San Juan |

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name: Hilcorp San Juan, L.P. )*

## 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) 17 | Volume Recovered (bbls) 5 |
| | Is the concentration of dissolved chloride in the produced water >10,000 mg/l? | ☐ Yes ☒ No |
| ☐ Condensate | Volume Released (bbls) | Volume Recovered (bbls) 0 bbls |
| ☐ Natural Gas | Volume Released (Mcf) | Volume Recovered (Mcf) |
| ☐ Other (describe) | Volume/Weight Released (provide units) | Volume/Weight Recovered (provide units) |

Cause of Release
Approximately 17 bbls of produced water was released from a pipeline failure due to corrosion during a water transfer. Operations isolated and removed remaining pipeline fluids. Standing fluids and impacted soil were removed via hydrovac and transported offsite for disposal. The corroded portion of pipeline will be replaced. The release occurred on pad at the Vasaly Saltwater Disposal facility. OCD will be notified 48 hours prior to sampling.

State of New Mexico
Oil Conservation Division

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| Incident ID | nAPP2104155952 |
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| | |
|---|---|
| Was this a major release as defined by 19.15.29.7(A) NMAC?<br><br>☐ Yes ☒ No | If YES, for what reason(s) does the responsible party consider this a major release? |
| If YES, was immediate notice 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*

☒ 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: Kathryn Kaufman Title: Environmental Specialist

Signature: Kathryn Kaufman Date: 6/8/2022

email: kkaufman@hilcorp.com Telephone: 346-237-2275

**OCD Only**

Received by: Date:

State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | nAPP2104155952 |
| District RP | |
| Facility ID | |
| Application ID | |

# 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? | <100 (ft bgs) |
| Did this release impact groundwater or surface water? | ☐ Yes ☒ 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 ☒ 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 ☒ No |
| Are the lateral extents of the release overlying a subsurface mine? | ☐ Yes ☒ No |
| Are the lateral extents of the release overlying an unstable area such as karst geology? | ☐ Yes ☒ No |
| Are the lateral extents of the release within a 100-year floodplain? | ☐ Yes ☒ No |
| Did the release impact areas **not** on an exploration, development, production, or storage site? | ☐ 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.***

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

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|---|---|
| Incident ID | nAPP2104155952 |
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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: Kate Kaufman Title: Environmental Specialist

Signature: Date: 8/17/2022

email: kkaufman@hilcorp.com Telephone: (346) 237-2275

**OCD Only**

Received by: Date:

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State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | nAPP2104155952 |
| District RP | |
| Facility ID | |
| Application ID | |

# Remediation Plan

**Remediation Plan Checklist**: ***Each of the following items must be included in the plan.***

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ 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.

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

**OCD Only**

Received by: Jocelyn Harimon Date: 08/17/2022

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____

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State of New Mexico
Oil Conservation Division

| | |
|---|---|
| Incident ID | nAPP2104155952 |
| District RP | |
| Facility ID | |
| Application ID | |

# 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.***

☒ 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)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ 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: Kate Kaufman Title: Environmental Specialist

Signature: Kate Kaufman Date: 8/17/2022

email: kkaufman@hilcorp.com Telephone: 346-237-2275

**OCD Only**

Received by: Jocelyn Harimon Date: 08/17/2022

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: 09/20/2022

Printed Name: Nelson Velez Title: Environmental Specialist – Adv

# Executive Summary – Incident #nAPP2215935656

On June 2, 2022, approximately 17 bbls of produced water was released from a corroded section of pipeline during a water transfer at the Vasaly 2 SWD facility. Operations isolated the corroded section and removed remaining pipeline fluids. Standing fluids and impacted soil were removed via hydrovac and transported offsite for disposal. The corroded portion of pipeline was replaced and put back into service. The release occurred on pad at the Vasaly Saltwater Disposal facility.

In the process of inspecting and repairing the pipeline, Hilcorp removed soil from the impacted area. Three 5-point composite samples and two grab samples were collected on June 10, 2022. Analytical results from this sampling event were below NMOCD action criteria noted in NMAC 19.15.29 Table 1. Sample results are included.

# Scaled Site Map

Lat: 36.801763
Long: -107.976922

Vasaly 2 SWD
API: 30-045-29936

Release Area

N

# Data table of soil contaminant concentrations

| Sample Name | Sample Date | Field VOCs by PID (ppm) | Vasaly 2 SWD Laboratory Results | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Chloride (mg/kg) | TPH as DRO (mg/kg) | TPH as GRO (mg/kg) | TPH as MRO (mg/kg) | Total TPH (mg/kg) | TPH as GRO + DRO (mg/kg) | Benzene (mg/kg) | Toluene (mg/kg) | Ethylbenzene (mg/kg) | Total Xylene (mg/kg) | Total BTEX (mg/kg) |
| **19.15.29 Table 1 Closure Criteria** | | | **20,000** | - | - | - | **2,500** | **1,000** | **10** | - | - | - | **50** |
| North Wall | 6/10/2022 | - | 230 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| South Wall | 6/10/2022 | - | 120 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| Base | 6/10/2022 | | 290 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| South Grab | 6/10/2022 | | 190 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| North Grab | 6/10/2022 | - | 500 | ND | ND | ND | ND | ND | <1.0 | <1.0 | ND | <1.0 | <1.0 |

Notes:
1. VOCs - Volatile Organic Compounds
2. PID - Photo-ionization Detector
3. ppm - parts per million
4. mg/kg - milligram per kilogram
5. TPH - Total Petroleum Hydrocarbons
6. DRO - Diesel Range Organics
7. GRO - Gasoline Range Organics
8. MRO - Motor Oil Range Organics
9. BTEX - benzene, toluene, ethylbenzene, xylene
10. ( - ) - None Available
11. ND - Not detected within laboratory reporting limits

Confirmation samples were collected on 6/10/2022 by Hilcorp personnel and all results were below NMOCD 19.15.29.12.D Table 1 closure criteria.

# Depth to groundwater determination.

BGT Siting Criteria for Vasaly Com 1N – 470’ north of the Vasaly 2 SWD

Estimated depth to groundwater is greater than 100’.

**Siting Criteria Compliance Demonstration & Hydro Geologic Analysis**

The Vasaly Com 1N is not located in an unstable area. The location is not over a mine and is not on the side of a hill as indicated on the Mines, Mills and Quarries Map and Topographic Map. The location of the excavated pit material will not be located within 300’ of any continuously flowing watercourse or 200’ from any other watercourse as indicated on the Topographic Map. The location is not within a 100-year floodplain area as indicated on the FEMA Map. The Cathodic well data from the Fuller 1 has an elevation of 5789’ and groundwater depth of 80’. The subject well has an elevation of 5835’ which is greater than the Fuller 1, therefore the groundwater depth is greater than 126’. There are no iWATERS data points located in the area as indicated on the TOPO Map. The hydro geologic analysis indicates the groundwater depth and the Nacimiento formation will create a stable area for this new location.

# Depth to groundwater determination.

Cathodic well log from the Fuller #3, approximately 1,400’ northwest and 71’ lower elevation than Vasaly 2 SWD. Cathodic well indicates groundwater at 80 feet, elevation difference between the two supports depth to groundwater determination of 100’ at Vasaly 2 SWD.

Estimated depth to groundwater is greater than 100 feet.

DATA SHEET FOR DEEP GROUND BED CATHODIC PROTECTION WELLS
NORTHWESTERN NEW MEXICO
(Submit 3 copies to OCD Aztec Office) CP-1903W

Operator MERIDIAN OIL INC. Location: Unit C Sec. 22 Twp 30 Rng 11

Name of Well/Wells or Pipeline Serviced FULLER #1, #3

cps 1903w

Elevation 5789' Completion Date 11/11/87 Total Depth 280' Land Type* N/A

Casing, Sizes, Types & Depths 65' OF 7" PVC CASING

If Casing is cemented, show amounts & types used N/A

If Cement or Bentonite Plugs have been placed, show depths & amounts used

N/A

Depths & thickness of water zones with description of water when possible:

Fresh, Clear, Salty, Sulphur, Etc. 80' NO SAMPLE

Depths gas encountered: N/A

Type & amount of coke breeze used: N/A

Depths anodes placed: 245', 230', 210', 200', 190', 170', 160', 150', 140', 130'

Depths vent pipes placed: N/A

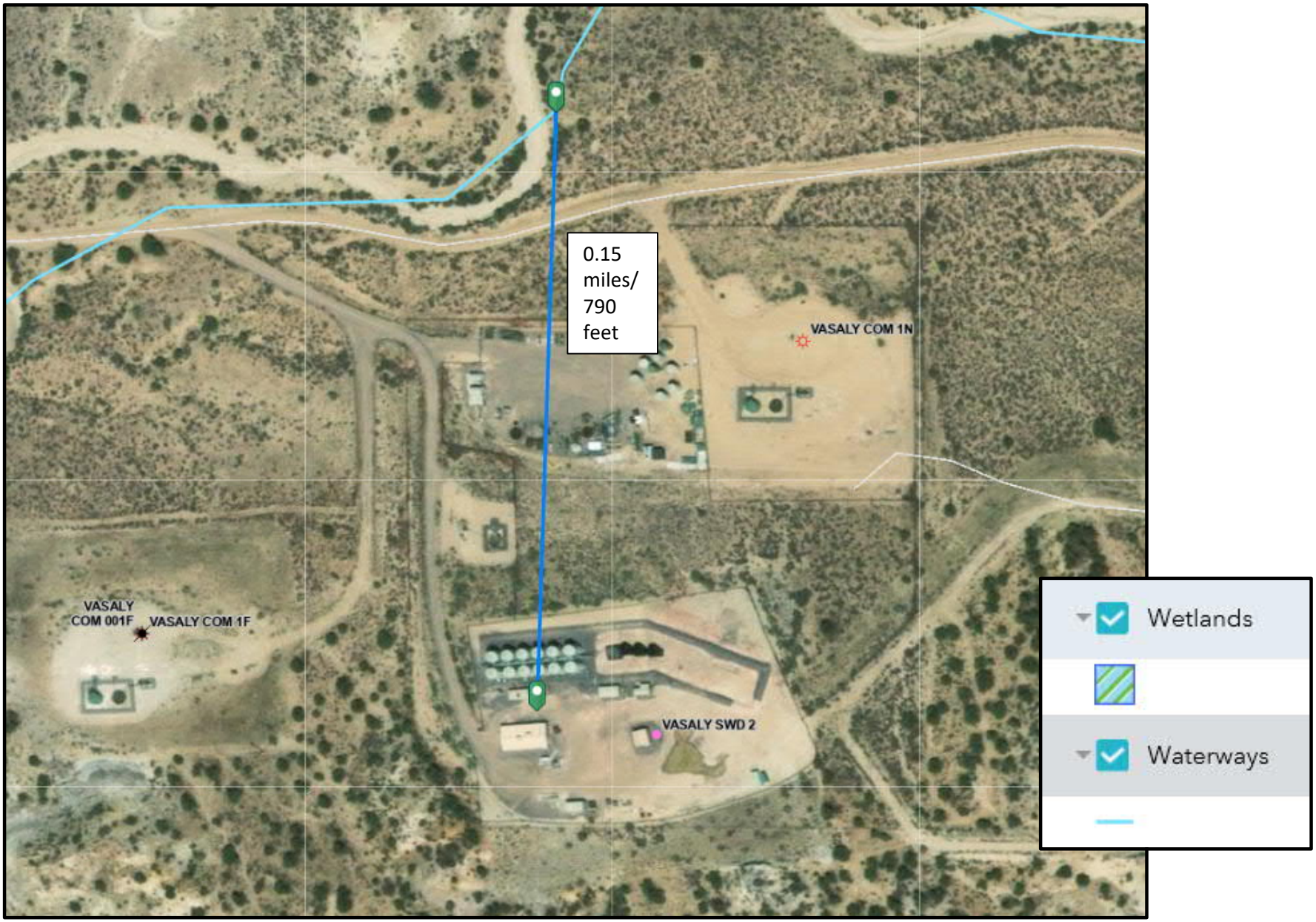
Vent pipe perforations: 220'

Remarks: gb #1

If any of the above data is unavailable, please indicate so. Copies of all logs, including Drillers Log, Water Analyses & Well Bore Schematics should be submitted when available. Unplugged abandoned wells are to be included.

*Land Type may be shown: F-Federal; I-Indian; S-State; P-Fee.
If Federal or Indian, add Lease Number.

# Determination of water sources and significant watercourses within ½ mile of the lateral extent of the release




Note 1: Release point is not shown to be within 300 ft of any continuously flowing watercourse or any other significant water course.

Note 2: The lateral extents of the release point are not shown to be within 300 feet of a mapped wetland.

# Distance to mapped water wells.

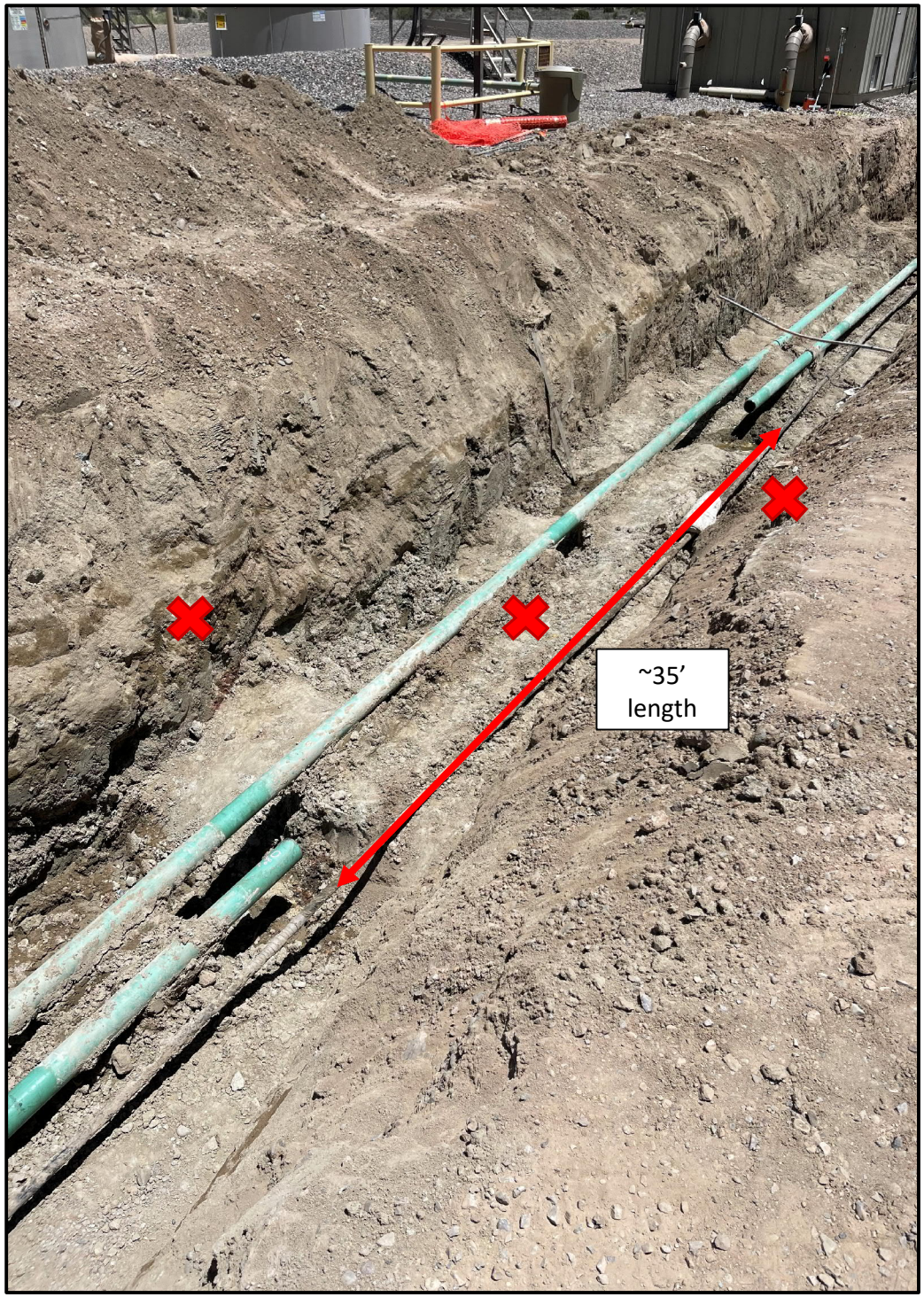

Note: The lateral extents of the release point are not shown to be within 500 ft of a spring or domestic freshwater well used by less than 5 households (or stock watering) or within 1,000 ft of any freshwater water well or spring.

# Sample Locations/Field Notes - 6/10/2011

- Approximate trench dimensions: 6’d x 8’w x 35’l

- Total area: ~280 sq. ft.

- 3 samples: 1 each sidewall, 1 bottom



# Sampling Site Photographs – 6/10/2022

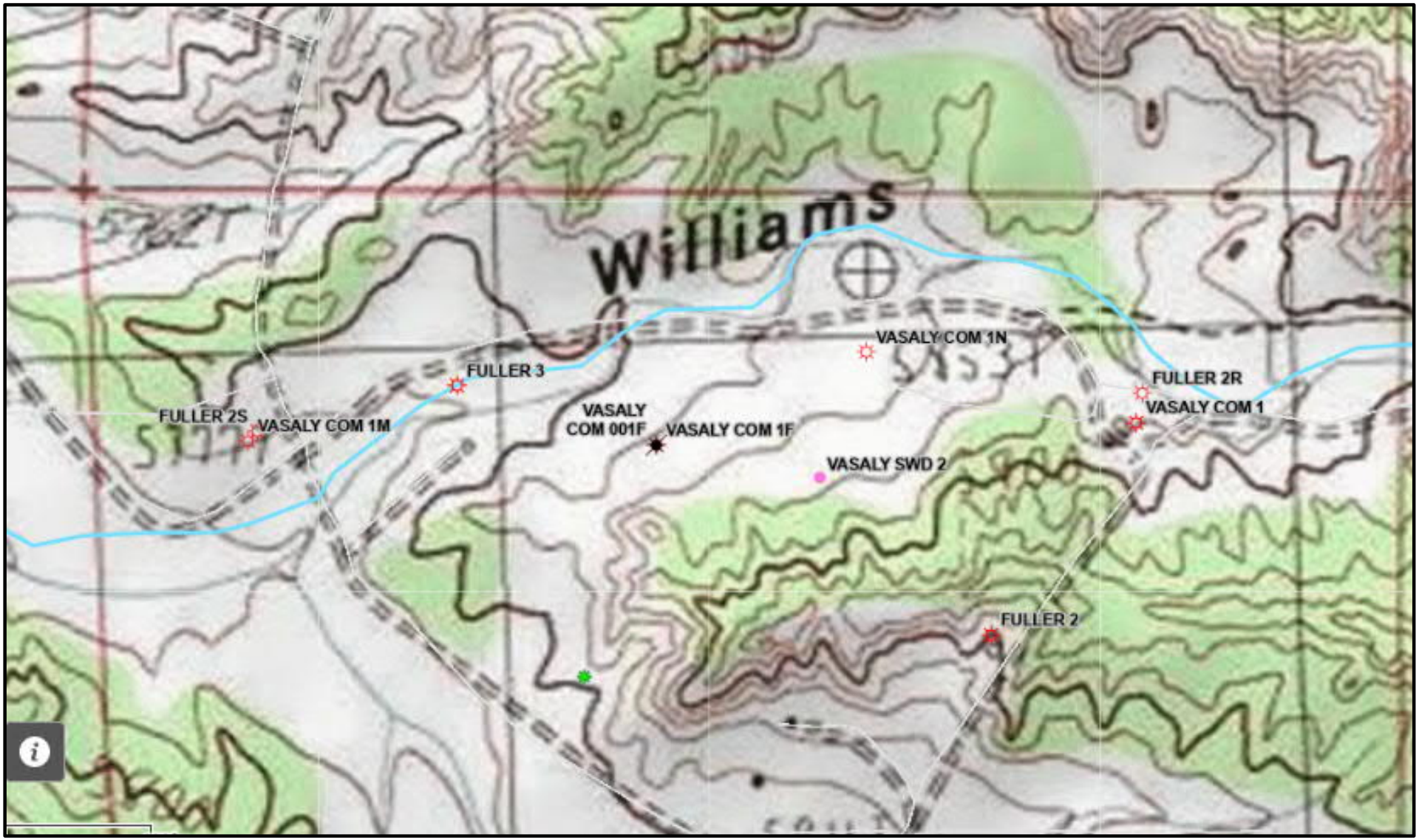

Base Sample Locations


North Wall Sample Locations

# Sampling Site Photographs – 6/10/2022


South Wall Sample Locations


# Topographic Map



Analytical Data, Sample Collected 6/10/2022.

See attached Lab Report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

June 15, 2022

Kate Kaufman
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499
TEL: (505) 564-0733
FAX:

RE: Vasaly 2 SWD OrderNo.: 2206635

Dear Kate Kaufman:

Hall Environmental Analysis Laboratory received 5 sample(s) on 6/11/2022 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 Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

**Analytical Report**
Lab Order **2206635**
Date Reported: **6/15/2022**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY **Client Sample ID:** N Wall
**Project:** Vasaly 2 SWD **Collection Date:** 6/10/2022 1:06:00 PM
**Lab ID:** 2206635-001 **Matrix:** MEOH (SOIL) **Received Date:** 6/11/2022 10:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **JME** |
| Diesel Range Organics (DRO) | ND | 14 | | mg/Kg | 1 | 6/13/2022 9:59:44 AM |
| Motor Oil Range Organics (MRO) | ND | 47 | | mg/Kg | 1 | 6/13/2022 9:59:44 AM |
| Surr: DNOP | 113 | 51.1-141 | | %Rec | 1 | 6/13/2022 9:59:44 AM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **BRM** |
| Gasoline Range Organics (GRO) | ND | 4.3 | | mg/Kg | 1 | 6/13/2022 12:34:00 PM |
| Surr: BFB | 90.7 | 37.7-212 | | %Rec | 1 | 6/13/2022 12:34:00 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **BRM** |
| Benzene | ND | 0.022 | | mg/Kg | 1 | 6/13/2022 12:34:00 PM |
| Toluene | ND | 0.043 | | mg/Kg | 1 | 6/13/2022 12:34:00 PM |
| Ethylbenzene | ND | 0.043 | | mg/Kg | 1 | 6/13/2022 12:34:00 PM |
| Xylenes, Total | ND | 0.086 | | mg/Kg | 1 | 6/13/2022 12:34:00 PM |
| Surr: 4-Bromofluorobenzene | 86.2 | 70-130 | | %Rec | 1 | 6/13/2022 12:34:00 PM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JMT** |
| Chloride | 230 | 60 | | mg/Kg | 20 | 6/13/2022 12:21:46 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 |
| 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 interference |
| B | Analyte detected in the associated Method Blank |
| E | Estimated value |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

**Analytical Report**
Lab Order **2206635**
Date Reported: **6/15/2022**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY **Client Sample ID:** S Wall
**Project:** Vasaly 2 SWD **Collection Date:** 6/10/2022 1:13:00 PM
**Lab ID:** 2206635-002 **Matrix:** MEOH (SOIL) **Received Date:** 6/11/2022 10:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **JME** |
| Diesel Range Organics (DRO) | ND | 13 | | mg/Kg | 1 | 6/13/2022 10:10:27 AM |
| Motor Oil Range Organics (MRO) | ND | 44 | | mg/Kg | 1 | 6/13/2022 10:10:27 AM |
| Surr: DNOP | 114 | 51.1-141 | | %Rec | 1 | 6/13/2022 10:10:27 AM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **BRM** |
| Gasoline Range Organics (GRO) | ND | 4.2 | | mg/Kg | 1 | 6/13/2022 11:54:00 AM |
| Surr: BFB | 88.4 | 37.7-212 | | %Rec | 1 | 6/13/2022 11:54:00 AM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **BRM** |
| Benzene | ND | 0.021 | | mg/Kg | 1 | 6/13/2022 11:54:00 AM |
| Toluene | ND | 0.042 | | mg/Kg | 1 | 6/13/2022 11:54:00 AM |
| Ethylbenzene | ND | 0.042 | | mg/Kg | 1 | 6/13/2022 11:54:00 AM |
| Xylenes, Total | ND | 0.083 | | mg/Kg | 1 | 6/13/2022 11:54:00 AM |
| Surr: 4-Bromofluorobenzene | 85.3 | 70-130 | | %Rec | 1 | 6/13/2022 11:54:00 AM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JMT** |
| Chloride | 120 | 60 | | mg/Kg | 20 | 6/13/2022 12:34:11 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 |
| 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 interference |
| B | Analyte detected in the associated Method Blank |
| E | Estimated value |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

**Analytical Report**
Lab Order **2206635**
Date Reported: **6/15/2022**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY **Client Sample ID:** Base
**Project:** Vasaly 2 SWD **Collection Date:** 6/10/2022 1:19:00 PM
**Lab ID:** 2206635-003 **Matrix:** MEOH (SOIL) **Received Date:** 6/11/2022 10:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **JME** |
| Diesel Range Organics (DRO) | ND | 15 | | mg/Kg | 1 | 6/13/2022 10:31:52 AM |
| Motor Oil Range Organics (MRO) | ND | 50 | | mg/Kg | 1 | 6/13/2022 10:31:52 AM |
| Surr: DNOP | 95.8 | 51.1-141 | | %Rec | 1 | 6/13/2022 10:31:52 AM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **BRM** |
| Gasoline Range Organics (GRO) | ND | 4.5 | | mg/Kg | 1 | 6/13/2022 12:54:00 PM |
| Surr: BFB | 94.6 | 37.7-212 | | %Rec | 1 | 6/13/2022 12:54:00 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **BRM** |
| Benzene | ND | 0.023 | | mg/Kg | 1 | 6/13/2022 12:54:00 PM |
| Toluene | ND | 0.045 | | mg/Kg | 1 | 6/13/2022 12:54:00 PM |
| Ethylbenzene | ND | 0.045 | | mg/Kg | 1 | 6/13/2022 12:54:00 PM |
| Xylenes, Total | ND | 0.090 | | mg/Kg | 1 | 6/13/2022 12:54:00 PM |
| Surr: 4-Bromofluorobenzene | 87.4 | 70-130 | | %Rec | 1 | 6/13/2022 12:54:00 PM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JMT** |
| Chloride | 290 | 60 | | mg/Kg | 20 | 6/13/2022 12:46:36 PM |

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 | Estimated value |
| 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 Quanitative Limit | RL | Reporting Limit |
| S | % Recovery outside of range due to dilution or matrix interference | | |

**Analytical Report**
Lab Order **2206635**
Date Reported: **6/15/2022**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY **Client Sample ID:** S Grab
**Project:** Vasaly 2 SWD **Collection Date:** 6/10/2022 1:31:00 PM
**Lab ID:** 2206635-004 **Matrix:** MEOH (SOIL) **Received Date:** 6/11/2022 10:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **JME** |
| Diesel Range Organics (DRO) | ND | 15 | | mg/Kg | 1 | 6/13/2022 11:51:38 AM |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 6/13/2022 11:51:38 AM |
| Surr: DNOP | 93.2 | 51.1-141 | | %Rec | 1 | 6/13/2022 11:51:38 AM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **BRM** |
| Gasoline Range Organics (GRO) | ND | 3.9 | | mg/Kg | 1 | 6/13/2022 12:14:00 PM |
| Surr: BFB | 88.7 | 37.7-212 | | %Rec | 1 | 6/13/2022 12:14:00 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **BRM** |
| Benzene | ND | 0.019 | | mg/Kg | 1 | 6/13/2022 12:14:00 PM |
| Toluene | ND | 0.039 | | mg/Kg | 1 | 6/13/2022 12:14:00 PM |
| Ethylbenzene | ND | 0.039 | | mg/Kg | 1 | 6/13/2022 12:14:00 PM |
| Xylenes, Total | ND | 0.077 | | mg/Kg | 1 | 6/13/2022 12:14:00 PM |
| Surr: 4-Bromofluorobenzene | 86.8 | 70-130 | | %Rec | 1 | 6/13/2022 12:14:00 PM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JMT** |
| Chloride | 190 | 60 | | mg/Kg | 20 | 6/13/2022 12:59:00 PM |

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 | Estimated value |
| 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 Quanitative Limit | RL | Reporting Limit |
| S | % Recovery outside of range due to dilution or matrix interference | | |

**Analytical Report**
Lab Order **2206635**
Date Reported: **6/15/2022**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** HILCORP ENERGY **Client Sample ID:** N Grab
**Project:** Vasaly 2 SWD **Collection Date:** 6/10/2022 1:33:00 PM
**Lab ID:** 2206635-005 **Matrix:** MEOH (SOIL) **Received Date:** 6/11/2022 10:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **JME** |
| Diesel Range Organics (DRO) | ND | 15 | | mg/Kg | 1 | 6/13/2022 12:02:20 PM |
| Motor Oil Range Organics (MRO) | ND | 50 | | mg/Kg | 1 | 6/13/2022 12:02:20 PM |
| Surr: DNOP | 98.0 | 51.1-141 | | %Rec | 1 | 6/13/2022 12:02:20 PM |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **BRM** |
| Gasoline Range Organics (GRO) | ND | 3.4 | | mg/Kg | 1 | 6/13/2022 1:13:00 PM |
| Surr: BFB | 91.1 | 37.7-212 | | %Rec | 1 | 6/13/2022 1:13:00 PM |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **BRM** |
| Benzene | 0.018 | 0.017 | | mg/Kg | 1 | 6/13/2022 1:13:00 PM |
| Toluene | 0.062 | 0.034 | | mg/Kg | 1 | 6/13/2022 1:13:00 PM |
| Ethylbenzene | ND | 0.034 | | mg/Kg | 1 | 6/13/2022 1:13:00 PM |
| Xylenes, Total | 0.090 | 0.068 | | mg/Kg | 1 | 6/13/2022 1:13:00 PM |
| Surr: 4-Bromofluorobenzene | 86.5 | 70-130 | | %Rec | 1 | 6/13/2022 1:13:00 PM |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JMT** |
| Chloride | 500 | 60 | | mg/Kg | 20 | 6/13/2022 1:11:25 PM |

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 | Estimated value |
| 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 Quanitative Limit | RL | Reporting Limit |
| S | % Recovery outside of range due to dilution or matrix interference | | |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2206635**

***15-Jun-22***

**Client:** HILCORP ENERGY

**Project:** Vasaly 2 SWD

| Sample ID: **MB-68070** | SampType: **mblk** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **68070** | RunNo: **88683** |
| Prep Date: **6/13/2022** | Analysis Date: **6/13/2022** | SeqNo: **3148891** Units: **mg/Kg** |

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

| Sample ID: **LCS-68070** | SampType: **lcs** | TestCode: **EPA Method 300.0: Anions** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **68070** | RunNo: **88683** |
| Prep Date: **6/13/2022** | Analysis Date: **6/13/2022** | SeqNo: **3148893** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 15 | 1.5 | 15.00 | 0 | 98.0 | 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 interference |
| B | Analyte detected in the associated Method Blank |
| E | Estimated value |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2206635**

***15-Jun-22***

**Client:** HILCORP ENERGY

**Project:** Vasaly 2 SWD

| Sample ID: **MB-68058** | SampType: **MBLK** | TestCode: **EPA Method 8015M/D: Diesel Range Organics** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **68058** | RunNo: **88664** |
| Prep Date: **6/13/2022** | Analysis Date: **6/13/2022** | SeqNo: **3148062** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (DRO) | ND | 15 | | | | | | | | |
| Motor Oil Range Organics (MRO) | ND | 50 | | | | | | | | |
| Surr: DNOP | 11 | | 10.00 | | 109 | 51.1 | 141 | | | |

| Sample ID: **LCS-68058** | SampType: **LCS** | TestCode: **EPA Method 8015M/D: Diesel Range Organics** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **68058** | RunNo: **88664** |
| Prep Date: **6/13/2022** | Analysis Date: **6/13/2022** | SeqNo: **3148063** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (DRO) | 49 | 15 | 50.00 | 0 | 98.0 | 64.4 | 127 | | | |
| Surr: DNOP | 5.1 | | 5.000 | | 101 | 51.1 | 141 | | | |

| Sample ID: **2206635-001AMS** | SampType: **MS** | TestCode: **EPA Method 8015M/D: Diesel Range Organics** |
|---|---|---|
| Client ID: **N Wall** | Batch ID: **68058** | RunNo: **88664** |
| Prep Date: **6/13/2022** | Analysis Date: **6/13/2022** | SeqNo: **3148069** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (DRO) | 46 | 14 | 46.30 | 0 | 100 | 36.1 | 154 | | | |
| Surr: DNOP | 4.7 | | 4.630 | | 102 | 51.1 | 141 | | | |

| Sample ID: **2206635-001AMSD** | SampType: **MSD** | TestCode: **EPA Method 8015M/D: Diesel Range Organics** |
|---|---|---|
| Client ID: **N Wall** | Batch ID: **68058** | RunNo: **88664** |
| Prep Date: **6/13/2022** | Analysis Date: **6/13/2022** | SeqNo: **3148070** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (DRO) | 49 | 14 | 45.91 | 0 | 106 | 36.1 | 154 | 4.89 | 33.9 | |
| Surr: DNOP | 4.9 | | 4.591 | | 107 | 51.1 | 141 | 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 interference |
| B | Analyte detected in the associated Method Blank |
| E | Estimated value |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2206635**

***15-Jun-22***

**Client:** HILCORP ENERGY

**Project:** Vasaly 2 SWD

| Sample ID: **2.5ug gro lcs** | SampType: **LCS** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **A88678** | RunNo: **88678** |
| Prep Date: | Analysis Date: **6/13/2022** | SeqNo: **3148073** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | 25 | 5.0 | 25.00 | 0 | 101 | 72.3 | 137 | | | |
| Surr: BFB | 2000 | | 1000 | | 198 | 37.7 | 212 | | | |

| Sample ID: **mb** | SampType: **MBLK** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **A88678** | RunNo: **88678** |
| Prep Date: | Analysis Date: **6/13/2022** | SeqNo: **3148074** 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 | 930 | | 1000 | | 92.8 | 37.7 | 212 | | | |

| Sample ID: **2206635-001ams** | SampType: **MS** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **N Wall** | Batch ID: **A88678** | RunNo: **88678** |
| Prep Date: | Analysis Date: **6/13/2022** | SeqNo: **3148516** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | 21 | 4.3 | 21.55 | 0 | 95.5 | 70 | 130 | | | |
| Surr: BFB | 1600 | | 862.1 | | 185 | 37.7 | 212 | | | |

| Sample ID: **2206635-001amsd** | SampType: **MSD** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **N Wall** | Batch ID: **A88678** | RunNo: **88678** |
| Prep Date: | Analysis Date: **6/13/2022** | SeqNo: **3148517** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | 21 | 4.3 | 21.55 | 0 | 96.6 | 70 | 130 | 1.17 | 20 | |
| Surr: BFB | 1600 | | 862.1 | | 183 | 37.7 | 212 | 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 interference |
| B | Analyte detected in the associated Method Blank |
| E | Estimated value |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2206635**

***15-Jun-22***

**Client:** HILCORP ENERGY

**Project:** Vasaly 2 SWD

| Sample ID: **100ng btex lcs** | SampType: **LCS** | TestCode: **EPA Method 8021B: Volatiles** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **B88678** | RunNo: **88678** |
| Prep Date: | Analysis Date: **6/13/2022** | SeqNo: **3148083** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.90 | 0.025 | 1.000 | 0 | 90.0 | 80 | 120 | | | |
| Toluene | 0.92 | 0.050 | 1.000 | 0 | 92.2 | 80 | 120 | | | |
| Ethylbenzene | 0.94 | 0.050 | 1.000 | 0 | 93.8 | 80 | 120 | | | |
| Xylenes, Total | 2.8 | 0.10 | 3.000 | 0 | 93.3 | 80 | 120 | | | |
| Surr: 4-Bromofluorobenzene | 0.93 | | 1.000 | | 92.8 | 70 | 130 | | | |

| Sample ID: **mb** | SampType: **MBLK** | TestCode: **EPA Method 8021B: Volatiles** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **B88678** | RunNo: **88678** |
| Prep Date: | Analysis Date: **6/13/2022** | SeqNo: **3148084** 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: 4-Bromofluorobenzene | 0.92 | | 1.000 | | 91.6 | 70 | 130 | | | |

| Sample ID: **2206635-002ams** | SampType: **MS** | TestCode: **EPA Method 8021B: Volatiles** |
|---|---|---|
| Client ID: **S Wall** | Batch ID: **B88678** | RunNo: **88678** |
| Prep Date: | Analysis Date: **6/13/2022** | SeqNo: **3148557** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.76 | 0.021 | 0.8340 | 0 | 91.3 | 68.8 | 120 | | | |
| Toluene | 0.77 | 0.042 | 0.8340 | 0 | 92.4 | 73.6 | 124 | | | |
| Ethylbenzene | 0.77 | 0.042 | 0.8340 | 0 | 92.5 | 72.7 | 129 | | | |
| Xylenes, Total | 2.3 | 0.083 | 2.502 | 0 | 91.7 | 75.7 | 126 | | | |
| Surr: 4-Bromofluorobenzene | 0.71 | | 0.8340 | | 85.1 | 70 | 130 | | | |

| Sample ID: **2206635-002amsd** | SampType: **MSD** | TestCode: **EPA Method 8021B: Volatiles** |
|---|---|---|
| Client ID: **S Wall** | Batch ID: **B88678** | RunNo: **88678** |
| Prep Date: | Analysis Date: **6/13/2022** | SeqNo: **3148558** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.74 | 0.021 | 0.8340 | 0 | 88.8 | 68.8 | 120 | 2.76 | 20 | |
| Toluene | 0.75 | 0.042 | 0.8340 | 0 | 89.4 | 73.6 | 124 | 3.33 | 20 | |
| Ethylbenzene | 0.74 | 0.042 | 0.8340 | 0 | 89.0 | 72.7 | 129 | 3.79 | 20 | |
| Xylenes, Total | 2.2 | 0.083 | 2.502 | 0 | 88.5 | 75.7 | 126 | 3.61 | 20 | |
| Surr: 4-Bromofluorobenzene | 0.69 | | 0.8340 | | 82.2 | 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 interference |
| B | Analyte detected in the associated Method Blank |
| E | Estimated value |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

# Sample Log-In Check List

Client Name: **HILCORP ENERGY** Work Order Number: **2206635** RcptNo: **1**

Received By: **Desiree Dominguez** **6/11/2022 10:00:00 AM** DD

Completed By: **Desiree Dominguez** **6/11/2022 10:23:26 AM** DD

Reviewed By: CMC 6/13/22

## 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 ☑ | No ☐ | NA ☐ |
| 4. Were all samples received at a temperature of >0° 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 6/11/22

## 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 °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 0.8 | Good | Yes | | | |

# Chain-of-Custody Record

Client: Hilcorp Energy

Mailing Address: 382 CR 3100
Aztec NM 87410

Phone #: 505.599.3400

email or Fax#: KKaufman@hilcorp.com

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: Same Day
☐ Standard ☒ Rush Monday

Project Name: Vasaly 2 SWD

Project #:

Project Manager: Kate Kaufman

Sampler: Cardoza

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.6 + 0.2 = 0.8 (°C)

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

| Date | Time | Matrix | Sample Name | Container Type and # | Preservative Type | HEAL No. 2206635 |
|---|---|---|---|---|---|---|
| 6/10/22 | 106 | Soil | N Wall | 4oz Glass/1 | Cool | -001 |
| 6/10/22 | 113 | Soil | S Wall | 4oz Glass/1 | | -002 |
| 6/10/22 | 119 | Soil | Base | 4oz Glass/1 | | -003 |
| 6/10/22 | 131 | Soil | S Grab | 4oz Glass/1 | | -004 |
| 6/10/22 | 133 | Soil | N Grab | 4oz Glass/1 | | -005 |

Analysis Request

| 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 | Cl, F, Br, $NO_3$, $NO_2$, $PO_4$, $SO_4$ | 8260 (VOA) | 8270 (Semi-VOA) | Total Coliform (Present/Absent) | Chlorids 300.0 |
|---|---|---|---|---|---|---|---|---|---|---|
| X | X | | | | | | | | | X |
| X | X | | | | | | | | | X |
| X | X | | | | | | | | | X |
| X | X | | | | | | | | | X |
| X | X | | | | | | | | | X |

| Date: | Time: | Relinquished by: | Received by: | Via: | Date | Time |
|---|---|---|---|---|---|---|
| 6/10/22 | 3:22 | | | | 6/10/22 | 1522 |
| 6/10/22 | 1748 | | | Courier | 6/11/22 | 10:00 |

Remarks:

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

**District I**
1625 N. French Dr., Hobbs, NM 88240
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**District II**
811 S. First St., Artesia, NM 88210
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**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

Action 134819

## CONDITIONS

| | |
|---|---|
| Operator:<br>HILCORP ENERGY COMPANY<br>1111 Travis Street<br>Houston, TX 77002 | OGRID:<br>372171 |
| | Action Number:<br>134819 |
| | Action Type:<br>[C-141] Release Corrective Action (C-141) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| nvelez | None | 9/20/2022 |