Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2113132295
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: Bob Hall Title: Environmental Manager

Signature: Bob Hall Date: 10/26/2021

email: bhall@btaoil.com Telephone: (432) 682-3753

OCD Only

Received by: Chad Hensley Date: 12/01/2021

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: Chad Hensley Date: 12/01/2021

Printed Name: Chad Hensley Title: Environmental Specialist Advanced

Form C-141
Page 3

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2113132295
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?	unknown (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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Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2113132295
District RP	
Facility ID	
Application ID	

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Printed Name: Bob Hall

Title: Environmental Manager

Signature: Bob Hall

Date: 10/26/2021

email: bhall@btaoil.com

Telephone: (432) 682-3753

OCD Only

Received by: _____

Date: _____

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2113132295
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: Bob Hall Title: Environmental Manager

Signature: Bob Hall Date: 10/26/2021

email: bhall@btaoil.com Telephone: (432) 682-3753

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

August 24, 2021 Vertex Project #: 21E-01340-003

Spill Closure Report: White Wing #2H
Unit C, Section 18, Township 23 South, Range 34 East
County: Lea
API: 30-025-46148
Incident ID: nAPP2113132295

Prepared For: BTA Oil Producers, LLC
104 South Pecos Street
Midland, Texas 79701

New Mexico Oil Conservation Division – District 1 – Hobbs
1625 North French Drive
Hobbs, New Mexico 88240

BTA Oil Producers, LLC (BTA) retained Vertex Resource Services Inc. (Vertex) to conduct a spill assessment and remediation for an oil and produced water release that occurred on May 5, 2021, at White Wing #2H, API 30-025-46148 (hereafter referred to as "White Wing"). BTA submitted an initial C-141 Release Notification (Attachment 1) to New Mexico Oil Conservation Division (NMOCD) District 1 on May 11, 2021. Incident ID number nAPP2113132295 was assigned to this incident.

This letter provides a description of the release assessment and remediation activities and demonstrates that closure criteria established in Table I of *19.15.29.12 New Mexico Administrative Code* (NMAC; New Mexico Oil Conservation Division, 2018) are being met and all applicable regulations are being followed. This document is intended to serve as a final report to obtain approval from NMOCD for closure of this release, with the understanding that restoration of the release site will be deferred until such time as all oil and gas activities are terminated and the site is reclaimed per 19.15.29.13 NMAC.

Incident Description

On May 5, 2021, a release outside BTA's White Wing site occurred when an operator struck an existing flowline during the installation of a new flowline. The strike resulted in the release of 10 barrels of oil and produced water onto undisturbed land off the pad. After the release, a hydrovac was brought on-site to determine where the flowlines were. No fluids were recovered from the release. No oil or produced water was released into waterways.

Site Characterization

The release at White Wing occurred on privately-owned land at 32.31039° N, 103.51223° W, approximately 22 miles northwest of Jal, New Mexico. The legal description for the site is Unit C, Section 18, Township 23 South, Range 34 East, in Lea County, New Mexico. This location is within the Permian Basin in southeast New Mexico and has historically been used for oil and gas exploration and production, and rangeland.

White Wing is typical of oil and gas exploration and production sites on the western portion of the Permian Basin and is currently used for oil and gas production and storage. The following sections specifically describe the release area east of the constructed pad where the flowlines are located and the access-road running to the east edge of the site, (Attachment 2 – Figure 1).

The surrounding landscape is associated with plains and alluvial fans with elevation ranging between 3,000 and 4,200 feet. The climate is semiarid with average annual precipitation ranging between 10 and 15inches. Using information from United States Department of Agriculture, the dominant vegetation was determined to be principally black grama, dropseeds and bluestems. Shrubs, such as sand sage, shinnery oak and mesquite, are dispersed throughout the grassland. Forbs are present and populations fluctuate with precipitation variability (United States Department of Agriculture, Natural Resources Conservation Service, 2021**).** Limited to no vegetation is allowed to grow on the compacted production pad, right of way, and access road.

The Geological Map of New Mexico indicates the surface geology at White Wing is comprised primarily of Qep—Eolian and piedmont deposits from the Holocene to middle Pleistocene ages (New Mexico Bureau of Geology and Mineral Resources, 2021). The United States Department of Agriculture Web Soil Survey characterizes the soil at the site as Berino-Cacique loamy fine sands and Simona fine sandy loam. The soil is well-drained with low to very high runoff and moderate to very low moisture levels in the profile. The karst geology potential for White Wing is low (United States Department of the Interior, Bureau of Land Management, 2018).

There is no surface water located at White Wing. The nearest significant watercourse, as defined in Subsection P of 19.15.17.7 NMAC, is an intermittent stream located approximately 0.18 miles south of the site. A freshwater pond and a freshwater emergent wetland are located approximately 1.12 miles northwest and 1.56 miles east of the release site, respectively (United States Fish and Wildlife Service, 2021). At White Wing, there are no continuously flowing watercourses or significant watercourses, lakebeds, sinkholes, playa lakes or other critical water or community features as outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

The nearest active well to White Wing is a water well located approximately 1.00 miles east of the site (New Mexico Office of the State Engineer, 2021). A USGS monitoring well is located approximately 0.79 miles to the northeast of White Wing, providing a depth to groundwater reference. Data from 1986 shows the USGS well had a depth to groundwater of 329 feet below ground surface (bgs; United States Department of the Interior, United States Geological Survey, 2021). There are no active water wells located within a half-mile radius of the site. Information pertaining to the depth to groundwater determination is included in Attachment 3.

Closure Criteria Determination

Using site characterization information, a closure criteria determination worksheet (Attachment 3) was completed to determine if the release was subject to any of the special case scenarios outlined in Paragraph (4) of Subsection C of 19.15.29.12 NMAC.

Based on the data included in the closure criteria determination worksheet, the release at White Wing is not subject to the requirements of Paragraph (4) of Subsection C of 19.15.29.12 NMAC. The nearest groundwater well data is older than 25 years and located further than 0.5 miles from the release site; therefore the depth to groundwater cannot be

accurately determined and the closure criteria for the site is determined to be associated with the following constituent concentration limits (Table 1).

Table 1. Closure Criteria for Soils Impacted by a Release

Minimum depth below any point within the horizontal boundary of the release to ground water less than 10,000 mg/L TDS[1]	Constituent	Limit
<50 feet	Chloride	600 mg/kg
	TPH[2] (GRO + DRO + MRO)	100 mg/kg
	BTEX[3]	50 mg/kg
	Benzene	10 mg/kg

[1]Total Dissolved Solids (TDS)
[2]Total petroleum hydrocarbons (TPH) = gasoline range organics (GRO) + diesel range organics (DRO) + motor oil range organics (MRO)
[3]Benzene, toluene, ethylbenzene and xylenes (BTEX)

Remedial Actions

On May 6, 2021, BTA contracted with Vertex to complete release delineation and remediation at White Wing through field screen procedures, oversight of the remediation fieldwork and final confirmatory sampling. The initial spill inspection and site characterization activities at White Wing were completed by Vertex on May 6 and 7, 2021. The Daily Field Report (DFR) and field screening data associated with the visits is included in Attachment 4. The extent of the release was determined to be approximately 8,114 square feet. Initial characterization sample locations are presented in Figure 1 (Attachment 2) and laboratory results are presented in Table 2 (Attachment 6).

On May 12 and 20, 2021, during excavation and following the completion of excavation activities, Vertex provided 48-hour notification of confirmation sampling to NMOCD (Attachment 5), as required by Subparagraph (a) of Paragraph (1) of Subsection D 19.15.29.12 NMAC. The release was delineated horizontally and vertically using initial field screening data, and remediation was started. Excavation of impacted soils was conducted between May 13 and 21, 2021, with a Vertex representative on-site to conduct field screen procedures to determine final horizontal and vertical extents of the excavation area. Final square footage of the excavation was 8,313 square feet. On May 21, 2021, excavation was completed with approximately 1,269 total yards were excavated and hauled to Northern Delaware Basin Landfill.

On May 24 and 25, 2021, Vertex collected a total of 41 five-point composite confirmatory samples from the base and side walls of the excavation, at depths ranging between ground surface and 3 feet bgs. Each composite sample was representative of no more than 200 square feet per the alternate sampling method outlined in Subparagraph (c) of Paragraph (1) of Subsection D 19.15.29.12 NMAC, which does not require prior NMOCD approval. The composite samples were placed into laboratory-provided containers, preserved on ice, and submitted to a National Environmental Laboratory Accreditation Program-approved laboratory for chemical analysis.

On June 11, 2021, during backfill of the excavation, a second line strike occurred on a flowline. The strike resulted in a release of 4 bbls of oil and produced water. Additional samples were collected to delineate the release on June 12, 2021. Additional excavation was completed during the sampling event. All samples were submitted for laboratory analysis (Attachment 7). Sample locations for the release are presented in Figure 3 (Attachment 2). Approximately 90 yards were excavated and hauled to Northern Delaware Basin Landfill.

On June 15, backfill was completed with approximately 1,336 total yards for both releases. Approximately 980 yards of clean, uncontaminated topsoil were backfilled from Merchant Livestock Company. Approximately 356 yards of clean, uncontaminated topsoil were backfilled from the landowner to finish backfilling the excavation after the second line strike.

Laboratory analyses included Method 300.0 for chlorides, Method 8021B for volatile organics, including BTEX, and EPA Method 8015 for TPH, including MRO, DRO and GRO. Confirmatory sample analytical data are summarized in Attachment 6. Laboratory data reports and chain of custody forms are included in Attachment 7.

A GeoExplorer 7000 Series Trimble global positioning system (GPS) unit, or equivalent, was used to map the approximate center of each of the five-point composite samples. The confirmatory sample locations are presented on Figure 2 (Attachment 2) Relevant equipment and prominent features/reference points at the site are mapped as well.

Closure Request

Vertex recommends no additional remediation action to address the release at White Wing. Laboratory analyses of confirmation samples collected at White Wing show final confirmatory values below NMOCD closure criteria for areas where depth to groundwater is less than 50 feet bgs as presented in Table 1. There are no anticipated risks to human, ecological or hydrological receptors at the release site.

The excavation was backfilled with non-waste-containing, uncontaminated, earthen material, sourced locally, and placed to meet the site's existing grade to prevent water ponding and erosion.

Vertex requests that this incident (nAPP2113132295) be closed as all closure requirements set forth in Subsection E of 19.15.29.12 NMAC have been met. BTA certifies that all information in this report and the attachments is correct, and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NM OCD requirements to obtain closure on the May 5, 2021, release at White Wing.

Should you have any questions or concerns, please do not hesitate to contact the undersigned at 575-988-1472 or cdixon@vertex.ca.

Chance Dixon

Chance Dixon, B.sc.
Environmental Technician, REPORTING

September 28, 2021
Date

John Hurt
U.S. Operations Manager - USA, REPORT REVIEW

September 28, 2021
Date

Attachments

Attachment 1. NMOCD C-141 Report
Attachment 2. Figures
Attachment 3. Closure Criteria for Soils Impacted by a Release Research Determination Documentation
Attachment 4. Daily Field Report(s) with Photographs
Attachment 5. Required 48-hour Notification of Confirmatory Sampling to Regulatory Agencies
Attachment 6. Summarized Lab Data Tables
Attachment 7. Laboratory Data Reports and Chain of Custody Forms

References

New Mexico Bureau of Geology and Mineral Resources. (2021). *Interactive Geologic Map.* Retrieved from http://geoinfo.nmt.edu.

New Mexico Energy, Minerals and Natural Resources Department, Mining and Minerals Division. (2021). *Registered Mines and Permits Search.* Retrieved from https://wwwapps.emnrd.state.nm.us/MMD/MMDWebInfo/.

New Mexico Office of the State Engineer, New Mexico Water Rights Reporting System. (2021). *Water Column/Average Depth to Water Report.* Retrieved from http://nmwrrs.ose.state.nm.us/nmwrrs/waterColumn.html.

New Mexico Oil Conservation Division. (2018). *New Mexico Administrative Code – Natural Resources and Wildlife Oil and Gas Releases*. Santa Fe, New Mexico.

United States Department of Agriculture, Natural Resources Conservation Service. (2021). *Web Soil Survey*. Retrieved from https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.

United States Department of the Interior, Bureau of Land Management. (2018). *New Mexico Cave/Karsts.*

United States Department of the Interior, United States Geological Survey. (2021). *National Water Information System.* Retrieved from https://waterdata.usgs.gov/nwis

United States Fish and Wildlife Service. (2021). *National Wetlands Inventory*. Retrieved from https://www.fws.gov/wetlands/data/Mapper.html.

Limitations

This report has been prepared for the sole benefit of BTA Oil Producers, LLC (BTA). This document may not be used by any other person or entity, except for the New Mexico Oil Conservation Division, without the express written consent of Vertex Resource Services Inc. (Vertex) and BTA. Any use of this report by a third party, or any reliance on decisions made based on it, or damages suffered as a result of the use of this report are the sole responsibility of the user.

The information and conclusions contained in this report are based upon work undertaken by trained professional and technical staff in accordance with generally accepted scientific practices current at the time the work was performed. The conclusions and recommendations presented represent the best judgement of Vertex based on the data collected during the assessment. Due to the nature of the assessment and the data available, Vertex cannot warrant against undiscovered environmental liabilities. Conclusions and recommendations presented in this report should not be considered legal advice.

ATTACHMENT 1

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	nAPP2113132295
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: BTA Oil Producers, LLC	OGRID: 260297
Contact Name: Bob Hall	Contact Telephone: 432-682-3753
Contact email: bhall@btaoil.com	Incident # *(assigned by OCD)*
Contact mailing address: 104 S. Pecos St., Midland, TX 79701	

Location of Release Source

Latitude: 32.31039 Longitude: -103.51223
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: White Wing Flow Line	Site Type: Right-of-Way
Date Release Discovered: 5/5/2021	API# *(if applicable)* Nearest well: White Wing 7907 18 19 Federal Com #001H API #30-025-46148

Unit Letter	Section	Township	Range	County
C	18	23S	34E	Lea

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name: Limestone Basin Prop Ranch LLC*)

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) 2 BBL	Volume Recovered (bbls) 0 BBL
☒ Produced Water	Volume Released (bbls) 8 BBL	Volume Recovered (bbls) 0 BBL
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release
Line Strike.
During digging for installation of a flowline, an in-service flowline was struck and allowed the release of 10 barrels fluid. An 8,000 sq ft area was sprayed with fluid during the spill.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2113132295
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ 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: Bob Hall Title: Environmental Manager

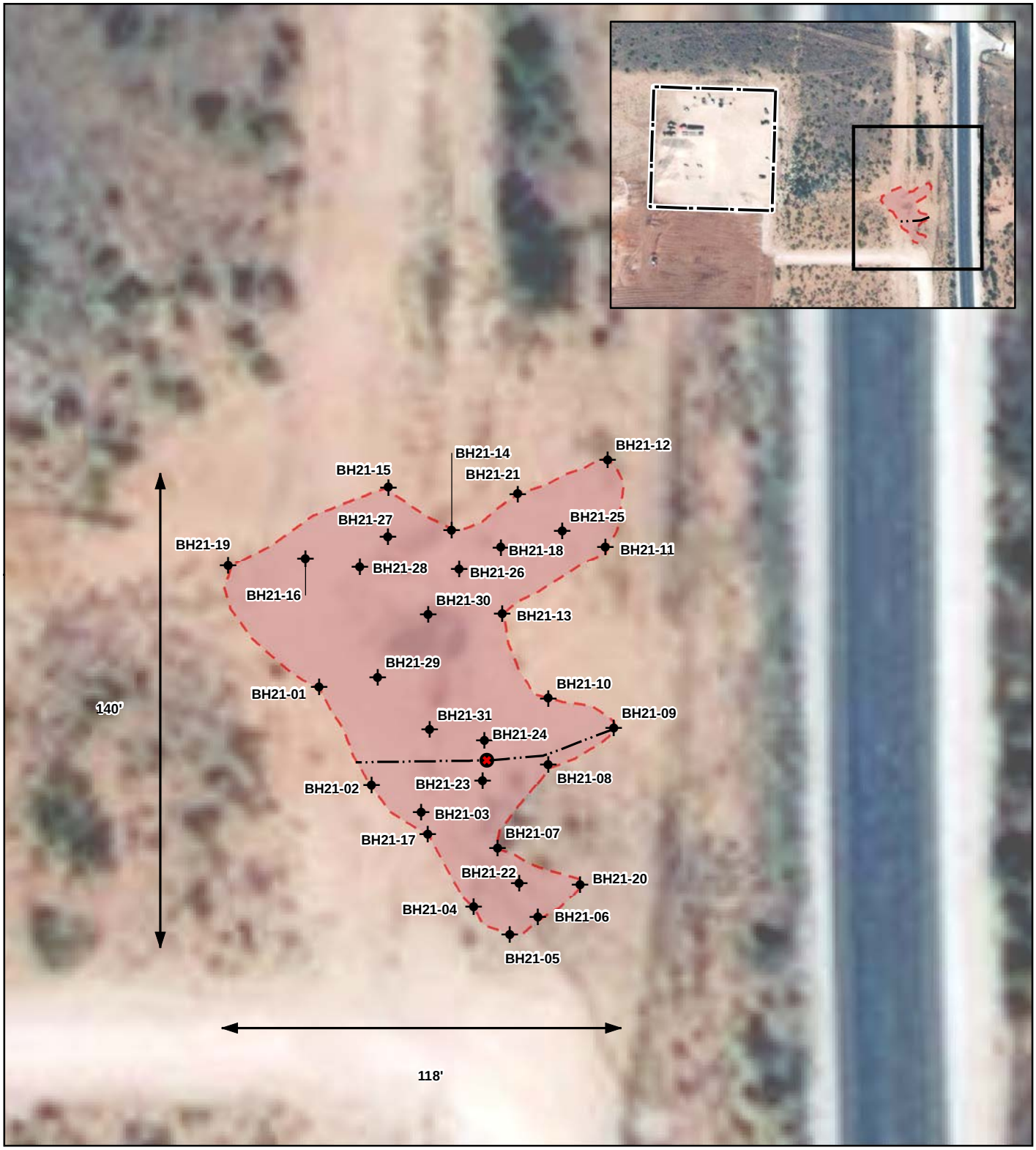
Signature: Bob Hall Date: 5/11/2021

email: bhall@btaoil.com Telephone: 432-682-3753

OCD Only

Received by: _____ Date: _____

ATTACHMENT 2



Borehole

Point of Release

Flowline

Approximate Release Area (~8,114 sq. ft)

Approximate Lease Boundary

VERTEX

0 5 10 20 ft.

NAD 1983 UTM Zone 13N
Date: Jul 19/21

Map Center:
Lat: 32.310813,
Long:-103.511391

N

Initial Characterization Sampling Locations and Site Schematic
White Wing #2H

FIGURE: 1

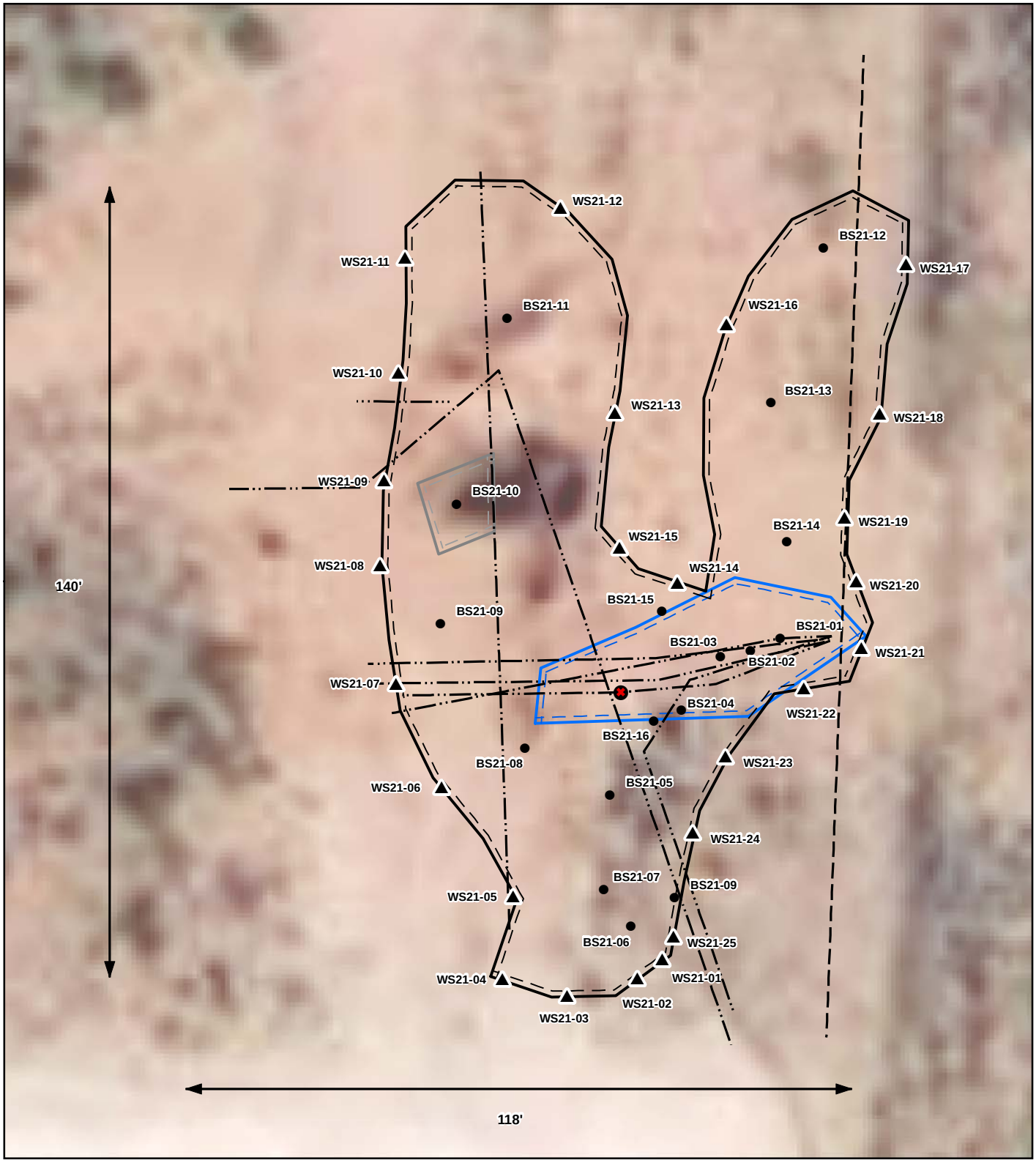
BTA

Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Background Imagery from ESRI, 2020.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\BTA Oil Producers LLC\21E-01340\003- White Wing #2H\Figure 1 Initial Characterization (White Wing #2H).mxd



Point of Release
Base Sample
Wall Sample
Pipeline (Aboveground)
Pipeline (Underground)
Area Excavated to Repair Flowline (~946 sq. ft.)
Previous Excavation (~165 sq. ft.)
Spill Excavation (~8,313 sq. ft.)

VERTEX

0 4 8 16 ft.

NAD 1983 UTM Zone 13N
Date: May 28/21

Map Center:
Lat: 32.310717,
Long:-103.511482

N

Confirmatory Sampling Locations
White Wing #2H

FIGURE: 2

BTA

Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Background Imagery from ESRI, 2020. Feature locations from GPS, Vertex Professional Services, Ltd., 2021.

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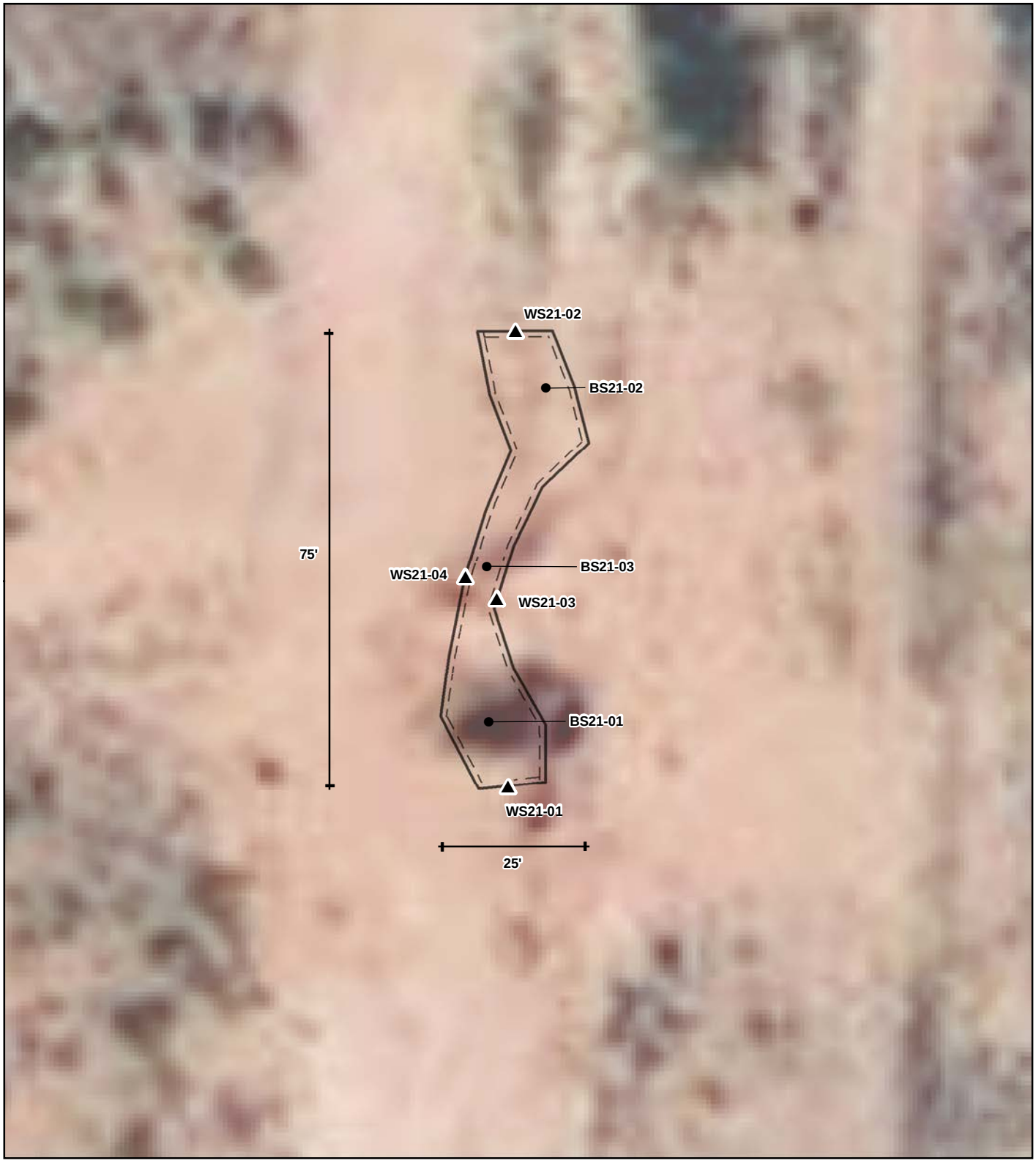
Document Path: G:\1-Projects_US PROJECTS\BTA Oil Producers LLC\21E-01340003- White Wing #2H\Figure 2 Confirmatory Schematic (White Wing #2H).mxd



VERTEX

0 4 8 16 ft.

NAD 1983 UTM Zone 13N
Date: Sep 21/21

Map Center:
Lat: 32.310829,
Long:-103.511478

N

Confirmatory Schematic
White Wing #2H

FIGURE: **3**

BTA

Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Background Imagery from ESRI, 2020. Feature locations from GPS, Vertex Professional Services, Ltd., 2021.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\BTA Oil Producers LLC\21E-01340\003- White Wing #2H\Figure 3 Confirmatory Schematic (new release - White Wing #2H).mxd

ATTACHMENT 3

Closure Criteria Worksheet				
Site Name: White Wing #2H				
Spill Coordinates:		X: 32.31039	Y: -103.51223	
Site Specific Conditions		Value	Unit	Reference
1	Depth to Groundwater	**<50**	feet	1
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	972	feet	2
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	5,923	feet	3
4	Within 300 feet from an occupied residence, school, hospital, institution or church	43,749	feet	4
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, **or**	1,423	feet	5
	ii) Within 1000 feet of any fresh water well or spring	1,423	feet	5
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)	6
7	Within 300 feet of a wetland	8,253	feet	7
8	Within the area overlying a subsurface mine	No	(Y/N)	8
9	Within an unstable area (Karst Map)	Low	Critical High Medium Low	9
10	Within a 100-year Floodplain	Above 500 year flood level and protected by levee from 100 year flood	year	10
11	Soil Type	Berino-Cacique loamy fine sands association		11
12	Ecological Classification	Loamy Sand		12
13	Geology	Qep - Eolian and piedmont deposits		13
NMAC 19.15.29.12 E (Table 1) Closure Criteria		<50'	<50' 51-100' >100'	

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater

Geographic Area: United States

Click to hide News Bulletins

- Explore the *NEW* USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
- Full News

Groundwater levels for the Nation

*** IMPORTANT:** Next Generation Station Page

Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 321917103303001

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

USGS 321917103303001 23S.34E.06.43314

Lea County, New Mexico
Latitude 32°19'17", Longitude 103°30'30" NAD27
Land-surface elevation 3,480 feet above NAVD88
The depth of the well is 640 feet below land surface.
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Santa Rosa Sandstone (231SNRS) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period

Date	Time	Water-level date-time accuracy	Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	Status	Method of measurement	Measuring agency	Source of measurement	Water-level approval status
1968-06-11		D	62610		3139.47	NGVD29	1	Z			A
1968-06-11		D	62611		3141.10	NAVD88	1	Z			A

1968-06-11		D	72019	338.90			1	Z			A
1986-03-21		D	62610		3149.44	NGVD29	1	Z			A
1986-03-21		D	62611		3151.07	NAVD88	1	Z			A
1986-03-21		D	72019	328.93			1	Z			A

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help

Data Tips
Explanation of terms
Subscribe for system changes
News

Accessibility FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey
Title: Groundwater for USA: Water Levels
URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

Page Contact Information: USGS Water Data Support Team
Page Last Modified: 2021-08-23 19:32:34 EDT
0.28 0.24 nadww01

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	CP 00556 POD1	4	4	3	08	23S	34E	641762	3576206

Driller License: 46 **Driller Company:** ABBOTT BROTHERS COMPANY

Driller Name: ABBOTT, MURRELL

Drill Start Date: 09/27/1974 **Drill Finish Date:** 10/17/1974 **Plug Date:**

Log File Date: 10/25/1974 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:** 28 GPM

Casing Size: 7.00 **Depth Well:** 497 feet **Depth Water:** 255 feet

Water Bearing Stratifications:

Top	Bottom	Description
255	497	Other/Unknown

Casing Perforations:

Top	Bottom
397	497

Meter Number: 8511 **Meter Make:** MASTER

Meter Serial Number: 162038091 **Meter Multiplier:** 1.0000

Number of Dials: 9 **Meter Type:** Diversion

Unit of Measure: Gallons **Return Flow Percent:**

Usage Multiplier: **Reading Frequency:** Quarterly

Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount	Online
08/20/2004	2004	42932	A	jw		0	
12/04/2004	2004	52692	A	jw		2.995	
06/06/2014	2014	301111	A	RPT		0	
10/01/2014	2014	42846900	A	RPT	Changeout 6-6-14	0	
12/31/2014	2014	52078300	A	RPT		28.330	
01/01/2015	2015	52078300	A	RPT		0	
02/01/2015	2015	54551900	A	RPT		7.591	
03/27/2015	2015	8539300	A	RPT	Changeout 3-27-15	0	
03/27/2015	2015	58752900	A	RPT		12.892	
04/30/2015	2015	11420700	A	RPT		8.843	
05/31/2015	2015	14304800	A	RPT		8.851	
07/01/2015	2015	17059300	A	RPT		8.453	
08/01/2015	2015	19766900	A	RPT		8.309	
01/01/2016	2016	29255500	A	RPT		29.119	
02/01/2016	2016	29935100	A	RPT		2.086	
03/02/2016	2016	29935100	A	RPT		0	
04/01/2016	2016	29935100	A	RPT		0	

05/01/2016	2016	29935100	A	RPT	0
06/01/2016	2016	30608200	A	RPT	2.066
07/01/2016	2016	30608200	A	RPT	0
08/01/2016	2016	35219100	A	RPT	14.150
09/01/2016	2016	37237600	A	RPT	6.195
10/01/2016	2016	39565700	A	RPT	7.145
11/01/2016	2016	41758893	A	RPT	6.731
12/01/2016	2016	42681000	A	RPT	2.830
12/31/2016	2016	44051528	A	RPT	4.206
01/31/2017	2017	44051556	A	RPT	0
02/28/2017	2017	45103057	A	RPT	3.227
03/31/2017	2017	47434243	A	RPT	7.154
04/30/2017	2017	48896700	A	RPT	4.488
05/31/2017	2017	51591700	A	RPT	8.271
06/30/2017	2017	54128300	A	RPT	7.785
07/31/2017	2017	55958997	A	RPT	5.618
08/14/2017	2017	56239094	A	RPT	0.860
08/14/2017	2017	0	A	RPT	0
08/21/2017	2017	592800	A	RPT	1.819
09/30/2017	2017	593300	A	RPT	0.002
10/31/2017	2017	2259200	A	RPT	5.112
11/30/2017	2017	3589700	A	RPT	4.083
12/31/2017	2017	5014800	A	RPT	4.373
01/31/2018	2018	6071400	A	RPT	3.243
02/28/2018	2018	6484000	A	RPT	1.266
03/31/2018	2018	8664100	A	RPT	6.690
05/31/2018	2018	12408500	A	RPT	11.491
10/31/2018	2018	21487685	A	RPT	27.863
11/30/2018	2018	21487685	A	RPT	0
03/31/2019	2019	21487685	A	RPT	0
04/30/2019	2019	21487685	A	RPT	0

**YTD Meter Amounts:	Year	Amount
	2004	2.995
	2014	28.330
	2015	54.939
	2016	74.528
	2017	52.792
	2018	50.553
	2019	0

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 00556 POD1	CP	LE	4	4	3	08	23S	34E	641762	3576206	1748	497	255	242
C 04353 POD1	CUB	ED	4	2	2	24	23S	33E	639474	3574098	1811	603	330	273
CP 01130 POD2	CP	LE	2	1	2	07	23S	34E	640674	3577549	1841	27		
CP 01130 POD1	CP	LE	2	1	2	07	23S	34E	640662	3577558	1847	27		
CP 00872 POD1	CP	LE	1	1	1	08	23S	34E	641225	3577504*	2053	494	305	189
CP 01075 POD1	CP	LE	1	1	1	08	23S	34E	641278	3577525	2102	430	20	410
CP 01502 POD1	CP	LE	4	3	3	05	23S	34E	641316	3577635	2213	648	200	448
CP 01502 POD2	CP	LE	4	3	3	05	23S	34E	642074	3577676	2744	680	300	380
CP 01622 POD1	CP	LE	1	3	3	04	23S	34E	642830	3577872	3451	575	285	290
C 03582 POD1	C	LE	4	1	1	14	23S	33E	636583	3575666	3479	590		
CP 01730 POD1	CP	LE	2	2	1	16	23S	34E	643549	3575824	3490	594	200	394
CP 01760 POD1	CP	LE	3	1	2	16	23S	34E	643627	3575897	3569	767	290	477
C 02282	CUB	LE	3	1	1	25	23S	33E	638098	3572436*	3905	325	225	100
C 02283	CUB	LE	4	2	2	26	23S	33E	637896	3572431*	4014	325	225	100
C 02284	CUB	LE	4	2	4	26	23S	33E	637907	3571626*	4707	325	225	100

Average Depth to Water: **238 feet**

Minimum Depth: **20 feet**

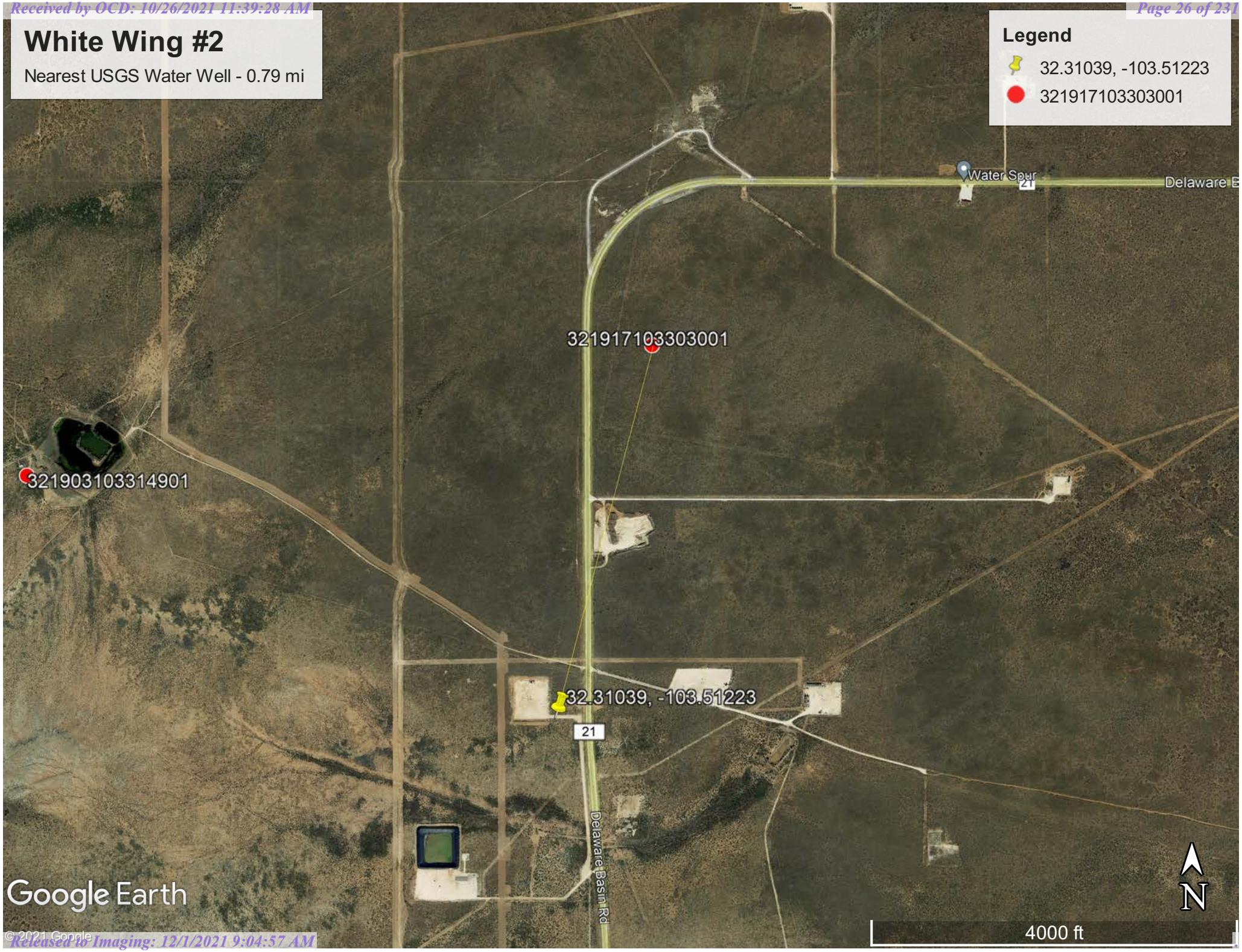
Maximum Depth: **330 feet**

Record Count: 15

UTMNAD83 Radius Search (in meters):

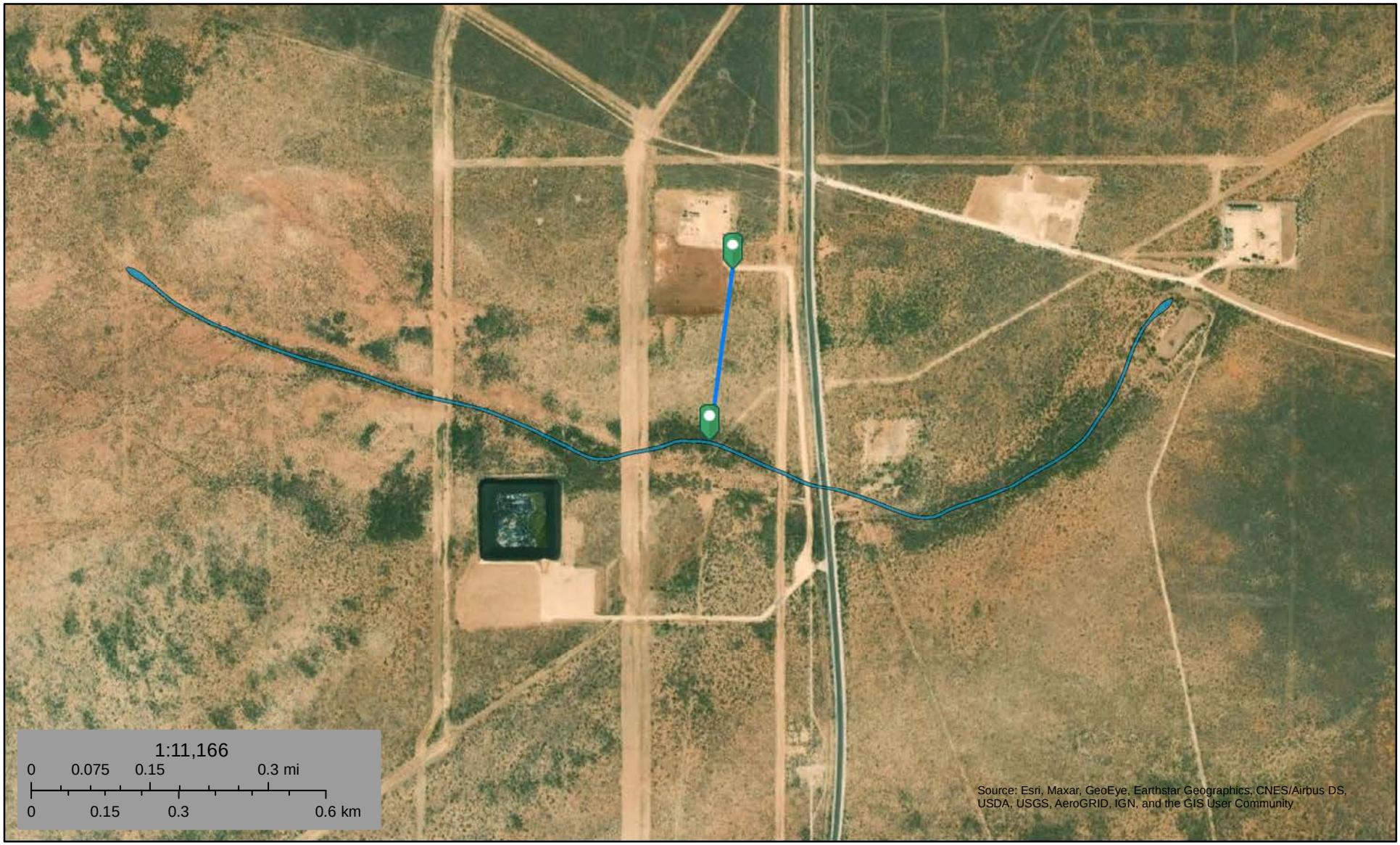
Easting (X): 640059.16 **Northing (Y):** 3575813 **Radius:** 5000

***UTM location was derived from PLSS - see Help**


White Wing #2
Nearest USGS Water Well - 0.79 mi
Legend
32.31039, -103.51223
321917103303001
Water Spur
Delaware B
321917103303001
321903103314901
32.31039, -103.51223
21
Delaware Basin Rd
Google Earth
© 2021 Google
N
4000 ft

U.S. Fish and Wildlife Service
National Wetlands Inventory

White Wing #2H - Intermittent - 972 feet



August 23, 2021

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

U.S. Fish and Wildlife Service

National Wetlands Inventory

Lakebed 5,923 feet

May 20, 2021

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

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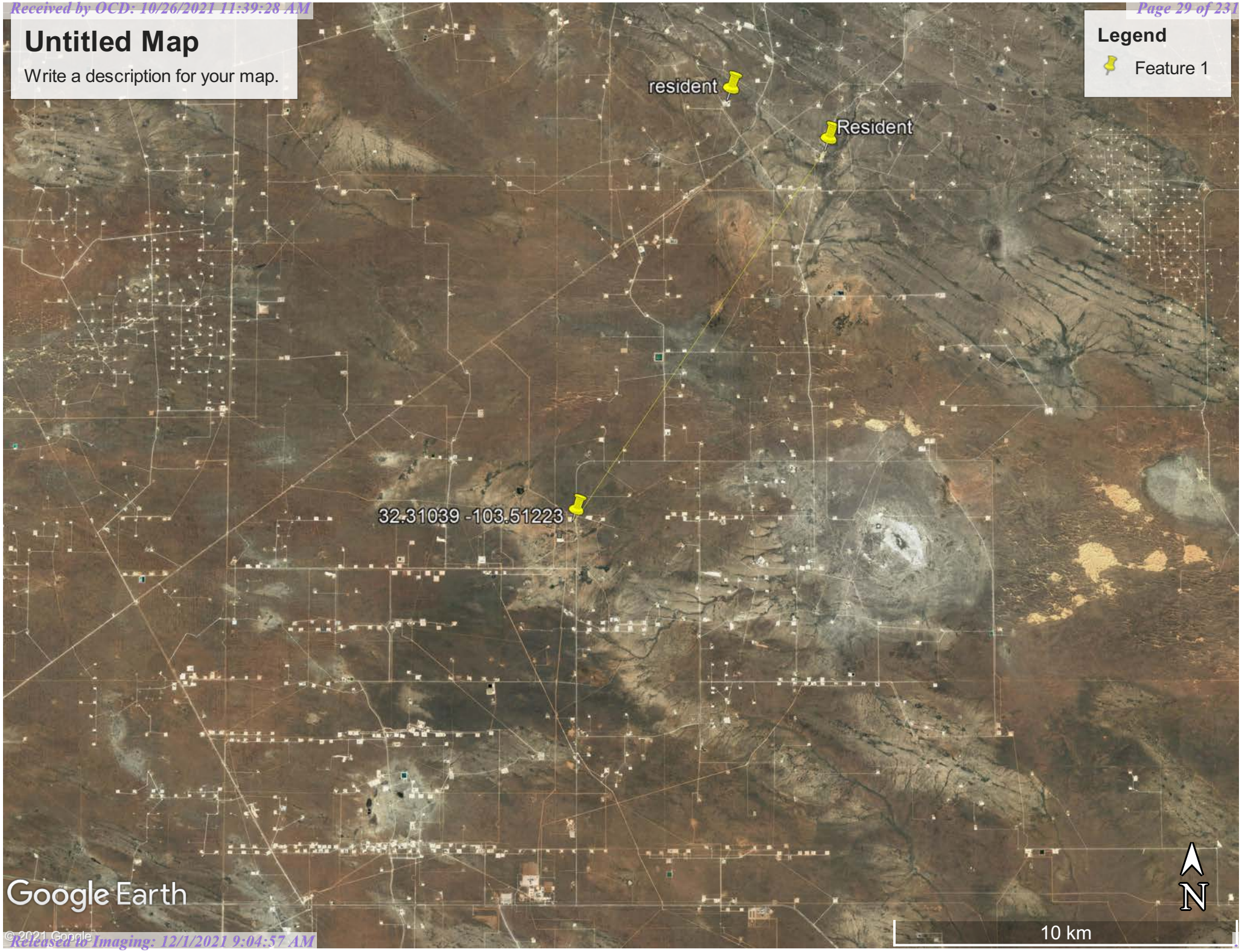
National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Untitled Map

Write a description for your map.



New Mexico Office of the State Engineer
Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	CP 00613	3	1	4	07	23S	34E	640433	3576489*

Driller License: **Driller Company:**

Driller Name:

Drill Start Date:	**Drill Finish Date:**	**Plug Date:**
Log File Date:	**PCW Rcv Date:**	**Source:**
Pump Type:	**Pipe Discharge Size:**	**Estimated Yield:**
Casing Size:	**Depth Well:**	**Depth Water:**

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: CP 00613 **Subbasin:** CP **Cross Reference:** -

Primary Purpose: PRO 72-12-1 PROSPECTING OR DEVELOPMENT OF NATURAL RESOURCE

Primary Status: PMT PERMIT

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 0 **Cause/Case:** -

Owner: J.C. MILLS

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	475066	72121	1980-04-10	EXP	EXP	CP 00613	T		3	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
CP 00613			3	1	4	07	23S	34E	640433	3576489*	

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Water Right Summary

WR File Number: CP 01886 **Subbasin:** CP **Cross Reference:** -

Primary Purpose: MON MONITORING WELL

Primary Status: PMT PERMIT

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 0 **Cause/Case:** -

Documents on File

Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
702706	EXPL	2021-08-03	PMT	APR	CP 01886 POD1	T	0	0	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
CP 01886 POD1	NA		4	1	4	07	23S	34E	640646	3576545	EXPL WELL #1

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: CP 01168 **Subbasin:** CP **Cross Reference:** -

Primary Purpose: EXP EXPLORATION

Primary Status: PMT PERMIT

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 0 **Cause/Case:** -

Owner: LIMESTONE LIVESTOCK LLC

Contact: M STAPLETON, LLC.

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	605761	EXPL	2013-03-26	PMT	APR	CP 01168	T	0	0	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q16	Q4	Sec	Tws	Rng	X	Y	Other Location Desc
CP 01168 POD1			2	4	1	18	23S	34E	640247	3575420	

Source

Acres	Diversion	CU	Use	Priority	Source	Description
0	0		EXP	03/15/2013	GW	

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	CP 01168 POD1	2	4	1	18	23S	34E	640247	3575420

Driller License: **Driller Company:**

Driller Name:

Drill Start Date:	**Drill Finish Date:**	**Plug Date:**
Log File Date:	**PCW Rcv Date:**	**Source:**
Pump Type:	**Pipe Discharge Size:**	**Estimated Yield:**
Casing Size:	**Depth Well:**	**Depth Water:**

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
NA	CP 01886 POD1	4	1	4	07	23S	34E	640646	3576545

Driller License: **Driller Company:**

Driller Name:

Drill Start Date: **Drill Finish Date:** **Plug Date:**

Log File Date: **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: **Depth Well:** **Depth Water:**

White Wing #2H

8/24/2021, 11:22:14 AM

GIS WATERS PODs
- Active
- Pending

OSE District Boundary
New Mexico State Trust Lands
Subsurface Estate

Surface Estate
Both Estates
SiteBoundaries

1:18,056

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

Esri, HERE, iPC, U.S. Department of Energy Office of Legacy Management, Esri, HERE, Garmin, iPC, Maxar

Printed from Public Web Map

Unofficial Map from OSE POD Locations Web Application

New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(acre ft per annum)

(R=POD has been replaced and no longer serves this file, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

WR File Nbr	Sub basin	Use	Diversion	Owner	County	POD Number	Well Tag	Code	Grant	Source	q q q 6416 4	Sec	Tws	Rng	X	Y	Distance
CP 01168	CP	EXP	0	LIMESTONE LIVESTOCK LLC	LE	CP 01168 POD1					2 4 1	18	23S	34E	640246	3575420	434
CP 00613	CP	PRO	0	J.C. MILLS	LE	CP 00613					3 1 4	07	23S	34E	640433	3576489*	772
CP 01886	CP	MON	0	KAISER-FRANCIS OIL COMPANY	LE	CP 01886 POD1	NA				4 1 4	07	23S	34E	640645	3576545	938

Record Count: 3

UTMNAD83 Radius Search (in meters):

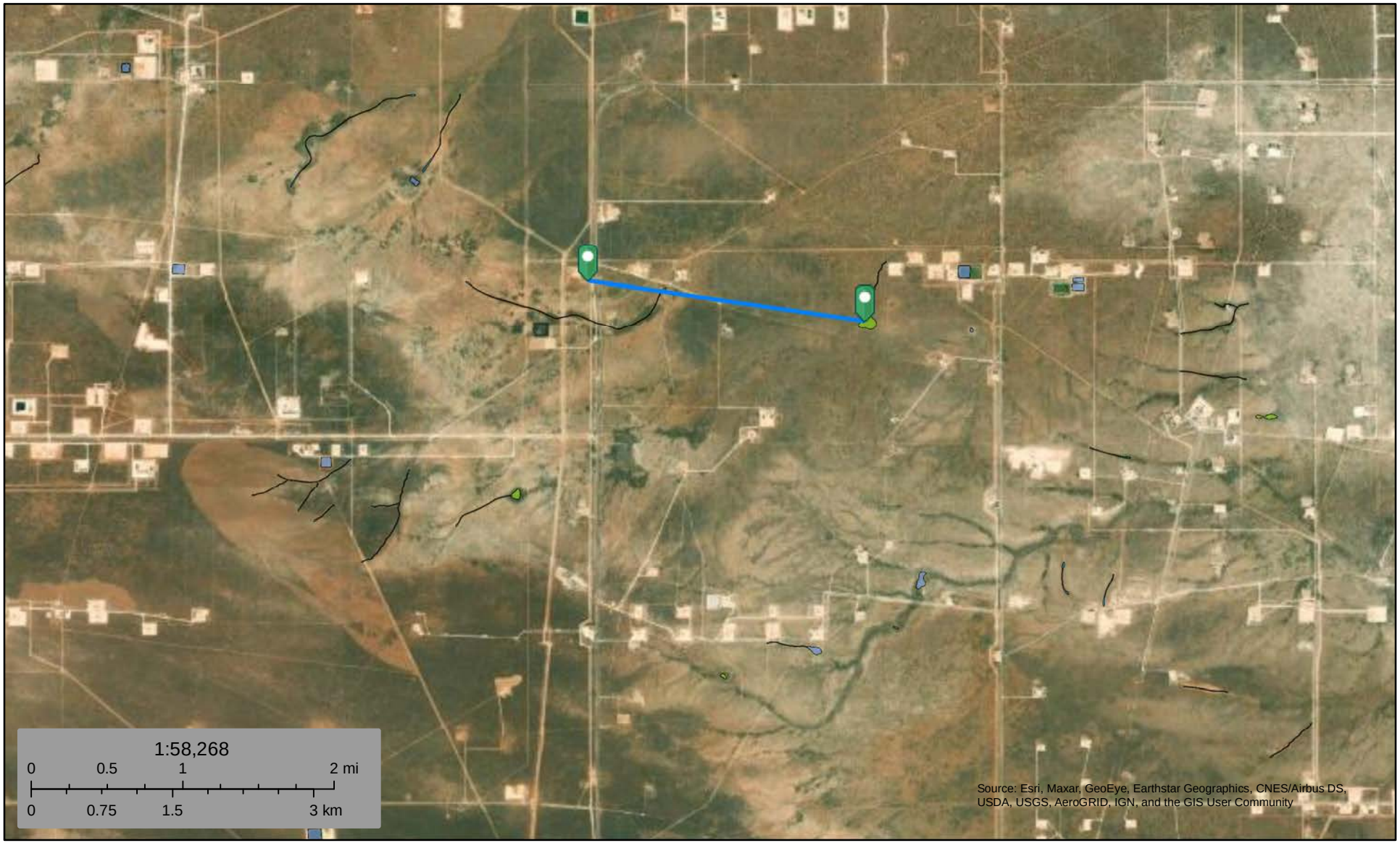
Easting (X): 640059.16 **Northing (Y):** 3575813 **Radius:** 1610

Sorted by: Distance

***UTM location was derived from PLSS - see Help**

U.S. Fish and Wildlife Service
National Wetlands Inventory

Wetlands 8,253 Feet



May 20, 2021

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

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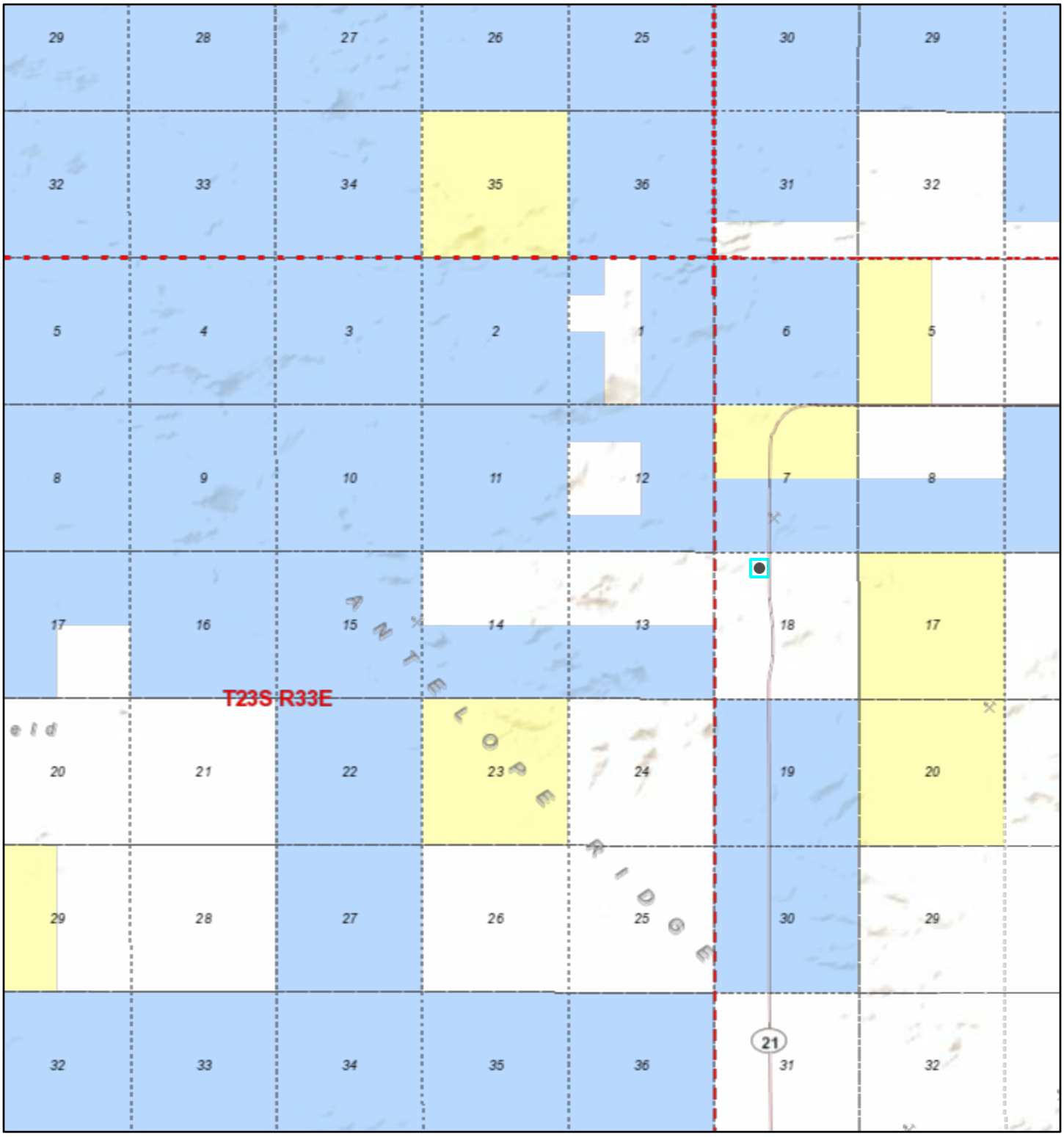
National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Active Mines in New Mexico



5/20/2021, 1:54:11 PM

1:72,224

0 0.5 1 2 mi

0 0.75 1.5 3 km

- Township / Range
- Sections

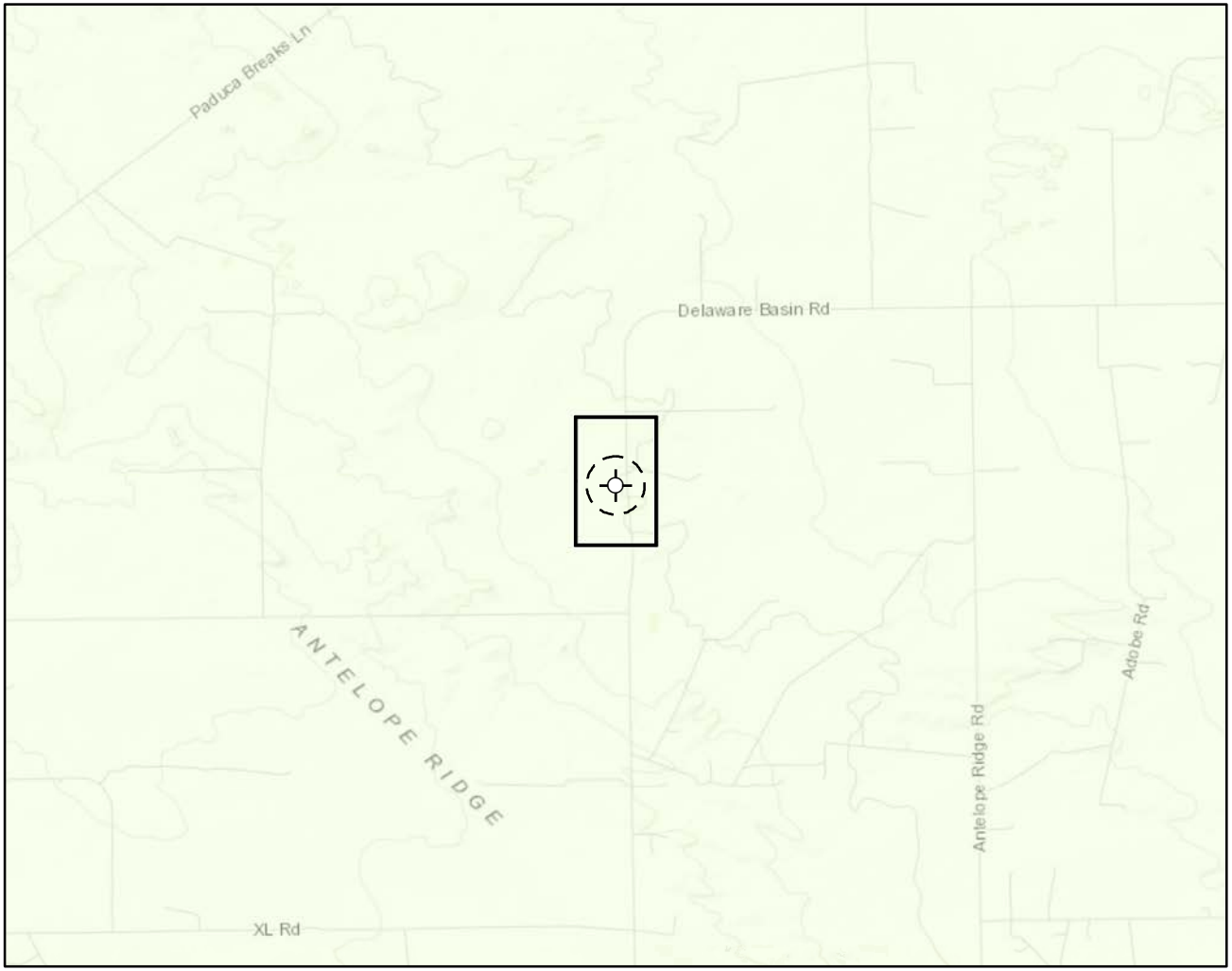
Land Ownership

- Bureau of Land Management
- Bureau of Reclamation
- Department of Agriculture
- Department of Defense
- Department of Energy
- National Park Service
- Private Land
- State Game and Fish
- State Land
- State Parks
- Tribal

U.S. Bureau of Land Management - New Mexico State Office, Sources: Esri, USGS, NOAA, Sources: Esri, Garmin, USGS, NPS

EMNRD MMD GIS Coordinator

New Mexico Energy, Minerals and Natural Resources Department (http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=1b5e577974664d689b47790897ca2795)



Karst Potential

- Critical
- High
- Medium
- Low

Site Location

Site Buffer (1,000 ft)

Overview Map

0 0.25 0.5 1 mi

Detail Map

0 150 300 600 ft.

VERTEX

Map Center:
Lat/Long: 32.310000, -103.512230

NAD 1983 UTM Zone 13N
Date: May 28/21

N

Karst Potential Map
White Wing #2H

FIGURE:
X

BTA

Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Inset Map, ESRI 20XX; Overview Map: ESRI World Topographic

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\BTA Oil Producers LLC\21E-01340\003- White Wing #2H\Figure X Karst Potential Map (White Wing #2H).mxd

National Flood Hazard Layer FIRMette

FEMA

103°31'3"W 32°18'53"N

103°30'25"W 32°18'22"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

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United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Lea County, New Mexico

May 20, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:2,450 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lea County, New Mexico
Survey Area Data: Version 17, Jun 8, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 7, 2020—May 12, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BE	Berino-Cacique loamy fine sands association	15.1	48.7%
LP	Largo-Pajarito complex, rarely flooded	0.8	2.7%
SE	Simona fine sandy loam, 0 to 3 percent slopes	15.1	48.6%
Totals for Area of Interest		**31.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Lea County, New Mexico

BE—Berino-Cacique loamy fine sands association

Map Unit Setting

National map unit symbol: dmpd
Elevation: 3,000 to 3,900 feet
Mean annual precipitation: 10 to 13 inches
Mean annual air temperature: 60 to 62 degrees F
Frost-free period: 190 to 205 days
Farmland classification: Not prime farmland

Map Unit Composition

Berino and similar soils: 50 percent
Cacique and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Berino

Setting

Landform: Plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy eolian deposits derived from sedimentary rock over calcareous sandy alluvium derived from sedimentary rock

Typical profile

A - 0 to 6 inches: loamy fine sand
Btk - 6 to 60 inches: sandy clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water capacity: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7c
Hydrologic Soil Group: B
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Description of Cacique

Setting

Landform: Plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Calcareous eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 12 inches: loamy fine sand
Bt - 12 to 28 inches: sandy clay loam
Bkm - 28 to 38 inches: cemented material

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 20 to 40 inches to petrocalcic
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water capacity: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7c
Hydrologic Soil Group: C
Ecological site: R042XC004NM - Sandy
Hydric soil rating: No

Minor Components

Maljamar

Percent of map unit: 6 percent
Ecological site: R077CY028TX - Limy Upland 16-21" PZ
Hydric soil rating: No

Palomas

Percent of map unit: 4 percent
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

LP—Largo-Pajarito complex, rarely flooded

Map Unit Setting

National map unit symbol: dmq7
Elevation: 3,000 to 3,900 feet
Mean annual precipitation: 10 to 12 inches
Mean annual air temperature: 60 to 62 degrees F
Frost-free period: 190 to 200 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Largo and similar soils: 45 percent
Pajarito and similar soils: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Largo

Setting

Landform: Plains, alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Calcareous loamy alluvium derived from sedimentary rock

Typical profile

A - 0 to 13 inches: loam
AC - 13 to 30 inches: silty clay loam
C - 30 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: NoneRare
Frequency of ponding: None
Calcium carbonate, maximum content: 50 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water capacity: High (about 10.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7c

Hydrologic Soil Group: C
Ecological site: R042XC007NM - Loamy
Hydric soil rating: No

Description of Pajarito

Setting

Landform: Alluvial fans, plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Calcareous sandy alluvium and/or mixed sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 16 inches: loamy fine sand
Bw - 16 to 48 inches: fine sandy loam
Bk - 48 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 45 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water capacity: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 7c
Hydrologic Soil Group: A
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Minor Components

Maljamar

Percent of map unit: 8 percent
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

Palomas

Percent of map unit: 7 percent
Ecological site: R042XC003NM - Loamy Sand
Hydric soil rating: No

SE—Simona fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: dmr2
Elevation: 3,000 to 4,200 feet
Mean annual precipitation: 10 to 15 inches
Mean annual air temperature: 58 to 62 degrees F
Frost-free period: 190 to 205 days
Farmland classification: Not prime farmland

Map Unit Composition

Simona and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Simona

Setting

Landform: Plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Calcareous eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 8 inches: fine sandy loam
Bk - 8 to 16 inches: gravelly fine sandy loam
Bkm - 16 to 26 inches: cemented material

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water capacity: Very low (about 2.0 inches)

Interpretive groups

Land capability classification (irrigated): 6s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D

Ecological site: R042XC002NM - Shallow Sandy
Hydric soil rating: No

Minor Components

Kimbrough

Percent of map unit: 8 percent
Ecological site: R077CY037TX - Very Shallow 16-21" PZ
Hydric soil rating: No

Lea

Percent of map unit: 7 percent
Ecological site: R077CY028TX - Limy Upland 16-21" PZ
Hydric soil rating: No

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USDA Natural Resources Conservation Service

Ecological site R042XC003NM
Loamy Sand

Accessed: 05/20/2021

General information

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

Figure 1. Mapped extent

Areas shown in blue indicate the maximum mapped extent of this ecological site. Other ecological sites likely occur within the highlighted areas. It is also possible for this ecological site to occur outside of highlighted areas if detailed soil survey has not been completed or recently updated.

Associated sites

R042XC004NM	**Sandy** Sandy
R042XC005NM	**Deep Sand** Deep Sand

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site is on uplands, plains, dunes, fan piedmonts and in inter dunal areas. The parent material consists of mixed alluvium and or eolian sands derived from sedimentary rock. Slope range on this site range from 0 to 9 percent with the average of 5 percent.

Low stabilized dunes may occur occasionally on this site. Elevations range from 2,800 to 5,000 feet.

Table 2. Representative physiographic features

Landforms	(1) Fan piedmont (2) Alluvial fan (3) Dune
Elevation	2,800–5,000 ft
Slope	0–9%
Aspect	Aspect is not a significant factor

Climatic features

The average annual precipitation ranges from 8 to 13 inches. Variations of 5 inches, more or less, are common. Over 80 percent of the precipitation falls from April through October. Most of the summer precipitation comes in the form of high intensity-short duration thunderstorms.
Temperatures are characterized by distinct seasonal changes and large annual and diurnal temperature changes. The average annual temperature is 61 degrees with extremes of 25 degrees below zero in the winter to 112 degrees in the summer.
The average frost-free season is 207 to 220 days. The last killing frost being late March or early April and the first killing frost being in later October or early November.
Temperature and rainfall both favor warm season perennial plant growth. In years of abundant spring moisture, annual forbs and cool season grasses can make up an important component of this site. Strong winds blow from the southwest from January through June, which accelerates soil drying during a critical period for cool season plant growth.

Climate data was obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

Table 3. Representative climatic features

Frost-free period (average)	221 days
Freeze-free period (average)	240 days
Precipitation total (average)	13 in

Influencing water features

This site is not influenced from water from wetlands or streams.

Soil features

Soils are moderately deep or very deep. Surface textures are loamy fine sand, fine sandy loam, loamy very fine sand or gravelly sandy loam.

Subsurface is a loamy fine sand, coarse sandy loam, fine sandy loam or loam that averages less than 18 percent clay and less than 15 percent carbonates.

Substratum is a fine sandy loam or gravelly fine sandy loam with less than 15 percent gravel and with less than 40 percent calcium carbonate. Some layers high in lime or with caliche fragments may occur at depths of 20 to 30 inches.

These soils, if unprotected by plant cover and organic residue, become wind blown and low hummocks are formed.

Minimum and maximum values listed below represent the characteristic soils for this site.

Characteristic soils are:

Maljamar
Berino
Parjarito
Palomas
Wink
Pyote

Table 4. Representative soil features

Surface texture	(1) Fine sand (2) Fine sandy loam (3) Loamy fine sand
Family particle size	(1) Sandy
Drainage class	Well drained to somewhat excessively drained
Permeability class	Moderate to moderately rapid
Soil depth	40–72 in
Surface fragment cover <=3"	0–10%
Surface fragment cover >3"	0%
Available water capacity (0-40in)	5–7 in
Calcium carbonate equivalent (0-40in)	3–40%
Electrical conductivity (0-40in)	2–4 mmhos/cm
Sodium adsorption ratio (0-40in)	0–2
Soil reaction (1:1 water) (0-40in)	6.6–8.4
Subsurface fragment volume <=3" (Depth not specified)	4–12%
Subsurface fragment volume >3" (Depth not specified)	0%

Ecological dynamics

Overview

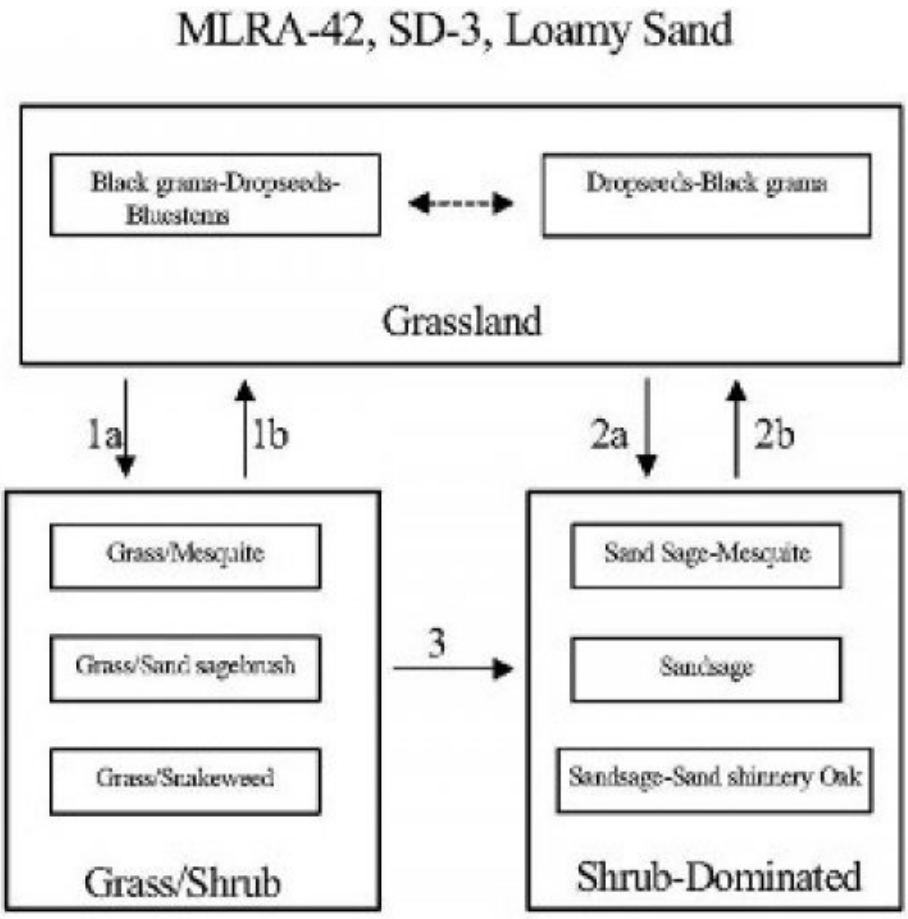
The Loamy Sand site intergrades with the Deep Sand and Sandy sites (SD-3). These sites can be differentiated by surface soil texture and depth to a textural change. Loamy Sand and Deep Sand sites have coarse textured (sands and loamy sand) surface soils while Sandy sites have moderately coarse textured (sandy loam and fine sandy loam) surfaces. Although Loamy Sand and Deep Sand sites have similar surface textures, the depth to a textural change is different—Loamy Sand sub-surface textures typically increase in clay at approximately 20 to 30 inches, and Deep Sand sites not until around 40 inches.

The historic plant community of Loamy Sand sites is dominated by black grama (*Bouteloua eriopoda*), dropseeds (*Sporobolus flexuosus*, *S. contractus*, *S. cryptandrus*), and bluestems (*Schizachyrium scoparium* and *Andropogon hallii*), with scattered shinnery oak (*Quercus havardii*) and sand sage (*Artemisia filifolia*). Perennial and annual forb abundance and distribution are dependent on precipitation. Litter and to a lesser extent, bare ground, are a significant proportion of ground cover while grasses compose the remainder. Decreases in black grama indicate a transition to either a grass/shrub or shrub-dominated state. The grass/shrub state is composed of grasses/honey mesquite (*Prosopis glandulosa*), grasses/broom snakeweed (*Gutierrezia sarothrae*), or grasses/sand sage. The shrub-dominated state occurs after a severe loss of grass cover and a prevalence of sand sage with secondary shinnery oak and mesquite. Heavy grazing intensity and/or drought are influential drivers in decreasing black grama and bluestems and subsequently increasing shrub cover, erosion, and bare patches. Historical fire suppression also

encourages shrub pervasiveness and a competitive advantage over grass species (McPherson 1995). Brush and grazing management, however, may reverse grass/shrub and shrub-dominated states toward the grassland-dominated historic plant community.

State and transition model

Plant Communities and Transitional Pathways (diagram):



1a. Drought, over grazing, fire suppression.
1b. Brush control, prescribed grazing

2.a Severe loss of grass cover, fire suppression, erosion.
2b. Brush control, seeding, prescribed grazing.

3. Continued loss of grass cover, erosion.

Figure 4.

State 1

Historic Climax Plant Community

Community 1.1
Historic Climax Plant Community

Grassland: The historic plant community is a uniformly distributed grassland dominated by black grama, dropseeds, and bluestems. Sand sage and shinnery oak are evenly dispersed throughout the grassland due to the coarse soil surface texture. Perennial and annual forbs are common but their abundance and distribution are reflective of precipitation. Bluestems initially, followed by black grama, decrease with drought and heavy grazing intensity. Historical fire frequency is unknown but likely occurred enough to remove small shrubs to the competitive advantage of grass species. Fire suppression, drought conditions, and excessive grazing drive most grass species out of competition with shrub species.

Diagnosis: Grassland dominated by black grama, dropseeds, and bluestems. Shrubs, such as sand sage, shinnery oak, and mesquite are dispersed throughout the grassland. Forbs are present and populations fluctuate with precipitation variability.

Table 5. Annual production by plant type

Plant Type	Low (Lb/Acre)	Representative Value (Lb/Acre)	High (Lb/Acre)
Grass/Grasslike	442	833	1224
Forb	110	208	306
Shrub/Vine	98	184	270
Total	**650**	**1225**	**1800**

Table 6. Ground cover

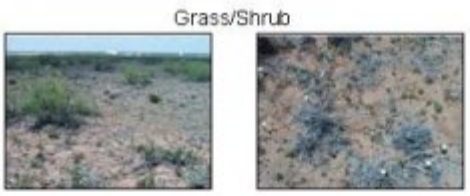
Tree foliar cover	0%
Shrub/vine/liana foliar cover	0%
Grass/grasslike foliar cover	28%
Forb foliar cover	0%
Non-vascular plants	0%
Biological crusts	0%
Litter	50%
Surface fragments >0.25" and <=3"	0%
Surface fragments >3"	0%
Bedrock	0%
Water	0%
Bare ground	22%

Figure 6. Plant community growth curve (percent production by month). NM2803, R042XC003NM-Loamy Sand-HCPC. SD-3 Loamy Sand - Warm season plant community .

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	3	5	10	10	25	30	12	5	0	0

State 2
Grass/Shrub

Community 2.1
Grass/Shrub



Grass/Shrub State: The grass/shrub state is dominated by communities of grasses/mesquite, grasses/snakeweed, or grasses/sand sage. Decreases in black grama and bluestem species lead to an increase in bare patches and mesquite which further competes with grass species. An increase of dropseeds and threeawns occurs. Grass distribution becomes more patchy with an absence or severe decrease in black grama and bluestems. Mesquite provides nitrogen and soil organic matter to co-dominant grasses (Ansley and Jacoby 1998, Ansley et al. 1998). Mesquite mortality when exposed to fire is low due to aggressive resprouting abilities. Herbicide application combined with subsequent prescribed fire may be more effective in mesquite reduction (Britton and Wright 1971).

Diagnosis: This state is dominated by an increased abundance of communities including grass/mesquite, grass/snakeweed, or grass/sand sage. Dropseeds and threeawns have a patchy distribution.

Transition to Grass/Shrub State (1a): The historic plant community begins to shift toward the grass/shrub state as drivers such as drought, fire suppression, interspecific competition, and excessive grazing contribute to alterations in soil properties and herbaceous cover. Cover loss and surface soil erosion are initial indicators of transition followed by a decrease in black grama with a subsequent increase of dropseeds, threeawns, mesquite, and snakeweed. Snakeweed has been documented to outcompete black grama especially under conditions of fire suppression and drought (McDaniel et al. 1984).
Key indicators of approach to transition:
• Loss of black grama cover
• Surface soil erosion
• Bare patch expansion
• Increased dropseed/threeawn and mesquite, snakeweed, or sand sage abundances

Transition to Historic Plant Community (1b): Brush and grazing management may restore the grassland component and reverse shrub or grass/shrub dominated states back toward the historic plant community.

State 3
Shrub Dominated

Community 3.1
Shrub Dominated

Shrub-Dominated State: The shrub-dominated state results from a severe loss of grass cover. This state's primary species is sand sage. Shinnery oak and mesquite also occur; however, grass cover is limited to intershrub distribution. Sand sage stabilizes light sandy soils from wind erosion, which enhances protected grass/forb cover (Davis and Bonham 1979). However, shinnery oak also responds to the sandy soils with dense stands due to an aggressive rhizome system. Shinnery oak's extensive root system promotes competitive exclusion of grasses and forbs. Sand sage, shinnery oak, and mesquite can be controlled with herbicide (Herbel et al. 1979, Pettit 1986).

Transition to Shrub-Dominated (2a): Severe loss of grass species with increased erosion and fire suppression will result in a transition to a shrub-dominated state with sand sage, Shin oak, and honey mesquite directly from the grassland-dominated state.

Key indicators of approach to transition:

• Severe loss of grass species cover
• Surface soil erosion
• Bare patch expansion
• Increased sand sage, shinnery oak, and mesquite abundance

Transition to Historic Plant Community (2b): Brush and grazing management may restore the grassland component and reverse shrub or grass/shrub dominated states back toward the historic plant community. In addition, seeding with native grass species will augment the transition to a grassland-dominated state.

Transition to Shrub-Dominated (3): If the grass/shrub site continues to lose grass cover with soil erosion, the site will transition to a shrub-dominated state with sand sage, shinnery oak, and honey mesquite.

Key indicators of approach to transition:

• Continual loss of dropseeds/threeawns cover
• Surface soil erosion
• Bare patch expansion
• Increased sand sage, shinnery oak, and mesquite/dropseed/threeawn and mesquite/snakeweed abundance

Additional community tables

Table 7. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
Grass/Grasslike					
1	**Warm Season**			61–123	
	little bluestem	SCSC	*Schizachyrium scoparium*	61–123	–
2	**Warm Season**			37–61	
	sand bluestem	ANHA	*Andropogon hallii*	37–61	–
3	**Warm Season**			37–61	
	cane bluestem	BOBA3	*Bothriochloa barbinodis*	37–61	–
	silver bluestem	BOSA	*Bothriochloa saccharoides*	37–61	–
4	**Warm Season**			123–184	
	black grama	BOER4	*Bouteloua eriopoda*	123–184	–
	bush muhly	MUPO2	*Muhlenbergia porteri*	123–184	–
5	**Warm Season**			123–184	
	thin paspalum	PASE5	*Paspalum setaceum*	123–184	–
	plains bristlegrass	SEVU2	*Setaria vulpiseta*	123–184	

	plains bristlegrass	SEVU2	*Setaria vulpiseta*	123–184	–
	fringed signalgrass	URCI	*Urochloa ciliatissima*	123–184	–
6	**Warm Season**			123–184	
	spike dropseed	SPCO4	*Sporobolus contractus*	123–184	–
	sand dropseed	SPCR	*Sporobolus cryptandrus*	123–184	–
	mesa dropseed	SPFL2	*Sporobolus flexuosus*	123–184	–
7	**Warm Season**			61–123	
	hooded windmill grass	CHCU2	*Chloris cucullata*	61–123	–
	Arizona cottontop	DICA8	*Digitaria californica*	61–123	–
9	**Other Perennial Grasses**			37–61	
	Grass, perennial	2GP	*Grass, perennial*	37–61	–
Shrub/Vine					
8	**Warm Season**			37–61	
	New Mexico feathergrass	HENE5	*Hesperostipa neomexicana*	37–61	–
	giant dropseed	SPGI	*Sporobolus giganteus*	37–61	–
10	**Shrub**			61–123	
	sand sagebrush	ARFI2	*Artemisia filifolia*	61–123	–
	Havard oak	QUHA3	*Quercus havardii*	61–123	–
11	**Shrub**			34–61	
	fourwing saltbush	ATCA2	*Atriplex canescens*	37–61	–
	featherplume	DAFO	*Dalea formosa*	37–61	–
12	**Shrub**			37–61	
	jointfir	EPHED	*Ephedra*	37–61	–
	littleleaf ratany	KRER	*Krameria erecta*	37–61	–
13	**Other Shrubs**			37–61	
	Shrub (>.5m)	2SHRUB	*Shrub (>.5m)*	37–61	–
Forb					
14	**Forb**			61–123	
	leatherweed	CRPOP	*Croton pottsii var. pottsii*	61–123	–
	Indian blanket	GAPU	*Gaillardia pulchella*	61–123	–
	globemallow	SPHAE	*Sphaeralcea*	61–123	–
15	**Forb**			12–37	
	woolly groundsel	PACA15	*Packera cana*	12–37	–
16	**Forb**			61–123	
	touristplant	DIWI2	*Dimorphocarpa wislizeni*	61–123	–
	woolly plantain	PLPA2	*Plantago patagonica*	61–123	–
17	**Other Forbs**			37–61	
	Forb (herbaceous, not grass nor grass-like)	2FORB	*Forb (herbaceous, not grass nor grass-like)*	37–61	–

Animal community

This Ecological Site provides habitat which supports a resident animal community that is characterized by pronghorn antelope, desert cottontail, spotted ground squirrel, black-tailed prairie dog, yellow faced pocket gopher, Ord's kangaroo rat, northern grasshopper mouse, southern plains woodrat, badger, roadrunner, meadowlark, burrowing owl, white necked raven, lesser prairie chicken, morning dove, scaled quail, Harris hawk, side blotched

lizard, marbled whiptail, Texas horned lizard, western diamondback rattlesnake, dusty hognose snake and ornate box turtle.
Where mesquite has invaded, most resident birds and scissor-tailed flycatcher, morning dove and Swainson's hawk, nest. Vesper and grasshopper sparrows utilize the site during migration.

Hydrological functions

The runoff curve numbers are determined by field investigations using hydraulic cover conditions and hydrologic soil groups.
Hydrologic Interpretations
Soil Series Hydrologic Group
Berino B
Kinco A
Maljamar B
Pajarito B
Palomas B
Wink B
Pyote A

Recreational uses

This site offers recreation potential for hiking, borseback riding, nature observation, photography and hunting. During years of abundant spring moisture, this site displays a colorful array of wildflowers during May and June.

Wood products

This site has no potential for wood products.

Other products

This site is suitable for grazing by all kinds and classes of livestock at any time of year. In cases where this site has been invaded by brush species it is especially suited for goats. Mismanagement of this site will cause a decrease in species such as the bluestems, blsck grama, bush muhly, plains bristlegrass, New Mexico feathergrass, Arizona cottontop and fourwing saltbush. A corresponding increase in the dropseeds, windmill grass, fall witchgrass, silver bluestem, sand sagebrush, shinery oak and ephedra will occur. This will also cause an increase in bare ground which will increase soil erodibility. This site will respond well to a system of management that rotates the season of use.

Other information

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month
Similarity Index Ac/AUM
100 - 76 2.3 – 3.5
75 – 51 3.0 – 4.5
50 – 26 4.6 – 9.0
25 – 0 9.1 +

Inventory data references

Data collection for this site was done in conjunction with the progressive soil surveys within the Southern Desertic Basins, Plains and Mountains, Major Land Resource Areas of New Mexico. This site has been mapped and correlated with soils in the following soil surveys. Eddy County, Lea County, and Chaves County.

Other references

Literature Cited:

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McPherson, Guy R. 1995. The role of fire in the desert grasslands. In: McClaran, Mitchel P.; Van Devender, Thomas R., eds. The desert grassland. Tucson, AZ: The University of Arizona Press: 130-151.

Pettit, Russell D. 1986. Sand shinnery oak: control and management. Management Note 8. Lubbock, TX: Texas Tech University, College of Agricultural Sciences, Department of Range and Wildlife Management. 5 p.

Contributors

Don Sylvester
Quinn Hodgson

Rangeland health reference sheet

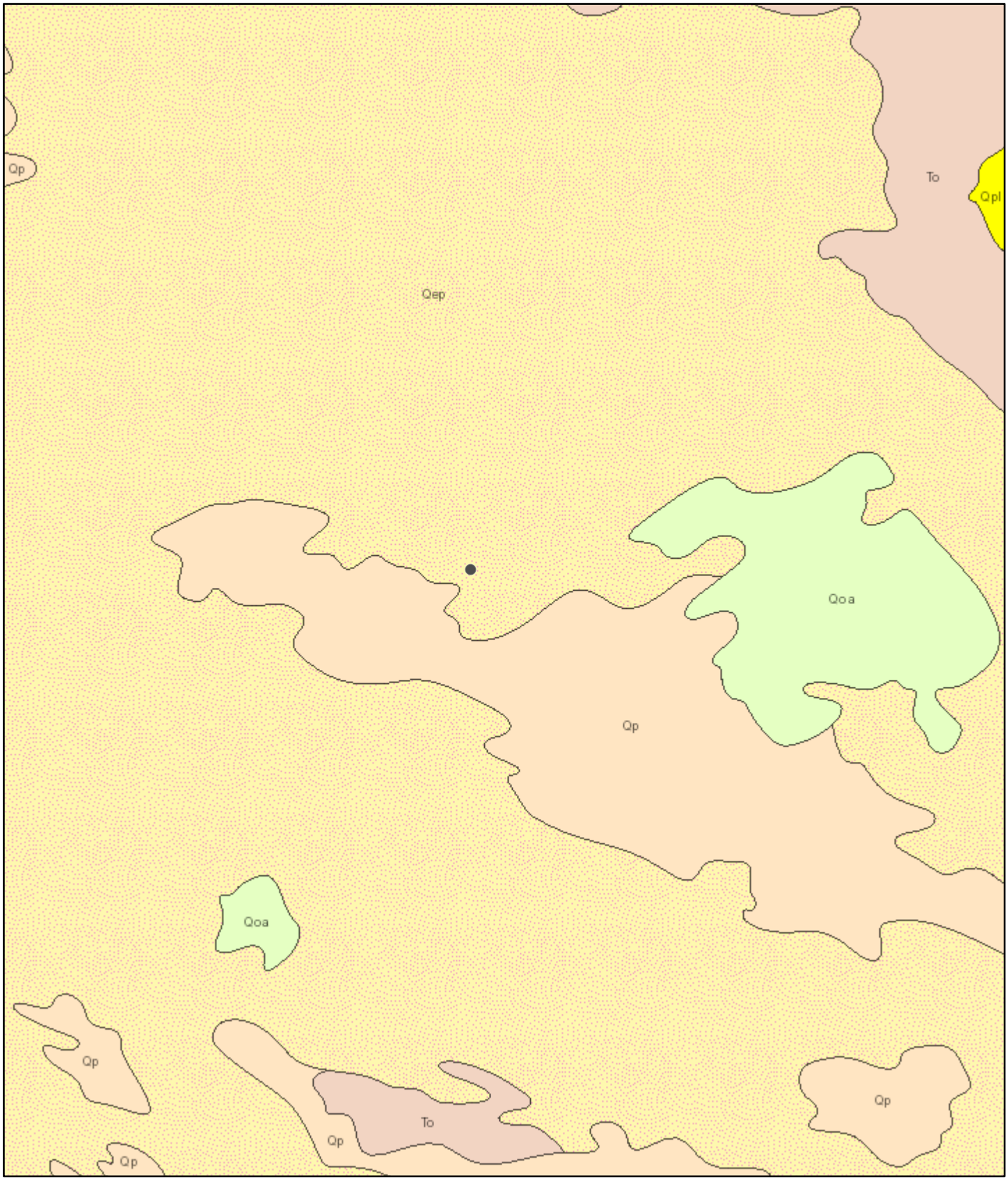
Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

Author(s)/participant(s)	
Contact for lead author	
Date	
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:**

ArcGIS Web Map



8/24/2021, 9:58:13 AM

1:144,448

0 1 2 4 mi

0 1.5 3 6 km

Lithologic Contacts

- Contact, Exposed
- Contact, Gradational
- Nomenclature change
- Map Boundary

Faults

- Fault, Exposed
- Fault, Intermittent
- Fault, Concealed
- Shere Zone

Dikes

- <all other values>
- Dike
- Dike intruding fault

Volcanic Vents

ATTACHMENT 4

Daily Site Visit Report

Client:	BTA Oil Producers LLC	Inspection Date:	5/6/2021
Site Location Name:	White Wing #2-H	Report Run Date:	5/7/2021 12:41 AM
Client Contact Name:	Bob Hall	API #:	
Client Contact Phone #:	432-312-2203		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	5/6/2021 10:00 AM
Departed Site	5/6/2021 4:45 PM

Field Notes

16:09 Arrived on site and vac truck was there recovering the spill. Excavator exposed the lines that busted

16:09 WW exposed the line to fully repair it.

16:09 I began around the spill on the sides by collecting 16 wall samples.

16:10 Did not know what the spill product was so I ran EC and PetroFlag

16:11 Most wall samples passed EC and Petro. WS3 was high on PID. Had to step out. WS6, WS13, AND WS16 were a bit high on TPH. Had to step out

16:12 WS17, WS18, WS19, and WS20 were samples I stepped out. All but WS18 was clean.

16:13 WS21 was stepped out from WS13 and WS18. Clean on everything

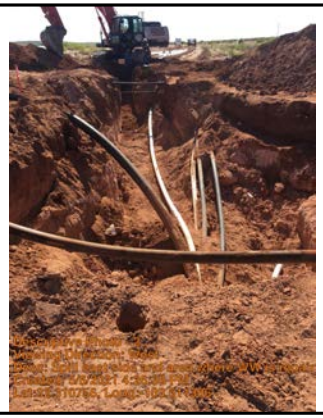
16:13 Spill is horizontally delineated. Got out to location late and took a bit of time to collect samples. Had to step out some, so job is not complete yet.

Next Steps & Recommendations

1 Come back tomorrow to finish depth delineation.

Daily Site Visit Report

Site Photos

Viewing Direction: North	**Viewing Direction**: West
	
Spill south side	Spill east side and area where WW is repairing flow line.

Viewing Direction: West	**Viewing Direction**: South
	
Spill east side	Spill north side

Daily Site Visit Report

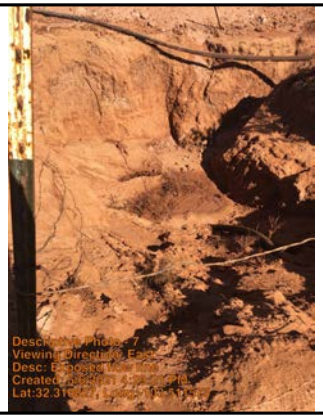
Viewing Direction: Southeast

Spill north side

Viewing Direction: East

Spill west side

Viewing Direction: East

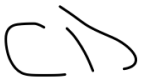


Exposed flow line

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Chance Dixon

Signature: 

Signature

Spill Response and Sampling

VERTEX

Client: BTA

Date: 5/6/21

Site Name: White Wing #2H

Site Location:

Client Contact: Bob Hall

Project Manager: Monica Peppin

Project #: 21E-01340

API:

Site Wide Picture: Yes/No (Circle)

Initial Spill Information - Record on First Visit

Spill Date: 5/5/21

Spill Volume: 10 bbls

Spill Cause: Busted Flowline

Spill Product: Oil

Recovered Spill Volume:

Recovery Method:

On Lease/Off Lease:

Site Placard Picture: Yes/No (Circle)

		Sampling								
		Field Screening							Data Collection (Check for Yes)	
		Hydrocarbon		Chloride						
Sample ID	Depth (ft)	VOC (PID)	PetroFlag TPH (ppm)	EC Reading (dS/cm)	Temp (°C)	Chloride (ppm)	Chloride Titration (ppm)	Lab Analysis	Picture	Marked on Site Sketch
SS/TP/BH - Year Number Ex. BH18-01	Ex. '2ft	400.0	200.0	0.006	25	0		BTEX TPH None		
BHZ1-01	0-0.5	6.8	88	0.16	22.5	67				
BHZ1-02	0-0.5	3.4	56	0.06	22.1	ND				X
BHZ1-03	0-0.5	63.6								X
BHZ1-04	0-0.5	5.2	36	0.07	22.5	ND				X
BHZ1-05	0-0.5	5.8	45	0.04	22.7	ND				X
BHZ1-06	0-0.5	1.2	108	0.06	21.9	ND				X
BHZ1-07	0-0.5	1.5	51	0.13	21.9	49				X
BHZ1-08	0-0.5	1.4	26	0.04	22.3	ND				X
BHZ1-09	0-0.5	0.2	17	0.11	22.6	ND				X
BHZ1-10	0-0.5	1.5	88	0.08	22.8	ND				X
BHZ1-11	0-0.5	0.2	13	0.06	21.9	ND				X
BHZ1-12	0-0.5	1.7	35	0.03	21.9	ND				X
BHZ1-13	0-0.5	18.7	113	0.13	22.5	24				X
BHZ1-14	0-0.5	5.3	57	0.041	22.7	ND				X
BHZ1-15	0-0.5	3.3	57	0.15	22.4	57				X
BHZ1-16	0-0.5	25.6	148	0.12	22.0	31				X
										X
BHZ1-17	0-0.5	3.8	78	0.11	22.1	12				
BHZ1-18	0-0.5	1.6	162	0.19	21.5	153				X
BHZ1-19	0-0.5	0.3	37	0.17	21.3	133				X
BHZ1-20	0-0.5	0.0	88	0.05	22.3	ND				X
BHZ1-21	0-0.5	0.7	39	0.10	22.7	ND				X
										X

Daily Site Visit Report

Client:	BTA Oil Producers LLC	Inspection Date:	5/7/2021
Site Location Name:	White Wing #2-H	Report Run Date:	5/8/2021 1:54 AM
Client Contact Name:	Bob Hall	API #:	
Client Contact Phone #:	432-312-2203		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	5/7/2021 9:30 AM
Departed Site	5/7/2021 3:55 PM

Field Notes

15:34 Arrived on site this morning to do vertical delineation for white wing

15:34 Ran 10 borehole points evenly spaced in the middle of the spill.

15:35 Each sample was ran at surface, 6in, and 1ft

15:36 BH22, BH23, and BH25 got hits on PID at all three depths. BH25 hit clean at 2ft on PID, EC, and Petro. BH22 and BH23 clean at 3ft.

15:37 Ran five more sample points. BH27, BH28, and BH29 all clean at 1ft. BH30 and BH31 all clean at 6in.

15:55 Vertical and horizontal delineation are complete.

Next Steps & Recommendations

1 No recommendations at this time

Daily Site Visit Report

Site Photos

Viewing Direction: West

Flow line repaired.

Viewing Direction: Northwest

Sample area. Five boreholes evenly spaced

Viewing Direction: Southwest

Sample area. Five more boreholes

Viewing Direction: South

Spill was not completely recovered. East side will require 2-3ft of excavation.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Chance Dixon

Signature: 

Signature

Spill Response and Sampling

VERTEX

Client: BTA

Date: 5/7/21

Site Name: White Wing #2H

Site Location:

Client Contact: Bob Hall

Project Manager: Monica Peppin

Project #: 21E-01340-003

API:

Site Wide Picture: Yes/No Circle

Initial Spill Information - Record on First Visit

Spill Date: 5/5/21

Spill Volume: 10 bbls

Spill Cause: Busted Flowline

Spill Product: Oil

Recovered Spill Volume:

Recovery Method:

On Lease/Off Lease:

Site Placard Picture: Yes/No Circle

		Sampling								
		Field Screening							Data Collection (Check for Yes)	
		Hydrocarbon		Chloride						
Sample ID	Depth (ft)	VOC (PID)	PetroFlag TPH (ppm)	EC Reading (dS/cm)	Temp (°C)	Chloride (ppm)	Chloride Titration (ppm)	Lab Analysis	Picture	Marked on Site Sketch
SS/FP/BH - Year Number Ex. BH18-01	Ex. '2ft	400.0	200.0	0.006	25	0		BTEX TPH None		
BH21-22	0	1760								
BH21-22	0.5	1612								X
BH21-22	1	512								X
BH21-23	0	2000								X
BH21-23	0.5	2180								X
BH21-23	1	1175								X
BH21-24	0	10.5		0.07	22.0	ND		Dark color Strong odor		X
BH21-24	0.5	7.0	24	0.10	22.2	ND				X
BH21-24	1	21.4	37	0.08	22.7	ND				X
BH21-25	0	738								X
BH21-25	0.5	709								X
BH21-25	1	211								X
BH21-26	0	16.3		0.08	22.7	ND		Dark color Strong odor		X
BH21-26	0.5	9.0	80	0.12	22.6	5				X
BH21-26	1	4.9	61	0.09	22.5	ND				X
BH21-22	2	55.4								X
BH21-23	2	39.2								X
BH21-25	2	10.2	27	0.041	22.8	ND				X
BH21-22	3	6.5	52	0.04	22.1	ND				X
BH21-23	3	11.9	90	0.04	22.8	ND				X

Spill Response and Sampling

VERTEX

Client:	
Date:	
Site Name:	
Site Location:	
Client Contact:	
Project Manager:	
Project #:	
API:	
Site Wide Picture	Yes/No Circle

Initial Spill Information - Record on First Visit	
Spill Date:	
Spill Volume:	
Spill Cause:	
Spill Product:	
Recovered Spill Volume:	
Recovery Method:	
On Lease/Off Lease:	
Site Placard Picture:	Yes/No Circle

		Sampling								
		Field Screening							Data Collection (Check for Yes)	
		Hydrocarbon		Chloride						
Sample ID	Depth (ft)	VOC (PID)	PetroFlag TPH (ppm)	EC Reading (dS/cm)	Temp (°C)	Chloride (ppm)	Chloride Titration (ppm)	Lab Analysis	Picture	Marked on Site Sketch
SS/IP/BH - Year Number Ex. BH18-01	Ex. '2ft	400.0	200.0	0.006	25	0		BTEX TPH None		
BHZ1-27	6	5.4		0.14	22.1	55		Dark color Strong odor		X
BHZ1-27	0.5	1.8	188	0.05	22.3	ND				X
BHZ1-27	1	0.8	62	0.06	22.9	ND				X
BHZ1-28	0	18.4		0.33	22.6	308		Dark color Strong odor		X
BHZ1-28	0.5	2.4	127	0.11	22.0	16				X
BHZ1-28	1	1.7	95	0.11	22.7	ND				X
BHZ1-29	0	1.1		0.22	22.5	153		Dark color Strong odor		X
BHZ1-29	0.5	[redacted]	150	0.24	22.5	182				X
BHZ1-29	1	0.7	37	0.11	21.9	21				X
BHZ1-30	0	11.2	180	0.73	22.7	881				X
BHZ1-30	0.5	2.6	33	0.07	22.8	ND				X
BHZ1-30	1	3.4		0.08	22.0	ND				X
BHZ1-31	0	5.7	120	0.08	22.0	ND				X
BHZ1-31	0.5	3.7	32	0.17	22.6	77				X
BHZ1-31	1	5.1		0.20	22.6	120				X

Daily Site Visit Report

Client:	BTA Oil Producers LLC	Inspection Date:	5/12/2021
Site Location Name:	White Wing #2-H	Report Run Date:	5/13/2021 12:27 AM
Client Contact Name:	Bob Hall	API #:	
Client Contact Phone #:	432-312-2203		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	5/12/2021 6:50 AM
Departed Site	5/12/2021 3:50 PM

Field Notes

7:34 Arrived on site to assess excavation and confirmation sampling for white wing #2

7:35 Waiting for crew to arrive and then going to load current piles to disposal

9:27 Crew has arrived and began loading soil to be hauled off. Will start sampling later on.

14:47 Crew only had backhoe all day. Spent most of the day loading soil into pecos river trucks to haul off

14:47 Appropriate equipment will be on site tomorrow to have a more productive day.

14:48 Will use excavator, backhoe, and front end loader to excavate and haul soil tomorrow

14:48 336 yards hauled off today

14:53 Got four base samples out of big holes that were already there. Did not excavate because of flowlines. Will most likely hydrovac at the end of excavating.

Next Steps & Recommendations

1 Continue excavation tomorrow 5/13

Daily Site Visit Report

Site Photos

Viewing Direction: East	**Viewing Direction**: West
	
Site before excavation	Most piles have been hauled off
Viewing Direction: South	**Viewing Direction**: West
	
Piles hauled off	Piles hauled off

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Chance Dixon

Signature: 

Signature

Spill Response and Sampling

VERTEX

Client: BTA
Date: 5/12/21
Site Name: White Wing #2H
Site Location:
Client Contact: Bob Hall
Project Manager: Monica Peppin
Project #: 21E-01340-003
API:
Site Wide Picture Yes/No Circle

Initial Spill Information - Record on First Visit
Spill Date: 5/5/21
Spill Volume: 10 bbls
Spill Cause: Busted Flowline
Spill Product: Oil, PW
Recovered Spill Volume:
Recovery Method:
On Lease/Off Lease:
Site Placard Picture: Yes/No Circle

		Sampling								
		Field Screening								
		Hydrocarbon		Chloride					Data Collection (Check for Yes)	
Sample ID SS/TP/BH - Year Number Ex. BH18-01	Depth (ft) Ex. 20	VOC (PID) 400.0	PetroFlag TPH (ppm) 200.0	EC Reading (dS/cm) 0.006	Temp (°C) 25	Chloride (ppm) 0	Chloride Titration (ppm)	Lab Analysis BTEX TPH None	Picture	Marked on Site Sketch
BS21-01	8	1.2	109	0.18	21.7	130				
BS21-02	8	3.7		1.01	21.3	1346				
BS21-15	8	1.6		0.73	21.3	941				
BS21-16	8	42.5		1.21	21.1	1643				
BS21-01	8	0.1	110	0.12	23.0	ND				

VERSATILITY. EXPERTISE.

Daily Site Visit Report

Client:	BTA Oil Producers LLC	Inspection Date:	5/13/2021
Site Location Name:	White Wing #2-H	Report Run Date:	5/14/2021 2:54 PM
Client Contact Name:	Bob Hall	API #:	
Client Contact Phone #:	432-312-2203		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	5/13/2021 8:10 AM
Departed Site	5/13/2021 3:15 PM

Field Notes

8:39 Arrived on site to continue excavation

8:39 Waiting on excavator and front end loader to show up on location

14:42 Loader and excavator didn't show up until late in the day. Spent most of the day trying to dig with small backhoe

14:42 Was only able to run one sample (BS5) and it was slightly high on tph. Will need to dig deeper tomorrow

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: North	**Viewing Direction**: North
	
Current excavation	Current excavation

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Chance Dixon

Signature: 

Signature

Daily Site Visit Report

Client:	BTA Oil Producers LLC	Inspection Date:	5/14/2021
Site Location Name:	White Wing #2-H	Report Run Date:	6/3/2021 8:00 PM
Client Contact Name:	Bob Hall	API #:	
Client Contact Phone #:	432-312-2203		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	5/14/2021 8:42 AM
Departed Site	5/14/2021 3:25 PM

Field Notes

9:18 Arrived on site, filled out safety paperwork and began dfr

9:18 Work on excavation to 1’ for now around entire spill area

14:51 Excavation is slow but steady, due to the amount of poly flow lines around the excavation.

15:24 13 trucks hauled off today= 260 yards

Next Steps & Recommendations

1 Hydro vac the deeper holes and lines that are buried next week to finish off current excavation

Daily Site Visit Report

Site Photos

Viewing Direction: North	**Viewing Direction**: East
	
Excavation area	Excavation area
Viewing Direction: East	**Viewing Direction**: South
	
Excavation area	Excavation area

Daily Site Visit Report

Viewing Direction: South	**Viewing Direction**: East
	
Excavation area	Flow lines in excavation
Viewing Direction: South	**Viewing Direction**: Southeast
	
Excavation area	Excavation on Southside of spill

Daily Site Visit Report

Daily Site Visit Signature

Inspector: John Ramirez

Signature: 

Daily Site Visit Report

Client:	BTA Oil Producers LLC	Inspection Date:	5/17/2021
Site Location Name:	White Wing #2-H	Report Run Date:	6/3/2021 8:07 PM
Client Contact Name:	Bob Hall	API #:	
Client Contact Phone #:	432-312-2203		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	5/17/2021 8:40 AM
Departed Site	5/17/2021 2:32 PM

Field Notes

9:00 Arrived on site and filled out safety paperwork and began dfr

9:00 Start sampling around the areas of excavation to see if we are at clean soil.

10:22 North hole has been open for quite awhile

10:56 Taking samples around excavation, waiting on hydro vac to show up to stop lines so we can continue excavation

13:35 BS21-03 cleans up at 2.5 and BS21-05 cleans up at 1.5

13:35 Hydro vac never showed, should be here tomorrow to spot lines

Next Steps & Recommendations

1 Will hydro vac bell holes tomorrow and poly and fiberglass line. Will finish excavation and continue to sample.

Daily Site Visit Report

Site Photos

Viewing Direction: North

Strip of dirt that will be hydro/excavated out

Viewing Direction: North

Pile of dirt to be excavated and hydro

Viewing Direction: North

Sample area of excavation

Viewing Direction: East

Sample area of excavation

Daily Site Visit Report

Daily Site Visit Signature

Inspector: John Ramirez

Signature: 

Spill Response and Sampling

VERTEX

Client: BTA
Date: 5-17-21
Site Name: White wing
Site Location:
Client Contact: Bob Hall
Project Manager: Monica Peppin
Project #: 21E-01340
API:
Site Wide Picture: Yes/No Circle

Initial Spill Information Record on First Visit
Spill Date: 5.5.21
Spill Volume: 10 bbls
Spill Cause: Busted Flowline
Spill Product: oil / Dr
Recovered Spill Volume:
Recovery Method:
On Lease/Off Lease:
Site Placard Picture: Yes/No Circle

		Sampling								
		Field Screening							Data Collection (Check for Yes)	
		Hydrocarbon		Chloride						
Sample ID	Depth (ft)	VOC (PID)	PetroFlag TPH (ppm)	EC Reading (dS/cm)	Temp (°C)	Chloride (ppm)	Chloride Titration (ppm)	Lab Analysis	Picture	Marked on Site Sketch
SS/TP/BH - Year - Number Ex. BH18-01	Ex. '2ft	400.0	200.0	0.006	25	0		BTEX TPH None		
BS21-05	1'	14.2	177	0.22	24.5	67				
BS21-06	1'	3.6	196	0.22	24.6	62				
BS21-07	1'	2.9	189	0.20	24.5	38				
BS21-08	2.5	1.7	136	0.12	24.5	ND				
BS21-09	1'	1.6	123	0.08	24.1	ND				
BS21-03	2'	5.1	770	0.17	26.5	ND				
BS21-04	1'	1.0	17	0.14	25.7	ND				
BS21-05	1.5		28	0.09	25.6	ND				
BS21-03	2.5		20	0.09	26.3	ND				
BS21-06	1.5		29	0.12	26.5	ND				

Daily Site Visit Report

Client:	BTA Oil Producers LLC	Inspection Date:	5/18/2021
Site Location Name:	White Wing #2-H	Report Run Date:	5/18/2021 9:19 PM
Client Contact Name:	Bob Hall	API #:	
Client Contact Phone #:	432-312-2203		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	5/18/2021 8:10 AM
Departed Site	5/18/2021 4:30 PM

Field Notes

10:25 Arrived on site to continue excavation guidance

10:25 Hydro vac is on site to spot lines

10:25 Continuing running base samples that John began

15:40 Ran Wall samples 1-9. All clean

15:41 Ran samples BS8 and BS9 deeper than John ran yesterday. Got clean for those

15:41 Ran BS10 and 11. Both clean.

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: North	**Viewing Direction**: East
	
Current excavation	Current excavation
Viewing Direction: Southeast	**Viewing Direction**: Southwest
	
Current excavation	Current excavation

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Chance Dixon

Signature: 

Signature

Spill Response and Sampling

VERTEX

Client: BTA
Date: 5/18/21
Site Name: White Wing #2H
Site Location:
Client Contact: Bob Hall
Project Manager: John Hurt
Project #: 21E-01340-003
API:
Site Wide Picture: Yes/No Circle

Initial Spill Information - Record on First Visit
Spill Date: 5/15/21
Spill Volume: 10bbls
Spill Cause: Busted Flowline
Spill Product: O, PW
Recovered Spill Volume:
Recovery Method:
On Lease/Off Lease:
Site Placard Picture: Yes/No Circle

Sampling										
		Field Screening								Data Collection (Check for Yes)
		Hydrocarbon		Chloride						
Sample ID	Depth (ft)	VOC (PID)	PetroFlag TPH (ppm)	EC Reading (dS/cm)	Temp (°C)	Chloride (ppm)	Chloride Titration (ppm)	Lab Analysis	Picture	Marked on Site Sketch
SS/FP/BH - Year Number Ex. BH18-01	Ex. '2ft	400.0	200.0	0.006	25	0		BTEX TPH None		
WS21-01	0-3	1.1	15	0.04	20.5	ND				
WS21-02	0-3	0.7	17	0.11	20.7	73				
WS21-03	0-3	1.0	12	0.16	20.9	136				
WS21-04	0-3	0.7	12	0.05	21.0	ND				
WS21-05	0-1	1.7	21	0.11	22.4	ND				
WS21-06	0-1	0.4	17	0.07	22.4	ND				
WS21-07	0-1	0.4	17	0.11	22.5	ND				
WS21-08	0-2	0.4	20	0.08	22.4	ND				
WS21-09	0-2	0.5	25	0.07	22.0	ND				
BS21-09	3	1.2	15	0.06	22.3	ND				
BS21-10	2.5	1.2	27	0.03	22.2	ND				
BS21-11	2.5	0.8	22	0.04	22.0	ND				
BS21-08	2.5	0.1	15	0.06	22.0	ND				

Daily Site Visit Report

Client:	BTA Oil Producers LLC	Inspection Date:	5/19/2021
Site Location Name:	White Wing #2-H	Report Run Date:	6/3/2021 8:10 PM
Client Contact Name:	Bob Hall	API #:	
Client Contact Phone #:	432-312-2203		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	5/19/2021 8:52 AM
Departed Site	5/19/2021 3:25 PM

Field Notes

8:52 Arrived on site to continue guiding excavation

16:17 Ran the rest of wall samples around excavation and got clean for all.

16:17 Ran three more base samples and all are clean

16:18 Excavation around big holes is complete. Will come in with dry vac tomorrow to clean dirty soil under flowlines

Next Steps & Recommendations

1 Finish sampling tomorrow with dry vac.

Daily Site Visit Report

VERTEX

Site Photos

Viewing Direction: North	**Viewing Direction**: North
	
Current excavation	Excavation
Viewing Direction: Northwest	**Viewing Direction**: Northwest
	
Excavation	Excavation

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Chance Dixon

Signature: CD

Signature

Daily Site Visit Report

Client:	BTA Oil Producers LLC	Inspection Date:	5/21/2021
Site Location Name:	White Wing #2-H	Report Run Date:	5/21/2021 9:58 PM
Client Contact Name:	Bob Hall	API #:	
Client Contact Phone #:	432-312-2203		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	5/21/2021 7:56 AM
Departed Site	5/21/2021 3:00 PM

Field Notes

8:57 Arrived on site to get dirty soil out from underneath flowlines with hydrovac. Hydrovac is not on site yet.

9:53 Hydrovac on site. Beginning vac job

11:27 Ran BS17-19 on north hole after 6inch vac. All clean.

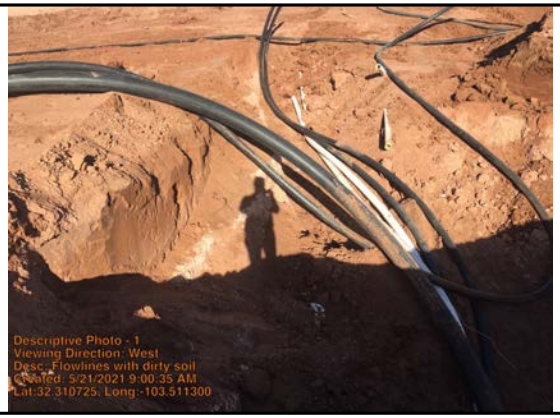
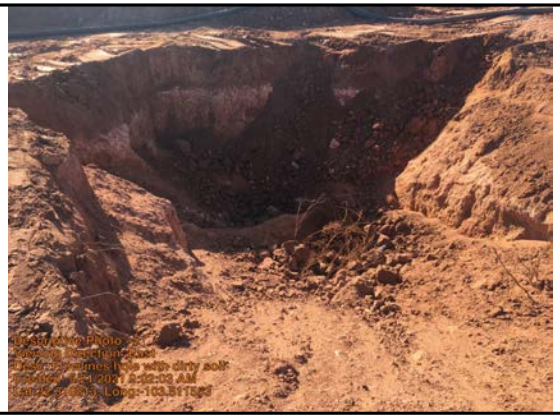
16:55 Ran BS2 in east hole. Almost got completely done with all of excavation but hydrovac quit working. Have to come back to it Monday

Next Steps & Recommendations

1 Come back Monday to finish hydrovac

Daily Site Visit Report

Site Photos

Viewing Direction: West	**Viewing Direction**: East
	
Flowlines with dirty soil	Flowlines hole with dirty soil

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Chance Dixon

Signature: 

Signature

Spill Response and Sampling

VERTEX

Client: BTA

Date: 5/21/21

Site Name: White Wing

Site Location:

Client Contact: Bob Hall

Project Manager: John Hurt

Project #: 21E-01310-003

API:

Site Wide Picture: Yes/No (Circle)

Initial Spill Information - Record on First Visit

Spill Date: 5/5/21

Spill Volume: 10 bbls

Spill Cause: Busted Flowline

Spill Product: Oil, PW

Recovered Spill Volume:

Recovery Method:

On Lease/Off Lease:

Site Plan and Picture: Yes/No (Circle)

Soil Sampling

Field Screening

Sample ID	Depth (ft)	Hydrocarbon VOC (PID)	Hydrocarbon Petroflag TPH (ppm)	Chloride EC Reading (dS/cm)	Chloride Temp (°C)	Chloride (ppm)	Chloride Titration (ppm)	Lab Analysis	Data Collection (Check for Yes) Picture	Data Collection (Check for Yes) Marked on Site Sketch
WP/BH- Your Number Ex. BH18-01	Ex. 20	400.0	200.0	0.006	25	0		BTEX TPH Metals		
BSZ1-17	8	1-9	38	0.13	22.5	24				
BSZ1-18	0-8	0.2	94	0.07	22.6	ND				
BSZ1-19	0-8	0.3	29	0.06	22.8	ND				
BSZ1-02	9	3.0	48	0.04	22.7	ND				
BSZ1-01	9									
BSZ1-20	0-9									
BSZ1-21	0-9									

Daily Site Visit Report

Client:	BTA Oil Producers LLC	Inspection Date:	5/24/2021
Site Location Name:	White Wing #2-H	Report Run Date:	5/24/2021 11:16 PM
Client Contact Name:	Bob Hall	API #:	
Client Contact Phone #:	432-312-2203		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	5/24/2021 9:18 AM
Departed Site	5/24/2021 3:13 PM

Field Notes

9:19 Arrived on site to finish hydrovac and start confirmation sampling.

14:48 Hydrovac finished underneath flowlines. BS1-3 all clean

14:48 Ran WS1-14 all clean

14:48 All excavation is finished

14:49 Final excavation is 8,320 square feet. 41 total confirmation samples needed. 17 ran today

14:50 BS1-3 and WS1-14 jarred and ready to send to lab.

Next Steps & Recommendations

1 Arrive tomorrow to finish confirmation

Daily Site Visit Report

Site Photos

Viewing Direction: North	**Viewing Direction**: West
	
Final excavation	Area hydrovacced. All clean
Viewing Direction: Southwest	**Viewing Direction**: Southeast
	
Final excavation	Final excavation

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Chance Dixon

Signature: 

Signature

Spill Response and Sampling

VERTEX

Client: BTA
Date: 5/24/21
Site Name: White Wing #2H
Site Location:
Client Contact: Bob Hall
Project Manager: John Hurt
Project #: 21E-01340-003
API:
Site Wide Picture: Yes/No (Circle)

Initial Spill Information - Record on First Visit
Spill Date: 5/5/21
Spill Volume: 10 bbls
Spill Cause: Busted Flowline
Spill Product: Oil, PW
Recovered Spill Volume:
Recovery Method:
On Lease/Off Lease:
Site Plot and Frame: Yes/No (Circle)

		Sampling								
		Field Screening								
		Hydrocarbon		Chloride					Data Collection (Check for Yes)	
Sample ID	Depth (ft)	VOC (PID)	PetroFlag TPH (ppm)	EC Reading (dS/cm)	Temp (°C)	Chloride (ppm)	Chloride Titration (ppm)	Lab Analyses	Picture	Marked on Site Sketch
Ex. BH18-01	Ex. 2ft	400.0	200.0	0.005	25	0		BTEX TPH None		
BS21-01	8	1.6	50	0.10	22.4	ND				
BS21-02	9	1.3	24	0.13	22.8	11				
BS21-03	9	0.8	22.	0.14	22.8	25				
WS21-01	0.8 ←	0-3	50	0.20	22.3	133				
WS21-02	0.8 ←	0-3	20	0.05	22.7	ND				
WS21-03	1.1 ←	0-3	66	0.05	22.4	ND				
WS21-04	1.2 ←	0-3	49	0.08	23.0	ND				
WS21-05	0-2	0.6	71	0.12	22.9	ND				
WS21-06	0-2	0.6	75	0.15	22.5	52				
WS21-07	0-2	0.4	62	0.11	22.2	8				
WS21-08	0-2	0.7	40	0.20	22.9	107				
WS21-09	0-1.5	0.9	89	0.39	22.4	403				
WS21-10	0-1.5	0.6	85	0.04	23.0	16				
WS21-11	0-1.5	0.9	83	0.15	22.7	44				
WS21-12	0-1.5	0.7	71	0.06	22.6	ND				
WS21-13	0-1.5	0.6	75	0.08	22.7	ND				
WS21-14	0-3	1.5	45	0.15	22.9	35				

Daily Site Visit Report

Client:	BTA Oil Producers LLC	Inspection Date:	5/25/2021
Site Location Name:		Report Run Date:	5/25/2021 9:06 PM
Client Contact Name:	Bob Hall	API #:	
Client Contact Phone #:	432-312-2203		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	5/25/2021 6:47 AM
Departed Site	5/25/2021 12:30 PM

Field Notes

6:48 Arrived on site to complete confirmation sampling

12:07 Ran WS15-25 and BS4-16. All clean. 41 total confirmation samples have been collected and jarred ready to send to lab

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: West

Five point composite sample point

Viewing Direction: North

Edge of excavation where wall samples were ran

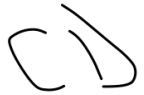
Viewing Direction: East

Final excavation where base samples were ran

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Chance Dixon

Signature: 

Signature

Spill Response and Sampling

VERTEX

Client: BTH
Date: 5/25/21
Site Name: White Wing #2H
Site Location:
Client Contact: Bob Hall
Project Manager: John Hurt
Project #: 21E01340-003
API:
Site Wide Picture: Yes/No Circle

Initial Spill Information - Record on First Visit
Spill Date: 5/5/21
Spill Volume: 10 bbls
Spill Cause: Busted Flowline
Spill Product: Oil, PW
Recovered Spill Volume:
Recovery Method:
Pictures/Offsets:
Site Plan and Figure: Yes/No Circle

Sample ID	Depth (ft)	Sampling – Field Screening – Hydrocarbon: VOC (PID)	PetroFlag TPH (ppm)	Chloride: EC Reading (dS/cm)	Temp (°C)	Chloride (ppm)	Chloride Titration (ppm)	Lab Analyses	Data Collection (Check for Yes): Picture	Marked on Site Sketch
Ex. BH18-01	Ex. 2ft	400.0	200.0	0.006	25	0		BTEX TPH None		
WS21-15	0-2	0.1	3	0.06	20.9	ND				
WS21-16	0-2	0.1	3	0.06	21.5	ND				
WS21-17	0-2	0.0	9	0.01	21.2	ND				
WS21-18	0-2	0.0	6	0.04	20.7	ND				
WS21-19	0-2	0.1	11	0.05	21.0	ND				
WS21-20	0-1	0.1	23	0.05	20.6	ND				
WS21-21	0-8	0.1	9	0.15	20.8	126				
WS21-22	0-9	0.0	15	0.10	20.7	58				
WS21-23	0-2	0.3	15	0.11	20.9	64				
WS21-24	0-3	0.0	12	0.04	21.0	ND				
WS21-25	0-3	0.2	5	0.04	20.8	ND				
BS21-04	2	0.2	11	0.07	20.8	11				
BS21-05	3	0.4	18	0.04	20.4	ND				
BS21-06	3	0.2	98	0.06	20.6	5				
BS21-07	2	0.9	12	0.18	22.3	104				
BS21-08	2	1.2	5	0.02	22.4	ND				
BS21-09	1.5	0.4	8	0.06	22.3	ND				
BS21-10	8	0.8	11	0.05	22.3	ND				
BS21-11	1.5	1.4	67	0.04	22.5	ND				
BS21-12	2	0.0	17	0.04	22.6	ND				
BS21-13	2	0.5	7	0.04	22.5	ND				
BS21-14	2	0.0	6	0.04	22.3	ND				
BS21-15	0-8	0.4	55	0.06	22.9	ND				
BS21-16	0-9	0.5	45	0.11	22.7	ND				

Daily Site Visit Report

Client:	BTA Oil Producers LLC	Inspection Date:	6/9/2021
Site Location Name:	White Wing #2-H	Report Run Date:	6/15/2021 1:13 PM
Client Contact Name:	Bob Hall	API #:	
Client Contact Phone #:	432-312-2203		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	6/9/2021 9:30 AM
Departed Site	6/9/2021 5:00 PM

Field Notes

12:08 Arrived on site to oversee backfill

12:09 One C&S truck on site to haul clean soil from merchant livestock co.

12:10 WW's loader got flat tire so there is a backhoe being used at the pit to load the truck. Truck is bringing it back to site and dumping it into the hole

16:01 Only one truck came through and hauled in clean soil. 76 yards brought in today.

Next Steps & Recommendations

1 Come back tomorrow and continue backfill

Daily Site Visit Report

Site Photos

Viewing Direction: North	**Viewing Direction**: Southeast
	
Excavation being backfilled	Clean soil brought in so far

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Chance Dixon

Signature: 

Signature

Daily Site Visit Report

Client:	BTA Oil Producers LLC	Inspection Date:	6/10/2021
Site Location Name:	White Wing #2-H	Report Run Date:	6/15/2021 1:14 PM
Client Contact Name:	Bob Hall	API #:	
Client Contact Phone #:	432-312-2203		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	6/10/2021 8:00 AM
Departed Site	6/10/2021 5:30 PM

Field Notes

11:21 Arrived on site to continue backfill

11:22 180 yards backfilled so far.

11:22 4 dump trucks and 1 belly dump truck from Wild West

13:10 284 yards hauled in so far

Next Steps & Recommendations

1 Continue backfilling tomorrow

Daily Site Visit Report

Site Photos

Viewing Direction: Southeast

Backfill soil brought in so far

Viewing Direction: Southeast

Current backfill. Operator needs to move dirt around to make room for top soil

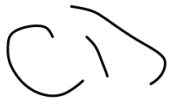
Viewing Direction: North

Current backfill

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Chance Dixon

Signature: 

Signature

Daily Site Visit Report

Client:	BTA Oil Producers LLC	Inspection Date:	6/11/2021
Site Location Name:	White Wing #2-H	Report Run Date:	6/15/2021 1:14 PM
Client Contact Name:	Bob Hall	API #:	
Client Contact Phone #:	432-312-2203		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	6/11/2021 7:30 AM
Departed Site	6/11/2021 5:15 PM

Field Notes

9:00 Arrived on site to continue backfill for white wing

9:59 Backfill over halfway done. Trying to get it level down about 8 in from surface to make room for top soil.

16:32 As we were nearing the end of backfill. A flowline that belongs to BTA that was already buried was struck with the backhoe. Reason for this is we were trying to scrap up high spots to have room for top soil

16:32 While vac truck was sucking the fluids on top. It was discovered that a second flowline was struck. It was a freshwater line that was out of service

16:33 Spill was approximately 4 Blvd of PW and oil.

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: North

Current backfill

Viewing Direction: Northwest

Current backfill

Viewing Direction: North

Line strike and spill

Viewing Direction: North

Spill area from flowlines strike

Daily Site Visit Report

Viewing Direction: North	**Viewing Direction**: North
	
Second line strike. Freshwater	Current excavation for flowlines strike

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Chance Dixon

Signature: 

Signature

Daily Site Visit Report

Client:	BTA Oil Producers LLC	Inspection Date:	6/12/2021
Site Location Name:	White Wing #2-H	Report Run Date:	6/15/2021 1:14 PM
Client Contact Name:	Bob Hall	API #:	
Client Contact Phone #:	432-312-2203		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	6/12/2021 7:50 AM
Departed Site	6/12/2021 3:15 PM

Field Notes

10:03 Arrived on site to clean up spill from flowline strike on 6/11

12:48 Sampled a base and a wall from area excavated yesterday. It is on south side. All clean at 3ft

10:04 Hydrovac on site to suck up dirty soil around potential flowlines underground

12:48 Wall and base sample on other end of spill are clean at 5ft. It is excavated.

12:49 Middle of the spill is narrow but has lines that are of concern. Trying to locates lines

12:51 Did not locate lines at 4ft. Will dig with caution at 2ft for the middle. Will take two wall samples and a base sample

14:53 Ran 4 wall samples and 2 base samples. All clean. Depths vary from 3-5ft

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: North

Hydrovac sucking dirty soil

Viewing Direction: North

Final excavation

Viewing Direction: South

Final excavation

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Chance Dixon

Signature: 

Signature

Spill Response and Sampling

VERTEX

Client: BTA
Date: 6/12/21
Site Name: White Wing #2
Site Location:
Client Contact: Bob Hall
Project Manager: John Hurt
Project #: 21E-01340-003
API:
Site Wide Picture: Yes/No Time:

Initial Spill Information - Record on First Visit
Spill Date: 6/11/21
Spill Volume: 96615
Spill Cause: Mowline strike
Spill Product: Oil, PW
Recovered Spill Volume:
Recovery Method:
Impacted Area(s):
Site Photo Taken: Yes/No Time:

		Sampling								
		Field Screening								
		Hydrocarbon		Chloride					Data Collection (check for Yes)	
Sample ID	Depth (ft)	VOC (PID)	PetroFlag TPH (ppm)	EC Reading (dS/cm)	Temp (°C)	Chloride (ppm)	Chloride Titration (ppm)	Lab Analysis	Picture	Marked on Site Sketch
Ex. BH18-01	Ex. 2ft	400.0	200.0	0.005	25	0		BTEX TPH None		
BS21-01	3	0.4	16	0.06	22.0	ND				
WS21-01	0-3	0.4	88	0.25	22.9	179				
BS21-02	~~3~~ 5	0.9	69	0.22	23.8	97				
WS21-02	0-5	0.3	30	0.06	23.7	ND				
BS21-03	2	2.1		1.87	23.0	2513				
BS21-03	3	0.9	98	0.21	23.9	78				
WS21-03	0-2	0.4	15	0.07	22.1	ND				
WS21-04	0-2	0.4	14	0.07	22.5	ND				

Daily Site Visit Report

Client:	BTA Oil Producers LLC	Inspection Date:	6/14/2021
Site Location Name:	White Wing #2-H	Report Run Date:	6/15/2021 1:14 PM
Client Contact Name:	Bob Hall	API #:	
Client Contact Phone #:	432-312-2203		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	6/14/2021 7:00 AM
Departed Site	6/14/2021 5:25 PM

Field Notes

7:12 Arrived on site to finish backfill

17:11 Correct amount of soil has been added. Operator just needs to dress it. Will take a good part of a day

17:12 48 yards backfilled from Merchant company. 318 yards added from landowner

Next Steps & Recommendations

1 Come back tomorrow to back drag

Daily Site Visit Report

Site Photos

Viewing Direction: South

Top soil being added and leveled

Viewing Direction: Northwest

Current backfill.

Viewing Direction: Southwest

Current backfill

Viewing Direction: Southeast

Current backfill

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Chance Dixon

Signature: 

Signature

Daily Site Visit Report

Client:	BTA Oil Producers LLC	Inspection Date:	
Site Location Name:	White Wing #2-H	Report Run Date:	6/18/2021 8:34 PM
Client Contact Name:	Bob Hall	API #:	
Client Contact Phone #:	432-312-2203		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	
Departed Site	

Field Notes

14:29 Juan from WW went to site to finish back dragging backfill.

Next Steps & Recommendations

1 No recommendations at this time

Daily Site Visit Report

Site Photos

Viewing Direction: North	**Viewing Direction**: North
	
Backfill	Backfill
Viewing Direction: North	**Viewing Direction**: North
	
Backfill	Backfill

Daily Site Visit Report

Viewing Direction: North

Backfill

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Chance Dixon

Signature: 

Signature

ATTACHMENT 5

Brandon Schafer

From: Chance Dixon
Sent: June 3, 2021 4:03 PM
To: Brandon Schafer
Subject: FW: BTA Oil Producers-White Wing #2H-nAPP2113132295

From: Chance Dixon
Sent: May 20, 2021 9:28 AM
To: OCD.Enviro@state.nm.us
Cc: John Hurt <jhurt@vertex.ca>; bhall@btaoil.com
Subject: BTA Oil Producers-White Wing #2H-nAPP2113132295

Good morning all,

Please accept this email as 48hr notification that Vertex Resource Services Inc. has scheduled final confirmatory sampling at the above named location on May 24, 2021 at 8:00 AM. Chance Dixon from Vertex will be on site performing the sampling and can be reached at (575)-988-1472. If you need assistance with directions to site please do not hesitate to contact me.

nAPP2113132295 DOR: May 5,2021

If you have any other questions or concerns, please do not hesitate to contact me.

Thank you,
Chance Dixon

ATTACHMENT 6

Client Name: BTA Oil Producers, LLC
Site Name: White Wing #2H
NM OCD Tracking #: nAPP2113132295
Project #: 21E-01340-003
Lab Report: 2105425

Table 2. Initial Characterization Field Screening and Laboratory Results - Depth to Groundwater <50 feet bgs

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (Petro Flag)	Chloride Concentration Calculated from Electroconductivity	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH21-01	0-0.5	May 6, 2021	1	88	67	<0.023	<0.211	ND	33	ND	33	33	ND
BH21-02	0-0.5	May 6, 2021	3	56	ND	<0.023	<0.213	ND	13	ND	13	13	ND
BH21-03	0-0.5	May 6, 2021	64	-	-	-	-	-	-	-	-	-	-
BH21-04	0-0.5	May 6, 2021	5	36	ND	<0.025	<0.221	ND	ND	ND	ND	ND	ND
BH21-05	0-0.5	May 6, 2021	6	48	ND	<0.025	<0.225	ND	ND	ND	ND	ND	ND
BH21-06	0-0.5	May 6, 2021	1	108	ND	-	-	-	-	-	-	-	-
BH21-07	0-0.5	May 6, 2021	2	51	49	<0.025	<0.225	ND	ND	ND	ND	ND	ND
BH21-08	0-0.5	May 6, 2021	1	26	ND	<0.025	<0.224	ND	12	ND	12	12	ND
BH21-09	0-0.5	May 6, 2021	0	17	ND	<0.024	<0.22	ND	ND	ND	ND	ND	ND
BH21-10	0-0.5	May 6, 2021	2	88	ND	<0.024	<0.217	ND	29	ND	29	29	ND
BH21-11	0-0.5	May 6, 2021	0	13	ND	<0.025	<0.221	ND	ND	ND	ND	ND	ND
BH21-12	0-0.5	May 6, 2021	2	35	ND	<0.024	<0.22	ND	ND	ND	ND	ND	ND
BH21-13	0-0.5	May 6, 2021	19	113	24	-	-	-	-	-	-	-	-
BH21-14	0-0.5	May 6, 2021	5	57	ND	<0.025	<0.224	ND	14	ND	14	14	ND
BH21-15	0-0.5	May 6, 2021	3	57	57	<0.024	<0.216	ND	13	ND	13	13	ND
BH21-16	0-0.5	May 6, 2021	26	148	31	-	-	-	-	-	-	-	-
BH21-17	0-0.5	May 6, 2021	4	78	12	<0.024	<0.215	ND	11	ND	11	11	ND
BH21-18	0-0.5	May 6, 2021	2	162	153	-	-	-	-	-	-	-	-
BH21-19	0-0.5	May 6, 2021	0	37	133	<0.024	<0.219	ND	ND	ND	ND	ND	ND
BH21-20	0-0.5	May 6, 2021	0	88	ND	<0.024	<0.217	ND	ND	ND	ND	ND	ND
BH21-21	0-0.5	May 6, 2021	1	39	ND	<0.025	<0.222	ND	ND	ND	ND	ND	ND
BH21-22	0	May 7, 2021	**1,760**	-	-	-	-	-	-	-	-	-	-
BH21-22	0.5	May 7, 2021	**1,612**	-	-	-	-	-	-	-	-	-	-
BH21-22	1	May 7, 2021	**512**	-	-	-	-	-	-	-	-	-	-
BH21-22	2	May 7, 2021	**55**	-	-	-	-	-	-	-	-	-	-
BH21-22	3	May 7, 2021	7	52	ND	<0.023	<0.211	ND	ND	ND	ND	ND	ND
BH21-23	0	May 7, 2021	**2,000**	-	-	-	-	-	-	-	-	-	-
BH21-23	0.5	May 7, 2021	**2,180**	-	-	-	-	-	-	-	-	-	-
BH21-23	1	May 7, 2021	**1,175**	24	-	-	-	-	-	-	-	-	-
BH21-23	2	May 7, 2021	39	-	-	-	-	-	-	-	-	-	-
BH21-23	3	May 7, 2021	12	90	ND	<0.024	<0.217	ND	21	ND	21	21	ND
BH21-24	0	May 7, 2021	11	-	ND	-	-	-	-	-	-	-	-
BH21-24	0.5	May 7, 2021	7	24	ND	<0.024	<0.216	ND	ND	ND	ND	ND	ND
BH21-24	1	May 7, 2021	21	37	ND	-	-	-	-	-	-	-	-
BH21-25	0	May 7, 2021	**738**	-	-	-	-	-	-	-	-	-	-
BH21-25	0.5	May 7, 2021	**709**	-	-	-	-	-	-	-	-	-	-
BH21-25	1	May 7, 2021	**211**	-	-	-	-	-	-	-	-	-	-
BH21-25	2	May 7, 2021	10	27	ND	<0.025	<0.224	ND	ND	ND	ND	ND	ND
BH21-26	0	May 7, 2021	16	-	ND	-	-	-	-	-	-	-	-
BH21-26	0.5	May 7, 2021	9	80	5	<0.024	<0.213	ND	31	ND	31	31	ND
BH21-26	1	May 7, 2021	5	61	ND	-	-	-	-	-	-	-	-
BH21-27	0	May 7, 2021	5	-	55	-	-	-	-	-	-	-	-
BH21-27	0.5	May 7, 2021	2	**188**	ND	-	-	-	-	-	-	-	-
BH21-27	1	May 7, 2021	1	62	ND	<0.024	<0.215	ND	15	ND	15	15	ND
BH21-28	0	May 7, 2021	18	-	308	-	-	-	-	-	-	-	-
BH21-28	0.5	May 7, 2021	2	**127**	16	-	-	-	-	-	-	-	-
BH21-28	1	May 7, 2021	2	95	ND	<0.023	<0.21	ND	12	<49	12	12	ND
BH21-29	0	May 7, 2021	1	-	153	-	-	-	-	-	-	-	-
BH21-29	0.5	May 7, 2021	18	**150**	182	-	-	-	-	-	-	-	-
BH21-29	1	May 7, 2021	1	37	21	<0.023	<0.21	ND	12	ND	12	12	ND
BH21-30	0	May 7, 2021	11	**180**	881	-	-	-	-	-	-	-	-
BH21-30	0.5	May 7, 2021	3	33	ND	<0.025	<0.221	ND	10	ND	10	10	ND
BH21-30	1	May 7, 2021	3	-	ND	-	-	-	-	-	-	-	-
BH21-31	0	May 7, 2021	6	**120**	ND	-	-	-	-	-	-	-	-
BH21-31	0.5	May 7, 2021	4	32	77	<0.025	<0.221	ND	22	ND	22	22	110
BH21-31	1	May 7, 2021	5	-	120	-	-	-	-	-	-	-	-

"ND" Not Detected at the Reporting Limit
"-" indicates not analyzed/assessed
Bold and Shaded indicates exceedance outside of regulator criteria (Off-site)

VERTEX

Client Name: BTA Oil Producers, LLC
Site Name: White Wing #2H
NM OCD Tracking #: nAPP2113132295
Project #: 21E-01340-003
Lab Report: 2105B43

Table 3. Confirmatory Sampling Field Screening and Laboratory Results - Depth to Groundwater <50 feet bgs

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (Petro Flag)	Chloride Concentration Calculated from Electroconductivity	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride
			(ppm)	(ppm)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
WS21-01	0-3	May 24, 2021	1	50	133	ND	ND	ND	ND	ND	ND	ND	ND
WS21-02	0-3	May 24, 2021	1	20	ND	ND	ND	ND	ND	ND	ND	ND	ND
WS21-03	0-3	May 24, 2021	1	66	ND	ND	ND	ND	ND	ND	ND	ND	140
WS21-04	0-3	May 24, 2021	1	49	ND	ND	ND	ND	ND	ND	ND	ND	ND
WS21-05	0-2	May 24, 2021	1	71	ND	ND	ND	ND	21	ND	21	21	ND
WS21-06	0-2	May 24, 2021	1	75	52	ND	ND	ND	ND	ND	ND	ND	ND
WS21-07	0-2	May 24, 2021	0	62	8	ND	ND	ND	27	ND	27	27	ND
WS21-08	0-2	May 24, 2021	1	40	107	ND	ND	ND	ND	ND	ND	ND	ND
WS21-09	0-1.5	May 24, 2021	1	89	403	ND	ND	ND	ND	ND	ND	ND	ND
WS21-10	0-1.5	May 24, 2021	1	85	16	ND	ND	ND	ND	ND	ND	ND	ND
WS21-11	0-1.5	May 24, 2021	1	83	44	ND	ND	ND	ND	ND	ND	ND	ND
WS21-12	0-1.5	May 24, 2021	1	71	ND	ND	ND	ND	ND	ND	ND	ND	ND
WS21-13	0-1.5	May 24, 2021	1	75	ND	ND	ND	ND	ND	ND	ND	ND	ND
WS21-14	0-3	May 24, 2021	2	45	35	ND	ND	ND	ND	ND	ND	ND	ND
WS21-15	0-2	May 25, 2021	0	3	ND	ND	ND	ND	ND	ND	ND	ND	ND
WS21-16	0-2	May 25, 2021	0	3	ND	ND	ND	ND	ND	ND	ND	ND	ND
WS21-17	0-2	May 25, 2021	0	9	ND	ND	ND	ND	ND	ND	ND	ND	ND
WS21-18	0-2	May 25, 2021	0	6	ND	ND	ND	ND	ND	ND	ND	ND	ND
WS21-19	0-2	May 25, 2021	0	11	ND	ND	ND	ND	ND	ND	ND	ND	ND
WS21-20	0-1	May 25, 2021	0	23	ND	ND	ND	ND	ND	ND	ND	ND	ND
WS21-21	0-8	May 25, 2021	0	9	126	ND	ND	ND	ND	ND	ND	ND	ND
WS21-22	0-9	May 25, 2021	0	15	58	ND	ND	ND	ND	ND	ND	ND	ND
WS21-23	0-2	May 25, 2021	0	15	64	ND	ND	ND	ND	ND	ND	ND	ND
WS21-24	0-3	May 25, 2021	0	12	ND	ND	ND	ND	ND	ND	ND	ND	ND
WS21-25	0-3	May 25, 2021	0	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS21-01	8	May 25, 2021	2	50	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS21-02	9	May 25, 2021	1	24	11	ND	ND	ND	ND	ND	ND	ND	ND
BS21-03	9	May 25, 2021	1	22	25	ND	ND	ND	ND	ND	ND	ND	ND
BS21-04	2	May 25, 2021	0	11	11	ND	ND	ND	ND	ND	ND	ND	ND
BS21-05	3	May 25, 2021	0	18	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS21-06	3	May 25, 2021	0	98	5	ND	ND	ND	ND	ND	ND	ND	ND
BS21-07	2	May 25, 2021	1	12	104	ND	ND	ND	ND	ND	ND	ND	ND
BS21-08	2	May 25, 2021	1	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS21-09	1.5	May 25, 2021	0	8	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS21-10	8	May 25, 2021	1	11	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS21-11	1.5	May 25, 2021	1	67	ND	ND	ND	ND	13	ND	13	13	ND
BS21-12	2	May 25, 2021	0	17	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS21-13	2	May 25, 2021	1	7	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS21-14	2	May 25, 2021	0	6	ND	ND	ND	ND	ND	ND	ND	ND	ND
BS21-15	0-8	May 25, 2021	0	55	ND	ND	ND	ND	9	ND	9.3	9.3	ND
BS21-16	0-9	May 25, 2021	1	45	ND	ND	ND	ND	11	ND	11	11	ND

"ND" Not Detected at the Reporting Limit
"-" indicates not analyzed/assessed
Bold and shaded indicates exceedance outside of regulator criteria (Off-site)

Analytical Report
Lab Order **2106820**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS21-01 3'
Project: White Wing 2H
Collection Date: 6/12/2021 9:00:00 AM
Lab ID: 2106820-001 **Matrix:** SOIL **Received Date:** 6/16/2021 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	6/18/2021 6:58:23 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/18/2021 6:58:23 PM
Surr: DNOP	95.8	70-130		%Rec	1	6/18/2021 6:58:23 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/19/2021 1:17:37 AM
Surr: BFB	105	70-130		%Rec	1	6/19/2021 1:17:37 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	6/19/2021 1:17:37 AM
Toluene	ND	0.048		mg/Kg	1	6/19/2021 1:17:37 AM
Ethylbenzene	ND	0.048		mg/Kg	1	6/19/2021 1:17:37 AM
Xylenes, Total	ND	0.096		mg/Kg	1	6/19/2021 1:17:37 AM
Surr: 4-Bromofluorobenzene	96.6	70-130		%Rec	1	6/19/2021 1:17:37 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	6/19/2021 2:32:02 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	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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **2106820**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS21-02 5'
Project: White Wing 2H **Collection Date:** 6/12/2021 9:30:00 AM
Lab ID: 2106820-002 **Matrix:** SOIL **Received Date:** 6/16/2021 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	8.6		mg/Kg	1	6/18/2021 7:12:47 PM
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	6/18/2021 7:12:47 PM
Surr: DNOP	88.0	70-130		%Rec	1	6/18/2021 7:12:47 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	6/19/2021 1:41:03 AM
Surr: BFB	107	70-130		%Rec	1	6/19/2021 1:41:03 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	6/19/2021 1:41:03 AM
Toluene	ND	0.046		mg/Kg	1	6/19/2021 1:41:03 AM
Ethylbenzene	ND	0.046		mg/Kg	1	6/19/2021 1:41:03 AM
Xylenes, Total	ND	0.092		mg/Kg	1	6/19/2021 1:41:03 AM
Surr: 4-Bromofluorobenzene	98.4	70-130		%Rec	1	6/19/2021 1:41:03 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	170	60		mg/Kg	20	6/19/2021 3:09:16 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2106820**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS21-03 2'
Project: White Wing 2H **Collection Date:** 6/12/2021 10:00:00 AM
Lab ID: 2106820-003 **Matrix:** SOIL **Received Date:** 6/16/2021 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	12	9.9		mg/Kg	1	6/18/2021 7:27:07 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/18/2021 7:27:07 PM
Surr: DNOP	82.2	70-130		%Rec	1	6/18/2021 7:27:07 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	6/19/2021 2:04:29 AM
Surr: BFB	103	70-130		%Rec	1	6/19/2021 2:04:29 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.023		mg/Kg	1	6/19/2021 2:04:29 AM
Toluene	ND	0.046		mg/Kg	1	6/19/2021 2:04:29 AM
Ethylbenzene	ND	0.046		mg/Kg	1	6/19/2021 2:04:29 AM
Xylenes, Total	ND	0.092		mg/Kg	1	6/19/2021 2:04:29 AM
Surr: 4-Bromofluorobenzene	95.6	70-130		%Rec	1	6/19/2021 2:04:29 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	340	60		mg/Kg	20	6/19/2021 3:21:41 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
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

Analytical Report
Lab Order **2106820**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WS21-01 0-3'
Project: White Wing 2H **Collection Date:** 6/12/2021 10:30:00 AM
Lab ID: 2106820-004 **Matrix:** SOIL **Received Date:** 6/16/2021 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	6/18/2021 7:41:32 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	6/18/2021 7:41:32 PM
Surr: DNOP	109	70-130		%Rec	1	6/18/2021 7:41:32 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/19/2021 2:27:56 AM
Surr: BFB	105	70-130		%Rec	1	6/19/2021 2:27:56 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.024		mg/Kg	1	6/19/2021 2:27:56 AM
Toluene	ND	0.048		mg/Kg	1	6/19/2021 2:27:56 AM
Ethylbenzene	ND	0.048		mg/Kg	1	6/19/2021 2:27:56 AM
Xylenes, Total	ND	0.096		mg/Kg	1	6/19/2021 2:27:56 AM
Surr: 4-Bromofluorobenzene	97.9	70-130		%Rec	1	6/19/2021 2:27:56 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	410	60		mg/Kg	20	6/19/2021 3:34:05 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	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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **2106820**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS21-02 0-5'
Project: White Wing 2H
Collection Date: 6/12/2021 11:00:00 AM
Lab ID: 2106820-005 **Matrix:** SOIL
Received Date: 6/16/2021 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	6/18/2021 1:59:23 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/18/2021 1:59:23 PM
Surr: DNOP	94.7	70-130		%Rec	1	6/18/2021 1:59:23 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/18/2021 9:25:00 PM
Surr: BFB	99.7	70-130		%Rec	1	6/18/2021 9:25:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	6/18/2021 9:25:00 PM
Toluene	ND	0.050		mg/Kg	1	6/18/2021 9:25:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	6/18/2021 9:25:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	6/18/2021 9:25:00 PM
Surr: 4-Bromofluorobenzene	83.8	70-130		%Rec	1	6/18/2021 9:25:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	6/19/2021 3:46:30 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
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

Analytical Report
Lab Order **2106820**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS21-03 0-2'
Project: White Wing 2H
Collection Date: 6/12/2021 11:30:00 AM
Lab ID: 2106820-006 **Matrix:** SOIL
Received Date: 6/16/2021 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	6/18/2021 3:12:48 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	6/18/2021 3:12:48 PM
Surr: DNOP	91.7	70-130		%Rec	1	6/18/2021 3:12:48 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/18/2021 9:45:00 PM
Surr: BFB	100	70-130		%Rec	1	6/18/2021 9:45:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.025		mg/Kg	1	6/18/2021 9:45:00 PM
Toluene	ND	0.050		mg/Kg	1	6/18/2021 9:45:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	6/18/2021 9:45:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	6/18/2021 9:45:00 PM
Surr: 4-Bromofluorobenzene	85.3	70-130		%Rec	1	6/18/2021 9:45:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	6/19/2021 3:58:55 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2106820**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WS21-04 0-2'
Project: White Wing 2H **Collection Date:** 6/12/2021 12:00:00 PM
Lab ID: 2106820-007 **Matrix:** SOIL **Received Date:** 6/16/2021 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/18/2021 3:37:20 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	6/18/2021 3:37:20 PM
Surr: DNOP	99.7	70-130		%Rec	1	6/18/2021 3:37:20 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/18/2021 10:05:00 PM
Surr: BFB	97.6	70-130		%Rec	1	6/18/2021 10:05:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.024		mg/Kg	1	6/18/2021 10:05:00 PM
Toluene	ND	0.049		mg/Kg	1	6/18/2021 10:05:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	6/18/2021 10:05:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	6/18/2021 10:05:00 PM
Surr: 4-Bromofluorobenzene	84.5	70-130		%Rec	1	6/18/2021 10:05:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	75	60		mg/Kg	20	6/19/2021 4:11:20 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	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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

ATTACHMENT 7

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

May 17, 2021

Monica Peppin

Vertex Resources Services, Inc.
3101 Boyd Drive
Carlsbad, NM 88220
TEL: (505) 506-0040
FAX:

RE: White Wing 2H OrderNo.: 2105425

Dear Monica Peppin:

Hall Environmental Analysis Laboratory received 26 sample(s) on 5/11/2021 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 **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Project: White Wing 2H
Lab ID: 2105425-001 **Matrix:** SOIL

Client Sample ID: BH21-01 0-0.5'
Collection Date: 5/6/2021 10:00:00 AM
Received Date: 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	5/14/2021 11:26:55 AM	60033
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	33	9.3		mg/Kg	1	5/13/2021 11:38:18 AM	59984
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/13/2021 11:38:18 AM	59984
Surr: DNOP	116	70-130		%Rec	1	5/13/2021 11:38:18 AM	59984
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/12/2021 5:12:00 PM	59943
Surr: BFB	92.0	70-130		%Rec	1	5/12/2021 5:12:00 PM	59943
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**	
Benzene	ND	0.023		mg/Kg	1	5/12/2021 5:12:00 PM	59943
Toluene	ND	0.047		mg/Kg	1	5/12/2021 5:12:00 PM	59943
Ethylbenzene	ND	0.047		mg/Kg	1	5/12/2021 5:12:00 PM	59943
Xylenes, Total	ND	0.094		mg/Kg	1	5/12/2021 5:12:00 PM	59943
Surr: 4-Bromofluorobenzene	87.5	70-130		%Rec	1	5/12/2021 5:12:00 PM	59943

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH21-02 0-0.5'
Project: White Wing 2H
Collection Date: 5/6/2021 10:10:00 AM
Lab ID: 2105425-002 **Matrix:** SOIL **Received Date:** 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	5/14/2021 12:04:08 PM	60033
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	13	10		mg/Kg	1	5/13/2021 11:48:00 AM	59984
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/13/2021 11:48:00 AM	59984
Surr: DNOP	127	70-130		%Rec	1	5/13/2021 11:48:00 AM	59984
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/12/2021 6:11:00 PM	59943
Surr: BFB	92.2	70-130		%Rec	1	5/12/2021 6:11:00 PM	59943
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**	
Benzene	ND	0.023		mg/Kg	1	5/12/2021 6:11:00 PM	59943
Toluene	ND	0.047		mg/Kg	1	5/12/2021 6:11:00 PM	59943
Ethylbenzene	ND	0.047		mg/Kg	1	5/12/2021 6:11:00 PM	59943
Xylenes, Total	ND	0.093		mg/Kg	1	5/12/2021 6:11:00 PM	59943
Surr: 4-Bromofluorobenzene	86.7	70-130		%Rec	1	5/12/2021 6:11:00 PM	59943

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH21-04 0-0.5'
Project: White Wing 2H
Collection Date: 5/6/2021 10:20:00 AM
Lab ID: 2105425-003 **Matrix:** SOIL **Received Date:** 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	5/14/2021 1:06:10 PM	60033
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	5/13/2021 11:57:45 AM	59984
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/13/2021 11:57:45 AM	59984
Surr: DNOP	104	70-130		%Rec	1	5/13/2021 11:57:45 AM	59984
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/12/2021 6:31:00 PM	59943
Surr: BFB	87.0	70-130		%Rec	1	5/12/2021 6:31:00 PM	59943
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**	
Benzene	ND	0.025		mg/Kg	1	5/12/2021 6:31:00 PM	59943
Toluene	ND	0.049		mg/Kg	1	5/12/2021 6:31:00 PM	59943
Ethylbenzene	ND	0.049		mg/Kg	1	5/12/2021 6:31:00 PM	59943
Xylenes, Total	ND	0.098		mg/Kg	1	5/12/2021 6:31:00 PM	59943
Surr: 4-Bromofluorobenzene	84.5	70-130		%Rec	1	5/12/2021 6:31:00 PM	59943

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH21-05 0-0.5'
Project: White Wing 2H
Collection Date: 5/6/2021 10:30:00 AM
Lab ID: 2105425-004 **Matrix:** SOIL **Received Date:** 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	5/14/2021 1:18:34 PM	60033
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	5/13/2021 12:07:30 PM	59984
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/13/2021 12:07:30 PM	59984
Surr: DNOP	114	70-130		%Rec	1	5/13/2021 12:07:30 PM	59984
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/12/2021 6:51:00 PM	59943
Surr: BFB	89.5	70-130		%Rec	1	5/12/2021 6:51:00 PM	59943
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**	
Benzene	ND	0.025		mg/Kg	1	5/12/2021 6:51:00 PM	59943
Toluene	ND	0.050		mg/Kg	1	5/12/2021 6:51:00 PM	59943
Ethylbenzene	ND	0.050		mg/Kg	1	5/12/2021 6:51:00 PM	59943
Xylenes, Total	ND	0.10		mg/Kg	1	5/12/2021 6:51:00 PM	59943
Surr: 4-Bromofluorobenzene	86.0	70-130		%Rec	1	5/12/2021 6:51:00 PM	59943

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH21-07 0-0.5'
Project: White Wing 2H
Collection Date: 5/6/2021 10:40:00 AM
Lab ID: 2105425-005 **Matrix:** SOIL **Received Date:** 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	59		mg/Kg	20	5/14/2021 1:30:58 PM	60033
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	5/13/2021 12:17:17 PM	59984
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	5/13/2021 12:17:17 PM	59984
Surr: DNOP	103	70-130		%Rec	1	5/13/2021 12:17:17 PM	59984
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/12/2021 7:11:00 PM	59943
Surr: BFB	89.6	70-130		%Rec	1	5/12/2021 7:11:00 PM	59943
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**	
Benzene	ND	0.025		mg/Kg	1	5/12/2021 7:11:00 PM	59943
Toluene	ND	0.050		mg/Kg	1	5/12/2021 7:11:00 PM	59943
Ethylbenzene	ND	0.050		mg/Kg	1	5/12/2021 7:11:00 PM	59943
Xylenes, Total	ND	0.10		mg/Kg	1	5/12/2021 7:11:00 PM	59943
Surr: 4-Bromofluorobenzene	86.0	70-130		%Rec	1	5/12/2021 7:11:00 PM	59943

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH21-08 0-0.5'
Project: White Wing 2H
Collection Date: 5/6/2021 10:50:00 AM
Lab ID: 2105425-006 **Matrix:** SOIL **Received Date:** 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	5/14/2021 1:43:23 PM	60033
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	12	9.9		mg/Kg	1	5/13/2021 12:27:03 PM	59984
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/13/2021 12:27:03 PM	59984
Surr: DNOP	108	70-130		%Rec	1	5/13/2021 12:27:03 PM	59984
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/12/2021 7:31:00 PM	59943
Surr: BFB	89.1	70-130		%Rec	1	5/12/2021 7:31:00 PM	59943
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**	
Benzene	ND	0.025		mg/Kg	1	5/12/2021 7:31:00 PM	59943
Toluene	ND	0.050		mg/Kg	1	5/12/2021 7:31:00 PM	59943
Ethylbenzene	ND	0.050		mg/Kg	1	5/12/2021 7:31:00 PM	59943
Xylenes, Total	ND	0.099		mg/Kg	1	5/12/2021 7:31:00 PM	59943
Surr: 4-Bromofluorobenzene	86.4	70-130		%Rec	1	5/12/2021 7:31:00 PM	59943

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Project: White Wing 2H
Lab ID: 2105425-007 **Matrix:** SOIL

Client Sample ID: BH21-09 0-0.5'
Collection Date: 5/6/2021 11:00:00 AM
Received Date: 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	5/14/2021 1:55:47 PM	60033
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	5/13/2021 12:36:53 PM	59984
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/13/2021 12:36:53 PM	59984
Surr: DNOP	109	70-130		%Rec	1	5/13/2021 12:36:53 PM	59984
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/12/2021 7:51:00 PM	59943
Surr: BFB	88.9	70-130		%Rec	1	5/12/2021 7:51:00 PM	59943
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**	
Benzene	ND	0.024		mg/Kg	1	5/12/2021 7:51:00 PM	59943
Toluene	ND	0.049		mg/Kg	1	5/12/2021 7:51:00 PM	59943
Ethylbenzene	ND	0.049		mg/Kg	1	5/12/2021 7:51:00 PM	59943
Xylenes, Total	ND	0.098		mg/Kg	1	5/12/2021 7:51:00 PM	59943
Surr: 4-Bromofluorobenzene	87.2	70-130		%Rec	1	5/12/2021 7:51:00 PM	59943

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

Qualifiers:

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

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Project: White Wing 2H
Lab ID: 2105425-008 **Matrix:** SOIL

Client Sample ID: BH21-10 0-0.5'
Collection Date: 5/6/2021 11:10:00 AM
Received Date: 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	5/14/2021 2:08:11 PM	60033
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	29	9.6		mg/Kg	1	5/13/2021 12:46:43 PM	59984
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/13/2021 12:46:43 PM	59984
Surr: DNOP	108	70-130		%Rec	1	5/13/2021 12:46:43 PM	59984
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/12/2021 8:10:00 PM	59943
Surr: BFB	90.0	70-130		%Rec	1	5/12/2021 8:10:00 PM	59943
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**	
Benzene	ND	0.024		mg/Kg	1	5/12/2021 8:10:00 PM	59943
Toluene	ND	0.048		mg/Kg	1	5/12/2021 8:10:00 PM	59943
Ethylbenzene	ND	0.048		mg/Kg	1	5/12/2021 8:10:00 PM	59943
Xylenes, Total	ND	0.097		mg/Kg	1	5/12/2021 8:10:00 PM	59943
Surr: 4-Bromofluorobenzene	84.5	70-130		%Rec	1	5/12/2021 8:10:00 PM	59943

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

Qualifiers:

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

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Project: White Wing 2H
Lab ID: 2105425-009 **Matrix:** SOIL

Client Sample ID: BH21-11 0-0.5'
Collection Date: 5/6/2021 11:20:00 AM
Received Date: 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	5/14/2021 2:20:36 PM	60033
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	5/13/2021 12:56:34 PM	59984
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	5/13/2021 12:56:34 PM	59984
Surr: DNOP	97.1	70-130		%Rec	1	5/13/2021 12:56:34 PM	59984
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/12/2021 9:30:00 PM	59943
Surr: BFB	88.0	70-130		%Rec	1	5/12/2021 9:30:00 PM	59943
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**	
Benzene	ND	0.025		mg/Kg	1	5/12/2021 9:30:00 PM	59943
Toluene	ND	0.049		mg/Kg	1	5/12/2021 9:30:00 PM	59943
Ethylbenzene	ND	0.049		mg/Kg	1	5/12/2021 9:30:00 PM	59943
Xylenes, Total	ND	0.098		mg/Kg	1	5/12/2021 9:30:00 PM	59943
Surr: 4-Bromofluorobenzene	85.1	70-130		%Rec	1	5/12/2021 9:30:00 PM	59943

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Project: White Wing 2H
Lab ID: 2105425-010 **Matrix:** SOIL

Client Sample ID: BH21-12 0-0.5'
Collection Date: 5/6/2021 11:30:00 AM
Received Date: 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	5/14/2021 2:33:00 PM	60033
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	5/13/2021 1:06:33 PM	59984
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/13/2021 1:06:33 PM	59984
Surr: DNOP	98.8	70-130		%Rec	1	5/13/2021 1:06:33 PM	59984
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/12/2021 9:50:00 PM	59943
Surr: BFB	92.9	70-130		%Rec	1	5/12/2021 9:50:00 PM	59943
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**	
Benzene	ND	0.024		mg/Kg	1	5/12/2021 9:50:00 PM	59943
Toluene	ND	0.049		mg/Kg	1	5/12/2021 9:50:00 PM	59943
Ethylbenzene	ND	0.049		mg/Kg	1	5/12/2021 9:50:00 PM	59943
Xylenes, Total	ND	0.098		mg/Kg	1	5/12/2021 9:50:00 PM	59943
Surr: 4-Bromofluorobenzene	87.8	70-130		%Rec	1	5/12/2021 9:50:00 PM	59943

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Project: White Wing 2H
Lab ID: 2105425-011 **Matrix:** SOIL

Client Sample ID: BH21-14 0-0.5'
Collection Date: 5/6/2021 11:40:00 AM
Received Date: 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	5/14/2021 3:37:57 PM	60041
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	14	9.2		mg/Kg	1	5/13/2021 1:16:33 PM	59984
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/13/2021 1:16:33 PM	59984
Surr: DNOP	105	70-130		%Rec	1	5/13/2021 1:16:33 PM	59984
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/12/2021 10:10:00 PM	59943
Surr: BFB	89.5	70-130		%Rec	1	5/12/2021 10:10:00 PM	59943
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**	
Benzene	ND	0.025		mg/Kg	1	5/12/2021 10:10:00 PM	59943
Toluene	ND	0.050		mg/Kg	1	5/12/2021 10:10:00 PM	59943
Ethylbenzene	ND	0.050		mg/Kg	1	5/12/2021 10:10:00 PM	59943
Xylenes, Total	ND	0.099		mg/Kg	1	5/12/2021 10:10:00 PM	59943
Surr: 4-Bromofluorobenzene	86.7	70-130		%Rec	1	5/12/2021 10:10:00 PM	59943

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH21-15 0-0.5'
Project: White Wing 2H
Collection Date: 5/6/2021 11:50:00 AM
Lab ID: 2105425-012 **Matrix:** SOIL **Received Date:** 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	61		mg/Kg	20	5/14/2021 3:50:22 PM	60041
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	13	9.5		mg/Kg	1	5/13/2021 1:26:31 PM	59984
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/13/2021 1:26:31 PM	59984
Surr: DNOP	97.9	70-130		%Rec	1	5/13/2021 1:26:31 PM	59984
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/12/2021 10:29:00 PM	59943
Surr: BFB	87.5	70-130		%Rec	1	5/12/2021 10:29:00 PM	59943
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**	
Benzene	ND	0.024		mg/Kg	1	5/12/2021 10:29:00 PM	59943
Toluene	ND	0.048		mg/Kg	1	5/12/2021 10:29:00 PM	59943
Ethylbenzene	ND	0.048		mg/Kg	1	5/12/2021 10:29:00 PM	59943
Xylenes, Total	ND	0.096		mg/Kg	1	5/12/2021 10:29:00 PM	59943
Surr: 4-Bromofluorobenzene	84.0	70-130		%Rec	1	5/12/2021 10:29:00 PM	59943

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH21-17 0-0.5'
Project: White Wing 2H
Collection Date: 5/6/2021 12:00:00 PM
Lab ID: 2105425-013 **Matrix:** SOIL **Received Date:** 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	5/14/2021 4:02:46 PM	60041
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**	
Diesel Range Organics (DRO)	11	9.8		mg/Kg	1	5/13/2021 1:36:31 PM	59984
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/13/2021 1:36:31 PM	59984
Surr: DNOP	102	70-130		%Rec	1	5/13/2021 1:36:31 PM	59984
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/12/2021 10:49:00 PM	59943
Surr: BFB	89.3	70-130		%Rec	1	5/12/2021 10:49:00 PM	59943
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**	
Benzene	ND	0.024		mg/Kg	1	5/12/2021 10:49:00 PM	59943
Toluene	ND	0.048		mg/Kg	1	5/12/2021 10:49:00 PM	59943
Ethylbenzene	ND	0.048		mg/Kg	1	5/12/2021 10:49:00 PM	59943
Xylenes, Total	ND	0.095		mg/Kg	1	5/12/2021 10:49:00 PM	59943
Surr: 4-Bromofluorobenzene	86.5	70-130		%Rec	1	5/12/2021 10:49:00 PM	59943

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH21-19 0-0.5'
Project: White Wing 2H
Collection Date: 5/6/2021 12:10:00 PM
Lab ID: 2105425-014 **Matrix:** SOIL **Received Date:** 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	5/14/2021 4:15:11 PM	60041
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	5/14/2021 7:58:49 AM	60006
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	5/14/2021 7:58:49 AM	60006
Surr: DNOP	95.7	70-130		%Rec	1	5/14/2021 7:58:49 AM	60006
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/12/2021 11:09:00 PM	59943
Surr: BFB	91.2	70-130		%Rec	1	5/12/2021 11:09:00 PM	59943
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**	
Benzene	ND	0.024		mg/Kg	1	5/12/2021 11:09:00 PM	59943
Toluene	ND	0.049		mg/Kg	1	5/12/2021 11:09:00 PM	59943
Ethylbenzene	ND	0.049		mg/Kg	1	5/12/2021 11:09:00 PM	59943
Xylenes, Total	ND	0.097		mg/Kg	1	5/12/2021 11:09:00 PM	59943
Surr: 4-Bromofluorobenzene	88.5	70-130		%Rec	1	5/12/2021 11:09:00 PM	59943

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH21-20 0-0.5'
Project: White Wing 2H
Collection Date: 5/6/2021 12:20:00 PM
Lab ID: 2105425-015 **Matrix:** SOIL **Received Date:** 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	5/14/2021 4:27:35 PM	60041
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	5/14/2021 8:37:21 AM	60006
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/14/2021 8:37:21 AM	60006
Surr: DNOP	102	70-130		%Rec	1	5/14/2021 8:37:21 AM	60006
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/12/2021 11:29:00 PM	59943
Surr: BFB	92.9	70-130		%Rec	1	5/12/2021 11:29:00 PM	59943
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**	
Benzene	ND	0.024		mg/Kg	1	5/12/2021 11:29:00 PM	59943
Toluene	ND	0.048		mg/Kg	1	5/12/2021 11:29:00 PM	59943
Ethylbenzene	ND	0.048		mg/Kg	1	5/12/2021 11:29:00 PM	59943
Xylenes, Total	ND	0.097		mg/Kg	1	5/12/2021 11:29:00 PM	59943
Surr: 4-Bromofluorobenzene	89.4	70-130		%Rec	1	5/12/2021 11:29:00 PM	59943

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Project: White Wing 2H
Lab ID: 2105425-016 **Matrix:** SOIL

Client Sample ID: BH21-21 0-0.5'
Collection Date: 5/6/2021 12:30:00 PM
Received Date: 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	5/14/2021 4:40:00 PM	60041
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	8.4		mg/Kg	1	5/14/2021 9:03:05 AM	60006
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	5/14/2021 9:03:05 AM	60006
Surr: DNOP	96.0	70-130		%Rec	1	5/14/2021 9:03:05 AM	60006
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/12/2021 11:49:00 PM	59943
Surr: BFB	91.3	70-130		%Rec	1	5/12/2021 11:49:00 PM	59943
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**	
Benzene	ND	0.025		mg/Kg	1	5/12/2021 11:49:00 PM	59943
Toluene	ND	0.049		mg/Kg	1	5/12/2021 11:49:00 PM	59943
Ethylbenzene	ND	0.049		mg/Kg	1	5/12/2021 11:49:00 PM	59943
Xylenes, Total	ND	0.099		mg/Kg	1	5/12/2021 11:49:00 PM	59943
Surr: 4-Bromofluorobenzene	89.8	70-130		%Rec	1	5/12/2021 11:49:00 PM	59943

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH21-22 3'
Project: White Wing 2H
Collection Date: 5/7/2021 9:00:00 AM
Lab ID: 2105425-017 **Matrix:** SOIL **Received Date:** 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	5/14/2021 4:52:24 PM	60041
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	5/14/2021 9:16:17 AM	60006
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/14/2021 9:16:17 AM	60006
Surr: DNOP	105	70-130		%Rec	1	5/14/2021 9:16:17 AM	60006
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/13/2021 12:09:00 AM	59943
Surr: BFB	90.0	70-130		%Rec	1	5/13/2021 12:09:00 AM	59943
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**	
Benzene	ND	0.023		mg/Kg	1	5/13/2021 12:09:00 AM	59943
Toluene	ND	0.047		mg/Kg	1	5/13/2021 12:09:00 AM	59943
Ethylbenzene	ND	0.047		mg/Kg	1	5/13/2021 12:09:00 AM	59943
Xylenes, Total	ND	0.094		mg/Kg	1	5/13/2021 12:09:00 AM	59943
Surr: 4-Bromofluorobenzene	88.5	70-130		%Rec	1	5/13/2021 12:09:00 AM	59943

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH21-23 3'
Project: White Wing 2H
Collection Date: 5/7/2021 9:15:00 AM
Lab ID: 2105425-018 **Matrix:** SOIL **Received Date:** 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	59		mg/Kg	20	5/14/2021 5:04:48 PM	60041
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	21	9.2		mg/Kg	1	5/14/2021 9:29:26 AM	60006
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/14/2021 9:29:26 AM	60006
Surr: DNOP	101	70-130		%Rec	1	5/14/2021 9:29:26 AM	60006
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/13/2021 12:29:00 AM	59943
Surr: BFB	88.4	70-130		%Rec	1	5/13/2021 12:29:00 AM	59943
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**	
Benzene	ND	0.024		mg/Kg	1	5/13/2021 12:29:00 AM	59943
Toluene	ND	0.048		mg/Kg	1	5/13/2021 12:29:00 AM	59943
Ethylbenzene	ND	0.048		mg/Kg	1	5/13/2021 12:29:00 AM	59943
Xylenes, Total	ND	0.097		mg/Kg	1	5/13/2021 12:29:00 AM	59943
Surr: 4-Bromofluorobenzene	87.8	70-130		%Rec	1	5/13/2021 12:29:00 AM	59943

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

Qualifiers:

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

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH21-24 0.5'
Project: White Wing 2H
Collection Date: 5/7/2021 10:00:00 AM
Lab ID: 2105425-019 **Matrix:** SOIL **Received Date:** 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	61		mg/Kg	20	5/14/2021 5:42:03 PM	60041
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/13/2021 10:44:49 AM	59982
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/13/2021 10:44:49 AM	59982
Surr: DNOP	100	70-130		%Rec	1	5/13/2021 10:44:49 AM	59982
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/13/2021 9:05:02 AM	59968
Surr: BFB	92.1	70-130		%Rec	1	5/13/2021 9:05:02 AM	59968
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	5/13/2021 9:05:02 AM	59968
Toluene	ND	0.048		mg/Kg	1	5/13/2021 9:05:02 AM	59968
Ethylbenzene	ND	0.048		mg/Kg	1	5/13/2021 9:05:02 AM	59968
Xylenes, Total	ND	0.096		mg/Kg	1	5/13/2021 9:05:02 AM	59968
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	5/13/2021 9:05:02 AM	59968

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

Qualifiers:

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

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Project: White Wing 2H
Lab ID: 2105425-020 **Matrix:** SOIL

Client Sample ID: BH21-25 2'
Collection Date: 5/7/2021 10:10:00 AM
Received Date: 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	5/14/2021 5:54:27 PM	60041
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/13/2021 11:22:57 AM	59982
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/13/2021 11:22:57 AM	59982
Surr: DNOP	104	70-130		%Rec	1	5/13/2021 11:22:57 AM	59982
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/13/2021 10:16:06 AM	59968
Surr: BFB	91.0	70-130		%Rec	1	5/13/2021 10:16:06 AM	59968
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	5/13/2021 10:16:06 AM	59968
Toluene	ND	0.050		mg/Kg	1	5/13/2021 10:16:06 AM	59968
Ethylbenzene	ND	0.050		mg/Kg	1	5/13/2021 10:16:06 AM	59968
Xylenes, Total	ND	0.099		mg/Kg	1	5/13/2021 10:16:06 AM	59968
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	5/13/2021 10:16:06 AM	59968

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

Qualifiers:

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

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH21-26 0.5'
Project: White Wing 2H
Collection Date: 5/7/2021 10:20:00 AM
Lab ID: 2105425-021 **Matrix:** SOIL **Received Date:** 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	5/14/2021 6:06:52 PM	60041
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	31	9.8		mg/Kg	1	5/13/2021 11:35:49 AM	59982
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/13/2021 11:35:49 AM	59982
Surr: DNOP	100	70-130		%Rec	1	5/13/2021 11:35:49 AM	59982
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/13/2021 11:26:36 AM	59968
Surr: BFB	94.0	70-130		%Rec	1	5/13/2021 11:26:36 AM	59968
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	5/13/2021 11:26:36 AM	59968
Toluene	ND	0.047		mg/Kg	1	5/13/2021 11:26:36 AM	59968
Ethylbenzene	ND	0.047		mg/Kg	1	5/13/2021 11:26:36 AM	59968
Xylenes, Total	ND	0.095		mg/Kg	1	5/13/2021 11:26:36 AM	59968
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	1	5/13/2021 11:26:36 AM	59968

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Project: White Wing 2H
Lab ID: 2105425-022 **Matrix:** SOIL

Client Sample ID: BH21-27 1'
Collection Date: 5/7/2021 10:30:00 AM
Received Date: 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	5/14/2021 6:19:17 PM	60041
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	15	9.7		mg/Kg	1	5/13/2021 11:48:35 AM	59982
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/13/2021 11:48:35 AM	59982
Surr: DNOP	103	70-130		%Rec	1	5/13/2021 11:48:35 AM	59982
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/13/2021 11:50:27 AM	59968
Surr: BFB	91.9	70-130		%Rec	1	5/13/2021 11:50:27 AM	59968
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	5/13/2021 11:50:27 AM	59968
Toluene	ND	0.048		mg/Kg	1	5/13/2021 11:50:27 AM	59968
Ethylbenzene	ND	0.048		mg/Kg	1	5/13/2021 11:50:27 AM	59968
Xylenes, Total	ND	0.095		mg/Kg	1	5/13/2021 11:50:27 AM	59968
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	5/13/2021 11:50:27 AM	59968

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

Qualifiers:

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

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH21-28 1'
Project: White Wing 2H
Collection Date: 5/7/2021 10:40:00 AM
Lab ID: 2105425-023 **Matrix:** SOIL **Received Date:** 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	59		mg/Kg	20	5/14/2021 6:31:41 PM	60041
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	12	9.9		mg/Kg	1	5/13/2021 12:01:32 PM	59982
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/13/2021 12:01:32 PM	59982
Surr: DNOP	105	70-130		%Rec	1	5/13/2021 12:01:32 PM	59982
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/13/2021 12:14:07 PM	59968
Surr: BFB	92.6	70-130		%Rec	1	5/13/2021 12:14:07 PM	59968
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	5/13/2021 12:14:07 PM	59968
Toluene	ND	0.047		mg/Kg	1	5/13/2021 12:14:07 PM	59968
Ethylbenzene	ND	0.047		mg/Kg	1	5/13/2021 12:14:07 PM	59968
Xylenes, Total	ND	0.093		mg/Kg	1	5/13/2021 12:14:07 PM	59968
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	5/13/2021 12:14:07 PM	59968

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH21-29 1'
Project: White Wing 2H
Collection Date: 5/7/2021 10:50:00 AM
Lab ID: 2105425-024 **Matrix:** SOIL **Received Date:** 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	5/14/2021 6:44:05 PM	60041
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	12	9.9		mg/Kg	1	5/13/2021 12:14:31 PM	59982
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/13/2021 12:14:31 PM	59982
Surr: DNOP	104	70-130		%Rec	1	5/13/2021 12:14:31 PM	59982
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/13/2021 12:37:33 PM	59968
Surr: BFB	91.7	70-130		%Rec	1	5/13/2021 12:37:33 PM	59968
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	5/13/2021 12:37:33 PM	59968
Toluene	ND	0.047		mg/Kg	1	5/13/2021 12:37:33 PM	59968
Ethylbenzene	ND	0.047		mg/Kg	1	5/13/2021 12:37:33 PM	59968
Xylenes, Total	ND	0.093		mg/Kg	1	5/13/2021 12:37:33 PM	59968
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	5/13/2021 12:37:33 PM	59968

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH21-30 0.5'
Project: White Wing 2H
Collection Date: 5/7/2021 11:00:00 AM
Lab ID: 2105425-025 **Matrix:** SOIL **Received Date:** 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	5/14/2021 6:56:30 PM	60041
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	10	9.3		mg/Kg	1	5/13/2021 12:27:16 PM	59982
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/13/2021 12:27:16 PM	59982
Surr: DNOP	107	70-130		%Rec	1	5/13/2021 12:27:16 PM	59982
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/13/2021 1:01:02 PM	59968
Surr: BFB	92.4	70-130		%Rec	1	5/13/2021 1:01:02 PM	59968
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	5/13/2021 1:01:02 PM	59968
Toluene	ND	0.049		mg/Kg	1	5/13/2021 1:01:02 PM	59968
Ethylbenzene	ND	0.049		mg/Kg	1	5/13/2021 1:01:02 PM	59968
Xylenes, Total	ND	0.098		mg/Kg	1	5/13/2021 1:01:02 PM	59968
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	5/13/2021 1:01:02 PM	59968

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105425**
Date Reported: **5/17/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH21-31 0.5'
Project: White Wing 2H
Collection Date: 5/7/2021 11:10:00 AM
Lab ID: 2105425-026 **Matrix:** SOIL **Received Date:** 5/11/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	110	60		mg/Kg	20	5/14/2021 7:08:54 PM	60041
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	22	9.9		mg/Kg	1	5/13/2021 12:40:21 PM	59982
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/13/2021 12:40:21 PM	59982
Surr: DNOP	106	70-130		%Rec	1	5/13/2021 12:40:21 PM	59982
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/13/2021 1:24:41 PM	59968
Surr: BFB	90.3	70-130		%Rec	1	5/13/2021 1:24:41 PM	59968
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	5/13/2021 1:24:41 PM	59968
Toluene	ND	0.049		mg/Kg	1	5/13/2021 1:24:41 PM	59968
Ethylbenzene	ND	0.049		mg/Kg	1	5/13/2021 1:24:41 PM	59968
Xylenes, Total	ND	0.098		mg/Kg	1	5/13/2021 1:24:41 PM	59968
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	5/13/2021 1:24:41 PM	59968

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2105425**

17-May-21

Client: Vertex Resources Services, Inc.

Project: White Wing 2H

Sample ID: **MB-60033** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **60033** RunNo: **77389**

Prep Date: **5/14/2021** Analysis Date: **5/14/2021** SeqNo: **2747110** Units: **mg/Kg**

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

Sample ID: **LCS-60033** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **60033** RunNo: **77389**

Prep Date: **5/14/2021** Analysis Date: **5/14/2021** SeqNo: **2747111** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.6	90	110			

Sample ID: **MB-60041** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **60041** RunNo: **77389**

Prep Date: **5/14/2021** Analysis Date: **5/14/2021** SeqNo: **2747142** Units: **mg/Kg**

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

Sample ID: **LCS-60041** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **60041** RunNo: **77389**

Prep Date: **5/14/2021** Analysis Date: **5/14/2021** SeqNo: **2747143** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.7	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2105425**
17-May-21

Client: Vertex Resources Services, Inc.
Project: White Wing 2H

Sample ID: **LCS-59984** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **59984** RunNo: **77357**
Prep Date: **5/12/2021** Analysis Date: **5/13/2021** SeqNo: **2745349** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	10	50.00	0	115	68.9	141			
Surr: DNOP	5.9		5.000		117	70	130			

Sample ID: **MB-59984** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **59984** RunNo: **77357**
Prep Date: **5/12/2021** Analysis Date: **5/13/2021** SeqNo: **2745350** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.2		10.00		92.3	70	130			

Sample ID: **MB-59982** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **59982** RunNo: **77344**
Prep Date: **5/12/2021** Analysis Date: **5/13/2021** SeqNo: **2745776** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		100	70	130			

Sample ID: **LCS-59982** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **59982** RunNo: **77344**
Prep Date: **5/12/2021** Analysis Date: **5/13/2021** SeqNo: **2745777** 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	108	68.9	141			
Surr: DNOP	5.2		5.000		104	70	130			

Sample ID: **2105425-019AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH21-24 0.5'** Batch ID: **59982** RunNo: **77344**
Prep Date: **5/12/2021** Analysis Date: **5/13/2021** SeqNo: **2745779** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.3	46.38	0	104	15	184			
Surr: DNOP	5.1		4.638		109	70	130			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2105425**
17-May-21

Client: Vertex Resources Services, Inc.
Project: White Wing 2H

Sample ID: **2105425-019AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH21-24 0.5'** Batch ID: **59982** RunNo: **77344**
Prep Date: **5/12/2021** Analysis Date: **5/13/2021** SeqNo: **2745780** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	9.4	46.99	0	110	15	184	6.75	23.9	
Surr: DNOP	5.2		4.699		110	70	130	0	0	

Sample ID: **MB-60006** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **60006** RunNo: **77392**
Prep Date: **5/13/2021** Analysis Date: **5/14/2021** SeqNo: **2746412** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		104	70	130			

Sample ID: **LCS-60006** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **60006** RunNo: **77392**
Prep Date: **5/13/2021** Analysis Date: **5/14/2021** SeqNo: **2746413** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	98.0	68.9	141			
Surr: DNOP	5.3		5.000		106	70	130			

Sample ID: **2105425-014AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH21-19 0-0.5'** Batch ID: **60006** RunNo: **77392**
Prep Date: **5/13/2021** Analysis Date: **5/14/2021** SeqNo: **2746416** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	8.8	43.94	6.487	84.1	15	184			
Surr: DNOP	4.6		4.394		104	70	130			

Sample ID: **2105425-014AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **BH21-19 0-0.5'** Batch ID: **60006** RunNo: **77392**
Prep Date: **5/13/2021** Analysis Date: **5/14/2021** SeqNo: **2746417** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	9.7	48.73	6.487	87.0	15	184	11.8	23.9	
Surr: DNOP	4.9		4.873		100	70	130	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2105425**

17-May-21

Client: Vertex Resources Services, Inc.

Project: White Wing 2H

Sample ID: **LCS-59943** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **59943** RunNo: **77325**
Prep Date: **5/11/2021** Analysis Date: **5/12/2021** SeqNo: **2744974** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	96.4	78.6	131			
Surr: BFB	990		1000		99.5	70	130			

Sample ID: **MB-59943** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **59943** RunNo: **77325**
Prep Date: **5/11/2021** Analysis Date: **5/12/2021** SeqNo: **2744975** 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	840		1000		84.2	70	130			

Sample ID: **mb-59968** SampType: **MBLK** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS** Batch ID: **59968** RunNo: **77380**
Prep Date: **5/12/2021** Analysis Date: **5/13/2021** SeqNo: **2745540** 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	920		1000		92.4	70	130			

Sample ID: **lcs-59968** SampType: **LCS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS** Batch ID: **59968** RunNo: **77380**
Prep Date: **5/12/2021** Analysis Date: **5/13/2021** SeqNo: **2745541** 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	99.8	78.6	131			
Surr: BFB	1000		1000		102	70	130			

Sample ID: **2105425-019ams** SampType: **MS** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH21-24 0.5'** Batch ID: **59968** RunNo: **77380**
Prep Date: **5/12/2021** Analysis Date: **5/13/2021** SeqNo: **2745543** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	24.95	0	114	61.3	114			S
Surr: BFB	1000		998.0		103	70	130			

Sample ID: **2105425-019amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH21-24 0.5'** Batch ID: **59968** RunNo: **77380**
Prep Date: **5/12/2021** Analysis Date: **5/13/2021** SeqNo: **2745544** Units: **mg/Kg**

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

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2105425**
17-May-21

Client: Vertex Resources Services, Inc.
Project: White Wing 2H

Sample ID: **2105425-019amsd** SampType: **MSD** TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH21-24 0.5'** Batch ID: **59968** RunNo: **77380**
Prep Date: **5/12/2021** Analysis Date: **5/13/2021** SeqNo: **2745544** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.8	23.92	0	111	61.3	114	7.29	20	
Surr: BFB	980		956.9		102	70	130	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2105425**

17-May-21

Client: Vertex Resources Services, Inc.

Project: White Wing 2H

Sample ID: **LCS-59943** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **59943** RunNo: **77325**

Prep Date: **5/11/2021** Analysis Date: **5/12/2021** SeqNo: **2744998** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	92.8	80	120			
Toluene	0.91	0.050	1.000	0	90.7	80	120			
Ethylbenzene	0.94	0.050	1.000	0	94.0	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.3	80	120			
Surr: 4-Bromofluorobenzene	0.87		1.000		87.0	70	130			

Sample ID: **MB-59943** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **59943** RunNo: **77325**

Prep Date: **5/11/2021** Analysis Date: **5/12/2021** SeqNo: **2744999** 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	0.82		1.000		82.0	70	130			

Sample ID: **2105425-001ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **BH21-01 0-0.5'** Batch ID: **59943** RunNo: **77325**

Prep Date: **5/11/2021** Analysis Date: **5/12/2021** SeqNo: **2745003** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.024	0.9443	0	103	76.3	120			
Toluene	0.97	0.047	0.9443	0	103	78.5	120			
Ethylbenzene	1.0	0.047	0.9443	0	106	78.1	124			
Xylenes, Total	3.0	0.094	2.833	0	104	79.3	125			
Surr: 4-Bromofluorobenzene	0.84		0.9443		89.0	70	130			

Sample ID: **2105425-001amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **BH21-01 0-0.5'** Batch ID: **59943** RunNo: **77325**

Prep Date: **5/11/2021** Analysis Date: **5/12/2021** SeqNo: **2745004** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.024	0.9643	0	103	80	120	1.78	20	
Toluene	0.99	0.048	0.9643	0	102	80	120	1.69	20	
Ethylbenzene	1.0	0.048	0.9643	0	106	80	120	1.77	20	
Xylenes, Total	3.0	0.096	2.893	0	104	80	120	2.07	20	
Surr: 4-Bromofluorobenzene	0.88		0.9643		90.9	70	130	0	0	

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2105425**
17-May-21

Client: Vertex Resources Services, Inc.
Project: White Wing 2H

Sample ID: **mb-59968** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **59968** RunNo: **77380**
Prep Date: **5/12/2021** Analysis Date: **5/13/2021** SeqNo: **2745589** 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	1.0		1.000		105	70	130			

Sample ID: **LCS-59968** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **59968** RunNo: **77380**
Prep Date: **5/12/2021** Analysis Date: **5/13/2021** SeqNo: **2745590** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	97.8	80	120			
Toluene	1.0	0.050	1.000	0	99.8	80	120			
Ethylbenzene	0.99	0.050	1.000	0	98.6	80	120			
Xylenes, Total	3.0	0.10	3.000	0	100	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		105	70	130			

Sample ID: **2105425-020ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH21-25 2'** Batch ID: **59968** RunNo: **77380**
Prep Date: **5/12/2021** Analysis Date: **5/13/2021** SeqNo: **2745593** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9634	0	115	76.3	120			
Toluene	1.2	0.048	0.9634	0	120	78.5	120			S
Ethylbenzene	1.2	0.048	0.9634	0	122	78.1	124			
Xylenes, Total	3.5	0.096	2.890	0	121	79.3	125			
Surr: 4-Bromofluorobenzene	1.0		0.9634		107	70	130			

Sample ID: **2105425-020amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH21-25 2'** Batch ID: **59968** RunNo: **77380**
Prep Date: **5/12/2021** Analysis Date: **5/13/2021** SeqNo: **2745594** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	0.9833	0	115	80	120	1.94	20	
Toluene	1.2	0.049	0.9833	0	119	80	120	0.795	20	
Ethylbenzene	1.2	0.049	0.9833	0	120	80	120	0.846	20	S
Xylenes, Total	3.5	0.098	2.950	0	120	80	120	1.08	20	S
Surr: 4-Bromofluorobenzene	1.1		0.9833		109	70	130	0	0	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **Vertex Resources Services, Inc.** Work Order Number: **2105425** RcptNo: **1**

Received By: **Juan Rojas** **5/11/2021 7:30:00 AM**

Completed By: **Desiree Dominguez** **5/11/2021 8:21:09 AM**

Reviewed By: JR 5-11-21

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 preserved added to bottles? Yes ☐ No ☑ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☑
10. Were any sample containers received broken? Yes ☐ No ☑

# of preserved bottles checked for pH: 10 5/11/21 (<2 or >12 unless noted)
Adjusted?
Checked by:

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 ☐

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	0.6	Good				
2	1.3	Good				

Chain-of-Custody Record

Client: Vertex

Mailing Address: ON FILE

Phone #:

email or Fax#:

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

Accreditation: ☐ AZ Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time: 5-Day
☑ Standard ☐ Rush

Project Name: White Wing #2H

Project #: 21E-01540-003

Project Manager: Monica Peppin

Sampler: GP

On Ice: ☑ Yes ☐ No

# of Coolers: 2

Cooler Temp (including CF): 0.8-0.2=0.6 (°C) 1.5-0.2=1.3

HEAL No. 2105425

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	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)
5/6	10:00	SOIL	BH21-01 0-0.5'	4 OZ	ICE	-001										
5/6	10:10	SOIL	BH21-02 0-0.5'	4 OZ	ICE	-002										
5/6	10:20	SOIL	BH21-04 0-0.5'	4 OZ	ICE	-003										
5/6	10:30	SOIL	BH21-05 0-0.5'	4 OZ	ICE	-004										
5/6	10:40	SOIL	BH21-07 0-0.5'	4 OZ	ICE	-005										
5/6	10:50	SOIL	BH21-08 0-0.5'	4 OZ	ICE	-006										
5/6	11:00	SOIL	BH21-09 0-0.5'	4 OZ	ICE	-007										
5/6	11:10	SOIL	BH21-10 0-0.5'	4 OZ	ICE	-008										
5/6	11:20	SOIL	BH21-11 0-0.5'	4 OZ	ICE	-009										
5/6	11:30	SOIL	BH21-12 0-0.5'	4 OZ	ICE	-010										
5/6	11:40	SOIL	BH21-14 0-0.5'	4 OZ	ICE	-011										
5/6	11:50	SOIL	BH21-15 0-0.5'	4 OZ	ICE	-012										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					5/10/21	1250
Date: 5/10/21	Time: 1900	Relinquished by:	Received by:	Via:	Date	Time
			Courier		5/11/21	7:30

Remarks: CC: Monica Peppin, John Hurt
BTA Oil Producers
Chance Dixon

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

Chain-of-Custody Record

Client: Vertex

Mailing Address: On File

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5-Day
☑ Standard ☐ Rush

Project Name: Water Wing #2H

Project #: 21E-01340-003

Project Manager: Monica Peppin

Sampler: CD

On Ice: ☑ Yes ☐ No

# of Coolers: 2

Cooler Temp (including CF): 0.8-0.2=0.6 (°C) 1.5-0.2=1.3

HEAL No. 210425

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	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)
~~5/6~~	~~11:50~~	~~Soil~~	~~BHZ1-15 0-0.5'~~	~~4oz~~	~~Ice~~		✓	✓					✓			
5/6	12:00	Soil	BHZ1-17 0-0.5'	4oz	Ice	-013										
5/6	12:10	Soil	BHZ1-19 0-0.5'	4oz	Ice	-014										
5/6	12:20	Soil	BHZ1-20 0-0.5'	4oz	Ice	-015										
5/6	12:30	Soil	BHZ1-21 0-0.5'	4oz	Ice	-016										
5/7	9:00	Soil	BHZ1-22 3'	4oz	Ice	-017										
5/7	9:15	Soil	BHZ1-23 8'	4oz	Ice	-018										
5/7	10:00	Soil	BHZ1-24 0.5'	4oz	Ice	-019										
5/7	10:10	Soil	BHZ1-25 2'	4oz	Ice	-020										
5/7	10:20	Soil	BHZ1-26 0.5'	4oz	Ice	-021										
5/7	10:30	Soil	BHZ1-27 1'	4oz	Ice	-022										
5/7	10:40	Soil	BHZ1-28 1'	4oz	Ice	-023										

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					5/10/21	1250
5/10/21	1900		Courier		5/11/21	7:30

Remarks: CC: Monica Peppin, John Hurt
BTA Oil Producers
Chance Dixon

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

Chain-of-Custody Record

Client: Vertex

Mailing Address: On File

Phone #:

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time: ~~24 hr~~
☐ Standard ~~☑ Rush~~ 5 Days

Project Name: White Wing #2H

Project #: 21E-01340-003

Project Manager: Monica Peppin

Sampler: CD

On Ice: ☑ Yes ☐ No

# of Coolers: 2

Cooler Temp (including CF): 0.8-0.2=0.6 (°C)
1.5-0.2=1.3

HEAL No. 2105425

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.	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)
5/7	10:50	Soil	BH21-29 1'	4oz	Ice	-024	✓	✓					✓			
5/7	11:00	Soil	BH21-30 0.5'	4oz	Ice	-025	✓	✓					✓			
5/7	11:10	Soil	BH21-31 0.5'	4oz	Ice	-026	✓	✓					✓			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
					5/10/21	1250
6/10/21	1900			courier	5/11/21	7:30

Remarks: CC: Monica Peppin, John Hurt
Chance Dixon
BTA 0.7 Producers

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.

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WS21-15
Project: BTH White Wing 2H **Collection Date:** 5/25/2021 7:00:00 AM
Lab ID: 2105B43-001 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/29/2021 10:33:12 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/29/2021 10:33:12 AM
Surr: DNOP	101	70-130		%Rec	1	5/29/2021 10:33:12 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/28/2021 12:04:00 PM
Surr: BFB	84.1	70-130		%Rec	1	5/28/2021 12:04:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/28/2021 12:04:00 PM
Toluene	ND	0.048		mg/Kg	1	5/28/2021 12:04:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	5/28/2021 12:04:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	5/28/2021 12:04:00 PM
Surr: 4-Bromofluorobenzene	82.4	70-130		%Rec	1	5/28/2021 12:04:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 10:04:21 AM

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WS21-16
Project: BTH White Wing 2H **Collection Date:** 5/25/2021 7:10:00 AM
Lab ID: 2105B43-002 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/29/2021 11:11:12 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/29/2021 11:11:12 AM
Surr: DNOP	98.5	70-130		%Rec	1	5/29/2021 11:11:12 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/28/2021 1:04:00 PM
Surr: BFB	87.6	70-130		%Rec	1	5/28/2021 1:04:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/28/2021 1:04:00 PM
Toluene	ND	0.048		mg/Kg	1	5/28/2021 1:04:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	5/28/2021 1:04:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	5/28/2021 1:04:00 PM
Surr: 4-Bromofluorobenzene	84.9	70-130		%Rec	1	5/28/2021 1:04:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 10:41:33 AM

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WS21-17
Project: BTH White Wing 2H **Collection Date:** 5/25/2021 7:20:00 AM
Lab ID: 2105B43-003 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	5/29/2021 11:23:59 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/29/2021 11:23:59 AM
Surr: DNOP	96.7	70-130		%Rec	1	5/29/2021 11:23:59 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/28/2021 2:04:00 PM
Surr: BFB	84.1	70-130		%Rec	1	5/28/2021 2:04:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	5/28/2021 2:04:00 PM
Toluene	ND	0.047		mg/Kg	1	5/28/2021 2:04:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	5/28/2021 2:04:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	5/28/2021 2:04:00 PM
Surr: 4-Bromofluorobenzene	81.4	70-130		%Rec	1	5/28/2021 2:04:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 11:43:35 AM

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WS21-18
Project: BTH White Wing 2H **Collection Date:** 5/25/2021 7:30:00 AM
Lab ID: 2105B43-004 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/29/2021 11:36:41 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/29/2021 11:36:41 AM
Surr: DNOP	97.8	70-130		%Rec	1	5/29/2021 11:36:41 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/28/2021 2:24:00 PM
Surr: BFB	87.7	70-130		%Rec	1	5/28/2021 2:24:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	5/28/2021 2:24:00 PM
Toluene	ND	0.047		mg/Kg	1	5/28/2021 2:24:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	5/28/2021 2:24:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	5/28/2021 2:24:00 PM
Surr: 4-Bromofluorobenzene	81.1	70-130		%Rec	1	5/28/2021 2:24:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 11:56:00 AM

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WS21-19
Project: BTH White Wing 2H **Collection Date:** 5/25/2021 7:40:00 AM
Lab ID: 2105B43-005 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/29/2021 11:49:27 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/29/2021 11:49:27 AM
Surr: DNOP	96.8	70-130		%Rec	1	5/29/2021 11:49:27 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/28/2021 2:43:00 PM
Surr: BFB	83.0	70-130		%Rec	1	5/28/2021 2:43:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/28/2021 2:43:00 PM
Toluene	ND	0.048		mg/Kg	1	5/28/2021 2:43:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	5/28/2021 2:43:00 PM
Xylenes, Total	ND	0.095		mg/Kg	1	5/28/2021 2:43:00 PM
Surr: 4-Bromofluorobenzene	81.0	70-130		%Rec	1	5/28/2021 2:43:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 12:08:25 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WS21-20
Project: BTH White Wing 2H **Collection Date:** 5/25/2021 7:50:00 AM
Lab ID: 2105B43-006 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	5/29/2021 12:02:15 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/29/2021 12:02:15 PM
Surr: DNOP	98.5	70-130		%Rec	1	5/29/2021 12:02:15 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/28/2021 3:03:00 PM
Surr: BFB	86.0	70-130		%Rec	1	5/28/2021 3:03:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	5/28/2021 3:03:00 PM
Toluene	ND	0.049		mg/Kg	1	5/28/2021 3:03:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/28/2021 3:03:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	5/28/2021 3:03:00 PM
Surr: 4-Bromofluorobenzene	83.0	70-130		%Rec	1	5/28/2021 3:03:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 12:20:49 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WS21-21
Project: BTH White Wing 2H **Collection Date:** 5/25/2021 8:00:00 AM
Lab ID: 2105B43-007 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	5/29/2021 12:15:07 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/29/2021 12:15:07 PM
Surr: DNOP	94.3	70-130		%Rec	1	5/29/2021 12:15:07 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/28/2021 3:23:00 PM
Surr: BFB	86.0	70-130		%Rec	1	5/28/2021 3:23:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	5/28/2021 3:23:00 PM
Toluene	ND	0.047		mg/Kg	1	5/28/2021 3:23:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	5/28/2021 3:23:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	5/28/2021 3:23:00 PM
Surr: 4-Bromofluorobenzene	82.2	70-130		%Rec	1	5/28/2021 3:23:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 12:33:14 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WS21-22
Project: BTH White Wing 2H **Collection Date:** 5/25/2021 8:10:00 AM
Lab ID: 2105B43-008 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	5/29/2021 12:28:03 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/29/2021 12:28:03 PM
Surr: DNOP	85.5	70-130		%Rec	1	5/29/2021 12:28:03 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/28/2021 3:43:00 PM
Surr: BFB	87.2	70-130		%Rec	1	5/28/2021 3:43:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/28/2021 3:43:00 PM
Toluene	ND	0.047		mg/Kg	1	5/28/2021 3:43:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	5/28/2021 3:43:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	5/28/2021 3:43:00 PM
Surr: 4-Bromofluorobenzene	81.9	70-130		%Rec	1	5/28/2021 3:43:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 12:45:38 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WS21-23
Project: BTH White Wing 2H **Collection Date:** 5/25/2021 8:20:00 AM
Lab ID: 2105B43-009 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/29/2021 12:41:03 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/29/2021 12:41:03 PM
Surr: DNOP	92.4	70-130		%Rec	1	5/29/2021 12:41:03 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/28/2021 4:03:00 PM
Surr: BFB	86.4	70-130		%Rec	1	5/28/2021 4:03:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/28/2021 4:03:00 PM
Toluene	ND	0.049		mg/Kg	1	5/28/2021 4:03:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/28/2021 4:03:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	5/28/2021 4:03:00 PM
Surr: 4-Bromofluorobenzene	83.6	70-130		%Rec	1	5/28/2021 4:03:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 12:58:03 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WS21-24
Project: BTH White Wing 2H **Collection Date:** 5/25/2021 8:30:00 AM
Lab ID: 2105B43-010 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/29/2021 12:54:33 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/29/2021 12:54:33 PM
Surr: DNOP	88.8	70-130		%Rec	1	5/29/2021 12:54:33 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/28/2021 4:23:00 PM
Surr: BFB	86.0	70-130		%Rec	1	5/28/2021 4:23:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	5/28/2021 4:23:00 PM
Toluene	ND	0.049		mg/Kg	1	5/28/2021 4:23:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/28/2021 4:23:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	5/28/2021 4:23:00 PM
Surr: 4-Bromofluorobenzene	84.2	70-130		%Rec	1	5/28/2021 4:23:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	59		mg/Kg	20	5/28/2021 1:10:27 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WS21-25
Project: BTH White Wing 2H **Collection Date:** 5/25/2021 8:40:00 AM
Lab ID: 2105B43-011 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	5/29/2021 1:08:24 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	5/29/2021 1:08:24 PM
Surr: DNOP	88.4	70-130		%Rec	1	5/29/2021 1:08:24 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/28/2021 5:23:00 PM
Surr: BFB	83.3	70-130		%Rec	1	5/28/2021 5:23:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	5/28/2021 5:23:00 PM
Toluene	ND	0.050		mg/Kg	1	5/28/2021 5:23:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/28/2021 5:23:00 PM
Xylenes, Total	ND	0.099		mg/Kg	1	5/28/2021 5:23:00 PM
Surr: 4-Bromofluorobenzene	80.1	70-130		%Rec	1	5/28/2021 5:23:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 1:47:41 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS21-04
Project: BTH White Wing 2H **Collection Date:** 5/25/2021 8:50:00 AM
Lab ID: 2105B43-012 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	8.8		mg/Kg	1	5/29/2021 1:22:25 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	5/29/2021 1:22:25 PM
Surr: DNOP	95.0	70-130		%Rec	1	5/29/2021 1:22:25 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/28/2021 5:43:00 PM
Surr: BFB	85.5	70-130		%Rec	1	5/28/2021 5:43:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	5/28/2021 5:43:00 PM
Toluene	ND	0.050		mg/Kg	1	5/28/2021 5:43:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/28/2021 5:43:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/28/2021 5:43:00 PM
Surr: 4-Bromofluorobenzene	81.3	70-130		%Rec	1	5/28/2021 5:43:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 2:00:05 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS21-05
Project: BTH White Wing 2H **Collection Date:** 5/25/2021 9:00:00 AM
Lab ID: 2105B43-013 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	8.5		mg/Kg	1	5/29/2021 1:36:50 PM
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	5/29/2021 1:36:50 PM
Surr: DNOP	87.8	70-130		%Rec	1	5/29/2021 1:36:50 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/28/2021 6:03:00 PM
Surr: BFB	84.4	70-130		%Rec	1	5/28/2021 6:03:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	5/28/2021 6:03:00 PM
Toluene	ND	0.047		mg/Kg	1	5/28/2021 6:03:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	5/28/2021 6:03:00 PM
Xylenes, Total	ND	0.093		mg/Kg	1	5/28/2021 6:03:00 PM
Surr: 4-Bromofluorobenzene	80.6	70-130		%Rec	1	5/28/2021 6:03:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 2:12:29 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS21-06
Project: BTH White Wing 2H **Collection Date:** 5/25/2021 9:10:00 AM
Lab ID: 2105B43-014 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	5/29/2021 1:52:21 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	5/29/2021 1:52:21 PM
Surr: DNOP	86.2	70-130		%Rec	1	5/29/2021 1:52:21 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	5/28/2021 6:23:00 PM
Surr: BFB	86.4	70-130		%Rec	1	5/28/2021 6:23:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	5/28/2021 6:23:00 PM
Toluene	ND	0.046		mg/Kg	1	5/28/2021 6:23:00 PM
Ethylbenzene	ND	0.046		mg/Kg	1	5/28/2021 6:23:00 PM
Xylenes, Total	ND	0.092		mg/Kg	1	5/28/2021 6:23:00 PM
Surr: 4-Bromofluorobenzene	81.7	70-130		%Rec	1	5/28/2021 6:23:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 2:24:54 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS21-07
Project: BTH White Wing 2H **Collection Date:** 5/25/2021 9:20:00 AM
Lab ID: 2105B43-015 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/29/2021 2:06:50 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/29/2021 2:06:50 PM
Surr: DNOP	96.6	70-130		%Rec	1	5/29/2021 2:06:50 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/28/2021 6:43:00 PM
Surr: BFB	84.8	70-130		%Rec	1	5/28/2021 6:43:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/28/2021 6:43:00 PM
Toluene	ND	0.048		mg/Kg	1	5/28/2021 6:43:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	5/28/2021 6:43:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	5/28/2021 6:43:00 PM
Surr: 4-Bromofluorobenzene	82.0	70-130		%Rec	1	5/28/2021 6:43:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 2:37:19 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS21-08
Project: BTH White Wing 2H **Collection Date:** 5/25/2021 9:30:00 AM
Lab ID: 2105B43-016 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	5/29/2021 2:21:09 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	5/29/2021 2:21:09 PM
Surr: DNOP	92.0	70-130		%Rec	1	5/29/2021 2:21:09 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/28/2021 7:02:00 PM
Surr: BFB	88.1	70-130		%Rec	1	5/28/2021 7:02:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	5/28/2021 7:02:00 PM
Toluene	ND	0.047		mg/Kg	1	5/28/2021 7:02:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	5/28/2021 7:02:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	5/28/2021 7:02:00 PM
Surr: 4-Bromofluorobenzene	82.4	70-130		%Rec	1	5/28/2021 7:02:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	59		mg/Kg	20	5/28/2021 2:49:43 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS21-09
Project: BTH White Wing 2H **Collection Date:** 5/25/2021 9:40:00 AM
Lab ID: 2105B43-017 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	5/29/2021 2:35:28 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/29/2021 2:35:28 PM
Surr: DNOP	93.7	70-130		%Rec	1	5/29/2021 2:35:28 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/28/2021 7:22:00 PM
Surr: BFB	85.9	70-130		%Rec	1	5/28/2021 7:22:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/28/2021 7:22:00 PM
Toluene	ND	0.049		mg/Kg	1	5/28/2021 7:22:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/28/2021 7:22:00 PM
Xylenes, Total	ND	0.098		mg/Kg	1	5/28/2021 7:22:00 PM
Surr: 4-Bromofluorobenzene	82.3	70-130		%Rec	1	5/28/2021 7:22:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 3:26:58 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS21-10
Project: BTH White Wing 2H **Collection Date:** 5/25/2021 9:50:00 AM
Lab ID: 2105B43-018 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	5/29/2021 2:49:50 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/29/2021 2:49:50 PM
Surr: DNOP	89.4	70-130		%Rec	1	5/29/2021 2:49:50 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/28/2021 7:42:00 PM
Surr: BFB	84.5	70-130		%Rec	1	5/28/2021 7:42:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/28/2021 7:42:00 PM
Toluene	ND	0.048		mg/Kg	1	5/28/2021 7:42:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	5/28/2021 7:42:00 PM
Xylenes, Total	ND	0.096		mg/Kg	1	5/28/2021 7:42:00 PM
Surr: 4-Bromofluorobenzene	82.9	70-130		%Rec	1	5/28/2021 7:42:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	59		mg/Kg	20	5/28/2021 3:39:23 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS21-11
Project: BTH White Wing 2H **Collection Date:** 5/25/2021 10:00:00 AM
Lab ID: 2105B43-019 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	13	9.1		mg/Kg	1	5/29/2021 3:04:08 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	5/29/2021 3:04:08 PM
Surr: DNOP	92.4	70-130		%Rec	1	5/29/2021 3:04:08 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/28/2021 8:02:00 PM
Surr: BFB	85.6	70-130		%Rec	1	5/28/2021 8:02:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/28/2021 8:02:00 PM
Toluene	ND	0.048		mg/Kg	1	5/28/2021 8:02:00 PM
Ethylbenzene	ND	0.048		mg/Kg	1	5/28/2021 8:02:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	5/28/2021 8:02:00 PM
Surr: 4-Bromofluorobenzene	81.6	70-130		%Rec	1	5/28/2021 8:02:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 4:16:36 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS21-12
Project: BTH White Wing 2H **Collection Date:** 5/25/2021 10:10:00 AM
Lab ID: 2105B43-020 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	5/29/2021 3:18:30 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/29/2021 3:18:30 PM
Surr: DNOP	91.2	70-130		%Rec	1	5/29/2021 3:18:30 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/28/2021 8:22:00 PM
Surr: BFB	85.2	70-130		%Rec	1	5/28/2021 8:22:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/28/2021 8:22:00 PM
Toluene	ND	0.049		mg/Kg	1	5/28/2021 8:22:00 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/28/2021 8:22:00 PM
Xylenes, Total	ND	0.097		mg/Kg	1	5/28/2021 8:22:00 PM
Surr: 4-Bromofluorobenzene	80.9	70-130		%Rec	1	5/28/2021 8:22:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 4:29:00 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS21-13
Project: BTH White Wing 2H **Collection Date:** 5/25/2021 10:20:00 AM
Lab ID: 2105B43-021 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	8.5		mg/Kg	1	5/28/2021 10:20:04 AM
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	5/28/2021 10:20:04 AM
Surr: DNOP	116	70-130		%Rec	1	5/28/2021 10:20:04 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/28/2021 10:21:00 PM
Surr: BFB	84.7	70-130		%Rec	1	5/28/2021 10:21:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.025		mg/Kg	1	5/28/2021 10:21:00 PM
Toluene	ND	0.050		mg/Kg	1	5/28/2021 10:21:00 PM
Ethylbenzene	ND	0.050		mg/Kg	1	5/28/2021 10:21:00 PM
Xylenes, Total	ND	0.10		mg/Kg	1	5/28/2021 10:21:00 PM
Surr: 4-Bromofluorobenzene	80.8	70-130		%Rec	1	5/28/2021 10:21:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 4:41:25 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS21-14
Project: BTH White Wing 2H
Collection Date: 5/25/2021 10:30:00 AM
Lab ID: 2105B43-022 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/28/2021 10:49:00 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/28/2021 10:49:00 AM
Surr: DNOP	115	70-130		%Rec	1	5/28/2021 10:49:00 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/28/2021 11:21:00 PM
Surr: BFB	82.4	70-130		%Rec	1	5/28/2021 11:21:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/28/2021 11:21:00 PM
Toluene	ND	0.047		mg/Kg	1	5/28/2021 11:21:00 PM
Ethylbenzene	ND	0.047		mg/Kg	1	5/28/2021 11:21:00 PM
Xylenes, Total	ND	0.094		mg/Kg	1	5/28/2021 11:21:00 PM
Surr: 4-Bromofluorobenzene	80.9	70-130		%Rec	1	5/28/2021 11:21:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 4:53:50 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS21-15
Project: BTH White Wing 2H **Collection Date:** 5/25/2021 10:40:00 AM
Lab ID: 2105B43-023 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	9.3	9.0		mg/Kg	1	5/28/2021 10:58:40 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	5/28/2021 10:58:40 AM
Surr: DNOP	113	70-130		%Rec	1	5/28/2021 10:58:40 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/29/2021 12:21:00 AM
Surr: BFB	89.8	70-130		%Rec	1	5/29/2021 12:21:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/29/2021 12:21:00 AM
Toluene	ND	0.048		mg/Kg	1	5/29/2021 12:21:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	5/29/2021 12:21:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	5/29/2021 12:21:00 AM
Surr: 4-Bromofluorobenzene	83.9	70-130		%Rec	1	5/29/2021 12:21:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 5:06:14 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS21-16
Project: BTH White Wing 2H
Collection Date: 5/25/2021 10:50:00 AM
Lab ID: 2105B43-024 **Matrix:** SOIL
Received Date: 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	11	9.3		mg/Kg	1	5/28/2021 11:08:21 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/28/2021 11:08:21 AM
Surr: DNOP	122	70-130		%Rec	1	5/28/2021 11:08:21 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/29/2021 12:41:00 AM
Surr: BFB	90.3	70-130		%Rec	1	5/29/2021 12:41:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/29/2021 12:41:00 AM
Toluene	ND	0.048		mg/Kg	1	5/29/2021 12:41:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	5/29/2021 12:41:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	5/29/2021 12:41:00 AM
Surr: 4-Bromofluorobenzene	86.4	70-130		%Rec	1	5/29/2021 12:41:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 5:18:39 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS21-01 8'
Project: BTH White Wing 2H
Collection Date: 5/24/2021 10:10:00 AM
Lab ID: 2105B43-025 **Matrix:** SOIL
Received Date: 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	5/28/2021 11:18:01 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/28/2021 11:18:01 AM
Surr: DNOP	114	70-130		%Rec	1	5/28/2021 11:18:01 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/29/2021 1:01:00 AM
Surr: BFB	86.2	70-130		%Rec	1	5/29/2021 1:01:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/29/2021 1:01:00 AM
Toluene	ND	0.048		mg/Kg	1	5/29/2021 1:01:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	5/29/2021 1:01:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	5/29/2021 1:01:00 AM
Surr: 4-Bromofluorobenzene	83.5	70-130		%Rec	1	5/29/2021 1:01:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 5:31:04 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BS21-02 9'
Project: BTH White Wing 2H
Collection Date: 5/24/2021 10:20:00 AM
Lab ID: 2105B43-026 **Matrix:** SOIL
Received Date: 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	8.3		mg/Kg	1	5/28/2021 12:09:56 PM
Motor Oil Range Organics (MRO)	ND	42		mg/Kg	1	5/28/2021 12:09:56 PM
Surr: DNOP	134	70-130	S	%Rec	1	5/28/2021 12:09:56 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/29/2021 1:21:00 AM
Surr: BFB	85.4	70-130		%Rec	1	5/29/2021 1:21:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/29/2021 1:21:00 AM
Toluene	ND	0.048		mg/Kg	1	5/29/2021 1:21:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	5/29/2021 1:21:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	5/29/2021 1:21:00 AM
Surr: 4-Bromofluorobenzene	82.4	70-130		%Rec	1	5/29/2021 1:21:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 5:43:28 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BS21-3 9'
Project: BTH White Wing 2H **Collection Date:** 5/24/2021 10:30:00 AM
Lab ID: 2105B43-027 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/28/2021 12:19:35 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/28/2021 12:19:35 PM
Surr: DNOP	134	70-130	S	%Rec	1	5/28/2021 12:19:35 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/29/2021 1:41:00 AM
Surr: BFB	87.2	70-130		%Rec	1	5/29/2021 1:41:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/29/2021 1:41:00 AM
Toluene	ND	0.048		mg/Kg	1	5/29/2021 1:41:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	5/29/2021 1:41:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	5/29/2021 1:41:00 AM
Surr: 4-Bromofluorobenzene	84.6	70-130		%Rec	1	5/29/2021 1:41:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 5:55:53 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WS21-01 0-3'
Project: BTH White Wing 2H **Collection Date:** 5/24/2021 11:50:00 AM
Lab ID: 2105B43-028 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	5/28/2021 12:29:22 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/28/2021 12:29:22 PM
Surr: DNOP	121	70-130		%Rec	1	5/28/2021 12:29:22 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/29/2021 2:01:00 AM
Surr: BFB	89.4	70-130		%Rec	1	5/29/2021 2:01:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	5/29/2021 2:01:00 AM
Toluene	ND	0.047		mg/Kg	1	5/29/2021 2:01:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	5/29/2021 2:01:00 AM
Xylenes, Total	ND	0.094		mg/Kg	1	5/29/2021 2:01:00 AM
Surr: 4-Bromofluorobenzene	87.0	70-130		%Rec	1	5/29/2021 2:01:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 6:08:17 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS21-02 0-3'
Project: BTH White Wing 2H
Collection Date: 5/24/2021 12:00:00 PM
Lab ID: 2105B43-029 **Matrix:** SOIL
Received Date: 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/28/2021 12:39:09 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/28/2021 12:39:09 PM
Surr: DNOP	118	70-130		%Rec	1	5/28/2021 12:39:09 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/29/2021 2:21:00 AM
Surr: BFB	89.8	70-130		%Rec	1	5/29/2021 2:21:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/29/2021 2:21:00 AM
Toluene	ND	0.048		mg/Kg	1	5/29/2021 2:21:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	5/29/2021 2:21:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	5/29/2021 2:21:00 AM
Surr: 4-Bromofluorobenzene	88.0	70-130		%Rec	1	5/29/2021 2:21:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 6:45:31 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS21-03 0-3'
Project: BTH White Wing 2H
Collection Date: 5/24/2021 12:10:00 PM
Lab ID: 2105B43-030 **Matrix:** SOIL
Received Date: 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/28/2021 12:48:56 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/28/2021 12:48:56 PM
Surr: DNOP	121	70-130		%Rec	1	5/28/2021 12:48:56 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/29/2021 2:41:00 AM
Surr: BFB	89.0	70-130		%Rec	1	5/29/2021 2:41:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/29/2021 2:41:00 AM
Toluene	ND	0.048		mg/Kg	1	5/29/2021 2:41:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	5/29/2021 2:41:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	5/29/2021 2:41:00 AM
Surr: 4-Bromofluorobenzene	84.9	70-130		%Rec	1	5/29/2021 2:41:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	140	60		mg/Kg	20	5/28/2021 6:57:56 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS21-04 0-3'
Project: BTH White Wing 2H
Collection Date: 5/24/2021 12:20:00 PM
Lab ID: 2105B43-031 **Matrix:** SOIL
Received Date: 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	6/1/2021 12:02:39 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	6/1/2021 12:02:39 PM
Surr: DNOP	94.9	70-130		%Rec	1	6/1/2021 12:02:39 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/29/2021 3:40:00 AM
Surr: BFB	84.1	70-130		%Rec	1	5/29/2021 3:40:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/29/2021 3:40:00 AM
Toluene	ND	0.048		mg/Kg	1	5/29/2021 3:40:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	5/29/2021 3:40:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	5/29/2021 3:40:00 AM
Surr: 4-Bromofluorobenzene	82.4	70-130		%Rec	1	5/29/2021 3:40:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 7:10:21 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS21-05 0-2'
Project: BTH White Wing 2H
Collection Date: 5/24/2021 12:30:00 PM
Lab ID: 2105B43-032 **Matrix:** SOIL
Received Date: 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	21	9.6		mg/Kg	1	5/28/2021 1:08:35 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/28/2021 1:08:35 PM
Surr: DNOP	127	70-130		%Rec	1	5/28/2021 1:08:35 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/29/2021 4:00:00 AM
Surr: BFB	86.3	70-130		%Rec	1	5/29/2021 4:00:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	5/29/2021 4:00:00 AM
Toluene	ND	0.047		mg/Kg	1	5/29/2021 4:00:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	5/29/2021 4:00:00 AM
Xylenes, Total	ND	0.094		mg/Kg	1	5/29/2021 4:00:00 AM
Surr: 4-Bromofluorobenzene	83.1	70-130		%Rec	1	5/29/2021 4:00:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 7:22:45 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS21-06 0-2'
Project: BTH White Wing 2H
Collection Date: 5/24/2021 12:40:00 PM
Lab ID: 2105B43-033 **Matrix:** SOIL
Received Date: 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	5/28/2021 1:18:25 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	5/28/2021 1:18:25 PM
Surr: DNOP	106	70-130		%Rec	1	5/28/2021 1:18:25 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/29/2021 4:20:00 AM
Surr: BFB	87.1	70-130		%Rec	1	5/29/2021 4:20:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/29/2021 4:20:00 AM
Toluene	ND	0.048		mg/Kg	1	5/29/2021 4:20:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	5/29/2021 4:20:00 AM
Xylenes, Total	ND	0.095		mg/Kg	1	5/29/2021 4:20:00 AM
Surr: 4-Bromofluorobenzene	83.7	70-130		%Rec	1	5/29/2021 4:20:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 7:35:10 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS21-07 0-2'
Project: BTH White Wing 2H
Collection Date: 5/24/2021 12:50:00 PM
Lab ID: 2105B43-034 **Matrix:** SOIL
Received Date: 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	27	9.2		mg/Kg	1	5/28/2021 1:28:17 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/28/2021 1:28:17 PM
Surr: DNOP	114	70-130		%Rec	1	5/28/2021 1:28:17 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/29/2021 4:40:00 AM
Surr: BFB	86.0	70-130		%Rec	1	5/29/2021 4:40:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	5/29/2021 4:40:00 AM
Toluene	ND	0.047		mg/Kg	1	5/29/2021 4:40:00 AM
Ethylbenzene	ND	0.047		mg/Kg	1	5/29/2021 4:40:00 AM
Xylenes, Total	ND	0.093		mg/Kg	1	5/29/2021 4:40:00 AM
Surr: 4-Bromofluorobenzene	83.5	70-130		%Rec	1	5/29/2021 4:40:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 7:47:34 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS21-08 0-2'
Project: BTH White Wing 2H
Collection Date: 5/24/2021 1:00:00 PM
Lab ID: 2105B43-035 **Matrix:** SOIL
Received Date: 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	5/28/2021 1:38:09 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	5/28/2021 1:38:09 PM
Surr: DNOP	110	70-130		%Rec	1	5/28/2021 1:38:09 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/29/2021 5:00:00 AM
Surr: BFB	86.6	70-130		%Rec	1	5/29/2021 5:00:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/29/2021 5:00:00 AM
Toluene	ND	0.048		mg/Kg	1	5/29/2021 5:00:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	5/29/2021 5:00:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	5/29/2021 5:00:00 AM
Surr: 4-Bromofluorobenzene	83.0	70-130		%Rec	1	5/29/2021 5:00:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 7:59:59 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS21-09 0-1.5'
Project: BTH White Wing 2H
Collection Date: 5/24/2021 1:10:00 PM
Lab ID: 2105B43-036 **Matrix:** SOIL
Received Date: 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/28/2021 1:48:03 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/28/2021 1:48:03 PM
Surr: DNOP	105	70-130		%Rec	1	5/28/2021 1:48:03 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	5/29/2021 5:20:00 AM
Surr: BFB	86.7	70-130		%Rec	1	5/29/2021 5:20:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	5/29/2021 5:20:00 AM
Toluene	ND	0.046		mg/Kg	1	5/29/2021 5:20:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	5/29/2021 5:20:00 AM
Xylenes, Total	ND	0.092		mg/Kg	1	5/29/2021 5:20:00 AM
Surr: 4-Bromofluorobenzene	81.3	70-130		%Rec	1	5/29/2021 5:20:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	61		mg/Kg	20	5/28/2021 8:37:13 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS21-10 0-1.5'
Project: BTH White Wing 2H
Collection Date: 5/24/2021 1:20:00 PM
Lab ID: 2105B43-037 **Matrix:** SOIL
Received Date: 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	5/28/2021 1:58:05 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/28/2021 1:58:05 PM
Surr: DNOP	122	70-130		%Rec	1	5/28/2021 1:58:05 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/29/2021 5:40:00 AM
Surr: BFB	86.1	70-130		%Rec	1	5/29/2021 5:40:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/29/2021 5:40:00 AM
Toluene	ND	0.048		mg/Kg	1	5/29/2021 5:40:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	5/29/2021 5:40:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	5/29/2021 5:40:00 AM
Surr: 4-Bromofluorobenzene	82.2	70-130		%Rec	1	5/29/2021 5:40:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 10:04:05 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS21-11 0-1.5'
Project: BTH White Wing 2H
Collection Date: 5/24/2021 1:30:00 PM
Lab ID: 2105B43-038 **Matrix:** SOIL
Received Date: 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	5/28/2021 2:08:09 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	5/28/2021 2:08:09 PM
Surr: DNOP	146	70-130	S	%Rec	1	5/28/2021 2:08:09 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/29/2021 6:00:00 AM
Surr: BFB	83.2	70-130		%Rec	1	5/29/2021 6:00:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/29/2021 6:00:00 AM
Toluene	ND	0.049		mg/Kg	1	5/29/2021 6:00:00 AM
Ethylbenzene	ND	0.049		mg/Kg	1	5/29/2021 6:00:00 AM
Xylenes, Total	ND	0.097		mg/Kg	1	5/29/2021 6:00:00 AM
Surr: 4-Bromofluorobenzene	82.0	70-130		%Rec	1	5/29/2021 6:00:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 10:16:29 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS21-12 0-1.5'
Project: BTH White Wing 2H
Collection Date: 5/24/2021 1:40:00 PM
Lab ID: 2105B43-039 **Matrix:** SOIL
Received Date: 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/28/2021 2:18:12 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/28/2021 2:18:12 PM
Surr: DNOP	109	70-130		%Rec	1	5/28/2021 2:18:12 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	5/29/2021 6:20:00 AM
Surr: BFB	87.6	70-130		%Rec	1	5/29/2021 6:20:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.023		mg/Kg	1	5/29/2021 6:20:00 AM
Toluene	ND	0.046		mg/Kg	1	5/29/2021 6:20:00 AM
Ethylbenzene	ND	0.046		mg/Kg	1	5/29/2021 6:20:00 AM
Xylenes, Total	ND	0.093		mg/Kg	1	5/29/2021 6:20:00 AM
Surr: 4-Bromofluorobenzene	84.7	70-130		%Rec	1	5/29/2021 6:20:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 10:28:54 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** WS21-13 0-1.5'
Project: BTH White Wing 2H **Collection Date:** 5/24/2021 1:50:00 PM
Lab ID: 2105B43-040 **Matrix:** SOIL **Received Date:** 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	5/28/2021 2:28:14 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/28/2021 2:28:14 PM
Surr: DNOP	114	70-130		%Rec	1	5/28/2021 2:28:14 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **CCM**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/29/2021 6:40:00 AM
Surr: BFB	89.4	70-130		%Rec	1	5/29/2021 6:40:00 AM
EPA METHOD 8021B: VOLATILES						Analyst: **CCM**
Benzene	ND	0.024		mg/Kg	1	5/29/2021 6:40:00 AM
Toluene	ND	0.048		mg/Kg	1	5/29/2021 6:40:00 AM
Ethylbenzene	ND	0.048		mg/Kg	1	5/29/2021 6:40:00 AM
Xylenes, Total	ND	0.096		mg/Kg	1	5/29/2021 6:40:00 AM
Surr: 4-Bromofluorobenzene	82.6	70-130		%Rec	1	5/29/2021 6:40:00 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	61		mg/Kg	20	5/28/2021 10:41:19 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2105B43**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: WS21-14 0-3
Project: BTH White Wing 2H
Collection Date: 5/24/2021 2:00:00 PM
Lab ID: 2105B43-041 **Matrix:** SOIL
Received Date: 5/27/2021 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **SB**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	5/29/2021 10:56:55 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/29/2021 10:56:55 AM
Surr: DNOP	114	70-130		%Rec	1	5/29/2021 10:56:55 AM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	5/28/2021 10:53:43 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	ND	0.025		mg/Kg	1	5/28/2021 9:35:17 PM
Toluene	ND	0.049		mg/Kg	1	5/28/2021 9:35:17 PM
Ethylbenzene	ND	0.049		mg/Kg	1	5/28/2021 9:35:17 PM
Xylenes, Total	ND	0.098		mg/Kg	1	5/28/2021 9:35:17 PM
Surr: 1,2-Dichloroethane-d4	88.3	70-130		%Rec	1	5/28/2021 9:35:17 PM
Surr: 4-Bromofluorobenzene	98.6	70-130		%Rec	1	5/28/2021 9:35:17 PM
Surr: Dibromofluoromethane	105	70-130		%Rec	1	5/28/2021 9:35:17 PM
Surr: Toluene-d8	97.8	70-130		%Rec	1	5/28/2021 9:35:17 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/28/2021 9:35:17 PM
Surr: BFB	101	70-130		%Rec	1	5/28/2021 9:35:17 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	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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Operator: BTA OIL PRODUCERS, LLC 104 S Pecos Midland, TX 79701	OGRID: 260297
	Action Number: 57943
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
chensley	None	12/1/2021