Incident Number: nJMW1317031601 and nJMW1327753065

Release Assessment and Closure

Sawbuck Water Transfer Station

Section 23, Township 20 South, Range 24 East

County: Eddy

Vertex File Number: 22E-00123-03

Prepared for:

EOG Resources Inc.

Prepared by:

Vertex Resource Services Inc.

Date:

July 2023

Release Assessment and Closure
Sawbuck Water Transfer Station
Section 23, Township 20 South, Range 24 East
County: Eddy

Prepared for:
EOG Resources Inc.
104 S. 4th Street
Artesia, New Mexico 88210

New Mexico Oil Conservation Division – District 2
811 S. 1st Street
Artesia, New Mexico 88210

Prepared by:
Vertex Resource Services Inc.
3101 Boyd Drive
Carlsbad, New Mexico 88220

Jacob Reta
Jacob Reta, B.Sc.
INTERMEDIATE BIOLOGIST, REPORTING

9/14/2023
Date

Chance Dixon
Chance Dixon, B.Sc.
PROJECT MANAGER, REPORT REVIEW

9/14/2023
Date

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1.0 Introduction

EOG Resources Inc. (EOG) retained Vertex Resource Services Inc. (Vertex) to conduct an assessment for two historical produced water releases that occurred on June 8, 2013, and September 23, 2013, at Sawbuck Water Transfer Station (hereafter referred to as "site"). Yates Petroleum Corporation (Yates) submitted an initial C-141 Release Notification (Appendix A) to New Mexico Oil Conservation Division (NMOCD) District 2 on June 10, 2013, and September 23, 2013. Incident ID numbers nJMW1317031601 (2RP-1685) and nJMW1327753065 (2RP-1973) were assigned to these incidents. Yates submitted a remediation work plan that was verbally approved by NMOCD and later submitted a closure report after the remedial activities were completed (Appendix A).

This report provides a description of the assessment activities associated with the site visit by Vertex. The information presented demonstrates that closure criteria established in Table I of 19.15.29.12 of the New Mexico Administrative Code (NMAC; New Mexico Oil Conservation Division, 2018) related to NMOCD has been met and all applicable regulations are being followed. This document is intended to serve as a final report to obtain approval from NMOCD for the closure of these releases, with the the release site also meets requirements instituted in 2018 per NMAC 19.15.29.13.

2.0 Incident Description

The first release (2RP-1685) occurred on June 8, 2023, due to a 12-inch water line main that failed due to the age of the infrastructure. Vacuum trucks were dispatched to recover fluids and the line was shut in and isolated for repairs. The incident was reported on June 10, 2013, and involved the release of 1,850 barrels (bbl) of produced water, and 1,650 bbls of fluid was recovered during the initial clean-up. Additional details relevant to the release are presented in the C-141 Report.

The second release (2RP-1973) occurred on September 23, 2013. The cause of the release was due to an 8 inch leaking water line that failed due to the age of the infrastructure. Vacuum trucks were dispatched to recover the fluids and the line was shut in and isolated for repairs. The incident was reported on September 23, 2013 and involved the release of 8 bbl of produced water, and 5 bbl of fluid was recovered during the initial clean-up. Additional details relevant to the release are presented in the C-141 Report. The Daily Field Report (DFR) and site photographs associated with the site visit are included in Appendix C.

3.0 Site Characteristics

The site is located approximately 8.16 miles southwest of Seven Rivers, New Mexico (Google Inc., 2023). The legal location for the site is Section 23, Township 20 South and Range 24 East in Eddy County, New Mexico. The release area is located on the Bureau of Land Management (BLM) property. An aerial photograph and site schematic are presented in Figure 2.

The Geological Map of New Mexico (New Mexico Bureau of Geology and Mineral Resources, 2023) indicates the site's surface geology primarily comprises Qp – Piedmont alluvial deposits (Holocene to lower Pleistocene). Predominant soil texture on the site is Pima silt and Reagan loam.

The location was typical of oil and gas water disposal sites in the Permian Basin and was used for produced water storage and disposal. The following sections specifically describe the release area at 32.562300, -104.556110 on or in proximity to the constructed pad (Figure 1).

The surrounding landscape is associated with rolling hills and fans with elevations ranging between 1,100 and 5,400 feet. The climate is semiarid with average annual precipitation ranging between 6 and 15 inches. The soil is well-drained with a high runoff. Using information from the United States Department of Agriculture, the dominant vegetation was determined to be Blue grama. Creosote bush, mesquite, and catclaw mimosa are common shrubs (United States Department of Agriculture, Natural Resources Conservation Service, 2023).

4.0 Closure Criteria Determination

Using the characterization information, a closure criteria determination worksheet (Appendix B) was completed to determine if the releases were subject to any special case scenarios outlined in Paragraph (4) of subsection C of 19.15.29.12 NMAC. The nearest groundwater data is more than 25 years old and located more than 0.5 miles away from the release site; therefore, the depth to groundwater cannot be determined accurately. 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 the horizontal boundary of the release to groundwater less than 10,000 mg/l TDS	Constituent	Limit
< 50 feet	Chloride	600 mg/kg
	TPH (GRO+DRO+MRO)	100 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

TDS – total dissolved solids

TPH – total petroleum hydrocarbons, GRO – gas range organics, DRO – diesel range organics, MRO – motor oil range organics

BTEX – benzene, toluene, ethylbenzene and xylenes

5.0 Site Assessment

A remediation work plan for nJMW1317031601 was submitted to NMOCD Artesia by Yates and received on July 18, 2013. Correspondence between Yates, BLM, and NMOCD demonstrates that the work plan was approved on August 7, 2013. As remedial activities were taking place on September 23, 2013, a second release (nJMW1327753065) occurred. The second release was scraped up during remedial activities for the first release. Samples were collected, submitted for analysis, and determined to be below the applicable closure criteria selected for the first release. A closure report for both releases was submitted to NMOCD on February 19, 2014. This documentation is included in Appendix A.

EOG retained Vertex to conduct a field investigation at the site to ensure no remnant impacts remained which would impede reclamation. Investigation efforts began on June 2, 2023, and were finalized on June 5, 2023. Field screening was completed within the remediation area at a point impacted by both releases.

Notification that confirmatory samples were being collected was provided to the NMOCD on May 30, 2023, and is included in Appendix D. Confirmatory samples were collected at one sample point (borehole) impacted by both releases at the site. A total of 5 samples were collected for laboratory analysis following NMOCD soil sampling procedures.

Field screening was completed using Dexsil Petro flag using EPA SW-846 Method 9074 (extractable hydrocarbons) and Hanna DiST 4 EC Meter (chlorides) and HACH Chloride Test Kit. Samples were submitted to Hall Environmental Analysis Laboratory under chain-of-custody protocols and analyzed for BTEX (8021), total petroleum hydrocarbons (GRO, DRO, MRO – EPA Method 8015D), and total chlorides (EPA Method 300.0). Laboratory results are presented in Table 3, and the laboratory data reports are included in Appendix E. All confirmatory samples collected and analyzed were below the closure criteria for the site.

6.0 Closure Denial

After the investigative sampling activities were completed by Vertex, EOG submitted the report requesting closure for the two releases and it was received by NMOCD on August 8, 2023. After review, closure was denied by NMOCD due to a lack of documentation within their internal system confirming the previous approval of the Remediation Plan submitted in 2013. A NMOCD request was made to complete further delineation within the area to ensure that remediation work was completed and that the site met the current guidelines of the 2018 Spill Rule (19.15.29.12 & 13 NMAC). On August 9, 2023, further details were provided during a phone conversation conducted with the NMOCD Environmental Specialist who reviewed the previous Closure Report. This conversation identified two other sample points within the historically impacted area to provide the necessary assurance of proper remediation being completed during the previous activities. As an additional assurance, a third sample point was voluntarily added by EOG after the initial phone conversation.

On August 30, 2023, Vertex returned to the site to collect samples from three additional points (boreholes) to account for the middle and western portions of the release footprint. Upon arrival, it was discovered that one of the proposed sample points (BH23-06) was under a large plash of water due to rainfall; therefore, the proposed point could not be sampled at that time. The sampling for the remaining two points commenced after approximately one foot of the top layer of former pad material from the release area had been previously removed during reclamation activities and hauled to an approved disposal facility. BH23-07 and BH23-08 were then collected at one foot and two feet bgs respectively. The samples collected from these two points inside of the release area showed no signs of remaining impacts through on-site field screening. Therefore, no further samples were required to ensure that remnant impacts no longer existed which would impede the final reclamation of the site. Laboratory results confirmed the on-site observations from field screens as all samples returned results of Non-Detectable (ND) for the constituents of concern. Notification that confirmatory composite samples were being collected was provided to NMOCD on August 25, 2023, and is included in Appendix D.

7.0 Closure Request

Vertex recommends no additional action at the site. Laboratory analyses of confirmation samples collected within the historical impact areas of the releases 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 this site.

Vertex requests that these incidents (nJMW1317031601 and nJMW1327753065) be closed as all closure requirements set forth in Subsection E of 19.15.29.12 NMAC have been met. EOG certifies that all information in this report and the appendices are correct and that they have complied with all applicable closure requirements and conditions specified in Division rules and directives to meet NMOCD requirements to obtain closure on the site.

Should you have any questions or concerns, please do not hesitate to contact Chance Dixon at 575.988.1472 or cdixon@vertex.ca

7.0 References

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9.0 Limitations

This report has been prepared for the sole benefit of EOG Resources Inc. This document may not be used by any other person or entity, with the exception of the New Mexico Oil Conservation Division and the Bureau of Land Management, without the express written consent of Vertex Resource Services Inc. (Vertex) and EOG Resources Inc. 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.

FIGURES

Borehole | Excavation Area (~12,749 sq.ft.) | Borehole (Not Collected)

VERTEX

0 25 50 ft

Map Center:
Lat/Long: 32.562449, -104.556076

NAD 1983 UTM Zone 13N
Date: Sep 11/23

N

Investigation Comfirmatory Schematic
Sawbuck Water Transfer Station

FIGURE: **2**

eog resources

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: Georeferenced image from Esri, 2022. Site features from GPS by Vertex Professional Services Ltd., 2023.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\EOG Resources Inc\22E-00123\003 - Sawbauck Water Transfer Station\Figure 2 Investigation Comfirmatory Schematic (22E-00123).mxd

TABLES

Table 2. Investigation Confirmatory Laboratory Results - Depth to Groundwater <50 feet bgs
EOG Resources Inc.
Sawbuck Water Transfer
NMOCD Tracking #: nJMW1317031601 and nJMW1327753065
Project #: 22E-00123
Lab Reports: 2306177, 2306399, 2309003

Sample Description			Petroleum Hydrocarbons										Inorganic
Sample ID	Depth (ft)	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride Concentration
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Criteria	NMOCD - NMAC <50 ft 19.15.29 (2018)		10	-	-	-	50	-	-	-	-	100	600
	NMOCD - NMAC 51-100 ft 19.15.29 (2018)		10	-	-	-	50	-	-	-	1000	2500	10000
	NMOCD - NMAC >100 ft 19.15.29 (2018)		10	-	-	-	50	-	-	-	1000	2500	20000
Boreholes													
BH23-02	0	02-Jun-23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	140
	1	02-Jun-23	ND	ND	ND	ND	ND	ND	16	ND	16	16	ND
	2	02-Jun-23	ND	ND	ND	ND	ND	ND	10	ND	10	10	ND
	3	02-Jun-23	ND	ND	ND	ND	ND	ND	9.6	ND	9.6	9.6	ND
	4	02-Jun-23	ND	ND	ND	ND	ND	ND	13	ND	13	13	ND
BH23-07	1	30-Aug-23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	2	30-Aug-23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH23-08	1	30-Aug-23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	2	30-Aug-23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NMAC - New Mexico Administrative Code (Title 19, Chapter 15, Part 29; 2018)
ND - Not Detected at the Reporting Limit
- Denotes no standard/not analyzed

VERTEX

APPENDIX A - NMOCD C-141 Report Closure Requests, NMOCD/BLM Correspondence, Yates Work Plan, and Yates Closure Report

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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

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

RECEIVED
JUN 11 2013
NMOCD ARTESIA

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

nJMW 1317031601

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	OGRID Number	Contact
Yates Petroleum Corporation	25575	Lupe Carrasco
Address		Telephone No.
104 S. 4TH Street		575-748-1471
Facility Name	API Number	Facility Type
Sawbuck Water Transfer		SWD

Surface Owner	Mineral Owner	Lease No.
Federal	Federal	NM-86241

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	23	20S	24E	1650'	North	1790'	East	Eddy

Latitude 32.562300 Longitude 104.552110

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 1850 B/PW	Volume Recovered 1650 B/PW
Source of Release Water Line	Date and Hour of Occurrence 6/8/2013 11:00 PM	Date and Hour of Discovery 6/8/2013 12:00 PM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher, NMOCD II	
By Whom? Bob Asher, Yates Petroleum Corporation	Date and Hour 6/10/2013 (email)	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
Released was caused from a 12" water line main that failed due to age of infrastructure. Vacuum trucks dispatched to recover fluid. Line shut in and isolated for repairs.

Describe Area Affected and Cleanup Action Taken.*
An approximate area of 250' X 300' was impacted. Impacted soils to be scraped up and taken to an NMOCD approved facility. Vertical and horizontal delineation samples will be taken and analysis ran for TPH & BTEX, Chlorides will be run for documentation. If initial analytical results for TPH & BTEX are under RRAL's a Final Report, C-141 will be submitted to the OCD requesting closure. If the analytical results are above the RRAL's a work plan will be submitted. **Depth to Ground Water: >100' (approximately 225', Section 23-T20S-R24E, per Trend Map), Wellhead Protection Area: No, Distance to Surface Water Body: >1000', SITE RANKING IS 0.**

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: Lupe Carrasco

Printed Name: Lupe Carrasco

Title: Environmental Regulatory Agent

E-mail Address: lcarrasco@yatespetroleum.com

Date: Tuesday, June 11, 2013 Phone: 575-748-1471

OIL CONSERVATION DIVISION

Approved by District Supervisor: Signed By Mike Bratcher

Approval Date: JUN 19 2013 Expiration Date:

Conditions of Approval:
Remediation per OCD Rule & Guidelines. **SUBMIT REMEDIATION PROPOSAL NO LATER THAN:** July 19, 2013

Attached ☐

2RP-1685

* Attach Additional Sheets If Necessary

fMLB0608953556
"Yates Sawbuck Water Transfer Station"

State of New Mexico
Oil Conservation Division

Incident ID	nJMW1317031601
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: Chase Settle Title: Rep Safety & Environmental Sr

Signature: Chase Settle Date: 09/14/2023

email: Chase_Settle@eogresources.com Telephone: 575-703-6537

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: _____

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
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State of New Mexico
Energy Minerals and Natural Resources

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

RECEIVED
OCT 04 2013
NMOCD ARTESIA

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

nJMW1327753065

OPERATOR

☒ Initial Report ☐ Final Report

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Sawbuck Water Transfer		SWD

Surface Owner	Mineral Owner	Lease No.
Federal	Federal	NM-86241

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Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	23	20S	24E	1650'	North	1790'	East	Eddy

Latitude_____ **Longitude**_____

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Produced Water	8 B/PW	5 B/PW
Source of Release	Date and Hour of Occurrence	Date and Hour of Discovery
Water Line	9/23/2013 8:00 AM	9/23/2013 11:30 AM
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
Released was caused from a leak on an 8" water line that failed due to age of infrastructure. Vacuum trucks dispatched to recover fluid. Line shut in and isolated for repairs.

Describe Area Affected and Cleanup Action Taken.*
An approximate area of 50' X 50' was impacted. Impacted soils to be scraped up and taken to an NMOCD approved facility. Vertical and horizontal delineation samples will be taken and analysis ran for TPH & BTEX, Chlorides will be run for documentation. If initial analytical results for TPH & BTEX are under RRAL's a Final Report, C-141 will be submitted to the OCD requesting closure. If the analytical results are above the RRAL's a work plan will be submitted. **Depth to Ground Water: >100' (approximately 225', Section 23-T20S-R24E, per Trend Map), Wellhead Protection Area: No, Distance to Surface Water Body: >1000', SITE RANKING IS 0.**

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Signature: Lupe Carrasco

Printed Name: Lupe Carrasco

Title: Environmental Regulatory Agent

E-mail Address: lcarrasco@yatespetroleum.com

Date: Friday, October 04, 2013 Phone: 575-748-1471

OIL CONSERVATION DIVISION

Approved by District Supervisor: Signed By Mike Bratcher

Approval Date: OCT 04 2013 Expiration Date:

Conditions of Approval: Remediation per OCD Rule & Guidelines, & like approval by BLM. SUBMIT REMEDIATION PROPOSAL NO LATER THAN: Nov. 4 2013

Attached ☐

* Attach Additional Sheets If Necessary

fNLB0608953556

2RP-1973

State of New Mexico
Oil Conservation Division

Incident ID	nJMW1327753065
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.

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☒ 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: Chase Settle Title: Rep Safety & Environmental Sr

Signature: Chase Settle Date: 09/14/2023

email: Chase_Settle@eogresources.com Telephone: 575-703-6537

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: Brittany Hall Date: 9/19/2023

Printed Name: Brittany Hall Title: Environmental Specialist

YATES PETROLEUM CORPORATION

105 SOUTH FOURTH STREET
ARTESIA, NEW MEXICO 88210-2118
TELEPHONE (575) 748-1471
www.yatespetroleum.com

July 18, 2013

Mr. Mike Bratcher
Oil Conservation Division II
811 S. First St.
Artesia, NM 88210

RE: Sawbuck Water Transfer
Lease # NM-86241
2RP-1685
Section 22, T20S-R24E
Eddy County, New Mexico

Mr. Bratcher,

Yates Petroleum Corporation would like to submit the enclosed documents as documentation for the work performed at the above captioned release. These documents are in response to the C-141 Initial report submitted July 7, 2013.

The release was caused by a 12" water main that failed due to the age of the infrastructure in the area. The total volume of produced water released was 1850 bbls with 1650 bbls recovered. The release was contained within the bermed facility with the exception of a small area that leached through the saturated berm. The impacted area has been scraped and any further staining will be removed. The saturated berm on the south side of the facility will be removed and replaced with clean caliche. All impacted soils have and will be disposed at an NMOCD approved facility.

The impacted area was divided up into four areas for sampling (S1, S2, S3, S4). The areas chosen were based on the safety aspect in regards to the amount of buried lines through the impacted area. S1 and S2 were found to be in the old pit area associated with the Hill View AHE #2 which has been plugged and abandoned. Sampling ceased at a depth of 1' due to the finding of the existing pit liner. Sampling of the S4 area ceased at a depth of 3' due to a buried electrical line in the area that was not marked with markers or during the NM One Call.

Due to the associated hazards in the area and the discover of an existing pit, Yates Petroleum Corp. is requesting that no further actions be taken beyond what has been describe in this letter. If there are no objections or further stipulations, a C-141 Final will be submitted for approval. Please feel free to contact me with any questions at (575) 748-4350.

Thank you,

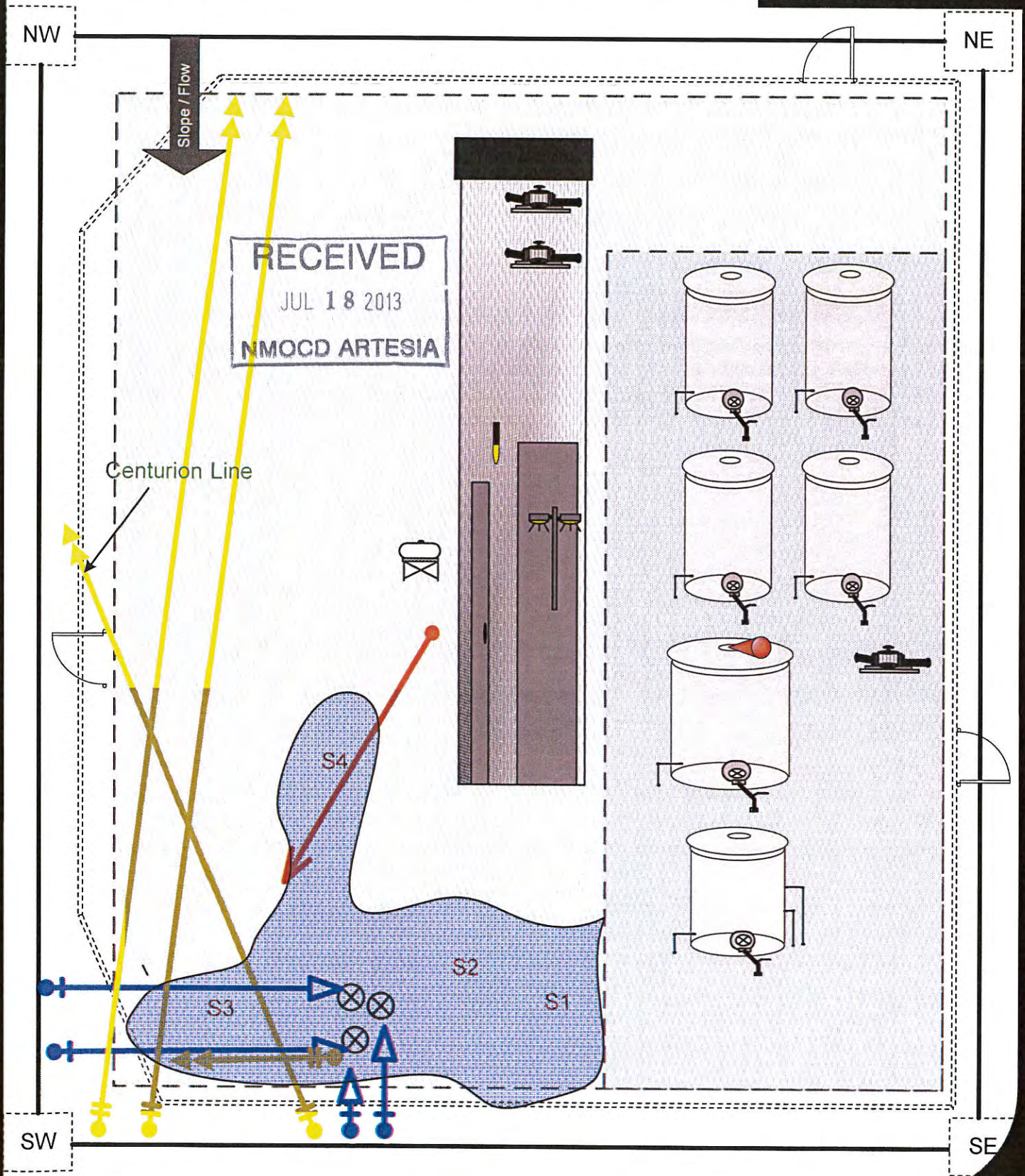
Lupe Carrasco
Environmental Regulatory Agent

Enclosure(s): Site Drawing
Analytical Summary Table
Analytical Report (H301490)

YATES PETROLEUM CORPORATION

Wednesday, July 10, 2013

Hillview Injection/Sawbuck Pilot Watershed



Sawbuck Water Transfer

Analytical Report-H301490	Sample Date	Depth	BTEX	GRO	DRO	TOTAL TPH	CHLORIDES
S1-1'	6/25/2013	1'	737	6890	593	7483	2440
S2-1'	6/25/2013	1'	15.75	83.8	23.3	107.1	960
S3-1'	6/25/2013	1'	0.1	ND	ND	ND	2480
S3-3'	6/25/2013	3'	ND	ND	ND	ND	1310
S3-4'	6/25/2013	4'	ND	ND	ND	ND	1170
S4-1'	6/25/2013	1'	1.73	10.6	ND	ND	2960
S4-3'	6/25/2013	3'	0.217	20.4	31.5	51.9	2560

Site Ranking isn (0). Depth to Ground Water >100' (225', Section 23, T20S-R24E, per Trend Map).

All results are ppm.Chlorides for documentation.

Released: 1850 B/PW; Recovered: 1650 B/PW. Release Date: 6/7/2013

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 03, 2013

LUPE CARRASCO

YATES PETROLEUM CORPORATION

105 S 4th Street

Artesia, NM 88210

RE: SAWBUCK WATER TRANSFER

Enclosed are the results of analyses for samples received by the laboratory on 06/26/13 8:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	06/26/2013	Sampling Date:	06/25/2013
Reported:	07/03/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S1-1' (H301490-01)

BTEX 8260B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**63.1**	5.00	07/02/2013	ND	2.29	114	2.00	4.30	
Toluene*	**292**	5.00	07/02/2013	ND	2.05	102	2.00	4.35	
Ethylbenzene*	**67.2**	5.00	07/02/2013	ND	2.03	101	2.00	5.86	
Total Xylenes*	**315**	15.0	07/02/2013	ND	6.16	103	6.00	5.14	

Surrogate: Dibromofluoromethane	*100 %*	*61.3-142*
Surrogate: Toluene-d8	*104 %*	*71.3-129*
Surrogate: 4-Bromofluorobenzene	*111 %*	*65.7-141*

Chloride, SM4500Cl-B mg/kg **Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2440**	16.0	06/28/2013	ND	432	108	400	3.77	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**6890**	50.0	06/27/2013	ND	212	106	200	0.466	
DRO >C10-C28	**593**	50.0	06/27/2013	ND	212	106	200	1.45	

Surrogate: 1-Chlorooctane	*133 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*93.5 %*	*63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	06/26/2013	Sampling Date:	06/25/2013
Reported:	07/03/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S2-1' (H301490-02)

BTEX 8260B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.603**	0.500	07/02/2013	ND	2.29	114	2.00	4.30	
Toluene*	**4.67**	0.500	07/02/2013	ND	2.05	102	2.00	4.35	
Ethylbenzene*	**1.72**	0.500	07/02/2013	ND	2.03	101	2.00	5.86	
Total Xylenes*	**8.76**	1.50	07/02/2013	ND	6.16	103	6.00	5.14	

Surrogate: Dibromofluoromethane	*98.3 %*	*61.3-142*
Surrogate: Toluene-d8	*101 %*	*71.3-129*
Surrogate: 4-Bromofluorobenzene	*107 %*	*65.7-141*

Chloride, SM4500Cl-B mg/kg **Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**960**	16.0	06/28/2013	ND	432	108	400	3.77	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**83.8**	10.0	06/27/2013	ND	212	106	200	0.466	
DRO >C10-C28	**23.3**	10.0	06/27/2013	ND	212	106	200	1.45	

Surrogate: 1-Chlorooctane	*87.2 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*80.2 %*	*63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	06/26/2013	Sampling Date:	06/25/2013
Reported:	07/03/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S3-1' (H301490-03)

BTEX 8260B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/02/2013	ND	2.29	114	2.00	4.30	
Toluene*	**0.118**	0.050	07/02/2013	ND	2.05	102	2.00	4.35	
Ethylbenzene*	<0.050	0.050	07/02/2013	ND	2.03	101	2.00	5.86	
Total Xylenes*	<0.150	0.150	07/02/2013	ND	6.16	103	6.00	5.14	

Surrogate: Dibromofluoromethane	*98.1 %*	*61.3-142*
Surrogate: Toluene-d8	*98.8 %*	*71.3-129*
Surrogate: 4-Bromofluorobenzene	*104 %*	*65.7-141*

Chloride, SM4500Cl-B mg/kg **Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2480**	16.0	06/28/2013	ND	432	108	400	3.77	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/27/2013	ND	212	106	200	0.466	
DRO >C10-C28	<10.0	10.0	06/27/2013	ND	212	106	200	1.45	

Surrogate: 1-Chlorooctane	*90.4 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*91.4 %*	*63.6-154*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	06/26/2013	Sampling Date:	06/25/2013
Reported:	07/03/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S3-3' (H301490-04)

BTEX 8260B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/02/2013	ND	2.29	114	2.00	4.30	
Toluene*	<0.050	0.050	07/02/2013	ND	2.05	102	2.00	4.35	
Ethylbenzene*	<0.050	0.050	07/02/2013	ND	2.03	101	2.00	5.86	
Total Xylenes*	<0.150	0.150	07/02/2013	ND	6.16	103	6.00	5.14	

Surrogate: Dibromofluoromethane	*97.8 %*	*61.3-142*
Surrogate: Toluene-d8	*100 %*	*71.3-129*
Surrogate: 4-Bromofluorobenzene	*107 %*	*65.7-141*

Chloride, SM4500Cl-B mg/kg Analyzed By: DW

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1310**	16.0	06/28/2013	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/27/2013	ND	212	106	200	0.466	
DRO >C10-C28	<10.0	10.0	06/27/2013	ND	212	106	200	1.45	

Surrogate: 1-Chlorooctane	*106 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*101 %*	*63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	06/26/2013	Sampling Date:	06/25/2013
Reported:	07/03/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S3-4' (H301490-05)

BTEX 8260B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/02/2013	ND	2.29	114	2.00	4.30	
Toluene*	<0.050	0.050	07/02/2013	ND	2.05	102	2.00	4.35	
Ethylbenzene*	<0.050	0.050	07/02/2013	ND	2.03	101	2.00	5.86	
Total Xylenes*	<0.150	0.150	07/02/2013	ND	6.16	103	6.00	5.14	

Surrogate: Dibromofluoromethane	*100 %*	*61.3-142*
Surrogate: Toluene-d8	*99.3 %*	*71.3-129*
Surrogate: 4-Bromofluorobenzene	*107 %*	*65.7-141*

Chloride, SM4500Cl-B mg/kg **Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1170**	16.0	06/28/2013	ND	432	108	400	3.77	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/27/2013	ND	212	106	200	0.466	
DRO >C10-C28	<10.0	10.0	06/27/2013	ND	212	106	200	1.45	

Surrogate: 1-Chlorooctane	*86.6 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*86.9 %*	*63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	06/26/2013	Sampling Date:	06/25/2013
Reported:	07/03/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S4-1' (H301490-06)

BTEX 8260B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/02/2013	ND	2.29	114	2.00	4.30	
Toluene*	**0.190**	0.050	07/02/2013	ND	2.05	102	2.00	4.35	
Ethylbenzene*	**0.220**	0.050	07/02/2013	ND	2.03	101	2.00	5.86	
Total Xylenes*	**1.32**	0.150	07/02/2013	ND	6.16	103	6.00	5.14	

Surrogate: Dibromofluoromethane	*96.9 %*	*61.3-142*
Surrogate: Toluene-d8	*99.6 %*	*71.3-129*
Surrogate: 4-Bromofluorobenzene	*112 %*	*65.7-141*

Chloride, SM4500Cl-B mg/kg Analyzed By: DW

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2960**	16.0	06/28/2013	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**10.6**	10.0	06/27/2013	ND	212	106	200	0.466	
DRO >C10-C28	<10.0	10.0	06/27/2013	ND	212	106	200	1.45	

Surrogate: 1-Chlorooctane	*85.0 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*81.0 %*	*63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	06/26/2013	Sampling Date:	06/25/2013
Reported:	07/03/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S4-3' (H301490-07)

BTEX 8260B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.093**	0.050	07/02/2013	ND	2.29	114	2.00	4.30	
Toluene*	**0.124**	0.050	07/02/2013	ND	2.05	102	2.00	4.35	
Ethylbenzene*	<0.050	0.050	07/02/2013	ND	2.03	101	2.00	5.86	
Total Xylenes*	<0.150	0.150	07/02/2013	ND	6.16	103	6.00	5.14	

Surrogate: Dibromofluoromethane	*96.5 %*	*61.3-142*
Surrogate: Toluene-d8	*98.7 %*	*71.3-129*
Surrogate: 4-Bromofluorobenzene	*106 %*	*65.7-141*

Chloride, SM4500Cl-B mg/kg **Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2560**	16.0	06/28/2013	ND	432	108	400	3.77	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**20.4**	10.0	06/27/2013	ND	212	106	200	0.466	
DRO >C10-C28	**31.5**	10.0	06/27/2013	ND	212	106	200	1.45	

Surrogate: 1-Chlorooctane	*85.8 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*91.2 %*	*63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

ARDINAL LABORATORIES
101 East Marland, Hobbs, NM 88240 (505) 393-2326 FAX (505) 393-2476

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Lupe Carrasco
Compa (505) 393-232 Yates Petroleum Corporation
Company Address: 105 South 4th Street
City/State/Zip: Artesia, NM 88210
Telephone No: 575-748-4350 Fax No:
Sampler Signature: Lupe Carrasco e-mail: lcarrasco@yatespetroleum.com

Project Name: Sawbuck Water Transfer
Project #:
Project Loc:
PO #: 103-163
Report Format: [x] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: H301490

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1 8015M 8015	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR-/-ESP-/-CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides	SAR	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S1-1'			6/25/2013													X							X			X			
2	S2-1'			6/25/2013													X							X			X			
3	S3-1'			6/25/2013													X							X			X			
4	S3-3'			6/25/2013													X							X			X			
5	S3-4'			6/25/2013													X							X			X			
6	S4-1'			6/25/2013													X							X			X			
7	S4-3'			6/25/2013													X							X			X			

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Lupe Carrasco			Jodi Henson	6/26/13	8:00
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered by Sampler/Client Rep. ?	Y	N

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 4 °C

#54

YATES PETROLEUM CORPORATION

105 SOUTH FOURTH STREET
ARTESIA, NEW MEXICO 88210-2118
TELEPHONE (575) 748-1471
www.yatespetroleum.com

February 19, 2014

Mr. Mike Bratcher
Oil Conservation Division II
811 S. First St.
Artesia, NM 88210

Duncan Whitlock
BLM
620 E. Greene St.
Carlsbad, NM 88220

RE: Sawbuck Water Transfer
Lease # NM-86241
2RP-1685
Section 22, T20S-R24E
Eddy County, New Mexico

Mr. Bratcher/Mr. Whitlock,

Yates Petroleum Corporation would like to submit the enclosed documents as documentation for the work performed at the above captioned release. These documents are in response to the C-141 Initial reports submitted July 7, 2013 and October 4, 2014.

The initial work plan submitted on July 18, 2013, had an extra stipulation from both OCD and BLM. It was agreed that Yates would excavate the S1 area down past 2' to address the BTEX levels in this area. Prior to excavation, the second release occurred during the repair of the berms around the location. The backhoe operator noticed a release of approximately 8 barrels of produced water. The release flowed into the S1 area where a vacuum truck recovered about 5 barrels. Once recovered, the back hoe operator excavated approximately 2.5 – 3' from the impacted area including the berm on the south side of the location. All impacted soil was disposed at an NMOCD approved facility. The area was sampled for delineation purposes.

The S1/Spill 2 excavation area has not been backfilled with the exception of the berms on the south side and west side which had to be replaced due to severe flooding of the area in 2013.

Based on the impacted soils excavated/hauled and the enclosed data, Yates Petroleum Corporation requests closure of the site and permission to backfill the S1/Spill 2 area. Please feel free to contact me with any questions at (575) 748-1471.

Thank you,

Lupe Carrasco
Senior Environmental & Regulatory
Affairs Coordinator

Enclosure(s): Site Drawing
Analytical Summary Table
Analytical Report (H301490, H302128, H302444)

Lupe Carrasco

From: Lupe Carrasco
Sent: Thursday, July 18, 2013 4:21 PM
To: Burton, Michael (mburton@blm.gov); jamos@blm.gov
Cc: Katie Parker; Bob Asher; Mike Bratcher@OCD (mike.bratcher@state.nm.us)
Subject: Sawbuck Water Transfer
Attachments: Work Plan.pdf

Mr. Burton,

Attached is a copy of the work plan and supporting documents submitted to Mike Bratcher at the NMOCD II. Please let me know if you have any questions.

Thanks!

Lupe Carrasco
Environmental Regulatory Agent
Yates Petroleum Corporation
Office: (575) 748-4350
Fax: (575) 748-4131
Cell: (575) 513-9074

Chase Settle

From: Lupe Carrasco
Sent: Tuesday, July 30, 2013 9:35 AM
To: Burton, Michael (mburton@blm.gov)
Cc: jamos@blm.gov; Bob Asher; Katie Parker
Subject: Sawbuck Water Transfer

Michael,

I just wanted to follow up on the work plan I sent you for the Sawbuck Water Transfer. I have not performed any of the work due to the storm events. I am hoping it dries out this week so that I can get a contractor on this project early next week. Let me know if you have any questions.

Thanks!

Lupe Carrasco
Environmental Regulatory Agent
Yates Petroleum Corporation
Office: (575) 748-4350
Fax: (575) 748-4131
Cell: (575) 513-9074

From: Lupe Carrasco
Sent on: Tuesday, July 30, 2013 5:03:19 PM
To: jamos@blm.gov; Burton, Michael (mburton@blm.gov) <Burton, Michael (mburton@blm.gov)>
CC: Mike Bratcher@OCD (mike.bratcher@state.nm.us) <Mike Bratcher@OCD (mike.bratcher@state.nm.us)>
Subject: Sawbuck Water Transfer

Jim,

Michael Burton and I talked on the phone this morning in regards to the Sawbuck Water Transfer. He said you and him had talked about what you would like done at the Sawbuck Water Transfer. In talking to Michael Burton he mentioned that you would like the S1 excavated down about a 1'. He advised that I speak with you in regards to this and any other concerns you might have with the impacted area. It sounds like your thoughts are going to align with Mike Bratcher's thoughts about excavation.

Mike Bratcher and I met on July 18, 2013, in his office to discuss the impacted area. I agreed with Mike Bratcher that I would excavate the S1 area down to 1' to address the BTEX levels. The S1 area and the S2 areas are associated with the old pit area of the Hill View AHE #2 well which has been plugged and abandoned. I will also be removing the berm that borders the S1 area and plan to replace it with new caliche when I back fill the S1 area.

Let me know if you have any other areas of concern and if the S1 work aligns with what you would like to see done for this site.

Thanks!

Lupe Carrasco
Environmental Regulatory Agent
Yates Petroleum Corporation
Office: (575) 748-4350
Fax: (575) 748-4131
Cell: (575) 513-9074

Chase Settle

From: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Sent: Thursday, August 1, 2013 10:30 AM
To: Lupe Carrasco; jamos@blm.gov; Burton, Michael (mburton@blm.gov)
Subject: RE: Sawbuck Water Transfer

Lupe,

We probably need to talk about this one a little more. Give me a call or come by when you get a chance.

Mike Bratcher
NMOCD District 2
811 S. First Street
Artesia, NM 88210
O: 575-748-1283 X108
C: 575-626-0857
F: 575-748-9720

From: Lupe Carrasco [mailto:LCarrasco@yatespetroleum.com]
Sent: Tuesday, July 30, 2013 11:03 AM
To: jamos@blm.gov; Burton, Michael (mburton@blm.gov)
Cc: Bratcher, Mike, EMNRD
Subject: Sawbuck Water Transfer

Jim,

Michael Burton and I talked on the phone this morning in regards to the Sawbuck Water Transfer. He said you and him had talked about what you would like done at the Sawbuck Water Transfer. In talking to Michael Burton he mentioned that you would like the S1 excavated down about a 1'. He advised that I speak with you in regards to this and any other concerns you might have with the impacted area. It sounds like your thoughts are going to align with Mike Bratcher's thoughts about excavation.

Mike Bratcher and I met on July 18, 2013, in his office to discuss the impacted area. I agreed with Mike Bratcher that I would excavate the S1 area down to 1' to address the BTEX levels. The S1 area and the S2 areas are associated with the old pit area of the Hill View AHE #2 well which has been plugged and abandoned. I will also be removing the berm that borders the S1 area and plan to replace it with new caliche when I back fill the S1 area.

Let me know if you have any other areas of concern and if the S1 work aligns with what you would like to see done for this site.

Thanks!

Lupe Carrasco
Environmental Regulatory Agent
Yates Petroleum Corporation
Office: (575) 748-4350
Fax: (575) 748-4131
Cell: (575) 513-9074

Chase Settle

From: Lupe Carrasco
Sent: Wednesday, August 7, 2013 3:33 PM
To: Mike Bratcher@OCD (mike.bratcher@state.nm.us)
Cc: Burton, Michael (mburton@blm.gov); jamos@blm.gov
Subject: Sawbuck Water Transfer.

Mr. Bratcher,

As per our conversation this morning in your office, I will continue with the plan of removing 1' of the impacted material at the Sawbuck Water Transfer. I will remove approximately 1' of impacted material from the area labeled as S1 on the work plan submitted. Once the area has been excavated, I will delineate further to ensure that the hydrocarbons are within permissible levels. I will notify you once I receive my results to discuss any further work performed. All impacted material will be disposed at an NMOCD approved site. If you have any question please feel free to contact me.

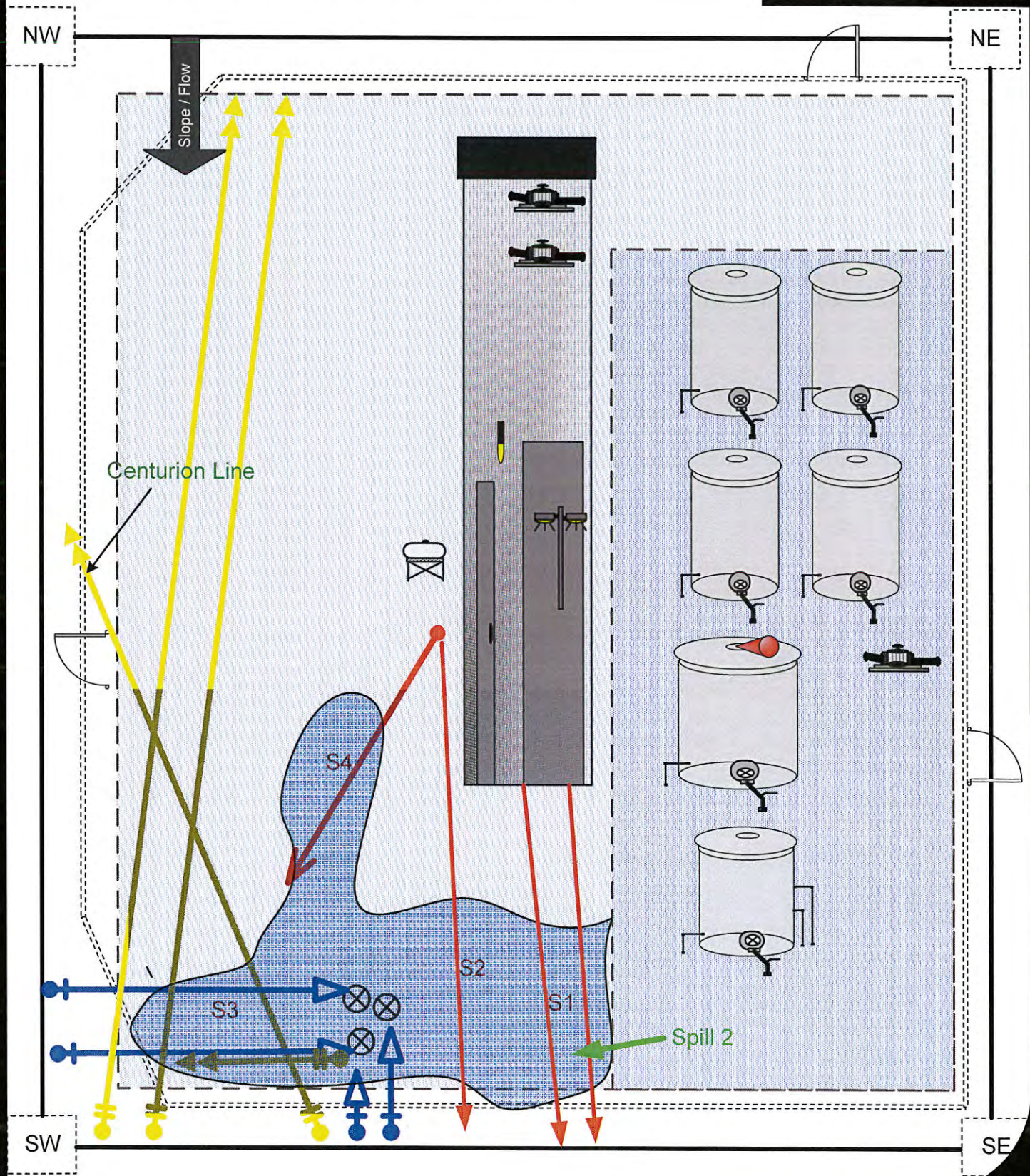
Thanks!

Lupe Carrasco
Environmental Regulatory Agent
Yates Petroleum Corporation
Office: (575) 748-4350
Fax: (575) 748-4131
Cell: (575) 513-9074

YATES PETROLEUM CORPORATION

Wednesday, July 10, 2013

Hillview Injection/Sawbuck Pilot Watershed



Sawbuck Water Transfer

Analytical Report-H301490	Sample Date	Depth	BTEX	GRO	DRO	TOTAL TPH	CHLORIDES
S1-1'	6/25/2013	1'	737	6890	593	7483	2440
S1-2'	8/28/2013	2'	166	835	201	1036	2240
S1-3'	8/28/2013	3'	40.6	383	39.9	422.9	4640
S1-4'	8/28/2013	4'	4.6	31.3	12.6	43.9	2560
S1-5'	8/28/2013	5'	0.315	ND	ND	ND	304
S2-1'	6/25/2013	1'	15.75	83.8	23.3	107.1	960
S3-1'	6/25/2013	1'	0.1	ND	ND	ND	2480
S3-3'	6/25/2013	3'	ND	ND	ND	ND	1310
S3-4'	6/25/2013	4'	ND	ND	ND	ND	1170
S4-1'	6/25/2013	1'	1.73	10.6	ND	ND	2960
S4-3'	6/25/2013	3'	0.217	20.4	31.5	51.9	2560
Spill 2	10/8/2013	3'	7.10	40	16.3	56.3	544
Spill 2	10/8/2013	4'	ND	ND	ND	ND	2520
Spill 2	10/8/2013	5'	ND	ND	ND	ND	1150
Spill 2	10/8/2013	6'	ND	ND	ND	ND	800
Spill 2	10/8/2013	7'	ND	ND	ND	ND	592
Spill 2	10/8/2013	8'	ND	ND	ND	ND	160
Spill 2	10/8/2013	9'	ND	ND	ND	ND	176

Site Ranking is Zero (0). Depth to Ground Water >100' (225', Section 23, T20S-R24E, per Trend Map).

All results are ppm.Chlorides for documentation.

Released: 1850 B/PW; Recovered: 1650 B/PW. Release Date: 6/7/2013

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 03, 2013

LUPE CARRASCO

YATES PETROLEUM CORPORATION

105 S 4th Street

Artesia, NM 88210

RE: SAWBUCK WATER TRANSFER

Enclosed are the results of analyses for samples received by the laboratory on 06/26/13 8:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	06/26/2013	Sampling Date:	06/25/2013
Reported:	07/03/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S1-1' (H301490-01)

BTEX 8260B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**63.1**	5.00	07/02/2013	ND	2.29	114	2.00	4.30	
Toluene*	**292**	5.00	07/02/2013	ND	2.05	102	2.00	4.35	
Ethylbenzene*	**67.2**	5.00	07/02/2013	ND	2.03	101	2.00	5.86	
Total Xylenes*	**315**	15.0	07/02/2013	ND	6.16	103	6.00	5.14	

Surrogate: Dibromofluoromethane	*100 %*	*61.3-142*
Surrogate: Toluene-d8	*104 %*	*71.3-129*
Surrogate: 4-Bromofluorobenzene	*111 %*	*65.7-141*

Chloride, SM4500Cl-B mg/kg Analyzed By: DW

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2440**	16.0	06/28/2013	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**6890**	50.0	06/27/2013	ND	212	106	200	0.466	
DRO >C10-C28	**593**	50.0	06/27/2013	ND	212	106	200	1.45	

Surrogate: 1-Chlorooctane	*133 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*93.5 %*	*63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	06/26/2013	Sampling Date:	06/25/2013
Reported:	07/03/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S2-1' (H301490-02)

BTEX 8260B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.603**	0.500	07/02/2013	ND	2.29	114	2.00	4.30	
Toluene*	**4.67**	0.500	07/02/2013	ND	2.05	102	2.00	4.35	
Ethylbenzene*	**1.72**	0.500	07/02/2013	ND	2.03	101	2.00	5.86	
Total Xylenes*	**8.76**	1.50	07/02/2013	ND	6.16	103	6.00	5.14	

Surrogate: Dibromofluoromethane	*98.3 %*	*61.3-142*
Surrogate: Toluene-d8	*101 %*	*71.3-129*
Surrogate: 4-Bromofluorobenzene	*107 %*	*65.7-141*

Chloride, SM4500Cl-B mg/kg Analyzed By: DW

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**960**	16.0	06/28/2013	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**83.8**	10.0	06/27/2013	ND	212	106	200	0.466	
DRO >C10-C28	**23.3**	10.0	06/27/2013	ND	212	106	200	1.45	

Surrogate: 1-Chlorooctane	*87.2 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*80.2 %*	*63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	06/26/2013	Sampling Date:	06/25/2013
Reported:	07/03/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S3-1' (H301490-03)

BTEX 8260B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/02/2013	ND	2.29	114	2.00	4.30	
Toluene*	**0.118**	0.050	07/02/2013	ND	2.05	102	2.00	4.35	
Ethylbenzene*	<0.050	0.050	07/02/2013	ND	2.03	101	2.00	5.86	
Total Xylenes*	<0.150	0.150	07/02/2013	ND	6.16	103	6.00	5.14	

Surrogate: Dibromofluoromethane	*98.1 %*	*61.3-142*
Surrogate: Toluene-d8	*98.8 %*	*71.3-129*
Surrogate: 4-Bromofluorobenzene	*104 %*	*65.7-141*

Chloride, SM4500Cl-B mg/kg Analyzed By: DW

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2480**	16.0	06/28/2013	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/27/2013	ND	212	106	200	0.466	
DRO >C10-C28	<10.0	10.0	06/27/2013	ND	212	106	200	1.45	

Surrogate: 1-Chlorooctane	*90.4 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*91.4 %*	*63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	06/26/2013	Sampling Date:	06/25/2013
Reported:	07/03/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S3-3' (H301490-04)

BTEX 8260B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/02/2013	ND	2.29	114	2.00	4.30	
Toluene*	<0.050	0.050	07/02/2013	ND	2.05	102	2.00	4.35	
Ethylbenzene*	<0.050	0.050	07/02/2013	ND	2.03	101	2.00	5.86	
Total Xylenes*	<0.150	0.150	07/02/2013	ND	6.16	103	6.00	5.14	

Surrogate: Dibromofluoromethane	*97.8 %*	*61.3-142*
Surrogate: Toluene-d8	*100 %*	*71.3-129*
Surrogate: 4-Bromofluorobenzene	*107 %*	*65.7-141*

Chloride, SM4500Cl-B mg/kg Analyzed By: DW

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1310**	16.0	06/28/2013	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/27/2013	ND	212	106	200	0.466	
DRO >C10-C28	<10.0	10.0	06/27/2013	ND	212	106	200	1.45	

Surrogate: 1-Chlorooctane	*106 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*101 %*	*63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	06/26/2013	Sampling Date:	06/25/2013
Reported:	07/03/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S3-4' (H301490-05)

BTEX 8260B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/02/2013	ND	2.29	114	2.00	4.30	
Toluene*	<0.050	0.050	07/02/2013	ND	2.05	102	2.00	4.35	
Ethylbenzene*	<0.050	0.050	07/02/2013	ND	2.03	101	2.00	5.86	
Total Xylenes*	<0.150	0.150	07/02/2013	ND	6.16	103	6.00	5.14	

Surrogate: Dibromofluoromethane	*100 %*	*61.3-142*
Surrogate: Toluene-d8	*99.3 %*	*71.3-129*
Surrogate: 4-Bromofluorobenzene	*107 %*	*65.7-141*

Chloride, SM4500Cl-B mg/kg Analyzed By: DW

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1170**	16.0	06/28/2013	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/27/2013	ND	212	106	200	0.466	
DRO >C10-C28	<10.0	10.0	06/27/2013	ND	212	106	200	1.45	

Surrogate: 1-Chlorooctane	*86.6 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*86.9 %*	*63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	06/26/2013	Sampling Date:	06/25/2013
Reported:	07/03/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S4-1' (H301490-06)

BTEX 8260B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/02/2013	ND	2.29	114	2.00	4.30	
Toluene*	**0.190**	0.050	07/02/2013	ND	2.05	102	2.00	4.35	
Ethylbenzene*	**0.220**	0.050	07/02/2013	ND	2.03	101	2.00	5.86	
Total Xylenes*	**1.32**	0.150	07/02/2013	ND	6.16	103	6.00	5.14	

Surrogate: Dibromofluoromethane	*96.9 %*	*61.3-142*
Surrogate: Toluene-d8	*99.6 %*	*71.3-129*
Surrogate: 4-Bromofluorobenzene	*112 %*	*65.7-141*

Chloride, SM4500Cl-B mg/kg Analyzed By: DW

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2960**	16.0	06/28/2013	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**10.6**	10.0	06/27/2013	ND	212	106	200	0.466	
DRO >C10-C28	<10.0	10.0	06/27/2013	ND	212	106	200	1.45	

Surrogate: 1-Chlorooctane	*85.0 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*81.0 %*	*63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	06/26/2013	Sampling Date:	06/25/2013
Reported:	07/03/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S4-3' (H301490-07)

BTEX 8260B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.093**	0.050	07/02/2013	ND	2.29	114	2.00	4.30	
Toluene*	**0.124**	0.050	07/02/2013	ND	2.05	102	2.00	4.35	
Ethylbenzene*	<0.050	0.050	07/02/2013	ND	2.03	101	2.00	5.86	
Total Xylenes*	<0.150	0.150	07/02/2013	ND	6.16	103	6.00	5.14	

Surrogate: Dibromofluoromethane	*96.5 %*	*61.3-142*
Surrogate: Toluene-d8	*98.7 %*	*71.3-129*
Surrogate: 4-Bromofluorobenzene	*106 %*	*65.7-141*

Chloride, SM4500Cl-B mg/kg Analyzed By: DW

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2560**	16.0	06/28/2013	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**20.4**	10.0	06/27/2013	ND	212	106	200	0.466	
DRO >C10-C28	**31.5**	10.0	06/27/2013	ND	212	106	200	1.45	

Surrogate: 1-Chlorooctane	*85.8 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*91.2 %*	*63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

ARDINAL LABORATORIES
101 East Marland, Hobbs, NM 88240
(505) 393-2326 FAX (505) 393-2476

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Lupe Carrasco
Compa (505) 393-2326 Yates Petroleum Corporation
Company Address: 105 South 4th Street
City/State/Zip: Artesia, NM 88210
Telephone No: 575-748-4350 Fax No:
Sampler Signature: Lupe Carrasco e-mail: lcarrasco@yatespetroleum.com

Project Name: Sawbuck Water Transfer
Project #:
Project Loc:
PO #: 103-163
Report Format: [x] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: H301490

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge / GW = Groundwater S=Soil/Solid / NP=Non-Potable Specify Other	Analyze For: TCLP: TOTAL: TPH: 418.1 8015M 8015	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR-/-ESP-/-CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides	SAR		RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S1-1'			6/25/2013													X							X			X				
2	S2-1'			6/25/2013													X							X			X				
3	S3-1'			6/25/2013													X							X			X				
4	S3-3'			6/25/2013													X							X			X				
5	S3-4'			6/25/2013													X							X			X				
6	S4-1'			6/25/2013													X							X			X				
7	S4-3'			6/25/2013													X							X			X				

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
Lupe Carrasco			Jodi Henson	6/26/13	8:00
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time

Laboratory Comments:

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on container(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N
by Courier? UPS DHL FedEx Lone Star		

Temperature Upon Receipt: 4 °C

HSO

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

September 10, 2013

LUPE CARRASCO

YATES PETROLEUM CORPORATION

105 S 4th Street

Artesia, NM 88210

RE: SAWBUCK WATER TRANSFER

Enclosed are the results of analyses for samples received by the laboratory on 09/04/13 11:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	09/04/2013	Sampling Date:	08/28/2013
Reported:	09/10/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S1-2' (H302128-01)

BTEX 8021B mg/kg Analyzed By: DW

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**10.1**	1.00	09/06/2013	ND	2.13	107	2.00	3.73	
Toluene*	**43.6**	1.00	09/06/2013	ND	2.25	112	2.00	4.15	
Ethylbenzene*	**20.3**	1.00	09/06/2013	ND	2.33	116	2.00	5.54	
Total Xylenes*	**92.2**	3.00	09/06/2013	ND	7.02	117	6.00	6.22	
Total BTEX	**166**	6.00	09/06/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL *114 %* *89.4-126*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2240**	16.0	09/05/2013	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: DW/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**835**	10.0	09/06/2013	ND	203	101	200	0.850	
DRO >C10-C28	**201**	10.0	09/06/2013	ND	200	100	200	2.29	

Surrogate: 1-Chlorooctane *101 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *99.4 %* *63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	09/04/2013	Sampling Date:	08/28/2013
Reported:	09/10/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S1-3' (H302128-02)

BTEX 8021B mg/kg Analyzed By: DW

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**2.86**	0.400	09/06/2013	ND	2.13	107	2.00	3.73	
Toluene*	**3.56**	0.400	09/06/2013	ND	2.25	112	2.00	4.15	
Ethylbenzene*	**5.60**	0.400	09/06/2013	ND	2.33	116	2.00	5.54	
Total Xylenes*	**28.6**	1.20	09/06/2013	ND	7.02	117	6.00	6.22	
Total BTEX	**40.6**	2.40	09/06/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL *110 %* *89.4-126*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**4640**	16.0	09/06/2013	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: DW/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**383**	10.0	09/06/2013	ND	203	101	200	0.850	
DRO >C10-C28	**39.9**	10.0	09/06/2013	ND	200	100	200	2.29	

Surrogate: 1-Chlorooctane *89.7 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *98.6 %* *63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	09/04/2013	Sampling Date:	08/28/2013
Reported:	09/10/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S1-4' (H302128-03)

BTEX 8021B mg/kg Analyzed By: DW

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**2.87**	0.050	09/06/2013	ND	2.13	107	2.00	3.73	
Toluene*	**1.19**	0.050	09/06/2013	ND	2.25	112	2.00	4.15	
Ethylbenzene*	**0.293**	0.050	09/06/2013	ND	2.33	116	2.00	5.54	
Total Xylenes*	**0.249**	0.150	09/06/2013	ND	7.02	117	6.00	6.22	
Total BTEX	**4.60**	0.300	09/06/2013	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *89.4-126*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2560**	16.0	09/06/2013	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: DW/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**31.3**	10.0	09/06/2013	ND	203	101	200	0.850	
DRO >C10-C28	**12.6**	10.0	09/06/2013	ND	200	100	200	2.29	

Surrogate: 1-Chlorooctane *86.7 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *98.0 %* *63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	09/04/2013	Sampling Date:	08/28/2013
Reported:	09/10/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S1-5' (H302128-04)

BTEX 8021B mg/kg Analyzed By: DW

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.066**	0.050	09/06/2013	ND	2.13	107	2.00	3.73	
Toluene*	**0.249**	0.050	09/06/2013	ND	2.25	112	2.00	4.15	
Ethylbenzene*	<0.050	0.050	09/06/2013	ND	2.33	116	2.00	5.54	
Total Xylenes*	<0.150	0.150	09/06/2013	ND	7.02	117	6.00	6.22	
Total BTEX	**0.315**	0.300	09/06/2013	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *89.4-126*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**304**	16.0	09/06/2013	ND	416	104	400	0.00	

TPH 8015M mg/kg Analyzed By: DW/

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/06/2013	ND	203	101	200	0.850	
DRO >C10-C28	<10.0	10.0	09/06/2013	ND	200	100	200	2.29	

Surrogate: 1-Chlorooctane *87.9 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *98.0 %* *63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

ARDINAL LABORATORIES
101 East Marland, Hobbs, NM 88240
(505) 393-2326 FAX (505) 393-2476

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Lupe Carrasco
Compa (505) 393-2326 Yates Petroleum Corporation
Company Address: 105 South 4th Street
City/State/Zip: Artesia, NM 88210
Telephone No: 575-748-4350
Fax No:
Sampler Signature:
e-mail: lcarrasco@yatespetroleum.com

Project Name: Sawbuck Water Transfer
Project #:
Project Loc:
PO #: 103-163
Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: H30 2178

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO3	HCl	H2SO4	NaOH	Na2S2O3	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge	GW=Groundwater S=Soil/Solid	NP=Non-Potable Specify Other	Analyze For: TCLP: TOTAL: TPH: 418.1 8015M	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides	SAR	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S1-2'			8/28/2013															X							X			X			
2	S1-3'			8/28/2013															X							X			X			
3	S1-4'			8/28/2013															X							X			X			
4	S1-5'			8/28/2013															X							X			X			

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
			Jodi Henson	9/4/13	11:00
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time

Laboratory Comments:
Sample Containers Intact? (Y) N
VOCs Free of Headspace? Y N
Labels on container(s) Y N
Custody seals on container(s) (Y) N
Custody seals on cooler(s) Y (N)
Sample Hand Delivered by Sampler/Client Rep. ? (Y) N
by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 4 °C

#54

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

October 10, 2013

LUPE CARRASCO

YATES PETROLEUM CORPORATION

105 S 4th Street

Artesia, NM 88210

RE: SAWBUCK WATER TRANSFER

Enclosed are the results of analyses for samples received by the laboratory on 10/09/13 14:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	10/09/2013	Sampling Date:	10/08/2013
Reported:	10/10/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	103-163	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SPILL 2 -3' (H302444-01)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.466**	0.050	10/09/2013	ND	1.97	98.6	2.00	4.07	
Toluene*	**1.48**	0.050	10/09/2013	ND	1.99	99.3	2.00	4.73	
Ethylbenzene*	**0.799**	0.050	10/09/2013	ND	2.01	100	2.00	4.36	
Total Xylenes*	**4.35**	0.150	10/09/2013	ND	5.88	98.1	6.00	4.75	
Total BTEX	**7.10**	0.300	10/09/2013	ND					

Surrogate: 4-Bromofluorobenzene (PID *109 %* *89.4-126*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**544**	16.0	10/10/2013	ND	400	100	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**40.0**	10.0	10/09/2013	ND	200	100	200	0.683	
DRO >C10-C28	**16.3**	10.0	10/09/2013	ND	194	97.0	200	2.22	

Surrogate: 1-Chlorooctane *93.6 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *100 %* *63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	10/09/2013	Sampling Date:	10/08/2013
Reported:	10/10/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	103-163	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SPILL 2 -4' (H302444-02)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.090**	0.050	10/09/2013	ND	1.97	98.6	2.00	4.07	
Toluene*	<0.050	0.050	10/09/2013	ND	1.99	99.3	2.00	4.73	
Ethylbenzene*	<0.050	0.050	10/09/2013	ND	2.01	100	2.00	4.36	
Total Xylenes*	<0.150	0.150	10/09/2013	ND	5.88	98.1	6.00	4.75	
Total BTEX	<0.300	0.300	10/09/2013	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.6 %* *89.4-126*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2520**	16.0	10/10/2013	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/09/2013	ND	200	100	200	0.683	
DRO >C10-C28	<10.0	10.0	10/09/2013	ND	194	97.0	200	2.22	

Surrogate: 1-Chlorooctane *88.2 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *94.9 %* *63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	10/09/2013	Sampling Date:	10/08/2013
Reported:	10/10/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	103-163	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SPILL 2 -5' (H302444-03)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.092**	0.050	10/09/2013	ND	1.97	98.6	2.00	4.07	
Toluene*	**0.094**	0.050	10/09/2013	ND	1.99	99.3	2.00	4.73	
Ethylbenzene*	<0.050	0.050	10/09/2013	ND	2.01	100	2.00	4.36	
Total Xylenes*	<0.150	0.150	10/09/2013	ND	5.88	98.1	6.00	4.75	
Total BTEX	<0.300	0.300	10/09/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL *102 %* *89.4-126*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1150**	16.0	10/10/2013	ND	400	100	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/09/2013	ND	200	100	200	0.683	
DRO >C10-C28	<10.0	10.0	10/09/2013	ND	194	97.0	200	2.22	

Surrogate: 1-Chlorooctane *92.7 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *97.0 %* *63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	10/09/2013	Sampling Date:	10/08/2013
Reported:	10/10/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	103-163	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SPILL 2 -6' (H302444-04)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.083**	0.050	10/09/2013	ND	1.97	98.6	2.00	4.07	
Toluene*	**0.094**	0.050	10/09/2013	ND	1.99	99.3	2.00	4.73	
Ethylbenzene*	<0.050	0.050	10/09/2013	ND	2.01	100	2.00	4.36	
Total Xylenes*	<0.150	0.150	10/09/2013	ND	5.88	98.1	6.00	4.75	
Total BTEX	<0.300	0.300	10/09/2013	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *89.4-126*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**800**	16.0	10/10/2013	ND	400	100	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/09/2013	ND	200	100	200	0.683	
DRO >C10-C28	<10.0	10.0	10/09/2013	ND	194	97.0	200	2.22	

Surrogate: 1-Chlorooctane *94.0 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *102 %* *63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	10/09/2013	Sampling Date:	10/08/2013
Reported:	10/10/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	103-163	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SPILL 2 -7' (H302444-05)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2013	ND	1.97	98.6	2.00	4.07	
Toluene*	**0.066**	0.050	10/09/2013	ND	1.99	99.3	2.00	4.73	
Ethylbenzene*	<0.050	0.050	10/09/2013	ND	2.01	100	2.00	4.36	
Total Xylenes*	<0.150	0.150	10/09/2013	ND	5.88	98.1	6.00	4.75	
Total BTEX	<0.300	0.300	10/09/2013	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.3 %* *89.4-126*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**592**	16.0	10/10/2013	ND	400	100	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/09/2013	ND	200	100	200	0.683	
DRO >C10-C28	<10.0	10.0	10/09/2013	ND	194	97.0	200	2.22	

Surrogate: 1-Chlorooctane *101 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *106 %* *63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	10/09/2013	Sampling Date:	10/08/2013
Reported:	10/10/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	103-163	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SPILL 2 -8' (H302444-06)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2013	ND	1.97	98.6	2.00	4.07	
Toluene*	**0.053**	0.050	10/09/2013	ND	1.99	99.3	2.00	4.73	
Ethylbenzene*	<0.050	0.050	10/09/2013	ND	2.01	100	2.00	4.36	
Total Xylenes*	<0.150	0.150	10/09/2013	ND	5.88	98.1	6.00	4.75	
Total BTEX	<0.300	0.300	10/09/2013	ND					

Surrogate: 4-Bromofluorobenzene (PID 98.7 % 89.4-126

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	10/10/2013	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/09/2013	ND	200	100	200	0.683	
DRO >C10-C28	<10.0	10.0	10/09/2013	ND	194	97.0	200	2.22	

Surrogate: 1-Chlorooctane 85.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 92.6 % 63.6-154

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

YATES PETROLEUM CORPORATION
LUPE CARRASCO
105 S 4th Street
Artesia NM, 88210
Fax To: (505) 748-4635

Received:	10/09/2013	Sampling Date:	10/08/2013
Reported:	10/10/2013	Sampling Type:	Soil
Project Name:	SAWBUCK WATER TRANSFER	Sampling Condition:	Cool & Intact
Project Number:	103-163	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SPILL 2 -9' (H302444-07)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2013	ND	1.97	98.6	2.00	4.07	
Toluene*	**0.106**	0.050	10/09/2013	ND	1.99	99.3	2.00	4.73	
Ethylbenzene*	<0.050	0.050	10/09/2013	ND	2.01	100	2.00	4.36	
Total Xylenes*	<0.150	0.150	10/09/2013	ND	5.88	98.1	6.00	4.75	
Total BTEX	<0.300	0.300	10/09/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL *96.5 %* *89.4-126*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**176**	16.0	10/10/2013	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/09/2013	ND	200	100	200	0.683	
DRO >C10-C28	<10.0	10.0	10/09/2013	ND	194	97.0	200	2.22	

Surrogate: 1-Chlorooctane *102 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *105 %* *63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

ARDINAL LABORATORIES
101 East Marland, Hobbs, NM 88240 (505) 393-2326 FAX (505) 393-2476

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Lupe Carrasco
Compa (505) 393-232(Yates Petroleum Corporation
Company Address: 105 South 4th Street
City/State/Zip: Artesia, NM 88210
Telephone No: 575-748-4350 Fax No:
Sampler Signature: e-mail: lcarrasco@yatespetroleum.com

Project Name: Sawbuck Water Transfer
Project #:
Project Loc:
PO #: 103-163
Report Format: [x] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers: Ice	HNO_3	HCl	H_2SO_4	NaOH	$Na_2S_2O_3$	None	Other (Specify)	Matrix: DW=Drinking Water SL=Sludge	GW=Groundwater S=Soil/Solid	NP=Non-Potable Specify Other	Analyze For: TCLP: TPH: 418.1	TOTAL: TPH: 8015M	TPH: TX 1005	TPH: TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides	SAR		RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	Spill 2- 3'			108/8/13															X										X			X				
2	Spill 2- 4'			108/8/13															X										X			X				
3	Spill 2- 5'			108/8/13															X										X			X				
4	Spill 2- 6'			108/8/13															X										X			X				
5	Spill 2- 7'			108/8/13															X										X			X				
6	Spill 2- 8'			108/8/13															X										X			X				
7	Spill 2- 9'			108/8/13															X										X			X				

Special Instructions: Will you please rush? Thanks!

Relinquished by:	Date	Time	Received by:	Date	Time
			Jodi Henson	10/9/13	2:50
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by ELOT:	Date	Time

Laboratory Comments:
Sample Containers Intact? (Y) N
VOCs Free of Headspace? Y N
Labels on container(s) (Y) N
Custody seals on container(s) (Y) N
Custody seals on cooler(s) (N) N/A
Sample Hand Delivered by Sampler/Client Rep. ? (Y) N
by Courier? UPS DHL FedEx Lone Star
Temperature Upon Receipt: 1.6 °C

#54

APPENDIX B – Closure Criteria Research Documentation

Sawbuck Water Transfer Station

0.5 mile Radius
Well within radius is older than 25 years

Legend
Feature 1

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
RA 04742	RA	ED		3	3	13	20S	24E	542408	3603517*	993	300		
RA 07771	RA	ED	4	1	4	22	20S	24E	540073	3602194*	1727			
RA 05146	RA	ED		1	2	14	20S	24E	541600	3604734*	1883	300	80	220
RA 05424	RA	ED	4	2	3	22	20S	24E	539669	3602194*	2106	1000	400	600
RA 04502	RA	ED		2	2	25	20S	24E	543656	3601480*	2413	300	268	32
RA 10140	RA	ED	2	1	1	35	20S	24E	540938	3599981*	2962	295		
RA 10139	RA	ED	3	3	2	21	20S	24E	538285	3602597*	3394	308		
RA 02775	RA	CH	1	4	3	21	20S	24E	537899	3601986*	3869	140	31	109
RA 04956	RA	ED		1	1	21	20S	24E	537605	3603101*	4072	1013		
RA 10618	RA	ED	1	1	4	20	20S	25E	546389	3602414	4739	342	212	130
RA 05038	RA	ED	1	1	4	20	20S	25E	546390	3602416*	4740	314	228	86
RA 05057	RA	ED		3	3	31	20S	25E	544071	3598678*	4815	380	312	68
RA 09978	RA	ED	3	1	2	29	20S	25E	546393	3601410*	4938	350		

Average Depth to Water: **218 feet**

Minimum Depth: **31 feet**

Maximum Depth: **400 feet**

Record Count: 13

UTMNAD83 Radius Search (in meters):

Easting (X): 541670 **Northing (Y):** 3602852 **Radius:** 5000

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

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: United States | GO

Click to hideNews 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 Monitoring Location Page

Search Results -- 1 sites found

site_no list =

- 323341104330401

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

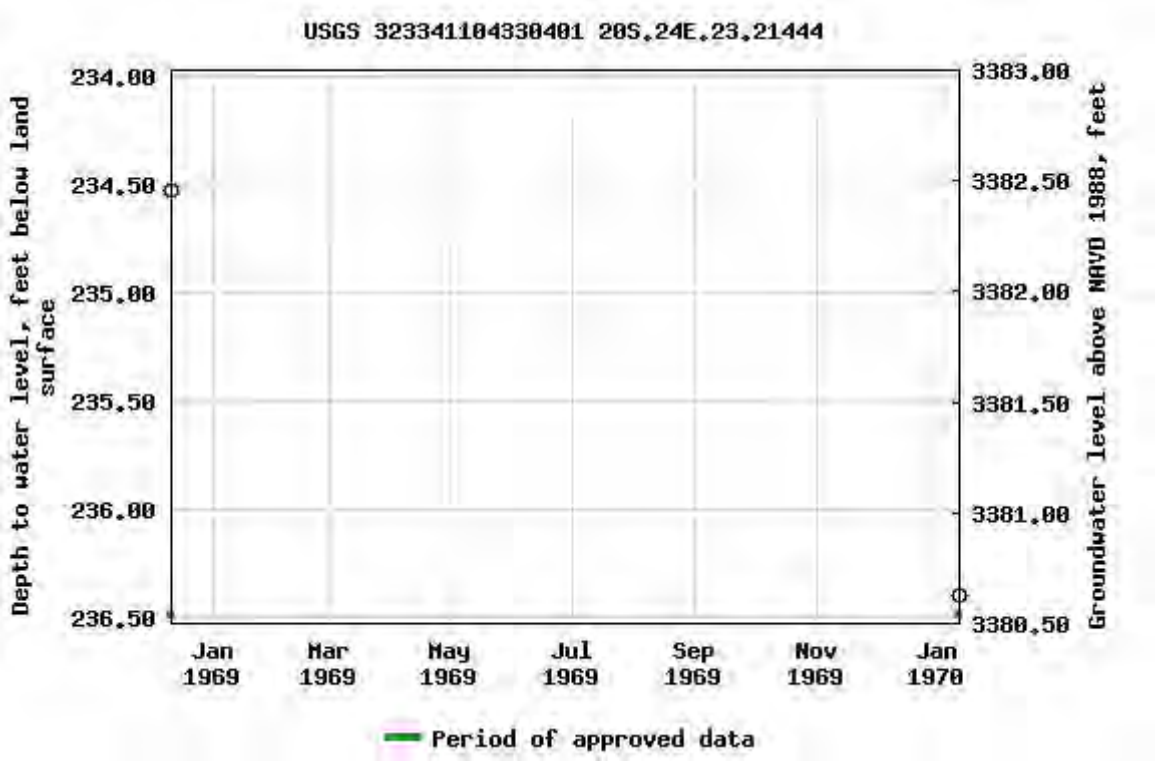
USGS 323341104330401 20S.24E.23.21444

Available data for this site | Groundwater: Field measurements | GO

Eddy County, New Mexico
Hydrologic Unit Code 13060011
Latitude 32°33'41", Longitude 104°33'04" NAD27
Land-surface elevation 3,617 feet above NAVD88
The depth of the well is 272 feet below land surface.
This well is completed in the Roswell Basin aquifer system (S400RSWLBS) national aquifer.
This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

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



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

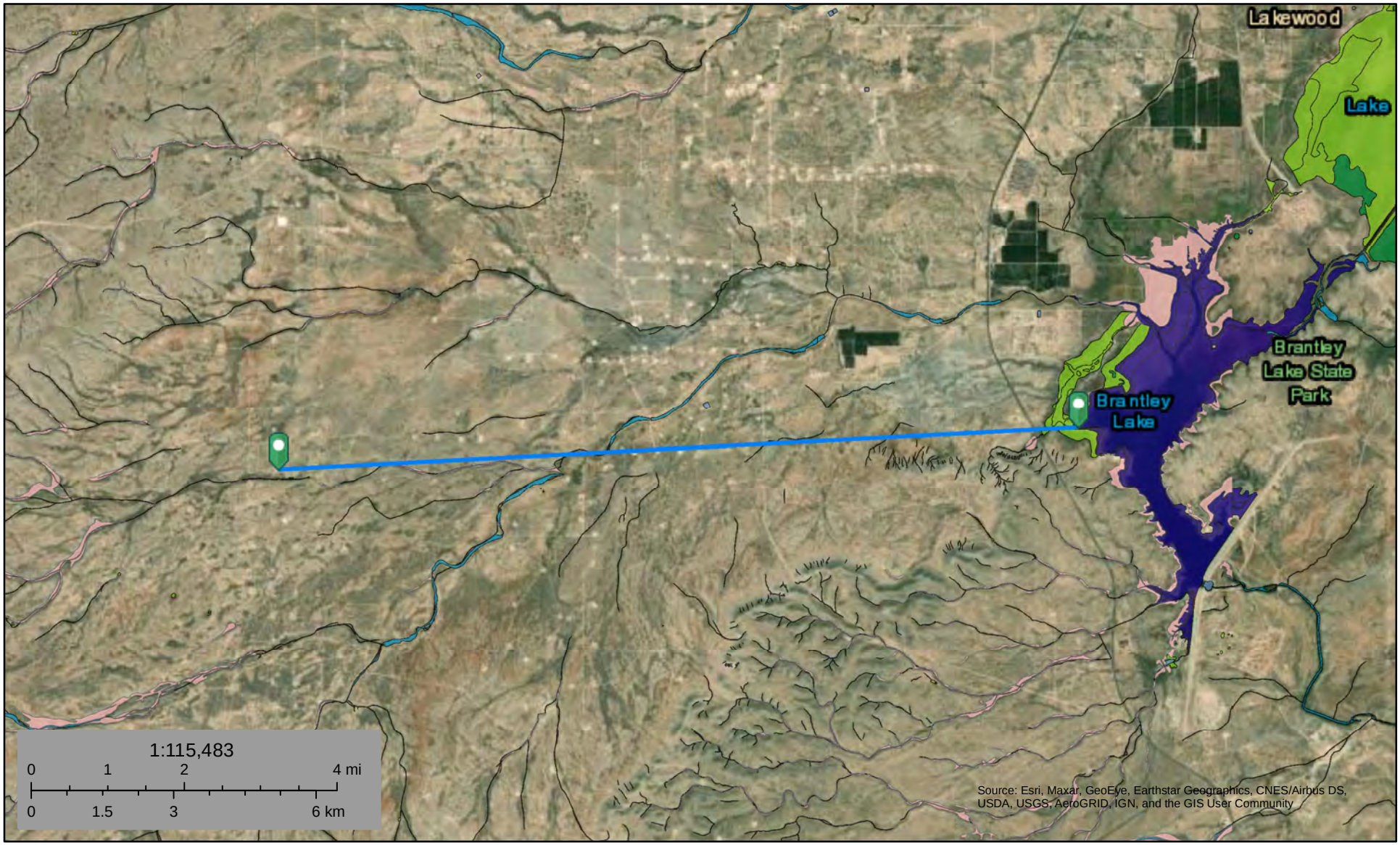
Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

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: 2021-09-13 14:13:21 EDT
0.61 0.51 nadww01

U.S. Fish and Wildlife Service
National Wetlands Inventory

Sawbuck Watercourse 46,667ft.



September 11, 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

Sawbuck Lake 46,667ft.

September 11, 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

Sawbuck Water Transfer Station

Nearest Residence
20,065ft.

Legend

32.605600 -104.544800

32.562300 -104.556110

27
27
27
27

28

3 km

N

Google Earth

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 6416	q 4	Sec	Tws	Rng	X	Y	Distance
RA 04820	RA	STK	3	LOYD FOSTER	ED	RA 04820					3	2	23	20S	24E	541596	3602701*	168
RA 04742	RA	STK	3	LOYD FOSTER	ED	RA 04742				Shallow	3	3	13	20S	24E	542408	3603517*	993

Record Count: 2

UTMNAD83 Radius Search (in meters):

Easting (X): 541670 **Northing (Y):** 3602852 **Radius:** 1610

Sorted by: Distance

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

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
	RA 05146		1	2	14	20S	24E	541600	3604734*

Driller License: 353 **Driller Company:** OSBOURN DRILLING & PUMP CO.
Driller Name:

Drill Start Date: 04/23/1968 **Drill Finish Date:** 05/06/1968 **Plug Date:**
Log File Date: 05/17/1968 **PCW Rcv Date:** **Source:** Shallow
Pump Type: **Pipe Discharge Size:** **Estimated Yield:**
Casing Size: **Depth Well:** 300 feet **Depth Water:** 80 feet

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

Sawbuck Water Transfer Station

Nearest Town: Seven Rivers, NM
Distance: 8.15 miles (43,046 feet)

U.S. Fish and Wildlife Service
National Wetlands Inventory

Sawbuck Wetland 756ft

September 11, 2021

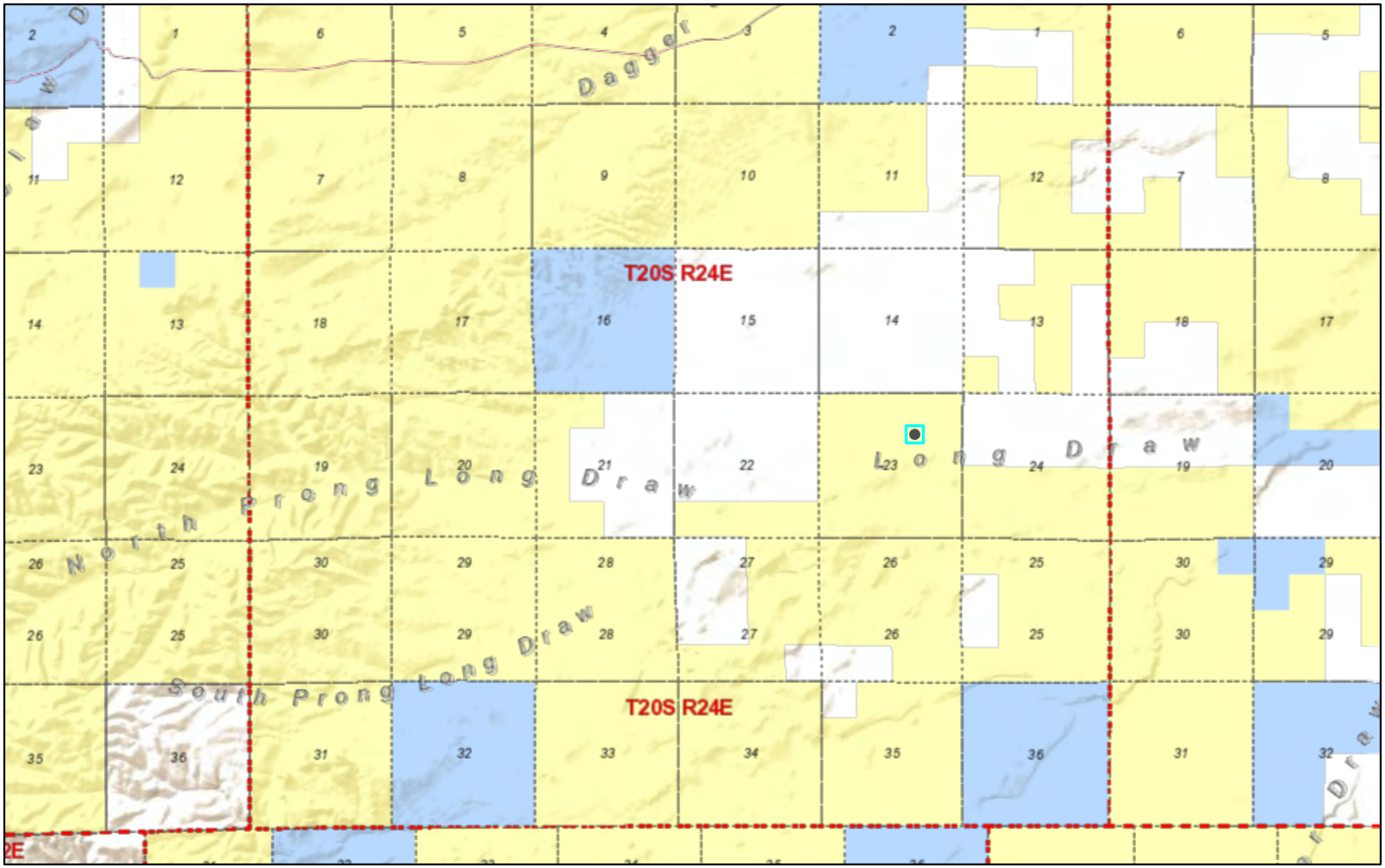
Wetlands

- 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

Active Mines in New Mexico



9/11/2021, 2:27:55 PM

1:72,224

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

0 0.5 1 2 mi
0 0.75 1.5 3 km

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

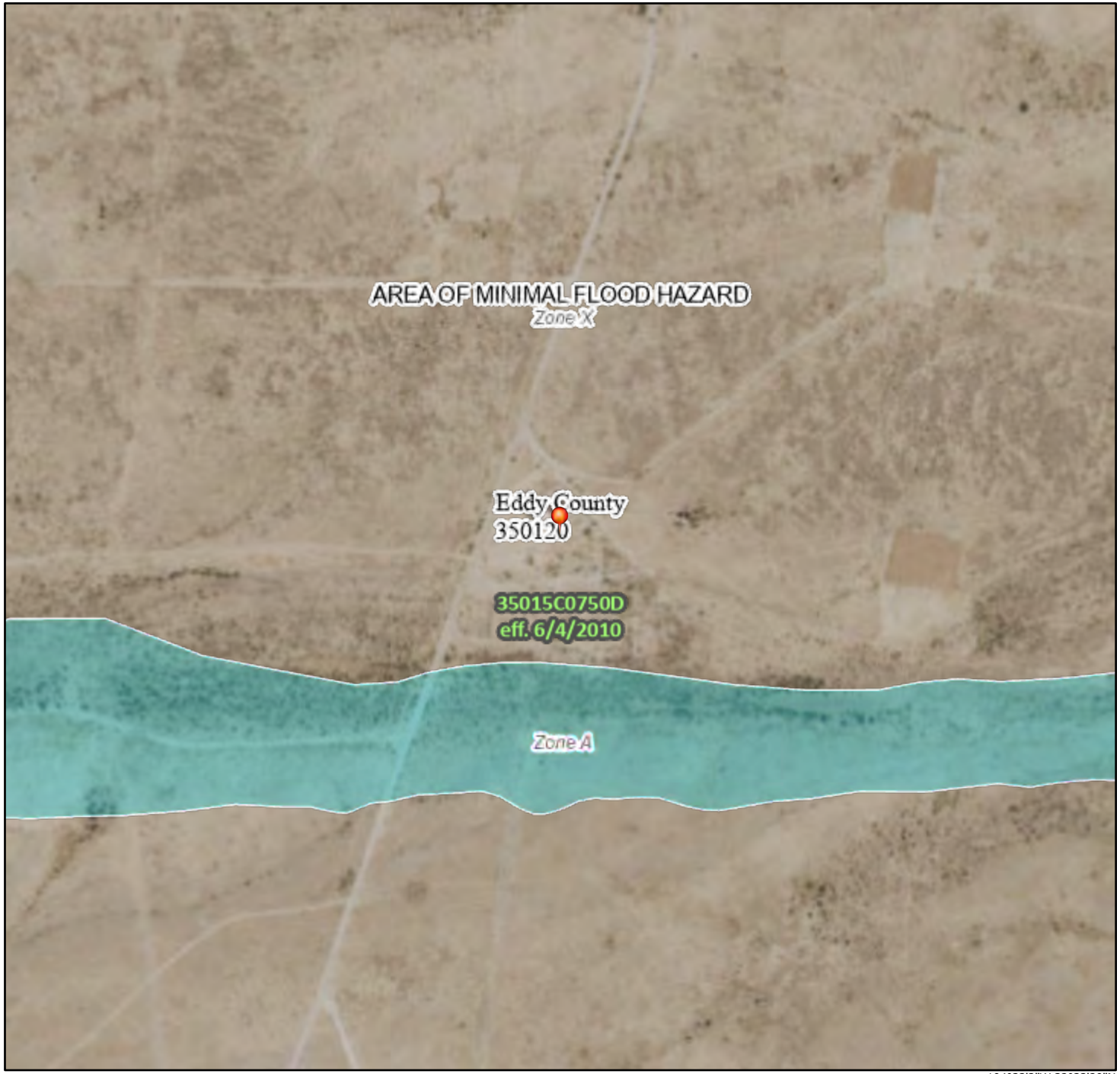
EMNRD MMD GIS Coordinator

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

National Flood Hazard Layer FIRMette

FEMA

104°33'41"W 32°33'59"N



104°33'3"W 32°33'29"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

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/13/2021 at 2:34 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Soil Map—Eddy Area, New Mexico

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: Eddy Area, New Mexico
Survey Area Data: Version 16, 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 27, 2020—Feb 28, 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
PM	Pima silt loam, 0 to 1 percent slopes	1.1	27.1%
RA	Reagan loam, 0 to 3 percent slopes	3.0	72.9%
Totals for Area of Interest		**4.2**	**100.0%**

Eddy Area, New Mexico

PM—Pima silt loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 1w56
Elevation: 600 to 4,200 feet
Mean annual precipitation: 8 to 25 inches
Mean annual air temperature: 60 to 70 degrees F
Frost-free period: 195 to 290 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Pima and similar soils: 98 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pima

Setting

Landform: Alluvial fans, alluvial flats, flood plains
Landform position (three-dimensional): Rise, talf
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Alluvium

Typical profile

H1 - 0 to 3 inches: silt loam
H2 - 3 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: RareNone
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: High (about 11.9 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 7c
Hydrologic Soil Group: C
Ecological site: R042XC017NM - Bottomland

Hydric soil rating: No

Minor Components

Dev

Percent of map unit: 1 percent
Ecological site: R042XC017NM - Bottomland
Hydric soil rating: No

Reagan

Percent of map unit: 1 percent
Ecological site: R042XC007NM - Loamy
Hydric soil rating: No

Data Source Information

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 16, Jun 8, 2020

Eddy Area, New Mexico

RA—Reagan loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 1w5c
Elevation: 1,100 to 4,400 feet
Mean annual precipitation: 7 to 14 inches
Mean annual air temperature: 60 to 70 degrees F
Frost-free period: 200 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Reagan and similar soils: 98 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Reagan

Setting

Landform: Alluvial fans, fan remnants
Landform position (three-dimensional): Rise
Down-slope shape: Linear, convex
Across-slope shape: Linear
Parent material: Alluvium and/or eolian deposits

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 60 inches: 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
Maximum salinity: Very slightly saline to moderately saline (2.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B

Ecological site: R042XC007NM - Loamy
Hydric soil rating: No

Minor Components

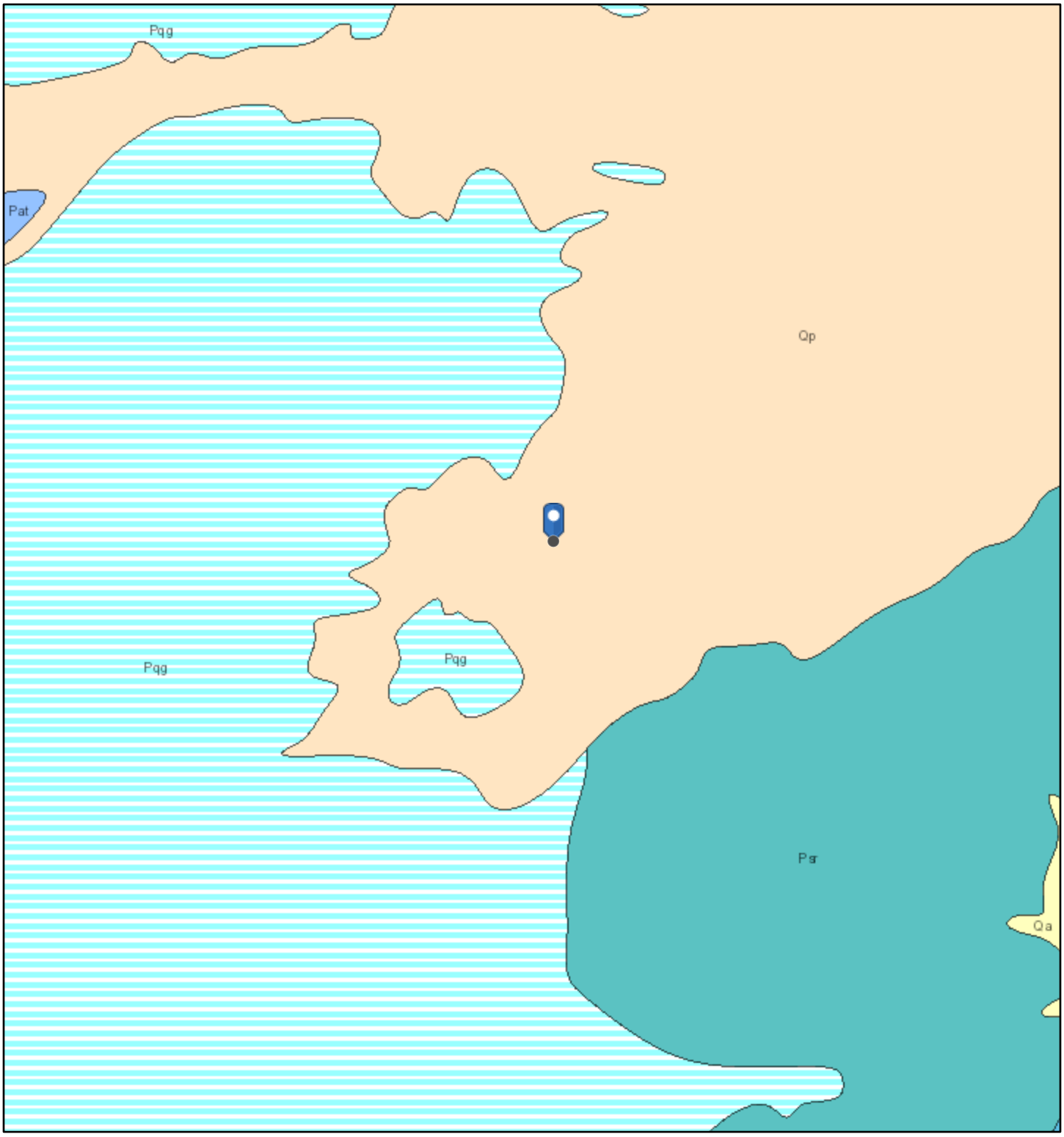
Upton
Percent of map unit: 1 percent
Ecological site: R042XC025NM - Shallow
Hydric soil rating: No

Atoka
Percent of map unit: 1 percent
Ecological site: R042XC007NM - Loamy
Hydric soil rating: No

Data Source Information

Soil Survey Area: Eddy Area, New Mexico
Survey Area Data: Version 16, Jun 8, 2020

Sawbuck Water Transfer Station



9/13/2021, 12:28:36 PM

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

USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S.

ArcGIS Web AppBuilder

USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National

APPENDIX C – Daily Field Reports and Photographs

Daily Site Visit Report

Client:	EOG Resources Inc.	Inspection Date:	6/2/2023
Site Location Name:	Sawbuck Water Transfer	Report Run Date:	6/2/2023 7:26 PM
Client Contact Name:	Chase Settle	API #:	
Client Contact Phone #:	575-703-6537		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	6/2/2023 8:45 AM
Departed Site	6/2/2023 1:30 PM

Field Notes

13:04 Arrived on site and filled out safety paperwork.

13:05 Collected and field screened sample point BH23-02 at 0', 1', 2', 3', & 4'as well as BH23-03, 04, and 05 at 0'.

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: South

Sample area where tanks used to be.

Viewing Direction: Southeast

Viewing Direction: Northeast

Old tank area.

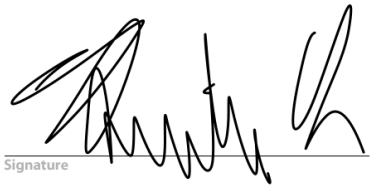
Viewing Direction: North

Pad area.

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Hunter Klein

Signature: 

Daily Site Visit Report

Client:	EOG Resources Inc.	Inspection Date:	8/30/2023
Site Location Name:		Report Run Date:	9/13/2023 4:34 PM
Client Contact Name:	Chase Settle	API #:	
Client Contact Phone #:	575-703-6537		
Unique Project ID		Project Owner:	
Project Reference #		Project Manager:	

Summary of Times

Arrived at Site	8/30/2023 8:00 AM
Departed Site	8/30/2023 11:00 AM

Field Notes

14:07 8:00 Arrived on site to collect additional confirmation samples inside the release footprint for the two 2013 releases.

14:08 10:15 collected BH23-07 and BH23-08. All under strictest criteria on titration and PetroFlag

14:08 10:15 Unable to collect BH23-06 as it is under water due to rainfall

14:11 10:20 The top ~1’ of the pad in the release area had been removed prior to sampling. Samples for BH23-07 and BH23-08 were labeled at 1’ and 2’ bgs on the nomenclature respectively.

Next Steps & Recommendations

1

Daily Site Visit Report

Site Photos

Viewing Direction: East

Area for proposed sample point BH23-06

Viewing Direction: Northwest

Sample area for BH23-08

Viewing Direction: Southwest

Sample area for BH23-07

Daily Site Visit Report

Daily Site Visit Signature

Inspector: Chance Dixon

Signature: 

Signature

APPENDIX D – Notifications

From:	Tina Huerta
To:	ocd.enviro@emnrd.nm.gov; blm_nm_cfo_spill@blm.gov
Cc:	Artesia S&E Spill Remediation; Artesia Regulatory
Subject:	Sawbuck Water Transfer (nJMW1317031601 (2RP-1685), nJMW1327753065 (2RP-1973), nKMW0800954755, nKMW0800954324, nMLB0608954436, nKMW0800954709) Sampling Notification
Date:	May 30, 2023 4:44:29 PM
Attachments:	image001.png

Good afternoon,

EOG Resources, Inc. respectfully submits notification (2) business days prior to conducting sampling on the following location.

Sawbuck Water Transfer
G-23-20S-24E
Eddy County, NM
nJMW1317031601 (2RP-1685), nJMW1327753065 (2RP-1973), nKMW0800954755, nKMW0800954324, nMLB0608954436, nKMW0800954709

Sampling will begin at 9:00 a.m. on Thursday, June 1, 2023, and continue through Wednesday, June 7, 2023.

Thank you,

Tina Huerta
Regulatory Specialist
Direct: 575.748.4168
Cell: 575.703.3121
Email: tina_huerta@eogresources.com

Artesia Division

From:	Chase Settle
To:	Chance Dixon
Subject:	FW: Sawbuck Water Transfer (nJMW1317031601 (2RP-1685), nJMW1327753065 (2RP-1973)) Sampling Notification
Date:	August 28, 2023 7:44:39 AM

From: Miriam Morales <Miriam_Morales@eogresources.com>
Sent: Friday, August 25, 2023 8:22 AM
To: ocd.enviro@emnrd.nm.gov; CFO_Spill, BLM_NM <blm_nm_cfo_spill@blm.gov>
Cc: Artesia Regulatory <Artesia_Regulatory@eogresources.com>; Artesia S&E Spill Remediation <Artesia_S&E_Spill_Remediation@eogresources.com>
Subject: Sawbuck Water Transfer (nJMW1317031601 (2RP-1685), nJMW1327753065 (2RP-1973)) Sampling Notification

Good morning,

EOG Resources, Inc. respectfully submits notification (2) business days prior to conducting sampling on the following location.

Sawbuck Water Transfer
G-23-20S-24E
Eddy County, NM
nJMW1317031601 (2RP-1685), nJMW1327753065 (2RP-1973)

Sampling will begin at 9:00 a.m. on Wednesday, August 30, 2023.

Thank you,

Miriam Morales

APPENDIX E – Laboratory Data Reports and Chain of Custody Forms

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

June 13, 2023

Chance Dixon

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

RE: Sawbuck Water Transfer OrderNo.: 2306177

Dear Chance Dixon:

Hall Environmental Analysis Laboratory received 8 sample(s) on 6/6/2023 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 **2306177**
Date Reported: **6/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-02 0'
Project: Sawbuck Water Transfer **Collection Date:** 6/2/2023 9:25:00 AM
Lab ID: 2306177-001 **Matrix:** SOIL **Received Date:** 6/6/2023 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/7/2023 7:04:49 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/7/2023 7:04:49 PM
Surr: DNOP	92.8	69-147		%Rec	1	6/7/2023 7:04:49 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/10/2023 8:24:21 AM
Surr: BFB	97.7	15-244		%Rec	1	6/10/2023 8:24:21 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	6/10/2023 8:24:21 AM
Toluene	ND	0.048		mg/Kg	1	6/10/2023 8:24:21 AM
Ethylbenzene	ND	0.048		mg/Kg	1	6/10/2023 8:24:21 AM
Xylenes, Total	ND	0.095		mg/Kg	1	6/10/2023 8:24:21 AM
Surr: 4-Bromofluorobenzene	90.8	39.1-146		%Rec	1	6/10/2023 8:24:21 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	140	60		mg/Kg	20	6/8/2023 3:42:19 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	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306177**
Date Reported: **6/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-02 1'
Project: Sawbuck Water Transfer
Collection Date: 6/2/2023 9:30:00 AM
Lab ID: 2306177-002 **Matrix:** SOIL **Received Date:** 6/6/2023 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	16	9.8		mg/Kg	1	6/7/2023 7:15:49 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/7/2023 7:15:49 PM
Surr: DNOP	92.5	69-147		%Rec	1	6/7/2023 7:15:49 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/10/2023 9:34:42 AM
Surr: BFB	99.7	15-244		%Rec	1	6/10/2023 9:34:42 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	6/10/2023 9:34:42 AM
Toluene	ND	0.048		mg/Kg	1	6/10/2023 9:34:42 AM
Ethylbenzene	ND	0.048		mg/Kg	1	6/10/2023 9:34:42 AM
Xylenes, Total	ND	0.097		mg/Kg	1	6/10/2023 9:34:42 AM
Surr: 4-Bromofluorobenzene	92.4	39.1-146		%Rec	1	6/10/2023 9:34:42 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	6/8/2023 3:54:43 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	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306177**
Date Reported: **6/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-02 2'
Project: Sawbuck Water Transfer **Collection Date:** 6/2/2023 9:35:00 AM
Lab ID: 2306177-003 **Matrix:** SOIL **Received Date:** 6/6/2023 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	10	9.4		mg/Kg	1	6/7/2023 7:37:41 PM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	6/7/2023 7:37:41 PM
Surr: DNOP	98.3	69-147		%Rec	1	6/7/2023 7:37:41 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/10/2023 10:45:13 AM
Surr: BFB	98.1	15-244		%Rec	1	6/10/2023 10:45:13 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.023		mg/Kg	1	6/10/2023 10:45:13 AM
Toluene	ND	0.047		mg/Kg	1	6/10/2023 10:45:13 AM
Ethylbenzene	ND	0.047		mg/Kg	1	6/10/2023 10:45:13 AM
Xylenes, Total	ND	0.093		mg/Kg	1	6/10/2023 10:45:13 AM
Surr: 4-Bromofluorobenzene	92.4	39.1-146		%Rec	1	6/10/2023 10:45:13 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	6/8/2023 4:07:08 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	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306177**
Date Reported: **6/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-02 3'
Project: Sawbuck Water Transfer **Collection Date:** 6/2/2023 9:40:00 AM
Lab ID: 2306177-004 **Matrix:** SOIL **Received Date:** 6/6/2023 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	9.6	8.9		mg/Kg	1	6/7/2023 7:59:26 PM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	6/7/2023 7:59:26 PM
Surr: DNOP	101	69-147		%Rec	1	6/7/2023 7:59:26 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/10/2023 11:08:46 AM
Surr: BFB	98.0	15-244		%Rec	1	6/10/2023 11:08:46 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	6/10/2023 11:08:46 AM
Toluene	ND	0.049		mg/Kg	1	6/10/2023 11:08:46 AM
Ethylbenzene	ND	0.049		mg/Kg	1	6/10/2023 11:08:46 AM
Xylenes, Total	ND	0.097		mg/Kg	1	6/10/2023 11:08:46 AM
Surr: 4-Bromofluorobenzene	91.2	39.1-146		%Rec	1	6/10/2023 11:08:46 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	6/8/2023 4:19:32 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	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2306177**
Date Reported: **6/13/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Vertex Resources Services, Inc. **Client Sample ID:** BH23-02 4'
Project: Sawbuck Water Transfer **Collection Date:** 6/2/2023 9:45:00 AM
Lab ID: 2306177-005 **Matrix:** SOIL **Received Date:** 6/6/2023 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	13	9.7		mg/Kg	1	6/7/2023 8:21:10 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/7/2023 8:21:10 PM
Surr: DNOP	88.6	69-147		%Rec	1	6/7/2023 8:21:10 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/10/2023 11:32:14 AM
Surr: BFB	97.4	15-244		%Rec	1	6/10/2023 11:32:14 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.025		mg/Kg	1	6/10/2023 11:32:14 AM
Toluene	ND	0.050		mg/Kg	1	6/10/2023 11:32:14 AM
Ethylbenzene	ND	0.050		mg/Kg	1	6/10/2023 11:32:14 AM
Xylenes, Total	ND	0.099		mg/Kg	1	6/10/2023 11:32:14 AM
Surr: 4-Bromofluorobenzene	91.3	39.1-146		%Rec	1	6/10/2023 11:32:14 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	6/8/2023 4:31:57 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	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Separate Incident - Later Closure Report

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2306177**
Date Reported: **6/13/2023**

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-03 0'
Project: Sawbuck Water Transfer
Collection Date: 6/2/2023 9:50:00 AM
Lab ID: 2306177-006 **Matrix:** SOIL **Received Date:** 6/6/2023 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	6/7/2023 8:42:52 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/7/2023 8:42:52 PM
Surr: DNOP	89.8	69-147		%Rec	1	6/7/2023 8:42:52 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	6/10/2023 11:55:41 AM
Surr: BFB	98.3	15-244		%Rec	1	6/10/2023 11:55:41 AM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	6/10/2023 11:55:41 AM
Toluene	ND	0.048		mg/Kg	1	6/10/2023 11:55:41 AM
Ethylbenzene	ND	0.048		mg/Kg	1	6/10/2023 11:55:41 AM
Xylenes, Total	ND	0.097		mg/Kg	1	6/10/2023 11:55:41 AM
Surr: 4-Bromofluorobenzene	92.7	39.1-146		%Rec	1	6/10/2023 11:55:41 AM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	6/8/2023 5:09:11 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Separate Incident - Later Closure Report

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2306177**
Date Reported: **6/13/2023**

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-04 0'
Project: Sawbuck Water Transfer
Collection Date: 6/2/2023 9:55:00 AM
Lab ID: 2306177-007 **Matrix:** SOIL **Received Date:** 6/6/2023 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	6/7/2023 8:53:44 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	6/7/2023 8:53:44 PM
Surr: DNOP	90.4	69-147		%Rec	1	6/7/2023 8:53:44 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/10/2023 12:19:11 PM
Surr: BFB	98.9	15-244		%Rec	1	6/10/2023 12:19:11 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	ND	0.024		mg/Kg	1	6/10/2023 12:19:11 PM
Toluene	ND	0.047		mg/Kg	1	6/10/2023 12:19:11 PM
Ethylbenzene	ND	0.047		mg/Kg	1	6/10/2023 12:19:11 PM
Xylenes, Total	ND	0.095		mg/Kg	1	6/10/2023 12:19:11 PM
Surr: 4-Bromofluorobenzene	93.4	39.1-146		%Rec	1	6/10/2023 12:19:11 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	6/8/2023 5:21:36 PM

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Separate Incident - Later Closure Report

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2306177**
Date Reported: **6/13/2023**

CLIENT: Vertex Resources Services, Inc.
Client Sample ID: BH23-05 0'
Project: Sawbuck Water Transfer
Collection Date: 6/2/2023 10:00:00 AM
Lab ID: 2306177-008 **Matrix:** SOIL
Received Date: 6/6/2023 8:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	6/7/2023 9:04:39 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	6/7/2023 9:04:39 PM
Surr: DNOP	91.6	69-147		%Rec	1	6/7/2023 9:04:39 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **JJP**
Gasoline Range Organics (GRO)	6.8	4.8		mg/Kg	1	6/10/2023 12:42:43 PM
Surr: BFB	109	15-244		%Rec	1	6/10/2023 12:42:43 PM
EPA METHOD 8021B: VOLATILES						Analyst: **JJP**
Benzene	0.028	0.024		mg/Kg	1	6/10/2023 12:42:43 PM
Toluene	0.17	0.048		mg/Kg	1	6/10/2023 12:42:43 PM
Ethylbenzene	0.061	0.048		mg/Kg	1	6/10/2023 12:42:43 PM
Xylenes, Total	0.46	0.096		mg/Kg	1	6/10/2023 12:42:43 PM
Surr: 4-Bromofluorobenzene	95.3	39.1-146		%Rec	1	6/10/2023 12:42:43 PM
EPA METHOD 300.0: ANIONS						Analyst: **JMT**
Chloride	ND	60		mg/Kg	20	6/8/2023 5:34:01 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	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306177**

13-Jun-23

Client: Vertex Resources Services, Inc.

Project: Sawbuck Water Transfer

Sample ID: **MB-75461**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **75461**	RunNo: **97318**
Prep Date: **6/8/2023**	Analysis Date: **6/8/2023**	SeqNo: **3535350** Units: **mg/Kg**

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

Sample ID: **LCS-75461**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **75461**	RunNo: **97318**
Prep Date: **6/8/2023**	Analysis Date: **6/8/2023**	SeqNo: **3535352** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.0	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306177**

13-Jun-23

Client: Vertex Resources Services, Inc.

Project: Sawbuck Water Transfer

Sample ID: **LCS-75370**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **75370**	RunNo: **97270**
Prep Date: **6/6/2023**	Analysis Date: **6/7/2023**	SeqNo: **3533132** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.4		5.000		108	69	147			

Sample ID: **LCS-75399**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **75399**	RunNo: **97270**
Prep Date: **6/6/2023**	Analysis Date: **6/7/2023**	SeqNo: **3533133** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.3		5.000		86.4	69	147			

Sample ID: **LCS-75406**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **75406**	RunNo: **97270**
Prep Date: **6/7/2023**	Analysis Date: **6/7/2023**	SeqNo: **3533134** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.2	61.9	130			
Surr: DNOP	4.7		5.000		93.1	69	147			

Sample ID: **MB-75370**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **75370**	RunNo: **97270**
Prep Date: **6/6/2023**	Analysis Date: **6/7/2023**	SeqNo: **3533136** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		109	69	147			

Sample ID: **MB-75399**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **75399**	RunNo: **97270**
Prep Date: **6/6/2023**	Analysis Date: **6/7/2023**	SeqNo: **3533137** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.6		10.00		96.3	69	147			

Sample ID: **MB-75406**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **75406**	RunNo: **97270**
Prep Date: **6/7/2023**	Analysis Date: **6/7/2023**	SeqNo: **3533138** 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	9.5		10.00		95.3	69	147			

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 standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306177**

13-Jun-23

Client: Vertex Resources Services, Inc.

Project: Sawbuck Water Transfer

Sample ID: **lcs-75393**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **75393**	RunNo: **97323**
Prep Date: **6/6/2023**	Analysis Date: **6/10/2023**	SeqNo: **3537032** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	88.4	70	130			
Surr: BFB	1900		1000		192	15	244			

Sample ID: **mb-75393**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **75393**	RunNo: **97323**
Prep Date: **6/6/2023**	Analysis Date: **6/10/2023**	SeqNo: **3537034** 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	960		1000		95.8	15	244			

Sample ID: **2306177-001ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-02 0'**	Batch ID: **75393**	RunNo: **97323**
Prep Date: **6/6/2023**	Analysis Date: **6/10/2023**	SeqNo: **3537047** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.8	23.95	0	93.2	70	130			
Surr: BFB	1900		957.9		201	15	244			

Sample ID: **2306177-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **BH23-02 0'**	Batch ID: **75393**	RunNo: **97323**
Prep Date: **6/6/2023**	Analysis Date: **6/10/2023**	SeqNo: **3537048** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.8	24.04	0	95.0	70	130	2.30	20	
Surr: BFB	2000		961.5		203	15	244	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 standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2306177**

13-Jun-23

Client: Vertex Resources Services, Inc.

Project: Sawbuck Water Transfer

Sample ID: **LCS-75393**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **75393**	RunNo: **97323**
Prep Date: **6/6/2023**	Analysis Date: **6/10/2023**	SeqNo: **3537094** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.1	70	130			
Toluene	0.90	0.050	1.000	0	90.5	70	130			
Ethylbenzene	0.89	0.050	1.000	0	88.8	70	130			
Xylenes, Total	2.7	0.10	3.000	0	90.0	70	130			
Surr: 4-Bromofluorobenzene	0.94		1.000		94.1	39.1	146			

Sample ID: **mb-75393**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **75393**	RunNo: **97323**
Prep Date: **6/6/2023**	Analysis Date: **6/10/2023**	SeqNo: **3537096** 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	0.90		1.000		89.7	39.1	146			

Sample ID: **2306177-002ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-02 1'**	Batch ID: **75393**	RunNo: **97323**
Prep Date: **6/6/2023**	Analysis Date: **6/10/2023**	SeqNo: **3537107** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.024	0.9709	0	90.7	70	130			
Toluene	0.88	0.049	0.9709	0	90.9	70	130			
Ethylbenzene	0.89	0.049	0.9709	0	91.4	70	130			
Xylenes, Total	2.7	0.097	2.913	0	91.6	70	130			
Surr: 4-Bromofluorobenzene	0.92		0.9709		94.8	39.1	146			

Sample ID: **2306177-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BH23-02 1'**	Batch ID: **75393**	RunNo: **97323**
Prep Date: **6/6/2023**	Analysis Date: **6/10/2023**	SeqNo: **3537108** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.024	0.9737	0	90.5	70	130	0.137	20	
Toluene	0.89	0.049	0.9737	0	91.8	70	130	1.28	20	
Ethylbenzene	0.89	0.049	0.9737	0	91.1	70	130	0.103	20	
Xylenes, Total	2.7	0.097	2.921	0	92.2	70	130	0.941	20	
Surr: 4-Bromofluorobenzene	0.93		0.9737		95.2	39.1	146	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 standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Vertex Resources Services, Inc.

Work Order Number: 2306177

RcptNo: 1

Received By: Joseph Alderette 6/6/2023 8:35:00 AM

Completed By: Tracy Casarrubias 6/6/2023 8:48:47 AM

Reviewed By: 6-6-23

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

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

Adjusted? _____

Checked by: 6/6/23

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: Mailing address, phone number and Email are missing on COC- TMC 6/6/23

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.8	Good	Yes	Morty		

Chain-of-Custody Record

Client: EOG / 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:
☐ Standard ☒ Rush 5 Day

Project Name: Sawbuck Water Transfer

Project #: 22E-00123-03

Project Manager: Chance Dixon

Sampler: Hunter Klein

On Ice: ☑ Yes ☐ No

# of Coolers: 1 (marty)

Cooler Temp (including CF): 5.7 +0.1 = 5.8 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.
6/2/23	9:25	Soil	BHZ3-02 0'	4 oz	Ice	-001
	9:30		BHZ3-02 1'			-002
	9:35		BHZ3-02 2'			-003
	9:40		BHZ3-02 3'			-004
	9:45		BHZ3-02 4'			-005
	9:50		BHZ3-03 0'			-006
	9:55		BHZ3-04 0'			-007
	10:00		BHZ3-05 0'			-008

Analysis Request

BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
✓	✓					✓			

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
6/5/23	1015	Hunter Klein			6/5/23	1015
6/5/23	1900			courier	6/6/23	8:35

Remarks: CC: analytical@vertex
Direct Bill EOG

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.

Separate Incident - Later Closure Report

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

September 11, 2023

Chance Dixon

EOG
105 South Fourth Street
Artesia, NM 88210
TEL:
FAX:

RE: Sawbuck Water Transfer OrderNo.: 2309003

Dear Chance Dixon:

Hall Environmental Analysis Laboratory received 4 sample(s) on 9/1/2023 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 **2309003**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG **Client Sample ID:** BH23-07 0'
Project: Sawbuck Water Transfer **Collection Date:** 8/30/2023 9:30:00 AM
Lab ID: 2309003-001 **Matrix:** MEOH (SOIL) **Received Date:** 9/1/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SNS**	
Chloride	ND	60		mg/Kg	20	9/1/2023 11:19:41 AM	77256
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**	
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	9/1/2023 11:07:42 AM	77248
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	9/1/2023 11:07:42 AM	77248
Surr: DNOP	86.1	69-147		%Rec	1	9/1/2023 11:07:42 AM	77248
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**	
Gasoline Range Organics (GRO)	ND	3.1		mg/Kg	1	9/1/2023 11:14:00 AM	G99415
Surr: BFB	95.5	15-244		%Rec	1	9/1/2023 11:14:00 AM	G99415
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**	
Benzene	ND	0.016		mg/Kg	1	9/1/2023 11:14:00 AM	R99415
Toluene	ND	0.031		mg/Kg	1	9/1/2023 11:14:00 AM	R99415
Ethylbenzene	ND	0.031		mg/Kg	1	9/1/2023 11:14:00 AM	R99415
Xylenes, Total	ND	0.062		mg/Kg	1	9/1/2023 11:14:00 AM	R99415
Surr: 4-Bromofluorobenzene	91.2	39.1-146		%Rec	1	9/1/2023 11:14:00 AM	R99415

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	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309003**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG **Client Sample ID:** BH23-07 1'
Project: Sawbuck Water Transfer **Collection Date:** 8/30/2023 9:40:00 AM
Lab ID: 2309003-002 **Matrix:** MEOH (SOIL) **Received Date:** 9/1/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SNS**	
Chloride	ND	60		mg/Kg	20	9/1/2023 11:32:05 AM	77256
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**	
Diesel Range Organics (DRO)	ND	6.3		mg/Kg	1	9/1/2023 11:18:10 AM	77248
Motor Oil Range Organics (MRO)	ND	31		mg/Kg	1	9/1/2023 11:18:10 AM	77248
Surr: DNOP	86.5	69-147		%Rec	1	9/1/2023 11:18:10 AM	77248
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**	
Gasoline Range Organics (GRO)	ND	2.3		mg/Kg	1	9/1/2023 11:36:00 AM	G99415
Surr: BFB	97.1	15-244		%Rec	1	9/1/2023 11:36:00 AM	G99415
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**	
Benzene	ND	0.011		mg/Kg	1	9/1/2023 11:36:00 AM	R99415
Toluene	ND	0.023		mg/Kg	1	9/1/2023 11:36:00 AM	R99415
Ethylbenzene	ND	0.023		mg/Kg	1	9/1/2023 11:36:00 AM	R99415
Xylenes, Total	ND	0.046		mg/Kg	1	9/1/2023 11:36:00 AM	R99415
Surr: 4-Bromofluorobenzene	92.5	39.1-146		%Rec	1	9/1/2023 11:36:00 AM	R99415

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	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309003**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG **Client Sample ID:** BH23-08 0'
Project: Sawbuck Water Transfer **Collection Date:** 8/30/2023 9:50:00 AM
Lab ID: 2309003-003 **Matrix:** MEOH (SOIL) **Received Date:** 9/1/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SNS**	
Chloride	ND	60		mg/Kg	20	9/1/2023 11:44:30 AM	77256
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**	
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	9/1/2023 11:28:39 AM	77248
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	9/1/2023 11:28:39 AM	77248
Surr: DNOP	89.5	69-147		%Rec	1	9/1/2023 11:28:39 AM	77248
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**	
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	9/1/2023 11:58:00 AM	G99415
Surr: BFB	94.8	15-244		%Rec	1	9/1/2023 11:58:00 AM	G99415
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**	
Benzene	ND	0.019		mg/Kg	1	9/1/2023 11:58:00 AM	R99415
Toluene	ND	0.038		mg/Kg	1	9/1/2023 11:58:00 AM	R99415
Ethylbenzene	ND	0.038		mg/Kg	1	9/1/2023 11:58:00 AM	R99415
Xylenes, Total	ND	0.076		mg/Kg	1	9/1/2023 11:58:00 AM	R99415
Surr: 4-Bromofluorobenzene	89.8	39.1-146		%Rec	1	9/1/2023 11:58:00 AM	R99415

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	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2309003**
Date Reported: **9/11/2023**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG **Client Sample ID:** BH23-08 1'
Project: Sawbuck Water Transfer **Collection Date:** 8/30/2023 10:00:00 AM
Lab ID: 2309003-004 **Matrix:** MEOH (SOIL) **Received Date:** 9/1/2023 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **SNS**	
Chloride	ND	60		mg/Kg	20	9/1/2023 11:56:54 AM	77256
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **PRD**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/1/2023 11:39:09 AM	77248
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/1/2023 11:39:09 AM	77248
Surr: DNOP	88.1	69-147		%Rec	1	9/1/2023 11:39:09 AM	77248
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **KMN**	
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	9/1/2023 12:20:00 PM	G99415
Surr: BFB	96.2	15-244		%Rec	1	9/1/2023 12:20:00 PM	G99415
EPA METHOD 8021B: VOLATILES						Analyst: **KMN**	
Benzene	ND	0.018		mg/Kg	1	9/1/2023 12:20:00 PM	R99415
Toluene	ND	0.036		mg/Kg	1	9/1/2023 12:20:00 PM	R99415
Ethylbenzene	ND	0.036		mg/Kg	1	9/1/2023 12:20:00 PM	R99415
Xylenes, Total	ND	0.071		mg/Kg	1	9/1/2023 12:20:00 PM	R99415
Surr: 4-Bromofluorobenzene	92.1	39.1-146		%Rec	1	9/1/2023 12:20:00 PM	R99415

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	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2309003**

11-Sep-23

Client: EOG

Project: Sawbuck Water Transfer

Sample ID: **MB-77256**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **77256**	RunNo: **99424**
Prep Date: **9/1/2023**	Analysis Date: **9/1/2023**	SeqNo: **3629903** Units: **mg/Kg**

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

Sample ID: **LCS-77256**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **77256**	RunNo: **99424**
Prep Date: **9/1/2023**	Analysis Date: **9/1/2023**	SeqNo: **3629904** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	16	1.5	15.00	0	105	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 standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2309003**

11-Sep-23

Client: EOG

Project: Sawbuck Water Transfer

Sample ID: **LCS-77248**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **77248**	RunNo: **99417**
Prep Date: **9/1/2023**	Analysis Date: **9/1/2023**	SeqNo: **3628404** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	85.3	61.9	130			
Surr: DNOP	4.4		5.000		87.6	69	147			

Sample ID: **MB-77248**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **77248**	RunNo: **99417**
Prep Date: **9/1/2023**	Analysis Date: **9/1/2023**	SeqNo: **3628405** 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	8.6		10.00		86.3	69	147			

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 standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2309003**

11-Sep-23

Client: EOG

Project: Sawbuck Water Transfer

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **R99415**	RunNo: **99415**
Prep Date:	Analysis Date: **9/1/2023**	SeqNo: **3628340** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2200		1000		216	15	244			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **R99415**	RunNo: **99415**
Prep Date:	Analysis Date: **9/1/2023**	SeqNo: **3628341** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		100	15	244			

Sample ID: **lcs-77209**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **77209**	RunNo: **99415**
Prep Date: **8/30/2023**	Analysis Date: **9/1/2023**	SeqNo: **3629500** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2200		1000		216	15	244			

Sample ID: **mb-77209**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **77209**	RunNo: **99415**
Prep Date: **8/30/2023**	Analysis Date: **9/1/2023**	SeqNo: **3629501** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	980		1000		98.1	15	244			

Sample ID: **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **R99415**	RunNo: **99415**
Prep Date:	Analysis Date: **9/2/2023**	SeqNo: **3629541** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	2100		1000		211	15	244			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **R99415**	RunNo: **99415**
Prep Date:	Analysis Date: **9/2/2023**	SeqNo: **3629542** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		102	15	244			

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 standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2309003**

11-Sep-23

Client: EOG

Project: Sawbuck Water Transfer

Sample ID: **100ng btex lcs**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **R99415**	RunNo: **99415**
Prep Date:	Analysis Date: **9/1/2023**	SeqNo: **3628346** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	89.9	70	130			
Toluene	0.90	0.050	1.000	0	90.0	70	130			
Ethylbenzene	0.93	0.050	1.000	0	92.6	70	130			
Xylenes, Total	2.8	0.10	3.000	0	92.9	70	130			
Surr: 4-Bromofluorobenzene	0.94		1.000		93.8	39.1	146			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **R99415**	RunNo: **99415**
Prep Date:	Analysis Date: **9/1/2023**	SeqNo: **3628347** 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	0.93		1.000		92.9	39.1	146			

Sample ID: **lcs-77209**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **77209**	RunNo: **99415**
Prep Date: **8/30/2023**	Analysis Date: **9/1/2023**	SeqNo: **3629583** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.91		1.000		90.9	39.1	146			

Sample ID: **mb-77209**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **77209**	RunNo: **99415**
Prep Date: **8/30/2023**	Analysis Date: **9/1/2023**	SeqNo: **3629584** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.91		1.000		90.6	39.1	146			

Sample ID: **100ng btex lcs**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **R99415**	RunNo: **99415**
Prep Date:	Analysis Date: **9/2/2023**	SeqNo: **3629607** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	91.7	70	130			
Toluene	0.92	0.050	1.000	0	91.7	70	130			
Ethylbenzene	0.93	0.050	1.000	0	93.1	70	130			
Xylenes, Total	2.8	0.10	3.000	0	93.2	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 standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2309003**

11-Sep-23

Client: EOG

Project: Sawbuck Water Transfer

Sample ID: **100ng btex lcs**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **R99415**	RunNo: **99415**
Prep Date:	Analysis Date: **9/2/2023**	SeqNo: **3629607** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.92		1.000		92.3	39.1	146			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **R99415**	RunNo: **99415**
Prep Date:	Analysis Date: **9/2/2023**	SeqNo: **3629608** 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	0.93		1.000		93.4	39.1	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: EOG | Work Order Number: 2309003 | RcptNo: 1

Received By: **Steve McQuiston** 9/1/2023 7:35:00 AM

Completed By: **Desiree Dominguez** 9/1/2023 8:04:24 AM

Reviewed By: 9/1/23

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☐	No ☐	NA ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: SCM 9/1/23

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:

client phone, e-mail , and fax not provided on COC. -DAD 9/1/23

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.4	Good	Not Present	Yogi		

Chain-of-Custody Record

Client: EOG/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: ~~2 Day~~ same Day
☐ Standard ☑ Rush

Project Name: Sawbuck Water transfer

Project #: 22E-00123-03

Project Manager: Chance Dixon

Sampler: CD

On Ice: ☒ Yes ☐ No

# of Coolers: 1 (VG)

Cooler Temp(including CF): 4.4-0=4.4 (°C)

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. 2308	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)
8/30/23	9:30	Soil	BH23-07 0'	4oz	Ice	2309003-001	✓	✓					✓			
"	9:40	"	BH23-07 1'	"	"	-002	"	"					"			
"	9:50	"	BH23-08 0'	"	"	-003	"	"					"			
"	10:00	"	BH23-08 1'	"	"	-004	"	"					"			

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
8/31	920				8/31/23	920
8/31/23	1910		SCM	COURIER	9/1/23	0735

Remarks: Direct Bill EOG

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 265346

CONDITIONS

Operator: EOG RESOURCES INC P.O. Box 2267 Midland, TX 79702	OGRID: 7377
	Action Number: 265346
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bhall	Closure approved. Site must meet all requirements of 19.15.29.13 NMAC.	9/19/2023