State of New Mexico
Oil Conservation Division

Incident ID	nAPP2209041864
District RP	
Facility ID	
Application ID	94798

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: Kurt A. Shipley Title: Chief Operating Officer

Signature: Date: 06/07/2023

email: kshipley@novoog.com Telephone: 405-286-3916

OCD Only

Received by: Robert Hamlet Date: 11/13/2023

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: Robert Hamlet Date: 11/13/2023

Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

Release Response Action Completion & Closure Report
Incident ID No. nAPP2209041864
Novo Oil & Gas – Hades North Loop - Produced Water Release
Discovery Date: March 28, 2022
Eddy County, New Mexico

Prepared for:
Novo Oil & Gas Northern Delaware, LLC
1001 West Wilshire Blvd., Suite 206
Oklahoma City, Oklahoma 73116

Prepared By:

Altamira-US
Bryan Haney, P.G. TX 929
Corpus Christi, Texas 78418
(361)658-3126

June 7, 2023

ALTAMIRA

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ACRONYMS AND ABBREVIATIONS

Altamira	Altamira-US, LLC
Novo	Novo Oil & Gas Northern Delaware, LLC
bgs	below ground surface
mg/Kg	milligram per kilogram
NMOCD	New Mexico Oil Conservation District
TPH	Total Petroleum Hydrocarbons
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes

1.0 INTRODUCTION

Novo Oil & Gas Northern Delaware, LLC (Novo Oil & Gas) (OGRID No. 372920) operates a facility known as the "Hades North Loop" located in Field Name Purple Sage – Wolfcamp, T23S, R28E, Section 1, in Eddy County, New Mexico. On March 28, 2022, field personnel for Novo Oil & Gas discovered a release of produced water from a subsurface permanent produced water line. The produced water line and point of release is located in an open area near the produced water pipeline intersection near the site location (BLM owned property). The release area is located approximately 1.6 miles northwest of the intersection of Highway 605 and Highway 31, latitude 32.3405953, longitude W-104.0455863 **(Figure 1 and Figure 2)**. This Release Response Action & Closure Report has been prepared to document response actions and site closure efforts.

1.1 Release Details and Initial Response

On March 28, 2022, at approximately 6:30 am a release of produced water occurred as a result of a rupture on the permanent sub-grade produced water pipeline. Approximately 730 barrels of produced water was released into the area topographically down gradient of the point of rupture between two pipeline areas (bermed areas). The release occurred from an undetermined puncture or opening on the black polyethylene pipe that was located below grade. The release area is depicted on **Figure 3**.

The release of produced water was identified by Novo Oil & Gas personnel and steps were taken to mitigate further release and contain and remove pooled areas of produced water. Novo Oil & Gas estimated approximately 730 barrels of produced water was released and approximately 300 barrels of produced water was recovered using vacuum trucks. The justification for the quantity release is based on the following:

- Water rate on the receiving end of Hades North Loop was 18,000 barrels of produced water per day.
- During the time of the rupture, the SCADA system was recording a rate of 11,0000 barrels per day.
- The difference of flow rate was approximately 7,000 barrels per day over a 2.5 hour time period (4:00 am – 6:30am).
- Total volume released is approximately 7,000 barrels per day/ 24 hours = 292 barrels x 2.5 hours = 730 barrels of produced water.

The area of the release occurred generally between the two raised pipeline segments located on each side of the area within the easement.

1.2 Notification

Based on the quantity of produced water released being greater than 25 barrels, the release was determined to be a major release per 19.15.29.7.A NMAC. Immediate notification was provided by Kurt Shipley to the NMOCD and BLM hotlines on March 28, 2022. The initial online release notification C-141 was submitted to the New Mexico Oil Conservation District (NMOCD) on March 31, 2022. The OCD issued incident ID# nAPP2209041864 and approval dated April 5, 2022.

The C-141 Release Notification Form was submitted to the online portal on April 5, 2022 **(Attachment A)**. The BLM MUE was submitted to the BLM on March 28, 2022 **(Attachment A)**.

1.3 Project Objectives

The project objectives were to: 1) conduct release cleanup efforts, 2) physically remove affected soil containing constituent concentrations that exceed the NMOCD cleanup levels with groundwater greater than 51 feet, and 3) restore and reclaim the remediated areas.

1.4 Regulatory Framework

The Site is subject to environmental regulatory oversight by the NMOCD. Notification, assessment, and response action activities were conducted in accordance with guidelines outlined in 19.15.29 NMAC. The release occurred on property owned by the BLM. Novo will provide all documentation and this Release Response Action Completion and Site Closure Report to the BLM.

2.0 STANDARD OF CARE, LIMITATIONS, & RELIANCE

2.1 Standard of Care

Altamira's services were performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same period of time. Altamira makes no warranties, expressed or implied, as to the services performed hereunder. Additionally, Altamira does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report.

2.2 Additional Limitations

Findings, conclusions and recommendations resulting from these services are based upon information derived from the services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, or not present during these services, and Altamira cannot represent that the Site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this scope of services. Environmental conditions at other areas or portions of the Site may vary from those encountered at actual sample locations. Altamira's findings and recommendations are based solely upon data available to Altamira at the time of these services.

3.0 RECEPTOR AND WATER SOURCES SURVEY

3.1 Wellhead Protection Discussion

During assessment field activities, Altamira field personnel conducted a 0.5-mile radius search of the surrounding area to determine the presence of any known private or domestic water sources. During the search, no water wells or springs were identified within 0.5 miles of the release area.

Altamira also reviewed available maps, satellite imagery, and reviewed the New Mexico Office of the State Engineers GIS database to search for known water wells. In review of the State Engineers GIS database, no water wells, monitoring wells or other subsurface water conveyances were identified within 0.5 miles of the release area.

Based on review of the FEMA Flood Map for the site area, the release area is located in Zone X "Area of Minimal Flood Hazard" (FIRM Panel 35015C1350D).

3.2 Significant Water Source Discussion

Altamira conducted a review of the significant watercourses nearest the release area. The Pecos River is located approximately 1.1 miles southwest of the Site. The release did not result in any adverse effects to the Pecos River. Salt Lake is located approximately 2.6 miles southeast of the Site area. No other watercourses were identified within a 0.5-mile radius of the release area.

3.3 Determination of Depth to Groundwater

Soil boring SB-11 was installed north of the point of release and was advanced to a depth of 51-feet below ground surface. The purpose of advancing soil boring SB-11 to 51-feet was to determine if groundwater was present below 51-feet. During boring advancement, variations of dry unconsolidated soil and rock were observed. During advancement of soil boring SB-11, groundwater (saturation) was not encountered. The borehole was advanced to 51 feet below ground surface and allowed to stay open for a period of time to monitor for the presence of groundwater. The non-presence of groundwater was verified with an electronic water level probe.

Based on the lines of evidence provided above, groundwater is not present from the surface to 51-feet below ground surface in the area of the release. Based on this site-specific information, analytical data results for soil deeper than four feet will be compared to Closure Criteria for Soils based on groundwater encountered at depths greater than 51 feet below ground surface. This includes comparison of soil sample results below four feet to cleanup standards for chlorides to 10,000 mg/kg, total TPH to 2,500 mg/kg (TPH C6 – C28 less than 1,000 mg/kg). Note that TPH and BTEX were not technically required to be analyzed and a variance to remove TPH and BTEX from further laboratory analysis was approved by the NMOCD on October 28, 2022 (**Attachment A**).

4.0 REMEDIATION

A Site Assessment Report was submitted to the NMOCD and BLM on July 26, 2022. The Remediation and Reclamation Plan was submitted to the NMOCD and BLM on September 2, 2022, and approved on October 13, 2022.

Remediation of shallow soils along the general release flow path was necessary due to chloride concentrations greater than 600 mg/kg in the upper four feet of the soil profile. Affected soil in the flow path areas was excavated and removed at various depths based on soil assessment results and excavation confirmation soil sample results. The response action excavation and sample grids are presented on **Figure 4A and 4B**.

Remediation of affected soil began in March 7, 2023. Soil remediation was conducted using mechanical and hydro-excavation soil removal methods. The upper four feet of non-wasting soil material was evaluated based on the strictest cleanup levels established by the NMOCD (refer to **Table 1**). Soil below four feet was evaluated based on NMOCD standards for depth to water greater than 51 feet below ground surface. This evaluation was presented and approved by the NMOCD (December 7, 2022) associated with the Site Assessment Report dated September 2, 2022 and approved remediation plan.

Excavated soil was loaded into trucks for transport and disposal at the LeaLand, LLC disposal facility located at mile marker 64 US Highway 62/180 between Carlsbad and Hobbs, New Mexico (Permit Number WM-01-035 – New Mexico).

Confirmation soil sampling was conducted to determine the effectiveness of soil remediation efforts. Details regarding the affected soil remediation and post excavation confirmation soil sampling are provided below. Site photographs are provided in **Appendix B**. Field note documentation is provided in **Appendix D**.

4.1 Confirmation Soil Sampling and Analysis Plan

Confirmation soil samples collected post excavation were analyzed by Cardinal Laboratories in Hobbs, New Mexico, accredited by the National Environmental Laboratory Accreditation Program (NELAP) for environmental sample analysis requirements. The sampling program and laboratory methods used for the analysis for the project are listed in the following table. Altamira utilized the Oil Conservation Commission guidance and regulations under Title 19, Chapter 15, Part 29 to address the release and constituents of concern. The executed chain-of-custody documents and laboratory reports are provided in **Appendix F.**

Sample Type	Analysis	Laboratory Method
Soil	Total Petroleum Hydrocarbons (TPH)	8015M
Soil	Chlorides	4500-Cl-B

4.2 Soil Remediation Activities

Remediation efforts began on March 7, 2023 and were completed on May 4, 2023, including affected soil remediation and Site reclamation. Novo contracted a third-party construction company to conduct the soil excavation, backfilling, loading, and hauling. Excavated soil was either stockpiled on plastic sheeting or directly loaded to trucks. Soil within each grid was initially excavated to depths corresponding with soil assessment analytical data results and were extended deeper or wider as needed until Closure Criteria were met. A grid system was established to identify the excavation areas and 200-square foot (or less) confirmation soil sample grid areas. The sample grids were measured and marked with wooden stakes and or located using a Tremble GPS unit. The sample grids and sample IDs are depicted on **Figures 4A and**

4B. The overall dimensions of the remediated and reclaimed area were approximately 870 feet in length by 150 feet wide.

Following excavation at each grid, confirmation soil samples were collected and submitted to Cardinal Laboratories for analysis.

Confirmation floor and side-wall soil samples were collected within each 200 square foot (or less) grid and consisted of a 5-point composite sample (generally one from the center and one outward near each corner area). Since a variance was provided by the NMOCD to eliminated TPH and BTEX, confirmation soil samples were analyzed for chlorides. Soil samples in areas requiring further lateral delineation were also analyzed for TPH. Analytical results for each confirmation grid sample were evaluated to the most stringent criteria per *Table I – Closure Criteria for Soils Impacted by a Release* in the upper 4 feet of soil profile. Soil below four feet was evaluated based on NMOCD standards for depth to water greater than 51 feet below ground surface. Analytical data results are presented on **Table 1**. If analytical data results showed a chemical constituent exceeded the Closure Criteria Level, soil in that particular grid area was further excavated downward and resampled. Laboratory analysis for soil samples for grids that were further excavated were only analyzed for those chemical constituents that previously exceeded the Closure Criteria Level in the previous depth interval. This process continued until the concentration of all targeted chemical constituents were below the respective Closure Criteria Levels for soils in the upper four feet and below four feet.

4.3 Waste Management

As described above, affected soil associated with the release was transported to the LeaLand, LLC disposal facility located at mile marker 64 US Highway 62/180 between Carlsbad and Hobbs, New Mexico (Permit Number WM-01-035 – New Mexico). A New Mexico Non-Hazardous Oilfield Waste Manifest was prepared for each truck load of soil material. Manifests are provided in **Appendix E**. A total of 14,723 tons of soil were transported and disposed for the remediation effort.

5.0 DATA RESULTS & EVALUATION

Altamira utilized guidance from 19.15.29 NMAC, specifically *Table I - Closure Criteria for Soils Impacted by a Release* to assess soil sample analytical data collected at the Site. Depth to groundwater near the site was investigated and determined to be greater than 51 feet below ground surface. The most stringent closure criteria action levels were utilized to evaluate analytical results for remediation in the 0-4' soil interval. Closure criteria for soils located below four feet were utilized to evaluate soil sample results below four feet. Analytical results are provided in **Table 1** and Laboratory Analytical Data Reports are provided in **Appendix F**.

As previously described, work and confirmation soil sample grids and side-walls were measured and marked on grid areas (less than 200 square feet). The overall grid area was set-up in a conservative manner so that grids included known and suspected affected soil areas, but also overlapped into known unaffected soil areas. The remediation area and associated sample grids are depicted on **Figures 4A and 4B**.

5.1 Confirmation Soil Sampling Results

5.1.1 Chlorides

All confirmation soil samples were analyzed for chlorides to determine completion of soil remediation. Analytical results for chlorides showed elevated concentrations in multiple grids in soil samples collected in the upper four feet. Those grids were extended to four feet below ground surface and sampled from 4-4.5' for analysis of chlorides. Chloride results in the upper four feet were remediated to the Closure Criteria of 600 mg/kg. Chloride results below the upper four feet were remediated to the Closure Criteria of 10,000 mg/kg. **Remediation of chlorides in soil has been completed.**

5.1.2 TPH

TPH was only detected in one soil sample during the soil assessment with a result that was below 100 mg/kg. The NMOCD approved a variance to removed TPH from further consideration; however, the NMOCD asked that TPH be analyzed on floor and side-wall samples only where definition of TPH may be in question. As a result, TPH was analyzed on selected floor and side-wall samples.

Analytical results showed TPH concentrations were only detected in two of the confirmation soil samples G-480 (0-1') (38.3 mg/kg) and A-8 Eastwall 5 (0-4') (261 mg/kg). Soil at the A-8 Eastwall 5 was further extended and resampled. The analytical result for side-wall sample A-8 Eastwall 5A showed no detectable concentrations of TPH. All other floor and side-wall soil samples analyzed for TPH contained no detectable concentrations of TPH. **Remediation of TPH in soil has been completed.**

5.2 Final Data Evaluation

Following excavation activities to remove affected soil, confirmation soil samples were collected per the NMAC guidelines and per the approved variance for TPH and BTEX. Analytical data demonstrate remediation efforts (affected soil removal) have been completed. Final soil sample concentrations of chlorides and TPH in each grid and side-wall were either not detected above the laboratory reporting limit (not detected) or if detected were below all applicable Closure Criteria standards. As a result, no further response or remediation action is necessary.

6.0 RESTORATION, RECLAMATION & RE-VEGETATION

6.1 Restoration and Reclamation Activities

Following excavation activities, the excavated site area was restored to its original condition. The excavated area was backfilled using native topsoil (similar to existing silty-sandy very fine-grained soil) from a nearby native soil borrow source. Following placement and compaction of the new native topsoil material, the area was graded and contoured to match the original topography.

During the week of May 2, 2023 the Site was seeded using BLM seed mix #2 and a seed drill. Crisha Morgan of the BLM provided Altamira seed mix instructions in an email dated April 4, 2023.

"Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over

the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding".

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

Following seeding the Site area was watered and followed by minor rainfall. Routine inspection of the Novo North Hades Loop remediated and reclaimed area has not revealed any erosion.

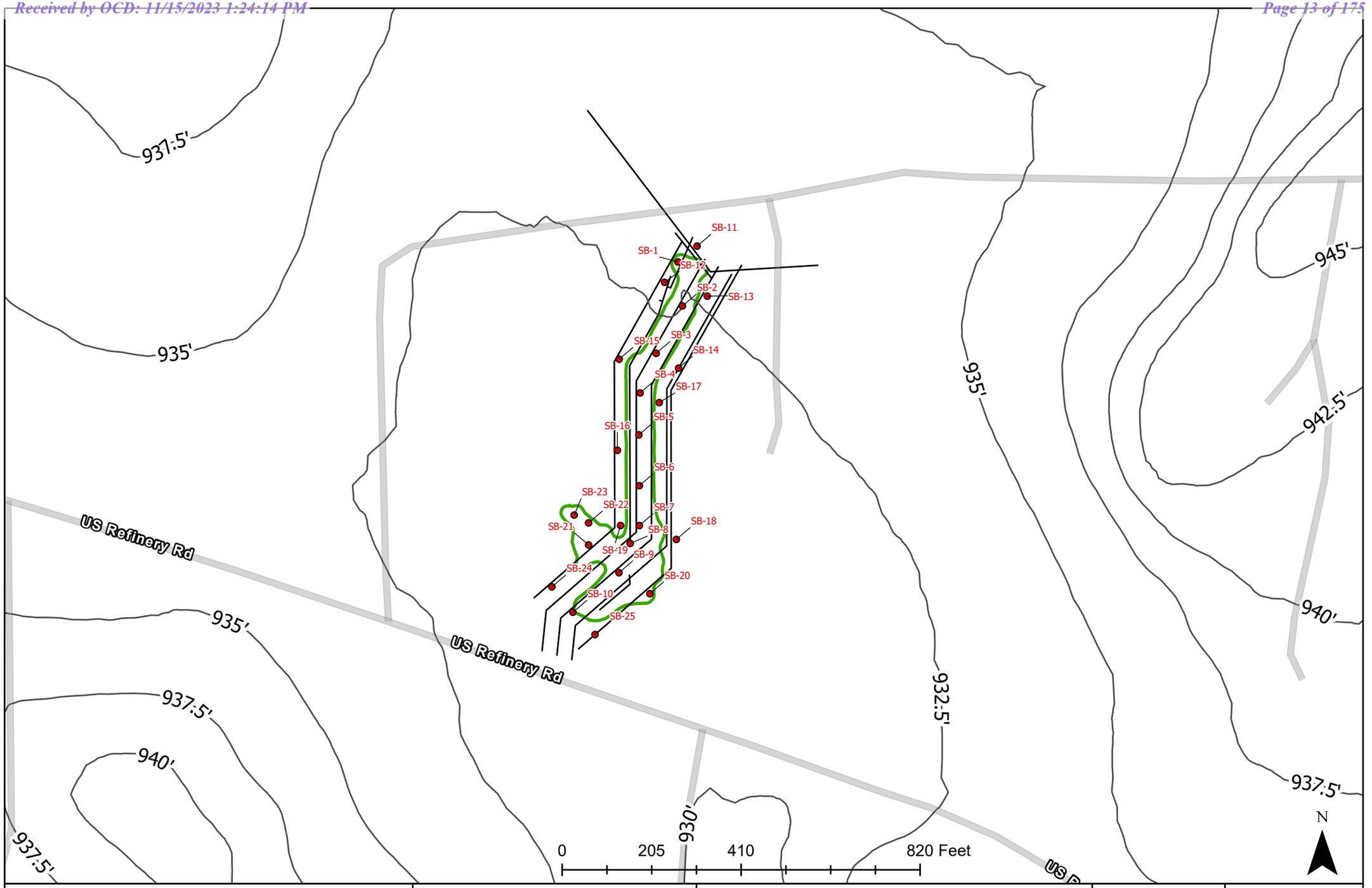
7.0 CONCLUSIONS

On March 28, 2022, at approximately 6:30 am a release of produced water occurred as a result of a rupture on the permanent sub-grade produced water pipeline. Approximately 730 barrels of produced water was released into the area topographically down gradient of the point of rupture between two pipeline areas (bermed areas). During March 7, 2023 to May 4, 2023 Novo conducted remediation efforts to remove affected soil and restore the area to pre-release conditions.

Analytical data results for post excavation confirmation soil validate the completion of affected soil removal from the release area.

- Soil assessment activities were conducted to determine the approximate lateral and vertical extent of chemical constituents.
- Depth to groundwater at the Site is greater than 51 feet below ground surface.
- A variance to exclude TPH and BTEX from further consideration was approved by the NMOCD.
- Soil on-site has been remediated to chloride levels less than 600 mg/kg in the upper four feet and to levels less than 10,000 mg/kg below the upper four feet of soil.
- TPH is less than 100 mg/kg in the upper four feet of soil.
- Reclamation and restoration efforts have been completed.
- No further response action/remediation is necessary for this release Site.
- Novo would respectfully like to request regulatory closure for Incident ID: nAPP2209041864.

FIGURES



Legend

- Soil Sample Location
- BPL
- CONTROL
- SPILL AREA

Notes:

Site Area Topographic Map

Hades North Loop - Produced Water Release NAPP2209041864
Eddy County, New Mexico
Novo Oil and Gas Northern Delaware, LLC

Date: 7/15/2022

Figure 1

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Legend

- Soil Sample Location
- BPL
- CONTROL
- SPILL AREA

Notes:

Site Location Map

Hades North Loop - Produced Water Release NAPP2209041864
Eddy County, New Mexico
Novo Oil and Gas Northern Delaware, LLC

Date: 7/15/2022

Figure 2

ALTAMIRA

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
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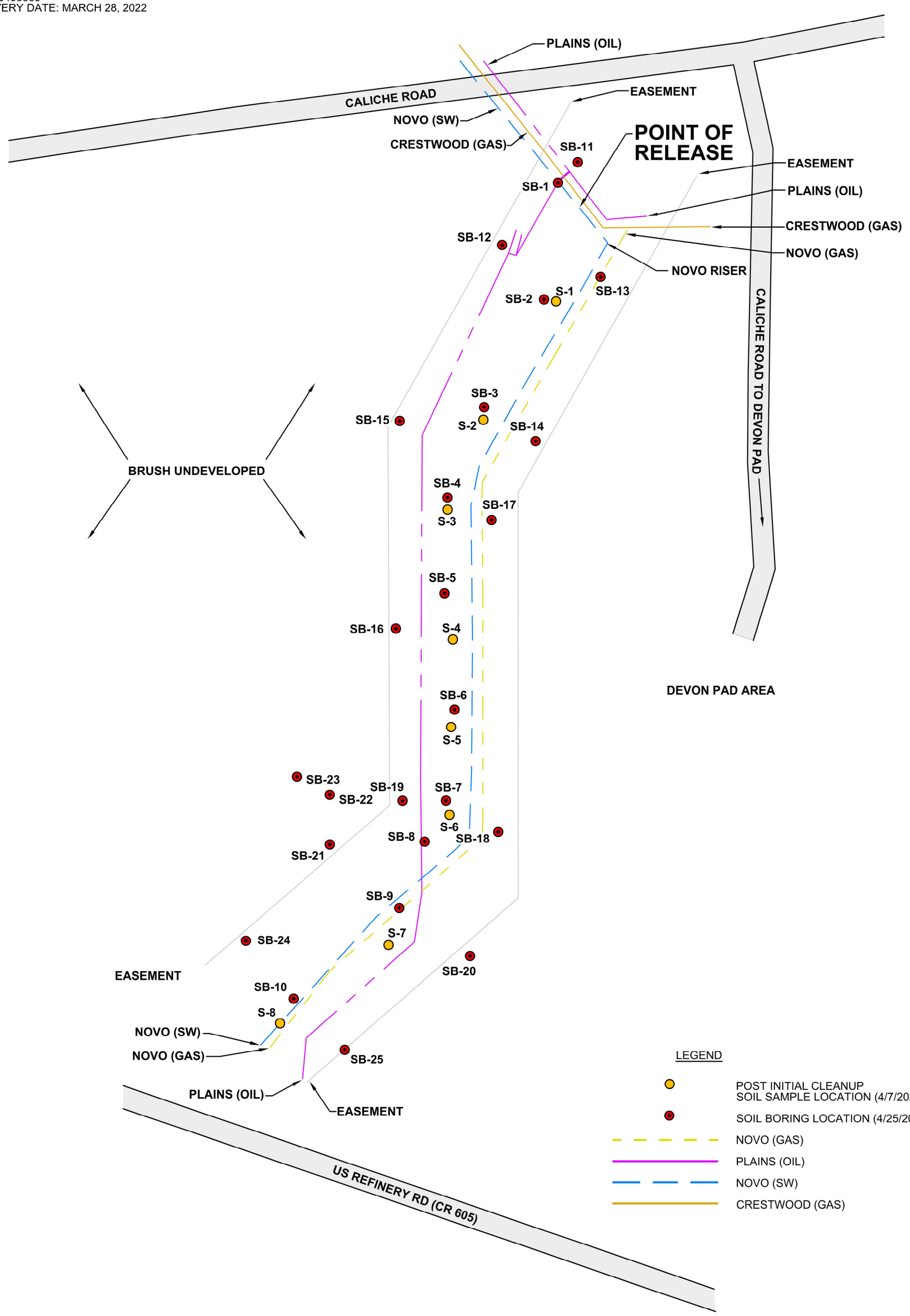
W -104.0455863
DISCOVERY DATE: MARCH 28, 2022



NOVO OIL & GAS NORTHERN DELAWARE, LLC
HADES NORTH LOOP - PRODUCED WATER RELEASE
NAPP2209041864
EDDY COUNTY, NEW MEXICO

SITE PLAN

ALTAMIRA

FIGURE
3

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
P:\Novo Oil & Gas\NVONM2202 - Hades North Loop Produced Water Release\Figures\Figures-Maps\NVONM2202 - HADES.dwg LAYOUT: 4A NORTH SAVED: 6/6/2023 11:00 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ACAD.CTB PLOTTED: 6/6/2023 11:01 AM BY: AARON LOZANO

N 32.3405953
W -104.0455863
DISCOVERY DATE: MARCH 28, 2022

R. O. W.

CALICHE ROAD

NOVO (SW)
PLAINS (OIL)
CRESTWOOD (GAS)

POINT OF RELEASE

SB-11
PLAINS RISER
SB-1

A-1 NORTHWALL-3 (0-4')
A-1 NORTHWALL-2 (0-4')
A-1 NORTHWALL-1 (0-4')
A-1 WESTWALL-1A (0-4')
A-1 WESTWALL-2A (0-4')
A-1 WESTWALL-3 (0-4')

PLAINS (OIL)
CRESTWOOD (GAS)
NOVO (GAS)
NOVO RISER

SB-12
SB-13
SB-2
S-1

A-2 WESTWALL-1 (0-4')
A-2 EASTWALL-1 (0-4')
A-2 WESTWALL-2 (0-4')
A-2 EASTWALL-2 (0-4')

SB-3
S-2
SB-15
SB-14

A-3 WESTWALL-1 (0-4')
A-3 EASTWALL-1 (0-4')
A-3 WESTWALL-2 (0-4')
A-3 EASTWALL-2 (0-4')

SB-4
S-3
SB-17

A-4 WESTWALL-1 (0-4') WW-1(0-4')
A-4 EASTWALL-1 (0-4')
A-4 WESTWALL-2 (0-4') WW-2(0-4')
A-4 EASTWALL-2 (0-4')

SB-5

A-4 WESTWALL-3 (0-4') WW-3(0-4')
A-5 EASTWALL-1 (0-4')
SB-16
A-5 WESTWALL-1 (0-4')
S-4

A-5 WESTWALL-2 (0-4') WW-4(0-4')
A-5 EASTWALL-2 (0-4')

SB-6

A-5 WESTWALL-3 (0-4') WW-5(0-4')
S-5
A-5 EASTWALL-3 (0-4')

MATCHLINE
MATCHLINE

PLAINS (OIL)
NOVO (SW)
NOVO (GAS)

CALICHE ROAD (TO DEVON PAD)

DEVON PAD AREA

TABLE I
NMOCD CLOSURE CRITERIA FOR SOILS
(DEPTH TO GROUNDWATER > 51 FEET BGS)

DEPTH	CHLORIDE	TPH (GRO)	TPH (DRO)	TPH (MRO)	TOTAL TPH
0-4'	600	-	-	-	100
> 4'	10,000	(	1,000	)	-	2,500

LEGEND

- POST INITIAL CLEANUP SOIL SAMPLE LOCATION (4/7/2022)
- SOIL BORING LOCATION (4/25/2022)
- NOVO (GAS)
- PLAINS (OIL)
- NOVO (SW)
- CRESTWOOD (GAS)
- APPROXIMATE SPILL AREA
- G1 — CONFIRMATION SOIL SAMPLE GRID <200ft^2
- G1 — SAMPLE GRID - MEETS NMOCD CLEANUP CRITERIA
- SIDE-WALL SAMPLE - MEETS NMOCD CLEANUP CRITERIA

N
50'
Approximate Scale

NOVO OIL & GAS NORTHERN DELAWARE, LLC
HADES NORTH LOOP - PRODUCED WATER RELEASE
NAPP2209041864
EDDY COUNTY, NEW MEXICO

RESPONSE ACTION EXCAVATION & SAMPLE GRID MAP (NORTH)

ALTAMIRA

FIGURE 4A

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
P:\Novo Oil & Gas\NVONM2202 - Hades North Loop Produced Water Release\Figures\Figures-Maps\NVONM2202 - HADES.dwg LAYOUT: 4B SOUTH SAVED: 6/6/2023 11:00 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ACAD.CTB PLOTTED: 6/6/2023 11:04 AM BY: AARON LOZANO

N 32.3405953
W -104.0455863
DISCOVERY DATE: MARCH 28, 2022

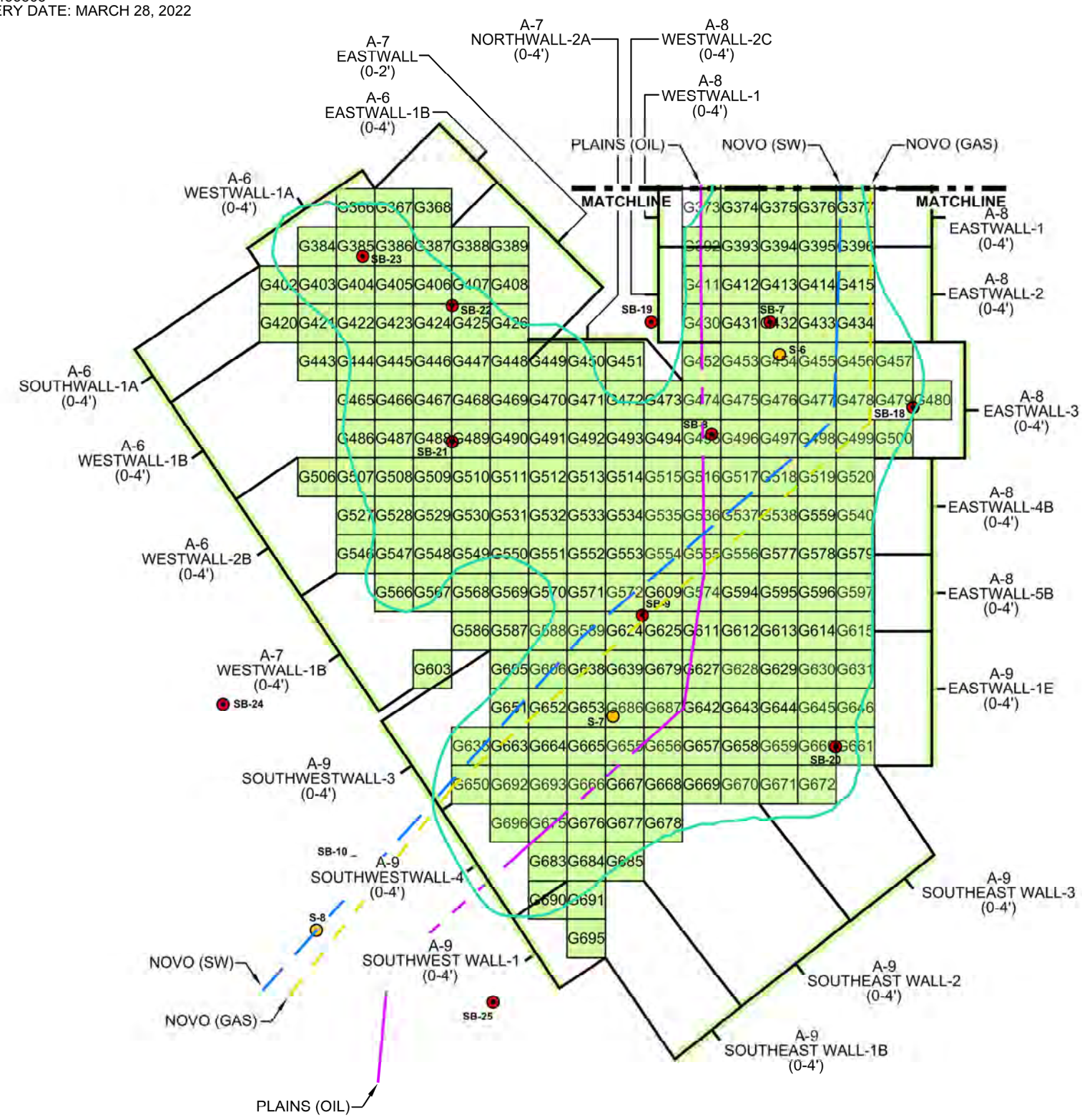


TABLE I
NMOCD CLOSURE CRITERIA FOR SOILS
(DEPTH TO GROUNDWATER > 51 FEET BGS)

DEPTH	CHLORIDE	TPH (GRO)	TPH (DRO)	TPH (MRO)	TOTAL TPH
0-4'	600	-	-	-	100
> 4'	10,000	(	1,000	)	-	2,500

LEGEND

- POST INITIAL CLEANUP SOIL SAMPLE LOCATION (4/7/2022)
- SOIL BORING LOCATION (4/25/2022)
- NOVO (GAS)
- PLAINS (OIL)
- NOVO (SW)
- CRESTWOOD (GAS)
- APPROXIMATE SPILL AREA
- G1 — CONFIRMATION SOIL SAMPLE GRID <200ft^2
- G1 — SAMPLE GRID - MEETS NMOCD CLEANUP CRITERIA
- SIDE-WALL SAMPLE - MEETS NMOCD CLEANUP CRITERIA

N
50'
Approximate Scale

NOVO OIL & GAS NORTHERN DELAWARE, LLC
HADES NORTH LOOP - PRODUCED WATER RELEASE
NAPP2209041864
EDDY COUNTY, NEW MEXICO

RESPONSE ACTION EXCAVATION & SAMPLE GRID MAP (SOUTH)

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FIGURE
4B

TABLE 1
Soil Analytical Data – Response Action (mg/kg)

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte		Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method		4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)		600	-	-	-	100
Table I - Closure Criteria (>4' BGS)		10,000	1,000		-	2,500
Sample ID	Sample Date					
G-13 (4-4.5')	4/22/2023	2920	-	-	-	-
G-19 (4-4.5')	4/22/2023	64	-	-	-	-
G-20 (4-4.5')	4/22/2023	4080	-	-	-	-
G-21 (4-4.5')	4/22/2023	1470	-	-	-	-
G-26 (4-4.5')	4/22/2023	16	-	-	-	-
G-27 (4-4.5')	4/22/2023	2600	-	-	-	-
G-28 (4-4.5')	4/22/2023	4120	-	-	-	-
G-29 (4-4.5')	3/15/2023	160	-	-	-	-
G-36 (4-4.5')	4/22/2023	432	-	-	-	-
G-37 (4-4.5')	4/22/2023	2760	-	-	-	-
G-38 (4-4.5')	3/15/2023	3600	-	-	-	-
G-39 (4-4.5')	3/15/2023	112	-	-	-	-
G-40 (4-4.5')	3/15/2023	48	-	-	-	-
G-46 (4-4.5')	4/22/2023	16	-	-	-	-
G-47 (4-4.5')	4/22/2023	48	-	-	-	-
G-48 (4-4.5')	4/22/2023	3000	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte			Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method			4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)			600	-	-	-	100
Table I - Closure Criteria (>4' BGS)			10,000	1,000		-	2,500
Sample ID	Sample Date						
G-49 (4-4.5')	3/15/2023		2800	-	-	-	-
G-50 (4-4.5')	3/15/2023		32	-	-	-	-
G-51 (4-4.5')	3/15/2023		48	-	-	-	-
G-52 (4-4.5')	3/15/2023		48	-	-	-	-
G-53 (0-1')	4/3/2023		624	<10	<10	<10	<10
G-53 (0-1')	4/11/2023		640	<10	<10	<10	<10
G-53 (1-1.5')	4/13/2023		64	-	-	-	-
G-57 (4-4.5')	4/22/2023		64	-	-	-	-
G-58 (4-4.5')	4/22/2023		80	-	-	-	-
G-59 (4-4.5')	4/22/2023		128	-	-	-	-
G-60 (4-4.5')	3/15/2023		3040	-	-	-	-
G-61 (4-4.5')	3/15/2023		96	-	-	-	-
G-62 (4-4.5')	3/15/2023		48	-	-	-	-
G-63 (4-4.5')	4/3/2023		64	<10	<10	<10	<10
G-64 (0-1')	4/3/2023		96	<10	<10	<10	<10
G-68 (4-4.5')	3/17/2023		112	-	-	-	-
G-69 (4-4.5')	4/22/2023		144	-	-	-	-
G-70 (4-4.5')	4/22/2023		208	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte			Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method			4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)			600	-	-	-	100
Table I - Closure Criteria (>4' BGS)			10,000	1,000		-	2,500
Sample ID	Sample Date						
G-71 (2-2.5')	3/15/2023		3200	-	-	-	-
G-71 (5-5.5')	3/23/2023		2200	-	-	-	-
G-72 (2-2.5')	3/15/2023		3120	-	-	-	-
G-72 (5-5.5')	3/23/2023		560	-	-	-	-
G-73 (4-4.5')	3/15/2023		336	-	-	-	-
G-74 (4-4.5')	4/3/2023		48	<10	<10	<10	<10
G-75 (0-1')	4/3/2023		48	<10	<10	<10	<10
G-79 (4-4.5')	3/17/2023		240	-	-	-	-
G-80 (4-4.5')	4/22/2023		256	-	-	-	-
G-81 (4-4.5')	4/22/2023		208	-	-	-	-
G-82 (2-2.5')	3/15/2023		1440	-	-	-	-
G-82 (5-5.5')	3/123/2023		2200	-	-	-	-
G-83 (2-2.5')	3/15/2023		112	-	-	-	-
G-84 (0-1')	4/3/2023		32	<10	<10	<10	<10
G-85 (0-1')	4/3/2023		32	<10	<10	<10	<10
G-86 (0-1')	4/3/2023		32	<10	<10	<10	<10
G-89 (4-4.5')	4/5/2023		112	-	-	-	-
G-90 (4-4.5')	3/17/2023		80	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte		Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method		4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)		600	-	-	-	100
Table I - Closure Criteria (>4' BGS)		10,000	1,000		-	2,500
Sample ID	Sample Date					
G-91 (2-2.5')	3/14/2023	400	-	-	-	-
G-92 (2-2.5')	3/14/2023	3520	-	-	-	-
G-92 (4-4.5')	3/16/2023	2600	-	-	-	-
G-93 (2-2.5')	3/14/2023	1020	-	-	-	-
G-93 (4-4.5')	3/16/2023	1200	-	-	-	-
G-94 (2-2.5')	3/14/2023	80	-	-	-	-
G-100 (4-4.5')	3/17/2023	64	-	-	-	-
G-101 (2-2.5')	3/14/2023	1300	-	-	-	-
G-101 (4-4.5')	3/16/2023	960	-	-	-	-
G-102 (2-2.5')	3/14/2023	384	-	-	-	-
G-103 (2-2.5')	3/14/2023	1040	-	-	-	-
G-103 (4-4.5')	3/16/2023	2080	-	-	-	-
G-104 (2-2.5')	3/14/2023	720	-	-	-	-
G-104 (4-4.5')	3/16/2023	528	-	-	-	-
G-109 (4-4.5')	4/3/2023	80	-	-	-	-
G-110 (4-4.5')	3/17/2023	320	-	-	-	-
G-111 (2-2.5')	3/14/2023	48	-	-	-	-
G-112 (2-2.5')	3/14/2023	400	-	-	-	-
G-113 (2-2.5')	3/14/2023	2880	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte			Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method			4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)			600	-	-	-	100
Table I - Closure Criteria (>4' BGS)			10,000	1,000		-	2,500
Sample ID	Sample Date						
G-113 (4-4.5')	3/16/2023		1310	-	-	-	-
G-114 (2-2.5')	3/14/2023		176	-	-	-	-
G-120 (4-4.5')	3/17/2023		48	-	-	-	-
G-121 (2-2.5')	3/14/2023		208	-	-	-	-
G-122 (2-2.5')	3/14/2023		64	-	-	-	-
G-123 (2-2.5')	3/14/2023		384	-	-	-	-
G-124 (2-2.5')	3/14/2023		2130	-	-	-	-
G-124 (4-4.5')	3/16/2023		1570	-	-	-	-
G-129 (4-4.5')	3/17/2023		80	-	-	-	-
G-130 (4-4.5')	3/17/2023		320	-	-	-	-
G-131 (4-4.5')	3/14/2023		80	-	-	-	-
G-132 (4-4.5')	3/14/2023		752	-	-	-	-
G-133 (2-2.5')	3/14/2023		2760	-	-	-	-
G-133 (4-4.5')	3/16/2023		3080	-	-	-	-
G-134 (2-2.5')	3/14/2023		96	-	-	-	-
G-140 (4-4.5')	3/17/2023		160	-	-	-	-
G-141 (4-4.5')	3/14/2023		784	-	-	-	-
G-142 (4-4.5')	3/14/2023		768	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte		Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method		4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)		600	-	-	-	100
Table I - Closure Criteria (>4' BGS)		10,000	1,000		-	2,500
Sample ID	Sample Date					
G-143 (4-4.5')	3/14/2023	1300	-	-	-	-
G-144 (4-4.5')	3/14/2023	320	-	-	-	-
G-149 (4-4.5')	3/17/2023	32	-	-	-	-
G-150 (4-4.5')	3/14/2023	96	-	-	-	-
G-151 (4-4.5')	3/14/2023	176	-	-	-	-
G-152 (4-4.5')	3/14/2023	1730	-	-	-	-
G-153 (4-4.5')	3/14/2023	2880	-	-	-	-
G-154(4-4.5')	3/14/2023	32	-	-	-	-
G-159 (4-4.5')	3/17/2023	320	-	-	-	-
G-160 (4-4.5')	3/14/2023	1410	-	-	-	-
G-161 (4-4.5')	3/14/2023	320	-	-	-	-
G-162 (4-4.5')	3/14/2023	2040	-	-	-	-
G-163 (4-4.5')	3/14/2023	80	-	-	-	-
G-167 (4-4.5')	3/14/2023	64	-	-	-	-
G-167 (4-4.5')	3/17/2023	880	-	-	-	-
G-168 (4-4.5')	3/14/2023	80	-	-	-	-
G-169 (4-4.5')	3/14/2023	560	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte		Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method		4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)		600	-	-	-	100
Table I - Closure Criteria (>4' BGS)		10,000	1,000		-	2,500
Sample ID	Sample Date					
G-170 (4-4.5')	3/14/2023	2720	-	-	-	-
G-171 (4-4.5')	3/14/2023	816	-	-	-	-
G-175 (4-4.5')	4/6/2023	1700	-	-	-	-
G-176 (4-4.5')	3/17/2023	272	-	-	-	-
G-177 (4-4.5')	3/14/2023	448	-	-	-	-
G-178 (4-4.5')	3/14/2023	1710	-	-	-	-
G-179 (4-4.5')	3/14/2023	2760	-	-	-	-
G-183 (4-4.5')	3/17/2023	64	-	-	-	-
G-184 (4-4.5')	3/14/2023	80	-	-	-	-
G-185 (4-4.5')	3/14/2023	32	-	-	-	-
G-186 (4-4.5')	3/14/2023	3280	-	-	-	-
G-187 (4-4.5')	3/14/2023	512	-	-	-	-
G-191 (4-4.5')	3/17/2023	1020	-	-	-	-
G-192 (4-4.5')	3/14/2023	112	-	-	-	-
G-193 (4-4.5')	3/14/2023	2400	-	-	-	-
G-194 (4-4.5')	3/14/2023	1040	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte			Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method			4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)			600	-	-	-	100
Table I - Closure Criteria (>4' BGS)			10,000	1,000		-	2,500
Sample ID	Sample Date						
G-195 (4-4.5')	3/14/2023		16	-	-	-	-
G-197 (4-4.5')	4/13/2023		928	-	-	-	-
G-198 (4-4.5.')	3/17/2023		2380	-	-	-	-
G-199 (4-4.5')	3/14/2023		1200	-	-	-	-
G-200 (4-4.5')	3/14/2023		2280	-	-	-	-
G-201 (4-4.5')	3/14/2023		48	-	-	-	-
G-203 (4-4.5')	4/13/2023		1230	-	-	-	-
G-204 (4-4.5')	3/17/2023		1650	-	-	-	-
G-205 (4-4.5')	3/14/2023		1200	-	-	-	-
G-206 (4-4.5')	3/14/2023		480	-	-	-	-
G-207 (4-4.5')	3/14/2023		80	-	-	-	-
G-209 (4-4.5')	4/13/2023		3120	-	-	-	-
G-210 (4-4.5')	3/17/2023		1890	-	-	-	-
G-211 (4-4.5')	3/12/2023		48	-	-	-	-
G-212 (4-4.5')	3/12/2023		896	-	-	-	-
G-213 (4-4.5')	3/12/2023		1020	-	-	-	-
G-215 (4-4.5')	4/13/2023		2240	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte		Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method		4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)		600	-	-	-	100
Table I - Closure Criteria (>4' BGS)		10,000	1,000		-	2,500
Sample ID	Sample Date					
G-216 (4-4.5')	3/17/2023	960	-	-	-	-
G-217 (4-4.5')	3/12/2023	1150	-	-	-	-
G-218 (4-4.5')	3/12/2023	2020	-	-	-	-
G-219 (4-4.5')	3/12/2023	64	-	-	-	-
G-221 (4-4.5')	4/13/2023	832	-	-	-	-
G-222 (4-4.5')	3/17/2023	1810	-	-	-	-
G-223 (4-4.5')	3/12/2023	64	-	-	-	-
G-224 (4-4.5')	3/12/2023	1540	-	-	-	-
G-225 (4-4.5')	3/12/2023	80	-	-	-	-
G-227 (4-4.5')	4/13/2023	560	-	-	-	-
G-228 (4-4.5')	3/17/2023	1120	-	-	-	-
G-229 (4-4.5')	3/12/2023	80	-	-	-	-
G-230 (4-4.5')	3/12/2023	384	-	-	-	-
G-231 (4-4.5')	3/12/2023	112	-	-	-	-
G-233 (4-4.5')	4/13/2023	992	-	-	-	-
G-234 (4-4.5')	3/17/2023	1070	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte		Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method		4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)		600	-	-	-	100
Table I - Closure Criteria (>4' BGS)		10,000	1,000		-	2,500
Sample ID	Sample Date					
G-235 (4-4.5')	3/12/2023	64	-	-	-	-
G-236 (4-4.5')	3/12/2023	352	-	-	-	-
G-237 (4-4.5')	3/12/2023	64	-	-	-	-
G-239 (4-4.5')	4/13/2023	1490	-	-	-	-
G-240 (4-4.5')	3/17/2023	144	-	-	-	-
G-241 (4-4.5')	3/12/2023	112	-	-	-	-
G-242 (4-4.5')	3/12/2023	1460	-	-	-	-
G-243 (4-4.5')	3/12/2023	80	-	-	-	-
G-245 (4-4.5')	4/13/2023	304	-	-	-	-
G-246 (4-4.5')	3/17/2023	1180	-	-	-	-
G-247 (4-4.5')	3/12/2023	240	-	-	-	-
G-248 (4-4.5')	3/12/2023	2600	-	-	-	-
G-249 (4-4.5')	3/12/2023	160	-	-	-	-
G-251 (4-4.5')	4/13/2023	1060	-	-	-	-
G-252 (4-4.5')	3/17/2023	1980	-	-	-	-
G-253 (4-4.5')	3/12/2023	384	-	-	-	-
G-254 (4-4.5')	3/12/2023	176	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte		Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method		4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)		600	-	-	-	100
Table I - Closure Criteria (>4' BGS)		10,000	1,000		-	2,500
Sample ID	Sample Date					
G-255 (4-4.5')	3/12/2023	32	-	-	-	-
G-257 (4-4.5')	4/13/2023	2480	-	-	-	-
G-258 (4-4.5')	3/17/2023	4280	-	-	-	-
G-259 (4-4.5')	3/12/2023	48	-	-	-	-
G-260 (4-4.5')	3/12/2023	496	-	-	-	-
G-261 (4-4.5')	3/12/2023	32	-	-	-	-
G-264 (4-4.5')	4/13/2023	2680	-	-	-	-
G-265 (4-4.5')	3/17/2023	256				
G-266 (2-2.5')	3/12/2023	80	-	-	-	-
G-267 (2-2.5')	3/12/2023	496	-	-	-	-
G-268 (2-2.5')	3/12/2023	80	-	-	-	-
G-270 (4-4.5')	4/13/2023	1200	-	-	-	-
G-271 (4-4.5')	3/17/2023	2030	-	-	-	-
G-272 (2-2.5')	3/12/2023	64	-	-	-	-
G-273 (2-2.5')	3/12/2023	560	-	-	-	-
G-274 (2-2.5')	3/12/2023	48	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte			Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method			4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)			600	-	-	-	100
Table I - Closure Criteria (>4' BGS)			10,000	1,000		-	2,500
Sample ID	Sample Date						
G-276 (4-4.5')	4/13/2023		1310	-	-	-	-
G-277 (4-4.5')	3/17/2023		1840	-	-	-	-
G-278 (2-2.5')	3/12/2023		384	-	-	-	-
G-279 (2-2.5')	3/12/2023		1330	-	-	-	-
G-279 (4-4.5')	3/15/2023		2340	-	-	-	-
G-280 (2-2.5')	3/12/2023		32	-	-	-	-
G-283 (4-4.5')	4/13/2023		3040	-	-	-	-
G-284 (4-4.5')	3/17/2023		1150	-	-	-	-
G-285 (2-2.5')	3/12/2023		256	-	-	-	-
G-286 (2-2.5')	3/12/2023		944	-	-	-	-
G-286 (4-4.5')	3/15/2023		176	-	-	-	-
G-287 (2-2.5')	3/12/2023		48	-	-	-	-
G-293 (4-4.5')	4/13/2023		48	-	-	-	-
G-294 (4-4.5')	3/17/2023		192	-	-	-	-
G-295 (2-2.5')	3/12/2023		208	-	-	-	-
G-296 (2-2.5')	3/12/2023		1470	-	-	-	-
G-296 (4-4.5')	3/15/2023		272	-	-	-	-
G-297 (2-2.5')	3/12/2023		80	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte			Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method			4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)			600	-	-	-	100
Table I - Closure Criteria (>4' BGS)			10,000	1,000		-	2,500
Sample ID	Sample Date						
G-304 (4-4.5')	4/13/2023		192	-	-	-	-
G-305 (4-4.5')	3/17/2023		672	-	-	-	-
G-306 (2-2.5')	3/12/2023		64	-	-	-	-
G-307 (2-2.5')	3/12/2023		1070	-	-	-	-
G-307 (4-4.5')	3/15/2023		400	-	-	-	-
G-308 (2-2.5')	3/12/2023		80	-	-	-	-
G-318 (4-4.5')	4/13/2023		704	-	-	-	-
G-319 (4-4.5')	3/17/2023		1860	-	-	-	-
G-320 (2-2.5')	3/12/2023		96	-	-	-	-
G-321 (2-2.5')	3/12/2023		992	-	-	-	-
G-321 (4-4.5')	3/15/2023		608	-	-	-	-
G-322 (2-2.5')	3/12/2023		64	-	-	-	-
G-335 (4-4.5')	4/13/2023		1500	-	-	-	-
G-336 (4-4.5')	3/17/2023		1660	-	-	-	-
G-337 (2-2.5')	3/12/2023		3720	-	-	-	-
G-337 (4-4.5')	3/15/2023		176	-	-	-	-
G-338 (2-2.5')	3/12/2023		464	-	-	-	-
G-339 (2-2.5')	3/12/2023		64	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte			Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method			4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)			600	-	-	-	100
Table I - Closure Criteria (>4' BGS)			10,000	1,000		-	2,500
Sample ID	Sample Date						
G-354 (4-4.5')	4/13/2023		1320	-	-	-	-
G-355 (4-4.5')	3/17/2023		528	-	-	-	-
G-356 (4-4.5')	3/12/2023		1470	-	-	-	-
G-357 (4-4.5')	3/12/2023		240	-	-	-	-
G-358 (4-4.5')	3/12/2023		112	-	-	-	-
G-366 (4-4.5')	3/10/2023		432	<10	<10	<10	<10
G-367 (4-4.5')	3/31/2023		80	<10	<10	<10	<10
G-368 (0-1')	3/31/2023		48	<10	<10	<10	<10
G-373 (4-4.5')	4/13/2023		592	-	-	-	-
G-374 (4-4.5')	3/17/2023		3120	-	-	-	-
G-375 (4-4.5')	3/12/2023		80	-	-	-	-
G-376 (4-4.5')	3/12/2023		128	-	-	-	-
G-377 (4-4.5')	3/12/2023		208	-	-	-	-
G-384 (4-4.5')	3/10/2023		368	<10	<10	<10	<10
G-385 (4-4.5')	3/10/2023		800	<10	<10	<10	<10
G-386 (4-4.5')	3/31/2023		176	<10	<10	<10	<10
G-387 (0-1')	3/31/2023		48	<10	<10	<10	<10

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte		Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method		4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)		600	-	-	-	100
Table I - Closure Criteria (>4' BGS)		10,000	1,000		-	2,500
Sample ID	Sample Date					
G-388 (0-1')	3/31/2023	**96**	<10	<10	<10	<10
G-389 (0-1')	3/31/2023	**96**	<10	<10	<10	<10
G-392 (4-4.5')	4/13/2023	**2920**	-	-	-	-
G-393 (4-4.5')	3/17/2023	**2080**	-	-	-	-
G-394 (4-4.5')	3/12/2023	**224**	-	-	-	-
G-395 (4-4.5')	3/12/2023	**112**	-	-	-	-
G-396 (4-4.5')	3/12/2023	**272**	-	-	-	-
G-402 (4-4.5')	3/10/2023	**400**	<10	<10	<10	<10
G-403 (4-4.5')	3/10/2023	**240**	<10	<10	<10	<10
G-404 (4-4.5')	3/10/2023	**240**	<10	<10	<10	<10
G-405 (4-4.5')	3/10/2023	**848**	<10	<10	<10	<10
G-406 (2-2.5')	3/31/2023	**48**	<10	<10	<10	<10
G-407 (2-2.5')	3/31/2023	**144**	<10	<10	<10	<10
G-408 (0-1')	3/31/2023	**32**	<10	<10	<10	<10
G-411 (4-4.5')	4/13/2023	**2100**	-	-	-	-
G-412 (4-4.5')	3/17/2023	**3200**	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte			Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method			4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)			600	-	-	-	100
Table I - Closure Criteria (>4' BGS)			10,000	1,000		-	2,500
Sample ID	Sample Date						
G-413 (4-4.5')	3/12/2023		1400	-	-	-	-
G-414 (4-4.5')	3/12/2023		464	-	-	-	-
G-415 (4-4.5')	3/12/2023		176	-	-	-	-
G-420 (4-4.5')	3/10/2023		304	<10	<10	<10	<10
G-421 (4-4.5')	3/10/2023		272	<10	<10	<10	<10
G-422 (4-4.5')	3/10/2023		432	<10	<10	<10	<10
G-423 (4-4.5')	3/10/2023		384	<10	<10	<10	<10
G-424 (4-4.5')	3/10/2023		864	<10	<10	<10	<10
G-425 (2-2.5')	3/31/2023		112	<10	<10	<10	<10
G-426 (0-1')	3/31/2023		96	<10	<10	<10	<10
G-430 (4-4.5')	4/13/2023		2840	-	-	-	-
G-431 (4-4.5')	3/17/2023		2510	-	-	-	-
G-432 (4-4.5')	3/12/2023		400	-	-	-	-
G-433 (4-4.5')	3/12/2023		272	-	-	-	-
G-434 (4-4.5')	3/12/2023		128	-	-	-	-
G-443 (4-4.5')	3/10/2023		384	<10	<10	<10	<10
G-444 (4-4.5')	3/10/2023		944	<10	<10	<10	<10

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte		Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method		4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)		600	-	-	-	100
Table I - Closure Criteria (>4' BGS)		10,000	1,000		-	2,500
Sample ID	Sample Date					
G-445 (4-4.5')	3/10/2023	**112**	<10	<10	<10	<10
G-446 (4-4.5')	3/10/2023	**352**	<10	<10	<10	<10
G-447 (2-2.5')	3/31/2023	**48**	<10	<10	<10	<10
G-448 (2-2.5')	3/31/2023	**48**	<10	<10	<10	<10
G-449 (0-1')	3/31/2023	**48**	<10	<10	<10	<10
G-450 (4-4.5')	4/15/2023	**880**	-	-	-	-
G-451 (4-4.5')	4/15/2023	**576**	-	-	-	-
G-452 (4-4.5')	4/13/2023	**1870**	-	-	-	-
G-453 (4-4.5')	4/15/2023	**16**	-	-	-	-
G-454 (4-4.5')	4/15/2023	**240**	-	-	-	-
G-455 (4-4.5')	4/17/2023	**256**	-	-	-	-
G-456 (4-4.5')	4/17/2023	**288**	-	-	-	-
G-457 (0-1')	4/11/2023	**48**	<10	<10	<10	<10
G-465 (4-4.5')	3/11/2023	**464**	<10	<10	<10	<10
G-466 (4-4.5')	3/11/2023	**368**	<10	<10	<10	<10
G-467 (4-4.5')	3/11/2023	**336**	<10	<10	<10	<10

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte			Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method			4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)			600	-	-	-	100
Table I - Closure Criteria (>4' BGS)			10,000	1,000		-	2,500
Sample ID	Sample Date						
G-468 (4-4.5')	3/11/2023		**1790**	<10	<10	<10	<10
G-469 (4-4.5')	3/11/2023		**784**	<10	<10	<10	<10
G-470 (4-4.5')	3/15/2023		**720**	<10	<10	<10	<10
G-471 (4-4.5')	3/15/2023		**480**	<10	<10	<10	<10
G-472 (4-4.5')	3/15/2023		**384**	<10	<10	<10	<10
G-473 (4-4.5')	3/15/2023		**384**	<10	<10	<10	<10
G-474 (4-4.5')	4/13/2023		**912**	-	-	-	-
G-475 (4-4.5')	4/15/2023		**16**	-	-	-	-
G-476 (4-4.5')	4/17/2023		**448**	-	-	-	-
G-477 (4-4.5')	4/17/2023		**672**	-	-	-	-
G-478 (4-4.5')	4/17/2023		**656**	-	-	-	-
G-479 (0-1')	4/11/2023		**1540**	<10	<10	<10	<10
G-479 (4-4.5')	4/13/2023		**160**	-	-	-	-
G-480 (0-1')	4/11/2023		**112**	<10	**38.3**	<10	**38.3**
G-486 (2-2.5')	3/11/2023		**688**	-	-	-	-
G-486 (4-4.5')	3/15/2023		**544**	-	-	-	-
G-487 (2-2.5')	3/11/2023		**944**	-	-	-	-
G-487 (4-4.5')	3/15/2023		**784**	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte			Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method			4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)			600	-	-	-	100
Table I - Closure Criteria (>4' BGS)			10,000	1,000		-	2,500
Sample ID	Sample Date						
G-488 (2-2.5')	3/11/2023		704	-	-	-	-
G-488 (4-4.5')	3/15/2023		960	-	-	-	-
G-489 (2-2.5')	3/11/2023		3200	-	-	-	-
G-489 (4-4.5')	3/15/2023		1600	-	-	-	-
G-490 (2-2.5')	3/11/2023		5200	-	-	-	-
G-490 (4-4.5')	3/15/2023		2720	-	-	-	-
G-491 (2-2.5')	3/11/2023		2880	<10	<10	<10	<10
G-491 (4-4.5')	3/15/2023		1880	-	-	-	-
G-492 (2-2.5')	3/11/2023		1720	<10	<10	<10	<10
G-492 (4-4.5')	3/15/2023		1010	-	-	-	-
G-493 (4-4.5')	3/15/2023		512	-	-	-	-
G-494 (4-4.5')	3/15/2023		784	-	-	-	-
G-495 (4-4.5')	4/15/2023		48	-	-	-	-
G-496 (4-4.5')	4/15/2023		32	-	-	-	-
G-497 (4-4.5')	4/17/2023		416	-	-	-	-
G-498 (4-4.5')	4/17/2023		416	-	-	-	-
G-499 (4-4.5')	4/17/2023		432	-	-	-	-
G-506 (4-4.5')	3/15/2023		768	-	-	-	-
G-507 (4-4.5')	3/15/2023		464	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte			Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method			4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)			600	-	-	-	100
Table I - Closure Criteria (>4' BGS)			10,000	1,000		-	2,500
Sample ID	Sample Date						
G-508 (2-2.5')	3/11/2023		2320	<10	<10	<10	<10
G-508 (4-4.5')	3/15/2023		1390	-	-	-	-
G-509 (2-2.5')	3/11/2023		4120	<10	<10	<10	<10
G-509 (4-4.5')	3/15/2023		1970	-	-	-	-
G-510 (2-2.5')	3/11/2023		5480	<10	<10	<10	<10
G-510 (4-4.5')	3/15/2023		2640	-	-	-	-
G-511 (2-2.5')	3/11/2023		1340	<10	<10	<10	<10
G-511 (4-4.5')	3/15/2023		3880	-	-	-	-
G-512 (2-2.5')	3/11/2023		1010	<10	<10	<10	<10
G-512 (4-4.5')	3/15/2023		1540	-	-	-	-
G-513 (2-2.5')	3/11/2023		2640	<10	<10	<10	<10
G-513 (4-4.5')	3/15/2023		416	-	-	-	-
G-514 (2-2.5')	3/11/2023		2480	<10	<10	<10	<10
G-514 (4-4.5')	3/15/2023		896	-	-	-	-
G-515 (4-4.5')	4/17/2023		384	-	-	-	-
G-516 (4-4.5')	4/15/2023		4240	-	-	-	-
G-517 (4-4.5')	4/12/2023		1580	-	-	-	-
G-518 (4-4.5')	4/13/2023		2600	-	-	-	-
G-519 (4-4.5')	4/13/2023		352	-	-	-	-
G-520 (4-4.5')	4/13/2023		384	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte			Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method			4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)			600	-	-	-	100
Table I - Closure Criteria (>4' BGS)			10,000	1,000		-	2,500
Sample ID	Sample Date						
G-527 (4-4.5')	3/15/2023		704	-	-	-	-
G-528 (2-2.5')	3/11/2023		2290	<10	<10	<10	<10
G-528 (4-4.5')	3/15/2023		896	-	-	-	-
G-529 (2-2.5')	3/11/2023		4280	<10	<10	<10	<10
G-529 (4-4.5')	3/15/2023		1010	-	-	-	-
G-530 (2-2.5')	3/11/2023		3560	<10	<10	<10	<10
G-530 (4-4.5')	3/15/2023		1250	-	-	-	-
G-531 (2-2.5')	3/11/2023		8800	<10	<10	<10	<10
G-531 (4-4.5')	3/15/2023		1800	-	-	-	-
G-532 (2-2.5')	3/11/2023		4240	<10	<10	<10	<10
G-532 (4-4.5')	3/15/2023		1960	-	-	-	-
G-533 (2-2.5')	3/11/2023		3640	<10	<10	<10	<10
G-533 (4-4.5')	3/15/2023		384	-	-	-	-
G-534 (2-2.5')	3/11/2023		3520	<10	<10	<10	<10
G-534 (4-4.5')	3/15/2023		1100	-	-	-	-
G-535 (4-4.5')	4/17/2023		1150	-	-	-	-
G-536 (4-4.5')	4/12/2023		432	-	-	-	-
G-537 (4-4.5')	4/14/2023		704	-	-	-	-
G-538 (4-4.5')	4/14/2023		880	-	-	-	-
G-540 (4-4.5')	4/14/2023		496	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte			Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method			4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)			600	-	-	-	100
Table I - Closure Criteria (>4' BGS)			10,000	1,000		-	2,500
Sample ID	Sample Date						
G-546 (4-4.5')	3/15/2023		640	-	-	-	-
G-547 (4-4.5')	3/15/2023		736	-	-	-	-
G-548 (2-2.5')	3/11/2023		4240	<10	<10	<10	<10
G-548 (4-4.5')	3/15/2023		1200	-	-	-	-
G-549 (2-2.5')	3/11/2023		3280	<10	<10	<10	<10
G-549 (4-4.5')	3/15/2023		752	-	-	-	-
G-550 (2-2.5')	3/11/2023		3680	<10	<10	<10	<10
G-550 (4-4.5')	3/15/2023		1310	-	-	-	-
G-551 (2-2.5')	3/11/2023		2920	<10	<10	<10	<10
G-551 (4-4.5')	3/15/2023		2000	-	-	-	-
G-552 (2-2.5')	3/11/2023		4480	<10	<10	<10	<10
G-552 (4-4.5')	3/15/2023		1520	-	-	-	-
G-553 (4-4.5')	3/15/2023		240	-	-	-	-
G-554 (4-4.5')	4/12/2023		336	-	-	-	-
G-555 (4-4.5')	4/14/2023		1490	-	-	-	-
G-556 (4-4.5')	4/14/2023		1310	-	-	-	-
G-559 (2-2.5')	3/18/2023		528	-	-	-	-
G-559 (4-4.5')	3/29/2023		352	-	-	-	-
G-566 (4-4.5')	3/15/2023		480	-	-	-	-
G-567 (2-2.5')	3/11/2023		5000	<10	<10	<10	<10

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte			Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method			4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)			600	-	-	-	100
Table I - Closure Criteria (>4' BGS)			10,000	1,000		-	2,500
Sample ID	Sample Date						
G-567 (4-4.5')	3/15/2023		368	-	-	-	-
G-568 (2-2.5')	3/11/2023		2840	<10	<10	<10	<10
G-568 (4-4.5')	3/15/2023		432	-	-	-	-
G-569 (2-2.5')	3/11/2023		2320	<10	<10	<10	<10
G-569 (5-5.5')	3/23/2023		320	-	-	-	-
G-570 (2-2.5')	3/11/2023		2000	<10	<10	<10	<10
G-570 (5-5.5')	3/23/2023		368	-	-	-	-
G-571 (4-4.5')	3/15/2023		720	-	-	-	-
G-572 (4-4.5')	4/12/2023		256	-	-	-	-
G-574 (4-4.5')	4/14/2023		1840	-	-	-	-
G-577 (2-2.5')	3/18/2023		880	-	-	-	-
G-577 (4-4.5')	3/29/2023		640	-	-	-	-
G-578 (2-2.5')	3/18/2023		752	-	-	-	-
G-578 (4-4.5')	3/29/2023		352	-	-	-	-
G-579 (2-2.5')	3/18/2023		880	-	-	-	-
G-579 (4-4.5')	3/29/2023		304	-	-	-	-
G-586 (2-2.5')	3/11/2023		1280	<10	<10	<10	<10
G-586 (5-5.5')	3/23/2023		1060	-	-	-	-
G-587 (2-2.5')	3/11/2023		128	<10	<10	<10	<10
G-588 (4-4.5')	4/13/2023		528	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte		Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method		4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)		600	-	-	-	100
Table I - Closure Criteria (>4' BGS)		10,000	1,000		-	2,500
Sample ID	Sample Date					
G-589 (4-4.5')	4/12/2023	496	-	-	-	-
G-594 (2-2.5')	3/18/2023	320	-	-	-	-
G-595 (2-2.5')	3/18/2023	1760	-	-	-	-
G-595 (4-4.5')	3/29/2023	1180	-	-	-	-
G-596 (2-2.5')	3/18/2023	1300	-	-	-	-
G-596 (4-4.5')	3/29/2023	448	-	-	-	-
G-597 (4-4.5')	4/14/2023	560	-	-	-	-
G-603 (4-4.5')	3/15/2023	336	-	-	-	-
G-605 (4-4.5')	3/15/2023	224	-	-	-	-
G-606 (4-4.5')	4/12/2023	592	-	-	-	-
G-609 (2-2.5')	3/22/2023	880	-	-	-	-
G-609 (4-4.5')	3/27/2023	368	-	-	-	-
G-611 (2-2.5')	3/18/2023	160	-	-	-	-
G-612 (2-2.5')	3/18/2023	336	-	-	-	-
G-613 (2-2.5')	3/18/2023	704	-	-	-	-
G-613 (4-4.5')	3/29/2023	512	-	-	-	-
G-614 (2-2.5')	3/18/2023	560	-	-	-	-
G-615 (0-1')	4/6/2023	80	<10	<10	<10	<10
G-624 (2-2.5')	3/22/2023	960	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte			Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method			4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)			600	-	-	-	100
Table I - Closure Criteria (>4' BGS)			10,000	1,000		-	2,500
Sample ID	Sample Date						
G-624 (4-4.5')	3/27/2023		384	-	-	-	-
G-625 (2-2.5')	3/22/2023		352	-	-	-	-
G-627 (2-2.5')	3/18/2023		320	-	-	-	-
G-628 (2-2.5')	3/18/2023		864	-	-	-	-
G-628 (4-4.5')	3/29/2023		400	-	-	-	-
G-629 (2-2.5')	3/18/2023		1330	-	-	-	-
G-629 (4-4.5')	3/29/2023		416	-	-	-	-
G-630 (4-4.5')	4/6/2023		1360	<10	<10	<10	<10
G-631 (0-1')	4/6/2023		16	<10	<10	<10	<10
G-635 (4-4.5')	4/13/2023		1070	-	-	-	-
G-638 (2-2.5')	3/22/2023		1230	-	-	-	-
G-638 (4-4.5')	3/27/2023		432	-	-	-	-
G-639 (2-2.5')	3/22/2023		1300	-	-	-	-
G-639 (4-4.5')	3/27/2023		368	-	-	-	-
G-642 (2-2.5')	3/18/2023		288	-	-	-	-
G-643 (2-2.5')	3/18/2023		592	-	-	-	-
G-644 (2-2.5')	3/18/2023		1020	-	-	-	-
G-644 (4-4.5')	3/29/2023		592	-	-	-	-
G-645 (4-4.5')	4/6/2023		176	<10	<10	<10	<10

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte			Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method			4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)			600	-	-	-	100
Table I - Closure Criteria (>4' BGS)			10,000	1,000		-	2,500
Sample ID	Sample Date						
G-646 (0-1')	4/6/2023		48	<10	<10	<10	<10
G-650 (4-4.5')	4/13/2023		400	-	-	-	-
G-651 (2-2.5')	3/22/2023		272	-	-	-	-
G-652 (2-2.5')	3/22/2023		1570	-	-	-	-
G-652 (4-4.5')	3/27/2023		368	-	-	-	-
G-653 (2-2.5')	3/22/2023		64	-	-	-	-
G-655 (4-4.5')	4/6/2023		592	-	-	-	-
G-656 (4-4.5')	4/6/2023		560	-	-	-	-
G-657 (4-4.5')	4/11/2023		400	-	-	-	-
G-658 (2-2.5')	3/22/2023		608	-	-	-	-
G-658 (4-4.5')	3/27/2023		416	-	-	-	-
G-659 (4-4.5')	4/6/2023		3200	<10	<10	<10	<10
G-660 (4-4.5')	4/6/2023		240	<10	<10	<10	<10
G-661 (0-1')	4/6/2023		64	<10	<10	<10	<10
G-663 (2-2.5')	3/22/2023		208	-	-	-	-
G-664 (2-2.5')	3/22/2023		160	-	-	-	-
G-665 (4-4.5')	4/13/2023		688	-	-	-	-
G-666 (2-2.5')	4/6/2023		304	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte		Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method		4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)		600	-	-	-	100
Table I - Closure Criteria (>4' BGS)		10,000	1,000		-	2,500
Sample ID	Sample Date					
G-667 (2-2.5')	3/22/2023	512	-	-	-	-
G-668 (2-2.5')	3/22/2023	2480	-	-	-	-
G-668 (4-4.5')	3/27/2023	496	-	-	-	-
G-669 (2-2.5')	3/22/2023	3400	-	-	-	-
G-669 (4-4.5')	3/27/2023	448	-	-	-	-
G-670 (0-1')	4/6/2023	128	<10	<10	<10	<10
G-671 (0-1')	4/6/2023	176	<10	<10	<10	<10
G-672 (0-1')	4/6/2023	288	<10	<10	<10	<10
G-675 (2-2.5')	4/6/2023	224	-	-	-	-
G-676 (2-2.5')	3/22/2023	528	-	-	-	-
G-677 (2-2.5')	3/22/2023	448	-	-	-	-
G-678 (2-2.5')	3/22/2023	4320	-	-	-	-
G-678 (4-4.5')	3/27/2023	512	-	-	-	-
G-679 (4-4.5')	4/13/2023	832	-	-	-	-
G-683 (2-2.5')	3/22/2023	144	-	-	-	-
G-684 (2-2.5')	3/22/2023	192	-	-	-	-
G-685 (2-2.5')	3/22/2023	208	-	-	-	-
G-686 (4-4.5')	4/13/2023	416	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte		Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method		4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)		600	-	-	-	100
Table I - Closure Criteria (>4' BGS)		10,000	1,000		-	2,500
Sample ID	Sample Date					
G-687 (4-4.5')	4/14/2023	480	-	-	-	-
G-690 (2-2.5')	3/22/2023	160	-	-	-	-
G-691 (2-2.5')	3/22/2023	160	-	-	-	-
G-692 (4-4.5')	4/14/2023	800	-	-	-	-
G-693 (4-4.5')	4/13/2023	496	-	-	-	-
G-695 (2-2.5')	3/22/2023	80	-	-	-	-
G-696 (4-4.5')	4/13/2023	432	-	-	-	-
A-1 Northwall-1 (0-4')	4/18/2023	544	<10	<10	<10	<10
A-1 Northwall-2 (0-4')	4/18/2023	432	<10	<10	<10	<10
A-1 Northwall-3 (0-4')	4/22/2023	208	-	-	-	-
A-1 Westwall-1 (0-4')	4/22/2023	1280	-	-	-	-
A-1 Westwall-1A (0-4')	4/29/2023	208	-	-	-	-
A-1 Westwall-2 (0-4')	4/22/2023	1070	-	-	-	-
A-1 Westwall-2A (0-4')	4/29/2023	80	-	-	-	-
A-1 Westwall-3 (0-4')	4/22/2023	80	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte			Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method			4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)			600	-	-	-	100
Table I - Closure Criteria (>4' BGS)			10,000	1,000		-	2,500
Sample ID	Sample Date						
A-2 Eastwall-1 (0-4')	3/17/2023		**112**	<10	<10	<10	<10
A-2 Eastwall-2 (0-4')	3/17/2023		**368**	<10	<10	<10	<10
A-2 Westwall-1 (0-4')	3/17/2023		**48**	-	-	-	-
A-2 Westwall-2 (0-4')	3/17/2023		**288**	-	-	-	-
A-3 Westwall-1 (0-4')	3/17/2023		**48**	-	-	-	-
A-3 Westwall-2 (0-4')	3/17/2023		**400**	-	-	-	-
A-3 Eastwall-1 (0-4')	3/17/2023		**32**	<10	<10	<10	<10
A-3 Eastwall-2 (0-4')	3/17/2023		**48**	<10	<10	<10	<10
A-4 Eastwall-1 (0-4')	3/17/2023		**32**	<10	<10	<10	<10
A-4 Eastwall-2 (0-4')	3/17/2023		**48**	<10	<10	<10	<10
A-4 Westwall-1 (0-4')	3/17/2023		**3000**	-	-	-	-
WW-1 (0-4')	3/31/2023		**80**	-	-	-	-
A-4 Westwall-2 (0-4')	3/17/2023		**4640**	-	-	-	-
WW-2 (0-4')	3/31/2023		**160**	-	-	-	-
A-4 Westwall-3 (0-4')	3/17/2023		**5760**	-	-	-	-
WW-3 (0-4')	3/31/2023		**16**	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte			Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method			4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)			600	-	-	-	100
Table I - Closure Criteria (>4' BGS)			10,000	1,000		-	2,500
Sample ID	Sample Date						
A-5 Eastwall-1 (0-4')	3/17/2023		32	<10	<10	<10	<10
A-5 Eastwall-2 (0-4')	3/17/2023		48	<10	<10	<10	<10
A-5 Eastwall-3 (0-4')	3/17/2023		48	<10	<10	<10	<10
A-5 Westwall-1 (0-4')	3/17/2023		5760	-	-	-	-
WW-3 (0-4')	3/31/2023		16	-	-	-	-
A-5 Westwall-2 (0-4')	3/17/2023		3840	-	-	-	-
WW-4 (0-4')	3/31/2023		32	-	-	-	-
A-5 Westwall-3 (0-4')	3/17/2023		2000	-	-	-	-
WW-5 (0-4')	3/31/2023		272	-	-	-	-
A-6 Eastwall (0-4')	4/5/2023		880	<10	<10	<10	<10
A-6 Eastwall- 1B (0-4')	4/11/2023		48	<10	<10	<10	<10
A-6 Westwall-1 (0-4')	3/12/2023		688	<10	<10	<10	<10
A-6 Westwall-1A (0-4')	3/14/2023		448	-	-	-	-
A-6 Southwall-1A (0-4')	3/12/2023		176	<10	<10	<10	<10
A-6 Westwall-1 (0-4')	4/5/2023		2000	-	-	-	-
A-6 Westwall-1B (0-4')	4/11/2023		96	-	-	-	-
A-6 Westwall-2 (0-4')	4/5/2023		960	-	-	-	-
A-6 Westwall-2B (0-4')	4/11/2023		80	-	-	-	-

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte			Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method			4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)			600	-	-	-	100
Table I - Closure Criteria (>4' BGS)			10,000	1,000		-	2,500
Sample ID	Sample Date						
A-7 Eastwall (0-2')	4/5/2023		**80**	<10	<10	<10	<10
A-7 Westwall-1 (0-4')	4/5/2023		**848**	-	-	-	-
A-7 Westwall-1B (0-4')	4/11/2023		**80**	-	-	-	-
A-7 Northwall-2 (0-4')	3/12/2023		**1250**	<10	<10	<10	<10
A-7 Northwall-2A (0-4')	3/15/2023		**288**	-	-	-	-
A8- Eastwall-1 (0-4')	3/17/2023		**176**	<10	<10	<10	<10
A-8 Eastwall-2 (0-4')	3/17/2023		**160**	<10	<10	<10	<10
A-8 Eastwall-3 (0-4')	4/18/2023		**64**	<10	<10	<10	<10
A-8 Eastwall-4 (0-4')	4/18/2023		**608**	<10	<10	<10	<10
A-8 Eastwall-4B (0-4')	4/19/2023		**192**	-	-	-	-
A-8 Eastwall-5 (0-4')	4/18/2023		**11,600**	<10	**186**	**75**	**261**
A-8 Eastwall-5B (0-4')	4/19/2023		**64**	<10	<10	<10	<10
A-8 Westwall-1 (0-4')	3/17/2023		**320**	-	-	-	-
A-8 Westwall-2 (0-4')	3/17/2023		**2600**	-	-	-	-
WW-6 (0-4')	3/31/2023		**1880**	-	-	-	-
A-8 Westwall-2B (0-4')	4/12/2023		**2320**	-	-	-	-
A-8 Westwall-2C (0-4')	4/19/2023		**64**	-	-	-	-
A-9 Eastwall-1 (0-4')	4/11/2023		**5730**	<10	<10	<10	<10

Table 1 - Soil Analytical Data -
Response Action (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte			Chloride	TPH (C6-C10)	TPH (>C10-28)	TPH (>C28-36)	TPH
Method			4500-Cl-B	8015M	8015M	8015M	8015M
Table I - Closure Criteria (<4' BGS)			600	-	-	-	100
Table I - Closure Criteria (>4' BGS)			10,000	1,000		-	2,500
Sample ID	Sample Date						
A-9 Eastwall-1B (0-4')	4/13/2023		**1420**	-	-	-	-
A-9 Eastwall-1C (0-4')	4/17/2023		**1340**	-	-	-	-
A-9 Eastwall-1D (0-4')	4/18/2023		**656**	-	-	-	-
A-9 Eastwall-1E (0-4')	4/19/2023		**352**	-	-	-	-
A-9 Southeastwall-1 (0-4')	4/11/2023		**8080**	<10	<10	<10	<10
A-9 Southeastwall-1B (0-4')	4/13/2023		**480**	-	-	-	-
A-9 Southeastwall-2 (0-4')	4/11/2023		**288**	<10	<10	<10	<10
A-9 Southeastwall-3 (0-4')	4/11/2023		**32**	<10	<10	<10	<10
A-9 Southwestwall-1 (0-4')	4/11/2023		**80**	<10	<10	<10	<10
A-9 Southwestwall-3 (0-4')	4/17/2023		**576**	<10	<10	<10	<10
A-9 Southwestwall-4 (0-4')	4/17/2023		**128**	<10	<10	<10	<10

Notes:
All results are in mg/kg
Closure Criteria Soils - Table I of 19.15.29.12 NMAC
Variance Approved by NMOCD in December 7, 2022 email to Exclude TPH and BTEX from further evaluation and confirmation
TPH - Total Petroleum Hydrocarbons - includes GRO, DRO, MRO
BTEX - Benzene, Toluene, Ethylbenzene, Xylenes
<RL - results were not detected above the Laboratory Reporting Limit
- Not analyzed
Bold indicates a detection above the Laboratory Sample Reporting Limit
Shading indicates that a detected result exceeded the NMOCD Table 1 Closure Criteria Levels
* - Closure Criteria based on depth to groundwater greater than 51 feet below ground surface - onsite soil boring installed

APPENDIX A
Notification and Agency Correspondence

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	nAPP2209041864
District RP	
Facility ID	
Application ID	94798

Release Notification

Responsible Party

Responsible Party: Novo Oil & Gas Northern Delaware, LLC	OGRID 372920
Contact Name: Kurt A. Shipley	Contact Telephone: 405-286-3916
Contact email: kshipley@novoog.com	Incident # *(assigned by OCD)*: nAPP2209041864
Contact mailing address: 1001 West Wilshire Blvd., Suite 206 Oklahoma City, OK 73116	

Location of Release Source

Latitude 32.3405953 Longitude -104.0455863
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Hades North Loop	Site Type: Produced Water Line (production)
Date Release Discovered: 03/28/2022 at 6:30 am	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
D	1	T23S	R28E	Eddy

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls): 730	Volume Recovered (bbls): 300
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The leak occurred because of a rupture in the body of the poly pipe (not at a fused connection). The cause of the rupture is unknown at this time. We could not find the root cause with our field inspections. We sent the section of pipe with the rupture to be inspected by the distributor and the manufacturer of the pipe.

Volume Calculation is included on ATTACHMENT on page 3.

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2209041864
District RP	
Facility ID	
Application ID	94798

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Calculated volume of the release was 730 bbls of produced water, which is greater than the 25 bbl threshold defining a major release.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?

Immediate notification was provided by Kurt Shipley on March 28, 2022 at 4:47pm by phone. Notification was made to the NMOCD – Artesia Office (575.703.3842). A recorded message was provided on the hotline voicemail (Laura Polk). Bryan Haney with Altamira-US (on behalf of Novo Oil & Gas Northern Delaware, LLC.) submitted notification of a release (NOR) on the online OCD system on March 31, 2022.

Initial Response

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

☒ The source of the release has been stopped.

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

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

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

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

All actions above have been completed.

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

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

Printed Name: Kurt A. Shipley Title: Chief Operating Officer

Signature: _____ Date: March 31, 2022

email: kshipley@novoog.com Telephone: 405-286-3916

OCD Only

Received by: Jocelyn Harimon Date: 04/05/2022

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2209041864
District RP	
Facility ID	
Application ID	94798

ATTACHMENT

Release Volume Calculation:

Water rate on the receiving end of the Hades North Loop was 18,000 bbls of produced water per day. This was recorded on the San Mateo SCADA water meter. During the time that the pipe was leaking, the receiving end SCADA meter was receiving a rate 11,000 bbls of produced water per day. The difference was 18,000 bbls minus 11,000 bbls, equal to 7,000 bbls of produced water per day.

This is our estimated rate for the amount of water lost from the pipeline during the failure while the pipeline was in operation. The SCADA data shows the meter receiving the reduced rate from 4:00am to 6:30am (2.5 hours).

This calculates to 7,000 bbls per day / 24 hours = 292 bbls x 2.5 hours = 730 bbls.

From:	Hamlet, Robert, EMNRD
To:	Bryan Haney
Cc:	Kurt Shipley; jasonwhawley@gmail.com; Bratcher, Mike, EMNRD; Nobui, Jennifer, EMNRD
Subject:	RE: [EXTERNAL] nAPP2209041864 - 48-Hour Notification of Assessment Activities - Novo Hades North Loop Produced Water Release
Date:	Wednesday, April 20, 2022 10:18:45 AM
Attachments:	image003.png

Bryan,

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Robert Hamlet ● Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
811 S. First Street | Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Bryan Haney <Bryan.Haney@Altamira-US.com>
Sent: Tuesday, April 19, 2022 11:30 AM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>
Cc: Kurt Shipley <kshipley@novoog.com>; jasonwhawley@gmail.com
Subject: [EXTERNAL] nAPP2209041864 - 48-Hour Notification of Assessment Activities - Novo Hades North Loop Produced Water Release

Novo Oil & Gas is providing the 48-hour notification of field assessment activities for the above site. We will be conducting the assessment starting April 25-27th.

Scope of work will be installation of approximately 25 soil borings to 15 feet and collection of soil samples for analysis of chlorides, BTEX, and TPH.

Necessary permits have been obtained from the OSE and Shelly Tucker with the BLM will also be notified.

Thanks for your help and please let us know if you need any further information,

Bryan

Bryan Haney, TX P.G

Senior Project Manager | 361.658.3126 |

Bryan.Haney@altamira-us.com

altamira-us.com

From: Bryan Haney
To: Tucker, Shelly J
Cc: Kurt Shipley; jasonwhawley@gmail.com
Subject: FW: nAPP2209041864 - 48-Hour Notification of Assessment Activities - Novo Hades North Loop Produced Water Release
Date: Tuesday, April 19, 2022 12:38:00 PM
Attachments: image001.png
Scope of Work Detail - Soil Assessment - NOVO Prod Water Release.pdf
Proposed Soil Boring Location Map 4-12-2022.pdf

Hi Shelly,

I know I sent you our work plan and proposed soil boring locations, but wanted to ensure we followed up with the appropriate 48-hour notification regarding the Soil Assessment activities plan for April 25-27th. We will install approximately 25 soil borings for vertical and lateral delineation of what appears to be mainly chlorides. Following soil boring installation, boreholes will be properly plugged. It looks like most of this work will occur within the ROW/Easement.

We will have an air rotary drill rig and support trucks onsite to conduct this work.

Please let me know if you need any further information regarding this soil assessment.

Thanks for your help,

Bryan

Bryan Haney, TX P.G
Senior Project Manager | 361.658.3126 |
Bryan.Haney@altamira-us.com
altamira-us.com
ALTAMIRA

From: Bryan Haney
Sent: Tuesday, April 19, 2022 12:30 PM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>
Cc: Kurt Shipley <kshipley@novoog.com>; jasonwhawley@gmail.com
Subject: nAPP2209041864 - 48-Hour Notification of Assessment Activities - Novo Hades North Loop Produced Water Release

Novo Oil & Gas is providing the 48-hour notification of field assessment activities for the above site. We will be conducting the assessment starting April 25-27th.

Scope of work will be installation of approximately 25 soil borings to 15 feet and collection of soil samples for analysis of chlorides, BTEX, and TPH.

Necessary permits have been obtained from the OSE and Shelly Tucker with the BLM will also be notified.

Thanks for your help and please let us know if you need any further information,

Bryan

Bryan Haney, TX P.G

Senior Project Manager | 361.658.3126 |

Bryan.Haney@altamira-us.com

altamira-us.com

ALTAMIRA

From: OCDOnline@state.nm.us
To: Bryan Haney
Subject: The Oil Conservation Division (OCD) has approved the application, Application ID: 140472
Date: Thursday, October 13, 2022 3:27:01 PM

To whom it may concern (c/o Bryan Haney for NOVO OIL & GAS NORTHERN DELAWARE, LLC),

The OCD has approved the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2209041864, with the following conditions:

- **The Remediation Plan is Conditionally Approved. All off pad areas must contain a minimum of 4 feet non-waste containing uncontaminated, earthen material with chloride concentrations less than 600 mg/kg and less than 100 mg/kg for TPH. Floor confirmation samples should be delineated/excavated to meet closure criteria standards for site assessment/characterization/proven depth to water determination. Sidewall samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. Confirmation samples should be collected every 200 ft2. The spill rule states, "The samples must be analyzed for the constituents listed in Table I of 19.15.29.12 NMAC". To deviate from the rule, we need a detailed written demonstration that the variance will provide equal or better protection of fresh water, public health and the environment. A closure report will need to be completed and uploaded within 90 days.**

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you,
Robert Hamlet
575-748-1283
Robert.Hamlet@emnrd.nm.gov

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

From: Bryan Haney
To: "Hamlet, Robert, EMNRD"
Cc: "Kurt Shipley"; "Dara Tatum"
Subject: REQUEST FOR VARIANCE (TPH and BTEX Analysis) - Novo Hades North Loop nAPP2209041864
Date: Friday, October 28, 2022 2:01:00 PM
Attachments: image001.png
Figure 3.pdf
Table 2 - Analytcal Data Summary Table - Soil Assessment.pdf
H225015 ALTAMIRA.pdf

Rob,

Per our conversation late last week regarding Novo's request for a variance to remove TPH and BTEX from further confirmation sampling/analysis; Altamira installed two soil borings at the Novo Hades North Loop site as you requested, collected soil samples every foot to 4 feet bgs, and analyzed all soil samples for TPH and BTEX. The two soil boring locations were installed at SB-8 and SB-17. These locations were chosen based on the original data (highest benzene (SB-17) and only TPH concentration (SB-8)).

I have added the analytical results to the summary table attached (SB-8A and SB-17A). Seven of the 8 soil samples showed no detectable TPH or BTEX. One soil sample exhibited very low level BTEX, but well below the closure/assessment level.

During our phone call, you suggested that I send the data results directly to you for variance approval.

Novo would like to request a formal variance from the post excavation soil sampling protocol to: EXCLUDE TPH and BTEX constituents from further analysis and consideration following soil excavation/remediation activities.

Thank you Rob and let me know if you have any questions,

Bryan

Bryan Haney, TX P.G
Senior Project Manager | 361.658.3126 |
Bryan.Haney@altamira-us.com
altamira-us.com
ALTAMIRA

From: Bryan Haney
Sent: Tuesday, October 18, 2022 12:17 PM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>

Cc: Kurt Shipley <kshipley@novoog.com>; Dara Tatum <dtatum@novoog.com>
Subject: RE: The Oil Conservation Division (OCD) has approved the application, Application ID: 140472

Hi Rob,

When you have a minute, can we discuss the conditions below. I just need some clarity on a few things. This is how I currently understand it:

- Any delineation and confirmation soil samples will need to be below 600 mg/kg for chlorides – No problem and understand this
- Delineation appears to only be for chlorides and TPH, is this correct? Our delineation and confirmation soil samples would typically be the same. If it showed high, we would further excavate and then resample.
- Would you consider a variation based on our current data for TPH and BTEX presented in the Remediation Plan. Out of all the soil samples we collected, there were no TPH or BTEX exceedances. There was only one soil sample that showed detectable TPH and no soil samples that showed detectable Benzene. What else would we need to provide to request the variation to eliminate TPH and BTEX from confirmation soil sampling?

Please let me know so we can plan accordingly. We are trying to start the process of planning and need to clarify these items. If I can provide any other information for the variation, please let me know.

Thanks for your help,

Bryan Haney, TX P.G
Senior Project Manager | 361.658.3126 |
Bryan.Haney@altamira-us.com
altamira-us.com
ALTAMIRA

From: OCDOnline@state.nm.us <OCDOnline@state.nm.us>
Sent: Thursday, October 13, 2022 3:27 PM
To: Bryan Haney <Bryan.Haney@altamira-us.com>
Subject: The Oil Conservation Division (OCD) has approved the application, Application ID: 140472

To whom it may concern (c/o Bryan Haney for NOVO OIL & GAS NORTHERN DELAWARE, LLC),

The OCD has approved the submitted *Application for administrative approval of a release*

notification and corrective action (C-141), for incident ID (n#) nAPP2209041864, with the following conditions:

- **The Remediation Plan is Conditionally Approved. All off pad areas must contain a minimum of 4 feet non-waste containing uncontaminated, earthen material with chloride concentrations less than 600 mg/kg and less than 100 mg/kg for TPH. Floor confirmation samples should be delineated/excavated to meet closure criteria standards for site assessment/characterization/proven depth to water determination. Sidewall samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. Confirmation samples should be collected every 200 ft2. The spill rule states, "The samples must be analyzed for the constituents listed in Table I of 19.15.29.12 NMAC". To deviate from the rule, we need a detailed written demonstration that the variance will provide equal or better protection of fresh water, public health and the environment. A closure report will need to be completed and uploaded within 90 days.**

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you,
Robert Hamlet
575-748-1283
Robert.Hamlet@emnrd.nm.gov

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

From: Hamlet, Robert, EMNRD
To: Bryan Haney
Cc: Kurt Shipley; Dara Tatum
Subject: RE: [EXTERNAL] REQUEST FOR VARIANCE (TPH and BTEX Analysis) - Novo Hades North Loop nAPP2209041864
Date: Friday, October 28, 2022 3:04:35 PM
Attachments: image003.png

Bryan,

The variance request to exclude TPH and BTEX constituents from further analysis is approved. This is only for this particular incident on this site. Please make sure this variance approval is included in the remediation and/or closure report.

Robert Hamlet ● Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave.| Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Bryan Haney <Bryan.Haney@altamira-us.com>
Sent: Friday, October 28, 2022 1:02 PM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Cc: Kurt Shipley <kshipley@novoog.com>; Dara Tatum <dtatum@novoog.com>
Subject: [EXTERNAL] REQUEST FOR VARIANCE (TPH and BTEX Analysis) - Novo Hades North Loop nAPP2209041864

Rob,

Per our conversation late last week regarding Novo's request for a variance to remove TPH and BTEX from further confirmation sampling/analysis; Altamira installed two soil borings at the Novo Hades North Loop site as you requested, collected soil samples every foot to 4 feet bgs, and analyzed all soil samples for TPH and BTEX. The two soil boring locations were installed at SB-8 and SB-17. These locations were chosen based on the original data (highest benzene (SB-17) and only TPH concentration (SB-8)).

I have added the analytical results to the summary table attached (SB-8A and SB-17A). Seven of the 8 soil samples showed no detectable TPH or BTEX. One soil sample exhibited very low level BTEX, but well below the closure/assessment level.

During our phone call, you suggested that I send the data results directly to you for variance approval.

Novo would like to request a formal variance from the post excavation soil sampling protocol to: EXCLUDE TPH and BTEX constituents from further analysis and consideration following soil excavation/remediation activities.

Thank you Rob and let me know if you have any questions,

Bryan

Bryan Haney, TX P.G
Senior Project Manager | 361.658.3126 |
Bryan.Haney@altamira-us.com
altamira-us.com
ALTAMIRA

From: Bryan Haney
Sent: Tuesday, October 18, 2022 12:17 PM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>
Cc: Kurt Shipley <kshipley@novoog.com>; Dara Tatum <dtatum@novoog.com>
Subject: RE: The Oil Conservation Division (OCD) has approved the application, Application ID: 140472

Hi Rob,

When you have a minute, can we discuss the conditions below. I just need some clarity on a few things. This is how I currently understand it:

- Any delineation and confirmation soil samples will need to be below 600 mg/kg for chlorides – No problem and understand this
- Delineation appears to only be for chlorides and TPH, is this correct? Our delineation and confirmation soil samples would typically be the same. If it showed high, we would further excavate and then resample.
- Would you consider a variation based on our current data for TPH and BTEX presented in the Remediation Plan. Out of all the soil samples we collected, there were no TPH or BTEX exceedances. There was only one soil sample that showed detectable TPH and no soil samples that showed detectable Benzene. What else would we need to provide to request the variation to eliminate TPH and BTEX from confirmation soil sampling?

Please let me know so we can plan accordingly. We are trying to start the process of planning and need to clarify these items. If I can provide any other information for the variation, please let me know.

Thanks for your help,

Bryan Haney, TX P.G
Senior Project Manager | 361.658.3126 |
Bryan.Haney@altamira-us.com
altamira-us.com

From: OCDOnline@state.nm.us <OCDOnline@state.nm.us>
Sent: Thursday, October 13, 2022 3:27 PM
To: Bryan Haney <Bryan.Haney@altamira-us.com>
Subject: The Oil Conservation Division (OCD) has approved the application, Application ID: 140472

To whom it may concern (c/o Bryan Haney for NOVO OIL & GAS NORTHERN DELAWARE, LLC),

The OCD has approved the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2209041864, with the following conditions:

- **The Remediation Plan is Conditionally Approved. All off pad areas must contain a minimum of 4 feet non-waste containing uncontaminated, earthen material with chloride concentrations less than 600 mg/kg and less than 100 mg/kg for TPH. Floor confirmation samples should be delineated/excavated to meet closure criteria standards for site assessment/characterization/proven depth to water determination. Sidewall samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. Confirmation samples should be collected every 200 ft2. The spill rule states, "The samples must be analyzed for the constituents listed in Table I of 19.15.29.12 NMAC". To deviate from the rule, we need a detailed written demonstration that the variance will provide equal or better protection of fresh water, public health and the environment. A closure report will need to be completed and uploaded within 90 days.**

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you,
Robert Hamlet
575-748-1283

Robert.Hamlet@emnrd.nm.gov

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

From: OCDOnline@state.nm.us
To: Bryan Haney
Subject: The Oil Conservation Division (OCD) has approved the application, Application ID: 128664
Date: Wednesday, December 7, 2022 4:41:45 PM

To whom it may concern (c/o Bryan Haney for NOVO OIL & GAS NORTHERN DELAWARE, LLC),

The OCD has approved the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2209041864, with the following conditions:

- **Thank you for the Site Assessment. The variance request to exclude TPH and BTEX constituents from further analysis has been approved. Please make sure this variance approval is included in the remediation and/or closure report. Floor confirmation samples should be delineated/excavated to meet closure criteria standards for site assessment/characterization/proven depth to water determination. Sidewall samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. Confirmation samples should be collected every 200 ft2. All off pad areas must contain a minimum of 4 feet non-waste containing uncontaminated, earthen material with chloride concentrations less than 600 mg/kg and less than 100 mg/kg for TPH. A remediation plan should be submitted within 90 days of the date of discovery.**

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you,
Robert Hamlet
575-748-1283
Robert.Hamlet@emnrd.nm.gov

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

From: OCDOnline@state.nm.us
To: Bryan Haney
Subject: The Oil Conservation Division (OCD) has approved the application, Application ID: 128664
Date: Wednesday, December 7, 2022 4:41:45 PM

To whom it may concern (c/o Bryan Haney for NOVO OIL & GAS NORTHERN DELAWARE, LLC),

The OCD has approved the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2209041864, with the following conditions:

- **Thank you for the Site Assessment. The variance request to exclude TPH and BTEX constituents from further analysis has been approved. Please make sure this variance approval is included in the remediation and/or closure report. Floor confirmation samples should be delineated/excavated to meet closure criteria standards for site assessment/characterization/proven depth to water determination. Sidewall samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. Confirmation samples should be collected every 200 ft2. All off pad areas must contain a minimum of 4 feet non-waste containing uncontaminated, earthen material with chloride concentrations less than 600 mg/kg and less than 100 mg/kg for TPH. A remediation plan should be submitted within 90 days of the date of discovery.**

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you,
Robert Hamlet
575-748-1283
Robert.Hamlet@emnrd.nm.gov

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

From: Bryan Haney
To: Hamlet, Robert, EMNRD
Cc: Kurt Shipley; Dara Tatum
Subject: Incident nAPP2209041864 - Novo Hades North Loop Release
Date: Tuesday, January 10, 2023 12:25:00 PM
Attachments: 10-13-2022 - OCD approved the remediation Application ID 140472.pdf
image001.png
10-28-2022 - REQUEST FOR VARIANCE (TPH and BTEX Analysis) - Novo Hades North Loop nAPP2209041864.pdf
10-28-2022 APPROVAL - REQUEST FOR VARIANCE (TPH and BTEX Analysis) - Novo Hades North Loop nAPP2209041864.pdf

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Rob,

A couple questions and need for clarification for this project:

- We submitted the Remediation Plan and received NMOCD conditional approval on October 13, 2022 (attached)
- Based on the letter and conversation, we collected additional soil samples for analysis of TPH and BTEX to prove they are not COCs at this site and to request a variance to exclude TPH and BTEX from confirmation soil sampling
- October 28, 2022 – we prepared a request for variance to exclude TPH and BTEX from sampling and it was approved by NMOCD on the same day (attached).
- We received the email below, that appears to pertain to this same site; however, I need some clarification….

1. It would be my understanding that we DO NOT have to analyze for TPH or BTEX on any final confirmation soil samples (floor or side-wall)
2. For delineation where we had one TPH anomaly, we would need to show horizontal delineation for TPH at this location only
3. Groundwater has been determined to be greater than 51 feet
4. The note below is asking for a Remediation Plan in 90 days, however, we have already obtained conditional approval for our Remediation Plan – Do we need to submit a REVISED Remediation Plan??

Please let us know so we can finalize our planning.

Note, Novo has been working with their insurance company on this incident. I will need to submit a request to the NMOCD for a time extension to complete the soil remediation. I will try to outline a reasonable timeframe for completion based on our planning, insurance company decision and duration of remediation.

Thank you for your help on this,

Bryan

Bryan Haney, TX P.G
Senior Project Manager | 361.658.3126 |
Bryan.Haney@altamira-us.com

altamira-us.com

ALTAMIRA

From: OCDOnline@state.nm.us <OCDOnline@state.nm.us>
Sent: Wednesday, December 7, 2022 4:42 PM
To: Bryan Haney <Bryan.Haney@altamira-us.com>
Subject: The Oil Conservation Division (OCD) has approved the application, Application ID: 128664

To whom it may concern (c/o Bryan Haney for NOVO OIL & GAS NORTHERN DELAWARE, LLC),

The OCD has approved the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2209041864, with the following conditions:

- **Thank you for the Site Assessment. The variance request to exclude TPH and BTEX constituents from further analysis has been approved. Please make sure this variance approval is included in the remediation and/or closure report. Floor confirmation samples should be delineated/excavated to meet closure criteria standards for site assessment/characterization/proven depth to water determination. Sidewall samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. Confirmation samples should be collected every 200 ft2. All off pad areas must contain a minimum of 4 feet non-waste containing uncontaminated, earthen material with chloride concentrations less than 600 mg/kg and less than 100 mg/kg for TPH. A remediation plan should be submitted within 90 days of the date of discovery.**

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you,
Robert Hamlet
575-748-1283
Robert.Hamlet@emnrd.nm.gov

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

From: Bryan Haney
To: Hamlet, Robert, EMNRD
Cc: Kurt Shipley; Dara Tatum
Subject: Incident nAPP2209041864 - REQUEST FOR TIME EXTENSION - Novo Hades North Loop Release
Date: Wednesday, January 11, 2023 11:29:00 AM
Attachments: image001.png

Rob,

As mentioned in my email dated 1/10/2023 we have a conditionally approved Remediation Plan and the Variance to eliminate TPH and BTEX from further analysis of confirmation soil sampling.

Novo has been working with their insurance company on potential coverage for this incident. In addition, based on the variance, we are also refining our cost and internal planning.

This will be a rather long term remediation project once we can get it started. **Novo would like to request a TIME EXTENSION to initially cover the items above and start of active remediation**.

Thank you for your help and please let us know if you have any questions,

Bryan

Bryan Haney, TX P.G
Senior Project Manager | 361.658.3126 |
Bryan.Haney@altamira-us.com
altamira-us.com
ALTAMIRA

From: Hamlet, Robert, EMNRD
To: Bryan Haney
Cc: Kurt Shipley; Dara Tatum
Subject: RE: [EXTERNAL] Incident nAPP2209041864 - Novo Hades North Loop Release
Date: Wednesday, January 11, 2023 11:46:54 AM
Attachments: image003.png

Robert Hamlet ● Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave.| Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Bryan Haney <Bryan.Haney@altamira-us.com>
Sent: Tuesday, January 10, 2023 11:26 AM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Cc: Kurt Shipley <kshipley@novoog.com>; Dara Tatum <dtatum@novoog.com>
Subject: [EXTERNAL] Incident nAPP2209041864 - Novo Hades North Loop Release

Rob,

A couple questions and need for clarification for this project:

- We submitted the Remediation Plan and received NMOCD conditional approval on October 13, 2022 (attached)
- Based on the letter and conversation, we collected additional soil samples for analysis of TPH and BTEX to prove they are not COCs at this site and to request a variance to exclude TPH and BTEX from confirmation soil sampling
- October 28, 2022 – we prepared a request for variance to exclude TPH and BTEX from sampling and it was approved by NMOCD on the same day (attached).
- We received the email below, that appears to pertain to this same site; however, I need some clarification….

1. It would be my understanding that we DO NOT have to analyze for TPH or BTEX on any final confirmation soil samples (floor or side-wall) Yes, variance has been approved.
2. For delineation where we had one TPH anomaly, we would need to show horizontal delineation for TPH at this location only Yes, please show that it has been delineated.

3. Groundwater has been determined to be greater than 51 feet Please make sure depth to groundwater determination is outlined in closure report. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided. If evidence of depth to ground water within a ½ mile radius of the site cannot be provided, impacted soils will need to meet Table 1 Closure Criteria for ground water at a depth of 50 feet or less.
4. The note below is asking for a Remediation Plan in 90 days, however, we have already obtained conditional approval for our Remediation Plan – Do we need to submit a REVISED Remediation Plan?? If the Remediation Plan has been approved, a Closure Report is due 90 days after the Remediation Plan has been approved.

Please let us know so we can finalize our planning.

Note, Novo has been working with their insurance company on this incident. I will need to submit a request to the NMOCD for a time extension to complete the soil remediation. I will try to outline a reasonable timeframe for completion based on our planning, insurance company decision and duration of remediation.

Thank you for your help on this,

Bryan

Bryan Haney, TX P.G
Senior Project Manager | 361.658.3126 |
Bryan.Haney@altamira-us.com
altamira-us.com
ALTAMIRA

From: OCDOnline@state.nm.us <OCDOnline@state.nm.us>
Sent: Wednesday, December 7, 2022 4:42 PM
To: Bryan Haney <Bryan.Haney@altamira-us.com>
Subject: The Oil Conservation Division (OCD) has approved the application, Application ID: 128664

To whom it may concern (c/o Bryan Haney for NOVO OIL & GAS NORTHERN DELAWARE, LLC),

The OCD has approved the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2209041864, with the following conditions:

- **Thank you for the Site Assessment. The variance request to exclude TPH and BTEX**

constituents from further analysis has been approved. Please make sure this variance approval is included in the remediation and/or closure report. Floor confirmation samples should be delineated/excavated to meet closure criteria standards for site assessment/characterization/proven depth to water determination. Sidewall samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. Confirmation samples should be collected every 200 ft2. All off pad areas must contain a minimum of 4 feet non-waste containing uncontaminated, earthen material with chloride concentrations less than 600 mg/kg and less than 100 mg/kg for TPH. A remediation plan should be submitted within 90 days of the date of discovery.

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you,
Robert Hamlet
575-748-1283
Robert.Hamlet@emnrd.nm.gov

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

From: Hamlet, Robert, EMNRD
To: Bryan Haney
Cc: Kurt Shipley; Dara Tatum; Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD; Harimon, Jocelyn, EMNRD
Subject: (Final Extension Approval) Incident nAPP2209041864 - Novo Hades North Loop Release
Date: Wednesday, January 11, 2023 11:55:43 AM
Attachments: image003.png

RE: Incident #**NAPP2209041864**

Bryan,

Your request for an extension to **April 13th, 2023** is approved. This will be the **final extension** for this release. Please include this e-mail correspondence in the closure report.

Robert Hamlet ● Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave.| Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Bryan Haney <Bryan.Haney@altamira-us.com>
Sent: Wednesday, January 11, 2023 10:30 AM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Cc: Kurt Shipley <kshipley@novoog.com>; Dara Tatum <dtatum@novoog.com>
Subject: [EXTERNAL] Incident nAPP2209041864 - REQUEST FOR TIME EXTENSION - Novo Hades North Loop Release

Rob,

As mentioned in my email dated 1/10/2023 we have a conditionally approved Remediation Plan and the Variance to eliminate TPH and BTEX from further analysis of confirmation soil sampling.

Novo has been working with their insurance company on potential coverage for this incident. In addition, based on the variance, we are also refining our cost and internal planning.

This will be a rather long term remediation project once we can get it started. **Novo would like to request a TIME EXTENSION to initially cover the items above and start of active remediation**.

Thank you for your help and please let us know if you have any questions,

Bryan

Bryan Haney, TX P.G

Senior Project Manager | 361.658.3126 |

Bryan.Haney@altamira-us.com

altamira-us.com

From:	Hamlet, Robert, EMNRD
To:	Bryan Haney
Cc:	Kurt Shipley; Dara Tatum; Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD; Harimon, Jocelyn, EMNRD; Dara Tatum; Orlando Gonzalez
Subject:	RE: [EXTERNAL] RE: (Final Extension Approval) Incident nAPP2209041864 - Novo Hades North Loop Release
Date:	Friday, February 17, 2023 9:10:18 AM
Attachments:	image003.png

Bryan,

Let us know when the deadline gets a little closer. We might be able to give you an additional 30 days in a case like this.

Robert Hamlet ● Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave.| Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
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From: Bryan Haney <Bryan.Haney@altamira-us.com>
Sent: Thursday, February 16, 2023 3:17 PM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Cc: Kurt Shipley <kshipley@novoog.com>; Dara Tatum <dtatum@novoog.com>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>; Dara Tatum <dtatum@novoog.com>; Orlando Gonzalez <Orlando.Gonzalez@altamira-us.com>
Subject: [EXTERNAL] RE: (Final Extension Approval) Incident nAPP2209041864 - Novo Hades North Loop Release

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The concern is meeting the April 13th deadline. As soon as the pipeline is installed, we plan to start active remediation efforts. This is a sizeable area for remediation. We will make every effort to

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Please let us know if there are any aspects we need to consider. Novo wants to remain in compliance and plans to keep you updated on progress.

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Subject: RE: (Final Extension Approval) Incident nAPP2209041864 - Novo Hades North Loop Release

Rob, thank you. We will do the absolute best we can. We have been waiting on our insurance company and they had asked us to hold on any work until they finished review. The site will also be a bit complicated with the various pipelines. But again, we will do the best we can to meet this deadline.

Thank you

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To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Cc: Kurt Shipley <kshipley@novoog.com>; Dara Tatum <dtatum@novoog.com>
Subject: [EXTERNAL] Incident nAPP2209041864 - REQUEST FOR TIME EXTENSION - Novo Hades North Loop Release

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To: Hamlet, Robert, EMNRD
Cc: Kurt Shipley; Dara Tatum; Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD; Harimon, Jocelyn, EMNRD; Dara Tatum; Orlando Gonzalez
Subject: RE: (Final Extension Approval) Incident nAPP2209041864 - Novo Hades North Loop Release
Date: Thursday, February 16, 2023 4:16:00 PM
Attachments: image001.png
Novo Hades North Loop Pipeline 1.jpg
Novo Hades North Loop Pipeline 2.jpg
Novo Hades North Loop Pipeline 3.jpg

Rob,

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Subject: RE: (Final Extension Approval) Incident nAPP2209041864 - Novo Hades North Loop Release

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ALTAMIRA

From: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Sent: Wednesday, January 11, 2023 11:56 AM
To: Bryan Haney <Bryan.Haney@altamira-us.com>
Cc: Kurt Shipley <kshipley@novoog.com>; Dara Tatum <dtatum@novoog.com>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Subject: (Final Extension Approval) Incident nAPP2209041864 - Novo Hades North Loop Release

RE: Incident #**NAPP2209041864**

Bryan,

Your request for an extension to **April 13th, 2023** is approved. This will be the **final extension** for this release. Please include this e-mail correspondence in the closure report.

Robert Hamlet ● Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave.| Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Bryan Haney <Bryan.Haney@altamira-us.com>
Sent: Wednesday, January 11, 2023 10:30 AM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Cc: Kurt Shipley <kshipley@novoog.com>; Dara Tatum <dtatum@novoog.com>
Subject: [EXTERNAL] Incident nAPP2209041864 - REQUEST FOR TIME EXTENSION - Novo Hades North Loop Release

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Bryan

Bryan Haney, TX P.G
Senior Project Manager | 361.658.3126 |
Bryan.Haney@altamira-us.com
altamira-us.com
ALTAMIRA

From:	Bryan Haney
To:	Hamlet, Robert, EMNRD; Morgan, Crisha A
Cc:	Kurt Shipley; Dara Tatum; Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD; Harimon, Jocelyn, EMNRD; Dara Tatum; Orlando Gonzalez
Subject:	RE: [EXTERNAL] RE: (Final Extension Approval) Incident nAPP2209041864 - Novo Hades North Loop Release
Date:	Tuesday, April 11, 2023 1:52:00 PM
Attachments:	image001.png

Rob and Crisha,

Please refer to email chain below regarding timeline for remediation at the Novo Hades North Loop Site.

Following installation and partial backfill of Novo's new gas line, we began remediation efforts. We have been slightly slowed down due to the Plains Pipeline oil line; however, we have confirmed arrangements with Plains to complete excavation where required adjacent and up to their pipeline. We are also working on side-wall sampling in other portions of the remediation area.

You had indicated below that we should reach back out to you closer to time to evaluate our scenario and request additional time to complete remediation efforts. Remaining efforts include:

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Thank you for your consideration and hope to have this complete very soon,

Bryan

Bryan Haney, TX P.G

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Bryan.Haney@altamira-us.com

altamira-us.com

ALTAMIRA

From: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Sent: Friday, February 17, 2023 9:10 AM
To: Bryan Haney <Bryan.Haney@altamira-us.com>
Cc: Kurt Shipley <kshipley@novoog.com>; Dara Tatum <dtatum@novoog.com>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>; Dara Tatum <dtatum@novoog.com>; Orlando Gonzalez <Orlando.Gonzalez@altamira-us.com>
Subject: RE: [EXTERNAL] RE: (Final Extension Approval) Incident nAPP2209041864 - Novo Hades North Loop Release

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Cc: Kurt Shipley <kshipley@novoog.com>; Dara Tatum <dtatum@novoog.com>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>; Dara Tatum <dtatum@novoog.com>; Orlando Gonzalez <Orlando.Gonzalez@altamira-us.com>
Subject: [EXTERNAL] RE: (Final Extension Approval) Incident nAPP2209041864 - Novo Hades North Loop Release

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Subject: RE: (Final Extension Approval) Incident nAPP2209041864 - Novo Hades North Loop Release

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Thank you

Bryan Haney, TX P.G
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Bryan.Haney@altamira-us.com
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ALTAMIRA

From: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Sent: Wednesday, January 11, 2023 11:56 AM
To: Bryan Haney <Bryan.Haney@altamira-us.com>
Cc: Kurt Shipley <kshipley@novoog.com>; Dara Tatum <dtatum@novoog.com>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Subject: (Final Extension Approval) Incident nAPP2209041864 - Novo Hades North Loop Release

RE: Incident #**NAPP2209041864**

Bryan,

Your request for an extension to **April 13th, 2023** is approved. This will be the **final extension** for this release. Please include this e-mail correspondence in the closure report.

Robert Hamlet ● Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave.| Artesia, NM 88210
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To:	Bryan Haney
Cc:	Kurt Shipley; Dara Tatum; Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD; Harimon, Jocelyn, EMNRD; Dara Tatum; Orlando Gonzalez
Subject:	(Final Extension Approval) Incident nAPP2209041864 - Novo Hades North Loop Release
Date:	Tuesday, April 11, 2023 2:34:52 PM
Attachments:	image003.png

RE: Incident #**NAPP2209041864**

Bryan,

Your request for an extension to **June 8th, 2023** is approved. This will be the **final extension** for this release with no exceptions. Please include this e-mail correspondence in the remediation and/or closure report.

Robert Hamlet ● Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave.| Artesia, NM 88210
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http://www.emnrd.state.nm.us/OCD/

From: Bryan Haney <Bryan.Haney@altamira-us.com>
Sent: Tuesday, April 11, 2023 12:53 PM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Morgan, Crisha A <camorgan@blm.gov>
Cc: Kurt Shipley <kshipley@novoog.com>; Dara Tatum <dtatum@novoog.com>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>; Dara Tatum <dtatum@novoog.com>; Orlando Gonzalez <Orlando.Gonzalez@altamira-us.com>
Subject: RE: [EXTERNAL] RE: (Final Extension Approval) Incident nAPP2209041864 - Novo Hades North Loop Release

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Sent: Friday, February 17, 2023 9:10 AM
To: Bryan Haney <Bryan.Haney@altamira-us.com>
Cc: Kurt Shipley <kshipley@novoog.com>; Dara Tatum <dtatum@novoog.com>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>; Dara Tatum <dtatum@novoog.com>; Orlando Gonzalez <Orlando.Gonzalez@altamira-us.com>
Subject: RE: [EXTERNAL] RE: (Final Extension Approval) Incident nAPP2209041864 - Novo Hades North Loop Release

Bryan,

Let us know when the deadline gets a little closer. We might be able to give you an additional 30 days in a case like this.

Robert Hamlet ● Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave.| Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Bryan Haney <Bryan.Haney@altamira-us.com>
Sent: Thursday, February 16, 2023 3:17 PM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Cc: Kurt Shipley <kshipley@novoog.com>; Dara Tatum <dtatum@novoog.com>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>; Dara Tatum <dtatum@novoog.com>; Orlando Gonzalez <Orlando.Gonzalez@altamira-us.com>
Subject: [EXTERNAL] RE: (Final Extension Approval) Incident nAPP2209041864 - Novo Hades North Loop Release

Rob,

Remediation efforts for the Novo Hades Release has been temporarily paused. Novo is installing a new pipeline within the remediation area. I have included several photos showing the placement of the pipeline. We cannot proceed until the new pipeline is installed. We will dispose of all soil excavated for the placement of the new pipeline. It is anticipated that the line will be in the ground and backfilled to 4 feet bgs within the next two weeks, pending any weather delays.

The concern is meeting the April 13th deadline. As soon as the pipeline is installed, we plan to start active remediation efforts. This is a sizeable area for remediation. We will make every effort to meet the April 13th deadline, but wanted to make sure you all are updated on the delay. We were delayed initially because Novo was waiting to hear back from the insurance company. Unfortunate challenges, but we will push forward.

Please let us know if there are any aspects we need to consider. Novo wants to remain in compliance and plans to keep you updated on progress.

Thank you,

Bryan

Bryan Haney, TX P.G
Senior Project Manager | 361.658.3126 |
Bryan.Haney@altamira-us.com
altamira-us.com

ALTAMIRA

From: Bryan Haney
Sent: Wednesday, January 11, 2023 11:59 AM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Cc: Kurt Shipley <kshipley@novoog.com>; Dara Tatum <dtatum@novoog.com>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Subject: RE: (Final Extension Approval) Incident nAPP2209041864 - Novo Hades North Loop Release

Rob, thank you. We will do the absolute best we can. We have been waiting on our insurance company and they had asked us to hold on any work until they finished review. The site will also be a bit complicated with the various pipelines. But again, we will do the best we can to meet this deadline.

Thank you

Bryan Haney, TX P.G
Senior Project Manager | 361.658.3126 |
Bryan.Haney@altamira-us.com
altamira-us.com

ALTAMIRA

From: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Sent: Wednesday, January 11, 2023 11:56 AM
To: Bryan Haney <Bryan.Haney@altamira-us.com>
Cc: Kurt Shipley <kshipley@novoog.com>; Dara Tatum <dtatum@novoog.com>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Subject: (Final Extension Approval) Incident nAPP2209041864 - Novo Hades North Loop Release

RE: Incident #**NAPP2209041864**

Bryan,

Your request for an extension to **April 13th, 2023** is approved. This will be the **final extension** for this release. Please include this e-mail correspondence in the closure report.

Robert Hamlet ● Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave.| Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Bryan Haney <Bryan.Haney@altamira-us.com>
Sent: Wednesday, January 11, 2023 10:30 AM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Cc: Kurt Shipley <kshipley@novoog.com>; Dara Tatum <dtatum@novoog.com>
Subject: [EXTERNAL] Incident nAPP2209041864 - REQUEST FOR TIME EXTENSION - Novo Hades North Loop Release

Rob,

As mentioned in my email dated 1/10/2023 we have a conditionally approved Remediation Plan and the Variance to eliminate TPH and BTEX from further analysis of confirmation soil sampling.

Novo has been working with their insurance company on potential coverage for this incident. In addition, based on the variance, we are also refining our cost and internal planning.

This will be a rather long term remediation project once we can get it started. **Novo would like to request a TIME EXTENSION to initially cover the items above and start of active remediation**.

Thank you for your help and please let us know if you have any questions,

Bryan

Bryan Haney, TX P.G
Senior Project Manager | 361.658.3126 |

Bryan.Haney@altamira-us.com

altamira-us.com

From: OCDOnline@state.nm.us
To: Bryan Haney
Subject: The Oil Conservation Division (OCD) has approved the application, Application ID: 96057
Date: Tuesday, April 5, 2022 12:54:07 PM

To whom it may concern (c/o Bryan Haney for NOVO OIL & GAS NORTHERN DELAWARE, LLC),

The OCD has approved the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2209041864, with the following conditions:

- **None**

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you,
Jocelyn Harimon
Environmental Specialist
575-748-1283
Jocelyn.Harimon@state.nm.us

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

From: Tucker, Shelly J
To: Bryan Haney
Subject: Re: [EXTERNAL] Spill Report - Initial 24 Hour
Date: Wednesday, April 6, 2022 11:11:06 AM
Attachments: image002.png
image003.png

Yes you are authorized to scrape within your 70' ROW.

I have you cleared for the botany portion. I spoke with our botanist and she cleared you.

For the Karst survey I am going to speak with our Karst specialist and see if she going to require a full survey or if she will clear you. If she requires a full survey she will give you a list of approved contractors. You would contact one of them and they would come out and perform a survey. A copy would be submitted to us and you.

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

Sincerely,

Shelly J Tucker

Environmental Protection Specialist
Realty - Compliance

Bureau of Land Management
620 E. Greene St
Carlsbad, NM 88220

575.234.5706 - Direct
575.499.6831 - Mobile

stucker@blm.gov

From: Bryan Haney <Bryan.Haney@Altamira-US.com>
Sent: Friday, April 1, 2022 1:37 PM
To: Tucker, Shelly J <stucker@blm.gov>
Subject: RE: [EXTERNAL] Spill Report - Initial 24 Hour

Shelly,

Sorry to bother again with this, but did I understand you say that we could excavate shallow soils within a 70-foot width? Its been a long week and I want to make sure I have the correct.

Also, your notes below indicate we have to have an approved remediation plan. We would like to basically scrape up the standing visible salt from the surface to prevent any further spread or

leaching.

In the past we were not provided the amount of detail that you have listed below, so just making sure I understand the process.

What is typically done to conduct the species survey and karst survey?

Thank you for your help,

Bryan

Bryan Haney, TX P.G
Senior Project Manager | 361.658.3126 |
Bryan.Haney@altamira-us.com
altamira-us.com
ALTAMIRA

From: Tucker, Shelly J <stucker@blm.gov>
Sent: Tuesday, March 29, 2022 6:22 PM
To: Kurt Shipley <kshipley@novoog.com>; Mike Bratcher (mike.bratcher@state.nm.us) <mike.bratcher@state.nm.us>; Bryan Haney <Bryan.Haney@Altamira-US.com>; Gomez, Robert <rgomez@blm.gov>
Subject: Re: [EXTERNAL] Spill Report - Initial 24 Hour

Based on current data and information that you have submitted to the BLM, please be aware of the following environmental items prior to any sampling or excavation activities.

1. Release Date & GPS: 03.28.2022 -104.045586, 32.3405953
2. The point of release occurred within **Novo Oil & Gas – Buried Saltwater Line – Need ROW # and name** which is **covered under a previous survey**, *no additional archeological surveys* will be required.
3. The release **did not impact any known archaeological area**.
4. This area **is** located within a **Medium karst zone** a karst survey **will be required.**
5. This site is **cleared** of **flood zones, active playas, watershed, intermittent streams, etc.**
6. Site **is** located within a **Special Status Plant Species** area. The site **will require a survey**.
7. The site **is not** located within a wildlife T&E species habitat.
8. Area **is not** located within *Shinnery Oak PDO.*

9. Soils are within the **Simona-Bippus Complex.**
10. BLM Seed Mix**: 2 - Sand** will be required for remedial actions.
11. Area is noted to be within **0-5% slope**.
12. Site **is not** located within a *Special Area of concern*.
13. Site **is not** located within **ACEC**.
14. Site **is** located within approved *Potash* development area – Rana Salada 0106 and SOPA.

Initial Stipulations:

1. Prior to any staging or excavation activities, all surveys (if required) must be completed, and you must have an approved Corrective Action Plan from the BLM and NMOCD.
2. A copy of the cleanup plan and conditions of approval must be given to the contractor or site work personnel and be present on the location during all cleanup operations.
3. The authorized officer **must be notified** at the following phases of cleanup or conditions**:**

    1. Prior to moving equipment on site for cleanup
    2. When the excavation is nearing completion and a BLM inspection of the excavation or witnessing of sampling is required by the cleanup plan COA's.
    3. When the remedial action is nearing completion, to schedule a final onsite **prior** to removal of equipment.
    4. Three days **prior** to the site being seeded (if reseeding is required).
    5. **Any time** that a variance of the approved plan or conditions of approval is required.
    6. In the event that you encounter excavation difficulties, unexpected void areas, or archeological artifacts the Authorized Officer must be contacted immediately. An onsite may be required to assess the situation.
    7. **24 hour sampling notification will be required prior to confirmation samples**.

4. You are **not authorized** to stage equipment nor work outside your approved easement. If this release has impacted areas outside of the authorized easement, you must contact the Authorized Officer for authorization to work outside of the authorized easement.

Cleanup Stipulations:

1. The BLM requires horizontal and vertical delineation of the spill impacted.
2. The BLM may wish to inspect the excavation once it reaches cleanup depth/width. Confirmation samples of excavation bottom, sidewalls, and any visibly affected areas outside of the excavation trench will be required; the BLM may witness the sampling.

Contact the authorized officer to schedule

3. Lab analysis of the confirmation sampling must be forwarded to the authorized officer for final approval before backfilling. Based on the sampling results, additional cleanup may be required, or the site may be approved for closure.
4. Once final approval of cleanup is given, the excavation can be backfilled with clean soil to the level of the original native contour plus enough loft to accommodate the settling and compaction of unconsolidated fill soils.
5. At the time of the final onsite for this location, the easement, access road, and the surrounding pasture areas must be in a condition that will pass a routine inspection.
6. All household trash, debris, disconnected pipe and equipment must be removed from the area and the surrounding pasture and hauled to an authorized landfill. Do not bury cleanup trash, equipment debris, or household garbage in the cleanup excavation.

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

Sincerely,

Shelly J Tucker

Environmental Protection Specialist
Realty - Compliance

Bureau of Land Management
620 E. Greene St
Carlsbad, NM 88220

575.234.5706 - Direct
575.499.6831 - Mobile

stucker@blm.gov

From: Kurt Shipley <kshipley@novoog.com>
Sent: Monday, March 28, 2022 3:32 PM
To: Mike Bratcher (mike.bratcher@state.nm.us) <mike.bratcher@state.nm.us>; Bryan Haney (bryan.haney@altamira-us.com) <bryan.haney@altamira-us.com>; CFO_Spill, BLM_NM <BLM_NM_CFO_Spill@blm.gov>
Subject: [EXTERNAL] Spill Report - Initial 24 Hour

This is an email follow-up to our 24 hour initial spill notification. We had a pipeline leak at 6:30am on 3-28-2022 on federal land. I called the BLM Spill Hotline and left a message at 4:10pm on 3/27/2022 and I called the NMOCD Spill Hotline but the voicemail was full. I called the NMOCD Artesia Office and left a notification message with Laura Polk at 4:47pm on 3-28-2022.

We are now preparing our formal report.

I have included the initial reports, the location and some photos.

Kurt A. Shipley
Chief Operating Officer
Novo Oil & Gas, LLC
1001 West Wilshire Blvd, Suite 206
Oklahoma City, OK 73116
www.novoog.com

From: Tucker, Shelly J
To: Bryan Haney
Subject: Re: [EXTERNAL] Spill Report - Initial 24 Hour
Date: Wednesday, April 6, 2022 11:55:41 AM
Attachments: image001.png
image002.png

You are now cleared for Karst.

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

Sincerely,

Shelly J Tucker

Environmental Protection Specialist
Realty - Compliance

Bureau of Land Management
620 E. Greene St
Carlsbad, NM 88220

575.234.5706 - Direct
575.499.6831 - Mobile

stucker@blm.gov

From: Bryan Haney <Bryan.Haney@Altamira-US.com>
Sent: Wednesday, April 6, 2022 10:23 AM
To: Tucker, Shelly J <stucker@blm.gov>
Subject: RE: [EXTERNAL] Spill Report - Initial 24 Hour

Sounds great, thank you for the update and clarifications.

Bryan

Bryan Haney, TX P.G
Senior Project Manager | 361.658.3126 |
Bryan.Haney@altamira-us.com
altamira-us.com
ALTAMIRA

From: Tucker, Shelly J <stucker@blm.gov>

Sent: Wednesday, April 6, 2022 11:11 AM
To: Bryan Haney <Bryan.Haney@Altamira-US.com>
Subject: Re: [EXTERNAL] Spill Report - Initial 24 Hour

Yes you are authorized to scrape within your 70' ROW.

I have you cleared for the botany portion. I spoke with our botanist and she cleared you.

For the Karst survey I am going to speak with our Karst specialist and see if she going to require a full survey or if she will clear you. If she requires a full survey she will give you a list of approved contractors. You would contact one of them and they would come out and perform a survey. A copy would be submitted to us and you.

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

Sincerely,

Shelly J Tucker

Environmental Protection Specialist
Realty - Compliance

Bureau of Land Management
620 E. Greene St
Carlsbad, NM 88220

575.234.5706 - Direct
575.499.6831 - Mobile

stucker@blm.gov

From: Bryan Haney <Bryan.Haney@Altamira-US.com>
Sent: Friday, April 1, 2022 1:37 PM
To: Tucker, Shelly J <stucker@blm.gov>
Subject: RE: [EXTERNAL] Spill Report - Initial 24 Hour

Shelly,

Sorry to bother again with this, but did I understand you say that we could excavate shallow soils within a 70-foot width? Its been a long week and I want to make sure I have the correct.

Also, your notes below indicate we have to have an approved remediation plan. We would like to basically scrape up the standing visible salt from the surface to prevent any further spread or leaching.

In the past we were not provided the amount of detail that you have listed below, so just making sure I understand the process.

What is typically done to conduct the species survey and karst survey?

Thank you for your help,

Bryan

Bryan Haney, TX P.G
Senior Project Manager | 361.658.3126 |
Bryan.Haney@altamira-us.com
altamira-us.com
ALTAMIRA

From: Tucker, Shelly J <stucker@blm.gov>
Sent: Tuesday, March 29, 2022 6:22 PM
To: Kurt Shipley <kshipley@novoog.com>; Mike Bratcher (mike.bratcher@state.nm.us) <mike.bratcher@state.nm.us>; Bryan Haney <Bryan.Haney@Altamira-US.com>; Gomez, Robert <rgomez@blm.gov>
Subject: Re: [EXTERNAL] Spill Report - Initial 24 Hour

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5. This site is **cleared** of **flood zones, active playas, watershed, intermittent streams, etc.**
6. Site **is** located within a **Special Status Plant Species** area. The site **will require a survey**.
7. The site **is not** located within a wildlife T&E species habitat.
8. Area **is not** located within *Shinnery Oak PDO.*
9. Soils are within the **Simona-Bippus Complex.**
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11. Area is noted to be within **0-5% slope**.

12. Site **is not** located within a *Special Area of concern*.
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14. Site **is** located within approved *Potash* development area – Rana Salada 0106 and SOPA.

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    4. Three days **prior** to the site being seeded (if reseeding is required).
    5. **Any time** that a variance of the approved plan or conditions of approval is required.
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2. The BLM may wish to inspect the excavation once it reaches cleanup depth/width. Confirmation samples of excavation bottom, sidewalls, and any visibly affected areas outside of the excavation trench will be required; the BLM may witness the sampling. Contact the authorized officer to schedule
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4. Once final approval of cleanup is given, the excavation can be backfilled with clean soil to the level of the original native contour plus enough loft to accommodate the settling

and compaction of unconsolidated fill soils.

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6. All household trash, debris, disconnected pipe and equipment must be removed from the area and the surrounding pasture and hauled to an authorized landfill. Do not bury cleanup trash, equipment debris, or household garbage in the cleanup excavation.

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

Sincerely,

Shelly J Tucker

Environmental Protection Specialist
Realty - Compliance

Bureau of Land Management
620 E. Greene St
Carlsbad, NM 88220

575.234.5706 - Direct
575.499.6831 - Mobile

stucker@blm.gov

From: Kurt Shipley <kshipley@novoog.com>
Sent: Monday, March 28, 2022 3:32 PM
To: Mike Bratcher (mike.bratcher@state.nm.us) <mike.bratcher@state.nm.us>; Bryan Haney (bryan.haney@altamira-us.com) <bryan.haney@altamira-us.com>; CFO_Spill, BLM_NM <BLM_NM_CFO_Spill@blm.gov>
Subject: [EXTERNAL] Spill Report - Initial 24 Hour

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

This is an email follow-up to our 24 hour initial spill notification. We had a pipeline leak at 6:30am on 3-28-2022 on federal land. I called the BLM Spill Hotline and left a message at 4:10pm on 3/27/2022 and I called the NMOCD Spill Hotline but the voicemail was full. I called the NMOCD Artesia Office and left a notification message with Laura Polk at 4:47pm on 3-28-2022.

We are now preparing our formal report.

I have included the initial reports, the location and some photos.

Kurt A. Shipley
Chief Operating Officer
Novo Oil & Gas, LLC
1001 West Wilshire Blvd, Suite 206
Oklahoma City, OK 73116
www.novoog.com

From: OCDOnline@state.nm.us
To: Bryan Haney
Subject: OCD Receipt of Fee Application Payment
Date: Tuesday, July 26, 2022 10:02:18 AM
Attachments: OCDReceiptOfFeePayment.pdf

Thank you for your fee application payment! Your receipt is attached.

PO Number:	FLUI0-220726-C-1410
Payment Date:	7/26/2022
Payment Amount:	$150.00
Payment Type:	Credit Card

Application Type:	Application for administrative approval of a release notification and corrective action
Fee Amount:	$150.00
Application Status:	Under OCD Review

OGRID:	372920
First Name:	Bryan
Last Name:	Haney
Email:	bryan.haney@altamira-us.com

IMPORTANT: If you are mailing or delivering your application, you must print and include your receipt of payment as the first page on your application. All mailed and delivered applications must be sent to the following address: 1220 S. St. Francis Dr., Santa Fe, NM 87505. For inquiries, reference the PO Number listed above.

Oil Conservation Division * 1220 South St. Francis Drive * Santa Fe, New Mexico 87505
(505) 476-3441 * ocd.fees@state.nm.us * www.emnrd.nm.gov/OCD

This is an automated email please do not reply.

From: Morgan, Crisha A
To: Bryan Haney; BLM_NM_CFO_REALTY_Spill
Cc: Kurt Shipley; Dara Tatum
Subject: Re: [EXTERNAL] nAPP2209041864 - Novo Hades North Loop Produced Water Release Remediation Plan
Date: Friday, January 13, 2023 2:53:04 PM
Attachments: image001.png

Received! Thank you for the update! I will add this to the current file.

Thank you,

Crisha A. Morgan |Certified - Environmental Protection Specialist | Program Officer|COR| Spills Coordinator| Orphaned Well POC Lead
Bureau of Land Management | Carlsbad Field Office
620 E. Greene Street Carlsbad, NM 88220
Cell 575-200-8648 | Office 575-234-5987 |camorgan@blm.gov

image

From: Bryan Haney <Bryan.Haney@altamira-us.com>
Sent: Friday, January 13, 2023 1:49:12 PM
To: Morgan, Crisha A <camorgan@blm.gov>; BLM_NM_CFO_REALTY_Spill <blm_nm_cfo_realty_spill@blm.gov>
Cc: Kurt Shipley <kshipley@novoog.com>; Dara Tatum <dtatum@novoog.com>
Subject: [EXTERNAL] nAPP2209041864 - Novo Hades North Loop Produced Water Release Remediation Plan

Crisha,

Attached is the NMOCD approved remediation plan for the Hades North Loop Site. We plan to start this remediation project within the next month, pending contractors and final decisions from

insurance company.

Thanks and please reach out if you have any questions.

Bryan

Bryan Haney, TX P.G

Senior Project Manager | 361.658.3126 |

Bryan.Haney@altamira-us.com

altamira-us.com

From: Morgan, Crisha A
To: Bryan Haney
Subject: Re: [EXTERNAL] BLM Seed Mix Requirement for Novo Hades North Loop Site
Date: Tuesday, April 4, 2023 1:13:27 PM
Attachments: image001.png
Outlook-2xomeaag.png
Seed_Mixture_2_Sandy_Sites.doc

Sure thing!

This location will require BLM seed mixture #2 for sandy sites. I have attached a copy for your records.

Let me know if you need anything else!

Thank you,

Crisha A. Morgan |Certified - Environmental Protection Specialist | Program Officer|COR| Spills Coordinator| Orphaned Well POC Lead
Bureau of Land Management | Carlsbad Field Office
620 E. Greene Street Carlsbad, NM 88220
Cell 575-200-8648 | Office 575-234-5987 |camorgan@blm.gov

From: Bryan Haney <Bryan.Haney@altamira-us.com>
Sent: Friday, March 31, 2023 10:24 AM
To: Morgan, Crisha A <camorgan@blm.gov>
Subject: [EXTERNAL] BLM Seed Mix Requirement for Novo Hades North Loop Site

Hi Crisha,

We are currently conducting soil remediation efforts at the Novo Hades North Loop Site. I have included the Site coordinates below. Can you please let us know what BLM seed mix and cover

crops that should be used for this area?

N32.3405953
W-104.0455863

Thank you,

Bryan

Bryan Haney, TX P.G

Senior Project Manager | 361.658.3126 |

Bryan.Haney@altamira-us.com

altamira-us.com

APPENDIX B
Photographic Documentation

Appendix B
Photograph Log – Hades North Loop Produced Water Releases
Incident ID: nAPP2209041864

View south at release area prior to remediation, Novo installing new pipeline

View south area release area prior to remediation

Appendix B
Photograph Log – Hades North Loop Produced Water Releases
Incident ID: nAPP2209041864

Active soil remediation in Areas 6 and 7

View south towards southern portion of remediation

Appendix B
Photograph Log – Hades North Loop Produced Water Releases
Incident ID: nAPP2209041864

View north at soil remediation and portions of backfilled area

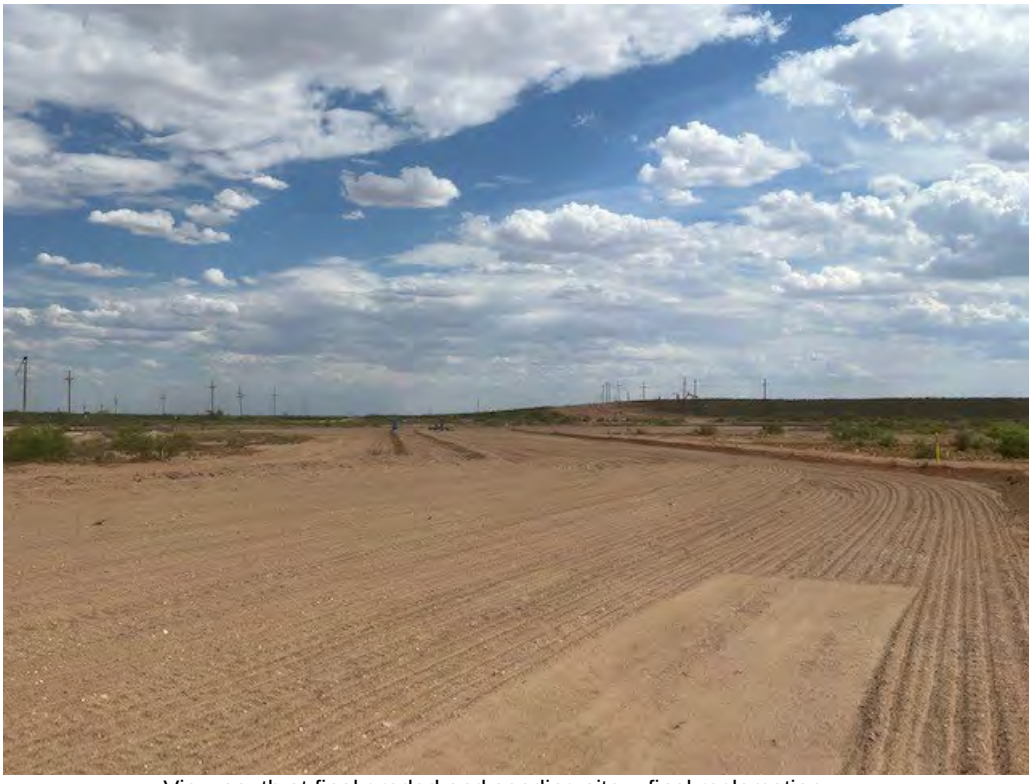
View along northeast portion of site at hydro-excavation along Plains pipeline

Appendix B
Photograph Log – Hades North Loop Produced Water Releases
Incident ID: nAPP2209041864

View north at backfilled remediation area and seeding rows

View of south end of site – backfilled and seeding rows

Appendix B
Photograph Log – Hades North Loop Produced Water Releases
Incident ID: nAPP2209041864



View south at final graded and seeding site – final reclamation

View of south end of Site – final grade and seeding – final reclamation

APPENDIX C
TPH- BTEX Variance Documentation

From: Bryan Haney
To: "Hamlet, Robert, EMNRD"
Cc: "Kurt Shipley"; "Dara Tatum"
Subject: REQUEST FOR VARIANCE (TPH and BTEX Analysis) - Novo Hades North Loop nAPP2209041864
Date: Friday, October 28, 2022 2:01:00 PM
Attachments: image001.png
Figure 3.pdf
Table 2 - Analytcal Data Summary Table - Soil Assessment.pdf
H225015 ALTAMIRA.pdf

Rob,

Per our conversation late last week regarding Novo's request for a variance to remove TPH and BTEX from further confirmation sampling/analysis; Altamira installed two soil borings at the Novo Hades North Loop site as you requested, collected soil samples every foot to 4 feet bgs, and analyzed all soil samples for TPH and BTEX. The two soil boring locations were installed at SB-8 and SB-17. These locations were chosen based on the original data (highest benzene (SB-17) and only TPH concentration (SB-8)).

I have added the analytical results to the summary table attached (SB-8A and SB-17A). Seven of the 8 soil samples showed no detectable TPH or BTEX. One soil sample exhibited very low level BTEX, but well below the closure/assessment level.

During our phone call, you suggested that I send the data results directly to you for variance approval.

Novo would like to request a formal variance from the post excavation soil sampling protocol to: EXCLUDE TPH and BTEX constituents from further analysis and consideration following soil excavation/remediation activities.

Thank you Rob and let me know if you have any questions,

Bryan

Bryan Haney, TX P.G
Senior Project Manager | 361.658.3126 |
Bryan.Haney@altamira-us.com
altamira-us.com
ALTAMIRA

From: Bryan Haney
Sent: Tuesday, October 18, 2022 12:17 PM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>

Cc: Kurt Shipley <kshipley@novoog.com>; Dara Tatum <dtatum@novoog.com>
Subject: RE: The Oil Conservation Division (OCD) has approved the application, Application ID: 140472

Hi Rob,

When you have a minute, can we discuss the conditions below. I just need some clarity on a few things. This is how I currently understand it:

- Any delineation and confirmation soil samples will need to be below 600 mg/kg for chlorides – No problem and understand this
- Delineation appears to only be for chlorides and TPH, is this correct? Our delineation and confirmation soil samples would typically be the same. If it showed high, we would further excavate and then resample.
- Would you consider a variation based on our current data for TPH and BTEX presented in the Remediation Plan. Out of all the soil samples we collected, there were no TPH or BTEX exceedances. There was only one soil sample that showed detectable TPH and no soil samples that showed detectable Benzene. What else would we need to provide to request the variation to eliminate TPH and BTEX from confirmation soil sampling?

Please let me know so we can plan accordingly. We are trying to start the process of planning and need to clarify these items. If I can provide any other information for the variation, please let me know.

Thanks for your help,

Bryan Haney, TX P.G
Senior Project Manager | 361.658.3126 |
Bryan.Haney@altamira-us.com
altamira-us.com
ALTAMIRA

From: OCDOnline@state.nm.us <OCDOnline@state.nm.us>
Sent: Thursday, October 13, 2022 3:27 PM
To: Bryan Haney <Bryan.Haney@altamira-us.com>
Subject: The Oil Conservation Division (OCD) has approved the application, Application ID: 140472

To whom it may concern (c/o Bryan Haney for NOVO OIL & GAS NORTHERN DELAWARE, LLC),

The OCD has approved the submitted *Application for administrative approval of a release*

notification and corrective action (C-141), for incident ID (n#) nAPP2209041864, with the following conditions:

- **The Remediation Plan is Conditionally Approved. All off pad areas must contain a minimum of 4 feet non-waste containing uncontaminated, earthen material with chloride concentrations less than 600 mg/kg and less than 100 mg/kg for TPH. Floor confirmation samples should be delineated/excavated to meet closure criteria standards for site assessment/characterization/proven depth to water determination. Sidewall samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. Confirmation samples should be collected every 200 ft2. The spill rule states, "The samples must be analyzed for the constituents listed in Table I of 19.15.29.12 NMAC". To deviate from the rule, we need a detailed written demonstration that the variance will provide equal or better protection of fresh water, public health and the environment. A closure report will need to be completed and uploaded within 90 days.**

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you,
Robert Hamlet
575-748-1283
Robert.Hamlet@emnrd.nm.gov

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

From: OCDOnline@state.nm.us
To: Bryan Haney
Subject: The Oil Conservation Division (OCD) has approved the application, Application ID: 128664
Date: Wednesday, December 7, 2022 4:41:45 PM

To whom it may concern (c/o Bryan Haney for NOVO OIL & GAS NORTHERN DELAWARE, LLC),

The OCD has approved the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2209041864, with the following conditions:

- **Thank you for the Site Assessment. The variance request to exclude TPH and BTEX constituents from further analysis has been approved. Please make sure this variance approval is included in the remediation and/or closure report. Floor confirmation samples should be delineated/excavated to meet closure criteria standards for site assessment/characterization/proven depth to water determination. Sidewall samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. Confirmation samples should be collected every 200 ft2. All off pad areas must contain a minimum of 4 feet non-waste containing uncontaminated, earthen material with chloride concentrations less than 600 mg/kg and less than 100 mg/kg for TPH. A remediation plan should be submitted within 90 days of the date of discovery.**

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you,
Robert Hamlet
575-748-1283
Robert.Hamlet@emnrd.nm.gov

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

From: OCDOnline@state.nm.us
To: Bryan Haney
Subject: The Oil Conservation Division (OCD) has approved the application, Application ID: 128664
Date: Wednesday, December 7, 2022 4:41:45 PM

To whom it may concern (c/o Bryan Haney for NOVO OIL & GAS NORTHERN DELAWARE, LLC),

The OCD has approved the submitted *Application for administrative approval of a release notification and corrective action* (C-141), for incident ID (n#) nAPP2209041864, with the following conditions:

- **Thank you for the Site Assessment. The variance request to exclude TPH and BTEX constituents from further analysis has been approved. Please make sure this variance approval is included in the remediation and/or closure report. Floor confirmation samples should be delineated/excavated to meet closure criteria standards for site assessment/characterization/proven depth to water determination. Sidewall samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. Confirmation samples should be collected every 200 ft2. All off pad areas must contain a minimum of 4 feet non-waste containing uncontaminated, earthen material with chloride concentrations less than 600 mg/kg and less than 100 mg/kg for TPH. A remediation plan should be submitted within 90 days of the date of discovery.**

The signed C-141 can be found in the OCD Online: Imaging under the incident ID (n#).

If you have any questions regarding this application, please contact me.

Thank you,
Robert Hamlet
575-748-1283
Robert.Hamlet@emnrd.nm.gov

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

Appendix C
Soil Analytical Data -
TPH/BTEX Variance Soil Samples (mg/kg)
Novo Oil Gas - Hades North Loop Produced Water Release
(Discovered March 28, 2022)
Incident ID: nAPP2209041864
Near Loving, Eddy County, New Mexico

Analyte			Chloride	BTEX	Benzene	TPH (C6-C10)	TPH (C10-28)	TPH (C28-36)	Total TPH
Method			4500-Cl-B	8260B	8260B	8015B	8015B	8015B	8015B
Table I - Closure Criteria (0-4')			600	50	10	-	-	-	100
Table I - Closure Criteria (>4')*			10,000	50	10	1,000		-	2,500
Sample ID	Sample Date								
TPH/BTEX VARIANCE SOIL SAMPLE RESULTS									
SB-8A (0-1')	10/25/2022		-	<0.30	<0.05	<10.0	<10.0	<10.0	<10.0
SB-8A (1-2')	10/25/2022		-	<0.30	<0.05	<10.0	<10.0	<10.0	<10.0
SB-8A (2-3')	10/25/2022		-	**0.317**	**0.115**	<10.0	<10.0	<10.0	<10.0
SB-8A (3-4')	10/25/2022		-	<0.30	<0.05	<10.0	<10.0	<10.0	<10.0
SB-17A (0-1')	10/25/2022		-	<0.30	<0.05	<10.0	<10.0	<10.0	<10.0
SB-17A (1-2')	10/25/2022		-	<0.30	<0.05	<10.0	<10.0	<10.0	<10.0
SB-17A (2-3')	10/25/2022		-	<0.30	<0.05	<10.0	<10.0	<10.0	<10.0
SB-17A (3-4')	10/25/2022		-	<0.30	<0.05	<10.0	<10.0	<10.0	<10.0

Notes:
All results are in mg/kg
Closure Criteria Soils - Table I of 19.15.29.12 NMAC
TPH - Total Petroleum Hydrocarbons - includes GRO, DRO, MRO
BTEX - Benzene, Toluene, Ethylbenzene, Xylenes
< number is the SDL (not detected above the sample detection limit)
Bold indicates that a COC was detected
Shading indicates that a detected result exceeded the NMOCD Table 1 Closure Criteria Levels
* - Closure Criteria based on depth to groundwater greater than 51 feet below ground surface - onsite soil boring installed

CARDINAL Laboratories

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

October 28, 2022

BRYAN HANEY

ALTAMIRA - US

14229 PUNTA BONAIRE DR.

CORPUS CHRISTI, TX 78418

RE: NOVO HADES NORTH LOOP

Enclosed are the results of analyses for samples received by the laboratory on 10/25/22 14:37.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. 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:

ALTAMIRA - US
BRYAN HANEY
14229 PUNTA BONAIRE DR.
CORPUS CHRISTI TX, 78418
Fax To:

Received:	10/25/2022	Sampling Date:	10/25/2022
Reported:	10/28/2022	Sampling Type:	Soil
Project Name:	NOVO HADES NORTH LOOP	Sampling Condition:	Cool & Intact
Project Number:	NOVO HADES NORTH LOOP	Sample Received By:	Tamara Oldaker
Project Location:	NOVO OIL & GAS - LOVING NM		

Sample ID: SB - 17A (0-1) (H225015-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/26/2022	ND	2.02	101	2.00	1.30	
Toluene*	<0.050	0.050	10/26/2022	ND	2.16	108	2.00	0.0592	
Ethylbenzene*	<0.050	0.050	10/26/2022	ND	2.01	101	2.00	1.63	
Total Xylenes*	<0.150	0.150	10/26/2022	ND	6.06	101	6.00	1.32	
Total BTEX	<0.300	0.300	10/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.4 %* *69.9-140*

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	10/27/2022	ND	195	97.4	200	4.35	
DRO >C10-C28*	<10.0	10.0	10/27/2022	ND	180	90.1	200	0.0649	
EXT DRO >C28-C36	<10.0	10.0	10/27/2022	ND					

Surrogate: 1-Chlorooctane *108 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *120 %* *46.3-178*

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:

ALTAMIRA - US
BRYAN HANEY
14229 PUNTA BONAIRE DR.
CORPUS CHRISTI TX, 78418
Fax To:

Received:	10/25/2022	Sampling Date:	10/25/2022
Reported:	10/28/2022	Sampling Type:	Soil
Project Name:	NOVO HADES NORTH LOOP	Sampling Condition:	Cool & Intact
Project Number:	NOVO HADES NORTH LOOP	Sample Received By:	Tamara Oldaker
Project Location:	NOVO OIL & GAS - LOVING NM		

Sample ID: SB - 17A (1-2) (H225015-02)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/26/2022	ND	2.02	101	2.00	1.30	
Toluene*	<0.050	0.050	10/26/2022	ND	2.16	108	2.00	0.0592	
Ethylbenzene*	<0.050	0.050	10/26/2022	ND	2.01	101	2.00	1.63	
Total Xylenes*	<0.150	0.150	10/26/2022	ND	6.06	101	6.00	1.32	
Total BTEX	<0.300	0.300	10/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.4 %* *69.9-140*

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	10/27/2022	ND	195	97.4	200	4.35	
DRO >C10-C28*	<10.0	10.0	10/27/2022	ND	180	90.1	200	0.0649	
EXT DRO >C28-C36	<10.0	10.0	10/27/2022	ND					

Surrogate: 1-Chlorooctane *110 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *122 %* *46.3-178*

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:

ALTAMIRA - US
BRYAN HANEY
14229 PUNTA BONAIRE DR.
CORPUS CHRISTI TX, 78418
Fax To:

Received:	10/25/2022	Sampling Date:	10/25/2022
Reported:	10/28/2022	Sampling Type:	Soil
Project Name:	NOVO HADES NORTH LOOP	Sampling Condition:	Cool & Intact
Project Number:	NOVO HADES NORTH LOOP	Sample Received By:	Tamara Oldaker
Project Location:	NOVO OIL & GAS - LOVING NM		

Sample ID: SB - 17A (2-3) (H225015-03)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/26/2022	ND	2.02	101	2.00	1.30	
Toluene*	<0.050	0.050	10/26/2022	ND	2.16	108	2.00	0.0592	
Ethylbenzene*	<0.050	0.050	10/26/2022	ND	2.01	101	2.00	1.63	
Total Xylenes*	<0.150	0.150	10/26/2022	ND	6.06	101	6.00	1.32	
Total BTEX	<0.300	0.300	10/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.9 %* *69.9-140*

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	10/27/2022	ND	195	97.4	200	4.35	
DRO >C10-C28*	<10.0	10.0	10/27/2022	ND	180	90.1	200	0.0649	
EXT DRO >C28-C36	<10.0	10.0	10/27/2022	ND					

Surrogate: 1-Chlorooctane *92.5 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *102 %* *46.3-178*

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:

ALTAMIRA - US
BRYAN HANEY
14229 PUNTA BONAIRE DR.
CORPUS CHRISTI TX, 78418
Fax To:

Received:	10/25/2022	Sampling Date:	10/25/2022
Reported:	10/28/2022	Sampling Type:	Soil
Project Name:	NOVO HADES NORTH LOOP	Sampling Condition:	Cool & Intact
Project Number:	NOVO HADES NORTH LOOP	Sample Received By:	Tamara Oldaker
Project Location:	NOVO OIL & GAS - LOVING NM		

Sample ID: SB - 17A (3-4) (H225015-04)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/26/2022	ND	2.02	101	2.00	1.30	
Toluene*	<0.050	0.050	10/26/2022	ND	2.16	108	2.00	0.0592	
Ethylbenzene*	<0.050	0.050	10/26/2022	ND	2.01	101	2.00	1.63	
Total Xylenes*	<0.150	0.150	10/26/2022	ND	6.06	101	6.00	1.32	
Total BTEX	<0.300	0.300	10/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.0 %* *69.9-140*

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	10/27/2022	ND	195	97.4	200	4.35	
DRO >C10-C28*	<10.0	10.0	10/27/2022	ND	180	90.1	200	0.0649	
EXT DRO >C28-C36	<10.0	10.0	10/27/2022	ND					

Surrogate: 1-Chlorooctane *96.4 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *106 %* *46.3-178*

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:

ALTAMIRA - US
BRYAN HANEY
14229 PUNTA BONAIRE DR.
CORPUS CHRISTI TX, 78418
Fax To:

Received:	10/25/2022	Sampling Date:	10/25/2022
Reported:	10/28/2022	Sampling Type:	Soil
Project Name:	NOVO HADES NORTH LOOP	Sampling Condition:	Cool & Intact
Project Number:	NOVO HADES NORTH LOOP	Sample Received By:	Tamara Oldaker
Project Location:	NOVO OIL & GAS - LOVING NM		

Sample ID: SB - 8A (0-1) (H225015-05)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/26/2022	ND	2.02	101	2.00	1.30	
Toluene*	<0.050	0.050	10/26/2022	ND	2.16	108	2.00	0.0592	
Ethylbenzene*	<0.050	0.050	10/26/2022	ND	2.01	101	2.00	1.63	
Total Xylenes*	<0.150	0.150	10/26/2022	ND	6.06	101	6.00	1.32	
Total BTEX	<0.300	0.300	10/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.4 %* *69.9-140*

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	10/27/2022	ND	195	97.4	200	4.35	
DRO >C10-C28*	<10.0	10.0	10/27/2022	ND	180	90.1	200	0.0649	
EXT DRO >C28-C36	<10.0	10.0	10/27/2022	ND					

Surrogate: 1-Chlorooctane *104 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *115 %* *46.3-178*

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:

ALTAMIRA - US
BRYAN HANEY
14229 PUNTA BONAIRE DR.
CORPUS CHRISTI TX, 78418
Fax To:

Received:	10/25/2022	Sampling Date:	10/25/2022
Reported:	10/28/2022	Sampling Type:	Soil
Project Name:	NOVO HADES NORTH LOOP	Sampling Condition:	Cool & Intact
Project Number:	NOVO HADES NORTH LOOP	Sample Received By:	Tamara Oldaker
Project Location:	NOVO OIL & GAS - LOVING NM		

Sample ID: SB - 8A (1-2) (H225015-06)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/26/2022	ND	2.02	101	2.00	1.30	
Toluene*	<0.050	0.050	10/26/2022	ND	2.16	108	2.00	0.0592	
Ethylbenzene*	<0.050	0.050	10/26/2022	ND	2.01	101	2.00	1.63	
Total Xylenes*	<0.150	0.150	10/26/2022	ND	6.06	101	6.00	1.32	
Total BTEX	<0.300	0.300	10/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.9 %* *69.9-140*

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	10/28/2022	ND	195	97.4	200	4.35	
DRO >C10-C28*	<10.0	10.0	10/28/2022	ND	180	90.1	200	0.0649	
EXT DRO >C28-C36	<10.0	10.0	10/28/2022	ND					

Surrogate: 1-Chlorooctane *99.4 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *112 %* *46.3-178*

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:

ALTAMIRA - US
BRYAN HANEY
14229 PUNTA BONAIRE DR.
CORPUS CHRISTI TX, 78418
Fax To:

Received:	10/25/2022	Sampling Date:	10/25/2022
Reported:	10/28/2022	Sampling Type:	Soil
Project Name:	NOVO HADES NORTH LOOP	Sampling Condition:	Cool & Intact
Project Number:	NOVO HADES NORTH LOOP	Sample Received By:	Tamara Oldaker
Project Location:	NOVO OIL & GAS - LOVING NM		

Sample ID: SB - 8A (2-3) (H225015-07)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.115**	0.050	10/26/2022	ND	2.02	101	2.00	1.30	
Toluene*	**0.202**	0.050	10/26/2022	ND	2.16	108	2.00	0.0592	
Ethylbenzene*	<0.050	0.050	10/26/2022	ND	2.01	101	2.00	1.63	
Total Xylenes*	<0.150	0.150	10/26/2022	ND	6.06	101	6.00	1.32	
Total BTEX	**0.317**	0.300	10/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID	*96.7 %*	*69.9-140*

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	10/28/2022	ND	195	97.4	200	4.35	
DRO >C10-C28*	<10.0	10.0	10/28/2022	ND	180	90.1	200	0.0649	
EXT DRO >C28-C36	<10.0	10.0	10/28/2022	ND					

Surrogate: 1-Chlorooctane	*96.8 %*	*45.3-161*
Surrogate: 1-Chlorooctadecane	*107 %*	*46.3-178*

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:

ALTAMIRA - US
BRYAN HANEY
14229 PUNTA BONAIRE DR.
CORPUS CHRISTI TX, 78418
Fax To:

Received:	10/25/2022	Sampling Date:	10/25/2022
Reported:	10/28/2022	Sampling Type:	Soil
Project Name:	NOVO HADES NORTH LOOP	Sampling Condition:	Cool & Intact
Project Number:	NOVO HADES NORTH LOOP	Sample Received By:	Tamara Oldaker
Project Location:	NOVO OIL & GAS - LOVING NM		

Sample ID: SB - 8A (3-4) (H225015-08)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/26/2022	ND	2.02	101	2.00	1.30	
Toluene*	<0.050	0.050	10/26/2022	ND	2.16	108	2.00	0.0592	
Ethylbenzene*	<0.050	0.050	10/26/2022	ND	2.01	101	2.00	1.63	
Total Xylenes*	<0.150	0.150	10/26/2022	ND	6.06	101	6.00	1.32	
Total BTEX	<0.300	0.300	10/26/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.0 %* *69.9-140*

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	10/28/2022	ND	195	97.4	200	4.35	
DRO >C10-C28*	<10.0	10.0	10/28/2022	ND	180	90.1	200	0.0649	
EXT DRO >C28-C36	<10.0	10.0	10/28/2022	ND					

Surrogate: 1-Chlorooctane *103 %* *45.3-161*

Surrogate: 1-Chlorooctadecane *116 %* *46.3-178*

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

CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: ~~Bryan Harvey~~ Affinity
Project Manager: Bryan Haney
Address: 14229 Huntington
City: Corpus Christi State: TX Zip: 78412
Phone #: 361-658-3126 Fax #: —
Project #: 2220 Hades North loop Project Owner: Bryan Haney
Project Name: Hades North loop
Project Location: Loving New Mexico
Sampler Name: Eduardo Gonzalez

BILL TO

P.O. #: Direct Bill
Company: ROW
Attn: Cole GAY
Address:
City:
State: Zip:
Phone #:
Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING DATE	SAMPLING TIME	BTEX	TDH
H225015																
1	SB-17A (0-1)	G	1			X					X		10/25/2022	1000	X	X
2	SB-17A (1-2)	G	1			X					X		10/25/2022	1006	X	X
3	SB-17A (2-3)	G	1			X					X		10/25/2022	1014	X	X
4	SB-17A (3-4)	G	1			X					X		10/25/2022	1019	X	X
5	SB-8A (0-1)	G	1			X					X		10/25/2022	1041	X	X
6	SB-8A (1-2)	G	1			X					X		10/25/2022	1050	X	X
7	SB-8A (2-3)	G	1			X					X		10/25/2022	1056	X	X
8	~~SB-8A~~ SB-8A (3-4)	G	1			X					X		10/25/2022	1110	X	X

Relinquished By: Date: 10/25/22 Time: 1437 Received By:
Relinquished By: Date: Time: Received By:

Verbal Result: ☐ Yes ☐ No Add'l Phone #:
All Results are emailed. Please provide Email address:

REMARKS: 3day TAT

Turnaround Time: Standard ☐ Rush ☑
Thermometer ID #113
Correction Factor -0.6°C

Bacteria (only) Sample Condition
Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No
Observed Temp. °C
Corrected Temp. °C

Delivered By: (Circle One)
Sampler - UPS - Bus - Other:

Observed Temp. °C -0.6
Corrected Temp. °C -1.2

Sample Condition
Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No

CHECKED BY: (Initials) TO

FORM-006 R 3.3 07/18/22

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

APPENDIX D
Field Documentation

C1

WEATHER: 62° - PARTLY CLOUDY - NE WIND @ 2 MPH

OBJECTIVE: START EXCAVATION OF EFFECTED AREAS. STARTING ON THE SOUTHWEST CORNER (AREA 9/6)

ALTAMIRA STAFF ON SITE: AARON P. LOZANO

I LEFT HOTEL AT 0800 AND ARRIVED ON JOB SITE AT 0830.
UPON ARRIVAL, I OBSERVED 2 EXCAVATION CREWS WORKING ON SOUTHWEST CORNER OF EFFECTED AREA.
THE SURVEYOR (FRANK) HAD PLACED LATHS THROUGHOUT PROPERTY FOR GRID REFERANCE.
1 EXCAVATOR AND BULLDOZER WORKING ON NEW PIPELINE.
JASONS CREW WORKING ON EXCAVATING AREA 6, AND PART OF AREA 7.
1 EXCAVATOR AND BULLDOZER WORKING ON CONTAMINATED AREAS.
I SET 7 TEMPORARY MARKERS FOR AREA BOUNDARIES.
I TRIED TO FIND PREVIOUS STAKES THROUGHOUT PROPERTY, BUT THEY WERE COVERED OR REMOVED FOR EXCAVATION.
I LEFT JOB SITE AT 1600.

Scale: 1 square = _____

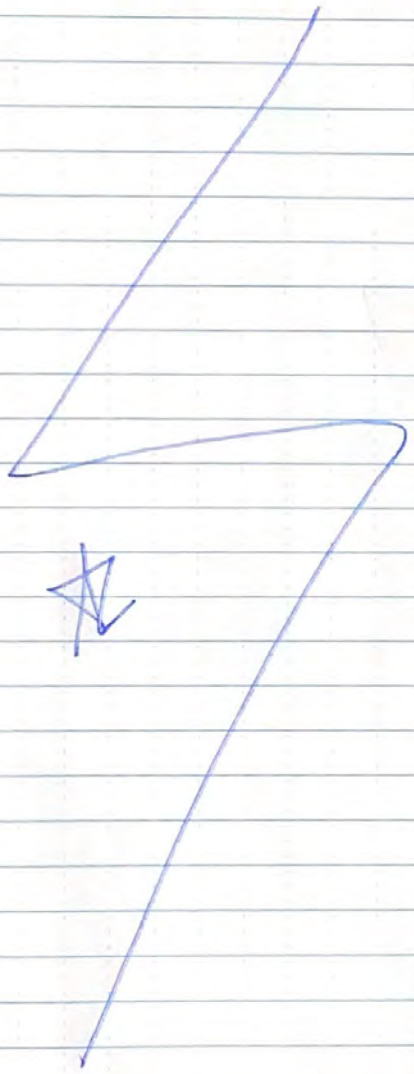
02 WEDNESDAY — 03/08/2023 0800 APL

WEATHER: 55° - PARTLY CLOUDY - NW WIND @ 6 MPH

OBJECTIVE: CONTINUE EXCAVATION OF EFFECTED AREAS.
EXCAVATE SOUTHWEST CORNER (AREA 7)

ALTAMIRA STAFF ON SITE: AARON P. LOZANO

I LEFT HOTEL AT 0730 AND ARRIVED ON JOB SITE AT 0800.
UPON ARRIVAL, I OBSERVED A BULLDOZER WORKING ON THE PIPLINE AREA.
JASON'S CREW ON SITE. TWO EXCAVATORS WORKING ON AREA 7.
I LEFT JOB SITE AT 1025..



Scale: 1 square = _____

Rite in the Rain

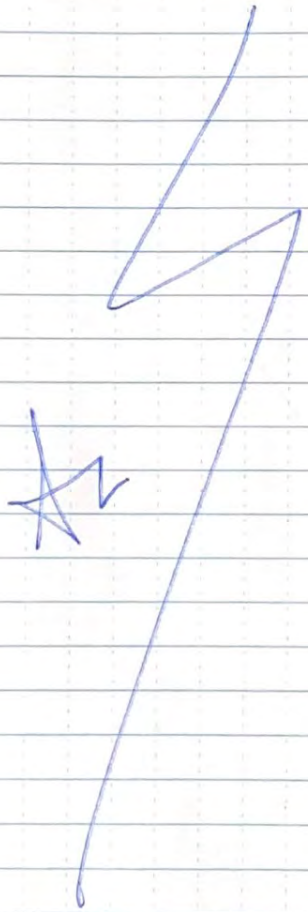
UJ THURSDAY — 03/09/2023 (0810) APL

WEATHER: 51° - CLOUDY - NE WIND @ 2 MPH

OBJECTIVE: CONTINUE EXCAVATION, (AREA 8) START SAMPLING AREA 6.

ALTAMIRA STAFF ON SITE: AARON P. LOZANO

I LEFT HOTEL AT 0740 AND ARRIVED ON JOB SITE AT 0810.
UPON ARRIVAL, I OBSERVED 2 EXCAVATORS, 1 BULLDOZER, AND A HYDROEXCAVATOR WORKING AROUND AREA 8.
THE SURVEYOR (FRANK) SET LATHS FOR THE CORNERS OF SAMPLE AREAS SO WE CAN SET SAMPLE GRIDS.
I LEFT JOB SITE AT 1030.



Scale: 1 square =_____

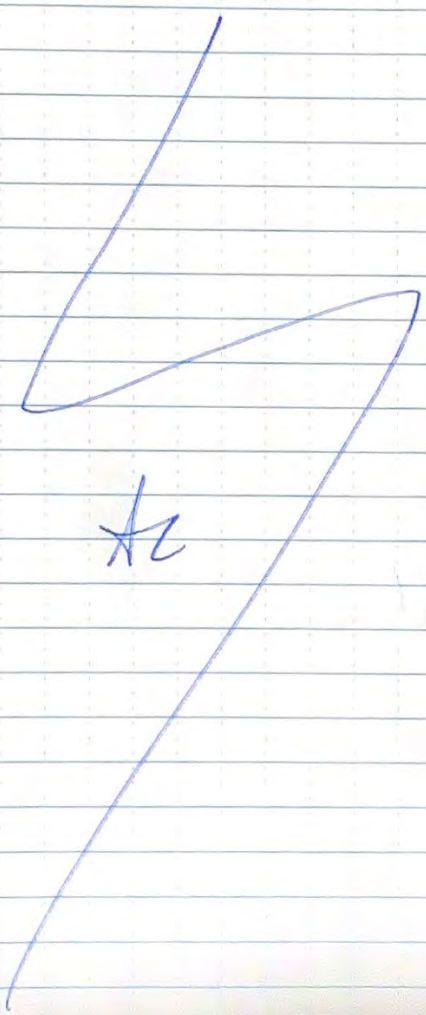
04 FRIDAY — 03/10/2023 (1050) APL

WEATHER: 60° — MOSTLY SUNNY — NW WIND @ 13 MPH

OBJECTIVE: CONTINUE EXCAVATION, (AREA 8 AND 5).
SAMPLE AREA 6.

ALTAMIRA STAFF ON SITE: AARON P. LOZANO

I LEFT HOTEL AT 1020 AND ARRIVED ON JOB SITE AT 1050.
UPON ARRIVAL, I OBSERVED 2 EXCAVATORS AND 1 BULLDOZER WORKING ON AREA 8/5.
MEASURED FROM AREA BOUNDARY TO EXCAVATED ARE TO START SETTING SAMPLE GRIDS. 16 GRIDS WERE SET AND SAMPLED. FILLED SAMPLE JARS.
LEFT JOB SITE AT 1530 TO TAKE SAMPLES TO THE LAB.



Scale: 1 square = _____

05 SATURDAY — 03/11/2023 (0823) AP

WEATHER: 67° — SUNNY — NE WIND @ 11 MPH

OBJECTIVE: CONTINUE EXCAVATION. CONTINUE SAMPLING ARE 6.

ALTAMIRA STAFF ON SITE: ORLANDO GONZALEZ, AARON LOZANO

WE LEFT THE HOTEL AT 0800 AND ARRIVED ON JOB SITE AT 0823.
UPON ARRIVAL, I OBSERVED JASON'S CREW WORKING WITH 2 EXCAVATORS AND 1 BULLDOZER. (AREA 4)
WE MADE MULTIPLE PHONE CALLS ABOUT TRIMBLE GEO 7X FOR HELP IN TROUBLESHOOTING GETTING SAMPLE GRID CENTER DATA POINTS TO HELP US LOCATE THEM QUICKLY.
WE DECIDED TO CONTINUE TO MEASURE WITH TAPE TO SET STAKE IN CENTER OF SAMPLE GRIDS. WE SAMPLED 37 GRIDS AND COMPLETED AREA 6.
WE LEFT JOB SITE AT 1730.

Scale: 1 square = _____

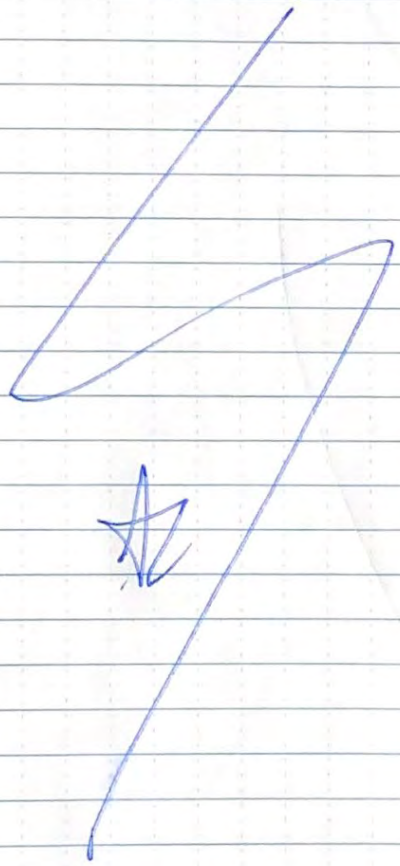
06 SUNDAY – 03/12/2023 (0830) APL

WEATHER: 56° – MOSTLY CLOUDY – SW WIND @ 2 MPH

OBJECTIVE: START SAMPLING AREA 8, TOWARDS AREA 5.

ALTAMIRA STAFF ON SITE: ORLANDO GONZALEZ, AARON LOZANO

WE LEFT THE HOTEL AT 0805 AND ARRIVED ON SITE AT 0830.
UPON ARRIVAL, I OBSERVED NO BODY ON SITE.
WE SAMPLED 72 GRIDS IN ARES 8, 5, AND 4.
WE LEFT THE SITE AT 2230.



Scale: 1 square = _____

Rite in the Rain

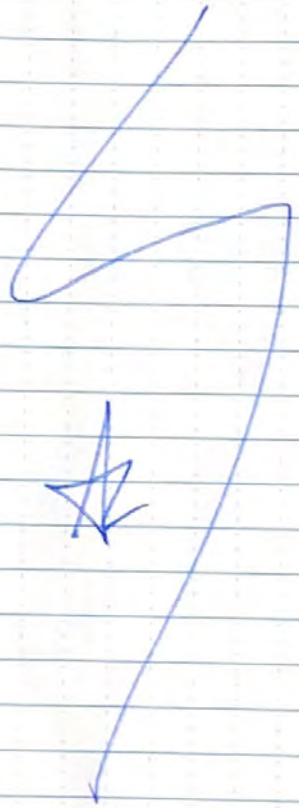
U1 TUESDAY — 03/14/2023 APL

WEATHER: 59° - MOSTLY CLOUDY - NE WIND @ 8 MPH

OBJECTIVE: CONTINUE SAMPLING AREA 4 AND 3.

ALTAMIRA ON ~~STAFF~~ SITE: ORLANDO GONZALEZ, AARON LOZANO, JIMMY GONZAL

WE LEFT THE HOTEL AT 0815 AND ARRIVED ON SITE AT 0840.
WE MET WITH JASON TO COORDINATE OUR WORK WITH HIS CREW.
LEFT THE SITE AT 1100. CAME BACK TO THE SITE AT 1530.
WE SAMPLED 56 GRIDS IN AREAS 4, 3, AND 2.
LEFT THE JOB SITE AT 2230.



Scale: 1 square = _____

08 WEDNESDAY — 03/15/2023 APL

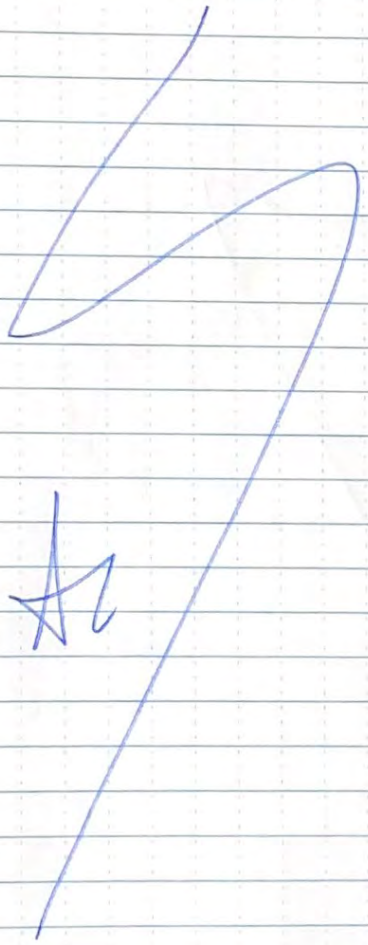
WEATHER: 80° — DRIZZLE/CLOUDY — NE WIND @ 15 MPH

OBJECTIVE: RESAMPLE FAILED GRIDS IN AREA 7, SAMPLE NEWLY EXCAVATED GRIDS IN AREA 7.

ALTAMIRA STAFF ON SITE: ORLANDO GONZALEZ, JIMMY GONZALEZ, AARON LOZANO, STORMY WATERS.

WE ARRIVED ON SITE AT 1400. MET WITH JASON AS HIS CREW WAS SHUTTING DOWN FOR THE DAY. WE SET UP SAMPLE GRIDS AFTER ~~THEY~~ EXCAVATED THE FAILED GRIDS. WE SAMPLED A TOTAL OF 72 GRIDS.

LEFT THE JOB SITE AT 1030.



Scale: 1 square = _____

Rite in the Rain

09 THURSDAY — 03/16/23 — APL

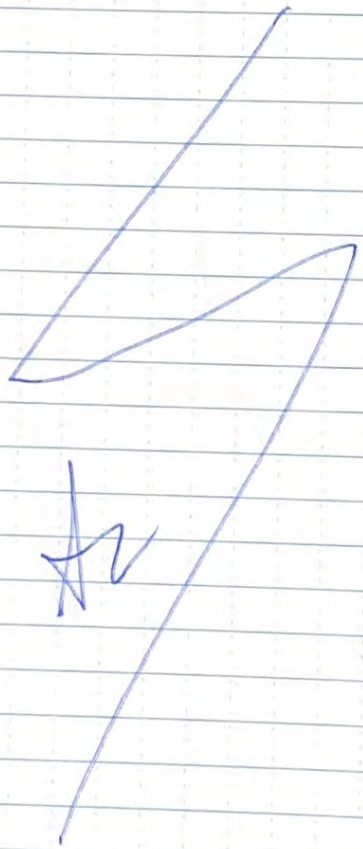
WEATHER: 73° — WINDY — SE WIND @ 21 MPH

OBJECTIVE: SAMPLE FAILED GRIDS IN AREA 2.

ALTAMIRA STAFF ON SITE: ORLANDO GONZALEZ, JIMMY GONZALEZ
AARON LOZANO, STORMY WATERS

WE ARRIVED ON SITE AT 1530. THERE WAS NO OTHER CREWS WORKING WHEN WE ARRIVED. WE LOCATED FAILED GRIDS. JASON EXCAVATED THE FAILED GRIDS. WE SAMPLED A TOTAL OF 8 GRIDS IN AREA 2.

LEFT THE JOB SITE AT 1750.



Scale: 1 square = _____

10 FRIDAY — 03/17/23 APL

WEATHER: 52° — Mostly cloudy — NW WIND @ 7 MPH

OBJECTIVE: SAMPLE AREAS 2, 3, 4, 5, & 8 AFTER EXCAVATION.
SAMPLE SIDEWALLS IN AREA 7.

ALTAMIRA STAFF ON SITE: JIMMY GONZALEZ, AARON LOZANO, STORMY WATERS.

ARRIVED ON SITE AT 1420. JASONS CREW WAS EXCAVATING AND MOVING DIRT TO A DIFFERENT AREA SO IT COULD BE LOADED ON THE TRUCKS. (AREA 8)
SAMPLED SIDEWALLS IN AREA 7. SAMPLED NEW GRIDS IN AREAS 2, 3, 4, 5, AND 8 AFTER SETTING NEW GRIDS.

LEFT JOB SITE AT 1920.

Scale: 1 square = _____

Rite in the Rain

Saturday 3/18/23

Objective: Collect new samples in the South area of Section 9

Weather: Cool, Sunny

Arcturis staff on site: Stormy, Jimmy.

Arrived on site at 0900, started on JSA and field notes.
Started setting up grids on South end of the spill area. Stormy
Started Collection on east sidewalls going North to South on the map.
Collected 17 new floor samples and 20 sidewall samples total.
left site at 1530

HH

Scale: 1 square = _____

Wednesday 3/22/23

Objective: Collect new soil samples in excavated area in section 9 further South, and new samples west of the South end of the Plains line.

Weather: Cold, Windy, Sunny.
Altamira Staff on Site: Sterny, Jimmy
Arrived on site at 1230, Started on JSA's and field notes.
Set up new grids using existing grids west of the new sample area.
Started sampling at 1300. Collected 23 new floor samples and two sidewall samples. Left site at 1535.

HH

Scale: 1 square = _____

Rite in the Rain

Thursday 3/23/23

Objective: collect resamples

weather: Hot, Sunny 70°F Windy.

Alkamira Staff on site: J. Smith, G
Arrived on site at 1600
Set up and measured grids using existing grids surrounding resample grids. Started collecting ~~Grids~~ Samples at 1625, Collected
G83
G71
G72
G586
G569
G570
all at depths of 5-5.5'. left site at 1730

HW

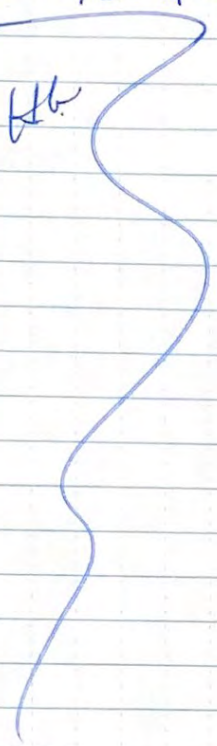
Scale: 1 square = _____

Friday 5/26/23

Objective: Stake resample grids for excavation.

Weather: Hot, Sunny

Arrived on site at 1700, filled out JSA and started on field notes. Measured and set up grid locations for resamples. Marked grids: 6: 652, 638, 634, 624, 609, 678, 668, 669, 658. Left site at 1815



Scale: 1 square = _____

Rite in the Rain

Monday 5/ 11/ 23

Objective: Collect resamples marked on 3-24-23.

Weather: Cold, Windy.
Attendance Start on site: Jimmy G.

Arrived on site at 1720, started on JSAs and field notes. Set up and measured grids since markers had been removed from excavation. Started collecting samples at 1800. Collected 7 resamples at the 4-4.5' depth. Left site at 1845.

HM

Scale: 1 square = _____

Rite in the Rain

Tuesday 5/28/23

Objective: Setup and mark resample grids.

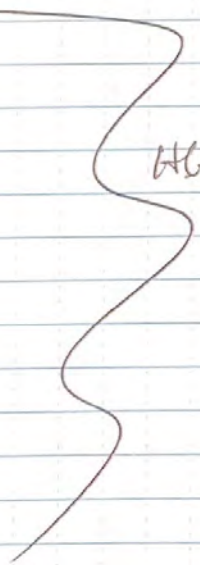
Weather: Hot, Sunny

Altamira Staff on site: Jimmy G

Arrived on site at 1530, filled out JSA's and started on field notes Setup and measured grids in area 9 on the South end of the spill area. Marked grids

G559
G577
G578
G579
G595
G596
G613
G628
G629
G644.

All to be excavated to 4-4.5' in depth. left site at 1710.



Scale: 1 square = _____

Wednesday 5/24/23
Weather: 68° - Sunny - wind SSE 10 mph

Objective: work with surveyor to mark soil bore locations and collect resamples marked 3.28.23.

Altamira Staff on site: Jimmy G.

Arrived on site at 0900, waited for surveyor to setup equipment and work with pipeline locator to mark pipeline locations on map. Excavation Crew cleared out of resample area.
Collected 10 new resamples in area 9 of the spill map. After collecting resamples, got with surveyor to start marking SB 13, 18, 20, 22, 23 locations using coordinates from prior sampling event. Left site at 1630

Scale: 1 square = _____

Rite in the Rain

3/30/23

Objective: locate portholes in relation to existing grids.

Weather: Hot Sunny. 80°F

Alfamira Staff on site.

Arrived on site at 1230, located weep holes from Hydrovac & and used field map to determine approximate locations in relation to existing grids. Left site at 1400

Scale: 1 square = _____

5-31-23

Objective: Collect sidewall samples using Portholes, collect delineation Samples.

Weather: Hot, Sunny 65°F

Atamira Staff on Site: Jimmy G

Arrived on site at 0800 and got equipment ready. Using my field map as a refrence, collected 10 Porthole Samples to determine how far west Chloride contamination went.

After collecting Porthole samples started collecting Soil bore delineation samples for SB 22, 23. Collected 14 Total Samples here and left to the lab in Hobbs at 1510.

H.B.

Scale: 1 square = _____

Rita in the Rain

4-3-23

Objective: Collect delineation samples around SB13
Weather: hot, Sunny.
Staff on Site: H Gonzalez.

Arrived on site at 0800. Using field map and grid stakes still remaining in the excavated pit, located grids to be sampled for delineation. Collected 8 new samples to take to the lab. left to lab in hobbs at 1330

HGG

Scale: 1 square = _____

4-5-23

Objective: Collect Sidewall resamples.

Weather: Warm, Sunny, High winds.
Staff on Site: H Gonzalez.

Arrived on Site at 1450, got equipment ready to collect samples.
Collected 3 new sidewall samples to be Analyzed for TPH and Chlorides.
Collected 3 resamples of an extended sidewall on the South end
of the spill. Left Site at 1545.

H.G.

Scale: 1 square = _____

4-6-23

Objective; Collect Sb 20 delineation Samples, and Samples around Plains line.

Weather: Hot, Sunny

Staff: A Gonzalez

Arrived on site at 0930 and started notes. Using measuring tape and older grid markers I located previously sampled grids in area 9 east of the Plains line. total of 5 grids, G175, 656, 655, 675, 666. After collecting these samples, I located soil bore locations for the Sb 20 delineation area. Collected # 7 Samples for this and left the site at 1545.

H6

Scale: 1 square = _____

4-1-23

Objective:
Finish collecting 4' soil bores for delineation on SB 20 with hand Auger.
Weather: hot, sunny.
Staff: H Gonzalez.

Arrived on site cut 1000, Started locating bore Holes. Using a hand Auger, bored 4 holes @ G-645, 659, 669, 680 to 4.5' and sampled the last auger bucket on the top and bottom. Heavy clay resistance from 2' downwards, boring was slow going. left site cut 1300.

#66

Scale: 1 square = _____

4-11-23

Objective: Collect SB 18 Samples.
Weather: cool, sunny, windy
Staff: H Gonzalez, A Lozano

Arrived on site at 0800, talked to excavation supervisor, he advised a rep. from Plains could be there 4-12-23 to oversee excavation within 2 ft of their Pipeline.
Using the new Gnss reciever, Aaron and I located grids to be excavated for SB 18 via Hand auger. Collected 4 new samples delineation, 6467, 479, 480, 500. Collected 5 new Sidewall Samples in area 9 East of the Plains line berm. H Gonzalez left to lab at 1450, A Lozano Stayed to mark out above ground Features.

HGr

Scale: 1 square = _____

4-12-23

Objective: Plains rep will be on site for excavation of sidewalls along Plains line.

Weather: Hot, sunny.

Staff on site: H Gonzalez, A Lorano

Visited Site at 0830, excavation was ongoing so left to other Novo site. Returned to site with A Lorano to conduct onsite labor. At 1200. Excavation of Sidewall was completed, but waste soil still needed to be removed. Using the Trimble unit, Aaron and I mapped out the South end of the spill as it was off due to using hand instruments to measure out. We located and sampled new grids, G517, 536, 555, 572, 589, 606 at 4-4.5' in depth. Left site at 1530 to go to lab to drop off samples.

HG

Scale: 1 square = _____

Rain in the Rain

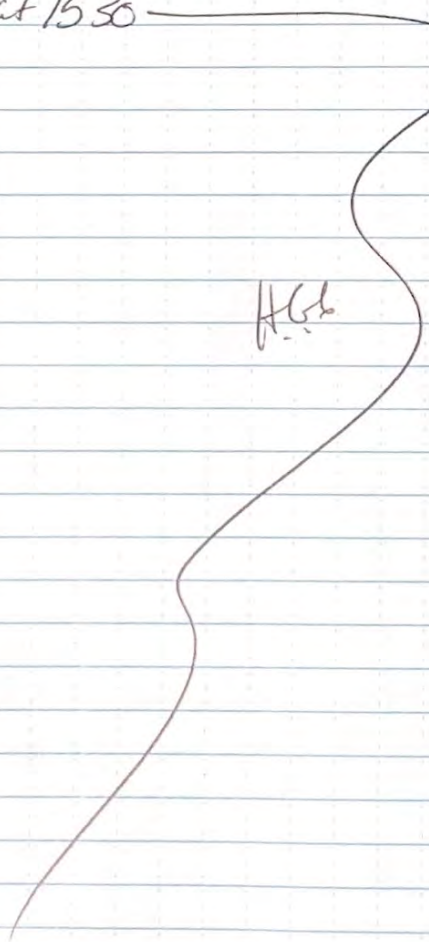
4-13-23

Objective: Collect Samples along the new Plains line excavated area.

Weather: Cool, Sunny, ~~High Winds~~.

Staff: A Gonzalez, A Lozano.

Arrived on site at 0810, met with crew to discuss Plans for the rest of the day. On Entrevee call, determined it would be feasible to move the air bridge Currently over the Plains line to Sample underneath it. Marked Grid G53 to be further excavated. Determined a Pipeline runs through the middle of the grid so Mechanical excavation is not possible. Grid G479 was excavated to 4-4.5' to be resampled as it failed the previous day. Collected 2 new Sidewall resamples in area of that had failed the previous day. Collected all new floor Samples along Plains line Starting at G474-197 going South to North on grid map. Collected 7 new Samples on the South end, G588, 635, 650, 665, 696, 679, 688 left to lab at 1530



Scale: 1 square = _____

7-14-23

Objective: Collect Previously unsampled grids on the ~~North~~ South end.
Weather; Hot, Sunny High Winds.
Staff: H Gonzalez, A Lorano

Arrived on site at 0800, using the GPS unit, we did a site walk on the South end of the map to verify grid locations and attempt to locate Previously unsampled grids. Located 12 new grids, G-518, 519, 520, 537, 538, 540, 555, 556, 574, 597, 687, 692. at 4-4.5' in depth. Aaron left to lab at 1200.

11.6

4-15-23

Objective: Locate Previously unsampled grids on the South end of the map in area 8

Weather: Cool, Cloudy, Windy.

Staff: H Gonzalez.

Arrived on site at 0800, Setup GPS unit to locate new grids. Located 8 grids to sample. G416, 420, 450, 451, 453, 475 495, and 496. Placed samples in sample bags, labeled them and filled out COC's. left site at 1030.

H.G.

Scale: 1 square = _____

7-11-23

Objective: Collect new samples along Pairs line by air bridge.
weather: Hot Sunny
Staff: H Gonzalez

Arrived on site at 0800, set up GPS, started on field notes. Using the GPS unit, located 12 new samples after air bridge was moved. 6456, 454, 455, 476, 477, 478, 497, 498, 499, 535, 515, 535. Placed samples in sample bags and filled out COC's. Left to lab at 1030.

4-10-23

Objective: Collect new sidewalls and resample sidewall.
Weather: Hot Sunny, Windy later in the day.
Staff: A Gonzalez.

Arrived on site at 1145, met with excavation supervisor to extend A9 sidewall that Previously failed for resampling. Collected 5 new sidewall samples, and A9 Eastwall-1D. left to lab at 1430.

Scale: 1 square = _____

7-17-23

Objective: Collect Soil boring Near A8 westwall 3' off Pipe line to the west. and failed Sidewalls on South end.
Weather: Hot, Sunny.
Staff: H. Gonzalez

Arrived on Site at 1000 to start collecting a Soil boring to 4' near a failed Sidewall. Named Sidewall Westwall-2C to be analyzed for Chlorides. Returned to site from other Juno Site to collect failed Sidewall resamples. A8 Eastwall-5B, A8 Eastwall-4B and A9 Eastwall-1E. left to lab in Hobbs at 1530.

HG

Scale: 1 square = _____

Rite in the Rain

4-22-23

Objective: Collect remaining Samples on North end including sidewalls.
weather: Hot, Sunny
Staff: H Gonzalez

Arrived on site at 1530. Set up GPS Unit and started to log grid locations in the newly excavated area on the North end. Collected 23 new samples, G13, 19, 20, 21, 26, 27, 28, 36, 37, 46, 47, 48, 57, 58, 59, 69, 70, 80, 81. and A1 Northwall-3, A1 westwall-1, A1 westwall-2 A1 westwall-3 all at 0-4' in depth. Left Site at 1730.

H.Gonzalez

Scale: 1 square =_____

7/26/2023

Objective: take photos of side wall Area North End of site

weather: cool 60s 70s sunny

personel: O. Gonzalez

0700 depart Hotel to head to site to ~~work~~ mark out A-1 west & A2 west side wall locations

0729 Arrived on site met with Jason to Mark Safety Areas & take photos.

0840 head off site to head to Waterson site

Scale. 1 square = _____

Rite in the Rain

4-30-23

Objective: Collect Sidewall delineation Samples on the North end of the Excavation Areadown to 4 Feet.
Weather: Cool, Sunny.
Staff on site: H. Gonzalez

Arrived on site at 0830 and got equipment ready and located Sidewalls that failed. Measured 2FT west of the plans line to install auger bore holes. Bored 2 auger holes down to 4 Feet and collected 2 Composite Samples. At westwall 1A, 2A 1-4' left site at 1000.

HGb

Scale: 1 square =_____

5-1-2023

Objective: Dacument Seeding on backfilled area

Staff on Site: H. Gonzalez

Seeding Pertormed with tractor using seed drill and native seed mixture. On site collected Photos.

HG

Rite in the Rain

Scale: 1 square = _____

5-4-2023

Objective: Document Hydrovac operations on failed Sidewalls.

Weather: Hot, Sunny.

Staff on Site: H. Gonzalez

Left to site at 0830, arrived on site at 0900, Plains employee on site, updated him on our excavation plans. Hydrovac crew showed up on site at 0830, started excavation on the North end at 0900, Moved to the South end for westwall AS-1 that failed for Chlorides. finished excavation at 1430, Documented operations w/ Photos and notation.

H.G.

Scale: 1 square = _____

APPENDIX E
Waste Management Documentation

Appendix F
Laboratory Analytical Data Reports

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 286095

CONDITIONS

Operator: NOVO OIL & GAS NORTHERN DELAWARE, LLC 1400 Woodloch Forrest Drive The Woodlands, TX 77380	OGRID: 372920
	Action Number: 286095
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	Final Documents did not make it to the incident files during approval process.	11/15/2023