Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

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

☐ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: _____ Title: _____

Signature: _____ _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Jocelyn Harimon Date: 01/19/2023

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: 5/19/2023

Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

TETRA TECH

January 18, 2023

District Supervisor
Oil Conservation Division, District 2
506 W. Texas
Artesia, New Mexico 88210

Re: Closure Report
ConocoPhillips
Heritage Concho
JR Horz Federal #001 Release
Unit Letter D, Section 10, Township 26 South, Range 29 East
Eddy County, New Mexico
Incident ID# NAB1531639135
2RP-3386

Sir or Madam,

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips to assess and evaluate a Heritage Concho release and subsequent remedial/monitoring actions performed at the JR Horz Federal #001 release site (API No. 30-015-33066). The release footprint is located in Public Land Survey System (PLSS) Unit Letter D, Section 10, Township 26 South, Range 29 East, in Eddy County, New Mexico (Site). The C-141 listed coordinates for the release point, when in fact the coordinates indicated the location of the pad site. The coordinates listed on the C-141 are 32.0632515°, -103.9792099°, and the pad location is shown on Figures 1 and 2.

BACKGROUND

According to the State of New Mexico Oil Conservation Division (NMOCD) C-141 Initial Report, the release was discovered on October 21, 2015. The release occurred as a result of a lightning strike incident on the facilities with a fire that ensued. Once the fire was extinguished, vacuum trucks were dispatched to recover standing fluids. A total of approximately 1,310 barrels (bbls) of produced water and 44 bbls of crude oil, of which approximately 240 bbls of produced water and 40 bbls of crude oil were recovered. The release point was located in a lined facility however, the release was not contained within the metal-wall lined facility. The release flowed north, approximately 10 feet in width, across multiple pipeline rights-of-way and across a lease road, before pooling on the north side of the lease road. Then the release headed north into a local drainage and continuing north-northeast for nearly ¼ mile, ranging in width from 10 to 75 feet at some points. The approximate release extent is shown in Figure 3.

The NMOCD approved the initial C-141 on November 12, 2015, and subsequently assigned the release the Incident ID NAB1531639135 and the remediation permit (RP) number 2RP-3386. The initial C-141 form is included in Appendix A.

SITE CHARACTERIZATION

The Site Characterization performed by COG at the time of the assessment (and ensuing proposed work plan) established a depth to groundwater greater than 100 feet bgs based on the Chevron Trend Maps,

Tetra Tech
901 West Wall St., Suite 100, Midland, TX 79701
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

classifying it as a site ranking of zero. This Site Characterization was accepted when the work plan was accepted.

Given the age of the release and the associated actions, a contemporaneous site characterization was performed for the release footprint. The Site assessment and remediation activities are described in subsequent sections of this report.

A contemporaneous site characterization was performed and no sinkholes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, playa lakes, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the distances specified in 19.15.29 New Mexico Administrative Code (NMAC). A stream body identified by the New Mexico Office of the State Engineer (NMOSE) is located in the vicinity of the far northern reaches of the release extent. The drainage area or "draw", as described in later reporting, is an ephemeral drainage to of this stream body. The Site is in an area of medium karst potential.

There are no water wells listed in the NMOSE database located within approximately ½ mile (800 meters) of the site. According to data from three (3) well listed in the NMOSE database located approximately 2.07 miles (3300 meters) from the Site, groundwater was encountered at a minimum depth of 75 feet below ground surface (bgs). The Site characterization data is presented in Appendix B.

The remediation action levels proposed for the Site are largely dependent upon depth to groundwater. As such, the OCD focuses upon depth to water estimation. Thus, 19.15.11(A)(2) NMAC allows for various means of determining depth to groundwater. For this release, as the available water level information was form wells further than ½ mile away from the site, COP reviewed adjacent release sites with approved Work Plans for possibility of associated borings which could provide a means for determining depth to groundwater in the vicinity of NAB1531639135 / 2RP-3386 release area. As such, subsurface data from the JR Horz Federal #2 Release Site (NAB1904554978) was reviewed.

One boring (Groundwater Determination Bore, aka GDB) drilled as a portion of the JR Horz Federal #2 Release characterization was identified as located within 0.4-mile radius of the JR Horz Federal #001 Release footprint. A review of the associated boring log indicates boring GDB does not define depth to groundwater but was dry to a depth of 55 feet below the ground surface. The borehole was plugged with 3/8" bentonite chips on August 3, 2020. The borehole coordinates are 32.063589, -103.972770. Thus, based on this data, COP proposes to use the 51 – 100 feet criteria listed in Table I of 19.15.29.12 NMAC. The boring log from the JR Horz Federal #2 (NAB1904554978) assessment is included in Appendix B. The remainder of the Site characterization is also included in Appendix B.

REGULATORY FRAMEWORK

Based upon the release footprint and in accordance with Subsection E of 19.15.29.12 NMAC, per 19.15.29.11 NMAC, the site characterization data was used to determine recommended remedial action levels (RRALs) for benzene, toluene, ethylbenzene, and xylene (collectively referred to as BTEX), total petroleum hydrocarbons (TPH), and chlorides in soil.

Based on the site characterization, established depth to groundwater, and in accordance with Table I of 19.15.29.12 NMAC, the RRALs for the Site are as follows:

Constituent	Site RRAL
Chloride	10,000 mg/kg
TPH (GRO+DRO+MRO)	2,500 mg/kg
TPH (GRO+DRO)	1,000 mg/kg
BTEX	50 mg/kg

Additionally, in accordance with the NMOCD guidance *Procedures for Implementation of the Spill Rule (19.15.29 NMAC)* (September 6, 2019), the following reclamation requirements for surface soils (0-4 feet bgs) outside of active oil and gas operations are as follows:

Constituent	Reclamation Requirement
Chloride	600 mg/kg
TPH	100 mg/kg
BTEX	50 mg/kg

SMA INITIAL ASSESSMENT

Following the initial release, COG dispatched vacuum trucks to recover standing fluid. On December 16, 2015, Souder, Miller & Associates (SMA) collected soil samples from four (4) locations (D1 through D4) on pad and three (3) locations (P1 through P3) in the drainage area. The assessment sampling locations are presented in Figure 3. A total of eighteen (18) samples were collected from the seven locations and sent to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico to be analyzed for chlorides via method EPA 300.0. P1 at 0.5 ft, P3 at 0.5 ft, and D2 at 2 ft were also tested for BTEX via Method 8021B. Analytical results associated with samples collected during the December 2015 assessment activities are summarized in Table 1.

A preliminary Work Plan dated December 28, 2015 was prepared by SMA based on the results of the December 2015 Site assessment and submitted to NMOCD and the Bureau of Land Management (BLM) via email on January 12, 2016. The Work Plan included an incomplete table of samples and associated laboratory analytical results. Heather Patterson of the NMOCD requested additional sample information and associated laboratory analytical results that were shown in Figure 2 of the SMA Work Plan, but not included in the initial Table 2 Summary of Laboratory Analyses. Lucas Middleton of SMA emailed Heather Patterson with additional sample and associated lab analytical data on January 19, 2016.

The Work Plan proposed an excavation of impacted soils on and off pad, continuously guided by SMA through the collection of composite soil samples for field screening with a mobile titration unit and calibrated PID. SMA's proposed Work Plan would not encroach the area north of the well pad and local drainage in and around the pipeline right-of-way. 1,400 cubic yards of contaminated soil were expected to be excavated and replaced with clean backfill material. Furthermore, SMA proposed to further delineate the remainder of the release extent located within the drainage feature, which was not previously accomplished due to wet ground conditions in the release footprint.

The Work Plan was approved by NMOCD via email on January 21, 2016 with the following comments:

- *This approval is for the pad portion of the clean-up efforts only.*
- *With the additional information provided, the OCD can approve a 2 foot excavation of the pad. Like approval by BLM is required for this location.*

No record of a response from the BLM can be located on the NMOCD Online Imaging website. Copies of the regulatory correspondence are included in Appendix C.

PARTIAL REMEDIAL ACTION AND ADDITIONAL DELINEATION

Post-assessment, SMA began the excavation of impacted soils on the well pad. The SMA Closure Report, (Appendix D), dated January 26, 2016, states that excavation activities were guided by SMA personnel and soil samples were collected for field screening utilizing a mobile titration unit and a calibrated PID. Areas of the pad were reportedly excavated to 2½ feet bgs. No figure or details of the exact area excavated was provided by the SMA Closure Report. Furthermore, the report stated that confirmation samples were collected at final depth of excavation of 2½ feet bgs. However, the report is unclear in this regard, and no data is found that presents as confirmation data. Total contaminated soils excavated was reported to be

1,400 cubic yards, which was replaced with clean backfill material from the nearest COG caliche pit. Contaminated soil was transported for proper disposal at the R360 Red Bluff facility in Texas. No documentation from the R360 facility, demonstrating the quantity and associated dates of contaminated soils transported, was presented. Based on the Work Plan approval and reported volumes, an inferred remedial extent was drafted from the SMA documentation and is included as Figure 4.

SMA performed additional delineation of the release in the draw on January 20, 2016. A total of five (5) locations were accessed within the draw, whereby nine (9) samples were collected for field screening. Details were provided by SMA in the Closure Report dated January 26, 2016. The samples were gathered from the ground surface and 1 foot below ground surface. The results of the additional delineation surface screening indicated elevated levels of chlorides above Site Reclamation Limits. Table 2 includes laboratory analytical data associated with samples collected during the additional delineation event.

COG MONITORING PLAN

Based on the partial Work Plan approval from OCD, a monitoring plan was developed by COG, dated July 22, 2016, as an addendum to the approved work plan. Amanda Trujillo of COG emailed the proposed Monitoring Plan to Heather Patterson and Mike Bratcher of the NMOCD, as well as Jim Amos and Shelly Tucker of the BLM, on July 27, 2016. A copy of this report is included as Appendix E. This report was not found in a review of OCD imagery. Associated regulatory correspondence is also included in Appendix C. The goal of the monitoring plan was to address impact left in place within the draw, to verify that chlorides left in place would be stabilized at the then current depth. The proposed monitoring plan defined the depth to groundwater at 125 ft below the surface based on Chevron trend maps but did not include a figure as a reference for characterization purposes. Furthermore, COG stated that due to the high depth to groundwater, a greater risk of impact to the Pecos River was by way of horizontal movement of chlorides.

Four sample locations were selected for two separate purposes (P2, P3, MP1, and MP2). Two sampling locations were proposed to be in the flow path of the release. The second set of locations were chosen to measure horizontal movement of chlorides over time. Samples would not be gathered deeper than three feet below the ground surface. If samples deeper than three feet below ground surface were required, COG would seek permission from the NMOCD District 2 and Carlsbad BLM Office to enter the draw with a truck-mounted mechanical drilling rig for sampling purposes. The plan proposed to collect samples utilizing a hand auger in May of each year for 3 consecutive years beginning in 2017. COG's intent was to gather three years of monitoring event data and request closure if the analysis showed no change on chloride impact in the subsurface of the draw. Figure 5 depicts the locations in the proposed monitoring plan.

Within the proposed monitoring plan report, a set of figures and tables with laboratory analytical data were included. The sample locations referenced in the tables, and shown on the figures, were not the sample locations proposed in the monitoring plan. No record of a monitoring event conducted by COG could be located through the NMOCD Online Imaging records or by way of client correspondence. It appears from data presented in the monitoring plan, associated with corresponding sample points on aerial imagery, that three locations (S1, S3, and BGS) appear to have been sampled in the monitoring plan.

These three locations (S1, S3, and BGS) had not previously been presented by SMA. Furthermore, based on the laboratory reports associated with these locations, the samples were collected on May 26, 2016, five months after the closure report was prepared. The implication is that the samples were collected by COG internally and intended to verify the effectiveness of the remedial action. Laboratory analytical data associated with S1 and S3 were included in the tables adjacent to the aerial imagery figures in the report. The analytical data associated with the BGS sampling point was only in the laboratory analytical reports attached to the proposed monitoring plan. Figure 5 indicates the location of the June 2016 sampling event and associated laboratory analytical results are presented in Table 3.

2019 JR HORZ #2 AND COINCIDENT RELEASE REMEDIATION

Based on the age of the release and the site conditions, a review of adjacent release sites with approved Work Plans and remedial actions was conducted. The JR Horz Federal #2 incident (NAB1904554978/2RP-

5238) was reviewed for any applicability to the current incident. The release and remedial actions associated with NAB1904554978 were determined to be coincident with sections of the JR Horz Federal #001 release footprint.

The JR Horz Federal #2 Release incident (NAB1904554978) was discovered on February 4, 2019. The release footprint occurred in the pasture north of the pad and migrated north into the adjacent draw. On behalf of COG, Tetra Tech assessed the release extent and generated a Work Plan based on the results of the assessment. Prior to performing the assessment of the release extent within the wash area, COG had excavated impacted soils to a depth of 3 ft bgs in areas that were accessible with a backhoe. Following the COG response, and prior to the submittal of the Work Plan, the BLM reviewed the assessment data and inspected the Site. James Amos of the BLM requested no additional excavation within the wash area (draw/drainage) which could cause more damage to the surrounding areas and alter the course of the wash area. The OCD concurred with the BLM request. Additionally, the area was sloped in the natural course of the draw and erosion controls installed every 50 ft.

The Closure Report for the JR Horz Federal #2 Release incident was submitted on October 20, 2020. The report details excavation extents and confirmation sampling performed as part of the remediation activities. Excavated extents from the JR Horz Federal #2 Release incident remediation (NAB1904554978) are partially coincident with sections of the JR Horz Federal #001 Release footprint (NAB1531639135). Figure 6 depicts the JR Horz Federal #001 Release footprint, the JR Horz Federal #2 Release footprint, and areas excavated as part of the JR Horz Federal #2 Release incident remediation.

CONCLUSION

Based on the current site conditions, previous remedial work completed, and BLM's documented desire for no further disturbance within the draw, ConocoPhillips respectfully requests closure for this incident. Several lines of evidence provide the basis for this request.

- Based on the documentation associated with the on-pad remediation conducted by SMA, it appears that the impacted soil within the release footprint on pad associated with the JR Horz #1 Release has been remediated as per the approved 2016 Work Plan.
- Based on the results of the initial assessment documented in COG's monitoring plan, which confirmed remedial efforts on pad and the absence of impact in soils in the southern draw, the release footprint area north of the lease road had little to no residual impacts.
- Based on subsequent remediation conducted in association with release NAB1904554978, sections of the release footprint north of the pad and south of the draw outside the lease roads have had residual impacts addressed.
- Based on subsequent remediation conducted in association with release NAB1904554978 in the draw and the associated ground disturbance from the excavation by COG, remaining impacted soils associated with the JR Horz Federal #1 Release in the southern draw have likely been remediated.

The final C-141 forms are enclosed in Appendix A. If you have any questions concerning the soil assessment activities for the Site, please call me at (512) 338-2861.

Sincerely,
Tetra Tech, Inc.

Christian M. Llull, P.G.
Program Manager

cc: Mr. Ike Tavarez – ConocoPhillips

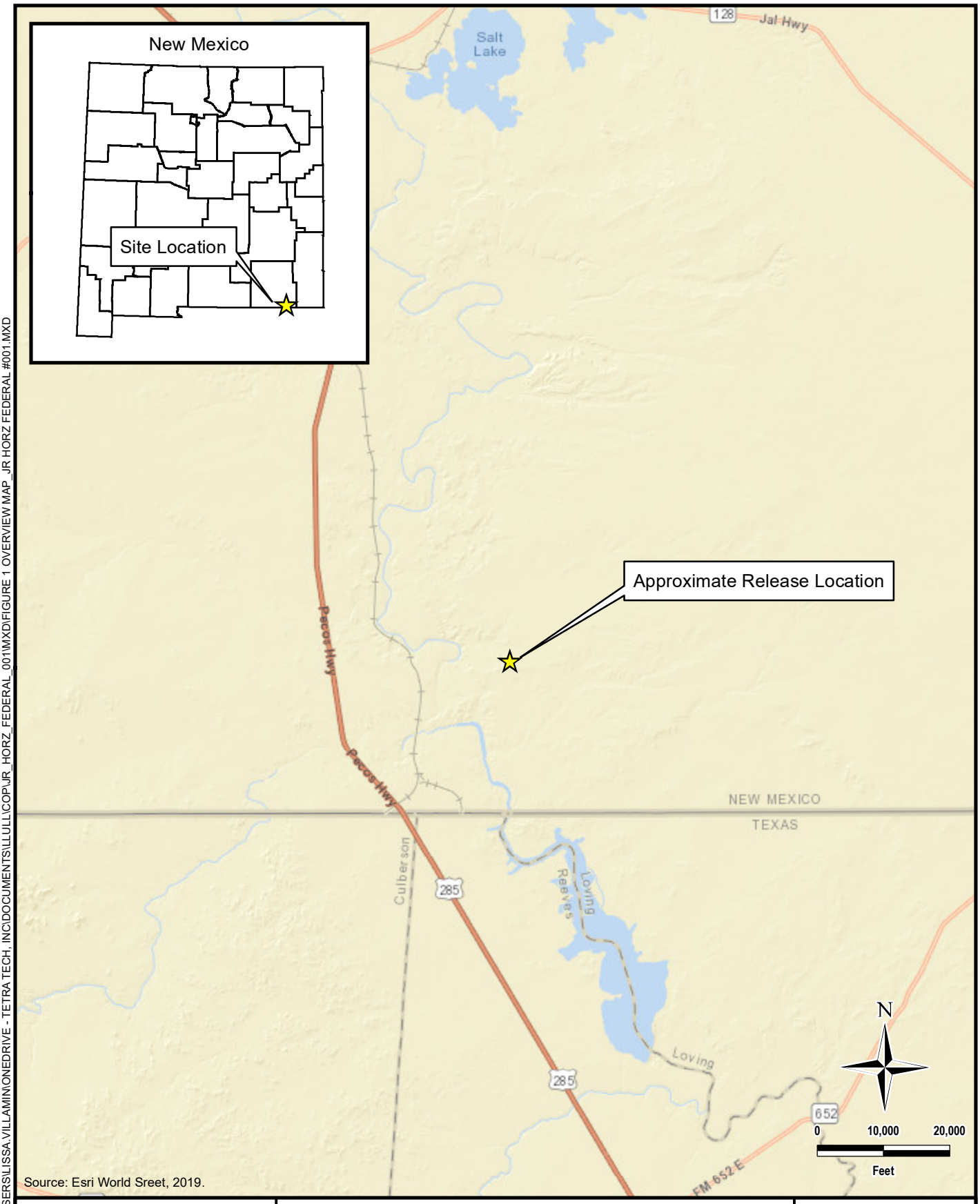
LIST OF ATTACHMENTS

Figures:

Tables:

Appendices:

FIGURES



DOCUMENT PATH: C:\USERS\LISSA.VILLAMIN\ONEDRIVE - TETRA TECH, INC\DOCUMENTS\LLULL\COP\JR_HORZ_FEDERAL_001\MXD\FIGURE 1 OVERVIEW MAP_JR HORZ FEDERAL #001.MXD

TETRA TECH
www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

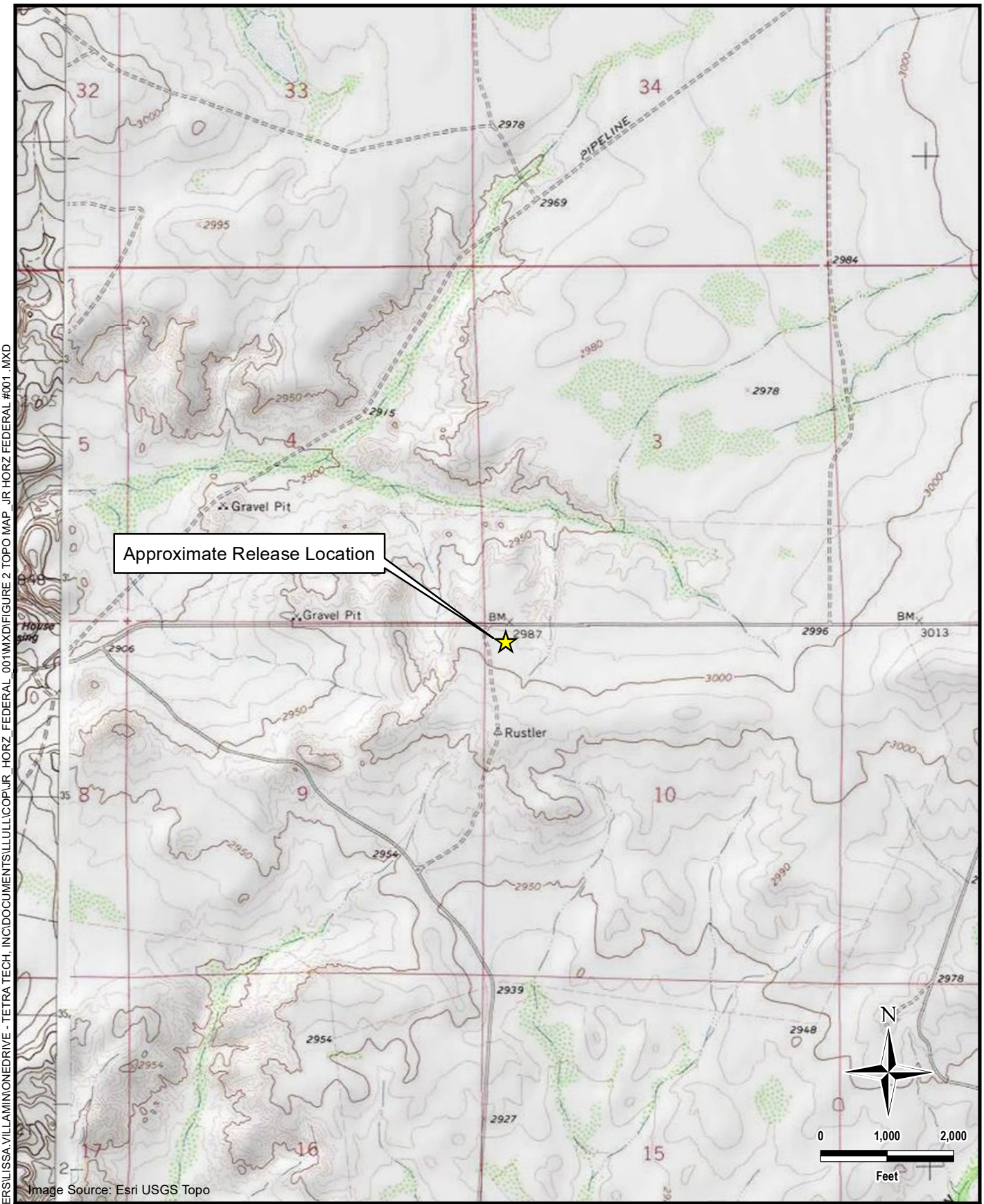
CONOCOPHILLIPS / HERITAGE CONCHO

NAB1531639135 / 2RP-3386
(32.063499°, -103.979256°)
EDDY COUNTY, NEW MEXICO

JR HORZ FEDERAL #001 RELEASE
OVERVIEW MAP

PROJECT NO.:	212C-MD-02877
DATE:	DECEMBER 22, 2022
DESIGNED BY:	LMV

Figure No.
1



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www.tetratech.com

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Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

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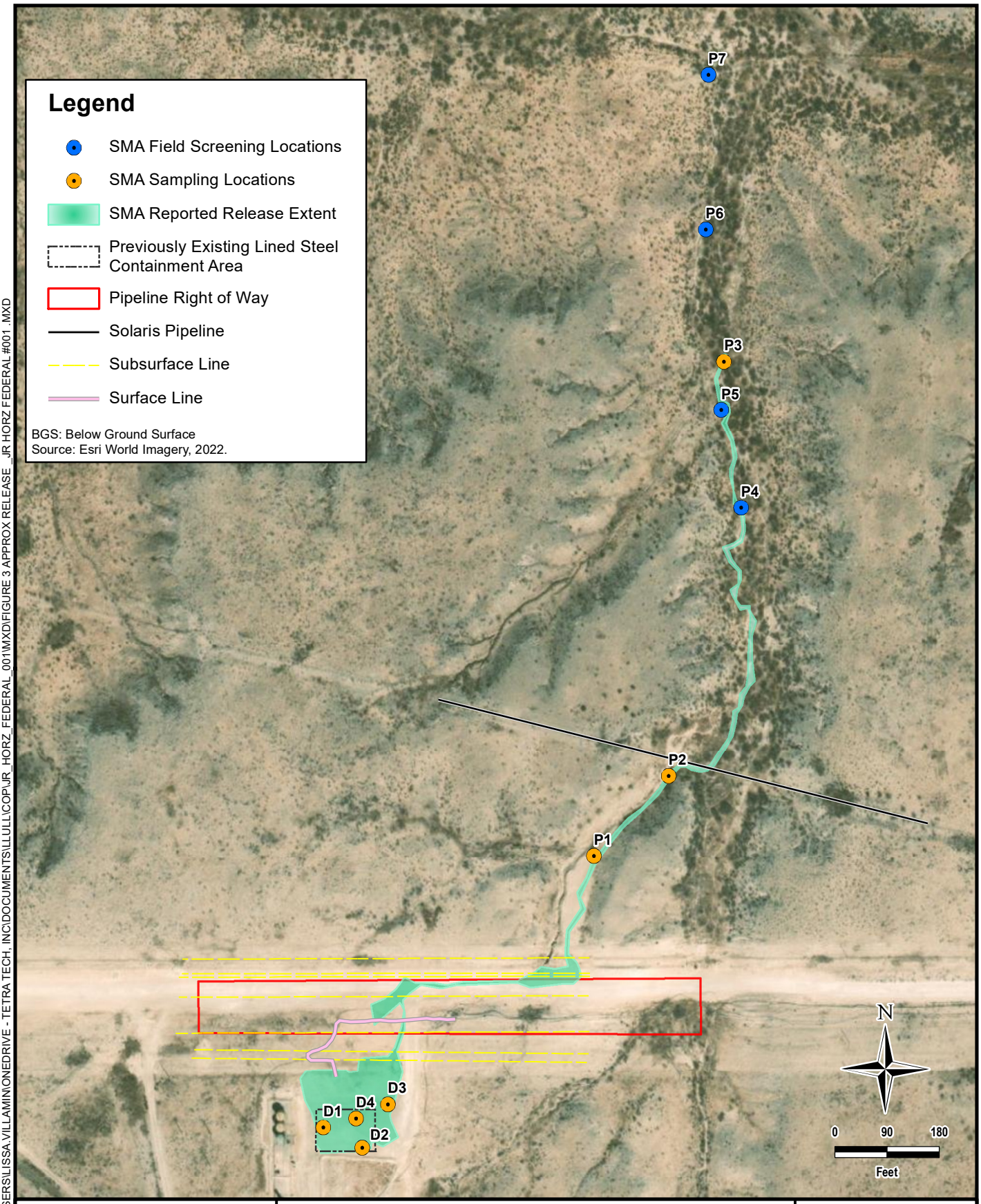
NAB1531639135 / 2RP-3386
(32.063499°, -103.979256°)
EDDY COUNTY, NEW MEXICO

JR HORZ FEDERAL #001 RELEASE
TOPOGRAPHIC MAP

PROJECT NO.:	212C-MD-02877
DATE:	DECEMBER 22, 2022
DESIGNED BY:	LMV

Figure No.
2



DOCUMENT PATH: C:\USERS\LISSA.VILLAMIN\ONEDRIVE - TETRA TECH, INC\DOCUMENTS\LLULL\COP\JR_HORZ_FEDERAL_001\MXD\FIGURE 3 APPROX RELEASE _JR HORZ FEDERAL #001 .MXD

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www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

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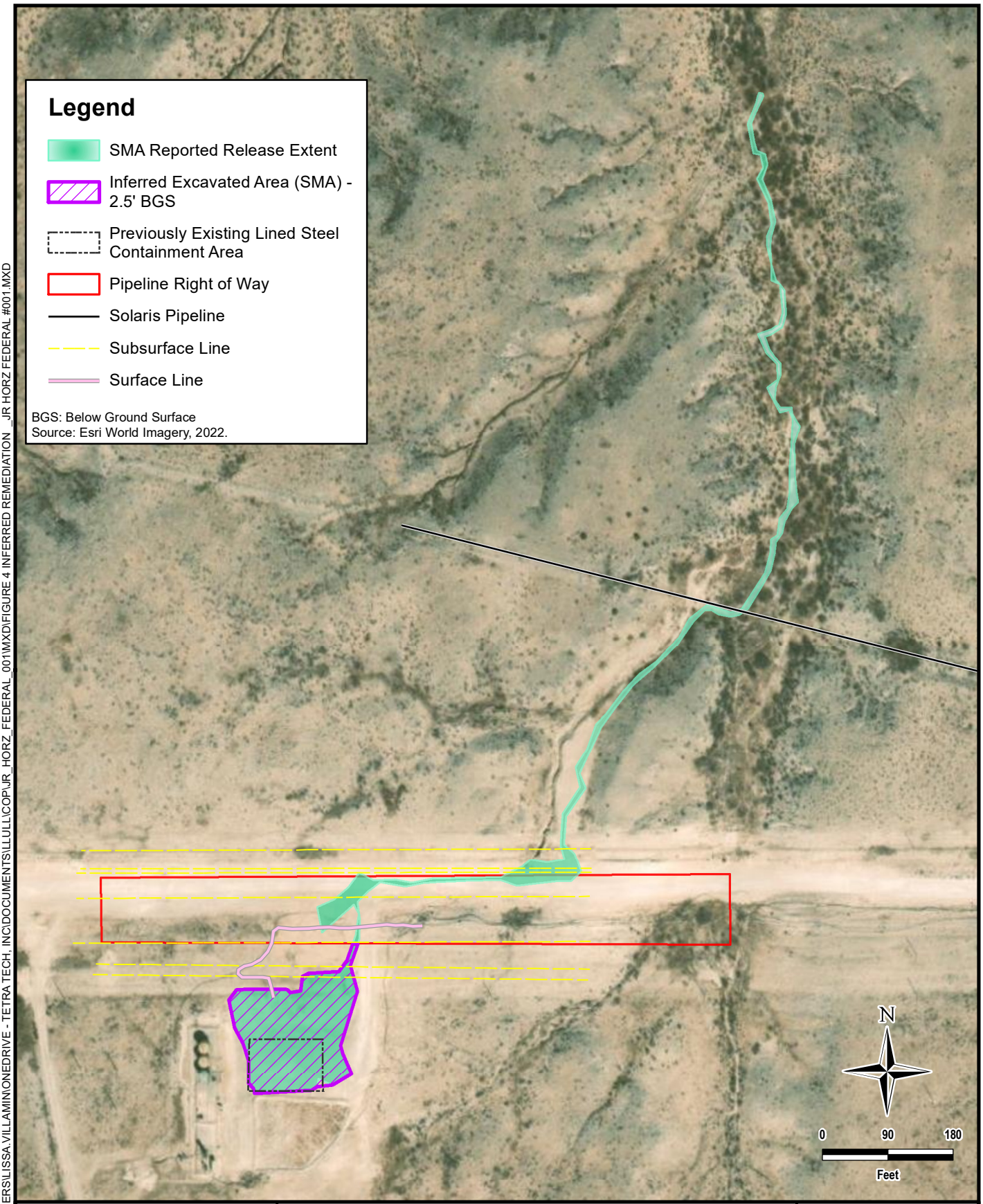
NAB1531639135 / 2RP-3386
(32.063499°, -103.979256°)
EDDY COUNTY, NEW MEXICO

JR HORZ FEDERAL #001 RELEASE
APPROXIMATE RELEASE EXTENT AND SITE ASSESSMENT MAP

PROJECT NO.:	212C-MD-02877
DATE:	JANUARY 06, 2023
DESIGNED BY:	LMV

Figure No.
3



DOCUMENT PATH: C:\USERS\LISSA.VILLAMIN\ONEDRIVE - TETRA TECH, INC\DOCUMENTS\LLULL\COP\JR_HORZ_FEDERAL_001\MXD\FIGURE 4 INFERRED REMEDIATION _JR HORZ FEDERAL #001.MXD

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www.tetratech.com

901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

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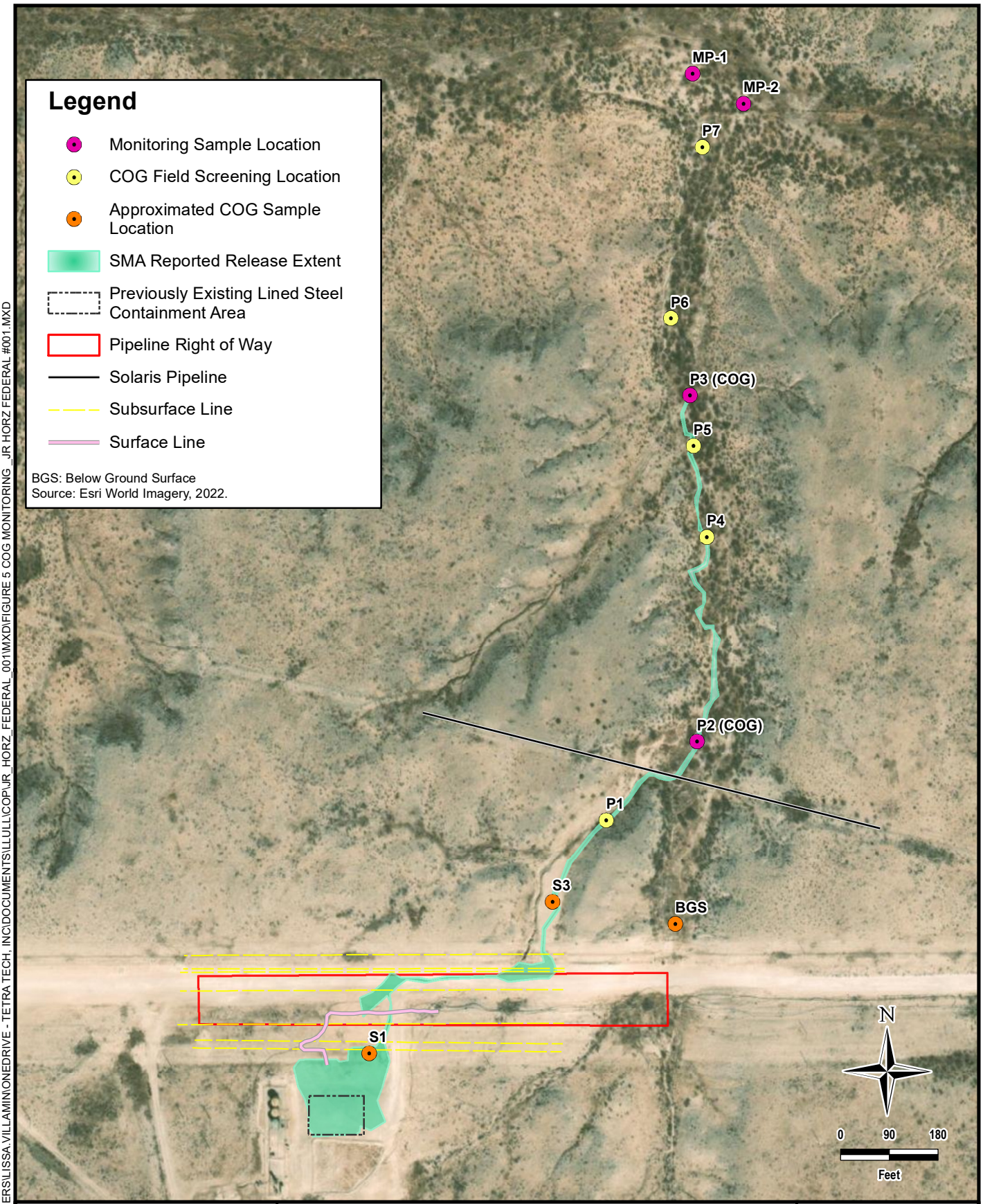
NAB1531639135 / 2RP-3386
(32.063499°, -103.979256°)
EDDY COUNTY, NEW MEXICO

JR HORZ FEDERAL #001 RELEASE
INFERRED REMEDIATION EXTENT

PROJECT NO.:	212C-MD-02877
DATE:	JANUARY 06, 2023
DESIGNED BY:	LMV

Figure No.
4



DOCUMENT PATH: C:\USERS\LISSA.VILLAMIN\ONEDRIVE - TETRA TECH, INC\DOCUMENTS\LLULL\COP\JR_HORZ_FEDERAL_001\MXD\FIGURE 5 COG MONITORING_JR HORZ FEDERAL #001.MXD

TETRA TECH
www.tetratech.com
901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

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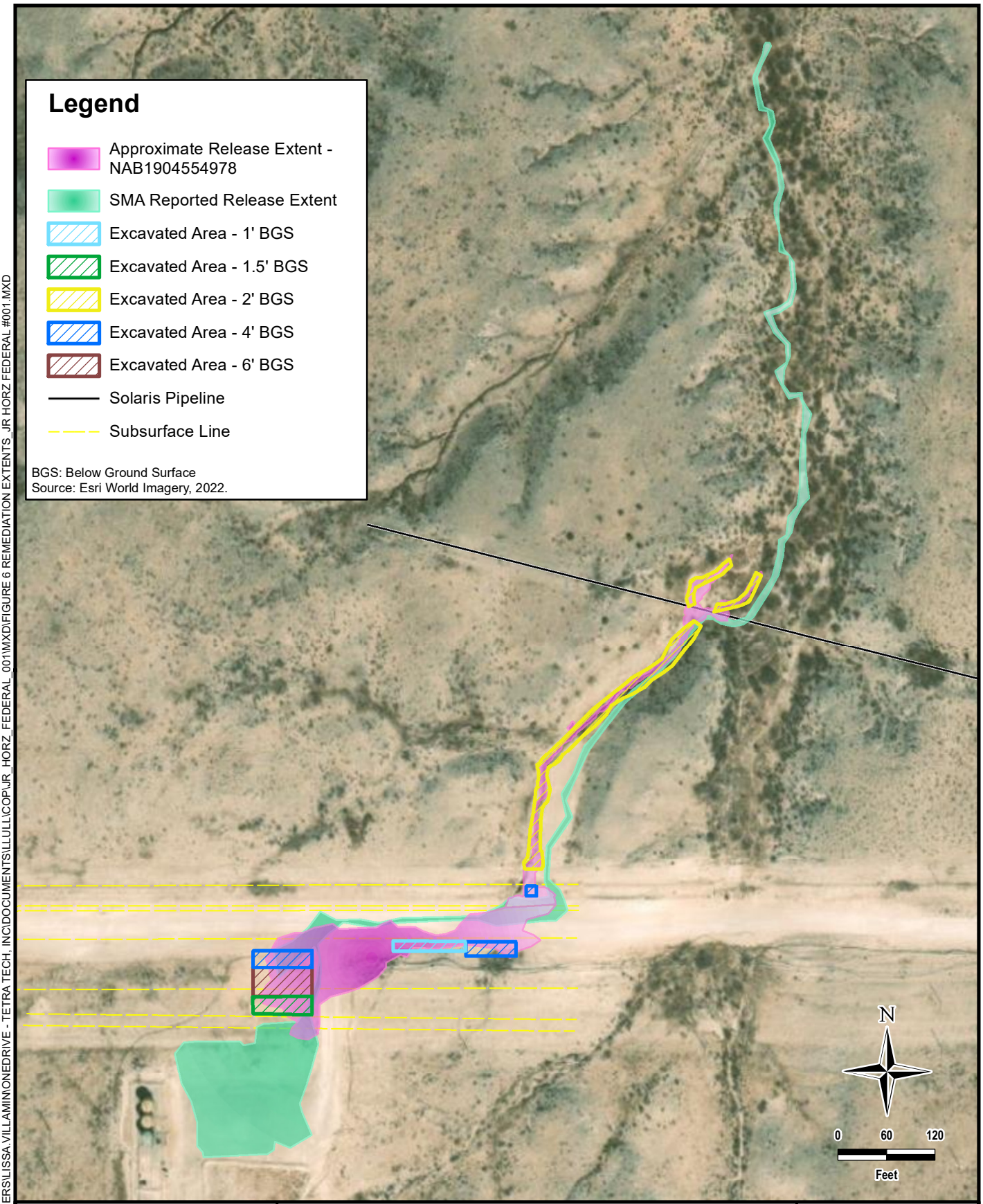
JR HORZ FEDERAL #001 RELEASE
COG MONITORING PLAN

PROJECT NO.:	212C-MD-02877
DATE:	JANUARY 06, 2023
DESIGNED BY:	LMV

Figure No.
5



DOCUMENT PATH: C:\USERS\LISSA.VILLAMIN\ONEDRIVE - TETRA TECH, INC\DOCUMENTS\LLULL\COP\JR_HORZ_FEDERAL_001\MXD\FIGURE 6 REMEDIATION EXTENTS_JR HORZ FEDERAL #001.MXD

TETRA TECH

www.tetratech.com

901 West Wall Street, Suite 100
Midland, Texas 79701
Phone: (432) 682-4559
Fax: (432) 682-3946

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NAB1904554978
(32.063499°, -103.979256°)
EDDY COUNTY, NEW MEXICO

JR HORZ FEDERAL #001 RELEASE
NAB1904554978 - REMEDIATION EXTENTS AND JR HORZ #001 RELEASE EXTENT

PROJECT NO.:	212C-MD-02877
DATE:	JANUARY 06, 2023
DESIGNED BY:	LMV

Figure No.
6

TABLES

TABLE 1
SUMMARY OF ANALYTICAL RESULTS
2015 2016 SOIL ASSESSMENT- NAB1531639135/2RP-3386
CONOCOPHILLIPS
JR HORZ FED #1 RELEASE
EDDY COUNTY, NM

Sample ID	Sample Date	Sample Depth	Chloride[1]		BTEX[2]										TPH[3]							
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		EXT DRO		Total TPH	
															C_6 - C_{10}		> C_{10} - C_{28}		> C_{28} - C_{36}		(GRO+DRO+EXT DRO)	
		ft. bgs	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg		mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	
D1	12/16/2015	2	110		NA		NA		NA		NA		NA		NA		NA		NA		-	
		4	240		NA		NA		NA		NA		NA		NA		NA		NA		-	
		8	310		NA		NA		NA		NA		NA		NA		NA		NA		-	
		12	280		NA		NA		NA		NA		NA		NA		NA		NA		-	
		16	250		NA		NA		NA		NA		NA		NA		NA		NA		-	
D2	12/16/2015	2	320		> 0.049		> 0.049		> 0.049		> 0.097		NA		NA		NA		NA		-	
		4	150		NA		NA		NA		NA		NA		NA		NA		NA		-	
D3	12/16/2015	4	440		NA		NA		NA		NA		NA		NA		NA		NA		-	
		6	80		NA		NA		NA		NA		NA		NA		NA		NA		-	
		12	210		NA		NA		NA		NA		NA		NA		NA		NA		-	
		16	180		NA		NA		NA		NA		NA		NA		NA		NA		-	
D4	12/16/2015	2	1,100		NA		NA		NA		NA		NA		NA		NA		NA		-	
		4	ND		NA		NA		NA		NA		NA		NA		NA		NA		-	
P1	12/16/2015	0.5	***8,900***		> 0.049		> 0.049		> 0.049		> 0.098		NA		NA		NA		NA		-	
		3	730		NA		NA		NA		NA		NA		NA		NA		NA		-	
P2	12/16/2015	0.5	***8,500***		NA		NA		NA		NA		NA		NA		NA		NA		-	
		3	220		NA		NA		NA		NA		NA		NA		NA		NA		-	
P3	12/16/2015	0.5	***24,000***		> 0.047		> 0.047		> 0.047		> 0.093		NA		NA		NA		NA		-	
P3	1/20/2016	1	***4,500***		NA		NA		NA		NA		NA		NA		NA		NA		-	

NOTES:

ft. Feet
bgs Below ground surface
mg/kg Milligrams per kilogram
TPH Total Petroleum Hydrocarbons
GRO Gasoline range organics
DRO Diesel range organics
1 Method SM4500Cl-B
2 Method 8021B
3 Method 8015M

Bold and italicized values indicate exceedance of proposed Remediation RRALs and Reclamation Requirements.

QUALIFIERS:

TABLE 2
SUMMARY OF ANALYTICAL RESULTS
2016 ADDITIONAL DELINEATION - NAB1531639135/2RP-3386
CONOCOPHILLIPS
JRS HORZ #1 RELEASE
EDDY COUNTY, STATE

Sample ID	Sample Date	Sample Depth	Chloride[1]		BTEX[2]										TPH[3]							
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		EXT DRO		Total TPH
															C_6 - C_{10}		> C_{10} - C_{28}		> C_{28} - C_{36}		(GRO+DRO+EXT DRO)
		ft. bgs	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg
B6	1/20/2016	SURFACE	> 30		NA		NA		NA		NA		NA		NA		NA		NA		-
		1	> 30		NA		NA		NA		NA		NA		NA		NA		NA		-
H1	1/20/2016	SURFACE	54		NA		NA		NA		NA		NA		NA		NA		NA		-
		1	***1,000***		NA		NA		NA		NA		NA		NA		NA		NA		-
H2	1/20/2016	SURFACE	79		NA		NA		NA		NA		NA		NA		NA		NA		-
		1	***1,600***		NA		NA		NA		NA		NA		NA		NA		NA		-
H3	1/20/2016	1	***1,300***		NA		NA		NA		NA		NA		NA		NA		NA		-
H4	1/20/2016	SURFACE	170		NA		NA		NA		NA		NA		NA		NA		NA		-
		1	***2,400***		NA		NA		NA		NA		NA		NA		NA		NA		-

NOTES:

ft. Feet

bgs Below ground surface

mg/kg Milligrams per kilogram

TPH Total Petroleum Hydrocarbons

GRO Gasoline range organics

DRO Diesel range organics

1 Method SM4500Cl-B

2 Method 8021B

3 Method 8015M

Bold and italicized values indicate exceedance of proposed Remediation RRALs and Reclamation Requirements.

QUALIFIERS:

TABLE 3
SUMMARY OF ANALYTICAL RESULTS
COG - 2016 SOIL ASSESSMENT- NAB1531639135/2RP-3386
CONOCOPHILLIPS
JR HORZ FED #001 RELEASE
EDDY COUNTY, NM

Sample ID	Sample Date	Sample Depth	Chloride[1]		BTEX[2]										TPH[3]							
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total BTEX		GRO		DRO		EXT DRO		Total TPH
															C_6 - C_{10}		> C_{10} - C_{28}		> C_{28} - C_{36}		(GRO+DRO+EXT DRO)
		ft. bgs	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg	Q	mg/kg
S1	5/26/2016	1	256		NA		NA		NA		NA		NA		NA		NA		NA		-
		2	240		NA		NA		NA		NA		NA		NA		NA		NA		-
		3	336		NA		NA		NA		NA		NA		NA		NA		NA		-
		4	368		NA		NA		NA		NA		NA		NA		NA		NA		-
		5	352		NA		NA		NA		NA		NA		NA		NA		NA		-
		6	288		NA		NA		NA		NA		NA		NA		NA		NA		-
S2	5/26/2016	1	***912***		NA		NA		NA		NA		NA		NA		NA		NA		-
S3	5/26/2016	1	384		NA		NA		NA		NA		NA		NA		NA		NA		-
		2	208		NA		NA		NA		NA		NA		NA		NA		NA		-
		3	<16.0		NA		NA		NA		NA		NA		NA		NA		NA		-
		4	<16.0		NA		NA		NA		NA		NA		NA		NA		NA		-
		5	384		NA		NA		NA		NA		NA		NA		NA		NA		-
		6	1,630		NA		NA		NA		NA		NA		NA		NA		NA		-
BGS	5/26/2016	1	<16.0		NA		NA		NA		NA		NA		NA		NA		NA		-
		2	<16.0		NA		NA		NA		NA		NA		NA		NA		NA		-
		3	16.0		NA		NA		NA		NA		NA		NA		NA		NA		-
		4	64.0		NA		NA		NA		NA		NA		NA		NA		NA		-
		5	208		NA		NA		NA		NA		NA		NA		NA		NA		-
		6	112		NA		NA		NA		NA		NA		NA		NA		NA		-

NOTES:

ft. Feet

bgs Below ground surface

mg/kg Milligrams per kilogram

TPH Total Petroleum Hydrocarbons

GRO Gasoline range organics

DRO Diesel range organics

1 Method SM4500Cl-B

2 Method 8021B

3 Method 8015M

NA Sample not analyzed for parameter

Bold and italicized values indicate exceedance of proposed Remediation RRALs and Reclamation Requirements.

QUALIFIERS:

APPENDIX A
C-141 Forms

late C-141 submission

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

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

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

nAB1531639135

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: COG Operating LLC 229137	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-230-0077
Facility Name: JR'S HORZ FEDERAL #001	Facility Type: SWD

Surface Owner: Federal	Mineral Owner:	API No. 30-015-33066

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	10	26S	29E	380'	North	330'	West	Eddy

Latitude 32.0632515 **Longitude** -103.9792099

NATURE OF RELEASE

Type of Release: Oil & Produced Water	Volume of Release: 44 bbls Oil ; 1310 bbls PW	Volume Recovered: 240 bbls fluid
Source of Release: Lightning Strike	Date and Hour of Occurrence: 10/21/2015 10:00 pm	Date and Hour of Discovery: 10/21/2015 10:00 pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher – NMOCD / Jim Amos – BLM	
By Whom? Amanda Trujillo Davis	Date and Hour: Fri 10/23/2015 4:05 PM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

NM OIL CONSERVATION
ARTESIA DISTRICT
NOV 11 2015
RECEIVED

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

This release was caused by a lightning strike. Once the fire was extinguished, vacuum trucks were dispatched to recover all standing fluid.

Describe Area Affected and Cleanup Action Taken.*

This release was not contained on location. Concho will have the spill site sampled to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation work.

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

Signature:

Printed Name: Amanda Trujillo Davis

Title: Senior Environmental Coordinator

E-mail Address: atrujillo@concho.com

Date: 11/4/2015 Phone: 575-748-6940

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 11/12/15 Expiration Date: N/A

Conditions of Approval: Attached ☐

Remediation per O.C.D. Rules & Guidelines
SUBMIT REMEDIATION PROPOSAL NO
LATER THAN: 12/12/15

2RP-3386

* Attach Additional Sheets If Necessary

Patterson, Heather, EMNRD

From: Amanda Trujillo Davis <ATrujillo@concho.com>
Sent: Wednesday, November 11, 2015 6:38 PM
To: Patterson, Heather, EMNRD; Bratcher, Mike, EMNRD; James_Amos@blm.gov; Shelly Tucker
Cc: Austin Weyant; Lucas Middleton
Subject: (C-141 Initial) JR's Horz Federal #1 SWD (30-015-33066)
Attachments: 10-22-2015 JRs Horz Federal #1 SWD (TB) Initial.pdf

Mr. Bratcher,

Attached is a C-141 for your consideration. Souder, Miller and Associates will be addressing this release on our behalf. Please feel to contact me if you have any additional questions or concerns.

Thank you,

Amanda Trujillo Davis
Senior Environmental Coordinator
COG Operating LLC
Cell: 505.350.1336
Office: 575.748.6930
atrujillo@concho.com

1401 Commerce Drive
Carlsbad, NM 88220

CONCHO

From: Amanda Trujillo Davis
Sent: Friday, October 23, 2015 4:05 PM
To: Heather Patterson; Mike.Bratcher@state.nm.us; James_Amos@blm.gov; Shelly Tucker
Subject: (Notification) JR's Horz Federal #1 SWD (30-015-33066)

Mr. Bratcher,

COG Operating LLC is reporting a release on the JR's Horz Federal #1 SWD (30-015-33066).
Unit D Section 10, Township 26S Range 29E
The release occurred at 9:40 pm on 10/21/2015
Released: 44 bbls Oil ; 1,360 bbls PW
Recovered: In Progress

The release was caused by a lightning strike resulting in a fire at the facility. The area is being evaluated and a C-141 will be submitted. If you have any additional questions please feel free to contact me.

Thank you,

Lupe Carrasco
Environmental Coordinator
Concho Resources
Cell: 575-725-0787
Office: 575-748-6933
gcarrasco@concho.com

2407 Pecos Ave.
Artesia , NM 88210

Patterson, Heather, EMNRD

From: Amanda Trujillo Davis <ATrujillo@concho.com>
Sent: Friday, October 23, 2015 4:05 PM
To: Patterson, Heather, EMNRD; Bratcher, Mike, EMNRD; James_Amos@blm.gov; Shelly Tucker
Subject: (Notification) JR's Horz Federal #1 SWD (30-015-33066)

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Thank you,

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Concho Resources
Cell: 575-725-0787
Office: 575-748-6933
gcarrasco@concho.com

2407 Pecos Ave.
Artesia , NM 88210

CONFIDENTIALITY NOTICE: The information in this email may be confidential and/or privileged. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination or copying of this email and its attachments, if any, or the information contained herein, is prohibited. If you have received this email in error, please immediately notify the sender by return email and delete this email from your system. Thank you.

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	_____ (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☐ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☐ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☐ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☐ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☐ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☐ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☐ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☐ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☐ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

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

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: _____ Title: _____

Signature:_____ _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Jocelyn Harimon Date: 01/19/2023

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

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

☐ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: _____ Title: _____

Signature: _____ _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Jocelyn Harimon Date: 01/19/2023

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: _____ Date: _____

Printed Name: _____ Title: _____

APPENDIX B
Site Characterization Data

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

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

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

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

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 04473 POD1	CUB	ED	3	4	3	33	25S	29E	595018	3549768	2295	110		
C 03507 POD1	C	ED	1	3	3	05	26S	29E	593064	3548313	3316	140	78	62
C 03508 POD1	C	ED	1	3	3	05	26S	29E	593063	3548361	3323	140	75	65

Average Depth to Water: **76 feet**

Minimum Depth: **75 feet**

Maximum Depth: **78 feet**

Record Count: 3

UTMNAD83 Radius Search (in meters):

Easting (X): 596355 **Northing (Y):** 3547902.36 **Radius:** 4000

212C-MD-01739	TETRA TECH	**LOG OF BORING GDB**	Page 1 of 1

Project Name: JR Horz Federal #2

Borehole Location GPS Coordinate: 32.063589, -103.972770 | Surface Elevation: 2989 ft

Borehole Number: GDB | Borehole Diameter (in.): | Date Started: 8/3/2020 | Date Finished: 8/3/2020

WATER LEVEL OBSERVATIONS

While Drilling ▽ DRY ft Upon Completion of Drilling ▼ DRY ft

Remarks:

DEPTH (ft)	OPERATION TYPE	SAMPLE	CHLORIDE FIELD SCREENING (ppm) ExStik	VOC FIELD SCREENING (ppm) PID	SAMPLE RECOVERY (%)	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	LIQUID LIMIT LL	PLASTICITY INDEX PI	MINUS NO. 200 (%)	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH (ft)	REMARKS
5												**-SM-** CALICHE: White, stiff, dry, moderately cemented	5	
10												**-SM-** SAND: Light brown, medium dense to dense, dry, fine to medium grained, with occasional Caliche layers		
15														
20													20	
25												**-SM-** SAND: Brown, medium dense, dry, fine to medium grained, with occasional Caliche layers		
30														
35														
40														
45													45	
50												**-SM-** CALICHE: White, dense, dry, moderately cemented, with occasional Sand pockets		
55													55	

Bottom of borehole at 55.0 feet.

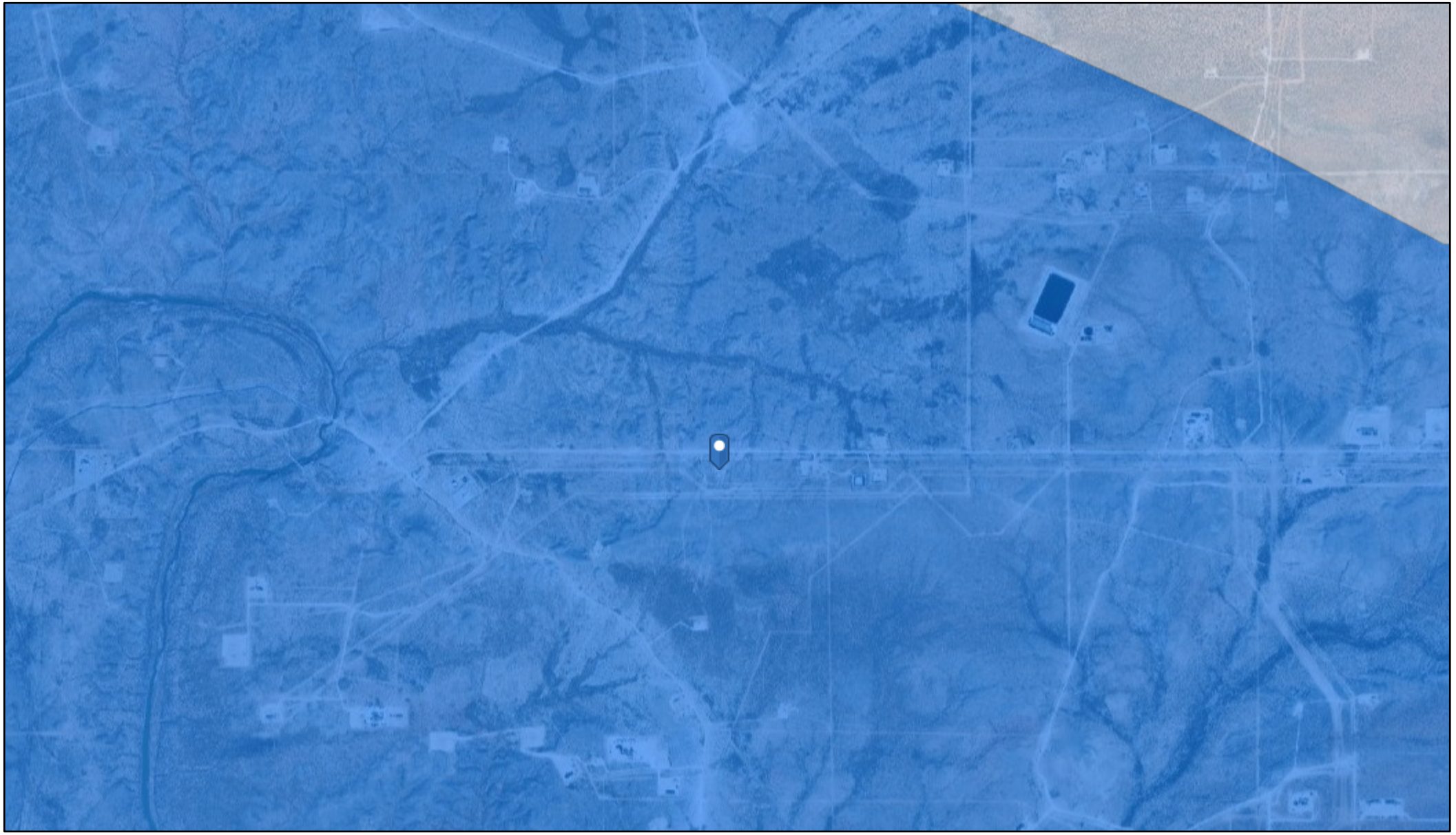
Sampler Types: Split Spoon, Acetate Liner, Shelby, Vane Shear, Bulk Sample, Discrete Sample, Grab Sample, Test Pit

Operation Types: Hand Auger, Mud Rotary, Air Rotary, Continuous Flight Auger, Direct Push, Wash Rotary, Core Barrel

Notes:
Surface elevation is an estimated value from Google Earth data.

Logger: Lee Scarborough | Drilling Equipment: Air Rotary | Driller: Scarborough Drilling

OCD Potential Karst Map



10/27/2022, 10:58:16 AM

Karst Occurrence Potential

Medium

Low

1:36,112

0 0.25 0.5 1 mi

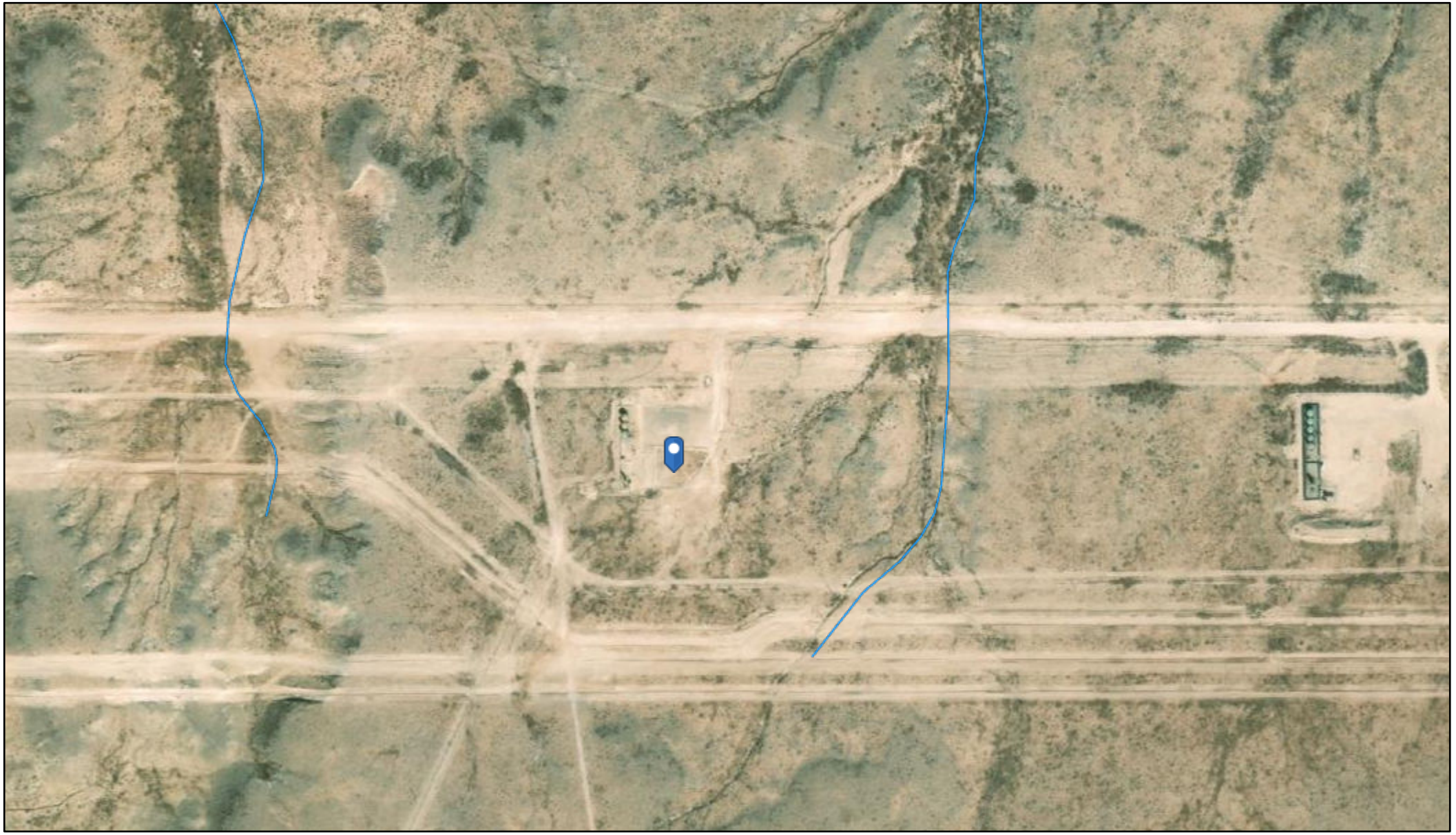
0 0.4 0.8 1.6 km

BLM, OCD, New Mexico Tech, Esri, HERE, Garmin, Maxar

New Mexico Oil Conservation Division

NM OCD Oil and Gas Map. http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=4d017f2306164de29fd2fb9f8f35ca75: New Mexico Oil Conservation Division

OCD Waterbodies Map



10/27/2022, 11:18:29 AM

OSE Streams

1:4,514

0 0.03 0.07 0.13 mi

0 0.05 0.1 0.2 km

Esri, HERE, Garmin, GeoTechnologies, Inc., Maxar, NM OSE

New Mexico Oil Conservation Division

NM OCD Oil and Gas Map. http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=4d017f2306164de29fd2fb9f8f35ca75: New Mexico Oil Conservation Division

APPENDIX C
Regulatory Correspondence

From: Patterson, Heather, EMNRD
To: "Lucas Middleton"
Cc: Bratcher, Mike, EMNRD; Tucker, Shelly; atrujillo@concho.com; "Austin Weyant"
Subject: RE: Delineation Data JR HORZ 2RP-3386
Date: Thursday, January 21, 2016 7:51:00 AM
Attachments: image001.png

RE: COG * JR's Horz Fed #1 * 30-015-33066 * 2RP-3386 * **Pad section only**

Lucas,

This approval is for the pad portion of the clean-up efforts only.

With the additional information provided, the OCD can approve a 2 foot excavation of the pad. Like approval by BLM is required for this location.

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

If you have any questions or concerns, and for notification, please contact me.

Heather Patterson
Environmental Specialist
NMOCD District II
Office (575)748-1283 ext.101
Cell (575)703-0228

From: Lucas Middleton [mailto:lucas.middleton@soudermiller.com]
Sent: Tuesday, January 19, 2016 2:01 PM
To: Patterson, Heather, EMNRD
Subject: Delineation Data JR HORZ 2RP-3386

Hello Heather,
Attached is the delineation samples from lab for JR HORZ 2RP-3386.

Lucas Middleton
Souder, Miller and Associates
Staff Scientist
575-689-5351

Chama, Sam

From: Amanda Trujillo Davis <IMCEAEX-_o=First+20Organization_ou=Exchange+20Administrative+20Group+20+28FYDIBOHF23SPDLT+29_cn=Recipients_cn=Amanda+20Trujillocab@namprd05.prod.outlook.com>
Sent: Wednesday, July 27, 2016 5:06 PM
To: Heather Patterson; Mike.Bratcher@state.nm.us; James_Amos@blm.gov; Shelly Tucker
Cc: Robert McNeill; Lupe Carrasco; Dakota Neel
Subject: (Workplan-Monitoring Plan) 10-21-2015 JR's Horz Federal #1
Attachments: (Workplan-Monitoring Plan) 10-21-2015 JR's Horz Federal #1.pdf

Ms. Patterson/Ms. Tucker,

Attached is a work plan for long term monitoring of the draw associated with the lightning caused fire at the JR's Horz Federal #1 on October 21, 2016. Please feel free to contact me if you have any questions or concerns.

Thank you,

Amanda Trujillo Davis
Senior Environmental Coordinator
COG Operating LLC
Cell: 505.350.1336
Office: 575.748.6930
atrujillo@concho.com

1401 Commerce Drive
Carlsbad, NM 88220

#

APPENDIX D
SMA Closure Report

Souder, Miller & Associates ♦ 201 S. Halagueno ♦ Carlsbad, NM 88221
(575) 689-7040

January 26, 2016

NMOCD District II
Attn. Heather Patterson
1301 W Grand Ave
Artesia, NM 88210

SUBJECT: FINAL CLOSURE REPORT FOR INCIDENT 2RP-3386 JRS HORZ FEDERAL #1, API# 30-015-33066, EDDY COUNTY, NEW MEXICO

Dear Ms. Patterson:

On behalf of COG Operating (COG), Souder Miller & Associates (SMA) is pleased to submit the attached Final Closure Report summarizing the soil remediation of the release located on the JRS HORZ Federal #1 in Eddy County, New Mexico. The purpose of the Final Closure Report is to obtain approval from the New Mexico Oil Conservation Division (NMOCD) for closure of the release that occurred on October 21, 2015.

At the request of COG, SMA responded to assess and delineate the production fluids release associated with the JRS HORZ Federal #1 Oil well location. The release was initially reported to NMOCD by COG Operating on November 4, 2015 and was a result of a Lighting Strike incident. The table below summarizes information regarding the release. Results of the assessment and delineation follow in the attached report.

Table 1: Release information and Site Ranking

Name	JRS HORZ Federal #1				
Location	Incident Number	API Number	Section, Township, Range		
	2RP-3386	30-015-33066	NW/NW (Unit D)	Section 10	T 26S, R 29E NMPM
Estimated Date of Release	October 21, 2015				
Date Reported to NMOCD	November 4, 2015				
Reported by	Amanda Trujillo Davis				
Land Owner	Federal				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Lighting Strike				
Released Material	Produced Water and Crude Oil				
Released Volume	1310 bbls Produced Water and 44 bbls Crude Oil				
Recovered Volume	200 bbls Produced Water and 40 bbls Crude Oil				
Net Release	1110 bbl Produced Water and 4 bbl Crude Oil				
Nearest Waterway	1,800 feet north of the location.				

Depth to Groundwater	Estimated to be 102 feet
Nearest Domestic Water Source	Greater than 1000 feet
NMOCD Ranking	0
SMA Response Dates	Initial: 12/16/15 Mitigation Activities: 1/13/16
Subcontractors	TCS, MMX
Disposal Facility	Texas permitted R360 Red Bluff facility in Texas
Estimated Yd^3 Contaminated Soil Excavated and Disposed	1,400 yd^3

A copy of the C-141 Initial is located in Appendix B. For questions or comments pertaining to the release or the attached Work Plan, please feel free to contact either of us.

Submitted by:

SOUDER, MILLER & ASSOCIATES

J. Austin Weyant

Austin Weyant
Project Scientist

Reviewed by:

Cynthia Gray, CHMM
Senior Scientist

Souder, Miller & Associates ♦ 201 S. Halagueno ♦ Carlsbad, NM 88221
(575) 689-7040

SOIL REMEDIATION FINAL CLOSURE REPORT FOR INCIDENT 2RP-3386

COG OPERATING LLC

JRS HORZ FEDERAL #1
API# 30-015-33066
UL D, SECTION 10, T26S R29E, NMPM
EDDY COUNTY, NM

Prepared for:
COG Operating LLC
2407 Pecos Ave
Artesia, NM 88210

Prepared by:
Souder, Miller & Associates
201 S. Halagueno
Carlsbad, NM 88221
575-689-7040

January 26, 2016
SMA Reference
5B23978 BG13

Table of Contents

Figures:

Tables:

Appendices:

1.0 Introduction

On behalf of COG Operating LLC (COG), SMA has prepared this report that describes the assessment, initial delineation and mitigation of a release associated with the JRS HORZ FEDERAL #1, API# 30-015-33066 produced fluids release site. The site is located in Section 1, T 26S, R 29 E NMPM, Eddy County, New Mexico, on federal land administered by the Bureau of Land Management (BLM). Figure 1 illustrates the vicinity and location of the well site.

2.0 Site Ranking and Land Jurisdiction

The release site is located approximately 1.2 miles (> 1,000 feet) east of Pecos River, on federal BLM land with an elevation of approximately 2,970 feet above sea level. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be greater than 100 feet below ground surface (bgs) using the Pecos River as groundwater level. Figure 2 shows the site details and sample locations.

SMA searched the New Mexico State Engineer's Office online water well database for water wells in the vicinity of the release. No water well is shown located within a 1000 foot radius of the site or between the well site and the Pecos River. The physical location of this release is within the jurisdiction of NMOCD.

This release location has been assigned a NMOCD ranking of 0 under NMOCD Guidelines for Remediation of Leaks, Spills, and Releases which recommends a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 5000 ppm total petroleum hydrocarbons (TPH). Table 1 illustrates site ranking rationale.

3.0 Assessment and Initial Results

On December 16, 2015, after receiving 811 clearance, SMA field personnel assessed the release area onsite with an auger, a Photo Ionization Detector (PID), and a mobile chlorides titration kit. The affected area was found to be 130 feet long and 40 feet wide on the well pad. The spill moved north off of pad into the draw for a distance of 1,580 feet and approximately a foot wide along its length. The area north of pad and draw is a pipeline right-of-way where no sampling occurred due to safety concerns. Delineation samples were taken to depths of 16 feet bgs on the well pad and 3 foot bgs in the draw. Samples results displayed in Table 2 show that the hydrocarbon contaminated soils are limited to above 2 feet bgs on the pad. Samples taken in pad area at 4 foot bgs show background levels of chloride. The draw area samples show elevated chloride levels on surface. The draw area samples at 2.5 foot bgs show background levels of chloride.
Sample locations are noted on Figure 2 Site Details and Sample Location Map. All samples were collected and processed according to NMOCD soil sampling procedures. The samples were sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analysis for Benzene and Total BTEX using EPA Method 8021B, DRO and GRO by EPA Method 8015D, and total Chlorides using EPA Method 300.0.

4.0 Soil Remediation Summary

On December 16, 2015 SMA begin the excavation of affected soils on the well pad, with approval from area utilities via 811 and NMOCD. SMA continuously guide the excavation activities by collecting composite soil samples for field screening with a mobile titration unit (EPA 4500) and a

calibrated PID. Excavation occurred on pad two and a half feet bgs. Due to safety concerns no excavation will occur in the area north of the well pad and draw where the pipeline right-of-way exists. Excavation occur to depths to sufficient to delineate the plume by NMOCD Division 1 standards. Closure samples were collected at final depth of excavation of two and a half feet bgs. Approximately 1,400 cubic yards of contaminated soil was removed and was replaced with sufficient clean backfill material from the nearest COG caliche pit to bring the contours to a surface grade that will limit ponding and pooling on the excavation. The contaminated soil was transported for proper disposal at Texas permitted R360 Red Bluff facility in Texas.

Delineation occurred in the draw on 1/20/16 by SMA personal. Data is shown in Table 3.

5.0 Conclusions and Recommendations

NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 0: 10 ppm (mg/kg) Benzene, 50 ppm total BTEX, and 5000 ppm TPH. The release consisted of produced water and associated petroleum found during the initial assessment and delineation.

All closure confirmation samples were taken as discrete samples to ensure that the contaminated soil was removed.

Soil contaminant concentrations found during the initial delineation are illustrated in Figure 2. A summary of the laboratory analyses is included in Table 2. Laboratory reports are included in Appendix A.

6.0 Closure and Limitations

Closure standards have been achieved for the crude oil and produced water release on the pad for 2RP-3386 on the JRS HORZ Federal #1 well pad.

The scope of our services consisted of the performance of a preliminary spill assessment, verification of release, stabilization, regulatory liaison, and preparation of this Remediation Work Plan. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin in New Mexico.

If there are any questions regarding this report, please contact either Austin Weyant at 575-689-7040 or Cindy Gray at 505-325-7535.

Submitted by:

SOUDER, MILLER & ASSOCIATES

J. Austin Weyant

Austin Weyant
Project Scientist

Reviewed by:

Cynthia Gray, CHMM
Senior Scientist

Figures:

Figure 1: Vicinity Map
Figure 2: Site Map

Tables:

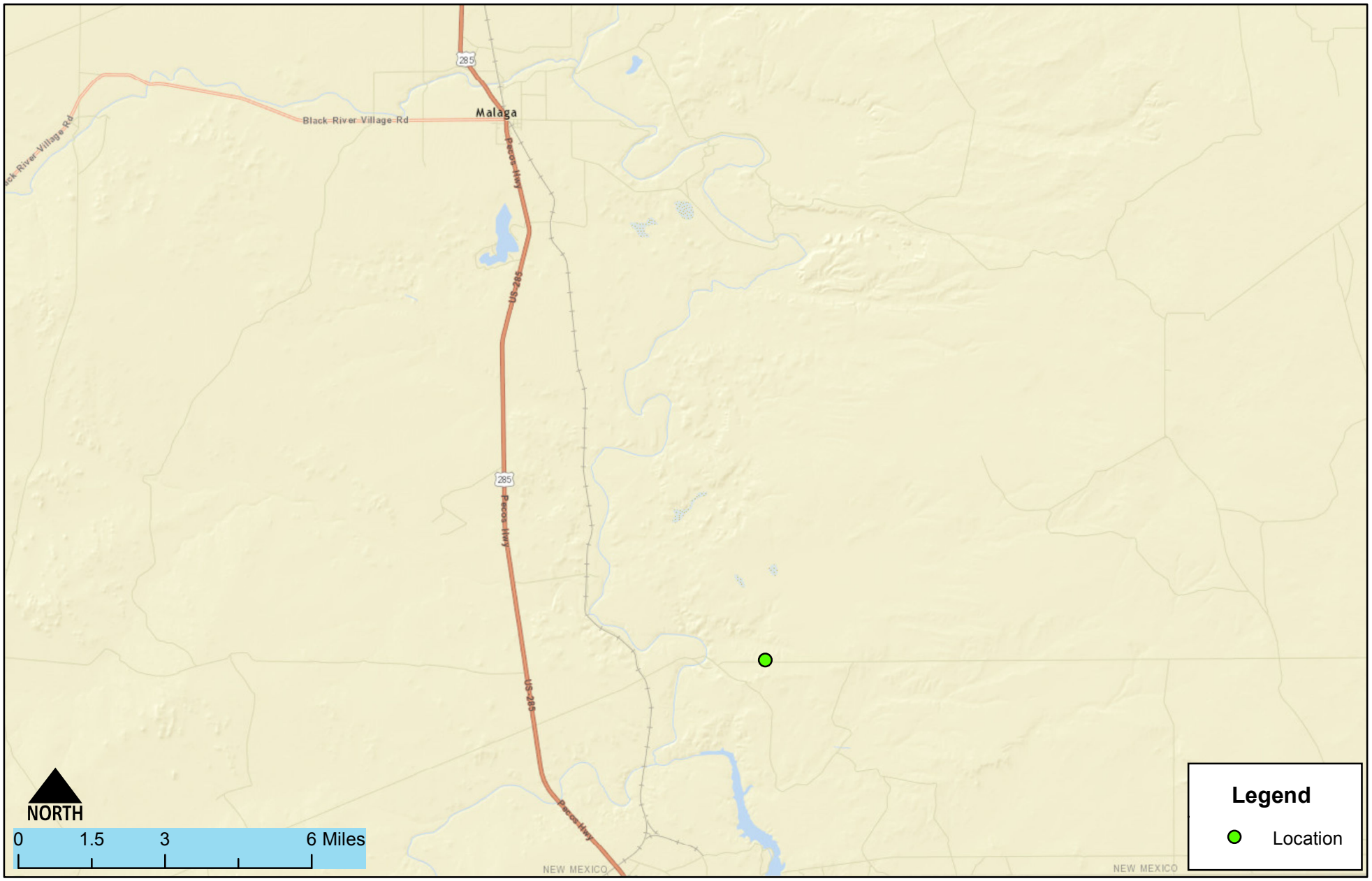
Table 1: Release Information and Site Ranking
Table 2: Summary of Laboratory Analyses
Table 3: Summary of Field Screening Results

Appendices:

Appendix A: Laboratory Analytical Reports
Appendix B: Form C141 Final

FIGURE 1

VICINITY MAP



Vicinity Map
COG- JRS HORZ Federal #1
Malaga, New Mexico

Figure 1

Document: C:\Users\lcm\Documents\GIS DATA\MAPS\Figure 1 JR Horz.mxd

Date Saved: 11/25/2015

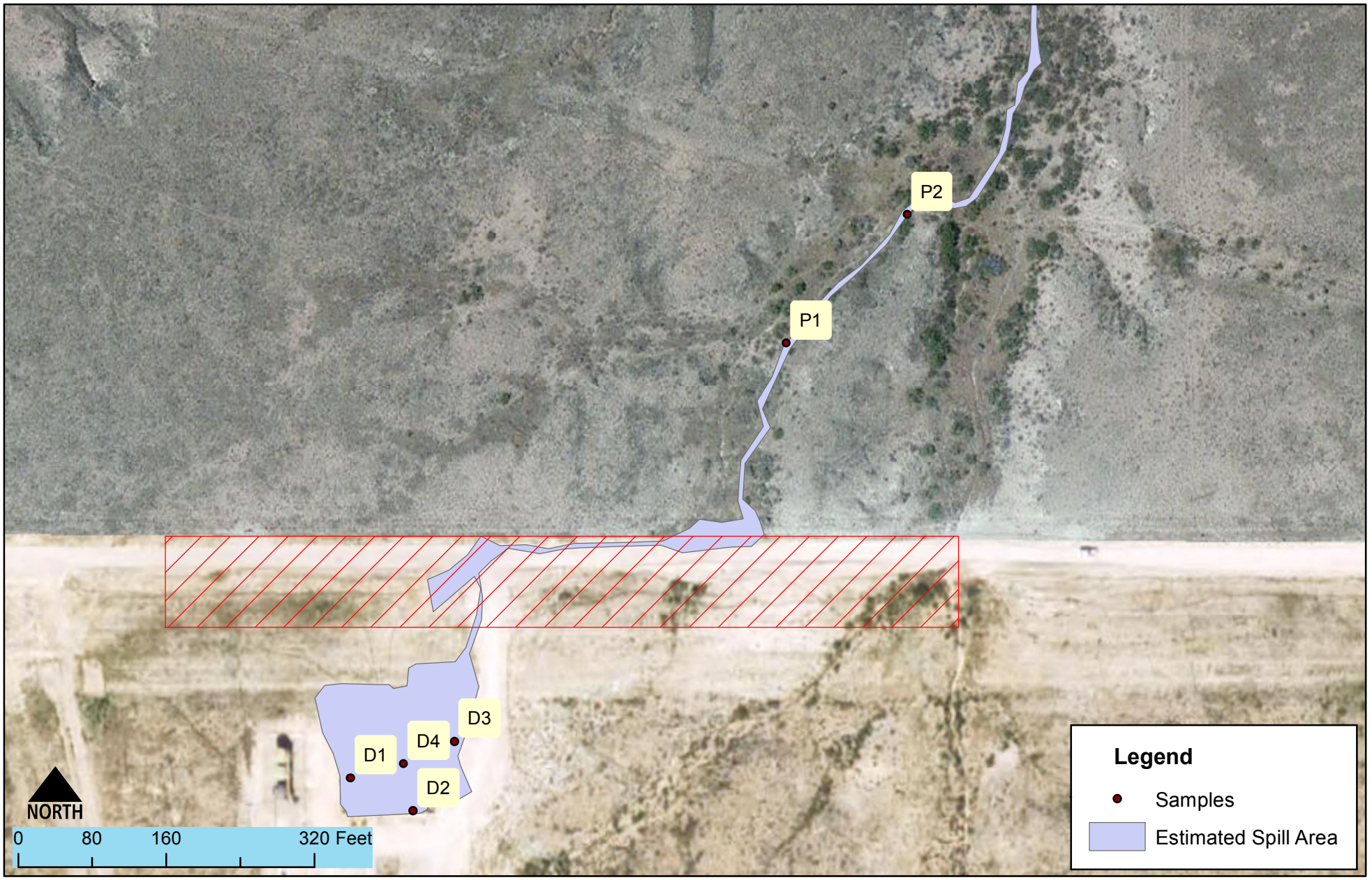
Revisions
By: Date: Descr:
By: Date: Descr:

Drawn Lucas Middleton
Checked
Approved

SMA
201 South Halaguena Street
Carlsbad, New Mexico 88221
(575) 689.7040
www.soudermiller.com
Serving the Southwest & Rocky Mountains

FIGURE 2

SITE DETAILS AND SAMPLE LOCATIONS MAP



Site Detail and Sample Locations
COG- JRS HORZ Federal #1
Malaga, New Mexico

Figure 2

Revisions
By: Date: Descr:
By: Date: Descr:

Drawn Lucas Middleton
Checked
Approved

SMA
201 South Halaguena Street
Carlsbad, New Mexico 88221
(575) 689-7040
www.soudermiller.com
Serving the Southwest & Rocky Mountains

Date Saved: 1/21/2016

Document: C:\Users\lcm\Documents\GIS DATA\MAPS\Figure 2 JR HORZ closure .mxd

Site Detail and Sample Locations
COG- JRS HORZ Federal #1
Malaga, New Mexico

Figure 2

Revisions
By: Date: Descr:
By: Date: Descr:

Drawn Lucas Middleton
Checked
Approved

201 South Halaguena Street
Carlsbad, New Mexico 88221
(575) 689.7040
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Date Saved: 1/21/2016

Document: C:\Users\lcm\Documents\GIS DATA\MAPS\Figure 2 JR HORZ closure .mxd

TABLE 1

RELEASE INFORMATION AND SITE RANKING

Table 1: Release information and Site Ranking					
Name	JRS HORZ Federal #1				
Location	Incident Number	API Number	Section, Township, Range		
	2RP-3386	30-015-33066	SW/NE (Unit D)	Section 10	T 26S, R 29E NMPM
Estimated Date of Release	October 21, 2015				
Date Reported to NMOCD	November 4, 2015				
Reported by	Amanda Trujillo Davis				
Land Owner	Bureau of Land Management (BLM)				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Lighting Strike				
Released Material	Produced Water and Oil				
Released Volume	1310 bbls Produced Water and 44 bbls Oil				
Recovered Volume	200 bbls Produced Water and 40 bbls Oil				
Net Release	1110 bbl Produced Water and 4 bbl Oil				
Nearest Waterway	1,800 feet north of the location.				
Depth to Groundwater	Estimated to be 102 feet				
Nearest Domestic Water Source	Greater than 1000 feet				
NMOCD Ranking	0				
SMA Response Dates	Initial: 12/16/15 Mitigation Activities: 1/13/16				
Subcontractors	TCS, MMX				
Disposal Facility	R360 Red Bluff Facility, State of Texas Permit				
Estimated Yd^3 Contaminated Soil Excavated and Disposed	1,400				

TABLE 2

SUMMARY OF LABORATORY ANALYSES

Table 2: Summary of Laboratory Analyses

Analytical Report- 1512A57	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	Cl- mg/Kg
1512A57-001	D3-16	12/16/2015	16'	N/A	N/A	N/A	N/A	180
1512A57-002	D3-12	12/16/2015	12'	N/A	N/A	N/A	N/A	210
1512A57-003	D3-6	12/16/2015	6'	N/A	N/A	N/A	N/A	80
1512A57-004	D3-4	12/16/2015	4'	N/A	N/A	N/A	N/A	440
1512A57-005	D4-2	12/16/2015	2'	N/A	N/A	N/A	N/A	1,100
1512A57-006	D4-4	12/16/2015	4'	N/A	N/A	N/A	N/A	BDL
1512A54-001	P1-0.5	12/16/2015	0.5'	BDL	BDL	N/A	N/A	8,900
1512A54-002	P1-3	12/16/2015	3'	N/A	N/A	N/A	N/A	730
1512A54-003	P2-3	12/16/2015	3'	N/A	N/A	N/A	N/A	220
1512A54-004	P2-0.5	12/16/2015	0.5'	N/A	N/A	N/A	N/A	8,500
1512A54-005	P3-0.5	12/16/2015	0.5'	BDL	BDL	N/A	N/A	24,000
1512A54-006	D1-2	12/16/2015	2'	N/A	N/A	N/A	N/A	110
1512A54-007	D1-4	12/16/2015	4'	N/A	N/A	N/A	N/A	240
1512A54-008	D1-8	12/16/2015	8'	N/A	N/A	N/A	N/A	310
1512A54-009	D1-12	12/16/2015	12'	N/A	N/A	N/A	N/A	280
1512A54-010	D1-16	12/16/2015	16'	N/A	N/A	N/A	N/A	250
1512A54-011	D2-2	12/16/2015	2'	N/A	N/A	N/A	N/A	320
1512A54-012	D2-4	12/16/2015	4'	N/A	N/A	N/A	N/A	150

Table 2: Summary of Laboratory Analyses Con't

Analytical Report-1601A16	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	Cl- mg/Kg
1601A16-001	B6-S	1/20/2016	Surface	N/A	N/A	N/A	N/A	BDL
1601A16-002	Bg-1	1/20/2016	1'	N/A	N/A	N/A	N/A	BDL
1601A16-003	H1-S	1/20/2016	Surface	N/A	N/A	N/A	N/A	54
1601A16-004	H1-1	1/20/2016	1'	N/A	N/A	N/A	N/A	1000
1601A16-005	H2-1	1/20/2016	1'	N/A	N/A	N/A	N/A	1600
1601A16-006	H2-S	1/20/2016	Surface	N/A	N/A	N/A	N/A	79
1601A16-007	H3-1	1/20/2016	1'	N/A	N/A	N/A	N/A	1300
1601A16-008	H4-S	1/20/2016	Surface	N/A	N/A	N/A	N/A	170
1601A16-009	H4-1	1/20/2016	1'	N/A	N/A	N/A	N/A	2400
1601A16-010	P3-1	1/20/2016	1'	N/A	N/A	N/A	N/A	4500

TABLE 3

SUMMARY OF FIELD SCREENING RESULTS

Table 3: Summary of Field Screening Results

JR Horz Federal #1
Produced Water
1/20/2016

FIELD SCREENING RESULTS SUMMARY					
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	Chlorides Results	Lab Sample Collected Y/N
1/20/2016	10:00	P3-1	1'	3498	y
1/20/2016	10:00	P4-S	Surface	187	y
1/20/2016	10:00	P4-1	1'	1921	y
1/20/2016	10:00	P5-S-Lost	--	--	--
1/20/2016	10:00	P5-1	1'	531	y
1/20/2016	10:00	P6-S	Surface	158	y
1/20/2016	10:00	P6-1	1'	1534	y
1/20/2016	10:00	P7-S	Surface	15	y
1/20/2016	10:00	P7-1	1'	803	y

*BDL= Below Detectable Level

SMA Project # BG6

APPENDIX A

LABORATORY ANALYTICAL REPORTS

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

January 12, 2016

Austin Weyant
Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL: (575) 689-7040
FAX

RE: JR Horz FEX OrderNo.: 1512A54

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 12 sample(s) on 12/22/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: P1-0.5
Project: JR Horz FEX
Collection Date: 12/16/2015 8:30:00 AM
Lab ID: 1512A54-001 **Matrix:** SOIL **Received Date:** 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	8900	300		mg/Kg	200	12/30/2015 3:25:35 PM	22982
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	12/24/2015 10:09:41 PM	22945
Toluene	ND	0.049		mg/Kg	1	12/24/2015 10:09:41 PM	22945
Ethylbenzene	ND	0.049		mg/Kg	1	12/24/2015 10:09:41 PM	22945
Xylenes, Total	ND	0.098		mg/Kg	1	12/24/2015 10:09:41 PM	22945
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	12/24/2015 10:09:41 PM	22945

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

Qualifiers:

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

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: P1-3
Project: JR Horz FEX
Collection Date: 12/16/2015 8:30:00 AM
Lab ID: 1512A54-002 **Matrix:** SOIL **Received Date:** 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	730	30		mg/Kg	20	12/29/2015 12:09:18 PM	22982

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

Qualifiers:

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

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: P2-3
Project: JR Horz FEX
Collection Date: 12/16/2015 8:30:00 AM
Lab ID: 1512A54-003 **Matrix:** SOIL **Received Date:** 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	220	30		mg/Kg	20	12/29/2015 12:46:31 PM	22982

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

Qualifiers:

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

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: P2-0.5
Project: JR Horz FEX
Collection Date: 12/16/2015 8:30:00 AM
Lab ID: 1512A54-004 **Matrix:** SOIL **Received Date:** 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	8500	300		mg/Kg	200	12/30/2015 3:37:59 PM	22982

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

Qualifiers:

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

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: P3-0.5
Project: JR Horz FEX
Collection Date: 12/16/2015 8:30:00 AM
Lab ID: 1512A54-005 **Matrix:** SOIL **Received Date:** 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	24000	750		mg/Kg	500	12/30/2015 3:50:23 PM	22982
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	12/24/2015 10:33:51 PM	22945
Toluene	ND	0.047		mg/Kg	1	12/24/2015 10:33:51 PM	22945
Ethylbenzene	ND	0.047		mg/Kg	1	12/24/2015 10:33:51 PM	22945
Xylenes, Total	ND	0.093		mg/Kg	1	12/24/2015 10:33:51 PM	22945
Surr: 4-Bromofluorobenzene	107	80-120		%REC	1	12/24/2015 10:33:51 PM	22945

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

Qualifiers:

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

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: D1-2
Project: JR Horz FEX
Collection Date: 12/16/2015 8:30:00 AM
Lab ID: 1512A54-006 **Matrix:** SOIL **Received Date:** 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	110	30		mg/Kg	20	1/7/2016 1:15:58 PM	23106

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

Qualifiers:

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

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: D1-4
Project: JR Horz FEX
Collection Date: 12/16/2015 8:30:00 AM
Lab ID: 1512A54-007 **Matrix:** SOIL **Received Date:** 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	240	30		mg/Kg	20	12/29/2015 1:23:45 PM	22982

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

Qualifiers:

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

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: D1-8
Project: JR Horz FEX
Collection Date: 12/16/2015 8:30:00 AM
Lab ID: 1512A54-008 **Matrix:** SOIL **Received Date:** 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	310	30		mg/Kg	20	12/29/2015 1:36:10 PM	22982

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

Qualifiers:

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

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: D1-12
Project: JR Horz FEX
Collection Date: 12/16/2015 8:30:00 AM
Lab ID: 1512A54-009 **Matrix:** SOIL **Received Date:** 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	280	30		mg/Kg	20	12/29/2015 1:48:34 PM	22982

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

Qualifiers:

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

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: D1-16
Project: JR Horz FEX
Collection Date: 12/16/2015 8:30:00 AM
Lab ID: 1512A54-010 **Matrix:** SOIL **Received Date:** 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	250	30		mg/Kg	20	12/29/2015 2:00:59 PM	22982

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

Qualifiers:

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

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: D2-2
Project: JR Horz FEX
Collection Date: 12/16/2015 8:30:00 AM
Lab ID: 1512A54-011 **Matrix:** SOIL **Received Date:** 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	320	30		mg/Kg	20	12/29/2015 2:13:23 PM	22982
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	12/24/2015 10:58:11 PM	22945
Toluene	ND	0.049		mg/Kg	1	12/24/2015 10:58:11 PM	22945
Ethylbenzene	ND	0.049		mg/Kg	1	12/24/2015 10:58:11 PM	22945
Xylenes, Total	ND	0.097		mg/Kg	1	12/24/2015 10:58:11 PM	22945
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	12/24/2015 10:58:11 PM	22945

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

Qualifiers:

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

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Client Sample ID: D2-4
Project: JR Horz FEX
Collection Date: 12/16/2015 8:30:00 AM
Lab ID: 1512A54-012 **Matrix:** SOIL **Received Date:** 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	150	30		mg/Kg	20	12/29/2015 2:25:48 PM	22982

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1512A54**

12-Jan-16

Client: Souder, Miller & Associates

Project: JR Horz FEX

Sample ID	**MB-22982**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**22982**	RunNo:	**31150**					
Prep Date:	**12/28/2015**	Analysis Date:	**12/29/2015**	SeqNo:	**953465**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-22982**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**22982**	RunNo:	**31150**					
Prep Date:	**12/28/2015**	Analysis Date:	**12/29/2015**	SeqNo:	**953466**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.3	90	110			

Sample ID	**MB-23106**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**23106**	RunNo:	**31326**					
Prep Date:	**1/7/2016**	Analysis Date:	**1/7/2016**	SeqNo:	**959120**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-23106**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**23106**	RunNo:	**31326**					
Prep Date:	**1/7/2016**	Analysis Date:	**1/7/2016**	SeqNo:	**959121**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.5	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1512A54**

12-Jan-16

Client: Souder, Miller & Associates

Project: JR Horz FEX

Sample ID	**MB-22945**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID:	**22945**	RunNo:	**31062**					
Prep Date:	**12/23/2015**	Analysis Date:	**12/24/2015**	SeqNo:	**950286**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID	**LCS-22945**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**22945**	RunNo:	**31062**					
Prep Date:	**12/23/2015**	Analysis Date:	**12/24/2015**	SeqNo:	**950305**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	102	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		124	80	120			S

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: SMA-CARLSBAD Work Order Number: 1512A54 RcptNo: 1

Received by/date: JA 12/22/15

Logged By: Ashley Gallegos 12/22/2015 9:25:00 AM AG

Completed By: Ashley Gallegos 12/23/2015 8:55:45 AM AG

Reviewed By: JO 12/23/15

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.3	Good	Yes			

Chain-of-Custody Record

Client: SMA

Mailing Address: 201 S HALAGUENO, CARLSBAD

Phone #: 689-7046

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: J.2 HORT FLEX

Project #:

Project Manager: ASSIGNMENT

Sampler: JAW

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1512A54	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F^-,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
12/16	8:30	SOIL	P1-0.5	4oz		-001	X							X								
12/16	8:30	SOIL	P1-3	4oz		-002								X								
			P2-3			-003								X								
			P2-0.5			-004								X								
			P3-0.5			-005	X							X								
			D1-2			-006								X								
			D1-4			-007								X								
			D1-8			-008								X								
			D1-12			-009								X								
			D1-16			-010								X								
			D2-2			-011	X							X								
			D2-4			-012								X								

Date:	Time:	Relinquished by:	Received by:	Date	Time
				12/22/15	0925
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
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Website: www.hallenvironmental.com

January 04, 2016

Austin Weyant
Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL: (575) 689-7040
FAX

RE: J.R. HORZ OrderNo.: 1512A57

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 6 sample(s) on 12/22/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order: **1512A57**
Date Reported: **1/4/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: J.R. HORZ
Lab Order: 1512A57

Lab ID: 1512A57-001 **Collection Date:** 12/16/2015 8:30:00 AM
Client Sample ID: D3-16 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	180	30		mg/Kg	20	12/30/2015 11:29:48 AM	23002

Lab ID: 1512A57-002 **Collection Date:** 12/16/2015 8:30:00 AM
Client Sample ID: D3-12 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	210	30		mg/Kg	20	12/30/2015 12:31:51 PM	23002

Lab ID: 1512A57-003 **Collection Date:** 12/16/2015 8:30:00 AM
Client Sample ID: D3-6 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	80	30		mg/Kg	20	12/30/2015 12:44:15 PM	23002

Lab ID: 1512A57-004 **Collection Date:** 12/16/2015 8:30:00 AM
Client Sample ID: D3-4 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	440	30		mg/Kg	20	12/30/2015 12:56:40 PM	23002

Lab ID: 1512A57-005 **Collection Date:** 12/16/2015 8:30:00 AM
Client Sample ID: D4-2 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	1100	30		mg/Kg	20	12/30/2015 1:09:04 PM	23002

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

Qualifiers:

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

Analytical Report
Lab Order: **1512A57**
Date Reported: **1/4/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: J.R. HORZ
Lab Order: 1512A57

Lab ID: 1512A57-006
Client Sample ID: D4-4
Collection Date: 12/16/2015 8:30:00 AM
Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	12/30/2015 1:21:29 PM	23002

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1512A57**

04-Jan-16

Client: Souder, Miller & Associates

Project: J.R. HORZ

Sample ID	**MB-23002**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**23002**	RunNo:	**31168**					
Prep Date:	**12/29/2015**	Analysis Date:	**12/30/2015**	SeqNo:	**954140**	Units:	**mg/Kg**			

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

Sample ID	**LCS-23002**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**23002**	RunNo:	**31168**					
Prep Date:	**12/29/2015**	Analysis Date:	**12/30/2015**	SeqNo:	**954141**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.4	90	110			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
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TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: SMA-CARLSBAD Work Order Number: 1512A57 RcptNo: 1

Received by/date: 12/22/15

Logged By: Ashley Gallegos 12/22/2015 9:25:00 AM

Completed By: Ashley Gallegos 12/23/2015 9:03:19 AM

Reviewed By: IO 12/23/15

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? _____
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.3	Good	Yes			

Chain-of-Custody Record

Client: SMA

Mailing Address: 201 S HALAGUENO CARLSBAD

Phone #: 689-7040

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name: J.R. HORZ

Project #:

Project Manager: AUSTIN WEYLANT

Sampler: ICM

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.3

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1512A57	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F^-, Cl^-, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
12/14	830	SOIL	D3-16	4oz		-001								X								
12/14	830	SOIL	D3-12	4oz		-002								X								
			D3-8			-003								X								
			D3-4			-004								X								
			D4-2			-005								X								
			D4-4			-006								X								

Date:	Time:	Relinquished by:	Received by:	Date	Time
			Jac. Ocmat	12/22/15	0925
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

February 04, 2016

Austin Weyant
Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL: (575) 689-7040
FAX

RE: JRS Horz Fed #1 OrderNo.: 1601A16

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 10 sample(s) on 1/27/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order: **1601A16**
Date Reported: **2/4/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: JRS Horz Fed #1
Lab Order: 1601A16

Lab ID: 1601A16-001 **Collection Date:** 1/20/2016 8:00:00 AM
Client Sample ID: B6-5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	1/29/2016 2:32:06 PM	23486

Lab ID: 1601A16-002 **Collection Date:** 1/20/2016 8:00:00 AM
Client Sample ID: B6-1 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	1/29/2016 2:44:31 PM	23486

Lab ID: 1601A16-003 **Collection Date:** 1/20/2016 8:00:00 AM
Client Sample ID: H1-5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	54	30		mg/Kg	20	1/29/2016 2:56:55 PM	23486

Lab ID: 1601A16-004 **Collection Date:** 1/20/2016 8:00:00 AM
Client Sample ID: H1-1 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	1000	30		mg/Kg	20	1/29/2016 3:09:19 PM	23486

Lab ID: 1601A16-005 **Collection Date:** 1/20/2016 8:00:00 AM
Client Sample ID: H2-1 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	1600	75		mg/Kg	50	2/2/2016 2:53:01 PM	23486

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order: **1601A16**
Date Reported: **2/4/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates **Lab Order:** 1601A16
Project: JRS Horz Fed #1

Lab ID: 1601A16-006 **Collection Date:** 1/20/2016 8:00:00 AM
Client Sample ID: H2-5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**
Chloride	79	30		mg/Kg	20	1/29/2016 3:58:57 PM	23486

Lab ID: 1601A16-007 **Collection Date:** 1/20/2016 8:00:00 AM
Client Sample ID: H3-1 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**
Chloride	1300	75		mg/Kg	50	2/2/2016 3:05:26 PM	23486

Lab ID: 1601A16-008 **Collection Date:** 1/20/2016 8:00:00 AM
Client Sample ID: H4-5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**
Chloride	170	30		mg/Kg	20	2/1/2016 7:11:41 PM	23515

Lab ID: 1601A16-009 **Collection Date:** 1/20/2016 8:00:00 AM
Client Sample ID: H4-1 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**
Chloride	2400	75		mg/Kg	50	2/2/2016 3:17:51 PM	23515

Lab ID: 1601A16-010 **Collection Date:** 1/20/2016 8:00:00 AM
Client Sample ID: P3-1 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**
Chloride	4500	150		mg/Kg	100	2/2/2016 3:30:16 PM	23515

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1601A16

04-Feb-16

Client: Souder, Miller & Associates

Project: JRS Horz Fed #1

Sample ID	MB-23486	SampType:	MBLK		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS	Batch ID:	23486		RunNo:	31808				
Prep Date:	1/29/2016	Analysis Date:	1/29/2016		SeqNo:	973423	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-23486	SampType:	LCS		TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSS	Batch ID:	23486		RunNo:	31808				
Prep Date:	1/29/2016	Analysis Date:	1/29/2016		SeqNo:	973424	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.6	90	110			

Sample ID	MB-23515	SampType:	MBLK		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS	Batch ID:	23515		RunNo:	31841				
Prep Date:	2/1/2016	Analysis Date:	2/1/2016		SeqNo:	974435	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-23515	SampType:	LCS		TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSS	Batch ID:	23515		RunNo:	31841				
Prep Date:	2/1/2016	Analysis Date:	2/1/2016		SeqNo:	974436	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.1	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: SMA-CARLSBAD Work Order Number: 1601A16 RcptNo: 1

Received by/date: JA 01/27/16

Logged By: Anne Thorne 1/27/2016 9:10:00 AM Anne Thorne

Completed By: Anne Thorne 1/27/2016 Anne Thorne

Reviewed By: 01/27/16

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.2	Good	Yes			

Chain-of-Custody Record

ient: SMA Carlsbad

ailing Address:

ione #:

nail or Fax#:

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

ccreditation
NELAP ☐ Other

EDD (Type)

Turn-Around Time:
☐ Standard ☐ Rush

Project Name: JRS Horz Fed #1

Project #:

Project Manager: Austin Weyant

Sampler: LCM

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.2

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 2401A116	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F^-,Cl^-,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
2016	800	Soil	B6-S	4oz		001								X								
			B6-1			002								X								
			H1-S			003								X								
			H1-1			004								X								
			H2-1			005								X								
			H2-S			006								X								
			H3-1			007								X								
			H4-S			008								X								
			H4-1			009								X								
W	V	V	P3-1	V		010								X								

ate:	Time:	Relinquished by:	Received by:	Date	Time
			Jose Cobos	01/27/16	0910
ate:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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

Table 3: Summary of Field Screening Results

JR Horz Federal #1
Produced Water
1/20/2016

FIELD SCREENING RESULTS SUMMARY					
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	Chlorides Results	Lab Sample Collected Y/N
1/20/2016	10:00	P3-1	1'	3498	y
1/20/2016	10:00	P4-S	Surface	187	y
1/20/2016	10:00	P4-1	1'	1921	y
1/20/2016	10:00	P5-S-Lost	--	--	--
1/20/2016	10:00	P5-1	1'	531	y
1/20/2016	10:00	P6-S	Surface	158	y
1/20/2016	10:00	P6-1	1'	1534	y
1/20/2016	10:00	P7-S	Surface	15	y
1/20/2016	10:00	P7-1	1'	803	y

*BDL= Below Detectable Level

SMA Project # BG6

APPENDIX B

FORM C141 FINAL

APPENDIX E
COG Monitoring Report

CONCHO

Amanda Trujillo Davis
Senior Environmental Coordinator

July 22, 2016

Oil Conservation Division
District 2 – Artesia
811 S. First St.
Artesia, NM 88210

Re: JR's Horz Federal #1
30-015-33066
Sec. 10, T26S-R29E
Eddy County, NM

Ms. Patterson/Ms. Tucker,

COG Operating LLC would like to submit for your consideration the enclosed work plan for the above captioned well. This monitoring plan is an addendum to the partial work plan approved on January 21, 2016. The purpose of this supplementary work plan is to address impact left in place in the draw during the time of deferment, while insuring measures are protective of the long term success of the draw ecology. The plan is in response to the C-141 Initial report dated October 21, 2015. Work for the approved work plan dated December 28, 2015 was completed in January of 2016.

Background

The release was due to a fire that was the result of a lightning strike. Approximately 44 barrels oil and 1310 barrels of produced water were released of which 240 barrels of fluid were recovered. The release impacted the surrounding pasture, lease road, and crossed pipeline right of ways running parallel to the lease road before entering a feeder draw. The attached Site Diagram depicts the approximate area impacted by the release along with the approximate sampling points.

Groundwater & Soil

Based on the Chevron Trend Maps, the release area would be classified at a site ranking of Zero due to the depth of groundwater at approximately 125'.

The feeder draw is an un-named draw that eventually leads to the Pecos River. Per NRCS Soil survey, the following plants are present in the draw. This is concurrent with on-site observations.

"Grass cover is uniform and evenly distributed. Litter cover is high, averaging 25 percent. Shrub/succulent cover is low averaging only 2 percent. Evidence of erosion

CORPORATE ADDRESS
One Concho Center | 600 West Illinois Avenue | Midland, Texas 79701
PHONE 432.683.7443 | FAX 432.683.7441

LOCAL ADDRESS
Concho West | 2208 Main Street | Artesia, New Mexico 88210
PHONE 575.748.6940 | FAX 575.746.2096

such as large water flow patterns, rills and gullies are infrequent.
Other grasses which would appear on this site include:
bottlebrush squirreltail, galleta, alkali sacaton, hairy grama, mat muhly, ring muhly, green sprangletop, Hall's panicum, plains bristlegrass, little bluestem, silver bluestem, Indiangrass, fluffgrass, buffalograss, wolftail, tridens spp., and needle grass.
Other shrubs include:cholla, juniper, pinyon, creosotebush, oak spp., broom baccharis, pricklypear, Apacheplume, dalea spp., winterfat, and algerita.
Other forbs include:wooly loco, wooly Indianwheat, cudweed, thistles, annual sunflowers, mullin, wildbuckwheat spp., nightshade spp., milkweed spp., and bladderpod."

Work Plan

COG proposes a long term monitoring plan to ensure the chlorides left in place are stabilized at their current depth. 4 sampling points were selected, two point in the flow path to measure leaching and three points to measure horizontal movement of chlorides. Please see attached sampling map. The map shows two areas highlighted in red. These areas are

Depth to groundwater in the area is at approximately 125', therefore the greater concern is not contamination of groundwater through leaching but rather horizontal movement of chlorides through the draw where is could potentially impact the Pecos River.

Sampling Point Label	GPS Coordinates	Sampling Depth (TD)
Sampling Point 2 (P2)	32.065445° -103.977071°	2'
Sampling Point 3 (P3)	32.067206° -103.977107°	3'
Monitoring Point 1 (MP1)	32.068833° -103.977082°	2'
Monitoring Point 2 (MP2)	32.068689° -103.976739°	2'

Samples will be taken in May of each year for the next 3 years, starting in 2017, and submitted to the NMOCD and BLM. Due to the dense vegetation in the draw, and attempting to limited disturbance, sampling will be conducted with a hand auger. In the event samples deeper than 3 feet below ground surface are required, COG will obtain permission from NMOCD District 2 and the Carlsbad BLM Office to enter the draw with a rig for mechanical sampling. A report will be submitted after 3 years of analysis have been conducted. If the analysis shows no change, COG will request closure of 2RP-3386-0. Listed below is a sampling schedule.

Sampling Schedule
May 2017
May 2018
May 2019

If there are no objections or further stipulations, COG Operating LLC would like to begin the remediation process based on approval of this work plan. Please feel free to contact my with any questions or concerns at (505) 350-1336

Sincerely,

Amanda Trujillo Davis

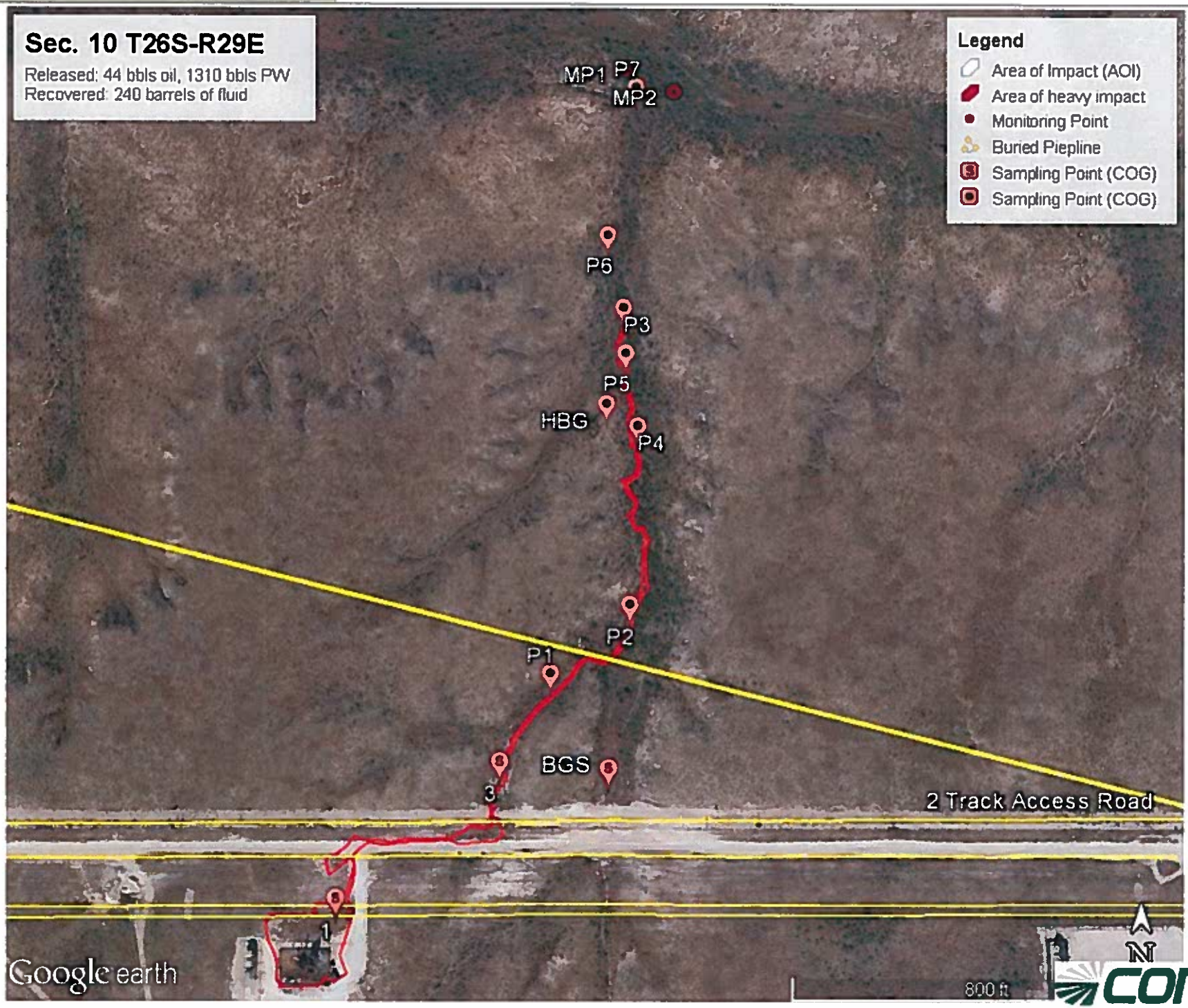
Sr. Environmental Coordinator

Enclosed

(1) Site Diagram with Monitoring Points
(2) Site Diagram of P1 and P2
(3) Site Diagram of P3 and P4
(4) Site Diagram of Monitoring Points
(5) Supporting analytical data

July 22, 2016

JR's Horz Federal SWD #1



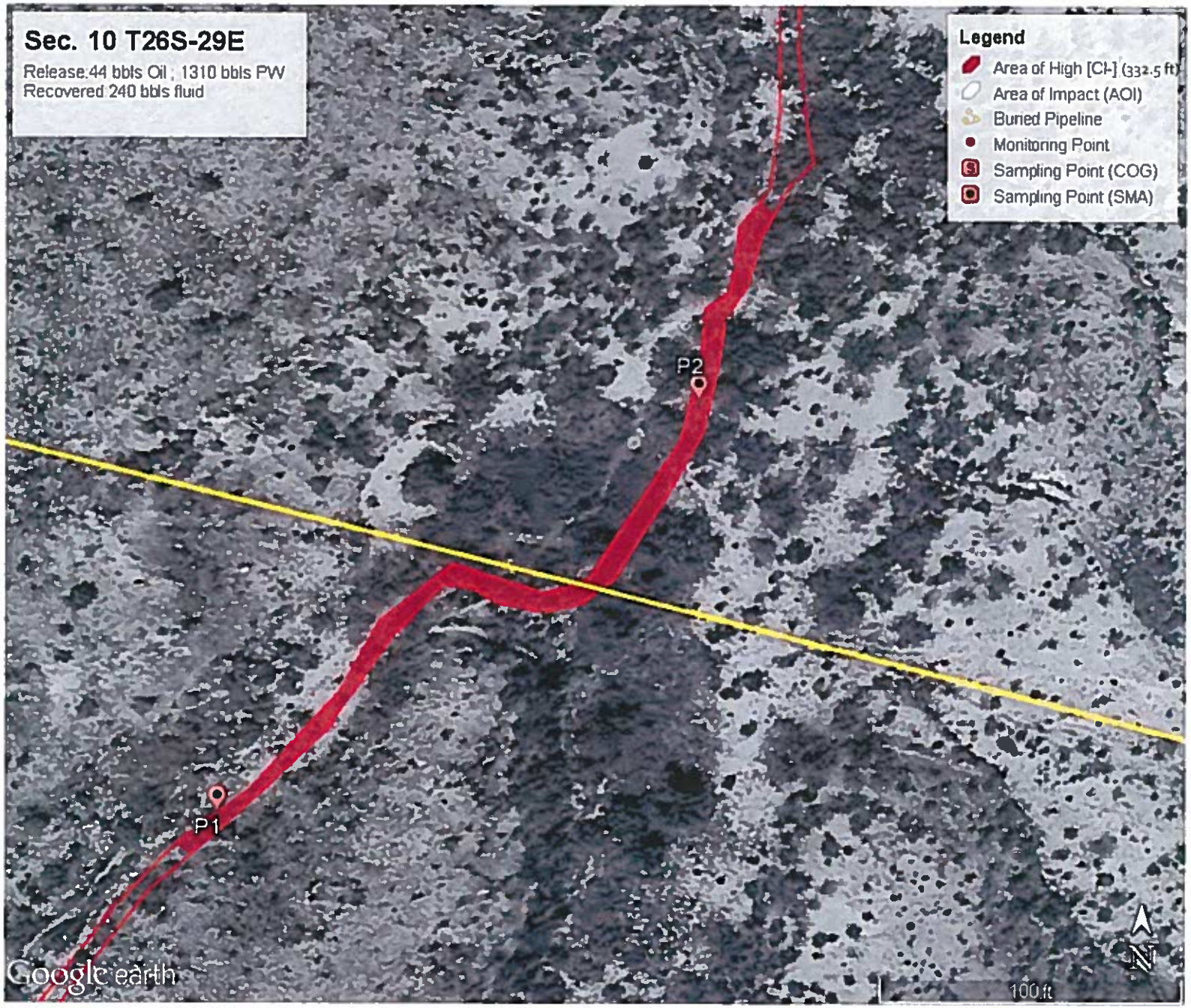
CONCHO

July 22, 2016

JR's Horz Federal SWD #1 – P1 & P2

SR: Zero
DGW:125'

S1	Cl-
1'	256
2'	240
3'	336
S3	**Cl-**
1'	384
2'	208
3'	<16.0
P1	**Cl-**
Sf	7,712
1'	1,290
3'	717
P2	**Cl-**
Sf	5,619
1'	488
3'	244
P4	**Cl-**
Sf	187
1'	1921
P5	**Cl-**
1'	531
P3	**Cl-**
Sf	25,000
1'	3498
P6	**Cl-**
Sf	158
1'	1534
P7	**Cl-**
Sf	15
1'	803



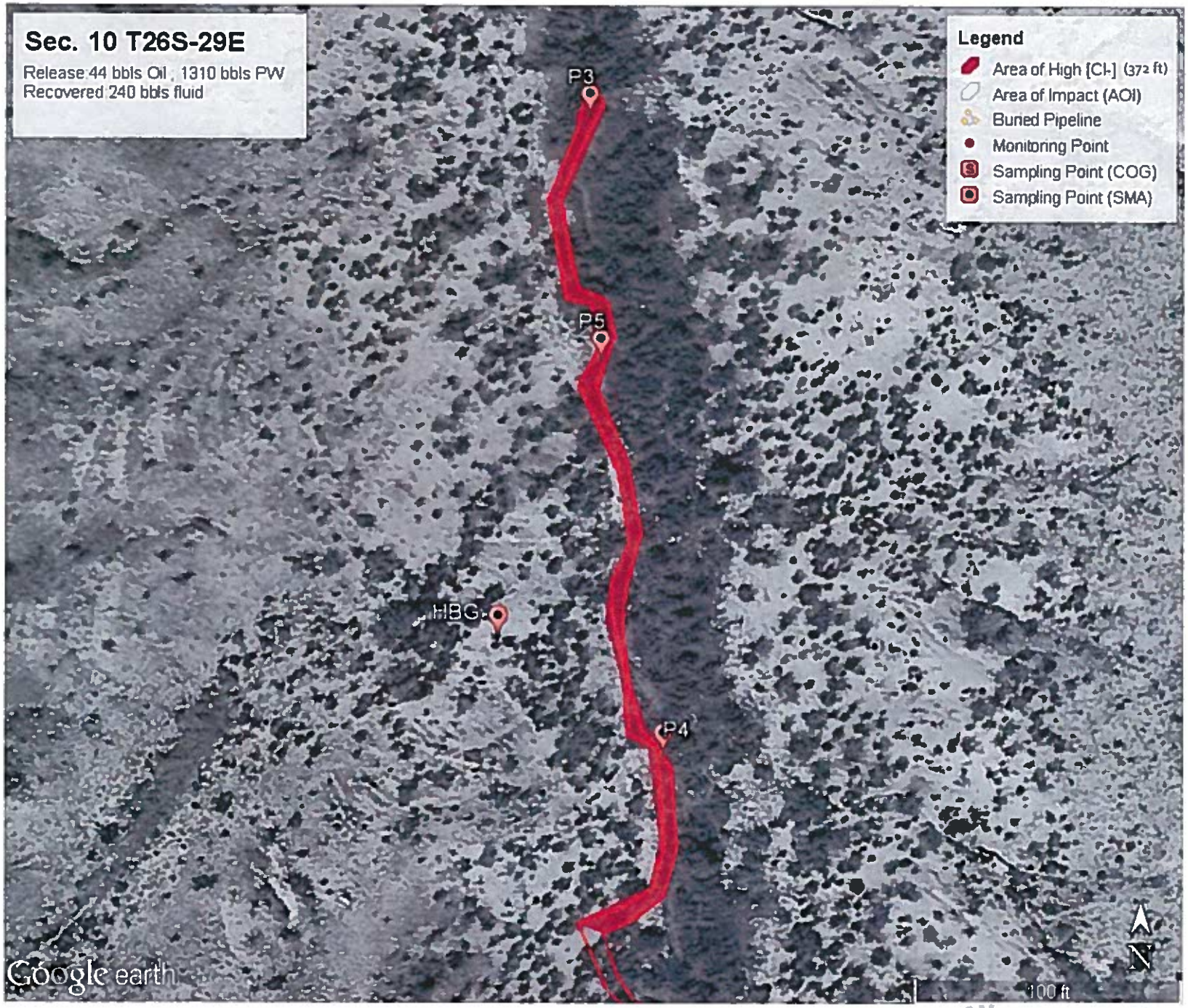
July 22, 2016

JR's Horz Federal SWD #1 – P3 & P4

SR: Zero

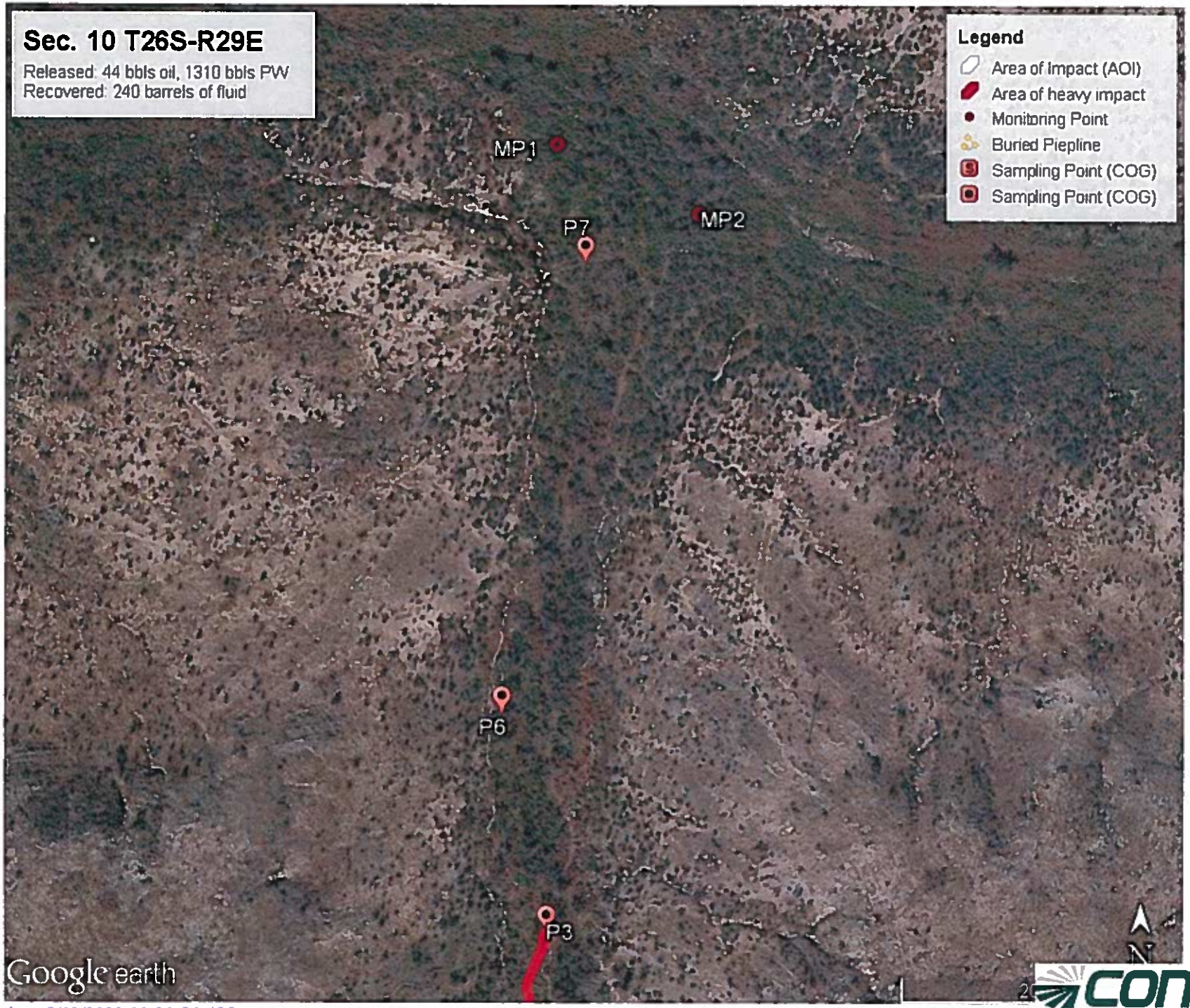
DGW:125'

S1	Cl-
1'	256
2'	240
3'	336
S3	**Cl-**
1'	384
2'	208
3'	<16.0
P1	**Cl-**
Sf	7,712
1'	1,290
3'	717
P2	**Cl-**
Sf	5,619
1'	488
3'	244
P4	**Cl-**
Sf	187
1'	1921
P5	**Cl-**
1'	531
P3	**Cl-**
Sf	25,000
1'	3498
P6	**Cl-**
Sf	158
1'	1534
P7	**Cl-**
Sf	15
1'	803



July 22, 2016

JR's Horz Federal SWD #1 – Monitoring Points



CARDINAL Laboratories

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

June 08, 2016

AMANDA TRUJILLO

COG Operating, LLC

500 W. ILLINOIS

Midland, TX 79701

RE: JRs Horz Federal SWD #1

Enclosed are the results of analyses for samples received by the laboratory on 06/01/16 8:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-15-7. 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:

COG Operating, LLC
AMANDA TRUJILLO
500 W. ILLINOIS
Midland TX, 79701
Fax To: None

Received:	06/01/2016	Sampling Date:	05/26/2016
Reported:	06/08/2016	Sampling Type:	Soil
Project Name:	JRs Horz Federal SWD #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: BGS 1' (H601251-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/06/2016	ND	416	104	400	3.77	

Sample ID: BGS 2' (H601251-02)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/06/2016	ND	416	104	400	3.77	

Sample ID: BGS 3' (H601251-03)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	06/06/2016	ND	416	104	400	3.77	

Sample ID: BGS 4' (H601251-04)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	06/06/2016	ND	416	104	400	3.77	

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:

COG Operating, LLC
AMANDA TRUJILLO
500 W. ILLINOIS
Midland TX, 79701
Fax To: None

Received:	06/01/2016	Sampling Date:	05/26/2016
Reported:	06/08/2016	Sampling Type:	Soil
Project Name:	JRs Horz Federal SWD #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: BGS 5' (H601251-05)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**208**	16.0	06/06/2016	ND	416	104	400	3.77	

Sample ID: BGS 6' (H601251-06)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	06/06/2016	ND	416	104	400	3.77	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	COG Operating LLC		
Project Manager:	Amanda T. Davis		
Address:	2208 West Main		
City:	Artesia	State: NM	Zip 88210
Phone #:	(575) 748-6930	Fax #:	
Project #:		Project Owner:	
Project Name:	JRs Horz Federal SWD #1		
Project Location:			
Sampler Name:	Amanda T. Davis		

BILL TO

P.O. #:	
Company:	COG Operating LLC
Attn:	Robert McNeill
Address:	600 W Illinois
City:	Midland
State: TX	Zip: 79701
Phone #:	(432) 221-0388
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	TIME	BTEX	TPH	Chloride
H601251																	
1	BGS 1'										x		5/26/16	8:00 AM			X
2	BGS 2'										x		5/26/16	8:00 AM			x
3	BGS 3'										x		5/26/16	8:00 AM			x
4	BGS 4'										x		5/26/16	8:00 AM			x
5	BGS 5'										x		5/26/16	8:00 AM			x
6	BGS 6'										x		5/26/16	8:00 AM			x

Relinquished By:	Date: 6/1/16	Received By:	
	Time: 8:45		
Relinquished By:	Date:	Received By:	
	Time:		

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS:
dneet2@concho.com
lcarrasco@concho.com
atrujillo@concho.com

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: 5.2°C

Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No
CHECKED BY: (Initials)

#95

FORM-006 R 2.0

s. Please fax written changes to 575-393-2476

CARDINAL Laboratories

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

June 08, 2016

AMANDA TRUJILLO DAVIS

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: JRS HORZ FEDERAL SWD #1

Enclosed are the results of analyses for samples received by the laboratory on 06/01/16 8:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-15-7. 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:

COG OPERATING
AMANDA TRUJILLO DAVIS
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	06/01/2016	Sampling Date:	05/26/2016
Reported:	06/08/2016	Sampling Type:	Soil
Project Name:	JRS HORZ FEDERAL SWD #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S1 1' (H601197-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**256**	16.0	06/06/2016	ND	416	104	400	3.92	

Sample ID: S1 2' (H601197-02)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**240**	16.0	06/06/2016	ND	416	104	400	3.92	

Sample ID: S1 3' (H601197-03)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**336**	16.0	06/06/2016	ND	416	104	400	3.92	

Sample ID: S1 4' (H601197-04)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**368**	16.0	06/06/2016	ND	416	104	400	3.92	

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:

COG OPERATING
AMANDA TRUJILLO DAVIS
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	06/01/2016	Sampling Date:	05/26/2016
Reported:	06/08/2016	Sampling Type:	Soil
Project Name:	JRS HORZ FEDERAL SWD #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: S1 5' (H601197-05)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**352**	16.0	06/06/2016	ND	416	104	400	3.92	

Sample ID: S1 6' (H601197-06)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**288**	16.0	06/06/2016	ND	416	104	400	3.92	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	COG Operating LLC		
Project Manager:	Amanda T. Davis		
Address:	2208 West Main		
City:	Artesia	State: NM	Zip 88210
Phone #:	(575) 748-6930	Fax #:	
Project #:		Project Owner:	
Project Name:	JRs Horz Federal SWD #1		
Project Location:			
Sampler Name:	Amanda T. Davis		

BILL TO

P.O. #:	
Company:	COG Operating LLC
Attn:	Robert McNeill
Address:	600 W Illinois
City:	Midland
State: TX	Zip: 79701
Phone #:	(432) 221-0388
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	TIME	BTEX	TPH	Chloride
H601197																	
1	S1 1'										x		5/26/16	8:00 AM			X
2	S1 2'										x		5/26/16	8:00 AM			x
3	S1 3'										x		5/26/16	8:00 AM			x
4	S1 4'										x		5/26/16	8:00 AM			x
5	S1 5'										x		5/26/16	8:00 AM			x
6	S1 6'										X		5/26/16	8:00 AM			x

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: Amanda T. Davis — Date: 6/1116 — Time: 8:45am — Received By: Jodi Henson

Relinquished By: — Date: — Time: — Received By:

Delivered By: (Circle One) Sampler - UPS - Bus - Other: 5.2°c

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

CHECKED BY: (Initials) GA

Phone Result: ☐ Yes ☐ No Add'l Phone #:

Fax Result: ☐ Yes ☐ No Add'l Fax #:

REMARKS:
dneel2@concho.com
lcarrasco@concho.com
atrujillo@concho.com

#75

FORM-006 R 2.0

3. Please fax written changes to 575-393-2476

CARDINAL Laboratories

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

June 08, 2016

AMANDA TRUJILLO

COG Operating, LLC

500 W. ILLINOIS

Midland, TX 79701

RE: JRs Horz Federal SWD #1

Enclosed are the results of analyses for samples received by the laboratory on 06/01/16 8:47.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-15-7. 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:

COG Operating, LLC
AMANDA TRUJILLO
500 W. ILLINOIS
Midland TX, 79701
Fax To: None

Received:	06/01/2016	Sampling Date:	05/26/2016
Reported:	06/08/2016	Sampling Type:	Soil
Project Name:	JRs Horz Federal SWD #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: S3 1' (H601250-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**384**	16.0	06/06/2016	ND	416	104	400	3.92	

Sample ID: S3 2' (H601250-02)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**208**	16.0	06/06/2016	ND	416	104	400	3.92	

Sample ID: S3 3' (H601250-03)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/06/2016	ND	416	104	400	3.92	

Sample ID: S3 4' (H601250-04)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/06/2016	ND	416	104	400	3.92	

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:

COG Operating, LLC
AMANDA TRUJILLO
500 W. ILLINOIS
Midland TX, 79701
Fax To: None

Received:	06/01/2016	Sampling Date:	05/26/2016
Reported:	06/08/2016	Sampling Type:	Soil
Project Name:	JRs Horz Federal SWD #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: S3 5' (H601250-05)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**384**	16.0	06/06/2016	ND	416	104	400	3.92	

Sample ID: S3 6' (H601250-06)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1630**	16.0	06/06/2016	ND	416	104	400	3.92	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	COG Operating LLC		
Project Manager:	Amanda T. Davis		
Address:	2208 West Main		
City:	Artesia	State: NM	Zip 88210
Phone #:	(575) 748-6930	Fax #:	
Project #:		Project Owner:	
Project Name:	JRs Horz Federal SWD #1		
Project Location:			
Sampler Name:	Amanda T. Davis		

BILL TO

P.O. #:	
Company:	COG Operating LLC
Attn:	Robert McNeill
Address:	600 W Illinois
City:	Midland
State: TX	Zip: 79701
Phone #:	(432) 221-0388
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	TIME	BTEX	TPH	Chloride
H600250																	
H600197																	
1	S3 1'										x		5/26/16	8:00 AM			X
2	S3 2'										x		5/26/16	8:00 AM			x
3	S3 3'										x		5/26/16	8:00 AM			x
4	S3 4'										x		5/26/16	8:00 AM			x
5	S3 5'										x		5/26/16	8:00 AM			x
6	S3 6'										x		5/26/16	8:00 AM			x

Relinquished By: Amanda T. Davis — Date: 5.27.16 — Time: 8:47AM

Received By: Jodi Henson

Relinquished By: — Date: 6/1/16 — Time:

Received By:

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Sample Condition: Cool: Yes / No — Intact: Yes / No

CHECKED BY: (Initials)

5.2°C

#75

Phone Result: ☐ Yes ☐ No Add'l Phone #:

Fax Result: ☐ Yes ☐ No Add'l Fax #:

REMARKS:

dneel2@concho.com
lcarrasco@concho.com
atrujillo@concho.com

FORM-006 R 2.0

5. Please fax written changes to 575-393-2476

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

January 12, 2016

Austin Weyant
Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL: (575) 689-7040
FAX

RE: JR Horz FEX OrderNo.: 1512A54

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 12 sample(s) on 12/22/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: JR Horz FEX
Lab ID: 1512A54-001 **Matrix:** SOIL

Client Sample ID: P1-0.5
Collection Date: 12/16/2015 8:30:00 AM
Received Date: 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	8900	300		mg/Kg	200	12/30/2015 3:25:35 PM	22982
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	12/24/2015 10:09:41 PM	22945
Toluene	ND	0.049		mg/Kg	1	12/24/2015 10:09:41 PM	22945
Ethylbenzene	ND	0.049		mg/Kg	1	12/24/2015 10:09:41 PM	22945
Xylenes, Total	ND	0.098		mg/Kg	1	12/24/2015 10:09:41 PM	22945
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	12/24/2015 10:09:41 PM	22945

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

CLIENT: Souder, Miller & Associates
Project: JR Horz FEX
Lab ID: 1512A54-002 **Matrix:** SOIL

Client Sample ID: P1-3
Collection Date: 12/16/2015 8:30:00 AM
Received Date: 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: **LGT**
Chloride	730	30		mg/Kg	20	12/29/2015 12:09:18 PM	22982

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

CLIENT: Souder, Miller & Associates
Project: JR Horz FEX
Lab ID: 1512A54-003 **Matrix:** SOIL

Client Sample ID: P2-3
Collection Date: 12/16/2015 8:30:00 AM
Received Date: 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: **LGT**
Chloride	220	30		mg/Kg	20	12/29/2015 12:46:31 PM	22982

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

Qualifiers:

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

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: JR Horz FEX
Lab ID: 1512A54-004 **Matrix:** SOIL

Client Sample ID: P2-0.5
Collection Date: 12/16/2015 8:30:00 AM
Received Date: 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	8500	300		mg/Kg	200	12/30/2015 3:37:59 PM	22982

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

Qualifiers:

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

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: JR Horz FEX
Lab ID: 1512A54-005 **Matrix:** SOIL

Client Sample ID: P3-0.5
Collection Date: 12/16/2015 8:30:00 AM
Received Date: 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	24000	750		mg/Kg	500	12/30/2015 3:50:23 PM	22982
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	12/24/2015 10:33:51 PM	22945
Toluene	ND	0.047		mg/Kg	1	12/24/2015 10:33:51 PM	22945
Ethylbenzene	ND	0.047		mg/Kg	1	12/24/2015 10:33:51 PM	22945
Xylenes, Total	ND	0.093		mg/Kg	1	12/24/2015 10:33:51 PM	22945
Surr: 4-Bromofluorobenzene	107	80-120		%REC	1	12/24/2015 10:33:51 PM	22945

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

Qualifiers:

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

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: JR Horz FEX
Lab ID: 1512A54-006 **Matrix:** SOIL

Client Sample ID: D1-2
Collection Date: 12/16/2015 8:30:00 AM
Received Date: 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: **LGT**
Chloride	110	30		mg/Kg	20	1/7/2016 1:15:58 PM	23106

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

Qualifiers:

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

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: JR Horz FEX
Lab ID: 1512A54-007 **Matrix:** SOIL

Client Sample ID: D1-4
Collection Date: 12/16/2015 8:30:00 AM
Received Date: 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	240	30		mg/Kg	20	12/29/2015 1:23:45 PM	22982

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

Qualifiers:

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

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: JR Horz FEX
Lab ID: 1512A54-008 **Matrix:** SOIL

Client Sample ID: D1-8
Collection Date: 12/16/2015 8:30:00 AM
Received Date: 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	310	30		mg/Kg	20	12/29/2015 1:36:10 PM	22982

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

Qualifiers:

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

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: JR Horz FEX
Lab ID: 1512A54-009 **Matrix:** SOIL

Client Sample ID: D1-12
Collection Date: 12/16/2015 8:30:00 AM
Received Date: 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: **LGT**
Chloride	280	30		mg/Kg	20	12/29/2015 1:48:34 PM	22982

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

Qualifiers:

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

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: JR Horz FEX
Lab ID: 1512A54-010 **Matrix:** SOIL

Client Sample ID: D1-16
Collection Date: 12/16/2015 8:30:00 AM
Received Date: 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: **LGT**
Chloride	250	30		mg/Kg	20	12/29/2015 2:00:59 PM	22982

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: JR Horz FEX
Lab ID: 1512A54-011 **Matrix:** SOIL

Client Sample ID: D2-2
Collection Date: 12/16/2015 8:30:00 AM
Received Date: 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	320	30		mg/Kg	20	12/29/2015 2:13:23 PM	22982
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	12/24/2015 10:58:11 PM	22945
Toluene	ND	0.049		mg/Kg	1	12/24/2015 10:58:11 PM	22945
Ethylbenzene	ND	0.049		mg/Kg	1	12/24/2015 10:58:11 PM	22945
Xylenes, Total	ND	0.097		mg/Kg	1	12/24/2015 10:58:11 PM	22945
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	12/24/2015 10:58:11 PM	22945

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

Qualifiers:

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

Analytical Report
Lab Order **1512A54**
Date Reported: **1/12/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: JR Horz FEX
Lab ID: 1512A54-012 **Matrix:** SOIL

Client Sample ID: D2-4
Collection Date: 12/16/2015 8:30:00 AM
Received Date: 12/22/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: **LGT**
Chloride	150	30		mg/Kg	20	12/29/2015 2:25:48 PM	22982

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1512A54

12-Jan-16

Client: Souder, Miller & Associates

Project: JR Horz FEX

Sample ID	MB-22982	SampType:	MBLK		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS	Batch ID:	22982		RunNo:	31150				
Prep Date:	12/28/2015	Analysis Date:	12/29/2015		SeqNo:	953465	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-22982	SampType:	LCS		TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSS	Batch ID:	22982		RunNo:	31150				
Prep Date:	12/28/2015	Analysis Date:	12/29/2015		SeqNo:	953466	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.3	90	110			

Sample ID	MB-23106	SampType:	MBLK		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS	Batch ID:	23106		RunNo:	31326				
Prep Date:	1/7/2016	Analysis Date:	1/7/2016		SeqNo:	959120	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-23106	SampType:	LCS		TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSS	Batch ID:	23106		RunNo:	31326				
Prep Date:	1/7/2016	Analysis Date:	1/7/2016		SeqNo:	959121	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.5	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1512A54

12-Jan-16

Client: Souder, Miller & Associates

Project: JR Horz FEX

Sample ID	MB-22945	SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	PBS	Batch ID:	22945		RunNo:	31062				
Prep Date:	12/23/2015	Analysis Date:	12/24/2015		SeqNo:	950286	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID	LCS-22945	SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	LCSS	Batch ID:	22945		RunNo:	31062				
Prep Date:	12/23/2015	Analysis Date:	12/24/2015		SeqNo:	950305	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	102	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		124	80	120			S

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: SMA-CARLSBAD | Work Order Number: 1512A54 | RcptNo: 1

Received by/date: 12/22/15

Logged By: Ashley Gallegos 12/22/2015 9:25:00 AM

Completed By: Ashley Gallegos 12/23/2015 8:55:45 AM

Reviewed By: 12/23/15

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by:

Special Handling (If applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.3	Good	Yes			

Chain-of-Custody Record

Client: SMA

Mailing Address: 201 S HALAGUENO, CARLSBAD

Phone #: 689-7046

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: J.2 HOBBS FEX

Project #:

Project Manager: ASSIGNMENT

Sampler: JAW

On Ice: ☑ Yes ☐ No

Sample Temperature: 4.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1512A54	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F^-, Cl^-, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
12/6	830	SOIL	P1 - 0.5	4oz		-001	X							X								
12/6	830	SOIL	P1 - 3	4oz		-002								X								
			P2 - 3			-003								X								
			P2 - 0.5			-004								X								
			P3 - 0.5			-005	X							X								
			B1 - 2			-006								X								
			B1 - 4			-007								X								
			B1 - 8			-008								X								
			B1 - 12			-009								X								
			B1 - 16			-010								X								
			B2 - 2			-011	X							X								
			B2 - 4			-012								X								

Date:	Time:	Relinquished by:	Received by:	Date	Time
			Jac. Acosta	12/22/22	0925
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

February 04, 2016

Austin Weyant
Souder, Miller & Associates
201 S Halagueno
Carlsbad, NM 88221
TEL: (575) 689-7040
FAX

RE: JRS Horz Fed #1 OrderNo.: 1601A16

Dear Austin Weyant:

Hall Environmental Analysis Laboratory received 10 sample(s) on 1/27/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order: **1601A16**
Date Reported: **2/4/2016**

CLIENT: Souder, Miller & Associates
Project: JRS Horz Fed #1
Lab Order: 1601A16

Lab ID: 1601A16-001 **Collection Date:** 1/20/2016 8:00:00 AM
Client Sample ID: B6-5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**
Chloride	ND	30		mg/Kg	20	1/29/2016 2:32:06 PM	23486

Lab ID: 1601A16-002 **Collection Date:** 1/20/2016 8:00:00 AM
Client Sample ID: B6-1 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**
Chloride	ND	30		mg/Kg	20	1/29/2016 2:44:31 PM	23486

Lab ID: 1601A16-003 **Collection Date:** 1/20/2016 8:00:00 AM
Client Sample ID: H1-5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**
Chloride	54	30		mg/Kg	20	1/29/2016 2:56:55 PM	23486

Lab ID: 1601A16-004 **Collection Date:** 1/20/2016 8:00:00 AM
Client Sample ID: H1-1 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**
Chloride	1000	30		mg/Kg	20	1/29/2016 3:09:19 PM	23486

Lab ID: 1601A16-005 **Collection Date:** 1/20/2016 8:00:00 AM
Client Sample ID: H2-1 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**
Chloride	1600	75		mg/Kg	50	2/2/2016 2:53:01 PM	23486

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller & Associates
Project: JRS Horz Fed #1
Lab Order: 1601A16

Lab ID: 1601A16-006 **Collection Date:** 1/20/2016 8:00:00 AM
Client Sample ID: H2-5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	79	30		mg/Kg	20	1/29/2016 3:58:57 PM	23486

Lab ID: 1601A16-007 **Collection Date:** 1/20/2016 8:00:00 AM
Client Sample ID: H3-1 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	1300	75		mg/Kg	50	2/2/2016 3:05:26 PM	23486

Lab ID: 1601A16-008 **Collection Date:** 1/20/2016 8:00:00 AM
Client Sample ID: H4-5 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	170	30		mg/Kg	20	2/1/2016 7:11:41 PM	23515

Lab ID: 1601A16-009 **Collection Date:** 1/20/2016 8:00:00 AM
Client Sample ID: H4-1 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	2400	75		mg/Kg	50	2/2/2016 3:17:51 PM	23515

Lab ID: 1601A16-010 **Collection Date:** 1/20/2016 8:00:00 AM
Client Sample ID: P3-1 **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	4500	150		mg/Kg	100	2/2/2016 3:30:16 PM	23515

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1601A16

04-Feb-16

Client: Souder, Miller & Associates

Project: JRS Horz Fed #1

Sample ID	MB-23486	SampType:	MBLK		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS	Batch ID:	23486		RunNo:	31808				
Prep Date:	1/29/2016	Analysis Date:	1/29/2016		SeqNo:	973423	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-23486	SampType:	LCS		TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSS	Batch ID:	23486		RunNo:	31808				
Prep Date:	1/29/2016	Analysis Date:	1/29/2016		SeqNo:	973424	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.6	90	110			

Sample ID	MB-23515	SampType:	MBLK		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS	Batch ID:	23515		RunNo:	31841				
Prep Date:	2/1/2016	Analysis Date:	2/1/2016		SeqNo:	974435	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-23515	SampType:	LCS		TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSS	Batch ID:	23515		RunNo:	31841				
Prep Date:	2/1/2016	Analysis Date:	2/1/2016		SeqNo:	974436	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.1	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: SMA-CARLSBAD Work Order Number: 1601A16 RcptNo: 1

Received by/date: JA 01/27/16

Logged By: Anne Thorne 1/27/2016 9:10:00 AM Anne Thorne

Completed By: Anne Thorne 1/27/2016 Anne Thorne

Reviewed By: JA 01/27/16

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.2	Good	Yes			

Chain-of-Custody Record

ient: SMA

Carlsbad

ailing Address:

ione #:

nail or Fax#:

A/QC Package:

Standard ☐ Level 4 (Full Validation)

ccreditation

NELAP ☐ Other

EDD (Type)

Turn-Around Time:

☐ Standard ☐ Rush

Project Name: JRS Horz Fed #1

Project #:

Project Manager: Austin Weyant

Sampler: LCM

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.2

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 2401A16	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F^-,Cl^-,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
2016	800	Soil	B6-S	4oz		001								X								
			B6-1			002								X								
			H1-S			003								X								
			H1-1			004								X								
			H2-1			005								X								
			H2-S			006								X								
			H3-1			007								X								
			H4-S			008								X								
			H4-1			009								X								
V	V	V	P3-1	V		010								X								

ate:	Time:	Relinquished by:	Received by:	Date	Time
				01/27/16	0910
ate:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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

Table 3: Summary of Field Screening Results

JR Horz Federal #1
Produced Water
1/20/2016

FIELD SCREENING RESULTS SUMMARY					
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	Chlorides Results	Lab Sample Collected Y/N
1/20/2016	10:00	P3-1	1'	3498	y
1/20/2016	10:00	P4-S	Surface	187	y
1/20/2016	10:00	P4-1	1'	1921	y
1/20/2016	10:00	P5-S-Lost	--	--	--
1/20/2016	10:00	P5-1	1'	531	y
1/20/2016	10:00	P6-S	Surface	158	y
1/20/2016	10:00	P6-1	1'	1534	y
1/20/2016	10:00	P7-S	Surface	15	y
1/20/2016	10:00	P7-1	1'	803	y

*BDL= Below Detectable Level

SMA Project # BG6

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 177315

CONDITIONS

Operator:	OGRID:
COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	229137
	Action Number: 177315
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAB1531639135 JR'S HORZ FEDERAL #001, thank you. This closure is approved. ConocoPhillips should put barriers in place to mitigate releasing liquids into the draw/arroyos in this immediate area and prevention measures to keep it from happening again. ConocoPhillips's response to the BLM and OCD has been that they cannot safely remediate due to the depth of the draw and further impact on the native vegetation would be higher than removing the impact from the area. Keep the OCD up to date on how ConocoPhillips proposes to handle this matter.	5/19/2023