



**SITE CHARACTERIZATION UPDATE AND PROPOSED
REMEDIATION PLAN**

**CROSSROADS AFX FEDERAL #1
UNIT P, SECTION 22, TOWNSHIP 7S, RANGE 35E
ROOSEVELT COUNTY, NEW MEXICO
33.68760, -103.34329
RANGER REFERENCE NO. 5375**

PREPARED FOR:

**EOG RESOURCES, INC.
ARTESIA DIVISION
105 S 4TH STREET
ARTESIA, NEW MEXICO 88210**

PREPARED BY:

**RANGER ENVIRONMENTAL SERVICES, INC.
P.O. BOX 201179
AUSTIN, TEXAS 78720**

MARCH 2, 2022

A blue ink signature of Patrick K. Finn, consisting of stylized initials and a surname.

**Patrick K. Finn, P.G. (TX)
Project Geoscientist**

A blue ink signature of William Kierdorf, featuring a stylized first name and a surname.

**William Kierdorf, REM
Project Manager**

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- Original Site Assessment/Characterization Section
- Updated Site Assessment/Characterization Section
- Remediation Plan Section

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- Attachment 1 – Soil Boring Log
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**SITE CHARACTERIZATION UPDATE AND PROPOSED REMEDIATION PLAN
CROSSROADS AFX FEDERAL #1
UNIT P, SECTION 22, TOWNSHIP 7S, RANGE 35E
ROOSEVELT COUNTY, NEW MEXICO
33.68760, -103.34329
RANGER REFERENCE NO. 5375**

1.0 SITE LOCATION AND BACKGROUND

The Crossroads AFX #1 (Site) is an active oil and gas well location on state land, approximately 12.5 miles north of Crossroads, within Roosevelt County, New Mexico. The facility is situated in Unit P, Section 22, T7S-R35E at GPS coordinates 33.68760, -103.34329. In June 2021, EOG Resources, Inc. (EOG) engaged Ranger Environmental Services, Inc. (Ranger) to assist in the assessment and remediation of an historic release which occurred in the facility tank battery area.

On June 21, 2021, Ranger personnel conducted an initial inspection of the release area and observed stained soils surrounding one of the tanks. The impacts were observed to have been contained within the tank battery secondary containment. The affected area was subsequently reported to the NMOCD on June 21, 2021 (NMOCD Incident #nAPP2117330665). Due to the location of the impacted areas in the immediate vicinity of the on-site tank battery, the relocation of the tank battery was necessary. Upon relocation of the subject tank battery, additional assessment and the collection of soil samples for laboratory analysis was completed in September 2021.

A *Site Assessment/Characterization Report*, dated January 14, 2022, documenting the completed assessment activities, the site characterization specifics, and proposed site characterization confirmation activities was prepared and submitted to the NMOCD. As summarized in this report, the depth to groundwater at the site required confirmation via the installation of a soil boring/temporary well since there is no existing depth to groundwater data for the area within a one-half mile radius of the subject site. As was proposed, EOG installed a temporary monitor well in February 2022 to confirm the site-specific depth to groundwater. The following report has been prepared to update the site characterization details with site-specific depth-to-groundwater information, and to present a proposed remediation plan to appropriately address the impacts at the Site.

It should be noted that operations at the subject Site have been transferred from EOG to Opal Operating Company LLC (Opal).

A copy of the previously submitted Form C-141 Release Notification, and Assessment/Characterization section of Form C-141, are attached. An updated Assessment/Characterization section, and the Remediation Plan section of Form C-141, are also attached. A Topographic Map and Area Map noting the location of the subject Site and surrounding areas, as well as a Site Map illustrating the Site features and sampling locations, are provided in the Figures section.

2.0 SITE CHARACTERIZATION UPDATE

As detailed in the January 14, 2022 *Site Assessment/Characterization Report*, the subject area was lacking appropriate depth-to-groundwater data (<20 years old depth to groundwater data within a one-half mile radius of the subject site). However, based on the data that was available from the U.S. Geological Survey (USGS) and the New Mexico Office of the State Engineer (NMOSE), the depth-to-groundwater was believed to be greater than 50 feet below ground surface (bgs). As such, a soil boring/temporary monitor well was installed at the site in February 2022 in order to confirm the site-specific depth-to-groundwater.

2.1 January 2022 – Hollow Stem Auger Soil Borings

On January 25, 2022, Ranger and representatives for Talon LPE (Talon) mobilized to the site to conduct the depth-to-groundwater investigation activities. The proposed scope of work included the installation and gauging of a 55'-deep soil boring/temporary monitor well. Based on the loose sandy lithology observed during the previously-completed site assessment activities, the January 2022 soil boring activities were conducted using hollow stem auger drilling techniques.

Shortly after commencement of the drilling activities, auger refusal was encountered at a depth of approximately 10 feet bgs. Due to this, an alternative drilling location was selected immediately north of the initial soil boring location. Auger refusal was encountered again, this time at a depth of approximately 22 feet bgs. The attached *Soil Boring Location Map* illustrates the locations of these two soil boring locations.

Based on the encountered lithology and auger refusal, it was determined that air rotary drilling techniques would be required to install the proposed soil boring/temporary monitor well. As such, both of the shallow hollow stem auger soil borings were properly plugged and abandoned on January 25, 2022.

2.2 February 2022 – Air Rotary Soil Boring

On February 22, 2022, Ranger personnel and representatives of Talon returned to the Site with an air rotary drilling rig. This drilling method successfully installed a soil boring to a depth of approximately 58 feet bgs. The attached *Soil Boring Location Map* illustrates the location of this soil boring/temporary monitor well.

During the drilling operations soil samples were continuously collected. Each soil sample was inspected and described by the on-site Ranger field geologist and was screened with a photoionization detector (PID). The PID was calibrated with an isobutylene span gas prior to usage. The lithologic descriptions and PID readings are presented on the attached soil boring log.

As summarized on the attached soil boring log, no elevated PID readings or other field indications of potential contaminant impact were encountered during the soil boring installation process. In addition, no obvious indications of groundwater were encountered to the terminal drilling depth of 58 feet bgs. Upon completion of the drilling process, the soil boring was subsequently converted to a 55-foot-deep temporary monitor well. The temporary monitor well consisted of 2-inch diameter Schedule 40 PVC pipe with 20 feet of 0.01-inch machine-slotted well screen and 35 feet of well riser.



In order to provide ample time for the temporary monitor well to equilibrate, Ranger waited approximately 72 hours before returning to the site to gauge the temporary monitor well. A Heron Instruments, Inc. electronic water level meter was utilized to gauge the well, and the well was found to be dry. The PVC casing was subsequently removed and the soil boring was properly plugged and abandoned.

In summary, the site-specific depth-to-groundwater was determined to be greater than 55 feet bgs.

2.3 Closure Criteria

Based upon the previously supplied Site characterization details¹ and confirmation that the depth-to-groundwater in the area is greater than 55 feet bgs, the Site will be remediated to Table 1 19.15.29.12 NMAC (groundwater 51'-100' feet) criteria. Additionally, the remediation activities will be completed to bring the surface to four-foot depth interval into compliance with the Restoration, Reclamation and Re-Vegetation criteria detailed in 19.15.29.13 NMAC. The proposed closure criteria are detailed below:

REGULATORY STANDARD	CHLORIDE	TPH (GRO+DRO +MRO)	TPH (GRO+DRO)	BTEX	BENZENE
19.15.29.12 NMAC Table 1 Closure Criteria for Soils Impacted by a Release (GW 51'-100')	10,000	2,500	1,000	50	10
19.15.29.13 NMAC Restoration, Reclamation and Re-Vegetation (Soils 0'-4')	600	100 ²	---	50 ²	10 ²

All Values Presented in Parts Per Million (mg/Kg)

1. Full site characterization details are included in the January 14, 2022 Ranger "Site Assessment/Characterization Report."
2. Value derived from the State of New Mexico Energy, Minerals and Natural Resources Department document "Procedures for the Implementation of the Spill Rule" (19.15.29 NMAC) dated September 6, 2019.

3.0 PROPOSED REMEDIATION PLAN

3.1 Soil Excavation

In order to address the impacts at the Site and bring the location into compliance with NMAC 19.15.29, soil removal operations are proposed. Based on the information collected during the September 2021 assessment activities, the removal operations will be completed to depths



varying from approximately two (2) to 12 feet bgs. The proposed excavation area will be primarily rectangular in shape and is anticipated to have maximum dimensions of approximately 60 feet wide by 40 feet long. A *Proposed Excavation Area Map* depicting the extent and depths of the proposed soil excavation activities is attached.

Based on the proposed excavation boundaries and depths it is anticipated that approximately 545 cubic yards of material will be generated during the site remediation process. The excavated material will be transported off-site for disposal at an approved facility.

3.2 Confirmation Sampling

During the soil removal process, Ranger personnel will field screen the excavation floor and walls using an organic vapor monitor (OVM) and a field chloride titration kit. The field screening results will be utilized to assist in guiding the excavation to appropriate boundaries. Once the field screening results indicate that the site cleanup criteria appear to have been achieved, then cleanup confirmation soil samples will be collected for laboratory analysis to verify the attainment of the site closure criteria.

Excavation Base Cleanup Confirmation Soil Samples

To confirm that the excavation base has been completed to appropriate boundaries, discrete grab soil samples are proposed to be collected from the base of each section of the excavated area. A *Proposed Sample Location Map* is attached which depicts the proposed grab cleanup confirmation soil sample locations.

Excavation Side Wall Cleanup Confirmation Soil Samples

To confirm attainment of the site cleanup criteria in the excavation side walls, the collection of five-part composite cleanup confirmation soil samples are proposed. As illustrated in the attached *Proposed Confirmation Sample Location Map*, the excavation activities will be completed in four sections of varying depths (2', 4', 5' and 12' bgs). To evaluate the side walls of the proposed 2', 4' and 5'-deep excavation areas, the cleanup confirmation soil samples will be collected from the side walls in accordance with NMAC 19.15.29.12(D), as five-part composite samples with each sample representing no more than 200 square feet. The samples will be collected from various locations and depths along the excavation side walls.

To confirm attainment of the site cleanup criteria in the side walls of the proposed 12'-deep excavation area, side wall samples are proposed to be collected using two methods. The first method will confirm that the surface to four-foot-deep interval of the side walls has been brought into attainment of the Restoration, Reclamation and Re-Vegetation criteria. Five-part composite soil samples will be collected from the surface to four-foot bgs depth interval in accordance with NMAC 19.15.29.12(D) with each sample representing no more than 200 square feet. The second proposed side wall cleanup confirmation sampling method will confirm that the 4'-12' bgs portion of the excavation side walls are within the proposed Table 1 19.15.29.12 NMAC (groundwater 51'-100' feet) criteria. The proposed cleanup confirmation sampling methodology for this portion of the side walls will include the collection of one five-part composite sample from the 4'-12' bgs depth interval of each excavation side wall.

All cleanup confirmation soil samples will be collected using standard QA/QC procedures, placed into laboratory-supplied containers, and will be immediately placed into a sample shuttle containing ice. The samples will be transported to an approved laboratory for analysis of TPH

using EPA Method 8015; BTEX using EPA Method 8021; and, total chloride using EPA Method 300.

3.3 Excavation Backfill and Re-Vegetation

Upon attainment of the 19.15.29.13 NMAC Reclamation Criteria, the excavated area will be backfilled with clean fill material. Due to the location of the proposed excavation area on an active well pad, the surface of the remediated area will be completed with caliche pad material.

3.4 Remediation Schedule

Upon approval of the proposed remediation plan, all field activities will be scheduled as soon as reasonably possible. It is anticipated that the soil removal operations and cleanup confirmation soil sampling activities will be completed within 90 days of initiation. Please note that due to the Site now being operated by Opal, coordination with, and approval from, Opal will be necessary. If for any reason the start of remedial activities is delayed by this coordination, the NMOCD will be updated accordingly. Appropriate notification to the NMOCD will also be provided prior to the performance of the cleanup confirmation soil sampling activities.

5.0 SITE CLOSURE

Upon completion of the remedial and backfilling activities at the Site, a C-141 Closure Report will be submitted to the NMOCD, and site closure will be requested. The Closure Report will be completed in accordance with the closure reporting criteria detailed in NMAC 19.15.29.12(E).

FORMS C-141

Original Release Notification Section

Original Site Assessment/Characterization Section

Updated Site Assessment/Characterization Section

Remediation Plan Section

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	nAPP2117330665
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party EOG Resources, Inc.	OGRID 7377
Contact Name Chase Settle	Contact Telephone 575-748-1471
Contact email Chase_Settle@eogresources.com	Incident # (assigned by OCD)
Contact mailing address 104 S. 4th Street, Artesia, NM 88210	

Location of Release Source

Latitude 33.68760 Longitude -103.34329
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Crossroads AFX Federal #1	Site Type Battery
Date Release Discovered 06/21/2021	API# (if applicable) 30-041-20841

Unit Letter	Section	Township	Range	County
P	22	7S	35E	Roosevelt

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

Nature and Volume of Release

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

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) Unknown	Volume Recovered (bbls) 0
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)


Cause of Release A third party environmental consultant found stained soils around the oil tank from an unknown release. The consultant firm estimates that the volume released is above the reportable threshold.

Incident ID	NAPP2117330665
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Chase Settle</u>	Title: <u>Rep Safety & Environmental Sr</u>
Signature: <u></u>	Date: <u>06/22/2021</u>
email: <u>Chase_Settle@eogresources.com</u>	Telephone: <u>575-748-1471</u>
<u>OCD Only</u>	
Received by: <u>Ramona Marcus</u>	Date: <u>6/28/2021</u>

Incident ID	nAPP2117330665
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? **The depth to groundwater still has to be confirmed via the installation of a temporary monitoring well. On 12/14/2021 EOG requested an extension for this Site Assessment/Characterization Plan since there was no driller availability until the week of 1/10/2022. The NMOCD denied this request on 12/22/2021 and as such this plan has been submitted based upon the assumption that the depth to groundwater is between 51'-100'. EOG will be proceeding with the installation of the temporary monitor well in January 2022 in order to confirm the site-specific depth to groundwater.*

51'-100'*
(ft bgs)

Did this release impact groundwater or surface water?

☐ Yes ☒ No

Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?

☐ Yes ☒ No

Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?

☐ Yes ☒ No

Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?

☐ Yes ☒ No

Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?

☐ Yes ☒ No

Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?

☐ Yes ☒ No

Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?

☐ Yes ☒ No

Are the lateral extents of the release within 300 feet of a wetland?

☐ Yes ☒ No

Are the lateral extents of the release overlying a subsurface mine?

☐ Yes ☒ No

Are the lateral extents of the release overlying an unstable area such as karst geology?

☐ Yes ☒ No

Are the lateral extents of the release within a 100-year floodplain?

☐ Yes ☒ No

Did the release impact areas **not** on an exploration, development, production, or storage site?

☐ Yes ☒ No

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

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

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

***This data will be garnered through the installation of a temporary monitoring well at the subject site in January 2022.**

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2117330665
District RP	
Facility ID	
Application ID	

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.

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: Chase Settle Title: Rep Safety & Environmental Sr

Signature: Chase Settle Date: 01/14/2022

email: Chase_Settle@eogresources.com Telephone: 575-748-1471

OCD Only

Received by: _____ Date: _____

Incident ID	nAPP2117330665
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? **The depth to groundwater has been confirmed to be greater than 55' bgs via a soil boring/temporary monitor well completed in February 2022.*

51'-100'*
(ft bgs)

Did this release impact groundwater or surface water?

☐ Yes ☒ No

Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?

☐ Yes ☒ No

Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?

☐ Yes ☒ No

Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?

☐ Yes ☒ No

Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?

☐ Yes ☒ No

Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?

☐ Yes ☒ No

Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?

☐ Yes ☒ No

Are the lateral extents of the release within 300 feet of a wetland?

☐ Yes ☒ No

Are the lateral extents of the release overlying a subsurface mine?

☐ Yes ☒ No

Are the lateral extents of the release overlying an unstable area such as karst geology?

☐ Yes ☒ No

Are the lateral extents of the release within a 100-year floodplain?

☐ Yes ☒ No

Did the release impact areas **not** on an exploration, development, production, or storage site?

☐ Yes ☒ No

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

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

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

Oil Conservation Division

Incident ID	nAPP2117330665
District RP	
Facility ID	
Application ID	

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.

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: Chase Settle Title: Rep Safety & Environmental Sr

Signature: Chase Settle Date: 03/02/2022

email: Chase_Settle@eogresources.com Telephone: 575-748-1471

OCD Only

Received by: _____ Date: _____

Incident ID	nAPP2117330665
District RP	
Facility ID	
Application ID	

Remediation Plan

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

- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Chase Settle Title: Rep Safety & Environmental Sr
Signature: Chase Settle Date: 03/02/2022
email: Chase_Settle@eogresources.com Telephone: 575-748-1471

OCD Only

Received by: Chad Hensley Date: 03/28/2022

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

Signature: Chad Hensley Date: 03/28/2022

FIGURES

Topographic Map

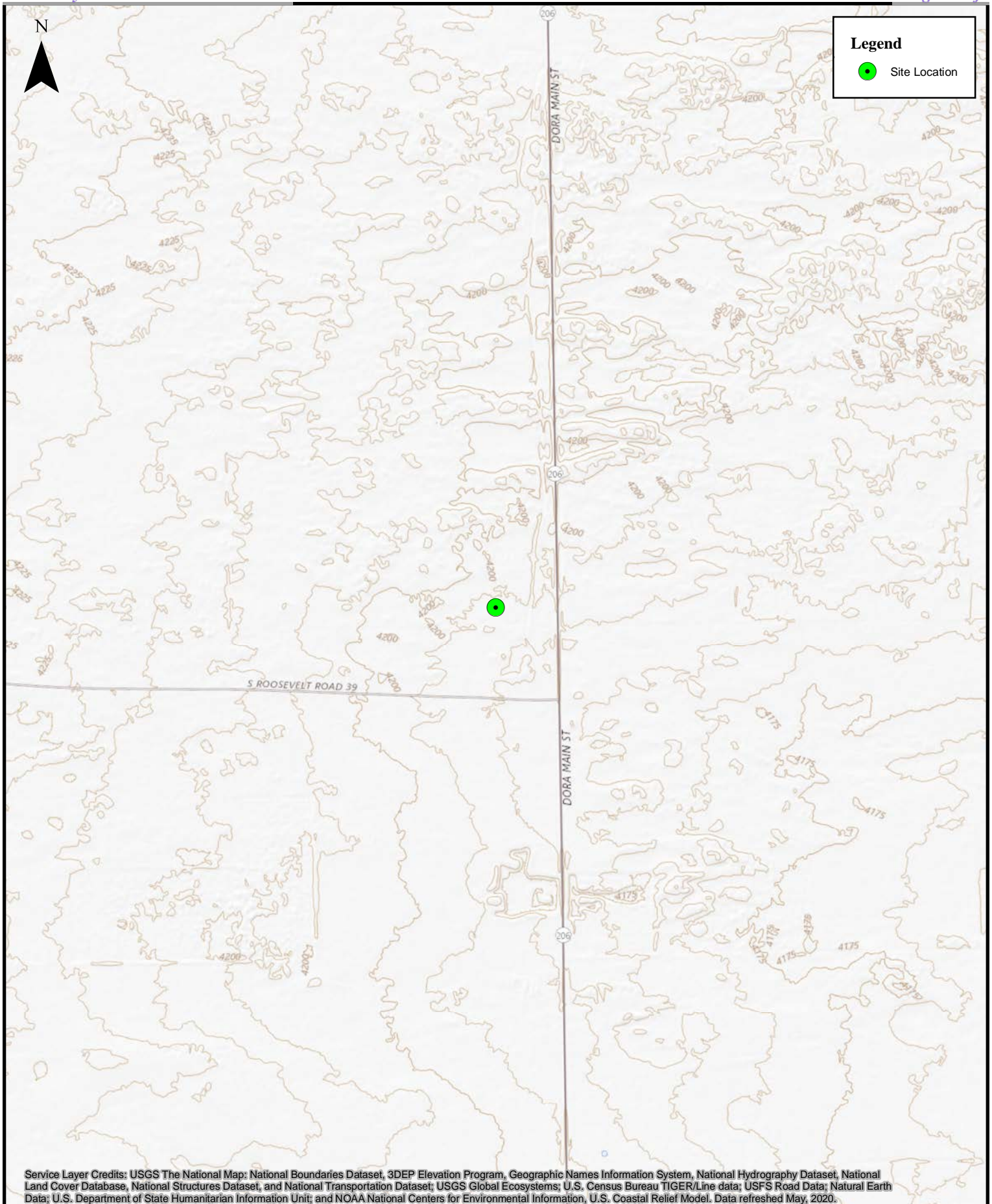
Area Map

Soil Boring Location Map

Assessment Sample Location Map

Proposed Excavation Area Map

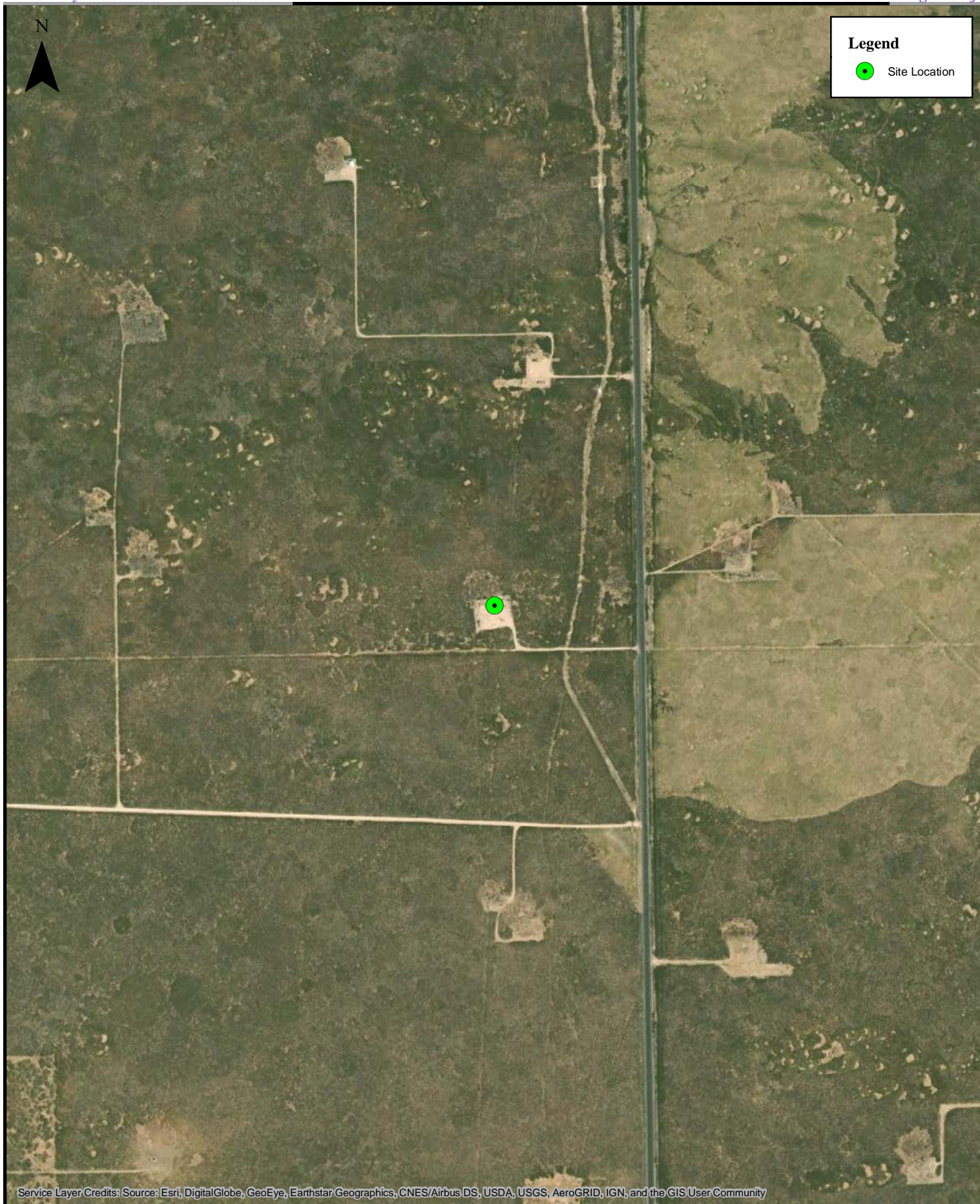
Proposed Confirmation Sample Location Map



0 600 1,200 2,400 3,600 4,800 Feet

1:24,000

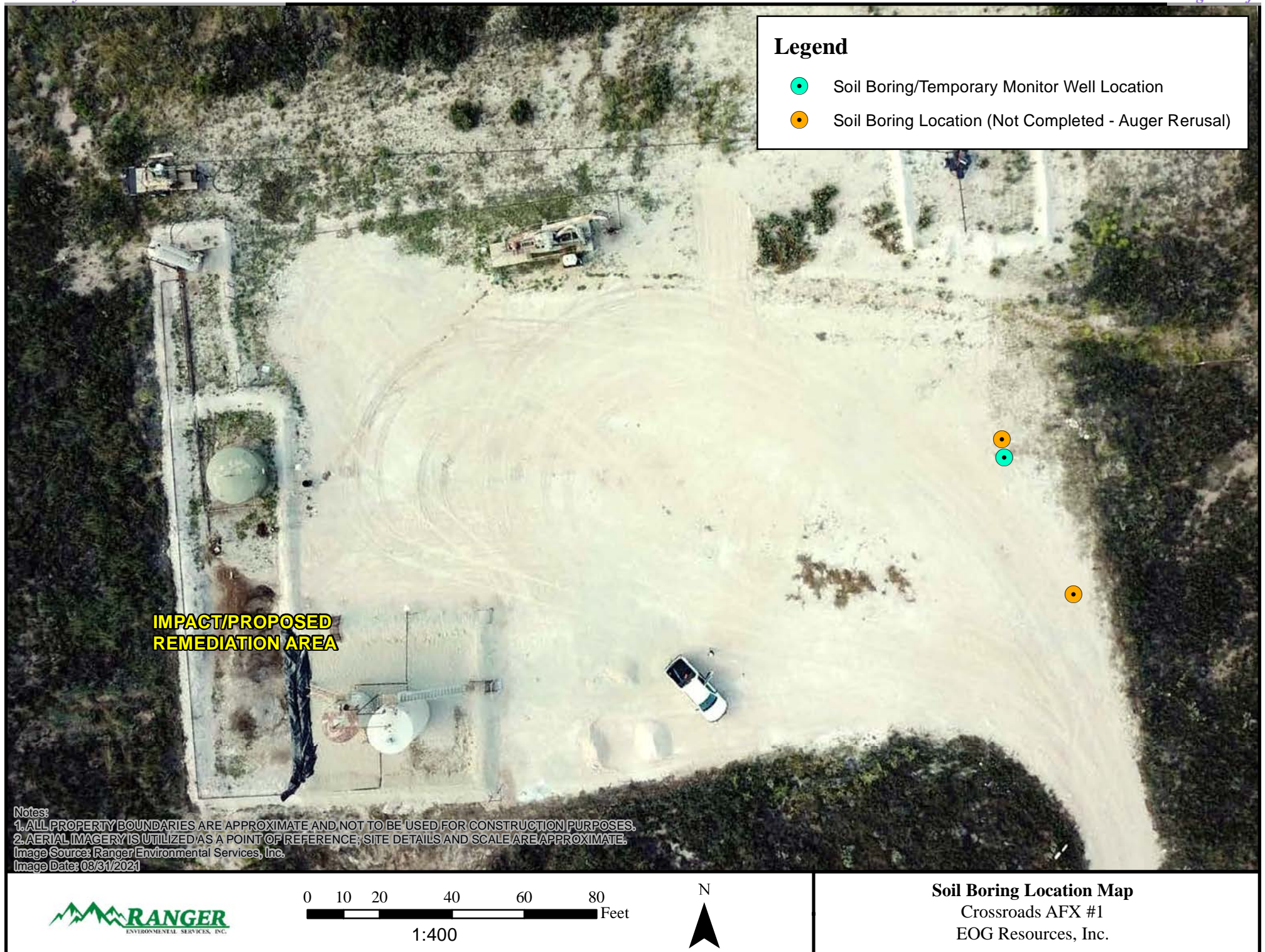
Topographic Map
Crossroads AFX #1
EOG Resources, Inc.

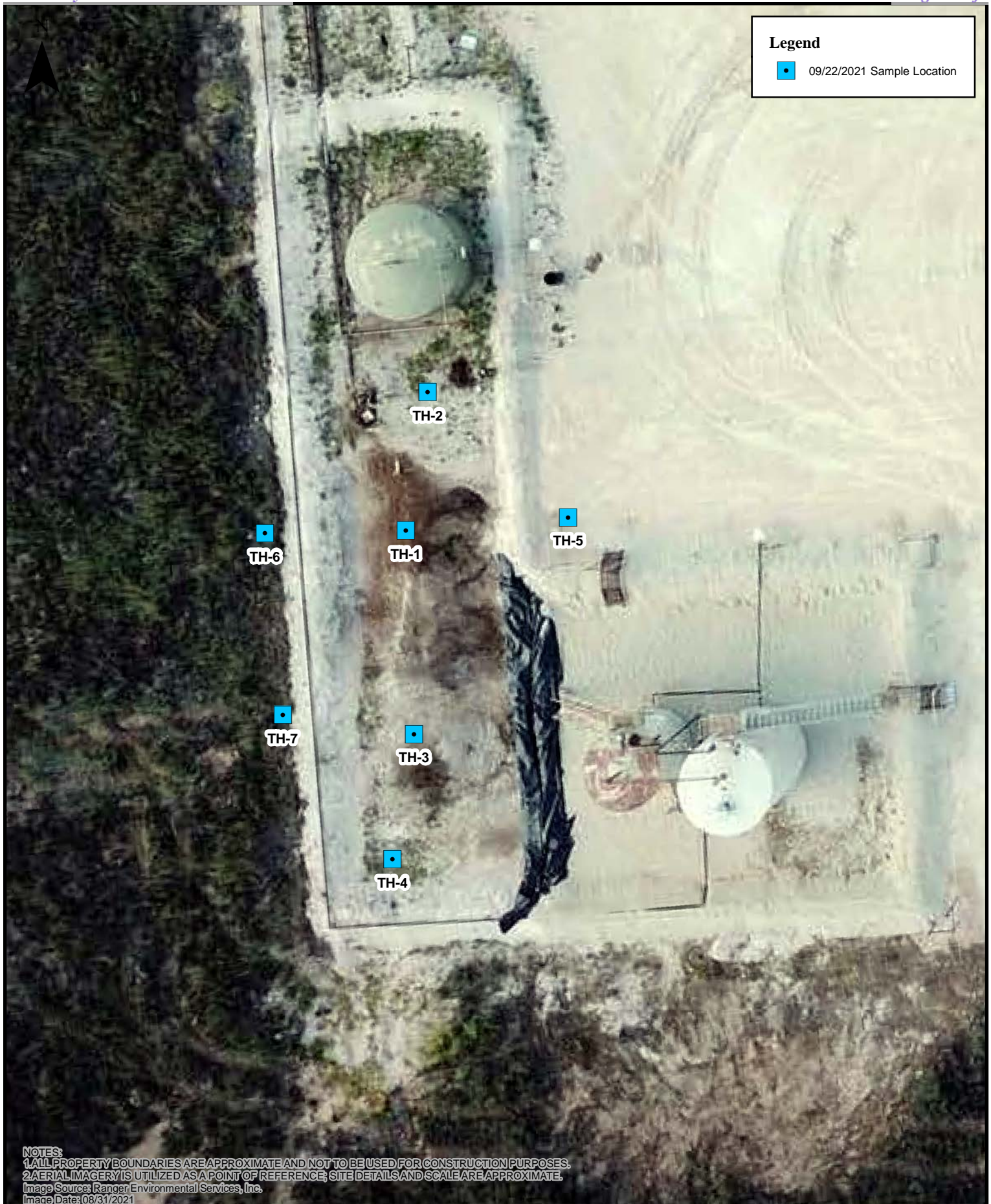


0 250 500 1,000 1,500 2,000 Feet

1:10,000

Area Map
Crossroads AFX #1
EOG Resources, Inc.





Assessment Sample Location Map
 Crossroads AFX #1
 EOG Resources, Inc.



0 5 10 20 30 40 Feet

1:200

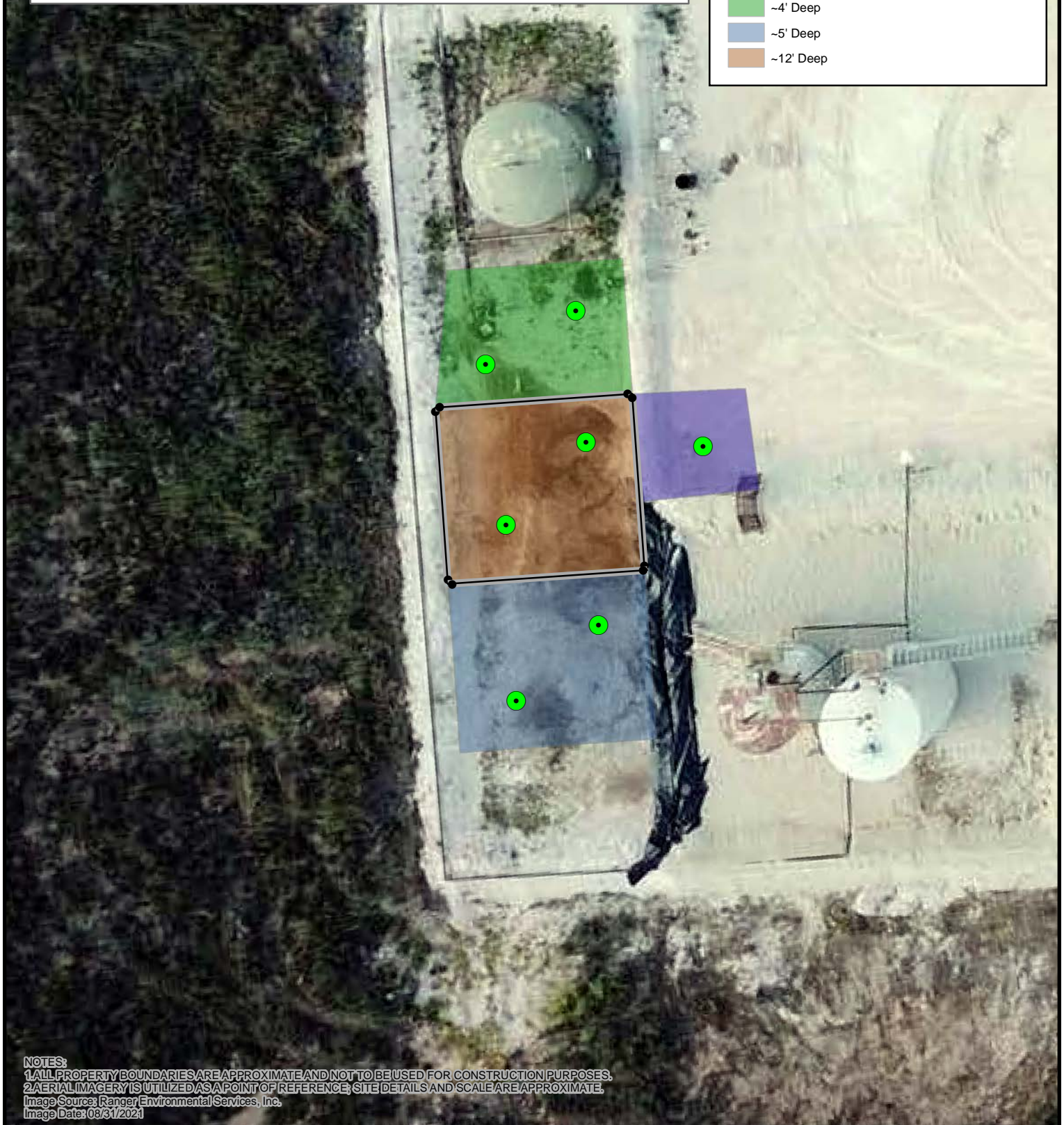
Proposed Excavation Area Map

Crossroads AFX #1
EOG Resources, Inc.

*Excavation side wall samples from the two foot, four foot and five foot excavation areas will be collected in accordance with NMAC 19.15.29.12(D), as five-part composite samples with each sample representing no more than 200 square feet. Samples from the 0'-4' depth interval of the 12 foot deep excavation area will also be collected in accordance with NMAC 19.15.29.12(D), as five-part composite samples with each sample representing no more than 200 square feet.

Legend

- Proposed Base Area Grab Sample Location
 - Proposed Composite Sample Area (4'-12' bgs)
- Proposed Excavation Area**
- ~2' Deep
 - ~4' Deep
 - ~5' Deep
 - ~12' Deep



NOTES:

1. ALL PROPERTY BOUNDARIES ARE APPROXIMATE AND NOT TO BE USED FOR CONSTRUCTION PURPOSES.
2. AERIAL IMAGERY IS UTILIZED AS A POINT OF REFERENCE; SITE DETAILS AND SCALE ARE APPROXIMATE.

Image Source: Ranger Environmental Services, Inc.
Image Date: 08/31/2021



0 5 10 20 30 40
Feet

1:200

Proposed Confirmation Sample Location Map

Crossroads AFX #1
EOG Resources, Inc.

TABLES

Soil BTEX (EPA 8260), TPH (EPA 8015) & Chloride (EPA 300)
Analytical Data

SOIL BTEX (EPA 8021), TPH (SW 8015) & CHLORIDE (EPA 300) ANALYTICAL DATA EOG RESOURCES, INC. CROSSROADS AFX FEDERAL #1 All values presented in parts per million (mg/Kg)													
SAMPLE ID	DATE	DEPTH (FT)	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C6-C10	TPH DRO C10-C28	TPH MRO C28-C36	TPH (GRO+DRO)	TPH (GRO+DRO+MRO)	CHLORIDE
September 22, 2021 Soil Samples													
TH-1/5'	9/22/2021	5'	6.3	35	21	58	120.3	2,000	1,900	3,300	3,900	7,200	<60
TH-1/9'	9/22/2021	9'	4.6	21	14	38	77.6	1,600	5,300	2,800	6,900	9,700	<60
TH-1/17'	9/22/2021	17'	<0.12	<0.23	<0.23	<0.47	<0.47	<23	87	86	87	173	<60
TH-1/19'	9/22/2021	19'	<0.12	<0.24	<0.24	<0.48	<0.48	<24	74	55	74	129	<60
TH-2/1'	9/22/2021	1'	<0.024	<0.049	<0.049	<0.098	<0.10	<4.9	99	340	99	439	<59
TH-2/3'	9/22/2021	3'	<0.024	<0.048	<0.048	<0.095	<0.10	<4.8	160	530	160	690	<60
TH-2/6'	9/22/2021	6'	<0.024	<0.048	<0.048	<0.096	<0.10	<4.8	90	350	90	440	<60
TH-3/0'	9/22/2021	0'	1.1	8.1	3.7	38	50.9	1,800	11,000	7,800	12,800	20,600	210
TH-3/4'	9/22/2021	4'	<0.025	<0.049	<0.049	<0.099	<0.10	<4.9	1,000	1,700	1,000	2,800	470
TH-3/6'	9/22/2021	6'	<0.024	<0.047	<0.047	<0.094	<0.09	<4.7	<8.8	<44	<8.8	<44	680
TH-4/1'	9/22/2021	1'	<0.024	<0.048	<0.048	<0.096	<0.10	<4.8	<7.9	<40	<7.9	<40	<60
TH-4/4'	9/22/2021	4'	<0.024	<0.048	<0.048	<0.096	<0.10	<4.8	<9.7	<49	<9.7	<49	<60
TH-4/6'	9/22/2021	6'	<0.025	<0.049	<0.049	<0.098	<0.10	<4.9	<10	<50	<10	<50	<60
TH-5/1'	9/22/2021	1'	<0.023	<0.047	<0.047	<0.093	<0.09	<4.7	790	2,000	790	2,790	<60
TH-5/4'	9/22/2021	4'	<0.024	<0.048	<0.048	<0.095	<0.10	<4.8	<9.0	<45	<9.0	<45	<60
TH-5/6'	9/22/2021	6'	<0.024	<0.048	<0.048	<0.097	<0.10	<4.8	<9.3	<47	<9.3	<47	<60
TH-6/1'	9/22/2021	1'	<0.024	<0.047	<0.047	<0.094	<0.09	<4.7	<9.4	<47	<9.4	<47	<59
TH-6/4'	9/22/2021	4'	<0.023	<0.047	<0.047	<0.094	<0.09	<4.7	<9.7	<48	<9.7	<48	<60
TH-6/6'	9/22/2021	6'	<0.024	<0.048	<0.048	<0.097	<0.10	<4.8	<8.8	<44	<8.8	<44	<59
TH-7/1'	9/22/2021	1'	<0.023	<0.047	<0.047	<0.093	<0.09	<4.7	<9.7	<48	<9.7	<48	<61
TH-7/4'	9/22/2021	4'	<0.024	<0.047	<0.047	<0.095	<0.09	<4.7	<8.2	<41	<8.2	<41	<60
TH-7/6'	9/22/2021	6'	<0.025	<0.049	<0.049	<0.099	<0.10	<4.9	<9.9	<49	<9.9	<49	<60
19.15.29.12 NMAC Table 1 Closure Criteria for Soils Impacted by a Release (GW 51'-100')			10	---	---	---	50	---	---	---	1,000	2,500	10,000
19.15.29.13 NMAC Reclamation Criteria (0'-4' Soils Only)			10 ³	---	---	---	50 ³	---	---	---	---	100 ³	600
Notes:													
1. Results exceeding the Table 1 Closure Criteria are presented in bold type and are highlighted yellow.													
2. Results exceeding the NMAC Restoration, Reclamation and re-vegetation chloride concentration requirements are presented in bold red type.													
3. Value derived from the State of New Mexico Energy, Minerals and Natural Resources Department document Procedures for the Implementation of the Spill Rule (19.15.29 NMAC) dated September 6, 2019.													

ATTACHMENT 1

SOIL BORING LOG



Ranger Environmental Services, Inc.
P.O. Box 201179
Austin, Texas 78720
Telephone: 512-335-1785
Fax: 512-335-0527

BORING NUMBER B-3/TW-1

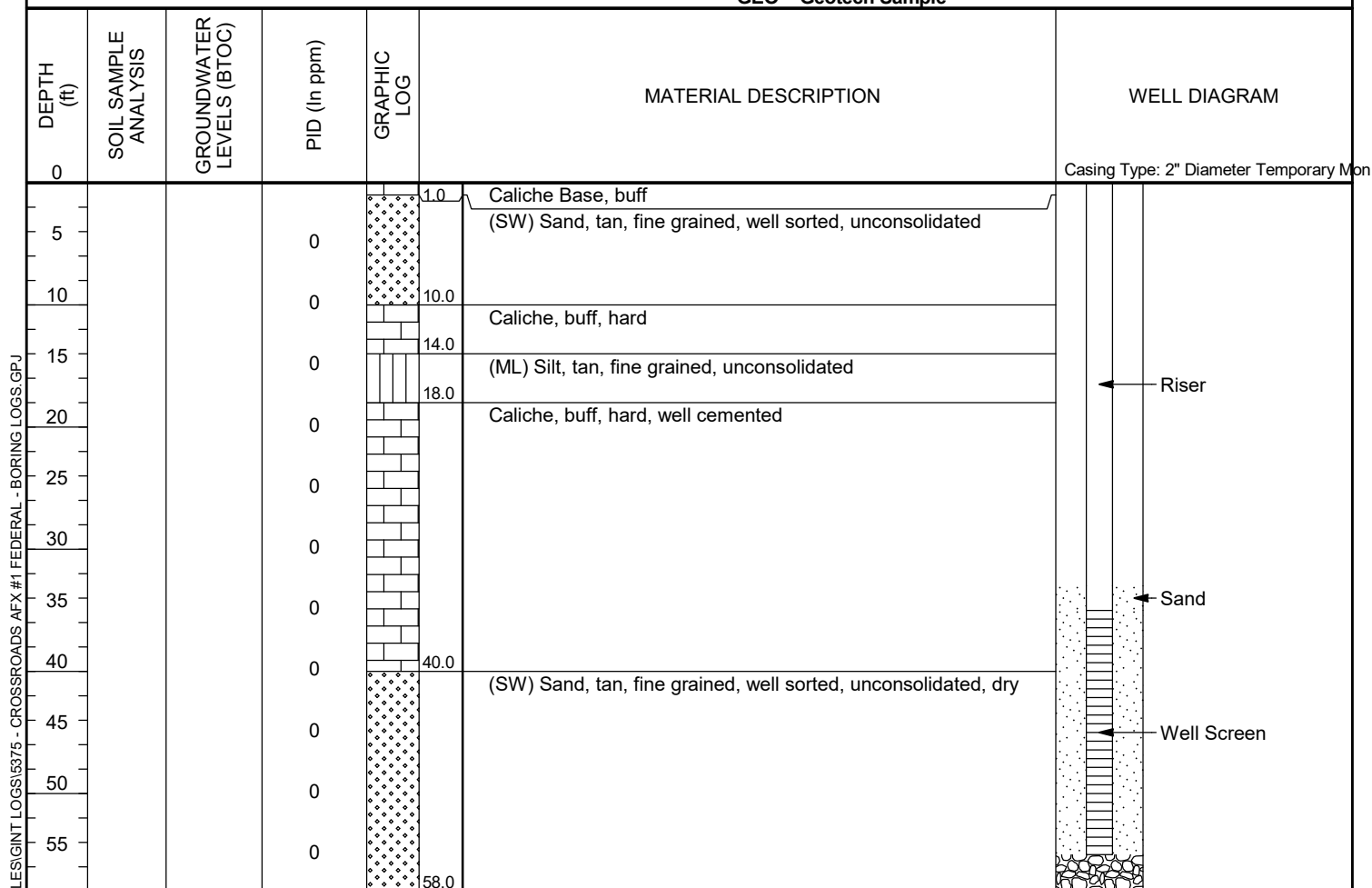
PAGE 1 OF 1

CLIENT EOG Resources, Inc.PROJECT NAME Crossroads AFX #1 FederalPROJECT NUMBER 5375PROJECT LOCATION Roosevelt County, New MexicoDATE STARTED 2/22/22COMPLETED 2/22/22DRILLING CONTRACTOR Talon, LPE**GROUND WATER LEVELS:**AT TIME OF DRILLING --- Not EncounteredDRILLING METHOD Air RotaryAFTER DRILLING --- Not Present (02/25/2022)LOGGED BY Keith CopelandCHECKED BY Will Kierdorf

BTOC = Below Top Of Casing

GB = Grab Sample

GEO = Geotech Sample

GPS COORDINATES 33.6873995°, -103.3429298°

*Note: 72 hours after installation, on February 25, 2022, Ranger personnel utilized a Heron Instruments, Inc. electronic water level meter to evaluate the temporary 2" diameter monitor well for the presence or absence of groundwater. Groundwater was not encountered during the February 25, 2022, assessment activities.



[Signature]

02/28/2022

ENVIRONMENTAL BH - GINT STD US.GDT - 2/28/22 13:12 - R:\DRAFTING FILES\GINT LOGS\5375 - CROSSROADS AFX #1 FEDERAL - BORING LOGS.GPJ

ATTACHMENT 2

PHOTOGRAPHIC DOCUMENTATION



PHOTOGRAPH NO. 1 – A general view of the hollow stem auger soil boring activities on January 25, 2022. The view is towards the northeast.

(Approximate GPS: 33.687298, -103.343036)



PHOTOGRAPH NO. 2 – A view of the air rotary soil boring activities on February 22, 2022. The view is towards the northeast.

(Approximate GPS: 33.687314, -103.342979)



PHOTOGRAPH NO. 3 – A view of the soil boring fitted with PVC casing prior to gauging and plugging and abandonment.

(Approximate GPS: 33.687394, -103.342938)

District I

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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 85742

CONDITIONS

Operator: EOG RESOURCES INC P.O. Box 2267 Midland, TX 79702	OGRID: 7377
	Action Number: 85742
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
chensley	Closure report due 05/28/2022	3/28/2022