



## **SITE CHARACTERIZATION AND REMEDIATION WORK PLAN**

**STARK BG NO. 2 BATTERY (2RP-4658) & EAGLE CREEK GAS PIPELINE  
AREA (2RP-4659)  
SECTION 25, TOWNSHIP 18S, RANGE 25E  
EDDY COUNTY, NEW MEXICO  
32.724638, -104.443019 & 32.724227, -104.443035  
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**

**SEPTEMBER 15, 2022**

A handwritten signature in blue ink, appearing to be "M. Cook", written over a horizontal line.

**Mr. Max Cook, CAPM (TX)  
Senior Project Manager**

A handwritten signature in blue ink, appearing to be "W. Kierdorf", written over a horizontal line.

**Mr. William Kierdorf, REM  
Project Manager**

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### **ATTACHMENT 1 – C-141 FORMS**

2RP-4658 – Stark BG No. 2 Battery

2RP-4659 – Eagle Creek Gas Pipeline Area

### **ATTACHMENT 2 – FIGURES**

Topographic Map

Area Map

Water Well Location Map

National Wetland Inventory Map

FEMA Floodplain Map

Karst Topography Map

Stark BG #2 Tank Battery Site Map

Pipeline Area – Chloride Concentration Map (0'-1')

Pipeline Area – Chloride Concentration Map (2')

Pipeline Area – Chloride Concentration Map (3')

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Stark BG #2 – Proposed Soil Excavation Map

Proposed Pipeline Area Soil Excavation Map

### **ATTACHMENT 3 – DEPTH-TO-GROUNDWATER DATA**

### **ATTACHMENT 4 – ANALYTICAL TABLES**

### **ATTACHMENT 5 – April 2, 2018 EMC “SUBSURFACE GEOPHYSICAL SURVEY” REPORT**

### **ATTACHMENT 6 – BORING LOGS**



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32.724638, -104.443019 & 32.724227, -104.443035  
RANGER REFERENCE NO. 5375**

## **1.0 SITE LOCATION AND BACKGROUND**

The subject sites are adjacent to each other and located approximately 8.7 miles southwest of Artesia, within Eddy County, New Mexico. The former Stark BG No. 2 Battery (Tank Battery Area) is located at GPS coordinates 32.724638, -104.443019 and the Eagle Creek Gas Pipeline area (Pipeline Area) is located at GPS coordinates 32.724227, -104.443035.

The subject tank battery has been abandoned and relocated. During initial reclamation activities in the Tank Battery Area, impacted soils were encountered. Subsequent sampling activities conducted in the Tank Battery Area documented the presence of soil impacts from an unknown/historical release. Chloride impacts to soil were also documented south of the Tank Battery Area in the Pipeline Area. It is believed that the chloride impacts at this location are likely due to a historic PVC pipeline leak; however, release details are unknown.

Upon discovery of the soil impacts, EOG Resources, Inc. (EOG) reported the release details to the New Mexico Oil Conservation Division (NMOCD) on March 13, 2018. As summarized below, EOG conducted extensive soil sampling activities in order to delineate the extent of the impacts. EOG subsequently retained Ranger to complete the horizontal and vertical delineation activities and to assist in the site characterization and remediation planning. Only minor soil TPH impacts were documented in the Tank Battery Area. The remainder of the applicable closure criteria exceedances in soil are related to chloride impacts. Vertical delineation activities conducted at the site documented that groundwater was not affected or threatened by the release.

Initial soil excavation activities were conducted within the former Tank Battery Area by representatives of EOG in 2017 between the months of July and September. The attached "Stark BG #2 Tank Battery Site Map" illustrates the approximate boundaries of this excavated area. It should be noted, the 2017 excavation activities were conducted prior to the introduction of the April 2018 NMOCD rule amendments; therefore, the 2017 soil removal activities were conducted in order to achieve the applicable soil TPH Recommended Remedial Action Level (RRAL) of 5,000 mg/Kg. The 2017 excavation activities removed all soils which had been documented to exceed the TPH RRAL of 5,000 mg/Kg. Upon comparing the sample results to the current TPH Closure Criteria of 2,500 mg/Kg (GRO+DRO+MRO), the samples were documented to be below the current criteria. However, within the former Tank Battery Area, one sample location was noted to be in exceedance of the current 1,000 mg/Kg TPH GRO+DRO closure criteria. Overall, based on the cumulative site soil analytical data, the primary constituent of concern at the site is chloride.

A Form C-141 for both sites and associated documentation are included in Attachment 1. A topographic vicinity map documenting the location of the site is included in Attachment 2. Photographs of the site are included in Attachment 7.

## **2.0 SITE CHARACTERIZATION**

### **2.1 Depth-to-Groundwater**

To determine the depth-to-groundwater in the vicinity of the sites, data available from the New Mexico Office of the State Engineer (NMOSE) was reviewed. Based upon the reviewed information, depth-to-groundwater in the area of the sites is greater than 100 feet below ground surface (bgs).

Copies of the reviewed depth-to-groundwater information is available in Attachment 3.

### **2.2 Wellhead Protection Area**

Based upon the reviewed NMOSE and aerial imagery information, Ranger identified two potential water sources within a half-mile of the sites. The location and approximate distance to the sources are listed below:

<u>ID</u>	<u>Distance from Site</u>
USGS 324331104264901	~1,400 feet northwest
Rio Peñasco	~1,220 feet south

Upon review of the National Wetland Inventory, the Site is not within 300 feet of a mapped feature.

The site and impacted areas are outside of the FMEA 100-year flood plain and fall in the area of minimal flood hazard.

The Site is noted to be in an area of "Low Karst" probability.

### **2.3 Distance to Nearest Significant Watercourse**

Based upon available online resources, the nearest significant watercourse within a half-mile of the site was determined to be Rio Peñasco, a perennial stream, located approximately 1,220 feet to the south.

### **2.4 Proposed Closure Criteria**

Based upon the site characterization details, Ranger proposes the areas be remediated to Table 1 19.15.29.12 NMAC (groundwater >100 feet) criteria. Additionally, as the Tank Battery Area and Pipeline Area are no longer active, the remediation activities will be conducted to bring the areas into compliance with the Restoration, Reclamation and Re-vegetation criteria detailed in 19.15.29.13 NMAC. The proposed closure criteria is 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 > 100')	20,000	2,500	1,000	50	10
19.15.29.13 NMAC Restoration, Reclamation and Re-Vegetation (Soils 0'-4')	600	100 <sup>1</sup>	---	50 <sup>1</sup>	10 <sup>1</sup>

*All Values Presented In Parts Per Million (mg/Kg)*

1. 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 SITE DELINEATION STATUS

#### 3.1 Soil Sampling Activities (July 2017 - December 2017)

Between July 2017 and December 2017, a total of 60 soil samples were collected for analysis from the Tank Battery Area and 322 total soil samples were collected for analysis from the Pipeline Area. The soil samples were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX), total petroleum hydrocarbons (TPH) and/or chloride.

- At both the Pipeline Area and Tank Battery Area, soil chloride concentrations in excess of 600 mg/Kg were documented.
- In the Pipeline Area, none of the soil samples were found to contain detectable BTEX concentrations and all TPH concentrations were documented to be below the applicable Table 1 Closure Criteria.
- In the former Tank Battery Area, none of the soil samples were found to exceed the Table 1 Closure Criteria for BTEX.
- As previously indicated, initial soil removal operations in the former Tank Battery Area were completed prior to the April 2018 NMOCD rule amendments. At the time of the assessment and subsequent soil removal operations, only four soil samples (S-5.ESW, S1.0, S2.0 and S5.0) were found to exceed the TPH RRAL of 5,000 mg/Kg. As previously indicated, the soils found to exceed the TPH RRALs were excavated and disposed of. Upon review of the sample results, one sample collected during the soil removal process was found to be in exceedance of the current 1,000 mg/Kg (GRO+DRO) Closure Criteria.

Following the completion of the December 2017 soil sampling activities, it was determined that the vertical extent of the soil chloride impacts had not yet been delineated to 600 mg/Kg. At the

Tank Battery Area, elevated soil chloride concentrations (>600 mg/Kg) had been documented to a depth of 22 feet bgs. In the Pipeline Area, elevated soil chloride concentrations (>600 mg/Kg) had been documented to a depth of 20 feet bgs. The horizontal extent of the soil chloride impacts had also not been delineated to 600 mg/Kg.

### **3.2 Electromagnetic Survey (March 2018)**

Prior to conducting any further drilling and sampling activities, on March 21, 2018, a site electromagnetic (EM) survey was conducted by Earth Measurement Corp. (EMC) to assist in the delineation of the chloride-impacted soils. Two EM instruments were used, a Geonics Electromagnetic Meter Model EM-34 and Model EM-38.

The Geonics EM-34 provides a means of measuring the electrical conductivity of subsurface soil, rock and groundwater and has a variable range-of-depth of as much as 200 feet in certain conditions. This instrument was utilized in the release source area to assist in the determination of the vertical extent of the chloride-impacted soils.

The Geonics EM-38 measures terrain conductivity and has an effective depth-of-exploration of approximately five feet below ground surface (bgs) the survey with this instrument focused on the delineation of the horizontal extent of the chloride-impacted soils in the upper four feet (i.e. – those soils which will ultimately require remediation). EMC utilized the EM-38 in both a vertical and horizontal orientation. The vertical orientation produces a maximum depth of investigation of approximately five feet, while the horizontal orientation surveys to approximately 2.5 feet.

During the site EM survey, Differentially Corrected Global Positioning (DGPS) equipment was utilized to position all the EM data collected for the project. After the data was acquired, geotechnical software was utilized to process the EM information utilizing a proprietary software package and the information was contoured using Golden Software's Surfer 12 contouring and mapping program. An "Interpretive Map" was prepared to illustrate the results of the survey. The attached aerial site maps illustrate the areas of elevated chlorides from the EM "Interpretive Map."

For the shallow data from the EM-38 instrument, the Interpretive Map shows the data at two different depths. The horizontal orientation (0-2.5 feet) is shown on the Interpretive Map by a red-hatched pattern and the vertical orientation data (0-5 feet) is indicated on the Interpretive Map by a blue-hatched pattern. The data indicates a change across the survey area from background values established offsite in a presumed non-impacted area. It should be noted that the data values are averages for the entire soil column from the surface to either 2.5 feet or the surface to five feet. The EM-34 data indicate an average for the entire soil column from the surface to an estimated depth of investigation of 100 feet.

Included in Attachment 5 is a copy of the April 2, 2018 EMC "Subsurface Geophysical Survey" report. As illustrated on the EM Interpretive Map contained in this report, a total area (Tank Battery Area and Pipeline Area) measuring approximately 37,400 square feet was interpreted as containing elevated chloride concentrations to depths of either 2.5 feet and/or five feet bgs. In the Tank Battery Area, the EM-34 data documented that the western portion of the Tank Battery Area contained the overall highest conductivity readings at depth. In the Pipeline Area, the overall highest conductivity readings at depth were found along the pipeline in the area south of the Tank Battery Area, roughly in the area of the S-26 to S-34 soil sample locations.

### **3.3 Soil Investigation Activities (April 2018)**

Based upon the results of the EM survey, vertical delineation activities were conducted in April 2018 to attempt to delineate the vertical extent of the soil chloride impacts to a concentration of 600 mg/Kg.

Two vertical delineation borings (S-5(B) and S-26(B)) were installed in the Pipeline Area at the approximate S-5 and S-26 sampling locations. These vertical delineation borings were installed due to previously elevated chloride concentrations (sample S-5 had been documented to contain 5,120 mg/Kg chloride at a depth of 20 feet bgs and sample S-26 had been documented to contain up to 14,400 mg/Kg chloride). Soil boring S-5(B) was installed to a depth of 120 feet bgs. A soil sample was collected for laboratory analysis of chlorides at the depth of 105 feet bgs in this boring where it appeared that non-impacted soils had been encountered based on field observations. Soil boring S-26(B) was installed to a depth of 55 feet. A soil sample was collected for laboratory analysis of chlorides at the depth of 45 feet bgs in this boring where it appeared that non-impacted soils had been encountered based on field observations. Upon receipt of the analytical results, the vertical extent of chloride impacts in S-5(B) and S-26(B) were documented to be below 600 mg/Kg. Sample S-5(B)-105' was found to contain a chloride concentration of 400 mg/Kg. Sample S-26(B)-45' was found to contain a chloride concentration of 320 mg/Kg. These results documented the vertical extent of the chloride impacts to be well above the underlying groundwater (documented at approximately 191 feet by the adjacent water well USGS 324331104264901).

One soil boring (S-2SW(B)) was installed in the western portion of the Tank Battery Area at the approximate S-2 sample location. This vertical delineation boring was installed at this location since the EM survey indicated that this general area of the Tank Battery Area had the overall highest chloride concentrations with depth and since the S-2 sample location had been documented to contain the highest Tank Battery Area soil chloride concentrations at depth (6,560 mg/Kg chloride at a depth of 22 feet bgs). Soil boring S-2SW(B) was installed to a depth of 80 feet where it appeared that non-impacted soils had been encountered based on field observations. Soil samples from depths of 70', 75' and 80' were collected and submitted for laboratory analysis of chloride. The vertical extent of the chloride impacts were not delineated at the soil boring S-2SW(B) location. The three samples collected at depths of 70', 75' and 80' bgs were documented to contain chloride concentrations ranging from 1,520 mg/Kg to 2,200 mg/kg. Thus, it was determined that additional vertical delineation activities would be required in this area.

### **3.4 Soil Investigation Activities (June 2018)**

In June 2018, additional soil chloride vertical and horizontal delineation activities were conducted at the subject sites. Soil boring S-2SW(C) was installed offset to former boring S-2SW(B) in order to further delineate the vertical extent of chloride impacts at this location. This boring was installed to a depth of 150 feet bgs and soil samples were collected for potential laboratory analysis on 5-foot intervals beginning at 85 feet bgs. The laboratory was instructed to start with the 85 foot sample and to continue to analyze subsequent samples for chloride until a result of less than 600 mg/Kg was achieved. As the 85 foot depth sample was documented to contain 336 mg/Kg chloride, none of the subsequent deeper sample analyses were needed. This boring thus vertically delineated the chloride impacts in excess of 600 mg/Kg.

Based upon a detailed review of the 2017 soil data, a number of horizontal soil chloride delineation gaps were noted in the Pipeline Area; therefore, eight additional horizontal delineation sample

locations were identified for further sampling and analysis (S-38 through S-45). Soil samples were collected for analysis at varying intervals between two feet and four feet bgs to fill in the horizontal delineation data gaps. All of these results were subsequently documented to be below 600 mg/Kg chloride, thus adequately delineating the horizontal extent of those soils requiring remediation.

Attached are soil chloride concentration maps for the Pipeline Area which were prepared to assist in the evaluation of the horizontal extent of the soil chloride impacts, and the determination of those areas requiring remediation. Maps were prepared for the following depth intervals; 0'-1' bgs, 2' bgs, 3' bgs, and 4'-5' bgs. It should be noted, although the site remedial activities are only intended to address the 0'-4' bgs depth interval, soil chloride results for the 5' bgs depth interval were utilized in the attached figure since 4'-depth samples were not collected for laboratory analysis in 2017.

The attached Pipeline Area soil chloride concentration maps present both the soil sample analytical data for the referenced depth interval and the results of the EM survey (i.e. – the EM “Interpretive Map” areas of elevated chlorides). As illustrated, there is a high degree of correlation between the shallower soil sample laboratory results and the EM survey results. At the depth interval of 4'-5' bgs, the extent of the chloride-impacted soils, based upon the soil sample analytical results, appears significantly larger than the area of chloride-impacted soils noted on the EM Interpretive Map.

The EM Interpretive Map presents averages for the entire soil column from the surface to either 2.5 feet bgs or the surface to 5.0 feet bgs. Therefore, the areas which were documented to contain chloride exceedances based upon discrete/grab soil samples collected outside of the EM Interpretive Map “elevated chlorides” zones are indicative of lateral spreading of the release with depth. Based upon the EM survey results, the average chloride concentration in the areas where lateral spreading appears to have occurred were below background values (as discussed in Attachment 5). Thus, the majority of the overlying soils in these areas do not appear to be impacted.

In summary, the horizontal delineation of the chloride-impacted soils requiring remediation has been completed. The vertical delineation activities in both the Tank Battery Area and Pipeline Areas documented attainment of the vertical delineation goal of 600 mg/Kg chloride at depths well above the underlying groundwater. Thus, groundwater does not appear to be threatened or affected by the release.

#### **4.0 PROPOSED REMEDIATION**

There are two distinct areas containing elevated chloride concentrations. The primary affected area is illustrated by the EM Interpretive Map where average chloride concentrations were noted to be in excess of background levels. These areas are labeled as “Area 1” on the attached proposed soil excavation maps. Outside of “Area 1”, are soils where lateral spreading of the release appears to have occurred but where average soil chloride concentrations do not exceed background levels. These areas are labeled as “Area 2” on the attached proposed soil excavation maps. To address the areas the following remedial activities are proposed:

#### **4.1 Areas of Elevated Chlorides Determined by EM Survey ("Area 1")**

The affected areas at the site that are denoted as "Area 1" on the proposed excavation maps and illustrated on the EM Interpretive Map are proposed to be excavated to a depth of four feet, and the removed soils from these areas are proposed to be hauled to a NMOCD-approved facility for disposal.

It is estimated that approximately 883 to 1,771 cubic yards of soil will be excavated from the tank battery area, and that approximately 6,321 to 10,980 cubic yards of soil will be excavated from the pipeline area and transported to disposal.

#### **4.2 Remainder of Affected Soil Area ("Area 2")**

The affected site soils denoted as "Area 2" on the proposed excavation maps are proposed to be excavated in one-foot deep lifts to a total depth of four feet. These soils will be temporarily stockpiled on-site in 100 cubic yard (cy) visqueen-lined stockpiles. Since the overlying shallow soils within this area appear to be largely unaffected, they will be further characterized following stockpiling to assist in the determination of appropriate remedial options. It should be noted that the removal of the soils in these areas in one-foot deep lifts will help isolate the shallower unaffected soils from those containing elevated chlorides at depth. This will result in more uniform stockpile composition and help prevent commingling of affected soils with unaffected soils.

The excavated "Area 2" material designated for potential re-use will be segregated, stockpiled on a plastic liner and confirmation soil samples will be collected to confirm the stockpile soil concentrations are within previously referenced restoration, reclamation and re-vegetation criteria for chloride of 600 mg/kg. Each 100 cy stockpile will have four confirmation samples collected by way of five-part composite sample methods. The samples will be submitted for laboratory analysis of chloride using NMOCD approved laboratory methods. If the sample analytical results indicate that the material has been impacted above the proposed closure criteria or restoration, reclamation and re-vegetation criteria, the material will be removed from the Site and transported to disposal at an NMOCD approved facility. The material documented to have concentrations within the proposed closure criteria or restoration, reclamation and re-vegetation criteria will be utilized as backfill material at the Site.

#### **4.3 Confirmation Sampling**

Upon completion of the soil excavation activities, confirmation soil samples will be collected from the excavated areas for laboratory analysis.

Based on the soil conditions documented during the assessment activities along with a landowner requirement that a Bentomat Geosynthetic Clay Liner (GCL) be installed in the base of the excavated areas, EOG respectfully requests a variance to the sampling requirements detailed in NMAC 19.15.29.12 subsection D. The excavation base confirmation soil samples are proposed to be collected as five-point composite samples representing no greater than 1,000 square feet. Due to the added protection offered by the GCL, the proposed excavation base sampling frequency will adequately represent soil conditions in the base of the excavated areas.

To assess the excavation side walls confirmation soil samples will be collected in accordance with NMAC 19.15.29.12 subsection D as five part composite samples representing no more than 200 square feet.

Upon collection, the samples will be submitted for laboratory analysis of chloride using NMOCD approved laboratory methods. The confirmation samples collected from the excavation base areas will be compared to the previously referenced Table 1 19.15.29.12 NMAC (groundwater >100 feet) criteria. The confirmation samples collected from the excavation side wall areas will be compared to the previously referenced Restoration, Reclamation and Re-vegetation criteria.

In the event that samples concentrations are documented to be in exceedance of the proposed closure criteria and/or reclamation criteria, the area will be over-excavated and additional sample(s) will be collected in accordance with NMAC 19.15.29.12 subsection D.

#### **4.4 Site Completion and Liner Installation Variance Request**

As an additional protective measure and as a requirement by the surface owner, EOG respectfully requests a variance for NMAC 19.15.29.12 to allow for installation of a Bentomat Geosynthetic Clay Liner (GCL) in the base of the excavated areas.

Upon completion of the proposed soil removal activities and confirmation that all areas are within attainment of the proposed closure and reclamation criteria, a GCL will be installed in the base of the excavated area. After the installation of the GCL, backfilling operations will be completed. To further ensure the excavated material designated for re-use is acceptable, the material will be blended with fresh clean fill material and the mixed material will be utilized as the lowest portion of the fill. The remaining excavated area will be backfilled with clean topsoil material bringing the location back to grade. The location will be re-vegetated in accordance with 19.15.29.13 NMAC.

Upon approval of the proposed remediation plan, all field activities will be scheduled as soon as reasonably possible. It is anticipated that the proposed activities can be completed within 150 days of initiation.

## **5.0 SITE CLOSURE**

Upon completion of the remedial activities at the site, a C-141 Final Report will be submitted to the NMOCD, and site closure will be requested. The Final Report will be completed in accordance with the closure reporting criteria detailed in NMAC 19.15.29.12 subsection E and will fully document the remediation operations and confirmation soil sampling details.



## ATTACHMENT 1 – C-141 FORMS

2RP-4658 – Stark BG No. 2 Battery

2RP-4659 – Eagle Creek Gas Pipeline Area

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

# **NM OIL CONSERVATION**

State of New Mexico  
Energy Minerals and Natural Resources

Form C-141  
Revised April 3, 2017

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

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

RECEIVED

## **Release Notification and Corrective Action OPERATOR**

☒ Initial Report ☐ Final Report

Name of Company EOG Y Resources, Inc.	#25575	Contact Robert Asher
Address 104 S. 4 <sup>th</sup> Street Artesia NM 88210		Telephone No. 575-748-1471
Facility Name Stark BG #2 Battery		Facility Type Battery

Surface Owner Fee	Mineral Owner Fee	API No.
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### **LOCATION OF RELEASE**

Unit Letter D	Section 25	Township 18S	Range 25E	Feet from the 990	North/South Line North	Feet from the 990	East/West Line West	County Eddy
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Latitude 32.7235031 Longitude -104.4433899 NAD83

### **NATURE OF RELEASE**

Type of Release Unknown	Volume of Release Unknown Amounts	Volume Recovered Unknown Amounts
Source of Release Unknown	Date and Hour of Occurrence Unknown	Date and Hour of Discovery Unknown
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher/NMOCD II	
By Whom? Robert Asher/EOG Y Resources	Date and Hour March 13, 2018	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

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


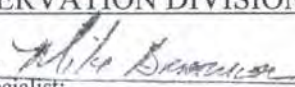
Describe Cause of Problem and Remedial Action Taken.\*

Upon the reclamation process of the battery, impacted soils were encountered.

Describe Area Affected and Cleanup Action Taken.\*

The affected area was approximately 25' X 35' within the primary battery. Impacted soils have been excavated and taken to an NMOCD approved facility. Horizontal/Vertical delineation samples collected (enclosed). Based off of results, surface owner allowed backfilling of excavation to allow for upcoming core rig sampling (details to be submitted on a work plan). **Depth to Ground Water: >100' (approximately 158', per NMOSE), Wellhead Protection Area: No, Distance to Surface Water Body: >1000', SITE RANKING IS 0.**

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

Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Robert Asher	Signed By  Approved by Environmental Specialist:	
Title: Environmental Supervisor	Approval Date: <u>3/13/18</u>	Expiration Date: <u>N/A</u>
E-mail Address: robert_asher@eogresources.com	Conditions of Approval: <u>See Attached</u>	
Date: March 13, 2018	Phone: 575-748-4217	Attached: <u>2RP-4658</u>

\* Attach Additional Sheets If Necessary



Incident ID	nAB1807452941
District RP	2RP-4658
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?  Significant affected soil area
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Robert Asher (EOG) on 03/15/2018	

## 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 type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. NA	
<input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately. NA	
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: Chase Settle	Title: Rep Safety & Environmental Sr
Signature: Chase Settle	Date: 09/16/2022
email: Chase_Settle@eogresources.com	Telephone: 575-748-1471
<b><u>OCD Only</u></b>	
Received by: _____	Date: _____

Incident ID	nAB1807452941
District RP	2RP-4658
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?	<u>191</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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.

Incident ID	nAB1807452941
District RP	2RP-4658
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: Chase Settle Title: Rep Safety & Environmental Sr  
Signature: Chase Settle Date: 09/16/2022  
email: Chase\_Settle@eogresources.com Telephone: 575-748-1471

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Incident ID	nAB1807452941
District RP	2RP-4658
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: 09/16/2022  
email: Chase\_Settle@eogresources.com Telephone: 575-748-1471

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

Signature: \_\_\_\_\_ Date: \_\_\_\_\_



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

NM OIL CONSERVATION

ARTESIA DISTRICT

MAR 13 2018

RECEIVED

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 April 3, 2017

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

FAB1807453570

## Release Notification and Corrective Action

## OPERATOR

☒ Initial Report ☐ Final Report

Name of Company EOG Y Resources, Inc.	Contact Robert Asher
Address 104 S. 4 <sup>th</sup> Street Artesia NM 88210	Telephone No. 575-748-1471
Facility Name Eagle Creek Gas System	Facility Type Pipe line

Surface Owner Fee	Mineral Owner Fee	API No.
----------------------	----------------------	---------

## LOCATION OF RELEASE

Unit Letter D	Section 25	Township 18S	Range 25E	Feet from the	North/South Line	Feet from the	East/West Line	County Eddy
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Latitude 32.7235031 Longitude -104.4433899 NAD83

## NATURE OF RELEASE

Type of Release Unknown	Volume of Release Unknown Amounts	Volume Recovered Unknown Amounts
Source of Release Unknown	Date and Hour of Occurrence Unknown	Date and Hour of Discovery Unknown
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher/NMOCD II	
By Whom? Robert Asher/EOG Y Resources	Date and Hour March 13, 2018	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

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


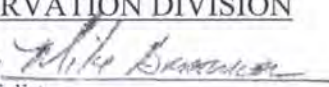
Describe Cause of Problem and Remedial Action Taken.\*

Upon the reclamation process of the Stark BG #2 Battery the surface owner requested remediation of the impacted area south of the battery. Initial horizontal and vertical delineation samples collected.

Describe Area Affected and Cleanup Action Taken.\*

The affected area was approximately 180' X 200'. Horizontal/Vertical delineation samples collected (enclosed). Based off of results, core rig sampling is being scheduled (details to be submitted on a work plan). **Depth to Ground Water: >100' (approximately 158', per NMOSE), Wellhead Protection Area: No, Distance to Surface Water Body: >1000', SITE RANKING IS 0.**

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

Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Robert Asher	Signed By  Approved by Environmental Specialist:	
Title: Environmental Supervisor	Approval Date: <u>3/13/18</u>	Expiration Date: <u>NIA</u>
E-mail Address: robert_asher@eogresources.com	Conditions of Approval: <u>See attached</u>	Attached <u>2RP-4659</u>
Date: March 13, 2018	Phone: 575-748-4217	

\* Attach Additional Sheets If Necessary

Incident ID	nAB1807456505
District RP	2RP-4659
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?  Significant affected soil area
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Robert Asher (EOG) on 03/15/2018	

### 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 type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. NA	
<input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately. NA	
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: Chase Settle	Title: Rep Safety & Environmental Sr
Signature: Chase Settle	Date: 09/16/2022
email: Chase_Settle@eogresources.com	Telephone: 575-748-1471
<b><u>OCD Only</u></b>	
Received by: _____	Date: _____

Incident ID	nAB1807456505
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*This information must be provided to the appropriate district office no later than 90 days after the release discovery date.*

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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.*

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Incident ID	nAB1807456505
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Printed Name: Chase Settle Title: Rep Safety & Environmental Sr

Signature: Chase Settle Date: 09/16/2022

email: Chase\_Settle@eogresources.com Telephone: 575-748-1471

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_



Incident ID	nAB1807456505
District RP	2RP-4659
Facility ID	
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## Remediation Plan

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

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- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
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- ☐ Extents of contamination must be fully delineated.
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Printed Name: Chase Settle Title: Rep Safety & Environmental Sr  
Signature: Chase Settle Date: 09/16/2022  
email: Chase\_Settle@eogresources.com Telephone: 575-748-1471

**OCD Only**

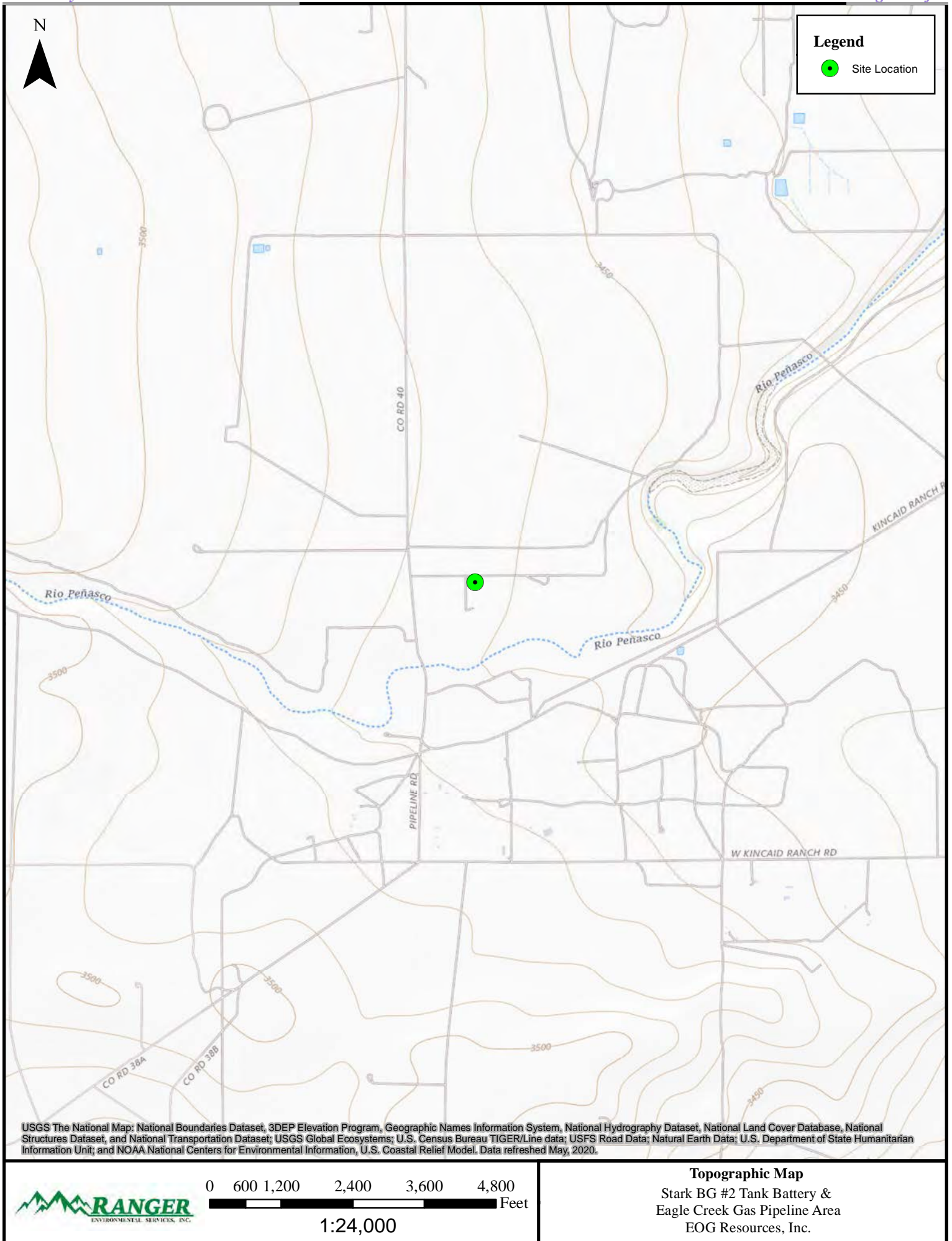
Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## ATTACHMENT 2 – FIGURES

Topographic Map  
Area Map  
Water Well Location Map  
National Wetland Inventory Map  
FEMA Floodplain Map  
Karst Topography Map  
Stark BG #2 Tank Battery Site Map  
Pipeline Area – Chloride Concentration Map (0'-1')  
Pipeline Area – Chloride Concentration Map (2')  
Pipeline Area – Chloride Concentration Map (3')  
Pipeline Area – Chloride Concentration Map (4'-5')  
Stark BG #2 – Proposed Soil Excavation Map  
Proposed Pipeline Area Soil Excavation Map



USGS The National Map; National Boundaries Dataset; 3DEP Elevation Program; Geographic Names Information System; National Hydrography Dataset; National Land Cover Database; National Structures Dataset; and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed May, 2020.



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

1:24,000

**Topographic Map**

Stark BG #2 Tank Battery &  
Eagle Creek Gas Pipeline Area  
EOG Resources, Inc.





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

1:10,000

**Area Map**

Stark BG #2 Tank Battery &  
Eagle Creek Gas Pipeline Area  
EOG Resources, Inc.



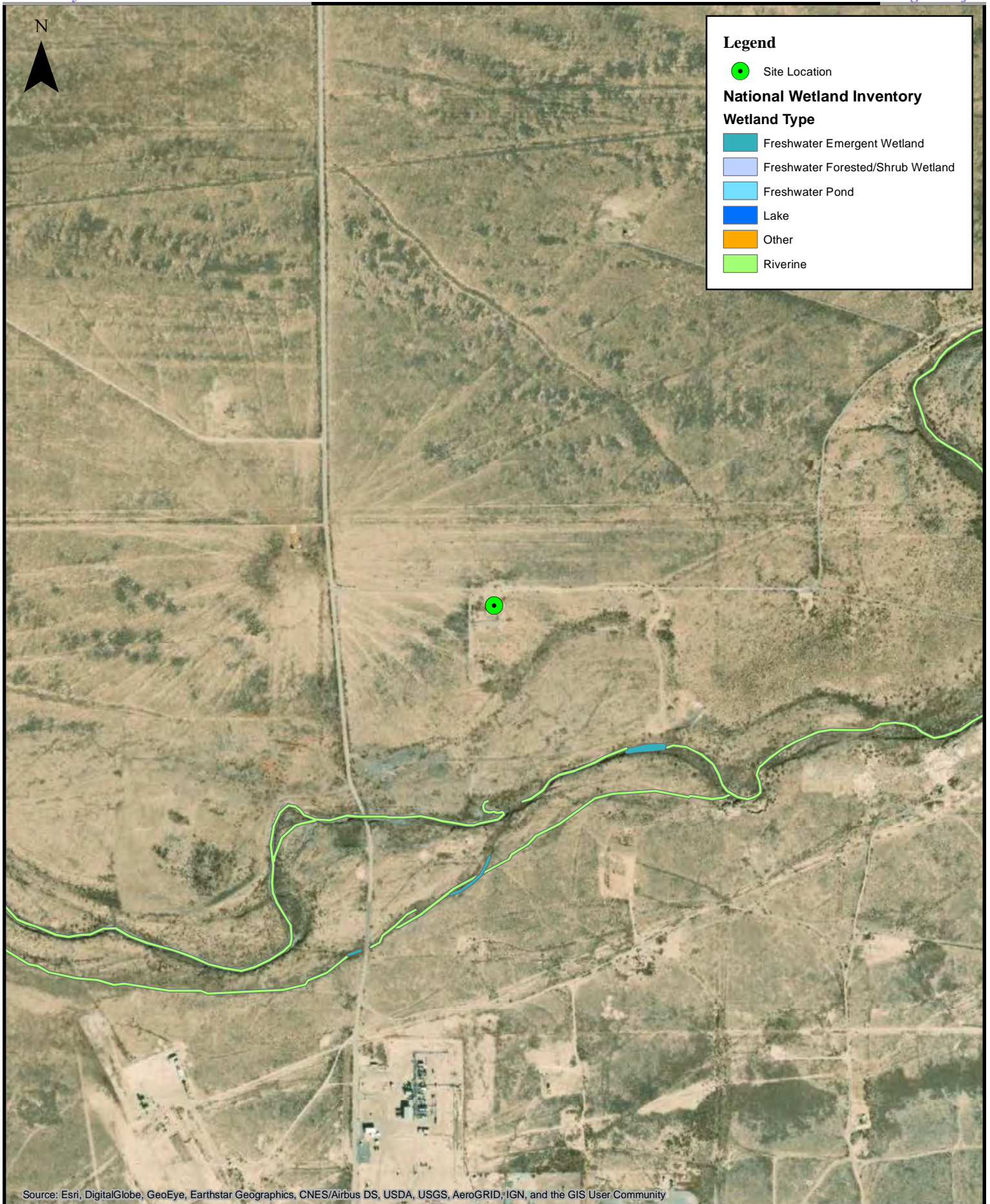


0 275 550 1,100 1,650 2,200 Feet

1:11,000

**Water Well Location Map**  
Stark BG #2 Tank Battery &  
Eagle Creek Gas Pipeline Area  
EOG Resources, Inc.





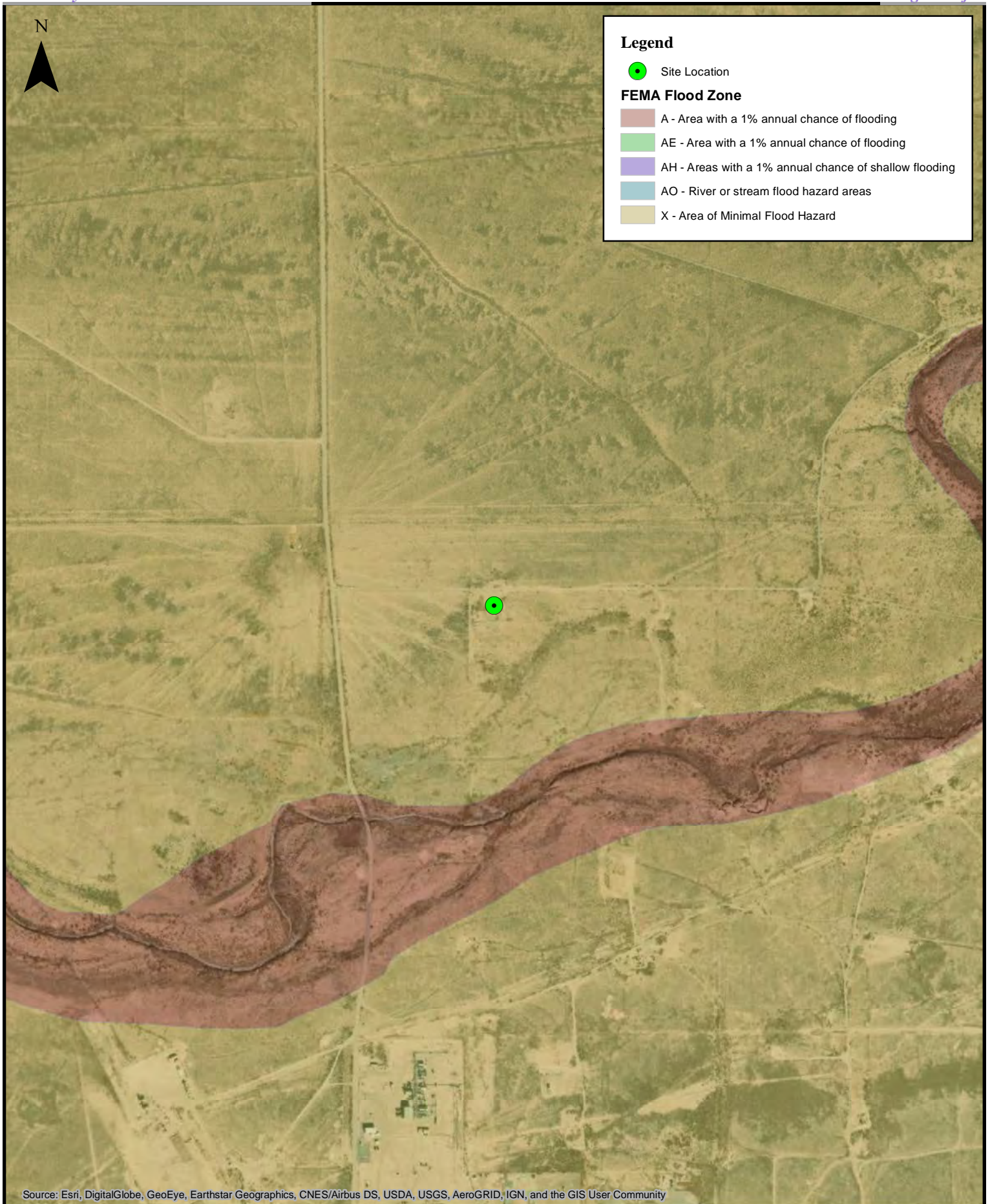
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1:10,000

**National Wetland Inventory Map**

Stark BG #2 Tank Battery &  
Eagle Creek Gas Pipeline Area  
EOG Resources, Inc.





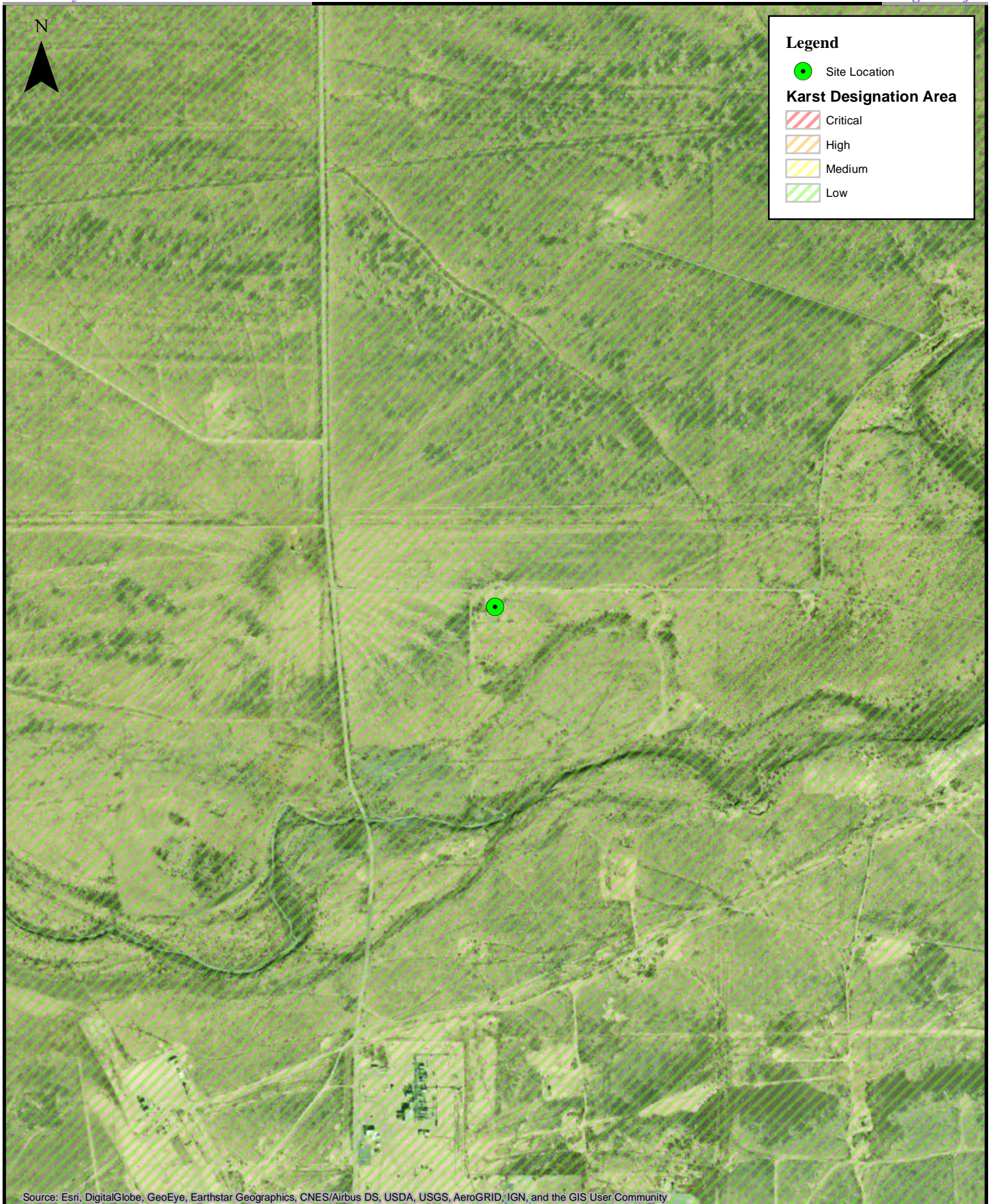
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1:10,000

**FEMA Floodplain Map**

Stark BG #2 Tank Battery &  
Eagle Creek Gas Pipeline Area  
EOG Resources, Inc.





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



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

1:10,000

### Karst Topography Map

Stark BG #2 Tank Battery &  
Eagle Creek Gas Pipeline Area  
EOG Resources, Inc.

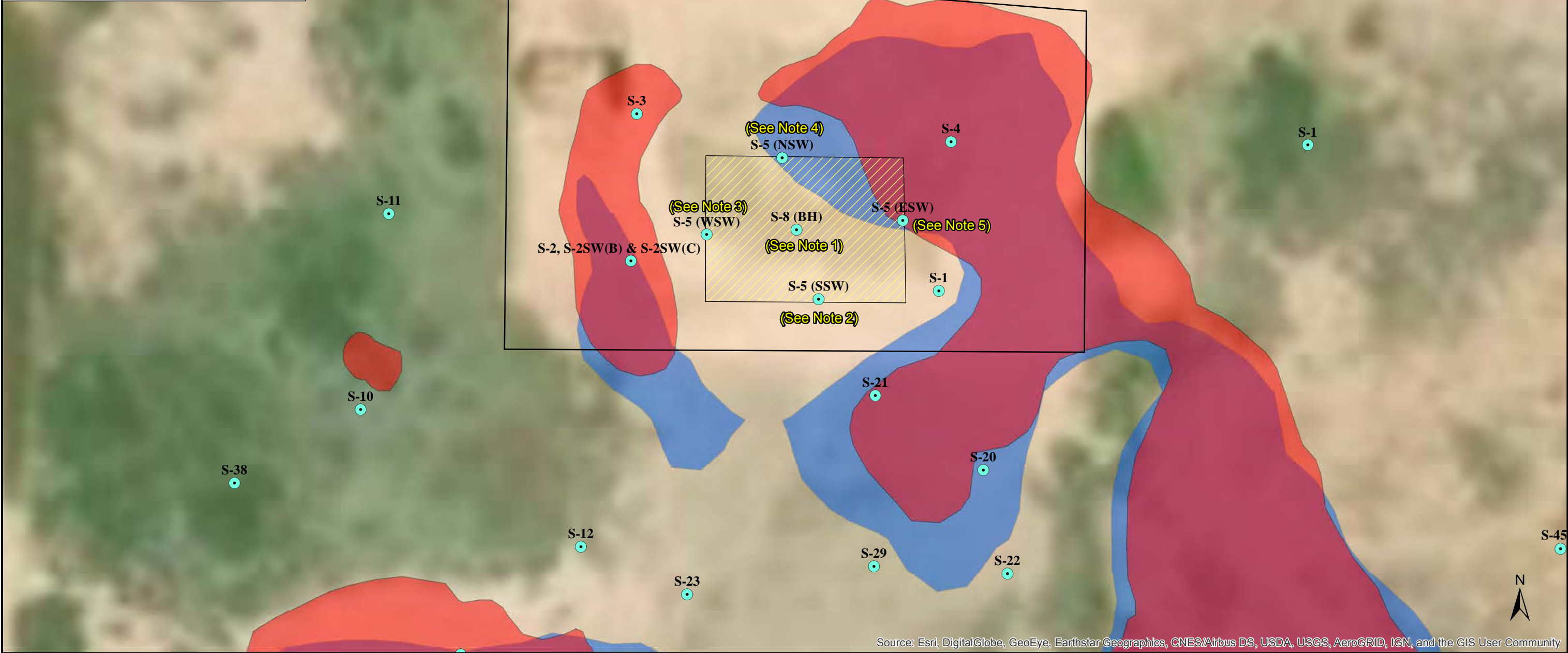


STARK BG #2 TANK BATTERY SITE MAP

LEGEND

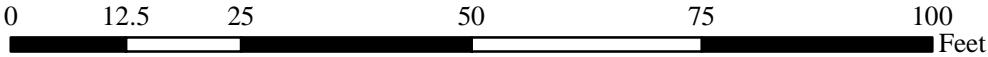
- Soil Samples
- Area previously excavated in 2017 to depths of 5'-8'
- Stark BG #2 Tank Battery
- Elevated Chlorides: 0'-2.5' (from EM Interpretive Map)
- Elevated Chlorides: 0'-5' (from EM Interpretive Map)

- Notes:
- 1 - This is also the location of samples S1.0 thru S5.0 which were overexcavated in 2017
  - 2 - This is also the location of sample SSW which was overexcavated in 2017
  - 3 - This is also the location of sample WSW which was overexcavated in 2017
  - 4 - This is also the location of sample NSW which was overexcavated in 2017
  - 5 - This is also the location of samples ESW and S-5.ESW which were overexcavated in 2017



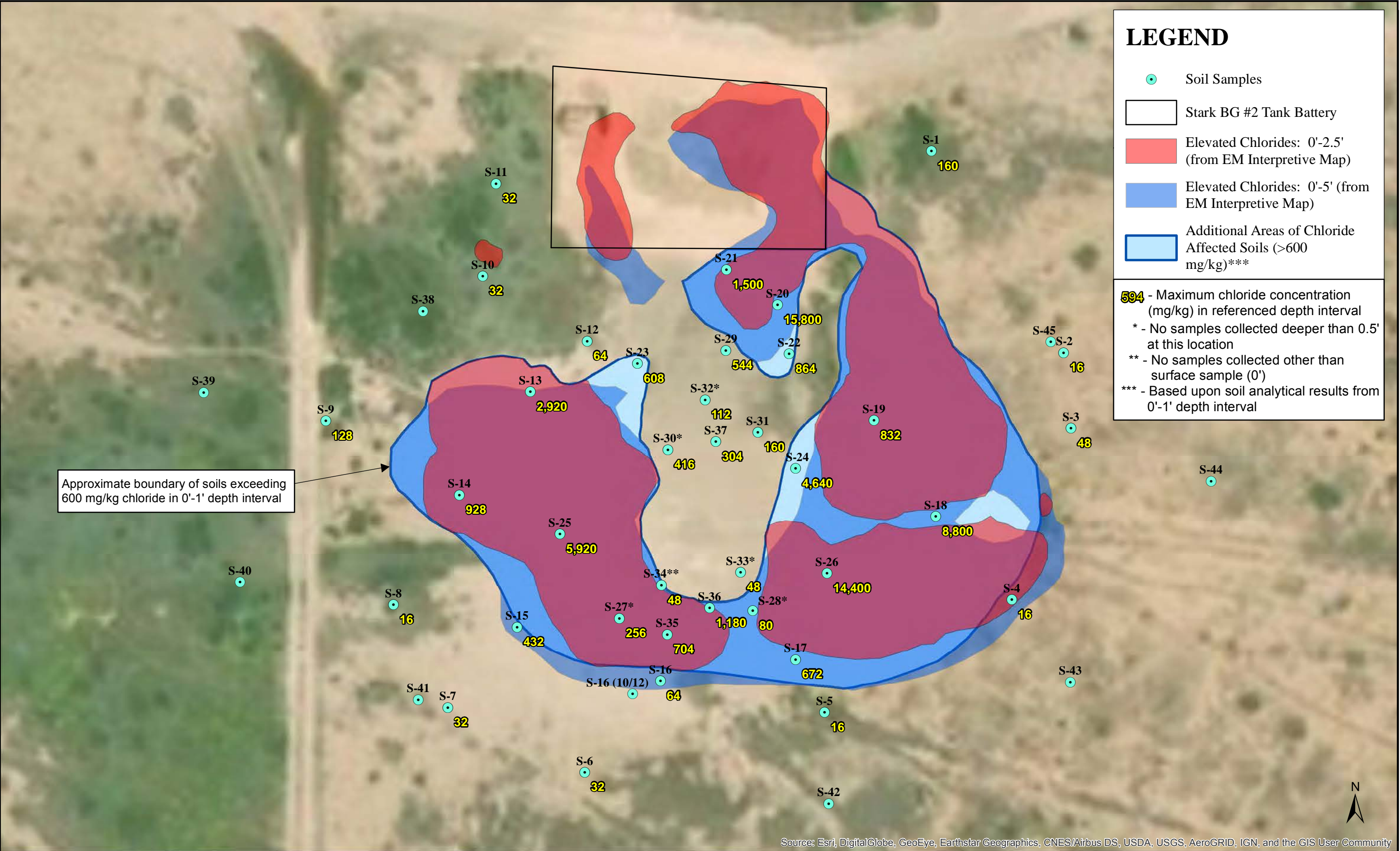
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Stark BG #2 Tank Battery and Eagle Creek Gas Pipeline Area  
Eddy County, NM  
Ranger Reference No. 5375

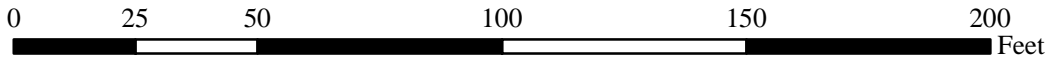




PIPELINE AREA - CHLORIDE CONCENTRATION MAP (0'-1')

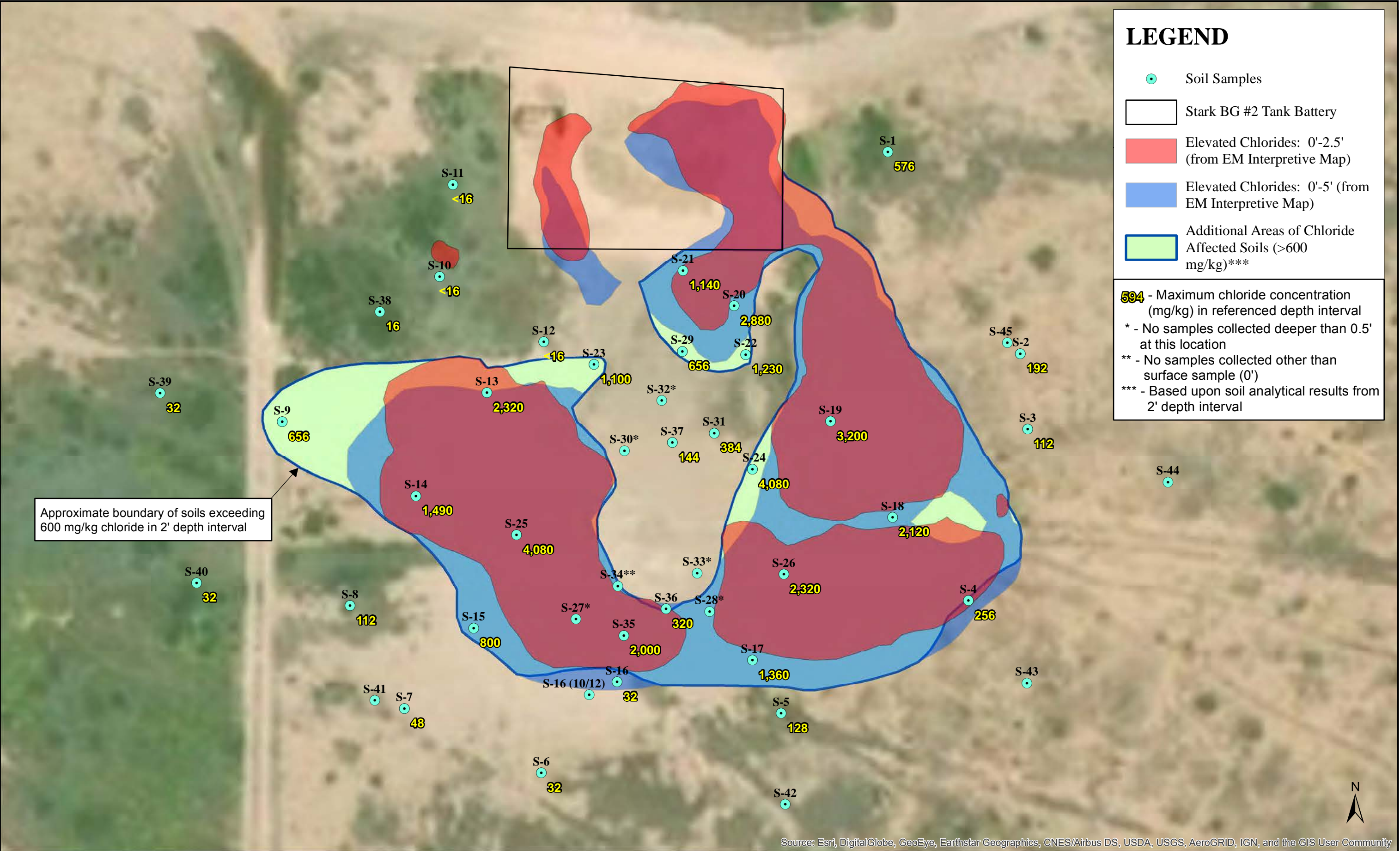


Stark BG #2 Tank Battery and Eagle Creek Gas Pipeline Area  
Eddy County, NM  
Ranger Reference No. 5375

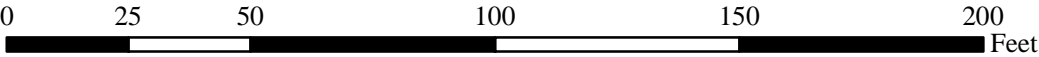




PIPELINE AREA - CHLORIDE CONCENTRATION MAP (2')

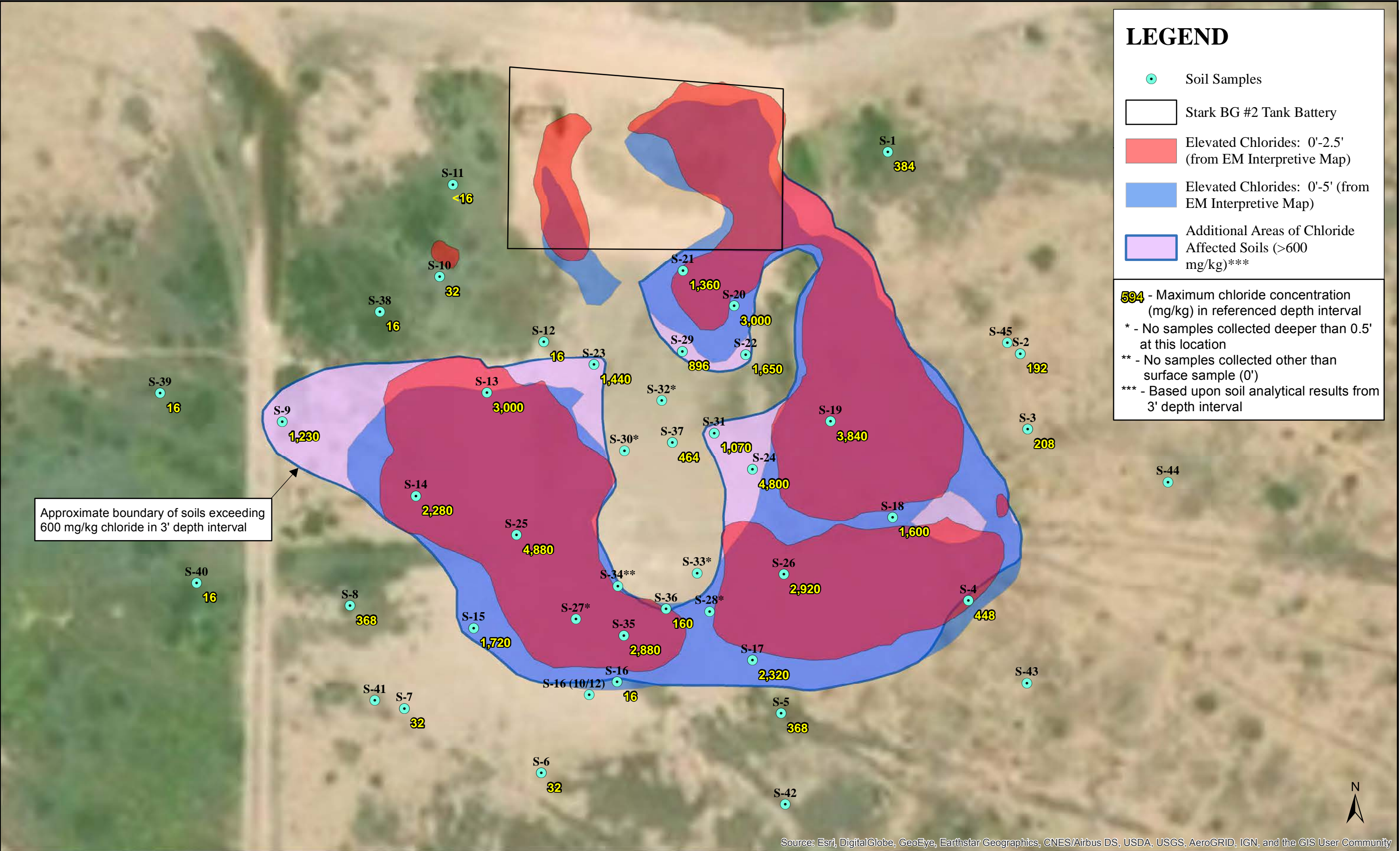


Stark BD #2 Tank Battery and Eagle Creek Gas Pipeline Area  
Eddy County, NM  
Ranger Reference No. 5375

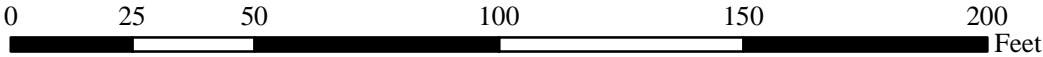




PIPELINE AREA - CHLORIDE CONCENTRATION MAP (3')

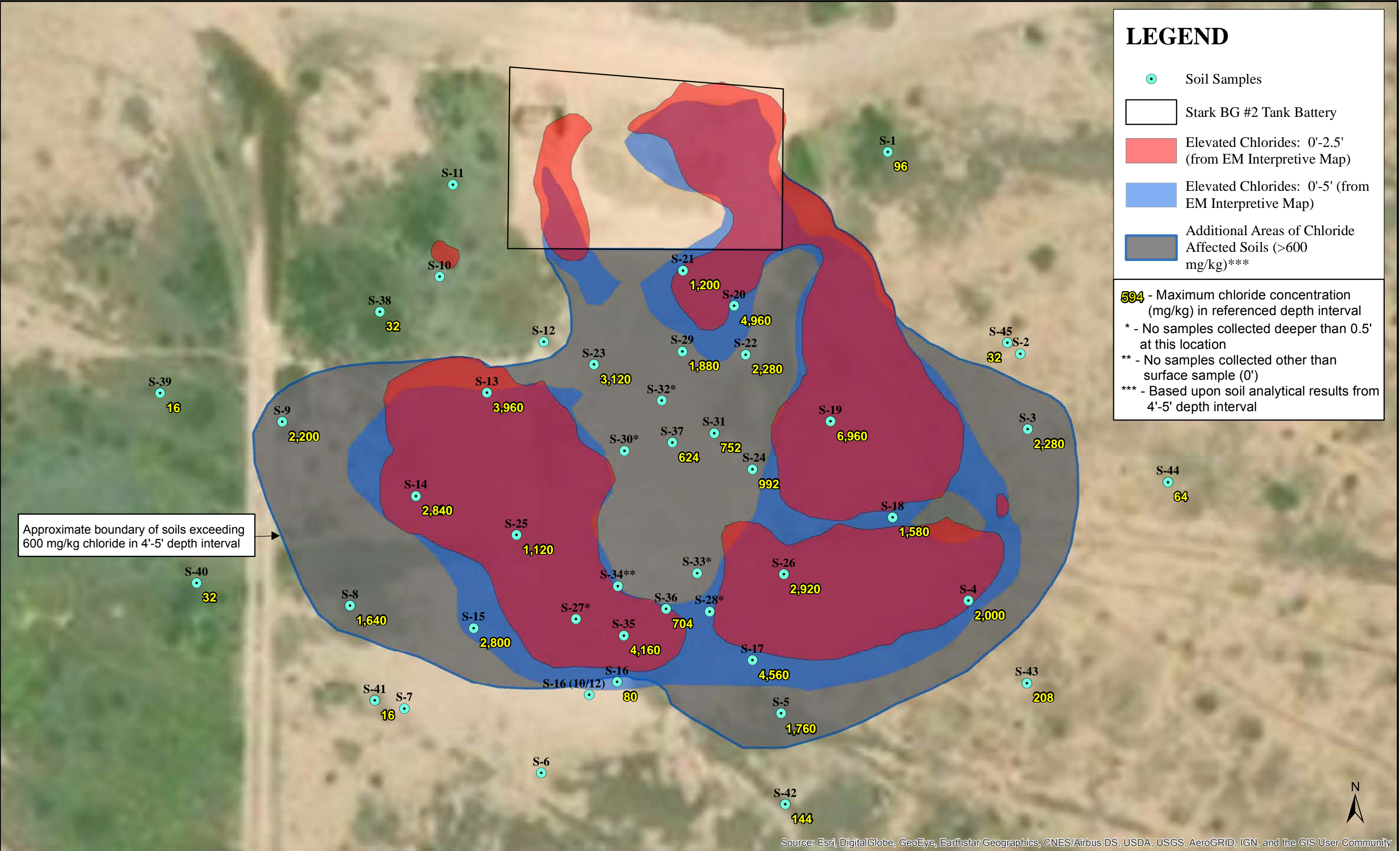


Stark BG #2 Tank Battery and Eagle Creek Gas Pipeline Area  
Eddy County, NM  
Ranger Reference No. 5375

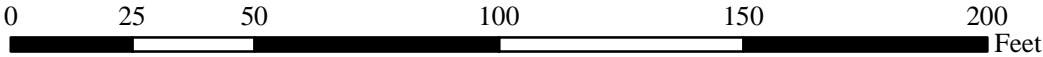




PIPELINE AREA - CHLORIDE CONCENTRATION MAP (4'-5')



Stark BG #2 Tank Battery and Eagle Creek Gas Pipeline Area  
Eddy County, NM  
Ranger Reference No. 5375





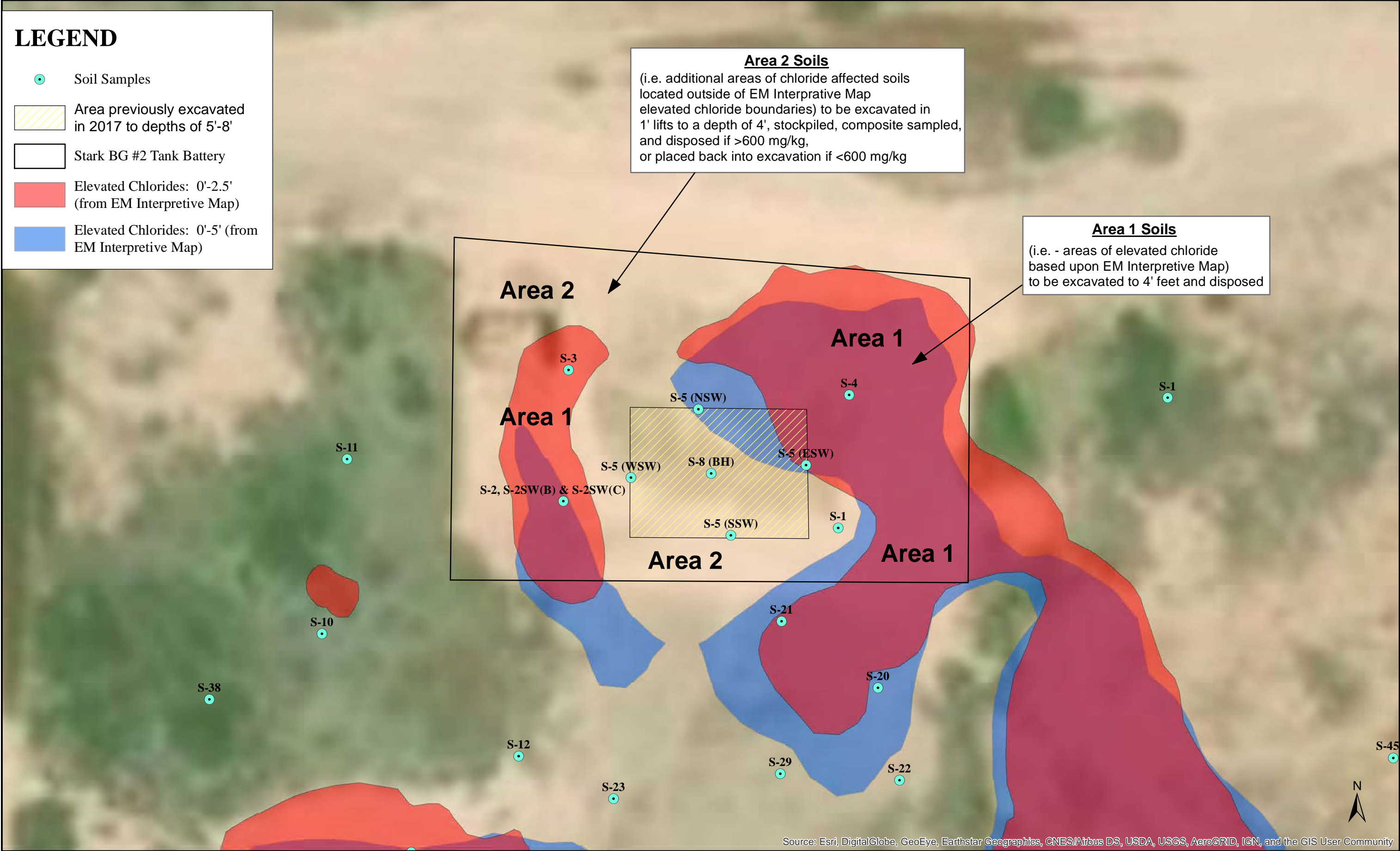
STARK BG #2 TANK BATTERY - PROPOSED SOIL EXCAVATION MAP

LEGEND

- Soil Samples
- Area previously excavated in 2017 to depths of 5'-8'
- Stark BG #2 Tank Battery
- Elevated Chlorides: 0'-2.5' (from EM Interpretive Map)
- Elevated Chlorides: 0'-5' (from EM Interpretive Map)

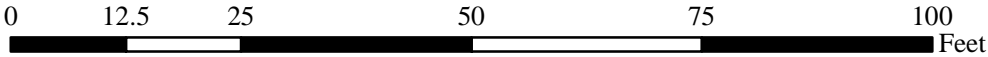
**Area 2 Soils**  
(i.e. additional areas of chloride affected soils located outside of EM Interpretive Map elevated chloride boundaries) to be excavated in 1' lifts to a depth of 4', stockpiled, composite sampled, and disposed if >600 mg/kg, or placed back into excavation if <600 mg/kg

**Area 1 Soils**  
(i.e. - areas of elevated chloride based upon EM Interpretive Map) to be excavated to 4' feet and disposed



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Stark BG #2 Tank Battery and Eagle Creek Gas Pipeline Area  
Eddy County, NM  
Ranger Reference No. 5375





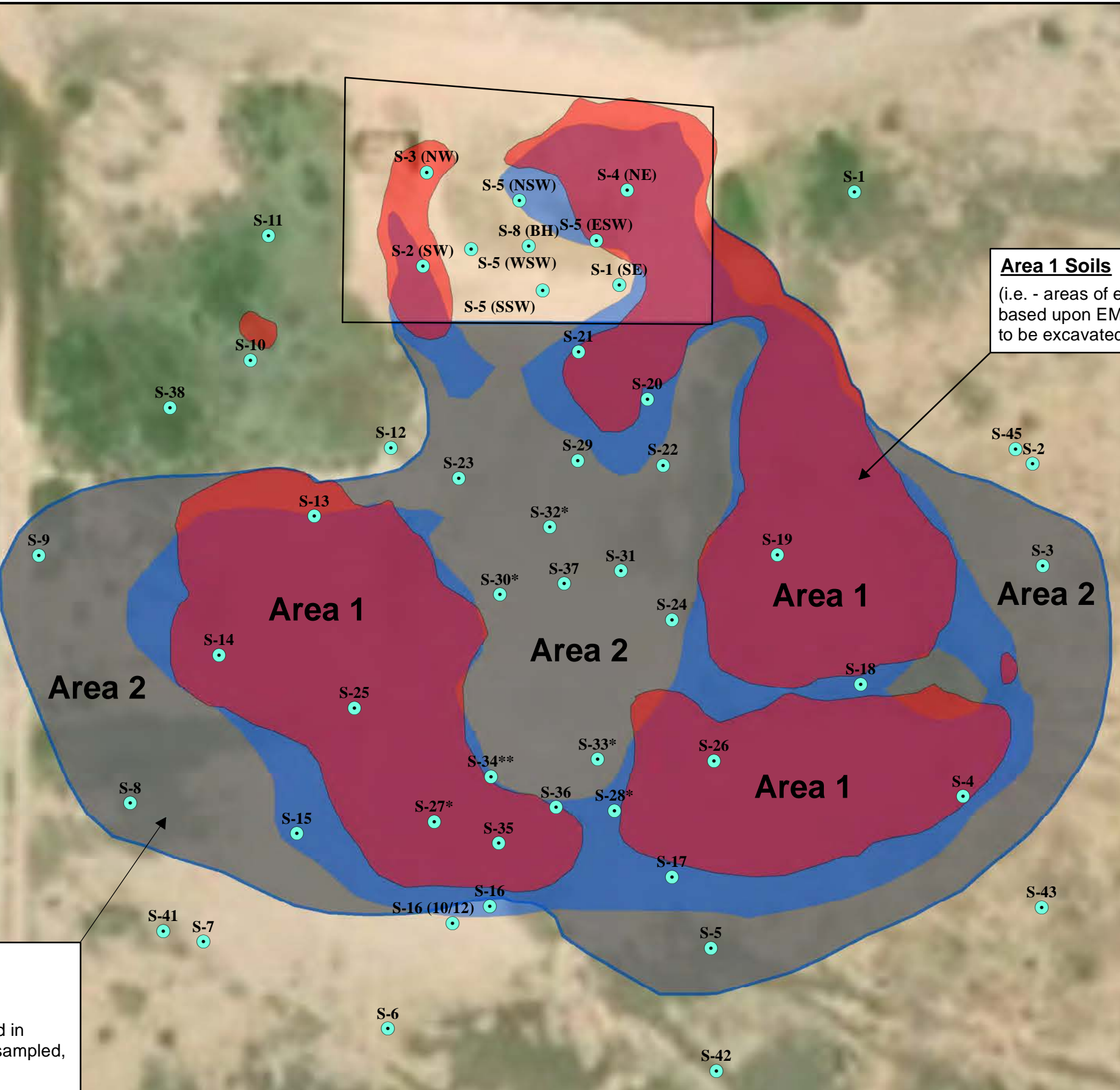
PROPOSED PIPELINE AREA SOIL EXCAVATION MAP

LEGEND

- Soil Samples
- Stark BG #2 Tank Battery
- Area 1**
  - Elevated Chlorides: 0'-2.5' (from EM Interpretive Map)
  - Elevated Chlorides: 0'-5' (from EM Interpretive Map)
- Area 2**
  - Additional Areas of Chloride-Affected soils (>600 mg/kg) Based Upon Soil Sample Results From 0'-5' Interval

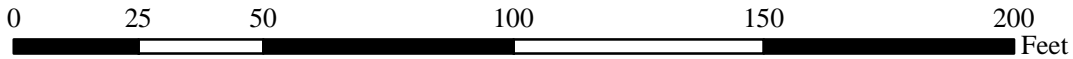
**Area 1 Soils**  
(i.e. - areas of elevated chloride based upon EM Interpretive Map) to be excavated to 4' feet and disposed

**Area 2 Soils**  
(i.e. additional areas of chloride affected soils located outside of EM Interpretive Map elevated chloride boundaries) to be excavated in 1' lifts to a depth of 4', stockpiled, composite sampled, and disposed if >600 mg/kg, or placed back into excavation if <600 mg/kg



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Stark BG #2 Tank Battery and Eagle Creek Gas Pipeline Area  
Eddy County, NM  
Ranger Reference No. 5375



## ATTACHMENT 3 – DEPTH-TO-GROUNDWATER DATA





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[Contact USGS](#)  
[Search USGS](#)

## National Water Information System: Web Interface

USGS Water Resources

Data Category:

Groundwater

Geographic Area:

United States

GO

Click to hide News Bulletins

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

Groundwater levels for the Nation



Important: [Next Generation Monitoring Location Page](#)

## Search Results -- 1 sites found

site\_no list =

- 324331104264901

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

## USGS 324331104264901 18S.25E.26.22223

Available data for this site

Groundwater: Field measurements

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°43'31", Longitude 104°26'49" NAD27

Land-surface elevation 3,469 feet above NGVD29

The depth of the well is 250.00 feet below land surface.

This well is completed in the Roswell Basin aquifer system (S400RSWLBS) national aquifer.

This well is completed in the Artesia Group (313ARTS) local aquifer.

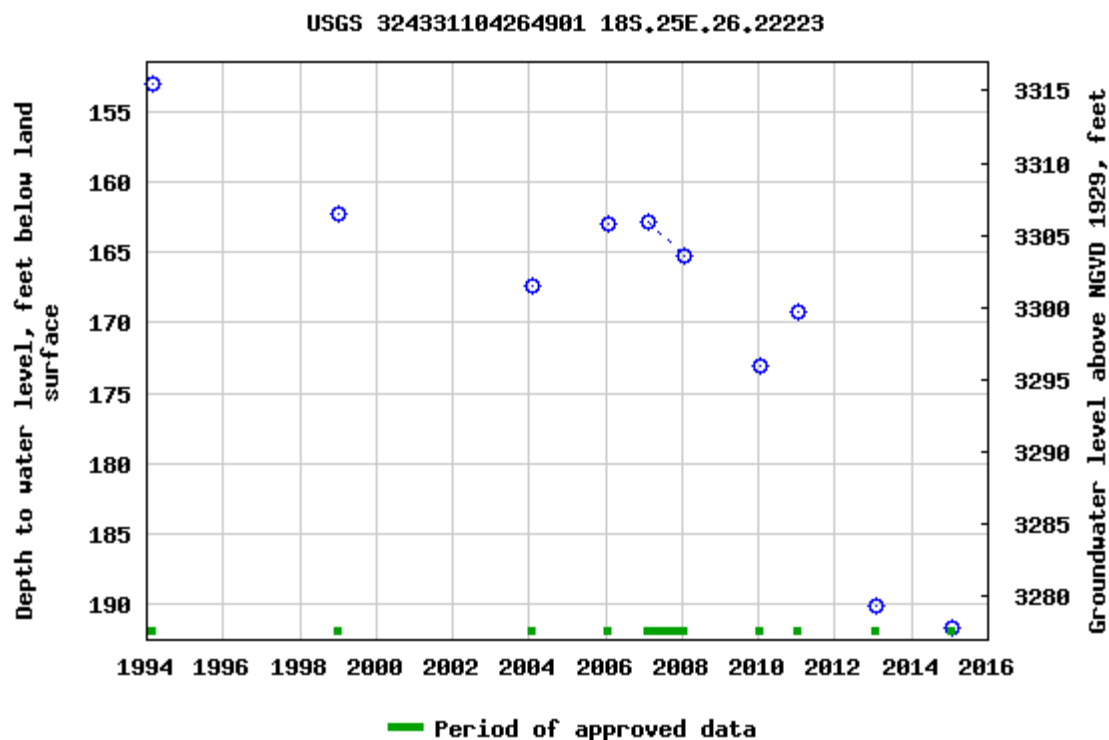
### Output formats

[Table of data](#)

[Tab-separated data](#)

[Graph of data](#)

[Reselect period](#)



Breaks in the plot represent a gap of at least one year between field measurements.  
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**Title: Groundwater for USA: Water Levels**

**URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>**



Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2022-05-18 15:17:51 EDT

0.69 0.61 nadww01

## ATTACHMENT 4 – ANALYTICAL TABLES

**CUMULATIVE SOIL BTEX, TPH & CHLORIDE ANALYTICAL DATA**  
**EOG RESOURCES, INC.**  
**STARK BG #2 BATTERY & EAGLE CREEK GAS PIPELINE AREA**  
**EDDY COUNTY, NEW MEXICO**

All values presented in parts per million (mg/Kg)

SAMPLE ID	DEPTH	DATE	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C6-C10	TPH DRO C10-C28	TPH DRO EXT C28-C36	TPH (GRO+DRO)	TPH (GRO+DRO+MRO)	CHLORIDE
Stark BG #2 Battery													
<i>Note: Samples S 1.0 through S 5.0 collected at Tank Battery S-8 Sample Location. All samples highlighted in light red shading have already been overexcavated.</i>													
S 1.0 (1707988-001)	1'	07/11/17	0.14	0.28	3.5	6.4	10.32	200	13,000	---	13,200	13,200	2,400
S 2.0 (1707988-002)	2'	07/11/17	0.11	0.21	2.3	4.3	6.92	140	5,100	---	5,240	5,240	2,000
S 3.0 (1707988-003)	3'	07/11/17	<0.024	<0.049	0.45	0.87	1.32	45	650	---	695	695	2,100
S 4.0 (1707988-004)	4'	07/11/17	0.9	1.1	4.2	9.3	15.5	220	4,300	---	4,520	4,520	1,400
S 5.0 (1707988-005)	5'	07/11/17	0.83	1.4	5.5	12	19.73	300	6,500	---	6,800	6,800	980
S-8.BH (H702422-01)	8'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<50.0	1,690	617	1,690	2,307	160
SSW (1707988-006)	2'	07/11/17	<0.024	<0.048	0.064	0.13	0.194	<4.8	630	---	630	630	2,700
S-5.SSW (H702420-04)	5'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	400
WSW (1707988-007)	2'	07/11/17	<0.024	<0.048	<0.048	<0.096	<0.216	<4.8	570	---	570	570	1,300
S-5.WSW (H702420-03)	5'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	288
NSW (1707988-008)	2'	07/11/17	<0.024	<0.047	0.083	0.17	0.253	<4.7	1,100	---	1,000	1,100	180
S-5.NSW (H702420-02)	5'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	240
ESW (1707988-009)	2'	07/11/17	<0.024	<0.049	<0.049	<0.097	<0.219	<4.9	1,200	---	1,200	1,200	83
S-5.ESW (H702420-01)	5'	09/07/17	<0.200	<0.200	1.33	4.29	5.62	337	6,290	931	6,627	7,558	976
S-8.ESW (H702936-01)	8'	10/24/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	672
S-1.1 (H702413-01)	1'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,200
S-1.2 (H702413-02)	2'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,020
S-1.3 (H702413-03)	3'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	624
S-1.4 (H702413-04)	4'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	752
S-1.5 (H702413-05)	5'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,020
S-1.6 (H702413-06)	6'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,140
S-1.7 (H702934-01)	7'	10/24/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,520
S-1.10 (H702934-02)	10'	10/24/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,480
S-1.12 (H702934-03)	12'	10/24/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,800
S-1.15 (H703399-01)	15'	12/06/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	720
S-1.18 (H703399-02)	18'	12/06/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	784
S-1.20 (H703399-03)	20'	12/06/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,880
S-1.22 (H703399-04)	22'	12/06/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,560
S-2.1 (H702415-01)	1'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	880
S-2.2 (H702415-02)	2'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,090
S-2.3 (H702415-03)	3'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,360
S-2.4 (H702415-04)	4'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,390
S-2.5 (H702415-05)	5'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,840
S-2.6 (H702415-06)	6'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,800
S-2.7 (H702935-01)	7'	10/24/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,960
S-2.10 (H702935-02)	10'	10/24/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,240
S-2.12 (H702935-03)	12'	10/24/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7,040
S-2.15 (H703400-01)	15'	12/06/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,220
S-2.18 (H703400-02)	18'	12/06/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,880
S-2.20 (H703400-03)	20'	12/06/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,320
S-2.22 (H703400-04)	22'	12/06/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,560
S-2SW(B) - 70' (H801153-01)	70'	04/25/18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,680
S-2SW(B) - 75' (H801153-02)	75'	04/25/18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,200
S-2SW(B) - 80' (H801153-03)	80'	04/25/18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,520
S-2 SW(C) - 85' (H801706-01)	85'	06/21/18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	336
S-3.1 (H702417-01)	1'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	144
S-3.2 (H702417-02)	2'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	80.0
S-3.3 (H702417-03)	3'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	64.0
S-3.4 (H702417-04)	4'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	800

NA = Not Analyzed  
 TPH = Total Petroleum Hydrocarbons  
 mg/Kg = Milligrams per Kilogram

**CUMULATIVE SOIL BTEX, TPH & CHLORIDE ANALYTICAL DATA**  
**EOG RESOURCES, INC.**  
**STARK BG #2 BATTERY & EAGLE CREEK GAS PIPELINE AREA**  
**EDDY COUNTY, NEW MEXICO**

All values presented in parts per million (mg/Kg)

SAMPLE ID	DEPTH	DATE	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C6-C10	TPH DRO C10-C28	TPH DRO EXT C28-C36	TPH (GRO+DRO)	TPH (GRO+DRO+MRO)	CHLORIDE
S-3.5 (H702417-05)	5'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,250
S-3.6 (H702417-06)	6'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,040
S-3.7 (H702933-01)	7'	10/24/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	192
S-3.10 (H702933-02)	10'	10/24/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	240
S-3.12 (H702933-03)	12'	10/24/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	640
S-4.1 (H702419-01)	1'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	80.0
S-4.2 (H702419-02)	2'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	32.0
S-4.3 (H702419-03)	3'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	48.0
S-4.4 (H702419-04)	4'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	32.0
S-4.5 (H702419-05)	5'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	64.0
S-4.6 (H702419-06)	6'	09/07/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	640
Eagle Creek Gas Pipeline Area													
S-1 0.0' (H702414-01)	0'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	16.0
S-1 0.5' (H702414-02)	0.5'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	16.0
S-1 1.0' (H702414-03)	1'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	160
S-1 2.0' (H702414-04)	2'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	576
S-1 3.0' (H702414-05)	3'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	384
S1 - 5.0 (H702865-01)	5'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	96
S1 - 10.0 (H702865-02)	10'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,960
S- 1.12 (H703545-01)	12'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,440
S- 1.15 (H703545-02)	15'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,120
S- 1.18 (H703545-03)	18'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,760
S- 1.20 (H703545-04)	20'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,880
S-2 0.0' (H702414-06)	0'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	16.0
S-2 0.5' (H702414-07)	0.5'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	16.0
S-2 1.0' (H702414-08)	1'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	<16.0
S-2 2.0' (H702414-09)	2'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	192
S-2 3.0' (H702416-01)	3'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	192
S-3 0.0' (H702418-01)	0'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	16.0
S-3 0.5' (H702418-02)	0.5'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	48.0
S-3 1.0' (H702418-03)	1'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	32.0
S-3 2.0' (H702418-04)	2'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	112
S-3 3.0' (H702418-05)	3'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	208
S3 - 5.0 (H702866-01)	5'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,280
S3 - 10.0 (H702866-02)	10'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,640
S- 3.12 (H703546-01)	12'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,360
S- 3.15 (H703546-02)	15'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,540
S- 3.18 (H703546-03)	18'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,680
S- 3.20 (H703546-04)	20'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,000
S-4 0.0' (H702418-06)	0'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	16.0
S-4 0.5' (H702418-07)	0.5'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	16.0
S-4 1.0' (H702418-08)	1'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	<16.0
S-4 2.0' (H702418-09)	2'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	256
S-4 3.0' (H702416-02)	3'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	448
S4 - 5.0 (H702863-01)	5'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,000
S4 - 10.0 (H702863-02)	10'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,640
S-4.12	12'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7,200
S-4.15	15'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7,730
S-4.18	18'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,660
S-4.20	20'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,800
S-5 0.0' (H702416-03)	0'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	16.0
S-5 0.5' (H702416-04)	0.5'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	<16.0

NA = Not Analyzed  
TPH = Total Petroleum Hydrocarbons  
mg/Kg = Milligrams per Kilogram



**CUMULATIVE SOIL BTEX, TPH & CHLORIDE ANALYTICAL DATA**  
**EOG RESOURCES, INC.**  
**STARK BG #2 BATTERY & EAGLE CREEK GAS PIPELINE AREA**  
**EDDY COUNTY, NEW MEXICO**

All values presented in parts per million (mg/Kg)

SAMPLE ID	DEPTH	DATE	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C6-C10	TPH DRO C10-C28	TPH DRO EXT C28-C36	TPH (GRO+DRO)	TPH (GRO+DRO+MRO)	CHLORIDE
S-5 1.0' (H702416-05)	1'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	<16.0
S-5 2.0' (H702416-06)	2'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	128
S-5 3.0' (H702416-07)	3'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	368
S5 - 5.0 (H702864-01)	5'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,760
S5 - 10.0 (H702864-02)	10'	09/06/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,960
S- 5.12 (H703548-01)	12'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,130
S- 5.15 (H703548-02)	15'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,560
S- 5.18 (H703548-03)	18'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,360
S- 5.20 (H703548-04)	20'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,120
S-5(B) - 105' (H801153-07)	105'	04/25/18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	400
S-6 0.0' (H702427-01)	0'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	16.0
S-6 0.5' (H702427-02)	0.5'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	32.0
S-6 1.0' (H702427-03)	1'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	<16.0
S-6 2.0' (H702427-04)	2'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	32.0
S-6 3.0' (H702427-05)	3'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	32.0
S-7 0.0' (H702421-01)	0'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	<16.0
S-7 0.5' (H702421-02)	0.5'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	32.0
S-7 1.0' (H702421-03)	1'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	16.0
S-7 2.0' (H702421-04)	2'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	48.0
S-7 3.0' (H702421-05)	3'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	32.0
S-8 0.0' (H702423-01)	0'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	16.0
S-8 0.5' (H702423-02)	0.5'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	16.0
S-8 1.0' (H702423-03)	1'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	<16.0
S-8 2.0' (H702423-04)	2'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	112
S-8 3.0' (H702423-05)	3'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	368
S8 - 5.0 (H702869-01)	5'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,640
S8 - 10.0 (H702869-02)	10'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,560
S- 8.12 (H703549-01)	12'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,000
S- 8.15 (H703549-02)	15'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,760
S- 8.18 (H703549-03)	18'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,650
S- 8.20 (H703549-04)	20'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,360
S-9 0.0' (H702424-01)	0'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	<16.0
S-9 0.5' (H702424-02)	0.5'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	<16.0
S-9 1.0' (H702424-03)	1'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	128
S-9 2.0' (H702424-04)	2'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	656
S-9 3.0' (H702424-05)	3'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,230
S9 - 5.0 (H702868-01)	5'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,200
S9 - 10.0 (H702868-02)	10'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,120
S- 9.12 (H703550-01)	12'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,480
S- 9.15 (H703550-02)	15'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,280
S- 9.18 (H703550-03)	18'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,140
S- 9.20 (H703550-04)	20'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,000
S-10 0.0' (H702425-01)	0'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	16.0
S-10 0.5' (H702425-02)	0.5'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	16.0
S-10 1.0' (H702425-03)	1'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	32.0
S-10 2.0' (H702425-04)	2'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	<16.0
S-10 3.0' (H702425-05)	3'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	32.0
S-11 0.0' (H702426-01)	0'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	32.0
S-11 0.5' (H702426-02)	0.5'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	16.0
S-11 1.0' (H702426-03)	1'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	<16.0
S-11 2.0' (H702426-04)	2'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	<16.0
S-11 3.0' (H702426-05)	3'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	<16.0

NA = Not Analyzed  
TPH = Total Petroleum Hydrocarbons  
mg/Kg = Milligrams per Kilogram

**CUMULATIVE SOIL BTEX, TPH & CHLORIDE ANALYTICAL DATA**  
**EOG RESOURCES, INC.**  
**STARK BG #2 BATTERY & EAGLE CREEK GAS PIPELINE AREA**  
**EDDY COUNTY, NEW MEXICO**

All values presented in parts per million (mg/Kg)

SAMPLE ID	DEPTH	DATE	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C6-C10	TPH DRO C10-C28	TPH DRO EXT C28-C36	TPH (GRO+DRO)	TPH (GRO+DRO+MRO)	CHLORIDE
S-12 0.0' (H702431-01)	0'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	64.0
S-12 0.5' (H702431-02)	0.5'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	32.0
S-12 1.0' (H702431-03)	1'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	16.0
S-12 2.0' (H702431-04)	2'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	<16.0
S-12 3.0' (H702425-06)	3'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	16.0
S-13 0.0' (H702433-06)	0'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	2,920
S-13 0.5' (H702433-07)	0.5'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,550
S-13 1.0' (H702433-08)	1'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,680
S-13 2.0' (H702433-09)	2'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	2,320
S-13 3.0' (H702425-07)	3'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	3,000
S13 - 5.0 (H702867-01)	5'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,960
S13 - 10.0 (H702867-02)	10'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,200
S- 13.12 (H703538-01)	12'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,920
S- 13.15 (H703538-02)	15'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,320
S- 13.18 (H703538-03)	18'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,240
S- 13.20 (H703538-04)	20'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,060
S-14 0.0' (H702424-06)	0'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	160
S-14 0.5' (H702424-07)	0.5'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	592
S-14 1.0' (H702424-08)	1'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	928
S-14 2.0' (H702424-09)	2'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,490
S-14 3.0' (H702421-06)	3'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	2,280
S14 - 5.0 (H702870-01)	5'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,840
S14 - 10.0 (H702870-02)	10'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9,060
S- 14.12 (H703539-01)	12'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,400
S- 14.15 (H703539-02)	15'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,600
S- 14.18 (H703539-03)	18'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,000
S- 14.20 (H703539-04)	20'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,640
S-15 0.0' (H702423-06)	0'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	96.0
S-15 0.5' (H702423-07)	0.5'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	384
S-15 1.0' (H702423-08)	1'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	432
S-15 2.0' (H702423-09)	2'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	800
S-15 3.0' (H702421-07)	3'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,720
S15 - 5.0 (H702882-01)	5'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,800
S15 - 10.0 (H702882-02)	10'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,400
S- 15.12 (H703540-01)	12'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9,060
S- 15.15 (H703540-02)	15'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9,200
S- 15.18 (H703540-03)	18'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,600
S- 15.20 (H703540-04)	20'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,440
S-16 0.0' (H702427-06)	0'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	32.0
S-16 0.5' (H702427-07)	0.5'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	64.0
S16 - SURFACE (H702859-01)	0'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	32
S16 - 0.5 (H702859-02)	0.5'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	16
S16 - 1.0 (H702859-03)	1'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	<16
S16 - 2.0 (H702859-04)	2'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	32
S16 - 3.0 (H702859-05)	3'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	16
S16 - 5.0 (H702859-06)	5'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	80
S16 - 10.0 (H702859-07)	10'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	2,360
S- 16.12 (H703541-01)	12'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,000
S- 16.15 (H703541-02)	15'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9,040
S- 16.18 (H703541-03)	18'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,120
S- 16.20 (H703541-04)	20'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,800

NA = Not Analyzed  
TPH = Total Petroleum Hydrocarbons  
mg/Kg = Milligrams per Kilogram

**CUMULATIVE SOIL BTEX, TPH & CHLORIDE ANALYTICAL DATA**  
**EOG RESOURCES, INC.**  
**STARK BG #2 BATTERY & EAGLE CREEK GAS PIPELINE AREA**  
**EDDY COUNTY, NEW MEXICO**

All values presented in parts per million (mg/Kg)

SAMPLE ID	DEPTH	DATE	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C6-C10	TPH DRO C10-C28	TPH DRO EXT C28-C36	TPH (GRO+DRO)	TPH (GRO+DRO+MRO)	CHLORIDE
S-17 0.0' (H702428-01)	0'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	672
S-17 0.5' (H702428-02)	0.5'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	448
S-17 1.0' (H702428-03)	1'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	528
S-17 2.0' (H702428-04)	2'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,360
S-17 3.0' (H702428-05)	3'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	2,320
S17 - 5.0 (H702881-01)	5'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,560
S17 - 10.0 (H702881-02)	10'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7,840
S- 17.12 (H703542-01)	12'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10,200
S- 17.15 (H703542-02)	15'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,920
S- 17.18 (H703542-03)	18'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,160
S- 17.20 (H703542-04)	20'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,200
S-18 0.0' (H702428-06)	0'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	8,800
S-18 0.5' (H702428-07)	0.5'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	4,880
S-18 1.0' (H702428-08)	1'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	2,880
S-18 2.0' (H702428-09)	2'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	2,120
S-18 3.0' (H702434-01)	3'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,600
S18 - 5.0 (H702879-01)	5'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,580
S18 - 10.0 (H702879-02)	10'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,400
S- 18.12 (H703543-01)	12'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,960
S- 18.15 (H703543-02)	15'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,040
S- 18.18 (H703543-03)	18'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,440
S- 18.20 (H703543-04)	20'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,280
S-19 0.0' (H702429-01)	0'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	32.0
S-19 0.5' (H702429-02)	0.5'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	<16.0
S-19 1.0' (H702429-03)	1'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	832
S-19 2.0' (H702429-04)	2'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	3,200
S-19 3.0' (H702429-05)	3'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	3,840
S19 - 5.0 (H702878-01)	5'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,960
S19 - 10.0 (H702878-02)	10'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7,600
S- 19.12 (H703555-01)	12'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8,660
S- 19.15 (H703555-02)	15'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7,860
S- 19.18 (H703555-03)	18'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,000
S- 19.20 (H703555-04)	20'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,840
S-20 0.0' (H702430-01)	0'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	15,800
S-20 0.5' (H702430-02)	0.5'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	5,200
S-20 1.0' (H702430-03)	1'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	2,400
S-20 2.0' (H702430-04)	2'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	2,880
S-20 3.0' (H702430-05)	3'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	3,000
S20 - 5.0 (H702874-01)	5'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,960
S20 - 10.0 (H702874-02)	10'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,280
S- 20.12 (H703556-01)	12'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,200
S- 20.15 (H703556-02)	15'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,920
S- 20.18 (H703556-03)	18'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,200
S- 20.20 (H703556-04)	20'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,520
S-21 0.0' (H702430-06)	0'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	185	123	185	308	1,100
S-21 0.5' (H702430-07)	0.5'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<50.0	305	206	305	511	1,500
S-21 1.0' (H702430-08)	1'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	35.1	17.7	35.1	52.8	1,200
S-21 2.0' (H702430-09)	2'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,140
S-21 3.0' (H702434-02)	3'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,360
S21 - 5.0 (H702876-01)	5'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,200
S21 - 10.0 (H702876-02)	10'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,380
S- 21.12 (H703557-01)	12'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,230
S- 21.15 (H703557-02)	15'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,680
S- 21.18 (H703557-03)	18'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,760

NA = Not Analyzed  
TPH = Total Petroleum Hydrocarbons  
mg/Kg = Milligrams per Kilogram

**CUMULATIVE SOIL BTEX, TPH & CHLORIDE ANALYTICAL DATA**  
**EOG RESOURCES, INC.**  
**STARK BG #2 BATTERY & EAGLE CREEK GAS PIPELINE AREA**  
**EDDY COUNTY, NEW MEXICO**

All values presented in parts per million (mg/Kg)

SAMPLE ID	DEPTH	DATE	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C6-C10	TPH DRO C10-C28	TPH DRO EXT C28-C36	TPH (GRO+DRO)	TPH (GRO+DRO+MRO)	CHLORIDE
S- 21.20 (H703557-04)	20'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,880
S-22 0.0' (H702429-06)	0'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	20.7	<10.0	20.7	20.7	496
S-22 0.5' (H702429-07)	0.5'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	24.9	<10.0	24.9	24.9	832
S-22 1.0' (H702429-08)	1'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	19.6	10.4	19.6	30	864
S-22 2.0' (H702429-09)	2'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,230
S-22 3.0' (H702434-03)	3'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,650
S22 - 5.0 (H702873-01)	5'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,280
S22 - 10.0 (H702873-02)	10'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,640
S- 22.12 (H703558-01)	12'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,520
S- 22.15 (H703558-02)	15'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,360
S- 22.18 (H703558-03)	18'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,800
S- 22.20 (H703558-04)	20'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,000
S-23 0.0' (H702431-05)	0'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	176
S-23 0.5' (H702431-06)	0.5'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	608
S-23 1.0' (H702431-07)	1'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	272
S-23 2.0' (H702431-08)	2'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,100
S-23 3.0' (H702431-09)	3'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,440
S23 - 5.0 (H702871-01)	5'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,120
S23 - 10.0 (H702871-02)	10'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,200
S- 23.12 (H703559-01)	12'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,320
S- 23.15 (H703559-02)	15'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,880
S- 23.18 (H703559-03)	18'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,760
S- 23.20 (H703559-04)	20'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,840
S-24 0.0' (H702432-01)	0'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	4,640
S-24 0.5' (H702432-02)	0.5'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	3,680
S-24 1.0' (H702432-03)	1'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	3,360
S-24 2.0' (H702432-04)	2'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	4,080
S-24 3.0' (H702432-05)	3'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	4,800
S24 - 5.0 (H702875-01)	5'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	992
S24 - 10.0 (H702875-02)	10'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,000
S- 24.12 (H703560-01)	12'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,010
S- 24.15 (H703560-02)	15'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	880
S- 24.18 (H703560-03)	18'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	800
S- 24.20 (H703560-04)	20'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,090
S-25 0.0' (H702433-01)	0'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	5,920
S-25 0.5' (H702433-02)	0.5'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	3,000
S-25 1.0' (H702433-03)	1'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	3,680
S-25 2.0' (H702433-04)	2'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	4,080
S-25 3.0' (H702433-05)	3'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	4,880
S25 - 5.0 (H702858-01)	5'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,120
S25 - 10.0 (H702858-02)	10'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	8,480
S- 25.12 (H703551-01)	12'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7,730
S- 25.15 (H703551-02)	15'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,330
S- 25.18 (H703551-03)	18'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,200
S- 25.20 (H703551-04)	20'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,920
S-26 0.0' (H702432-06)	0'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	14,400
S-26 0.5' (H702432-07)	0.5'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	3,360
S-26 1.0' (H702432-08)	1'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	2,240
S-26 2.0' (H702432-09)	2'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	2,320
S-26 3.0' (H702434-04)	3'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	2,920
S26 - 5.0 (H702877-01)	5'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,920
S26 - 10.0 (H702877-02)	10'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,120
S- 26.12 (H703552-01)	12'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,660

NA = Not Analyzed  
TPH = Total Petroleum Hydrocarbons  
mg/Kg = Milligrams per Kilogram

**CUMULATIVE SOIL BTEX, TPH & CHLORIDE ANALYTICAL DATA**  
**EOG RESOURCES, INC.**  
**STARK BG #2 BATTERY & EAGLE CREEK GAS PIPELINE AREA**  
**EDDY COUNTY, NEW MEXICO**

All values presented in parts per million (mg/Kg)

SAMPLE ID	DEPTH	DATE	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C6-C10	TPH DRO C10-C28	TPH DRO EXT C28-C36	TPH (GRO+DRO)	TPH (GRO+DRO+MRO)	CHLORIDE
S- 26.15 (H703552-02)	15'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,840
S- 26.18 (H703552-03)	18'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5,280
S- 26.20 (H703552-04)	20'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,720
S-26(B) - 45' (H801153-04)	45'	04/25/18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	320
S-27 0.0' (H702427-08)	0'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	240
S-27 0.5' (H702427-09)	0.5'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	256
S-28 0.0' (H702416-08)	0'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	48.0
S-28 0.5' (H702416-09)	0.5'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	80.0
S-29 0.0' (H702434-05)	0'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	96.0
S-29 0.5' (H702434-06)	0.5'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	288
S-29 1.0' (H702434-07)	1'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	544
S-29 2.0' (H702434-08)	2'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	656
S-29 3.0' (H702434-09)	3'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	896
S29 - 5.0 (H702872-01)	5'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,880
S29 - 10.0 (H702872-02)	10'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,760
S- 29.12 (H703553-01)	12'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,000
S- 29.15 (H703553-02)	15'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,560
S- 29.18 (H703553-03)	18'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,000
S- 29.20 (H703553-04)	20'	12/13/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,320
S-30 0.0' (H702425-08)	0'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	144
S-30 0.5' (H702425-09)	0.5'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	416
S-31 0.0' (H702435-01)	0'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	160
S-31 0.5' (H702435-02)	0.5'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	144
S-31 1.0' (H702435-03)	1'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	128
S-31 2.0' (H702435-04)	2'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	384
S-31 3.0' (H702435-05)	3'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,070
S31 - 5.0 (H702880-01)	5'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	752
S31 - 10.0 (H702880-02)	10'	10/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	592
S-32 0.0' (H702435-06)	0'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	112
S-32 0.5' (H702435-07)	0.5'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	112
S-33 0.0' (H702435-08)	0'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	48.0
S-33 0.5' (H702435-09)	0.5'	09/05/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	16.0
S-34 0.0' (H702421-08)	0'	09/06/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	48.0
S35 - SURFACE (H702860-01)	0'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	176
S35 - 0.5 (H702860-02)	0.5'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	320
S35 - 1.0 (H702860-03)	1'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	704
S35 - 2.0 (H702860-04)	2'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	2,000
S35 - 3.0 (H702860-05)	3'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	2,880
S35 - 5.0 (H702860-06)	5'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	4,160
S35 - 10.0 (H702860-07)	10'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	6,930
S- 35.12 (H703554-01)	12'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7,200
S- 35.15 (H703554-02)	15'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8,130
S- 35.18 (H703554-03)	18'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,720
S- 35.20 (H703554-04)	20'	12/12/17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,570
S36 - SURFACE (H702861-01)	0'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	32.0
S36 - 0.5 (H702861-02)	0.5'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	272
S36 - 1.0 (H702861-03)	1'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,180
S36 - 2.0 (H702861-04)	2'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	320

NA = Not Analyzed  
TPH = Total Petroleum Hydrocarbons  
mg/Kg = Milligrams per Kilogram



**CUMULATIVE SOIL BTEX, TPH & CHLORIDE ANALYTICAL DATA**  
**EOG RESOURCES, INC.**  
**STARK BG #2 BATTERY & EAGLE CREEK GAS PIPELINE AREA**  
**EDDY COUNTY, NEW MEXICO**

All values presented in parts per million (mg/Kg)

SAMPLE ID	DEPTH	DATE	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C6-C10	TPH DRO C10-C28	TPH DRO EXT C28-C36	TPH (GRO+DRO)	TPH (GRO+DRO+MRO)	CHLORIDE
S36 - 3.0 (H702861-05)	3'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	160
S36 - 5.0 (H702861-06)	5'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	704
S36 - 10.0 (H702861-07)	10'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	1,120
S37 - SURFACE (H702862-01)	0'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	80.0
S37 -0.5 (H702862-02)	0.5'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	304
S37 -1.0 (H702862-03)	1'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	160
S37 -2.0 (H702862-04)	2'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<20.0	<30.0	144
S37 -3.0 (H702862-05)	3'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	76.3	59.2	76.3	135.5	464
S37 -5.0 (H702862-06)	5'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	25.6	17.8	25.6	43.4	624
S37 -10.0 (H702862-07)	10'	10/12/17	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	23.5	<20.0	23.5	320
S-38 / 2' (H801706-15)	2'	06/21/18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	16
S-38 / 3' (H801706-16)	3'	06/21/18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	16
S-38 / 4' (H801706-17)	4'	06/21/18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32
S-39 / 2' (H801706-18)	2'	06/21/18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32
S-39 / 3' (H801706-19)	3'	06/21/18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	16
S-39 / 4' (H801706-20)	4'	06/21/18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	16
S-40 / 2' (H801706-21)	2'	06/21/18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32
S-40 / 3' (H801706-22)	3'	06/21/18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	16
S-40 / 4' (H801706-23)	4'	06/21/18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32
S-41 / 4' (H801706-24)	4'	06/21/18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	16
S-42 / 4' (H801706-25)	4'	06/21/18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	144
S-43 / 4' (H801706-26)	4'	06/21/18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	208
S-44 / 4' (H801706-27)	4'	06/21/18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	64
S-45 / 4' (H801706-28)	4'	06/21/18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32
<b>19.15.29.12 NMAC Table 1 Closure Criteria for Soils Impacted by a Release (GW &gt;100')</b>			<b>10</b>	---	---	---	<b>50</b>	---	---	---	<b>1,000</b>	<b>2,500</b>	<b>20,000</b>
<b>19.15.29.13 NMAC Reclamation Criteria (0'-4' Soils Only)</b>													<b>600</b>

## Notes:

- Results exceeding the Table 1 Closure Criteria are presented in bold type.
- Results exceeding the NMAC Restoration, Reclamation and re-vegetation chloride concentration requirements are presented in bold red type.

NA = Not Analyzed  
 TPH = Total Petroleum Hydrocarbons  
 mg/Kg = Milligrams per Kilogram

ATTACHMENT 5 – APRIL 2, 2018 EMC  
“SUBSURFACE GEOPHYSICAL SURVEY  
REPORT”



**SUBSURFACE GEOPHYSICAL SURVEY  
NEAR ARTESIA, NEW MEXICO**

**PERFORMED BY:  
THE EARTH MEASUREMENT CORP.  
ON THE 21st DAY OF MARCH, 2018**

*Professionally solving subsurface questions*



02 April 2018

Mr. Max Cook, CAPM  
**Ranger Environmental Services, Inc.**  
7215 McNeil Drive  
Austin, Texas 78729

**Re: Report for the Geophysical Investigation Survey  
Artesia, NM  
EMC Project # RES021821**

Dear Mr. Cook,

This report describes the results of a geophysical survey performed by the Earth Measurement Corp. (EMC) 21 March 2018 at your site located near Artesia, New Mexico.

## **SCOPE**

The scope of this project was to delineate the extent of any possible chloride contamination within the survey boundaries defined for this site.

The geophysical technologies and techniques described in this report will significantly increase and refine the body of knowledge about a specific site. They are not definitive measures in obstructed environments and should not be the only methods used to identify and delineate subsurface objects.

## **ACQUISITION**

EMC fielded a two person crew for the acquisition phase of this project: Operations Manager – Harold Fulton, and Cartographer Chance Austin. Differentially Corrected Global Positioning System (DGPS) equipment was used to position the geophysical data.

## **EQUIPMENT**

Two (2) EM instruments were used on each site. The first electromagnetic instrument was a Geonics Electromagnetic Meter, Model EM-38. The EM-38 uses the same properties as the EM-31, but has been designed to survey down to a depth of approximately one point five (1.5) meters. EMC utilized the EM-38 in both a vertical and horizontal orientation. The vertical orientation produces a maximum depth of investigation of approximately 5 feet, while the horizontal orientation surveys to approximately 2.5 feet.

The second EM instrument was the EM-34. This model is another type of device for measuring the electrical conductivity of the subsurface soil, rock and ground water. It operates on the same basic principles as the EM-38, but has the ability to measure conductivity changes to much greater depths. The instrument's variable range-of-depth can be as much as 200' in certain conditions. For this survey we collected EM-34 data at an estimated depth of 100' in the Vertical Dipole.

More information on the EM-31 and EM-34 can be found in the Equipment Descriptions section of this report.

## PROCESSING

After the data were acquired, geotechnical software was utilized to process the EM information for the Earth's normal field of adjustments, terrain corrections and filtering to discriminate against extraneous interference. The EM data were processed by **EMC's** Dashboard proprietary software package and contoured using Golden Software's Surfer 12 contouring and mapping program.

## INTERPRETATION

A thorough review of the geophysical data revealed the following:

For the shallow data from the EM-38 instrument please refer to the Interpretive Map which shows the data at two (2) different depths. The horizontal orientation (0-2.5 Feet) is shown on the Interpretive Map by a red-hatched pattern and the vertical orientation data (0-5 Feet) is indicated on the Interpretive Map by a blue-hatched pattern. The data indicates a change across the survey area from background value established offsite in a presumed unaffected area. Please note that these data values are averages for the entire soil column from the surface to either -2.5 feet or the surface to -5.0 feet. It is not possible to correlate the EM data values with samples taken at a discreet point at a specific depth.

The data for the EM-34 are shown on individual graphs as the data lines are a single profile across the specific linear path. There were four (4) EM-34 lines collected for this survey and they were chosen onsite by the Ranger Environmental Site Supervisor. They were chosen to evaluate specific areas based on the EM-38 data that was field-processed for this purpose. Once again the EM-34 data indicate an average for the entire soil column from the surface to an estimated depth of investigation of one-hundred (100) feet. These lines show areas where the conductivity values are significantly above the background value established offsite in a presumed unaffected area. Each reading of the EM-34 is a single discreet point of data that was taken at specific data stations. These stations were captured with DGPS equipment for spatial location. Each stations location should be accurate to +/- one (1) foot. Please refer to the graph of each line and each station within the line for the apparent conductivity value at that location.

Mr. Max Cook — Ranger Environmental Services, Inc.  
02 April 2018 — Page 3 of 3

## DELIVERABLES

Included with this report are the following items:

- Equipment Descriptions
- EM-38 Quadrature Maps (Vertical and Horizontal)
- EM-34 Quadrature Graphs (Vertical Only)
- Interpretive Map

## STATEMENT

Electromagnetics are not a definitive measure in disturbed environments and should not be the only method used to define the boundaries of sub-surface anomalies. The interpretation of the processed data describes the anomalies as closely as possible. The survey results described in this report and illustrated on the Interpretive Maps represent theories supported by the evidence of the data collected. Based on experience and expertise in the field, **EMC** has every confidence in the results.

Please be advised that original project data will be held in **EMC**'s offices for a period of six months. After that time, the data will be destroyed. **EMC** personnel are always ready to answer any questions about this project. Please do not hesitate to call.

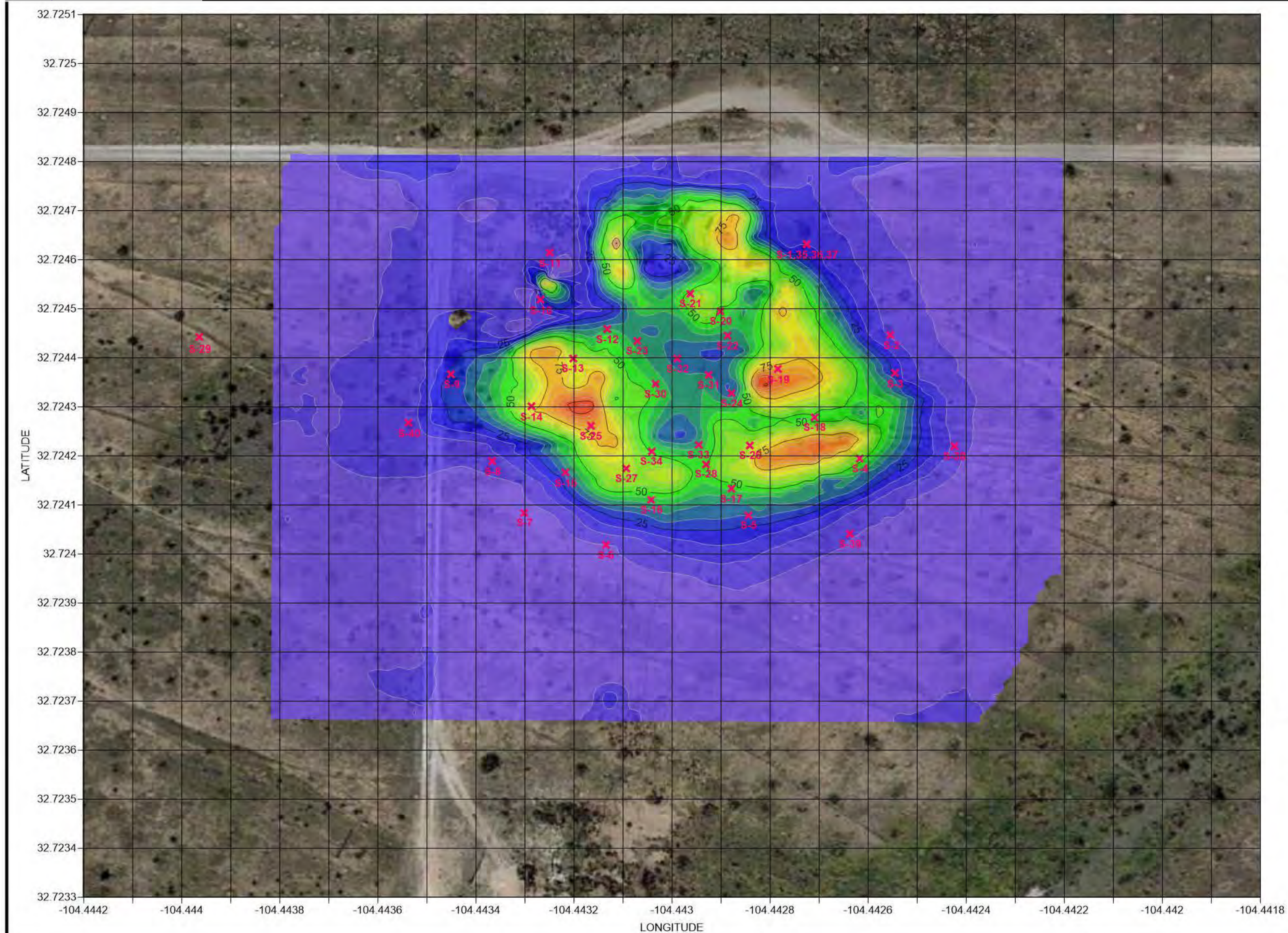
Thank you for this opportunity.







A handwritten signature in black ink that reads "Joe M. Austin".

Joe M. Austin  
State of Texas Professional Geoscientist  
Geophysics – License #5336





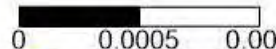
**LEGEND:**

-  ELEVATED CHLORIDES 0' - 2.5'
-  ELEVATED CHLORIDES 0' - 5'
-  EM-34 CONDUCTIVITY LINES
-  RANGER SAMPLE POINTS


COORDINATE SYSTEM:  
LAT/LONG WGS 84



**Geophysical Investigation Survey**  
**ARTESIA, NEW MEXICO**  
**EM-38 CONDUCTIVITY MAP**  
DEPTH OF INVESTIGATION 0' - 2.5'

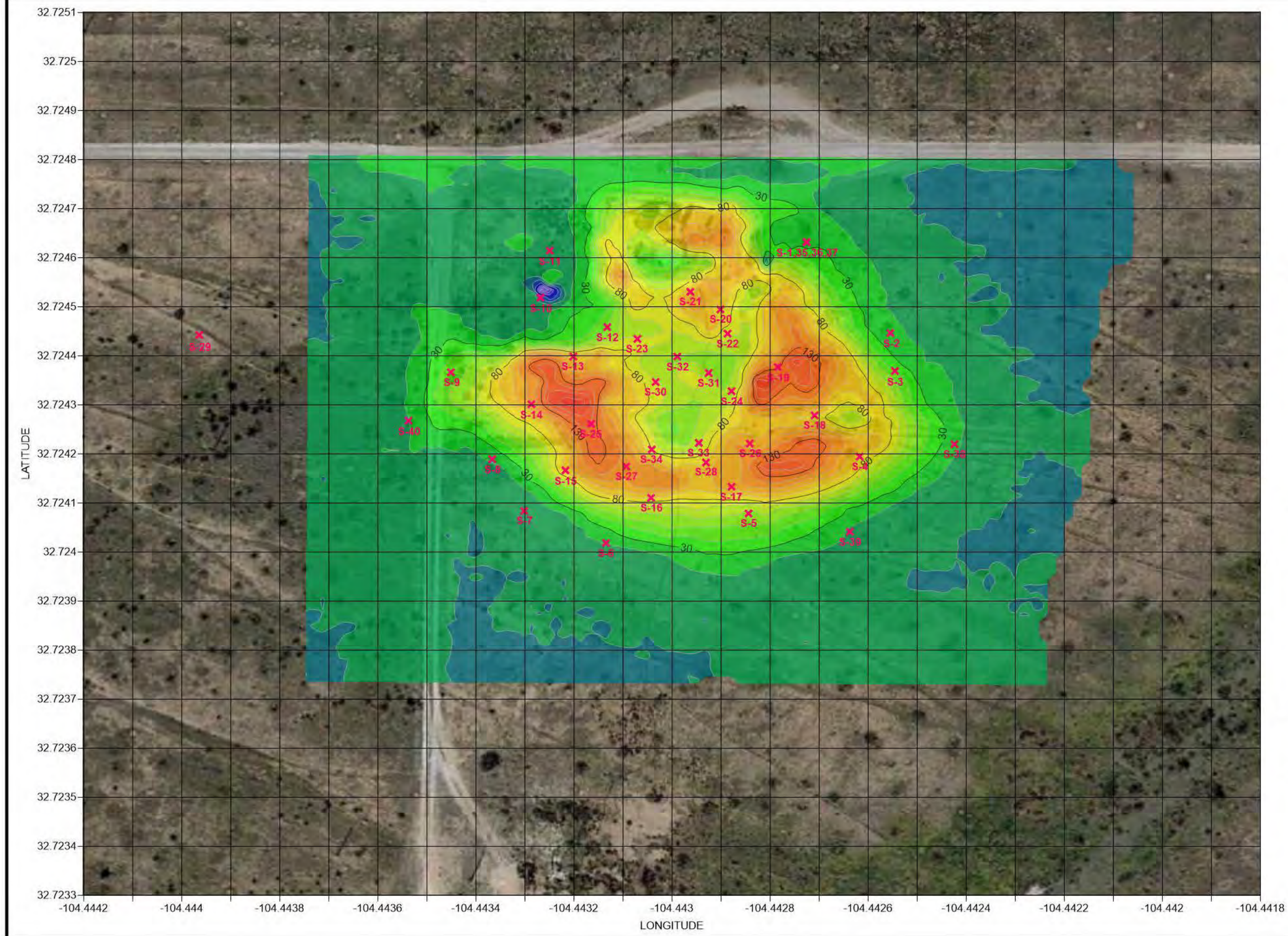


**MARCH 2018**







10963 Cutten Rd.  
Suite C 102  
Houston, Texas 77066  
281-829-5700





**LEGEND:**


-  ELEVATED CHLORIDES 0' - 2.5'
-  ELEVATED CHLORIDES 0' - 5'
-  EM-34 CONDUCTIVITY LINES
-  RANGER SAMPLE POINTS

**COORDINATE SYSTEM:**  
LAT/LONG WGS 84

  
ENVIRONMENTAL SERVICES, INC.

**Geophysical Investigation Survey**  
**ARTESIA, NEW MEXICO**  
**EM-38 CONDUCTIVITY MAP**  
DEPTH OF INVESTIGATION 0' - 5'

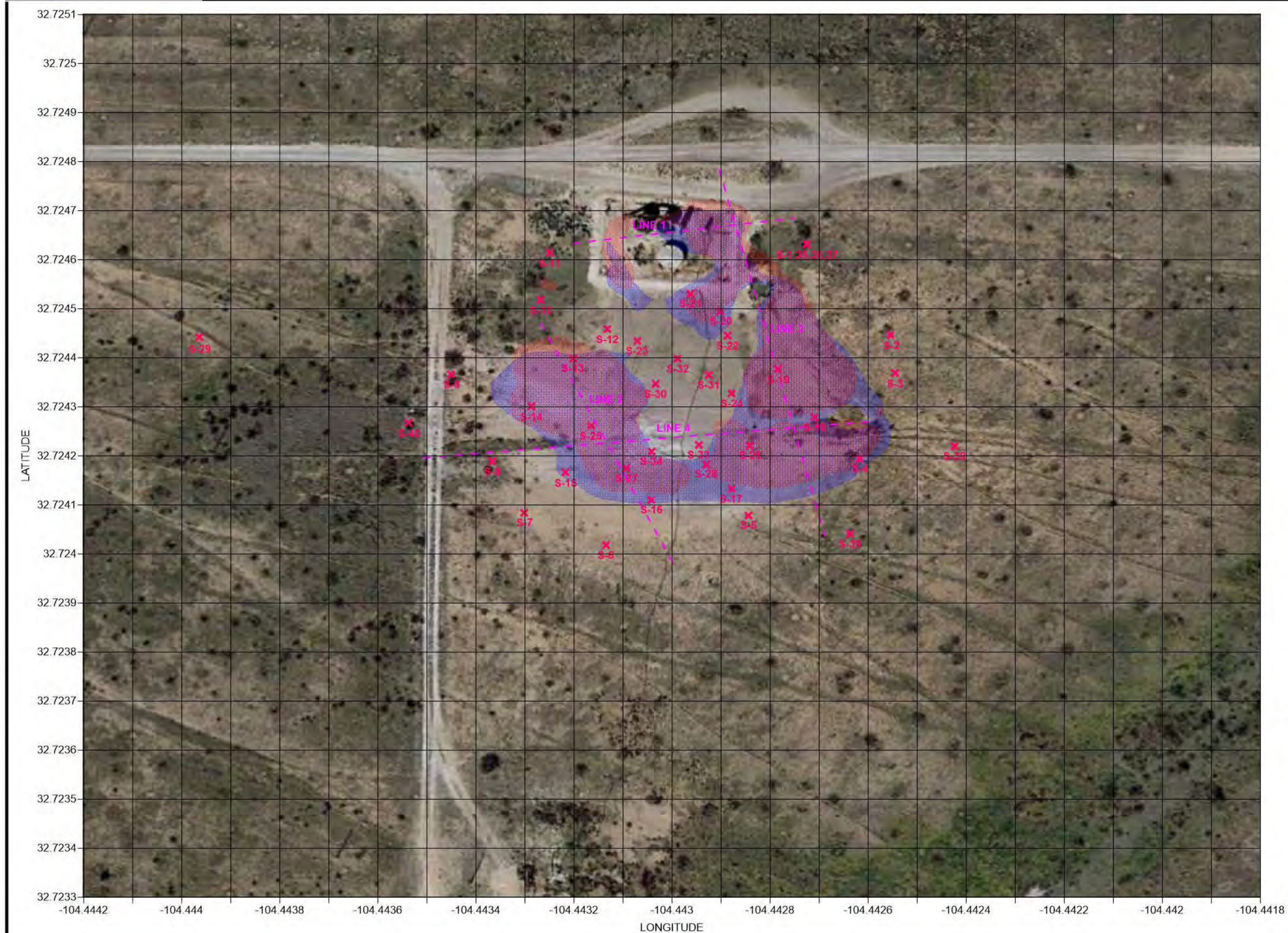
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 **EMC**  
EARTH MEASUREMENT CORP.  
Environmental & Engineering Geophysics





**MARCH 2018**

10963 Cutten Rd.  
Suite C 102  
Houston, Texas 77066  
281-829-5700





**LEGEND:**

-  ELEVATED CHLORIDES 0' - 2.5'
-  ELEVATED CHLORIDES 0' - 5'
-  EM-34 CONDUCTIVITY LINES
-  RANGER SAMPLE POINTS

COORDINATE SYSTEM:  
LAT/LONG WGS 84

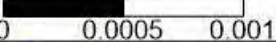


*Geophysical Investigation Survey*

**ARTESIA, NEW MEXICO**

**INTERPRETIVE MAP**

ALL FOUND PIPELINES, UTILITIES & ANOMALIES



**MARCH 2018**

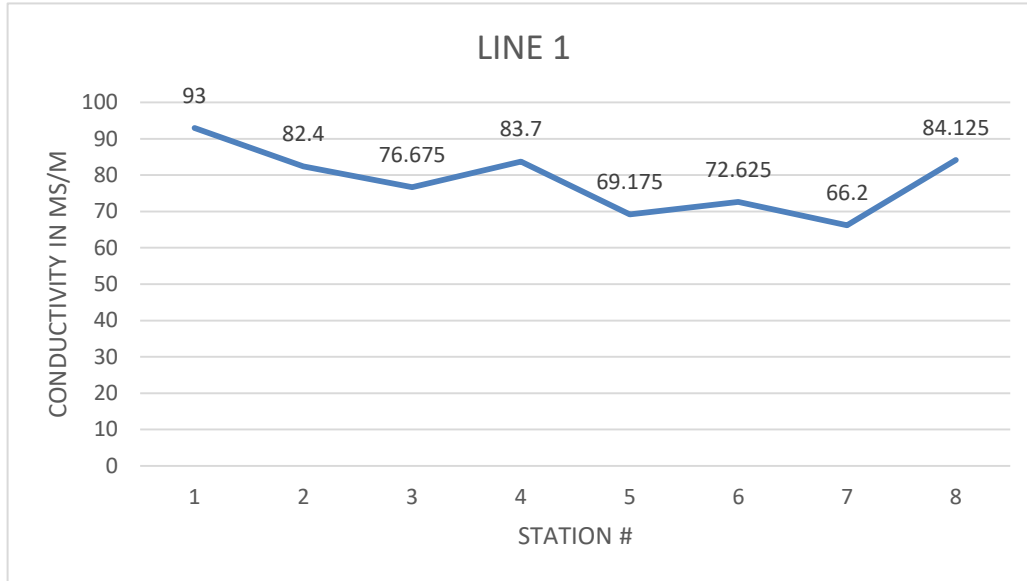


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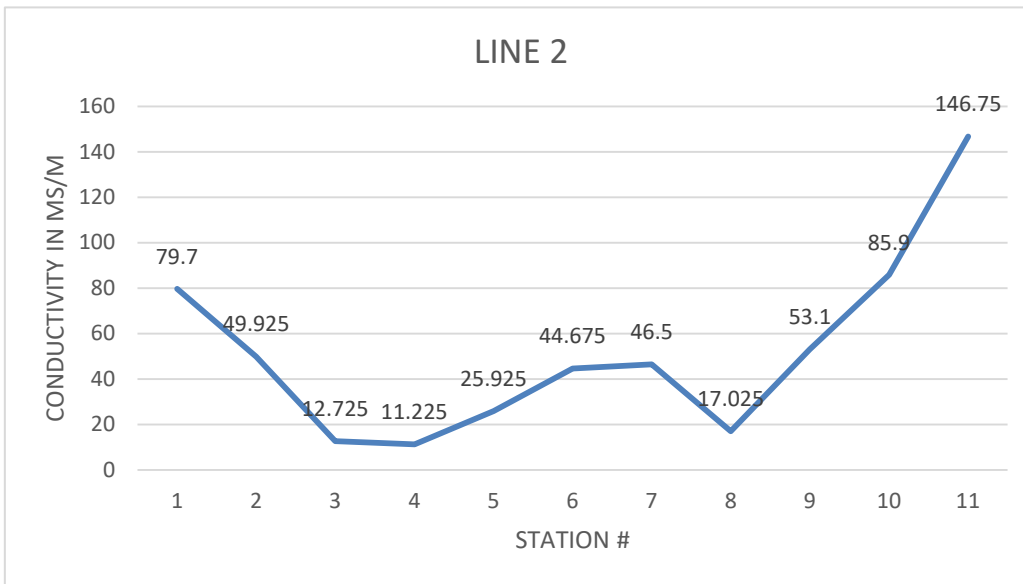
## LINE 1

Station #	Latitude	Longitude	Conductivity + 40
1	32.72463	-104.4432011	93
2	32.72464	-104.4431359	82.4
3	32.72465	-104.4430727	76.675
4	32.72465	-104.4430083	83.7
5	32.72466	-104.4429431	69.175
6	32.72467	-104.4428783	72.625
7	32.72468	-104.442815	66.2
8	32.72468	-104.4427505	84.125



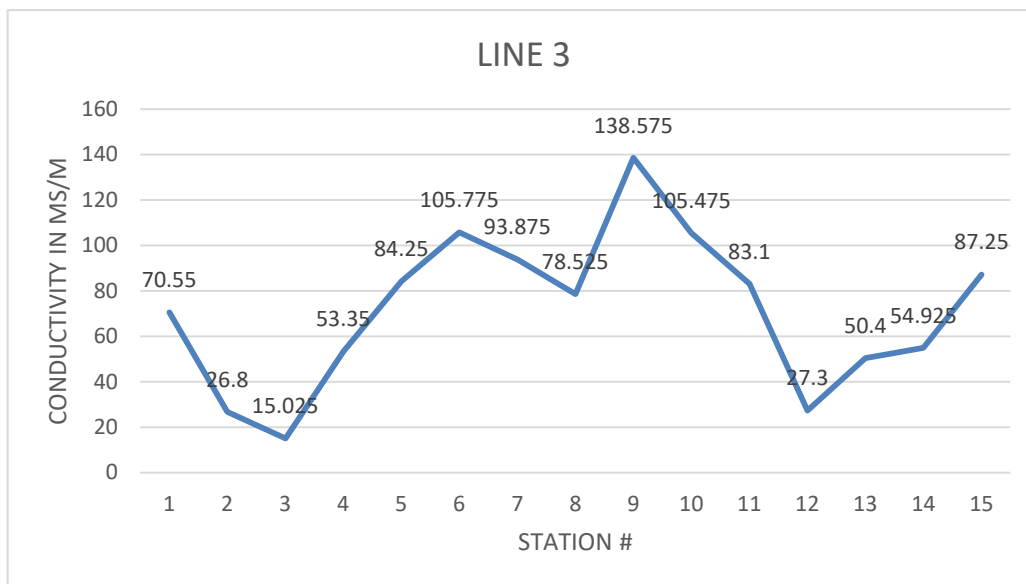
## Line 2

Station #	Latitude	Longitude	Conductivity + 40
1	32.72398	-104.443	79.7
2	32.72402	-104.443	49.925
3	32.72407	-104.443	12.725
4	32.72412	-104.443	11.225
5	32.72417	-104.443	25.925
6	32.72422	-104.443	44.675
7	32.72427	-104.443	46.5
8	32.72432	-104.443	17.025
9	32.72437	-104.443	53.1
10	32.72442	-104.443	85.9
11	32.72447	-104.443	146.75



## Line 3

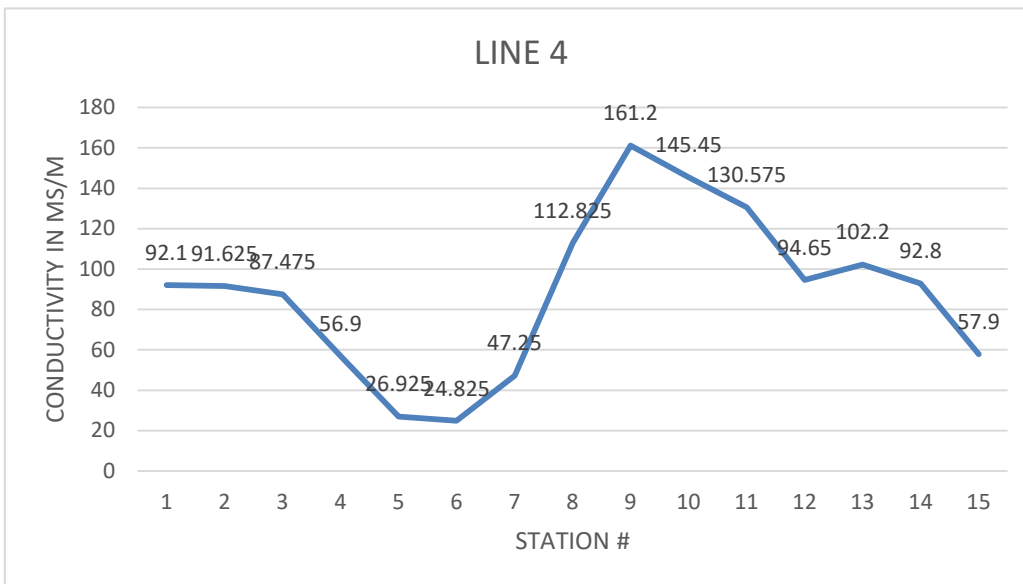
Station #	Latitude	Longitude	Conductivity + 40
1	32.72404	-104.443	70.55
2	32.72409	-104.443	26.8
3	32.72414	-104.443	15.025
4	32.7242	-104.443	53.35
5	32.72425	-104.443	84.25
6	32.7243	-104.443	105.775
7	32.72436	-104.443	93.875
8	32.72441	-104.443	78.525
9	32.72446	-104.443	138.575
10	32.72452	-104.443	105.475
11	32.72457	-104.443	83.1
12	32.72462	-104.443	27.3
13	32.72468	-104.443	50.4
14	32.72473	-104.443	54.925
15	32.72478	-104.443	87.25





## Line 4

Station #	Latitude	Longitude	Conductivity + 40
1	32.7242	-104.444	92.1
2	32.7242	-104.443	91.625
3	32.72421	-104.443	87.475
4	32.72421	-104.443	56.9
5	32.72422	-104.443	26.925
6	32.72422	-104.443	24.825
7	32.72423	-104.443	47.25
8	32.72423	-104.443	112.825
9	32.72424	-104.443	161.2
10	32.72424	-104.443	145.45
11	32.72425	-104.443	130.575
12	32.72425	-104.443	94.65
13	32.72426	-104.443	102.2
14	32.72426	-104.443	92.8
15	32.72427	-104.443	57.9





## **GEONICS EM-38** ***Electromagnetic Meter***

The Geonics **EM-38** measures terrain conductivity without electrodes or ground contact using a patented electromagnetic inductive technique. The instrument reads directly in millisiemens per meter. Using this inductive method, surveys are readily carried out in all regions including those with high surface resistivity such as sand, gravel and asphalt. The **EM-38** is one-person portable and has an effective depth-of-exploration of about one and one-half meters. The **EM-38** is the ideal tool for site assessment surveys. Typical applications for the **EM-38** instrument are:

- ◆ Delineating areas of conductive changes
- ◆ Locating suspected and delineating known gravel deposits
- ◆ Mapping saline intrusions and bedrock topography
- ◆ Detecting cavities in carbonate rocks
- ◆ Mapping pollution plumes in groundwater
- ◆ Mapping terrain conductivity for electrical grounding
- ◆ General geologic mapping of soil types, faults, and fracture zones
- ◆ Archaeological exploration

Advantages of this instrument over conventional resistivity methods are the speed with which surveys can be conducted, the precision with which small changes in conductivity can be measured and the capability of continuous readouts while traversing a survey area.





## **GEONICS EM-34** ***Electromagnetic Meter***

The Geonics **EM-34** can be used to map geologic features or groundwater contaminant plumes by measuring terrain conductivity without electrodes or ground contact using a patented electromagnetic inductive technique. The instrument reads directly in millisiemens per meter. Using this inductive method, surveys are readily carried out in all regions including those with high surface resistivity such as sand, gravel and asphalt. The **EM-34** requires two or three persons for operation dependent on the locationing system used. The effective depth-of-exploration is directly dependent on the coil separation and the mode operated. Dependent on equipment setup, the **EM-34** can investigate to depths up to 200' below ground level. It has been designed to cover the range-of-depths most useful to engineering geophysics. Typical applications for the **EM-34** instrument are:

- ◆ Delineating regions of permafrost (frozen pore water)
- ◆ Locating suspected and delineating known gravel deposits
- ◆ Mapping saline intrusions and bedrock topography
- ◆ Detecting cavities in carbonate rocks
- ◆ Mapping pollution plumes in groundwater
- ◆ Mapping terrain conductivity for electrical grounding
- ◆ General geologic mapping of soil types, faults, and fracture zones
- ◆ Archaeological exploration

Advantages of the **EM-34** over conventional resistivity methods are the speed with which surveys can be conducted, the precision with which small changes in conductivity can be measured. These features make it ideal for most any type of geotechnical or groundwater contaminant survey.



## ATTACHMENT 6 – BORING LOGS





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

# BORING NUMBER S2SW (B)

PAGE 1 OF 1

CLIENT EOG Y

PROJECT NAME Stark BG#2 Battery& Eagle Creek Gas System

PROJECT NUMBER 5375

PROJECT LOCATION Stark BG#2 Battery& Eagle Creek Gas System

DATE STARTED 4/25/18

DATE COMPLETED: 4/25/18

GROUND ELEVATION \_\_\_\_\_ HOLE SIZE 2"

DRILLING CONTRACTOR Talon

GROUND WATER LEVELS:

DRILLING METHOD Air Rotary

AT TIME OF DRILLING ---

LOGGED BY Keith Copeland

CHECKED BY Hanna Schaefer

AFTER DRILLING ---

GPS COORDINATES: 32.72457°, -1044313°

DEPTH (ft)	SOIL SAMPLE	RECOVERY (%)	PID (in ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0					BACKFILL, reworken backfill, cobble dia. greater than 2"	No Well Installation
10						
20						
25	GB 25'		PID = 0		(SM) SILT, buff, sandy, caliche inclusions	
30	GB 30'		PID = 0			
35	GB 35'		PID = 0			
40	GB 40'		PID = 0		(SM) - Gravelly below 40 ft	
45	GB 45'		PID = 0			
50	GB 50'		PID = 0			
55	GB 55'		PID = 0			
60	GB 60'		PID = 0		(SC) CLAYEY SILT, tan, gravel dia. greater than 1"	
65	GB 65'		PID = 0			
70	GB 70'		PID = 0		(GC) SILTY CLAYEY GRAVEL, grades to red	
75	GB 75'		PID = 0			
80	GB 80'		PID = 0		Bottom of borehole at 80.0 feet.	



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# BORING NUMBER S2SW(C)

PAGE 1 OF 1

CLIENT EOG Y

PROJECT NAME Stark BG#2 Battery& Eagle Creek Gas System

PROJECT NUMBER 5375

PROJECT LOCATION Stark BG#2 Battery& Eagle Creek Gas System

DATE STARTED 6/21/18

DATE COMPLETED: 6/21/18

GROUND ELEVATION \_\_\_\_\_

HOLE SIZE \_\_\_\_\_

DRILLING CONTRACTOR Talon

GROUND WATER LEVELS:

DRILLING METHOD Air Rotary

AT TIME OF DRILLING ---

LOGGED BY Keith Copeland

CHECKED BY Hanna Schaefer

AFTER DRILLING ---

GPS COORDINATES: 32.72455°, -104.44310°

DEPTH (ft)	SOIL SAMPLE	RECOVERY (%)	PID (in ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0					0 - 80 ft as S-2SW(B) - Previously drilled on 4/25/2018	No Well Installation
10						
20						
30						
40						
50						
60						
70						
80						
85.0						
85.0	GB 1006		PID = 0		(SC) SAND, red, silty, clayey	
90	GB 1010		PID = 0		(SP) SAND, tan, fine grained, well graded, uncomformity	
95.0	GB 1015		PID = 0			
100	GB 1024		PID = 0		(SP) SAND, tan, moderately well sorted, gravel inclusions (dia. < 1/4"), subangular	
100.0	GB 1048		PID = 0		CALICHE, buff hard, gravel inclusions, common, dry	
110	GB 1054		PID = 0			
120	GB 1103		PID = 0			
130	GB 1113		PID = 0			
140	GB 1320					
150	GB 1325					
	GB 1327					
	GB 1330					
	GB 1355					
					Bottom of borehole at 150.0 feet.	

RANGER ENVIRONMENTAL BORING LOG TEMPLATE - GINT STD US.GDT - 7/9/18 16:15 - R:\DRAFTING FILES\GINT LOGS\5375 - EOG STARK BATTERY BORING LOGS.GPJ



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

**BORING NUMBER S5 (B)**

PAGE 1 OF 1

CLIENT EOG YPROJECT NAME Stark BG#2 Battery& Eagle Creek Gas SystemPROJECT NUMBER 5375PROJECT LOCATION Stark BG#2 Battery& Eagle Creek Gas SystemDATE STARTED 4/25/18DATE COMPLETED: 4/25/18GROUND ELEVATION \_\_\_\_\_ HOLE SIZE 2"DRILLING CONTRACTOR Talon

GROUND WATER LEVELS:

DRILLING METHOD Air RotaryAT TIME OF DRILLING ---LOGGED BY Keith CopelandCHECKED BY Hanna SchaeferAFTER DRILLING ---GPS COORDINATES: 32.724079°, -104.442844°

DEPTH (ft)	SOIL SAMPLE	RECOVERY (%)	PID (in ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0						
10			PID = 0		(SM) SILT, brown to tan, loose, gravelly cobbles (dia. greater than 2")	No Well Installation
20			PID = 0			
25	GB		PID = 0			
30	GB		PID = 0		(SM) SILT, tan, gravelly, black gravel inclusions between 20'-27'	
35	GB		PID = 0			
40	GB		PID = 0			
45	GB		PID = 0			
50	GB		PID = 0			
55	GB		PID = 0			
60	GB		PID = 0			
65	GB		PID = 0			
70	GB		PID = 0			
75	GB		PID = 0			
80	GB		PID = 0			
85	GB		PID = 0			
90	GB		PID = 0			
95	GB		PID = 0			
100	GB		PID = 0			
105	GB		PID = 0			
110	GB		PID = 0			
115	GB		PID = 0			
120	GB		PID = 0			
120	GB		PID = 0		Bottom of borehole at 120.0 feet.	

RANGER ENVIRONMENTAL BORING LOG TEMPLATE - GINT STD US.GDT - 7/9/18 16:15 - R:\DRAFTING FILES\GINT LOGS\5375 - EOG STARK BATTERY BORING LOGS.GPJ



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

**BORING NUMBER S26 (B)**

PAGE 1 OF 1

CLIENT EOG YPROJECT NAME Stark BG#2 Battery& Eagle Creek Gas SystemPROJECT NUMBER 5375PROJECT LOCATION Stark BG#2 Battery& Eagle Creek Gas SystemDATE STARTED 4/25/18DATE COMPLETED: 4/25/18GROUND ELEVATION \_\_\_\_\_ HOLE SIZE 2"DRILLING CONTRACTOR Talon

GROUND WATER LEVELS:

DRILLING METHOD Air RotaryAT TIME OF DRILLING ---LOGGED BY Keith CopelandCHECKED BY Hanna SchaeferAFTER DRILLING ---GPS COORDINATES: 32.72417°, -104.44291°

DEPTH (ft)	SOIL SAMPLE	RECOVERY (%)	PID (in ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0					(SM) SILT, loose, gravelly, rounded, cobbles dia. greater than 2"	No Well Installation
10			PID = 0			
			PID = 0			
			PID = 0			
20			PID = 0			
	GB 25'		PID = 0	25.0	(GM) GRAVELLY SILT, clayey, dark brown to gray	
30	GB 30'		PID = 0			
	GB 35'		PID = 0	35.0	(SM) SILT, tan, buff, caliche inclusions, common, sandy, gravelly	
40	GB 40'		PID = 0	40.0	CALICHE, hard, buff, gravel dia. greater than 7"	
	GB 45'		PID = 0			
50	GB 50'		PID = 0			
	GB 55'		PID = 0	55.0	Bottom of borehole at 55.0 feet.	

RANGER ENVIRONMENTAL BORING LOG TEMPLATE - GINT STD US.GDT - 7/9/18 16:15 - R:\DRAFTING FILES\GINT LOGS\5375 - EOG STARK BATTERY BORING LOGS.GPJ



## ATTACHMENT 7 – PHOTOGRAPHIC DOCUMENTATION

PHOTOGRAPHIC DOCUMENTATION



Drilling SW-2SW(B) at approximate GPS coordinates 32.72457; -104.44313



Drilling S-26(B) at approximate GPS coordinates 32.72417; -104.44291



Drilling S-5(B) at approximate GPS coordinates 32.724079; -104.442844



## ATTACHMENT 8 – LABORATORY ANALYTICAL REPORTS



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

---

September 15, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135 (S-1)  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-1.1 (H702413-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54	
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50	
Total BTX	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1200	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.8	200	0.881	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	196	98.0	200	1.76	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 85.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 90.5 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135 (S-1)  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-1.2 (H702413-02)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54	
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50	
Total BTEX	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1020	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.8	200	0.881	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	196	98.0	200	1.76	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 85.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 94.1 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135 (S-1)  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-1.3 (H702413-03)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54	
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50	
Total BTEX	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	624	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.8	200	0.881	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	196	98.0	200	1.76	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 91.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 91.8 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135 (S-1)  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-1.4 (H702413-04)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54	
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50	
Total BTEX	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	752	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.8	200	0.881	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	196	98.0	200	1.76	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 89.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 94.4 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135 (S-1)  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-1.5 (H702413-05)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54	
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50	
Total BTEX	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1020	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.8	200	0.881	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	196	98.0	200	1.76	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 84.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.0 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135 (S-1)  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-1.6 (H702413-06)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54	
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50	
Total BTEX	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1140	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.8	200	0.881	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	196	98.0	200	1.76	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 86.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 87.9 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager







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

September 15, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-2 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-2.1 (H702415-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54	
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50	
Total BTX	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	880	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 82.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 81.4 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-2 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-2.2 (H702415-02)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.84	91.8	2.00	1.65	
Toluene*	<0.050	0.050	09/13/2017	ND	1.97	98.4	2.00	0.687	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.15	108	2.00	0.0407	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.45	107	6.00	0.0433	
Total BTX	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1090	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 93.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 87.3 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-2 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-2.3 (H702415-03)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/13/2017	ND	1.84	91.8	2.00	1.65		
Toluene*	<0.050	0.050	09/13/2017	ND	1.97	98.4	2.00	0.687		
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.15	108	2.00	0.0407		
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.45	107	6.00	0.0433		
Total BTEx	<0.300	0.300	09/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1360	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 77.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 80.8 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-2 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-2.4 (H702415-04)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/13/2017	ND	1.84	91.8	2.00	1.65		
Toluene*	<0.050	0.050	09/13/2017	ND	1.97	98.4	2.00	0.687		
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.15	108	2.00	0.0407		
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.45	107	6.00	0.0433		
Total BTEx	<0.300	0.300	09/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1390	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 84.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 83.9 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-2 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-2.5 (H702415-05)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.84	91.8	2.00	1.65	
Toluene*	<0.050	0.050	09/13/2017	ND	1.97	98.4	2.00	0.687	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.15	108	2.00	0.0407	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.45	107	6.00	0.0433	
Total BTX	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1840	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 89.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.1 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-2 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-2.6 (H702415-06)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.84	91.8	2.00	1.65	
Toluene*	<0.050	0.050	09/13/2017	ND	1.97	98.4	2.00	0.687	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.15	108	2.00	0.0407	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.45	107	6.00	0.0433	
Total BTX	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1800	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 84.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 86.2 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



---

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---

### 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

---

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



**CARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY / RECORD AND ANALYSIS REQUEST

Project Name: **Stark BG #2 (S-2)**

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Page 9 of 9

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: *Robert Asher*

Fax No:

e-mail:

Robert.Asher@eogresources.com

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: **H702415**

LAB # (lab use only)

FIELD CODE

Beginning Depth

Ending Depth

Date Sampled

Time Sampled

Field Filtered

Total #. of Containers

Preservation & # of Containers

Matrix

DW=Drinking Water SL=Sludge  
GW = Groundwater S=Soil/Solid  
NP=Non-Potable Specify Other

TPH: 8015M Extended

TPH: TX 1005 TX 1006

Cations (Ca, Mg, Na, K)

Anions (Cl)

SAR / ESP / CEC

Metals: As Ag Ba Cd Cr Pb Hg Se

Volatiles

Semivolatiles

BTEX 8021B/5030 or BTEX 8260

RCI

N.O.R.M.

RUSH TAT (Pre-Schedule) 24, 48, 72 hrs

Standard TAT

Special Instructions:

**TPH EXTENDED.** ALL results in mg/kg. Thank you.

Relinquished by: *Robert Asher*

Date

Time

Received by:

*Robert Asher*

Date

Time

Relinquished by:

Date

Time

Received by:

Relinquished by:

Date

Time

Received by ELOI:

Date

Time

Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on container(s)

Custody seals on container(s)

Sample Hand Delivered

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 1.652/14 °C





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

---

September 15, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-3 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-3.1 (H702417-01)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	1.84	91.8	2.00	1.65	
Toluene*	<0.050	0.050	09/14/2017	ND	1.97	98.4	2.00	0.687	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.15	108	2.00	0.0407	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.45	107	6.00	0.0433	
Total BTEx	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 78.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.2 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-3 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-3.2 (H702417-02)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	1.84	91.8	2.00	1.65	
Toluene*	<0.050	0.050	09/14/2017	ND	1.97	98.4	2.00	0.687	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.15	108	2.00	0.0407	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.45	107	6.00	0.0433	
Total BTX	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 85.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.5 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-3 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-3.3 (H702417-03)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	1.84	91.8	2.00	1.65	
Toluene*	<0.050	0.050	09/14/2017	ND	1.97	98.4	2.00	0.687	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.15	108	2.00	0.0407	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.45	107	6.00	0.0433	
Total BTX	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 96.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 104 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-3 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-3.4 (H702417-04)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	1.84	91.8	2.00	1.65		
Toluene*	<0.050	0.050	09/14/2017	ND	1.97	98.4	2.00	0.687		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.15	108	2.00	0.0407		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.45	107	6.00	0.0433		
Total BTEx	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	800	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 88.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 95.7 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-3 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-3.5 (H702417-05)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	1.84	91.8	2.00	1.65		
Toluene*	<0.050	0.050	09/14/2017	ND	1.97	98.4	2.00	0.687		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.15	108	2.00	0.0407		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.45	107	6.00	0.0433		
Total BTEx	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1250	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 88.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 93.8 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-3 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-3.6 (H702417-06)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	1.84	91.8	2.00	1.65	
Toluene*	<0.050	0.050	09/14/2017	ND	1.97	98.4	2.00	0.687	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.15	108	2.00	0.0407	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.45	107	6.00	0.0433	
Total BTX	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1040	16.0	09/12/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 89.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 96.7 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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---

### 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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Analyze For:

[illegible]

Laboratory Comments:

Date	Time
------	------

Date	Time
------	------

Relinquished by:	Date	Time	Received by ELQT:
------------------	------	------	-------------------

Date	Time
------	------

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on containers(s)	Y	N
Custody seals on container(s)	Y	N
Custody seals on cooler(s)	Y	N
Sample Hand Delivered	Y	N
by Sampler/Client Rep. ?	Y	N
by Courier?	UPS	DHL
	FedEx	Lone Star
Temperature Upon Receipt:	11.5°/14 °C	





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

---

September 15, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-4 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-4.1 (H702419-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248	
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187	
Total BTX	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	09/12/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 84.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.7 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-4 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-4.2 (H702419-02)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248		
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187		
Total BTEx	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/12/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 79.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 85.6 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-4 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-4.3 (H702419-03)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248		
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187		
Total BTEx	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/12/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 84.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 86.0 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-4 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-4.4 (H702419-04)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248		
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187		
Total BTEx	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/12/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 85.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 91.0 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-4 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-4.5 (H702419-05)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248		
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187		
Total BTEx	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	09/12/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 93.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 97.8 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-4 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-4.6 (H702419-06)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248	
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187	
Total BTEx	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.8 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	640	16.0	09/12/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 99.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 109 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

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---

### Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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

---

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Fax No: \_\_\_\_\_

Sampler Signature: Robert Asher

e-mail: \_\_\_\_\_

Robert.Asher@eogresources.com

Project Name: Stark BG #2 (S-4)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: H702419

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	Matrix	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT	
1	S-4.1	1'	1'	9/7/2017	9:02 AM		1	X								DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	X			X										X
2	S-4.2	2'	2'	9/7/2017	9:03 AM		1	X									X			X									X	
3	S-4.3	3'	3'	9/7/2017	9:04 AM		1	X									X			X									X	
4	S-4.4	4'	4'	9/7/2017	9:05 AM		1	X									X			X									X	
5	S-4.5	5'	5'	9/7/2017	9:07 AM		1	X									X			X									X	
6	S-4.6	6'	6'	9/7/2017	9:08 AM		1	X									X			X									X	

Special Instructions: **TPH EXTENDED.** ALL results in mg/kg. Thank you.

## Laboratory Comments:

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

Temperature Upon Receipt: 1.65/1.4 °C



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

September 15, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-5 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-5.ESW (H702420-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	09/14/2017	ND	1.74	86.9	2.00	0.248	
Toluene*	<0.200	0.200	09/14/2017	ND	1.86	93.0	2.00	1.38	
Ethylbenzene*	<b>1.33</b>	0.200	09/14/2017	ND	2.07	104	2.00	0.292	
Total Xylenes*	<b>4.29</b>	0.600	09/14/2017	ND	6.21	104	6.00	0.187	
Total BTX	<b>5.62</b>	1.20	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>976</b>	16.0	09/12/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<b>337</b>	50.0	09/12/2017	ND	199	99.5	200	12.0		
DRO >C10-C28	<b>6290</b>	50.0	09/12/2017	ND	197	98.6	200	12.7		
EXT DRO >C28-C36	<b>931</b>	50.0	09/12/2017	ND						

Surrogate: 1-Chlorooctane 153 % 28.3-164

Surrogate: 1-Chlorooctadecane 193 % 34.7-157

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-5 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-5.NSW (H702420-02)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248	
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187	
Total BTEx	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	09/12/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 93.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 94.3 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-5 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-5.WSW (H702420-03)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	2.22	111	2.00	2.05	QM-07
Toluene*	<0.050	0.050	09/14/2017	ND	2.00	100	2.00	3.42	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.08	104	2.00	2.94	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.22	104	6.00	1.66	
Total BTX	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.6 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	09/12/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 95.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 105 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-5 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-5.SSW (H702420-04)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	2.22	111	2.00	2.05		
Toluene*	<0.050	0.050	09/14/2017	ND	2.00	100	2.00	3.42		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.08	104	2.00	2.94		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.22	104	6.00	1.66		
Total BTEX	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	400	16.0	09/12/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 94.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 103 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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 client for 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 thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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

---

### Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: *Robert Asher*

Fax No:

e-mail:

Robert.Asher@eogresources.com

Project Name: **Stark BG #2 (S-5)**

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #:

H7D2420

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S-5.ESW	5'	5'	9/7/2017	9:14 AM		1	X								S	X		X										X
2	S-5.NSW	5'	5'	9/7/2017	9:17 AM		1	X								S	X		X										X
3	S-5.WSW	5'	5'	9/7/2017	9:21 AM		1	X								S	X		X										X
4	S-5.SSW	5'	5'	9/7/2017	9:24 AM		1	X								S	X		X										X

Special Instructions:

TPH EXTENDED. ALL results in mg/kg. Thank you.

Inquired by:

Date

Time

Received by:

Date

Time

Inquired by:

Date

Time

Received by:

Date

Time

Inquired by:

Date

Time

Received by ELOT:

Date

Time

Laboratory Comments:

Sample Containers Intact?  
VOCs Free of HeadSpace?

Labels on container(s)  
Custody seals on container(s)  
Custody seals on cooler(s)

Sample Hand Delivered  
by Sampler/Client Rep.?

UPS DHL FedEx Lone Star

Temperature Upon Receipt:

1.652/1.14 °C



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

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September 15, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-8 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-8.BH (H702422-01)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	2.22	111	2.00	2.05	
Toluene*	<0.050	0.050	09/14/2017	ND	2.00	100	2.00	3.42	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.08	104	2.00	2.94	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.22	104	6.00	1.66	
Total BTEX	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	09/12/2017	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	09/13/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	1690	50.0	09/13/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	617	50.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 91.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 224 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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### Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene", is written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager

101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

## 101 East Marland, Hobbs, NM

Project Name: **Stark BG #2 (S-8)**Project #: 30-015-22135Project Loc: Eddy County

PO #: 205632

Fax No.:

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Robert Asher@geogresources.com

ORDER #: H702422

**TPH EXTENDED.** ALL results in mg/kg. Thank you.

**TPH EXTENDED.** ALL results in mg/kg. Thank you.

Date \_\_\_\_\_

Time

Received by:

Date \_\_\_\_\_

Time

Date \_\_\_\_\_

Time

Received by:

Date \_\_\_\_\_

Time

Date \_\_\_\_\_

Time

Received by ELIOT:

Data

T2000

Laboratory Comments:

**Sample Containers Intact?  
VOCs Free of Headspace?**

Labels on container(s)

Custody seals on container(s)

Cusidy seals on cooler(s)

Sample Hand Delivered  
by Sampler/Client Box

by Campbell/Clement Rep. 1  
by Coughner? IPS

0  
0  
0

Temperature Upon Receipt

#75

5

*Released to Imaging: 4/17/2023 3:01:59 PM*



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

---

November 01, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S1)

Enclosed are the results of analyses for samples received by the laboratory on 10/25/17 16:01.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/25/2017  
 Reported: 11/01/2017  
 Project Name: STARK BG #2 (S1)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/24/2017  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: S-1.7 (H702934-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1520	16.0	10/30/2017	ND	432	108	400	0.00	

**Sample ID: S-1.10 (H702934-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2480	16.0	10/30/2017	ND	432	108	400	0.00	

**Sample ID: S-1.12 (H702934-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1800	16.0	10/30/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





---

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---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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 client for 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 thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

A handwritten signature in black ink, appearing to read "Caley D. Keene".

---

Caley D. Keene, Lab Director/Quality Manager



## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

Project Manager: Robert Asher

Robert Asher

Company Name EOG Resources, Inc.

EOG Resources, Inc.

Company Address: 104 South 4th Street

104 South 4th Street

City/State/Zip: Artesia, NM 88210

Artesia, NM 88210

Telephone No: 575-748-4171

575-748-4171

Sampler Signature:

Fax No.:  
e-mail:

e-mail:

Robert Asher@eogresources.com

Report Format: ☒ Standard

☐ Standard☐ TRRP☐ NPDES

PO #: 205632

Project Loc: Eddy County

Project #: 30-015-22135

Project Name: Stark BG #2 (S-1)

Page 4 of 4

[illegible]

**Chlorides Only.** ALL results in mg/kg. Thank you.

## Laboratory Comments:

### Sample Containers Intact?

Labels on containers?

Custody seals on container(s)

Custody seals on cooler(s)

Sample Hand Delivered  
by Sampler/Client Rep ?

by Courier? UPS     DHL

Temperature Upon Receipt: \_\_\_\_\_

... of ...



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

---

November 01, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S2)

Enclosed are the results of analyses for samples received by the laboratory on 10/25/17 16:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/25/2017  
 Reported: 11/01/2017  
 Project Name: STARK BG #2 (S2)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/24/2017  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: S-2.7 (H702935-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1960	16.0	10/30/2017	ND	432	108	400	0.00	

**Sample ID: S-2.10 (H702935-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4240	16.0	10/30/2017	ND	432	108	400	0.00	

**Sample ID: S-2.12 (H702935-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7040	16.0	10/30/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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 client for 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 thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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

---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





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

November 01, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S3)

Enclosed are the results of analyses for samples received by the laboratory on 10/25/17 15:53.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	10/25/2017	Sampling Date:	10/24/2017
Reported:	11/01/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S3)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S-3.7 (H702933-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	10/30/2017	ND	432	108	400	0.00		

**Sample ID: S-3.10 (H702933-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	10/30/2017	ND	432	108	400	0.00	

**Sample ID: S-3.12 (H702933-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	640	16.0	10/30/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager

(505) 393-2326 FAX (505) 393-2476

Project Name: **Stark BG #2 (S-3)**

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Telephone No. 575-748-4471 Fax No. \_\_\_\_\_

Sampler Signature:  e-mail \_\_\_\_\_

Robert\_Asher@eogresources.com

(lab use only)

ORDER #: H1702933

(lab use only)	
<b>ORDER #:</b> H702033	
<b>LAB # (lab use only)</b>	
<b>FIELD CODE</b>	
<b>Beginning Depth</b>	
<b>Ending Depth</b>	
<b>Date Sampled</b>	
<b>Time Sampled</b>	
<b>Field Filtered</b>	
<b>Total #. of Containers</b>	
<b>Preservation &amp; # of Containers</b>	
Ice	
HNO <sub>3</sub>	
HCl	
H <sub>2</sub> SO <sub>4</sub>	
NaOH	
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	
None	X
Other ( Specify )	
<b>Matrix</b>	
DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	S
<b>TPH: 8015M Extended</b>	
TPH: TX 1005 TX 1006	
Cations (Ca, Mg, Na, K)	
Anions (Cl)	X
SAR / ESP / CEC	
Metals: As Ag Ba Cd Cr Pb Hg Se	
Volatiles	
Semivolatiles	
BTEX 8021B/5030 or BTEX 8260	
RCI	
N.O.R.M.	
RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	
Standard TAT	X

**Special Instructions:** **Chlorides Only.** ALL results in mg/kg. Thank you.

**Chlorides Only.** ALL results in mg/kg. Thank you.

**Laboratory Comments:**

## VOCs Free of Headspace

Custody seals on container(s)

Custody seals on cooler(s)

Sample Hand Delivered  
by Sampler/Client Rep.

by Courier? UPS

Temperature (Jmon Receiv

Corporate Open: 100%

From corrected trials



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

---

November 01, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S8.ESW)

Enclosed are the results of analyses for samples received by the laboratory on 10/25/17 16:08.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/25/2017  
 Reported: 11/01/2017  
 Project Name: STARK BG #2 (S8.ESW)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/24/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S-8.ESW (H702936-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/30/2017	ND	1.98	99.1	2.00	1.64	
Toluene*	<0.050	0.050	10/30/2017	ND	2.00	100	2.00	0.412	
Ethylbenzene*	<0.050	0.050	10/30/2017	ND	2.06	103	2.00	0.883	
Total Xylenes*	<0.150	0.150	10/30/2017	ND	6.26	104	6.00	1.13	
Total BTX	<0.300	0.300	10/30/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	672	16.0	10/30/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/27/2017	ND	187	93.4	200	2.63	
DRO >C10-C28	<10.0	10.0	10/27/2017	ND	207	103	200	2.26	
EXT DRO >C28-C36	<10.0	10.0	10/27/2017	ND					

Surrogate: 1-Chlorooctane 83.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 90.0 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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---

### Notes and Definitions

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

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Cardinal Laboratories

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A handwritten signature in black ink, appearing to read "Caley D. Keene".

---

Caley D. Keene, Lab Director/Quality Manager

(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project #: 30-015-22135Project Loc: Eddy CountyPO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Telephone No: 575-748-4371

Sampler Signature: \_\_\_\_\_ e-mail: [Robert\\_Astler@wgu.edu](mailto:Robert_Astler@wgu.edu)

(lab use only)

ORDER #: H702936

[illegible]

Page 4 of 4

#25 corrected + .2



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

---

December 15, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S1)

Enclosed are the results of analyses for samples received by the laboratory on 12/08/17 12:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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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,

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Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/08/2017	Sampling Date:	12/06/2017
Reported:	12/15/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S1)	Sampling Condition:	Cool & Intact
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S-1.15 (H703399-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	720	16.0	12/12/2017	ND	432	108	400	0.00		

**Sample ID: S-1.18 (H703399-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	784	16.0	12/12/2017	ND	432	108	400	0.00		

**Sample ID: S-1.20 (H703399-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1880	16.0	12/12/2017	ND	432	108	400	0.00		

**Sample ID: S-1.22 (H703399-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3560	16.0	12/12/2017	ND	432	108	400	0.00		

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: \_\_\_\_\_

Fax No: \_\_\_\_\_

e-mail: \_\_\_\_\_

Robert.Asher@eogresources.com

Project Name: Stark BG #2 Battery (S-1)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard

☐ TRRP

☐ NPDES

(lab use only)

ORDER #: H703399

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT	
1	S-1.15	15'	15'	12/6/2017	8:11 AM		1							X		S				X										X
2	S-1.18	18'	18'	12/6/2017	8:20 AM		1							X		S				X										X
3	S-1.20	20'	20'	12/6/2017	8:29 AM		1							X		S				X										X
4	S-1.22	22'	22'	12/6/2017	8:38 AM		1							X		S				X										X

Special Instructions: **Chlorides Only.** ALL results in mg/kg. Thank you.

Relinquished by: Quora

Relinquished by: \_\_\_\_\_

Relinquished by: \_\_\_\_\_

Date: 12/08/17

Time: 6:58 AM

Received by: Marcia Williams

Received by: \_\_\_\_\_

Received by: \_\_\_\_\_

Date: 12-8-17

Time: 12:25

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Date: \_\_\_\_\_

## Laboratory Comments:

Sample Containers Intact? ☒

VOCs Free of Headspace? ☒

Labels on containers? ☒

Custody seals on container(s)? ☒

Sample Hand Delivered by Sampler/Client Rep.? ☒

by Courier? ☒ UPS ☒ DHL ☒ FedEx ☒ Lone Star

Temperature Upon Receipt: 8.32° C

Temperature Upon Receipt: 8.32° C

Temperature Upon Receipt: 8.32° C



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

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December 15, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S2)

Enclosed are the results of analyses for samples received by the laboratory on 12/08/17 12:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 12/08/2017  
 Reported: 12/15/2017  
 Project Name: STARK BG #2 (S2)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 12/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S-2.15 (H703400-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1220	16.0	12/12/2017	ND	432	108	400	0.00	

**Sample ID: S-2.18 (H703400-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1880	16.0	12/12/2017	ND	432	108	400	0.00	QM-07

**Sample ID: S-2.20 (H703400-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3320	16.0	12/12/2017	ND	432	108	400	0.00	

**Sample ID: S-2.22 (H703400-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6560	16.0	12/12/2017	ND	432	108	400	0.00	

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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---

### Notes and Definitions

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

---

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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: \_\_\_\_\_

e-mail: \_\_\_\_\_

Robert.Asher@eogresources.com

Fax No: \_\_\_\_\_

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Project Name: Stark BG #2 Battery (S-2)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

LAB # (lab use only)		FIELD CODE		Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers							Matrix	Analyze For:		RUSH TAT (Pre-Schedule) 24, 48, 72 hrs										
LAB #	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Standard TAT		
1	S-2.15	15'	15'	12/6/2017	8:54 AM		1							X		S				X										X
2	S-2.18	18'	18'	12/6/2017	9:04 AM		1							X		S				X										X
3	S-2.20	20'	20'	12/6/2017	9:11 AM		1							X		S				X										X
4	S-2.22	22'	22'	12/6/2017	9:18 AM		1							X		S				X										X

Special Instructions: **Chlorides only.** ALL results in mg/kg. Thank you.

Laboratory Comments:

Sample Containers Intact? ☒

VOCs Free of Headspace? ☒

Labels on container(s) ☒

Custody seals on container(s) ☒

Sample Hand Delivered by Sampler/Client Rep. ? ☒

by Courier? ☐ UPS ☐ DHL ☐ FedEx ☐ Lone Star

Temperature Upon Receipt: 2.3°C

Detected 2.5°C



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

September 15, 2017

ROBERT ASHER  
EOG Y RESOURCES, INC  
105 SOUTH 4TH STREET  
ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene  
Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-1 0.0' (H702414-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54	
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50	
Total BTX	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.8	200	0.881	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	196	98.0	200	1.76	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 78.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 81.6 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-1 0.5' (H702414-02)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54		
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98		
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67		
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50		
Total BTEx	<0.300	0.300	09/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.8	200	0.881	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	196	98.0	200	1.76	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 78.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 83.4 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-1 1.0' (H702414-03)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54		
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98		
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67		
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50		
Total BTEX	<0.300	0.300	09/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.8	200	0.881	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	196	98.0	200	1.76	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 86.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.9 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-1 2.0' (H702414-04)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54	
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50	
Total BTEX	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	576	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.8	200	0.881	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	196	98.0	200	1.76	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 84.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.4 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-1 3.0' (H702414-05)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54		
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98		
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67		
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50		
Total BTEX	<0.300	0.300	09/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 91.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 83.5 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-2 0.0' (H702414-06)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54		
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98		
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67		
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50		
Total BTEx	<0.300	0.300	09/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 77.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 78.0 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-2 0.5' (H702414-07)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54		
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98		
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67		
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50		
Total BTEx	<0.300	0.300	09/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 83.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 78.5 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-2 1.0' (H702414-08)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54	
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50	
Total BTX	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 88.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.4 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-2 2.0' (H702414-09)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54		
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98		
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67		
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50		
Total BTEx	<0.300	0.300	09/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 85.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 90.4 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Fax No:

Sampler Signature: Klausen Term (11/1/17)

e-mail:

Robert.Asher@eogresources.com

Project Name: Stark BG #2

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: H702414

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers	Matrix	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S-1 0.0'	0"	0"	9/5/2017	9:02 AM		1	X		S	X		X									X
2	S-1 0.5'	6"	6"	9/5/2017	9:03 AM		1	X		S	X		X									X
3	S-1 1.0'	12"	12"	9/5/2017	9:06 AM		1	X		S	X		X									X
4	S-1 2.0'	24"	24"	9/5/2017	9:08 AM		1	X		S	X		X									X
5	S-1 3.0'	36"	36"	9/5/2017	9:10 AM		1	X		S	X		X									X
6	S-2 0.0'	0"	0"	9/5/2017	9:17 AM		1	X		S	X		X									X
7	S-2 0.5'	6"	6"	9/5/2017	9:18 AM		1	X		S	X		X									X
8	S-2 1.0'	12"	12"	9/5/2017	9:20 AM		1	X		S	X		X									X
9	S-2 2.0'	24"	24"	9/5/2017	9:22 AM		1	X		S	X		X									X

Special Instructions: **TPH EXTENDED.** ALL results in mg/kg. Thank you.

## Laboratory Comments:

Sample Containers Intact? ☒ Y ☐ N

VOCs Free of Headspace? ☒ Y ☐ N

Labels on container(s) ☒ Y ☐ N

Custody seals on container(s) ☒ Y ☐ N

Sample Hand Delivered by Sampler/Client Rep. ? ☒ Y ☐ N

Temperature Upon Receipt: 1.652/1.4 °C

Corrected 4.25



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

September 15, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-3 0.0' (H702418-01)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248	
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187	
Total BTEx	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/12/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 94.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 104 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-3 0.5' (H702418-02)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248		
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187		
Total BTEX	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	09/12/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 94.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 98.7 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-3 1.0' (H702418-03)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248		
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187		
Total BTEX	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/12/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 104 % 28.3-164

Surrogate: 1-Chlorooctadecane 106 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-3 2.0' (H702418-04)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248		
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187		
Total BTEX	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	09/12/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 96.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 94.2 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-3 3.0' (H702418-05)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248		
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187		
Total BTEX	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	09/12/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 103 % 28.3-164

Surrogate: 1-Chlorooctadecane 96.0 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-4 0.0' (H702418-06)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248		
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187		
Total BTEx	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/12/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 101 % 28.3-164

Surrogate: 1-Chlorooctadecane 91.2 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-4 0.5' (H702418-07)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248		
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187		
Total BTEX	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/12/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 94.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 85.6 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-4 1.0' (H702418-08)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248		
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187		
Total BTEX	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.8 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/12/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 99.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 106 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-4 2.0' (H702418-09)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248		
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187		
Total BTEX	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	09/12/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 94.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 102 % 34.7-157

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### 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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Fax No:

Sampler Signature: K. W. Henson e-mail: Robert.Asher@eogresources.com

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Project Name: Stark BG #2

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

(lab use only)

ORDER #: H702418

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Matrix	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S-3 0.0'	0"	0"	9/5/2017	1:14 PM		1	X									S	X			X									X
2	S-3 0.5'	6"	6"	9/5/2017	1:16 PM		1	X									S	X			X									X
3	S-3 1.0'	12"	12"	9/5/2017	1:18 PM		1	X									S	X			X									X
4	S-3 2.0'	24"	24"	9/5/2017	1:21 PM		1	X									S	X			X									X
5	S-3 3.0'	36"	36"	9/5/2017	1:24 PM		1	X									S	X			X									X
6	S-4 0.0'	0"	0"	9/5/2017	3:31 PM		1	X									S	X			X									X
7	S-4 0.5'	6"	6"	9/5/2017	3:33 PM		1	X									S	X			X									X
8	S-4 1.0'	12"	12"	9/5/2017	3:35 PM		1	X									S	X			X									X
9	S-4 2.0'	24"	24"	9/5/2017	3:37 PM		1	X									S	X			X									X

Special Instructions: **TPH EXTENDED.** ALL results in mg/kg. Thank you.

Relinquished by: EOG

Date: 09/11/17

Time: 10:42 AM

Received by: Jodi Henson

Relinquished by: Jodi Henson

Date: 9/11/17

Time: 11:40

Laboratory Comments:

Sample Containers Intact? Y

VOCs Free of Headspace? Y

Labels on container(s)? Y

Custody seals on container(s)? Y

Sample Hand Delivered by Sampler/Client Rep. ? Y

by Courier? Y

UPS Y FedEx Y Lone Star Y

Temperature Upon Receipt: 1.65/1.4 °C

#76

Released to Imaging: 4/17/2023 3:01:59 PM



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

---

September 17, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-19 0.0' (H702429-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/16/2017	ND	2.02	101	2.00	1.08	
Toluene*	<0.050	0.050	09/16/2017	ND	1.85	92.7	2.00	0.887	
Ethylbenzene*	<0.050	0.050	09/16/2017	ND	1.92	96.2	2.00	1.08	
Total Xylenes*	<0.150	0.150	09/16/2017	ND	5.73	95.5	6.00	1.53	
Total BTX	<0.300	0.300	09/16/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/13/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	184	91.9	200	3.30	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	205	102	200	6.69	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 87.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 85.7 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-19 0.5' (H702429-02)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/16/2017	ND	2.02	101	2.00	1.08		
Toluene*	<0.050	0.050	09/16/2017	ND	1.85	92.7	2.00	0.887		
Ethylbenzene*	<0.050	0.050	09/16/2017	ND	1.92	96.2	2.00	1.08		
Total Xylenes*	<0.150	0.150	09/16/2017	ND	5.73	95.5	6.00	1.53		
Total BTEx	<0.300	0.300	09/16/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/13/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	184	91.9	200	3.30	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	205	102	200	6.69	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 92.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 97.0 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-19 1.0' (H702429-03)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/16/2017	ND	2.02	101	2.00	1.08		
Toluene*	<0.050	0.050	09/16/2017	ND	1.85	92.7	2.00	0.887		
Ethylbenzene*	<0.050	0.050	09/16/2017	ND	1.92	96.2	2.00	1.08		
Total Xylenes*	<0.150	0.150	09/16/2017	ND	5.73	95.5	6.00	1.53		
Total BTEx	<0.300	0.300	09/16/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	832	16.0	09/13/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	184	91.9	200	3.30	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	205	102	200	6.69	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 92.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 97.5 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-19 2.0' (H702429-04)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/16/2017	ND	2.02	101	2.00	1.08		
Toluene*	<0.050	0.050	09/16/2017	ND	1.85	92.7	2.00	0.887		
Ethylbenzene*	<0.050	0.050	09/16/2017	ND	1.92	96.2	2.00	1.08		
Total Xylenes*	<0.150	0.150	09/16/2017	ND	5.73	95.5	6.00	1.53		
Total BTEx	<0.300	0.300	09/16/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3200	16.0	09/13/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	184	91.9	200	3.30	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	205	102	200	6.69	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 95.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 96.2 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-19 3.0' (H702429-05)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2017	ND	2.02	101	2.00	1.08		
Toluene*	<0.050	0.050	09/17/2017	ND	1.85	92.7	2.00	0.887		
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	1.92	96.2	2.00	1.08		
Total Xylenes*	<0.150	0.150	09/17/2017	ND	5.73	95.5	6.00	1.53		
Total BTX	<0.300	0.300	09/17/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3840	16.0	09/13/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	184	91.9	200	3.30	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	205	102	200	6.69	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 90.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 91.6 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-22 0.0' (H702429-06)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2017	ND	2.02	101	2.00	1.08		
Toluene*	<0.050	0.050	09/17/2017	ND	1.85	92.7	2.00	0.887		
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	1.92	96.2	2.00	1.08		
Total Xylenes*	<0.150	0.150	09/17/2017	ND	5.73	95.5	6.00	1.53		
Total BTEx	<0.300	0.300	09/17/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	09/14/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	184	91.9	200	3.30	
DRO >C10-C28	20.7	10.0	09/14/2017	ND	205	102	200	6.69	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 93.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 97.2 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-22 0.5' (H702429-07)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2017	ND	2.02	101	2.00	1.08		
Toluene*	<0.050	0.050	09/17/2017	ND	1.85	92.7	2.00	0.887		
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	1.92	96.2	2.00	1.08		
Total Xylenes*	<0.150	0.150	09/17/2017	ND	5.73	95.5	6.00	1.53		
Total BTEx	<0.300	0.300	09/17/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	832	16.0	09/14/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	184	91.9	200	3.30	
DRO >C10-C28	24.9	10.0	09/14/2017	ND	205	102	200	6.69	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 85.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 90.5 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-22 1.0' (H702429-08)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2017	ND	2.02	101	2.00	1.08		
Toluene*	<0.050	0.050	09/17/2017	ND	1.85	92.7	2.00	0.887		
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	1.92	96.2	2.00	1.08		
Total Xylenes*	<0.150	0.150	09/17/2017	ND	5.73	95.5	6.00	1.53		
Total BTEx	<0.300	0.300	09/17/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	864	16.0	09/14/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	184	91.9	200	3.30	
DRO >C10-C28	19.6	10.0	09/14/2017	ND	205	102	200	6.69	
EXT DRO >C28-C36	10.4	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 85.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 85.4 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-22 2.0' (H702429-09)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2017	ND	2.02	101	2.00	1.08	
Toluene*	<0.050	0.050	09/17/2017	ND	1.85	92.7	2.00	0.887	
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	1.92	96.2	2.00	1.08	
Total Xylenes*	<0.150	0.150	09/17/2017	ND	5.73	95.5	6.00	1.53	
Total BTX	<0.300	0.300	09/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1230	16.0	09/14/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	184	91.9	200	3.30	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	205	102	200	6.69	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 95.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 95.5 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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### 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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Fax No:

Sampler Signature: K. Jensen e-mail: (see/see)

Robert Asher@eogresources.com

Project Name: Stark BG #2

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: H702429

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Solid/Solid NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 0021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S-19 0.0'	0"	0"	9/5/2017	10:36 AM		1	X								S	X		X										X
2	S-19 0.5'	6"	6"	9/5/2017	10:40 AM		1	X								S	X		X										X
3	S-19 1.0'	12"	12"	9/5/2017	10:41 AM		1	X								S	X		X										X
4	S-19 2.0'	24"	24"	9/5/2017	10:46 AM		1	X								S	X		X										X
5	S-19 3.0'	36"	36"	9/5/2017	10:48 AM		1	X								S	X		X										X
6	S-22 0.0'	0"	0"	9/5/2017	10:54 AM		1	X								S	X		X										X
7	S-22 0.5'	6"	6"	9/5/2017	10:57 AM		1	X								S	X		X										X
8	S-22 1.0'	12"	12"	9/5/2017	10:59 AM		1	X								S	X		X										X
9	S-22 2.0'	24"	24"	9/5/2017	11:00 AM		1	X								S	X		X										X

Special Instructions: **TPH EXTENDED.** ALL results in mg/kg. Thank you.

## Laboratory Comments:

Sample Containers Intact? ☒ Y

VOCs Free of Headspace? ☒ Y

Labels on container(s) ☒ Y

Custody seals on container(s) ☒ Y

Custody seals on cooler(s) ☒ Y

Sample Hand Delivered by Sampler/Client Rep. ? ☒ Y

by Courier? ☒ Y

UPS ☒ Y

DHL ☒ Y

Fedex ☒ Y

Lone Star ☒ Y

Temperature Upon Receipt: 1.68/1.4 °C

#76

Released to Imaging: 4/17/2023 3:01:59 PM



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

September 18, 2017

ROBERT ASHER  
EOG Y RESOURCES, INC  
105 SOUTH 4TH STREET  
ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene  
Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-20 0.0' (H702430-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2017	ND	2.02	101	2.00	1.08	
Toluene*	<0.050	0.050	09/17/2017	ND	1.85	92.7	2.00	0.887	
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	1.92	96.2	2.00	1.08	
Total Xylenes*	<0.150	0.150	09/17/2017	ND	5.73	95.5	6.00	1.53	
Total BTX	<0.300	0.300	09/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.5 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	15800	16.0	09/14/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	184	91.9	200	3.30	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	205	102	200	6.69	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 86.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 87.5 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-20 0.5' (H702430-02)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2017	ND	2.02	101	2.00	1.08		
Toluene*	<0.050	0.050	09/17/2017	ND	1.85	92.7	2.00	0.887		
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	1.92	96.2	2.00	1.08		
Total Xylenes*	<0.150	0.150	09/17/2017	ND	5.73	95.5	6.00	1.53		
Total BTEx	<0.300	0.300	09/17/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5200	16.0	09/14/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	215	107	200	4.37	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	219	110	200	4.65	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 81.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.7 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-20 1.0' (H702430-03)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2017	ND	2.02	101	2.00	1.08	
Toluene*	<0.050	0.050	09/17/2017	ND	1.85	92.7	2.00	0.887	
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	1.92	96.2	2.00	1.08	
Total Xylenes*	<0.150	0.150	09/17/2017	ND	5.73	95.5	6.00	1.53	
Total BTX	<0.300	0.300	09/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2400	16.0	09/14/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	215	107	200	4.37	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	219	110	200	4.65	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 102 % 28.3-164

Surrogate: 1-Chlorooctadecane 112 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-20 2.0' (H702430-04)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2017	ND	2.02	101	2.00	1.08		
Toluene*	<0.050	0.050	09/17/2017	ND	1.85	92.7	2.00	0.887		
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	1.92	96.2	2.00	1.08		
Total Xylenes*	<0.150	0.150	09/17/2017	ND	5.73	95.5	6.00	1.53		
Total BTX	<0.300	0.300	09/17/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2880	16.0	09/14/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	215	107	200	4.37	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	219	110	200	4.65	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 87.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 100 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-20 3.0' (H702430-05)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2017	ND	2.02	101	2.00	1.08		
Toluene*	<0.050	0.050	09/17/2017	ND	1.85	92.7	2.00	0.887		
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	1.92	96.2	2.00	1.08		
Total Xylenes*	<0.150	0.150	09/17/2017	ND	5.73	95.5	6.00	1.53		
Total BTEX	<0.300	0.300	09/17/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3000	16.0	09/14/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	215	107	200	4.37	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	219	110	200	4.65	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 94.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 100 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-21 0.0' (H702430-06)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2017	ND	2.02	101	2.00	1.08	
Toluene*	<0.050	0.050	09/17/2017	ND	1.85	92.7	2.00	0.887	
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	1.92	96.2	2.00	1.08	
Total Xylenes*	<0.150	0.150	09/17/2017	ND	5.73	95.5	6.00	1.53	
Total BTX	<0.300	0.300	09/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1100	16.0	09/14/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	215	107	200	4.37	
DRO >C10-C28	185	10.0	09/13/2017	ND	219	110	200	4.65	
EXT DRO >C28-C36	123	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 94.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 124 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-21 0.5' (H702430-07)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2017	ND	2.02	101	2.00	1.08	
Toluene*	<0.050	0.050	09/17/2017	ND	1.85	92.7	2.00	0.887	
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	1.92	96.2	2.00	1.08	
Total Xylenes*	<0.150	0.150	09/17/2017	ND	5.73	95.5	6.00	1.53	
Total BTX	<0.300	0.300	09/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1500	16.0	09/14/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	09/14/2017	ND	215	107	200	4.37	
DRO >C10-C28	305	50.0	09/14/2017	ND	219	110	200	4.65	
EXT DRO >C28-C36	206	50.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 65.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 115 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-21 1.0' (H702430-08)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2017	ND	2.11	105	2.00	2.24	
Toluene*	<0.050	0.050	09/17/2017	ND	1.93	96.6	2.00	2.28	
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	2.01	100	2.00	2.09	
Total Xylenes*	<0.150	0.150	09/17/2017	ND	6.02	100	6.00	1.69	
Total BTEx	<0.300	0.300	09/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1200	16.0	09/14/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	215	107	200	4.37	
DRO >C10-C28	35.1	10.0	09/14/2017	ND	219	110	200	4.65	
EXT DRO >C28-C36	17.7	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 89.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 101 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-21 2.0' (H702430-09)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2017	ND	2.11	105	2.00	2.24	
Toluene*	<0.050	0.050	09/17/2017	ND	1.93	96.6	2.00	2.28	
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	2.01	100	2.00	2.09	
Total Xylenes*	<0.150	0.150	09/17/2017	ND	6.02	100	6.00	1.69	
Total BTEx	<0.300	0.300	09/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1140	16.0	09/14/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	215	107	200	4.37	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	219	110	200	4.65	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 99.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 105 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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---

### 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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





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September 18, 2017

ROBERT ASHER  
EOG Y RESOURCES, INC  
105 SOUTH 4TH STREET  
ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene  
Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-24 0.0' (H702432-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2017	ND	2.11	105	2.00	2.24	
Toluene*	<0.050	0.050	09/17/2017	ND	1.93	96.6	2.00	2.28	
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	2.01	100	2.00	2.09	
Total Xylenes*	<0.150	0.150	09/17/2017	ND	6.02	100	6.00	1.69	
Total BTX	<0.300	0.300	09/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4640	16.0	09/14/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	215	107	200	4.37	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	219	110	200	4.65	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 67.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 73.9 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-24 0.5' (H702432-02)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2017	ND	2.11	105	2.00	2.24	
Toluene*	<0.050	0.050	09/17/2017	ND	1.93	96.6	2.00	2.28	
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	2.01	100	2.00	2.09	
Total Xylenes*	<0.150	0.150	09/17/2017	ND	6.02	100	6.00	1.69	
Total BTX	<0.300	0.300	09/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3680	16.0	09/14/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	215	107	200	4.37	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	219	110	200	4.65	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 100 % 28.3-164

Surrogate: 1-Chlorooctadecane 103 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-24 1.0' (H702432-03)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2017	ND	2.11	105	2.00	2.24	
Toluene*	<0.050	0.050	09/17/2017	ND	1.93	96.6	2.00	2.28	
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	2.01	100	2.00	2.09	
Total Xylenes*	<0.150	0.150	09/17/2017	ND	6.02	100	6.00	1.69	
Total BTEX	<0.300	0.300	09/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3360	16.0	09/14/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	215	107	200	4.37	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	219	110	200	4.65	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 96.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 105 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-24 2.0' (H702432-04)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2017	ND	2.11	105	2.00	2.24	
Toluene*	<0.050	0.050	09/17/2017	ND	1.93	96.6	2.00	2.28	
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	2.01	100	2.00	2.09	
Total Xylenes*	<0.150	0.150	09/17/2017	ND	6.02	100	6.00	1.69	
Total BTX	<0.300	0.300	09/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4080	16.0	09/14/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	180	90.2	200	0.273	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	193	96.5	200	2.02	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 68.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 66.9 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-24 3.0' (H702432-05)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2017	ND	2.11	105	2.00	2.24	
Toluene*	<0.050	0.050	09/17/2017	ND	1.93	96.6	2.00	2.28	
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	2.01	100	2.00	2.09	
Total Xylenes*	<0.150	0.150	09/17/2017	ND	6.02	100	6.00	1.69	
Total BTEx	<0.300	0.300	09/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.7 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4800	16.0	09/14/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	180	90.2	200	0.273	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	193	96.5	200	2.02	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 88.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 82.3 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-26 0.0' (H702432-06)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2017	ND	2.11	105	2.00	2.24	
Toluene*	<0.050	0.050	09/17/2017	ND	1.93	96.6	2.00	2.28	
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	2.01	100	2.00	2.09	
Total Xylenes*	<0.150	0.150	09/17/2017	ND	6.02	100	6.00	1.69	
Total BTEx	<0.300	0.300	09/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	14400	16.0	09/14/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	180	90.2	200	0.273	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	193	96.5	200	2.02	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 76.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 74.5 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-26 0.5' (H702432-07)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2017	ND	2.11	105	2.00	2.24		
Toluene*	<0.050	0.050	09/17/2017	ND	1.93	96.6	2.00	2.28		
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	2.01	100	2.00	2.09		
Total Xylenes*	<0.150	0.150	09/17/2017	ND	6.02	100	6.00	1.69		
Total BTEx	<0.300	0.300	09/17/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3360	16.0	09/14/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	180	90.2	200	0.273	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	193	96.5	200	2.02	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 88.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 83.1 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-26 1.0' (H702432-08)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2017	ND	2.11	105	2.00	2.24	
Toluene*	<0.050	0.050	09/17/2017	ND	1.93	96.6	2.00	2.28	
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	2.01	100	2.00	2.09	
Total Xylenes*	<0.150	0.150	09/17/2017	ND	6.02	100	6.00	1.69	
Total BTX	<0.300	0.300	09/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2240	16.0	09/14/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	180	90.2	200	0.273	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	193	96.5	200	2.02	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 83.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 84.0 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-26 2.0' (H702432-09)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2017	ND	2.11	105	2.00	2.24		
Toluene*	<0.050	0.050	09/17/2017	ND	1.93	96.6	2.00	2.28		
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	2.01	100	2.00	2.09		
Total Xylenes*	<0.150	0.150	09/17/2017	ND	6.02	100	6.00	1.69		
Total BTEX	<0.300	0.300	09/17/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2320	16.0	09/14/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	180	90.2	200	0.273	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	193	96.5	200	2.02	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 83.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 84.4 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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### 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

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A handwritten signature in black ink, appearing to read "C. D. Keene", is written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager





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September 18, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-31 0.0' (H702435-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2017	ND	2.06	103	2.00	0.311	
Toluene*	<0.050	0.050	09/18/2017	ND	1.90	94.9	2.00	0.452	
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.95	97.5	2.00	0.636	
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.86	97.6	6.00	0.433	
Total BTX	<0.300	0.300	09/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.3 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	09/15/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	201	101	200	4.62	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	210	105	200	6.50	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 73.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 77.1 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-31 0.5' (H702435-02)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2017	ND	2.06	103	2.00	0.311	
Toluene*	<0.050	0.050	09/18/2017	ND	1.90	94.9	2.00	0.452	
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.95	97.5	2.00	0.636	
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.86	97.6	6.00	0.433	
Total BTEx	<0.300	0.300	09/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	09/15/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	201	101	200	4.62	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	210	105	200	6.50	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 88.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.1 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-31 1.0' (H702435-03)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2017	ND	1.93	96.3	2.00	0.932		
Toluene*	<0.050	0.050	09/18/2017	ND	1.77	88.4	2.00	1.78		
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.84	92.1	2.00	1.53		
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.54	92.3	6.00	1.66		
Total BTEx	<0.300	0.300	09/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	09/15/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	201	101	200	4.62	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	210	105	200	6.50	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 88.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.9 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-31 2.0' (H702435-04)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2017	ND	1.93	96.3	2.00	0.932		
Toluene*	<0.050	0.050	09/18/2017	ND	1.77	88.4	2.00	1.78		
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.84	92.1	2.00	1.53		
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.54	92.3	6.00	1.66		
Total BTEx	<0.300	0.300	09/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	09/15/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	201	101	200	4.62	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	210	105	200	6.50	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 86.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.1 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-31 3.0' (H702435-05)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2017	ND	1.93	96.3	2.00	0.932	
Toluene*	<0.050	0.050	09/18/2017	ND	1.77	88.4	2.00	1.78	
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.84	92.1	2.00	1.53	
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.54	92.3	6.00	1.66	
Total BTEx	<0.300	0.300	09/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1070	16.0	09/15/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	201	101	200	4.62	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	210	105	200	6.50	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 83.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 91.3 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-32 0.0' (H702435-06)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2017	ND	1.93	96.3	2.00	0.932	
Toluene*	<0.050	0.050	09/18/2017	ND	1.77	88.4	2.00	1.78	
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.84	92.1	2.00	1.53	
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.54	92.3	6.00	1.66	
Total BTEx	<0.300	0.300	09/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	09/15/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	201	101	200	4.62	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	210	105	200	6.50	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 92.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 98.4 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-32 0.5' (H702435-07)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2017	ND	1.93	96.3	2.00	0.932		
Toluene*	<0.050	0.050	09/18/2017	ND	1.77	88.4	2.00	1.78		
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.84	92.1	2.00	1.53		
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.54	92.3	6.00	1.66		
Total BTEx	<0.300	0.300	09/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	09/15/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	201	101	200	4.62	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	210	105	200	6.50	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 94.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 100 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-33 0.0' (H702435-08)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2017	ND	1.93	96.3	2.00	0.932	
Toluene*	<0.050	0.050	09/18/2017	ND	1.77	88.4	2.00	1.78	
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.84	92.1	2.00	1.53	
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.54	92.3	6.00	1.66	
Total BTEx	<0.300	0.300	09/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/15/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/15/2017	ND	201	101	200	4.62	
DRO >C10-C28	<10.0	10.0	09/15/2017	ND	210	105	200	6.50	
EXT DRO >C28-C36	<10.0	10.0	09/15/2017	ND					

Surrogate: 1-Chlorooctane 96.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 97.3 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-33 0.5' (H702435-09)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2017	ND	1.93	96.3	2.00	0.932	
Toluene*	<0.050	0.050	09/18/2017	ND	1.77	88.4	2.00	1.78	
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.84	92.1	2.00	1.53	
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.54	92.3	6.00	1.66	
Total BTEx	<0.300	0.300	09/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	09/15/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/15/2017	ND	201	101	200	4.62	
DRO >C10-C28	<10.0	10.0	09/15/2017	ND	210	105	200	6.50	
EXT DRO >C28-C36	<10.0	10.0	09/15/2017	ND					

Surrogate: 1-Chlorooctane 94.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 98.3 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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### 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

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A handwritten signature in black ink, appearing to read "Celey D. Keene", is written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Fax No:

Sampler Signature: *K. Asher* (initials)

e-mail:

[Robert.Asher@eogresources.com](mailto:Robert.Asher@eogresources.com)

Project Name: **Stark BG #2**

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: **H7D2435**

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S-31 0.0'	0"	0"	9/5/2017	11:36 AM		1	X								S	X		X										X
2	S-31 0.5'	6"	6"	9/5/2017	11:38 AM		1	X								S	X		X									X	
3	S-31 1.0'	12"	12"	9/5/2017	11:43 AM		1	X								S	X		X								X		
4	S-31 2.0'	24"	24"	9/5/2017	11:44 AM		1	X								S	X		X								X		
5	S-31 3.0'	36"	36"	9/5/2017	11:48 AM		1	X								S	X		X								X		
6	S-32 0.0'	0"	0"	9/5/2017	12:25 PM		1	X								S	X		X								X		
7	S-32 0.5'	6"	6"	9/5/2017	12:29 PM		1	X								S	X		X								X		
8	S-33 0.0'	0"	0"	9/5/2017	2:23 PM		1	X								S	X		X								X		
9	S-33 0.5'	0"	0"	9/5/2017	2:27 PM		1	X								S	X		X								X		

TPH EXTENDED. ALL results in mg/kg. Thank you.

Special Instructions:

Received by:

Received by:

Received by:

Date

Date

Date

Time

Time

Time

Received by:

Received by:

Received by:

Date

Date

Date

Time

Time

Time

Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on container(s)?

Custody seals on container(s)?

Sample Hand Delivered?

by Courier?

UPS

DHL

Temperature Upon Receipt:

1.65°C

1.14°C

1.14°C



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---

September 15, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-2 3.0' (H702416-01)**

BTEx 8021B			mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/13/2017	ND	1.84	91.8	2.00	1.65		
Toluene*	<0.050	0.050	09/13/2017	ND	1.97	98.4	2.00	0.687		
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.15	108	2.00	0.0407		
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.45	107	6.00	0.0433		
Total BTEx	<0.300	0.300	09/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 101 % 28.3-164

Surrogate: 1-Chlorooctadecane 101 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-4 3.0' (H702416-02)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/13/2017	ND	1.84	91.8	2.00	1.65		
Toluene*	<0.050	0.050	09/13/2017	ND	1.97	98.4	2.00	0.687		
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.15	108	2.00	0.0407		
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.45	107	6.00	0.0433		
Total BTEX	<0.300	0.300	09/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	448	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 105 % 28.3-164

Surrogate: 1-Chlorooctadecane 105 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-5 0.0' (H702416-03)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/13/2017	ND	1.84	91.8	2.00	1.65		
Toluene*	<0.050	0.050	09/13/2017	ND	1.97	98.4	2.00	0.687		
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.15	108	2.00	0.0407		
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.45	107	6.00	0.0433		
Total BTEx	<0.300	0.300	09/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 92.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 95.3 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-5 0.5' (H702416-04)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/13/2017	ND	1.84	91.8	2.00	1.65		
Toluene*	<0.050	0.050	09/13/2017	ND	1.97	98.4	2.00	0.687		
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.15	108	2.00	0.0407		
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.45	107	6.00	0.0433		
Total BTEX	<0.300	0.300	09/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 96.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 97.4 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-5 1.0' (H702416-05)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.84	91.8	2.00	1.65	
Toluene*	<0.050	0.050	09/13/2017	ND	1.97	98.4	2.00	0.687	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.15	108	2.00	0.0407	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.45	107	6.00	0.0433	
Total BTX	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.3 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 89.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 93.4 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-5 2.0' (H702416-06)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/13/2017	ND	1.84	91.8	2.00	1.65		
Toluene*	<0.050	0.050	09/13/2017	ND	1.97	98.4	2.00	0.687		
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.15	108	2.00	0.0407		
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.45	107	6.00	0.0433		
Total BTEx	<0.300	0.300	09/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 90.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.2 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-5 3.0' (H702416-07)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	1.84	91.8	2.00	1.65	
Toluene*	<0.050	0.050	09/14/2017	ND	1.97	98.4	2.00	0.687	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.15	108	2.00	0.0407	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.45	107	6.00	0.0433	
Total BTX	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	368	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 99.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 104 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-28 0.0' (H702416-08)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	1.84	91.8	2.00	1.65		
Toluene*	<0.050	0.050	09/14/2017	ND	1.97	98.4	2.00	0.687		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.15	108	2.00	0.0407		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.45	107	6.00	0.0433		
Total BTEx	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 97.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 99.9 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-28 0.5' (H702416-09)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	1.84	91.8	2.00	1.65		
Toluene*	<0.050	0.050	09/14/2017	ND	1.97	98.4	2.00	0.687		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.15	108	2.00	0.0407		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.45	107	6.00	0.0433		
Total BTX	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 81.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 85.3 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



---

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### 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

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A handwritten signature in cursive script, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Fax No:

Sampler Signature: *Robert Asher* e-mail: [Robert.Asher@eogresources.com](mailto:Robert.Asher@eogresources.com)

Project Name: **Stark BG #2**

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: **H702416**

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT	
1	S-2.3.0'	36"	36"	9/6/2017	9:25 AM		1	X								S	X												X	
2	S-4.3.0'	36"	36"	9/6/2017	9:39 AM		1	X								S	X												X	
3	S-5.0.0'	0"	0"	9/6/2017	3:18 PM		1	X								S	X												X	
4	S-5.0.5'	6"	6"	9/6/2017	3:20 PM		1	X								S	X												X	
5	S-5.1.0'	12"	12"	9/6/2017	3:23 PM		1	X								S	X												X	
6	S-5.2.0'	24"	24"	9/6/2017	3:23 PM		1	X								S	X												X	
7	S-5.3.0'	36"	36"	9/6/2017	3:27 PM		1	X								S	X												X	
8	S-28.0.0'	0"	0"	9/6/2017	8:45 AM		1	X								S	X												X	
9	S-28.0.5'	6"	6"	9/6/2017	8:48 AM		1	X								S	X												X	

Special Instructions: **TPH EXTENDED.** ALL results in mg/kg. Thank you.

Relinquished by: *EOG* Date: 09/11/17 Time: 10:03 AM Received by: *Robert Asher*

Relinquished by: *EOG* Date: Date: Time: Received by: *Robert Asher*

Relinquished by: Date: Time: Received by: *EOG*

Laboratory Comments:  
Sample Containers Intact? ☒  
VOCs Free of Headspace? ☒  
Labels on container(s) ☒  
Custody seals on container(s) ☒  
Custody seals on cooler(s) ☒  
Sample Hand Delivered by Sampler/Client Rep. ? ☒  
by Courier? ☒ UPS ☒ DHL ☒ FedEx ☒ Lone Star ☒  
Temperature Upon Receipt: 1.65°C / 1.4 °C



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

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September 17, 2017

ROBERT ASHER  
EOG Y RESOURCES, INC  
105 SOUTH 4TH STREET  
ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene  
Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-6 0.0' (H702427-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.40	120	2.00	0.689	
Toluene*	<0.050	0.050	09/15/2017	ND	2.19	110	2.00	0.0597	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.27	113	2.00	0.614	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.73	112	6.00	0.561	
Total BTX	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/13/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	211	106	200	6.16	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	201	101	200	0.0815	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 91.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 95.4 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-6 0.5' (H702427-02)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.40	120	2.00	0.689	
Toluene*	<0.050	0.050	09/15/2017	ND	2.19	110	2.00	0.0597	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.27	113	2.00	0.614	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.73	112	6.00	0.561	
Total BTX	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/13/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	211	106	200	6.16	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	201	101	200	0.0815	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 100 % 28.3-164

Surrogate: 1-Chlorooctadecane 107 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-6 1.0' (H702427-03)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/15/2017	ND	2.40	120	2.00	0.689		
Toluene*	<0.050	0.050	09/15/2017	ND	2.19	110	2.00	0.0597		
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.27	113	2.00	0.614		
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.73	112	6.00	0.561		
Total BTEX	<0.300	0.300	09/15/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/13/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	211	106	200	6.16	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	201	101	200	0.0815	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 93.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 101 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-6 2.0' (H702427-04)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.40	120	2.00	0.689	
Toluene*	<0.050	0.050	09/15/2017	ND	2.19	110	2.00	0.0597	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.27	113	2.00	0.614	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.73	112	6.00	0.561	
Total BTX	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/13/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	211	106	200	6.16	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	201	101	200	0.0815	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 94.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 99.6 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-6 3.0' (H702427-05)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.40	120	2.00	0.689	
Toluene*	<0.050	0.050	09/15/2017	ND	2.19	110	2.00	0.0597	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.27	113	2.00	0.614	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.73	112	6.00	0.561	
Total BTEx	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/13/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	211	106	200	6.16	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	201	101	200	0.0815	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 80.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 81.8 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-16 0.0' (H702427-06)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.40	120	2.00	0.689	
Toluene*	<0.050	0.050	09/15/2017	ND	2.19	110	2.00	0.0597	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.27	113	2.00	0.614	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.73	112	6.00	0.561	
Total BTEx	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/13/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	211	106	200	6.16	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	201	101	200	0.0815	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 101 % 28.3-164

Surrogate: 1-Chlorooctadecane 105 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-16 0.5' (H702427-07)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.40	120	2.00	0.689	
Toluene*	<0.050	0.050	09/15/2017	ND	2.19	110	2.00	0.0597	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.27	113	2.00	0.614	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.73	112	6.00	0.561	
Total BTEx	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	09/13/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	211	106	200	6.16	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	201	101	200	0.0815	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 80.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 93.6 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-27 0.0' (H702427-08)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.40	120	2.00	0.689	
Toluene*	<0.050	0.050	09/15/2017	ND	2.19	110	2.00	0.0597	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.27	113	2.00	0.614	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.73	112	6.00	0.561	
Total BTX	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	09/13/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	211	106	200	6.16	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	201	101	200	0.0815	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 90.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.2 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-27 0.5' (H702427-09)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.40	120	2.00	0.689	
Toluene*	<0.050	0.050	09/15/2017	ND	2.19	110	2.00	0.0597	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.27	113	2.00	0.614	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.73	112	6.00	0.561	
Total BTX	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	09/13/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	211	106	200	6.16	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	201	101	200	0.0815	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 91.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.2 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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### 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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Fax No:

Sampler Signature: K. Wren Tatum e-mail: Robert.Asher@eogresources.com

Project Name: Stark BG #2

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: H702427

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S-6 0.0'	0"	0"	9/6/2017	9:37 AM		1	X								S	X		X										X
2	S-6 0.5'	6"	6"	9/6/2017	9:40 AM		1	X								S	X		X										X
3	S-6 1.0'	12"	12"	9/6/2017	9:42 AM		1	X								S	X		X										X
4	S-6 2.0'	24"	24"	9/6/2017	9:44 AM		1	X								S	X		X										X
5	S-6 3.0'	36"	36"	9/6/2017	9:47 AM		1	X								S	X		X										X
6	S-16 0.0'	0"	0"	9/6/2017	9:32 AM		1	X								S	X		X										X
7	S-16 0.5'	6"	6"	9/6/2017	9:35 AM		1	X								S	X		X										X
8	S-27 0.0'	0"	0"	9/6/2017	9:25 AM		1	X								S	X		X										X
9	S-27 0.5'	6"	6"	9/6/2017	9:28 AM		1	X								S	X		X										X

Special Instructions: **TPH EXTENDED.** ALL results in mg/kg. Thank you.

Laboratory Comments:

Sample Containers Intact? ☒ Y

VOCs Free of Headspace? ☒ Y

Labels on container(s) ☒ Y

Custody seals on container(s) ☒ Y

Sample Hand Delivered by Sampler/Client Rep. ? ☒ Y

by Courier? ☒ Y

Temperature Upon Receipt: 11.65/11.4 °C



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

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September 17, 2017

ROBERT ASHER  
EOG Y RESOURCES, INC  
105 SOUTH 4TH STREET  
ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Celey D. Keene  
Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-7 0.0' (H702421-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	2.22	111	2.00	2.05	
Toluene*	<0.050	0.050	09/14/2017	ND	2.00	100	2.00	3.42	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.08	104	2.00	2.94	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.22	104	6.00	1.66	
Total BTEX	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/12/2017	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 96.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 99.9 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-7 0.5' (H702421-02)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	2.22	111	2.00	2.05		
Toluene*	<0.050	0.050	09/14/2017	ND	2.00	100	2.00	3.42		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.08	104	2.00	2.94		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.22	104	6.00	1.66		
Total BTEx	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.2 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/12/2017	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 105 % 28.3-164

Surrogate: 1-Chlorooctadecane 109 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-7 1.0' (H702421-03)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	2.22	111	2.00	2.05		
Toluene*	<0.050	0.050	09/14/2017	ND	2.00	100	2.00	3.42		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.08	104	2.00	2.94		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.22	104	6.00	1.66		
Total BTEx	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/12/2017	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 107 % 28.3-164

Surrogate: 1-Chlorooctadecane 111 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-7 2.0' (H702421-04)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	2.22	111	2.00	2.05	
Toluene*	<0.050	0.050	09/14/2017	ND	2.00	100	2.00	3.42	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.08	104	2.00	2.94	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.22	104	6.00	1.66	
Total BTEX	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.7 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	09/12/2017	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 98.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 110 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-7 3.0' (H702421-05)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	2.22	111	2.00	2.05		
Toluene*	<0.050	0.050	09/14/2017	ND	2.00	100	2.00	3.42		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.08	104	2.00	2.94		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.22	104	6.00	1.66		
Total BTEx	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.6 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/12/2017	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 101 % 28.3-164

Surrogate: 1-Chlorooctadecane 106 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-14 3.0' (H702421-06)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	2.22	111	2.00	2.05	
Toluene*	<0.050	0.050	09/14/2017	ND	2.00	100	2.00	3.42	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.08	104	2.00	2.94	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.22	104	6.00	1.66	
Total BTEx	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2280	16.0	09/12/2017	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 99.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 102 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-15 3.0' (H702421-07)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	2.22	111	2.00	2.05	
Toluene*	<0.050	0.050	09/14/2017	ND	2.00	100	2.00	3.42	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.08	104	2.00	2.94	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.22	104	6.00	1.66	
Total BTEx	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1720	16.0	09/12/2017	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 97.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 101 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-34 0.0' (H702421-08)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	2.22	111	2.00	2.05		
Toluene*	<0.050	0.050	09/14/2017	ND	2.00	100	2.00	3.42		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.08	104	2.00	2.94		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.22	104	6.00	1.66		
Total BTEx	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	09/12/2017	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 107 % 28.3-164

Surrogate: 1-Chlorooctadecane 112 % 34.7-157

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### Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene", is written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager





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

September 16, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/16/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-8 0.0' (H702423-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	2.22	111	2.00	2.05	
Toluene*	<0.050	0.050	09/14/2017	ND	2.00	100	2.00	3.42	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.08	104	2.00	2.94	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.22	104	6.00	1.66	
Total BTEX	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.2 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	09/12/2017	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 109 % 28.3-164

Surrogate: 1-Chlorooctadecane 116 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/16/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-8 0.5' (H702423-02)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	2.22	111	2.00	2.05		
Toluene*	<0.050	0.050	09/14/2017	ND	2.00	100	2.00	3.42		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.08	104	2.00	2.94		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.22	104	6.00	1.66		
Total BTEx	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/12/2017	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 112 % 28.3-164

Surrogate: 1-Chlorooctadecane 113 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/16/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-8 1.0' (H702423-03)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	2.22	111	2.00	2.05		
Toluene*	<0.050	0.050	09/14/2017	ND	2.00	100	2.00	3.42		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.08	104	2.00	2.94		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.22	104	6.00	1.66		
Total BTEX	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/12/2017	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 93.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 97.5 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/16/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-8 2.0' (H702423-04)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	2.22	111	2.00	2.05		
Toluene*	<0.050	0.050	09/14/2017	ND	2.00	100	2.00	3.42		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.08	104	2.00	2.94		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.22	104	6.00	1.66		
Total BTEX	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	09/12/2017	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 101 % 28.3-164

Surrogate: 1-Chlorooctadecane 109 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/16/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-8 3.0' (H702423-05)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/15/2017	ND	2.22	111	2.00	2.05		
Toluene*	<0.050	0.050	09/15/2017	ND	2.00	100	2.00	3.42		
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.08	104	2.00	2.94		
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.22	104	6.00	1.66		
Total BTEx	<0.300	0.300	09/15/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.4 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	368	16.0	09/12/2017	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 106 % 28.3-164

Surrogate: 1-Chlorooctadecane 107 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/16/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-15 0.0' (H702423-06)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.22	111	2.00	2.05	
Toluene*	<0.050	0.050	09/15/2017	ND	2.00	100	2.00	3.42	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.08	104	2.00	2.94	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.22	104	6.00	1.66	
Total BTEx	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.3 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	09/12/2017	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 95.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 99.5 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/16/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-15 0.5' (H702423-07)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/15/2017	ND	2.22	111	2.00	2.05		
Toluene*	<0.050	0.050	09/15/2017	ND	2.00	100	2.00	3.42		
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.08	104	2.00	2.94		
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.22	104	6.00	1.66		
Total BTEx	<0.300	0.300	09/15/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	09/12/2017	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	178	88.8	200	0.467	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	191	95.7	200	1.20	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 88.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 93.4 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/16/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-15 1.0' (H702423-08)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/15/2017	ND	2.22	111	2.00	2.05		
Toluene*	<0.050	0.050	09/15/2017	ND	2.00	100	2.00	3.42		
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.08	104	2.00	2.94		
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.22	104	6.00	1.66		
Total BTEx	<0.300	0.300	09/15/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	432	16.0	09/12/2017	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	178	88.8	200	0.467	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	191	95.7	200	1.20	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 75.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 80.0 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/16/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-15 2.0' (H702423-09)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/15/2017	ND	2.22	111	2.00	2.05		
Toluene*	<0.050	0.050	09/15/2017	ND	2.00	100	2.00	3.42		
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.08	104	2.00	2.94		
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.22	104	6.00	1.66		
Total BTEx	<0.300	0.300	09/15/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	800	16.0	09/12/2017	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	178	88.8	200	0.467	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	191	95.7	200	1.20	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 87.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.4 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



## 101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Robert Asher

Company Name EOG Resources, Inc.

EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210Telephone No: 575-748-4171

575-748-4171

Fax No.:

Sampler Signature: K. Wyman / (660) 501-1000 e-mail: kwyman@usgs.gov

Kilogram / Ton (Kcal/cm)

[Robert.Asher@eogresources.com](mailto:Robert.Asher@eogresources.com)

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

PO #: 205632

Project Name: **Stark BG #2**

Project #: 30-015-22135

Project Loc: Eddy County

(lab use only)

ORDER #: H1702423

[illegible]



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September 16, 2017

ROBERT ASHER  
EOG Y RESOURCES, INC  
105 SOUTH 4TH STREET  
ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene  
Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/16/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-9 0.0' (H702424-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.04	102	2.00	0.977	
Toluene*	<0.050	0.050	09/15/2017	ND	1.85	92.5	2.00	0.640	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	1.92	96.1	2.00	0.878	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	5.73	95.5	6.00	0.988	
Total BTEX	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/13/2017	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	178	88.8	200	0.467	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	191	95.7	200	1.20	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 89.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 98.0 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/16/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-9 0.5' (H702424-02)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.04	102	2.00	0.977	
Toluene*	<0.050	0.050	09/15/2017	ND	1.85	92.5	2.00	0.640	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	1.92	96.1	2.00	0.878	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	5.73	95.5	6.00	0.988	
Total BTEX	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/13/2017	ND	448	112	400	3.51		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	178	88.8	200	0.467	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	191	95.7	200	1.20	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 83.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 90.6 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/16/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-9 1.0' (H702424-03)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/15/2017	ND	2.04	102	2.00	0.977		
Toluene*	<0.050	0.050	09/15/2017	ND	1.85	92.5	2.00	0.640		
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	1.92	96.1	2.00	0.878		
Total Xylenes*	<0.150	0.150	09/15/2017	ND	5.73	95.5	6.00	0.988		
Total BTEx	<0.300	0.300	09/15/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	09/13/2017	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	178	88.8	200	0.467	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	191	95.7	200	1.20	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 86.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 93.1 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/16/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-9 2.0' (H702424-04)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.04	102	2.00	0.977	
Toluene*	<0.050	0.050	09/15/2017	ND	1.85	92.5	2.00	0.640	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	1.92	96.1	2.00	0.878	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	5.73	95.5	6.00	0.988	
Total BTEX	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	656	16.0	09/13/2017	ND	448	112	400	3.51	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	178	88.8	200	0.467	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	191	95.7	200	1.20	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 89.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 96.9 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/16/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-9 3.0' (H702424-05)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.04	102	2.00	0.977	
Toluene*	<0.050	0.050	09/15/2017	ND	1.85	92.5	2.00	0.640	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	1.92	96.1	2.00	0.878	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	5.73	95.5	6.00	0.988	
Total BTEx	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1230	16.0	09/13/2017	ND	448	112	400	3.51		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	178	88.8	200	0.467	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	191	95.7	200	1.20	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 85.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.5 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/16/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-14 0.0' (H702424-06)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/15/2017	ND	2.04	102	2.00	0.977		
Toluene*	<0.050	0.050	09/15/2017	ND	1.85	92.5	2.00	0.640		
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	1.92	96.1	2.00	0.878		
Total Xylenes*	<0.150	0.150	09/15/2017	ND	5.73	95.5	6.00	0.988		
Total BTEx	<0.300	0.300	09/15/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	09/13/2017	ND	448	112	400	3.51	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	178	88.8	200	0.467	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	191	95.7	200	1.20	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 77.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 83.5 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/16/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-14 0.5' (H702424-07)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.04	102	2.00	0.977	
Toluene*	<0.050	0.050	09/15/2017	ND	1.85	92.5	2.00	0.640	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	1.92	96.1	2.00	0.878	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	5.73	95.5	6.00	0.988	
Total BTX	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	592	16.0	09/13/2017	ND	448	112	400	3.51	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	178	88.8	200	0.467	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	191	95.7	200	1.20	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 82.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 86.7 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/16/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-14 1.0' (H702424-08)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/15/2017	ND	2.04	102	2.00	0.977		
Toluene*	<0.050	0.050	09/15/2017	ND	1.85	92.5	2.00	0.640		
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	1.92	96.1	2.00	0.878		
Total Xylenes*	<0.150	0.150	09/15/2017	ND	5.73	95.5	6.00	0.988		
Total BTEx	<0.300	0.300	09/15/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	928	16.0	09/13/2017	ND	448	112	400	3.51		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	178	88.8	200	0.467	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	191	95.7	200	1.20	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 78.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 83.5 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/16/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-14 2.0' (H702424-09)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/15/2017	ND	2.04	102	2.00	0.977		
Toluene*	<0.050	0.050	09/15/2017	ND	1.85	92.5	2.00	0.640		
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	1.92	96.1	2.00	0.878		
Total Xylenes*	<0.150	0.150	09/15/2017	ND	5.73	95.5	6.00	0.988		
Total BTEx	<0.300	0.300	09/15/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1490	16.0	09/13/2017	ND	448	112	400	3.51	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	178	88.8	200	0.467	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	191	95.7	200	1.20	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 86.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 93.1 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

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---

**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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Fax No:

Sampler Signature: K. Wilson (lead cap) e-mail: Robert.Asher@eogresources.com

Project Name: Stark BG #2

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: H702424

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S-9.0.0'	0"	0"	9/6/2017	12:09 PM		1	X								S	X			X									X
2	S-9.0.5'	6"	6"	9/6/2017	12:10 PM		1	X								S	X			X									X
3	S-9.1.0'	12"	12"	9/6/2017	12:17 PM		1	X								S	X			X									X
4	S-9.2.0'	24"	24"	9/6/2017	12:20 PM		1	X								S	X			X									X
5	S-9.3.0'	36"	36"	9/6/2017	12:23 PM		1	X								S	X			X									X
6	S-14.0.0'	0"	0"	9/6/2017	12:28 PM		1	X								S	X			X									X
7	S-14.0.5'	6"	6"	9/6/2017	12:31 PM		1	X								S	X			X									X
8	S-14.1.0'	12"	12"	9/6/2017	12:32 PM		1	X								S	X			X									X
9	S-14.2.0'	24"	24"	9/6/2017	12:34 PM		1	X								S	X			X									X

Special Instructions: **TPH EXTENDED.** ALL results in mg/kg. Thank you.

Relinquished by: EOG Date: 09/11/17 Time: 9:39 AM Received by: Bobbi Shunder

Relinquished by: EOG Date: 09/11/17 Time: 11:40

Relinquished by: EOG Date: 09/11/17 Time: 11:40

Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on containers(s) Custody seals on container(s)

Sample Hand Delivered by Sampler/Client Rep.?

Temperature Upon Receipt:

Corrected



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---

September 17, 2017

ROBERT ASHER  
EOG Y RESOURCES, INC  
105 SOUTH 4TH STREET  
ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene  
Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-10 0.0' (H702425-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.04	102	2.00	0.977	
Toluene*	<0.050	0.050	09/15/2017	ND	1.85	92.5	2.00	0.640	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	1.92	96.1	2.00	0.878	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	5.73	95.5	6.00	0.988	
Total BTX	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/13/2017	ND	448	112	400	3.51		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	178	88.8	200	0.467	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	191	95.7	200	1.20	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 82.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.5 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-10 0.5' (H702425-02)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.04	102	2.00	0.977	
Toluene*	<0.050	0.050	09/15/2017	ND	1.85	92.5	2.00	0.640	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	1.92	96.1	2.00	0.878	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	5.73	95.5	6.00	0.988	
Total BTX	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	09/13/2017	ND	448	112	400	3.51	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	178	88.8	200	0.467	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	191	95.7	200	1.20	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 85.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 95.1 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-10 1.0' (H702425-03)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/15/2017	ND	2.04	102	2.00	0.977		
Toluene*	<0.050	0.050	09/15/2017	ND	1.85	92.5	2.00	0.640		
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	1.92	96.1	2.00	0.878		
Total Xylenes*	<0.150	0.150	09/15/2017	ND	5.73	95.5	6.00	0.988		
Total BTEx	<0.300	0.300	09/15/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/13/2017	ND	448	112	400	3.51		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	178	88.8	200	0.467	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	191	95.7	200	1.20	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 82.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.5 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-10 2.0' (H702425-04)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/15/2017	ND	2.04	102	2.00	0.977		
Toluene*	<0.050	0.050	09/15/2017	ND	1.85	92.5	2.00	0.640		
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	1.92	96.1	2.00	0.878		
Total Xylenes*	<0.150	0.150	09/15/2017	ND	5.73	95.5	6.00	0.988		
Total BTEx	<0.300	0.300	09/15/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/13/2017	ND	448	112	400	3.51		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	178	88.8	200	0.467	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	191	95.7	200	1.20	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 91.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 98.4 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-10 3.0' (H702425-05)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.04	102	2.00	0.977	
Toluene*	<0.050	0.050	09/15/2017	ND	1.85	92.5	2.00	0.640	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	1.92	96.1	2.00	0.878	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	5.73	95.5	6.00	0.988	
Total BTX	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/13/2017	ND	448	112	400	3.51	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	178	88.8	200	0.467	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	191	95.7	200	1.20	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 84.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 90.4 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-12 3.0' (H702425-06)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/15/2017	ND	2.04	102	2.00	0.977		
Toluene*	<0.050	0.050	09/15/2017	ND	1.85	92.5	2.00	0.640		
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	1.92	96.1	2.00	0.878		
Total Xylenes*	<0.150	0.150	09/15/2017	ND	5.73	95.5	6.00	0.988		
Total BTEx	<0.300	0.300	09/15/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/13/2017	ND	448	112	400	3.51		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	211	106	200	6.16	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	201	101	200	0.0815	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 96.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 105 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-13 3.0' (H702425-07)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/15/2017	ND	2.04	102	2.00	0.977		
Toluene*	<0.050	0.050	09/15/2017	ND	1.85	92.5	2.00	0.640		
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	1.92	96.1	2.00	0.878		
Total Xylenes*	<0.150	0.150	09/15/2017	ND	5.73	95.5	6.00	0.988		
Total BTEx	<0.300	0.300	09/15/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3000	16.0	09/13/2017	ND	448	112	400	3.51		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	211	106	200	6.16	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	201	101	200	0.0815	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 81.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 84.9 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-30 0.0' (H702425-08)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.04	102	2.00	0.977	
Toluene*	<0.050	0.050	09/15/2017	ND	1.85	92.5	2.00	0.640	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	1.92	96.1	2.00	0.878	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	5.73	95.5	6.00	0.988	
Total BTEX	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	09/13/2017	ND	448	112	400	3.51	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	211	106	200	6.16	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	201	101	200	0.0815	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 95.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 95.8 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-30 0.5' (H702425-09)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.40	120	2.00	0.689	
Toluene*	<0.050	0.050	09/15/2017	ND	2.19	110	2.00	0.0597	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.27	113	2.00	0.614	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.73	112	6.00	0.561	
Total BTX	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	09/13/2017	ND	448	112	400	3.51	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	211	106	200	6.16	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	201	101	200	0.0815	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 84.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.9 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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 client for 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 thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager

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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Fax No:

Sampler Signature: Kilbourn (real sig) e-mail: Robert.Asher@eogresources.com

Project Name: **Stark BG #2**

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: **H702425**

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	Matrix	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S-10 0.0'	0"	0"	9/6/2017	2:45 PM		1	X								S	X												X
2	S-10 0.5'	6"	6"	9/6/2017	2:48 PM		1	X								S	X												X
3	S-10 1.0'	12"	12"	9/6/2017	2:50 PM		1	X								S	X												X
4	S-10 2.0'	24"	24"	9/6/2017	2:52 PM		1	X								S	X												X
5	S-10 3.0'	36"	36"	9/6/2017	2:55 PM		1	X								S	X												X
6	S-12 3.0'	36"	36"	9/6/2017	2:40 PM		1	X								S	X												X
7	S-13 3.0'	36"	36"	9/6/2017	2:09 PM		1	X								S	X												X
8	S-30 0.0'	0"	0"	9/6/2017	1:12 PM		1	X								S	X												X
9	S-30 0.5'	6"	6"	9/6/2017	1:18 PM		1	X								S	X												X

Special Instructions: **TPH EXTENDED.** ALL results in mg/kg. Thank you.

## Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on container(s)?

Custody seals on container(s)?

Custody seals on cooler(s)?

Sample Hand Delivered by Sampler/Client Rep.?

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: **1.052/1.4 °C**





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

September 17, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-11 0.0' (H702426-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.40	120	2.00	0.689	
Toluene*	<0.050	0.050	09/15/2017	ND	2.19	110	2.00	0.0597	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.27	113	2.00	0.614	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.73	112	6.00	0.561	
Total BTX	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/13/2017	ND	448	112	400	3.51		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	211	106	200	6.16	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	201	101	200	0.0815	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 80.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 85.2 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-11 0.5' (H702426-02)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.40	120	2.00	0.689	
Toluene*	<0.050	0.050	09/15/2017	ND	2.19	110	2.00	0.0597	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.27	113	2.00	0.614	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.73	112	6.00	0.561	
Total BTX	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/13/2017	ND	448	112	400	3.51		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	211	106	200	6.16	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	201	101	200	0.0815	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 88.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.9 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-11 1.0' (H702426-03)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.40	120	2.00	0.689	
Toluene*	<0.050	0.050	09/15/2017	ND	2.19	110	2.00	0.0597	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.27	113	2.00	0.614	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.73	112	6.00	0.561	
Total BTEx	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/13/2017	ND	448	112	400	3.51		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	211	106	200	6.16	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	201	101	200	0.0815	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 80.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 84.6 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-11 2.0' (H702426-04)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.40	120	2.00	0.689	
Toluene*	<0.050	0.050	09/15/2017	ND	2.19	110	2.00	0.0597	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.27	113	2.00	0.614	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.73	112	6.00	0.561	
Total BTX	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/13/2017	ND	448	112	400	3.51		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	211	106	200	6.16	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	201	101	200	0.0815	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 85.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.3 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-11 3.0' (H702426-05)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.40	120	2.00	0.689	
Toluene*	<0.050	0.050	09/15/2017	ND	2.19	110	2.00	0.0597	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.27	113	2.00	0.614	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.73	112	6.00	0.561	
Total BTEX	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/13/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	211	106	200	6.16	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	201	101	200	0.0815	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 93.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.0 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Analyze For:

**TPH EXTENDED.** ALL results in mg/kg. Thank you

Temperature Upon Receipt: \_\_\_\_\_

Received by OCD: 9/19/2022 10:23:54 AM



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

---

September 18, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-12 0.0' (H702431-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2017	ND	2.11	105	2.00	2.24	
Toluene*	<0.050	0.050	09/17/2017	ND	1.93	96.6	2.00	2.28	
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	2.01	100	2.00	2.09	
Total Xylenes*	<0.150	0.150	09/17/2017	ND	6.02	100	6.00	1.69	
Total BTEX	<0.300	0.300	09/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	09/14/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	215	107	200	4.37	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	219	110	200	4.65	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 74.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 78.0 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-12 0.5' (H702431-02)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2017	ND	2.11	105	2.00	2.24	
Toluene*	<0.050	0.050	09/17/2017	ND	1.93	96.6	2.00	2.28	
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	2.01	100	2.00	2.09	
Total Xylenes*	<0.150	0.150	09/17/2017	ND	6.02	100	6.00	1.69	
Total BTX	<0.300	0.300	09/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/14/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	215	107	200	4.37	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	219	110	200	4.65	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 89.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 96.5 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-12 1.0' (H702431-03)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2017	ND	2.11	105	2.00	2.24	
Toluene*	<0.050	0.050	09/17/2017	ND	1.93	96.6	2.00	2.28	
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	2.01	100	2.00	2.09	
Total Xylenes*	<0.150	0.150	09/17/2017	ND	6.02	100	6.00	1.69	
Total BTEx	<0.300	0.300	09/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	09/14/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	215	107	200	4.37	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	219	110	200	4.65	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 85.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 90.5 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-12 2.0' (H702431-04)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2017	ND	2.11	105	2.00	2.24	
Toluene*	<0.050	0.050	09/17/2017	ND	1.93	96.6	2.00	2.28	
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	2.01	100	2.00	2.09	
Total Xylenes*	<0.150	0.150	09/17/2017	ND	6.02	100	6.00	1.69	
Total BTEx	<0.300	0.300	09/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/14/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	215	107	200	4.37	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	219	110	200	4.65	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 90.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 99.2 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-23 0.0' (H702431-05)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2017	ND	2.11	105	2.00	2.24	
Toluene*	<0.050	0.050	09/17/2017	ND	1.93	96.6	2.00	2.28	
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	2.01	100	2.00	2.09	
Total Xylenes*	<0.150	0.150	09/17/2017	ND	6.02	100	6.00	1.69	
Total BTX	<0.300	0.300	09/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	176	16.0	09/14/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	215	107	200	4.37	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	219	110	200	4.65	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 92.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 95.6 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-23 0.5' (H702431-06)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2017	ND	2.11	105	2.00	2.24		
Toluene*	<0.050	0.050	09/17/2017	ND	1.93	96.6	2.00	2.28		
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	2.01	100	2.00	2.09		
Total Xylenes*	<0.150	0.150	09/17/2017	ND	6.02	100	6.00	1.69		
Total BTEx	<0.300	0.300	09/17/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	608	16.0	09/14/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	215	107	200	4.37	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	219	110	200	4.65	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 96.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 100 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-23 1.0' (H702431-07)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2017	ND	2.11	105	2.00	2.24	
Toluene*	<0.050	0.050	09/17/2017	ND	1.93	96.6	2.00	2.28	
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	2.01	100	2.00	2.09	
Total Xylenes*	<0.150	0.150	09/17/2017	ND	6.02	100	6.00	1.69	
Total BTEx	<0.300	0.300	09/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	09/14/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	215	107	200	4.37	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	219	110	200	4.65	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 108 % 28.3-164

Surrogate: 1-Chlorooctadecane 113 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-23 2.0' (H702431-08)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2017	ND	2.11	105	2.00	2.24	
Toluene*	<0.050	0.050	09/17/2017	ND	1.93	96.6	2.00	2.28	
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	2.01	100	2.00	2.09	
Total Xylenes*	<0.150	0.150	09/17/2017	ND	6.02	100	6.00	1.69	
Total BTEx	<0.300	0.300	09/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1100	16.0	09/14/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	215	107	200	4.37	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	219	110	200	4.65	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 92.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 98.4 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-23 3.0' (H702431-09)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2017	ND	2.11	105	2.00	2.24	
Toluene*	<0.050	0.050	09/17/2017	ND	1.93	96.6	2.00	2.28	
Ethylbenzene*	<0.050	0.050	09/17/2017	ND	2.01	100	2.00	2.09	
Total Xylenes*	<0.150	0.150	09/17/2017	ND	6.02	100	6.00	1.69	
Total BTEx	<0.300	0.300	09/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1440	16.0	09/14/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	215	107	200	4.37	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	219	110	200	4.65	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 82.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.5 % 34.7-157

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### 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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



## 101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: **Stark BG #2**

Project #: 30-015-22135

Project Loc: Eddy CountyPO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171 Fax No: \_\_\_\_\_

Sampler Signature: K. Williams / T. Cohen (1/24/2003) e-mail: \_\_\_\_\_

Robert\_Asher@eogresources.com

(lab use only)

ORDER #: H7D2431

[illegible]

Page 12 of 12





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

---

September 18, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-25 0.0' (H702433-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2017	ND	2.06	103	2.00	0.311	
Toluene*	<0.050	0.050	09/18/2017	ND	1.90	94.9	2.00	0.452	
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.95	97.5	2.00	0.636	
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.86	97.6	6.00	0.433	
Total BTX	<0.300	0.300	09/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5920	16.0	09/14/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	180	90.2	200	0.273	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	193	96.5	200	2.02	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 94.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 95.3 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-25 0.5' (H702433-02)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2017	ND	2.06	103	2.00	0.311	
Toluene*	<0.050	0.050	09/18/2017	ND	1.90	94.9	2.00	0.452	
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.95	97.5	2.00	0.636	
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.86	97.6	6.00	0.433	
Total BTEx	<0.300	0.300	09/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3000	16.0	09/14/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	180	90.2	200	0.273	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	193	96.5	200	2.02	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 83.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 77.9 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-25 1.0' (H702433-03)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2017	ND	2.06	103	2.00	0.311		
Toluene*	<0.050	0.050	09/18/2017	ND	1.90	94.9	2.00	0.452		
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.95	97.5	2.00	0.636		
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.86	97.6	6.00	0.433		
Total BTEx	<0.300	0.300	09/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3680	16.0	09/14/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	180	90.2	200	0.273	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	193	96.5	200	2.02	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 94.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 93.3 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-25 2.0' (H702433-04)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2017	ND	2.06	103	2.00	0.311		
Toluene*	<0.050	0.050	09/18/2017	ND	1.90	94.9	2.00	0.452		
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.95	97.5	2.00	0.636		
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.86	97.6	6.00	0.433		
Total BTEx	<0.300	0.300	09/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4080	16.0	09/14/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	180	90.2	200	0.273	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	193	96.5	200	2.02	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 98.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 94.8 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-25 3.0' (H702433-05)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2017	ND	2.06	103	2.00	0.311	
Toluene*	<0.050	0.050	09/18/2017	ND	1.90	94.9	2.00	0.452	
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.95	97.5	2.00	0.636	
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.86	97.6	6.00	0.433	
Total BTEx	<0.300	0.300	09/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4880	16.0	09/14/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	180	90.2	200	0.273	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	193	96.5	200	2.02	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 76.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 74.1 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-13 0.0' (H702433-06)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2017	ND	2.06	103	2.00	0.311	
Toluene*	<0.050	0.050	09/18/2017	ND	1.90	94.9	2.00	0.452	
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.95	97.5	2.00	0.636	
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.86	97.6	6.00	0.433	
Total BTX	<0.300	0.300	09/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2920	16.0	09/14/2017	ND	416	104	400	3.77	QM-07	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	180	90.2	200	0.273	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	193	96.5	200	2.02	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 78.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 75.4 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-13 0.5' (H702433-07)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2017	ND	2.06	103	2.00	0.311		
Toluene*	<0.050	0.050	09/18/2017	ND	1.90	94.9	2.00	0.452		
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.95	97.5	2.00	0.636		
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.86	97.6	6.00	0.433		
Total BTEx	<0.300	0.300	09/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1550	16.0	09/14/2017	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	180	90.2	200	0.273	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	193	96.5	200	2.02	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 83.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 79.5 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-13 1.0' (H702433-08)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2017	ND	2.06	103	2.00	0.311	
Toluene*	<0.050	0.050	09/18/2017	ND	1.90	94.9	2.00	0.452	
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.95	97.5	2.00	0.636	
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.86	97.6	6.00	0.433	
Total BTEx	<0.300	0.300	09/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1680	16.0	09/14/2017	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	180	90.2	200	0.273	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	193	96.5	200	2.02	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 82.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 86.0 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-13 2.0' (H702433-09)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2017	ND	2.06	103	2.00	0.311	
Toluene*	<0.050	0.050	09/18/2017	ND	1.90	94.9	2.00	0.452	
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.95	97.5	2.00	0.636	
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.86	97.6	6.00	0.433	
Total BTEx	<0.300	0.300	09/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2320	16.0	09/14/2017	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	180	90.2	200	0.273	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	193	96.5	200	2.02	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 82.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 90.9 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Fax No:

Sampler Signature: K. W. [Signature] e-mail: Robert.Asher@eogresources.com

Project Name: **Stark BG #2**

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: **H702433**

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Matrix	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT	
1	S-25 0.0'	0"	0"	9/6/2017	1:00 PM		1	X								S	X														
2	S-25 0.5'	6"	6"	9/6/2017	1:02 PM		1	X								S	X														
3	S-25 1.0'	12"	12"	9/6/2017	1:04 PM		1	X								S	X														
4	S-25 2.0'	24"	24"	9/6/2017	1:06 PM		1	X								S	X														
5	S-25 3.0'	36"	36"	9/6/2017	1:10 PM		1	X								S	X														
6	S-13 0.0'	0"	0"	9/6/2017	1:59 PM		1	X								S	X														
7	S-13 0.5'	6"	6"	9/6/2017	2:01 PM		1	X								S	X														
8	S-13 1.0'	12"	12"	9/6/2017	2:03 PM		1	X								S	X														
9	S-13 2.0'	24"	24"	9/6/2017	2:06 PM		1	X								S	X														

Special Instructions: **TPH EXTENDED.** ALL results in mg/kg. Thank you.

Relinquished by: [Signature] Date: 09/11/17 Time: 10:49 AM Received by: [Signature] Date: 9/11/17 Time: 11:40

Relinquished by: [Signature] Date: Date: Time: Time:

Relinquished by: Date: Date: Time: Time:

Relinquished by: Date: Date: Time: Time:

**Laboratory Comments:**

Sample Containers Intact? ☒ Y ☐ N

VOCs Free of Headspace? ☒ Y ☐ N

Labels on container(s) ☒ Y ☐ N

Custody seals on container(s) ☒ Y ☐ N

Custody seals on cooler(s) ☒ Y ☐ N

Sample Hand Delivered by Sampler/Client Rep. ? ☒ Y ☐ N

by Courier? ☐ UPS ☐ DHL ☐ FedEx ☐ Lone Star

Temperature Upon Receipt: 1.65C / 34.4 °C



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September 17, 2017

ROBERT ASHER  
EOG Y RESOURCES, INC  
105 SOUTH 4TH STREET  
ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene  
Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-17 0.0' (H702428-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.40	120	2.00	0.689	
Toluene*	<0.050	0.050	09/15/2017	ND	2.19	110	2.00	0.0597	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.27	113	2.00	0.614	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.73	112	6.00	0.561	
Total BTX	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	672	16.0	09/13/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	211	106	200	6.16	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	201	101	200	0.0815	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 94.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 101 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-17 0.5' (H702428-02)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/15/2017	ND	2.40	120	2.00	0.689		
Toluene*	<0.050	0.050	09/15/2017	ND	2.19	110	2.00	0.0597		
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.27	113	2.00	0.614		
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.73	112	6.00	0.561		
Total BTX	<0.300	0.300	09/15/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	448	16.0	09/13/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	184	91.9	200	3.30	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	205	102	200	6.69	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 89.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 97.0 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-17 1.0' (H702428-03)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/15/2017	ND	2.40	120	2.00	0.689	
Toluene*	<0.050	0.050	09/15/2017	ND	2.19	110	2.00	0.0597	
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.27	113	2.00	0.614	
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.73	112	6.00	0.561	
Total BTX	<0.300	0.300	09/15/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	09/13/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	184	91.9	200	3.30	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	205	102	200	6.69	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 89.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 94.2 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-17 2.0' (H702428-04)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/15/2017	ND	2.40	120	2.00	0.689		
Toluene*	<0.050	0.050	09/15/2017	ND	2.19	110	2.00	0.0597		
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.27	113	2.00	0.614		
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.73	112	6.00	0.561		
Total BTX	<0.300	0.300	09/15/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1360	16.0	09/13/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	184	91.9	200	3.30	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	205	102	200	6.69	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 85.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 94.8 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-17 3.0' (H702428-05)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/15/2017	ND	2.40	120	2.00	0.689		
Toluene*	<0.050	0.050	09/15/2017	ND	2.19	110	2.00	0.0597		
Ethylbenzene*	<0.050	0.050	09/15/2017	ND	2.27	113	2.00	0.614		
Total Xylenes*	<0.150	0.150	09/15/2017	ND	6.73	112	6.00	0.561		
Total BTX	<0.300	0.300	09/15/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2320	16.0	09/13/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	211	106	200	6.16	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	201	101	200	0.0815	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 77.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 91.1 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-18 0.0' (H702428-06)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/16/2017	ND	2.02	101	2.00	1.08		
Toluene*	<0.050	0.050	09/16/2017	ND	1.85	92.7	2.00	0.887		
Ethylbenzene*	<0.050	0.050	09/16/2017	ND	1.92	96.2	2.00	1.08		
Total Xylenes*	<0.150	0.150	09/16/2017	ND	5.73	95.5	6.00	1.53		
Total BTEx	<0.300	0.300	09/16/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	8800	16.0	09/13/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	184	91.9	200	3.30	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	205	102	200	6.69	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 82.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.4 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-18 0.5' (H702428-07)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/16/2017	ND	2.02	101	2.00	1.08		
Toluene*	<0.050	0.050	09/16/2017	ND	1.85	92.7	2.00	0.887		
Ethylbenzene*	<0.050	0.050	09/16/2017	ND	1.92	96.2	2.00	1.08		
Total Xylenes*	<0.150	0.150	09/16/2017	ND	5.73	95.5	6.00	1.53		
Total BTEx	<0.300	0.300	09/16/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.6 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4880	16.0	09/13/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	184	91.9	200	3.30	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	205	102	200	6.69	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 86.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 94.4 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-18 1.0' (H702428-08)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/16/2017	ND	2.02	101	2.00	1.08		
Toluene*	<0.050	0.050	09/16/2017	ND	1.85	92.7	2.00	0.887		
Ethylbenzene*	<0.050	0.050	09/16/2017	ND	1.92	96.2	2.00	1.08		
Total Xylenes*	<0.150	0.150	09/16/2017	ND	5.73	95.5	6.00	1.53		
Total BTEx	<0.300	0.300	09/16/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2880	16.0	09/13/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	184	91.9	200	3.30	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	205	102	200	6.69	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 99.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 105 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/17/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/05/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-18 2.0' (H702428-09)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/16/2017	ND	2.02	101	2.00	1.08		
Toluene*	<0.050	0.050	09/16/2017	ND	1.85	92.7	2.00	0.887		
Ethylbenzene*	<0.050	0.050	09/16/2017	ND	1.92	96.2	2.00	1.08		
Total Xylenes*	<0.150	0.150	09/16/2017	ND	5.73	95.5	6.00	1.53		
Total BTEx	<0.300	0.300	09/16/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2120	16.0	09/13/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	184	91.9	200	3.30	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	205	102	200	6.69	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 91.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 99.5 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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### 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

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A handwritten signature in black ink, appearing to read "C. D. Keene", is written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Fax No:

Sampler Signature: *Lawrence Thomas (real one)*

e-mail:

Robert.Asher@eogresources.com

Project Name: **Stark BG #2**

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: **H702428**

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT	
1	S-17 0.0'	0"	0"	9/6/2017	8:32 AM		1	X								S	X													X
2	S-17 0.5'	6"	6"	9/6/2017	8:34 AM		1	X								S	X													X
3	S-17 1.0'	12"	12"	9/6/2017	8:37 AM		1	X								S	X													X
4	S-17 2.0'	24"	24"	9/6/2017	8:39 AM		1	X								S	X													X
5	S-17 3.0'	36"	36"	9/6/2017	8:42 AM		1	X								S	X													X
6	S-18 0.0'	0"	0"	9/5/2017	1:36 PM		1	X								S	X													X
7	S-18 0.5'	6"	6"	9/5/2017	1:38 PM		1	X								S	X													X
8	S-18 1.0'	12"	12"	9/5/2017	1:41 PM		1	X								S	X													X
9	S-18 2.0'	24"	24"	9/5/2017	1:44 PM		1	X								S	X													X

Special Instructions: **TPH EXTENDED.** ALL results in mg/kg. Thank you.

## Laboratory Comments:

Sample Containers In tact? ☒ N  
 VOCs Free of Headspace? ☒ N  
 Labels on container(s) ☒ N  
 Custody seals on container(s) ☒ N  
 Custody seals on cooler(s) ☒ N  
 Sample Hand Delivered by Sampler/Client Rep. ? ☒ N  
 by Courier? ☒ N  
 UPS ☒ N  
 DHL ☒ N  
 FedEx ☒ N  
 Lone Star ☒ N  
 Temperature Upon Receipt: 11.65°C / 52.97°F



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

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September 18, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-18 3.0' (H702434-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2017	ND	2.06	103	2.00	0.311	
Toluene*	<0.050	0.050	09/18/2017	ND	1.90	94.9	2.00	0.452	
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.95	97.5	2.00	0.636	
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.86	97.6	6.00	0.433	
Total BTX	<0.300	0.300	09/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1600	16.0	09/14/2017	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	201	101	200	4.62	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	210	105	200	6.50	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 97.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 99.3 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-21 3.0' (H702434-02)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2017	ND	2.06	103	2.00	0.311	
Toluene*	<0.050	0.050	09/18/2017	ND	1.90	94.9	2.00	0.452	
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.95	97.5	2.00	0.636	
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.86	97.6	6.00	0.433	
Total BTX	<0.300	0.300	09/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1360	16.0	09/14/2017	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	201	101	200	4.62	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	210	105	200	6.50	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 108 % 28.3-164

Surrogate: 1-Chlorooctadecane 110 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-22 3.0' (H702434-03)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2017	ND	2.06	103	2.00	0.311		
Toluene*	<0.050	0.050	09/18/2017	ND	1.90	94.9	2.00	0.452		
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.95	97.5	2.00	0.636		
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.86	97.6	6.00	0.433		
Total BTEx	<0.300	0.300	09/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1650	16.0	09/14/2017	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	201	101	200	4.62	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	210	105	200	6.50	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 98.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 102 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-26 3.0' (H702434-04)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2017	ND	2.06	103	2.00	0.311	
Toluene*	<0.050	0.050	09/18/2017	ND	1.90	94.9	2.00	0.452	
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.95	97.5	2.00	0.636	
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.86	97.6	6.00	0.433	
Total BTEx	<0.300	0.300	09/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2920	16.0	09/14/2017	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	201	101	200	4.62	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	210	105	200	6.50	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 96.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 104 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-29 0.0' (H702434-05)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2017	ND	2.06	103	2.00	0.311		
Toluene*	<0.050	0.050	09/18/2017	ND	1.90	94.9	2.00	0.452		
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.95	97.5	2.00	0.636		
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.86	97.6	6.00	0.433		
Total BTEx	<0.300	0.300	09/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	09/14/2017	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	201	101	200	4.62	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	210	105	200	6.50	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 76.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 79.2 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-29 0.5' (H702434-06)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2017	ND	2.06	103	2.00	0.311	
Toluene*	<0.050	0.050	09/18/2017	ND	1.90	94.9	2.00	0.452	
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.95	97.5	2.00	0.636	
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.86	97.6	6.00	0.433	
Total BTX	<0.300	0.300	09/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	09/14/2017	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	201	101	200	4.62	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	210	105	200	6.50	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 95.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 96.4 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-29 1.0' (H702434-07)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2017	ND	2.06	103	2.00	0.311		
Toluene*	<0.050	0.050	09/18/2017	ND	1.90	94.9	2.00	0.452		
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.95	97.5	2.00	0.636		
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.86	97.6	6.00	0.433		
Total BTEx	<0.300	0.300	09/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	544	16.0	09/14/2017	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	201	101	200	4.62	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	210	105	200	6.50	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 64.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 69.0 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-29 2.0' (H702434-08)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/18/2017	ND	2.06	103	2.00	0.311	
Toluene*	<0.050	0.050	09/18/2017	ND	1.90	94.9	2.00	0.452	
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.95	97.5	2.00	0.636	
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.86	97.6	6.00	0.433	
Total BTX	<0.300	0.300	09/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	656	16.0	09/14/2017	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	201	101	200	4.62	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	210	105	200	6.50	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 87.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 83.6 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/18/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-29 3.0' (H702434-09)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/18/2017	ND	2.06	103	2.00	0.311		
Toluene*	<0.050	0.050	09/18/2017	ND	1.90	94.9	2.00	0.452		
Ethylbenzene*	<0.050	0.050	09/18/2017	ND	1.95	97.5	2.00	0.636		
Total Xylenes*	<0.150	0.150	09/18/2017	ND	5.86	97.6	6.00	0.433		
Total BTEx	<0.300	0.300	09/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	896	16.0	09/14/2017	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/14/2017	ND	201	101	200	4.62	
DRO >C10-C28	<10.0	10.0	09/14/2017	ND	210	105	200	6.50	
EXT DRO >C28-C36	<10.0	10.0	09/14/2017	ND					

Surrogate: 1-Chlorooctane 89.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 91.1 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

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### Notes and Definitions

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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





**CARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: Kenneth Hansen (see below) Fax No: \_\_\_\_\_

(lab use only)

ORDER #: H7D2434

e-mail: Robert.Asher@eogresources.com

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

PO #: 205632

Project Loc: Eddy County

Project #: 30-015-22135

Project Name: Stark BG #2

**TPH EXTENDED.** ALL results in mg/kg. Thank you.

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	Matrix	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S-18 3.0'	36"	36"	9/6/2017	11:46 AM		1	X								S	X												X
2	S-21 3.0'	36"	36"	9/6/2017	10:00 AM		1	X								S	X												X
3	S-22 3.0'	36"	36"	9/6/2017	11:03 AM		1	X								S	X												X
4	S-26 3.0'	36"	36"	9/6/2017	2:14 PM		1	X								S	X												X
5	S-29 0.0'	0"	0"	9/6/2017	11:15 AM		1	X								S	X												X
6	S-29 0.5'	6"	6"	9/6/2017	11:18 AM		1	X								S	X												X
7	S-29 1.0'	12"	12"	9/6/2017	11:20 AM		1	X								S	X												X
8	S-29 2.0'	24"	24"	9/6/2017	11:24 AM		1	X								S	X												X
9	S-29 3.0'	36"	36"	9/6/2017	11:26 AM		1	X								S	X												X

## Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on container(s)?

Custody seals on container(s)?

Sample Hand Delivered by Sampler/Client Rep.?

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 1.65C/1.4 °C



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

---

September 15, 2017

ROBERT ASHER  
EOG Y RESOURCES, INC  
105 SOUTH 4TH STREET  
ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene  
Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135 (S-1)  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-1.1 (H702413-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54	
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50	
Total BTX	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1200	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.8	200	0.881	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	196	98.0	200	1.76	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 85.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 90.5 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135 (S-1)  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-1.2 (H702413-02)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54	
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50	
Total BTEx	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1020	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.8	200	0.881	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	196	98.0	200	1.76	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 85.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 94.1 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135 (S-1)  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-1.3 (H702413-03)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54	
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50	
Total BTEx	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	624	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.8	200	0.881	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	196	98.0	200	1.76	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 91.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 91.8 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135 (S-1)  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-1.4 (H702413-04)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54	
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50	
Total BTEx	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	752	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.8	200	0.881	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	196	98.0	200	1.76	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 89.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 94.4 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135 (S-1)  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-1.5 (H702413-05)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54	
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50	
Total BTX	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1020	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.8	200	0.881	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	196	98.0	200	1.76	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 84.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.0 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: 30-015-22135 (S-1)  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-1.6 (H702413-06)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54	
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50	
Total BTEx	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1140	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.8	200	0.881	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	196	98.0	200	1.76	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 86.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 87.9 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

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### Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: EOG

Fax No: \_\_\_\_\_

e-mail: Robert.Asher@eogresources.com

Project Name: Stark BG #2 (S-1)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: H702413

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S-1.1	1'	1'	9/7/2017	8:06 AM		1	X								S	X		X										X
2	S-1.2	2'	2'	9/7/2017	8:07 AM		1	X								S	X		X										X
3	S-1.3	3'	3'	9/7/2017	8:08 AM		1	X								S	X		X										X
4	S-1.4	4'	4'	9/7/2017	8:10 AM		1	X								S	X		X										X
5	S-1.5	5'	5'	9/7/2017	8:11 AM		1	X								S	X		X										X
6	S-1.6	6'	6'	9/7/2017	8:13 AM		1	X								S	X		X										X

TPH EXTENDED. ALL results in mg/kg. Thank you.

## Laboratory Comments:

Sample Containers Intact? ☒

VOCs Free of Headspace? ☒

Labels on container(s) ☒

Custody seals on container(s) ☒

Custody seals on cooler(s) ☒

Sample Hand Delivered by Sampler/Client Rep. ? ☒

by Courier? ☐ UPS ☐ DHL ☐ FedEx ☐ Lone Star

Temperature Upon Receipt: 1.4 °C

Special Instructions:

TPH EXTENDED. ALL results in mg/kg. Thank you.

## Laboratory Comments:

Sample Containers Intact? ☒

VOCs Free of Headspace? ☒

Labels on container(s) ☒

Custody seals on container(s) ☒

Custody seals on cooler(s) ☒

Sample Hand Delivered by Sampler/Client Rep. ? ☒

by Courier? ☐ UPS ☐ DHL ☐ FedEx ☐ Lone Star

Temperature Upon Receipt: 1.4 °C





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

---

September 15, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-2 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-2.1 (H702415-01)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.79	89.6	2.00	1.54	
Toluene*	<0.050	0.050	09/13/2017	ND	1.93	96.3	2.00	1.98	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.12	106	2.00	1.67	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.32	105	6.00	2.50	
Total BTEx	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	880	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 82.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 81.4 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-2 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-2.2 (H702415-02)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.84	91.8	2.00	1.65	
Toluene*	<0.050	0.050	09/13/2017	ND	1.97	98.4	2.00	0.687	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.15	108	2.00	0.0407	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.45	107	6.00	0.0433	
Total BTX	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1090	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 93.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 87.3 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-2 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-2.3 (H702415-03)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/13/2017	ND	1.84	91.8	2.00	1.65		
Toluene*	<0.050	0.050	09/13/2017	ND	1.97	98.4	2.00	0.687		
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.15	108	2.00	0.0407		
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.45	107	6.00	0.0433		
Total BTEX	<0.300	0.300	09/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1360	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 77.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 80.8 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-2 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-2.4 (H702415-04)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/13/2017	ND	1.84	91.8	2.00	1.65	
Toluene*	<0.050	0.050	09/13/2017	ND	1.97	98.4	2.00	0.687	
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.15	108	2.00	0.0407	
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.45	107	6.00	0.0433	
Total BTX	<0.300	0.300	09/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1390	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 84.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 83.9 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-2 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-2.5 (H702415-05)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/13/2017	ND	1.84	91.8	2.00	1.65		
Toluene*	<0.050	0.050	09/13/2017	ND	1.97	98.4	2.00	0.687		
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.15	108	2.00	0.0407		
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.45	107	6.00	0.0433		
Total BTEx	<0.300	0.300	09/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1840	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 89.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.1 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-2 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-2.6 (H702415-06)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/13/2017	ND	1.84	91.8	2.00	1.65		
Toluene*	<0.050	0.050	09/13/2017	ND	1.97	98.4	2.00	0.687		
Ethylbenzene*	<0.050	0.050	09/13/2017	ND	2.15	108	2.00	0.0407		
Total Xylenes*	<0.150	0.150	09/13/2017	ND	6.45	107	6.00	0.0433		
Total BTX	<0.300	0.300	09/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1800	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	180	89.9	200	2.70	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	183	91.4	200	1.43	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 84.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 86.2 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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### 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

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A handwritten signature in black ink, appearing to read "C. D. Keene", is written over a horizontal line.

---

Celey D. Keene, Lab Director/Quality Manager



**CARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY / RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No.: 575-748-4171

Sampler Signature: Robert Asher

Fax No.:

e-mail:

Robert.Asher@eogresources.com

Project Name: Stark BG #2 (S-2)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: H702415

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>8</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S-2.1	1'	1'	9/7/2017	8:19 AM		1	X								S	X												X
2	S-2.2	2'	2'	9/7/2017	8:20 AM		1	X								S	X												X
3	S-2.3	3'	3'	9/7/2017	8:21 AM		1	X								S	X												X
4	S-2.4	4'	4'	9/7/2017	8:23 AM		1	X								S	X												X
5	S-2.5	5'	5'	9/7/2017	8:24 AM		1	X								S	X												X
6	S-2.6	6'	6'	9/7/2017	8:25 AM		1	X								S	X												X

Special Instructions: **TPH EXTENDED.** ALL results in mg/kg. Thank you.

Relinquished by:	Date	Time	Received by:	Date	Time
<u>Robert Asher</u>	09/11/17	8:39 AM	<u>Robert Asher</u>	9/11/17	11:40
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

**Laboratory Comments:**

Sample Containers Intact? ☒ **N**

VOCs Free of Headspace? ☒ **N**

Labels on container(s) ☒ **N**

Custody seals on container(s) ☒ **N**

Sample Hand Delivered by Courier? ☒ **N**

Temperature Upon Receipt: 1.652/14 °C

by Courier? ☒ **N**

UPS ☒ **N**

DHL ☒ **N**

Fedex ☒ **N**

Lone Star ☒ **N**



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---

September 15, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-3 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-3.1 (H702417-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	1.84	91.8	2.00	1.65	
Toluene*	<0.050	0.050	09/14/2017	ND	1.97	98.4	2.00	0.687	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.15	108	2.00	0.0407	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.45	107	6.00	0.0433	
Total BTX	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 78.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.2 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-3 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-3.2 (H702417-02)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	1.84	91.8	2.00	1.65	
Toluene*	<0.050	0.050	09/14/2017	ND	1.97	98.4	2.00	0.687	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.15	108	2.00	0.0407	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.45	107	6.00	0.0433	
Total BTEx	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 85.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.5 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-3 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-3.3 (H702417-03)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	1.84	91.8	2.00	1.65	
Toluene*	<0.050	0.050	09/14/2017	ND	1.97	98.4	2.00	0.687	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.15	108	2.00	0.0407	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.45	107	6.00	0.0433	
Total BTEX	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 96.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 104 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-3 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-3.4 (H702417-04)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	1.84	91.8	2.00	1.65	
Toluene*	<0.050	0.050	09/14/2017	ND	1.97	98.4	2.00	0.687	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.15	108	2.00	0.0407	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.45	107	6.00	0.0433	
Total BTX	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	800	16.0	09/12/2017	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 88.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 95.7 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-3 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-3.5 (H702417-05)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	1.84	91.8	2.00	1.65	
Toluene*	<0.050	0.050	09/14/2017	ND	1.97	98.4	2.00	0.687	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.15	108	2.00	0.0407	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.45	107	6.00	0.0433	
Total BTEX	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1250	16.0	09/12/2017	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 88.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 93.8 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-3 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-3.6 (H702417-06)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	1.84	91.8	2.00	1.65		
Toluene*	<0.050	0.050	09/14/2017	ND	1.97	98.4	2.00	0.687		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.15	108	2.00	0.0407		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.45	107	6.00	0.0433		
Total BTEx	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1040	16.0	09/12/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 89.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 96.7 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



---

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### 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

---

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager

## 101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210Telephone No: 575-748-4171

Sampler Signature:

Fax No.:

e-mail:

[Robert\\_Asher@eogresources.com](mailto:Robert_Asher@eogresources.com)

Project Name: Stark BG #2 (S-3)

Project #: 30-015-22135Project Loc: Eddy CountyPO #: 205632

Report Format: ☒ Standard

☐ TRRP☐ NPDES

Page 9 of 9

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Released to Imaging: 4/17/2023 3:01:59 PM



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

September 15, 2017

ROBERT ASHER  
EOG Y RESOURCES, INC  
105 SOUTH 4TH STREET  
ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is fluid and cursive, with the first name "Celey" and last name "Keene" clearly distinguishable.

Celey D. Keene  
Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-4 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-4.1 (H702419-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248	
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187	
Total BTX	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	09/12/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 84.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.7 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-4 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-4.2 (H702419-02)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248		
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187		
Total BTEx	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	09/12/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 79.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 85.6 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-4 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-4.3 (H702419-03)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248		
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187		
Total BTEX	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	09/12/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 84.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 86.0 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-4 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-4.4 (H702419-04)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248		
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187		
Total BTEx	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/12/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 85.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 91.0 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-4 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-4.5 (H702419-05)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248		
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187		
Total BTEx	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	09/12/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/13/2017	ND	186	92.8	200	2.06	
DRO >C10-C28	<10.0	10.0	09/13/2017	ND	198	98.8	200	1.27	
EXT DRO >C28-C36	<10.0	10.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 93.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 97.8 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-4 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-4.6 (H702419-06)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248		
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187		
Total BTEX	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.8 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	640	16.0	09/12/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 99.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 109 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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### Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

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Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Fax No:

Sampler Signature: *Robert Asher*

e-mail:

[Robert.Asher@eogresources.com](mailto:Robert.Asher@eogresources.com)

Project Name: **Stark BG #2 (S-4)**

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: **H702419**

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	Matrix	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT	
1	S-4.1	1'	1'	9/7/2017	9:02 AM		1	X								DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	X			X									X	X
2	S-4.2	2'	2'	9/7/2017	9:03 AM		1	X									X			X								X	X	
3	S-4.3	3'	3'	9/7/2017	9:04 AM		1	X									X			X								X	X	
4	S-4.4	4'	4'	9/7/2017	9:05 AM		1	X									X			X								X	X	
5	S-4.5	5'	5'	9/7/2017	9:07 AM		1	X									X			X								X	X	
6	S-4.6	6'	6'	9/7/2017	9:08 AM		1	X									X			X								X	X	

Special Instructions:

**TPH EXTENDED.** ALL results in mg/kg. Thank you.

Laboratory Comments:

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

Temperature Upon Receipt: **1.65/1.4 °C**



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September 15, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-5 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-5.ESW (H702420-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	09/14/2017	ND	1.74	86.9	2.00	0.248	
Toluene*	<0.200	0.200	09/14/2017	ND	1.86	93.0	2.00	1.38	
Ethylbenzene*	<b>1.33</b>	0.200	09/14/2017	ND	2.07	104	2.00	0.292	
Total Xylenes*	<b>4.29</b>	0.600	09/14/2017	ND	6.21	104	6.00	0.187	
Total BTX	<b>5.62</b>	1.20	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>976</b>	16.0	09/12/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS						S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<b>337</b>	50.0	09/12/2017	ND	199	99.5	200	12.0		
DRO >C10-C28	<b>6290</b>	50.0	09/12/2017	ND	197	98.6	200	12.7		
EXT DRO >C28-C36	<b>931</b>	50.0	09/12/2017	ND						

Surrogate: 1-Chlorooctane 153 % 28.3-164

Surrogate: 1-Chlorooctadecane 193 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-5 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-5.NSW (H702420-02)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	1.74	86.9	2.00	0.248	
Toluene*	<0.050	0.050	09/14/2017	ND	1.86	93.0	2.00	1.38	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.07	104	2.00	0.292	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.21	104	6.00	0.187	
Total BTX	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	09/12/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 93.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 94.3 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-5 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-5.WSW (H702420-03)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	2.22	111	2.00	2.05	QM-07
Toluene*	<0.050	0.050	09/14/2017	ND	2.00	100	2.00	3.42	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.08	104	2.00	2.94	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.22	104	6.00	1.66	
Total BTX	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.6 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	09/12/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 95.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 105 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-5 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-5.SSW (H702420-04)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2017	ND	2.22	111	2.00	2.05		
Toluene*	<0.050	0.050	09/14/2017	ND	2.00	100	2.00	3.42		
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.08	104	2.00	2.94		
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.22	104	6.00	1.66		
Total BTX	<0.300	0.300	09/14/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	09/12/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	09/12/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	<10.0	10.0	09/12/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	<10.0	10.0	09/12/2017	ND					

Surrogate: 1-Chlorooctane 94.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 103 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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 client for 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 thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager

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

---

### Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: *Robert Asher*

Fax No:

e-mail:

Robert.Asher@eogresources.com

Project Name: **Stark BG #2 (S-5)**

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #:

H7D2420

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S-5.ESW	5'	5'	9/7/2017	9:14 AM		1	X								S	X		X										X
2	S-5.NSW	5'	5'	9/7/2017	9:17 AM		1	X								S	X		X										X
3	S-5.WSW	5'	5'	9/7/2017	9:21 AM		1	X								S	X		X										X
4	S-5.SSW	5'	5'	9/7/2017	9:24 AM		1	X								S	X		X										X

Special Instructions:

TPH EXTENDED. ALL results in mg/kg. Thank you.

Inquired by:

*Robert Asher*

Date

Time

Received by:

*Robert Asher*

Date

Time

Received by:

*Robert Asher*

Date

Time

Received by:

*Robert Asher*

Laboratory Comments:

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

Temperature Upon Receipt:

1.652/14 °C



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

---

September 15, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2

Enclosed are the results of analyses for samples received by the laboratory on 09/11/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 09/11/2017  
 Reported: 09/15/2017  
 Project Name: STARK BG #2  
 Project Number: ( S-8 ) 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 09/07/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S-8.BH (H702422-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2017	ND	2.22	111	2.00	2.05	
Toluene*	<0.050	0.050	09/14/2017	ND	2.00	100	2.00	3.42	
Ethylbenzene*	<0.050	0.050	09/14/2017	ND	2.08	104	2.00	2.94	
Total Xylenes*	<0.150	0.150	09/14/2017	ND	6.22	104	6.00	1.66	
Total BTX	<0.300	0.300	09/14/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	09/12/2017	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	09/13/2017	ND	199	99.5	200	12.0	
DRO >C10-C28	1690	50.0	09/13/2017	ND	197	98.6	200	12.7	
EXT DRO >C28-C36	617	50.0	09/13/2017	ND					

Surrogate: 1-Chlorooctane 91.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 224 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene", is written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager

101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

## 4 of 4

Project Name: **Stark BG #2 (S-8)**Project #: 30-015-22135Project Loc: Eddy County

PO #: 205632

Fax No.:

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

e-mail:

Robert Asher@eogresources.com

Analyze For:

ORDER #: T1102422

[illegible]

**TPH EXTENDED.** ALL results in mg/kg. Thank you.

Laboratory Comments:

Relinquished by

Date \_\_\_\_\_

Time

Received by:

Date \_\_\_\_\_

Time

by distinguished by

Date \_\_\_\_\_

Time

Received by:

Date \_\_\_\_\_

Time

Acquired by:

Date \_\_\_\_\_

Time

Received by ELQOT:

Date \_\_\_\_\_

**Time**

Sample Containers Intact?	Y	N
VOCs Free of Headspace?	Y	N
Labels on containers?	Y	N
Custody seals on containers?	Y	N
Custody seals on coolers?	Y	N
Sample Hand Delivered by Sampler/Client Rep.?	Y	N
by Courier?	UPS	DHL
Temperature Upon Receipt:	FedEx	Lone Star
	1.65	1.4
	°C	°C



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

November 01, 2017

ROBERT ASHER  
EOG Y RESOURCES, INC  
105 SOUTH 4TH STREET  
ARTESIA, NM 88210

RE: STARK BG #2 (S3)

Enclosed are the results of analyses for samples received by the laboratory on 10/25/17 15:53.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene  
Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/25/2017  
 Reported: 11/01/2017  
 Project Name: STARK BG #2 (S3)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/24/2017  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: S-3.7 (H702933-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	10/30/2017	ND	432	108	400	0.00		

**Sample ID: S-3.10 (H702933-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	10/30/2017	ND	432	108	400	0.00		

**Sample ID: S-3.12 (H702933-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	640	16.0	10/30/2017	ND	432	108	400	0.00		

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

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

---

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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "C. D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4471

Sampler Signature: EOG

Fax No:

e-mail:

Robert.Asher@eogresources.com

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Project Name: Stark BG #2 (S-3)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

(lab use only)

ORDER #: H702033

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers	Matrix	Analyze For:	TCLP:	TOTAL:	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S-3.7	7'	7'	10/24/2017	8:28 AM		1	Ice	S	TPH: 8015M Extended				X
2	S-3.10	10'	10'	10/24/2017	8:36 AM		1	HNO <sub>3</sub>	S	TPH: TX 1005 TX 1006				X
3	S-3.12	12'	12'	10/24/2017	8:41 AM		1	HCl	S	Cations (Ca, Mg, Na, K)				X
								H <sub>2</sub> SO <sub>4</sub>		Anions (Cl)				
								NaOH		SAR / ESP / CEC				
								Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>		Metals: As Ag Ba Cd Cr Pb Hg Se				
								None		Volatiles				
								Other (Specify)		Semivolatiles				
								DW=Drinking Water SL=Sludge		BTEX 8021B/5030 or BTEX 8260				
								GW = Groundwater S=Soil/Solid		RCI				
								NP=Non-Potable Specify Other		N.O.R.M.				

Special Instructions: **Chlorides Only.** ALL results in mg/kg. Thank you.

## Laboratory Comments:

Sample Containers Intact? ☒

VOCs Free of Headspace? ☒

Labels on container(s) ☒

Custody seals on container(s) ☒

Sample Hand Delivered by Sampler/Client Rep. ? ☒

by Courier? ☒

UPS ☒ DHL ☒ FedEx ☒ Lone Star ☒

Temperature Upon Receipt: 33.9°C



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

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November 01, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S1)

Enclosed are the results of analyses for samples received by the laboratory on 10/25/17 16:01.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	10/25/2017	Sampling Date:	10/24/2017
Reported:	11/01/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S1)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S-1.7 (H702934-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1520	16.0	10/30/2017	ND	432	108	400	0.00		

**Sample ID: S-1.10 (H702934-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2480	16.0	10/30/2017	ND	432	108	400	0.00	

**Sample ID: S-1.12 (H702934-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1800	16.0	10/30/2017	ND	432	108	400	0.00		

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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 client for 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 thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: *EOG*

(lab use only)

ORDER #: H702934

Fax No:  
e-mail:

Robert.Asher@eogresources.com

Project Name: **Stark BG #2 (S-1)**

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

**Chlorides Only.** ALL results in mg/kg. Thank you.

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S-1.7	7'	7'	10/24/2017	7:42 AM		1																						
2	S-1.10	10'	10'	10/24/2017	7:49 AM		1																						
3	S-1.12	12'	12'	10/24/2017	7:56 AM		1																						

Requested by:	Date	Time	Received by:	Date	Time
<i>EOG</i>	10/24/17	3:21 PM	<i>Holly Curshaw</i>	10/25/17	4:01
Requested by:	Date	Time	Received by:	Date	Time
Requested by:	Date	Time	Received by:	Date	Time

**Laboratory Comments:**

Sample Containers Intact? ☒ Y ☐ N

VOCs Free of Headspace? ☒ Y ☐ N

Labels on container(s) ☒ Y ☐ N

Custody seals on container(s) ☒ Y ☐ N

Custody seals on cooler(s) ☒ Y ☐ N

Sample Hand Delivered ☒ Y ☐ N

by Sampler/Client Rep.? ☒ Y ☐ N

by Courier? ☒ Y ☐ N

UPS ☒ DHL ☐ FedEx ☐ Lone Star

Temperature Upon Receipt: 83.9°C



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

November 01, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S2)

Enclosed are the results of analyses for samples received by the laboratory on 10/25/17 16:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	10/25/2017	Sampling Date:	10/24/2017
Reported:	11/01/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S2)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S-2.7 (H702935-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1960	16.0	10/30/2017	ND	432	108	400	0.00	

**Sample ID: S-2.10 (H702935-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4240	16.0	10/30/2017	ND	432	108	400	0.00	

**Sample ID: S-2.12 (H702935-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7040	16.0	10/30/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

---

### Notes and Definitions

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

---

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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Caley D. Keene".

---

Caley D. Keene, Lab Director/Quality Manager









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

---

November 01, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S8.ESW)

Enclosed are the results of analyses for samples received by the laboratory on 10/25/17 16:08.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is fluid and cursive, with the first name "Celey" and last name "Keene" clearly distinguishable.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/25/2017  
 Reported: 11/01/2017  
 Project Name: STARK BG #2 (S8.ESW)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/24/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S-8.ESW (H702936-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/30/2017	ND	1.98	99.1	2.00	1.64	
Toluene*	<0.050	0.050	10/30/2017	ND	2.00	100	2.00	0.412	
Ethylbenzene*	<0.050	0.050	10/30/2017	ND	2.06	103	2.00	0.883	
Total Xylenes*	<0.150	0.150	10/30/2017	ND	6.26	104	6.00	1.13	
Total BTX	<0.300	0.300	10/30/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	672	16.0	10/30/2017	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/27/2017	ND	187	93.4	200	2.63	
DRO >C10-C28	<10.0	10.0	10/27/2017	ND	207	103	200	2.26	
EXT DRO >C28-C36	<10.0	10.0	10/27/2017	ND					

Surrogate: 1-Chlorooctane 83.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 90.0 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

---

### Notes and Definitions

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

---

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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Caley D. Keene".

---

Caley D. Keene, Lab Director/Quality Manager

(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project #: 30-015-22135Project Loc: Eddy CountyPO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Telephone No: 575-748-4171

Sampler Signature:  e-mail: [Robert\\_Astler@wvu.edu](mailto:Robert_Astler@wvu.edu)

(lab use only)

ORDER #: F7029319

ORDER #: **H202936**  
 (lab use only)  
 LAB # (lab use only)  
 FIELD CODE  
 S-8-ESW  
 Beginning Depth 8'  
 Ending Depth 8'  
 Date Sampled 10/24/2017  
 Time Sampled 8:50 AM  
 Field Filtered  
 Total #. of Containers 1  
 Preservation & # of Containers  
 Ice X  
 HNO<sub>3</sub>  
 HCl  
 H<sub>2</sub>SO<sub>4</sub>  
 NaOH  
 Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>  
 None  
 Other (Specify)  
 Matrix  
 DW=Drinking Water SL=Sludge  
 GW = Groundwater S=Soil/Solid  
 NP=Non-Potable Specify Other  
 S  
 TPH: 8015M Extended X  
 TPH: TX 1005 TX 1006  
 Cations (Ca, Mg, Na, K)  
 Anions (Cl) X  
 SAR / ESP / CEC  
 Metals: As Ag Ba Cd Cr Pb Hg Se  
 Volatiles  
 Semivolatiles  
 BTEX 8021B/5030 or BTEX 8260 X  
 RCI  
 N.O.R.M.  
 RUSH TAT (Pre-Schedule) 24, 48, 72 hrs  
 Standard TAT X

Requisitioned by: **Quora**  
 Date 10/24/17  
 Time 3:40 PM  
 Received by: **Haley Cursons**  
 Date 10/25/17  
 Time 4:08  
 Requisitioned by: **Quora**  
 Date  
 Time  
 Received by: **Quora**  
 Date  
 Time

Special Instructions: **TPH EXTENDED. ALL results in mg/kg. Thank you.**  
 Laboratory Comments:  
 Sample Containers intact? ☒  
 VOCs Free of Headspace? ☒  
 Labels on container(s) ☒  
 Custody seals on container(s) ☒  
 Custody seals on cooler(s) ☒  
 Sample Hand Delivered by Sampler/Client Rep. ? ☒  
 Temperature Upon Receipt: **23.9°C/4.8°C**  
 by Courier? ☒ UPS ☒ DHL ☒ FedEx ☒ Lone Star  
 #25 Corrected +.

Page 4 of 4



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

December 15, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S1)

Enclosed are the results of analyses for samples received by the laboratory on 12/08/17 12:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/08/2017	Sampling Date:	12/06/2017
Reported:	12/15/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S1)	Sampling Condition:	Cool & Intact
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S-1.15 (H703399-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	720	16.0	12/12/2017	ND	432	108	400	0.00	

**Sample ID: S-1.18 (H703399-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	784	16.0	12/12/2017	ND	432	108	400	0.00	

**Sample ID: S-1.20 (H703399-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1880	16.0	12/12/2017	ND	432	108	400	0.00	

**Sample ID: S-1.22 (H703399-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3560	16.0	12/12/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



---

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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



## ORDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Robert Asher  
District Manager

Robert Asher

Company Name EOG Resources, Inc.

EOG Resources, Inc.

Company Address: 104 South 4th Street

104 South 4th Street

City/State/Zip: Artesia, NM 88210

Artesia, NM 88210

Telephone No: 575-748-4171

575-748-4171

Fax No:

### Report format

PO #: 205632

Project Loc: Eddy County

Project #: 30-015-22135

Project Name: Stark BG #2 Battery (S-1)

Page 4 of 4

Sampler Signature: \_\_\_\_\_

Robert\_Asher@eogresources.com

(lab use only)

ORDER #: H703399

[illegible]



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

---

December 15, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S2)

Enclosed are the results of analyses for samples received by the laboratory on 12/08/17 12:25.

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Cardinal Laboratories is accredited 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)

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Sincerely,

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Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 12/08/2017  
 Reported: 12/15/2017  
 Project Name: STARK BG #2 (S2)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 12/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S-2.15 (H703400-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1220	16.0	12/12/2017	ND	432	108	400	0.00		

**Sample ID: S-2.18 (H703400-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1880	16.0	12/12/2017	ND	432	108	400	0.00	QM-07	

**Sample ID: S-2.20 (H703400-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3320	16.0	12/12/2017	ND	432	108	400	0.00	

**Sample ID: S-2.22 (H703400-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6560	16.0	12/12/2017	ND	432	108	400	0.00	

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





---

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---

### Notes and Definitions

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

---

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager

## 101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210Telephone No: 575-748-4171

Sampler Signature:

Fax No.:

e-mail:

Robert\_Asher@eogresources.com

Project Name: Stark BG #2 Battery (S-2)

Project #: 30-015-22135Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: 4703400

[illegible]



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

---

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S25)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S25)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S25 - 5.0 (H702858-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2017	ND	1.83	91.7	2.00	1.14	
Toluene*	<0.050	0.050	10/24/2017	ND	1.85	92.3	2.00	0.794	
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.84	92.0	2.00	1.08	
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.51	91.8	6.00	0.573	
Total BTX	<0.300	0.300	10/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.2 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1120	16.0	10/24/2017	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/20/2017	ND	178	89.0	200	0.0865	
DRO >C10-C28	<10.0	10.0	10/20/2017	ND	189	94.5	200	2.30	
EXT DRO >C28-C36	<10.0	10.0	10/20/2017	ND					

Surrogate: 1-Chlorooctane 72.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 81.8 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S25)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S25 - 10.0 (H702858-02)**

BTX 8021B			mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2017	ND	1.83	91.7	2.00	1.14		
Toluene*	<0.050	0.050	10/24/2017	ND	1.85	92.3	2.00	0.794		
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.84	92.0	2.00	1.08		
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.51	91.8	6.00	0.573		
Total BTX	<0.300	0.300	10/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.3 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	8480	16.0	10/24/2017	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/20/2017	ND	178	89.0	200	0.0865	
DRO >C10-C28	<10.0	10.0	10/20/2017	ND	189	94.5	200	2.30	
EXT DRO >C28-C36	<10.0	10.0	10/20/2017	ND					

Surrogate: 1-Chlorooctane 70.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 78.9 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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---

### Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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

---

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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene", is written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager

(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

**Robert Asher@eogresources.com**

(lab use only)

ORDER #: H 702858

[illegible]



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

---

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S25)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S25)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S25 - 5.0 (H702858-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2017	ND	1.83	91.7	2.00	1.14	
Toluene*	<0.050	0.050	10/24/2017	ND	1.85	92.3	2.00	0.794	
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.84	92.0	2.00	1.08	
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.51	91.8	6.00	0.573	
Total BTEX	<0.300	0.300	10/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.2 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/20/2017	ND	178	89.0	200	0.0865	
DRO >C10-C28	<10.0	10.0	10/20/2017	ND	189	94.5	200	2.30	
EXT DRO >C28-C36	<10.0	10.0	10/20/2017	ND					

Surrogate: 1-Chlorooctane 72.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 81.8 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S25)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S25 - 10.0 (H702858-02)**

BTX 8021B			mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2017	ND	1.83	91.7	2.00	1.14		
Toluene*	<0.050	0.050	10/24/2017	ND	1.85	92.3	2.00	0.794		
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Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.51	91.8	6.00	0.573		
Total BTX	<0.300	0.300	10/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.3 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/20/2017	ND	178	89.0	200	0.0865	
DRO >C10-C28	<10.0	10.0	10/20/2017	ND	189	94.5	200	2.30	
EXT DRO >C28-C36	<10.0	10.0	10/20/2017	ND					

Surrogate: 1-Chlorooctane 70.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 78.9 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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---

### Notes and Definitions

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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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager

(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Fax No.:

Sampler Signature: 

Robert\_Asher@eogresources.com

(lab use only)

ORDER #: H 702858

[illegible]

Page 5 of 5



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

---

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S25)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

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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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	10/20/2017	Sampling Date:	10/12/2017
Reported:	10/26/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S25)	Sampling Condition:	Cool & Intact
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S25 - 5.0 (H702858-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1120	16.0	10/24/2017	ND	448	112	400	0.00	

**Sample ID: S25 - 10.0 (H702858-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8480	16.0	10/24/2017	ND	448	112	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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### 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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Fax No.:

Sampler Signature:

e-mail: [Robert\\_Asher@geogresources.com](mailto:Robert_Asher@geogresources.com)

(lab use only)

ORDER #: H702858

[illegible]

Page 4 of 4



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

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S35)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S35)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S35 - SURFACE (H702860-01)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21		
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20		
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17		
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54		
Total BTEX	<0.300	0.300	10/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.8 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	176	16.0	10/24/2017	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/20/2017	ND	178	89.0	200	0.0865	
DRO >C10-C28	<10.0	10.0	10/20/2017	ND	189	94.5	200	2.30	
EXT DRO >C28-C36	<10.0	10.0	10/20/2017	ND					

Surrogate: 1-Chlorooctane 81.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 81.8 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S35)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S35 - 0.5 (H702860-02)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21		
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20		
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17		
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54		
Total BTEx	<0.300	0.300	10/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.1 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	320	16.0	10/24/2017	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/20/2017	ND	178	89.0	200	0.0865	
DRO >C10-C28	<10.0	10.0	10/20/2017	ND	189	94.5	200	2.30	
EXT DRO >C28-C36	<10.0	10.0	10/20/2017	ND					

Surrogate: 1-Chlorooctane 65.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 68.6 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S35)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S35 - 1.0 (H702860-03)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21	
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20	
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17	
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54	
Total BTX	<0.300	0.300	10/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	704	16.0	10/24/2017	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	<10.0	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	<10.0	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 75.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 82.6 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S35)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S35 - 2.0 (H702860-04)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21	
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20	
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17	
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54	
Total BTX	<0.300	0.300	10/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2000	16.0	10/24/2017	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	<10.0	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	<10.0	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 81.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 77.4 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S35)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S35 - 3.0 (H702860-05)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21	
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20	
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17	
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54	
Total BTX	<0.300	0.300	10/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.6 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2880	16.0	10/24/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	<10.0	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	<10.0	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 79.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 79.1 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S35)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S35 - 5.0 (H702860-06)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21	
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20	
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17	
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54	
Total BTX	<0.300	0.300	10/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4160	16.0	10/24/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	<10.0	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	<10.0	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 81.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 80.6 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S35)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S35 - 10.0 (H702860-07)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21		
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20		
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17		
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54		
Total BTEx	<0.300	0.300	10/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.4 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6930	16.0	10/24/2017	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	<10.0	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	<10.0	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 73.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 79.0 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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### Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: Stark BG #2 (S35)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Fax No.:

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

e-mail:

Robert Asher@geogresources.com

ORDER #: H702860

Analyze For:

[illegible]

**Special Instructions:** Chlorides on separate report please. ALL results in mg/kg. Thank you

Laboratory Comments:

### Sample Containers Intact? VOCs Free of Headspace?

Labels on container(s)  
Custody seals on container(s)

Custody seals on cooler(s)  
Sample Hand Delivered

by Sampler/Client Rep.?	Y	N
by Courier?	UPS	DHL FedEx Lone Star

Temperature Upon Receipt: \_\_\_\_\_

0.92

Released to Imaging: 4/17/2023 3:01:59 PM



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

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S35)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S35)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S35 - SURFACE (H702860-01)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21		
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20		
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17		
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54		
Total BTEX	<0.300	0.300	10/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.8 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/20/2017	ND	178	89.0	200	0.0865	
DRO >C10-C28	<10.0	10.0	10/20/2017	ND	189	94.5	200	2.30	
EXT DRO >C28-C36	<10.0	10.0	10/20/2017	ND					

Surrogate: 1-Chlorooctane 81.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 81.8 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
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 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S35)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S35 - 0.5 (H702860-02)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21	
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20	
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17	
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54	
Total BTX	<0.300	0.300	10/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.1 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/20/2017	ND	178	89.0	200	0.0865	
DRO >C10-C28	<10.0	10.0	10/20/2017	ND	189	94.5	200	2.30	
EXT DRO >C28-C36	<10.0	10.0	10/20/2017	ND					

Surrogate: 1-Chlorooctane 65.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 68.6 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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EOG Y RESOURCES, INC  
 ROBERT ASHER  
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 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S35)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S35 - 1.0 (H702860-03)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21	
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20	
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17	
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54	
Total BTX	<0.300	0.300	10/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	<10.0	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	<10.0	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 75.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 82.6 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S35)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S35 - 2.0 (H702860-04)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21	
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20	
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17	
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54	
Total BTX	<0.300	0.300	10/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	<10.0	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	<10.0	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 81.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 77.4 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S35)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S35 - 3.0 (H702860-05)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21		
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20		
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17		
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54		
Total BTEx	<0.300	0.300	10/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.6 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	<10.0	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	<10.0	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 79.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 79.1 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S35)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S35 - 5.0 (H702860-06)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21		
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20		
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17		
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54		
Total BTX	<0.300	0.300	10/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	<10.0	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	<10.0	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 81.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 80.6 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S35)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S35 - 10.0 (H702860-07)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21		
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20		
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17		
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54		
Total BTEx	<0.300	0.300	10/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.4 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	<10.0	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	<10.0	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 73.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 79.0 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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---

### Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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

---

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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: Stark BG #2 (S35)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Robert Asher@geogresources.com

ORDER #: H702860

Analyze For:

[illegible]

**Special Instructions:** Chlorides on separate report please. ALL results in mg/kg. Thank you

Laboratory Comments: Sample Containers Intact

**Sample Containers Intact?  
VOCs Free of Headspace?**

Labels on container(s)  
Custody seals on container(s)

Custody seals on cooler(s)  
Sample Hand Delivered

by Sample/Client Rep.?  
by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 0.9°C

Released to Imaging: 4/17/2023 3:01:59 PM



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

---

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S35)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S35)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S35 - SURFACE (H702860-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	10/24/2017	ND	448	112	400	0.00	

**Sample ID: S35 - 0.5 (H702860-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	10/24/2017	ND	448	112	400	0.00	

**Sample ID: S35 - 1.0 (H702860-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	704	16.0	10/24/2017	ND	448	112	400	0.00	

**Sample ID: S35 - 2.0 (H702860-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2000	16.0	10/24/2017	ND	448	112	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S35)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S35 - 3.0 (H702860-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2880	16.0	10/24/2017	ND	448	112	400	0.00		

**Sample ID: S35 - 5.0 (H702860-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4160	16.0	10/24/2017	ND	448	112	400	0.00		

**Sample ID: S35 - 10.0 (H702860-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6930	16.0	10/24/2017	ND	448	112	400	0.00	

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---

### 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

---

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: Stark BG #2 (S35)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Robert Asher@geogresources.com

ORDER #: H702860

Analyze For:

[illegible]

**Special Instructions:** Chlorides on separate report please. ALL results in mg/kg. Thank you

**Chlorides on separate report please. ALL results in mg/kg. Thank you**

Laboratory Comments: Sample Containers Intact

**Sample Containers Intact?  
VOCs Free of Headspace?**

Labels on container(s)  
Custody seals on container(s)

Custody seals on cooler(s)  
Sample Hand Delivered

by Samper/Cient. Rep. ?  
by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 0.4°C

Released to Imaging: 4/17/2023 3:01:59 PM



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October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S36)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S36)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S36 - SURFACE (H702861-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21	
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20	
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17	
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54	
Total BTX	<0.300	0.300	10/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	<10.0	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	<10.0	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 63.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 70.4 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S36)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S36 - 0.5 (H702861-02)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21	
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20	
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17	
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54	
Total BTX	<0.300	0.300	10/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.7 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	<10.0	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	<10.0	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 70.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 76.0 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S36)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S36 - 1.0 (H702861-03)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21	
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20	
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17	
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54	
Total BTX	<0.300	0.300	10/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.6 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	<10.0	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	<10.0	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 79.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 82.2 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S36)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S36 - 2.0 (H702861-04)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21	
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20	
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17	
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54	
Total BTX	<0.300	0.300	10/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.8 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	<10.0	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	<10.0	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 84.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 86.3 % 34.7-157

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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S36)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S36 - 3.0 (H702861-05)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21	
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20	
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17	
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54	
Total BTX	<0.300	0.300	10/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	<10.0	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	<10.0	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 75.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 83.4 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S36)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S36 - 5.0 (H702861-06)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21		
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20		
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17		
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54		
Total BTEx	<0.300	0.300	10/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.9 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	<10.0	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	<10.0	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 67.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 76.2 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S36)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S36 - 10.0 (H702861-07)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21		
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20		
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17		
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54		
Total BTEx	<0.300	0.300	10/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	<10.0	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	<10.0	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 60.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 63.1 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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---

### Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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

---

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: *Robert Asher*

e-mail: Robert.Asher@eogresources.com

Project Name: Stark BG #2 (S36)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: H702861

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers	Matrix	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S36-Surface	0'	0'	10/12/2017	1:01 PM		1	X	S	X	X	X	X	X	X	X	X	X	X	X	X	X
2	S36-0.5	6"	6"	10/12/2017	1:02 PM		1	X	S	X	X	X	X	X	X	X	X	X	X	X	X	
3	S36-1.0	1'	1'	10/12/2017	1:03 PM		1	X	S	X	X	X	X	X	X	X	X	X	X	X	X	
4	S36-2.0	2'	2'	10/12/2017	1:04 PM		1	X	S	X	X	X	X	X	X	X	X	X	X	X	X	
5	S36-3.0	3'	3'	10/12/2017	1:05 PM		1	X	S	X	X	X	X	X	X	X	X	X	X	X	X	
6	S36-5.0	5'	5'	10/12/2017	1:06 PM		1	X	S	X	X	X	X	X	X	X	X	X	X	X	X	
7	S36-10.0	10'	10'	10/12/2017	1:11 PM		1	X	S	X	X	X	X	X	X	X	X	X	X	X	X	

Special Instructions: Chlorides on separate report please. ALL results in mg/kg. Thank you.

Relinquished by: *Robert Asher* Date: 10/20/17 Time: 5:48 AM Received by: *Robert Asher* Date: 10-20-17 Time: 11:20

Relinquished by: *Robert Asher* Date: Date Time Time

Relinquished by: Date Time Received by ELOTT: Date Time

Relinquished by: Date Time

Laboratory Comments:  
Sample Containers Intact? ☒  
VOCs Free of Headspace? ☒  
Custody seals on container(s) ☒  
Custody seals on cooler(s) ☒  
Sample Hand Delivered by Sampler/Client Rep. ? ☒  
by Courier? ☒ UPS ☒ DHL ☒ FedEx ☒ Lone Star  
Temperature Upon Receipt: 0.9°C 1.5°C



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---

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S36)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S36)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S36 - SURFACE (H702861-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/24/2017	ND	448	112	400	0.00	

**Sample ID: S36 - 0.5 (H702861-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	10/24/2017	ND	448	112	400	0.00	

**Sample ID: S36 - 1.0 (H702861-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1180	16.0	10/24/2017	ND	448	112	400	0.00	

**Sample ID: S36 - 2.0 (H702861-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	10/24/2017	ND	448	112	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S36)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S36 - 3.0 (H702861-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	10/24/2017	ND	448	112	400	3.64		

**Sample ID: S36 - 5.0 (H702861-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	704	16.0	10/24/2017	ND	448	112	400	3.64	

**Sample ID: S36 - 10.0 (H702861-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1120	16.0	10/24/2017	ND	448	112	400	3.64	

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Celey D. Keene, Lab Director/Quality Manager



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---

### 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

---

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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





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# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: *Robert Asher*

e-mail: Robert.Asher@eogresources.com

Project Name: **Stark BG #2 (S36)**

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: *H702861*

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers	Matrix	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S36-Surface	0'	0'	10/12/2017	1:01 PM		1	X	S	X	X	X	X	X	X	X	X	X	X	X	X	X
2	S36-0.5	6"	6"	10/12/2017	1:02 PM		1	X	S	X	X	X	X	X	X	X	X	X	X	X	X	
3	S36-1.0	1'	1'	10/12/2017	1:03 PM		1	X	S	X	X	X	X	X	X	X	X	X	X	X	X	
4	S36-2.0	2'	2'	10/12/2017	1:04 PM		1	X	S	X	X	X	X	X	X	X	X	X	X	X	X	
5	S36-3.0	3'	3'	10/12/2017	1:05 PM		1	X	S	X	X	X	X	X	X	X	X	X	X	X	X	
6	S36-5.0	5'	5'	10/12/2017	1:06 PM		1	X	S	X	X	X	X	X	X	X	X	X	X	X	X	
7	S36-10.0	10'	10'	10/12/2017	1:11 PM		1	X	S	X	X	X	X	X	X	X	X	X	X	X	X	

Special Instructions: **Chlorides on separate report please.** ALL results in mg/kg. Thank you.

Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Custody seals on container(s)

Custody seals on cooler(s)

Sample Hand Delivered

by Courier?

UPS

DHL

FedEx

Lone Star

Temperature Upon Receipt: *0.9°C*

*1.5°C*

*7*

*7*

*7*

*7*

*7*

*7*

*7*

*7*



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---

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S37)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is fluid and cursive, with the first name "Celey" and last name "Keene" clearly distinguishable.

Celey D. Keene

Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S37)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S37 - SURFACE (H702862-01)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21		
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20		
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17		
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54		
Total BTX	<0.300	0.300	10/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.2 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	<10.0	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	<10.0	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 69.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 74.1 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S37)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S37 -0.5 (H702862-02)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21		
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20		
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17		
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54		
Total BTEx	<0.300	0.300	10/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.6 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	<10.0	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	<10.0	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 75.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 78.2 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S37)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S37 -1.0 (H702862-03)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2017	ND	2.01	101	2.00	2.59		
Toluene*	<0.050	0.050	10/24/2017	ND	2.02	101	2.00	3.05		
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	2.01	101	2.00	2.84		
Total Xylenes*	<0.150	0.150	10/24/2017	ND	6.00	99.9	6.00	3.56		
Total BTEx	<0.300	0.300	10/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	<10.0	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	<10.0	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 76.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 83.7 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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EOG Y RESOURCES, INC  
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 Fax To: (575) 748-4131

Received: 10/20/2017  
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 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S37 -2.0 (H702862-04)**

BTEX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2017	ND	2.01	101	2.00	2.59		
Toluene*	<0.050	0.050	10/24/2017	ND	2.02	101	2.00	3.05		
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	2.01	101	2.00	2.84		
Total Xylenes*	<0.150	0.150	10/24/2017	ND	6.00	99.9	6.00	3.56		
Total BTEX	<0.300	0.300	10/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	<10.0	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	<10.0	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 73.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 80.7 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S37)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S37 -3.0 (H702862-05)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2017	ND	2.01	101	2.00	2.59	
Toluene*	<0.050	0.050	10/24/2017	ND	2.02	101	2.00	3.05	
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	2.01	101	2.00	2.84	
Total Xylenes*	<0.150	0.150	10/24/2017	ND	6.00	99.9	6.00	3.56	
Total BTX	<0.300	0.300	10/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	76.3	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	59.2	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 81.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 84.5 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S37)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S37 -5.0 (H702862-06)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2017	ND	2.01	101	2.00	2.59		
Toluene*	<0.050	0.050	10/24/2017	ND	2.02	101	2.00	3.05		
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	2.01	101	2.00	2.84		
Total Xylenes*	<0.150	0.150	10/24/2017	ND	6.00	99.9	6.00	3.56		
Total BTX	<0.300	0.300	10/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.7 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	25.6	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	17.8	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 79.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 82.9 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S37)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S37 -10.0 (H702862-07)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2017	ND	2.01	101	2.00	2.59		
Toluene*	<0.050	0.050	10/24/2017	ND	2.02	101	2.00	3.05		
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	2.01	101	2.00	2.84		
Total Xylenes*	<0.150	0.150	10/24/2017	ND	6.00	99.9	6.00	3.56		
Total BTEx	<0.300	0.300	10/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.0 % 72-148

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/21/2017	ND	184	91.8	200	7.99	
DRO >C10-C28	<10.0	10.0	10/21/2017	ND	193	96.4	200	11.1	
EXT DRO >C28-C36	23.5	10.0	10/21/2017	ND					

Surrogate: 1-Chlorooctane 80.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 82.6 % 34.7-157

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\*=Accredited Analyte

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### Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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

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A handwritten signature in black ink, appearing to read "C. D. Keene", is written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager





**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Fax No:

Sampler Signature: *Robert Asher*

e-mail:

[Robert.Asher@eogresources.com](mailto:Robert.Asher@eogresources.com)

Project Name: **Stark BG #2 (S37)**

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format:

☒ Standard

☐ TRRP

☐ NPDES

(lab use only)

ORDER #: *H702862*

LAB # (lab use only)		FIELD CODE		Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers							Matrix	Analyze For:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
										Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other ( Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005	TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															</

Special Instructions: **Chlorides on separate report please. ALL results in mg/kg. Thank you.**

Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on container(s)?

Custody seals on container(s)?

Custody seals on cooler(s)?

Sample Hand Delivered by Sampler/Client Rep.?

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: *0.98* °C

*Received 1.15*



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

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S37)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S37)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S37 - SURFACE (H702862-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	10/24/2017	ND	448	112	400	3.64	

**Sample ID: S37 -0.5 (H702862-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	10/24/2017	ND	448	112	400	3.64	

**Sample ID: S37 -1.0 (H702862-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	10/24/2017	ND	448	112	400	3.64	

**Sample ID: S37 -2.0 (H702862-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	10/24/2017	ND	448	112	400	3.64	

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S37)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S37 -3.0 (H702862-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	464	16.0	10/24/2017	ND	448	112	400	3.64		

**Sample ID: S37 -5.0 (H702862-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	624	16.0	10/24/2017	ND	448	112	400	3.64		

**Sample ID: S37 -10.0 (H702862-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	320	16.0	10/24/2017	ND	448	112	400	3.64		

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Celey D. Keene, Lab Director/Quality Manager



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---

### 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

---

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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager







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---

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S23)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	10/20/2017	Sampling Date:	10/12/2017
Reported:	10/26/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S23)	Sampling Condition:	Cool & Intact
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S23 - 5.0 (H702871-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3120	16.0	10/24/2017	ND	432	108	400	0.00	

**Sample ID: S23 - 10.0 (H702871-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5200	16.0	10/24/2017	ND	432	108	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager

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### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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 client for 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 thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



(505) 393-2326 FAX (505) 393-2476

Project Name: Stark BG #2 (S23)

Project #: 30-015-22135

Project Loc: Eddy CountyPO #: 205632

Fax No.:

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

**Robert Asher@geogresources.com**

(lab use only)

ORDER #: 4702871

[illegible]

Page 4 of 4

#75

corrected + 2





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

---

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S29)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	10/20/2017	Sampling Date:	10/12/2017
Reported:	10/26/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S29)	Sampling Condition:	Cool & Intact
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S29 - 5.0 (H702872-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1880	16.0	10/24/2017	ND	432	108	400	0.00	

**Sample ID: S29 - 10.0 (H702872-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3760	16.0	10/24/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: *EOG*

Fax No:

e-mail:

Robert.Asher@eogresources.com

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Project Name: Stark BG #2 (S29)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

(lab use only)

ORDER #: H702872

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Matrix	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT	
1	S29 - 5.0	5'	5'	10/12/2017	10:42 AM		1										S														X
2	S29 - 10.0	10'	10'	10/12/2017	10:46 AM									X			S				X										X

Special Instructions: Chlorides Only. ALL results in mg/kg. Thank you.

Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on container(s)?

Custody seals on container(s)?

Sample Hand Delivered by Sampler/Client Rep.?

Temperature Upon Receipt:

Relinquished by:	Date	Time	Received by:	Date	Time
<i>EOG</i>	10/20/17	7:08 AM	<i>Haley Curshaw</i>	10/20/17	11:20
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

by Courier? ☐ UPS ☐ DHL ☒ FedEx ☐ Lone Star

Temperature Upon Receipt: 09.4/1.15 °C



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

---

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S22)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	10/20/2017	Sampling Date:	10/12/2017
Reported:	10/26/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S22)	Sampling Condition:	Cool & Intact
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S22 - 5.0 (H702873-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2280	16.0	10/24/2017	ND	432	108	400	0.00	

**Sample ID: S22 - 10.0 (H702873-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2640	16.0	10/24/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Caley D. Keene".

---

Caley D. Keene, Lab Director/Quality Manager





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

---

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S24)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	10/20/2017	Sampling Date:	10/12/2017
Reported:	10/26/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S24)	Sampling Condition:	Cool & Intact
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S24 - 5.0 (H702875-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	992	16.0	10/24/2017	ND	432	108	400	0.00	

**Sample ID: S24 - 10.0 (H702875-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4000	16.0	10/24/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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---

### Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
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***	Insufficient time to reach temperature.
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---

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A handwritten signature in black ink, appearing to read "C. D. Keene", written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager

(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature:

e-mail:

[Robert.Asher@geogresources.com](mailto:Robert.Asher@geogresources.com)

(lab use only)

ORDER #: H1702875

[illegible]

Page 4 of 4



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

---

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S21)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

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Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S21)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S21 - 5.0 (H702876-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1200	16.0	10/24/2017	ND	432	108	400	0.00	

**Sample ID: S21 - 10.0 (H702876-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1380	16.0	10/24/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



---

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

---

### Notes and Definitions

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ND	Analyte NOT DETECTED at or above the reporting limit
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***	Insufficient time to reach temperature.
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---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Fax No.:

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Sampler Signature:  e-mail: \_\_\_\_\_

[Robert.Asher@eogresources.com](mailto:Robert.Asher@eogresources.com)

(lab use only)

ORDER #: 476887L

[illegible]

Page 4 of 4

#75 corrected and



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

---

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S26)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	10/20/2017	Sampling Date:	10/12/2017
Reported:	10/26/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S26)	Sampling Condition:	Cool & Intact
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S26 - 5.0 (H702877-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2920	16.0	10/24/2017	ND	432	108	400	0.00	

**Sample ID: S26 - 10.0 (H702877-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3120	16.0	10/24/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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 client for 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 thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager

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

---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager









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

---

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S31)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	10/20/2017	Sampling Date:	10/12/2017
Reported:	10/26/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S31)	Sampling Condition:	Cool & Intact
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S31 - 5.0 (H702880-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	752	16.0	10/25/2017	ND	432	108	400	3.64	

**Sample ID: S31 - 10.0 (H702880-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	592	16.0	10/25/2017	ND	432	108	400	3.64	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



---

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---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Caley D. Keene".

---

Caley D. Keene, Lab Director/Quality Manager





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

---

December 28, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: EAGLE CREEK GAS SYSTEM (S25)

Enclosed are the results of analyses for samples received by the laboratory on 12/20/17 16:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/20/2017	Sampling Date:	12/13/2017
Reported:	12/28/2017	Sampling Type:	Soil
Project Name:	EAGLE CREEK GAS SYSTEM (S25)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: S- 25.12 (H703551-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7730	16.0	12/27/2017	ND	432	108	400	3.77	

**Sample ID: S- 25.15 (H703551-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5330	16.0	12/27/2017	ND	432	108	400	3.77	

**Sample ID: S- 25.18 (H703551-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2200	16.0	12/27/2017	ND	432	108	400	3.77	

**Sample ID: S- 25.20 (H703551-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1920	16.0	12/27/2017	ND	432	108	400	3.77	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



---

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---

### Notes and Definitions

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

---

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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "C. D. Keene", is written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager



ARDNAL LABORATORIES  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: *Robert Asher*

e-mail: [Robert.Asher@eogresources.com](mailto:Robert.Asher@eogresources.com)

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

PO #: 205632

Project Name: **Eagle Creek Gas System (S25)**

Project #: 30-015-22135

Project Loc: Eddy County

Page 4 of 4

(lab use only)

ORDER #: *4703551-*

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Matrix	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021R/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT	
1	S-25.12	12'	12'	12/13/2017	11:56 AM		1										S														
2	S-25.15	15'	15'	12/13/2017	12:02 PM		1										S														
3	S-25.18	18'	18'	12/13/2017	12:09 PM		1										S														
4	S-25.20	20'	20'	12/13/2017	12:15 PM		1										S														

Special Instructions:

**Chlorides Only.** ALL results in mg/kg. Thank you.

Relinquished by: *Robert Asher*

Relinquished by: *Robert Asher*

Relinquished by: *Robert Asher*

Date

12/19/17

Time

6:12 AM

Received by: *Blanca Velazquez*

Received by: *Blanca Velazquez*

Date

12/20/17

Time

4:43

Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on container(s)

Custody seals on container(s)

Custody seals on cooler(s)

Sample Hand Delivered

by Sampler/Client Rep.?

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt

28.85 correct



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

---

December 28, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: EAGLE CREEK GAS SYSTEM (S26)

Enclosed are the results of analyses for samples received by the laboratory on 12/20/17 16:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/20/2017	Sampling Date:	12/12/2017
Reported:	12/28/2017	Sampling Type:	Soil
Project Name:	EAGLE CREEK GAS SYSTEM (S26)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: S- 26.12 (H703552-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6660	16.0	12/27/2017	ND	432	108	400	3.77	

**Sample ID: S- 26.15 (H703552-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3840	16.0	12/27/2017	ND	432	108	400	3.77	

**Sample ID: S- 26.18 (H703552-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5280	16.0	12/27/2017	ND	432	108	400	3.77	

**Sample ID: S- 26.20 (H703552-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4720	16.0	12/27/2017	ND	416	104	400	3.77	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





---

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---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Caley D. Keene".

---

Caley D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4474

Sampler Signature: [Signature]

Fax No:

e-mail:

Robert.Asher@eogresources.com

Project Name: Eagle Creek Gas System (S26)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: 4703552

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DIW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Matrix	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S-26.12	12'	12'	12/12/2017	10:43 AM		1							X			S				X									X
2	S-26.15	15'	15'	12/12/2017	10:48 AM		1							X			S				X									X
3	S-26.18	18'	18'	12/12/2017	10:57 AM		1							X			S				X									X
4	S-26.20	20'	20'	12/12/2017	11:02 AM		1							X			S				X									X

**Chlorides Only.** ALL results in mg/kg. Thank you.

Special Instructions:

**Chlorides Only.** ALL results in mg/kg. Thank you.

Laboratory Comments:

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

Temperature Upon Receipt 20.6 °C



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

---

December 28, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: EAGLE CREEK GAS SYSTEM (S29)

Enclosed are the results of analyses for samples received by the laboratory on 12/20/17 16:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/20/2017	Sampling Date:	12/13/2017
Reported:	12/28/2017	Sampling Type:	Soil
Project Name:	EAGLE CREEK GAS SYSTEM (S29)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: S- 29.12 (H703553-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4000	16.0	12/27/2017	ND	416	104	400	3.77	

**Sample ID: S- 29.15 (H703553-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4560	16.0	12/27/2017	ND	416	104	400	3.77	

**Sample ID: S- 29.18 (H703553-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4000	16.0	12/27/2017	ND	416	104	400	3.77	

**Sample ID: S- 29.20 (H703553-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4320	16.0	12/27/2017	ND	416	104	400	3.77	

Cardinal Laboratories

\*=Accredited Analyte

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 client for 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 thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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

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A handwritten signature in black ink, appearing to read "C. D. Keene".

Celey D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

Project Name: Eagle Creek Gas System (S29)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

City/State/Zip: Artesia, NM 88210Telephone No: 575-748-4171

Sampler Signature: \_\_\_\_\_

Robert Asher@geogresources.com

(lab use only)

ORDER #: H1703553

[illegible]

Page 4 of 4



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

---

December 28, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: EAGLE CREEK GAS SYSTEM (S35)

Enclosed are the results of analyses for samples received by the laboratory on 12/20/17 16:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is fluid and cursive, with the first name "Celey" and last name "Keene" clearly distinguishable.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/20/2017	Sampling Date:	12/12/2017
Reported:	12/28/2017	Sampling Type:	Soil
Project Name:	EAGLE CREEK GAS SYSTEM (S35)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: S- 35.12 (H703554-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7200	16.0	12/27/2017	ND	416	104	400	3.77	

**Sample ID: S- 35.15 (H703554-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8130	16.0	12/27/2017	ND	416	104	400	3.77	

**Sample ID: S- 35.18 (H703554-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1720	16.0	12/27/2017	ND	416	104	400	3.77	

**Sample ID: S- 35.20 (H703554-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1570	16.0	12/27/2017	ND	416	104	400	3.77	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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### 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

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A handwritten signature in black ink, appearing to read "C. D. Keene".

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Robert Asher

Company Name EOG Resources, Inc

EOG Resources, Inc.

Company Address: 104 South 4th Street

104 South 4th Street

City/State/Zip: Artesia, NM 88210

Artesia, NM 88210

Telephone No: 575-748-4171

575-748-4171

Fax No.:

Report Format: ☒ Standard

**Sampler Signature:**

e-mail:

Robert\_Asher@eogresources.com

(lab use only)

ORDER #: H763554

(lab use only)												
ORDER #: H703554												
LAB # (lab use only)		FIELD CODE		Beginning Depth		Ending Depth		Date Sampled		Time Sampled		
1	S-35.12	12'	12'	12/12/2017	11:54 AM			Field Filtered	Total #. of Containers	Preservation & # of Containers		
2	S-35.15	15'	15'	12/12/2017	12:01 PM				1	Ice		
3	S-35.18	18'	18'	12/12/2017	12:06 PM				1	HNO <sub>3</sub>		
4	S-35.20	20'	20'	12/12/2017	12:12 PM				1	HCl		
										H <sub>2</sub> SO <sub>4</sub>		
										NaOH		
										Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>		
										None		
										Other (Specify)		
										DW=Drinking Water SL=Sludge		
										GW = Groundwater S=Sol/Solid		
										NP=Non-Potable Specify Other		
										TPH: 8015M Extended		
										TPH: TX 1005 TX 1008		
										Cations (Ca, Mg, Na, K)		
										Anions (Cl)		
										SAR / ESP / CEC		
										Metals: As Ag Ba Cd Cr Pb Hg Se		
										Volatiles		
										Semivolatiles		
										BTEX 8021B/5030 or BTEX 8260		
										RCI		
										N.O.R.M.		
							</					





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---

December 28, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: EAGLE CREEK GAS SYSTEM (S21)

Enclosed are the results of analyses for samples received by the laboratory on 12/20/17 16:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/20/2017	Sampling Date:	12/13/2017
Reported:	12/28/2017	Sampling Type:	Soil
Project Name:	EAGLE CREEK GAS SYSTEM (S21)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: S- 21.12 (H703557-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1230	16.0	12/27/2017	ND	416	104	400	3.77	

**Sample ID: S- 21.15 (H703557-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1680	16.0	12/27/2017	ND	416	104	400	3.77	

**Sample ID: S- 21.18 (H703557-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2760	16.0	12/27/2017	ND	416	104	400	3.77	

**Sample ID: S- 21.20 (H703557-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2880	16.0	12/27/2017	ND	416	104	400	3.77	QM-07

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Celey D. Keene, Lab Director/Quality Manager

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---

### Notes and Definitions

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

---

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: *Robert Asher*

Fax No:

e-mail:

[Robert.Asher@eogresources.com](mailto:Robert.Asher@eogresources.com)

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

PO #: 205632

Project Name: **Eagle Creek Gas System (S21)**

Project #: 30-015-22135

Project Loc: Eddy County

Page 4 of 4

(lab use only)

ORDER #: **H763557**

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S-21.12	12'	12'	12/13/2017	11:19 AM		1									S				X									X
2	S-21.15	15'	15'	12/13/2017	11:25 AM		1									S				X								X	
3	S-21.18	18'	18'	12/13/2017	11:35 AM		1									S				X								X	
4	S-21.20	20'	20'	12/13/2017	11:38 AM		1									S				X								X	

Relinquished by:	Date	Time	Received by:	Date	Time
<i>Robert Asher</i>	12/19/17	6:08 AM	<i>Blair Talar</i>	12/20	4:30
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

**Special Instructions:** **Chlorides Only.** ALL results in mg/kg. Thank you.

**Laboratory Comments:**

Sample Containers Intact? ☒ N

VOCs Free of Headspace? ☒ N

Labels on container(s) ☒ N

Custody seals on container(s) ☒ N

Custody seals on cooler(s) ☒ N

Sample Hand Delivered by Sampler/Client Rep? ☒ N

by Courier? ☒ N

UPS ☒ N

DHL ☒ N

FedEx ☒ N

Lone Star ☒ N

Temperature Upon Receipt: *22.1* °C

*22.5 (correct)*

*47.5 B*



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

---

December 28, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: EAGLE CREEK GAS SYSTEM (S22)

Enclosed are the results of analyses for samples received by the laboratory on 12/20/17 16:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/20/2017	Sampling Date:	12/13/2017
Reported:	12/28/2017	Sampling Type:	Soil
Project Name:	EAGLE CREEK GAS SYSTEM (S22)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: S- 22.12 (H703558-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5520	16.0	12/27/2017	ND	416	104	400	3.77	

**Sample ID: S- 22.15 (H703558-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5360	16.0	12/27/2017	ND	416	104	400	3.77	

**Sample ID: S- 22.18 (H703558-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4800	16.0	12/27/2017	ND	416	104	400	3.77	

**Sample ID: S- 22.20 (H703558-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4000	16.0	12/27/2017	ND	416	104	400	3.77	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

---

### Notes and Definitions

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

---

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A handwritten signature in black ink, appearing to read "C. D. Keene", is written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: Eagle Creek Gas System (S22

Project #: 30-015-22135

Project Loc: Eddy CountyPO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Project Manager: Robert Asher

Company Name EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Fax No.:

Sampler Signature:

[Robert.Asher@eogresources.com](mailto:Robert.Asher@eogresources.com)

(lab use only)

ORDER #: H1708558

[illegible]



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

---

December 28, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: EAGLE CREEK GAS SYSTEM (S23)

Enclosed are the results of analyses for samples received by the laboratory on 12/20/17 16:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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)

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Sincerely,

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Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/20/2017	Sampling Date:	12/13/2017
Reported:	12/28/2017	Sampling Type:	Soil
Project Name:	EAGLE CREEK GAS SYSTEM (S23)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: S- 23.12 (H703559-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4320	16.0	12/27/2017	ND	416	104	400	3.77		

**Sample ID: S- 23.15 (H703559-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3880	16.0	12/27/2017	ND	416	104	400	3.77		

**Sample ID: S- 23.18 (H703559-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3760	16.0	12/27/2017	ND	416	104	400	3.77	

**Sample ID: S- 23.20 (H703559-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1840	16.0	12/27/2017	ND	416	104	400	3.77		

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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### Notes and Definitions

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

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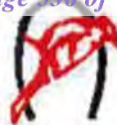
\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Caley D. Keene".

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Caley D. Keene, Lab Director/Quality Manager



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101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: Eagle Creek Gas System (S23)

Project #: 30-015-22135Project Loc: Eddy CountyPO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Project Manager: Robert Asher

Company Name EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Fax No:

Sampler Signature: 

Robert Asher@geogresources.com

(lab use only)

ORDER #: 41703559

Sampler Signature: _____		C-Title: _____		Analyze For: _____	
(lab use only)		TOTAL:		TOTAL:	
ORDER #: <b>41003559</b>		TCLP:		TCLP:	
LAB # (lab use only)		TOTAL:		TOTAL:	
FIELD CODE		TOTAL:		TOTAL:	
Beginning Depth		TOTAL:		TOTAL:	
Ending Depth		TOTAL:		TOTAL:	
Date Sampled		TOTAL:		TOTAL:	
Time Sampled		TOTAL:		TOTAL:	
Field Filtered		TOTAL:		TOTAL:	
Total #. of Containers		TOTAL:		TOTAL:	
Ice		TOTAL:		TOTAL:	
HNO <sub>3</sub>		TOTAL:		TOTAL:	
HCl		TOTAL:		TOTAL:	
H <sub>2</sub> SO <sub>4</sub>		TOTAL:		TOTAL:	
NaOH		TOTAL:		TOTAL:	
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>		TOTAL:		TOTAL:	
None		TOTAL:		TOTAL:	
Other (Specify)		TOTAL:		TOTAL:	
DW=Drinking Water SL=Sludge		TOTAL:		TOTAL:	
GW = Groundwater S=Soil/Solid		TOTAL:		TOTAL:	
NP=Non-Potable Specify Other		TOTAL:		TOTAL:	
TPH: 8015M Extended		TOTAL:		TOTAL:	
TPH: TX 1005 TX 1006		TOTAL:		TOTAL:	
Cations (Ca, Mg, Na, K)		TOTAL:		TOTAL:	
Anions (Cl)		TOTAL:		TOTAL:	
SAR / ESP / CEC		TOTAL:		TOTAL:	
Metals: As Ag Ba Cd Cr Pb Hg Se		TOTAL:		TOTAL:	
Volatiles		TOTAL:		TOTAL:	
Semivolatiles		TOTAL:		TOTAL:	
BTEX 8021B/5030 or BTEX 8260		TOTAL:		TOTAL:	
RCI		TOTAL:		TOTAL:	
N.O.R.M.		TOTAL:		TOTAL:	
RUSH TAT (Pre-Schedule) 24, 48, 72 hrs		TOTAL:		TOTAL:	
Standard TAT		TOTAL:		TOTAL:	
LAB # (lab use only)		TOTAL:		TOTAL:	
FIELD CODE		TOTAL:		TOTAL:	
Beginning Depth		TOTAL:		TOTAL:	
Ending Depth		TOTAL:		TOTAL:	
Date Sampled		TOTAL:		TOTAL:	
Time Sampled		TOTAL:		TOTAL:	
Field Filtered		TOTAL:		TOTAL:	
Total #. of Containers		TOTAL:		TOTAL:	
Ice		TOTAL:		TOTAL:	
HNO <sub>3</sub>		TOTAL:		TOTAL:	
HCl		TOTAL:		TOTAL:	
H <sub>2</sub> SO <sub>4</sub>		TOTAL:		TOTAL:	
NaOH		TOTAL:		TOTAL:	
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>		TOTAL:		TOTAL:	
None		TOTAL:		TOTAL:	
Other (Specify)		TOTAL:		TOTAL:	
DW=Drinking Water SL=Sludge		TOTAL:		TOTAL:	
GW = Groundwater S=Soil/Solid		TOTAL:		TOTAL:	
NP=Non-Potable Specify Other		TOTAL:		TOTAL:	
TPH: 8015M Extended		TOTAL:		TOTAL:	
TPH: TX 1005 TX 1006		TOTAL:		TOTAL:	
Cations (Ca, Mg, Na, K)		TOTAL:		TOTAL:	
Anions (Cl)		TOTAL:		TOTAL:	
SAR / ESP / CEC		TOTAL:		TOTAL:	
Metals: As Ag Ba Cd Cr Pb Hg Se		TOTAL:		TOTAL:	
Volatiles		TOTAL:		TOTAL:	
Semivolatiles		TOTAL:		TOTAL:	
BTEX 8021B/5030 or BTEX 8260		TOTAL:		TOTAL:	
RCI		TOTAL:		TOTAL:	
N.O.R.M.		TOTAL:		TOTAL:	
RUSH TAT (Pre-Schedule) 24, 48, 72 hrs		TOTAL:		TOTAL:	
Standard TAT		TOTAL:		TOTAL:	
LAB # (lab use only)		TOTAL:		TOTAL:	
FIELD CODE		TOTAL:		TOTAL:	
Beginning Depth		TOTAL:		TOTAL:	
Ending Depth		TOTAL:		TOTAL:	
Date Sampled		TOTAL:		TOTAL:	
Time Sampled		TOTAL:		TOTAL:	
Field Filtered		TOTAL:		TOTAL:	
Total #. of Containers		TOTAL:		TOTAL:	
Ice		TOTAL:		TOTAL:	
HNO <sub>3</sub>		TOTAL:		TOTAL:	
HCl		TOTAL:		TOTAL:	
H <sub>2</sub> SO <sub>4</sub>		TOTAL:		TOTAL:	
NaOH		TOTAL:		TOTAL:	
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>		TOTAL:		TOTAL:	
None		TOTAL:		TOTAL:	
Other (Specify)		TOTAL:		TOTAL:	
DW=Drinking Water SL=Sludge		TOTAL:		TOTAL:	
GW = Groundwater S=Soil/Solid		TOTAL:		TOTAL:	
NP=Non-Potable Specify Other		TOTAL:		TOTAL:	
TPH: 8015M Extended		TOTAL:		TOTAL:	
TPH: TX 1005 TX 1006		TOTAL:		TOTAL:	
Cations (Ca, Mg, Na, K)		TOTAL:		TOTAL:	
Anions (Cl)		TOTAL:		TOTAL:	
SAR / ESP / CEC		TOTAL:		TOTAL:	
Metals: As Ag Ba Cd Cr Pb Hg Se		TOTAL:		TOTAL:	
Volatiles		TOTAL:		TOTAL:	
Semivolatiles		TOTAL:		TOTAL:	
BTEX 8021B/5030 or BTEX 8260		TOTAL:		TOTAL:	
RCI		TOTAL:		TOTAL:	
N.O.R.M.		TOTAL:		TOTAL:	
RUSH TAT (Pre-Schedule) 24, 48, 72 hrs		TOTAL:		TOTAL:	
Standard TAT		TOTAL:		TOTAL:	
LAB # (lab use only)		TOTAL:		TOTAL:	
FIELD CODE		TOTAL:		TOTAL:	
Beginning Depth		TOTAL:		TOTAL:	
Ending Depth		TOTAL:		TOTAL:	
Date Sampled		TOTAL:		TOTAL:	
Time Sampled		TOTAL:		TOTAL:	
Field Filtered		TOTAL:		TOTAL:	
Total #. of Containers		TOTAL:		TOTAL:	
Ice		TOTAL:		TOTAL:	
HNO <sub>3</sub>		TOTAL:		TOTAL:	
HCl		TOTAL:		TOTAL:	
H <sub>2</sub> SO <sub>4</sub>		TOTAL:		TOTAL:	



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December 28, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: EAGLE CREEK GAS SYSTEM (S24)

Enclosed are the results of analyses for samples received by the laboratory on 12/20/17 16:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/20/2017	Sampling Date:	12/13/2017
Reported:	12/28/2017	Sampling Type:	Soil
Project Name:	EAGLE CREEK GAS SYSTEM (S24)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: S- 24.12 (H703560-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1010	16.0	12/27/2017	ND	416	104	400	3.77	

**Sample ID: S- 24.15 (H703560-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	880	16.0	12/27/2017	ND	416	104	400	3.77	

**Sample ID: S- 24.18 (H703560-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	800	16.0	12/27/2017	ND	416	104	400	3.77	

**Sample ID: S- 24.20 (H703560-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1090	16.0	12/27/2017	ND	416	104	400	3.77	

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

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

---

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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "C. D. Keene", is written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager





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## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: **Eagle Creek Gas System (S24)**

Project #: 30-015-22135Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Sampler Signature: [Signature] e-mail: \_\_\_\_\_

Telephone No: 575-748-4171

Fax No:

City/State/Zip: Artesia, NM 88210

(lab use only)

ORDER #: 472635200

Robert\_Asher@geogresources.com

[illegible]

**Special instructions:**

**Chlorides Only.** ALL results in mg/kg. Thank you.

Laboratory Comments:

### Sample Containers Intact?

## VOCs Free of Headspace?

Labels on container(s)  
Custody seals on container(s)

Custody seals on cooler(s)

Sample Hand Delivered  
by Sampler/Client Rep ?

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt 22.1 °C

22.5501146



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

July 25, 2017

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

RE: Stark BG 2 Battery

OrderNo.: 1707988

Dear Robert Asher:

Hall Environmental Analysis Laboratory received 9 sample(s) on 7/19/2017 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](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order: 1707988

Date Reported: 7/25/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** EOG  
**Project:** Stark BG 2 Battery

**Lab Order:** 1707988

**Lab ID:** 1707988-001

**Collection Date:** 7/11/2017 9:15:00 AM

**Client Sample ID:** S 1.0

**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							
Chloride	2400	75		mg/Kg	50	7/21/2017 4:54:47 PM	32936

Analyst: MRA

**Lab ID:** 1707988-002

**Collection Date:** 7/11/2017 9:20:00 AM

**Client Sample ID:** S 2.0

**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							
Chloride	2000	75		mg/Kg	50	7/21/2017 5:07:11 PM	32936

Analyst: MRA

**Lab ID:** 1707988-003

**Collection Date:** 7/11/2017 9:25:00 AM

**Client Sample ID:** S 3.0

**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							
Chloride	2100	75		mg/Kg	50	7/21/2017 5:19:36 PM	32936

Analyst: MRA

**Lab ID:** 1707988-006

**Collection Date:** 7/11/2017 9:40:00 AM

**Client Sample ID:** SSW

**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							
Chloride	2700	150		mg/Kg	100	7/21/2017 6:09:15 PM	32936

Analyst: MRA

**Lab ID:** 1707988-007

**Collection Date:** 7/11/2017 9:45:00 AM

**Client Sample ID:** WSW

**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							
Chloride	1300	75		mg/Kg	50	7/21/2017 6:21:39 PM	32936

Analyst: MRA

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

<b>Qualifiers:</b>	*	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	Page 1 of 3
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	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: 1707988

Date Reported: 7/25/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** EOG  
**Project:** Stark BG 2 Battery

**Lab Order:** 1707988**Lab ID:** 1707988-008**Collection Date:** 7/11/2017 9:50:00 AM**Client Sample ID:** NSW**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	180	30		mg/Kg	20	7/21/2017 2:38:20 PM	32936

**Lab ID:** 1707988-009**Collection Date:** 7/11/2017 9:55:00 AM**Client Sample ID:** ESW**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	83	30		mg/Kg	20	7/21/2017 2:50:44 PM	32936

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 2 of 3
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	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#: 1707988

25-Jul-17

**Client:** EOG**Project:** Stark BG 2 Battery

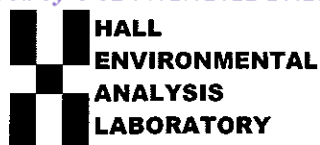
Sample ID	<b>MB-32936</b>	SampType:	<b>mblk</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>32936</b>	RunNo:	<b>44426</b>					
Prep Date:	<b>7/21/2017</b>	Analysis Date:	<b>7/21/2017</b>	SeqNo:	<b>1404232</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	<b>LCS-32936</b>	SampType:	<b>lcs</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>32936</b>	RunNo:	<b>44426</b>					
Prep Date:	<b>7/21/2017</b>	Analysis Date:	<b>7/21/2017</b>	SeqNo:	<b>1404233</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	96.7	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
PQL Practical Quantitative Limit	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  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: EOG/Yates

Work Order Number: 1707988

RcptNo: 1

Received By: *Isaiah Ortiz* 7/19/2017 2:44:00 PMCompleted By: *Ashley Gallegos* 7/19/2017 2:46:27 PMReviewed By: *SRE 07/19/17*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:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> 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	8.3	Good	Yes			





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

July 25, 2017

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

RE: Stark BG 2 Battery

OrderNo.: 1707988

Dear Robert Asher:

Hall Environmental Analysis Laboratory received 9 sample(s) on 7/19/2017 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](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order: 1707988

Date Reported: 7/25/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** EOG  
**Project:** Stark BG 2 Battery

**Lab Order:** 1707988**Lab ID:** 1707988-004**Collection Date:** 7/11/2017 9:30:00 AM**Client Sample ID:** S 4.0**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	1400	75		mg/Kg	50	7/21/2017 5:32:00 PM	32936

**Lab ID:** 1707988-005**Collection Date:** 7/11/2017 9:35:00 AM**Client Sample ID:** S 5.0**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	980	30		mg/Kg	20	7/21/2017 2:01:06 PM	32936

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 1 of 2
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	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#: 1707988

25-Jul-17

**Client:** EOG**Project:** Stark BG 2 Battery

Sample ID	<b>MB-32936</b>	SampType:	<b>mblk</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>32936</b>	RunNo:	<b>44426</b>					
Prep Date:	<b>7/21/2017</b>	Analysis Date:	<b>7/21/2017</b>	SeqNo:	<b>1404232</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	<b>LCS-32936</b>	SampType:	<b>lcs</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>32936</b>	RunNo:	<b>44426</b>					
Prep Date:	<b>7/21/2017</b>	Analysis Date:	<b>7/21/2017</b>	SeqNo:	<b>1404233</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	96.7	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
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Page 2 of 2





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

## Sample Log-In Check List

Client Name: EOG/Yates

Work Order Number: 1707988

RcptNo: 1

Received By: *Isaiah Ortiz* 7/19/2017 2:44:00 PMCompleted By: *Ashley Gallegos* 7/19/2017 2:46:27 PMReviewed By: *SRE 07/19/17*Chain of Custody

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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 ☐
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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:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> 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	8.3	Good	Yes			





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July 25, 2017

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

RE: Stark BG 2 Battery

OrderNo.: 1707988

Dear Robert Asher:

Hall Environmental Analysis Laboratory received 9 sample(s) on 7/19/2017 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](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order 1707988

Date Reported: 7/25/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG

Client Sample ID: S 4.0

Project: Stark BG 2 Battery

Collection Date: 7/11/2017 9:30:00 AM

Lab ID: 1707988-004

Matrix: SOIL

Received Date: 7/19/2017 2:44:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	4300	970		mg/Kg	100	7/24/2017 8:11:58 AM	32926
Surr: DNOP	0	70-130	S	%Rec	100	7/24/2017 8:11:58 AM	32926
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	220	97		mg/Kg	20	7/20/2017 12:35:51 PM	32884
Surr: BFB	131	54-150		%Rec	20	7/20/2017 12:35:51 PM	32884
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	0.90	0.48		mg/Kg	20	7/20/2017 12:35:51 PM	32884
Toluene	1.1	0.97		mg/Kg	20	7/20/2017 12:35:51 PM	32884
Ethylbenzene	4.2	0.97		mg/Kg	20	7/20/2017 12:35:51 PM	32884
Xylenes, Total	9.3	1.9		mg/Kg	20	7/20/2017 12:35:51 PM	32884
Surr: 4-Bromofluorobenzene	121	66.6-132		%Rec	20	7/20/2017 12:35:51 PM	32884

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

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

Page 1 of 5

## Analytical Report

Lab Order 1707988

Date Reported: 7/25/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG

Client Sample ID: S 5.0

Project: Stark BG 2 Battery

Collection Date: 7/11/2017 9:35:00 AM

Lab ID: 1707988-005

Matrix: SOIL

Received Date: 7/19/2017 2:44:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	6500	950		mg/Kg	100	7/24/2017 8:34:18 AM	32926
Surr: DNOP	0	70-130	S	%Rec	100	7/24/2017 8:34:18 AM	32926
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	300	24		mg/Kg	5	7/20/2017 3:41:31 PM	32884
Surr: BFB	345	54-150	S	%Rec	5	7/20/2017 3:41:31 PM	32884
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	0.83	0.12		mg/Kg	5	7/20/2017 3:41:31 PM	32884
Toluene	1.4	0.24		mg/Kg	5	7/20/2017 3:41:31 PM	32884
Ethylbenzene	5.5	0.24		mg/Kg	5	7/20/2017 3:41:31 PM	32884
Xylenes, Total	12	0.49		mg/Kg	5	7/20/2017 3:41:31 PM	32884
Surr: 4-Bromofluorobenzene	136	66.6-132	S	%Rec	5	7/20/2017 3:41:31 PM	32884

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

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

Page 2 of 5



**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 1707988

25-Jul-17

**Client:** EOG  
**Project:** Stark BG 2 Battery

Sample ID <b>LCS-32926</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>32926</b>			RunNo: <b>44388</b>						
Prep Date: <b>7/20/2017</b>	Analysis Date: <b>7/21/2017</b>			SeqNo: <b>1403735</b>	Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.6	73.2	114			
Surr: DNOP	3.5		5.000		70.8	70	130			

Sample ID <b>MB-32926</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>PBS</b>	Batch ID: <b>32926</b>			RunNo: <b>44388</b>						
Prep Date: <b>7/20/2017</b>	Analysis Date: <b>7/21/2017</b>			SeqNo: <b>1403736</b>	Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	7.5		10.00		75.0	70	130			

Sample ID <b>MB-32949</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>PBS</b>	Batch ID: <b>32949</b>			RunNo: <b>44411</b>						
Prep Date: <b>7/21/2017</b>	Analysis Date: <b>7/24/2017</b>			SeqNo: <b>1404531</b>	Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.5		10.00		94.6	70	130			

Sample ID <b>LCS-32949</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>32949</b>			RunNo: <b>44411</b>						
Prep Date: <b>7/21/2017</b>	Analysis Date: <b>7/24/2017</b>			SeqNo: <b>1404657</b>	Units: <b>%Rec</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.7		5.000		93.7	70	130			

**Qualifiers:**

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	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#: 1707988

25-Jul-17

**Client:** EOG  
**Project:** Stark BG 2 Battery

Sample ID <b>MB-32884</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>32884</b>		RunNo: <b>44359</b>							
Prep Date: <b>7/19/2017</b>	Analysis Date: <b>7/20/2017</b>		SeqNo: <b>1402387</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	840		1000		83.8	54	150			

Sample ID <b>LCS-32884</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>32884</b>		RunNo: <b>44359</b>							
Prep Date: <b>7/19/2017</b>	Analysis Date: <b>7/20/2017</b>		SeqNo: <b>1402388</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.4	76.4	125			
Surr: BFB	970		1000		96.8	54	150			

**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
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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 1707988

25-Jul-17

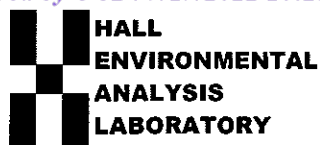
**Client:** EOG**Project:** Stark BG 2 Battery

Sample ID	MB-32884		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 32884		RunNo: 44359					
Prep Date:	7/19/2017		Analysis Date: 7/20/2017		SeqNo: 1402402		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.98		1.000		97.7	66.6	132			

Sample ID	LCS-32884		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 32884		RunNo: 44359					
Prep Date:	7/19/2017		Analysis Date: 7/20/2017		SeqNo: 1402403		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.4	80	120			
Toluene	0.95	0.050	1.000	0	95.3	80	120			
Ethylbenzene	0.95	0.050	1.000	0	95.1	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.8	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	66.6	132			

**Qualifiers:**

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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
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PQL Practical Quantitative Limit	RL Reporting Detection Limit
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Work Order Number: 1707988

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Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
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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?  
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(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:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> 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	8.3	Good	Yes			







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Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

July 25, 2017

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

RE: Stark BG 2 Battery

OrderNo.: 1707988

Dear Robert Asher:

Hall Environmental Analysis Laboratory received 9 sample(s) on 7/19/2017 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](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order 1707988

Date Reported: 7/25/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG

Client Sample ID: S 1.0

Project: Stark BG 2 Battery

Collection Date: 7/11/2017 9:15:00 AM

Lab ID: 1707988-001

Matrix: SOIL

Received Date: 7/19/2017 2:44:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	13000	970		mg/Kg	100	7/24/2017 7:04:43 AM	32926
Surr: DNOP	0	70-130	S	%Rec	100	7/24/2017 7:04:43 AM	32926
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	200	24		mg/Kg	5	7/20/2017 11:24:23 AM	32884
Surr: BFB	316	54-150	S	%Rec	5	7/20/2017 11:24:23 AM	32884
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	0.14	0.12		mg/Kg	5	7/20/2017 11:24:23 AM	32884
Toluene	0.28	0.24		mg/Kg	5	7/20/2017 11:24:23 AM	32884
Ethylbenzene	3.5	0.24		mg/Kg	5	7/20/2017 11:24:23 AM	32884
Xylenes, Total	6.4	0.48		mg/Kg	5	7/20/2017 11:24:23 AM	32884
Surr: 4-Bromofluorobenzene	139	66.6-132	S	%Rec	5	7/20/2017 11:24:23 AM	32884

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

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

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## Analytical Report

Lab Order 1707988

Date Reported: 7/25/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG

Client Sample ID: S 2.0

Project: Stark BG 2 Battery

Collection Date: 7/11/2017 9:20:00 AM

Lab ID: 1707988-002

Matrix: SOIL

Received Date: 7/19/2017 2:44:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	5100	970		mg/Kg	100	7/24/2017 7:27:07 AM	32926
Surr: DNOP	0	70-130	S	%Rec	100	7/24/2017 7:27:07 AM	32926
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	140	23		mg/Kg	5	7/20/2017 11:48:12 AM	32884
Surr: BFB	259	54-150	S	%Rec	5	7/20/2017 11:48:12 AM	32884
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	0.11	0.093		mg/Kg	5	7/20/2017 11:48:12 AM	32884
Toluene	0.21	0.12		mg/Kg	5	7/20/2017 11:48:12 AM	32884
Ethylbenzene	2.3	0.23		mg/Kg	5	7/20/2017 11:48:12 AM	32884
Xylenes, Total	4.3	0.47		mg/Kg	5	7/20/2017 11:48:12 AM	32884
Surr: 4-Bromofluorobenzene	132	66.6-132		%Rec	5	7/20/2017 11:48:12 AM	32884

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

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

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## Analytical Report

Lab Order 1707988

Date Reported: 7/25/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG

Client Sample ID: S 3.0

Project: Stark BG 2 Battery

Collection Date: 7/11/2017 9:25:00 AM

Lab ID: 1707988-003

Matrix: SOIL

Received Date: 7/19/2017 2:44:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	650	98		mg/Kg	10	7/24/2017 11:58:48 AM	32926
Surr: DNOP	0	70-130	S	%Rec	10	7/24/2017 11:58:48 AM	32926
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	45	4.9		mg/Kg	1	7/20/2017 2:53:08 PM	32884
Surr: BFB	403	54-150	S	%Rec	1	7/20/2017 2:53:08 PM	32884
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	7/20/2017 2:53:08 PM	32884
Toluene	ND	0.049		mg/Kg	1	7/20/2017 2:53:08 PM	32884
Ethylbenzene	0.45	0.049		mg/Kg	1	7/20/2017 2:53:08 PM	32884
Xylenes, Total	0.87	0.098		mg/Kg	1	7/20/2017 2:53:08 PM	32884
Surr: 4-Bromofluorobenzene	132	66.6-132	S	%Rec	1	7/20/2017 2:53:08 PM	32884

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

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

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## Analytical Report

Lab Order 1707988

Date Reported: 7/25/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG

Client Sample ID: SSW

Project: Stark BG 2 Battery

Collection Date: 7/11/2017 9:40:00 AM

Lab ID: 1707988-006

Matrix: SOIL

Received Date: 7/19/2017 2:44:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	630	96		mg/Kg	10	7/24/2017 11:36:32 AM	32926
Surr: DNOP	0	70-130	S	%Rec	10	7/24/2017 11:36:32 AM	32926
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/20/2017 4:29:55 PM	32884
Surr: BFB	97.7	54-150		%Rec	1	7/20/2017 4:29:55 PM	32884
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	7/20/2017 4:29:55 PM	32884
Toluene	ND	0.048		mg/Kg	1	7/20/2017 4:29:55 PM	32884
Ethylbenzene	0.064	0.048		mg/Kg	1	7/20/2017 4:29:55 PM	32884
Xylenes, Total	0.13	0.096		mg/Kg	1	7/20/2017 4:29:55 PM	32884
Surr: 4-Bromofluorobenzene	102	66.6-132		%Rec	1	7/20/2017 4:29:55 PM	32884

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

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

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## Analytical Report

Lab Order 1707988

Date Reported: 7/25/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG

Client Sample ID: WSW

Project: Stark BG 2 Battery

Collection Date: 7/11/2017 9:45:00 AM

Lab ID: 1707988-007

Matrix: SOIL

Received Date: 7/19/2017 2:44:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	570	97		mg/Kg	10	7/24/2017 11:14:23 AM	32926
Surr: DNOP	0	70-130	S	%Rec	10	7/24/2017 11:14:23 AM	32926
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/20/2017 4:54:08 PM	32884
Surr: BFB	93.3	54-150		%Rec	1	7/20/2017 4:54:08 PM	32884
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	7/20/2017 4:54:08 PM	32884
Toluene	ND	0.048		mg/Kg	1	7/20/2017 4:54:08 PM	32884
Ethylbenzene	ND	0.048		mg/Kg	1	7/20/2017 4:54:08 PM	32884
Xylenes, Total	ND	0.096		mg/Kg	1	7/20/2017 4:54:08 PM	32884
Surr: 4-Bromofluorobenzene	101	66.6-132		%Rec	1	7/20/2017 4:54:08 PM	32884

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

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

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## Analytical Report

Lab Order 1707988

Date Reported: 7/25/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG

Client Sample ID: NSW

Project: Stark BG 2 Battery

Collection Date: 7/11/2017 9:50:00 AM

Lab ID: 1707988-008

Matrix: SOIL

Received Date: 7/19/2017 2:44:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	1100	97		mg/Kg	10	7/24/2017 10:52:06 AM	32926
Surr: DNOP	0	70-130	S	%Rec	10	7/24/2017 10:52:06 AM	32926
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/20/2017 7:18:53 PM	32884
Surr: BFB	93.3	54-150		%Rec	1	7/20/2017 7:18:53 PM	32884
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	7/20/2017 7:18:53 PM	32884
Toluene	ND	0.047		mg/Kg	1	7/20/2017 7:18:53 PM	32884
Ethylbenzene	0.083	0.047		mg/Kg	1	7/20/2017 7:18:53 PM	32884
Xylenes, Total	0.17	0.095		mg/Kg	1	7/20/2017 7:18:53 PM	32884
Surr: 4-Bromofluorobenzene	99.1	66.6-132		%Rec	1	7/20/2017 7:18:53 PM	32884

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

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

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## Analytical Report

Lab Order 1707988

Date Reported: 7/25/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG

Client Sample ID: ESW

Project: Stark BG 2 Battery

Collection Date: 7/11/2017 9:55:00 AM

Lab ID: 1707988-009

Matrix: SOIL

Received Date: 7/19/2017 2:44:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	1200	96		mg/Kg	10	7/24/2017 10:28:59 AM	32926
Surr: DNOP	0	70-130	S	%Rec	10	7/24/2017 10:28:59 AM	32926
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/20/2017 7:42:52 PM	32884
Surr: BFB	112	54-150		%Rec	1	7/20/2017 7:42:52 PM	32884
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	7/20/2017 7:42:52 PM	32884
Toluene	ND	0.049		mg/Kg	1	7/20/2017 7:42:52 PM	32884
Ethylbenzene	ND	0.049		mg/Kg	1	7/20/2017 7:42:52 PM	32884
Xylenes, Total	ND	0.097		mg/Kg	1	7/20/2017 7:42:52 PM	32884
Surr: 4-Bromofluorobenzene	97.3	66.6-132		%Rec	1	7/20/2017 7:42:52 PM	32884

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

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

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 1707988

25-Jul-17

**Client:** EOG  
**Project:** Stark BG 2 Battery

Sample ID <b>LCS-32926</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>32926</b>			RunNo: <b>44388</b>						
Prep Date: <b>7/20/2017</b>	Analysis Date: <b>7/21/2017</b>			SeqNo: <b>1403735</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.6	73.2	114			
Surr: DNOP	3.5		5.000		70.8	70	130			

Sample ID <b>MB-32926</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>PBS</b>	Batch ID: <b>32926</b>			RunNo: <b>44388</b>						
Prep Date: <b>7/20/2017</b>	Analysis Date: <b>7/21/2017</b>			SeqNo: <b>1403736</b>		Units: <b>mg/Kg</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	7.5		10.00		75.0	70	130			

Sample ID <b>MB-32949</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>PBS</b>	Batch ID: <b>32949</b>			RunNo: <b>44411</b>						
Prep Date: <b>7/21/2017</b>	Analysis Date: <b>7/24/2017</b>			SeqNo: <b>1404531</b>		Units: <b>%Rec</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.5		10.00		94.6	70	130			

Sample ID <b>LCS-32949</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>32949</b>			RunNo: <b>44411</b>						
Prep Date: <b>7/21/2017</b>	Analysis Date: <b>7/24/2017</b>			SeqNo: <b>1404657</b>		Units: <b>%Rec</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.7		5.000		93.7	70	130			

**Qualifiers:**

- |   |   |
|---|---|
| * Value exceeds Maximum Contaminant Level.              | B Analyte detected in the associated Method Blank           |
| D Sample Diluted Due to Matrix                          | E Value above quantitation range                            |
| H Holding times for preparation or analysis exceeded    | J Analyte detected below quantitation limits                |
| ND Not Detected at the Reporting Limit                  | P Sample pH Not In Range                                    |
| PQL Practical Quantitative Limit                        | 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#: 1707988

25-Jul-17

**Client:** EOG  
**Project:** Stark BG 2 Battery

Sample ID <b>MB-32884</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>32884</b>		RunNo: <b>44359</b>							
Prep Date: <b>7/19/2017</b>	Analysis Date: <b>7/20/2017</b>		SeqNo: <b>1402387</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	840		1000		83.8	54	150			

Sample ID <b>LCS-32884</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>32884</b>		RunNo: <b>44359</b>							
Prep Date: <b>7/19/2017</b>	Analysis Date: <b>7/20/2017</b>		SeqNo: <b>1402388</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.4	76.4	125			
Surr: BFB	970		1000		96.8	54	150			

**Qualifiers:**

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

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**QC SUMMARY REPORT****Hall Environmental Analysis Laboratory, Inc.**

WO#: 1707988

25-Jul-17

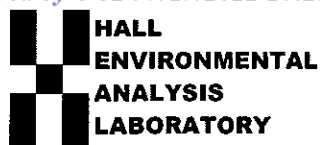
**Client:** EOG  
**Project:** Stark BG 2 Battery

Sample ID <b>MB-32884</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>32884</b>		RunNo: <b>44359</b>							
Prep Date: <b>7/19/2017</b>	Analysis Date: <b>7/20/2017</b>		SeqNo: <b>1402402</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.98		1.000		97.7	66.6	132			

Sample ID <b>LCS-32884</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>32884</b>		RunNo: <b>44359</b>							
Prep Date: <b>7/19/2017</b>	Analysis Date: <b>7/20/2017</b>		SeqNo: <b>1402403</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.4	80	120			
Toluene	0.95	0.050	1.000	0	95.3	80	120			
Ethylbenzene	0.95	0.050	1.000	0	95.1	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.8	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	66.6	132			

**Qualifiers:**

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	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  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: EOG/Yates

Work Order Number: 1707988

RcptNo: 1

Received By: *Isaiah Ortiz* 7/19/2017 2:44:00 PMCompleted By: *Ashley Gallegos* 7/19/2017 2:46:27 PMReviewed By: *SRE 07/19/17*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:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> 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	8.3	Good	Yes			





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

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S4)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	10/20/2017	Sampling Date:	10/12/2017
Reported:	10/26/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S4)	Sampling Condition:	Cool & Intact
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S4 - 5.0 (H702863-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2000	16.0	10/24/2017	ND	448	112	400	3.64		

**Sample ID: S4 - 10.0 (H702863-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6640	16.0	10/24/2017	ND	448	112	400	3.64		

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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### 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

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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager

(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Fax No.:

Sampler Signature: [Signature]

Robert Asher@geogresources.com

(lab use only)

ORDER #: H702863-

LAB # (lab use only)		FIELD CODE		Beginning Depth		Ending Depth		Date Sampled		Time Sampled		Field Filtered		Total #. of Containers		Preservation & # of Containers							Matrix		TCLP:										TOTAL:										Analyze For:									



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---

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S5)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S5)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S5 - 5.0 (H702864-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1760	16.0	10/24/2017	ND	448	112	400	3.64	

**Sample ID: S5 - 10.0 (H702864-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6960	16.0	10/24/2017	ND	448	112	400	3.64	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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### 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

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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager





**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: *Robert Asher*

e-mail: Robert.Asher@eogresources.com

Project Name: Stark BG #2 (S5)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: H702864

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S5 - 5.0	5'	5'	10/12/2017	8:34 AM		1													X									X
2	S5 - 10.0	10'	10'	10/12/2017	8:39 AM		1													X									X

Special Instructions: **Chlorides Only.** ALL results in mg/kg. Thank you.

Relinquished by:	Date	Time	Received by:	Date	Time
<i>Robert Asher</i>	10/18/17	3:47 PM	<i>Robert Asher</i>	10-20-17	11:20
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

## Laboratory Comments:

Sample Containers Intact? ☒

VOCs Free of Headspace? ☒

Labels on container(s) ☒

Custody seals on container(s) ☒

Sample Hand Delivered ☒

by Courier? ☒

Temperature Upon Receipt: 0.96 °C



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

---

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S1)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	10/20/2017	Sampling Date:	10/12/2017
Reported:	10/26/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S1)	Sampling Condition:	Cool & Intact
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S1 - 5.0 (H702865-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	10/24/2017	ND	448	112	400	3.64	

**Sample ID: S1 - 10.0 (H702865-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2960	16.0	10/24/2017	ND	448	112	400	3.64	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



---

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---

### 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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: *EOG*

(lab use only)

ORDER #: H702865

e-mail:

Robert.Asher@eogresources.com

Fax No:

Report Format: ☒ Standard

☐ TRRP

☐ NPDES

Project Name: Stark BG #2 (S1)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S1 - 5.0	5'	5'	10/12/2017	7:53 AM		1																						
2	S1 - 10.0	10'	10'	10/12/2017	7:59 AM		1																						

**Chlorides Only.** ALL results in mg/Kg. Thank you.

## Laboratory Comments:

Sample Containers Intact? ☒

VOCs Free of Headspace? ☒

Labels on container(s) ☒

Custody seals on container(s) ☒

Sample Hand Delivered ☒

by Courier? ☒

by Sampler/Client Rep. ? ☒

Temperature Upon Receipt: 0.92°C

UPS DHL FedEx Lorie Star  
Consolidated 1.15°C





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

---

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S3)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	10/20/2017	Sampling Date:	10/12/2017
Reported:	10/26/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S3)	Sampling Condition:	Cool & Intact
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S3 - 5.0 (H702866-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2280	16.0	10/24/2017	ND	448	112	400	3.64		

**Sample ID: S3 - 10.0 (H702866-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6640	16.0	10/24/2017	ND	448	112	400	3.64	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



---

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---

### 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

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A handwritten signature in black ink, appearing to read "C. D. Keene", is written over a horizontal line.

---

Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: Robert Asher

(lab use only)

ORDER #: H702866

Fax No: e-mail: Robert.Asher@eogresources.com

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

PO #: 205632

Project Name: Stark BG #2 (S3)

Project #: 30-015-22135

Project Loc: Eddy County

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Matrix	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
S3 - 5.0		5'	5'	10/12/2017	8:09 AM		1										S													
S3 - 10.0		10'	10'	10/12/2017	8:13 AM		1										S													

Chlorides Only. ALL results in mg/kg. Thank you.

Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on container(s)?

Custody seals on container(s)?

Custody seals on cooler(s)?

Sample Hand Delivered by Sampler/Client Rep.?

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 0.9°C



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

November 01, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S3)

Enclosed are the results of analyses for samples received by the laboratory on 10/25/17 15:53.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	10/25/2017	Sampling Date:	10/24/2017
Reported:	11/01/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S3)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S-3.7 (H702933-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	10/30/2017	ND	432	108	400	0.00	

**Sample ID: S-3.10 (H702933-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	10/30/2017	ND	432	108	400	0.00	

**Sample ID: S-3.12 (H702933-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	640	16.0	10/30/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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 client for 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 thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



---

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---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Caley D. Keene".

---

Caley D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4471

Sampler Signature: Robert Asher

Fax No:

e-mail:

Robert.Asher@eogresources.com

Project Name: Stark BG #2 (S-3)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: H702033

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Matrix	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT	
1	S-3.7	7'	7'	10/24/2017	8:28 AM		1										S														
2	S-3.10	10'	10'	10/24/2017	8:36 AM		1										S														
3	S-3.12	12'	12'	10/24/2017	8:41 AM		1										S														

Special Instructions: **Chlorides Only.** ALL results in mg/kg. Thank you.

Laboratory Comments:

Sample Containers Intact? ☒

VOCs Free of Headspace? ☒

Labels on container(s)? ☒

Custody seals on container(s)? ☒

Sample Hand Delivered by Sampler/Client Rep.? ☒

Temperature Upon Receipt: 33.9°C

by Courier? ☒ UPS ☒ DHL ☒ FedEx ☒ Lone Star



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

November 01, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S1)

Enclosed are the results of analyses for samples received by the laboratory on 10/25/17 16:01.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	10/25/2017	Sampling Date:	10/24/2017
Reported:	11/01/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S1)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S-1.7 (H702934-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1520	16.0	10/30/2017	ND	432	108	400	0.00	

**Sample ID: S-1.10 (H702934-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2480	16.0	10/30/2017	ND	432	108	400	0.00	

**Sample ID: S-1.12 (H702934-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1800	16.0	10/30/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "C. D. Keene", is written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager





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

---

December 15, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S1)

Enclosed are the results of analyses for samples received by the laboratory on 12/08/17 12:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/08/2017	Sampling Date:	12/06/2017
Reported:	12/15/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S1)	Sampling Condition:	Cool & Intact
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S-1.15 (H703399-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	720	16.0	12/12/2017	ND	432	108	400	0.00	

**Sample ID: S-1.18 (H703399-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	784	16.0	12/12/2017	ND	432	108	400	0.00	

**Sample ID: S-1.20 (H703399-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1880	16.0	12/12/2017	ND	432	108	400	0.00	

**Sample ID: S-1.22 (H703399-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3560	16.0	12/12/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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### 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

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Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "C. D. Keene", is written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager





**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: \_\_\_\_\_

Fax No: \_\_\_\_\_

e-mail: \_\_\_\_\_

Robert.Asher@eogresources.com

Project Name: Stark BG #2 Battery (S-1)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard

☐ TRRP

☐ NPDES

(lab use only)

ORDER #: H703399

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT	
1	S-1.15	15'	15'	12/6/2017	8:11 AM		1							X		S			X											
2	S-1.18	18'	18'	12/6/2017	8:20 AM		1							X		S			X											
3	S-1.20	20'	20'	12/6/2017	8:29 AM		1							X		S			X											
4	S-1.22	22'	22'	12/6/2017	8:38 AM		1							X		S			X											

Special Instructions: **Chlorides Only.** ALL results in mg/kg. Thank you.

Relinquished by: Quora

Date

Time

Received by: Marcia Williams

Date

Time

Received by: Marcia Williams

Date

Time

Received by: Marcia Williams

Date

Time

Received by: Marcia Williams

Date

Time

Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on container(s)?

Custody seals on container(s)?

Sample Hand Delivered by Sampler/Client Rep.?

by Courier? UPS DHL

Temperature Upon Receipt: 8.32° C

by Courier? UPS DHL

by Courier? UPS DHL

Temperature Upon Receipt: 8.32° C

by Courier? UPS DHL

by Courier? UPS DHL

Temperature Upon Receipt: 8.32° C

by Courier? UPS DHL

by Courier? UPS DHL

Temperature Upon Receipt: 8.32° C

by Courier? UPS DHL

by Courier? UPS DHL



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

---

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S16)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S16)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S16 - SURFACE (H702859-01)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2017	ND	1.83	91.7	2.00	1.14	
Toluene*	<0.050	0.050	10/24/2017	ND	1.85	92.3	2.00	0.794	
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.84	92.0	2.00	1.08	
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.51	91.8	6.00	0.573	
Total BTX	<0.300	0.300	10/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.0 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	10/24/2017	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/20/2017	ND	178	89.0	200	0.0865	
DRO >C10-C28	<10.0	10.0	10/20/2017	ND	189	94.5	200	2.30	
EXT DRO >C28-C36	<10.0	10.0	10/20/2017	ND					

Surrogate: 1-Chlorooctane 68.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 77.1 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S16)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S16 - 0.5 (H702859-02)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2017	ND	1.83	91.7	2.00	1.14		
Toluene*	<0.050	0.050	10/24/2017	ND	1.85	92.3	2.00	0.794		
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.84	92.0	2.00	1.08		
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.51	91.8	6.00	0.573		
Total BTEx	<0.300	0.300	10/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	10/24/2017	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/20/2017	ND	178	89.0	200	0.0865	
DRO >C10-C28	<10.0	10.0	10/20/2017	ND	189	94.5	200	2.30	
EXT DRO >C28-C36	<10.0	10.0	10/20/2017	ND					

Surrogate: 1-Chlorooctane 73.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 84.0 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S16)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S16 - 1.0 (H702859-03)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2017	ND	1.83	91.7	2.00	1.14	
Toluene*	<0.050	0.050	10/24/2017	ND	1.85	92.3	2.00	0.794	
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.84	92.0	2.00	1.08	
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.51	91.8	6.00	0.573	
Total BTX	<0.300	0.300	10/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.6 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	10/24/2017	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/20/2017	ND	178	89.0	200	0.0865	
DRO >C10-C28	<10.0	10.0	10/20/2017	ND	189	94.5	200	2.30	
EXT DRO >C28-C36	<10.0	10.0	10/20/2017	ND					

Surrogate: 1-Chlorooctane 67.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 78.3 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager





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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S16)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S16 - 2.0 (H702859-04)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21		
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20		
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17		
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54		
Total BTEx	<0.300	0.300	10/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	10/24/2017	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/20/2017	ND	178	89.0	200	0.0865	
DRO >C10-C28	<10.0	10.0	10/20/2017	ND	189	94.5	200	2.30	
EXT DRO >C28-C36	<10.0	10.0	10/20/2017	ND					

Surrogate: 1-Chlorooctane 68.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 79.5 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S16)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S16 - 3.0 (H702859-05)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21		
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20		
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17		
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54		
Total BTEx	<0.300	0.300	10/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	10/24/2017	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/20/2017	ND	178	89.0	200	0.0865	
DRO >C10-C28	<10.0	10.0	10/20/2017	ND	189	94.5	200	2.30	
EXT DRO >C28-C36	<10.0	10.0	10/20/2017	ND					

Surrogate: 1-Chlorooctane 69.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 78.3 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S16)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S16 - 5.0 (H702859-06)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21		
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20		
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17		
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54		
Total BTEx	<0.300	0.300	10/24/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	10/24/2017	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/20/2017	ND	178	89.0	200	0.0865	
DRO >C10-C28	<10.0	10.0	10/20/2017	ND	189	94.5	200	2.30	
EXT DRO >C28-C36	<10.0	10.0	10/20/2017	ND					

Surrogate: 1-Chlorooctane 71.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 80.1 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S16)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S16 - 10.0 (H702859-07)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2017	ND	1.97	98.3	2.00	2.21	
Toluene*	<0.050	0.050	10/24/2017	ND	1.96	98.1	2.00	1.20	
Ethylbenzene*	<0.050	0.050	10/24/2017	ND	1.95	97.3	2.00	1.17	
Total Xylenes*	<0.150	0.150	10/24/2017	ND	5.83	97.2	6.00	1.54	
Total BTX	<0.300	0.300	10/24/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2360	16.0	10/24/2017	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/20/2017	ND	178	89.0	200	0.0865	
DRO >C10-C28	<10.0	10.0	10/20/2017	ND	189	94.5	200	2.30	
EXT DRO >C28-C36	<10.0	10.0	10/20/2017	ND					

Surrogate: 1-Chlorooctane 69.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 75.9 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: *Robert Asher*

Fax No:

e-mail: Robert.Asher@eogresources.com

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

PO #: 205632

Project Loc: Eddy County

Project #: 30-015-22135

Project Name: Stark BG #2 (S16)

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Matrix	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT	
1	S16-Surface	0'	0'	10/12/2017	12:27 PM		1	X								S	X														
2	S16-0.5	6"	6"	10/12/2017	12:28 PM		1	X								S	X														
3	S16-1.0	1'	1'	10/12/2017	12:29 PM		1	X								S	X														
4	S16-2.0	2'	2'	10/12/2017	12:30 PM		1	X								S	X														
5	S16-3.0	3'	3'	10/12/2017	12:31 PM		1	X								S	X														
6	S16-5.0	5'	5'	10/12/2017	12:33 PM		1	X								S	X														
7	S16-10.0	10'	10'	10/12/2017	12:38 PM		1	X								S	X														

Special Instructions: Chlorides on separate report please. ALL results in mg/kg. Thank you.

Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on container(s)?

Custody seals on container(s)?

Sample Hand Delivered?

by Sampler/Client Rep.?

by Courier?

UPS DHL FedEx Lone Star

Temperature Upon Receipt: 0.9°C

Permitted 1.5°C



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

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S13)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	10/20/2017	Sampling Date:	10/12/2017
Reported:	10/26/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S13)	Sampling Condition:	Cool & Intact
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S13 - 5.0 (H702867-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3960	16.0	10/24/2017	ND	448	112	400	3.64	

**Sample ID: S13 - 10.0 (H702867-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3200	16.0	10/24/2017	ND	448	112	400	3.64	

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager





**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: EOG e-mail: Robert.Asher@eogresources.com

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

PO #: 205632

Project Name: Stark BG #2 (S13)

Project #: 30-015-22135

Project Loc: Eddy County

Page 4 of 4

LAB # (lab use only)		FIELD CODE		Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers						Matrix	Analyze For:																	
										Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge	GW = Groundwater S=Soil/Solid	NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT	
S13 - 5.0	5'	5'	10/12/2017	9:50 AM		1																												
S13 - 10.0	10'	10'	10/12/2017	9:54 AM		1																												

**Chlorides Only.** ALL results in mg/kg. Thank you.

**Laboratory Comments:**

Sample Containers Intact?

VOCs Free of Headspace?

Custody seals on container(s)

Custody seals on cooler(s)

Sample Hand Delivered

by Sampler/Client Rep.?

by Courier?

UPS

DHL

FedEx

Lone Star





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

---

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S9)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	10/20/2017	Sampling Date:	10/12/2017
Reported:	10/26/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S9)	Sampling Condition:	Cool & Intact
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S9 - 5.0 (H702868-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2200	16.0	10/24/2017	ND	432	108	400	0.00	QM-07

**Sample ID: S9 - 10.0 (H702868-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3120	16.0	10/24/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

---

### Notes and Definitions

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

---

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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Caley D. Keene".

---

Caley D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: Robert Asher

Fax No:

e-mail:

Robert.Asher@eogresources.com

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Project Name: Stark BG #2 (S9)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Page 4 of 4

Received by OCD: 9/19/2022 10:23:54 AM

LAB # (lab use only)		FIELD CODE		Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers								Matrix	Analyze For:														
										Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT		
1	S9 - 5.0	5'	5'	10/12/2017	9:21 AM				1										S														
2	S9 - 10.0	10'	10'	10/12/2017	9:25 AM				1										S														

Special Instructions: **Chlorides Only.** ALL results in mg/kg. Thank you.

## Laboratory Comments:

Sample Containers Intact? ☒

VOCs Free of Headspace? ☒

Labels on container(s) ☒

Custody seals on container(s) ☒

Sample Hand Delivered ☒

by Courier? ☒

UPS ☒ DHL ☒ FedEx ☒ Lone Star ☒

Temperature Upon Receipt: 0.92 °C

Released to Imaging: 4/17/2023 3:01:59 PM



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

---

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S8)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	10/20/2017	Sampling Date:	10/12/2017
Reported:	10/26/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S8)	Sampling Condition:	Cool & Intact
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S8 - 5.0 (H702869-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1640	16.0	10/24/2017	ND	432	108	400	0.00	

**Sample ID: S8 - 10.0 (H702869-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2560	16.0	10/24/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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---

### Notes and Definitions

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

---

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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "C. D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager

(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project #: 30-015-22135PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Robert Asher@eogresources.com

(lab use only)

ORDER #: H702 869-

[illegible]



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

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S14)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	10/20/2017	Sampling Date:	10/12/2017
Reported:	10/26/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S14)	Sampling Condition:	Cool & Intact
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S14 - 5.0 (H702870-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2840	16.0	10/24/2017	ND	432	108	400	0.00	

**Sample ID: S14 - 10.0 (H702870-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9060	16.0	10/24/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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---

### Notes and Definitions

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

---

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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Caley D. Keene".

---

Caley D. Keene, Lab Director/Quality Manager

(505) 393-2326 FAX (505) 393-2476

## Page 4 of 4

Project Name: Stark BG #2 (S14)

Project #: 30-015-22135

Project Loc: Eddy CountyPO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

**Robert Asher@eogresources.com**

ORDER #: H702870

#715 corrected to 25



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

---

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S20)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is fluid and cursive, with the first name "Celey" and last name "Keene" clearly distinguishable.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S20)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S20 - 5.0 (H702874-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4960	16.0	10/24/2017	ND	432	108	400	0.00		

**Sample ID: S20 - 10.0 (H702874-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3280	16.0	10/24/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Caley D. Keene".

---

Caley D. Keene, Lab Director/Quality Manager







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

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S19)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	10/20/2017	Sampling Date:	10/12/2017
Reported:	10/26/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S19)	Sampling Condition:	Cool & Intact
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S19 - 5.0 (H702878-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6960	16.0	10/25/2017	ND	432	108	400	3.64	

**Sample ID: S19 - 10.0 (H702878-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7600	16.0	10/25/2017	ND	432	108	400	3.64	

Cardinal Laboratories

\*=Accredited Analyte

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 client for 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 thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager





**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: EOG e-mail: Robert.Asher@eogresources.com

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Project Name: Stark BG #2 (S19)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Page 4 of 4

LAB # (lab use only)		FIELD CODE		Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers						Matrix	Analyze For:															
LAB #	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge	GW=Groundwater S=Soil/Solid	NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT	
1	S19 - 5.0	5'	5'	10/12/2017	11:24 AM		1							X								X										
2	S19 - 10.0	10'	10'	10/12/2017	11:27 AM		1							X								X										

**Chlorides Only.** ALL results in mg/kg. Thank you.

**Laboratory Comments:**

Sample Containers Intact?

VOCs Free of Headspace?

Labels on container(s)?

Custody seals on container(s)?

Sample Hand Delivered by Sampler/Client Rep.?

Temperature Upon Receipt:

by Courier? UPS DHL FedEx Lone Star

#75 Corrected to 11:15





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

---

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S18)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	10/20/2017	Sampling Date:	10/12/2017
Reported:	10/26/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S18)	Sampling Condition:	Cool & Intact
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S18 - 5.0 (H702879-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1580	16.0	10/25/2017	ND	432	108	400	3.64	

**Sample ID: S18 - 10.0 (H702879-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3400	16.0	10/25/2017	ND	432	108	400	3.64	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



---

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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager

## 101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

Project Name: Stark BG #2 (S18)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Telephone No: 575-748-4171

Sampler Signature: 

Fax No.:  
e-mail:

[ruben\\_Asher@eogresources.com](mailto:ruben_Asher@eogresources.com)

(lab use only)

ORDER #: H702879

[illegible]

**Chlorides Only.** ALL results in mg/kg. Thank you.

**Laboratory Comments:**  
Sample Containers Intact

Sample Containers Intact? ☒

VOCs Free of Headspace?

Labels on container(s) \_\_\_\_\_ N

Custody seals on container(s) \_\_\_\_\_

Custody seals on cooler(s)

Sample Hand Delivered

by Courier? ☒ YES ☐ NO

00°C Fedex Lone

Temperature Upon Receipt: 0.9 °C



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

---

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S17)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	10/20/2017	Sampling Date:	10/12/2017
Reported:	10/26/2017	Sampling Type:	Soil
Project Name:	STARK BG #2 (S17)	Sampling Condition:	Cool & Intact
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO		

**Sample ID: S17 - 5.0 (H702881-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4560	16.0	10/25/2017	ND	432	108	400	3.64	

**Sample ID: S17 - 10.0 (H702881-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7840	16.0	10/25/2017	ND	432	108	400	3.64	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Caley D. Keene".

---

Caley D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: *EOG*

Fax No: e-mail: [Robert.Asher@eogresources.com](mailto:Robert.Asher@eogresources.com)

Project Name: **Stark BG #2 (S17)**

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #: **H700881**

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW=Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT	
1	S17 - 5.0	5'	5'	10/12/2017	8:46 AM		1																							
2	S17 - 10.0	10'	10'	10/12/2017	8:50 AM		1																							

Special Instructions: **Chlorides Only.** ALL results in mg/kg. Thank you.

Relinquished by: *EOG* Date: 10/18/17 Time: 3:49 PM Received by: *Haley Cusumano*

Relinquished by: *EOG* Date: Date Time Time Received by:

Relinquished by: Date Date Time Time Received by: ELOI

## Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on container(s) Custody seals on container(s)

Sample Hand Delivered by Sampler/Client Rep.?

UPS DHL FedEx Lone Star

Temperature Upon Receipt: **0.9°C**

#75 corrected 4:35



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

October 26, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: STARK BG #2 (S15)

Enclosed are the results of analyses for samples received by the laboratory on 10/20/17 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received: 10/20/2017  
 Reported: 10/26/2017  
 Project Name: STARK BG #2 (S15)  
 Project Number: 30-015-22135  
 Project Location: EDDY CO

Sampling Date: 10/12/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S15 - 5.0 (H702882-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2800	16.0	10/25/2017	ND	432	108	400	3.64	

**Sample ID: S15 - 10.0 (H702882-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6400	16.0	10/25/2017	ND	432	108	400	3.64	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





---

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---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Caley D. Keene".

---

Caley D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: EOG

e-mail: Robert.Asher@eogresources.com

Fax No:

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Project Name: Stark BG #2 (S15)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Page 4 of 4

Received by OCD: 9/19/2022 10:23:54 AM

LAB # (lab use only)		FIELD CODE		Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Preservation & # of Containers						Matrix	Analyze For															
LAB #	LAB CODE	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge	GW = Groundwater S=Soil/Solid	NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S15 - 5.0		5'	5'	10/12/2017	8:58 AM		1																								
2	S15 - 10.0		10'	10'	10/12/2017	9:03 AM		1																								

Special Instructions: **Chlorides Only.** ALL results in mg/kg. Thank you.

Laboratory Comments:

Sample Containers Intact?

VOOCs Free of Headspace?

Labels on container(s) Custody seals on container(s)

Sample Hand Delivered by Sampler/Client Rep.?

Temperature Upon Receipt: 09.9/1.15 °C

Released to Imaging: 4/17/2023 3:01:59 PM



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

December 28, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: EAGLE CREEK GAS SYSTEM (S13)

Enclosed are the results of analyses for samples received by the laboratory on 12/20/17 15:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/20/2017	Sampling Date:	12/13/2017
Reported:	12/28/2017	Sampling Type:	Soil
Project Name:	EAGLE CREEK GAS SYSTEM (S13)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: S- 13.12 (H703538-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1920	16.0	12/22/2017	ND	432	108	400	0.00	

**Sample ID: S- 13.15 (H703538-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2320	16.0	12/22/2017	ND	432	108	400	0.00	

**Sample ID: S- 13.18 (H703538-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2240	16.0	12/22/2017	ND	432	108	400	0.00	

**Sample ID: S- 13.20 (H703538-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1060	16.0	12/22/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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---

Celey D. Keene, Lab Director/Quality Manager





**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: *EOG*

e-mail:

[Robert.Asher@eogresources.com](mailto:Robert.Asher@eogresources.com)

Project Name: **Eagle Creek Gas System (\$13)**

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #:

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 8015M Extended	TPH: TX 1005 TX 1006	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S-13.12	12'	12'	12/13/2017	12:32 PM		1										S			X									X
2	S-13.15	15'	15'	12/13/2017	12:39 PM		1										S			X									X
3	S-13.18	18'	18'	12/13/2017	12:45 PM		1										S			X									X
4	S-13.20	20'	20'	12/13/2017	12:51 PM		1										S			X									X

Special Instructions: **Chlorides Only.** ALL results in mg/kg. Thank you.

Relinquished by:	Date	Time	Received by:	Date	Time
<i>EOG</i>	12/18/17	9:30 AM	<i>Brandi Olathe</i>	12/18/17	3:40
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on container(s)?

Custody seals on container(s)?

Sample Hand Delivered by Sampler/Client Rep.?

Temperature Upon Receipt

N

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

---

December 28, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: EAGLE CREEK GAS SYSTEM (S14)

Enclosed are the results of analyses for samples received by the laboratory on 12/20/17 15:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/20/2017	Sampling Date:	12/12/2017
Reported:	12/28/2017	Sampling Type:	Soil
Project Name:	EAGLE CREEK GAS SYSTEM (S14)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: S- 14.12 (H703539-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6400	16.0	12/22/2017	ND	432	108	400	0.00	

**Sample ID: S- 14.15 (H703539-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3600	16.0	12/22/2017	ND	432	108	400	0.00	

**Sample ID: S- 14.18 (H703539-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4000	16.0	12/22/2017	ND	432	108	400	0.00	

**Sample ID: S- 14.20 (H703539-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6640	16.0	12/22/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

---

### Notes and Definitions

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

---

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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Caley D. Keene".

---

Caley D. Keene, Lab Director/Quality Manager





**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4471

Sampler Signature: *Robert Asher*

Fax No:

e-mail:

[Robert.Asher@eogresources.com](mailto:Robert.Asher@eogresources.com)

Project Name: **Eagle Creek Gas System (S14)**

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #:

LAB # (lab use only)

*hmc3539* FIELD CODE

Beginning Depth

Ending Depth

Date Sampled

Time Sampled

Field Filtered

Total #. of Containers

Preservation & # of Containers

Matrix

Analyze For:

TCLP:

TOTAL:

DW=Drinking Water SL=Sludge  
GW = Groundwater S=Soil/Solid  
NP=Non-Potable Specify Other

TPH: 8015M Extended

TPH: TX 1005 TX 1006

Cations (Ca, Mg, Na, K)

Anions (Cl)

SAR / ESP / CEC

Metals: As Ag Ba Cd Cr Pb Hg Se

Volatiles

Semivolatiles

BTEX 8021B/5030 or BTEX 8260

RCI

N.O.R.M.

RUSH TAT (Pre-Schedule) 24, 48, 72 hrs

Standard TAT

Special Instructions:

**Chlorides Only.** ALL results in mg/kg. Thank you.

Inquired by:

Date

Time

Received by:

Date

Time

Inquired by:

Date

Time

Received by:

Date

Time

Inquired by:

Date

Time

Received by: ELOT:

Date

Time

Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on containers(s)

Custody seals on containers(s)

Custody seals on cooler(s)

Sample Hand Delivered

by Sampler/Client Rep. ?

by Courier? UPS DHL

FedEx Lone Star

Temperature Upon Receipt





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

---

December 28, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: EAGLE CREEK GAS SYSTEM (S15)

Enclosed are the results of analyses for samples received by the laboratory on 12/20/17 15:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

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Sincerely,

A handwritten signature in black ink that reads "Coley D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/20/2017	Sampling Date:	12/12/2017
Reported:	12/28/2017	Sampling Type:	Soil
Project Name:	EAGLE CREEK GAS SYSTEM (S15)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: S- 15.12 (H703540-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9060	16.0	12/22/2017	ND	432	108	400	0.00	

**Sample ID: S- 15.15 (H703540-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9200	16.0	12/22/2017	ND	432	108	400	0.00	

**Sample ID: S- 15.18 (H703540-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5600	16.0	12/22/2017	ND	432	108	400	0.00	

**Sample ID: S- 15.20 (H703540-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5440	16.0	12/22/2017	ND	432	108	400	0.00	

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

### Notes and Definitions

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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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: Robert Asher

Fax No:

e-mail:

Robert.Asher@eogresources.com

Project Name: Eagle Creek Gas System (S15)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

(lab use only)

ORDER #:

LAB # (lab use only)

FIELD CODE

Beginning Depth

Ending Depth

Date Sampled

Time Sampled

Field Filtered

Total #. of Containers

Preservation & # of Containers

Matrix

TCLP:

ANALYZE FOR:

TOTAL:

RUSH TAT (Pre-Schedule) 24, 48, 72 hrs

Standard TAT

Ice  
HNO<sub>3</sub>  
HCl  
H<sub>2</sub>SO<sub>4</sub>  
NaOH  
Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>  
None  
Other (Specify)

DW=Drinking Water SL=Sludge  
GW = Groundwater S=Soil/Solid  
NP=Non-Potable Specify Other

TPH: 8015M Extended

TPH: TX 1005 TX 1006

Cations (Ca, Mg, Na, K)

Anions (Cl)

SAR / ESP / CEC

Metals: As Ag Ba Cd Cr Pb Hg Se

Volatiles

Semivolatiles

BTEX 8021B/5030 or BTEX 8260

RCI

N.O.R.M.

Special Instructions:

**Chlorides Only.** ALL results in mg/kg. Thank you.

Relinquished by:

Date

Time

Received by:

Date

Time

Relinquished by:

Date

Time

Received by:

Date

Time

Relinquished by:

Date

Time

Received by:

Date

Time

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

Temperature Upon Receipt: 22.25 °C  
#7542



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

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December 28, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: EAGLE CREEK GAS SYSTEM (S16)

Enclosed are the results of analyses for samples received by the laboratory on 12/20/17 15:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is fluid and cursive, with the first name "Celey" and last name "Keene" clearly distinguishable.

Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/20/2017	Sampling Date:	12/12/2017
Reported:	12/28/2017	Sampling Type:	Soil
Project Name:	EAGLE CREEK GAS SYSTEM (S16)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: S- 16.12 (H703541-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6000	16.0	12/22/2017	ND	432	108	400	0.00	

**Sample ID: S- 16.15 (H703541-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9040	16.0	12/22/2017	ND	432	108	400	0.00	

**Sample ID: S- 16.18 (H703541-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5120	16.0	12/22/2017	ND	432	108	400	0.00	

**Sample ID: S- 16.20 (H703541-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4800	16.0	12/22/2017	ND	432	108	400	3.64	QM-07

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Caley D. Keene".

---

Caley D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: Robert Asher

Fax No:

e-mail:

Robert.Asher@eogresources.com

Project Name: Eagle Creek Gas System (S16)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard

☐ TRRP

☐ NPDES

(lab use only)

ORDER #:

LAB # (lab use only)

FIELD CODE

Beginning Depth

Ending Depth

Date Sampled

Time Sampled

Field Filtered

Total #. of Containers

Preservation & # of Containers

Matrix

TCLP:

TOTAL:

Analyze For:

TPH: 8015M Extended

TPH: TX 1005 TX 1006

Cations (Ca, Mg, Na, K)

Anions (Cl)

SAR / ESP / CEC

Metals: As Ag Ba Cd Cr Pb Hg Se

Volatiles

Semivolatiles

BTEX 8021B/5030 or BTEX 8260

RCI

N.O.R.M.

RUSH TAT (Pre-Schedule) 24, 48, 72 hrs

Standard TAT

Special Instructions:

**Chlorides Only.** ALL results in mg/kg. Thank you.

Relinquished by:

Date

Time

Received by:

Date

Time

Relinquished by:

Date

Time

Received by:

Date

Time

Relinquished by:

Date

Time

Received by: ELO:

Date

Time

Laboratory Comments:

Sample Containers Intact?

VOCs Free of Headspace?

Labels on container(s)

Custody seals on container(s)

Sample Hand Delivered by Sampler/Client Rep.?

UPS

DHL

FedEx

Lone Star

Temperature Upon Receipt:

22.05°C

Correct



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

---

December 28, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: EAGLE CREEK GAS SYSTEM (S17)

Enclosed are the results of analyses for samples received by the laboratory on 12/20/17 15:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/20/2017	Sampling Date:	12/12/2017
Reported:	12/28/2017	Sampling Type:	Soil
Project Name:	EAGLE CREEK GAS SYSTEM (S17)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: S- 17.12 (H703542-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10200	16.0	12/22/2017	ND	432	108	400	3.64	

**Sample ID: S- 17.15 (H703542-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3920	16.0	12/22/2017	ND	432	108	400	3.64	

**Sample ID: S- 17.18 (H703542-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2160	16.0	12/22/2017	ND	432	108	400	3.64	

**Sample ID: S- 17.20 (H703542-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1200	16.0	12/22/2017	ND	432	108	400	3.64	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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---

### Notes and Definitions

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

---

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\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Caley D. Keene".

---

Caley D. Keene, Lab Director/Quality Manager

## 101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: Eagle Creek Gas System (S17)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Sampler Signature: SA/18

Telephone No: 575-748-4171

Fax No.:

[Robert\\_Asher@geogresources.com](mailto:Robert_Asher@geogresources.com)

(lab use only)

ORDER #:

ORDER #:		(lab use only)	
LAB # (lab use only)		FIELD CODE	
Beginning Depth		Ending Depth	
Date Sampled		Time Sampled	
Field Filtered		Total #. of Containers	
Preservation & # of Containers		Matrix	
Ice		DW=Drinking Water SL=Sludge	
HNO <sub>3</sub>		GW = Groundwater S=Soli/Solid	
HCl		NP=Non-Potable Specify Other	
H <sub>2</sub> SO <sub>4</sub>			
NaOH			
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>			
None	X		
Other (Specify)			
TPH: 8015M Extended			
TPH: TX 1005 TX 1006			
Cations (Ca, Mg, Na, K)			
Anions (Cl)	X		
SAR / ESP / CEC			
Metals: As Ag Ba Cd Cr Pb Hg Se			
Volatiles			
Semivolatiles			
BTEX #021B/5030 or BTEX #260			
RCL			
N.O.R.M.			
RUSH TAT (Pre-Schedule) 24, 48, 72 hrs			
Standard TAT			

**Chlorides Only.** ALL results in mg/kg. Thank you

Laboratory Comments:

### Sample Containers Intact?

## VOCs Free of Headspace?

Labels on container(s)

Custody seals on cooler(s)

Sample Hand Delivered

by Sampler/Client Rep. ?

by Courier? UPS

Temperature Upon Receipt \_\_\_\_\_

--

FedEx Lone Star  
22.25 °C  
Corrected



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

---

December 28, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: EAGLE CREEK GAS SYSTEM (S18)

Enclosed are the results of analyses for samples received by the laboratory on 12/20/17 15:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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.

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Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is fluid and cursive, with the first name "Celey" and last name "Keene" clearly distinguishable.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/20/2017	Sampling Date:	12/13/2017
Reported:	12/28/2017	Sampling Type:	Soil
Project Name:	EAGLE CREEK GAS SYSTEM (S18)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: S- 18.12 (H703543-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4960	16.0	12/27/2017	ND	432	108	400	3.64	

**Sample ID: S- 18.15 (H703543-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5040	16.0	12/27/2017	ND	432	108	400	3.64	

**Sample ID: S- 18.18 (H703543-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5440	16.0	12/27/2017	ND	432	108	400	3.64	

**Sample ID: S- 18.20 (H703543-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2280	16.0	12/27/2017	ND	432	108	400	3.64	

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



---

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---

### Notes and Definitions

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

---

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: Eagle Creek Gas System (S18)

Project #: 30-015-22135Project Loc: Eddy CountyPO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

City/State/Zip: Artesia, NM 88210Telephone No: 575-748-4171

Sampler Signature:

Fax No.:

e-mail:

[Robert.Asher@geogresources.com](mailto:Robert.Asher@geogresources.com)

(lab use only)

ORDER #:

[illegible]



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

---

December 28, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: EAGLE CREEK GAS SYSTEM (S1)

Enclosed are the results of analyses for samples received by the laboratory on 12/20/17 15:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

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Sincerely,

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Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/20/2017	Sampling Date:	12/12/2017
Reported:	12/28/2017	Sampling Type:	Soil
Project Name:	EAGLE CREEK GAS SYSTEM (S1)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: S- 1.12 (H703545-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3440	16.0	12/27/2017	ND	432	108	400	3.64	

**Sample ID: S- 1.15 (H703545-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2120	16.0	12/27/2017	ND	432	108	400	3.64	

**Sample ID: S- 1.18 (H703545-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3760	16.0	12/27/2017	ND	432	108	400	3.64	

**Sample ID: S- 1.20 (H703545-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2880	16.0	12/27/2017	ND	432	108	400	3.64	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

---

### Notes and Definitions

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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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



## 101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: Eagle Creek Gas System (S1)

Project #: 30-015-22135

Project Loc: Eddy CountyPO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Telephone No: 575-748-4171  
 Fax No:  
 Sampler Signature:   
 e-mail:

[Robert\\_Asher@geogresources.com](mailto:Robert_Asher@geogresources.com)

(lab use only)

ORDER #: H703545

[illegible]

**Special Instructions:** **Chlorides Only.** ALL results in mg/kg. Thank you.

**Chlorides Only.** ALL results in mg/kg. Thank you.

Laboratory Comments:

Refined by	Date	Time	Cost	Time	Cost

## VOCs Free of Headspace?

Figure 1. Schematic representation of the experimental design. The subjects were divided into two groups: the control group (n = 10) and the experimental group (n = 10). The control group received a standard training protocol, while the experimental group received a modified training protocol. The subjects were then subjected to a series of tests to evaluate their performance. The results are presented in the following tables.

Labels on container(s)

3/10	10/10	11/10/10	SK 10.00	6:50 AM	12/16/11
------	-------	----------	----------	---------	----------

Custody seals on container(s)

[illegible]

Sample Hand Delivered

---

by Sampler/Client Rep. ?

Relinquished by:		Received by ELDT:	
Date	Time	Date	Time

by Courier UPS DHL FedEx Lone Star

Received by OCD: 9/19/2022 10:23:54 AM

Released to Imaging: 4/17/2023 3:01:59 PM





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

---

December 28, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: EAGLE CREEK GAS SYSTEM (S3)

Enclosed are the results of analyses for samples received by the laboratory on 12/20/17 15:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/20/2017	Sampling Date:	12/12/2017
Reported:	12/28/2017	Sampling Type:	Soil
Project Name:	EAGLE CREEK GAS SYSTEM (S3)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: S- 3.12 (H703546-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5360	16.0	12/27/2017	ND	432	108	400	3.64	

**Sample ID: S- 3.15 (H703546-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1540	16.0	12/27/2017	ND	432	108	400	3.64	

**Sample ID: S- 3.18 (H703546-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5680	16.0	12/27/2017	ND	432	108	400	3.64	

**Sample ID: S- 3.20 (H703546-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4000	16.0	12/27/2017	ND	432	108	400	3.64	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



---

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---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "C. D. Keene", written over a horizontal line.

---

Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name

EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip:

Artesia, NM 88210

Telephone No.:

575-748-4171

Sampler Signature:

CaO

Fax No.:

e-mail:

[Robert\\_Asher@eogresources.com](mailto:Robert_Asher@eogresources.com)

Report Format: ☒ Standard

☒ Standard

TRRF

☐ NPDES

PO #: 205632

Project Name: Eagle Creek Gas System (S3)

Project #: 30-015-22135Project Loc: Eddy County

Page 4 of 4

[illegible]

**Chlorides Only.** ALL results in mg/kg. Thank you

**Laboratory Comments:**  
Sample Containers Intact  
VOCs Free of Hydrocarbons

2

Labels on container(s)

Custody seals on container(s)

Sample Hand Delivered

by Sampler/Client Rep. ?

by Courier?      UPS      DHL      FedEx      Lone Star

Temperature Upon Receipt  $20.6^{\circ}\text{C}$



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

December 28, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: EAGLE CREEK GAS SYSTEM (S5)

Enclosed are the results of analyses for samples received by the laboratory on 12/20/17 15:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/20/2017	Sampling Date:	12/12/2017
Reported:	12/28/2017	Sampling Type:	Soil
Project Name:	EAGLE CREEK GAS SYSTEM (S5)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: S- 5.12 (H703548-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6130	16.0	12/27/2017	ND	432	108	400	3.77	

**Sample ID: S- 5.15 (H703548-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4560	16.0	12/27/2017	ND	432	108	400	3.77	

**Sample ID: S- 5.18 (H703548-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3360	16.0	12/27/2017	ND	432	108	400	3.77	

**Sample ID: S- 5.20 (H703548-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5120	16.0	12/27/2017	ND	432	108	400	3.77	

Cardinal Laboratories

\*=Accredited Analyte

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 client for 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 thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager

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---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene", is written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

☐ NPDES

PO #: 205632

Page 4 of 4

Released to Imaging: 4/17/2023 3:01:59 PM

(lab use only)	
ORDER #: H03548	
LAB # (lab use only)	FIELD CODE
Beginning Depth	Ending Depth
Date Sampled	Time Sampled
Field Filtered	Total #. of Containers
Ice	HNO <sub>3</sub>
HCl	H <sub>2</sub> SO <sub>4</sub>
NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>
None	Other (Specify)
DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Matrix
TPH: 8015M Extended	TPH: TX 1005 TX 1006
Cations (Ca, Mg, Na, K)	Anions (Cl)
SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se
Volatiles	Semivolatiles
BTEX #021B/5030 or BTEX 8260	RCI
N.O.R.M.	
RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT

Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time

Special Instructions: Chlorides Only. ALL results in mg/kg. Thank you.

Laboratory Comments:  
Sample Containers intact? N  
VOCs Free of Headspace? N  
Custody seals on container(s)? Y  
Custody seals on cooler(s)? Y  
Sample Hand Delivered by Courier? UPS DHL FedEx Lone Star Y  
Temperature Upon Receipt: 22.5 °C



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

---

December 28, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: EAGLE CREEK GAS SYSTEM (S8)

Enclosed are the results of analyses for samples received by the laboratory on 12/20/17 15:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/20/2017	Sampling Date:	12/12/2017
Reported:	12/28/2017	Sampling Type:	Soil
Project Name:	EAGLE CREEK GAS SYSTEM (S8)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: S- 8.12 (H703549-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2000	16.0	12/27/2017	ND	432	108	400	3.77	

**Sample ID: S- 8.15 (H703549-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1760	16.0	12/27/2017	ND	432	108	400	3.77	

**Sample ID: S- 8.18 (H703549-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1650	16.0	12/27/2017	ND	432	108	400	3.77	

**Sample ID: S- 8.20 (H703549-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2360	16.0	12/27/2017	ND	432	108	400	3.77	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





---

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---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Company Name: EOG Resources, Inc.

Company Address: 104 South 4th Street

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Sampler Signature: *Robert Asher*

e-mail: [Robert.Asher@eogresources.com](mailto:Robert.Asher@eogresources.com)

Fax No:

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

PO #: 205632

Project Name: **Eagle Creek Gas System (S8)**

Project #: 30-015-22135

Project Loc: Eddy County

Page 4 of 4

(lab use only)

ORDER #: *11703549*

LAB # (lab use only)	FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	Preservation & # of Containers	Matrix	Analyze For:	TCLP:	TOTAL:	RUSH TAT (Pre-Schedule) 24, 48, 72 hrs	Standard TAT
1	S-8.12	12'	12'	12/12/2017	2:00 PM		1	Ice	S	TPH: 8015M Extended				X
2	S-8.15	15'	15'	12/12/2017	2:07 PM		1	HNO <sub>3</sub>	S	TPH: TX 1005 TX 1006				X
3	S-8.18	18'	18'	12/12/2017	2:13 PM		1	HCl	S	Cations (Ca, Mg, Na, K)				X
4	S-8.20	20'	20'	12/12/2017	2:18 PM		1	H <sub>2</sub> SO <sub>4</sub>	S	Anions (Cl)				X
								NaOH		SAR / ESP / CEC				
								Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>		Metals: As Ag Ba Cd Cr Pb Hg Se				
								None		Volatiles				
								Other (Specify)		Semivolatiles				
								DW=Drinking Water SL=Sludge		BTEX 8021B/5030 or BTEX 8260				
								GW = Groundwater S=Soil/Solid		RCI				
								NP=Non-Potable Specify Other		N.O.R.M.				

Special instructions:

**Chlorides Only.** ALL results in mg/kg. Thank you.

Laboratory Comments:

Sample Containers Intact? ☒ Y ☐ N

VOCS Free of Headspace? ☒ Y ☐ N

Labels on container(s) ☒ Y ☐ N

Custody seals on container(s) ☒ Y ☐ N

Sample Hand Delivered ☒ Y ☐ N

by Sampler/Client Rep. ? ☒ Y ☐ N

by Courier? ☒ Y ☐ N

UPS ☒ Y ☐ N

DHL ☒ Y ☐ N

*41703549*



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

---

December 28, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: EAGLE CREEK GAS SYSTEM (S9)

Enclosed are the results of analyses for samples received by the laboratory on 12/20/17 15:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/20/2017	Sampling Date:	12/12/2017
Reported:	12/28/2017	Sampling Type:	Soil
Project Name:	EAGLE CREEK GAS SYSTEM (S9)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: S- 9.12 (H703550-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3480	16.0	12/27/2017	ND	432	108	400	3.77	

**Sample ID: S- 9.15 (H703550-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2280	16.0	12/27/2017	ND	432	108	400	3.77	

**Sample ID: S- 9.18 (H703550-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1140	16.0	12/27/2017	ND	432	108	400	3.77	

**Sample ID: S- 9.20 (H703550-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2000	16.0	12/27/2017	ND	432	108	400	3.77	

Cardinal Laboratories

\*=Accredited Analyte

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 client for 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 thirty (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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager

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

---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: Eagle Creek Gas System (S9)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Telephone No: 575-748-4171 Fax No:

Sampler Signature:  e-mail:

[Robert\\_Asher@eogresources.com](mailto:Robert_Asher@eogresources.com)

(lab use only)

ORDER #: 17103550

[illegible]

**Special Instructions:**  
**Chlorides Only.** ALL results in mg/kg. Thank you.

**Chlorides Only.** ALL results in mg/kg. Thank you.

Date	Time	Received by

12/18/17	8:56 AM
----------	---------

Relinquished by:	Date	Time	Received by:

Date	Time	Received by
------	------	-------------

Laboratory Comments:

## VOCs Free of Headspace?

Custody seals on container(s)

Custody seals on cooler

Sample Hand Delivered

by Sampler/Client Rep. ? ☒ N  
by Courier? ☐ UPS ☐ DHL ☐ FedEx ☐ Lone Star

Temperature Upon Receipt

3. C



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

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December 28, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: EAGLE CREEK GAS SYSTEM (S19)

Enclosed are the results of analyses for samples received by the laboratory on 12/20/17 16:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/20/2017	Sampling Date:	12/13/2017
Reported:	12/28/2017	Sampling Type:	Soil
Project Name:	EAGLE CREEK GAS SYSTEM (S19)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: S- 19.12 (H703555-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8660	16.0	12/27/2017	ND	416	104	400	3.77	

**Sample ID: S- 19.15 (H703555-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7860	16.0	12/27/2017	ND	416	104	400	3.77	

**Sample ID: S- 19.18 (H703555-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6000	16.0	12/27/2017	ND	416	104	400	3.77	

**Sample ID: S- 19.20 (H703555-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5840	16.0	12/27/2017	ND	416	104	400	3.77	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



---

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---

### 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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

Project Name: Eagle Creek Gas System (S19)

Project #: 30-015-22135

Project Loc: Eddy County

PO #: 205632

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

City/State/Zip: Artesia, NM 88210

Telephone No: 575-748-4171

Fax No:

Sampler Signature: \_\_\_\_\_ e-mail: \_\_\_\_\_

Robert\_Asher@geogresources.com

(lab use only)

ORDER #: 11163555

[illegible]





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

---

December 28, 2017

ROBERT ASHER

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: EAGLE CREEK GAS SYSTEM (S20)

Enclosed are the results of analyses for samples received by the laboratory on 12/20/17 16:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

EOG Y RESOURCES, INC  
 ROBERT ASHER  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

Received:	12/20/2017	Sampling Date:	12/13/2017
Reported:	12/28/2017	Sampling Type:	Soil
Project Name:	EAGLE CREEK GAS SYSTEM (S20)	Sampling Condition:	** (See Notes)
Project Number:	30-015-22135	Sample Received By:	Tamara Oldaker
Project Location:	EDDY CO NM		

**Sample ID: S- 20.12 (H703556-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2200	16.0	12/27/2017	ND	416	104	400	3.77	

**Sample ID: S- 20.15 (H703556-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1920	16.0	12/27/2017	ND	416	104	400	3.77	

**Sample ID: S- 20.18 (H703556-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2200	16.0	12/27/2017	ND	416	104	400	3.77	

**Sample ID: S- 20.20 (H703556-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2520	16.0	12/27/2017	ND	416	104	400	3.77	

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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### 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

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Robert Asher

Robert Asher

Company Name EOG Resources, Inc.

EOG Resources, Inc.

Company Address: 104 South 4th Street

104 South 4th Street

City/State/Zip: Artesia, NM 88210

Artesia, NM 88210

Telephone No: 575-748-4171

575-748-4171

Fax No.:

**Report Format:**

## Sampler Cigarettes

canipier signature.

**e-mail:**

Robert Asher@eogresources.com

PO #: 205632

Project Name: Eagle Creek Gas System (S20)

Project #: 30-015-22135

Project Loc: Eddy County

Page 4 of 4

ORDER #:		LAB # (lab use only)		FIELD CODE		Beginning Depth		Ending Depth		Date Sampled		Time Sampled		Field Filtered		Total #. of Containers		Preservation & # of Containers										Matrix		Analyze For:									
H08556																		Ice HNO <sub>3</sub> HCl H <sub>2</sub> SO <sub>4</sub> NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> None Other (Specify)										DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other		TPH: 8015M Extended TPH: TX 1005 TX 1006 Cations (Ca, Mg, Na, K) Anions (Cl) SAR / ESP / CEC Metals: As Ag Ba Cd Cr Pb Hg Se Volatiles Semivolatiles BTX 8021B/5030 or BTX 8260 RCI N.O.R.M.									
						</																																	



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

---

May 11, 2018

MAX COOK

RANGER ENVIRONMENTAL SERVICES, INC.

PO BOX 201179

AUSTIN, TX 78729

RE: STARK BG #2 BATTERY & EAGLE CREEK GAS SYSTEM

Enclosed are the results of analyses for samples received by the laboratory on 04/26/18 7:54.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

RANGER ENVIRONMENTAL SERVICES, INC.  
 MAX COOK  
 PO BOX 201179  
 AUSTIN TX, 78729  
 Fax To: (512) 335-0527

Received:	04/26/2018	Sampling Date:	04/25/2018
Reported:	05/11/2018	Sampling Type:	Soil
Project Name:	STARK BG #2 BATTERY & EAGLE CREEK	Sampling Condition:	Cool & Intact
Project Number:	5375	Sample Received By:	Jodi Henson
Project Location:	STARK BG #2 BATTERY & EAGLE CREEK		

**Sample ID: S-2SW(B) - 70' (H801153-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1680	16.0	04/28/2018	ND	448	112	400	3.64	

**Sample ID: S-2SW(B) - 75' (H801153-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2200	16.0	05/04/2018	ND	400	100	400	0.00	

**Sample ID: S-2SW(B) - 80' (H801153-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1520	16.0	05/04/2018	ND	400	100	400	0.00	

**Sample ID: S-26(B) - 45' (H801153-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	04/28/2018	ND	448	112	400	3.64	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

RANGER ENVIRONMENTAL SERVICES, INC.  
 MAX COOK  
 PO BOX 201179  
 AUSTIN TX, 78729  
 Fax To: (512) 335-0527

Received:	04/26/2018	Sampling Date:	04/25/2018
Reported:	05/11/2018	Sampling Type:	Soil
Project Name:	STARK BG #2 BATTERY & EAGLE CREEK	Sampling Condition:	Cool & Intact
Project Number:	5375	Sample Received By:	Jodi Henson
Project Location:	STARK BG #2 BATTERY & EAGLE CREEK		

**Sample ID: S-5(B) - 105' (H801153-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	04/28/2018	ND	448	112	400	3.64	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

---

### Notes and Definitions

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

---

Cardinal Laboratories

\*=Accredited Analyte

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A handwritten signature in black ink, appearing to read "C. D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager





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

---

June 27, 2018

MAX COOK

RANGER ENVIRONMENTAL SERVICES, INC.

PO BOX 201179

AUSTIN, TX 78729

RE: STARK BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 06/21/18 15:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager





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

**Analytical Results For:**

RANGER ENVIRONMENTAL SERVICES, INC.  
 MAX COOK  
 PO BOX 201179  
 AUSTIN TX, 78729  
 Fax To: (512) 335-0527

Received:	06/21/2018	Sampling Date:	06/21/2018
Reported:	06/27/2018	Sampling Type:	Soil
Project Name:	STARK BATTERY	Sampling Condition:	Cool & Intact
Project Number:	5375	Sample Received By:	Tamara Oldaker
Project Location:	EOG Y- ARTESIA		

**Sample ID: S-2 SW(C) - 85' (H801706-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	06/25/2018	ND	432	108	400	3.77	

**Sample ID: S-38 / 2' (H801706-15)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	06/26/2018	ND	432	108	400	3.77	

**Sample ID: S-38 / 3' (H801706-16)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	06/26/2018	ND	432	108	400	3.77	

**Sample ID: S-38 / 4' (H801706-17)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/26/2018	ND	432	108	400	3.77	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

RANGER ENVIRONMENTAL SERVICES, INC.  
 MAX COOK  
 PO BOX 201179  
 AUSTIN TX, 78729  
 Fax To: (512) 335-0527

Received: 06/21/2018  
 Reported: 06/27/2018  
 Project Name: STARK BATTERY  
 Project Number: 5375  
 Project Location: EOG Y- ARTESIA

Sampling Date: 06/21/2018  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S-39 / 2' (H801706-18)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/26/2018	ND	432	108	400	3.77	

**Sample ID: S-39 / 3' (H801706-19)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	06/26/2018	ND	432	108	400	3.77		

**Sample ID: S-39 / 4' (H801706-20)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	06/26/2018	ND	432	108	400	3.77		

**Sample ID: S-40 / 2' (H801706-21)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/26/2018	ND	432	108	400	3.77		

**Sample ID: S-40 / 3' (H801706-22)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	06/26/2018	ND	432	108	400	3.77		

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**Analytical Results For:**

RANGER ENVIRONMENTAL SERVICES, INC.  
 MAX COOK  
 PO BOX 201179  
 AUSTIN TX, 78729  
 Fax To: (512) 335-0527

Received: 06/21/2018  
 Reported: 06/27/2018  
 Project Name: STARK BATTERY  
 Project Number: 5375  
 Project Location: EOG Y- ARTESIA

Sampling Date: 06/21/2018  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S-40 / 4' (H801706-23)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/26/2018	ND	432	108	400	3.77		

**Sample ID: S-41 / 4' (H801706-24)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	06/26/2018	ND	432	108	400	3.77		

**Sample ID: S-42 / 4' (H801706-25)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	06/26/2018	ND	432	108	400	3.77		

**Sample ID: S-43 / 4' (H801706-26)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	06/26/2018	ND	432	108	400	3.77	

**Sample ID: S-44 / 4' (H801706-27)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	06/26/2018	ND	432	108	400	3.77		

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

RANGER ENVIRONMENTAL SERVICES, INC.  
 MAX COOK  
 PO BOX 201179  
 AUSTIN TX, 78729  
 Fax To: (512) 335-0527

Received:	06/21/2018	Sampling Date:	06/21/2018
Reported:	06/27/2018	Sampling Type:	Soil
Project Name:	STARK BATTERY	Sampling Condition:	Cool & Intact
Project Number:	5375	Sample Received By:	Tamara Oldaker
Project Location:	EOG Y- ARTESIA		

**Sample ID: S-45 / 4' (H801706-28)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/26/2018	ND	432	108	400	3.77		

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Celey D. Keene, Lab Director/Quality Manager



---

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---

### 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

---

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

---

Celey D. Keene, Lab Director/Quality Manager



6 jo 2 eba



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

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ranger Environmental Services, Inc.

Project Manager: Max Cook

Address: PO Box 201179

City: Austin

State: TX Zip: 78720

Phone #: 512-497-1556

Fax #: 512-335-0527

Project #: 5375

Project Owner:

Project Name: Stark Battery

Project Location: Artesia

Sampler Name: K. Copeland, N. Brown

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.	SAMPLING	ANALYSIS REQUEST									
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :											
1	S-2SW(C) - 85'	G	1	X							DATE	TIME	TPH: 8015 EXT	BTEX 8021B/5030 or BTEX 8260	Chloride (300 or 4500)					
2	S-2SW(C) - 90'	G	1	X							6/21/18	906			X					
3	S-2SW(C) - 95'	G	1	X							6/21/18	910			X					
4	S-2SW(C) - 100'	G	1	X							6/21/18	915			X					
5	S-2SW(C) - 105'	G	1	X							6/21/18	924			X					
6	S-2SW(C) - 110'	G	1	X							6/21/18	948			X					
7	S-2SW(C) - 115'	G	1	X							6/21/18	954			X					
8	S-2SW(C) - 120'	G	1	X							6/21/18	1003			X					
9	S-2SW(C) - 125'	G	1	X							6/21/18	1013			X					
10	S-2SW(C) - 130'	G	1	X							6/21/18	1220			X					
		G	1	X							6/21/18	1225			X					

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Relinquished By:

Date: 6-21-18

Time: 8:45

Received By:

Date: 6-21-18

Time: 8:45

Relinquished By:

Date: 6-21-18

Time: 8:45

Received By:

Date: 6-21-18

Time: 8:45

Delivered By: (Circle One)

Date: 6-21-18

Time: 8:45

Received By:

Date: 6-21-18

Time: 8:45

Sampler - UPS - Bus - Other

Date: 6-21-18

Time: 8:45

Received By:

Date: 6-21-18

Time: 8:45

FORM-CODS R-ZU

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476



**CARDINAL**  
Laboratories

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## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

FOKMI-006 R.2.0

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6 jo 6 eba



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## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

## BILL TO

## ANALYSIS REQUEST

Company Name: Ranger Environmental Services, Inc.

Project Manager: Max Cook

Address: PO Box 201179

City: Austin

Phone #: 512-497-1556

Project #: 5375

Project Name: Stark Battery

Project Location: Artesia

Sampler Name: K. Copeland, N. Brown

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

(G)RAB OR (C)OMP.

# CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE

TIME

TPH: 8015 EXT

BTEX 8021B/5030 or BTEX 8260

Chloride (300 or 4500)

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Relinquished By:

Date: 6-21-18

Time: 3:45

Received By:

Date: 6-21-18

Time: 3:45

Received By:

Date: 6-21-18

Time: 3:45

Received By:

Date: 6-21-18

Time: 3:45

Received By:

Date: 6-21-18

Time: 3:45

Relinquished By:

Date: 6-21-18

Time: 3:45

Received By:

Date: 6-21-18

Time: 3:45

Received By:

Date: 6-21-18

Time: 3:45

Received By:

Date: 6-21-18

Time: 3:45

Received By:

Date: 6-21-18

Time: 3:45

Delivered By: (Circle One)

8:12

Time: 8:12

Received By:

Date: 6-21-18

Time: 3:45

Received By:

Date: 6-21-18

Time: 3:45

Received By:

Date: 6-21-18

Time: 3:45

Received By:

Date: 6-21-18

Time: 3:45

Sampler - UPS - Bus - Other

8:12

Time: 8:12

Received By:

Date: 6-21-18

Time: 3:45

Received By:

Date: 6-21-18

Time: 3:45

Received By:

Date: 6-21-18

Time: 3:45

Received By:

Date: 6-21-18

Time: 3:45

FORM-006 R 2.0

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## Certificate of Analysis Summary 636235



EOG Resources Inc, Artesia, NM

Project Name: Stark/Eagle Creek

**Project Id:** 2RP-4659  
**Contact:** Chase Settle  
**Project Location:**

**Date Received in Lab:** Fri Sep-06-19 12:30 pm  
**Report Date:** 19-SEP-19  
**Project Manager:** Jessica Kramer

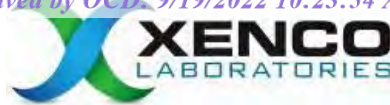
<b>Analysis Requested</b>	<b>Lab Id:</b>	636235-001	636235-002	636235-003	636235-004		
	<b>Field Id:</b>	SA #1	SA #1	SA #2	SA #2		
	<b>Depth:</b>	0-2 ft	2-4 ft	0-2 ft	2-4 ft		
	<b>Matrix:</b>	SOIL	SOIL	SOIL	SOIL		
	<b>Sampled:</b>	Sep-06-19 09:15	Sep-06-19 09:15	Sep-06-19 09:20	Sep-06-19 09:20		
<b>Cation-Exchange Capacity by SW846 9081 SUB: T104704215-19-29</b>	<b>Extracted:</b>						
	<b>Analyzed:</b>	Sep-12-19 16:30	Sep-12-19 16:30	Sep-12-19 16:30	Sep-12-19 16:30		
	<b>Units/RL:</b>	meq/100g RL	meq/100g RL	meq/100g RL	meq/100g RL		
Cation-Exchange Capacity		27.6 + 0.100	27.0 + 0.100	24.1 + 0.100	24.8 + 0.100		
<b>Electrical Conductivity (SAR) SUB: T104704215-19-29</b>	<b>Extracted:</b>						
	<b>Analyzed:</b>	Sep-11-19 10:34	Sep-11-19 10:34	Sep-11-19 10:34	Sep-11-19 10:34		
	<b>Units/RL:</b>	uS/cm RL	uS/cm RL	uS/cm RL	uS/cm RL		
Conductivity		9460 10.0	18800 30.0	40500 50.0	13700 20.0		
<b>Exchangeable Sodium Percentage SUB: T104704215-19-29</b>	<b>Extracted:</b>						
	<b>Analyzed:</b>	Sep-12-19 16:08	Sep-12-19 16:08	Sep-12-19 16:08	Sep-12-19 16:08		
	<b>Units/RL:</b>	% RL	% RL	% RL	% RL		
Exchangeable Sodium Percentage (ESP)		11.0	5.81	11.3	15.0		
<b>SAR Metals by SW6010C SUB: T104704215-19-29</b>	<b>Extracted:</b>	Sep-10-19 12:30	Sep-10-19 12:30	Sep-10-19 12:30	Sep-10-19 12:30		
	<b>Analyzed:</b>	Sep-11-19 18:11	Sep-11-19 18:15	Sep-11-19 18:19	Sep-11-19 18:23		
	<b>Units/RL:</b>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Calcium		805 D 10.0	1510 D 10.0	4840 D 20.0	1130 D 10.0		
Magnesium		78.9 0.400	145 D 20.0	612 D 20.0	99.3 D 20.0		
Sodium		913 D 50.0	723 D 50.0	2350 D 50.0	1430 D 50.0		

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Jessica Kramer  
Project Assistant

## Certificate of Analysis Summary 636235



EOG Resources Inc, Artesia, NM

Project Name: Stark/Eagle Creek

Project Id: 2RP-4659  
 Contact: Chase Settle  
 Project Location:

Date Received in Lab: Fri Sep-06-19 12:30 pm  
 Report Date: 19-SEP-19  
 Project Manager: Jessica Kramer

<b>Analysis Requested</b>	<b>Lab Id:</b>	636235-001	636235-002	636235-003	636235-004		
	<b>Field Id:</b>	SA #1	SA #1	SA #2	SA #2		
	<b>Depth:</b>	0-2 ft	2-4 ft	0-2 ft	2-4 ft		
	<b>Matrix:</b>	SOIL	SOIL	SOIL	SOIL		
	<b>Sampled:</b>	Sep-06-19 09:15	Sep-06-19 09:15	Sep-06-19 09:20	Sep-06-19 09:20		
<b>Select Metals by SW-846 6010C SUB: T104704215-19-29</b>	<b>Extracted:</b>	Sep-10-19 09:30	Sep-10-19 09:30	Sep-10-19 09:30	Sep-10-19 09:30		
	<b>Analyzed:</b>	Sep-10-19 21:30	Sep-10-19 21:34	Sep-10-19 21:38	Sep-10-19 21:42		
	<b>Units/RL:</b>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
	Calcium	78000 D 943	74500 D 1000	71900 D 862	90000 D 893		
	Magnesium	9220 D 1890	9370 D 2000	8940 D 1720	7870 D 1790		
Potassium		3910 47.2	3530 50.0	4600 43.1	2770 44.6		
Silicon		319 47.2	364 50.0	376 43.1	249 44.6		
Sodium		1300 47.2	947 50.0	2600 43.1	1260 44.6		
<b>Sodium Absorption Ratio SUB: T104704215-19-29</b>	<b>Extracted:</b>						
	<b>Analyzed:</b>	Sep-12-19 16:32	Sep-12-19 16:32	Sep-12-19 16:32	Sep-12-19 16:32		
	<b>Units/RL:</b>						
Sodium Adsorption Ratio		8.22	4.76	8.46	10.9		

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Jessica Kramer  
 Project Assistant



# Analytical Report 636235

for  
**EOG Resources Inc**

**Project Manager: Chase Settle**

**Stark/Eagle Creek**

**2RP-4659**

**19-SEP-19**

Collected By: Client



**1089 N Canal Street  
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2017-142), North Carolina (681)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Tampa: Florida (E87429), North Carolina (483)



19-SEP-19

Project Manager: **Chase Settle**

**EOG Resources Inc**

104 South Fourth St

Artesia, NM 88210

Reference: XENCO Report No(s): **636235**

**Stark/Eagle Creek**

Project Address:

**Chase Settle:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 636235. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 636235 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'. The signature is written in a cursive, flowing style.

---

**Jessica Kramer**

Project Assistant

***Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.***

*Certified and approved by numerous States and Agencies.*

*A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 636235****EOG Resources Inc, Artesia, NM**

Stark/Eagle Creek

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
SA #1	S	09-06-19 09:15	0 - 2 ft	636235-001
SA #1	S	09-06-19 09:15	2 - 4 ft	636235-002
SA #2	S	09-06-19 09:20	0 - 2 ft	636235-003
SA #2	S	09-06-19 09:20	2 - 4 ft	636235-004



## CASE NARRATIVE

**Client Name:** *EOG Resources Inc*

**Project Name:** *Stark/Eagle Creek*

Project ID: 2RP-4659  
Work Order Number(s): 636235

Report Date: 19-SEP-19  
Date Received: 09/06/2019

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**Sample receipt non conformances and comments:**

None

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**Sample receipt non conformances and comments per sample:**

None



# Certificate of Analytical Results 636235

## EOG Resources Inc, Artesia, NM

Stark/Eagle Creek

Sample Id: SA #1  
Lab Sample Id: 636235-001

Matrix: Soil  
Date Collected: 09.06.19 09.15

Date Received: 09.06.19 12.30  
Sample Depth: 0 - 2 ft

Analytical Method: SAR Metals by SW6010C

Tech: PJB

Analyst: DEP

Seq Number: 3101219

Prep Method: SW3050B

% Moisture:

Date Prep: 09.10.19 12.30

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Calcium	7440-70-2	805	10.0	mg/kg	09.11.19 18.32	D	50
Magnesium	7439-95-4	78.9	0.400	mg/kg	09.11.19 18.11		1
Sodium	7440-23-5	913	50.0	mg/kg	09.12.19 11.00	D	100

Analytical Method: Select Metals by SW-846 6010C

Tech: PJB

Analyst: DEP

Seq Number: 3101001

Prep Method: SW3050B

% Moisture:

Date Prep: 09.10.19 09.30

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Calcium	7440-70-2	78000	943	mg/kg	09.10.19 21.47	D	50
Magnesium	7439-95-4	9220	1890	mg/kg	09.10.19 21.47	D	50
Potassium	7440-09-7	3910	47.2	mg/kg	09.10.19 21.30		1
Silicon	7440-21-3	319	47.2	mg/kg	09.10.19 21.30		1
Sodium	7440-23-5	1300	47.2	mg/kg	09.10.19 21.30		1

Analytical Method: Cation-Exchange Capacity by SW846 9081

Tech: DEP

Analyst: DEP

Seq Number: 3101271

% Moisture:

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Cation-Exchange Capacity		27.6	0.100	meq/100g	09.12.19 16.30	+	1





# Certificate of Analytical Results 636235

## EOG Resources Inc, Artesia, NM

Stark/Eagle Creek

Sample Id: SA #1  
Lab Sample Id: 636235-001

Matrix: Soil  
Date Collected: 09.06.19 09.15

Date Received: 09.06.19 12.30  
Sample Depth: 0 - 2 ft

Analytical Method: Electrical Conductivity (SAR)

Tech: KBU  
Analyst: KBU  
Seq Number: 3101143

% Moisture:  
Basis: Wet Weight  
SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Conductivity	COND	9460	10.0	uS/cm	09.11.19 10.34		1

Analytical Method: Exchangeable Sodium Percentage

Tech: DEP  
Analyst: DEP  
Seq Number: 3101265

% Moisture:  
Basis: Wet Weight  
SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Exchangeable Sodium Percentage (ESP)		11.0		%	09.12.19 16.08		1

Analytical Method: Sodium Absorption Ratio

Tech: DEP  
Analyst: DEP  
Seq Number: 3101272

% Moisture:  
Basis: Wet Weight  
SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Sodium Adsorption Ratio		8.22			09.12.19 16.32		1



# Certificate of Analytical Results 636235

## EOG Resources Inc, Artesia, NM

Stark/Eagle Creek

Sample Id: SA #1  
Lab Sample Id: 636235-002

Matrix: Soil  
Date Collected: 09.06.19 09.15

Date Received: 09.06.19 12.30  
Sample Depth: 2 - 4 ft

Analytical Method: SAR Metals by SW6010C

Tech: PJB

Analyst: DEP

Seq Number: 3101219

Date Prep: 09.10.19 12.30

Prep Method: SW3050B

% Moisture:

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Calcium	7440-70-2	1510	10.0	mg/kg	09.11.19 18.36	D	50
Magnesium	7439-95-4	145	20.0	mg/kg	09.11.19 18.36	D	50
Sodium	7440-23-5	723	50.0	mg/kg	09.12.19 11.04	D	100

Analytical Method: Select Metals by SW-846 6010C

Tech: PJB

Analyst: DEP

Seq Number: 3101001

Date Prep: 09.10.19 09.30

Prep Method: SW3050B

% Moisture:

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Calcium	7440-70-2	74500	1000	mg/kg	09.10.19 21.51	D	50
Magnesium	7439-95-4	9370	2000	mg/kg	09.10.19 21.51	D	50
Potassium	7440-09-7	3530	50.0	mg/kg	09.10.19 21.34		1
Silicon	7440-21-3	364	50.0	mg/kg	09.10.19 21.34		1
Sodium	7440-23-5	947	50.0	mg/kg	09.10.19 21.34		1

Analytical Method: Cation-Exchange Capacity by SW846 9081

Tech: DEP

Analyst: DEP

Seq Number: 3101271

% Moisture:

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Cation-Exchange Capacity		27.0	0.100	meq/100g	09.12.19 16.30	+	1



# Certificate of Analytical Results 636235

## EOG Resources Inc, Artesia, NM

Stark/Eagle Creek

Sample Id: SA #1  
Lab Sample Id: 636235-002

Matrix: Soil  
Date Collected: 09.06.19 09.15

Date Received: 09.06.19 12.30  
Sample Depth: 2 - 4 ft

Analytical Method: Electrical Conductivity (SAR)

Tech: KBU  
Analyst: KBU  
Seq Number: 3101143

% Moisture:  
Basis: Wet Weight  
SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Conductivity	COND	18800	30.0	uS/cm	09.11.19 10.34		3

Analytical Method: Exchangeable Sodium Percentage

Tech: DEP  
Analyst: DEP  
Seq Number: 3101265

% Moisture:  
Basis: Wet Weight  
SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Exchangeable Sodium Percentage (ESP)		5.81		%	09.12.19 16.08		1

Analytical Method: Sodium Absorption Ratio

Tech: DEP  
Analyst: DEP  
Seq Number: 3101272

% Moisture:  
Basis: Wet Weight  
SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Sodium Adsorption Ratio		4.76			09.12.19 16.32		1



# Certificate of Analytical Results 636235

## EOG Resources Inc, Artesia, NM

Stark/Eagle Creek

Sample Id: SA #2  
Lab Sample Id: 636235-003

Matrix: Soil  
Date Collected: 09.06.19 09.20

Date Received: 09.06.19 12.30  
Sample Depth: 0 - 2 ft

Analytical Method: SAR Metals by SW6010C

Tech: PJB

Analyst: DEP

Seq Number: 3101219

Prep Method: SW3050B

% Moisture:

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Calcium	7440-70-2	4840	20.0	mg/kg	09.12.19 11.16	D	100
Magnesium	7439-95-4	612	20.0	mg/kg	09.11.19 18.40	D	50
Sodium	7440-23-5	2350	50.0	mg/kg	09.12.19 11.16	D	100

Analytical Method: Select Metals by SW-846 6010C

Tech: PJB

Analyst: DEP

Seq Number: 3101001

Date Prep: 09.10.19 09.30

Prep Method: SW3050B

% Moisture:

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Calcium	7440-70-2	71900	862	mg/kg	09.10.19 21.55	D	50
Magnesium	7439-95-4	8940	1720	mg/kg	09.10.19 21.55	D	50
Potassium	7440-09-7	4600	43.1	mg/kg	09.10.19 21.38		1
Silicon	7440-21-3	376	43.1	mg/kg	09.10.19 21.38		1
Sodium	7440-23-5	2600	43.1	mg/kg	09.10.19 21.38		1

Analytical Method: Cation-Exchange Capacity by SW846 9081

Tech: DEP

Analyst: DEP

Seq Number: 3101271

% Moisture:

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Cation-Exchange Capacity		24.1	0.100	meq/100g	09.12.19 16.30	+	1



# Certificate of Analytical Results 636235

## EOG Resources Inc, Artesia, NM

Stark/Eagle Creek

Sample Id: SA #2  
Lab Sample Id: 636235-003

Matrix: Soil  
Date Collected: 09.06.19 09.20

Date Received: 09.06.19 12.30  
Sample Depth: 0 - 2 ft

Analytical Method: Electrical Conductivity (SAR)

Tech: KBU  
Analyst: KBU  
Seq Number: 3101143

% Moisture:  
Basis: Wet Weight  
SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Conductivity	COND	40500	50.0	uS/cm	09.11.19 10.34		5

Analytical Method: Exchangeable Sodium Percentage

Tech: DEP  
Analyst: DEP  
Seq Number: 3101265

% Moisture:  
Basis: Wet Weight  
SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Exchangeable Sodium Percentage (ESP)		11.3		%	09.12.19 16.08		1

Analytical Method: Sodium Absorption Ratio

Tech: DEP  
Analyst: DEP  
Seq Number: 3101272

% Moisture:  
Basis: Wet Weight  
SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Sodium Adsorption Ratio		8.46			09.12.19 16.32		1





# Certificate of Analytical Results 636235

## EOG Resources Inc, Artesia, NM

Stark/Eagle Creek

Sample Id: SA #2  
Lab Sample Id: 636235-004

Matrix: Soil  
Date Collected: 09.06.19 09.20

Date Received: 09.06.19 12.30  
Sample Depth: 2 - 4 ft

Analytical Method: SAR Metals by SW6010C

Tech: PJB

Analyst: DEP

Seq Number: 3101219

Prep Method: SW3050B

% Moisture:

Date Prep: 09.10.19 12.30

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Calcium	7440-70-2	1130	10.0	mg/kg	09.11.19 18.52	D	50
Magnesium	7439-95-4	99.3	20.0	mg/kg	09.11.19 18.52	D	50
Sodium	7440-23-5	1430	50.0	mg/kg	09.12.19 11.21	D	100

Analytical Method: Select Metals by SW-846 6010C

Tech: PJB

Analyst: DEP

Seq Number: 3101001

Prep Method: SW3050B

% Moisture:

Date Prep: 09.10.19 09.30

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Calcium	7440-70-2	90000	893	mg/kg	09.10.19 21.59	D	50
Magnesium	7439-95-4	7870	1790	mg/kg	09.10.19 21.59	D	50
Potassium	7440-09-7	2770	44.6	mg/kg	09.10.19 21.42		1
Silicon	7440-21-3	249	44.6	mg/kg	09.10.19 21.42		1
Sodium	7440-23-5	1260	44.6	mg/kg	09.10.19 21.42		1

Analytical Method: Cation-Exchange Capacity by SW846 9081

Tech: DEP

Analyst: DEP

Seq Number: 3101271

% Moisture:

Basis: Wet Weight

SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Cation-Exchange Capacity		24.8	0.100	meq/100g	09.12.19 16.30	+	1



# Certificate of Analytical Results 636235

## EOG Resources Inc, Artesia, NM

Stark/Eagle Creek

Sample Id: SA #2  
Lab Sample Id: 636235-004

Matrix: Soil  
Date Collected: 09.06.19 09.20

Date Received: 09.06.19 12.30  
Sample Depth: 2 - 4 ft

Analytical Method: Electrical Conductivity (SAR)

Tech: KBU  
Analyst: KBU  
Seq Number: 3101143

% Moisture:  
Basis: Wet Weight  
SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Conductivity	COND	13700	20.0	uS/cm	09.11.19 10.34		2

Analytical Method: Exchangeable Sodium Percentage

Tech: DEP  
Analyst: DEP  
Seq Number: 3101265

% Moisture:  
Basis: Wet Weight  
SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Exchangeable Sodium Percentage (ESP)		15.0		%	09.12.19 16.08		1

Analytical Method: Sodium Absorption Ratio

Tech: DEP  
Analyst: DEP  
Seq Number: 3101272

% Moisture:  
Basis: Wet Weight  
SUB: T104704215-19-29

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Sodium Adsorption Ratio		10.9			09.12.19 16.32		1



## Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

\*\* Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit      **SDL** Sample Detection Limit      **LOD** Limit of Detection

**PQL** Practical Quantitation Limit      **MQL** Method Quantitation Limit      **LOQ** Limit of Quantitation

**DL** Method Detection Limit

**NC** Non-Calculable

**SMP** Client Sample      **BLK** Method Blank

**BKS/LCS** Blank Spike/Laboratory Control Sample      **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

**MD/SD** Method Duplicate/Sample Duplicate      **MS** Matrix Spike      **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

\* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



## EOG Resources Inc

Stark/Eagle Creek

## Analytical Method: SAR Metals by SW6010C

Seq Number: 3101219

MB Sample Id: 7685960-1-BLK

Matrix: Solid

LCS Sample Id: 7685960-1-BKS

Prep Method: SW3050B

Date Prep: 09.10.19

LCSD Sample Id: 7685960-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Calcium	<0.0495	25.0	24.9	100	24.9	100	75-125	0	20	mg/kg	09.11.19 17:16	
Magnesium	<0.0480	25.0	25.1	100	25.1	100	75-125	0	20	mg/kg	09.11.19 17:16	
Sodium	<0.0722	25.0	25.1	100	25.0	100	75-125	0	20	mg/kg	09.11.19 17:16	

## Analytical Method: SAR Metals by SW6010C

Seq Number: 3101219

Parent Sample Id: 636234-001

Matrix: Soil

MD Sample Id: 636234-001 D

Prep Method: SW3050B

Date Prep: 09.10.19

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Calcium	1260	1260	0	20	mg/kg	09.11.19 17:29	
Magnesium	60.3	60.5	0	20	mg/kg	09.11.19 17:29	
Sodium	2260	2250	0	20	mg/kg	09.11.19 17:29	

## Analytical Method: Select Metals by SW-846 6010C

Seq Number: 3101001

MB Sample Id: 7685846-1-BLK

Matrix: Solid

LCS Sample Id: 7685846-1-BKS

Prep Method: SW3050B

Date Prep: 09.10.19

LCSD Sample Id: 7685846-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Calcium	<4.95	2500	2440	98	2440	98	75-125	0	20	mg/kg	09.10.19 13:11	
Magnesium	<4.80	2500	2440	98	2440	98	75-125	0	20	mg/kg	09.10.19 13:11	
Potassium	<15.8	1000	1010	101	1010	101	75-125	0	20	mg/kg	09.10.19 13:11	
Silicon	<3.21	1000	986	99	986	99	75-125	0	20	mg/kg	09.10.19 13:11	
Sodium	<7.22	2500	2420	97	2420	97	75-125	0	20	mg/kg	09.10.19 13:11	

## Analytical Method: Select Metals by SW-846 6010C

Seq Number: 3101001

Parent Sample Id: 636119-001

Matrix: Solid

MS Sample Id: 636119-001 S

Prep Method: SW3050B

Date Prep: 09.10.19

MSD Sample Id: 636119-001 SD

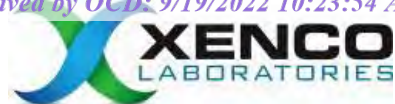
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Calcium	7650	2080	11600	190	11700	195	75-125	1	20	mg/kg	09.10.19 13:24	X
Magnesium	661	2080	2670	97	2680	97	75-125	0	20	mg/kg	09.10.19 13:24	
Potassium	708	833	1680	117	1690	118	75-125	1	20	mg/kg	09.10.19 13:24	
Silicon	299	833	901	72	893	71	75-125	1	20	mg/kg	09.10.19 13:24	X
Sodium	170	2080	2060	91	2060	91	75-125	0	20	mg/kg	09.10.19 13:24	

MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

$[D] = 100 * (C - A) / B$   
 $RPD = 200 * |(C - E) / (C + E)|$   
 $[D] = 100 * (C) / [B]$   
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
A = Parent Result  
C = MS/LCS Result  
E = MSD/LCSD Result

MS = Matrix Spike  
B = Spike Added  
D = MSD/LCSD % Rec



## EOG Resources Inc

Stark/Eagle Creek

**Analytical Method: Electrical Conductivity (SAR)**

Seq Number: 3101143

Matrix: Soil

Parent Sample Id: 636234-001

MD Sample Id: 636234-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Conductivity	18900	18900	0	20	uS/cm	09.11.19 10:34	

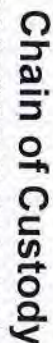
MS/MSD Percent Recovery  
Relative Percent Difference  
LCS/LCSD Recovery  
Log Difference

$[D] = 100 * (C - A) / B$   
 $RPD = 200 * |(C - E) / (C + E)|$   
 $[D] = 100 * (C) / [B]$   
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample  
A = Parent Result  
C = MS/LCS Result  
E = MSD/LCSD Result

MS = Matrix Spike  
B = Spike Added  
D = MSD/LCSD % Rec





Work Order No: 1420455

Page \_\_\_\_\_ of \_\_\_\_\_  
[www.xenco.com](http://www.xenco.com)

Work Order Comments	
Program: UST/ST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:	

ANALYSIS REQUEST								Work Order Notes
Number of Containers								For any questions regarding the running of the samples, please contact Chad Copeland with Ranger Environmental (512)944-5114  TAT starts the day received by the lab, if received by 4:30pm
Dilution Exchange Capacity								
Exchangeable Sodium Percentage -NOT calculated from SAR								
Sodium Absorption Rate								
Electric Conductivity								

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	CEC-Ca	ESP- Ex (extract)	SAR- So	EC- Ele
SA#1 B-2'1	S	9/6/19	9:15A	B-2'	1	X	X	X	X
SA#1 B-2-4'1	S	9/6/19	9:15A	B-2'1	1	X	X	X	X
2 O-2	S	9/5/19	9:20A	O-2	1	X	X	X	X
2 Z-4	S	9/5/19	9:20A	Z-4	1	X	X	X	X

service. Xencio will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xencio. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xencio, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	9/26/19 12:10	<i>[Signature]</i>		
		12:30			



## Inter-Office Shipment

IOS Number : **47609**

Date/Time: 09.06.2019

Created by: Elizabeth Mcclellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Houston**

Air Bill No.: 776179438792

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
636235-001	S	SA #1	09.06.2019 09:15	SW9081	Cation-Exchange Capacity by SW846 90	09.12.2019	10.04.2019 09:15	JKR		
636235-001	S	SA #1	09.06.2019 09:15	ESP	Exchangeable Sodium Percentage	09.12.2019	03.04.2020	JKR		
636235-001	S	SA #1	09.06.2019 09:15	SM2510B_SAR	Electrical Conductivity (SAR)	09.12.2019	10.04.2019 09:15	JKR		
636235-001	S	SA #1	09.06.2019 09:15	SW6010C_Select	Select Metals by SW-846 6010C	09.12.2019	03.04.2020	JKR	CA K MG NA Si	
636235-001	S	SA #1	09.06.2019 09:15	SW6010C_SAR	SAR Metals by SW6010C	09.12.2019	03.04.2020	JKR	CA MG NA	
636235-002	S	SA #1	09.06.2019 09:15	ESP	Exchangeable Sodium Percentage	09.12.2019	03.04.2020	JKR		
636235-002	S	SA #1	09.06.2019 09:15	SM2510B_SAR	Electrical Conductivity (SAR)	09.12.2019	10.04.2019 09:15	JKR		
636235-002	S	SA #1	09.06.2019 09:15	SW6010C_Select	Select Metals by SW-846 6010C	09.12.2019	03.04.2020	JKR	CA K MG NA Si	
636235-002	S	SA #1	09.06.2019 09:15	SW6010C_SAR	SAR Metals by SW6010C	09.12.2019	03.04.2020	JKR	CA MG NA	
636235-002	S	SA #1	09.06.2019 09:15	SW9081	Cation-Exchange Capacity by SW846 90	09.12.2019	10.04.2019 09:15	JKR		
636235-003	S	SA #2	09.06.2019 09:20	SW9081	Cation-Exchange Capacity by SW846 90	09.12.2019	10.04.2019 09:20	JKR		
636235-003	S	SA #2	09.06.2019 09:20	ESP	Exchangeable Sodium Percentage	09.12.2019	03.04.2020	JKR		
636235-003	S	SA #2	09.06.2019 09:20	SW6010C_SAR	SAR Metals by SW6010C	09.12.2019	03.04.2020	JKR	CA MG NA	
636235-003	S	SA #2	09.06.2019 09:20	SM2510B_SAR	Electrical Conductivity (SAR)	09.12.2019	10.04.2019 09:20	JKR		
636235-003	S	SA #2	09.06.2019 09:20	SW6010C_Select	Select Metals by SW-846 6010C	09.12.2019	03.04.2020	JKR	CA K MG NA Si	
636235-004	S	SA #2	09.06.2019 09:20	ESP	Exchangeable Sodium Percentage	09.12.2019	03.04.2020	JKR		
636235-004	S	SA #2	09.06.2019 09:20	SW6010C_SAR	SAR Metals by SW6010C	09.12.2019	03.04.2020	JKR	CA MG NA	
636235-004	S	SA #2	09.06.2019 09:20	SW6010C_Select	Select Metals by SW-846 6010C	09.12.2019	03.04.2020	JKR	CA K MG NA Si	
636235-004	S	SA #2	09.06.2019 09:20	SM2510B_SAR	Electrical Conductivity (SAR)	09.12.2019	10.04.2019 09:20	JKR		
636235-004	S	SA #2	09.06.2019 09:20	SW9081	Cation-Exchange Capacity by SW846 90	09.12.2019	10.04.2019 09:20	JKR		

## Inter-Office Shipment

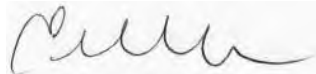
**IOS Number : 47609**

Date/Time: 09.06.2019      Created by: Elizabeth McClellan  
Lab# From: **Carlsbad**      Delivery Priority:  
Lab# To: **Houston**      Air Bill No.: 776179438792

Please send report to: Jessica Kramer  
Address: 1089 N Canal Street  
E-Mail: jessica.kramer@xenco.com

**Inter Office Shipment or Sample Comments:**

Relinquished By:



Elizabeth McClellan

Date Relinquished: 09.06.2019

Received By:



Shadi Alshrouf

Date Received: 09.07.2019

Cooler Temperature: 4.9



# XENCO Laboratories

## Inter Office Report- Sample Receipt Checklist

Sent To: Houston

IOS #: 47609

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : hou068

Sent By: Elizabeth McClellan

Date Sent: 09.06.2019 03.07 PM

Received By: Shadi Alshrouf

Date Received: 09.07.2019 09.45 AM

### Sample Receipt Checklist

### Comments

#1 *Temperature of cooler(s)?	4.9	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received with appropriate temperature?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	Yes	
#5 *Custody Seals Signed and dated for Containers/coolers	Yes	
#6 *IOS present?	Yes	
#7 Any missing/extra samples?	No	
#8 IOS agrees with sample label(s)/matrix?	Yes	
#9 Sample matrix/ properties agree with IOS?	Yes	
#10 Samples in proper container/ bottle?	Yes	
#11 Samples properly preserved?	Yes	
#12 Sample container(s) intact?	Yes	
#13 Sufficient sample amount for indicated test(s)?	Yes	
#14 All samples received within hold time?	Yes	hou06

\* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

NonConformance:

Corrective Action Taken:

### Nonconformance Documentation

Contact: \_\_\_\_\_ Contacted by : \_\_\_\_\_ Date: \_\_\_\_\_

Checklist reviewed by:

Shadi Alshrouf

Date: 09.07.2019



Client: EOG Resources Inc

Date/ Time Received: 09/06/2019 12:30:00 PM

Work Order #: 636235

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

## Sample Receipt Checklist

## Comments

#1 *Temperature of cooler(s)?	6	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	No	
#5 Custody Seals intact on sample bottles?	No	
#6 *Custody Seals Signed and dated?	N/A	
#7 *Chain of Custody present?	Yes	
#8 Any missing/extra samples?	No	
#9 Chain of Custody signed when relinquished/ received?	Yes	
#10 Chain of Custody agrees with sample labels/matrix?	Yes	
#11 Container label(s) legible and intact?	Yes	
#12 Samples in proper container/ bottle?	Yes	
#13 Samples properly preserved?	Yes	
#14 Sample container(s) intact?	Yes	
#15 Sufficient sample amount for indicated test(s)?	Yes	
#16 All samples received within hold time?	Yes	
#17 Subcontract of sample(s)?	Yes	Subbed to Xenco Houston
#18 Water VOC samples have zero headspace?	N/A	

\* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 09/06/2019

Checklist reviewed by:

Jessica Kramer

Date: 09/09/2019



Incident ID	nAB1807456505
District RP	2RP-4659
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: 09/16/2022  
email: Chase\_Settle@eogresources.com Telephone: 575-748-1471

**OCD Only**

Received by: Robert Hamlet Date: 4/17/2023

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

Signature: Robert Hamlet Date: 4/17/2023

**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 144447

**CONDITIONS**

Operator: EOG RESOURCES INC P.O. Box 2267 Midland, TX 79702	OGRID: 7377
	Action Number: 144447
	Action Type: [C-141] Release Corrective Action (C-141)

**CONDITIONS**

Created By	Condition	Condition Date
rhamlet	The Remediation Plan is Conditionally Approved. All samples must be analyzed for all constituents listed in Table I of 19.15.29.12 NMAC. Floor confirmation samples should be delineated/excavated to meet closure criteria standards for site assessment/characterization/proven depth to water determination. Sidewall samples should be delineated/excavated to 600 mg/kg for chlorides and 100 mg/kg for TPH to define the edge of the release. Confirmation samples should be collected every 200 ft2. All off pad areas must meet reclamation standards set forth in the OCD Spill Rule. The Geosynthetic Clay Liner is only approved on the condition that as much contaminated soil is removed as possible. The variance for 1,000 ft2 confirmation samples is denied. A variance for 500 ft2 confirmation samples is approved. Blending of soil/material is not approved. The work will need to occur in 90 days after the work plan has been approved.	4/17/2023