2135 S. Loop 250 W Midland, Texas 79703 United States www.ghd.com



Our ref: 11220747

February 09, 2022

New Mexico Oil Conservation Division District 1 1625 N. French Drive Hobbs, New Mexico 88240

Groundwater Closure Request Report Flamenco Federal #1 Release Site EOG Resources Inc. RP #s: 1RP-2281, 1 RP-2784, 1RP-2790, 1RP-4800 and 1RP-4801 L-7-22S-32E, Lea County, New Mexico

To Whom It May Concern:

1. Introduction

GHD Services, Inc. (GHD), on behalf of EOG Resources (EOG), submits this Groundwater Closure Request Report to the New Mexico Oil Conservation Division (NMOCD) District 1 Office. This Report provides documentation of the April 2021 perched water sampling event at the EOG Flamenco Federal #1 Release Site (Site). Additionally, the report summarizes additional soils investigative work conducted at the site which is covered in more detail under separate cover, Site Characterization and Soil Work Plan. This report provides evidence that the water found in the on-site monitoring wells is perched produced water from the spills that occurred rather than groundwater that should be protected. The Site is located in Unit Letter L Section 7 of Township 22 South and Range 32 East in Lea County, New Mexico. The GPS coordinates for the release site are 32.40333 N latitude and 103.72034 W longitude. The release occurred on land that is managed by the Bureau of Land Management (BLM). Figure 1 depicts the Site location. The EOG production facility and other site details are depicted on Figure 2, Site Details Map.

2. Background Information

2.1 Tin Horn Area Releases

- 1RP-2784 The C-141 stated the release was due to a water line connection failure within the tin horn. The release occurred on July 12, 2011 and resulted in 150 barrels of produced water being released. A vacuum truck was call and approximately 100 barrels of produced water was recovered. Yates Petroleum Corporation (Yates), the operator at the time, submitted an initial C-141 to the NMOCD on July 22, 2011.
- 1RP-2790 According to the initial C-141 the release was caused by a water line connection within the tin horn failing. The release occurred on October 21, 2011 and resulted in 275 barrels of produced water

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- being released. Approximately 260 barrels of produced water was recovered with the utilization of a vacuum truck. Yates submitted an initial C-141 to the NMOCD on November 2, 2011.
- 1RP-4800 The initial C-141 stated the release was due to a failure of the water line connection at the tin horn. The release resulted in the release of 200 barrels of produced water and occurred on June 12, 2013.
 Nothing was recovered. An initial C-141 was prepared and submitted to the NMOCD on January 31, 2014.
- 1RP-4801 According to the initial C-141 the release was due to a water line connection failure at the tin horn. The release occurred on August 4, 2013. The connection failure resulted in the release of 600 barrels of produced water with none being recovered. Yates prepared and submitted an initial C-141 to the NMOCD on January 31, 2014.

The four releases mentioned above resulted in approximately 865 barrels of produced water being unrecovered. The initial C-141s are provided as Attachment A.

2.2 Battery Area Release

- 1RP-2281 – According to the initial C-141, lightning struck a 750-barrel fiberglass gun barrel tank which caused a release and fire to occur. Four other tanks that were on location were also destroyed. The fire department was called, and the main water line was shut in. Approximately 100 barrels of oil and 600 barrels of produced water were released with none being recovered. The release occurred on August 11, 2009. The C-141 also stated the fluids broke through the battery berm and released to the west of the battery, off pad. The tank battery at the time was located at the west end of the battery and was rebuilt on east end of the battery. Yates submitted an initial C-141 on August 20, 2009.

This release resulted in approximately 600 barrels of produced water being unrecovered. The initial C-141 for this release is provided as Attachment A.

Ten (10) soil borings were completed at the Site during 2018 in order to assess the vertical and horizontal extent of the chloride contaminated soil (locations are shown on Figure 4). Depths of the soil borings ranged from 25 to 65 ft bgs. A hard caliche layer was encountered in soil boring MW-5 at 25 ft bgs and it was terminated. Soil borings that did not encounter water were grouted. In five soil borings where perched produced water was encountered, a monitor well was installed. Monitor wells MW-1, MW-2 and MW-3 were installed in January 2018 by White Drilling Company, Inc. of Clyde, Texas and monitor wells MW-8 and MW-9 were installed in August 2018 by Authentic Drilling, Inc. of Castle Rock, Colorado. All borings were advanced utilizing an air rotary drill rig. Monitor well locations can be found on Figure 2, Site Details Map.

Historical perched water sampling events were conducted on February 23, 2018, June 21, 2018, October 19, 2018, and January 11, 2019. Monitor wells MW-8 and MW-9 were not sampled due to a lack of perched water for sampling during the October 2018 and January 2019 sampling events. Sample results for monitor wells MW-1, MW-2, and MW-3 indicated high chloride and TDS concentrations. Chloride concentrations ranged from 6,900 mg/L in MW-2 on June 21, 2018, to 49,000 mg/L in MW-3 on October 19, 2018. TDS concentrations ranged from 15,300 in MW-2 on June 21, 2018, to 100,000 mg/l in MW-3 on January 11, 2019. There are more details in the 2018 Annual Groundwater Monitoring Report provided as Attachment E.

3. April 2021 Perched Water Sampling Event

Prior to gauging activity, fluid levels were gauged with an oil-water interface probe to the nearest hundredth of a foot. After recording all fluid levels, perched water samples were collected using low-flow sampling techniques. During the low purging process, geochemical field parameters including pH, conductivity, temperature, dissolved oxygen (DO), total dissolved solids (TDS) and oxidation-reduction potential (ORP) were recorded. Purging continued until these parameters stabilized or the well went dry. One duplicate sample was collected during the sampling event. Laboratory-supplied sample containers were filled directly from the low flow tubing. Groundwater samples were placed on ice and chilled to a temperature of approximately 4°C (40°F). Proper

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chain-of-custody documentation accompanied the samples to Eurofins Xenco Environment testing in Carlsbad, New Mexico for analysis of BTEX by EPA Method 8021B, chloride by Method 300.0 and TDS.

On April 6, 2021, GHD went to the site and conducted a perched water sampling event. Samples were collected from monitor wells MW-1, MW-2, MW-3, MW-8 and MW-9. Low flow sampling could not be completed in MW-8 and MW-9 due to a lack of water. Grab samples were collected using disposable bailers. Analytical results indicate that all of the wells at the site have chloride and TDS concentrations over the New Mexico Water Quality Control Commission (NMWQCC) standards of 250 mg/L and 1,000 mg/L, respectively. Chloride concentrations ranged from 765 mg/L in MW-8 to 39,400 mg/L in MW-3 and TDS concentrations ranged from 2,630 mg/L in MW-8 to 72,500 mg/L in MW-3. No benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) concentrations were detected in any of the wells. Laboratory reports and chain-of-custody documentation are provided as Attachment D.

4. 2021 Site Assessment Summary

From July 25, 2021, through August 18, 2021, two soil borings (MW-10 and MW-11) were installed to a depth of 105 feet below ground surface (bgs.) to determine depth to groundwater at the site. MW-10 was up gradient of the monitor wells and MW-11 was down gradient of MW-3 which is the well with the highest chloride and TDS concentrations. The borings were left open for seventy-two (72) hours and then were gauged with an interface probe to determine the presence or absence of groundwater. There was no water detected and the borings were plugged. Additionally, thirty-two (32) soil borings were installed to delineate soil impacts.

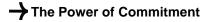
During the April 6, 2021, perched water sampling event the depth to water was measured in each well along with total depth. When the depth to water measurement is adjusted for the three (3) foot stick up the depth to water ranged from 52.83 feet in MW-1 to 63.83 feet in MW-8 from ground surface. The total depths of the wells ranged from 58.09 feet in MW-3 to 67.01 in MW-8 from ground surface. The soil borings had total depths that ranged from fifteen (15) feet to eighty (80) feet. Soil borings SB-12, SB-18, SB-21A, SB-33, SB-35, SB-36, SB-37, SB-38, MW-10, and MW-11, which are depicted on Figure 7, Boreholes ≥60 Feet, were all installed to a depth of sixty feet or greater and no water was detected in any of the borings. These deeper borings and wells support that naturally occurring groundwater in not present at the sampled locations and the perched water zone is discontinuous and of limited areal extent.

As mentioned in Section 2, Background Information, the four (4) releases that occurred at the tin horn area resulted in 865 barrels of produced water being unrecovered and the release at the battery area resulted in 600 barrels of produced water being unrecovered. A total of 1,485 barrels of produced water was left unrecovered at the site. If there was protectable groundwater shallower than 105 feet bgs at the site it would have been encountered during soil boring installation. The water that is present in the monitor wells is perched produced water that wasn't recovered from the five (5) releases that occurred at the site.

GHD and Cascade Drilling well logs and plugging reports are provided as Attachment B. The New Mexico State of Engineer (NMSOE) well permits, and the Bureau of Land Management (BLM) Sundry Notice are provided as Attachment C. The soils evaluation of the 2021 Site Assessment is covered in more detail under separate cover, Site Characterization and Soil Work Plan.

5. Site Hydrogeological Setting

GHD conducted research to evaluate the Site hydrogeological framework using both published literature and information derived from soil and groundwater assessment activities performed at this location. The objective of the studies are to properly document Site groundwater and hydrogeological conditions in this report for closure considerations.



In this remote part of Eddy-Lea County, New Mexico, the land is sparsely populated and sparingly utilized outside of oil and gas extraction and Potash mining activities. However, the Flamenco site is situated approximately two miles northeast of United States Department of Energy (DOE), Waste Isolation Pilot Plant (WIPP). As required by federal regulations, extensive WIPP Site Suitability Studies, including Environmental Impact Statement (EIS) processes and public hearings were conducted and included evaluation of the local hydrogeology and environmental risks associated with storing radioactive waste in the Permian Salado (salt) Formation approximately 3,500 feet below the ground surface. The installation of mine shafts through any significant groundwater bearing units were particularly scrutinized along with their risk potential as routes of exposure to radiation by human, health and the environment. Ultimately, the WIPP site was approved and has been operational in the storage of low-level radioactive waste since 1999. This approval signals any potential shallow groundwater at the Site is of very low significance for environmental impacts.

GHD reviewed several DOE publications including: Summary Evaluation of the Waste Isolation Pilot Plant (WIPP) Site Suitability, Wendall D. Weart (1983); Geohydrology of the Proposed Waste Isolation Pilot Plant Site, Los Medanos Area, Southeastern New Mexico, Jerry W. Mercer, (1983) USGS Water Resources Investigations Report 83-4016; Geological Characterization Report, Waste Isolation Pilot Plant Site, Southeastern New Mexico, SAND78-1596 (1978); and Department of Energy, Environmental Impact Statement (EIS), Waste Isolation Pilot Plant (October 1980) for this report. The following is a summary of findings of the literature review in association with proposed closure activities associated with groundwater management at the Site:

- The Culebra Dolomite Member of the (Permian) Rustler Formation is the most persistent and productive hydrologic unit in the vicinity of the WIPP site. This unit was studied in detail and is projected to be situated at a depth of approximately 750 to 900 feet below ground surface (bgs) at the Flamenco site. Total dissolved solids (TDS) for groundwater in the Culebra in the vicinity ranges from 3,200 mg/L to 420,000 mg/L.
- Ten well locations (H-1 through H-10) were drilled into the Culebra and completed for hydrologic testing as part of the WIPP groundwater evaluations for environmental site suitability studies. Lithologic and stratigraphic details from location H-5B were utilized to construct the Site Hydrogeology cross section on Figure 8. Attachment F provides selected excerpts from the referenced publications and a well report from the New Mexico Office of the State Engineer.
- The 1983 report notes that no groundwater was observed in WIPP hydrologic test holes from rocks above the Permian Rustler Formation – i.e., Dewey Lake, Triassic Dockum Group and Quaternary Alluvium.
 Furthermore, the 1980 EIS states that "no significant groundwater occurs in rocks above the Rustler Formation" in the WIPP and surrounding areas. No significant use of groundwater from these shallow units was ascertained at part of these hydrogeological studies.
- The publication's evaluation of the hydrology of strata above the Rustler Formation indicate that groundwater may be present sparsely in small volumes in limited areal extent. These units were evaluated to be thin and discontinuous and are not persistent or mappable in the area in and around the WIPP site. Most of the shallow water is derived from meteoric sources and subsurface movement is restricted by the discontinuous nature of 'perched zones' having limited areal extent. Accumulation and recharge of groundwater in these shallow zones are also affected by low rainfall with relatively high evapotranspiration rates.

Detailed hydrogeological studies by the Department of Energy and other federal agencies support the finding that any shallow groundwater above the Rustler Formation is of very low consequence for environmental impacts – based on suitability evaluations of the (active) WIPP site and surrounding areas. Site-specific hydrogeological data from the Flamenco location shows that groundwater found at the site is not from meteoric or surface waters sources, but rather from the release of elevated TDS waters from oilfield produced water facilities. These pockets of released fluids occur in limited, discontinuous perched water zones. Naturally occurring groundwater was not found in soil borings advanced at this location and is assessed to be greater than 105 feet bgs at the Flamenco site.

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6. Groundwater Closure Request

GHD, on behalf of EOG, requests that the NMOCD grant closure to the perched groundwater portion of the releases and allow the wells to be plugged and abandoned based on the evidence presented in this report. The two soil borings, MW-10 and MW-11 installed to a depth of 105 feet bgs, were dry after 72 hours and have been plugged and abandoned. Numerous soil borings (Figure 7) installed outside of the perched groundwater area and within similar or deeper depths – were dry and support the limited nature of the occurrence of the shallow, perched zone and the absence of naturally occurring groundwater at the evaluated locations

Monitor wells MW-1, MW-2, MW-3, MW-8 and MW-9 are completed in shallow zones with high TDS concentrations. The water present at the site is discontinuous, perched produced water and the limited occurrence most likely is the result of the five (5) releases in the Tin Horn and Tank Battery areas which resulted in 1,485 barrels of produced water being unrecovered. Once the NMOCD grants permission, EOG will have the remaining five (5) wells plugged and abandoned.

If you have any questions or comments concerning this Groundwater Closure Request Report, please do not hesitate to contact our Midland office at (432) 686-0086.

Regards,

Becky Haskell

Senior Project Manager

Project Director

Thomas Clayon

BH/TL/1

Encl. Figure 1 – Site Location Map

Rebecca Haskell

Figure 2 – Site Details Map

Figure 3 – April 2021 Perched Water Concentrations Map

Figure 4 – Perched Water Zone Elevation – April 2021

Figure 5 – April 2021 Chloride Isoconcentration Map

Figure 6 - April 2021 TDS Isoconcentration Map

Figure 7 – Boreholes ≥60 Feet

Figure 8 – Site Hydrogeology

Table 1 – Historical Perched Produced Water Elevations

Table 2 – Historical Perched Produced Water Analytical Results

Table 3 – Historical Perched Produced Water Natural Attenuation Parameters

Attachment A - Initial C-141s for 1RP-2281, 1RP-2784, 1RP- 2790, 1RP-4800 & 1RP-4801

Attachment B – GHD and Cascade Drilling Soil Boring Logs

Attachment C – NMSOE Well Permits and BLM Sundry

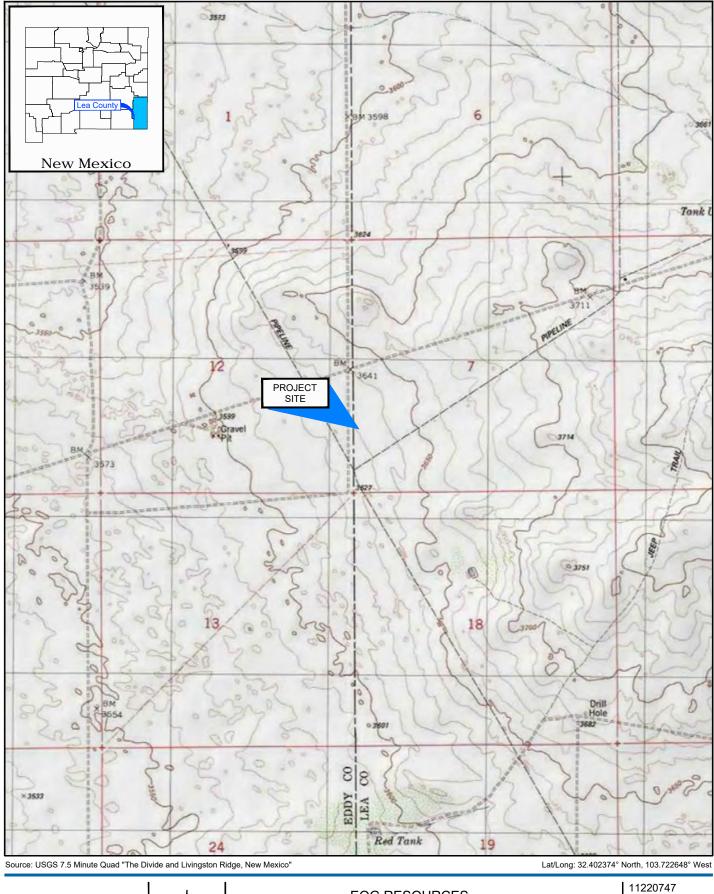
Attachment D – Laboratory Reports and Chain-of-Custody Documentation

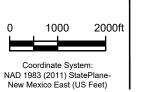
Attachment E – 2018 Annual Groundwater Monitoring Report

Attachment F – Excerpts from Referenced WIPP Hydrogeological Studies

cc: James Kennedy

Figures







GHD

EOG RESOURCES LEA COUNTY, NEW MEXICO FLAMENCO FEDERAL No.1

Sep 13, 2021

SITE LOCATION MAP

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Source: Image © 2017 Google - Imagery Date: November 2, 2017



Coordinate System: NAD 1983 (2011) StatePlane-New Mexico East (US Feet)

- 1. MW-10 and MW-11, TD 105' were dry and plugged in August 2021.
- 2. Plugging reports and boring log details provided in Attachment B.

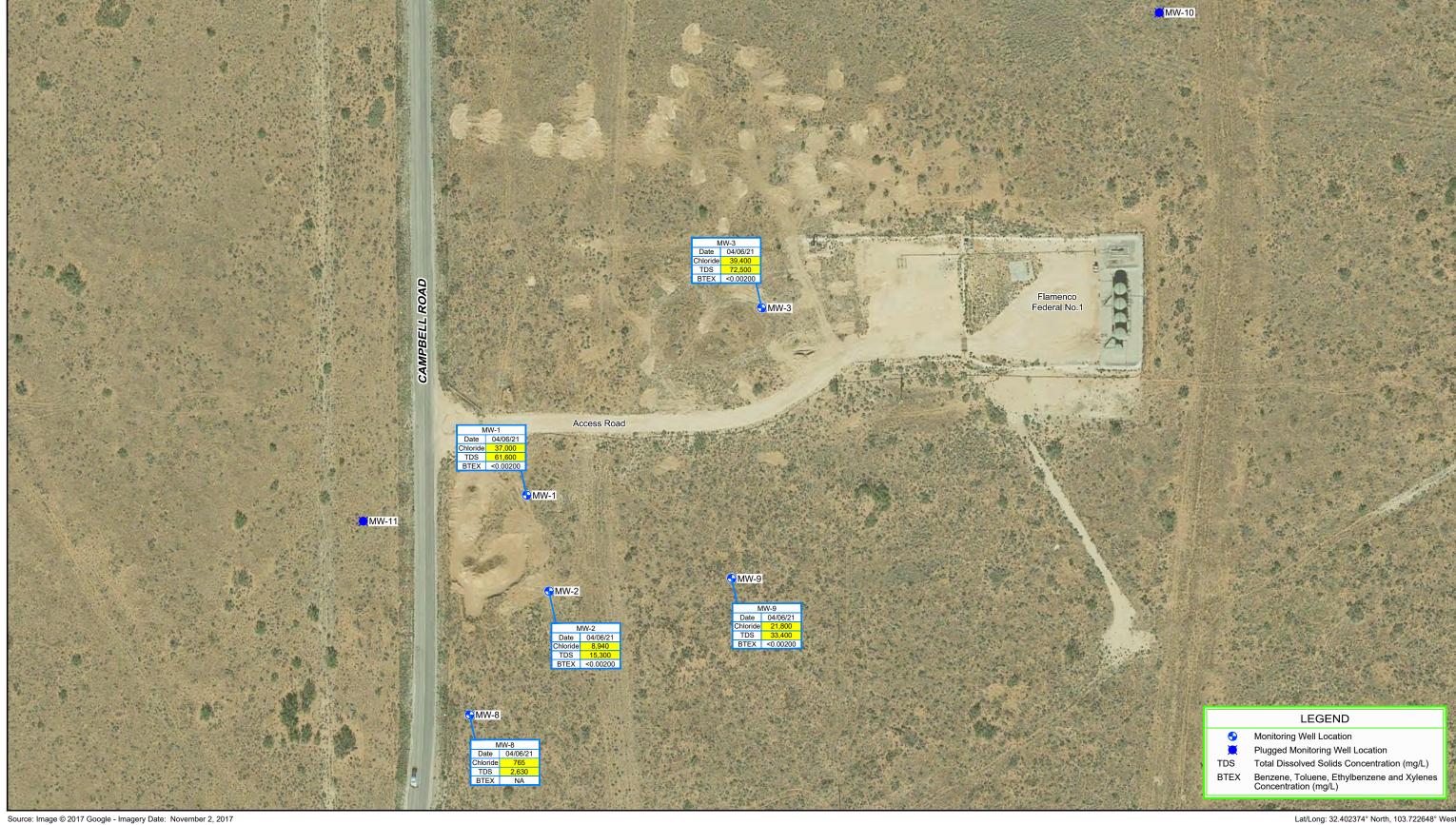


EOG RESOURCES LEA COUNTY, NEW MEXICO FLAMENCO FEDERAL No.1

SITE DETAILS MAP

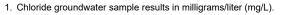
11220747 Jan 19, 2022

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Source: Image © 2017 Google - Imagery Date: November 2, 2017

Coordinate System: NAD 1983 (2011) StatePlane-New Mexico East (US Feet)



- 2. TDS groundwater sample results in milligrams/liter (mg/L).
- 3. Yellow shaded cells exceed NMOCD RRAL.
- 4. Locations are approximate.
- MW-10 and MW-11, TD 105' were dry and plugged on August 5, 2021. Plugging report on Attachment B.



EOG RESOURCES LEA COUNTY, NEW MEXICO FLAMENCO FEDERAL No.1

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APRIL 2021 PERCHED WATER CONCENTRATIONS MAP

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Source: Image © 2017 Google - Imagery Date: November 2, 2017

Coordinate System: NAD 1983 (2011) StatePlane-New Mexico East (US Feet)

- Groundwater elevations indicated are from measurements obtained on April 6, 2021.
- 2. The apparent groundwater gradient and direction of flow were determined to be approximately 0.025 ft/ft to the southwest.
- 3. MW-10 and MW-11, TD 105' were dry and plugged on August 5, 2021. Plugging report on Attachment B.

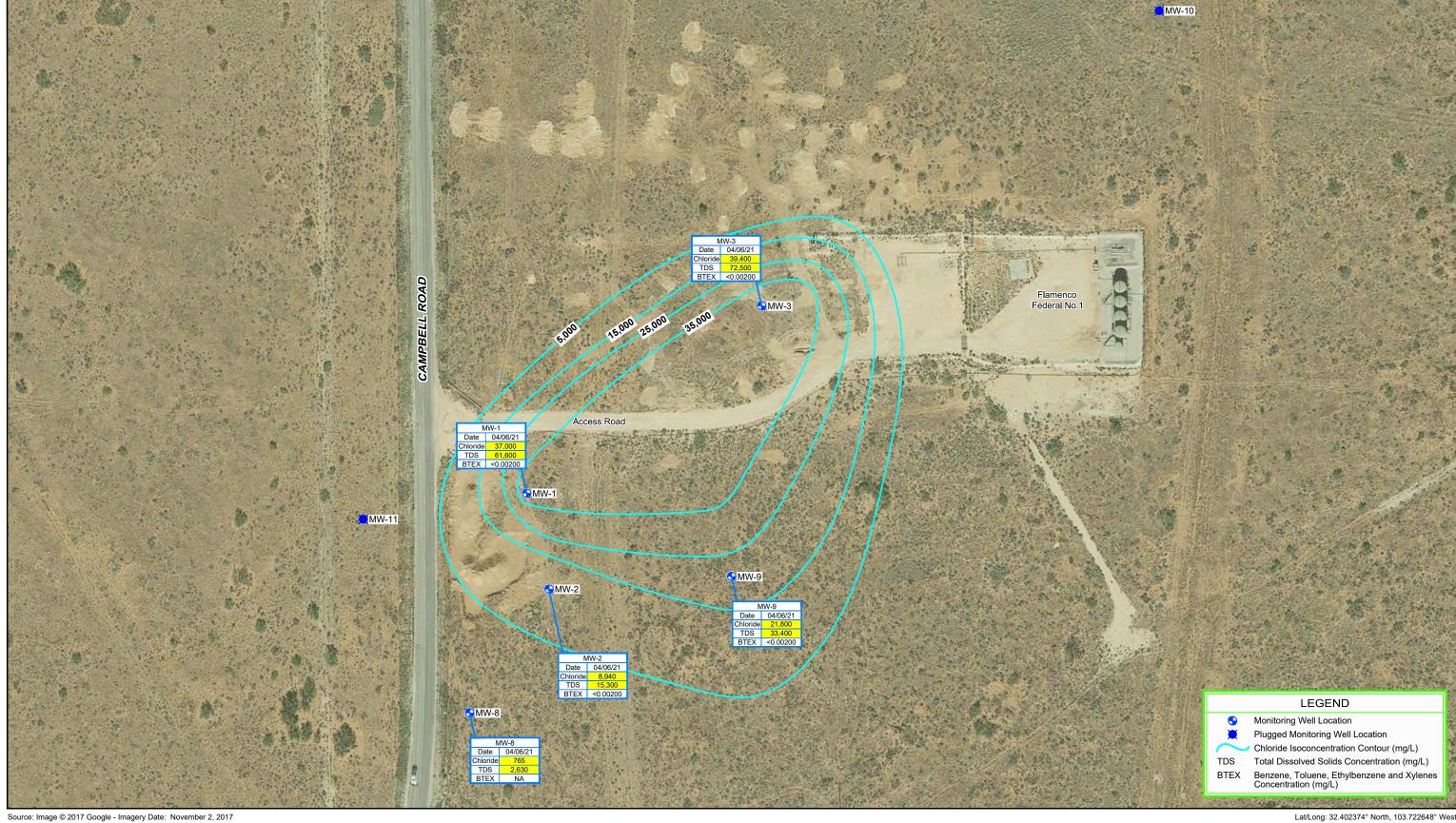


EOG RESOURCES LEA COUNTY, NEW MEXICO FLAMENCO FEDERAL No.1

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PERCHED WATER ZONE ELEVATION - APRIL 2021

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Source: Image © 2017 Google - Imagery Date: November 2, 2017



Coordinate System: NAD 1983 (2011) StatePlane-New Mexico East (US Feet)

- 1. Chloride groundwater sample results in milligrams/liter (mg/L).
- 2. TDS groundwater sample results in milligrams/liter (mg/L).
- 3. Yellow shaded cells exceed NMOCD RRAL.
- 4. Locations are approximate.
- MW-10 and MW-11, TD 105' were dry and plugged on August 5, 2021. Plugging report on Attachment B.

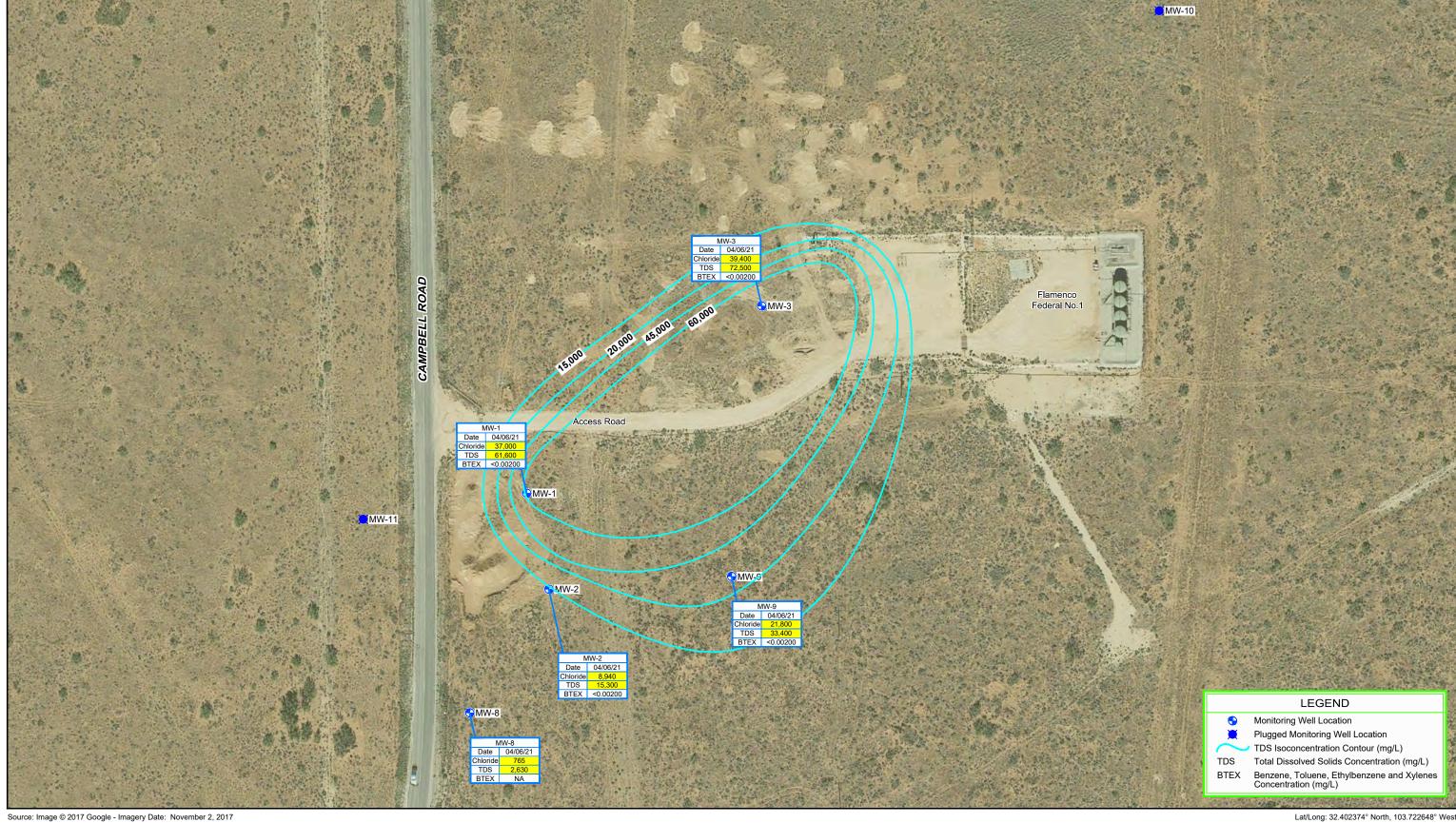


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APRIL 2021 CHLORIDE ISOCONCENTRATION MAP

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Source: Image © 2017 Google - Imagery Date: November 2, 2017

Coordinate System: NAD 1983 (2011) StatePlane-New Mexico East (US Feet)



- 2. TDS groundwater sample results in milligrams/liter (mg/L).
- 3. Yellow shaded cells exceed NMOCD RRAL.
- 4. Locations are approximate.
- MW-10 and MW-11, TD 105' were dry and plugged on August 5, 2021. Plugging report on Attachment B.



EOG RESOURCES LEA COUNTY, NEW MEXICO FLAMENCO FEDERAL No.1

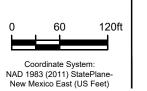
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APRIL 2021 TDS ISOCONCENTRATION MAP

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Source: Image © 2017 Google - Imagery Date: November 2, 2017



- 1. MW-10 and MW-11, TD 105' were dry and plugged after 72 hours on August 5, 2021.
- 2. All soil borings ≥60 feet deep were dry and plugged.
- 3. Plugging reports and boring log details provided in Attachment B.

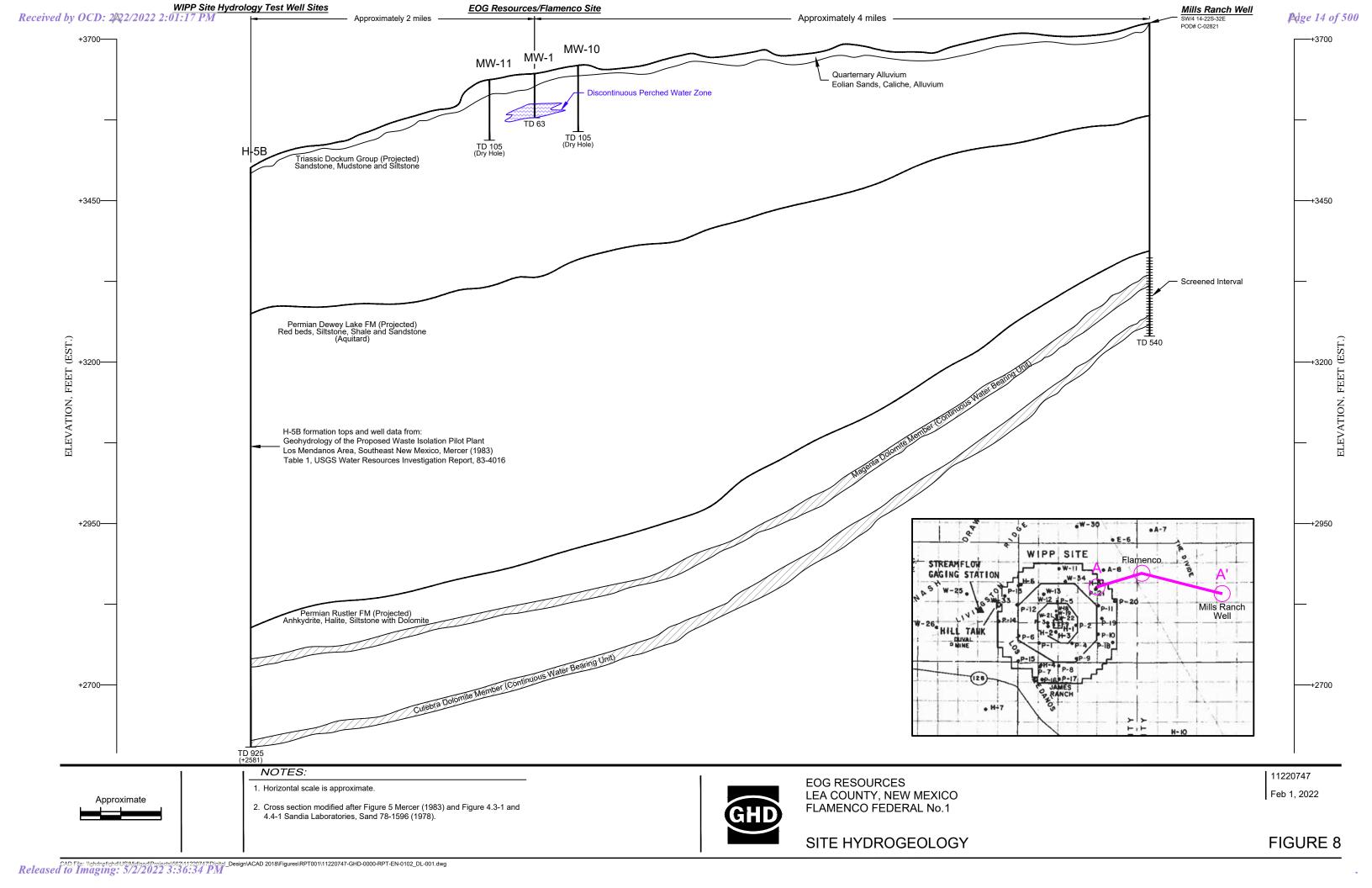


EOG RESOURCES LEA COUNTY, NEW MEXICO FLAMENCO FEDERAL No.1

Jan 19, 2022

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DRY BOREHOLES ≥60 FEET



Tables

Table 1

Historical Perched Produced Water Elevations EOG Resources Inc. Flamenco Federal #1 Lea County, New Mexico 1RP-2281, 2784, 2790, 4800 & 4801

Monitoring Well ID	Measurement Date	Top-of-Casing Elevation (Feet, NAVD88)	Depth to Water (feet BTOC)	Corrected Groundwater Elevation (Feet, NAVD88)	Total Depth of Well (feet BTOC)
MW-1	2/23/2018	3636.22	54.42	3581.80	
MW-1	6/21/2018	3636.22	55.19	3581.03	
MW-1	10/19/2018	3636.22	55.63	3580.59	
MW-1	01/11/19	3636.22	55.17	3581.05	
MW-1	04/06/21	3636.22	55.83	3580.39	63.64
MW-2	2/23/2018	3636.08	47.38	3588.70	
MW-2	6/21/2018	3636.08	57.36	3578.72	
MW-2	10/19/2018	3636.08	57.54	3578.54	
MW-2	01/11/19	3636.08	57.21	3578.87	
MW-2	04/06/21	3636.08	58.01	3578.07	63.2
MW-3	2/23/2018	3642.27	51.83	3590.44	
MW-3	6/21/2018	3642.27	52.22	3590.05	
MW-3	10/19/2018	3642.27	52.57	3589.70	
MW-3	01/11/19	3642.27	52.44	3589.83	
MW-3	04/06/21	3642.27	53.78	3588.49	61.09
MW-8	10/19/2018	3634.889	65.04	3569.85	
MW-8	1/11/2019	3634.889	DRY		
MW-8	4/6/2021	3634.889	66.83	3568.06	70.01
MW-9	10/19/2018	3641.13	66.87	3574.26	
MW-9	1/11/2019	3641.13	DRY		
MW-9	4/6/2021	3641.13	65.12	3576.01	66.29

Notes:

1. BTOC - Below Top-of-Casing

Historical Perched Produced Water Analtyical Results EOG Resources Inc. Flamenco Federal #1 Lea County, New Mexico 1RP-2281, 2784, 2790, 4800 & 4801

Sample I.D.	Sample Date	Chloride (mg/L)	TDS (mg/L)	втех
		250	1,000.0	
MW-1	2/23/2018	36,000		
MW-1	6/21/2018	38,000	73,200	
MW-1	10/19/2018	47,000	82,000	
MW-1	1/11/2019	44,000	85,300	
MW-1	4/6/2021	37,000	61,600	<0.00200
MW-2	2/23/2018	7,200		
MW-2	6/21/2018	6,900	15,300	
MW-2	10/19/2018	8,000	15,800	
MW-2	1/11/2019	8,000	18,400	
MW-2	4/6/2021	8,940	15,300	<0.00200
MW-3	2/23/2018	38,000		
MW-3	6/21/2018	43,000	82,700	
MW-3	10/19/2018	49,000	97,600	
MW-3	1/11/2019	47,000	100,000	
MW-3	4/6/2021	39,400	72,500	<0.00200
MW-8	4/6/2021	765	2,630	
MW-9	4/6/2021	21,800	33,400	<0.00200
Dup-1	4/6/2021	788	2,820	<0.00200

Notes:

- 1. mg/L- milligrams per Liter
- 2. Not Analyzed
- 10. Yellow shaded cells indicate results exceeding NMWQCC Standards
- 11. Bold font Indicates laboratory detection.

Table 3

Historical Perched Produced Water Natural Attenuation Parameters EOG Resources Inc. Flamenco Federal #1 Lea County, New Mexico

Monitoring Well	coring Well Measurement Dissolved			Oxidation			
ID	Date	Temperature	рН	Oxygen	TDS (g/l)	Reduction Potential	Conductivity
		(°Celsius)		(mg/L)		(mV)	(μS/cm)
MW-1	2/23/2018	18.58	N/A	10.92	51.14	315.00	78,692
MW-1	6/21/2018	21.48	6.07	25.67	0.745		1,142
MW-1	10/19/2018	18.10	6.38	9.22	63.61	213.00	97,859
MW-1	1/11/2019	16.76	6.15	4.52	69.44	146.40	90,049
MW-1	4/6/2021	22.1	6.87	4.78		107.00	91,000
MW-2	2/23/2018	18.07	N/A	13.38	12.55	294.3	19,260
MW-2	6/21/2018	20.15	6.73	19.39	7.418		11,406
MW-2	10/19/2018	18.37	6.82	12.96	13.98	-21.90	21,524
MW-2	1/11/2019	17.27	6.6	6.8	15.09	30.2	19,849
MW-2	4/6/2021	22.1	7.12	6.32		53.1	24,270
MW-3	2/23/2018	18.35	N/A	6.79	55.3	330.5	85,075
MW-3	6/21/2018	19.2	6.21	6.6	69.75		107,268
MW-3	10/19/2018	17.83	6.26	4.4	68.62	7.4	105,520
MW-3	1/11/2019	17.2	5.83	2.83	77.89	3.3	101,192
MW-3	4/6/2021	22.7	6.48	3.44		70.7	99,200
MW-8	4/6/2021	DRY	DRY	DRY	DRY	DRY	DRY
MW-9	4/6/2021	DRY	DRY	DRY	DRY	DRY	DRY

Notes:

mg/L- milligrams per Liter
mV - millivolts
μS/cm - microsiemens/centimeter
-- not analyzed
NS - Not sampled

Attachments

Attachment A

Initial C-141s for 1RP-2281, 1RP-2784, 1RP- 2790, 1RP-4800 & 1RP-4801

<u>District I</u> 1625 N French Dr , Hobbs, NM 88240 District II
1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505 State of New Mexico

Energy Minerals and Natural Resources CCIVED Submit 2 Copies to appropriate

Oil Conservation Division

Allif 2 4 7009

With Rule 116 on back side of form

Santa Fe, NM 87505 HOBBSOCE

side of form

Release Notification and Corrective Action												
				Ol	PERA	TOR			Initia	l Report		Final Report
Name of Company OGRID Number Yates Petroleum Corporation 25575					nber	Contact Robert Ashe						•
Address 104 S. 4 TH Street						Telephone N 505-748-14		ı				
Facility Name API Number Flamenco Federal #1 30-025-31076						Facility Typ SWD Batter	e					
Surface Ow Federal	ner			Mineral C Federal)wner				Lease N NM-84			
				LOCA	TIO	N OF REI	FASE		AP1# 3	30.025.	31076	.00.00
Unit Letter	Section	Township	Range	Feet from the		South Line	Feet from the	East/W	Vest Line	County		
L	7	22S	32E	1650		South	660	1	Vest	Lea		
				Latitude 32.4	10333	_ Longitude	e 103.72034	-				
				NAT	URE	OF REL	EASE					
Type of Rele Oil & Produc	ed Water						600 B/PW		0 B/O &			
Source of Re Gun Barrel	lease					8/11/2009,	Iour of Occurrent PM	ce	8/11/2009	Hour of Dis	scovery	
Was Immedi	ate Notice (1 Yes Г	No □ Not Re	eauired	If YES, To		obbs (Vo		<u> </u>		
By Whom? Robert Asher	r/VPC Envi					Date and Hour 8/12/2009, AM						
Was a Water							lume Impacting	the Wate	ercourse.	•		
IC - W-4			Yes 🔀			N/A						
If a Watercourse was Impacted, Describe Fully.* N/A							WH	4TER	(1) Z87	<u></u>		
Describe Cause of Problem and Remedial Action Taken.* Lightning stuck 750 barrel fiberglass gun barrel tank, causing release and fire that destroyed 4 other tanks on location. Fire department called and main water line shut.						and main						
Describe Area Affected and Cleanup Action Taken.* An approximate area of 120' X 120'. Produced water released from gun barrel broke through bermed tank battery and released in area west of the battery off location. Backhoe equipment started removing damaged tanks/equipment; impacted soils were excavated and taken to an NMOCD approved facility. Vertical and horizontal delineation samples will be taken and analysis ran for TPH & BTEX to determine next course of action taken. Depth to Ground Water: >100' (approx. 280', per New Mexico Office of the State Engineer), Wellhead Protection Area: No, Distance to Surface Water Body: >1000', SITE RANKING IS 0.						ved facility. to Ground						
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.						ndanger f liability man health						
						OIL CONSERVATION DIVISION						
Signature: Printed Name: Robert Asher						Approved by	ENV ENGI District Supervis	NEER sori	i. Decel	alak D	M\	
Title: Enviro	nmental Re	gulatory Ager	nt			Approval Dat	te: 08/24/0	q	Expiration	Date O	260	٩
E-mail Addre	ess: boba@	ypcnm.com				Conditions of Cu写みりすし	Approval: DELI SUBMIT FI	NEATE NAL C	-141 BY	Atracheo	i 🗆	
Date: Thursd			_	hone: 505-748-42			9.2281			IRP-C	<u> ۱۹۰</u> ۵۰	7,2281
Attach Additional Sheets If Necessary					•	SAMPLIN	a MUST 11	JCLU	DE			

CHLURIDES,

ate of New Mexico

Incident ID	
District RP	1RP-2281
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.

>100 (ft bgs)					
☐ Yes ☑ No					
☐ Yes ☑ No					
☐ Yes ☑ No					
☐ Yes ☑ No					
☐ Yes ☑ No					
☐ Yes ☑ No					
☐ Yes ☑ No					
☐ Yes ☑ No					
☐ Yes ☑ No					
☐ Yes ☑ No					
☐ Yes ☑ No					
✓ Yes ☐ No					
Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.					
Characterization Report Checklist: Each of the following items must be included in the report. ✓ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells. ✓ Field data ✓ Data table of soil contaminant concentration data ✓ Depth to water determination ✓ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release ✓ Boring or excavation logs Photographs including date and GIS information ✓ Topographic/Aerial maps ✓ Laboratory data including chain of custody					

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

Received by OCD: 2/22/2022 2:01:17 PM Form C-141 State of New Mexico Page 4 Oil Conservation Division

		Page 23 of 500
Incident ID		
District RP	1RP-2281	
Facility ID		
Application ID		

I hereby certify that the information given above is true and complete to the regulations all operators are required to report and/or file certain release not public health or the environment. The acceptance of a C-141 report by the Galded to adequately investigate and remediate contamination that pose a threaddition, OCD acceptance of a C-141 report does not relieve the operator of and/or regulations.	ifications and perform corrective actions for releases which may endanger DCD does not relieve the operator of liability should their operations have eat to groundwater, surface water, human health or the environment. In
Printed Name: James F. Kennedy	Title: Environmental Specialist
Signature:	Date: <u>2/9/22</u> Telephone: <u>432-848-9146</u>
• •	
OCD Only	
Received by:	Date:

Page 24 of 500

Incident ID
District RP 1RP-2281
Facility ID
Application ID

Closure

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

Closure Report Attachment Checklist: Each of the following is	tems must be included in the closure report.				
✓ A scaled site and sampling diagram as described in 19.15.29.11 NMAC					
Photographs of the remediated site prior to backfill or photos must be notified 2 days prior to liner inspection)	of the liner integrity if applicable (Note: appropriate OCD District office				
☐ Laboratory analyses of final sampling (Note: appropriate ODC	C District office must be notified 2 days prior to final sampling)				
Description of remediation activities					
and regulations all operators are required to report and/or file certain may endanger public health or the environment. The acceptance of should their operations have failed to adequately investigate and rephuman health or the environment. In addition, OCD acceptance of	ations. The responsible party acknowledges they must substantially inditions that existed prior to the release or their final land use in				
Printed Name: James F. Kennedy	Title: Environmental Specialist				
Signature: <u>James F Kennedy</u>	Date: 2/9/22				
Signature:	Telephone: 432-848-9146				
OCD Only					
Received by:	Date:				
	of liability should their operations have failed to adequately investigate and water, human health, or the environment nor does not relieve the responsible or regulations.				
Closure Approved by:	Date:05/02/2022				
Printed Name: Jennifer Nobui	Title:Environmental Specialist A				

1625 N. French Dr., Hobbs, NM 8824040BBS OCD District II

1301 W. Grand Avenue, Artesia, NM 88210

District III
1000 Rio Brazos Road, Aztec, NM 8741 District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

26 2011 Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr.

Form C-141 Revised October 10, 2003

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

RECEIVED Santa Fe, NM 87505 **Release Notification and Corrective Action OPERATOR** Final Report OGRID Number Contact Name of Company Yates Petroleum Corporation Robert Asher 25575 Telephone No. Address 104 S. 4TH Street 575-748-1471 Facility Name API Number Facility Type **SWD** Battery Flamenco Federal #1 30-025-31076 Surface Owner Mineral Owner Lease No. NM-84890 **Federal** Federal LOCATION OF RELEASE APIA 30-025-31076 East/West Line Feet from the North/South Line Feet from the County Unit Letter Section Township Range 1650 South West L **22S** 32E Lea **Latitude** 32.40333 **Longitude** 103.72034 NATURE OF RELEASE Type of Release Volume of Release Volume Recovered Produced Water 150 B/PW 100 B/PW Date and Hour of Occurrence Date and Hour of Discovery Source of Release 7/12/2011, AM 7/12/2011, AM Water line Was Immediate Notice Given? If YES, To Whom? Maxey Brown/NMOCD II By Whom? Date and Hour Robert Asher/Yates Petroleum Corporation 7/13/2011: PM If YES, Volume Impacting the Watercourse. Was a Watercourse Reached? ☐ Yes 🛛 No If a Watercourse was Impacted, Describe Fully.* N/A Describe Cause of Problem and Remedial Action Taken.* Water line connection in tin horn failed, causing release. Vacuum truck called. Describe Area Affected and Cleanup Action Taken.* An approximate area of 45' X 45'. Vacuum truck picked up remaining produced water. Impacted soils being excavated and taken to an NMOCD approved facility. Vertical and horizontal delineation samples will be taken and analysis ran for TPH & BTEX (Chlorides for documentation). If initial analytical results for TPH & BTEX are under RRAL's a Final Report, C-141 will be submitted to the OCD requesting closure. If the analytical results are above the RRAL a work plan will be submitted to the OCD. Depth to Ground Water: >100' (approx. 280', Section 14, T22S-R32E, NMOSE and approx 200' per the ChevronTexaco trend map), Wellhead Protection Area: No. Distance to Surface Water Body: >1000', SITE RANKING IS 0. I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. OIL CONSERVATION DIVISION **Accepted for Record Only** Signature 03/06/12 Approved by District Supervisor: Printed Name: Robert Asher Title: Senior Environmental Regulatory Agent Approval Date: **Expiration Date:** E-mail Address: boba@yatespetroleum.com Conditions of Approval: Attached | 1RP-3-12-2784 Date: Friday, July 22, 2011 Phone: 575-748-4217

tate of New Mexico

Incident ID	
District RP	1RP-2784
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.

>100 (ft bgs)					
☐ Yes ☑ No					
☐ Yes ☑ No					
☐ Yes ☑ No					
☐ Yes ☑ No					
☐ Yes ☑ No					
☐ Yes ☑ No					
☐ Yes ☑ No					
☐ Yes ☑ No					
☐ Yes ☑ No					
☐ Yes ☑ No					
☐ Yes ☑ No					
✓ Yes ☐ No					
Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.					
Characterization Report Checklist: Each of the following items must be included in the report. ✓ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells. ✓ Field data ✓ Data table of soil contaminant concentration data ✓ Depth to water determination ✓ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release ✓ Boring or excavation logs Photographs including date and GIS information ✓ Topographic/Aerial maps ✓ Laboratory data including chain of custody					

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

Received by OCD: 2/22/2022 2:01:17 PM Form C-141 State of New Mexico Page 4 Oil Conservation Division

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Incident ID		
District RP	1RP-2784	
Facility ID		
Application ID		

Page 28 of 500

Incident ID	
District RP	1RP-2784
Facility ID	
Application ID	

Closure

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

Closure Report Attachment Checklist: Each of the following is	tems must be included in the closure report.
A scaled site and sampling diagram as described in 19.15.29.1	1 NMAC
Photographs of the remediated site prior to backfill or photos must be notified 2 days prior to liner inspection)	of the liner integrity if applicable (Note: appropriate OCD District office
☐ Laboratory analyses of final sampling (Note: appropriate ODG	C District office must be notified 2 days prior to final sampling)
Description of remediation activities	
and regulations all operators are required to report and/or file certain may endanger public health or the environment. The acceptance of should their operations have failed to adequately investigate and rer human health or the environment. In addition, OCD acceptance of compliance with any other federal, state, or local laws and/or regular restore, reclaim, and re-vegetate the impacted surface area to the coaccordance with 19.15.29.13 NMAC including notification to the O	ntions. The responsible party acknowledges they must substantially inditions that existed prior to the release or their final land use in DCD when reclamation and re-vegetation are complete.
	Title: Environmental Specialist
Signature: <u>James F Kennsdy</u>	Date: 2/9/22
Signature:	Telephone: 432-848-9146
OCD Only	
Received by:	Date:
	of liability should their operations have failed to adequately investigate and water, human health, or the environment nor does not relieve the responsible or regulations.
Closure Approved by:	Date:
Printed Name:	Title:

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 District II

1301 W. Grand Avenue, Artesia, NM 88210
District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico HOBBS OCD Energy Minerals and Natural Resources
Oil Conservation Division 3 2011

RECEIVED 1220 South St. Francis Dr. Santa Fe, NM 87505

Form C-141 Revised October 10, 2003

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

Release Notification	on and Corrective Acti	on			
OPER	ATOR		Report		
Name of Company OGRID Number	Contact				
Yates Petroleum Corporation 25575	Robert Asher				
Address	Telephone No.				
104 S. 4 TH Street	575-748-1471				
Facility Name API Number	Facility Type				
Flamenco Federal #1 30-025-31076	SWD Battery				
Surface Owner Mineral Owner		Lease N	0.		
Federal Federal		NM-848	90		
LOCATIO	ON OF RELEASE				
Sim Zener Standard Tanada		ast/West Line	County		
L 7 22S 32E 1650	South 660	West	Lea		
	Longitude 103.72034 E OF RELEASE				
Type of Release	Volume of Release	Volume Re	ecovered		
Produced Water	275 B/PW	260 B/PW	ccovered		
Source of Release	Date and Hour of Occurrence	Date and I	lour of Discovery		
Water line	10/21/2011, AM	10/21/201	1, AM		
Was Immediate Notice Given?	If YES, To Whom?		İ		
☐ Yes ☐ No ☐ Not Require	-				
By Whom?	Date and Hour 10/24//2011; PM				
Robert Asher/Yates Petroleum Corporation Was a Watercourse Reached?	If YES, Volume Impacting the V	Watercourse			
☐ Yes ⊠ No	N/A	watercourse.			
If a Watercourse was Impacted, Describe Fully.*					
N/A Describe Cause of Problem and Remedial Action Taken.*					
Water line connection in tin horn failed, causing release. Vacuum truck called.					
Describe Area Affected and Cleanup Action Taken.*	_		_		
Initial release amount was miscalculated when reported on 10/24/2011,					
60 X 75°. Vacuum truck picked up remaining produced water. Impacte horizontal delineation samples will be taken and analysis ran for TPH 8					
& BTEX are under RRAL's a Final Report, C-141 will be submitted to					
plan will be submitted to the OCD. Depth to Ground Water: >100' (a					
ChevronTexaco trend map), Wellhead Protection Area: No, Distant					
I hereby certify that the information given above is true and complete to regulations all operators are required to report and/or file certain release					
public health or the environment. The acceptance of a C-141 report by					
should their operations have failed to adequately investigate and remedi	ate 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 resp	onsibility for co	mpliance with any other		
federal, state, or local laws and/or regulations.	OIL CONSE	DVATION	DIVICION		
\bigcirc \bigcirc \bigcirc	OIL CONSERVATION DIVISION				
Signature:		Accept	ed for Record Only		
Printed Name: Robert Asher	Approved by District Supervisor:	3/30	0/12		
Title: Senior Environmental Regulatory Agent	Approval Date:	Expiration Date:			
2000. 21		Zapauton L			
E-mail Address: boba@yatespetroleum.com	Conditions of Approval:	Attached			
Date: Wednesday, November 02, 2011 Phone: 575-748-4217	IRP-3-12-2790				

^{*} Attach Additional Sheets If Necessary

e of New Mexico

Incident ID	
District RP	1RP-2790
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.

>100 (ft bgs)
☐ Yes ☑ No
✓ Yes ☐ No
tical extents of soil
S.

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.

Received by OCD: 2/22/2022 2:01:17 PM Form C-141 State of New Mexico
Page 4 Oil Conservation Division

		Page 31 of 500
Incident ID		
District RP	1RP-2790	
Facility ID		
Application ID		

Page 32 of 500

Incident ID		
District RP	1RP-2790	
Facility ID		
Application ID		

Closure

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

Closure Report Attachment Checklist: Each of the following	items must be included in the closure report.
A scaled site and sampling diagram as described in 19.15.29.	11 NMAC
Photographs of the remediated site prior to backfill or photos must be notified 2 days prior to liner inspection)	s of the liner integrity if applicable (Note: appropriate OCD District office
☐ Laboratory analyses of final sampling (Note: appropriate OD	C District office must be notified 2 days prior to final sampling)
Description of remediation activities	
and regulations all operators are required to report and/or file certa may endanger public health or the environment. The acceptance of should their operations have failed to adequately investigate and rehuman health or the environment. In addition, OCD acceptance of compliance with any other federal, state, or local laws and/or regul restore, reclaim, and re-vegetate the impacted surface area to the coaccordance with 19.15.29.13 NMAC including notification with 19.15.29.	ations. The responsible party acknowledges they must substantially onditions that existed prior to the release or their final land use in DCD when reclamation and re-vegetation are complete.
Printed Name: James F. Kennedy	Title: Environmental Specialist
Signature: <u>James F Kennedy</u>	Date: 2/9/22
Signature:	Telephone: 432-848-9146
OCD Only	
Received by:	Date:
	of liability should their operations have failed to adequately investigate and water, human health, or the environment nor does not relieve the responsible /or regulations.
Closure Approved by:	Date:
Printed Name:	Title:

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr. Santa Fe. NM 87505

State of New Mexico Energy Minerals and Natural Resources

RP#7.

Form C-141 Revised October 10, 2003

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe. NM 87505 Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

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1220 S. St. Fran	ncis Dr., Sant	a Fe, NM 87505	5	Sa	anta F	e, NM 875	505					.,	side of form	
an mar mail fallation and a little part in the second			Relo	ease Notific	catio	n and Co	orrectiv	ve A	ction	ı [Ini	tial			
				O]	PER	ATOR					al Report	\boxtimes	Final Report	
Name of CompanyOGRID NumberYates Petroleum Corporation25575				nber	Contact Robert Ash									
Address 104 S. 4 TH S	Street					Telephone 1 575-748-14								
Facility Nat Flamenco F				API Number 30-025-31076		Facility Typ						71	ş	
7						SWD Batter	У			7.2				
Surface Ow Federal	ner			Mineral C Federal)wner					Lease 1 NM-84				
	_		···			N OF RE	····							
Unit Letter L	Section 7	Township 22S	Range 32E	Feet from the 1650	Nortl	n/South Line South	Feet from 660			t/West Line County West Lea				
	J.		L	Latitude 32.4	40333	_ Longitude	103.720)34						
				NAT	URE	OF REL	EASE			<u>.</u>				
Type of Rele Produced Wa	iter					Volume of 200 B/PW		,		0 B/PW	Recovered			
Source of Re Water line	lease				1	Date and H 6/12/2013,		urrence	•	Date and 6/12/2013	Hour of E 3, AM	Discover	y	
Was Immedia	ate Notice (Yes 🔲	No Not Re	equired	If YES, To Geoffrey L		OCD II						
By Whom? Robert Asher	/Yates Petro	oleum Corpora	ation			Date and Hour 6/20/2013; PM								
Was a Water		hed?	Yes 🏻	l No		If YES, Volume Impacting the Watercourse. N/A								
If a Watercou	irse was Im					11/11	RECI	EIVI	ED					
		em and Remed		n Taken.* release. Vacuum	truck c	alled.				nt 8:47	am, S	Sep (06, 2017	
Describe Are: An approximation of the analytic T22S-R32E, >1000', SITE release), Yati	a Affected a ate area of 6 n). If initia al results an NMOSE and E RANKIN es Petroleu	and Cleanup A 50 X 75'. Vert Il analytical res re above the R nd approx 20 G IS 0. Based m Corporatio	action Tak ical and he sults for Tak RAL a wo 0' per the lon scope on reques	ten.* orizontal delineati PH & BTEX are took plan will be su e ChevronTexaco e of work comple ts closure.	ion san under l ubmitte o trend eted pe	nples will be ta RRAL's a Fina d to the OCD. map), Wellhor the 10/18/20	ken and an I Report, C Depth to ead Protect 13 Work P	alysis 1 -141 w Groun tion Ar	ran for 'rill be sid Water d Water ea: No	TPH & BT ubmitted to er: >100' (o, Distance ase area w	EX (Chlored) the OCD approx. 2 to Surfactas impact	rides in request 80', Sec e Wate ed by th	soils for ting closure. ction 14, r Body: he 8/4/2013	
regulations al public health should their o	l operators or the envir perations had ment. In a	are required to conment. The ave failed to a ddition, NMO	report an acceptance dequately CD accept	is true and compled/or file certain re- e of a C-141 repo- investigate and re- tance of a C-141 re-	elease r ort by the emedia	notifications ar ne NMOCD ma te contamination	d perform arked as "F: on that pose	correct inal Re e a thre	ive acti port" de at to gre	ons for rele oes not rele ound water	eases which ieve the op r, surface v	ch may e perator o water, hi	endanger of liability uman health	
Signature:	2,4	\bigcap_{k} a	ŧ				OIL C	ONS	ERV	ATION	DIVISI	<u>ON</u>		
Printed Name	: Robert As	her				Approved by				U		······································		
Title: NM En	vironmental	Regulatory S	upervisor			Approval Date	9/6/2	017		Expiration	Date:			
E-mail Addres	ss: boba@y	atespetroleum	.com			Conditions of		4!	_		Attache	:d 💟	/	
Date: Friday,				575-748-4217		see attac	nea dire	ective						
Attach Addit			ıry			1RP-4800	nO'	Y172	4932	244				

of New Mexico

Incident ID	
District RP	1RP-4800
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?	>100 (ft bgs)				
Did this release impact groundwater or surface water?	☐ Yes ☑ No				
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☑ No				
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☑ No				
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☑ No				
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☑ No				
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☑ No				
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☑ No				
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☑ No				
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☑ No				
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☑ No				
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☑ No				
Did the release impact areas not on an exploration, development, production, or storage site?	✓ Yes ☐ No				
Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of so 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 well ✓ 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 	ls.				
1					

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.

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		Page 35 of 500
Incident ID		
District RP	1RP-4800	
Facility ID		

Application ID

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Incident ID	
District RP	1RP-4800
Facility ID	
Application ID	

Closure

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

Closure Report Attachment Checklist: Each of the following items must be included in the closure report.		
✓ A scaled site and sampling diagram as described in 19.15.29.11 NMAC		
Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)		
☐ Laboratory analyses of final sampling (Note: appropriate ODG	C District office must be notified 2 days prior to final sampling)	
Description of remediation activities		
and regulations all operators are required to report and/or file certain may endanger public health or the environment. The acceptance of should their operations have failed to adequately investigate and rer human health or the environment. In addition, OCD acceptance of compliance with any other federal, state, or local laws and/or regular restore, reclaim, and re-vegetate the impacted surface area to the coaccordance with 19.15.29.13 NMAC including notification to the O	ntions. The responsible party acknowledges they must substantially inditions that existed prior to the release or their final land use in DCD when reclamation and re-vegetation are complete.	
	Title: Environmental Specialist	
Signature: <u>James F Kennsdy</u>	Date: 2/9/22	
Signature:	Telephone: 432-848-9146	
OCD Only		
Received by:	Date:	
	of liability should their operations have failed to adequately investigate and water, human health, or the environment nor does not relieve the responsible or regulations.	
Closure Approved by:	Date:	
Printed Name:	Title:	

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV

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 October 10, 2003

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

1220 S. St. Fran	cis Dr., Sant	ta Fe, NM 8750	5	Sa	anta F	e, NM 8	375	505					side of	form
	Release Notification and Corrective Action OPERATOR mitial Report Final Repo	mysys seedi												
				O]	PERA	TOR			ſ			×	Final R	leport
		ooration		OGRID Nur	nber	Contact	Ashe	er				Klamato)		
Address				. Little		Telephor	ne N	No.	-					
Facility Nar	ne	=======================================				Facility '	Гур	е						
Surface Ow Federal				Mineral C										
1 Oderai					TIO	NOED	וים	EACE		11111-04	<u> </u>	***************************************	***************************************	
Unit Letter	Section	Township	Range						Fact/W	lest Line	County			
	l			1	Notin			· ·			, -			
				Latitude 32.4	10333	_ Longit	ude	103.72034			da.,	- V		
				NAT	URE									
Type of Relea Produced Wa					/			Release			Recovered			
Water line						8/4/201	3, A	M	•			iscovery	<u>'</u>	
Was Immedia	te Notice (Yes 🔲	No 🔲 Not Re	quired									
By Whom?	Yates Petro	oleum Corpor	ation											******
		ched?		No		If YES,			ne Water	rcourse.				
If a Watercou N/A	rse was Im						R	FCFIVE)			The state of the s		
Describe Caus					truck ca					8:47 ar	n. Ser	06.	2017	-
Describe Area	Affected a	and Cleanup A	ction Tak	en.*										
An approxima documentation	ite area of 6	50 X 75°. Vert Il analytical re	ical and he sults for T	orizontal delineati PH & BTEX are i	ion sam under R	ples will b RAL's a F	e ta	ken and analysis r l Report, C-141 w	an for T	PH & BT.	EX (Chlor the OCD	ides in s requesti	soils for	re
If the analytic	al results a	re above the R	RAL a wo	ork plan will be su	ıbmittec	l. Depth to	o Gi	round Water: >1	00' (ap	prox. 280 [°]	, Section 1	14, T22	S-R32E,	
RANKING IS	S 0. Based	on scope of w	ork comp	oleted per the 10	/18/201	3 Work P	lan,	Yates Petroleum	1 Corpo	ration rec	quests clos	ure.	·	
I hereby certif	y that the in	nformation giv	ven above	is true and compl	ete to th	ne best of a	my l	knowledge and un	derstand	d that purs	uant to NM	AOCD r	ules and	
public health of	or the envir	onment. The	acceptance	e of a C-141 repo	rt by the	NMOCD) ma	irked as "Final Re	port" do	es not reli	eve the ope	erator o	f liability	
should their of	perations ha	ave failed to a	dequately	investigate and re	emediate	e contamir	ieve	on that pose a threa	at to gro	und water	, surface w	ater, hu	man heal	lth
					cport di	oes not rei	icve	the operator of re	sponsio	inty for co	лирнансе	with an	y other	
(OIL CONS	ERV	ATION	DIVISI	<u>ON</u>		
Signature:	يوي		#			Annroved	hv		(TY C			-	
Printed Name:	Robert As	her				-PP	-,	0/6/2017	- -			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Title: NM Env	rironmental	Regulatory S	upervisor			Approval I	Date	: 9/0/2017	E	xpiration I	Date:			
E-mail Addres	s: boba@y	atespetroleum	.com						7		Attached	ı 🗗		
Date: Friday, J	anuary 31,	2014	Phone: 5	75-748-4217			اند	iod directive						

State of New Mexico

Incident ID	
District RP	1RP-4801
Facility ID	
Application ID	

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Site Assessment/Characterization

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

>100 (ft bgs)
☐ Yes ☑ No
✓ Yes ☐ No
tical extents of soil
S.

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.

Received by OCD: 2/22/2022 2:01:17 PM Form C-141 State of New Mexico Page 4 Oil Conservation Division

		Page 39 of 50	90
Incident ID			
District RP	1RP-4801		
Facility ID			
Application ID			

I hereby certify that the information given above is true and complete to the regulations all operators are required to report and/or file certain release not public health or the environment. The acceptance of a C-141 report by the failed to adequately investigate and remediate contamination that pose a threaddition, OCD acceptance of a C-141 report does not relieve the operator of and/or regulations.	ifications and perform corrective actions for releases which may endanger OCD does not relieve the operator of liability should their operations have eat to groundwater, surface water, human health or the environment. In
Printed Name: James F. Kennedy	Title: Environmental Specialist
Signature:	Date: 2/9/22
email: <u>James_Kennedy@eogresources.com</u>	Telephone: 432-848-9146
OCD Only	
Received by:	Date:

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Incident ID	
District RP	1RP-4801
Facility ID	
Application ID	

Closure

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

Closure Report Attachment Checklist: Each of the following is	tems must be included in the closure report.
A scaled site and sampling diagram as described in 19.15.29.1	1 NMAC
Photographs of the remediated site prior to backfill or photos must be notified 2 days prior to liner inspection)	of the liner integrity if applicable (Note: appropriate OCD District office
☐ Laboratory analyses of final sampling (Note: appropriate ODG	C District office must be notified 2 days prior to final sampling)
Description of remediation activities	
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	Title: Environmental Specialist
Signature: <u>James F Kennsdy</u>	Date: 2/9/22
Signature:	Telephone: 432-848-9146
OCD Only	
Received by:	Date:
	of liability should their operations have failed to adequately investigate and water, human health, or the environment nor does not relieve the responsible or regulations.
Closure Approved by:	Date:
Printed Name:	Title:

Attachment B

GHD and Cascade Drilling Soil Boring Logs

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: MW-10
PROJECT NUMBER: 11220747 DATE COMPLETED: August 3, 2021

CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh

STRATIGRAPHIC DESCRIPTION & REMARKS		DEPTH	SOIL F	RORING			SAIVIE	-LE	
		BGS			UMBER	TERVAL	REC (ft)	Cl (ppm)	PID (ppm)
-SILTY SAND, fine grained, red/brown, dry					z	Z	_		
									4.
LICHE	- ::: <u>!</u>	4.00							2
								<120	1
								<120	1
CLAYEY SAND, fine grained, brown, dry	7///	10.00						<120	6
, , , ,									
		15.00						-120	75
NDSTONE, fine to medium grained, tan, dry	::::	15.00						120	/5
	### And Provided the Provided HTML And Provided								
	::::							<120	1
TY SANDSTONE, fine grained, brown, dry		25.00						<120	54
				Cement-				<120	5
				Bentonite				120	
	::::			Glout					
	::::							<120	4
	::::								
	::::								
	::::							<120	78
	::::								
	::::							<120	2
	::::								
								<120	5
	::::							-120	
	::::							120	6
	::::								
	::::							<120	8
	::::								
	::::								
NDSTONE, medium grained, gray/tan, dry		65.00						<120	21
	::::	70.00						<120	7
TY SANDSTONE, fine to medium grained,	• • • •	70.00						120	′
winca, ary									
MEACUIDING DOINT ELEVATIONO MANY QUA	NOE: DEE		DENT EL EL CAT	IONI TADI T					
wn/red, dr	у	y	y ::::	y	STONE, fine to medium grained, ···· \\\\\\\\\\\\\\\\\\\\\\\\\\\\\	y ::::	y ::::	y	y ::::

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STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: MW-10
PROJECT NUMBER: 11220747 DATE COMPLETED: August 3, 2021

CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPT	H SOIL BORING		1	SAM	PLE	_
ft BGS	2	BGS	5512 55141140	NUMBER	INTERVAL	REC (ft)	CI (ppm)	PID (ppm)
							<120	7.
80	SANDSTONE, caliche powder, medium grained, white, dry	80.00					<120	11.
85	CH-CLAY, fat, brown, dry	85.00					<120	3.
90	SANDSTONE, fine to medium grained, tan/brown, dry	90.00					<120	0.
95							<120	3.
100							<120	4.
105	END OF BOREHOLE @ 105.00ft BGS	105.00					<120	2.
110	Boring was left open for 72 hours and then a water probe was used to determine the presence or absence of groundwater. No groundwater was detected and the boring was plugged.							
115								
120								
125								
130								
135								
140								
145								
NC	OTES: MEASURING POINT ELEVATIONS MAY CHANGE	; REFER TO (CURRENT ELEVATION TABL	 E				<u></u>

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: MW-11
PROJECT NUMBER: 11220747 DATE COMPLETED: August 5, 2021

CLIENT: EOG Resources DRILLING METHOD: Sonic
LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH	SOIL F	BORING			SAME	PLE	
ft BGS		BGS			NUMBER	INTERVAL	REC (ft)	CI (ppm)	PID (ppm)
	SM-SILTY SAND, fine grained, brown, dry					=		<120 <120	6
5	CALICHE	6.00						<120	1 2
10	SM-SILTY SAND, fine grained, brown, dry	10.00						<120	0
15								<120	2
20								<120	1
25	CL-SANDY CLAY, fine grained, brown, dry	25.00						<120	0
30	SANDSTONE, fine to medium grained, tan, dry	30.00		Cement- Bentonite Grout				148	6
35	CH-CLAY, fat, brown, dry	35.00						<120	3
40								<120	2
45								<120	2
50								<120	1
55								<120	2
60								<120	1
65 —	SANDSTONE, fine grained, gray/white, dry	65.00						<120	2
70	CH-CLAY, fat, brown/red, dry	70.00						<120	1

Page 2 of 2

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

HOLE DESIGNATION: MW-11 PROJECT NAME: Flamenco Federal #1 PROJECT NUMBER: 11220747 DATE COMPLETED: August 5, 2021

CLIENT: EOG Resources DRILLING METHOD: Sonic FIELD PERSONNEL: C. Neligh LOCATION: Eddy County, New Mexico

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH	SOIL BORING			SAM	PLE	
ft BGS		BGS		NUMBER	INTERVAL	REC (ft)	AMPLE (t) (T) (C) (Applied (in the property) (in	PID (ppm)
							<120	22.
- 80	CLAYEY SANDSTONE, fine to medium grained, brown, dry	80.00					<120	38.
85	SANDSTONE, medium grained, gray/white, dry	85.00					<120	30.
90							<120	20
95							<120	28
100							<120	87
105	END OF BOREHOLE @ 105.00ft BGS	105.00				-	<120	78
110	Boring was left open for 72 hours and then a water probe was used to determine the presence or absence of groundwater. No groundwater was detected and the boring was plugged.							
115								
120								
125								
130								
135								
140								
145								
<u>N</u>	NOTES: MEASURING POINT ELEVATIONS MAY CHANGE;	REFER TO CUI	 RRENT ELEVATION TABLE					

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: SB-12 PROJECT NUMBER: 11220747 DATE COMPLETED: August 18, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS (mdd) NTERVAL NUMBER CI (ppm) \equiv REC PD SM-SILTY SAND, fine grained, brown, dry 2.00 2' 11.2 <120 CALICHE 4' >2604 0.4 5 6.00 >2604 23.3 SM-SILTY SAND, fine grained, brown, dry 33.3 8.00 >2604 CL-SANDY CLAY, fine grained, brown, dry 10/27/21 10.00 2400 36.6 - 10 SM-SILTY SAND, fine grained, brown, dry - 15 >2604 33.4 OVERBURDEN LOG - 20 32.1 20' >2604 Report: -- 25 25.00 >2604 27.6 SANDSTONE, fine to medium grained, tan, dry GLB - 30 1648 55.2 ENVIRO_V06 Cement-Bentonite Grout - 35 35.00 542 79.0 GHD CH-CLAY, fat, brown, dry 40' 108 54.0 - 40 DATABASE\8-CHAR\11----\1122---\11220747 FLAMENCO\11220747-CO.GPJ 45.00 45 -45'-284 23.1 - 45 SANDSTONE, fine to medium grained, brown, - 50 50.00 310 19.4 SANDSTONE, fine grained, brown, dry - 55 55' 130 14.3 60.00 160 16.1 60' 60 END OF BOREHOLE @ 60.00ft BGS This boring was dry. - 65 - 70 I:\LOG NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: **SB-13** PROJECT NUMBER: 11220747 DATE COMPLETED: July 25, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS NTERVAL PID (ppm) NUMBER CI (ppm) \equiv REC SM-SILTY SAND, fine grained, brown, dry 2' 4' <108 1.8 - 5 <108 38.7 CALICHE 29.8 8.00 <108 SM-SILTY SAND, fine grained, brown, dry 10/27/21 10' 154.2 - 10 <108 <108 16.8 - with fine gravel from 14.00 to 20.00ft BGS <108 23.8 - 15 Cement-OVERBURDEN LOG <108 20.9 Bentonite Grout 18' <108 219.8 - 20 143 <108 Report: -- 25 - with fine gravel from 25.00 to 30.00ft BGS 160 61.4 GLB I - 30 30.00 30' <108 86.4 ENVIRO_V06 END OF BOREHOLE @ 30.00ft BGS This boring was dry. - 35 왕 Library File: - 40 INLOG DATABASE\8-CHAR\11----\1122--\11220747 FLAMENCO\11220747-CO.GPJ - 45 - 50 - 55 60 - 65 - 70 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: SB-14 PROJECT NUMBER: 11220747 DATE COMPLETED: August 6, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS NTERVAL PID (ppm) NUMBER CI (ppm) \equiv REC SM-SILTY SAND, fine grained, brown/red, dry 2' 2.8 2.00 <120 CALICHE 4' 1136 50.8 - 5 6.00 <120 2.7 SM-SILTY SAND, fine grained, brown, dry <120 1.3 10/27/21 <120 19.2 - 10 - 15 1140 36.4 OVERBURDEN LOG Cement-Bentonite Grout - 20 20.00 1760 37.0 CH-CLAY, fat, brown, dry Report: -- 25 25' >2572 19.5 9 ENVIRO V06.GLB 7 30 30.00 30' 136 34.3 SANDSTONE, fine to medium grained, white, - 35 35.00 35' 136 54.4 왕 END OF BOREHOLE @ 35.00ft BGS This boring was dry. -40 13LOG DATABASE18-CHAR111----\1122---\11220747 FLAMENCO\11220747-CO.GPJ NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: SB-15 PROJECT NUMBER: 11220747 DATE COMPLETED: August 6, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS (mdd) NTERVAL NUMBER CI (ppm) \equiv REC PD SM-SILTY SAND, fine grained, brown, dry 2.6 2.00 <120 CALICHE 4.00 4' 420 2.6 SM-SILTY SAND, fine grained, brown, dry - 5 6' >2460 16.2 8.00 >2460 11.1 CH-CLAY, fat, brown, dry 10/27/21 10.00 >2460 - 10 8.3 SM-SILTY SAND, fine grained, brown, dry - 15 >2460 9.3 OVERBURDEN LOG - 20 2112 10.0 Cement-Bentonite Report: Grout -- 25 25.00 2112 12.3 SILTY SANDSTONE, fine to medium grained, tan, dry GLB ENVIRO V06. - 30 30.00 1716 13.1 SILTY SANDSTONE, fine to medium grained, - 35 35' 508 11.9 왕 40.00 40' <120 3.2 - 40 CH-CLAY, fat, brown, dry DATABASE\8-CHAR\11----\1122---\11220747 FLAMENCO\11220747-CO.GPJ 45.00 45' <120 4.3 - 45 END OF BOREHOLE @ 45.00ft BGS This boring was dry. - 50 - 55 60 - 65 - 70 I:\LOG I NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: SB-16

PROJECT NUMBER: 11220747 DATE COMPLETED: August 6, 2021
CLIENT: EOG Resources DRILLING METHOD: Sonic

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH	SOIL BORING			SAME	PLE	
ft BGS	STATISTAL TIE DESCRIPTION & NEWARKS	BGS	SOIL BOINING	NUMBER	INTERVAL	REC (ft)	Cl (ppm)	PID (ppm)
	SM-SILTY SAND, fine grained, brown, dry				Ξ	<u>«</u>		
	CALICHE	2.00		2			<120	1.:
5	SM-SILTY SAND, fine grained, brown, dry	4.00		4'			164 <120 <120	2. 1. 1.
10			Cement- Bentonite Grout	10'			<120	1.3
15							<120	1.
20	END OF BOREHOLE @ 20.00ft BGS	20.00		20'			<120	15
25	This boring was dry.							
30								
35								
40								
45								
50								
55								
60								
65								
70								
	OTES: MEASURING POINT ELEVATIONS MAY CHANGE	DEFED TO OUR	DENT ELEVATION TABLE					

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 SB-17 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: PROJECT NUMBER: 11220747 DATE COMPLETED: July 26, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS NTERVAL PID (ppm) NUMBER CI (ppm) \equiv REC SM-SILTY SAND, fine grained, red/brown, dry 2' 1.8 <108 4' <108 0.8 . 5 5.00 SM-SILTY SAND, fine grained, brown, dry Cement-Bentonite 10/27/21 Grout 10' <108 13.8 - 10 Date: 15.00 15' - 15 <108 6.1 OVERBURDEN LOG END OF BOREHOLE @ 15.00ft BGS This boring was dry. - 20 Report: -- 25 9 ENVIRO V06.GLB 7 30 - 35 Library File: GHD -40 |:\LOG DATABASE\8-CHAR\11---\1122--\11220747 FLAMENCO\11220747-CO.GPJ NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: SB-18 PROJECT NUMBER: 11220747 DATE COMPLETED: August 11, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS		DEPTH	SOIL BO	RING			SAM	PLE	
ft BGS			BGS			NUMBER	INTERVAL	REC (ft)	CI (ppm)	PID (ppm)
5	SM-SILTY SAND, fine grained, brown, dry					2 4	_ =		<120 <120 572 852 1772	4.9 3.0 57 22 23
15	SANDY CALICHE		15.00						>2604	5.:
20	SANDSTONE, fine to medium grained, brown, dry		20.00						>2604	12
25	SANDSTONE, medium grained, brown, dry		25.00						>2604	11
30						30'			>2604	12
35	CH-CLAY, fat, brown, dry		35.00		Cement- Bentonite Grout				1772	14
40	SANDSTONE, fine to medium grained, tan, dry		40.00						>2604	13
45									1424	26
50	CH-CLAY, fat, brown, dry		50.00						792	24
55						55'			252	63
60						60'			188	25
65						65'			<120	8.
70	END OF BOREHOLE @ 70.00ft BGS This boring was dry.		70.00			70'		-	<120	11
NIC	DTES: MEASURING POINT ELEVATIONS MAY CHAN	IGF: RFFI	ER TO CUR	RENT ELEVATIO	N TARI F					<u></u>

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: SB-19
PROJECT NUMBER: 11220747 DATE COMPLETED: August 11, 2021

CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH	SOIL BORIN	NG	<u> </u>		SAMF	'LE	
ft BGS		BGS			NUMBER	INTERVAL	REC (ft)	Cl (ppm)	PID (ppm)
	SM-SILTY SAND, fine grained, brown, dry				2			<120	5.
5	SANDY CALICHE	4.00			4'			<120 732	1. 5.
10	SM-SILTY SAND, fine grained, brown, dry	8.00						732 732	6. 3.
15								1772	25
20	SANDSTONE, fine to medium grained, tan, dry	20.00			20'			2604	30
25	SANDSTONE, medium grained, tan/yellow, dry	25.00	<i>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</i>	ement- entonite Frout				852	28
30	CH-CLAY, fat, brown, dry	30.00						852	36
35								1772	41
40	SANDSTONE, medium grained, brown, dry	40.00						1068	5.
45	SANDSTONE, fine to medium grained, tan, dry	 45.00			45'			160	57
50	END OF BOREHOLE @ 50.00ft BGS	 50.00			50'		_	<120	5.
55	This boring was dry.								
60									
65									
70									
	OTES: MEASURING POINT ELEVATIONS MAY CHAN								

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 SB-20 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: PROJECT NUMBER: 11220747 DATE COMPLETED: July 27, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING BGS ft BGS NTERVAL PID (ppm) NUMBER CI (ppm) \equiv REC SM-SILTY SAND, fine grained, red/brown, dry 2' 0.5 <120 4' <120 0.2 - 5 Cement-Bentonite 10/27/21 Grout 10' - 10 <120 6.9 Date: 15.00 15' - 15 180 13.2 OVERBURDEN LOG END OF BOREHOLE @ 15.00ft BGS This boring was dry. - 20 Report: -- 25 9 ENVIRO V06.GLB 7 30 - 35 Library File: GHD -40 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 SB-21 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: PROJECT NUMBER: 11220747 DATE COMPLETED: July 27, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING BGS ft BGS NTERVAL PID (ppm) NUMBER CI (ppm) \equiv REC SM-SILTY SAND, fine grained, red/brown, dry 2' 0.4 <120 4' 352 0.4 - 5 10/27/21 10' Cement->2492 70.5 - 10 Bentonite Grout - 15 15.00 >2492 30.0 OVERBURDEN LOG SANDSTONE, fine to medium grained, tan/brown - 20 20.00 1380 47.6 20' END OF BOREHOLE @ 20.00ft BGS This boring was dry. Report: -- 25 9 ENVIRO V06.GLB 7 30 - 35 Library File: GHD -40 |:\LOG DATABASE\8-CHAR\11----\1122--\11220747 FLAMENCO\11220747-CO.GPJ - 45 - 50 - 55 60 - 65 - 70 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 **SB-21A** PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: PROJECT NUMBER: 11220747 DATE COMPLETED: August 11, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS NTERVAL PID (ppm) NUMBER CI (ppm) \equiv REC SM-SILTY SAND, fine grained, brown, dry 2' 3.6 <120 4.00 4' <120 6.1 CALICHE - 5 >2604 53.7 39.9 >2604 10/27/21 10.00 >2604 36.2 - 10 SANDSTONE, fine to medium grained, tan, dry 15' - 15 2056 64.6 OVERBURDEN LOG - 20 31.7 20.00 >2604 SANDSTONE, medium grained, tan/yellow, dry Report: -- 25 >2604 16.7 GLB - 30 30.00 1424 21.8 ENVIRO_V06 Cement-SANDSTONE, medium grained, brown, dry Bentonite Grout - 35 35' >2604 26.7 射 2400 30.3 -40 DATABASE\8-CHAR\11----\1122---\11220747 FLAMENCO\11220747-CO.GPJ - 45 <120 5.6 CH-CLAY, fat, brown, dry - 50 36.2 - 55 55' 160 34.1 60' <120 12.1 60 END OF BOREHOLE @ 60.00ft BGS This boring was dry. - 65 - 70 I:\LOG I NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: SB-21B

PROJECT NUMBER: 11220747 DATE COMPLETED: August 12, 2021

DRILLING CONTRACTOR: Cascade		DRILLER: Cole										
DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS		DEPTH BGS	SOIL B	ORING	r		SAMF				
						NUMBER	INTERVAL	REC (ft)	CI (ppm)	PID (ppm)		
	SM-SILTY SAND, fine grained, brown, dry					2			<120	5.		
5	CALICHE		4.00			6'			<120 920	31		
10	SANDSTONE, fine to medium grained, tan, dry		8.00		— Cement- Bentonite Grout				356 188	28 23		
15	SANDSTONE, medium grained, brown, dry		15.00			15'			<120	9.		
20	END OF BOREHOLE @ 20.00ft BGS	::::	20.00			20'		_	<120	10		
25	This boring was dry.											
30												
35												
40												
45												
50												
55												
60												
65												
70												

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 SB-21C HOLE DESIGNATION: PROJECT NAME: Flamenco Federal #1 PROJECT NUMBER: 11220747 DATE COMPLETED: August 12, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS NTERVAL PID (ppm) NUMBER CI (ppm) \equiv REC SM-SILTY SAND, fine grained, brown, dry <120 5.8 4' <120 4.7 - 5 6' 6.00 <120 19.3 CALICHE 15.6 8.00 <120 SANDY CALICHE 10/27/21 10.00 <120 14.7 - 10 Cement-SANDSTONE, fine to medium grained, tan, dry Bentonite Grout 15' - 15 <120 22.7 OVERBURDEN LOG - 20 20.00 <120 5.7 20' END OF BOREHOLE @ 20.00ft BGS This boring was dry. Report: -- 25 9 ENVIRO V06.GLB 7 30 - 35 왕 Library File: -40 INLOG DATABASE\8-CHAR\11----\1122--\1122--\11220747 FLAMENCO\11220747-CO.GPJ - 45 - 50 - 55 60 - 65 - 70 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: SB-22
PROJECT NUMBER: 11220747 DATE COMPLETED: August 11, 2021

CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh

		ON: Eddy County New Mexico			EDPONNEL: C Noligh					
		ON: Eddy County, New Mexico			ERSONNEL: C. Neligh					
-		IG CONTRACTOR: Cascade		DRILLEF	R: Cole			O A B 41		
	DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS		DEPTH BGS	SOIL BORING	ER	\A	SAM		(mc
						NUMBER	INTERVAL	REC (CI (ppm)	PID (ppm)
	-	SM-SILTY SAND, fine grained, brown, dry				2			120	4.7
	- 5 -	SANDY CALICHE		4.00		4'			120 356	0.8
10/27/21	- - 10 	SM-SILTY SAND, fine grained, brown, dry		10.00					1648 >2604	13.1 23.0
.0G Date:	- - 15 -	SANDSTONE, fine to medium grained, gray/tan,		15.00		15'	}		>2604	5.7
BURDENL	- - - 20	SANDSTONE, fine to medium grained, brown,		- 20.00					>2604	6.3
ort: OVER	- - - - 25	dry		25.00	Cement-				2056	11.2
GLB Rep	- - -	SANDSTONE, fine to medium grained, tan/yellow, dry			Bentonite Grout					
GHD_ENVIRO_V06.GLB Report: OVERBURDEN LOG Date: 10/27/2	30 	SANDSTONE, fine to medium grained, brown, dry		30.00		30'			1148	43.9
	- 35 - -								<120	9.5
Library File:	- 40 								572	4.0
- 1	- - 45 -	SANDSTONE, fine to medium grained, tan, dry		45.00		45'			160	5.8
11220747	- - 50	END OF BOREHOLE @ 50.00ft BGS		50.00		50'			<120	6.9
747 FLAMENCC	- - - 55 -	This boring was dry.								
22\11220	- 60 									
3/11/112	- - 65 -									
File: I:\LOG DATABASE\8-CHAR\11\1122\11220747 FLAMENCO\11220747-CO.GPJ	- - - 70 - - -									
I:\LOG D/		NOTES: MEASURING POINT ELEVATIONS MAY CHANG	GE; REF	ER TO CUR	RENT ELEVATION TABLE		<u> </u>			
Eie:		CHEMICAL ANALYSIS								

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 SB-23 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: PROJECT NUMBER: 11220747 DATE COMPLETED: July 27, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS NUMBER NTERVAL PID (ppm) CI (ppm) \equiv REC SM-SILTY SAND, fine grained, red/brown, dry 2' 1.1 <120 4' - 5 Cement-Bentonite Grout 10/27/21 10' 10.00 <120 0.6 - 10 SANDSTONE, fine to medium grained, tan, dry Date: - refusal at 13.00ft BGS 13.00 <120 29.2 END OF BOREHOLE @ 13.00ft BGS - 15 OVERBURDEN LOG This boring was dry. _ 20 Report: -- 25 9 ENVIRO V06.GLB 7 30 - 35 Library File: GHD -40 |:\LOG DATABASE\8-CHAR\11---\1122--\11220747 FLAMENCO\11220747-CO.GPJ NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 SB-24 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: PROJECT NUMBER: 11220747 DATE COMPLETED: August 10, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS NTERVAL PID (ppm) NUMBER CI (ppm) \equiv REC SM-SILTY SAND, fine grained, brown, dry 2' 3.3 <120 4.00 4' <120 2.0 CALICHE - 5 1148 32.6 SANDY CALICHE 28.7 8.00 1148 SM-SILTY SAND, fine to medium grained, 10/27/21 10.00 30.0 - 10 brown, dry 1148 SANDSTONE, medium grained, tan, dry 15' - 15 1772 52.9 Cement-OVERBURDEN LOG Bentonite Grout - 20 52.0 356 Report: -- 25 25' <120 36.5 9 ENVIRO V06.GLB 7 30 30.00 30' <120 61.1 END OF BOREHOLE @ 30.00ft BGS This boring was dry. - 35 왕 Library File: - 40 |:\LOG DATABASE\8-CHAR\11----\1122--\11220747 FLAMENCO\11220747-CO.GPJ - 45 - 50 - 55 60 - 65 - 70 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 SB-25 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: PROJECT NUMBER: 11220747 DATE COMPLETED: August 10, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS NTERVAL PID (ppm) NUMBER CI (ppm) \equiv REC SM-SILTY SAND, fine grained, brown, dry 2' 3.4 <120 4.00 4' <120 1.1 CALICHE - 5 >2472 13.9 SM-SILTY SAND, fine grained, brown, dry >2472 16.8 10/27/21 >2472 6.9 - 10 15' - 15 >2472 5.3 OVERBURDEN LOG - 20 57.3 20.00 1648 SANDSTONE, fine to medium grained, brown, Cement-Bentonite Report: Grout -- 25 1772 40.6 GLB I - 30 - 30 - 35 30' 2008 62.2 - 35 356 40.5 왕 - 40 40' <120 89.6 DATABASE\8-CHAR\11----\1122---\11220747 FLAMENCO\11220747-CO.GPJ - 45 45.00 45' <120 49.6 END OF BOREHOLE @ 45.00ft BGS This boring was dry. - 50 - 55 60 - 65 - 70

MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

NOTES:

CHEMICAL ANALYSIS

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STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: SB-26 PROJECT NUMBER: 11220747 DATE COMPLETED: August 10, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING BGS ft BGS PID (ppm) NTERVAL NUMBER CI (ppm) \equiv REC SM-SILTY SAND, fine grained, brown, dry 2' 3.2 <120 4.00 4' <120 1.6 CALICHE - 5 >2472 47.0 SANDY CALICHE 50.6 8.00 >2472 SM-SILTY SAND, fine grained, brown, dry 10/27/21 >2472 58.8 - 10 15' - 15 15.00 >2472 71.1 Cement-OVERBURDEN LOG SANDSTONE, fine to medium grained, tan/gray, Bentonite dry Grout - 20 20.00 14.1 456 CH-CLAY, fat, brown, dry Report: -- 25 25' 160 39.7 ENVIRO V06.GLB - 30 30.00 30' 176 42.1 END OF BOREHOLE @ 30.00ft BGS This boring was dry. - 35 왕 Library File: - 40 INLOG DATABASE\8-CHAR\11----\1122--\1122--\11220747 FLAMENCO\11220747-CO.GPJ - 45 - 50 - 55 60 - 65 - 70 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 SB-27 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: PROJECT NUMBER: 11220747 DATE COMPLETED: July 26, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS NTERVAL PID (ppm) NUMBER CI (ppm) \equiv REC SM-SILTY SAND, fine grained, red/brown, dry 2' 1.2 <120 4' <120 0.8 - 5 10/27/21 10' 1136 5.8 - 10 Cement-Bentonite Grout 15' - 15 15.00 <120 11.8 OVERBURDEN LOG CALICHE - 20 20.00 140 19.4 END OF BOREHOLE @ 20.00ft BGS This boring was dry. Report: -- 25 9 ENVIRO V06.GLB 7 30 - 35 Library File: GHD -40 |:\LOG DATABASE\8-CHAR\11----\1122--\11220747 FLAMENCO\11220747-CO.GPJ - 45 - 50 - 55 60 - 65 - 70 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: SB-27A
PROJECT NUMBER: 11220747 DATE COMPLETED: August 12, 2021

CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh

	I: Eddy County, New Mexico		ERSONNEL: C. Neligh							
	CONTRACTOR: Cascade	DRILLER	R: Cole	SAMPLE						
DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	SOIL BORING	NUMBER	INTERVAL	(ft)	CI (ppm)	PID (ppm)		
	CM CII TV CAND fire avaired busined by	rarein	NATION STATES	NUN	INTE	REC	18) O <120 <120 <120 <120 <120 <120 <120 <120	PID		
- - - - -5	SM-SILTY SAND, fine grained, brown, dry CALICHE	4.00		2 4'			<120	6.2 5.9 15.1		
- - - 10	SM-SILTY SAND, fine grained, brown, dry	8.00	Cement- Bentonite	10'			<120	9.8		
- - - - 15			Grout	15'			188	17.1		
-10 -15 15 20	END OF BOREHOLE @ 20.00ft BGS	20.00		20'		_	160	21.2		
- 25 	This boring was dry.									
- -30										
- -35 -										
- -45 -										
- -50 -										
- -55 -										
- 65 										
- 70 - 10										
NC	OTES: MEASURING POINT ELEVATIONS MAY CHANGE	; REFER TO CUR	RENT ELEVATION TABLE							
	CHEMICAL ANALYSIS									

10/27/21

OVERBURDEN LOG

Report:

GLB - 30

ENVIRO_V06

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DATABASE\8-CHAR\11----\1122---\11220747 FLAMENCO\11220747-CO.GPJ

I:\LOG I

- 15

- 20

-- 25

- 35

-40

- 45

- 50

- 55

60

- 65

- 70

dry

SANDSTONE, fine to medium grained, tan/gray,

SANDSTONE, medium grained, brown, dry

END OF BOREHOLE @ 45.00ft BGS

CHEMICAL ANALYSIS

This boring was dry.

Page 1 of 1

PID (ppm)

3.8

1.7

2.8

3.5

3.1

5.3

10.2

91.7

44.3

5.0

61.4

79.3

CI (ppm)

<120

<120

>2472

>2472

>2472

2472

>2472

1328

612

256

216

196

20'

25'

40'

45'

Cement-Bentonite

Grout

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) **SB-28** PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: PROJECT NUMBER: 11220747 DATE COMPLETED: August 10, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS NTERVAL NUMBER \equiv REC SM-SILTY SAND, fine grained, brown, dry 2' 4.00 4' CALICHE - 5 8.00 SANDY CALICHE 10.00 - 10 SM-SILTY SAND, fine grained, brown, dry

15.00

30.00

45.00

MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

NOTES:

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

CIONATION CP 20

PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: SB-29
PROJECT NUMBER: 11220747 DATE COMPLETED: August 10, 2021

CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh

DEPTH ft BGS STRATIGRAPHIC DESCRIPTION & REMARKS			DEPTH			SAMPLE						
ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS		BGS	SOIL BORING	NUMBER	INTERVAL	REC (ft)	CI (ppm)	PID (ppm)			
	SM-SILTY SAND, fine grained, brown, dry				Z 2	N	<u> </u>	<120	3.2			
-5	CALICHE		4.00		4'	81		<120 620	2.9 28.			
- 10	SANDY CALICHE SANDSTONE, fine to medium grained, brown, dry		8.00 10.00	Cement-	10'	9)		572 732	30. 39.			
15				Bentonite Grout	15'	9		<120	39.			
20								<120	14.			
- 25	END OF BOREHOLE @ 25.00ft BGS		25.00		25'			188	69.			
30	This boring was dry.											
35												
-40												
45												
- 50												
- 55												
60												
65												
70												
N	OTES: MEASURING POINT ELEVATIONS MAY CHANG	GE; REFI	ER TO CUR	RENT ELEVATION TABLE								

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 SB-30 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: PROJECT NUMBER: 11220747 DATE COMPLETED: August 9, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS NTERVAL PID (ppm) NUMBER CI (ppm) \equiv REC SM-SILTY SAND, fine grained, brown, dry 2' 3.5 <120 4.00 4' <120 1.7 CALICHE - 5 2296 13.8 8' 27.0 2296 10/27/21 10.00 2296 25.3 - 10 SM-SILTY SAND, fine grained, brown, dry - 15 608 12.2 Cement-OVERBURDEN LOG Bentonite Grout - 20 14.1 20.00 728 SANDSTONE, fine to medium grained, tan, dry Report: -- 25 25.00 25' 212 55.4 CH-CLAY, fat, brown, dry 9 ENVIRO V06.GLB 7 30 30.00 30' 144 23.0 END OF BOREHOLE @ 30.00ft BGS This boring was dry. - 35 왕 Library File: - 40 13LOG DATABASE18-CHAR111----\1122---\11220747 FLAMENCO\11220747-CO.GPJ NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 SB-31 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: PROJECT NUMBER: 11220747 DATE COMPLETED: August 9, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS NTERVAL PID (ppm) NUMBER CI (ppm) \equiv REC SM-SILTY SAND, fine grained, brown, dry 2' 7.1 <120 4' <120 1.3 - 5 >2472 14.6 >2472 12.9 10/27/21 >2472 36.8 - 10 15' - 15 15.00 >2472 21.3 Cement-OVERBURDEN LOG SANDSTONE, medium grained, gray, dry Bentonite Grout - 20 1240 17.0 Report: -- 25 25.00 25' 168 49.8 CH-CLAY, fat, brown, dry 9 ENVIRO V06.GLB 7 30 30.00 30' 168 14.5 END OF BOREHOLE @ 30.00ft BGS This boring was dry. - 35 왕 Library File: -40 |:\LOG DATABASE\8-CHAR\11---\1122--\11220747 FLAMENCO\11220747-CO.GPJ NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 SB-32 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: PROJECT NUMBER: 11220747 DATE COMPLETED: July 27, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS NTERVAL PID (ppm) NUMBER CI (ppm) \equiv REC SM-SILTY SAND, fine grained, red/brown, dry 2' 1.6 <120 4' <120 0.8 - 5 10/27/21 10' 180 7.8 - 10 Cement-Bentonite Grout 15' - 15 15.00 540 8.1 OVERBURDEN LOG CALICHE - 20 20.00 63.8 415 END OF BOREHOLE @ 20.00ft BGS This boring was dry. Report: -- 25 9 ENVIRO V06.GLB 7 30 - 35 Library File: GHD -40 |:\LOG DATABASE\8-CHAR\11----\1122--\11220747 FLAMENCO\11220747-CO.GPJ - 45 - 50 - 55 60 - 65 - 70 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 **SB-33** PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: PROJECT NUMBER: 11220747 DATE COMPLETED: August 8, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS (mdd) NTERVAL NUMBER CI (ppm) \equiv REC PD SM-SILTY SAND, fine grained, brown, dry 2' <108 4.3 4.00 4' <108 8.5 CALICHE - 5 <108 14.7 SM-SILTY SAND, fine grained, brown, dry 1648 24.3 10/27/21 22.0 - 10 1908 - 15 1532 13.3 OVERBURDEN LOG - 20 20.00 20' 1908 15.5 SANDSTONE, fine to medium grained, gray/tan, dry Report: -- 25 1232 6.4 GLB - 30 30.00 1648 10.2 ENVIRO_V06 CH-CLAY, fat, brown, dry Cement-Bentonite Grout - 35 35.00 572 5.7 GHD SANDSTONE, fine to medium grained, brown, 1740 13.0 - 40 DATABASE\8-CHAR\11----\1122---\11220747 FLAMENCO\11220747-CO.GPJ 1864 15.2 - 45 45.00 CH-CLAY, fat, brown, dry - 50 50.00 256 40.7 SANDSTONE, fine to medium grained, brown, - 55 55' 560 78.5 144 67.0 60.00 60' 60 CH-CLAY, brown, dry 65.00 - 65 65' 292 20.0 END OF BOREHOLE @ 65.00ft BGS This boring was dry. - 70 I:\LOG NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 SB-34 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: PROJECT NUMBER: 11220747 DATE COMPLETED: August 8, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS NTERVAL PID (ppm) NUMBER CI (ppm) \equiv REC SM-SILTY SAND, fine grained, brown, dry 2.6 <120 4.00 4' <120 5.1 CALICHE - 5 6' 572 28.2 26.9 8.00 284 SM-SILTY SAND, fine grained, brown, dry 10/27/2 - 10 356 33.5 Cement-Bentonite Grout 15' - 15 188 29.0 OVERBURDEN LOG - 20 18.4 188 Report: -- 25 25.00 25' <108 10.0 END OF BOREHOLE @ 25.00ft BGS 9 ENVIRO V06.GLB 7 30 This boring was dry. - 35 왕 Library File: -40 |:\LOG DATABASE\8-CHAR\11----\1122--\11220747 FLAMENCO\11220747-CO.GPJ - 45 - 50 - 55 60 - 65 - 70 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS

Page 1 of 2

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: SB-35
PROJECT NUMBER: 11220747 DATE COMPLETED: August 17, 2021

CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligit

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH	SOIL BORING			SAM	PLE	
ft BGS		BGS		NUMBER	INTERVAL	REC (ft)	CI (ppm)	PID (ppm)
	SM-SILTY SAND, fine grained, brown, dry			2	\ <u>\</u>		<120	1.
5	CALICHE	4.00		4'			156	0.
	SM-SILTY SAND, fine grained, brown, dry	6.00					1792 1792	3.
10							1328	3.
15							1648	23
20							1648	28
25	SANDSTONE, SANDSTONE, medium grained, tan, dry	25.00		25'			1648	31
30	CH-CLAY, fat, brown, dry	30.00					2048	18
35	SANDSTONE, fine to medium grained, brown, dry	 35.00	Cement- Bentonite Grout	•			2048	23
40	SANDSTONE, medium grained, tan/gray, dry	 40.00		40'			320	45
45	SANDSTONE, fine to medium grained, tan, dry	 45.00		45'			<120	26
	3·····-,,							
50	SANDSTONE, fine to medium grained, brown, dry	 50.00					188	2.
55				55'			1068	5.
60	CH-CLAY, fat, brown, dry	60.00					<120	76
65							160	38
70		70.00					320	16
70	SANDSTONE, medium grained, tan, dry	 70.00					320	10

10/27/2

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 2 of 2 HOLE DESIGNATION: PROJECT NAME: Flamenco Federal #1 SB-35 PROJECT NUMBER: 11220747 DATE COMPLETED: August 17, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING BGS ft BGS INTERVAL PID (ppm) NUMBER CI (ppm) \equiv REC 75.00 <120 19.6 SANDSTONE, fine to medium grained, brown, 75' dry - 80 80.00 80' <120 4.9 END OF BOREHOLE @ 80.00ft BGS This boring was dry. - 85 OVERBURDEN LOG Date: - 90 - 95 Report: --- 100 : GHD ENVIRO V06. GLB R - 115 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS

Page 1 of 2

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) co Federal #1 HOLE DESIGNATION: SB-36

PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: SB-36
PROJECT NUMBER: 11220747 DATE COMPLETED: August 8, 2021

CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh

LOCATIO	DN: Eddy County, New Mexico		FIELD PERSONNEL: C. Neligh							
DRILLING	G CONTRACTOR: Cascade		DRILLER	R: Cole						
DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS		DEPTH BGS	SOIL BORING	<u>K</u>		SAMF		Ê	
					NUMBER	INTERVAL	REC (ft)	CI (ppm)	PID (ppm)	
	SM-SILTY SAND, fine grained, brown, dry				2	1		<108	2.1	
-5	CALICHE		4.00		4	1		<108 2056	3.4 13.3	
	SM-SILTY SAND, fine grained, brown, dry		8.00					1648	10.4	
-10								1232	11.1	
- 15					15'	1		2400	19.3	
-20								1648	13.0	
- 25	SANDSTONE, fine to medium grained, tan, dry		25.00					1648	29.	
- 30	CH-CLAY, fat, brown, dry		30.00					572	5.4	
- 35	SANDSTONE, fine to medium grained, tan, dry		35.00	Cement- Bentonite Grout				848	95.	
-40								1148	14:	
-45	SANDSTONE, fine to medium grained, brown, dry		45.00					1068	38.	
- 50	CH-CLAY, fat, brown, dry		50.00		50'	9)		>2604	208	
- 55	SANDSTONE, fine grained, gray, dry		55.00					480	85.	
- 60	CH-CLAY, fat, brown, dry		60.00		60'	1		<120	20.	
- 65	, .				65'	1		320	49	
70	MUDSTONE, very fine grained, brown/red, dry	× × × × × × × × × × × × × × × × × × ×	70.00					420	3.7	

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 2 of 2 SB-36 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: PROJECT NUMBER: 11220747 DATE COMPLETED: August 8, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS PID (ppm) INTERVAL NUMBER CI (ppm) \equiv REC 75.00 <120 11.4 SANDSTONE, medium grained, tan, dry 75' - 80 80.00 80' <120 5.4 END OF BOREHOLE @ 80.00ft BGS This boring was dry. 10/27/2 - 85 OVERBURDEN LOG Date: - 90 - 95 Report: --- 100 : GHD ENVIRO V06. GLB R - 115 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 SB-37 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: PROJECT NUMBER: 11220747 DATE COMPLETED: August 8, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS (mdd) NTERVAL NUMBER CI (ppm) \equiv REC PD SM-SILTY SAND, fine grained, brown, dry 2' 1.2 <120 4.00 4' 572 2.1 CALICHE 5 1232 7.3 1648 4.5 10/27/21 1908 - 10 10.00 4.5 SM-SILTY SAND, fine grained, brown, dry - 15 15.00 852 5.2 OVERBURDEN LOG SP-SILTY CALICHE SAND, medium grained, tan, dry - 20 20.00 920 3.6 SM-SILTY SAND, fine grained, brown, dry Report: -- 25 436 3.7 GLB - 30 30.00 30' 1908 53.0 ENVIRO_V06 CH-CLAY, fat, brown, dry Cement-Bentonite Grout - 35 35.00 1324 68.0 GHD SANDSTONE, fine to medium grained, tan, dry 1908 67.0 -40 DATABASE\8-CHAR\11----\1122---\11220747 FLAMENCO\11220747-CO.GPJ 45' 732 86.7 - 45 45.00 CH-CLAY, fat, brown, dry - 50 1772 37.1 - 55 55.00 1068 17.1 CL-SANDY CLAY, fine grained, gray, dry 108 13.1 60.00 60' 60 CH-CLAY, fat, brown, dry 65.00 - 65 <108 65' 19.3 END OF BOREHOLE @ 65.00ft BGS This boring was dry. - 70 I:\LOG NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: SB-38 PROJECT NUMBER: 11220747 DATE COMPLETED: August 7, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS (mdd) NTERVAL NUMBER CI (ppm) \equiv REC PD SM-SILTY SAND, fine grained, brown, dry 2' 0.3 <120 4.00 4' >1604 1.7 CALICHE 5 >1604 12.5 SM-SILTY SAND, fine grained, brown, dry >1604 9.7 10/27/21 11.0 - 10 1232 - 15 15.00 920 38.1 CL-SANDY CLAY, fine grained, brown, dry OVERBURDEN LOG - 20 17.4 20.00 20' 2052 SM-SILTY SAND, fine grained, brown, dry Report: -- 25 1424 33.0 GLB - 30 30.00 856 19.7 ENVIRO_V06 SANDSTONE, fine to medium grained, tan to Cement-Bentonite Grout - 35 856 67.3 GHD 40.00 40' 676 105.3 - 40 SANDSTONE, medium grained, brown, dry DATABASE\8-CHAR\11----\1122---\11220747 FLAMENCO\11220747-CO.GPJ 1224 34.7 - 45 - 50 50.00 1760 5.0 CH-CLAY, fat, brown, dry - 55 55.00 1224 14.5 CLAYEY SANDSTONE, fine grained, brown, dry 252 19.3 60' 60 - 65 65 00 65' 188 10.5 END OF BOREHOLE @ 65.00ft BGS This boring was dry. - 70 I:\LOG NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 SB-39 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: PROJECT NUMBER: 11220747 DATE COMPLETED: July 26, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING BGS ft BGS NTERVAL PID (ppm) NUMBER CI (ppm) \equiv REC SM-SILTY SAND, fine grained, red/brown, dry 2' 0.8 <120 4' <120 0.5 - 5 Cement-Bentonite 10/27/21 Grout 10' - 10 <120 7.3 Date: 15.00 15' - 15 <120 20.1 OVERBURDEN LOG END OF BOREHOLE @ 15.00ft BGS This boring was dry. - 20 Report: -- 25 9 ENVIRO V06.GLB 7 30 - 35 Library File: GHD -40 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS

Page 1 of 1

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: SB-40

PROJECT NUMBER: 11220747 DATE COMPLETED: July 26, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic

	TION: Eddy County, New Mexico			INEL: C. Neligh					
	NG CONTRACTOR: Cascade		LLER: Cole				SAMF	PIF	
DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEP BG	S	SOIL BORING	E.				
					NUMBER	INTERVAL	REC (ft)	CI (ppm)	PID (ppm)
-	SM-SILTY SAND, fine grained, red/brown, dry	4.00			Ž	Z	IL.	<120	0.6
- - - 5 -	SANDY CALICHE, fine grained, tan, dry	4.00			4'			<120	0.5
10/27/21				Cement- Bentonite Grout	10'			<120	5.1
Library File: GHD ENVIRO, V06.GLB Report: OVERBURDEN LOG Date: 10/27/27/27 1	SANDSTONE, fine to medium grained, gray	15.00			15'			1600	12.6
ZB - 	END OF BOREHOLE @ 20.00ft BGS	20.00					_	1604	5.6
- -	This boring was dry.								
90.90 - 30									
0H - - - - - - - - - - - - - - - - - - -									
orary File: 0									
1									
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65 									
File: 1:\Log DATABASE\8-CHAR\11\1122\11220747 FLAMENC									
00 DA	NOTES: MEASURING POINT ELEVATIONS MAY CHANGE;	REFER TO	CURRENT E	ELEVATION TABLE					
File:	CHEMICAL ANALYSIS								

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 SB-40A PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: PROJECT NUMBER: 11220747 DATE COMPLETED: August 12, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS NTERVAL PID (ppm) NUMBER CI (ppm) \equiv REC SM-SILTY SAND, fine grained, brown, dry 2' <120 6.1 4.00 4' <120 2.8 CALICHE - 5 <120 5.0 8.00 <120 6.1 SM-SILTY SAND, fine grained, brown, dry 10/27/21 10' <120 7.1 - 10 Cement-Bentonite Grout - 15 <120 6.3 OVERBURDEN LOG - 20 6.3 20.00 20' 187 SANDSTONE, fine to medium grained, tan, dry Report: -- 25 25.00 25' 108 2.1 END OF BOREHOLE @ 25.00ft BGS 9 ENVIRO V06.GLB 7 30 This boring was dry. - 35 왕 Library File: -40 |:\LOG DATABASE\8-CHAR\11----\1122--\11220747 FLAMENCO\11220747-CO.GPJ - 45 - 50 - 55 60

MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

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CHEMICAL ANALYSIS

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STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 SB-41 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: PROJECT NUMBER: 11220747 DATE COMPLETED: July 27, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS NTERVAL PID (ppm) NUMBER CI (ppm) \equiv REC SM-SILTY SAND, fine grained, red/brown, dry 2' 0.8 <120 4' <120 0.5 - 5 Cement-Bentonite 10/27/21 Grout 10' - 10 <120 27.6 Date: 15.00 15' - 15 <120 43.0 OVERBURDEN LOG END OF BOREHOLE @ 15.00ft BGS This boring was dry. - 20 Report: -- 25 9 ENVIRO V06.GLB 7 30 - 35 Library File: GHD -40 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: SB-42 PROJECT NUMBER: 11220747 DATE COMPLETED: July 27, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS NTERVAL PID (ppm) NUMBER CI (ppm) \equiv REC SM-SILTY SAND, fine grained, red/brown, dry 2' <120 0.8 4.00 4' <120 0.6 CALICHE - 5 Cement-Bentonite 10/27/2 Grout 10' <120 34.2 - 10 10.00 SANDSTONE, fine to medium grained, tan brown, dry Date: 15' - 15 15.00 <120 18.9 OVERBURDEN LOG END OF BOREHOLE @ 15.00ft BGS This boring was dry. - 20 Report: -- 25 9 ENVIRO V06.GLB 7 30 - 35 Library File: GHD -40 |:\LOG DATABASE\8-CHAR\11---\1122--\11220747 FLAMENCO\11220747-CO.GPJ NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: SB-43 PROJECT NUMBER: 11220747 DATE COMPLETED: August 18, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS (mdd) NTERVAL NUMBER CI (ppm) \equiv REC PD SM-SILTY SAND, fine grained, brown, dry 2' 32 >2604 4' >2604 3.0 5 >2604 11.0 17.4 >2604 10/27/21 >2604 32.6 - 10 - 15 15.00 >2604 32.0 OVERBURDEN LOG CH-CLAY, fat, brown, dry - 20 20.00 27.7 >2604 SM-SILTY SAND, fine grained, brown, dry Report: -- 25 25.00 25' 1648 38.3 SANDSTONE, fine to medium grained, white, Cement-GLB Bentonite Grout 792 37.2 - 35 35.00 35' 2406 7.2 왕 CH-CLAY, fat, brown, dry 40' 160 13.3 -40 DATABASE\8-CHAR\11----\1122---\11220747 FLAMENCO\11220747-CO.GPJ 45.00 45' 160 38.3 - 45 SANDSTONE, medium grained, tan/yellow, dry - 50 50.00 50' 138 21.5 CLAYEY SANDSTONE, brown, dry - 55 55.00 55' <120 10.3 END OF BOREHOLE @ 55.00ft BGS This boring was dry. 60

MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

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CHEMICAL ANALYSIS

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STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN) Page 1 of 1 PROJECT NAME: Flamenco Federal #1 HOLE DESIGNATION: SB-44 PROJECT NUMBER: 11220747 DATE COMPLETED: August 6, 2021 CLIENT: EOG Resources DRILLING METHOD: Sonic LOCATION: Eddy County, New Mexico FIELD PERSONNEL: C. Neligh DRILLING CONTRACTOR: Cascade DRILLER: Cole SAMPLE DEPTH DEPTH STRATIGRAPHIC DESCRIPTION & REMARKS SOIL BORING ft BGS BGS PID (ppm) NTERVAL NUMBER CI (ppm) \equiv REC SM-SILTY SAND, fine grained, brown, dry 2' 2.1 <120 4.00 4' <120 0.9 SANDY CALICHE, fine grained - 5 1676 10.2 8' 2176 7.8 8.00 SM-SILTY SAND, fine grained, brown, dry 10/27/21 1472 - 10 4.5 - 15 15.00 14.1 Cement-436 OVERBURDEN LOG CH-CLAY, brown, dry Bentonite Grout - 20 11.5 735 Report: -- 25 25.00 25' <120 14.5 SANDSTONE, fine to medium grained, gray/tan, dry ENVIRO V06.GLB - 30 30.00 30' <120 9.5 END OF BOREHOLE @ 30.00ft BGS This boring was dry. - 35 왕 Library File: - 40 |:\LOG DATABASE\8-CHAR\11---\1122--\11220747 FLAMENCO\11220747-CO.GPJ NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE CHEMICAL ANALYSIS

Received by OCD: 2/22/2022 2:01:17 PM

FILE NO

LOCATION

PAGE I OF 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

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	OSE POD NO.	(WELL NO	.)	1	WELL TAG ID NO.			OSE FILE NO	S)		
ION	POD 12				PMW-10			C-4144			
OCAT	WELL OWNE	-						PHONE (OPT) 432-848-914			
1. GENERAL AND WELL LOCATION	WELL OWNE 5509 Cham							CITY Midland		STATE Texas	ZIP 79706
AND	WELL LOCATION			EGREES 32	MINUTES 24	SECONDS 15.17	N	• ACCURACY REQUIRED ONE TENTH OF A SECOND			
NERAI	(FROM GP	5)	TITUDE NGITUDE	-103	43	11.00	w	• DATUM RE	QUIRED WGS 84		
1. GE			NG WELL LOCATION TO Outh of US Highwa		ESS AND COMMON	LANDMARK	S PL	SS (SECTION, TO	WNSHJIP, RANGE) WE	IERE AVAILABLE	
97	LICENSE NO 166		NAME OF LICENSED	DRILLER	Shawn Cain				NAME OF WELL DR	ILLING COMPANY Cascade Drilling	
	DRILLING ST 8/3/2		DRILLING ENDED 8/3/21	DEPTH OF CO	MPLETED WELL (F	T) BO	RE HO	DLE DEPTH (FT)	DEPTH WATER FIR	ST ENCOUNTERED (FT NA	`)
Z	COMPLETED	WELL IS	ARTESIAN	DRY HOL	E SHALLO	W (UNCONFI	NED)		STATIC WATER LEV	VEL IN COMPLETED W NA	ELL (FT)
VTIO	DRILLING FL	.UID:	AIR	☐ MUD	ADDITIV	'ES SPECIFY					
RM/	DRILLING M	ETHOD:	ROTARY	HAMMER	CABLET	.00r	отні	ER - SPECIFY		Roto Sonic	
DRILLING & CASING INFORMATION	DEPTH (feet bgl) FROM TO		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)		and	CON	ASING NECTION TYPE oling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
ING &											
					+-						
2.											
	DEPTH (feet bgl)	BORE HOLE	LIS	ST ANNULAR SE	EAL MATE	RIAL	AND	AMOUNT	метно	DD OF
AL	FROM	ТО	DIAM. (inches)		VEL PACK SIZE				(cubic feet)	PLACE	
ANNULAR MATERIAL	0	105	6		Cement with	h 5% Benton	ite		23	Trimie P	umped
3. ANNULA											-
FOR	OSE INTERI	VAL USE	- 11				_	W/P. 2	0 WELL RECORD	& LOG (Version M/	20/10)

POD NO.

TRN NO.

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FILE NO.

LOCATION

PAGE 2 OF 2

(No. of Co.							
	DEPTH (fo	ret bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONE (attach supplemental sheets to fully describe all units)	S BE	ATER ARING? ES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	0	6	6	Fine Silty Sand Red/Brown	Y	✓ N	
838	6	10	4	Caliche	Y	✓ N	
3	10	15	5	Fine Clayey sand brown	Y	✓ N	
	15	25	10	Fine sandstone brown	Y	✓ N	
100	25	65	40	Fine silty sandstone Brown	Y	∨ N	
ر	65	70	5	Medium Sandstone Gray	Y	✓ N	
ÆL	70	85	15	Fine silty sandstone Brown	Y	✓ N	
JF V	85	90	5	Fine to Medium Sandstone	Y	✓ N	
9	90	95	5	Fine - Very fine Fat Clay Brown	Y	N	
2	95	105	10	Fine to medium sandstone	Y	N	
4. HYDROGEOLOGIC LOG OF WELL					Y	N	
5					Y	N	
00					Y	N	
Ę.					Y	N	
4. H					Y	N	
					Y		
g w					Y	N	
275					Y	N	
					Y	N	
					Y	N	
					Y	N	
, later	METHOD US	SED TO ES	TIMATE YIELD	OF WATER-BEARING STRATA:	TOTAL EST	IMATED	
90	PUMP	_	_	BAILER OTHER – SPECIFY:	WELL YIE		0.00
	РОМР	<u> </u>	IK LIFT	DAILER DIREK-SPECIFT:			
TEST; RIG SUPERVISION	WELL TEST	STAR		ACH A COPY OF DATA COLLECTED DURING WELL TESTING, INC ME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OV			
ST;						A	
S. TE		E(S) OF D	RILL RIG SUPER	VISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CON	STRUCTION	OTHER TH	IAN LICENSEE:
90	Jason Camp						
SIGNATURE	RECORD OF	THE ABO	VE DESCRIBED	AT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOR WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HA WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPI	S BEEN INST	TALLED A	ND THAT THIS
6. SIGN		St	-	Shawn Cain	1	1/19/21	<u>. </u>
		SIGNAT	URE OF DRILLE	R / PRINT SIGNEE NAME		DATE	
EO	OCE INTERN	IAI UCE		We to We	II DECODO	& 1.00 (V-	rsion 04/30/2019)
rUl	R OSE INTERN	AVE ODE		WK-20 WE	TT KTCOKD	T LOG (AC	131011 07 30 4017)

POD NO.

TRN NO.



PLUGGING RECORD



NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OW State Engineer Well Number: Well owner: EOG Resources	PMW-10		Phone No.:	432-848-9146
Mailing address: 5509 Cham	pions Drive		_	
City: Midland		State:	Texas	Zip code: 79706
II. WELL PLUGGING INF				
1) Name of well drilling	g company that plugge	d well: Cascade D	rilling	
2) New Mexico Well D	riller License No.: 160	64	E	expiration Date: 1/31/23
3) Well plugging activit Cliff Hillman	ies were supervised by	the following well	driller(s)/rig supervi	sor(s):
4) Date well plugging b	egan: 8/3/2021	Date	well plugging conclu	ded: 8/3/2021
5) GPS Well Location:	Latitude:	32 deg,		sec .00 sec, WGS 84
6) Depth of well confirm by the following mar	ned at initiation of plugner: tag line	gging as:105	_ ft below ground le	vel (bgl),
7) Static water level me	asured at initiation of p	olugging: None	_ ft bgl	
8) Date well plugging p	lan of operations was a	approved by the Sta	te Engineer: 3/24/2	2021
				If not, please describe ach additional pages as needed):

Released to Imaging: 5/2/2022 3:36:34 PM

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging <u>Material Used</u> (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	185	162	Tremie	Boring no water
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_		•			
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_	I	MULTIPLY E	BY AND OBTAIN		

MULTIPLY BY AND OBTAIN cubic feet x 7.4805 = gallons cubic yards x 201.97 = gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I, Shawn Cain , say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

11/20/21

Signature of Well Driller

Date

PAGE 1 OF 2

WR-20 WELL RECORD & LOG (Version 04/30/19)

TRN NO.

WELL TAG ID NO.

FOR OSE INTERNAL USE

FILE NO.

LOCATION



	OSE POD NO. (WELL NO.)		WELL TAG ID NO	l, s		OSE FILE NO	S).		
NO	POD 13				PMW-11			C-4144			
CAT	WELL OWNER EOG Resource			-				PHONE (OPTION 432-848-914			
Lo	WELL OWNER	MAILING	ADDRESS					CITY		STATE	ZIP
GENERAL AND WELL LOCATION	5509 Champi				72			Midland			79706
AND	WELL		DE	GREES 32	MINUTES 24	SECONDS 08.61					
Z Z	LOCATION	<u> </u>	ITUDE		· 		N]	REQUIRED: ONE TENT DUIRED: WGS 84	III OF A SECOND	
NER	(FROM GPS)	LON	GITUDE	-103	43	23.28	W	DATONIKE	YOIKED WG3 84	277	
GE					ESS AND COMMO	N LANDMARI	KS – PLS	S (SECTION, TO	WNSHJIP, RANGE) WII	ERE AVAILABLE	
=	Aproximately	y 10.5 so	uth of US Highway	y 62/180 							
	LICENSE NO.		NAME OF LICENSED	DRILLER					NAME OF WELL DRI		
	1664				Shawn Cain					ascade Drilling	
	DRILLING STA 8/5/21		DRILLING ENDED 8/5/21	DEPTH OF CO	MPLETED WELL (F NA	T) BO		LE DEPTH (FT) 105	DEPTH WATER FIRS	ST ENCOUNTERED (FT NA)
	COMPLETED V	WELL IS:	ARTESIAN	✓ DRY HOL	E SHALLO	DW (UNCONFI	NED)		STATIC WATER LEV	EL IN COMPLETED WI	ELL (FT)
TION	DRILLING FLU	JID:	AIR	MUD	ADDITIV	VES – SPECIFY	/ =				
RMA	DRILLING MET	THOD:	ROTARY	HAMMER	CABLE 1	LOOF -	OTHE	R - SPECIFY	R	toto Sonic	
IFO	DEPTH (fe	ect hal)	T	CASING	MATERIAL ANI	D/OR		•		l	T
(C I)	FROM TO		BORE HOLE DIAM		GRADE			ASING NECTION	CASING INSIDE DIAM	CASING WALL THICKNESS	SLOT
SIS			(inches)		each casing string	.	Т	YPE	(inches)	(inches)	(inches)
& CASIN			1		each casing string sections of screen	.	Т		201	Table 1	200
NG & CASING INFORMATION			1			, I	Т	YPE	201	Table 1	200
			1			, I	Т	YPE	201	Table 1	200
DRILLING			1			, I	Т	YPE	201	Table 1	200
			1			, I	Т	YPE	201	Table 1	200
DRILLING			1			, I	Т	YPE	201	Table 1	200
DRILLING			1			, I	Т	YPE	201	Table 1	200
DRILLING			1			, I	Т	YPE	201	Table 1	200
DRILLING			1			, I	Т	YPE	201	Table 1	200
DRILLING		cet høl)	(inches)	note s	sections of screen) (a	Tdd coup	YPE ling diameter)	(inches)	(inches)	(inches)
2. DRILLING	DEPTH (fc		1	LIS) (a	Tdd coup	AND	201	Table 1	(inches)
2. DRILLING		ect bgl) TO 105	(inches)	LIS	ST ANNULAR S) (a	Tidd coup	AND	(inches)	(inches)	OD OF MENT
2. DRILLING	DEPTH (fc	TO	BORE HOLE DIAM. (inches)	LIS	ST ANNULAR S	EAL MATE	Tidd coup	AND	AMOUNT (cubic feet)	(inches) METHO PLACE!	OD OF MENT
2. DRILLING	DEPTH (fc	TO	BORE HOLE DIAM. (inches)	LIS	ST ANNULAR S	EAL MATE	Tidd coup	AND	AMOUNT (cubic feet)	(inches) METHO PLACE!	OD OF MENT
2. DRILLING	DEPTH (fc	TO	BORE HOLE DIAM. (inches)	LIS	ST ANNULAR S	EAL MATE	Tidd coup	AND	AMOUNT (cubic feet)	(inches) METHO PLACE!	OD OF MENT
2. DRILLING	DEPTH (fc	TO	BORE HOLE DIAM. (inches)	LIS	ST ANNULAR S	EAL MATE	Tidd coup	AND	AMOUNT (cubic feet)	(inches) METHO PLACE!	OD OF MENT
DRILLING	DEPTH (fc	TO	BORE HOLE DIAM. (inches)	LIS	ST ANNULAR S	EAL MATE	Tidd coup	AND	AMOUNT (cubic feet)	(inches) METHO PLACE!	OD OF MENT

POD NO

PAGE 2 OF 2

WELL TAG ID NO.

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LOCATION

	DEPTH (feet bgl)		201.05.10	UD TUDE OF VILTERIAL EV	2011/2022				ESTIMATED
	FROM	то	THICKNESS (feet)	INCLUDE WAT	ND TYPE OF MATERIAL ENG ER-BEARING CAVITIES OR pplemental sheets to fully desc	FRACTURE Z	ONES	WAT BEAR (YES)	ING?	YIELD FOR WATER- BEARING ZONES (gpm)
	0	6	6		Fine Silty Sand Red/Brown			Y	✓ N	
Пл	6	10	4		Caliche			Y	✓ N	
	10	15	5		Fine Clayey sand brown			Y	✓ N	
	15	25	10		Fine sandstone brown			Y	✓ N	
	25	60	35		Fine silty sandstone Brown			Y	✓ N	
Ţ	60	70	10		Fat Clay Brown			Y	₩ N	
WEI	70	85	15		Fine silty sandstone Brown	1		Y	∨ N	
4. HYDROGEOLOGIC LOG OF WELL	85	105	20		Fine to Medium Sandstone			Y	✓ N	
00,								Y	N	
ICI								Y	N	
007								Y	N	
EO								Y	N	
ROC								Y	N	
EYD								Y	N	
4								Y	N	
								Y	N	
								Y	N	
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								Y	N	
								Y	N	
	METHOD U	SED TO ES	STIMATE YIELD	OF WATER-BEARIN	G STRATA:		тот	AL ESTIM	IATED	
_	PUMI	р Па	IR LIFT	BAILER O	THER - SPECIFY:		WEI	LL YIELD	(gpm):	0.00
-					THE OF CORT					
NO	WELL TES				TA COLLECTED DURING W HOWING DISCHARGE AND					
TEST; RIG SUPERVISION	MISCELLA	NEOUS INF	FORMATION.					-		
PER										
ns s										
RI										
EST	PRINT NAM	(E(S) OF DI	RILL RIG SUPER	VISOR(S) THAT PRO	VIDED ONSITE SUPERVISION	ON OF WELL	CONSTRU	CTION 01	THER TH	AN LICENSEE:
5. T	Jason Camp	(-,								
	Justin Cump									
SIGNATURE	RECORD OF	F THE ABO	VE DESCRIBED	WELL, I ALSO CERT	OF MY KNOWLEDGE AND FIFY THAT THE WELL TAG, HOLDER WITHIN 30 DAYS A	IF REQUIRED	, HAS BEE	EN INSTAI	LED AN	ID THAT THIS
6. SIGN		SLC	20		Shawn Cain			11/1	9/21	
		SIGNAT	URE OF DRILLE	R / PRINT SIGNEE	NAME				DATE	
FOE	R OSE INTERI	NAI IISE				Wp_20	MEII DE	COBD % i	OG (V~	sion 04/30/2019)
	E NO.	TAL USE			POD NO.	TRN N		COKD & L	.oo (ver	31011 0413012019]



PLUGGING RECORD



NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

	IERAL / WELL OWNERSHIP: Ingineer Well Number: PMW-11
Well or	vner: EOG Resources Phone No.: 432-848-9146
Mailing	address: 5509 Champions Drive
City:	fidland State: Texas Zip code: 79706
<u>II. WE</u>	LL PLUGGING INFORMATION: Name of well drilling company that plugged well: Cascade Drilling
2)	New Mexico Well Driller License No.: 1664 Expiration Date: 1/31/23
3)	Well plugging activities were supervised by the following well driller(s)/rig supervisor(s):
4)	Date well plugging began: 8/5/2021 Date well plugging concluded: 8/5/2021
5)	GPS Well Location: Latitude: 32 deg, 24 min, 8.61 sec Longitude: -103 deg, 43 min, 23.28 sec, WGS 84
6)	Depth of well confirmed at initiation of plugging as:
7)	Static water level measured at initiation of plugging: None ft bgl
8)	Date well plugging plan of operations was approved by the State Engineer: 3/24/2021
9)	Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

Released to Imaging: 5/2/2022 3:36:34 PM

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	185	162	Tremie	Boring no water
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	J	MULTIPLY E	BY AND OBTAIN	1	ı
		cubic feet x 7.4	1905 = gallons		

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I, Shawn Cain, say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

201.97

cubic yards

Signature of Well Driller

gallons

Date

11/20/21

PAGE 1 OF 2

FILE NO.

LOCATION



									<u> </u>				
	OSE POD NO). (WELL NO	(·)		WELL TAG ID NO).	_	OSE FILE NO(S).				
O	POD 14				SB-12			C-4144					
ATI	WELL OWN	ER NAME(S))					PHONE (OPTION					
00	EOG Resor	urces						432-848-9146					
LL	WELL OWN	ER MAILING	ADDRESS					CITY		STATE	ZIP		
Œ	5509 Chan	npions Dri	ve				Midland		Texas	79706			
D V		 _	D)	DEGREES MINUTES SECONDS			NDS	l					
Z	WELL			32	24		24	* ACCLIRACY	REQUIRED: ONE TEN	THOS A SECOND			
Z.	LOCATIO (FROM GP	LA	TITUDE	102	- 12		.24 N		QUIRED: WGS 84	III OI A SECOND			
GENERAL AND WELL LOCATION	(FROM I)	LO	NGITUDE	-103	43	21	.72 W	V					
S	DESCRIPTION	ON RELATIN	NG WELL LOCATION TO	STREET ADD	ESS AND COMMO	N LANDA	IARKS – PLS	S (SECTION, TO	WNSHJIP, RANGE) WH	IERE AVAILABLE			
H	Aproximate	ely 10.5 s	outh of US Highwa	y 62/180									
	LICENSE NO		NAME OF LICENSED	Dhu t i b					NAME OF BELL DR	H. I. I. C. COL (B. L. I.)			
	166		NAME OF LICENSED	DKILLEK	Shawn Cain				NAME OF WELL DR	ascade Drilling			
	DRILLING S		DRILLING ENDED	DURTH OF CO		NEW L	DODE US	LE DÉPTII (FT)		ST ENCOUNTERED (FT			
	8/7/2		8/7/21	DEFINOR CO	MPLETED WELL (F NA	.11	BORETIO	60	DEPTH WATERFIRE	NA NA	,		
			ll						STATIC WATER I EV	/EL IN COMPLETED W	Et I (ET)		
	COMPLETE	WELL IS:	ARTESIAN	DRY HOL	E 🔲 SHALLO	OW (UNC	ONFINED)		STATIC WATER LEV	NA NA	ELL(FI)		
CASING INFORMATION				- A 41/5	A PAPATONA				<u> </u>				
IAT	DRILLING F	LUID:	AIR	MUD	F-70	VES - SPE	707						
JR.	DRILLING M	IETHOD:	ROTARY	ПАММЕЯ	CVBTE.	TOOL	✓ OTHE	R – SPECIFY:	F	Roto Sonic			
Z	DEPTH	(feet bgl)	BORE HOLE	CASING	MATERIAL AN	D/OR	C.	ASING	CASING	CASING WALL	SLOT		
Š	FROM TO		DIAM		GRADE	1	1	ECTION	INSIDE DIAM.	THICKNESS	SIZE		
SIL	(inches)			each casing string sections of screen			YPE ing diameter)	(inches)	(inches)	(inches)			
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-3			BORE HOLE DIAM. (inches)	1	ST ANNULAR S VEL PACK SIZE				AMOUNT (cubic feet)	METHO PLACE			
RIA	FROM 0	TO 60	6	- OKA	Cement wit				14	Trimie P			
\TE		- 00	0		Cement wit	11 374 BC	mome		14	1 itimie r	unipeu		
X													
ANNULAR MATERIAL													
5 N													
m,													
FOR	OSE INTER	NAL USE						WR-20	WELL RECORD	& LOG (Version 04/:	30/19)		

POD NO.

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Received by OCD: 2/22/2022 2:01:17 PM

FILE NO.

LOCATION

PAGE 2 OF 2

	DEPTH (f	TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONE (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES/NO)	ESTIMATED YIELD FOR WATER- BEARING
				F: 63: 6 12 W		ZONES (gpm)
	0	6	2	Fine Silty Sand Red/Brown Caliche	YVN	
	2	Y VN				
900	- 6	8	2	Fine silty sand brown	Y VN	
	8		2	Fine Sandy Clay Brown	Y VN	
72	10	30	20	Fine silty sand Brown	Y VN	
17	30	40	10	Fine to medium sandstone Brown	Y VN	
WE	40	50	10	Very fat clay Brown	Y VN	
4. HYDROGEOLOGIC LOG OF WELL	50	60	10	Fine to Medium Sandstone	Y VN	
ĭ					Y N	
Cic					Y N	
) Lo					Y N	
GEC					Y N	
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	METHOD U	SED TO ES	TIMATE YIELD	OF WATER-BEARING STRATA:	TOTAL ESTIMATED	
	PUME	- -	IR LIFT	BAILER OTHER - SPECIFY:	WELL YIELD (gpm):	0.00
				<u> </u>	NUDNIC DISCULDOS	(ETUOD
SION	WELL TEST			ACH A COPY OF DATA COLLECTED DURING WELL TESTING, INC ME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVE		
ISIA	MISCELLAI	NEOUS INF	ORMATION:			
ER						
TEST; RIG SUPERVI						
RIG						
ST;						
5. TE		IE(S) OF DI	RILL RIG SUPER	VISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CON	STRUCTION OTHER TH	IAN LICENSEE:
4,	Jason Camp					
TURE	RECORD OF	THE ABO	VE DESCRIBED	AT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOR WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HA WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPI	S BEEN INSTALLED A	ND THAT THIS
6. SIGNATURE			Sh C	Shawn Cain	11/19/21	
9		SIGNAT	URE OF DRILLE	R / PRINT SIGNEE NAME	DATE	
FOR	R OSE INTERI	NAL USE		WR-20 WF	LL RECORD & LOG (Ve	rsion 04/30/2019)

POD NO.

TRN NO.



PLUGGING RECORD



NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

ell ov	ngineer Well Number: S wner: EOG Resources					Phone	No.: 432	2-848-9146	
ailing	address: 5509 Champi	ions Drive							
ty: N	Midland		State:	-	т	exas		Zip code: 7970	6
WE	LL PLUGGING INFO		raed well:	Cascade I	Orilling				
	New Mexico Well Dril						_ Expira	ation Date: 1/31/23	
	Well plugging activitie	es were supervised	by the follo	owing we	ll driller	(s)/rig su	pervisor(s	s):	
	Date well plugging beg	gan: 8/7/2021		Date	well plu	ugging co	ncluded:	8/7/2021	
	GPS Well Location:	Latitude: Longitude:	32 -103	deg, deg,	24 43	min, _ min, _	9.24 21.72	sec sec, WGS 84	
	Depth of well confirmed by the following mann		plugging as:	60	ft be	elow grou	nd level (bgl),	
	Static water level meas	sured at initiation	of plugging	None	ft bg	gl			
	Date well plugging pla	an of operations w	as approved	by the St	ate Engi	ineer:	3/24/2021	_	
	Were all plugging activ							If not, please dditional pages as n	

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Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging <u>Material Used</u> (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	110	93	Tremie	Boring no water
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_		MULTIPLY E	BY AND OBTAIN		

MULTIPLY		BY		AND OBTAIN
cubic feet	Х	7.4805	=	gallons
cubic yards	Х	201.97	=	gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I,	Shawn Cain	say	that I	am	familiar	with	the	rules	of	the	Office	of t	he	State
E	ngineer pertaining to the plugging of wells and that ea													
ar	re true to the best of my knowledge and belief.													

Signature of Well Driller

11/20/21

Date

Received by OCD: 2/22/2022 2:01:17 PM

FILE NO.

LOCATION

PAGE 1 OF 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

	OSE POD NO	. (WELL NO	.)		WELL TAG ID NO).		OSE FILE NO(S).				
Z	POD 16				SB-14			C-4144					
Ě	WELL OWNE	R NAME(S)	 I					PHONE (OPTIONAL)					
CA	EOG Resou							432-848-914					
7	WELL OWNE	D MAIL INC	ADDRESS					CITY		STATE	ZIP		
173	5509 Cham							Texas	79706				
*		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			<u> </u>					Texas	17100		
2	WELL		DI	EGREES	MINUTES	SECON							
LA	LOCATIO	N LAT	TITUDE	32	24	08.6	5 N	* ACCURACY	REQUIRED: ONE TEN	TII OF A SECOND			
₹.	(FROM GP	S)	COLLEGE	-103 43 21.85 W * DATUM REQUIRED: WGS 84									
Z			NGITUDE										
1. GENERAL AND WELL LOCATION	DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIJP, RANGE) WHERE AVAILABLE Approximately 10.5 south of US Highway 62/180												
	LICENSE NO		NAME OF LICENSED	DDUILED					NAME OF WELL DR	H I INC COMBANY			
	166		NAME OF LICENSED	DRILLER	Shawn Cain					ascade Drilling			
	DRILLING ST 8/6/2		DRILLING ENDED 8/6/21	DEPTH OF CO	MPLETED WELL (F NA	"		LE DEPTH (FT)	DEPTH WATER FIR	ST ENCOUNTERED (F NA	T)		
	6707.		6/0/21		IIA								
	COMPLETED	WELL IS:	ARTESIAN	DRY HOL	LE SHALLO	W (UNCO	NFINED)		STATIC WATER LEV	VEL IN COMPLETED V NA	VELL (FT)		
TION	DRILLING FLUID: AIR MUD ADDITIVES - SPECIFY:						IFY:		<u> </u>				
CASING INFORMATION	DRILLING M	ETHOD:	ROTARY	П наммён	CABLE T	TOOL	OTHE	R = SPECIFY:	I	Roto Sonic			
N.	DEPTH ((feet bgl)	BORE HOLE	CASING	MATERIAL ANI	D/OR		ASING	CASING	CASING WALL	SLOT		
G	FROM TO		DIAM	1	GRADE			NECTION	INSIDE DIAM.	THICKNESS	SIZE		
SIS			(inches)		each casing string, sections of screen)		T	YPE	(inches)	(inches)	(inches)		
ა				note	sections of section)	' —	(add coup)	ling diameter)		<u> </u>			
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2. DRILLING				-									
DR													
4													
	DEPTH ((feet bgl)	BORE HOLE	LI	ST ANNULAR SI	EAL MAT	ERIAL A	AND	AMOUNT	метн	OD OF		
AL	FROM	то	DIAM. (inches)	1	VEL PACK SIZE				(cubic feet)	PLACE			
R.	0	35	6	 	Cement wit	h 5% Beni	onite		7,5	Trimie	Pumned		
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3. ANNULAR MATERIAL													
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LOCATION

PAGE 2 OF 2

	DEPTH (feet bgl)		COLOR AND TYPE OF MATERIAL ENCOUNTERED			ESTIMATED
	FROM	то	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONE (attach supplemental sheets to fully describe all units)	S	WATER BEARING? (YES/NO)	YIELD FOR WATER- BEARING ZONES (gpm)
	0	Y VN					
	2	Y VN					
- 4	6	20	14	Fine silty sand brown		Y VN	
	20	30	10	Fat Clay Brown		Y VN	
	30	35	5	Medium sandstone White		Y VN	
3						Y N	
4. HYDROGEOLOGIC LOG OF WELL						Y N	
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00						Y N	
CI					Î	Y N	
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						Y N	
	METHOD U	SED TO E	STIMATE YIELD	OF WATER-BEARING STRATA:	TOTA	AL ESTIMATED	
	□ PUMI	P □ A	AIR LIFT	BAILER OTHER - SPECIFY:	WEL	L YIELD (gpm):	0.00
NO	WELL TES			ACH A COPY OF DATA COLLECTED DURING WELL TESTING, IN ME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OV			
TEST; RIG SUPERVISION	MISCELLA	NEOUS IN	FORMATION:				
PER							
S							
RI							
EST	PRINT NAM	(E(S) OF D	RILL RIG SUPER	VISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CON	ISTRUC	CTION OTHER TH	AN LICENSEE:
5. T	Cliff Hillma		_				
D.							
TURE	RECORD O	F THE ABO	OVE DESCRIBED	AT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOI WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HA WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMP	AS BEE	N INSTALLED AN	D THAT THIS
SIGNATURE	98	St_	6	Shawn Cain		11/19/21	
9		SIGNAT	TURE OF DRILLE	R / PRINT SIGNEE NAME		DATE	
							21 5 50

POD NO.

TRN NO.



PLUGGING RECORD



NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

State En	ngineer Well Number: SB-14 wner: EOG Resources		Phone No.:	432-848-9146
Mailing	g address: 5509 Champions Drive		Texas	70706
City: N	nicialia	_ State:	rexas	Zip code: 79706
II. WE	LL PLUGGING INFORMATION:			
1)	Name of well drilling company that plugged	d well: Casca	de Drilling	
2)	New Mexico Well Driller License No.: 160	64	Ел	spiration Date: 1/31/23
3)	Well plugging activities were supervised by Cliff Hillman	the following	well driller(s)/rig supervis	or(s):
4)	Date well plugging began: 8/6/2021		Date well plugging conclud	led: 8/6/2021
5)	GPS Well Location: Latitude: Longitude:	32 deg,	24 min, 8.6 43 min, 21.	65 sec 85 sec, WGS 84
6)	Depth of well confirmed at initiation of plus by the following manner: tag line	gging as:	ft below ground lev	/el (bgl),
7)	Static water level measured at initiation of p	olugging: N	one ft bgl	
8)	Date well plugging plan of operations was a	approved by the	e State Engineer: 3/24/2	021
9)	Were all plugging activities consistent with differences between the approved plugging			

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10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	70	54	Tremie	Boring no water
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		MULTIPLY 8	AND OBTAIN		

MULTIPLY		8Y		AND OBTAIN
cubic feet	Х	7.4805	=	galions
cubic yards	Х	201.97	=	gallons

III. SIGNATURE:

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I, Shawn Cain , say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Signature of Well Driller

11/20/21

Date

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

OSE POD NO. (WELL NO.) POD 17 WELL OWNER NAME(S) EOG Resources WELL OWNER MAILING ADDRESS 5509 Champions Drive WELL DEGREES MINUTES SECONDS WELL LOCATION (PROM GPS) LONGITUDE DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIIP, RANGE) WHERE AVAILABLE Approximately, 10 S south of US Highway 62(180)										
WELL OWNER NAME(S) EOG Resources WELL OWNER MAILING ADDRESS PHONE (OPTIONAL) 432-848-9146 CITY STATE										
WELL OWNER NAME(S) EOG Resources PHONE (OPTIONAL) 432-848-9146 WELL OWNER MAILING ADDRESS CITY STATE	C-4144									
EOG Resources 432-848-9146 WELL OWNER MAILING ADDRESS CITY STATE	PHONE (OPTIONAL)									
WELL OWNER MAILING ADDRESS CITY STATE										
	ZIP									
5509 Champions Drive Midland Texas	79706									
3										
WELL DEGREES MINUTES SECONDS 32 24 08.09 ACCURACY REQUIRED: ONE TENTH OF A SECONDS **ACCURACY REQUIRED: ONE TENTH OF A SECONDS										
LOCATION LATITUDE 32 24 08.09 N *ACCURACY REQUIRED: ONE TENTIL OF A SECON	∜D									
(FROM GPS) LONGITUDE -103 43 21.79 W *DATUM REQUIRED WGS 84										
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIJP, RANGE) WHERE AVAILAB	LÉ									
Aproximately 10.5 south of US Highway 62/180										
LICENSE NO. NAME OF LICENSED DRILLER NAME OF WELL DRILLING COMPA	NY									
1664 Shawn Cain Cascade Drillin	g									
DRILLING STARTED DRILLING ENDED DEPTH OF COMPLETED WELL (FT) BORE HOLE DEPTH (FT) DEPTH WATER FIRST ENCOUNTE	RED (FT)									
8/6/21 8/6/21 NA 45 NA	F%									
STATIC WATER LEVEL IN COMPLI	TED WELL (FT)									
COMPLETED WELL IS: ARTESIAN DRY HOLE SHALLOW (UNCONFINED)										
DRILLING FLUID: AIR MUD ADDITIVES - SPECIFY: DRILLING METHOD: ROTARY HIAMMER CABLE TOOL OTHER - SPECIFY: Roto Sonic DEPTH (feet bgl) BORE HOLE GRADE (SPECIFY) CASING CONNECTION HINSIDE DIAM (inches) (include each casing string, and note sections of screen) (inches) (inches) (inches)										
DRILLING METHOD: ROTARY HAMMER CABLE TOOL OTHER - SPECIFY: Roto Sonic	ED SPECIEV. Data Canic									
DRIEDROMETRO. ROTAL MARKET CABELLOGE CONTRACTOR CONTRAC	IN SOLIT									
DEPTH (feet bgl) BORE HOLE CASING MATERIAL AND/OR CASING CA	VALL SLOT									
FROM TO DIAM GRADE CONNECTION INSIDE DIAM. THICKN	ESS SIZE									
(inches) (inches) (inches) (inches) (inches) (inches) (inches)	s) (inches)									
DRILLING										
G .										
DEPTH (feet bgl) BORE HOLE LIST ANNULAR SEAL MATERIAL AND AMOUNT	METHOD OF									
TO THE STATE OF TH	METHOD OF LACEMENT									
TO THE STATE OF TH	LACEMENT									
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FROM TO DIAM. (inches) GRAVEL PACK SIZE-RANGE BY INTERVAL (cubic feet) F 0 45 6 Cement with 5% Bentonite 10 T	LACEMENT									
FROM TO DIAM. (inches) GRAVEL PACK SIZE-RANGE BY INTERVAL (cubic feet) F 0 45 6 Cement with 5% Bentonite 10 T	LACEMENT									
FROM TO DIAM. (inches) GRAVEL PACK SIZE-RANGE BY INTERVAL (cubic feet) F 0 45 6 Cement with 5% Bentonite 10 T	LACEMENT									
FROM TO DIAM. (inches) GRAVEL PACK SIZE-RANGE BY INTERVAL (cubic feet) FROM TO DIAM. (inches) GRAVEL PACK SIZE-RANGE BY INTERVAL (cubic feet) FROM TO DIAM. (inches) GRAVEL PACK SIZE-RANGE BY INTERVAL (cubic feet) FROM TO DIAM. (inches) GRAVEL PACK SIZE-RANGE BY INTERVAL (cubic feet) FROM TO DIAM. (inches) GRAVEL PACK SIZE-RANGE BY INTERVAL (cubic feet) FROM TO DIAM. (inches) GRAVEL PACK SIZE-RANGE BY INTERVAL (cubic feet) FROM TO DIAM. (inches) DIAM. (inches) GRAVEL PACK SIZE-RANGE BY INTERVAL (cubic feet) FROM TO DIAM. (inches) DIA	LACEMENT									
FROM TO DIAM. (inches) GRAVEL PACK SIZE-RANGE BY INTERVAL (cubic feet) F O 45 6 Cement with 5% Bentonite 10 T	LACEMENT									

FOR OSE INTERNAL USE

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WR-20 WELL RECORD & LOG (Version 04/30/19)

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LOCATION WELL TAG ID NO. PAGE I OF 2

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PAGE 2 OF 2

	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONE (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES/NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)			
	0	2	2	Fine Silty Sand Red/Brown	Y VN	ZONES (gpin)			
W	2	4	2	Caliche	YVN				
	4		6	1.10	YVN				
	10	10	5	Fine silty sand brown	YVN				
11				Fat Clay Brown					
X	15	30	15	Fine silty sand Brown	Y VN				
ELL	30	42	12	Medium silty sandstone Tan	Y VN				
F W.	42	45	3	Fat clay Brown	Y VN				
00					Y N				
07					Y N				
GIC					YN				
OTO		ļ.			Y N				
HYDROGEOLOGIC LOG OF WELL					Y N				
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	METHOD U	SED TO ES	TOTAL ESTIMATED						
	□римі	P 🔲 AI	IR LIFT	BAILER OTHER - SPECIFY:	WELL YIELD (gpm):	0.00			
UPERVISION	WELL TEST TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD. MISCELLANEOUS INFORMATION:								
TEST; RIG SUPERV									
	PRINT NAM	IE(S) OF DE	RILL RIG SUPER	VISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CON	STRUCTION OTHER TH	IAN LICENSEE:			
'n	Cliff Hillma	n							
SIGNATURE	RECORD O	F THE ABO	VE DESCRIBED	AT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOR WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HA WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPL	S BEEN INSTALLED AN	ND THAT THIS			
6. SIGN		BL	<u>C</u>	Shawn Cain	11/19/21				
	SIGNATURE OF DRILLER / PRINT SIGNEE NAME DATE								
	R OSE INTER	NALUSE		up to tur	I DECORD & LOCAV	04/20/20105			
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POD NO.

TRN NO.



PLUGGING RECORD



NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

State	Engineer Well Number: SB-1	5					
Well	owner: EOG Resources			Phone	No.: 432-	848-9146	
Maili	ng address: 5509 Champions	Drive					
City:		Sta	te:	Texas		Zip code:	79706
<u>II. W</u>	VELL PLUGGING INFORM	MATION:					
1)	Name of well drilling com	pany that plugged well	Cascade	Drilling			
2)					Б.	1/	31/23
2)	New Mexico Well Driller	License No.:			Expira	tion Date: 1/	01120
3)	Well plugging activities w Cliff Hillman	ere supervised by the f	ollowing w	ell driller(s)/rig su	pervisor(s)	:	
4)	Date well plugging began:	8/6/2021	Da	te well plugging c	oncluded: 3	8/6/2021	
5)	GPS Well Location:	Latitude: 32 Longitude: -103	deg, _ deg, _	24 min, 43 min,	8.09 21.79	_ sec _ sec, WGS 8	4
6)	Depth of well confirmed a by the following manner:		as:45	ft below grou	ınd level (b	ogl),	
7)	Static water level measure	d at initiation of pluggi	ng: Nor				
8)	Date well plugging plan of	operations was approv	ed by the	State Engineer:	3/24/2021		
9)	Were all plugging activitie differences between the ap				Yes I (attach ad		ease describe s as needed):

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Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with 10) horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of <u>Material Placed</u> (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
_	Neat Cement	88	70	Tremie	Boring no water
_					
_					
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	'	MULTIPLY E	BY AND OBTAIN	'	

MULTIPLY		BY		AND OBTAIN
cubic feet	Х	7.4805	=	gallons
cubic yards	х	201.97	=	gallons

III. SIGNATURE:

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I,	Shawn Cain	, say	that	I am	familiar	with	the	rules	of the	Office	of the	State
E	ingineer pertaining to the plugging of wells and that e	ach a	nd all	of the	e stateme	nts in	this	Plugg	ing Re	cord and	i attacl	ments
ar	re true to the best of my knowledge and belief.											

11/20/21 Signature of Well Driller

Date

PAGE 1 OF 2

FILE NO.



NO	OSE POD NO POD 18	. (WELL NO	(.)	I .	WELL TAG ID NO. SB-16			OSE FILE NO(S).			
OCATI	WELL OWNER NAME(S) EOG Resources							PHONE (OPTIONAL) 432-848-9146				
1. GENERAL AND WELL LOCATION	WELL OWNE 5509 Cham							CITY Midland		STATE Texas	ZIP 79706	
9		T	DI	EGREES	MINUTES	SECON	DS	1		· · · · · · · · · · · · · · · · · · ·		
AL AN	LOCATIO	- Lit	TITUDE	32	24	08.0		[TH OF A SECOND			
盗	(FROM GP	S) LO	NGITUDE	-103	43	20.9	9 W	* DATUM REC	QUIRED: WGS 84			
E	DESCRIPTION	N RELATIN	G WELL LOCATION TO	STREET ADDRE	SS AND COMMON	LANDMA	RKS - PLS	S (SECTION, TO)	WNSHIIP, RANGE) WH	IERE AVAILABLE		
1.0			outh of US Highwa					`				
144	LICENSE NO		NAME OF LICENSED	DRILLER					NAME OF WELL DR	ILLING COMPANY	-	
	166				Shawn Cain					ascade Drilling	_	
	DRILLING ST 8/6/2		DRILLING ENDED 8/6/21	DEPTH OF COM	IPLETED WELL (FT NA		BORE HOI	LE DEPTH (FT) 20	DEPTH WATER FIR	NA NA	FT)	
z	COMPLETED	WELL IS:	ARTESIAN	DRY HOLE	SHALLO	W (UNCO	NFINED)		STATIC WATER LEV	VEL IN COMPLETED NA	WELL (FT)	
110	DRILLING FL	.บID:	AIR	MUD	ADDITIV	ES – SPEC	IFY		1-			
MA	DRILLING	ETHOD:	ROTARY	HAMMER	HAMMER CABLE TOOL OTHER - SPECIFY:			Roto Sonic				
OR	DRILLING METHOD: ROTARY HAMMER CABLE TOOL						- OTHE	Total Solite				
Z	DEPTH (feet bgl)		BORE HOLE	CASING M	IATERIAL AND	/OR	CA	SING	CASING	CASING WAL	L SLOT	
Š	FROM TO		DIAM				CONN	VECTION	INSIDE DIAM.	THICKNESS	SIZE	
SI			(inches)		ections of screen)				(inches)	(inches)	(inches)	
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2. DRILLING & CASING INFORMATION												
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	DEPTH	(feet hal)	DODE WALL		T ANIMUL AD CO	'AT 2447	CEDIAI :	NID	A) (O) INT		20.00	
٦		TO	BORE HOLE DIAM (inches)	1	T ANNULAR SE EL PACK SIZE-				AMOUNT (cubic feet)		HOD OF EMENT	
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WELL TAG ID NO.

DEPTH (isot by)										
1					INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES	BEARING?	YIELD FOR WATER- BEARING			
2		0	2	YVN	(gp)					
TOTAL ESTIMATE YIELD OF WATER-BEARING STRATA:	- 9					-				
TOTAL ESTIMATE YIELD OF WATER-BEARING STRATA:		4	20	14	Fine silty sand brown	Y VN				
Y N Y N	- 10					Y N				
Note	5 11					Y N				
WELL TEST TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD. WELL TEST TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD. PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: Cliff Hillman BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING. Shawn Cain 11/19/21 SIGNATURE OF DRILLER / PRINT SIGNEE NAME DATE	ų					Y N				
WELL TEST STRESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD. WELL TEST STRESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD. PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: Cliff Hillman BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING. Shawn Cain 11/19/21 SIGNATURE OF DRILLER / PRINT SIGNEE NAME DATE	WEL					Y N				
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SIGNATURE OF DRILLER / PRINT SIGNEE NAME DATE	ATURE	RECORD OF	F THE ABO	VE DESCRIBED	WELL, I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS	BEEN INSTALLED AN	ND THAT THIS			
SIGNATURE OF DRILLER / PRINT SIGNEE NAME DATE	SIGN		St		Shawn Cain	11/19/21				
FOR OSE INTERNAL USE WR-20 WELL RECORD & LOG (Varion 04/30/2019)	.0				R / PRINT SIGNEE NAME	DATE	<u> </u>			
	FOR									

POD NO.



PLUGGING RECORD



NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OWNERSHIP: State Engineer Well Number: SB-16			
Well owner: EOG Resources		Phone No :	432-848-9146
Mailing address: 5509 Champions Drive		I Hone Ivo.,	
City: Midland	State:	Texas	Zip code: 79706
II. WELL PLUGGING INFORMATION:			
Name of well drilling company that plu	gged well: Cascade	Drilling	
2) New Mexico Well Driller License No.:			xpiration Date: 1/31/23
 Well plugging activities were supervise Cliff Hillman 	d by the following w	vell driller(s)/rig supervi	sor(s):
4) Date well plugging began: 8/6/2021	Da	te well plugging conclu	ded: 8/6/2021
5) GPS Well Location: Latitude: Longitude: _			03 sec .99 sec, WGS 84
6) Depth of well confirmed at initiation of by the following manner: tag line	plugging as: 20	ft below ground le	vel (bgl),
7) Static water level measured at initiation	of plugging: No	ne ft bgl	
8) Date well plugging plan of operations v	vas approved by the	State Engineer: 3/24/2	2021
9) Were all plugging activities consistent v differences between the approved plugg			

Released to Imaging: 5/2/2022 3:36:34 PM

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	40	31	Tremie	Boring no water
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		MULTIPLY E	AND OBTAIN		

MULTIPLY		BY		AND OBTAIN
cubic feet	х	7.4805	=	gallons
cubic yards	х	201.97	=	gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I,	Shawn Cain	, say	that	I am	familiar	with	the	rules	of the	e Office	of th	e State
Eı	ngineer pertaining to the plugging of wells and that ea	ach a	nd all	of th	e stateme	nts in	this	Plugg	ing Re	ecord and	l attac	hments
ar	e true to the best of my knowledge and belief.											

Signature of Well Driller

11/20/21

FILE NO.

LOCATION

PAGE 1 OF 2



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

7	OSE POD NO.	(WELL NO	.)		WELL TAG ID NO. SB-17		OSE FILE NO	S).		
CATIO	WELL OWNE				58-17		PHONE (OPTI 432-848-914			
WELL LO	WELL OWNE 5509 Cham						CITY Midland		STATE Texas	ZIP 79706
1. GENERAL AND WELL LOCATION	1	S) LON	TITUDE NGITUDE		24 03 43 20	SECONDS 08.04 N • ACCURACY REQUIRE * DATUM REQUIRED W LANDMARKS - PLSS (SECTION, TOWNSHIJIP,				
	LICENSE NO.		NAME OF LICENSED	DRILLER	Shawn Cain			NAME OF WELL DR	ILLING COMPANY ascade Drilling	
	DRILLING ST 7/26		DRILLING ENDED 7/26/21	DEPTII OF CO	MPLETED WELL (FT) NA	BORE HO	LE DEPTH (FT)	DEPTH WATER FIR	ST ENCOUNTERED (FT NA	<u> </u>
Z	COMPLETED	WELL IS	ARTESIAN	DRY HOL	E SHALLOW (UNG	CONFINED)		STATIC WATER LEV	VEL IN COMPLETED W NA	ELL (FT)
\TI0	DRILLING FL	UID:	AIR	MUD	ADDITIVES SP	ECIFY:				
CASING INFORMATION	DRILLING MI	ETHOD:	ROTARY	IIAMMER	CABLE TOOL	✓ OTHE	R - SPECIFY	F	Roto Sonic	
	DEPTH (fect bgl) TO	BORE HOLE DIAM (inches)	(include o	MATERIAL AND/OR GRADE each casing string, and sections of screen)	CONI	ASING NECTION FYPE ding diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
2. DRILLING &										
	DEPTH (BORE HOLE		ST ANNULAR SEAL M			AMOUNT	METHO	
TERIAL	FROM 0	TO 15	DIAM (inches)	GRA	VEL PACK SIZE-RANG Cement with 5% B		cKVAL	(cubic feet)	PLACEI Trimie P	
3. ANNULAR MATERIAL										
FOE	OSE INTERI	NAL LICE					W/D 2/	WELL RECORD &	P. LOG (Varaion 04)	20/10/

POD NO.

TRN NO.

	DEPTH (1	feet bgl)		COLOR AN	ND TYPE OF MATERIAL E	NCOUN	ITERED -		WAT	LED	ESTIMATED
	FROM	то	THICKNESS (feet)	INCLUDE WAT	ER-BEARING CAVITIES C	R FRAC	CTURE ZONE	S	BEAR (YES)	ING?	YIELD FOR WATER- BEARING ZONES (gpm)
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	2	15	13		Fine Silty sand				Y	✓ N	
						_			Y	N	
									Y	N	
									Y	N	
3									Y	N	
LOG OF WELL									Y	N	
OF									Y	N	
007									Y	N	
CIC									Y	N	
Š									Y	N	
4. HYDROGEOLOGIC									Y	N	
DRO					-			:	Υ	N	
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	METHOD U		STIMATE YIELD	OF WATER-BEARIN	IG STRATA: THER - SPECIFY:				AL ESTIM LL YIELD		0.00
RVISION	WELL TES				TA COLLECTED DURING HOWING DISCHARGE AN						
RIG SUPEI	MISCELLA	NEOUS IN	FORMATION:								
TEST;	PRINT NAM	1E(S) OF D	RILL RIG SUPER	VISOR(S) THAT PRO	OVIDED ONSITE SUPERVI	SION O	F WELL CON	STRU	CTION O	THER TH	IAN LICENSEE:
ν,	Cliff Hillma	n									
SIGNATURE	RECORD OF	F THE ABO	OVE DESCRIBED	WELL, I ALSO CERT	OF MY KNOWLEDGE AN FIFY THAT THE WELL TA HOLDER WITHIN 30 DAY:	G, IF RI	EQUIRED, HA	S BEE	N INSTA	LLED AN	ID THAT THIS
6. SIGN		B	LC		Shawn Cain	_			11/1	9/21	
		SIGNAT	URE OF DRILLE	R / PRINT SIGNEE	NAME					DATE	
_FOI	R OSE INTER	NAL USE					WR-20 WE	LL RE	CORD & I	LOG (Vei	rsion 04/30/2019)
	E NO.				POD NO.		TRN NO.				
LO	CATION					WELL	TAG ID NO.				PAGE 2 OF 2

WELL TAG ID NO.





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

Well	Engineer Well Number: SB-17 owner: EOG Resources			Phone	No.: 432	-848-9146	
Maili	ng address: 5509 Champions Drive						
City:	Midland	State:]	exas		Zip code:	79706
II W	VELL PLUGGING INFORMATION:						
1)	Name of well drilling company that pl	ugged well: Cas	cade Drilling				
2)	New Mexico Well Driller License No.	1664			_ Expira	ation Date; 1	31/23
3)	Well plugging activities were supervise Cliff Hillman	ed by the following	ng well driller	(s) rig su	pervisor(s):	
4)	Date well plugging began: 7/26/202	21	Date well pl	ugging co	oncluded:	7/26/2021	
5)	GPS Well Location: Latitude: Longitude:	32 de	eg, 24 eg, 43	min, _	8.04 20.64	_ sec _ sec, WGS 8	34
6)	Depth of well confirmed at initiation o by the following manner: tag line	f plugging as:	15 ft be	low grou	ınd level (bgl),	
7)	Static water level measured at initiation	n of plugging:	None ft b	gl			
8)	Date well plugging plan of operations	was approved by	the State Eng	ineer:	3/24/2021		
9)	Were all plugging activities consistent differences between the approved plug				Yes (attach a		lease describes as needed):
1							

For each interval plugged, describe within the following columns:

Neat Cement 32 23 Tremie Boring no water	Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
		Neat Cement	32	23	Tremie	Boring no water
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MULTIPLY		BY		AND OBTAIN
cubic feet	X	7.4805	=	gallons
cubic yards	χ	201.97	=	gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I, Shawn Cain , say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

11/20/21

Signature of Well Driller

FOR OSE INTERNAL USE

FILE NO.

LOCATION



	OSE POD NO.	(WELL NO.)		WELL TAG ID NO),		OSE FILE NO	S)		.,	
Z	POD 20				SB-18			C-4144				
Ĕ	WELL OWNE	R NAME(S)						PHONE (OPTI	DNALL			
S	EOG Resou							432-848-914				
2									·			
L	WELL OWNE							CITY Midland		STATE	_	ZIP
WE	5509 Cham	pions Dir	ve					Midland		Texas	/	9706
9	110:11		Di	GREES	MINUTES	SECON	DS					
Y	LOCATION		Admira Land	32	24	13.8	9 N	* ACCURACY	REQUIRED: ONE TEN	TII OF A SE	COND	
3	(FROM GP:	Ditt	TITUĐE	-103	42	21.0			QUIRED: WGS 84			
GENERAL AND WELL LOCATION	(1 KOM OI	LON	GITUDE	-103	43	21.2	0 W					
S	DESCRIPTIO	N RELATIN	G WELL LOCATION TO	STREET ADDRI	ESS AND COMMO	N LANDMA	RKS - PLS	S (SECTION, TO	WNSHJIP, RANGE) WI	IERE AVAIL	ABLE	
-	Aproximate	ly 10.5 sc	outh of US Highwa	y 62/180								
	<u> </u>			227								
P O	LICENSE NO.		NAME OF LICENSED	DRILLER					NAME OF WELL DR			
	166	4			Shawn Cain				C	ascade Dri	lling	
	DRILLING ST	TARTED	DRILLING ENDED	DEPTH OF COX	APLETED WELL (F	T)	BORE HOL	E DEPTH (FT)	DEPTH WATER FIR	ST ENCOUN	TERED (FT)	
	8/11/	21	8/11/21		NA			70		NA		
					1057	I.			STATIC WATER LEV	/EL IN COM	PLETED WEI	LL (FT)
_	COMPLETED	WELL IS:	ARTESIAN	DRY HOLE	SHALLO	W (UNCO)	NFINED)			NA		()
Ö					1807.05		502					
Ψ¥	DRILLING FL	.UID:	AIR	MUD	ADD IT 1\	ES – SPEC	IFY:					
& CASING INFORMATION	DRILLING M	ETHOD:	ROTARY	IIAMMER	CABLE 1	TOOL .	OTHER	R - SPECIFY	F	Roto Soni	c	
FO.	DEPTH ((foot hall)		CASINGA	ATERIAL ANI	D/OP I						
Z	 		BORE HOLE	CASINON	GRADE	D/OK		SING	CASING		G WALL	SLOT
N	FROM	то	DIAM	(include ea	ach casing string.	and		IECTION YPE	INSIDE DIAM.	497	KNESS	SIZE (inches)
AS			(inches)	note se	ections of screen)		ing diameter)	(inches)	(111)	ches)	(menes)
8												
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DRILLING												
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	DEPTH (feet bøl)	BORE HOLE	1 10	T ANNULAR S	EAT MAT	TERIAL A	ND	AMOUNT		Memuor) OF
-3			DIAM. (inches)		'EL PACK SIZE				(cubic feet)		METHOI PLACEM	
RA	FROM	TO		GIA.				IX Y / IL	, ,			
TE	0	70	6		Cement wit	h 5% Bent	tonite		15		Trimie Pu	mped
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ANNULAR MATERIAL												
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WR-20 WELL RECORD & LOG (Version 04/30/19)

PAGE 1 OF 2

TRN NO.

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PAGE 2 OF 2

LJIW.	DEPTH (fect bgl)				ESTIMATED
	FROM	то	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONE (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES/NO)	YIELD FOR WATER- BEARING ZONES (gpm)
	0	20	20	Fine Silty Sand Brown	Y VN	**
	20	25	5	Sandy Caliche	Y VN	
-	25	40	15	Medium sandstone Brown	Y VN	
	40	45	5	Fat Clay Brown	Y VN	
	45	55	10	Medium Sandstone Brown	Y VN	
ابر	55	70	15	Fat Clay Brown	Y VN	
4. HYDROGEOLOGIC LOG OF WELL					Y N	
OF				- "	Y N	
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10					Y N	
					Y N	
Í	METHOD U	SED TO ES	STIMATE YIELD	OF WATER-BEARING STRATA:	TOTAL ESTIMATED	
10 th	PUMI	P	IR LIFT	BAILER OTHER - SPECIFY:	WELL YIELD (gpm):	0.00
SION	WELL TES			ACH A COPY OF DATA COLLECTED DURING WELL TESTING, IN ME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OV		
VISIO	MISCELLA	NEOUS IN	FORMATION:			
TEST; RIG SUPERVI						
SUI						
RIG						
ST;	DDINT NAA	(E/E) OF D	DILL DIC CUDED	WISON'S THAT PROMINED ONSITE SUPERVISION OF WELL CON	ICTRICTION OTHER T	LAN LIGENGER
5. TE			KILL KIG SUPER	VISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CON	ISTRUCTION OTHER T	IAN LICENSEE:
	Cliff Hillma	n 				
SIGNATURE	RECORD OF	F THE ABO	VE DESCRIBED	AT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOI WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HA WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMP	AS BEEN INSTALLED AT	ND THAT THIS
6. SIGN			She	Shawn Cain	11/19/21	
		SIGNAT	URE OF DRILLE	R / PRINT SIGNEE NAME	DATE	
EOT	R OSE INTERI	NAI HOE		WP 20 WE	LL RECORD & LOG (Ve	reion 04/20/2010)

POD NO.

TRN NO.





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

Well	e Engineer Well Number: SB-18 l owner: EOG Resources				Phone	No.: 432	-848-9146	
vIail	ling address: 5509 Champions Drive					-		
City	Midland	State:		Т	exas		Zip code	79706
<u>I. \</u>	WELL PLUGGING INFORMATION:							
)	Name of well drilling company that plug	ged well: _	Jascade L	rilling				
)	New Mexico Well Driller License No.:	1664				Expira	ition Date:	1/31/23
)	Well plugging activities were supervised Cliff Hillman	by the follo	owing we	l driller	(s)/rig su	pervisor(s):	
)	Date well plugging began: 7/26/2021		Date	well pli	ugging co	oncluded:	7/26/202	1
)	GPS Well Location: Latitude: Longitude:	32 -103	deg, deg,	24 43	min, . min, .	13.89 21.20	_ sec _ sec, WGS	84
)	Depth of well confirmed at initiation of p by the following manner: tag line	lugging as:	70	ft be	low grou	nd level (bgl),	
)	Static water level measured at initiation of	of plugging:	None	fì bg	gl			
)	Date well plugging plan of operations wa	s annroved	by the St	ate Engi	ineer:	3/24/2021		
•	. 55 6		•			V		
)	Were all plugging activities consistent wi differences between the approved plugging					Yes (attach a		please describ es as needed):
							1.0	,,-

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	125	108	Tremie	Boring no water
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		MULTIPLY È	AND OBTAIN		
		cubic fact v 7.4	205 = gallege		

MULTIPLY BY AND OBTAIN cubic feet x 7.4805 = gallons cubic yards x 201.97 = gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I, Shawn Cain , say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

11/20/21

Signature of Well Driller

FILE NO.

LOCATION

z	OSE POD NO POD 21	. (WELL NO	J.)		WELL TAG ID NO. SB-19			OSE FILE NO(S). C-4144				
OT			`					PHONE (OPTIONAL)				
GENERAL AND WELL LOCATION	WELL OWN! EOG Resou)					432-848-9146				
LLC	WELL OWNE	ER MAILING	G ADDRESS					CITY		STATE	ZIP	
VEL	5509 Cham	pions Dri	ive					Midland		Texas	79706	
A	WELL			EGREES	MINUTES	SECON	DS	1				
LA	LOCATIO	N LA	TITUDE	32	24	13.6	69 N	* ACCURACY REQUIRED: ONE TENTIL OF A SECOND				
ERA	(FROM GP	sı 🗀	NGITUDE	-103	3 43 20.43 W • DATUM REQUIR				QUIRED: WGS 84	JIRED: WGS 84		
EN	DESCRIPTION		NG WELL LOCATION T	O STREET ADD	RESS AND COMMON	LANDM/	ARKS – PLS	S (SECTION, TO	WNSHJIP, RANGE) WH	ERE AVAILABLE		
1.0	ļ.		outh of US Highwa									
YTT	LICENSE NO		NAME OF LICENSE	D DRILLER					NAME OF WELL DR			
	166	04			Shawn Cain				C	ascade Drilling		
	DRILLING ST 8/11/		DRILLING ENDED 8/11/21	DEPTH OF CO	OMPLETED WELL (F NA	Τ)	BORE HOI	LE DEPTH (FT) 50	DEPTH WATER FIR:	ST ENCOUNTERED (FT) NA	•	
z	COMPLETED) WELL IS:	LL IS: ARTESIAN DRY HOLE SHALLOW (UNCONFINED) STATIC WATER LEVEL IN COMP NA						LL (FT)			
OL.	DRILLING FI	LUID:	AIR	MUD	ADDITIV	ES - SPEC	TFY:					
RMA	DRILLING METHOD: ROTARY HIAMMER CABLE TOOL OTHE				OTHE:	R - SPECIFY	F	Roto Sonic				
INFO	DEPTH (feet bgl) BORE HOLE CAS			CASING	MATERIAL AND	O/OR	CA	SING	CASING	CASING WALL	SLOT	
DRILLING & CASING INFORMATION	FROM	то	DIAM (inches)		(include each easing string, and		CONN	NECTION YPE ing diameter)	INSIDE DIAM. (inches)	THICKNESS (inches)	SIZE (inches)	
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ا ر	DEPTH		BORE HOLE DIAM. (inches)	1	ST ANNULAR SE				AMOUNT	METHO PLACEN		
RA	FROM	TO	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	GKA	VEL PACK SIZE	la .		KVAL	(cubic feet)			
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ANNULAR MATERIAL			l l	-								
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FOR	OSE INTER	NAL USE						WR-20	WELL RECORD A	& LOG (Version 04/3	0/19)	

POD NO.

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WELL TAG ID NO.

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FILE NO.

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PAGE 2 OF 2

	DEPTH (f	cet bgl)		COLOR AND TYPE OF MATERIAL ENCOUNTERED -		ESTIMATED		
	FROM	то	THICKNESS (feet)	INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONE (attach supplemental sheets to fully describe all units)	S BEARING? (YES/NO)	YIELD FOR WATER- BEARING ZONES (gpm)		
	0	4	4	Fine Silty Sand Brown	Y VN			
	4	10	6	Sandy Caliche	Y VN			
	10	25	15	Fine silty sand	YVN			
	25	35	10	Medium sandstone Brown	YVN			
	35	45	10	Fat Clay Brown	Y VN			
#77 Ye	45	50	5	Mediud sandstone Brown	YVN			
ELI	1,5			Wedday Salesson Brown	YN			
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000			:		YN			
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OGI					YN			
103					YN			
4. HYDROGEOLOGIC LOG OF WELL					YN			
YDR					YN			
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		255 70 50	7114.70.100.0	OT WATER DE LEVIS STELT	Y N			
				OF WATER-BEARING STRATA:	TOTAL ESTIMATED WELL YIELD (gpm):	0.00		
_	PUMP	Α	IR LIFT	BAILER OTHER - SPECIFY:	(gpin)	0.00		
TEST; RIG SUPERVISION	WELL TEST TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD. WISCELLANGUE INFORMATION.							
EST	PRINT NAM	E(S) OF DI	RILL RIG SUPER	VISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CON	STRUCTION OTHER TH	AN LICENSEE		
5. T	Cliff Hillman	` ′		.,				
		*						
6. SIGNATURE	RECORD OF	THE ABO	VE DESCRIBED	AT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOR WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HA WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPI	S BEEN INSTALLED AN	ID THAT THIS		
SIGN,		B	HC:	Shawn Cain	11/19/21			
		SIGNAT	URE OF DRILLE	R / PRINT SIGNEE NAME	DATE			
FOI	R OSE INTERN	NAL USE		WR-20 WE	LL RECORD & LOG (Ver	sion 04/30/2019)		

POD NO.

TRN NO.





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

State E	ngineer Well Number: SB-19			
Well o	wner: EOG Resources		Phone No.:	432-848-9146
Mailing	g address: 5509 Champions Drive		- (8	
City:	Midland	State:	Texas	Zip code: 79706
H. WE	ELL PLUGGING INFORMATION:			
1)	Name of well drilling company that plugged	d well: Cascade	e Drilling	
2)	New Mexico Well Driller License No.: 160	64	Ех	piration Date: 1/31/23
3)	Well plugging activities were supervised by Cliff Hillman	the following w	vell driller(s)/rig supervis	or(s):
4)	Date well plugging began: 8/11/2021	Da	te well plugging conclud	ed: 8/11/2021
5)	GPS Well Location: Latitude:Longitude:	32 deg, -103 deg,		69 sec 43 sec, WGS 84
6)	Depth of well confirmed at initiation of plug by the following manner: tag line	gging as:50	ft below ground lev	rel (bgl),
7)	Static water level measured at initiation of p	olugging: No	ne ft bgl	
8)	Date well plugging plan of operations was a	approved by the	State Engineer: 3/24/20	021
9)	Were all plugging activities consistent with differences between the approved plugging			If not, please describe hadditional pages as needed):

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	90	77	Tremie	Boring no water
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MULTIPLY		BY	AND OBTAIL	
cubic feet	Х	7.4805	=	gallons
cubic yards	х	201.97	=	gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I, Shawn Cain , say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

11/20/21

Signature of Well Driller

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION		R NAME(S) rces R MAILING pions Driv N LAT LON N RELATING	ADDRESS /e DE ITUDE		MINUTES 24 43 RESS AND COMMON	SECONI 13.2 21.1	5 N 4 W	* DATUM REC	ONAL)		OND	ZIP 9706
	LICENSE NO. 166 DRILLING ST 7/27/	ARTED	DRILLING ENDED		Shawn Cain MPLETED WELL (F	Т)	BORE HO	E DEPTH (FT)	NAME OF WELL DRI C DEPTH WATER FIRS	ascade Drilli	ng	
NO	COMPLETED WELL IS: ARTESIAN DRY HOLE SHALLOW (UNCONFINED)						STATIC WATER LEV	EL IN COMPL NA	ETED WEI	.L (FT)		
MATI	DRILLING FLUID: AIR MUD ADDITIVES - SPECIFY DRILLING METHOD ROTARY HAMMER CABLE TOOL OTHER					R - SPECIFY. Roto Sonic						
NFOR	DEPTH (feet bgl) ROBE HOLE CASING MATE			770			-					
CASING INFORMATION	FROM	TO	BORE HOLE DIAM (inches)	(include	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen) (a		CONN T	ASING NECTION YPE ling diameter)	CASING INSIDE DIAM. (inches)	CASING THICKI (inch	NESS	SLOT SIZE (inches)
IG & C				· · · · · · · · · · · · · · · · · · ·								
DRILLING &												
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7												
ر ـ	DEPTH (feet bgl)	BORE HOLE DIAM. (inches)	l .	ST ANNULAR SI				AMOUNT		METHOI PLACEM	
RIA	FROM 0	TO 15	6	GKA	VEL PACK SIZE Cement with			KVAL	(cubic feet)		Frimie Pu	
ИАТІ			<u> </u>					<u> </u>	1			
ANNULAR MATERIAL												
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FOR OSE INTERNAL USE

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WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO.	POD NO.		TRN NO.	·
LOCATION		WELL		PAGE 1 OF 2

FOR OSE INTERNAL USE

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WR-20 WELL RECORD & LOG (Version 04/30/2019)

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TRN NO.

WELL TAG ID NO.

1,4	DEPTH (I	feet bgl)	THICKNESS (feet)	INCLUD	E WATER-BEARING CA	TERIAL ENCOUNTERED - VITIES OR FRACTURE ZONI to fully describe all units)	ES	WATER BEARING? (YES/NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	0	15	15		Fine Silty S	and Brown		Y VN	i comment
	V	13	15 Fine Silty Sand Brown						
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ROC								Y N	
4. HYDROGEOLOGIC LOG OF WELL								Y N	
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-	_	_			EARING STRATA:		1	L ESTIMATED L YIELD (gpm)	
â	PUMI	· 🗆	IR LIFT	BAILER	OTHER - SPECIFY	:	""	c riceo (gpin)	. 0.00
ERVISION	WELL TES	STAR				DURING WELL TESTING, IN ARGE AND DRAWDOWN OV			
TEST; RIG SUPERV									
5. TE	PRINT NAM Cliff Hillma		RILL RIG SUPER	VISOR(S) TH	AT PROVIDED ONSITE	SUPERVISION OF WELL CO	NSTRUC	CTION OTHER	THAN LICENSEE:
SIGNATURE	RECORD OF	THE ABO	VE DESCRIBED	WELL: I ALS	O CERTIFY THAT THE	DGE AND BELIEF, THE FO WELL TAG, IF REQUIRED, HA I 30 DAYS AFTER THE COMP	AS BEE	N INSTALLED	AND THAT THIS
		St	-		Shawn Cain			11/19/21	
6.		SIGNAT	URE OF DRILLE	R / PRINT S	IGNEE NAME			DATE	

POD NO.





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

	VERAL / WELL OWNERSHIP:			
State Er	ngineer Well Number: SB-20			122 040 0446
Well ov	vner: EOG Resources		Phone No.: _	132-848-9146
Mailing City: Mailing	address: 5509 Champions Drive	States	Texas	Zip code: 79706
City: _		State:	·	Zip code:
II. WE	LL PLUGGING INFORMATION:			
1)	Name of well drilling company that plugge	ed well: Cascade	Drilling	
2)	New Mexico Well Driller License No.: 16			piration Date: 1/31/23
3)	Well plugging activities were supervised be Cliff Hillman	y the following we	ell driller(s)/rig superviso	or(s):
4)	Date well plugging began: 7/27/2021	Dat	e well plugging conclude	ed: 7/27/2021
5)	GPS Well Location: Latitude: Longitude:		24 min, 13.2 43 min, 21.1	5 sec 4 sec, WGS 84
6)	Depth of well confirmed at initiation of plu by the following manner: tag line	ngging as:15	ft below ground leve	el (bgl),
7)	Static water level measured at initiation of	plugging: Non	eft bgl	
8)	Date well plugging plan of operations was	approved by the S	tate Engineer: 3/24/20	21
9)	Were all plugging activities consistent with differences between the approved plugging			

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	30	23	Tremie	Boring no water
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-		MULTIPLY E	AND OBTAIN		
		cubic feet x 7.4	805 = gallons		

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I, Shawn Cain , say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

201.97

cubic yards

Signature of Well Driller

gallons

11/20/21

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WR-20 WELL RECORD & LOG (Version 04/30/19)

TRN NO.

WELL TAG ID NO.

FOR OSE INTERNAL USE

FILE NO.

LOCATION



	OSE POD NO.	. (WELL NO.)		WELL TAG ID NO),		OSE FILE NO	S).		
O	POD 23			5	SB-21			C-4144			
ATI	WELL OWNE	R NAME(S)		1				PHONE (OPTIO	ONAL)		
000	EOG Resou	irces						432-848-914	6		
ננ	WELL OWNE	R MAILING	ADDRESS					CITY		STATE	ZIP
VEL	5509 Cham	pions Dri	ve					Midland		Texas	79706
AND WELL LOCATION			DE	GREES	MINUTES	SECON	ns				
¥	WELL	.		32	24	14.0		* ACCURACY	REQUIRED: ONE TEN	TH OF A SECOND	
Z.	LOCATION (FROM GPS	Litt	TTUDE	-103	43	20.8			QUIRED: WGS 84		
GENERAL		LON	GITODE								
G	ı		G WELL LOCATION TO		SS AND COMMO	N LANDMA	RKS - PLS	S (SECTION, TO	WNSIIJIP, RANGE) WH	ERE AVAILABLE	
	Aproximate	ely 10.5 sc	outh of US Highway	62/180							
	LICENSE NO.		NAME OF LICENSED	DRILLER					NAME OF WELL DR	ILLING COMPANY	
	166				Shawn Cain					ascade Drilling	
	DRILLING ST	TARTED	DRILLING ENDED	DEPTH OF COM	PLETED WELL (F	T)	BORE HOL	E DEPTH (FT)	DEPTH WATER FIR:	ST ENCOUNTERED (FT	")
	7/27/	21	7/27/21		NA			20		NA	
					-	I			STATIC WATER LEV	EL IN COMPLETED W	ELL (FT)
z	COMPLETED	WELL IS:	ARTESIAN	DRY HOLE	SHALLO	OW (UNCO)	NFINED)			NA	
CASING INFORMATION	DRILLING FL	.UID:	ΔIR	MUD MUD	ADDITIV	VES - SPEC	IFY:				
RM	DRILLING MI	ETHOD:	ROTARY	☐ HAMMER	CABLE 1	TOOL	OTHE	R – SPECIFY:	F	Roto Sonic	
NFC	DEPTH (feet bgl)	BORE HOLE	CASING M	IATERIAL ANI	D/OR	CA	SING	CASING	CASING WALL	SLOT
\Q	FROM	то	DIAM	/in abod	GRADE	" l		ECTION	INSIDE DIAM.	THICKNESS	SIZE
ASI			(inches)		ch casing string. ctions of screen			YPE ing diameter)	(inches)	(inches)	(inches)
& C											1
Q.											
DRILLING											
E I											
2. I											
											,
	DEPTH (feet bgl)	BORE HOLE	LIS	Γ ANNULAR S	EAL MAT	ERIAL A	.ND	AMOUNT	метно	OD OF
AL	FROM	ТО	DIAM. (inches)	1	EL PACK SIZE				(cubic feet)	PLACE	
ERI	0	20	6		Cement wit	h 5% Bent	tonite		4.5	Trimie P	umped
IAT							_				
R.											
ULA											
3. ANNULAR MATERIAL								-			
3. A											

POD NO.

PAGE 2 OF 2

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FILE NO.

LOCATION

	DEPTH (fo	ect bgl)	THICKNESS	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONE	WATER S BEARING?	ESTIMATED YIELD FOR WATER-
	FROM	TO	(feet)	(attach supplemental sheets to fully describe all units)	(YES / NO)	BEARING ZONES (gpm)
	0	15	15	Fine Silty Sand Red/Brown, Dry	Y VN	
. "	15	20	5	Medium-Fine Sandstone Tan/Brown	Y VN	
, ,					Y N	
					Y N	
4			<u> </u>		Y N	
·3					Y N	
WE					Y N	
OF					Y N	
507					Y N	
SIC					Y N	
070					Y N	
GEC					Y N	
DRO					Y N	
4. HYDROGEOLOGIC LOG OF WELL					Y N	
4					Y N	
? 1					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
	METHOD US	SED TO ES	STIMATE YIELD	OF WATER-BEARING STRATA:	TOTAL ESTIMATED	
	PUMP	A	IR LIFT	BAILER OTHER - SPECIFY:	WELL YIELD (gpm):	0.00
ISION	WELL TEST			CH A COPY OF DATA COLLECTED DURING WELL TESTING, INC IE, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVI		,
VISI	MISCELLAN	EOUS IN	ORMATION:		-	
TEST; RIG SUPERV						
G SU						
; RĮ						
LESI	PRINT NAM	E(S) OF D	RILL RIG SUPER	VISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CON	STRUCTION OTHER TH	IAN LICENSEE:
5.]	Cliff Hillman					
				-		
SIGNATURE	RECORD OF	THE ABO	VE DESCRIBED	AT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOR WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAW WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPL	S BEEN INSTALLED AN	ND THAT THIS
6. SIGN		B.	LC	Shawn Cain	11/19/21	
		SIGNAT	URE OF DRILLE	R / PRINT SIGNEE NAME	DATE	
FOF	R OSE INTERN	AL USE	· · · · · · · · · · · · · · · · · · ·	WR-20 WE	LL RECORD & LOG (Vei	rsion 04/30/2019)

POD NO.

TRN NO.





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

	NERAL / WELL OWNERSHIP:			
State E	ngineer Well Number: SB-21 wner: EOG Resources		1	32.848.0146
Well ov	g address: 5509 Champions Drive		Phone No.: 4	32-848-9146
Mailing City: 1	g address: 3000 Champions Drive	G	Texas	79706
City:	maiana	State:	TONGO	Zip code: 79706
II. WE	ELL PLUGGING INFORMATION:			
1)	Name of well drilling company that plugge	ed well: Cascade	Drilling	4.7
2)	New Mexico Well Driller License No.: 16		Ехр	iration Date: 1/31/23
3)	Well plugging activities were supervised b	y the following we	ell driller(s)/rig supervisor	r(s):
4)	Date well plugging began: 7/27/2021	Date	e well plugging conclude	d: 7/27/2021
5)	GPS Well Location: Latitude:Longitude:	32 deg,	24 min, 14.08 43 min, 20.86	sec sec, WGS 84
6)	Depth of well confirmed at initiation of plu by the following manner: tag line	agging as:20	ft below ground leve	l (bgl),
7)	Static water level measured at initiation of	plugging: Non	e ft bgl	
8)	Date well plugging plan of operations was	approved by the S	tate Engineer: 3/24/202	21
9)	Were all plugging activities consistent with differences between the approved plugging			

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	40	31	Tremie	Boring no water
_					
_					
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_				:	
_					
<u></u>					
_			:		
	i				
		MULTIPLY E	3Y AND OBTAIN	'	
		cubic feet x 7.4	805 = gallons		

MULTIPLY BY AND OBTAIN cubic feet x 7.4805 = gallons cubic yards x 201.97 = gallons

III. SIGNATURE:

I, Shawn Cain	, say t	hat I	am	familiar	with	the	rules	of t	he (Office	of	the	State
Engineer pertaining to the plugging of wells and that													
are true to the best of my knowledge and belief.													

11/20/21

Signature of Well Driller

Date

FILE NO.

LOCATION

PAGE 1 OF 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

Ne f	OSE POD NO). (WELL NO	D.)		WELL TAG ID NO.			OSE FILE NO	S).		
O	POD 23				SB-21A			C-4144			
AND WELL LOCATION	WELL OWN EOG Reso		()					PHONE (OPTIO 432-848-914			
L	WELL OWN	ER MAILIN	G ADDRESS					CITY		STATE	ZIP
WEL	5509 Chan	npions Dr	ive					Midland		Texas	79706
2	WELL		Di	GREES	MINUTES	SECON					
LA	LOCATIO	N LA	TITUDE	32	24	14.	35 _N	* ACCURACY	REQUIRED: ONE TEN	TH OF A SECOND	
ER	(FROM GI	PS)	NGITUDE	-103	43	20.	80 W	* DATUM REC	QUIRED: WGS 84		
1. GENERAL	1		NG WELL LOCATION TO		RESS AND COMMON	LANDM	ARKS – PLS	S (SECTION, TO	WNSIIJIP, RANGE) WII	ERE AVAILABLE	
a	<u> </u>									-0-	
	LICENSE NO		NAME OF LICENSED	DRILLER	Shawn Cain				NAME OF WELL DR	ELLING COMPANY ascade Drilling	
	DRILLING S 8/11		DRILLING ENDED 8/11/21	DEPTH OF CO	MPLETED WELL (FT NA)	BORE HO	LE DEPTH (FT)	DEPTH WATER FIR:	ST ENCOUNTERED (FT) NA	1
z	COMPLETE	D WELL IS:	ARTESIAN	DRY HOL	E SIIALLOV	N (UNCO	NFINED)		STATIC WATER LEV	'EL IN COMPLETED WE NA	:LL (FT)
TIO	DRILLING F	LUID:	AIR	MUD	ADDITIVE	ES – SPEC	CIFY:				
DRMA	DRILLING M	IETHOD:	ROTARY	Памме	R CABLE TO	OOL	OTHE	R = SPECIFY:	F	Roto Sonic	
DRILLING & CASING INFORMATION	DEPTH FROM	(feet bgl)	BORE HOLE DIAM (inches)	(include	MATERIAL AND GRADE each easing string, a sections of screen)		CONN	ASING NECTION YPE ing diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
ING &											
RILL											
2. I											
	ļ										
										<u> </u>	
										!	
_	DEPTH	(feet bgl)	BORE HOLE	1 1	ST ANNULAR SE	AL MA	TERIAT A	ND	AMOUNT	метно	D OF
AL	FROM	ТО	DIAM. (inches)	1	VEL PACK SIZE-				(cubic feet)	PLACEN	
ANNULAR MATERIAL	0	60	6		Cement with	5% Ber	itonite		13	Trimie Pt	ımped
MA											
LAF											
NN											
3. A											
FOR	OSE INTER	NAL USE						WR-20	WELL RECORD A	& LOG (Version 04/3	0/19)

POD NO.

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	DEPTH (fect bgl)		COLOR AN	ID TYPE OF MATERIAL I	ENCOU	NTERED -	WA	TER	ESTIMATED
170	FROM	то	THICKNESS (feet)	INCLUDE WATE	ER-BEARING CAVITIES (pplemental sheets to fully (OR FRA	CTURE ZONES	BEAL	RING?	YIELD FOR WATER- BEARING ZONES (gpm)
	0	4	4		Fine Silty Sand Brow	n		Y	✓ N	
11	4	10	6		Caliche			Y	✓ N	
	10	45	35		Medium to fine San	dstone		Y	∨ N	
	45	60	15		Fat Clay Brown			Y	∨ N	
								Y	N	
3								Y	N	
À								Y	N	
׆								Y	N	
3								Y	N	
2								Y	N	
3								Y	N	
2								Y	N	
4. HYDROGEOLOGIC LOG OF WELL								Y	N	
. HY							<u> </u>	Y	N	
4								Y	N	
, IC								Y	N	
								Y	N	
_ \								Y	И	
								Y	N	
								Y	N	
								Y	N	
	METHOD U			OF WATER-BEARING BAILER OT	G STRATA; THER - SPECIFY:		l l	TAL ESTII ELL YIELI		0.00
5	WELL TES				A COLLECTED DURING					
TEST; RIG SUPERVISIO	MISCELLAI		FORMATION: Sto				-			
3	PRINT NAM	IE(S) OF D	RILL RIG SUPER	VISOR(S) THAT PRO	VIDED ONSITE SUPERV	ISION O	F WELL CONSTR	UCTION O	THER TH	IAN LICENSEE
ń	Cliff Hillman									
SIGNALONE	RECORD OF	THE ABO	OVE DESCRIBED	WELL, I ALSO CERT	F MY KNOWLEDGE AN IFY THAT THE WELL TA IOLDER WITHIN 30 DAY	G, IF RI	EQUIRED, HAS B	EEN INSTA	LLED AT	ND THAT THIS
0. 31GP		/	Sha		Shawn Cain			11/:	20/21	
		SIGNAT	URE OF DRILLE	R / PRINT SIGNEE	NAME				DATE	
OF	OSE INTERI	NAL USE					WR-20 WELL I	ECORD &	LOG (Vei	rsion 04/30/2019
	E NO.				POD NO.		TRN NO.		(
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NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

	Engineer Well Number: SB-21A			
Well o	owner: EOG Resources		Phone No.:	432-848-9146
Mailir	ng address: 5509 Champions Drive			
City:	Midland	State:	Texas	Zip code: 79706
II. W	ELL PLUGGING INFORMATION:			
1)	Name of well drilling company that	plugged well: Cascad	e Drilling	
2)	New Mexico Well Driller License N			Expiration Date: 1/31/23
3)	Well plugging activities were superv Cliff Hillman	ised by the following	well driller(s)/rig supervi	sor(s):
4)	Date well plugging began: 8/11/2	021 D	ate well plugging conclu	ded: 8/11/2021
5)	GPS Well Location: Latitude: Longitude			1.35 sec 0.80 sec, WGS 84
6)	Depth of well confirmed at initiation by the following manner: tag line	of plugging as:	ft below ground le	evel (bgl),
7)	Static water level measured at initiat	ion of plugging: No	one ft bgl	
8)	Date well plugging plan of operation	s was approved by the	State Engineer: 3/24/	2021
9)	Were all plugging activities consiste differences between the approved pl			
!				

For each interval plugged, describe within the following columns:

Neat Cement 110 93 Tremie Boring no water	Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
		Neat Cement	110	93	Tremie	
	_					
	_					
	_				•	
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	_					
-	_					
	_					
MULTIPLY BY AND OBTAIN			MULTIPLY F	AND ORTAIN		

cubic feet x 7.4805 = gallons cubic yards x 201.97 = gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I, Shawn Cain , say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

11/20/21

Signature of Well Driller

FOR OSE INTERNAL USE

FILE NO.

LOCATION



									_ .		
×E	OSE POD NO. (WELL NO.)		WELL TAG ID NO.			OSE FILE NO(S).		
AND WELL LOCATION	POD 23			S	SB-21B			C-4144			
YY	WELL OWNER							PHONE (OPTION			
100	EOG Resource							432-848-914	ł6 		
TI	5509 Champi							CITY Midland		STATE Texas	ZIP 79706
WE	JJOJ Champ	ions Diri						Ivildialid		Texas	79700
AND	WELL		DE	GREES 32	MINUTES 24	SECOND					
	LOCATION	2	ITUDE			14.90	N		REQUIRED: ONE TEN	TII OF A SECOND	
1. GENERAL	(FROM GPS)	LON	GITUDE	-103	43	20.47	W	* DATUM REC	QUIRED: WGS 84		
GE	DESCRIPTION	RELATIN	G WELL LOCATION TO	STREET ADDRE	SS AND COMMON	LANDMAR	KS – PLS	S (SECTION, TO	WNSHJIP, RANGE) WI	IERE AVAILABLE	
÷	Aproximately	y 10.5 so	uth of US Highway	y 62/180							
CII	LICENSE NO.		NAME OF LICENSED	Danies					NAME OF WELL DR	II I ING COMBANY	
	1664		WANTE OF EIGENSED		Shawn Cain				1	Cascade Drilling	
	DRILLING STA	ARTED	DRILLING ENDED	DEPTH OF COM	PLETED WELL (FT	r) E	BORE HO	LE DÉPTII (FT)	DEPTH WATER FIR:	ST ENCOUNTERED (FT)
	8/12/2	:1	8/12/21		NA			20		NA	
					-	22.			STATIC WATER LEV	VEL IN COMPLETED WI	LL (FT)
Z	COMPLETED V	WELL IS:	ARTESIAN	DRY HOLE	SIIALLO	W (UNCONI	INED)			NA	
ATIC	DRILLING FLU	ID:	ΔIR	☐ MUD	ADDITIV	ES – SPECIF	Υ:				
JRM	DRILLING MET	THOD:	ROTARY	☐ HAMMER	CABLET	00L	OTHE	R - SPECIFY:	F	Roto Sonic	
INF	DEPTH (fc	ect bgl)	BORE HOLE		ATERIAL AND	O/OR	CA	ASING	CASING	CASING WALL	SLOT
18	[DLO1
ž	FROM	то	DIAM	1	GRADE	and	CONN	NECTION	INSIDE DIAM.	THICKNESS	SIZE
ASING	FROM	то	DIAM (inches)	(include ea	ch casing string, ctions of screen)		CONN T		INSIDE DIAM. (inches)	THICKNESS (inches)	SIZE (inches)
& CASING INFORMATION	FROM	то		(include ea	ch casing string,		CONN T	NECTION YPE	179	100	10.1
	FROM	то		(include ea	ch casing string,		CONN T	NECTION YPE	179	100	10.1
	FROM	то		(include ea	ch casing string,		CONN T	NECTION YPE	179	100	10.1
DRILLING &	FROM	то		(include ea	ch casing string,		CONN T	NECTION YPE	179	100	10.1
	FROM	то		(include ea	ch casing string,		CONN T	NECTION YPE	179	100	10.1
DRILLING &	FROM	то		(include ea	ch casing string,		CONN T	NECTION YPE	179	100	10.1
DRILLING &	FROM	TO		(include ea	ch casing string,		CONN T	NECTION YPE	179	100	10.1
DRILLING &	FROM	TO		(include ea	ch casing string,		CONN T	NECTION YPE	179	100	10.1
DRILLING &	FROM	TO		(include ea	ch casing string,		CONN T	NECTION YPE	179	100	10.1
DRILLING &		P	(inches)	(include ca	ch casing string, ctions of screen)		CONN T add coupl	NECTION 'YPE ling diameter)	(inches)	(inches)	(inches)
2. DRILLING &	DEPTH (fc	ect bgl)		LIST	ch casing string,	EAL MATE	CONN T add coupl	NECTION 'YPE ling diameter)	179	100	(inches)
2. DRILLING &		P	(inches) BORE HOLE	LIST	ch casing string, ctions of screen)	EAL MATE	CONN Tadd coupl	NECTION 'YPE ling diameter)	(inches)	(inches) METHO PLACEM	D OF MENT
2. DRILLING &	DEPTH (fc	ecet bgl)	BORE HOLE DIAM. (inches)	LIST	ch casing string, ctions of screen)	EAL MATE	CONN Tadd coupl	NECTION 'YPE ling diameter)	AMOUNT (cubic feet)	(inches)	D OF MENT
2. DRILLING &	DEPTH (fc	ecet bgl)	BORE HOLE DIAM. (inches)	LIST	ch casing string, ctions of screen)	EAL MATE	CONN Tadd coupl	NECTION 'YPE ling diameter)	AMOUNT (cubic feet)	(inches) METHO PLACEM	D OF MENT
2. DRILLING &	DEPTH (fc	ecet bgl)	BORE HOLE DIAM. (inches)	LIST	ch casing string, ctions of screen)	EAL MATE	CONN Tadd coupl	NECTION 'YPE ling diameter)	AMOUNT (cubic feet)	(inches) METHO PLACEM	D OF MENT
2. DRILLING &	DEPTH (fc	ecet bgl)	BORE HOLE DIAM. (inches)	LIST	ch casing string, ctions of screen)	EAL MATE	CONN Tadd coupl	NECTION 'YPE ling diameter)	AMOUNT (cubic feet)	(inches) METHO PLACEM	D OF MENT
DRILLING &	DEPTH (fc	ecet bgl)	BORE HOLE DIAM. (inches)	LIST	ch casing string, ctions of screen)	EAL MATE	CONN Tadd coupl	NECTION 'YPE ling diameter)	AMOUNT (cubic feet)	(inches) METHO PLACEM	D OF MENT

POD NO.

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WR-20 WELL RECORD & LOG (Version 04/30/19)

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TRN NO.

PAGE 2 OF 2

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FILE NO

LOCATION

1	DEPTH (fe	ct bgl)		COLOR AND TYPE OF MATERIAL ENCOUNTERED -	WATER	ESTIMATED YIELD FOR
	FROM	то	THICKNESS (feet)	INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONE (attach supplemental sheets to fully describe all units)		WATER- BEARING ZONES (gpm)
	0	4	4	Fine Silty Sand Brown	Y VN	
	4	10	6	Caliche	Y VN	
	10	20	10	Medium Sandstone	Y VN	
					Y N	
					Y N	
1					Y N	-
WEI					Y N	
OF					Y N	
DOJ					Y N	
CIC					Y N	
Š					Y N	
4. HYDROGEOLOGIC LOG OF WELL					Y N	
DRO					Y N	
H					Y N	
4					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
	METHOD US	ED TO ES	TIMATE YIELD	OF WATER-BEARING STRATA:	TOTAL ESTIMATED	
	PUMP		IR LIFT	BAILER OTHER - SPECIFY:	WELL YIELD (gpm):	0.00
TEST; RIG SUPERVISION	WELL TEST	STAR	RESULTS - ATTA T TIME, END TIME FORMATION: S	ACH A COPY OF DATA COLLECTED DURING WELL TESTING, INC ME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OV Rep out boring	CLUDING DISCHARGE NET THE TESTING PERIC	METHOD, DD.
EST	PRINT NAME	E(S) OF DE	RILL RIG SUPER	VISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CON	STRUCTION OTHER TH	IAN LICENSEE
5. T	Cliff Hillman	,			O I WIN [I]	
<u> </u>						
SIGNATURE	RECORD OF	THE ABO	VE DESCRIBED	AT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOR WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HA WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPI	S BEEN INSTALLED AN	ND THAT THIS
6. SIGN		8	LC	Shawn Cain	11/19/21	
		SIGNAT	URE OF DRILLE	R / PRINT SIGNEE NAME	DATE	
FOI	R OSE INTERN	AL USE		WR-20 WE	LL RECORD & LOG (Vei	rsion 04/30/2019)

POD NO.

TRN NO.





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

	Engineer Well Number: S	D-21D							
Well	owner: EOG Resources					Phone	No.: 432	-848-9146	
	ng address: 5509 Champio	ons Drive							
City:	Midland		State	:	T	exas		_ Zip code:	79706
II. W	VELL PLUGGING INFO								
1)	Name of well drilling c	ompany that plug	ged well:	Cascade I	Orilling				
2)	New Mexico Well Drill	ler License No.:	1664				Expira	ition Date: 1	/31/23
3)	Well plugging activities Cliff Hillman	s were supervised	by the foll	lowing we	ll driller((s)/rig su	pervisor(s):	
4)	Date well plugging beg	an: 8/12/2021		Date	well plu	igging co	ncluded:	8/12/2021	
5)	GPS Well Location:	Latitude: Longitude:	32	deg, deg,	24 43	_ min, _ min,		_ sec _ sec, WGS	
6)	Depth of well confirme by the following manne		olugging as	20	ft be	low grou	nd level (bgl),	
7)	Static water level measu	ured at initiation o	of plugging	; None	ft bg	1			
8)	Date well plugging plan	of operations wa	ıs approved	d by the St	ate Engi	neer:3	/24/2021	-	
9)	Were all plugging activ						Yes (attach ac		lease describe es as needed):
							_		

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10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	40	31	Tremie	Boring no water
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		MILTERY	AND ODT		
		MULTIPLY E	BY AND OBTAIN		

MULTIPLY		BY		AND OBTAIN
cubic feet	х	7.4805	=	gallons
cubic yards	х	201.97	=	gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I, Shawn Cain	, say	that l	am	familiar	with	the	rules	of 1	the	Office	of t	he	State
Engineer pertaining to the plugging of wells and that of	each a	nd all	of the	e stateme	nts in	this	Plugg	ging	Rec	ord and	d atta	ichn	nent
are true to the best of my knowledge and belief.													

Signature of Well Driller

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

	OSE POD NO	. (WELL NO.	.)		WELL TAG ID NO.			OSE FILE NO	S).			
Z	POD 24				SB-22			C-4144				
Ĭ	WELL OWNE	D MAMERS						PHONE (OPTION	ONAL			
S	EOG Resou							432-848-9146				
2												
-	WELL OWNE							CITY		STATE	ZIP	
E	5509 Cham	pions Dri	ve					Midland		Texas	79706	
AND WELL LOCATION				GREES	MINUTES	SECON	DC	I				
Z	WELL		Di	32	24	13.5						
1	LOCATIO	N LAT	TITUDE	32	24	15.5	'' N	* ACCURACY	REQUIRED: ONE TENT	TH OF A SECOND		
23	(FROM GP	S) [O)	KGITUDE	-103	43	19.	39 w	* DATUM REC	QUIRED: WGS 84			
GENERAL	DUCCOURTIC			CTOLLT 4 DD	DUICE AND COMMON		DIC DIC	CACUCTION TO	UNICHIER BANICES IVII	POC 437417 40117		
1. G	l		IG WELL LOCATION TO		KESS AND COMMON	LANDMA	KKS - PLS	S (SECTION, TO	WNSHJIP, KANGE) WH	EKE AVAILABLE		
_	Aproximate	ely 10.5 sc	outh of US Highway	y 62/180								
	LICENSE NO		NAME OF LICENSED	DRULUD					NAME OF WELL BRI	LLING COMPANY		
	LICENSE NO		NAME OF LICENSED	DRILLER	Shawn Cain				NAME OF WELL DRI	ascade Drilling	'	
	100	, ,			Shawn Cam					ascade Dilling		
	DRILLING ST		DRILLING ENDED	DEPTH OF CO	OMPLETED WELL (F)	Γ)	BORE HO	LE DEPTH (FT)	DEPTH WATER FIRS	T ENCOUNTERED (F	Γ)	
	8/11/	21	8/11/21		NA			50		NA		
			_	_					STATIC WATER LEV	EL IN COMPLETED W	ELL (FT)	
7	COMPLETED	WELL IS:	ARTESIAN	DRY HOL	E SHALLO	W (UNCO	NFINED)			NA		
TIO	DRILLING FI	.UID:	☐ AIR	MUD MUD	ADDITIV	ES SPEC	IFY:		<u> </u>			
MA	DRILLING M	ETHOD	ROTARY	ПАММЕ	R CABLET	OOL	OTHE	R = SPECIFY:	R	toto Sonic		
CASING INFORMATION		- 12	1	1					I		1	
Z	DEPTH	(feet bgl)	BORE HOLE	CASING	MATERIAL AND GRADE	D/OR	CA	SING	CASING	CASING WALL	SLOT	
Š	FROM TO		DIAM	(in aluda			CONN	NECTION	INSIDE DIAM.	THICKNESS	SIZE	
SI			(inches)		(include each easing string, and note sections of screen)			YPE ling diameter)	(inches)	(inches)	(inches)	
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DRILLING &												
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				1								
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	ДЕРТН	(feet bgl)	BORE HOLE		ST ANNULAR SE	CAL MAA	TEDIAL A	ND	AMOUNT	метне	OD OF	
L	l		DIAM. (inches)		VEL PACK SIZE				(cubic feet)	PLACE		
¥	FROM	TO		0.0.			2.0	N T T T C	` ′	21 111		
亘	0	50	6		Cement with	1 5% Ben	tonite		11	Trimie I	umped	
¥.			_	29								
8												
I.A				İ								
ANNULAR MATERIAL				1								
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	OCC INTER								WELL BECORD			

 FOR OSE INTERNAL USE
 WR-20 WELL RECORD & LOG (Version 04/30/19)

 FILE NO.
 POD NO.
 TRN NO.

 LOCATION
 WELL TAG ID NO.
 PAGE 1 OF 2

DEPTH (feet bgl)

TO

4

15

20

50

FROM

0

4

15

20

THICKNESS

(feet)

4

7

5

30

ESTIMATED

YIELD FOR

WATER-BEARING

ZONES (gpm)

WATER

BEARING?

(YES/NO)

 ν N

✓ N

✓ N

✓ N

N

N

Y

Y

Υ

Y Y

Y

3							Y N	
4. HYDROGEOLOGIC LOG OF WELL							Y N	
5							Y N	
3							Y N	
							Y N	
					·		Y N	
							Y N	
							Y N	
							Y N	
							Y N	
							Y N	
							Y N	
							Y N	
							Y N	
							Y N	
	1					,	Y N	
	METHOD USE	D TO ESTIMATE YIE	LD OF WATER-I	BEARING STRATA:			TOTAL ESTIMATED	
į	PUMP	AIR LIFT	BAILER	OTHER - SPECIFY:			WELL YIELD (gpm):	0.00
	MISCELLANE	START TIME, END OUS INFORMATION:	TIME, AND A TA	ABLE SHOWING DISCHARGE	AND DRA	WDOWN OVE	R THE TESTING PERI	OD.
	PRINT NAME(S) OF DRILL RIG SUP	ERVISOR(S) TH	AT PROVIDED ONSITE SUPE	RVISION O	F WELL CONS	TRUCTION OTHER T	HAN LICENSEE:
	Cliff Hillman							
Ŧ	RECORD OF T	HE ABOVE DESCRIB	ED WELL. I ALS	BEST OF MY KNOWLEDGE O CERTIFY THAT THE WELL ERMIT HOLDER WITHIN 30 DA	TAG, IF R	EQUIRED, HAS	S BEEN INSTALLED A	ND THAT THIS
	WEEE RECORD							
		BLC	4	Shawn Cain			11/20/21	
		BLC SIGNATURE OF DRIL					11/20/21 DATE	
		SIGNATURE OF DRIL				WP-20 WEI	DATE	overion 04/20/2010
		SIGNATURE OF DRIL				WR-20 WEL		ersion 04/30/2019)

COLOR AND TYPE OF MATERIAL ENCOUNTERED -

INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES

(attach supplemental sheets to fully describe all units)

Fine Silty Sand Brown

Caliche

Fine silly sand Brown

Medium sandstone Brown





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

Well	e Engineer Well Number: SB- 22 owner: EOG Resources				Phone	No · 432	-848-9146	
Maili	ing address: 5509 Champions Drive				1 Hone			
City:	Midland	State:		Texas			Zip code	79706
II. V	WELL PLUGGING INFORMATION:							
1)	Name of well drilling company that plugge	ed well: C	Jascade L	Drilling				
2)	New Mexico Well Driller License No.: 18	664			_	Expira	ition Date:	1/31/23
3)	Well plugging activities were supervised b	y the follo	wing wel	ll driller	(s)/rig su	pervisor(s):	
4)	Date well plugging began: 8/11/2021		_ Date	well pl	ugging co	oncluded:	8/11/202	1
5)	GPS Well Location: Latitude: Longitude:	32 -103	_deg, _deg,	24 43	min, _ min, _	13.57 19.89	_ sec _ sec, WGS	84
6)	Depth of well confirmed at initiation of plu by the following manner: tag line	ugging as:	50	ft be	low grou	nd level (bgl),	
7)	Static water level measured at initiation of	plugging:	None	ft bg	gl			
8)	Date well plugging plan of operations was	approved	by the St	ate Eng	ineer:	3/24/2021	-	
9)	Were all plugging activities consistent with differences between the approved plugging					Yes (attach ac		olease descri es as needed):
I								
I								

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	90	77	Tremie	Boring no water
_					
_					
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_					
			(B)		
				:	
			2		
_					
		MULTIPLY E cubic feet x 7.4	BY AND OBTAIN 805 = gallons		

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I, Shawn Cain , say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments

201.97

cubic yards

are true to the best of my knowledge and belief.

11/20/21

Signature of Well Driller

gallons

FILE NO.

LOCATION

PAGE I OF 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

181	OSE POD NO	WELL NO	.)		WELL TAG ID NO.			OSE FILE NO	S).			
Z	POD 25				SB-23			C-4144				
Ĕ	WELL OWN	ER NAME(S)	1					PHONE (OPTI	0841)			
S	EOG Reson		,					432-848-9146				
2												
CL	WELL OWN							CITY		STATE	ZIP	
WE.	5509 Cham	ipions Dn	ve					Midland		Texas	79706	
8			DI	GREES	MINUTES	SECONI	os					
A	WELL			32	24	15.2	6	* ACCUPACY	DECUMBED ONE TENT	TU OF A SECOND		
3	LOCATIO	1.77	TITUDE				N	[ACY REQUIRED: ONE TENTH OF A SECOND			
ER	(FROM GP	ro:	NGITUDE	-103	43	18.1	4 W	DATUM REC	QUIRED: WGS 84			
GENERAL AND WELL LOCATION	DESCRIPTION	ON RELATIN	G WELL LOCATION TO	STREET ADDI	RESS AND COMMON	LANDMA	RKS – PLS	S (SECTION, TO	WNSHJIP, RANGE) WH	ERE AVAILABLE		
1.			outh of US Highwa									
	,			18/11								
100	LICENSE NO	t.	NAME OF LICENSED	DRILLER					NAME OF WELL DR	LLING COMPANY	-	
	166	4			Shawn Cain				С	ascade Drilling		
TIT	DRILLING ST	TARTED	DRILLING ENDED	DEPTH OF CO	MPLETED WELL (FT)	1	BORE HOL	E DEPTH (FT)	DEPTH WATER FIRS	ST ENCOUNTERED (FT)	1	
	7/27		7/27/21		NA			13		NA		
									CT LTIC WATER LET	Pri bi cor in cress as	** 1 .1***	
	COMPLETED	WELL IS:	ARTESIAN	DRY HOL	E SIIALLOW	(UNCON	IFINED)	STATIC WATER LEVEL IN COMPLETED WELL (FT NA				
NO				1-10100	4-10-2							
Ĕ	DRILLING FLUID: AIR MUD ADDITIVES - SPECIFY:											
CASING INFORMATION	DRILLING M	ETHOD:	ROTARY	ПАММЕ	CABLE TO	OOL.	✓ OTHER	R = SPECIFY:	F	Roto Sonic		
30E										1		
Z	DEPTH	(feet bgl)	BORE HOLE	CASING	MATERIAL AND/ GRADE	OR	CA	SING	CASING	CASING WALL	SLOT	
Ş	FROM	TO	DIAM	(include	cach casing string, a	and		ECTION	INSIDE DIAM	THICKNESS	SIZE	
S	ĺ		(inches)		note sections of screen) TYPE (add coupling diameter)			(inches)	(inches)	(inches)		
3				 								
DRILLING			-			$\overline{}$						
						$\overline{}$						
D						-					-	
-4						-						
				I					<u> </u>			
	DEPTH	(feet bgl)	BORE HOLE		ST ANNULAR SEA				AMOUNT	МЕТНО		
ANNULAR MATERIAL	FROM	TO	DIAM. (inches)	GRA	VEL PACK SIZE-F	RANGE	BY INTE	RVAL	(cubic feet)	PLACEN	IENT	
ER	0	13	6		Cement with	5% Bent	onite		3	Trimie Pi	ımped	
AT					· · · · · · · · · · · · · · · · · · ·		0					
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]								
FOR	OSE INTER	NAL USE						WR - 20	WELL RECORD &	LOG (Version 04/3	0/19)	

POD NO.

TRN NO.

DEPTH (feet bgl)

ESTIMATED

	FROM	TO	THICKNESS (feet)	INCLUDE WATE	D TYPE OF MATERIAL E ER-BEARING CAVITIES O oplemental sheets to fully d	R FRAC	CTURE ZONE	S	WA BEAF (YES		YIELD FOR WATER- BEARING ZONES (gpm)
	0	10	10		Fine Silty Sand Brown	1			Y	∨ N	
	10	13	3		Medium sandstone				Y	✓ N	
									Y	N	
									Y	N	
									Y	N	
3									Y	N	
HYDROGEOLOGIC LOG OF WELL									Y	N	
OF									Y	N	
200								1	Y	N	
i Ci									Y	N	
20								Ì	Y	N	
SEO.									Y	N	
RO									Y	N	
E									Y	N	
4									Y	N	
									Y	N	
									Y	N	
									Y	N	
							-		Y	N	
. *									Y	N	
									Y	N	
	METHOD U	SED TO ES	STIMATE YIELD	OF WATER-BEARING	G STRATA:			TOTA	L ESTIN	1ATED	
L	РИМІ	,A	IR LIFT	BAILER OT	HER - SPECIFY:			WEL	L YIELD	(gpm);	0.00
ERVISION	WELL TES				A COLLECTED DURING HOWING DISCHARGE AN						
\$VIS	MISCELLA	NEOUS INI	FORMATION:				-				· · · ·
PEF											
G SUP											
r, RIG											
TEST;	PRINT NAM	E(S) OF D	RILL RIG SUPER	VISOR(S) THAT PRO	VIDED ONSITE SUPERVI	SION O	F WELL CON	STRUC	TION O	THER TH	AN LICENSEE:
หรั	Cliff Hillma	n									
										.	
TURE	RECORD OF	F THE ABO	VE DESCRIBED	WELL, I ALSO CERT	F MY KNOWLEDGE ANI IFY THAT THE WELL TA OLDER WITHIN 30 DAYS	G, IF RI	EQUIRED, HA	S BEEI	N INSTA	LLED AN	ID THAT THIS
. SIGNATURE		St	<u>_</u>	5	Shawn Cain				11/2	20/21	
.9		SIGNAT	URE OF DRILLE	R / PRINT SIGNEE	NAME					DATE	
FO.	OCE DITES	NAL DOE					WD 22 W-		2005 *		
	R OSE INTERI E NO.	NAL USE			POD NO.		TRN NO.	L KEC	UKD &	LOG (Ver	sion 04/30/2019)
	CATION					WELL	TAG ID NO.				PAGE 2 OF 2







NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

	Engineer Well Number: SB-23 owner: EOG Resources	***	Dhara Ma	432-848-9146
	ing address: 5509 Champions Drive		Pnone No.	:
City:	Midland	State:	Texas	Zip code: 79706
	VELL PLUGGING INFORMATION:	Canaa	do Drilling	
1)	Name of well drilling company that p	lugged well: Casca	de Drilling	
2)	New Mexico Well Driller License No).: <u>1664</u>		Expiration Date: 1/31/23
3)	Well plugging activities were supervi	sed by the following	well driller(s)/rig superv	visor(s):
4)	Date well plugging began: 7/27/20) <u>21 </u>	Date well plugging concl	uded: 7/27/2021
5)	GPS Well Location: Latitude: _ Longitude:	32 deg,	24 min, 1 43 min, 1	5.26 sec 8.14 sec, WGS 84
6)	Depth of well confirmed at initiation of by the following manner: tag line	of plugging as:	13 ft below ground l	evel (bgl),
7)	Static water level measured at initiation	on of plugging: N	one ft bgl	
8)	Date well plugging plan of operations	was approved by the	e State Engineer: 3/24	/2021
9)	Were all plugging activities consisten differences between the approved plu			II not, picase describe

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging <u>Material Used</u> (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	30	21	Tremie	Boring no water
_					
_			:		
_					
				<u>.</u>	
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_					
_					
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_					
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-					
		MULTIPLY E	BY AND OBTAIN		

cubic feet x 7.4805 = gallons cubic yards x 201.97 = gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I, Snawn Cain	say	that]	am	familiar	with	the	rules	of the	he Office	e of	the	State
Engineer pertaining to the plugging of wells and that ea	ich a	nd all	of the	e stateme	nts in	this	Plugg	ing F	Record as	ıd at	tachi	ments
are true to the best of my knowledge and belief.												

Bh-C

11/20/21

Signature of Well Driller

Date

Received by OCD: 2/22/2022 2:01:17 PM

FILE NO.

LOCATION

PAGE 1 OF 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

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	OSE POD NO	WELL NO	.)		WELL TAG ID NO.	(OSE FILE NO	S).		****
O	POD 26				SB-24			C-4144			
Ę	WELL OWN	ER NAME(S)	ı					PHONE (OPTI	ONAL)		
OC.	EOG Reso	urces						432-848-914	1 6		
1.1	WELL OWN	ER MAILING	ADDRESS					CITY		STATE	ZIP
EL.	5509 Chan	pions Dri	ve			Midland		Texas	79706		
A			Di	GREES	MINUTES	SECO?	IDC	<u> </u>			
A	WELL		Di	32	24	14.	62	a ACCUBACY	BEOLUBED OVE TEN	TH OF A SPOONS	
AL.	LOCATIO	2,711	TITUDE				N		REQUIRED: ONE TEN	TH OF A SECOND	
GENERAL AND WELL LOCATION	(FROM GPS) LONGITUDE -103 43 18							DATUM REC	QUIRED: WGS 84		
GE	DESCRIPTION	ON RELATIN	G WELL LOCATION TO	STREET ADDE	RESS AND COMMON	LANDM	ARKS – PLS	S (SECTION, TO	WNSIIJIP, RANGE) WI	ERE AVAILABLE	
-	Aproximat	ely 10.5 so	outh of US Highwa	y 62/180							
	<u> </u>		1								
	LICENSE NO		NAME OF LICENSED	DRILLER	Shawn Cain				NAME OF WELL DR	ILLING COMPANY ascade Drilling	
	DRILLING S		DRILLING ENDED	DEPTH OF CO	MPLETED WELL (FT	Γ)	BORE HO	LE DEPTH (FT)	DEPTH WATER FIR	ST ENCOUNTERED (-T)
	7/27	721	7/27/21		NA			30		NA	
	COMPLETE	WELL IS	ARTESIAN	DRY HOL	Е Пенило	NI (LINCO	NIEDZED)		STATIC WATER LEV	EL IN COMPLETED	WELL (FT)
Z	COMPLETE	7 WELL 13.	☐ VKIE2IVN	UNK! HOL	E SHALLO	w (UNCO	INFINED)			NA O	
TIC	DRILLING F	LUID:	AIR	MUD	ADDITIV	ES SPEC	CIFY:				
£M.A	DRILLING METHOD: ROTARY			ПАММЕЯ	CABLE TO	OOL	OTHE	R = SPECIFY:	F	Roto Sonic	
CASING INFORMATION	DEPTH (feet bgl) BORE HOLE			L CACING	MATERIAL AND	JOB I					
	 		BORE HOLE	CASING	MATERIAL AND GRADE	UK		SING	CASING	CASING WALL	020.
Ž.	FROM TO DIAM (inches)			each casing string.	and		NECTION YPE	INSIDE DIAM,	THICKNESS (inches)	SIZE (inches)	
SAS			(inches)	note:	sections of screen)		(add coupling diameter)		(inches)	(inches)	(menes)
8											
2. DRILLING											
7											
DRI									<u> </u>		
5											
				Ţ							
						İ					
							-				
	ДЕРТИ	(feet bgl)	BORE HOLE	F 10	ST ANNULAR SE	AL MA	TEDIAL 4	ND	AMOUNT		100.05
ij	FROM	TO	DIAM. (inches)	1	VEL PACK SIZE-				(cubic feet)		IOD OF EMENT
ANNULAR MATERIAL	0	30	6		Cement with	5% Ber	tonite		7	Trimie	Pumped
AT.			0	ļ	Content with	Jan Dei			,		1 uniped
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FOR	OSE INTER	NAL USE						WR-20	WELL RECORD	& LOG (Version 04	/30/19)

POD NO.

TRN NO.

Received by OCD: 2/22/2022 2:01:17 PM

DEPTH (feet bgl)

TO

6

10

30

FROM

0

6

10

THICKNESS

(fect)

6

4

20

Released to Imaging: 5/2/2022 3:36:34 PM

ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)

WATER

BEARING?

(YES/NO)

✓ N

✓ N

N

N

Y

Y

Y Y

Y

3							Y N	
WE							Y N	
OF							Y N	
HYDROGEOLOGIC LOG OF WELL							Y N	
30							Y N	
CO					_		Y N	
GEO							_ Y N	
ORO							Y N	
H							Y N	
4							Y N	
-v							Y N	
							Y N	
-0							Y N	
							Y N	
- 11							Y N	
							Y N	
	METHOD USE	ED TO ESTIM	MATE YIELD	OF WATER-BEAF	RING STRATA:		TOTAL ESTIMATED	
Y	PUMP	AIR I	LIFT	BAILER	OTHER - SPECIFY:		WELL YIELD (gpm):	0.00
TEST; RIG SUPERVISION	WELL TEST MISCELLANE	START T	IME, END TI		DATA COLLECTED DURING E SHOWING DISCHARGE A			
EST;	DDINT NAME	(S) OE DDII	I DIC CHDCD	VICOD(C) THAT D	ROVIDED ONSITE SUPERV	ISION OF WELL CON	ISTRUCTION OTHER T	HAN LICENSEE
5. T	Cliff Hillman	(3) OF DRIL	L RIG SUFER	VISOR(S) THAT I	ROVIDED ONSITE SUFERV	ISION OF WELL CON	STRUCTION OTHER I	HAN LICENSEE:
	Cim minimar							
ATURE	RECORD OF T	HE ABOVE	DESCRIBED	WELL, I ALSO CE	OF MY KNOWLEDGE AN ERTIFY THAT THE WELL TA IT HOLDER WITHIN 30 DAY	AG, IF REQUIRED, HA	AS BEEN INSTALLED A	ND THAT THIS
SIGN/		Sh	1		Shawn Cain		11/20/21	
9		SIGNATUR	E OF DRILLE	R / PRINT SIGN	EE NAME		DATE	
F^-	OCE DITER	LUCE				1110 00	V. DECORE - 1 - 2 - 2	ii adadaaa
	R OSE INTERNA E NO.	L USE			POD NO.	WR-20 WE TRN NO.	LL RECORD & LOG (V	ersion 04/30/2019)
	CATION		<u>-</u>		1	WELL TAG ID NO.		PAGE 2 OF 2
						322 1110 12 1101		

COLOR AND TYPE OF MATERIAL ENCOUNTERED -

INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES

(attach supplemental sheets to fully describe all units)

Fine Silty Sand Brown

Caliche

Medium sandstone Brown





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

Well	Engineer Well Number: SB-24 Downer: EOG Resources		Phone No :	432-848-9146
Mailir	ng address: 5509 Champions Drive		I note No	
City:	Midland	State:	Texas	Zip code: 79706
,				r
<u>II. W</u>	ELL PLUGGING INFORMATION:			
1)	Name of well drilling company that pl	lugged well: Cascado	e Drilling	
2)	New Mexico Well Driller License No.	.: 1664	E	xpiration Date: 1/31/23
3)	Well plugging activities were supervis Cliff Hillman	sed by the following v	vell driller(s)/rig supervi	sor(s):
4)	Date well plugging began: 7/27/202	21 Da	ite well plugging conclud	ded: 7/27/2021
5)	GPS Well Location: Latitude: Longitude:	32 deg, -103 deg,	24 min, 14 43 min, 18	.62 sec .21 sec, WGS 84
6)	Depth of well confirmed at initiation o by the following manner: tag line	of plugging as:3	ft below ground le	vel (bgl),
7)	Static water level measured at initiatio	on of plugging: No	ne ft bgl	
8)	Date well plugging plan of operations	was approved by the	State Engineer: 3/24/2	2021
9)	Were all plugging activities consistent differences between the approved plug			II liot, picuse descrit
		·		

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging <u>Material Used</u> (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	55	46	Tremie	Boring no water
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		MULTIPLY E cubic feet x 7.4	3Y AND OBTAIN 805 = gallons		
		cubic feet x 7.4			

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I,	Shawn Cain	, say	that	Iam	familiar	with	the	rules	of the	he O	ffice	of 1	he	State
E	ngineer pertaining to the plugging of wells and that e	ach a	ind all	of the	e stateme	nts in	this	Plugg	ing F	Recor	rd and	atta	ichn	nents
aı	re true to the best of my knowledge and belief.													

201.97

cubic yards

Date

11/20/21

Signature of Well Driller

gallons

PAGE I OF 2

FILE NO.

LOCATION



. 7	OSE POD NO). (WELL NO),)		WELL TAG ID NO.			OSE FILE NO	S).			
N	POD 27				SB-25			C-4144				
Ě	WELL OWN	ER NAME(S)					PHONE (OPTI	ONAL)			
Ž	EOG Resor	urces						432-848-914				
07	WELL OWN	ED MAIL ING	2 A DDBECC					CITY		STATE	ZIP	
II.	5509 Chan							Midland		Texas	79706	
¥	3307 Citan	ipions Di						Wildiand		1 CAdS	17100	
AND WELL LOCATION	WELL		Di	EGREES MINUTES SECONDS			<u> </u>					
	LOCATIO	N LA	TITUDE	32	24	14.	.17 N	ACCURACY REQUIRED: ONE TENTIL OF A SECOND				
₹	(FROM GF	25)		-103	43	18.		* DATUM REQUIRED: WGS 84				
GENERAL		LO	NGITUDE	-105	W 0F.	<u> </u>	***					
GE	DESCRIPTION	ON RELATIN	NG WELL LOCATION TO	STREET ADD	RESS AND COMMON	LANDM	ARKS – PLS	S (SECTION, TO	WNSHJIP, RANGE) WH	ERE AVAILABLE		
÷	Aproximate	ely 10.5 s	outh of US Highwa	y 62/180								
_	<u> </u>											
	LICENSE NO		NAME OF LICENSED	DRILLER	Shawn Cain				NAME OF WELL DR			
	100	04								ascade Drilling		
	DRILLING S		DRILLING ENDED	DEPTH OF CO	MPLETED WELL (FT	Γ)	BORE HO	LÉ DEPTII (FT)	DEPTH WATER FIR:	ST ENCOUNTERED (F	T)	
	8/10	/21	8/10/21		NA			45		NA		
					223				STATIC WATER LEV	EL IN COMPLETED W	ELL (FT)	
7	COMPLETER	D WELL IS:	ARTESIAN	DRY HO	LE SHALLO	W (UNCO	ONFINED)			NA		
CASING INFORMATION	DRILLING F	LUID	☐ AIR	MUD	ADDITIV	uc cou	CIEV		<u> </u>			
[A]							8		<u> </u>			
Æ	DRILLING METHOD: ROTARY HAMMER CABLE TOOL						✓ OTHE	R - SPECIFY:	F	Roto Sonic		
NFO.	DEPTH	(feet bgl)	BORE HOLE	CASING	MATERIAL AND	/OR			CACINIC	a.an.a	T	
2	FROM TO DIAM			GRADE			ASING NECTION	CASING INSIDE DIAM.	CASING WALL THICKNESS	SLOT		
Ž	I ROM		(inches)		each casing string.	and	Т	YPE	(inches)	(inches)	(inches)	
Š			(note	sections of screen)		(add coupl	ling diameter)	(11101105)	(, , , , , , , , , , , , , , , , , , ,		
₩.												
DRILLING											- 0	
LL												
DRI												
2.												
				-							+	
										<u> </u>	+	
				<u> </u>								
	DEPTH	(feet bgl)	BORE HOLE	LI	ST ANNULAR SE	AL MA	TERIAL A	ND	AMOUNT	METH	OD OF	
AL	FROM	TO	DIAM. (inches)	GRA	VEL PACK SIZE-	RANGE	E BY INTE	RVAL	(cubic feet)	PLACE	MENT	
ERL	0	45	6		Cement with	5% Ber	ntonite	187	10	Tremie	Pumped	
4TE												
ANNULAR MATERIAL												
AR												
5												
Z.												
3,												
EOP	OCE INTER	MAI HE						1170 0	WELL BECORD	8-100 (V-====================================	20/10)	
ruk	OSE INTER	コスペレ ひろた						W K-20	WELL RECORD &	x LUG (Version 04/	30/191	

POD NO.

TRN NO.

PAGE 2 OF 2

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FILE NO.

LOCATION

WO	DEPTH (feet bgl)		COLOR AND TYPE OF MATERIAL ENCOUNTERED -	115 4 Tropins	ESTIMATED
	FROM	то	THICKNESS (feet)	INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONE (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	YIELD FOR WATER- BEARING ZONES (gpm)
	0	6	6	Fine Silty Sand Brown	Y VN	
	6	8	2	Caliche	Y VN	
	8	25	17	Fine silty sand Brown	Y VN	
	25	45	20	Medium Sandstone	Y VN	
					Y N	
773					Y N	
FWE					Y N	
0.0					Y N	
070					Y N	
HYDROGEOLOGIC LOG OF WELL					Y N Y N	
EOL					YN	
SOC					YN	
IXD					YN	
4. 1					Y N	
				-	Y N	:
					Y N	
					Y N	
,					Y N	
					Y N	
					Y N	
	METHOD U	SED TO E	STIMATE YIELD	OF WATER-BEARING STRATA:	TOTAL ESTIMATED	
	PUMF) []A	IR LIFT	BAILER OTHER – SPECIFY:	WELL YIELD (gpm):	0.00
NC	WELL TEST			ACH A COPY OF DATA COLLECTED DURING WELL TESTING, IN- ME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OV		
VISI	MISCELLA	NEOUS IN	FORMATION:			
TEST; RIG SUPERVISION						
EST;	DD INIT NIAN	IE(C) OF P	DILL DIC CUIDEN	VISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CON	ternitoriori ortion	IANI I IOPNIOPP
5. TI	Cliff Hillman		KILL KIO SUFEK	VISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL COP	NSTRUCTION OTHER TE	IAN LICENSEE:
SIGNATURE	RECORD OF	THE ABO	OVE DESCRIBED	AT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOI WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HA WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMP	AS BEEN INSTALLED AT	ND THAT THIS
6. SIGNA		St	-	Shawn Cain	11/20/21	
9		SIGNAT	URE OF DRILLE	R / PRINT SIGNEE NAME	DATE	
	OSF INTER		URE OF DRILLE		DA'	

POD NO.

TRN NO.





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

	ENERAL / WELL OWNERSHIP:			
State I	Engineer Well Number; SB-25 owner: EOG Resources		THE A. P. LEWIS CO., LANSING, MICH.	132-848-9146
Well o	ng address: 5509 Champions Drive		Phone No.:	
City:	Midland	State:	Texas	Zip code: 79706
,.				
<u>II. W</u>	ELL PLUGGING INFORMATION:			
1)	Name of well drilling company that plugged	d well: Cascade	Drilling	
2)	New Mexico Well Driller License No.: 160	64	Ex	piration Date: 1/31/23
3)	Well plugging activities were supervised by Cliff Hillman	the following w	ell driller(s)/rig superviso	or(s):
4)	Date well plugging began: 8/10/2021	Dat	te well plugging conclude	ed: <u>8/10/2021</u>
5)	GPS Well Location: Latitude: Longitude:	32 deg, _ -103 deg, _	24 min, 14.1 43 min, 18.4	7 sec 0 sec, WGS 84
6)	Depth of well confirmed at initiation of plug by the following manner: tag line	gging as:45	ft below ground leve	el (bgl),
7)	Static water level measured at initiation of p	olugging: Non	e ft bgl	
8)	Date well plugging plan of operations was a	approved by the S	State Engineer: 3/24/20	21
9)	Were all plugging activities consistent with differences between the approved plugging			If not, please describe additional pages as needed):

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging <u>Material Used</u> (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	80	70	Tremie	Boring no water
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		MULTIPLY E	AND OBTAIN		

cubic feet x 7.4805 = gallons cubic yards x 201.97 = gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I, Shawn Cain , say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

11/20/21

Signature of Well Driller

Date



z	OSE POD NO POD 28	. (WELL NO	.)		VELL TAG ID NO. B-26			OSE FILE NO	S).		
OIT	WELL OWN	ED MAME(S)						PHONE (OPTI-	ONALA		
GENERAL AND WELL LOCATION	EOG Resou							432-848-914			
LL	WELL OWNE							CITY		STATE	ZIP
WEL	5509 Cham	pions Dri	ve					Midland		Texas	79706
QN .	WELL		Dł	GREES	MINUTES	SECONE					
AL	LOCATIO	571	TITUDE	32	24	13.5	N		REQUIRED: ONE TEN	TII OF A SECOND	
NER	(FROM GP	LO	NGITUDE	-103	43	18.6			QUIRED: WGS 84		
1. GE	1		G WELL LOCATION TO outh of US Highway		SS AND COMMON	N LANDMA	RKS – PLS	S (SECTION, TO	WNSIIJIP, RANGE) WI	IERE AVAILABLE	
VIII E	LICENSE NO).	NAME OF LICENSED	DRILLER					NAME OF WELL DR	ILLING COMPANY	
	166				Shawn Cain					ascade Drilling	
	DRILLING ST 8/10/		DRILLING ENDED 8/10/21	DEPTH OF COM	PLETED WELL (FI NA	T):		E DEPTH (FT)	DEPTH WATER FIR	ST ENCOUNTERED (FT)
7	COMPLETED	WELL IS:	ARTESIAN	DRY HOLE	SIIALLO	W (UNCON	FINED)		STATIC WATER LEV	VEL IN COMPLETED NA	WELL (FT)
TIO	DRILLING FL	LUID:	AIR	MUD	ADDITIV	ES – SPECI	FY		<u> </u>		
RMA	DRILLING M	ETHOD	ROTARY	☐ HAMMER	CABLET	OOL	OTHER	R = SPECIFY:	F	Roto Sonic	
NFO	DEPTH ((feet bgl)	BORE HOLE	1	ATERIAL AND	D/OR	C^	SING	CASING	CASING WAL	L SLOT
CASING INFORMATION	FROM	ТО	DIAM (inches)	(include eac	GRADE th casing string, ctions of screen)		CONN	IECTION YPE ing diameter)	INSIDE DIAM. (inches)	THICKNESS (inches)	SIZE (inches)
8										116	
ING											
DRILLING									-		
2. DF											
	-		-								
	DEPTH	(feet bgl)	DODE HOLE	Lica	ANNULAR SE	EAL MAT	CDIAL A	ND	AMOUNT		100.00
ML	FROM	TO	BORE HOLE DIAM. (inches)	1	EL PACK SIZE-				(cubic feet)		HOD OF EMENT
3. ANNULAR MATERIAL	0	30	6		Cement with	n 5% Bento	onite		6.6	Tremie	Pumped
MA	-				_						
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Z				1							
3. A											

 FOR OSE INTERNAL USE
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 TRN NO.

 LOCATION
 WELL TAG ID NO.
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FILE NO.

LOCATION

PAGE 2 OF 2

	DEPTH (1	feet bgl)	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONE (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
	0	6	6	Fine Cilm Cond Drown	YVN	ZONES (gpin)
	6	10	4	Fine Silty Sand Brown Caliche	Y VN	
					YVN	
	10	20	10	Fine silty sand Brown		
==	20	25	5	Medium Sandstone	Y VN	
S.	25	30	5	Fat Clay Brown		1
ELL		<u>.</u>				
FW						
00					Y N	
07.5					Y N	
190					Y N Y N	
70						
4. HYDROGEOLOGIC LOG OF WELL					Y N	
YDR					Y N Y N	
4. H						
					Y N	
					Y N	
					-	
					Y N Y N	
	METHODII	CED TO EC	TIMATE VIELD	OF WATER-BEARING STRATA:	TOTAL ESTIMATED	
		_		_	WELL YIELD (gpm):	0.00
	PUMI	, <u> </u>	IR LIFT	BAILEROTHER = SPECIFY:		
PERVISION	WELL TES	STAR		ACH A COPY OF DATA COLLECTED DURING WELL TESTING, INC ME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVE		
TEST; RIG SUPERV						
TES	PRINT NAM	(S) OF DI	RILL RIG SUPER	VISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CON	STRUCTION OTHER TH	IAN LICENSEE:
หกั	Cliff Hillma	n				
	RV SIGNIM	G BEI OW	I CERTIEV TO	AT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOR	FGOING IS A TRIE A	ND COPPECT
SIGNATURE	RECORD OF	F THE ABO	VE DESCRIBED	WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HA WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPL	S BEEN INSTALLED AT	ND THAT THIS
6. SIGN		Sh	1	Shawn Cain	11/20/21	_
		SIGNAT	URE OF DRILLE	R / PRINT SIGNEE NAME	DATE	
FOI	R OSE INTERI	NAL USE		WR-20 WEI	L RECORD & LOG (Vc	rsion 04/30/2019)

POD NO.

TRN NO.





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

State E Well ov	ngineer Well Number: SB-26 wner: EOG Resources		Phone No.: 4	32-848-9146
Mailing	g address: 5509 Champions Drive			
City:	Midland	State:	Texas	Zip code: 79706
II. WE	ELL PLUGGING INFORMATION:	Cananda	Orillin a	
1)	Name of well drilling company that plugg	ed well: Cascade L	rining	
2)	New Mexico Well Driller License No.: 1	664	Exp	piration Date: 1/31/23
3)	Well plugging activities were supervised to Cliff Hillman	by the following wel	l driller(s)/rig superviso	r(s):
4)	Date well plugging began: 8/10/2021	Date	well plugging conclude	d: <u>8/10/2021</u>
5)	GPS Well Location: Latitude: Longitude:	32 deg, -103 deg,	24 min, 13.5 43 min, 18.6	1 sec 2 sec, WGS 84
6)	Depth of well confirmed at initiation of pl by the following manner: tag line	ugging as:30	ft below ground leve	el (bgl),
7)	Static water level measured at initiation of	plugging: None	ft bgl	
8)	Date well plugging plan of operations was	approved by the Sta	ate Engineer: 3/24/20	21
9)	Were all plugging activities consistent wit differences between the approved plugging			
			-	

gallons cubic feet 7.4805 cubic yards 201.97 gallons III. SIGNATURE:

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging <u>Material Used</u> (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	55	46	Tremie	Boring no water
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			BY AND OBTAIN	•	
		cubic feet v 7	4805 = callons		

I,	Shawn Cain ,	say	that	I	am	familiar	with	the	rules	of t	the	Office	of	the	State
E	ngineer pertaining to the plugging of wells and that ea	ch a	nd all	of	f the	stateme	nts in	this	Plugg	ing :	Rec	ord and	l att	achn	nents
ar	e true to the best of my knowledge and belief.														

Signature of Well Driller

11/20/21

Date

FILE NO.

LOCATION



-334	OSE POD NO	. (WELL N	(O.)		WELL TAG ID NO.			OSE FILE NO	S).		
Z	POD 29				SB-27			C-4144			
Ţ	WELL OWN	D NAME	(2)					PHONE (OPTION	ONALY		
GENERAL AND WELL LOCATION	EOG Reson		(3)					432-848-914			
2	L										
H	ı		NG ADDRESS					CITY		STATE	ZIP
WE	5509 Cham	ipions D	nve					Midland		Texas	79706
ē			C	EGREES	MINUTES	SECOND:	<u> </u>]			
A	LOCATIO	. .		32	24	12.90	N	* ACCURACY	REQUIRED: ONE TEN	TILOF A SECOND	
3	(FROM GP	_ <u>_</u> _	ATITUDE	103	42	10.05			OUIRED: WGS 84		
KE	(FROM GF	31 L	ONGITUDE	-103	43	18.85	W	DATON REC	ZOINED: WG3-84		
9	DESCRIPTION	ON RELAT	ING WELL LOCATION T	O STREET ADDI	RESS AND COMMON	LANDMAR	KS – PLS	S (SECTION, TO	WNSHJIP, RANGE) WI	IERE AVAILABLE	
-	Aproximate	ly 10.5	south of US Highwa	ay 62/180							
	LICENSE NO		NAME OF LICENSE	D DRILLER					NAME OF WELL DR	ILLING COMPANY	
	166	i4			Shawn Cain				C	ascade Drilling	
	DRILLING S	FARTED	DRILLING ENDED	DEPTH OF CO	MPLETED WELL (FT) B	ORE HO	LE DEPTH (FT)	DEPTH WATER FIR	ST ENCOUNTERED (FT))
	7/26	/21	7/26/21		NA			20		NA	
					1.400				STATIC WATER LEV	EL IN COMPLETED WE	III (ET)
	COMPLETED	WELL IS	- ARTESIAN	DRY HOL	E SHALLOV	W (UNCONF	INED)		STATIC WATER DE	NA NA	EL (FI)
NO NO					941/		717				
Ę	DRILLING FI	.UID:	☐ AIR	MUD	ADDITIVE	ES = SPECIF	Y:				
CASING INFORMATION	DRILLING M	ETHOD:	ROTARY	ПАММЕ	CABLE TO	OOL [OTHE	R - SPECIFY:	ŀ	Roto Sonic	
Õ							-				
Z	DEPTH	(feet bgl)	BORE HOLE	CASING	MATERIAL AND. GRADE	/OR	CA	ASING	CASING	CASING WALL	SLOT
SG	FROM	TO	DIAM	(include	each casing string, a	and		NECTION	INSIDE DIAM.	THICKNESS	SIZE
4SI			(inches)		sections of screen)			YPE ling diameter)	(inches)	(inches)	(inches)
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	DEPTH ((feet bgl)			ST ANNULAR SE				AMOUNT	метно	
IAL	FROM	TO	DIAM. (inches)	GRA	VEL PACK SIZE-	RANGE B	Y INTE	RVAL	(cubic feet)	PLACEN	MENT
EK	0	20	6	1	Cement with	5% Bento	nite		4,5	Trimie Pt	umped
ΑT				 					Y~		
Σ											
3				+							
ANNULAR MATERIAL											
A				1							
100											
EOP	OSE INTER	NIAT TIC						site of	WELL BECORE	8-1-0C/02-31 - 0485	0/10>
ruk	OSE INTER	NAT 02	E .					WR-20	WELL KECOKD &	& LOG (Version 04/3	U/19)

POD NO.

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Received by OCD: 2/22/2022 2:01:17 PM

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WR-20 WELL RECORD & LOG (Version 04/30/2019)

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TRN NO.

WELL TAG ID NO.

	DEPTH (1	reet bgl)	THICKNESS (feet)	INCLUDE		ERIAL ENCOUNTERED - 'ITIES OR FRACTURE ZONI	ES	WATI BEARII (YES/I	NG?	ESTIMATED YIELD FOR WATER- BEARING
					acit supplementar savets			. 80		ZONES (gpm)
	0	15	15		Fine Silty Sar	d Brown		Y	∠ N	
- 8	15	20	5		Calich	e		Y	∠ N	
								Y	N	
								Y	N	
- 13								Y	N	
13								Y	N	
WEI								Y	N	
4. HYDROGEOLOGIC LOG OF WELL								Y	N	
90								Y	N	
5								Y	N	
07								Y	N	
OE0								Y	N	
RO								Y	N	
HAD								Y	N	· · · · ·
4					·			Y	N	
								Y	N	
							Y	N	· · · · · · ·	
W 8								Y	N	
								Y	N	
000								Y	N	
								Y	N	
6 =	METHOD U	SED TO ES	TIMATE YIELD	OF WATER-B	EARING STRATA:		TOTAL	L ESTIMA	ATED	
	□Р∪МІ	. Dv	IR LIFT	BAILER	OTHER - SPECIFY:		WELL	YIELD ((gpm):	0.00
SION	WELL TES					URING WELL TESTING, IN RGE AND DRAWDOWN OV				
TEST; RIG SUPERVISI	MISCELLAI	NEOUS INF	FORMATION:							
LEST	PRINT NAM	IE(S) OF D	RILL RIG SUPER	VISOR(S) THA	AT PROVIDED ONSITE S	UPERVISION OF WELL CON	NSTRUC'	TION OTI	HER TH	AN LICENSEE:
5.1	Cliff Hillma									
SIGNATURE	RECORD OF	F THE ABO	VE DESCRIBED	WELL, I ALSO	CERTIFY THAT THE W	GE AND BELIEF, THE FO ELL TAG, IF REQUIRED, HA 30 DAYS AFTER THE COMP	AS BEEN	INSTALI	LED AN	ID THAT THIS
SIGNA		BI	16		Shawn Cain			11/20	/21	
9		SIGNAT	URE OF DRILLE	R / PRINT SI	GNEE NAME			D	DATE	

POD NO.





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

iaie	Engineer Well Number: SB-27							
Vell	owner: EOG Resources			-	Phone	No.: 432	-848-9146	
/laili	ng address: 5509 Champions Drive							
city:	Midland	State:		T	exas		Zip code:	79706
. v	VELL PLUGGING INFORMATION:							
)	Name of well drilling company that plu	gged well:	Cascade [Orilling				
)	New Mexico Well Driller License No.:					_ Expira	ition Date: 1	/31/23
)	Well plugging activities were supervise Cliff Hillman	d by the foll	owing we	ll driller	(s)/rig su	pervisor(s):	
)	Date well plugging began: 7/26/202	1	Date	well pi	ugging co	ncluded:	7/26/2021	
	GPS Well Location: Latitude: Longitude:		deg, deg,	24 43	min, _ min, _	12.90 18.85	_ sec _ sec, WGS 8	B4
)	Depth of well confirmed at initiation of by the following manner: tag line	plugging as	20	ft be	low grou	nd level (bgl),	
ı	Static water level measured at initiation	of plugging	: None	ft bį	gl			
ŀ	Date well plugging plan of operations w	as approved	l by the St	ate Eng	ineer:	3/24/2021	_	
)	Were all plugging activities consistent with differences between the approved plugg					Yes (attach ac		lease describes as needed):

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging <u>Material Used</u> (include any additives used)	Volume of <u>Material Placed</u> (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	40	31	Tremie	Boring no water
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	1	MULTIPLY E	BY AND OBTAIN		I
		cubic feet x 7.4	805 = gallons		

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I, Shawn Cain , say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

201.97

cubic yards

Signature of Well Driller

gallons

Date

11/20/21

FILE NO.

LOCATION



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

5	OSE POD NO.	(WELL NO.)		WELL TAG ID NO.			OSE FILE NO	S).		
O	POD 29				SB-27A	30		C-4144			
Ε¥	WELL OWNER	R NAME(S)						PHONE (OPTI	ONAL)		
90	EOG Resou	rces						432-848-914	16		
LL	WELL OWNER	R MAILING	ADDRESS					CITY		STATE	ZIP
EL	5509 Champ	pions Dri	ve					Midland		Texas	79706
*				and the same				<u> </u>			
Z	WELL	-	Di	EGREES 32	MINUTES 24	SECONI 12.5					
AL.	LOCATION	LAT	TTUDE	۵۷		12.3	, N		REQUIRED: ONE TEN	TTILOF A SECOND	
R	(FROM GPS	() LON	GITUDE	-103	43	18.8	7 w	* DATUM REG	QUIRED: WGS 84		
GENERAL AND WELL LOCATION	DESCRIPTION	N RELATIN	G WELL LOCATION TO	STREET ADDRI	ESS AND COMMON	LANDMA	RKS - PLS	S (SECTION, TO	WNSHJIP, RANGE) WI	IERE AVAILABLE	
1.0	I		outh of US Highwa					,	, , , , , , , , , , , , , , , , , , , ,		
		,									
1155	LICENSE NO.		NAME OF LICENSED	DRILLER					NAME OF WELL DE		
	1664	4			Shawn Cain				(Cascade Drilling	
	DRILLING STA	ARTED	DRILLING ENDED	DEPTH OF COM	APLETED WELL (F)	Γ)	BORE HOL	LE DEPTH (FT)	DEPTH WATER FIR	RST ENCOUNTERED (FT)
	8/12/2	21	8/12/21		NA			20		NA	
						1777	407 000		STATIC WATER LE	VEL IN COMPLETED	WELL (FT)
7	COMPLETED	WELL IS:	ARTESIAN	DRY HOLI	SIIALLO	W (UNCON	FINED)			NA	
CASING INFORMATION	DRILLING FL	IIID:	☐ AIR	☐ MUD	ADDITIV	ES - SPEC	FY		1		
W.	DRILLING ME		ROTARY	-	CABLET		_	R - SPECIFY:		Roto Sonic	
OR	DRILLING ME	:THOD:	KOTAKT	[_] HAMMER	CABLE	OOL	VINE.	K SPECIFT:		Roto Sollic	
Z	DEPTH (feet bgl)	BORE HOLE	CASING N	MATERIAL AND	O/OR	CA	ASING	CASING	CASING WAL	L SLOT
Š	FROM	TO	DIAM	(include o	GRADE ach casing string,	and	CONN	NECTION	INSIDE DIAM	THICKNESS	SIZE
\SI			(inches)		ections of screen)			YPE ling diameter)	(inches)	(inches)	(inches)
S C											
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2. DRILLING									·		
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Z. D									<u> </u>	 -	
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										<u> </u>	
	DEPTH (f	feet bgl)	BORE HOLE	LIS	T ANNULAR SE	AL MAT	ERIAL A	ND	AMOUNT	MFTI	IOD OF
Æ	FROM	ТО	DIAM. (inches)	GRAV	EL PACK SIZE	RANGE	BY INTE	RVAL	(cubic feet)	l l	EMENT
ERL	0	20	6	<u> </u>	Cement with	5% Bent	onite		4.5	Tremie	Pumped
T _A			-			1,0,					
×											
P											
ANNULAR MATERIAL			-							_	
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FOR	OSE INTERN	111100						11170 00	WELL DECORD		. in all a

POD NO.

TRN NO.

WELL TAG ID NO.

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PAGE 1 OF 2

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	DEPTH (fe	TO	THICKNESS (feet)	COLOR AND TYPE OF MATER INCLUDE WATER-BEARING CAVIT (attach supplemental sheets to fi	IES OR FRACTURE ZON	1ES	WATER BEARING? (YES/NO)	ESTIMATEI YIELD FOR WATER- BEARING ZONES (gpn					
	0	4	4	Fine Silty Sand I	Brown		Y VN						
	4	8	4	Caliche		-	Y VN						
	8	20	12	Fine Silty Sand I	Brown	<u> </u>	Y VN						
							Y N						
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5				YN									
4. HTDROGEOLOGIC LOG OF WELL		-					Y N						
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							Y N	+					
							Y N						
							YN						
	METHOD US	ED TO ES	TIMATE VIELD	OF WATER-BEARING STRATA:		TOTAL	ESTIMATED						
	PUMP		YIELD (gpm)										
	WELL TEST TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.												
5. IESI; KIU SUFERVISION	MISCELLANEOUS INFORMATION: Step Out boring												
J. 1 ED .	PRINT NAME	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: Cliff Hillman											
	BY SIGNING RECORD OF	THE ABO	VE DESCRIBED	AT TO THE BEST OF MY KNOWLEDGE WELL, I ALSO CERTIFY THAT THE WEL WITH THE PERMIT HOLDER WITHIN 30 I	L TAG, IF REQUIRED, I	IAS BEEN	INSTALLED.	AND THAT THIS					
v. Stole		St	6	Shawn Cain			11/20/21						
		SIGNAT	URE OF DRILLE	R / PRINT SIGNEE NAME			DATE						
· · ·	OCE INTERN	AL LICE			210.00.00	ELL BEGG	DD 6 / 00 ==	7					
Ol	R OSE INTERNA	AL USE		1-0-10		ELL RECC	KD & LOG (/	Zersion 04/30/2019					
	E NO.			POD NO.	TRN NO								





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

well	owner: EOG Resources			_	No.: 432	32-848-9146				
Maili	ng address: 5509 Champions Drive									
City:	Midland	State:		Texas			Zip code:	6		
II. W	ELL PLUGGING INFORMATION:									
1)	Name of well drilling company that plug	gged well:	Cascade [Orilling						
2)	New Mexico Well Driller License No.:	1664				_ Expira	ntion Date: 1/31/23			
3)	Well plugging activities were supervised Cliff Hillman	l by the follo	wing we	ll driller	(s)/rig su	pervisor(s):	_		
4)	Date well plugging began: 8/12/202	1	_ Date	well pl	ugging co	oncluded:	8/12/2021			
5)	GPS Well Location: Latitude: Longitude:		_deg, _deg,	24 43	min, _ min, _	12.57 18.87	_ sec _ sec, WGS 84			
6)	Depth of well confirmed at initiation of by the following manner: tag line	plugging as:	20	ft be	low grou	nd level (bgl),			
7)	Static water level measured at initiation	of plugging:	None	ft bg	gl					
8)	Date well plugging plan of operations w	as approved	by the St	ate Engi	neer.	3/24/2021	-			
9)	Were all plugging activities consistent w differences between the approved pluggi					Yes (attach ac	If not, please Iditional pages as n			

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)			
	Neat Cement	40	31	Tremie	Boring no water			
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		MULTIPLY E	BY AND OBTAIN					

MULTIPLY		BY	AND OBTAIN	
cubic feet	Х	7.4805	=	gallons
cubic yards	х	201.97	=	gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I, Shawn Cain ,	say that I	am	familiar	with	the	rules	of the	e Offic	e of	the	State
Engineer pertaining to the plugging of wells and that ea	ich and all o	of the	stateme	nts in	this	Plugg	ing R	ecord a	nd a	ttach	ment
are true to the best of my knowledge and belief.											

11/20/21

Signature of Well Driller

Date



							-				<u> </u>			
Z	POD 30	WELL NO.)		WELL TAG ID NO SB-28	5		OSE FILE NOT C-4144	S).					
OIT	WELL OWNER	NAME(S)						PHONE (OPTI-	ONALI					
OCA	EOG Resour							432-848-914						
11,	WELL OWNER							CITY		STATE	ZIP			
WEL	5509 Champ	ions Driv	ve .					Midland		Texas	79706			
Q	WELL		DE	GREES	MINUTES	SECONI	DS							
AL A	LOCATION	LAT	ITUDE	32	24	13.2	2 N	ACCURACY REQUIRED: ONE TENTH OF A SECOND						
GENERAL AND WELL LOCATION	(FROM GPS)	LON	GITUDE -103 43 18.11 W *I						QUIRED: WGS 84					
	DESCRIPTION	N RELATIN	G WELL LOCATION TO	STREET ADDR	ESS AND COMMON	N LANDMA	RKS – PLS	S (SECTION, TO	WNSHJIP, RANGE) WH	IERE AVAILABLE				
-:	Aproximately	y 10.5 so	uth of US Highway	y 62/180										
	LICENSE NO.		NAME OF LICENSED	DRILLER	23				NAME OF WELL DR	ILLING COMPANY				
	1664	,					C	ascade Drilling						
	DRILLING STA		DRILLING ENDED					E DEPTH (FT)	DEPTH WATER FIR	ST ENCOUNTERED (FT)			
	8/10/2	!]	8/10/21	NA 45				45		NA 				
Z	COMPLETED	WELL IS:	ARTESIAN	DRY HOL	E SHALLO	W (UNCON	(FINED)	INED) STATIC WATER LEVEL IN COMPLETEINED) NA						
\TI0	DRILLING FLUID: AIR MUD ADDITIVES = SPECIFY:													
RM/	DRILLING MET	THOD:	ROTARY	☐ HAMMER	CABLE T	OOL	OTHE	R - SPECIFY:	F	Roto Sonic				
NFO	DEPTH (fo	ect bgl)	BORE HOLE	CASING	MATERIAL ANI	D/OR	C 4	SING	CASING	CASING WALL	SLOT			
& CASING INFORMATION	FROM TO		DIAM (inches)		GRADE each casing string, sections of screen)		CONN T	ECTION YPE	INSIDE DIAM.	THICKNESS (inches)	SIZE (inches)			
CA				note s	sections of sereon)	'	(add coupt	ing diameter)			-			
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LLI														
2. DRILLING														
7														
			-	-		\rightarrow								
	DEPTH (fe	eet bgl)	BORE HOLE	LIS	ST ANNULAR SI	EAL MAT	ERIAL A	ND	AMOUNT	METHO	OD OF			
IAL	FROM	TO	DIAM. (inches)	GRA'	VEL PACK SIZE	-RANGE	BY INTE	RVAL	(cubic feet)	PLACE				
TER	0	45	6		Cement with	h 5% Bent	onite		10	Tremie P	umped			
MA														
LAR														
Ş				-										
3. ANNULAR MATERIAL														
III														

FOR OSE INTERNAL USE WR-20 WELL RECORD & LOG (Version 04/30/19) FILE NO. POD NO. TRN NO. LOCATION PAGE I OF 2 WELL TAG ID NO.

Received by OCD: 2/22/2022 2:01:17 PM

FILE NO.

LOCATION

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PAGE 2 OF 2

	DEPTH (feet bgl)		COLOR AND TWO OF MATTERNAL ENGINEERS			ESTIMATED				
	FROM	то	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZON (attach supplemental sheets to fully describe all units)	ES	WATER BEARING? (YES/NO)	YIELD FOR WATER- BEARING ZONES (gpm)				
	0	6	6	Fine Silty Sand Brown		Y N					
	6	15		Y VN	-						
	15	20		Y VN							
	20	45		Y VN							
				Y N							
77				Y N							
WE				Y N							
OF				Y N							
4. HYDROGEOLOGIC LOG OF WELL				Y N							
- <u>[</u>						Y N					
100						Y N					
SE0						Y N					
RO						Y N					
2						Y N					
4.						Y N					
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	METHOD U	SED TO E	STIMATE YIELD	OF WATER-BEARING STRATA:	TOTA	AL ESTIMATED					
	PUMI			BAILER OTHER - SPECIFY:		.L YIELD (gpm):	0.00				
	Пьомі		IR LIFT	DAILER OTHER - SPECIFI:	.l						
NO	WELL TES			ACH A COPY OF DATA COLLECTED DURING WELL TESTING, IN ME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN O							
TEST; RIG SUPERVISION	MISCELLAI	NEOUS IN	FORMATION:								
PER											
SOI											
RIG											
ST;	BOILT	(E(0) OF 5	DILL DIC CURE	LUCORIO TILAT BROUDER ONOTE STREET STREET	. IOTO	OTION OTHER TO					
5. TE			KILL KIG SUPER	VISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CO	NS FRU(LITON OTHER TH	AN LICENSEE:				
	Cliff Hillma	n									
TURE	RECORD OF	F THE ABO	VE DESCRIBED	AT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FO WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, H WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COM	AS BEE	N INSTALLED AN	ID THAT THIS				
6. SIGNATURE		St	1	Shawn Cain		11/20/21					
9		SIGNAT	URE OF DRILLE	R / PRINT SIGNEE NAME		DATE					
	OSF INTER					CORD & LOG (Ver					

POD NO.

TRN NO.





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

ell	owner: EOG Resources		Phone No.	432-848-9146
Iaili	ng address: 5509 Champions Drive Midland		Texas	70706
ıty:		State:	Texas	Zip code: 79706
. 33	YELL PLUGGING INFORMATION	N.		
))	Name of well drilling company that		de Drilling	
)	New Mexico Well Driller License			Expiration Date: 1/31/23
)	Well plugging activities were supe Cliff Hillman	rvised by the following	well driller(s)/rig superv	visor(s):
)	Date well plugging began: 8/10/	2021 I	Date well plugging concl	uded: 8/10/2021
)	GPS Well Location: Latitude Longitu			3.22 sec 8.11 sec, WGS 84
)	Depth of well confirmed at initiation by the following manner: tag line	on of plugging as:	ft below ground	level (bgl),
)	Static water level measured at initia	ation of plugging: N	one ft bgl	
)	Date well plugging plan of operation	ons was approved by the	e State Engineer: 3/24	/2021
)	Were all plugging activities consist differences between the approved p			Ti not, prease descr
				<u> </u>

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	80	69	Tremie	Boring no water
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		MILITIPLY S	AND ORTAIN	'	

MULTIPLY		BY		AND OBTAIN
cubic feet	χ	7.4805	=	gallons
cubic yards	Х	201,97	=	gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I,	Shawn Cain	, say	that	Iam	familiar	with	the	rules	of t	he (Office	of t	he	State
E	ngineer pertaining to the plugging of wells and that of	each a	and all	of the	stateme	nts in	this	Plugg	ing l	Reco	ord and	atta	chn	nents
aı	re true to the best of my knowledge and belief.													

Signature of Well Driller Date

PAGE 1 OF 2

WR-20 WELL RECORD & LOG (Version 04/30/19)

TRN NO.

WELL TAG ID NO.

FOR OSE INTERNAL USE

FILE NO.

LOCATION

WELL RECORD & LOG OFFICE OF THE STATE ENGINEER www.ose.state.nm.us

3	OSE POD NO. (V	VELL NO.)		WELL TAG ID NO.	2		OSE FILE NO	S).		-	
O	POD 31				SB-29			C-4144				
AT	WELL OWNER							PHONE (OPTI				
3	EOG Resourc							432-848-914	16			
LL	WELL OWNER							CITY		STATE	ZIP	
WE	5509 Champi	ons Dn	ve 					Midland		Texas	79706	
2	WELL		DE	GREES	MINUTES	SECONI	DS					
LA	LOCATION	LAT	TTUDE	32 24 14.40 _N			0 N	* ACCURACY REQUIRED; ONE TENTH OF A SECOND				
ERA	(FROM GPS)	100	(GITUDE	-103	43	17.4	2 W	* DATUM REG	QUIRED: WGS 84			
GENERAL AND WELL LOCATION	DESCRIPTION		G WELL LOCATION TO	STREET ADDR	FSS AND COMMON	VI ANDMA	RKS PIS	S (SECTION TO	WNSHIID BANGEI WI	IERE AVAILABLE		
1. G	l .		outh of US Highway		bbs mib common	·		3 (320 11011, 10	onsian idade) wi	ICKE KYMENDEL		
	1.4											
	LICENSE NO.		NAME OF LICENSED	DRILLER	_,				NAME OF WELL DR			
	1664				Shawn Cain				· ·	Cascade Drilling		
	DRILLING STAR		DRILLING ENDED	DEPTH OF COM	MPLETED WELL (FT	Τ)		E DEPTH (FT)	DEPTH WATER FIR	ST ENCOUNTERED (FT)	
	8/10/21		8/10/21		NA			30		NA		
	COMPLETED W	n:11 19	ARTESIAN	DRY HOLI	(FINED)		STATIC WATER LEV	VEL IN COMPLETED W	ELL (FT)			
Z	COMIT CETED W	CLL IS.	[_] ARTESIAN	DKT HOLI	(FINED)			NA				
Ĕ	DRILLING FLUI	D:	AIR	MUD	ADDITIV	ES – SPECI	FY					
2. DRILLING & CASING INFORMATION	DRILLING METHOD: ROTARY			HAMMER	CABLE T	OOL	OTHE	R - SPECIFY:	ı	Roto Sonic		
FO	DEPTH (fee	et hal)		CASING	MATERIAL AND	VOP			<u> </u>			
E U	FROM	TO	BORE HOLE DIAM	CABING P	GRADE	JOK		SING IECTION	CASING INSIDE DIAM.	CASING WALL THICKNESS	SLOT SIZE	
ŠIK	FROM 10		(inches)		ach casing string, ections of screen)		Т	YPE	(inches)	(inches)	(inches)	
S				Hote s	ections of screen)	' 	(add coupl	pling diameter) (menes)				
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			+									
										 		
	DEPART CO											
L	DEPTH (fee		BORE HOLE DIAM. (inches)	1	T ANNULAR SE /EL PACK SIZE-				AMOUNT	METHO PLACE		
RIA	FROM	TO		UKAN				KVAL	(cubic feet)			
ME	0	30	6		Cement with	1 5% Bent	onite		6.5	Tremie P	'umped	
ANNULAR MATERIAL												
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	DEPTH (I	TO	THICKNESS (feet)	INCLUDE WATE	ID TYPE OF MATERIAL ER-BEARING CAVITIES oplemental sheets to fully	OR FRA	CTURE ZONES	BEAF	TER RING? / NO)	ESTIMATED YIELD FOR WATER- BEARING
	0	4	4		Fine Silty Sand Brow			Y	4 M	ZONES (gpm)
	4	8	4		Caliche	'n		Y	✓ N	
	8	30	22					Y	✓ N	
	0	30	22		Medium Sandstone Bro			Y	N	_
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JF V								Y	N	
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HYDROGEOLOGIC LOG OF WELL								Y	N	
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	METHOD II	SED TO E	STIMATE VIELD	OF WATER-BEARING	G STRATA		Tr	TAL ESTIN		
-	РИМЕ		_		HER - SPECIFY:			ELL YIELD		0.00
Z C	WELL TEST	TEST	RESULTS - ATTA T TIME, END TIM	ACH A COPY OF DAT ME, AND A TABLE SH	TA COLLECTED DURING HOWING DISCHARGE AI	WELL ND DRA	FESTING, INCLU WDOWN OVER	DING DISCI	HARGE I	METHOD, DD.
TEST; RIG SUPERVISION	MISCELLAN	NEOUS IN	FORMATION:							
	PRINT NAM	E(S) OF D	RILL RIG SUPER	VISOR(S) THAT PRO	VIDED ONSITE SUPERV	ISION O	F WELL CONSTI	RUCTION O	THER TH	IAN LICENSEE
ń	Cliff Hillman	n								
SIGNATURE	RECORD OF	THE ABO	VE DESCRIBED	WELL, I ALSO CERT	F MY KNOWLEDGE AN IFY THAT THE WELL TA HOLDER WITHIN 30 DAY	G, IF RI	QUIRED, HAS E	EEN INSTA	LLED A	ND THAT THIS
6. SIGN		_	Sh-C	:	Shawn Cain			1 1/2	20/21	
		SIGNAT	URE OF DRILLE	R / PRINT SIGNEE	NAME				DATE	
FO _F	R OSE INTERN	IAL USE		···			WR-20 WELL	RECORD & I	LOG (Ver	rsion 04/30/2019
	-									
FILI	E NU.				POD NO.		TRN NO.			





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

	Engineer Well Number: SE							
Well	owner: EOG Resources				Phone	No.: 432-	848-9146	
Mailir	ig address: 5509 Champion	ns Drive						
City:	Midland		State:		Texas		Zip code:	79706
II. W	ELL PLUGGING INFO	RMATION:						
1)	Name of well drilling co	ompany that plug	ged well: C	ascade D	rilling			
2)	New Mexico Well Drille					Expirat	ion Date: 1	31/23
3)	Well plugging activities Cliff Hillman	were supervised	by the follo	wing well	driller(s)/rig su	pervisor(s)	:	
4)	Date well plugging bega	n: <u>8/10/2021</u>		_ Date	well plugging c	oncluded: _	8/10/2021	
5)	GPS Well Location:	Latitude: Longitude:	32 -103	_deg, _deg,	24 min, 43 min,	14.40 17.42	sec sec, WGS 8	34
5)	Depth of well confirmed by the following manner		lugging as:	30	_ ft below grou	und level (b	gl),	
7)	Static water level measu	red at initiation o	of plugging:	None	ft bgl			
3)	Date well plugging plan	of operations wa	s approved l	by the Sta	te Engineer:	3/24/2021		
9)	Were all plugging activi differences between the					Yes I (attach ad		lease describes as needed):

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
_	Neat Cement	55	46	Tremie	Boring no water
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MULTIPLY BY AND OBTAIN
cubic feet x 7.4805 = gallons
cubic yards x 201.97 = gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I, Shawn Cain	say	that	I am	familiar	with	the	rules	of t	he Off	ice (of the	State
Engineer pertaining to the plugging of wells and that ear	ch a	nd all	of the	e stateme	nts in	this	Plugg	ing I	Record	and	attach	ments
are true to the best of my knowledge and belief.												

Signature of Well Driller Date

Received by OCD: 2/22/2022 2:01:17 PM

FILE NO.

LOCATION

PAGE 1 OF 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

Į.	OSE POD NO	WELL NO)		WELL TAG ID NO.	ę.		OSE FILE NO	S).			
O	POD 32				SB-30			C-4144				
GENERAL AND WELL LOCATION	WELL OWN							PHONE (OPT) 432-848-914				
1	WELL OWN	ER MAILING	ADDRESS					CITY		STATE	ZIP	
WEL	5509 Chan	ipions Dri	ve				Midland		Texas	79706		
2	WELL		Di	EGREES	MINUTES	SECON			•			
LA	LOCATIO	N LAT	TITUDE	32 24 12.85 _N			* ACCURACY REQUIRED: ONE TENTH OF A SECOND					
∑	(FROM GF	PS) LOS	NGITUDE -	-103 43 16.97 W * DATUM RI			QUIRED: WGS 84					
EN	DESCRIPTE		G WELL LOCATION TO	STREET ADDI	RESS AND COMMON	N LANDM/	RKS – PLS	SS (SECTION, TO	WNSHJIP, RANGE) WI	ERE AVAILABLE		
1.0	Aproximat	ely 10.5 sc	outh of US Highwa	y 62/180								
	LICENSE NO).	NAME OF LICENSED	DRILLER					NAME OF WELL DR	ILLING COMPANY		
	166	54			Shawn Cain				C	ascade Drilling		
	DRILLING S		DRILLING ENDED	DEPTH OF CO	MPLETED WELL (F	T)	BORE HO	LE DEPTH (FT)	DEPTH WATER FIR	ST ENCOUNTERED (FT)	
	8/9/21 8/9/21				NA			30		NA		
z	COMPLETED WELL IS: ARTESIAN			DRY HOLE SHALLOW (UNCONFINED)			STATIC WATER LEVEL IN COMPLETED WELL (FT) NA					
TIO	DRILLING F	LUID	☐ AIR	MUD	MUD ADDITIVES – SPECIFY							
ORMA	DRILLING M	IETHOD:	ROTARY	П наммен	CABLET	OOL	✓ OTHE	R = SPECIFY:	· ·	Roto Sonic		
NF	DEPTH (feet bgl) BORE HOLE			CASING	MATERIAL AND	D/OR		ASING	CASING	CASING WALL	SLOT	
DRILLING & CASING INFORMATION	FROM TO DIAM (inches)		GRADE (include each easing string, and note sections of screen) (ac			CON T	NECTION TYPE ling diameter)	INSIDE DIAM. (inches)	THICKNESS (inches)	SIZE (inches)		
& C							•					
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CLI												
DRI												
2.												
	DEPTH	(feet bgl)	BORE HOLE	LI	ST ANNULAR SI	EAL MA	TERIAL A	AND	AMOUNT	метно	DD OF	
IAL	FROM	TO	DIAM. (inches)	GRA	VEL PACK SIZE	-RANGE	BY INTE	RVAL	(cubic feet)	PLACE		
ANNULAR MATERIAL	0	30	6		Cement wit	h 5% Ben	tonite		6,5	Tremie F	umped	
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FOR	OSE INTER	NAL USE						WR-2	WELL RECORD	& LOG (Version 04/:	30/19)	

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PAGE 2 OF 2

DEPTH (1	ect bgl) TO	THICKNESS (feet)	INCLUDE WATI	ER-BEARING CAVITIES OR FRA	CTURE ZONES	WATER BEARING? (YES/NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
0	4	4		Fine Silty Sand Brown		Y VN	
4	10	6		Caliche		Y VN	
10	20	10				Y VN	
20	25	5			 	YVN	
25	30	5		Fat Clay		YVN	
						Y N	
					-	Y N	
						YN	
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METHOD U	SED TO ES	STIMATE YIELD	OF WATER-BEARIN	G STRATA:	1	TOTAL ESTIMATED	
PUMF	·^	IR LIFT	BAILER O	THER = SPECIFY:		WELL YIELD (gpm):	0.00
WELL TES							
MISCELLA	VEOUS IN	FORMATION:				·	
PRINT NAM	E(S) OF D	RILL RIG SUPER	VISOR(S) THAT PRO	VIDED ONSITE SUPERVISION (OF WELL CONST	TRUCTION OTHER T	HAN LICENSEE
PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENT Cliff Hillman							
RECORD OF	THE ABO	OVE DESCRIBED	WELL, I ALSO CERT	TFY THAT THE WELL TAG, IF R	EQUIRED, HAS	BEEN INSTALLED A	ND THAT THIS
	Sh	1		Shawn Cain		11/20/21	
	SIGNAT	URE OF DRILLE	R / PRINT SIGNEE	NAME		DATE	
OSE INTER	NAL USE				WR=20 WFII	RECORD & LOG (V	ersion 04/30/2010
E NO.				POD NO.	TRN NO.		-1310H VTIDVIEVIZ
	FROM 0 4 10 20 25 25 METHOD U PUMP WELL TEST MISCELLAN PRINT NAM Cliff Hillman BY SIGNIN RECORD OF WELL RECORD ON RECORD OF WELL RECORD RECORD OF WELL RECORD RECORD OF WELL RECORD ON RECORD OF WELL RECORD ON RECORD OF WELL RECORD ON RECORD OF WELL RECORD ON RECORD OF WELL RECORD ON RECORD OF WELL RECORD ON RECORD OF WELL RECORD ON RECORD OF WELL RECORD OF	0 4 4 10 10 20 20 25 25 30 25 30 METHOD USED TO EST STAR MISCELLANEOUS IN PRINT NAME(S) OF D Cliff Hillman BY SIGNING BELOW RECORD OF THE ABOWELL RECORD WILL SIGNAT	FROM TO (feet) O 4 4 4 10 6 10 20 10 20 25 5 25 30 5 25 30 5 METHOD USED TO ESTIMATE YIELD PUMP AIR LIFT WELL TEST TEST RESULTS - ATT. START TIME. END TIME. MISCELLANEOUS INFORMATION: PRINT NAME(S) OF DRILL RIG SUPER Cliff Hillman BY SIGNING BELOW, I CERTIFY TH RECORD OF THE ABOVE DESCRIBED WELL RECORD WILL ALSO BE FILED SIGNATURE OF DRILLE R OSE INTERNAL USE	FROM TO COLOR AN INCLUDE WATER O 4 4 4 4 10 6 10 20 10 20 25 5 25 30 5 25 30 5 METHOD USED TO ESTIMATE YIELD OF WATER-BEARIN PUMP AIR LIFT BAILER OT WELL TEST TEST RESULTS - ATTACH A COPY OF DA' START TIME. END TIME. AND A TABLE SI MISCELLANEOUS INFORMATION: PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PRO Cliff Hillman BY SIGNING BELOW. I CERTIFY THAT TO THE BEST OF WELL RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CER WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HE SIGNATURE OF DRILLER / PRINT SIGNEE ROSE INTERNAL USE	THICKNESS (feet) TO COLOR AND TYPE OF MATERAL ENCOUNTIES OR FRA (attach supplemental sheets to fully described to the supplemental sheets to fully described to fully described to the supplemental sheets to fully described to fully d	THICKNESS (Get) THICKN	FROM TO THICKNESS (ice) SINCLUDE WATER-BEARING CAVITIES OF REFACTURE ZONES (Latach supplemental sheets to fully describe all units) O





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

tate	Engineer Well Number: SB-30			
ell	owner: EOG Resources		Phone No.:	432-848-9146
	ng address: 5509 Champions Drive			
ty:	Midfand	State:	Texas	Zip code: 79706
N	VELL PLUGGING INFORMATION:			
	Name of well drilling company that pl	lugged well: Cascad	e Drilling	
	New Mexico Well Driller License No.	1664	F	Expiration Date: 1/31/23
	Well plugging activities were supervis	sed by the following v	well driller(s)/rig superv	sor(s):
	Date well plugging began: 8/9/202	1 Da	ate well plugging conclu	_{ded:} 8/9/2021
	GPS Well Location: Latitude: _ Longitude:	32 deg, -103 deg,		2.85 sec 5.97 sec, WGS 84
	Depth of well confirmed at initiation of by the following manner: tag line	of plugging as: 3	0 ft below ground le	evel (bgl),
	Static water level measured at initiation	on of plugging: No	ne ft bgl	
	Date well plugging plan of operations	was approved by the	State Engineer: 3/24/	2021
	Were all plugging activities consistent differences between the approved plug			II IIOI, PICABE GEBEI

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	55 =	46	Tremie	Boring no water
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		MULTIPLY E	BY AND OBTAIN		

MULTIPLY BY AND OBTAIN

cubic feet x 7.4805 = gallons

cubic yards x 201.97 = gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I, Shawn Cain , say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

11/20/21

Signature of Well Driller

Date

FILE NO.

LOCATION

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

	OSE POD NO	. (WELL NO	0.)		WELL TAG ID NO	Э.		OSE FILE NO(S).			
O	POD 33				SB-31			C-4144				
ATI	WELL OWN)					PHONE (OPTIC	ONAL)			
00	EOG Resou	urces						432-848-914	16			
LL	WELL OWN	ER MAILING	G ADDRESS					CITY		STATE	ZIP	
EL	5509 Cham	pions Dr	ive					Midland		Texas	79706	
O				EGREES	MINUTES	SECO	ine	<u> </u>		· · · · · · · · · · · · · · · · · · ·		
AND WELL LOCATION	WELL		U	32	MINUTES 24	13.	72		BUOLIBUD ON TUN	THOU - SECOND		
AL	LOCATIO		TITUDE				N		REQUIRED: ONE TEN	III OF A SECOND		
1. GENERAL	(FROM GP	s) Lo	NGITUDE	-103	43	15.	44 W	* DATUM REC	QUIRED: WGS 84			
SE	DESCRIPTION	ON RELATI	NG WELL LOCATION TO	STREET ADD	S (SECTION, TO	WNSHJIP, RANGE) WH	ERE AVAILABLE					
=	Aproximate	Aproximately 10.5 south of US Highway 62/180										
	LICENSE NO		NAME OF LICENSEE	DRILLER	Shawn Cain				NAME OF WELL DR			
	100	34								ascade Drilling		
	DRILLING ST		DRILLING ENDED	DEPTH OF CO	OMPLETED WELL (I	FT)	BORE HO	LE DEPTH (FT)	DEPTH WATER FIR	ST ENCOUNTERED (F	T)	
	8/9/	21	8/9/21		NA			30		NA		
COMPLETED WELL IS: ARTESIAN DRY HOLE SHALLOW (UNCONFINED)								STATIC WATER LEV	ER LEVEL IN COMPLETED WELL (FT			
Z	COMPLETER	2 MELL 12:	L. AKIESIAN	DRT HO	NFINED)			NA				
Ĕ	DRILLING FI	LUID:	AIR	☐ MUD	MUD ADDITIVES – SPECIFY:							
CASING INFORMATION	DRILLING M	ETHOD:	ROTARY	Памме	R CABLE	TOOL	✓ OTHE	R - SPECIFY:	F	Roto Sonic		
NFC	DEPTH (feet bgl) BORE HOLE			CASING	MATERIAL AN	D/OR		ania	CASING CASING WALL		71.07	
5	FROM TO		DIAM		GRADE	.		ASING NECTION	INSIDE DIAM.	THICKNESS	SLOT SIZE	
Si			(inches)	(include each casing string, and note sections of screen)			YPE ling diameter)	(inches)	(inches)	(inches)		
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	DEPTH	(feet bgl)	BORE HOLE	LI	ST ANNULAR S	EAL MA	TERIAL A	ND	AMOUNT		OD OF	
IAL.	FROM	TO	DIAM. (inches)	GRA	VEL PACK SIZE	E-RANGE	BY INTE	RVAL	(cubic feet)	PLACI	EMENT	
ER	0	30	6		Cement wi	th 5% Ber	ntonite		6.5	Tremie	Pumped	
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ANNULAR MATERIAL												
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Released to Imaging: 5/2/2022 3:36:34 PM

PAGE 1 OF 2

Received by OCD: 2/22/2022 2:01:17 PM

LOCATION

PAGE 2 OF 2

U.S.	DEPTH (DEPTH (feet bgl)		COLC	OR AND TYPE OF MATERIAL	ENCOUN	NTERED -		33/A	TED	ESTIMATED
	FROM	THICKNESS INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES				s	WATER BEARING? (YES / NO)		YIELD FOR WATER- BEARING ZONES (gpm)		
	0	15	15		Fine Silty Sand Brow	n			Y	✓ N	
	15	25	10		Medium Sandstone Gr	ay			Y	✓ N	
	25	30	5		Fat Clay				Y	∨ N	
									Y	N	
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507				S					Y	N	
SIC									Y	N	
Ĭ.									Y	N	
GEO									Y	N	
)RO									Y	N	
4. HYDROGEOLOGIC LOG OF WELL			⇒						Y	N	
4,									Y	N	
									Y	N	
									Y	N	
									Y	N	
									Y	N	
									Y	N	
									Y	N	
								L ESTIN			
	PUMP AIR LIFT BAILER OTHER - SPECIFY:						WELI	L YIELD) (gpm):	0.00	
NO	WELL TEST TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.										
TEST; RIG SUPERVISION	MISCELLANEOUS INFORMATION:										
EST	PRINT NAM	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:									
5. T	Cliff Hillman										
SIGNATURE	BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.										
6. SIGN		SL C	Shawn Cain					11/20/21			
SIGNATURE OF DRILLER / PRINT SIGNEE NAME DATE											
FO	R OSE INTERI	NAT TICE					WP-20 WE			LOG (V~	rsion 04/30/2019)
	E NO.	TIE VOL			POD NO.		TRN NO.	LL NEC	UND 00	200 (v C	3.011 04/30/2019)





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

	NERAL / WELL OWNE									
State E	ngineer Well Number: SB	-31								
Well owner: EOG Resources					Phone No.: 432-848-9146					
Mailin	g address: 5509 Champion	s Drive								
City:	49.41		State:	State:		Texas		Zip code: 79706		
II. WI	ELL PLUGGING INFOR	MATION:								
1)	Name of well drilling con	mpany that plugg	ged well:	Cascade D	rilling					
2)	New Mexico Well Driller License No.: 1664 Expiration Date: 1/31/23							/31/23		
3)	Well plugging activities	were supervised	by the follo	owing wel	l driller	(s)/rig su	pervisor(s):		
4)	Date well plugging began	n: <u>8/9/2021</u>		_ Date	well pl	ugging co	oncluded:	8/9/2021		
5)	GPS Well Location:	Latitude: Longitude:	32 -103	_deg, _deg,	24 43	min, min,	13.72 15.44	_ sec _ sec, WGS 8	34	
6)	Depth of well confirmed by the following manner:	at initiation of p			ft be	elow grou	ınd level (bgl),		
7)	Static water level measur	ed at initiation o	f plugging:	None	ft bg	gl				
8)	Date well plugging plan	of operations wa	s approved	by the Sta	ate Engi	ineer:	3/24/2021	_		
9)	Were all plugging activit differences between the a								lease describe es as needed):	
									_	

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	55	46	Tremie	Boring no water
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MULTIPLY BY AND OBTAIN cubic feet x 7.4805 = gallons cubic yards x 201.97 = gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I,	Shawn Cain	, say	that	Iam	familiar	with th	ne rules	of	the	Office	of the	State
Е	ngineer pertaining to the plugging of wells and that	each	and all	of the	e stateme	nts in th	is Plug	ging	Rec	ord and	l attach	ments
aı	re true to the best of my knowledge and belief.											

11/20/21

Signature of Well Driller

Date

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LOCATION

Aproximately 10.5 south of US Highway 62/180 LICENSE NO. 1664 Shawn Cain Cascade Drilling DRILLING STARTED 7/27/21 PT/127/21 NA BORE HOLE DEPTH (FT) AIR DRY HOLE SHALLOW (UNCONFINED) DRILLING FLUID: AIR MUD ADDITIVES - SPECIFY: DRILLING METHOD: ROTARY HAMBER CABLE TOOL OTHER - SPECIFY: Roto Sonic DEPTH (feet bgl) BORE HOLE GRADE (include each easing string, and note sections of screen) AMME OF WELL DRILLING COMPANY Cascade Drilling DEPTH (feet bgl) BORE HOLE GRADE (include each easing string, and note sections of screen) NAME OF WELL DRILLING COMPANY Cascade Drilling DEPTH (feet bgl) BORE HOLE GRADE (include each easing string, and note sections of screen) NAME OF WELL DRILLING COMPANY Cascade Drilling DEPTH (FT) DEPTH WATER FIRST ENCOUNTERED (FT) NA STATIC WATER LEVEL IN COMPLETED WELL (IN COMPLETED WELL		POD 34				SB-32			C-4144			
Aproximately 10.5 south of US Highway 62/180	7887			5)								
WELL LOCATION (GROWGPS) L									CITY		STATE	ZIP
LICATION (FROM GPS) LOCATION (FROM GPS) LOCATION (LATITUDE 1-103 43 14.75 W *DATUM REQUIRED WGS \$4 DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP), RANGE) WHERE AVAILABLE APPOXIMATELY 10.5 South of US Highway 62/180 LICENSE NO 1664 NAME OF LICENSED DRILLER Shawn Cein Cascade Drilling DRILLING STARTED DRILLING ENDED PEPTH OF COMPLETED WILLLIFT) T/27/21 T/27/21 NA DRY HOLE STATIC WATER HEST EXCONTREED (HT) NA DRY HOLE DRILLING METHOD. ROTARY ROTARY ROTARY ROTO SORIC TYPE DEPTH (feet bigl) BORE HOLE FROM TO DIAM (inches) CASING MATERIAL AND/OR (CASING CONNECTION) TYPE (add coupling diameter) DEPTH (feet bigl) BORE HOLE GRAVEL PACK SIZE-RANGE BY INTERVAL (cubic feet) PLACEMEN Tremie Pumpt ROSE INTERNAL USE ROSE INTERNAL USE WR-20 WELL RECORD & LOG (Version 04/30/19) WELL RECORD & LOG (Version 04/30/19) *ACCURACY REQUIRED. WGS \$4 *DATUM REQUIRED		5509 Chan	npions D	rive					Midland		Texas	79706
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Aproximately 10.5 south of US Highway 62/180		LOCATIO	N L/	ATITUDE	32		13.8	86 N			TII OF A SECOND	
Aproximately 10.5 south of US Highway 62/180		(FROM GF	PS) LO	ONGITUDE	-103	43	14.1	75 W	* DATUM RE	QUIRED: WGS 84		
DEPTH (Feet bgl) BORE HOLE DIAM (inches) BORE HOLE DIAM (inches) D						ESS AND COMMON	N LANDM/	ARKS = PLS	SS (SECTION, TO	WNSHJIP, RANGE) WI	IERE AVAILABLE	
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WELL RECORD & LOG

WELL TAG ID NO.

OSE FILE NO(S).

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OFFICE OF THE STATE ENGINEER

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OSE POD NO. (WELL NO.)

POD 34

PAGE 1 OF 2

FILE NO.

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	DEPTH (1	fect bgl)	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONE (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES/NO)	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
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3	PRINT NAM	IE(S) OF D	RILL RIG SUPER	VISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CON	STRUCTION OTHER TH	IAN LICENSEE
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e sicilatore	RECORD OF	F THE ABO	OVE DESCRIBED	AT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOR WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HA WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPL	S BEEN INSTALLED AT	ND THAT THIS
TOIC :		Sh	-	Shawn Cain	11/20/21	
ا "		SIGNAT	TURE OF DRILLER	R / PRINT SIGNEE NAME	DATE	

POD NO.

TRN NO.





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

Well	owner: EOG Resources				Phone	No.: 432	-848-9146	
Maili	ing address: 5509 Champions Drive							
City:	Midland	State:		1	Texas		Zip code:	79706
II. V	VELL PLUGGING INFORMATION:							
1)	Name of well drilling company that plug	ged well:	Cascade	Orilling	-			
2)	New Mexico Well Driller License No.:	1664				Expira	ation Date: 1	/31/23
3)	Well plugging activities were supervised Cliff Hillman	by the foll	owing we	ll driller	(s)/rig su	pervisor(s	s):	
4)	Date well plugging began: 7/27/2021	<u> </u>	Date	well pl	ugging co	oncluded:	7/27/2021	
5)	GPS Well Location: Latitude: Longitude:	32 -103	deg, deg,	24 43	min, min,	13.86 14.75	_sec _sec, WGS 8	34
6)	Depth of well confirmed at initiation of p by the following manner: tag line	olugging as	20	ft be	elow grou	ind level (bgl),	
7)	Static water level measured at initiation of	of plugging	None	ft bg	gl			
8)	Date well plugging plan of operations wa	as approved	by the S	ate Eng	ineer:	3/24/2021		
9)	Were all plugging activities consistent w differences between the approved pluggi					Yes (attach ac		lease describe es as needed):
ı 								

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	40	31	Tremie	Boring no water
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cubic feet	X	7.4805	=	gallons
cubic yards	x	201.97	=	gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I,	Shawn Cain ,	say	that	I	am	familiar	with	the	rules	of	the	Office	of	the	State
E	ngineer pertaining to the plugging of wells and that ea	ch a	nd all	of	f the	stateme	nts in	this	Plugg	ing	Rec	ord and	l att	achi	nents
ar	re true to the best of my knowledge and belief.														

Signature of Well Driller Date

Version: September 8, 2009 Page 2 of 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

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	OSE POD NO.	(WELL NO.)		WELL TAG ID NO	Ο,		OSE FILE NO(S).		
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E	WELL OWNE	R NAME(S)						PHONE (OPTI-	ONAL)		
00	EOG Resou	ırces						432-848-914	16		
LL	WELL OWNE	R MAILING	ADDRESS					CITY		STATE	ZIP
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D W			D.	GREES	MINUTES	SECON	IDC.	<u> </u>			
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ER	(FROM GP:	S) LON	GITUDE	-103	43	16.6	05 W	* DATUM REC	QUIRED: WGS 84		
GENERAL AND WELL LOCATION	DESCRIPTIO	N RELATIN	G WELL LOCATION TO	STREET ADDR	ESS AND COMMO	N LANDMA	ARKS – PLS	S (SECTION, TO	WNSHJIP, RANGE) WH	ERE AVAILABLE	
-	Aproximate	ly 10.5 sc	outh of US Highwa	y 62/180							
XX											
2557	LICENSE NO.		NAME OF LICENSED	DRILLER	G1 G :				NAME OF WELL DR		
	166	4			Shawn Cain				C	ascade Drilling	
	DRILLING ST		DRILLING ENDED	DEPTH OF COM	APLETED WELL (I	FT)	BORE HOL	LE DEPTH (FT)	DEPTH WATER FIR:	ST ENCOUNTERED (F)	D)
	8/8/2	21	8/8/21		NA			65		NA	
			_		-	17	90		STATIC WATER LEV	EL IN COMPLETED W	ELL (FT)
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110	DRILLING FL	.UID:	T AIR	MUD	ADDITI	VES - SPEC	TIFY				
CASING INFORMATION	DRILLING M	ETHOD:	ROTARY	HAMMER	CABLE	TODI	OTHE	R - SPECIFY:		Roto Sonic	
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PAGE 1 OF 2

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	8	20	12		Fine silty sand Brown			Y	✓ N	
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	35	40	5		Fat Clay			Y	✓ N	
ų	40	50	10		Medium Sandstone			Y	∨ N	
₩E!	50	55	5		Fat Clay			Y	✓ N	
HYDROGEOLOGIC LOG OF WELL	55	60	5		Medium sandstone			Y	✓ N	
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SIGNATURE	RECORD OF	F THE ABO	OVE DESCRIBED	WELL. I ALSO CERT	F MY KNOWLEDGE AN IFY THAT THE WELL TA HOLDER WITHIN 30 DAYS	G, IF RI	EQUIRED, HAS E	BEEN INSTA	LLED A	ND THAT THIS
6. SIGN		_ /	She		Shawn Cain			11/	20/21	
		SIGNAT	TURE OF DRILLE	R / PRINT SIGNEE	NAME				DATE	
FO	R OSE INTER	NAL USE					WR-20 WFI	RECORD &	LOG (Va	rsion 04/30/2019
. ~:	E NO.				POD NO.		TRN NO.	KLCOKD &	LOO (VC	131011 0-4/30/2019
FIL	L NO.				TOD NO.		TIGHTO.			





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

	Engineer Well Number: SB-33			
Well	owner: EOG Resources		Phone No.:	432-848-9146
Maili	ng address: 5509 Champions Drive			
City:	Midland	State:	Texas	Zip code: 79706
<u>II. W</u>	VELL PLUGGING INFORMATION	ON:		
1)	Name of well drilling company the	hat plugged well: Casca	de Drilling	
2)	New Mexico Well Driller Licens			Expiration Date: 1/31/23
3)	Well plugging activities were sup Cliff Hillman	pervised by the following	well driller(s)/rig superv	isor(s):
4)	Date well plugging began: 8/8/	2021 r	ate well plugging conclu	aded: <u>8/8/2021</u>
5)		de: 32 deg, tude: -103 deg,	24 min, 17	1.77 sec 3.05 sec, WGS 84
6)	Depth of well confirmed at initial by the following manner: tag line		ft below ground le	evel (bgl),
7)	Static water level measured at ini	tiation of plugging: N	one ft bgl	
8)	Date well plugging plan of opera	tions was approved by th	State Engineer: 3/24/	2021
9)	Were all plugging activities considifferences between the approved			II IIII PIEGO GODELIO

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging <u>Material Used</u> (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	120	101	Tremie	Boring no water
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		MULTIPLY E	BY AND OBTAIN 805 = gallons		

cubic feet x 7.4805 = gallons cubic yards x 201.97 = gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I, Shawn Cain , say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Sh. C. 11/20/21

Signature of Well Driller

Date

FILE NO.

LOCATION

PAGE 1 OF 2



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

V # #	OSE POD NO). (WELL N	0.)		WELL TAG ID NO.			OSE FILE NO	S).		
NO.	POD 36				SB-34			C-4144			
F	WELL OWN	ER NAME(S)					PHONE (OPTI	ONAL)		
00	EOG Reso	urces						432-848-914	16		
17	WELL OWN	ER MAILIN	G ADDRESS					CITY		STATE	ZIP
VE.	5509 Chan	npions D	rive					Midland		Texas	79706
D				EGREES	MINUTES	SECON	ine.				
A	WELL			32	24	11.4	15	L ACCUBACY	PRODURED ON THE	THE OF A CHOOSE	
A.	LOCATIO		ATITUDE				N		REQUIRED: ONE TEN	THE A SECOND	
2	(FROM GF	rs) L(ONGITUDE	-103	43	16.0	52 W	DATUM REC	QUIRED: WGS 84		
GENERAL AND WELL LOCATION	DESCRIPTION	ON RELAT	ING WELL LOCATION T	O STREET ADD	RESS AND COMMON	LANDM	ARKS – PLS	S (SECTION, TO	WNSHJIP, RANGE) WII	IERE AVAILABLE	
-	Aproximat	ely 10.5	south of US Highwa	y 62/180							
10											
	LICENSE NO		NAME OF LICENSEI	DRILLER	n				NAME OF WELL DR		
	160	b4			Shawn Cain					ascade Drilling	
	DRILLING S		DRILLING ENDED	DEPTILOF CO	MPLETED WELL (F	Τ)	BORE HOL	LE DEPTH (FT)	DEPTH WATER FIR:	ST ENCOUNTERED (F	Γ)
	8/8/	21	8/8//21		NA			25		NA	
					_				STATIC WATER LEV	EL IN COMPLETED W	ELL (FT)
z	COMPLETE	D WELL IS	ARTESIAN	DRY 110	E SHALLO	W (UNCO	NFINED)		i	NA	
CASING INFORMATION	DRILLING F	LUID:	☐ AIR	MUD	ADDITIV	ES - SPEC	TFY:				
MA.	DRILLING M		ROTARY	Памме	R CABLET	001	Z orusi	R – SPECIFY:	E	Roto Sonic	
OR	DRIZEING	iethob.	L	TIMMINE.	CABLET	OOL	- Office	Note Joint			
Z.	DEPTH	(feet bgl)	BORE HOLE	CASING	MATERIAL AND	O/OR	CA	SING	CASING	CASING WALL	SLOT
S	FROM	то	DIAM	finelude	GRADE cach casing string,	and	CONN	VECTION	INSIDE DIAM.	THICKNESS	SIZE
ASI			(inches)		sections of screen)			YPE ing diameter)	(inches)	(inches)	(inches)
Se C							•				
وِ											
DRILLING											
Z											
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			·								
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										<u> </u>	
_	DEPTH	(feet bgl)	BORE HOLE	Li	ST ANNULAR SE	EAL MA	TERIAL A	ND	AMOUNT	метн	
IAL	FROM	ТО	DIAM. (inches)	GRA	VEL PACK SIZE	RANGE	BY INTE	RVAL	(cubic feet)	PLACE	MENT
ER	0	25	6		Cement with	5% Ben	tonite		5,5	Tremie	Pumped
IAT				1							
R. ≥											
I.A				+							
ANNULAR MATERIAL											
3. Aľ				+							
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FOR	OSE INTER	NAL USI	E					WR-26	WELL RECORD	P. I. ∩G (Version 04/	30/19)

POD NO.

TRN NO.

LOCATION

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PAGE 2 OF 2

	DEPTH (feet bgl)		COLOR AND TYPE OF MATERIAL EN	COUNTERED -	W/	ATER	ESTIMATED
	FROM	то	THICKNESS (feet)	INCLUDE WATER-BEARING CAVITIES OR (attach supplemental sheets to fully des	FRACTURE ZONE	S BEA	RING? S/NO)	YIELD FOR WATER- BEARING ZONES (gpm)
	0	4	4	Fine Silty Sand Brown		Y	∨ N	
	4	10	6	Caliche		Y	∨ N	
	10	25	15	Fine Silty Sand Brown		Y	∨ N	
						Y	N	
						Y	N	
LL						Y	N	
WE						Y	N	
OF						Y	N	
100						Y	N	
GIC						Y	N	
CO						Y	N	
GEC						Y	N	
DRO						Y	N	-
4. HYDROGEOLOGIC LOG OF WELL						Y	N	
4						Y	N	
						Y	N	
						Y	N	
						Y	N	
						Y	N	
						Y	N	
						Y	N	
	METHOD U	SED TO E	STIMATE YIELD	OF WATER-BEARING STRATA:		TOTAL ESTI		
	PUME	P	AIR LIFT	BAILER OTHER - SPECIFY:		WELL YIELI	D (gpm):	0.00
/ISION	WELL TES	STAR	RESULTS - ATTA	CH A COPY OF DATA COLLECTED DURING WIE, AND A TABLE SHOWING DISCHARGE AND	ELL TESTING, INC DRAWDOWN OVE	LUDING DISC ER THE TESTI	CHARGE I	METHOD,)D.
TEST; RIG SUPERVIS								
rest	PRINT NAM	1E(S) OF D	RILL RIG SUPER'	/ISOR(S) THAT PROVIDED ONSITE SUPERVISI	ON OF WELL CON	STRUCTION C	THER TH	AN LICENSEE:
5.7	Cliff Hillman	n						
ATURE	RECORD OF	F THE ABO	OVE DESCRIBED	T TO THE BEST OF MY KNOWLEDGE AND WELL. I ALSO CERTIFY THAT THE WELL TAG, WITH THE PERMIT HOLDER WITHIN 30 DAYS A	IF REQUIRED, HA	S BEEN INSTA	ALLED AN	ID THAT THIS
6. SIGNATURE		BI	LC:	Shawn Cain		11/	20/21	
		SIGNAT	URE OF DRILLER	/ PRINT SIGNEE NAME			DATE	
FO	OCE INTER	MAT LICE			UD 20 BE	I BECORD A	100.07	04/20/2010
	R OSE INTERI E NO.	100 USE		POD NO.	TRN NO.	L KECOKD &	LUU (Vei	sion 04/30/2019)





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

State	Engineer Well Number. SB-34			
Well	owner: EOG Resources		Phone No.:	432-848-9146
Maili	ng address: 5509 Champions Drive			
City:	Midland	State:	Texas	Zip code: 79706
II. W	ELL PLUGGING INFORMATIO	ON:		
1)	Name of well drilling company the	hat plugged well: Cascade	e Drilling	
2)	New Mexico Well Driller Licens			expiration Date: 1/31/23
3)	Well plugging activities were sur Cliff Hillman	pervised by the following v	vell driller(s)/rig supervi	sor(s):
4)	Date well plugging began: 8/8/	2021 Da	te well plugging conclu	ded: 8/8/2021
5)	GPS Well Location: Latitue			.45 sec .62 sec, WGS 84
6)	Depth of well confirmed at initial by the following manner: tag line		ft below ground le	evel (bgl),
7)	Static water level measured at ini	tiation of plugging: No	ne ft bgl	
8)	Date well plugging plan of opera	tions was approved by the	State Engineer: 3/24/2	2021
9)	Were all plugging activities considifferences between the approved			iioi, pitabt atbiliot
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10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	45	38	Tremie	Boring no water
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		MILITIDI Y	V AND ORTAIN		

MULTIPLY BY AND OBTAIN cubic feet x 7.4805 = gallons cubic yards x 201.97 = gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I,	Shawn Cain	, sa	y that	I am	familiar	with	the	rules	of th	e Office	of	the	State
Eı	ngineer pertaining to the plugging of wells and that	each	and all	of th	e stateme	nts in	this	Plugg	ing R	ecord and	d at	tachr	nents
ar	e true to the best of my knowledge and belief.												

Signature of Well Driller Date

FILE NO.

LOCATION

PAGE 1 OF 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

	OSE POD NO	. (WELL NO	.)		WELL TAG ID NO).		OSE FILE NO	\$).		
IO.	POD 37				SB-35			C-4144			
CAT	WELL OWN							PHONE (OPTI 432-848-914			
2											
TIE	5509 Cham									STATE Texas	ZIP 79706
¥				EGREES MINUTES SECONDS			Total 10Ad5 17			77700	
ANI	WELL		DI	EGREES 32	MINUTES 24		77		96		
AL	LOCATIO	LA	TITUDE				N		'REQUIRED: ONE TEN QUIRED: WGS 84	TII OF A SECOND	
Z	(FROM GP	LO:	NGITUDE	-103	43	17		<u> </u>			
1. GENERAL AND WELL LOCATION	1		G WELL LOCATION TO outh of US Highwa		RESS AND COMMO	N LANDM	IARKS – PLS	S (SECTION, TO	WNSHJIP, RANGE) WI	IERE AVAILABLE	
ALLI	LICENSE NO).	NAME OF LICENSED	DRILLER					NAME OF WELL DR	ILLING COMPANY	
	166				Shawn Cain					Cascade Drilling	
	DRILLING ST	TARTED	DRILLING ENDED	DEPTH OF CO	MPLETED WELL (FT)	BORE HO	LE DEPTH (FT)	DEPTH WATER FIR	ST ENCOUNTERED (F	T)
	8/8/2	21	8/18/21		NA			80		NA	
	COMPLETE	NELL IS:	ARTESIAN	DRY HOL	в Пении	011/41/100	ONFINED)		STATIC WATER LE	VEL IN COMPLETED W	VELL (FT)
Z	COMPLETE	J WELL IS.	ARTESIAN	_ DKT NOL	e SHVEE	DW (UNC	JAFINED)		ļ	NA	
ATIC	DRILLING F	LUID:	AIR	MUD MUD				D.A. G.			
CASING INFORMATION	DRILLING METHOD: ROTARY IIAMMER CABLE TOOL OT							R – SPECIFY:	1	Roto Sonic	
NFO	DEPTH	DEPTH (feet bgl) BORE HOLE			MATERIAL AN	D/OR	CA	\SING	CASING	CASING WALL	SLOT
Š	FROM TO		DIAM	(include a	GRADE cach casing string	n and	CONN	NECTION	INSIDE DIAM.	THICKNESS	SIZE
ASI			(inches)		sections of screen			YPE ling diameter)	(inches)	(inches)	(inches)
8											
DRILLING											
ILL											
DR											
7									<u> </u>		
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	DEPTH	(fect bgl)	BORE HOLE	LI	ST ANNULAR S	EAL MA	TERIAL A	AND	AMOUNT	METH	OD OF
(AL	FROM	то	DIAM. (inches)	GRA	VEL PACK SIZI	E-RANGI	E BY INTE	RVAL	(cubic feet)	PLACE	
TER	0	80	6		Cement wi	th 5% Be	ntonite	****	17	Tremie	Pumped
ANNULAR MATERIAL											
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FOR	OSE INTER	NAT LISE						WR_2	WELL RECORD	& LOG (Version 04)	30/10)

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PAGE 2 OF 2

	DEPTH (f	eet bgl)	THICKNESS	COLOR AN	D TYPE OF MATERIAL EN	COUNTI	ERED -	WATER	ESTIMATED YIELD FOR
i do	FROM	то	(feet)		ER-BEARING CAVITIES OR oplemental sheets to fully des			BEARING? (YES / NO)	WATER- BEARING ZONES (gpm)
	0	6	6		Fine Silty Sand Brown			Y VN	
8	6	8	2		Caliche			Y VN	
	8	25	17		Fine silty sand Brown			Y VN	
	25	30	5		Medium Sandstone			Y VN	
h,	30	35	5		Fat Clay			Y VN	
-i	35	60	25		Medium Sandstone			Y VN	
4. HYDROGEOLOGIC LOG OF WELL	60	70	15		Fat Clay			Y VN	
OF	70	80	10		Medium sandstone			Y VN	
00								Y N	
12								YN	
9								Y N	
EO								YN	
RO								Y N	
£								Y N	
4.								Y N	
								YN	
								Y N	
9								Y N	
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								Y N	
							-	Y N	
	METHOD U	SED TO ES	TIMATE YIELD	OF WATER-BEARIN	G STRATA:		TO	TAL ESTIMATED	
	PUMP	A	IR LIFT	BAILER 01	THER - SPECIFY:		WE	ELL YIELD (gpm):	0.00
SION	WELL TEST				TA COLLECTED DURING W HOWING DISCHARGE AND				
NISI VISI	MISCELLAN	IEOUS IN	ORMATION:						-
TEST; RIG SUPERVI									
ns :									
Z									
EST	PRINT NAM	E(S) OF D	DILL DIC SLIDED	VISOR(S) THAT PRO	VIDED ONSITE SUPERVISI	ON OF V	VELL CONSTRU	ICTION OTHER TH	AN LICENSEE
5. T	Cliff Hillman		KIEL KIG SOI EK	(VISOR(S) TITALI TRO	TIDED ONSTITE SOT ERTIST	011 01 1	VEEL CONSTRU	Je Hon Other Hi	AN EICENSEE
TURE	RECORD OF	THE ABO	UIRED, HAS BE	ING IS A TRUE AN EN INSTALLED AN ON OF WELL DRILL	D THAT THIS				
SIGNATURE		BL	-		Shawn Cain			11/20/21	
ó		SIGNAT	URE OF DRILLE	R / PRINT SIGNEE	NAME			DATE	
FOR	OCE INTERS	IAT UCC					WD 30 WELL D	COOD 6100 (I	0.4/20/2012
rUl	<u>R OSE INTERN</u> E NO.	MAL USE			POD NO.		VR-20 WELL RI TRN NO.	ECORD & LOG (Ver	sion 04/30/2019





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GE	ENERAL / WELL OWN	ERSHIP:							
State	Engineer Well Number: S	B-35							
Well	owner: EOG Resources					Phone	No.: 432	2-848-9146	
Mailii	ng address: 5509 Champi	ons Drive							
City:	Midland		State:		Т	exas	1100	Zip code	79706
<u>II. W</u>	ELL PLUGGING INFO	PRMATION:							
1)	Name of well drilling	company that plug	ged well:	Cascade I	Orilling				
2)	New Mexico Well Dril						Expira	ation Date:	1/31/23
3)	Well plugging activitie Cliff Hillman	s were supervised	l by the folk	wing we	ll driller	(s)/rig su	pervisor(s	s):	
4)	Date well plugging beg	gan: 8/8/2021		_ Date	well plu	ugging co	oncluded:	8/18/202	1
5)	GPS Well Location:	Latitude: Longitude:	32	_deg, _	24	min,	11.77	_ sec	
		Longitude:	-103	_deg, _	43	min,	17.71	_ sec, WGS	84
6)	Depth of well confirmed by the following manner		plugging as:	80	ft be	low grou	nd level (bgl),	
7)	Static water level meas	sured at initiation	of plugging:	None	ft bg	gl			
8)	Date well plugging pla	n of operations w	as approved	by the St	ate Engi	ineer:	3/24/2021		
9)	Were all plugging activ						Yes		olease describe
	differences between the	e approved pruggi	mg plan and	THE WEII	as it was	- pruggeu	(attacti at	- admonar pag	es as needed).

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	150	125	Tremie	Boring no water
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		MULTIPLY E	Y AND OBTAIN		

cubic feet 7.4805 gallons 201.97 cubic yards gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

Ī,	Shawn Cain	, say	that I	am	familiar	with	the	rules	of th	e Offic	e of	fthe	State
E	ngineer pertaining to the plugging of wells and that of	each a	nd all	of the	stateme	nts in	this	Plugg	ing R	ecord a	nd a	ttach	ments
aı	e true to the best of my knowledge and belief.												

11/20/21

Signature of Well Driller

Date

FILE NO.

LOCATION

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

	OSE POD NO	. (WELL NO	2.)		WELL TAG ID NO.			OSE FILE NO	S).		
O	POD 38				SB-36			C-4144			
AT!	WELL OWNE	R NAME(S))					PHONE (OPTIO	ONAL)		
0C/	EOG Resou	ırces						432-848-914	16		
7	WELL OWNE	R MAILING	ADDRESS					CITY		STATE	ZIP
EL	5509 Cham	pions Dri	ve					Midland			79706
8										<u> </u>	
Z	WELL		D	EGREES 32	MINUTES 24	SECON					
A.L.	LOCATIO	N LA1	TITUDE	32	24	11.1	° N		REQUIRED: ONE TEN	TH OF A SECOND	
ER.	(FROM GP	S) LO	NGITUDE	-103	43	17.8	2 w	* DATUM REC	QUIRED: WGS 84		
GENERAL AND WELL LOCATION	DESCRIPTION	N RELATIN	G WELL LOCATION TO	O STREET ADDR	ESS AND COMMON	LANDMA	RKS - PLS	S (SECTION, TO	WNSHJIP, RANGE) WI	IFRE AVAILABLE	
1	1		outh of US Highwa						, , , , , , , , , , , , , , , , , , , ,		
1				A 250.22							
15-	LICENSE NO		NAME OF LICENSEE	DRILLER				***	NAME OF WELL DR	ILLING COMPANY	
	166	4			Shawn Cain				C	ascade Drilling	
	DRILLING ST	TARTED	DRILLING ENDED	DEPTH OF CO	MPLETED WELL (FT	(1)	BORE HOI	LE DEPTH (FT)	DEPTH WATER FIR	ST ENCOUNTERED (F)	r)
	8/8/2	21	8/8/21		NA	- 1		80		NA	
					571 55-29				STATIC WATER LEV	VEL IN COMPLETED W	ELL (FT)
,	COMPLETED	WELL IS:	ARTESIAN	DRY HOL	E SHALLO	W (UNCON	IFINED)			NA	
DRILLING & CASING INFORMATION	DRILLING FL	LUD.	AIR	MUD	ADDITIVI	ES - SPECI	LV.		<u> </u>		
ĮΑΤ								<u> </u>			
R	DRILLING M	ETHOD:	ROTARY	HAMMER	CABLETO	OOL	OTHE	R = SPECIFY:		Roto Sonic	
NF.	DEPTH ((feet bgl)	BORE HOLE	CASING	MATERIAL AND	OR -		ania	CASING	CACINICIVALI	
0	FROM	то	DIAM		GRADE			SING VECTION	INSIDE DIAM.	CASING WALL THICKNESS	SLOT
SIN			(inches)		each easing string, sections of screen)	and	T	YPE	(inches)	(inches)	(inches)
S				note :	sections of selectify	-	(add coupl	ing diameter)		<u> </u>	-
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\equiv	DEPTH (foot hall	DODE ::::	7	OT ANNUA AS SO	AT 244-	EDIA:	MD			
ا بر			BORE HOLE DIAM. (inches)	1	ST ANNULAR SE VEL PACK SIZE-				AMOUNT (cubic feet)	METH(PLACE	
\Z	FROM	TO		- GIGA		173		I VAL		100	
Œ	0	80	6		Cement with	5% Bent	onite		17	Tremie I	umped
MA											
ANNULAR MATERIAL											
IOL											
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3. A											
EOP	OCC INTERN	MAI UCE						SIID A	NELL BECORE	11000	20110
ruk	OSE INTERI	MAL USE						WR-20	WELL RECORD	& LOG (Version 04/)	30/191

POD NO.

TRN NO.

WELL TAG ID NO.

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PAGE 1 OF 2

LOCATION

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PAGE 2 OF 2

	DEPTH (feet bgl)		COLOR AND TYPE OF MATERIAL EN	COUNTERED -	WATER	ESTIMATED
	FROM	то	THICKNESS (feet)	INCLUDE WATER-BEARING CAVITIES OR (attach supplemental sheets to fully des	FRACTURE ZONE	I	YIELD FOR WATER- BEARING ZONES (gpm)
	0	4	4	Fine Silty Sand Brown		Y VN	
	4	8	4	Caliche		Y VN	
	8	25	17	Fine silty sand Brown		YVN	
	25	30	5	Medium Sandstone		Y VN	
	30	35	5	Fat Clay		Y VN	
LL	35	50	15	Medium Sandstone		Y VN	
WE	50	55	5	Fat Clay		Y VN	
4. HYDROGEOLOGIC LOG OF WELL	55	60	5	Medium sandstone		Y VN	
roo	60	70	10	Fat Clay		Y VN	
CIC	70	80	10	Medium Sandstone		YVN	
ΣO						Y N	
GEC						Y N	
ORO						Y N	
H						Y N	
4						Y N	
						Y N	
						Y N	
						Y N	
						Y N	
						Y N	
						Y N	
	METHOD U	SED TO E	STIMATE YIELD	OF WATER-BEARING STRATA:		TOTAL ESTIMATED	
	РИМІ	P DA	AIR LIFT	BAILER OTHER - SPECIFY:		WELL YIELD (gpm):	0.00
NOI	WELL TES	T TEST STAR	RESULTS - ATTA	CH A COPY OF DATA COLLECTED DURING W IE, AND A TABLE SHOWING DISCHARGE AND	ELL TESTING, INC DRAWDOWN OVI	CLUDING DISCHARGE N ER THE TESTING PERIC	METHOD, DD.
TEST; RIG SUPERVISI	MISCELLA	NEOUS IN	FORMATION:				-
EST	PRINT NAM	E(S) OF D	RILL RIG SUPER	VISOR(S) THAT PROVIDED ONSITE SUPERVISI	ON OF WELL CON	STRUCTION OTHER TH	IAN LICENSES
5. T	Cliff Hillma				ON OF WELL COM	STRUCTION OTHER TO	IAN LICENSEE.
SIGNATURE	RECORD O	F THE ABO	OVE DESCRIBED	AT TO THE BEST OF MY KNOWLEDGE AND WELL. I ALSO CERTIFY THAT THE WELL TAG WITH THE PERMIT HOLDER WITHIN 30 DAYS	, IF REQUIRED, HA	S BEEN INSTALLED AN	ND THAT THIS
6. SIGN		1	Sh C	Shawn Cain		11/20/21	
9		SIGNAT	URE OF DRILLE	R / PRINT SIGNEE NAME		DATE	
FOI	R OSE INTERI	NAL USE			WR-20 WF	LL RECORD & LOG (Vei	rsion 04/30/2019
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NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

79706
continue to a
1/31/23
84
please describe ges as needed):

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10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging <u>Material Used</u> (include any additives used)	Volume of <u>Material Placed</u> (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	150	125	Tremie	Boring no water
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MULTIPLY		BY		AND OBTAIN
cubic feet	χ	7.4805	=	gallons
cubic yards	χ	201.97	=	gallons

III. SIGNATURE:

I,	Shawn Cain	, say	that	I am	familiar	with	the	rules	of the	Office	of	the	State
E	ngineer pertaining to the plugging of wells and that ea	ach ai	nd all	of th	e stateme	nts in	this	Plugg	ing Re	cord and	d att	achr	nents
ar	e true to the best of my knowledge and belief.												

Signature of Well Driller Date

LOCATION

PAGE 1 OF 2

WELL TAG ID NO.



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

	OSE POD NO.	(WELL NO.)		WELL TAG ID NO),		OSE FII		S).			
IO.	POD 39				SB-37			C-414	4				
CAT	WELL OWNER EOG Resou							PHONE 432-84	E (OPTIO				
07								<u> </u>	10-914				
LL	5509 Cham							CITY Midlar	ad		STATE Texas	71	ZIP 9706
WE	3307 Chairt	pions Di				_		Ivituiai	ıu		1 CX dS		7700
AND WELL LOCATION	WELL		DI	GREES 32	MINUTES 24	SECONI 11.1							
	LOCATION		TTUDE			11.1	′ N			REQUIRED: ONE TEN	TH OF A SECO	OND	
GENERAL	(FROM GPS	LON	GITUDE	-103	43	18.7	3 W	* DATE	OM REC	OUIRED: WGS 84			
	ı		G WELL LOCATION TO		ESS AND COMMON	N LANDMA	RKS - PLS	S (SECTIO	ON. TO	WNSHJIP, RANGE) WI	ERE AVAILA	BLE	
-	Aproximate	ly 10.5 sc	outh of US Highwa	y 62/180									
	LICENSE NO.		NAME OF LICENSED	DRILLER						NAME OF WELL DR	ILLING COMP	PANY	
	1664	4			Shawn Cain					l	ascade Drill		
	DRILLING ST	ARTED	DRILLING ENDED	DEPTH OF CO	MPLETED WELL (F	T)	BORE HOL	E DEPTI	I (FT)	DEPTH WATER FIR:	ST ENCOUNT	ERED (FT)	
	8/7/2	21	8/7/21		NA			65			NA		
	COMPLETED	well is	ARTESIAN	DRY HOL	ь Пенано	W (UNCON	IDINIETO)			STATIC WATER LEV		LETED WEI	L (FT)
Z	COMITEETED	WELL IS.			E SHALLO	W (UNCON	(LINED)			L	NA		
ΑŢĬ	DRILLING FL	UID:	☐ AIR	☐ MUD	ADDITIV	/ES - SPECI	FY						
CASING INFORMATION	DRILLING ME	THOD:	ROTARY	HAMMER	CABLE T	TOOL	OTHE	R – SPECI	IFY:	F	Roto Sonic		
NFC	DEPTH (feet bgl)	BORE HOLE	CASING	MATERIAL AND	O/OR		CINIC		CASING	CASING	WALL	
Š	FROM	то	DIAM	(in abuda a	GRADE			SING (ECTIO	N	INSIDE DIAM.	THICK		SLOT SIZE
ASII			(inches)		ach casing string, ections of screen)		T (add coupl	YPE ing diamo	cter)	(inches)	(inch	es)	(inches)
≪3													
S													
DRILLING													
2.				1						<u> </u>			
			+								<u></u>		
				100		-							
	DEBTH #	foot h=1\											
-7	DEPTH (BORE HOLE DIAM (inches)	1	ST ANNULAR SI VEL PACK SIZE					AMOUNT (cubic feet)		METHOI PLACEM	
RIA	FROM 0	TO 65	6	0	Cement with					14		Tremie Pu	
ATE					Cement with	Dent	Onne			1-4	-	i ieaile ru	nipeu
R										·-			:
ANNULAR MATERIAL									\neg				
N.									$\neg \neg$				
3. A													
FOR	OSE INTERN	VAL USE							WR-20	WELL RECORD A	& LOG (Ver	sion 04/30	/19)
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FILE NO.

LOCATION

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PAGE 2 OF 2

3	DEPTH (feet bgl)	THICKNESS	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZON	ES	WATI BEARI	- 1	ESTIMATED YIELD FOR WATER-
	FROM	то	(feet)	(attach supplemental sheets to fully describe all units)		(YES/		BEARING ZONES (gpm)
	0	4	4	Fine Silty Sand Brown		Y	✓ N	
	4	10	6	Caliche		Y	∨ N	
	10	30	20	Fine silty sand Brown		Υ	∠ N	
	30	35	5	Fat Clay		Y	✓ N	
	35	45	10	Medium sandstone		Y	∨ N	
ب	45	65	20	Fat Clay		Y	✓ N	
HYDROGEOLOGIC LOG OF WELL						Y	N	
OF						Y	N	
ò						Y	N	
I)						Y	N	
2						Y	N	
EO						Y	N	***
ROC						Y	N	
Ę						Y	N	
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						Y	N	_
						Y	N	
					$\neg \uparrow$	Y	N	
					-	Y	N	
						Y	N	
						Y	N	
	METHOD U	SED TO ES	STIMATE YIELD	OF WATER-BEARING STRATA:	TOTAL	L ESTIMA	ATED '	
	ПРИМЕ	- □A	IR LIFT	BAILER OTHER - SPECIFY:	WELL	. YIELD	(gpm):	0.00
					<u> </u>			
NOI	WELL TES			ACH A COPY OF DATA COLLECTED DURING WELL TESTING, IN ME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OV				
[SIA]	MISCELLA	NEOUS IN	FORMATION:					
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TEST; RIG SUPERVIS								
, RIC								
EST	PRINT NAM	1E(S) OF D	RILL RIG SUPER	VISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CO	NSTRUC	TION OT	HER TH	AN LICENSEE:
5. T	Cliff Hillma	, ,			io i koc	11011 011	illic ili	THE EIGENOLE.
	Citti Tillilla							
SIGNATURE	RECORD OF	F THE ABO	VE DESCRIBED	AT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FO WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, H WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMI	AS BEEN	INSTAL	LED AN	ID THAT THIS
6. SIGNA		Sh	1	Shawn Cain		11/20	/21	
9		SIGNAT	URE OF DRILLE	R / PRINT SIGNEE NAME		Ε	DATE	
FOI	R OSE INTERI	MAI IISE		WP 20 W	ELL DEC	ODD 6.17	OC (V	sion 04/30/2019)

POD NO.

TRN NO.





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OW State Engineer Well Number:				
Well owner: EOG Resources			DI N	432-848-9146
Well owner: 5509 Cham	nione Drive		Phone No.:	702-070-0170
Mailing address: 5509 Cham	pions Drive		Texas	70700
City: Midland	1 2 400	_ State:	Texas	Zip code: 79706
II. WELL PLUGGING INI	•	Caaaad	o Deilling	
Name of well drilling	g company that plugged	d well: Cascad	e Drilling	
2) New Mexico Well D	riller License No.: 166	64	Ex	spiration Date: 1/31/23
Well plugging activity	ties were supervised by	the following	well driller(s)/rig supervis	or(s):
4) Date well plugging b	egan: 8/7/2021	D	ate well plugging conclud	ed: 8/7/2021
5) GPS Well Location:	Latitude: Longitude:	32 deg, -103 deg,		17 sec 73 sec, WGS 84
6) Depth of well confirm by the following man	med at initiation of plug nner: tag line	gging as:6	5 ft below ground lev	vel (bgl),
7) Static water level me	asured at initiation of p	olugging: No	ne ft bgl	
8) Date well plugging p	lan of operations was a	approved by the	State Engineer: 3/24/20	021
	tivities consistent with the approved plugging			If not, please describe the additional pages as needed):
				:

Date

Version: September 8, 2009
Page 2 of 2

Released to Imaging: 5/2/2022 3:36:34 PM

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	120	100	Tremie	Boring no water
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		MULTIPLY	BY AND OBTAIN	I	I

MULTIPLY		BY		AND OBTAIN
cubic feet	Х	7.4805	=	gallons
cubic yards	Х	201.97	=	gallons

III. SIGNATURE:

I,	Shawn Cain	, say	y that	I an	ı familiar	with	the	rules	of t	he (Office	of	the	State
Εı	ngineer pertaining to the plugging of wells and that e	each	and all	of th	ie stateme	nts in	this	Plugg	ing l	Reco	ord and	l att	achr	nents
ar	e true to the best of my knowledge and belief.													

Signature of Well Driller

WR-20 WELL RECORD & LOG (Version 04/30/19)

PAGE 1 OF 2

TRN NO.

WELL TAG ID NO.

FOR OSE INTERNAL USE

FILE NO.

LOCATION



0	OSE POD NO.	(WELL NO.)		ELL TAG ID NO.			OSE FILE NO	S).				
O	POD 40			SE	3-38			C-4144					
T.	WELL OWNER	R NAME(S)						PHONE (OPTIO	ONAL)				
000	EOG Resou	rces						432-848-914	16				
Ĺ	WELL OWNER							CITY		STATE	ZIP		
VEL	5509 Champ	pions Driv	ve					Midland		Texas	79706		
9			DE	GREES	MINUTES	SECONDS		<u> </u>					
A	WELL LOCATION	,		32	24	10.67	N	* ACCURACY	REQUIRED: ONE TEN	TH OF A SECOND			
Z.	(FROM GPS	5)	TTUDE	-103	43	18.71		W * DATUM REQUIRED: WGS 84					
GENERAL AND WELL LOCATION		LON	GHUDE										
1. GE			G WELL LOCATION TO		S AND COMMON I	LANDMARI	S - PLS	S (SECTION, TO	WNSHJIP, RANGE) WH	ERE AVAILABLE			
82	Aproximatel	ly 10.5 so	outh of US Highway	62/180									
	LICENSE NO.		NAME OF LICENSED	DRILLER					NAME OF WELL DR	ILLING COMPANY			
	1664	4		S	hawn Cain				C	ascade Drilling			
	DRILLING STA	ARTED	DRILLING ENDED	DEPTH OF COMP	LETED WELL (FT)) B0	ORE HO	E DEPTH (FT)	DEPTH WATER FIR:	ST ENCOUNTERED (FT)		
	8/7/2	.1	8/7/21		NA			65		NA			
							85		STATIC WATER LEV	'EL IN COMPLETED	WELL (FT)		
Z	COMPLETED	WELL IS:	ARTESIAN	DRY HOLE	SHALLOW	V (UNCONFI	NED)			NA			
CASING INFORMATION	DRILLING FLO	UID:	☐ AIR	MUD	ADDITIVE	S - SPECIFY	1						
MA	DRILLING ME	ETHOD:	ROTARY	HAMMER	CABLETO	OOL F	OTHE	R - SPECIFY:	F	Roto Sonic			
Ĝ					month. I have	10.0							
Z	DEPTH (BORE HOLE	I	ATERIAL AND/ GRADE	OR		SING	CASING	CASING WAL	020.		
INC	FROM	TO	DIAM (inches)		h casing string, a		Т	VECTION YPE	INSIDE DIAM. (inches)	THICKNESS (inches)	SIZE (inches)		
CAS			(illenes)	note sec	tions of screen)	(3	dd coupi	ing diameter)	(menes)	(
~3													
DRILLING		_											
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ت	DEPTH (BORE HOLE DIAM (inches)	l	ANNULAR SEA				AMOUNT		IOD OF EMENT		
NA NA	FROM	TO		GRAVE	L PACK SIZE-F	v - 1/2 /		KVAL	(cubic feet)				
TEI	0	65	6		Cement with	5% Bentor	iite		14	Tremie	Pumped		
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ANNULAR MATERIAL													
AN			-										
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POD NO.

PAGE 2 OF 2

FILE NO.

LOCATION

	DEPTH (I	feet bgl)	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONE (attach supplemental sheets to fully describe all units)	s	WATER BEARING? (YES/NO)	ESTIMATED YIELD FOR WATER- BEARING
			4				ZONES (gpm)
	4	6	2	Fine Silty Sand Brown		YVN	
	6	30	24	Caliche		YVN	
	30	50	20	Fine silty sand Brown Medium Sanstone	-	YVN	
(3)	50	55	10	Fat Clay	-	YVN	
A	55	65	10	Clayey sandstone		YVN	
ELI				Cayey salusione		YN	
JF W						YN	
000						Y N	
ICL						Y N	
007						Y N	
EOI						Y N	-187
ROC						Y N	-
4. HYDROGEOLOGIC LOG OF WELL						Y N	
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i						Y N	
						Y N	
						Y N	
						Y N	
						Y N	
	METHOD U	SED TO ES	TIMATE YIELD	OF WATER-BEARING STRATA:		ESTIMATED	
	PUME	Al	R LIFT	BAILER OTHER - SPECIFY:	WELL	YIELD (gpm):	0.00
NO	WELL TES			ACH A COPY OF DATA COLLECTED DURING WELL TESTING, INC ME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OV			
TEST; RIG SUPERVISION	MISCELLA	NEOUS INF	ORMATION:			-	
PER							
G ST					1.5		
 E							
TES	PRINT NAM	IE(S) OF DE	RILL RIG SUPER	VISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CON	STRUCT	TION OTHER THA	AN LICENSEE:
หก่	Cliff Hillma	n					
	BV SIGNIN	C BELOW	I CERTIEV TIL	AT TO THE DEET OF MY KNOW FDCE AND DELICE THE FOR	FCOING	7 10 1 TD115 11	ID CORRECT
SIGNATURE	RECORD OF	THE ABO	VE DESCRIBED	AT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOR WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAWITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPI	S BEEN	INSTALLED AN	D THAT THIS
6. SIGNA		/4	SLC	Shawn Cain		11/20/21	
		SIGNATI	JRE OF DRILLE	R / PRINT SIGNEE NAME		DATE	
FOR	OSE INTERI	TAL LICE		WD 20 WE		DD & LOG (Vers	

POD NO.

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NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GEN	NERAL / WELL OWNERSHIP:			
State E	ngineer Well Number: SB-38			
Well ov	wner: EOG Resources		Phone No.: 45	32-848-9146
Mailing	address: 5509 Champions Drive			200 - 200 - 200 - 200
City:	Midland	State:	Texas	Zip code: 79706
II. WE	LL PLUGGING INFORMATION:			
1)	Name of well drilling company that plugge	ed well: Casca	de Drilling	<u> </u>
2)	New Mexico Well Driller License No.: 16	364	Exp	iration Date: 1/31/23
3)	Well plugging activities were supervised b	y the following	well driller(s)/rig supervisor	(s):
4)	Date well plugging began: 8/7/2021	I	Date well plugging concluded	1: 8/7/2021
5)	GPS Well Location: Latitude:Longitude:	32 deg, -103 deg,	24 min, 10.67 43 min, 18.71	sec sec, WGS 84
6)	Depth of well confirmed at initiation of plu by the following manner: tag line	igging as:	65 ft below ground level	(bgl),
7)	Static water level measured at initiation of	plugging: N	lone ft bgl	
8)	Date well plugging plan of operations was	approved by the	e State Engineer: 3/24/202	1
9)	Were all plugging activities consistent with differences between the approved plugging			

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
-	Neat Cement	120	100	Tremie	Boring no water
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MULTIPLY BY AND OBTAIN cubic feet x 7.4805 = gallons cubic yards x 201.97 = gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I, Shawn Cain , say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Signature of Well Driller

11/20/21

Date

FILE NO.

LOCATION

PAGE 1 OF 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

Tite	OSE POD NO). (WELL NO).)		WELL TAG ID NO.			OSE FILE NO	S).				
GENERAL AND WELL LOCATION	POD 41				SB-39			C-4144					
F	WELL OWN	ER NAME(\$)					PHONE (OPTI-	ONAL)				
00	EOG Resor	urces						432-848-914	16				
LL	WELL OWN	ER MAILING	GADDRESS		-			CITY		STATE	ZſP		
EL	5509 Cham	pions Dri	ive					Midland		Texas	79706		
× 0			Di	contile	A 41VII 4T1 C	CI CO	IDC.	<u> </u>					
A	WELL		Di	GREES 32	MINUTES 24	SECON 10.4	46		ALCOHOLD ON THE				
AL	LOCATIO		TITUDE				N		REQUIRED: ONE TEN	III OF A SECOND			
Ä	(FROM GP	LO LO	NGITUDE	-103	43	19.4	46 W	* DATUM REC	QUIRED: WGS 84				
ig G	DESCRIPTION	ON RELATI	NG WELL LOCATION TO	STREET ADDI	RESS AND COMMON	LANDM	ARKS – PLS	S (SECTION, TO	WNSHJIP, RANGE) WI	IERE AVAILABLE			
=	Aproximate	ely 10.5 s	outh of US Highwa	y 62/180									
	LICENSE NO		NAME OF LICENSED	DRILLER	E1				NAME OF WELL DR				
	166	04			Shawn Cain				"	Cascade Drilling			
	DRILLING S		DRILLING ENDED	DEPTH OF CO	MPLETED WELL (FT	(BORE HOL	LE DEPTH (FT)	DEPTH WATER FIR	ST ENCOUNTERED (FT)		
	7/26	/21	7/26//21		NA			15		NA			
			m				3.1		STATIC WATER LEV	EL IN COMPLETED W	ELL (FT)		
Z	COMPLETEI	D WELL IS:	ARTESIAN	DRY HO	LE SIIALLOV	W (UNCO	NFINED)			NA			
CASING INFORMATION	DRILLING FI	LUID:	AIR	MUD	ADDITIVE	ES - SPEC	CIFY:						
MA	DRILLING M	IFTHOD:	ROTARY	Памме	R CABLE TO)OI	OTHE	R - SPECIFY:		Roto Sonic			
OR		-	1				Land.						
Z	DEPTH (feet bgl)		BORE HOLE	CASING	MATERIAL AND GRADE	/OR	CA	SING	CASING	CASING WALL	SLOT		
NG	FROM TO		DIAM	(include each casing string, and			VECTION	INSIDE DIAM.	THICKNESS	SIZE			
ASI	ĺ		(inches)		sections of screen)			YPE ling diameter)	(inches)	(inches)	(inches)		
2 %													
وِ													
DRILLING									·				
RII											1		
2. D													
111	-										1		
						-			<u></u>		-		
				<u> </u>						<u> </u>			
	DEPTH	(feet bgl)	BORE HOLE	LI	ST ANNULAR SE	AL MA	TERIAL A	ND	AMOUNT	метно			
ΙΥΓ	FROM	TO	DIAM. (inches)	GRA	VEL PACK SIZE	RANGE	BY INTE	RVAL	(cubic feet)	PLACE	MENT		
ER	0	15	6		Cement with	5% Ben	tonite		3.5	Tremie F	umped		
IAT													
R													
L'A													
ANNULAR MATERIAL													
ų													
				1					<u></u>				
FOR	OSE INTER	NAL USE						WR-20	WELL RECORD	& LOG (Version 04/3	30/19)		

POD NO.

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PAGE 2 OF 2

	DEPTH (feet bgl)	THICKNESS (feet)	INCLUDE WAT	ND TYPE OF MATERIA ER-BEARING CAVITIE pplemental sheets to ful	S OR FRAC	CTURE ZONES	BEA	TER RING?	ESTIMATED YIELD FOR WATER- BEARING ZONES (gpm)
0	0	15	15		Fine Silty Sand Br	own		Y	✓ N	
							_	Y	N	
								Y	N	
6					=		-	Y	N	·
								Y	N	
Ľ								Y	N	
4. HYDROGEOLOGIC LOG OF WELL								Y	N	
OF								Y	N	
20								Y	N	
CIC								Y	N	
20								Y	N	
CE					<u> </u>			Y	N	
DRC								Y	N	
L HY								Y	N	
4								Y	N	
								Y	N	
								Y	N	
		<u> </u>						Y	N	
							.	Y	N	
								Y	N	
	METHOD II	SED TO E	TIMATE VIELD	OF WATER-BEARIN	G STDATA.	 -	Т.	TAL ESTI		
	_	_		_ ~ _				VELL YIELI		0.00
	☐ PUMI	P^	IR LIFT	BAILER O	THER – SPECIFY:					
ISION	WELL TES				TA COLLECTED DURI HOWING DISCHARGE					
NIS!	MISCELLA	NEOUS INI	FORMATION:							
TEST; RIG SUPERV										
CSI										
. R										
TES	PRINT NAM	IE(S) OF D	RILL RIG SUPER	VISOR(S) THAT PRO	VIDED ONSITE SUPE	VISION O	F WELL CONST	RUCTION O	THER TH	AN LICENSEE:
Š	Cliff Hillma	n								
SIGNATURE	RECORD OF	F THE ABO	VE DESCRIBED	WELL, I ALSO CERT	OF MY KNOWLEDGE FIFY THAT THE WELL HOLDER WITHIN 30 DA	TAG, IF RE	EQUIRED, HAS E	BEEN INSTA	LLED AN	D THAT THIS
		SL	1		Shawn Cain		11/.	20/21		
9		SIGNAT	URE OF DRILLE	R / PRINT SIGNEE	NAME				DATE	
FOR	OSE INTERI	NAL USE					WR-20 WELL	RECORD &	LOG (Vor	rsion 04/30/2019)
	E NO.				POD NO.		TRN NO.			





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

State	Engineer Well Number: SB-39	-				420	040 0440		
Well	owner: EOG Resources		Phone No.: 432-848-9146						
Maili	ing address: 5509 Champions Drive				_				
City: Midland			State:		Texas		Zip code: <u>79706</u>		
II. V	VELL PLUGGING INFORMATION:								
1)	Name of well drilling company that plugge	ed well: C	Cascade I	Orilling					
2)	New Mexico Well Driller License No.: 16	664				Expira	ation Date: $\frac{1}{2}$	/31/23	
3)	Well plugging activities were supervised be Cliff Hillman	y the follo	wing we	ll driller	(s)/rig su	pervisor(s	i):		
4)	Date well plugging began: 7/26/2021		_ Date	well pl	ugging co	oncluded:	7/26/2021		
5)	GPS Well Location: Latitude: Longitude:		_deg, _deg,	24 43	min, min,	10.40 19.46	_ sec _ sec, WGS	34	
6)	Depth of well confirmed at initiation of plu by the following manner: tag line	ugging as:	15	ft be	low grou	ınd level (bgl),		
7)	Static water level measured at initiation of	plugging:	None	ft bg	gl				
8)	Date well plugging plan of operations was	approved	by the St	ate Eng	ineer:	3/24/2021	2		
9)	Were all plugging activities consistent with differences between the approved plugging					Yes I (attach a		lease describe es as needed):	

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	30	23	Tremie	Boring no water
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Λ.					
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_					
		MULTIPLY E	BY AND OBTAIN		

cubic feet 7.4805 gallons cubic yards

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I. Shawn Cain I, Shawn Cain , say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

11/20/21

Signature of Well Driller

Date

FILE NO.

LOCATION

PAGE 1 OF 2



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) WELL TAG ID NO. SD. 40.				OSE FILE NO(S).						
	POD 42 SB-40					C-4144					
	WELL OWNER NAME(S) EOG Resources					PHONE (OPTIONAL) 432-848-9146					
	WELL OWNER MAILING ADDRESS										
ELL	I					Midland Texas		ZIP 79706			
DW			DI DI	EGREES	MINUTES	CECONI	ne	<u> </u>			
AN	(FROM GPS)		32 24 12.92			* ACCURACY REQUIRED: ONE TENTIL OF A SECOND					
RAI			TITUDE	-103 43 19.97 W			* DATUM REQUIRED: WGS 84				
EN E	BUGGB INTE	LONGITUDE									
1. G	DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIJP, RANGE) WHERE AVAILABLE Aproximately 10.5 south of US Highway 62/180										
all)	, ipromina			, 02 100							
1000	LICENSE NO. NAME OF LICENSED DRILLER						NAME OF WELL DR				
	1664			Shawn Cain			Cascade Drilling				
	DRILLING S 7/26		DRILLING ENDED 7/26//21	DEPTH OF COM	MPLETED WELL (FT NA)		E DEPTH (FT) 20	1(FT) DEPTH WATER FIRST ENCOUNTERED (FT) NA		D (FT)
									STATIC WATER LEVEL IN COMPLETED WELL (FT)		
z	COMPLETE	D WELL IS:	ARTESIAN	DRY HOLI	E SHALLOV	W (UNCON	(FINED)	NA NA			
OLL	DRILLING F	LUID:	AIR	MUD MUD	ADDITIVE	ES - SPECI	FY:				
& CASING INFORMATION	DRILLING METHOD: ROTARY HAMMER CABLE TOOL OTHE						R-SPECIFY; Roto Sonic				
INFC	DEPTH (feet bgl) BORE HOLE			CASING N	MATERIAL AND	/OR	CA	SING	CASING	CASING W	ALL SLOT
NG	FROM TO		DIAM	(include e	GRADE ach casing string, a	and	CONNECTION TYPE (add coupling diameter)		INSIDE DIAM. THICKNESS		SS SIZE
SASI			(inches)	note sections of screen)					(inches)	(inches) (inches)	
DRILLING		!									
IIL											
2. DF											
•											
			+	<u> </u>							
						i			<u> </u>		
	DEPTH (feet bgl) BORE HOLE LIST ANNULAR SEAL MATERIAL			ERIAL A			ETHOD OF				
IAL	FROM TO DIAM. (inches)		GRAVEL PACK SIZE-RANGE BY INTERVAL		RVAL	(cubic feet)	PL.	PLACEMENT			
TER	0	20	6 Cement with 5% Bentoni		onite	4.5		Tre	Tremie Pumped		
MA.											
AR											
ANNULAR MATERIAL											
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mi											
FOR	OSE NATES	NAL USS	<u> </u>								
ruk	OSE INTER	JAN L USE						WR-20	WELL RECORD	& LOG (Version	n U4/30/19)

POD NO.

TRN NO.

FILE NO.

LOCATION

Released to Imaging: 5/2/2022 3:36:34 PM

PAGE 2 OF 2

	DEPTH (feet bel)				ESTIMATED			
	FROM	THICKNESS COLOR AND TYPE OF MATERIAL ENCOUNTERED INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES				YIELD FOR WATER- BEARING ZONES (gpm)			
	0	10	10	Fine Silty Sand Brown	Y VN				
74	10	15	5	Caliche Tan	YVN				
	15	20	5	Medium Sandstone	Y VN				
					Y N				
					Y N				
3					Y N				
HYDROGEOLOGIC LOG OF WELL					Y N				
OF					Y N	-			
9					Y N				
25					Y N				
9					Y N				
035					Y N				
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4					Y N				
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		i			Y N				
					Y N				
					Y N				
					Y N				
					Y N				
	METHOD U	SED TO E	STIMATE YIELD	OF WATER-BEARING STRATA:	TOTAL ESTIMATED				
_	PUMI	P DA	WELL YIELD (gpm):	0.00					
NO	WELL TEST TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.								
TEST; RIG SUPERVISION	MISCELLANEOUS INFORMATION:								
PER									
ns:									
NE NE									
EST	DDINT NAME (C) OF DDILL DIG SUBEDVICOD(C) THAT BROWNED ONGITE SUBEDVICION OF WELL COVERNIA CO								
5. T	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:								
	Cliff Hillman								
SIGNATURE	BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.								
6. SIGN		11/20/21							
	SIGNATURE OF DRILLER / PRINT SIGNEE NAME DATE								
E01	OSE INTER	NIAT USE		## AD	I DECORD A / OO //	0.112010000			
FOI	OSE INTER	NAL USE		WR-20 WEI	L RECORD & LOG (Ver	sion 04/30/2019)			

POD NO.

TRN NO.





NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

State 1	Engineer Well Number: SB-40				
Well	owner: EOG Resources		Phone No.	.: 432-848-9146	
Mailir	ng address: 5509 Champions Drive				
City:	Midland	State:	Texas	Zip code:	79706
II. W	ELL PLUGGING INFORMATION:				
1)	Name of well drilling company that plugg	ged well: Cascad	e Drilling		
2)	New Mexico Well Driller License No.:	1664		Expiration Date: 1	/31/23
3)	Well plugging activities were supervised Cliff Hillman	by the following	well driller(s)/rig super	visor(s):	
4)	Date well plugging began: 7/26/2021	D	ate well plugging concl	luded: 7/26/2021	
5)	GPS Well Location: Latitude: Longitude:	32 deg, -103 deg,	24 min, 1 43 min, 1	12.92 sec 19.97 sec, WGS	84
6)	Depth of well confirmed at initiation of p by the following manner: tag line	lugging as:	ft below ground	level (bgl),	
7)	Static water level measured at initiation of	of plugging: No	one ft bgl		
8)	Date well plugging plan of operations wa	s approved by the	State Engineer: 3/24	4/2021	
9)	Were all plugging activities consistent wi differences between the approved plugging	th an approved pl	ugging plan? Ye	es If not, page	lease describe es as needed):

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	40	31	Tremie	Boring no water
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	J	MULTIPLY (AND OBTAIN		9

MULTIPLY		BY	AND OBTAIN	
cubic feet	Х	7.4805	=	gallons
cubic yards	х	201.97	=	gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I, Shawn Cain , say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

6: 411.11.11

11/20/21

Signature of Well Driller

Date

NC	OSE POD NO. (POD 42	WELL NO.)		ELL TAG ID NO. 3-40A			OSE FILE NOC C-4144	S).		
CATIC	WELL OWNER							PHONE (OPTION 432-848-914			
7	WELL OWNER	MAILING	ADDRESS					CITY		STATE	ZIP
WELI	5509 Champ							Midland		Texas	79706
GENERAL AND WELL LOCATION	WELL	LAT	DE	GREES 32	MINUTES 24	SECOND 12.58		ACCURACY	REQUIRED; ONE TEN	TH OF A SECOND	
ERA	(FROM GPS)	,		-103	43	20.0	2 w	* DATUM REC	QUIRED: WGS 84		
1. GEN	I	N RELATIN	G WELL LOCATION TO outh of US Highway		S AND COMMON	LANDMAR	IKS - PLS	S (SECTION, TO	WNSIIJIP, RANGE) WII	IERE AVAILABLE	
	LICENSE NO.		NAME OF LICENSED	DRILLER					NAME OF WELL DR	ILLING COMPANY	
	1664	1	THE ST ELECTION		Shawn Cain				l	ascade Drilling	
	DRILLING STA 8/12/2		DRILLING ENDED 8/12//21	DEPTH OF COMP	LETED WELL (FT NA) E		LE DEPTH (FT)	DEPTH WATER FIR	ST ENCOUNTERED (FT)
Z	COMPLETED	WELL IS:	ARTESIAN	DRY HOLE	SHALLOV	V (UNCON	INED)		STATIC WATER LEV	VEL IN COMPLETED NA	WELL (FT)
TIO	DRILLING FLU	ЛD:	AIR	MUD	ADDITIVE	ES – SPECIF	Y;				
RMA	DRILLING ME	THOD:	ROTARY	HAMMER	CABLETO	OOL [OTHE	R - SPECIFY:	F	Roto Sonic	
& CASING INFORMATION	DEPTH (f	cct bgl)	BORE HOLE DIAM (inches)	(include eac	ATERIAL AND GRADE h casing string,	and	CONN	ASING NECTION TYPE	CASING INSIDE DIAM. (inches)	CASING WALI THICKNESS (inches)	SLOT SIZE (inches)
& CA			(note sec	tions of screen)	(add coupl	ling diameter)			
NG											
DRILLING											
DR											
2.											
	DEPTH (f	ect bgl)	BORE HOLE		ANNULAR SE				AMOUNT		IOD OF
IAI	FROM	то	DIAM. (inches)	GRAVE	L PACK SIZE-			RVAL	(cubic feet)		EMENT
VTE	0	25	6		Cement with	5% Bento	nite		5.5	Tremie	Pumped
R M/		<u> </u>							<u> </u>		
3. ANNULAR MATERIAL			+								
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3. A											

FILE NO.

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	OULDE	. 5111 571
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	MOUNTAIN	111121111
	MUGNING	111121111
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PAGE 2 OF 2

	DEPTH (feet bgl)		COLOR AND TYPE OF MATERIAL ENCOUNTERED -	WATER	ESTIMATED YIELD FOR
	FROM	то	THICKNESS (feet)	INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONE (attach supplemental sheets to fully describe all units)		WATER- BEARING ZONES (gpm)
	0	6	6	Fine Silty Sand Brown	Y VN	
	6	10	4	Caliche	Y VN	
	10	20	10	Fine silty sand	Y VN	
	20	25	5	Medium Sandstone Brown	Y VN	
					Y N	
7					Y N	
4. HYDROGEOLOGIC LOG OF WELL	111				Y N	
OF					Y N	
500					Y N	
IC I					Y N	
LOC					Y N	
SEO					Y N	
RO					Y N	
HAD					Y N	
4					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
					Y N	
	METHOD U	SED TO E	STIMATE YIELD	OF WATER-BEARING STRATA:	TOTAL ESTIMATED	
	□РUMI	· []	AIR LIFT	BAILER OTHER - SPECIFY:	WELL YIELD (gpm);	0.00
					-	
NO	WELL TES	T TEST STAR	RESULTS - ATTA RT TIME, END TIME	ACH A COPY OF DATA COLLECTED DURING WELL TESTING, INC ME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OV	CLUDING DISCHARGE N ER THE TESTING PERIC	METHOD, DD.
TEST; RIG SUPERVISION	MISCELLA	NEOUS IN	FORMATION: Ste	n out horing		
ER			3.0	p our coring		
SO						
RIC						
EST;	DD INIT MAN	(E/6) OF 5	DILL BIC CUBER	MICADIC) THAT BROWIDED ONGITE CURENICION OF WELL CON	CTRICTION OTHER TO	IANI LICENSEE
5. TI			KILL KIG SUPEK	VISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CON	STRUCTION OTHER TH	IAN LICENSEE:
	Cliff Hillma	n 				
TURE	RECORD OF	F THE ABO	OVE DESCRIBED	AT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOR WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HA WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMP	S BEEN INSTALLED AN	ND THAT THIS
SIGNATURE		81	'LC'	Shawn Cain	11/20/21	
Ó.		SIGNAT	TURE OF DRILLE	R / PRINT SIGNEE NAME	DATE	
FO	R OSE INTERI		TURE OF DRILLE		DATE LL RECORD & LOG (Ve	04/26

POD NO.

TRN NO.

WELL TAG ID NO.



PLUGGING RECORD



NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

State 1	Engineer Well Number: SB-40A							
Well	owner: EOG Resources		Phone No.: 432-848-9146					
Mailir	ng address: 5509 Champions Drive		<u> </u>					
City:	Midland	State:	Texas	Zip code: 79706				
<u>II. W</u>	ELL PLUGGING INFORMATION:							
1)	Name of well drilling company that plu	gged well: Cascad	e Drilling					
2)	New Mexico Well Driller License No.:			xpiration Date: 1/31/23				
3)	Well plugging activities were supervise Cliff Hillman	d by the following v	vell driller(s)/rig supervi	sor(s):				
4)	Date well plugging began: 8/12/202	1 Da	ate well plugging conclu	ded: 8/12/2021				
5)	GPS Well Location: Latitude: Longitude: _			8.58 sec 0.02 sec, WGS 84				
6)	Depth of well confirmed at initiation of by the following manner: tag line	plugging as: 2	5 ft below ground le	evel (bgl),				
7)	Static water level measured at initiation	of plugging: No	ne ft bgl					
8)	Date well plugging plan of operations w	vas approved by the	State Engineer: 3/24/2	2021				
9)	Were all plugging activities consistent v differences between the approved plugg							

Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with 10) horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging <u>Material Used</u> (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	45	38	Tremie	Boring no water
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		MULTIPLY E	BY AND OBTAIN		

gallons cubic feet 7.4805 = X 201_97 cubic yards gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I,	Shawn	Cain				, say	that l	am	familiar	with	the	rules	of th	ne Office	of	the	State
E	ngineer	pertaining to	o the plugging	of wells an	d that e	ach a	nd all	of the	stateme	nts in	this	Plugg	ing R	lecord an	d att	tachr	nents
ar	re true to	o the best of	my knowledge	e and belief.													

Signature of Well Driller

11/20/21

Date

Received by OCD: 2/22/2022 2:01:17 PM



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

NC	OSE POD NO POD 43	. (WELL NO	·.)		WELL TAG ID NO. SB-41	l.		OSE FILE NO(C-4144	S).			
CATI	WELL OWN)					PHONE (OPTION 432-848-914				<u></u>
77.7	WELL OWN	ER MAILING	ADDRESS					CITY		STATE		ZIP
WELI	5509 Cham				M			Midland		Texas	7	9706
GENERAL AND WELL LOCATION	WELL	N LA	DE	GREES 32	MINUTES 24	\$ECONDS 13.98 N *ACCURACY REQUIRED: ONE TENTIL OF A SECOND			OND			
ER	(FROM GP	S) LOI	NGITUDE	-103	43	19.0	7 w	* DATUM REG	QUIRED: WGS 84			
1. GEN	ľ		NG WELL LOCATION TO outh of US Highway		ESS AND COMMON	N LANDMA	RKS – PLS	S (SECTION, TO	WNSHJIP, RANGE) WH	IERE AVAILA	ABLE	
	LICENSE NO),	NAME OF LICENSED	DRILLER					NAME OF WELL DR	ILLING COM	PANY	
	166	54			Shawn Cain				c	ascade Drill	ling	
	DRILLING S		DRILLING ENDED 7/2/21	DEPTH OF COM	APLETED WELL (F NA	T)	BORE HOI	LE DEPTH (FT)	DEPTH WATER FIR	ST ENCOUNT	TERED (FT)	
	COMPLETE	O WELL IS:	ARTESIAN	DRY HOLE	SIIALLO)W (UNCON	IFINED)		STATIC WATER LEV	/EL IN COMP NA	LETED WE	LL (FT)
I OI	DRILLING F	LUID:	☐ AIR	MUD	ADDITIV	/ES - SPECI	FY:					
2MA7	DRILLING METHOD: ROTARY HAMMER CABLE TOOL OT					OTHE:	R - SPECIFY	F	Roto Sonic			
FO	DEPTH	(feet hal)		CASING	AATERIAL AND	D/OR				<u> </u>		
CASING INFORMATION	DEPTH (feet bgl		BORE HOLE DIAM (inches)	GRADE (include each casing string, and note sections of screen)			CONN	ASING NECTION YPE ling diameter)	CASING INSIDE DIAM. (inches)	22	CASING WALL THICKNESS (inches) (i	
& C												
SC												
LUI	i											
2. DRILLING	<u> </u>											
.2												
						+					<u>.</u>	
	DEPTH	(feet bgl)	BORE HOLE	1	T ANNULAR SI				AMOUNT		метно	
IĀI	FROM	TO	DIAM. (inches)	GRAV	EL PACK SIZE	SINS	232	RVAL	(cubic feet)		PLACEN	
CTER	0	15	6		Cement with	h 5% Bent	onite		3.5		Tremie Pu	mped
R M/												
3. ANNULAR MATERIAL												
Z												
3. A												

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FOR OSE INTERNAL USE

FILE NO.

LOCATION

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od to Imagi	יכנו זמ דווומצו
sod to Imagi	מכנו ומ דעומבו
isod to Imagi	isen to think!
good to Imagi	ממכת ומ דווומכת
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WR-20 WELL RECORD & LOG (Version 04/30/2019)

PAGE 2 OF 2

TRN NO.

WELL TAG ID NO.

=									
	DEPTH (feet bgl) TO	THICKNESS (feet)	INCLUDE	OR AND TYPE OF MATERIAL ENCOUNTER WATER-BEARING CAVITIES OR FRACTUR Tach supplemental sheets to fully describe all un	E ZONES	BEAF	TER RING? / NO)	ESTIMATED YIELD FOR WATER- BEARING
		15	15		E. C. LD		1,	. 3.1	ZONES (gpm)
	0	15	15		Fine Silty Sand Brown		Y	✓ N	
							Y	✓ N	
							Y	N	
							Y	✓ N	
39							Y	N	
773							Y	N	
HYDROGEOLOGIC LOG OF WELL							Y	N	
0 0							Y	N	
07							Y	N	
)50							Y	N	
70							Y	N	
OGE							Y	N	
/DR							Y	N	
4. H							Y	N	
				-			Y	N	
							Y	N	
							Y	N	
						-	Y	N	
							Y	N	
							Y	N	
	METHODI	000 TO TO	TILL (A TIP I (I P I P I	OF WARRED DI	D. D. L. C. C. C. C. C. C. C. C. C. C. C. C. C.		Y	N	
					EARING STRATA:		TAL ESTIN ELL YIELD		0.00
	Примі	, N	IR LIFT	BAILER	OTHER - SPECIFY:				0.00
ON	WELL TES				OF DATA COLLECTED DURING WELL TEST BLE SHOWING DISCHARGE AND DRAWDO				
VISION	MISCELLA	VEOUS IN	FORMATION:						
TEST; RIG SUPERV									
SU									
RIC									
EST	PRINT NAM	IE(S) OF D	RILL RIG SUPER	VISOR(S) THA	AT PROVIDED ONSITE SUPERVISION OF WE	II CONSTR	UCTION O	THER TH	AN LICENSEE
5. T	Cliff Hillma								
	BY SIGNIN	G BELOW	. I CERTIFY TH	AT TO THE R	BEST OF MY KNOWLEDGE AND BELIEF, T	HE FOREGO	ING IS A	TRUE A	ND CORRECT
SIGNATURE	RECORD O	THE ABO	VE DESCRIBED	WELL, I ALSO	D CERTIFY THAT THE WELL TAG, IF REQUI RMIT HOLDER WITHIN 30 DAYS AFTER THE	RED, HAS BI	EEN INSTA	LLED AN	ID THAT THIS
6. SIGNA		SL	C:		Shawn Cain		11/2	20/21	
9		SIGNAT	URE OF DRILLE	R / PRINT SI	IGNEE NAME			DATE	

POD NO.



PLUGGING RECORD



NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

State	Engineer Well Number: SB-41								
Well	owner: EOG Resources		Phone No.: 432-848-9146						
Maili	ng address: 5509 Champions Drive								
City:	Midland	State:	Texas	Zip code: 79706					
<u>II. W</u>	ELL PLUGGING INFORMATION:								
1)	Name of well drilling company that	plugged well: Casca	de Drilling						
2)	New Mexico Well Driller License N			Expiration Date: 1/31/23					
3)	Well plugging activities were superv Cliff Hillman	ised by the following	well driller(s)/rig supervi	isor(s):					
4)	Date well plugging began: 7/2/20	21 I	Date well plugging conclu	ded: 7/2/2021					
5)	GPS Well Location: Latitude: Longitude	32 deg. e: -103 deg.		3.98 sec 3.07 sec, WGS 84					
6)	Depth of well confirmed at initiation by the following manner: tag line	of plugging as:	ft below ground le	evel (bgl),					
7)	Static water level measured at initiat	ion of plugging:N	one ft bgl						
8)	Date well plugging plan of operation	s was approved by th	e State Engineer: 3/24/	2021					
9)	Were all plugging activities consisted differences between the approved plugging activities consisted and approved plugging activities are all plugging activities consisted as a second activities are all plugging activities consisted as a second activities are all plugging activities consisted as a second activities are all plugging act								
			<u> </u>						
l .									

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	30	23	Tremie	Boring no water
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		MI II TIDI V	AND ORTAIN		

MULTIPLY		BY		AND OBTAIN
cubic feet	Х	7.4805	=	gallons
cubic yards	Х	201.97	=	gallons

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I,	Shawn Cain	, say	that 1	am	familiar	with t	the	rules	of the	Office	of the	State
Er	ngineer pertaining to the plugging of wells and that	each a	ind all	of the	stateme	nts in t	this	Plugg	ing Re	cord and	1 attac	nments
ar	e true to the best of my knowledge and belief.											

Signature of Well Driller

11/20/21

Date

Received by OCD: 2/22/2022 2:01:17 PM

FILE NO.

LOCATION

PAGE 1 OF 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

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	OSE POD NO	WELL NO.	.)		WELL TAG ID NO.			OSE FILE NO	S).				
Z	POD 44				SB-42			C-4144					
Ě	WELL OWN	ER NAME(S)						PHONE (OPTIO	ONAL)				
Č	EOG Reso							432-848-914					
7	WELL OWN	ED MAIL INC	ADDRUCC					CITY		STATE	ZIP		
IL	5509 Cham							Midland			79706		
W	5507 Cilui	ipions Dii						Iviidialid		Texas			
2	WELL		DE	GREES	MINUTES	SECON	lDS						
LA	LOCATIO	N LAT	TITUDE	32	24	14.	79 N	* ACCURACY	REQUIRED: ONE TEN	TH OF A SECOND			
Z	(FROM GE	(2)		-103	43	18.0	64 W	* DATUM REC	QUIRED: WGS 84				
GENERAL AND WELL LOCATION			NGITUDE										
			G WELL LOCATION TO		RESS AND COMMON	LANDM	ARKS - PLS	S (SECTION, TO	WNSHJIP, RANGE) WH	ERE AVAILABLE			
i.	Aproximate	ely 10.5 so	outh of US Highway	y 62/180									
_	LICENSE NO		NAME OF LICENSED	Dell I de					NAME OF WELL DR	ILLING COMBANY			
	160		NAME OF EICENSED	DRILLER	Shawn Cain					ascade Drilling			
	DRILLING S		DRILLING ENDED 7/27/21	DEPTH OF CO	MPLETED WELL (FT NA	,	BORE HOL	LE DEPTH (FT) 15	DEPTH WATER FIR:	ST ENCOUNTERED (FT NA)		
	11/2.	7/21	1121121		INA								
	COMPLETE	NAME OF THE	ARTESIAN	DRY HOL	E SHALLOV	N (UNICO	NEINEDA		STATIC WATER LEV	EL IN COMPLETED W	ELL (FT)		
Z	COMPLETE	A MEET 13	L AKTESIAN	DKT HOL	TE SHYLLON	N (UNCO	VLINED)			NA			
TIO	DRILLING F	LUID:	☐ AIR	MUD	ADDITIVE	S - SPEC	CIFY:						
MA	DRILLING M	(FTHOD	ROTARY	HAMMÉI	CABLE TO)OI.	OTHE	R – SPECIFY:	F	Roto Sonic			
Ö			177	T	Final	-	*****			I			
CASING INFORMATION	DEPTH	DEPTH (feet bgl) BORE HOLE		CASING	MATERIAL AND	/OR	CA	SING	CASING	CASING WALL	SLOT		
5	FROM TO DIAM			finelude	GRADE	and		VECTION	INSIDE DIAM.	THICKNESS	SIZE		
SI			(inches)		(include each easing string, and note sections of screen) TYPE (add coupling diameter)				(inches)	(inches)	(inches)		
DRILLING &				T									
E													
RIL													
2. Di										<u> </u>	1		
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	DEPTH	(feet bgl)	BORE HOLE	1.1	ST ANNULAR SE	AI MA	TERIAL A	ND	AMOUNT	метно	DD OF		
-1		TO	DIAM. (inches)	1	VEL PACK SIZE-				(cubic feet)	PLACE			
R	FROM 0	15	6	1	Cement with		770		3.5				
TE		13	- 6	<u> </u>	Cement with	3% Del	nomie		3,3	Tremie P	итрец		
MA													
AR				<u> </u>									
ANNULAR MATERIAL													
Z													
3. A													
											_		
			-								nolla di		
FOR	OSE INTER	INAL USE						WR-20	WELL RECORD	& LOG (Version 04/3	30/19)		

POD NO.

TRN NO.

WELL TAG ID NO.

DEPTH (feet bgl)

TO

8

10

15

FROM

0

8

10

OF WELL

Received by OCD: 2/22/2022 2:01:17 PM

THICKNESS

(fect)

8

2

5

ESTIMATED YIELD FOR

WATER-

BEARING ZONES (gpm)

WATER

BEARING?

(YES/NO)

✓ N

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N

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N

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Y

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Y Y

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Y

7.5				+					-
4. HYDROGEOLOGIC LOG								Y N	
CIC								Y N	
ŽO.								Y N	
GEO								Y N	
RO								Y N	
HXI								Y N	
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								Y N	
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								Y N	
ļ	метнор u	SED TO	ESTIMATE YIELI	O OF WATER-BEARIN	NG STRATA:		TO1	AL ESTIMATED	
	PUMI	P [AIR LIFT	BAILER O	THER - SPECIFY:		WE	LL YIELD (gpm):	0.00
NO	WELL TES				TA COLLECTED DURIN HOWING DISCHARGE A				
5. TEST; RIG SUPERVISION	MISCELLA	NEOUS	INFORMATION:						
LES	PRINT NAM	1E(S) O	F DRILL RIG SUPE	RVISOR(S) THAT PRO	OVIDED ONSITE SUPER	VISION OF V	VELL CONSTRU	CTION OTHER TH	IAN LICENSEE:
งก์	Cliff Hillma	n							
6. SIGNATURE	RECORD OF	F THE A	ABOVE DESCRIBED	D WELL, I ALSO CER	OF MY KNOWLEDGE A TIFY THAT THE WELL I HOLDER WITHIN 30 DA	AG, IF REQU	JIRED, HAS BE	EN INSTALLED A	ND THAT THIS
. SIGN		2	SLC		Shawn Cain			11/20/21	
9		SIGN	ATURE OF DRILLI	ER / PRINT SIGNEE	NAME			DATE	
FOI	OSE INTERI	NAL US	SE .		-	v	VR-20 WELL RE	CORD & LOG (Ve	rsion 04/30/2019)
	E NO.				POD NO.		RN NO.		,
LO	CATION					WELL TA	AG ID NO.		PAGE 2 OF 2
									1

COLOR AND TYPE OF MATERIAL ENCOUNTERED -

INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES

(attach supplemental sheets to fully describe all units)

Fine Silty Sand Brown

Caliche

Medium Sandstone Brown



PLUGGING RECORD



NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

State	Engineer Well Number: SB-42			420 040 0440
Well	owner: EOG Resources		Phone No.:	432-848-9146
Maili	ng address: 5509 Champions Drive			
City:	Midland	State:	Texas	Zip code: 79706
II. W	VELL PLUGGING INFORMATION:			
1)	Name of well drilling company that plu	igged well: Cascade	Drilling	
2)	New Mexico Well Driller License No.:	1664	E	Expiration Date: 1/31/23
3)	Well plugging activities were supervise Cliff Hillman	ed by the following w	ell driller(s)/rig superv	isor(s):
4)	Date well plugging began: 7/27/202	21 Da	te well plugging conclu	ded: 7/27/2021
5)	GPS Well Location: Latitude:Longitude:	32 deg,	24 min, 14 43 min, 18	8.79 sec 8.64 sec, WGS 84
6)	Depth of well confirmed at initiation of by the following manner: tag line	f plugging as:15	ft below ground le	evel (bgl),
7)	Static water level measured at initiation	of plugging: Nor	ne ft bgl	
8)	Date well plugging plan of operations v	was approved by the S	State Engineer: 3/24/	2021
9)	Were all plugging activities consistent differences between the approved plug			

Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with 10) horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging <u>Material Used</u> (include any additives used)	Volume of <u>Material Placed</u> (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	30	23	Tremie	Boring no water
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	·		Y AND OBTAIN	'	
		cubic feet x 7.4 cubic yards x 201.9	805 = gallons		
			. ganaria		

III. SIGNATURE:

Received by OCD: 2/22/2022 2:01:17 PM

I, Snawn Cain	, say that I	am	familiar	with 1	the	rules	of the	Office	of t	he S	tate
Engineer pertaining to the plugging of wells and that e	ach and all	of the	stateme	nts in t	this	Plugg	ing Re	cord and	l atta	chm	ents
are true to the best of my knowledge and belief.							_				

11/20/21 Signature of Well Driller Date

FILE NO.

LOCATION

Received by OCD: 2/22/2022 2:01:17 PM

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

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	POD 45	O. (WELL N	0.)		WELL TAG ID NO.		OSE FILE NO	(S).				
ő					SB-43		C-4144					
GENERAL AND WELL LOCATION	EOG Reso		5)				PHONE (OPT 432-848-91					
ı,	1		G ADDRESS				CITY		STATE	ZIP		
VEL	5509 Chan	npions Di	rive				Midland		Texas	79706		
è			D	EGREES	MINUTES	SECONDS						
(A)	LOCATIO			32	24	8.90	* ACCURAC	Y REQUIRED: ONE TEN	TILOF A SECOND			
Z.	(FROM GI	PS)	ATITUDE	-103	43	21.50 V		OUIRED: WGS 84				
SNE			ONGITUDE									
1. G			NG WELL LOCATION TO south of US Highwa		ESS AND COMMON LA	ANDMARKS – P	LSS (SECTION, TO)WNSHJIP, RANGE) WI	IERE AVAILABLE			
	LICENSE NO).	NAME OF LICENSED	DRILLER				NAME OF WELL DR	ILLING COMPANY			
	160	64			Shawn Cain				ascade Drilling			
	DRILLING S	TARTED	DRILLING ENDED	DEPTH OF CO	MPLETED WELL (FT)	BORE	OLE DEPTH (FT)	DEPTH WATER FIR	ST ENCOUNTERED (FT	7)		
	8/6/	/21	8/6/21			55		NA				
							STATIC WATER LEV	/EL IN COMPLETED W	ELL (FT)			
Z	COMPLETED WELL IS: ARTESIAN DRY HOLE SHALLOW (UNCONFINED)								NA			
TIC	DRILLING FLUID: AIR MUD ADDITIVES - SPECIFY:											
CASING INFORMATION	DRILLING M	METHOD:	ROTARY	☐ HAMMER	CABLE TOO	L 🗹 OTI	IER - SPECIFY:	I	Roto Sonic	-		
	DEPTH	(feet bgl)	BORE HOLE	CASING	MATERIAL AND/O	R ,	CASING	CASING	CASING WALL	SLOT		
	FROM TO DIAM		(include o	GRADE ach casing string, and	CO1	NECTION	INSIDE DIAM.	THICKNESS	SIZE			
VSI			(inches)		ections of screen)	l l	TYPE upling diameter)	(inches)	(inches)	(inches)		
8												
DRILLING												
ILL)				_								
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2.												
							_					
		<u> </u>			<u> </u>	_				<u> </u>		
		<u></u>		1								
		(feet bgl)	BORE HOLE DIAM. (inches)	1	T ANNULAR SEAL /EL PACK SIZE-RA			AMOUNT	METHO PLACE			
RIA	FROM 0	TO 55	6	GKA			ERVAL	(cubic feet)				
(TE	U	- 33	0		Centent with 59	6 Bentonite		12	Tremie P	umped		
ANNULAR MATERIAL												
IV.						<u> </u>		<u> </u>				
			-									
3. A.												
60												
FOD	OSE INTER	NAI USE		<u>L</u> .			um a	0 WELL PROOPS	k100.02 - 2.22	0/10>		
LOK	ONT HATTE	TOD TOTAL					WK-2	WELL RECORD &	x LOG (version 04/3	0/191		

POD NO.

TRN NO.

WELL TAG ID NO.

Released to Imaging: 5/2/2022 3:36:34 PM

PAGE I OF 2

Received by OCD: 2/22/2022 2:01:17 PM

FILE NO.

LOCATION

PAGE 2 OF 2

	DEPTH (feet bgl)					ESTIMATED
	FROM	то	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTER INCLUDE WATER-BEARING CAVITIES OR FRACTUR (attach supplemental sheets to fully describe all un	E ZONES	WATER BEARING? (YES/NO)	YIELD FOR WATER- BEARING ZONES (gpm)
	0	15	15	Fine Silty Sand Brown		YVN	
	15	20	5	Fat Clay		Y VN	
	20	25	5	Fine silty sand Brown		Y VN	
	25	35	10	Medium Sanstone		Y VN	
	35	45	10	Fat Clay		Y VN	
	45	55	10	Clayey sandstone		YVN	
HYDROGEOLOGIC LOG OF WELL		_				Y N	
OF						Y N	
50,						Y N	
101						Y N	
00						Y N	
EO						Y N	
ROC						Y N	
1XP				· · · · · · · · · · · · · · · · · · ·		Y N	
4						Y N	
					·	Y N	
						YN	
						Y N	
						YN	
						Y N	
						YN	
	METHOD U	SED TO ES	TIMATE YIELD	OF WATER-BEARING STRATA:	ТОТ	TAL ESTIMATED	-
	PUMP		R LIFT	BAILER OTHER - SPECIFY:		LL YIELD (gpm):	0.00
			K Gil 1	DATEER STEELET.			
VISION	WELL TEST	TEST F START	RESULTS - ATTA TTIME, END TIME	ACH A COPY OF DATA COLLECTED DURING WELL TESTI ME, AND A TABLE SHOWING DISCHARGE AND DRAWDO	NG, INCLUD WN OVER TI	ING DISCHARGE N IE TESTING PERIO	ИЕТНОD, D.
	MISCELLAN	NEOUS INF	ORMATION:				
TEST; RIG SUPER							
C ST							
; RI							
EST	PRINT NAM	E(S) OF DR	ILL RIG SUPER	VISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WE	LL CONSTRU	CTION OTHER TH	AN LICENSEE:
7.7	Cliff Hillmar						
		<u> </u>					
TURE	RECORD OF	THE ABO	VE DESCRIBED	AT TO THE BEST OF MY KNOWLEDGE AND BELIEF, T WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIF WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE	RED, HAS BE	EN INSTALLED AN	ID THAT THIS
6. SIGNATURE		SI	20	Shawn Cain		11/20/21	
		SIGNATU	JRE OF DRILLE	R / PRINT SIGNEE NAME		DATE	
FOD	OSE INTERN	JAI USE		1176	20 WELL DI	CODD & LOC (II	04/20/2010
1 01	COP ILLIPIN	TIEL COL		WK	-20 WELL KE	CORD & LOG (Ver	SIUD U4/30/2019)

POD NO.

TRN NO.

WELL TAG ID NO.





PLUGGING RECORD



NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

/ell	Engineer Well Number: SB-43 owner: EOG Resources				Phone	No.: 432	-848-9146	
Iaili	ing address: 5509 Champions Drive							
ity:	Midland	State:	State: Texas				_ Zip code:	79706
<u>. V</u>	VELL PLUGGING INFORMATION:							
	Name of well drilling company that plug	ged well:	Cascade I	Orilling				
	New Mexico Well Driller License No.:	1664	+	_		_ Expira	ation Date: 1	/31/23
	Well plugging activities were supervised Cliff Hillman	by the follo	owing we	ll driller	(s)/rig su	pervisor(s):	
	Date well plugging began: 8/6/2021		Date	well pl	ugging co	ncluded:	8/6/2021	
	GPS Well Location: Latitude: Longitude:	32	deg,	24 43	min, _		_ sec	
	Longitude:	-103	_deg, _	43	min,	21.50	_ sec, WGS	84
	Depth of well confirmed at initiation of p by the following manner: tag line	lugging as:	55	ft be	low grou	nd level (bgl),	
	Static water level measured at initiation of	of plugging	None	ft bg	gl			
	Date well plugging plan of operations wa	ıs approved	by the St	ate Engi	ineer: 3	3/24/2021		
	Were all plugging activities consistent w					Yes		lease descri
	differences between the approved plugging	ng pian and	the well	as it was	s piuggea	(attach ac	ditional page	es as needed):

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging <u>Material Used</u> (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	100	85	Tremie	Boring no water
_					
_					
-					
_					
-					
\dashv					
4					
-					
95					
_					
\dashv					
\dashv					
		MULTIPLY E cubic feet x 7.4	BY AND OBTAIN 805 = gallons		

III. SIGNATURE:

T	- 5	hawn	Cain

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, say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

201.97

Signature of Well Driller

gallons

Date

11/20/21

PAGE 1 OF 2

FILE NO.

LOCATION



- 2	OSE POD NO). (WELL I	NO)		WELL TAG ID NO.			OSE FILE NO(S).	<u></u>	
NO	POD 46				SB-44			C-4144			
ATI	WELL OWN		(S)					PHONE (OPTI	ONAL)	-	
OC	EOG Reso	urces						432-848-9146			
1	WELL OWN	ER MAILI	NG ADDRESS					CITY		STATE	ZIP
Æ	5509 Champions Drive						Midland		Texas	79706	
AND WELL LOCATION	WELL			EGREES	MINUTES	crcox	IDC	<u> </u>			
			57	32	2 24 7.79			* * CCUB*CA			
¥.	LOCATIO		ATITUDE				N	ACCURACY REQUIRED: ONE TENTII OF A SECOND			
GENERAL	(FROM G	PS) L	ONGITUDE	-103	43	21.	53 W	* DATUM REC	QUIRED: WGS 84		
E	DESCRIPTION	ON RELAT	TING WELL LOCATION T	O STREET ADDR	ESS AND COMMON	LANDM	ARKS – PLS	S (SECTION, TO	WNSHJIP, RANGE) WH	ERE AVAILABLE	
-	Aproximately 10.5 south of US Highway 62/180										
	LICENSE NO		NAME OF LICENSEI	DRILLER	Shawn Cain				NAME OF WELL DR		
										ascade Drilling	
	DRILLING S 8/6/		DRILLING ENDED 8/6/21	DEPTH OF CO	MPLETED WELL (FT)	·		.E DEPTII (FT)	DEPTH WATER FIR:	ST ENCOUNTERED (FT)
	8/0/		8/0/21		NA			30		NA	
	COMPLÉTÉ	n WELL IS	S: ARTESIAN	DRY HOL	D DDV HOLE D OUL COVERNOON TO		STATIC WATER LEVEL IN COMPLETED WELL (FT)				
Z	COMPLETE	D WEED IC	AKTESIAN		DRY HOLE SHALLOW (UNCONFINED)			NA			
Ţ	DRILLING F	LUID:	☐ AIR	MUD	ADDITIVE	S - SPEC	CIFY				
ZW.	DRILLING METHOD: ROTARY HIAMMER CABLE TOOL OTHER					R - SPECIFY: Roto Sonic					
CASING INFORMATION	DEPTH (feet bgl) PORE HOLE			CARING	CASING MATERIAL AND/OR						
Z			BOKE NOLE	GRADE		CASING		CASING	CASING WALL	SLOT	
N	FROM TO		527,111	M (include each casing string, and				IECTION YPE	INSIDE DIAM.	THICKNESS	SIZE (inches)
CAS			(inches)	note:	sections of screen)			ing diameter)	(inches)	(inches)	(metics)
જ								_			
DRILLING &											
LL.					<u></u>						
DR											
7					- 25						
			110								
	DEPTH	(feet bgl)	BORE HOLE	F 10	ST ANNULAR SEA	AT MAY	TEDIAL A	ND	AMOUNT		
=	FROM	TO	DIAM. (inches)	1	VEL PACK SIZE-R				(cubic feet)	METHO PLACE!	
Z	0	30	6		Cement with		10-		<u> </u>		
		50	- 0		Centent with	J70 DCII	toline		6.5	Tremie P	umpea
Σ											
AR											
5											
ANNULAR MATERIAL				1							
ь,				ļ							
FOR	OSE INTER	NAL US	E					WR-20	WELL RECORD &	k LOG (Version 04/3	0/19)

POD NO.

TRN NO.

WELL TAG ID NO.

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6. SIGNATUR	ShiC	Shawn Cain	11	1/20/21		
	SIGNATURE OF DRILLER / PRI	NT SIGNEE NAME	DATE			
FOR OS	E INTERNAL USE		WR-20 WELL RECORD	& LOG (Version 04/30/2019		
FOR OS		POD NO.	WR-20 WELL RECORD of TRN NO.	& LOG (Version 04/30/2019		

DEFFH (rect bgl)		1						
TO TO TO TO TO TO TO TO		DEPTH (f	cet bgl)		COLOR AND TYPE OF MATERIAL ENCOUNTERED -		WATED	
1		FROM	то	1	INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONE	S	BEARING?	WATER- BEARING
A		0	4	4	Fine Silty Sand Brown		YVN	
20 25 5 Fat Clay		4	8	4				
20 25 5 Fat Clay Y V N		8	20	12	Fine silty sand Brown	\dashv	Y VN	
1000000000000000000000000000000000000		20	25	5			YVN	
TOTAL ESTIMATE YIELD OF WATER-BEARING STRATA: PUMP		25	30	5				
PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:	داا		-			-		
WELL TEST TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD. WISCELLANEOUS INFORMATION: BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL, I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING. Shawn Cain 11/20/21	VEL							
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• 701	ATUR	WELL RECO	RD WILL	ALSO BE FILED	WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPL	ETION	OF WELL DRILL	ING.
			81	10	Shawn Cain		11/20/21	
	9		SIGNATU	JRE OF DRILLE	R / PRINT SIGNEE NAME		DATE	



PLUGGING RECORD



NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

Mailing ad City: Midl II. WELL 1) N	r: EOG Resources dress: 5509 Champions Drive and PLUGGING INFORMATIO ame of well drilling company th	State:	Phone No.:	432-848-9146 Zip code: 79706
City: Midl	PLUGGING INFORMATIO		Texas	Zin code: 79706
City: Midl	PLUGGING INFORMATIO		Texas	7in code: 79706
<u>II. WELI</u> 1) N	PLUGGING INFORMATIO			ZID COUC.
1) N				
1) N		N:		
			e Drilling	
2) N				440.4400
	ew Mexico Well Driller License	No.: 1004	Ex	epiration Date: 1/31/23
	ell plugging activities were sup- liff Hillman	ervised by the following	well driller(s)/rig supervis	or(s):
4) D	ate well plugging began: 8/6/2	2021 D	ate well plugging conclud	ed: 8/6/2021
5) G	PS Well Location: Latitud Longitud	le: 32 deg, ude: -103 deg,		
6) D	epth of well confirmed at initiate the following manner: tag line	on of plugging as:3	0 ft below ground lev	vel (bgl),
7) St	atic water level measured at init	iation of plugging: No	ne ft bgl	
8) D	ate well plugging plan of operati	ions was approved by the	State Engineer: 3/24/20	021
	ere all plugging activities consist fferences between the approved			If not, please describe h additional pages as needed):
	· · · · · · · · · · · · · · · · · · ·			

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10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremie pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
	Neat Cement	55	46	Tremie	Boring no water
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		MULTIPLY E	Y AND OBTAIN		

MULTIPLY		BY		AND OBTAIN
cubic feet	Х	7.4805	=	gallons
cubic yards	х	201.97	=	gallons

III. SIGNATURE:

I, Shawn Cain , say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

11/20/21

Signature of Well Driller

Date

Attachment C

NMSOE Well Permits and BLM Sundry



STATE OF NEW MEXICO OFFICE OF THE STATE ENGINEER District 2 Office, Roswell, NM

John R. D'Antonio Jr., P.E. State Engineer

1900 West Second Street Roswell, New Mexico 88201 (575) 622-6521 FAX: (575) 623-8559

March 24, 2021

EOG Resources c/o GHD Services 5509 Champions Dr Albuquerque, NM 79706

RE:

Well Plugging Plan of Operations for C-4144-POD13/POD46

Greetings:

Enclosed is your copy of Well Plugging Plan of Operations for the above referenced project, which has been approved subject to the attached Specific Conditions of Approval. The following conditions of approval have been developed to ensure compliance with the Rules and Regulations Governing Well Driller Licensing; Construction, Repair and Plugging of Wells 19.27.4 NMAC adopted June 13, 2017, by the State Engineer.

Aggrieval of this permit, or any of the conditions of approval therein, suspends the permit. No plugging operations shall occur while a permit is aggrieved.

Sincerely,

Claudia K. Guillen Engineering Tech III

Water Resources Allocation Program

encl

Specific Conditions of Approval for C-4144-POD13-POD456

- If groundwater is <u>not</u> encountered the borehole can be filled with drill cuttings or clean native fill up to 10 feet below ground surface. From 10 feet below ground surface to ground surface the borehole will be filled with bentonite. Bentonite chips shall be hydrated with 5 gallons of water per 50 pound sack.
- 2) The cement-bentonite slurry (bentonite powder) shall be mixed using a maximum of 5.2 gallons water per 94-lb sack Type II portland cement PLUS 0.65 gallons per 1% increase in bentonite up to a maximum 6% bentonite by dry weight ratio. Bentonite must be hydrated separately and then mixed.
 - a) Grout shall be tremied from the bottom up.
- A completed Plugging Record form shall be submitted no later than 30 days after completion of the plugging.
- 4) Before any attempts are made to plug this well, the O.S.E. District II Office shall be notified 48 hours in advance of the anticipated schedule for plugging, so that an O.S.E. representative has the opportunity to witness the procedures, if deemed necessary.
- 5) Any deviation from this plan <u>must</u> obtain an approved variance from this office prior to implementation.
- 6) Aggrieval of this permit, or any of the conditions of approval therein, suspends the permit. No plugging operations shall occur while a permit is aggrieved.

Witness my hand and seal this Author day of March A.D., 2021

John R. D'Antonio Jr., P.E., State Engineer

By: Claudia K. Quillen Engineering Tech III





6)



WELL PLUGGING PLAN OF OPERATIONS



NOTE: A Well Plugging Plan of Operations shall be filed with and accepted by the Office of the State Engineer prior to plugging. This form may be used to plug a single well, or if you are plugging multiple monitoring wells on the same site using the same plugging methodology.

Alert! Your well may be eligible to participate in the Aquifer Mapping Program (AMP)-NM Bureau of Geology geoinfo.nmt.edu/resources/water/cgmn/if within an area of interest and meets the minimum construction requirements, such as there is still water in your well, and the well construction reflected in a well record and log is not compromised, contact AMP at 575-835-5038 or -6951, or by email nmbg-waterlevels@nmt.edu, prior to completing this prior form. Showing proof to the OSE that your well was accepted in this program, may delay the plugging of your well until a later date.

1. FILING FEE: There is no filing fee for this form. Check here if proposing one plan for multiple monitoring wells on the same site and attaching WD-08m II. GENERAL / WELL OWNERSHIP: Existing Office of the State Engineer POD Number (Well Number) for well to be plugged: SB-12 Name of well owner: EOG Resources address: 5509 Champions Drive County: City: Midland Zip code 79706 Texas State: Phone number: 432-848-9146 E-mail: James_kennedy@eogresources.com III. WELL DRILLER INFORMATION: Well Driller contracted to provide plugging services: White Drilling Company, Inc. New Mexico Well Driller License No.: WD-1456 Expiration Date: 09-30-2022 IV. WELL INFORMATION: Check here if this plan describes method for plugging multiple monitoring wells on the same site and attach supplemental form WD-08m and skip to #2 in this section. Note: A copy of the existing Well Record for the well(s) to be plugged should be attached to this plan. 1) GPS Well Location: Latitude: min. Longitude: 2) Reason(s) for plugging well(s); These are soil borings are not going to be wells. The plugging plans are for in case we encounter groundwater. 3) Was well used for any type of monitoring program? no If yes, please use section VII of this form to detail what hydrogeologic parameters were monitored. If the well was used to monitor contaminated or poor quality water, authorization from the New Mexico Environment Department may be required prior to plugging. Does the well tap brackish, saline, or otherwise poor quality water? unknown If yes, provide additional detail, 4) including analytical results and/or laboratory report(s): Static water level: 5) feet below land surface / feet above land surface (circle one)

unknown

feet

Depth of the well:

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2)	Inside diameter of innermost casing: 4-3/8' inches
7)	mode diameter of infermost easingmenes.
8)	Casing material: n/a
9)	The well was constructed with:
	an open-hole production interval, state the open interval:
	a well screen or perforated pipe, state the screened interval(s):
10)	What annular interval surrounding the artesian casing of this well is cement-grouted?
11)	Was the well built with surface casing?If yes, is the annulus surrounding the surface casing grouted or
	otherwise sealed? If yes, please describe:
12)	Has all pumping equipment and associated piping been removed from the well?If not, describe remaining equipment and intentions to remove prior to plugging in Section VII of this form.
V. DE	SCRIPTION OF PLANNED WELL PLUGGING: If plugging method differs between multiple wells on same site, a separate form must be completed for each method.
diagran	f this plan proposes to plug an artesian well in a way other than with cement grout, placed bottom to top with a tremic pipe, a detailed of the well showing proposed final plugged configuration shall be attached, as well as any additional technical information, such by sical logs, that are necessary to adequately describe the proposal. Attach a copy of any signed OSE variance to this plugging plan.
Also, if	this planned plugging plan requires a variance to 19.27.4 NMAC, attach a detailed variance request signed by the applicant.
1)	Describe the method by which cement grout shall be placed in the well, or describe requested plugging methodology
	proposed for the well:
	Trimie grout from bottom up.
2)	Will well head be cut-off below land surface after plugging?
VI DI	SICCINC AND STALING MATERIALS.
	LUGGING AND SEALING MATERIALS: The plugging of a well that taps poor quality water may require the use of a specialty cement or specialty sealant. Attach a copy of the batch mix reci
from the	e cement company and/or product description for specialty cement mixes or any scalant that deviates from the list of OSE approved scalants.
1)	For plugging intervals that employ cement grout, complete and attach Table A.
2)	For plugging intervals that will employ approved non-cement based sealant(s), complete and attach Table B.
3)	Theoretical volume of grout required to plug the well to land surface: 146 Gallons or 19.63 cf
4)	Type of Cement proposed: Portland Cement w/5% Bentonite Grout - Type II
5)	Proposed cement grout mix: 6 gallons of water per 94 pound sack of Portland cement.
6)	Will the grout be:batch-mixed and delivered to the site
	X mixed on site

TABLE A - For plugging intervals that employ cement grout. Start with deepest interval.

	Interval 1 – deepest	Interval 2	Interval 3 – most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of grout placement (ft bgl)	0 feet		
Bottom of proposed interval of grout placement (ft bgl)	100 feet		
Theoretical volume of grout required per interval (gallons)	146 Gallons		
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement	6 Gallons of Water		
Mixed on-site or batch- mixed and delivered?	On-Site		
Grout additive 1 requested	5% Bentonite Grout		
Additive 1 percent by dry weight relative to cement			
Grout additive 2 requested			
Additive 2 percent by dry weight relative to cement			

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TABLE B - For plugging intervals that will employ approved non-cement based sealant(s). Start with deepest interval.

	Interval 1 – deepest	Interval 2	Interval 3 most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of sealant placement (ft bgl)			
Bottom of proposed sealant of grout placement (ft bgi)			
Theoretical volume of sealant required per interval (gallons)			
Proposed abandonment sealant (manufacturer and trade name)			







ATTACHMENT to WD-08 Plan of Plugging MULTIPLE MONITORING WELL DESCRIPTIONS

This Attachment is to be completed if more than one (1) monitoring well is to be plugged using the same method.

Location (Red	quired):				-				
■ NM State Plane (NAD83) (Feet) □ NM West Zone □ NM Central Zone ■ NM East Zone		UTM (NADA	3N	■ Lat/Long (WGS (1/10 th of second)	descrip	R (allowable obtions - see a SS (quarters, drographic Sit, Block & Sulant	pplication form section, town urvey, Map &	n for formanship, rang	
OSE POD Number: - 4144	Other Well ID:	X or Longitude (ddmmss):	Y or Latitude (ddmmss):	Other Location Info (PLSS):	Casing ID- (inches):	Depth to Water- (ft bgs):	Total well Depth- (ft bgs):	Grout Volume:	Surface Casing (Y or N))
POD 15	SB-13	-103°43'20.96"E	32°24'09.07"!	N			105-	14690	
11 14	SB-14	-103°43'21.85"E	32°24'08.65"1	٧				1	
0 17	SB-15	-103°43'21.79"E	32°24'08.09"1	V					
v (8	SB-16	-103°43'20.99"E	32°24'08.03"N	٧					
11 19	SB-17	-103°43'20.64"E	32°24'08.04"N	٧					
11 20	SB-18	-103°43'21.20"E	32°24'13.89"N	N					
, 21	SB-19	-103°43'20.43"E	32°24'13.69"N	١					
, 22	SB-20	-103°43'21.14"E	32°24'13.25"N	١					
,, 23	SB-21	-103°43'20.80"E	32°24'13.25"N	1					
,, 24	SB-22	-103°43'19.89"E	32°24'13.57"N	J					
,, 25	SB-23	-103°43'18.14"E	32°24'15.26"N	1					
11 24	SB-24	-103°43'18.21"E	32°24'14.62"N	1			J	√	

FOR OSE INTERNAL USE	Multiple Montioring	POD Description	ons, Formwr-08m (Rev 7/31/19)
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ATTACHMENT to WD-08 Plan of Plugging MULTIPLE MONITORING WELL DESCRIPTIONS

This Attachment is to be completed if more than one (1) monitoring well is to be plugged using the same method.

Location (Red	quired):						-		
NM State Pl (Feet) NM Wes NM Cen	st Zone tral Zone t Zone	UTM (NAD83) (Meters) Zone 13N Zone 12N		■ Lat/Long (WGS84) (1/10 th of second) OTHER (allowable only for move-from descriptions - see application form for format) □ PLSS (quarters, section, township, range) □ Hydrographic Survey, Map & Tract □ Lot, Block & Subdivision □ Grant					
OSE POD Number: Cー니니니	Other Well ID:	X or Longitude (ddmmss):	Y or Latitude (ddmmss):	Other Location Info (PLSS):	Casing ID- (inches):	Depth to Water- (ft bgs):	Total well Depth- (ft bgs):	Grout Volume:	Surface Casing (Y or N):
POD 27	SB-25	-103°43'18.40"E	32°24'14.17"I	N			105-	14490	
u 28	SB-26	-103°43'18.62"E	32°24'13.51"	N				1	
4 29	SB-27	-103°43'18.85"E	32°24'12.90"i	N		350			
" 30	SB-28	-103°43'18.11"E	32°24'13.22"/	N					
4 31	SB-29	-103°43'17.42"E	32°24'14.55"ì	V					
_n 32	SB-30	-103°43'16.97"E	32°24'12.85"	V					
u 33	SB-31	-103°43'15.44"E	32°24'13.72"i	V					
u 34	SB-32	-103°43'14.75"E	32°24'13.86"N	N					
v 35	SB-33	-103°43'16.05"E	32°24'11.77"N	N					
" 35	SB-34	-103°43'16.62"E	32°24'11.45"N	V					
, 37	SB-35	-103°43'17.73"E	32°24'11.83"N	N					
u 38	SB-36	-103°43′17.82″E	32°24'11.18"N	١			V	V	

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Trans Description (optional):	Plan







ATTACHMENT to WD-08 Plan of Plugging MULTIPLE MONITORING WELL DESCRIPTIONS

This Attachment is to be completed if more than one (1) monitoring well is to be plugged using the same method.

Location (Re	quired):		-		-							
■ NM State P (Feet) □ NM We □ NM Cer ■ NM Eas	st Zone itral Zone	■ UTM (NAD83) (Meters) ■ Zone 13N □ Zone 12N		■ Lat/Long (WGS84) 1/10 th of second) OTHER (allowable only for move-from descriptions - see application form for form PLSS (quarters, section, township, reduction Hydrographic Survey, Map & Tract Lot, Block & Subdivision Grant					rang	t) e)		
OSE POD Number: C-4144	Other Well ID:	X or Longitude (ddmmss):	Y or Latitude (ddmmss):	Other Location info (PLSS):	Casing (inches)):	Depth to Water- (ft bgs):	Total Dept (ft bg	h-	Grou Volu		Surface Casing (Y or(N))
POD 397	SB-37	-103°43'18.73"E	32°24'11.17"	N				105	· PF+	146	igal	
11 40	SB-38	-103°43'18.71"E	32°24'10.67"N	N					١		1	
0 <i>4)</i>	SB-39	-103°43′19.46″E	32°24'10.40"N	N	·							
42	SB-40	-103°43'17.69"E	32°24'11.09"N	N								
u 43	SB-41	-103°43'19.07"E	32°24'13.98"N	٧							\prod	
11 44	SB-42	-103°43'18.64"E	32°24'14.79"N	1								
11 45	SB-43	-103°43'21.50"E	32°24'08.90"N	1								
11 44	SB-44	-103°43'21.53"E	32°24'07.79"N	1								
POD 13	PMW-10	-103°43'10.85" E	32°24'15.43'									
POD 14	PMW-11	-103°43'23.28" E	32°24'08.82" N	1								
						1						
										1	,	

FOR OSE INTERNAL USE Multiple Montiorin	g POD Descriptions, Form wr-08m (Rev 7/31/19)
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File No. C - 4144

NEW MEXICO OFFICE OF THE STATE ENGINEER



WR-07 APPLICATION FOR PERMIT TO DRILL A WELL WITH NO WATER RIGHT



(check applicable box):

	Fo	r fees, see State Engineer we	ebsite: http://www.ose.state.nm.us/	
Purpose:		Pollution Control And/Or Recovery	☐ Ground Sour	ce Heat Pump
Exploratory Well (Pump test)		Construction Site/Public Works Dewatering	Other(Descri	be):
Monitoring Well		Mine Dewatering		
A separate permit will be required	to app	ly water to beneficial use	regardless if use is consumptive	or nonconsumptive.
Temporary Request - Request	ed Star	t Date: 2/9/21	Requested End	Date: TBD
Plugging Plan of Operations Subn	nitted?	■ Yes □ No		
I. APPLICANT(S)				
Name: EOG Resources			Name: GHD Services	
Contact or Agent:	check	here if Agent	Contact or Agent:	check here if Agent
James Kennedy			Charles Neligh	
Mailing Address: 5509 Champions Drive			Mailing Address: 6121 Indian School Rd NE #200)
City: Midland			City: Albuquerque	
State: Texas	Zip Co	de: 79706	State: New Mexico	Zip Code: 87110
Phone: 432-848-9146 Phone (Work):	□ H	lome 🔳 Cell	Phone: 716-818-0224 Phone (Work):	☐ Home ■ Ceil
E-mail (optional):			E-mail (optional):	
James_kennedy@eogresources.co	m		Charles.Neligh@ghd.com	
	FOR	OSE INTERNAL USE	Application for Permit, Form WR-0	7, Rev 11/17/16
		No:C-LILL	Trn. No.: (9062()	4 /-

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2. WELL(S) Describe the well(s) applicable to this application.

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(Lat/Long - WGS84).	ate location must b	e reported in NIV	State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude
	rict VII (Cimarron) o	customers, provi	de a PLSS location in addition to above.
B			
		UTM (NAD83) (M	· Latricing (VVGS04) No the nearest
NM West Zone NM East Zone	☐Zone 12N ☐Zone 13N		1/10 th of second)
NM Central Zone	Ų.	EZONE ISM	
			Provide if known:
			-Public Land Survey System (PLSS)
Well Number (if known):	X or Easting or	Y or Northing	
,	Longitude:	or Latitude:	- Hydrographic Survey Map & Tract; OR
			- Lot, Block & Subdivision; OR - Land Grant Name
C-4144 POD12			- Land Grant Haine
PMW-10	-103°43'10.85" E	32°24'15.43"	T22s, R32E, Q7
	700 10 10100 1	02 24 10.40	1223, 1026, 01
C-4144 POD13			
PMW-11	-103°43'23.28" E	32°24'08.82" N	T22S, R31E, Q12
C-4144 POD 14			·
\$B-12	-103°43'21.72" E	32°24'09.21" N	T22s, R32E, Q7
C-4144 PODIS			
SB-13	-103°43'20.96"E	32°24'09.07"N	T22s, R32E, Q7
C-4144 POD14			
SB-14	-103°43'21.85"E	32°24'08.65"N	T22s, R32E, Q7
NOTE: If more well locations	need to be describ	ned, complete fo	rm WR-08 (Attachment 1 – POD Descriptions)
Additional well descriptions	are attached: 🔳	Yes 🗌 No	If yes, how many 30
Other description relating well	to common landmark	ks, streets, or othe	er:
Aprox 10.5 miles south of us h	wy 62/180		
Well is on land owned by: BLM	- Sundry included		
Well Information: NOTE: If m	ore than one (1) we	Il needs to be de	escribed, provide attachment. Attached? 🔳 Yes 🗌 No
If yes, how many 5			
Approximate depth of well (fee	t): 105-110'BGS		Outside diameter of well casing (inches): 2"
Driller Name: White Drilling Co	• 100 00 00 00 00 00 00 00 00 00 00 00 00		Driller License Number: WD-1456

3. ADDITIONAL STATEMENTS OR EXPLANATIONS

Well construction will be a 2-in dia. PVC casing with a 15-20 ft. 0.010-in slotted screen. Grade 10/20 silica sand pack will be placed in the annulus to 2 ft. above the screen. A 2ft. thick hydrated bentonite plug will be placed on top of the sand pack followed by cement/bentonite grout to the surface.

The soil borings will be advanced in order to help delineated the extent of the impact. If groundwater is encountered a monitoring well may be constructed.

the duration of planned monitoring will continue until NMOCD grants remedial Site closure.

FOR OSE INTERNAL USE

Application for Permit, Form WR-07

ile No.:	Trn No.: 69 0626







ATTACHMENT 1 POINT OF DIVERSION DESCRIPTIONS

This Attachment is to be completed if more than one (1) point of diversion is described on an Application or Declaration.

a. Is this a: Move-From Point of Diversity	• •		Number of p	points of diversion involved in the application: 35 er of pages attached to the application: 5
Surface Point of Diversion	OR	■ Well		
Name of ditch, acequia,	or spring:			
Stream or water course:				
Tributary of:				
c. Location (Required): Required: Move to POD location	coordinate must t	pe either New Mex	rico State Plar	ne (NAD 83), UTM (NAD 83), <u>or</u> Lat/Long (WGS84)
NM State Plane (NAD83) (feet) NM West Zone □ NM Central Zone □ NM East Zone □	UTM (NAD83) (meters) Zone 13N Zone 12N	Lat/ (WGS8- 1/10 th o		OTHER (allowable only for move-from descriptions - see application form for format) PLSS (quarters, section, township, range) Hydrographic Survey, Map & Tract Lot, Błock & Subdivision Grant
POD Number: C-4144 SB-15 17	X or Longitude -103°43'21.79"	Y or Lati E 32°24'0		Other Location Description: T22s, R32E, Q7
POD Number: C. 4144	X or Longitude	Y or Lati	tude	Other Location Description:
SB-16	-103°43'20.99"I	E 32°24'0	8.03"N	T22s, R32E, Q7
POD Number: C. 4144 Pools	X or Longitude	Y or Lati	tude	Other Location Description:
SB-17	-103°43'20.64"(E 32°24'0	8.04"N	T22s, R32E, Q7
POD Number: (-4144 POD 20	X or Longitude	Y or Lati	tude	Other Location Description:
SB-18	-103°43'21.20"	∄ 32°24'1	3.89"N	T22s, R32E, Q7
POD Number: (- 4144 Pop 21	X or Longitude	Y or Lati	tude	Other Location Description:
SB-19	-103°43'20.43"[∃ 32°24'1	3.69"N	T22s, R32E, Q7
POD Number: C-4144 PoD2	X or Longitude	Y or Lati	tude	Other Location Description:
SB-20	-103°43'21.14"E	∃ 32°24'1	3.25"N	T22s, R32E, Q7
POD Number: C-4144 Poo 23	X or Longitude	Y or Lati	tude	Other Location Description:
SB-21	-103°43'20.80"E	32°24'1	3.25"N	T22s, R32E, Q7
POD Number: C.4144 Pop2	X or Longitude	Y or Lati	tude	Other Location Description:
SB-22	-103°43'19.89"E	32°24'1	3.57"N	T22s, R32E, Q7
POD Number: C.4144 Poo 29	X or Longitude	Y or Latin	tude	Other Location Description:
SB-23	-103°43'18.14"E	32°24'1	5.26"N	T22s, R32E, Q7

FOR OSE INTERNAL USE

Form wr-08

POD DESCRIPTIONS - ATTACHMENT 1

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ATTACHMENT 1 POINT OF DIVERSION DESCRIPTIONS

This Attachment is to be completed if more than one (1) point of diversion is described on an Application or Declaration.

a. Is this a:			b. Information on Attachment(s):			
☐ Move-From Point of Div	* *		Number of p	points of diversion involved in the application: 35		
Move-To Point of Diversion(s)			Total number	er of pages attached to the application:5		
☐ Surface Point of Diversion	OR	■ Well				
Name of ditch, acequia,	or spring:					
Stream or water course:						
Tributary of:						
c. Location (Required):		_				
	coordinate must be	e either New Mex	rico State Plan	ne (NAD 83), UTM (NAD 83), <u>or</u> Lat/Long (WGS84)		
NM State Plane (NAD83)	UTM (NAD83)			OTHER (allowable only for move-from		
(feet)	(meters)	■ Lat/	l ong-	descriptions - see application form for format) PLSS (quarters, section, township, range)		
NM West Zone	Zone 13N	(WGS8	4)	Hydrographic Survey, Map & Tract		
NM Central Zone	Zone 12N 🔲	1/10 th of	fsecond	Lot, Block & Subdivision		
NM East Zone				☐ Grant		
POD Number: C-4144	X or Longitude	Y or Lati	tude	Other Location Description:		
SB-24 PCD ZG	-103°43'18.21"E	32°24'1	4.62"N	T22s, R32E, Q7		
POD Number: C-UIY	X or Longitude	Y or Lati	tude	Other Location Description:		
SB-25 POD 27	-103°43'18.40"E	32°24'1	4.17"N	T22s, R32E, Q7		
POD Number: C-UIYY	X or Longitude	Y or Lati	tude	Other Location Description:		
SB-26 POD 28	-103°43'18.62"E	32°24'1	3.51"N	T22s, R32E, Q7		
POD Number: C - 4144	X or Longitude	Y or Lati	tude	Other Location Description:		
SB-27 PQD Z9	-103°43'18.85"E	32°24'1	2.90"N	T22s, R32E, Q7		
POD Number: C.4144	X or Longitude	Y or Lati	tude	Other Location Description:		
SB-28 Pap 30	-103°43'18.11"E	32°24'1	3.22"N	T22s, R32E, Q7		
POD Number: C-4144	X or Longitude	Y or Latin	lude	Other Location Description:		
SB-29 Pa) 31	-103°43'17.42"E	32°24'1	4.55"N	T22s, R32E, Q7		
POD Number: C-4144	X or Longitude	Y or Latit	tude	Other Location Description:		
SB-30 Par 32	-103°43'16.97"E	32°24'1	2.85"N	T22s, R32E, Q7		
POD Number: C-4144	X or Longitude	Y or Latit	ude	Other Location Description:		
SB-31 Pan 33	-103°43'15.44"E	32°24'1:	3.72"N	T22s, R32E, Q7		
POD Number: C-4144.	X or Longitude	Y or Latit	ude	Other Location Description:		
SB-32 PUD 34	-103°43'14.75"E	32°24'1:	3.86"N	T22s, R32E, Q7		
	is Me					

FOR OSE INTERNAL USE

Form wr-08

POD DESCRIPTIONS - ATTACHMENT 1

File Number: C - C 1 C C C	Trn Number: 690620
Trans Description (optional):	



NEW MEXICO OFFICE OF THE STATE ENGINEER



ATTACHMENT 1 POINT OF DIVERSION DESCRIPTIONS

This Attachment is to be completed if more than one (1) point of diversion is described on an Application or Declaration.

a. Is this a: ☐ Move-From Point of Divers ☐ Move-To Point of Divers		b. Information on Attachment(s): Number of points of diversion involved in the application:35 Total number of pages attached to the application:5		
☐ Surface Point of Diversion	OR	■ Well		
Name of ditch, acequia,	or spring:			
Stream or water course:				
Tributary of:				
c. Location (Required): Required: Move to POD location	coordinate must b	e either New Mex	rico State Plar	ne (NAD 83), UTM (NAD 83), <u>or</u> Lat/Long (WGS84)
NM State Plane (NAD83) (feet) NM West Zone NM Central Zone NM East Zone	UTM (NAD83) (meters) Zone 13N Zone 12N	Lat/ (WGS8- 1/10 th of		OTHER (allowable only for move-from descriptions - see application form for format) PLSS (quarters, section, township, range) Hydrographic Survey, Map & Tract Lot, Block & Subdivision Grant
POD Number: C- 4144	X or Longitude	Y or Lati	tude	Other Location Description:
\$B-33 PoD35	-103°43'16.05"E	32°24'1	1.77"N	T22s, R32E, Q7
POD Number: C-4144	X or Longitude	Y or Lati	tude	Other Location Description:
SB-34 POD 34	-103°43'16.62"E	32°24'1	1.45"N	T22s, R32E, Q7
POD Number: (-4144	X or Longitude	Y or Lati	tude	Other Location Description:
SB-35 POD 37	-103°43'17.73"E	32°24'1	1.83"N	T22s, R32E, Q7
POD Number: C-U144	X or Longitude	Y or Lati	tude	Other Location Description:
SB-36 PD 38	-103°43'17.82"E	32°24'1	1.18"N	T22s, R32E, Q7
POD Number: ८.네니니	X or Longitude	Y or Lati	tude	Other Location Description:
SB-37 70039	-103°43'18.73"E	32°24'1	1.17"N	T22s, R32E, Q7
POD Number: (-4144	X or Longitude	Y or Lati	tude	Other Location Description:
SB-38 POD 40	-103°43'18.71"E	32°24'1	0.67"N	T22s, R32E, Q7
POD Number: C- 4144	X or Longitude	Y or Latit	tude	Other Location Description:
SB-39 POD 41	-103°43'19.46"E	32°24'10	0.40"N	T22s, R32E, Q7
POD Number: C.4144	X or Longitude	Y or Latit	ude	Other Location Description:
SB-40 POD 42	-103°43'17.69"E	32°24'1	1.09"N	T22s, R32E, Q7
POD Number: C 4144	X or Longitude	Y or Latit	ude	Other Location Description:
SB-41 700 43	-103°43'19.07"E	32°24'1;	3.98"N	T22s, R32E, Q7

FOR OSE INTERNAL USE

Form wr-08

POD DESCRIPTIONS - ATTACHMENT 1

File Number:	Trn Number: 190020
Trans Description (optional):	





NEW MEXICO OFFICE OF THE STATE ENGINEER



ATTACHMENT 1 POINT OF DIVERSION DESCRIPTIONS

This Attachment is to be completed if more than one (1) point of diversion is described on an Application or Declaration.

21.5						
a. Is this a:			b. Informa	b. Information on Attachment(s):		
☐ Move-From Point of Diversion(s)			Number of	points of diversion involved in the application: 35		
☐ Move-To Point of Diver		Total numb	per of pages attached to the application:5_			
☐ Surface Point of Diversion	OR	■ Well				
Name of ditch, acequia,	or spring:					
Stream or water course:						
Tributary of:						
c. Location (Required):						
		be either New	Mexico State Pla	ine (NAD 83), UTM (NAD 83), or Lat/Long (WGS84)		
NM State Plane (NAD83) (feet)	UTM (NAD83)			OTHER (allowable only for move-from descriptions - see application form for format)		
NM West Zone	(meters)	□ (_at/Long-	PLSS (quarters, section, township, range)		
NM Central Zone	Zone 13N	(WG	S84) th of second	Hydrographic Survey, Map & Tract		
NM East Zone	Zone 12N	1/10	of second	Lot, Block & Subdivision		
POD Number: C. 4144	X or Longitude	Yor	Latitude	Other Location Description:		
SB-42 POI) 44	-103°43'18.64"	E 32°2	24'14.79"N	T22s, R32E, Q7		
POD Number: C. UILL	X or Longitude	Y or l	Latitude	Other Location Description:		
SB-43 POD 45	-103°43'21.50"l	E 32°2	24'08.90"N	T22s, R32E, Q7		
POD Number: C. 444	X or Longitude	Yorl	_atitude	Other Location Description:		
SB-44 PUD 46	-103°43'21.53"l	E 32°2	24'07.79"N	T22s, R32E, Q7		
POD Number:	X or Longitude	Yorl	atitude	Other Location Description:		
POD Number:	X or Longitude	Y or I	atitude	Other Location Description:		
POD Number:	X or Longitude	Y or I	atitude	Other Location Description:		
POD Number:	X or Longitude	Yorl	atitude	Other Location Description:		
				·		
POD Number:	X or Longitude	Yorl	.atitude	Other Location Description:		
POD Number:	X or Longitude	Y or L	atitude	Other Location Description:		
				·		

FOR OSE INTERNAL USE

Form wr-08

POD DESCRIPTIONS - ATTACHMENT 1

File Number: C-4144	Trn Number: 690626	
Trans Description (optional):		_

NEW MEXICO STATE ENGINEER OFFICE PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL

- 17-1A Depth of the well shall not exceed the thickness of the valley fill.
- 17-4 No water shall be appropriated and beneficially used under this permit.
- 17-6 The well authorized by this permit shall be plugged completely using the following method per Rules and Regulations Governing Well Driller Licensing, Construction, Repair and Plugging of Wells; Subsection C of 19.27.4.30 NMAC unless an alternative plugging method is proposed by the well owner and approved by the State Engineer upon completion of the permitted use. All pumping appurtenance shall be removed from the well prior to plugging. To plug a well, the entire well shall be filled from the bottom upwards to ground surface using a tremie pipe. The bottom of the tremie shall remain submerged in the sealant throughout the entire sealing process; other placement methods may be acceptable and approved by the state engineer. The well shall be plugged with an office of the state engineer approved sealant for use in the plugging of non-artesian wells. The well driller shall cut the casing off at least four (4) feet below ground surface and fill the open hole with at least two vertical feet of approved sealant. The driller must fill or cover any open annulus with sealant. Once the sealant has cured, the well driller or well owner may cover the seal with soil. A Plugging Report for said well shall be filed with the Office of the State Engineer in a District Office within 30 days of completion of the plugging.
- 17-7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.

Trn Desc: C 04144 POD12-46 File Number: C 04144
Trn Number: 690620

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NEW MEXICO STATE ENGINEER OFFICE PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

- 17-B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with 72-12-12 NMSA 1978. A licensed driller shall not be required for the construction of a well driven without the use of a drill rig, provided that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter.
- 17-C The well driller must file the well record with the State Engineer and the applicant within 30 days after the well is drilled or driven. It is the well owner's responsibility to ensure that the well driller files the well record.

 The well driller may obtain the well record form from any District Office or the Office of the State Engineer website.
- 17-P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between hydrogeologic zones.
- 17-Q The State Engineer retains jurisdiction over this permit.
- 17-R Pursuant to section 72-8-1 NMSA 1978, the permittee shall allow the State Engineer and OSE representatives entry upon private property for the performance of their respective duties, including access to the ditch or acequia to measure flow and also to the well for meter reading and water level measurement.
- LOG The Point of Diversion C 04144 POC28 must be completed and the Well Log filed on or before 03/25/2022.
- LOG The Point of Diversion C 04144 POD12 must be completed and the Well Log filed on or before 03/25/2022.

Trn Desc: C 04144 POD12-46 File Number: C 04144
Trn Number: 690620

LOG

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NEW MEXICO STATE ENGINEER OFFICE PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

LOG	The Point of Diversion C 04144 POD13 must be completed and the Well Log filed on or before 03/25/2022.	ıe
LOG	The Point of Diversion C 04144 POD14 must be completed and the Well Log filed on or before 03/25/2022.	ıe
LOG	The Point of Diversion C 04144 POD15 must be completed and the Well Log filed on or before 03/25/2022.	ıe
LOG	The Point of Diversion C 04144 POD16 must be completed and the Well Log filed on or before 03/25/2022.	ıe
LOG	The Point of Diversion C 04144 POD17 must be completed and the Well Log filed on or before 03/25/2022.	ie
LOG	The Point of Diversion C 04144 POD18 must be completed and the Well Log filed on or before 03/25/2022.	ıe
LOG	The Point of Diversion C 04144 POD19 must be completed and the Well Log filed on or before 03/25/2022.	ıe
LOG	The Point of Diversion C 04144 POD20 must be completed and the Well Log filed on or before 03/25/2022.	e
LOG	The Point of Diversion C 04144 POD21 must be completed and the Well Log filed on or before 03/25/2022.	e

Trn Desc: C 04144 POD12-46 File Number: C 04144 Trn Number: 690620

page: 3

The Point of Diversion C 04144 POD22 must be completed and the

Well Log filed on or before 03/25/2022.

NEW MEXICO STATE ENGINEER OFFICE PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

LOG	The Point of Diversion C 04144 POD23 must be completed and the Well Log filed on or before 03/25/2022.
LOG	The Point of Diversion C 04144 POD24 must be completed and the Well Log filed on or before 03/25/2022.
LOG	The Point of Diversion C 04144 POD25 must be completed and the Well Log filed on or before 03/25/2022.
LOG	The Point of Diversion C 04144 POD26 must be completed and the Well Log filed on or before 03/25/2022.
LOG	The Point of Diversion C 04144 POD27 must be completed and the Well Log filed on or before 03/25/2022.
LOG	The Point of Diversion C 04144 POD29 must be completed and the Well Log filed on or before 03/25/2022.
LOG	The Point of Diversion C 04144 POD30 must be completed and the Well Log filed on or before 03/25/2022.
LOG	The Point of Diversion C 04144 POD31 must be completed and the Well Log filed on or before $03/25/2022$.
LOG	The Point of Diversion C 04144 POD32 must be completed and the Well Log filed on or before 03/25/2022.
LOG	The Point of Diversion C 04144 POD33 must be completed and the

Trn Desc: C 04144 POD12-46 File Number: C 04144
Trn Number: 690620

Well Log filed on or before 03/25/2022.

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NEW MEXICO STATE ENGINEER OFFICE PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

LOG	The Point of Diversion C 04144 POD34 must be completed and the Well Log filed on or before 03/25/2022.
LOG	The Point of Diversion C 04144 POD35 must be completed and the Well Log filed on or before 03/25/2022.
LOG	The Point of Diversion C 04144 POD36 must be completed and the Well Log filed on or before 03/25/2022.
LOG	The Point of Diversion C 04144 POD37 must be completed and the Well Log filed on or before 03/25/2022.
LOG	The Point of Diversion C 04144 POD38 must be completed and the Well Log filed on or before 03/25/2022.
LOG	The Point of Diversion C 04144 POD39 must be completed and the Well Log filed on or before 03/25/2022.
LOG	The Point of Diversion C 04144 POD40 must be completed and the Well Log filed on or before 03/25/2022.
LOG	The Point of Diversion C 04144 POD41 must be completed and the Well Log filed on or before 03/25/2022.
LOG	The Point of Diversion C 04144 POD42 must be completed and the Well Log filed on or before 03/25/2022.
LOG	The Point of Diversion C 04144 POD43 must be completed and the

Well Log filed on or before 03/25/2022.

 Trn Desc:
 C 04144 POD12-46
 File Number:
 C 04144

 Trn Number:
 690620

Received by OCD: 2/22/2022 2:01:17 PM

NEW MEXICO STATE ENGINEER OFFICE PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

- LOG The Point of Diversion C 04144 POD44 must be completed and the Well Log filed on or before 03/25/2022.
- LOG The Point of Diversion C 04144 POD45 must be completed and the Well Log filed on or before 03/25/2022.
- LOG The Point of Diversion C 04144 POD46 must be completed and the Well Log filed on or before 03/25/2022.

IT IS THE PERMITTEES RESPONSIBILITY TO OBTAIN ALL AUTHORIZATIONS AND PERMISSIONS TO DRILL ON PROPERTY OF OTHER OWNERSHIP BEFORE COMMENCING ACTIVITIES UNDER THIS PERMIT.

ACTION OF STATE ENGINEER

Notice of Intention Rcvd: Date Rcvd. Corrected:
Formal Application Rcvd: 03/10/2021 Pub. of Notice Ordered:
Date Returned - Correction: Affidavit of Pub. Filed:

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the specific conditions listed previously.

Witness my hand and seal this 25 day of Mar A.D., 2021

John R. D Andonio, Jr., P.E. , State Engineer

By:

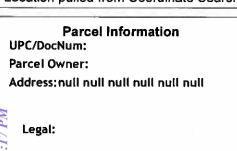
JUAN HERNADEZ

Released to Imaging: 5/2/2022 3:36:34 PM

Trn Desc: C 04144 POD12-46 File Number: C 04144
Trn Number: 690620

page: 6

Degrees Minutes Seconds Latitude 32:24:15.430000 Longitude -103:43:10.850000 Location pulled from Coordinate Search



Chaves County

Parcels 2020

Eddy County

Parcels 2020 **BLM Land**

PLSSTownship

Grant

Coord Search

Location

Active

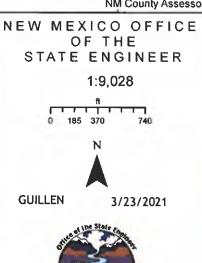
Pending

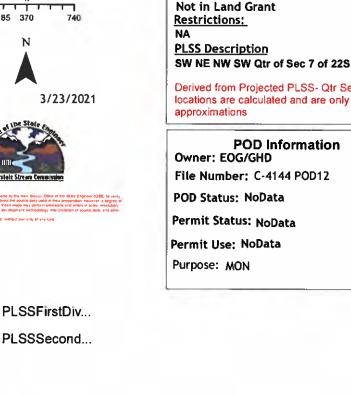
Plugged

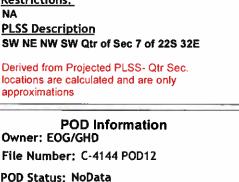
GIS WATERS

722/2022

∰ODs







Sections **BLM Land**

Grant

Active

Pending

Plugged

Surface Estate

Both Estates

Chaves County

Parcels 2020

Eddy County

Parcels 2020

Sections **BLM Land**

Grant

PLSSTownship

PLSSFirstDiv...

PLSSSecond...

Coord Search

Location

Active

Pending

Plugged

∰ODs

New Mexico State

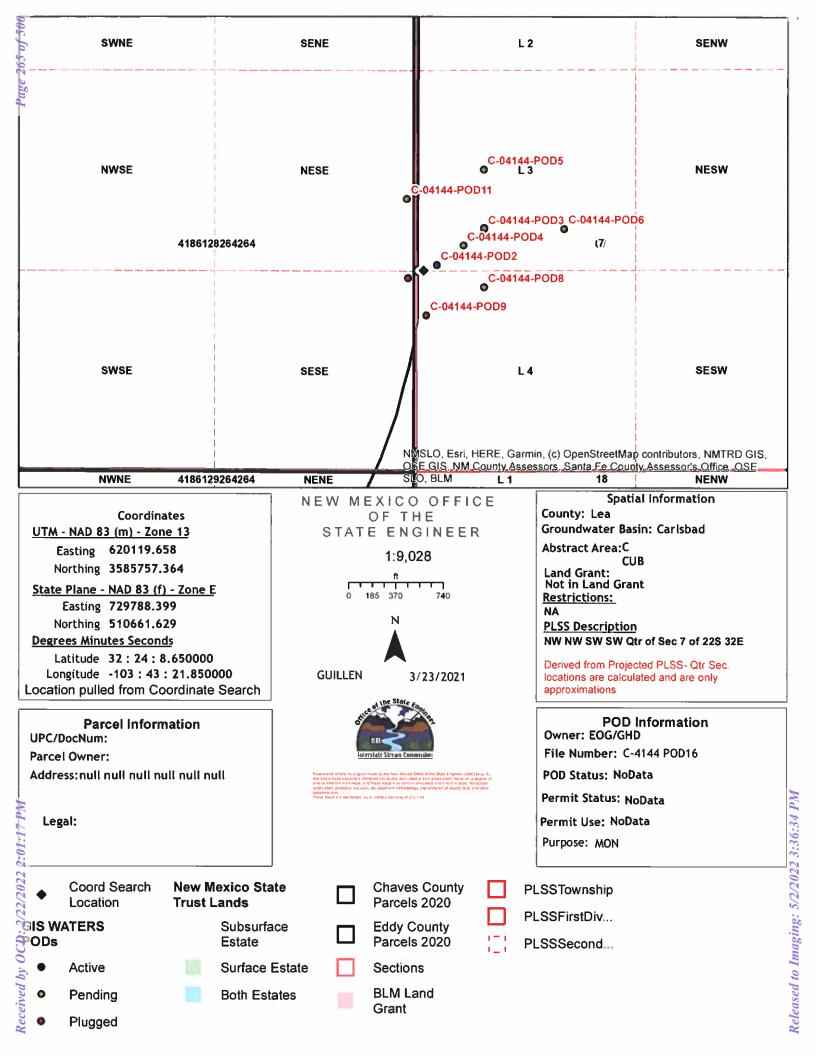
Subsurface

Surface Estate

Both Estates

Estate

Trust Lands



Longitude -103:43:21.790000 Location pulled from Coordinate Search

Parcel Information

UPC/DocNum:

Parcel Owner:

Address: null null null null null

Legal:

GUILLEN

3/23/2021



locations are calculated and are only approximations

POD Information

Owner: EOG/GHD

File Number: C-4144 POD17

POD Status: NoData Permit Status: NoData Permit Use: NoData

Purpose: MON

Coord Search

Location

Chaves County Parcels 2020

PLSSTownship

Eddy County

PLSSFirstDiv...

Surface Estate

Both Estates

Sections

PLSSSecond ...

IS WATERS ∰ODs

- Active
- Pending
- Plugged

New Mexico State Trust Lands

Subsurface Estate

Parcels 2020

BLM Land

Grant

Chaves County

Parcels 2020

Eddy County

Parcels 2020

Sections **BLM Land**

Grant

Parcel Owner:

Legal:

Coord Location

∰ODs

Address: null null null null null null

Coord Search

Location

Active

Pending

Plugged

New Mexico State

Subsurface

Surface Estate

Both Estates

Estate

Trust Lands

File Number: C-4144 POD18

Released to Imaging: 5/2/2022 3:36:34 PM

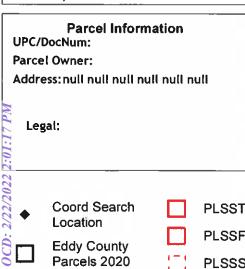
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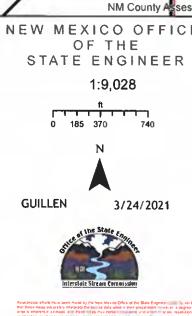
Permit Use: NoData Purpose: MON

PLSSTownship

PLSSFirstDiv...

Location pulled from Coordinate Search





approximations



	POD Information
Owner:	EOG/GHD

File Number: C-4144 POD22

POD Status: NoData Permit Status: NoData

Permit Use: NoData

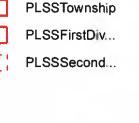
Purpose: MON

Coord Search Location

Eddy County Parcels 2020

Sections

BLM Land Grant



Coordinates UTM - NAD 83 (m) - Zone 13 Easting 620145.396 Northing 3585899.348 State Plane - NAD 83 (f) - Zone E

Easting 729875.761 Northing 511126.999 **Degrees Minutes Seconds**

Latitude 32:24:13.250000 Longitude -103:43:20.800000 Location pulled from Coordinate Search

Parcel Information UPC/DocNum: Parcel Owner: Address; null null null null null null Legal:

NEW MEXICO OFFICE OF THE STATE ENGINEER 1:9,028 185 370





Spatial Information

County: Lea

Groundwater Basin: Carlsbad

Abstract Area:C **CUB** Land Grant:

Not in Land Grant **Restrictions:**

PLSS Description

NW SW NW SW Qtr of Sec 7 of 22S 32E

Derived from Projected PLSS- Qtr Sec. locations are calculated and are only approximations

POD Information

Owner: EOG/GHD

File Number: C-4144 POD23

POD Status: NoData

Permit Status: NoData

Permit Use: NoData

Purpose: MON

OCD: 2/22/2022

Coord Search Location

Eddy County Parcels 2020

PLSSTownship PLSSFirstDiv...

PLSSSecond...



Sections

BLM Land Grant

Parcel Information UPC/DocNum: Parcel Owner: Address: null null null null null Received by OCD: 2/22/2022 2:01:17 PM Legal:



POD Information

Owner: EOG/GHD

File Number: C-4144 PQD 24

POD Status: NoData

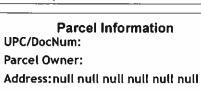
Permit Status: NoData

Permit Use: NoData

Purpose: MON

Coord Search **PLSSTownship** Location PLSSFirstDiv... **Eddy County** Parcels 2020 PLSSSecond... **Sections**

> **BLM Land** Grant



Legal:

Received by OCD: 2/22/2022 2:01:17 PM



Owner: EOG/GHD

File Number: C-4122 POD25

POD Status: NoData Permit Status: NoData Permit Use: NoData

Purpose: MON

Coord Search Location

PLSSTownship



Sections

BLM Land Grant

PLSSFirstDiv... PLSSSecond...

Longitude -103:43:18.210000 Location pulled from Coordinate Search

Parcel Information

UPC/DocNum;

Parcel Owner:

Address: null null null null null null

Legal:

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3/24/2021



Derived from Projected PLSS- Qtr Sec. locations are calculated and are only approximations

POD Information

Owner: EOG/GHD

File Number: C-4144 POD26

POD Status: NoData Permit Status: NoData

Permit Use: NoData

Purpose: MON

Eddy County

PLSSSecond...

Parcels 2020

Sections

BLM Land Grant

eceived by OCD: 2/22/2022 **PLSSTownship**

PLSSFirstDiv...

Parcel Information UPC/DocNum: Parcel Owner: Address: null null null null null null Received by OCD: 2/22/2022 2:01:17 PM Legal:

Location pulled from Coordinate Search

3/24/2021



locations are calculated and are only approximations

POD Information

Owner: EOG/GHD

File Number: C-4144 POD27

POD Status: NoData Permit Status: NoData

Permit Use: NoData

Purpose: MON

Coord Search Location

Eddy County Parcels 2020

Sections

BLM Land Grant

PLSSTownship

PLSSFirstDiv...

Northing 3585908.035

State Plane - NAD 83 (f) - Zone E

Easting 730062.503 Northing 511154.341

Degrees Minutes Seconds

Latitude 32:24:13.510000 Longitude -103:43:18.620000 Location pulled from Coordinate Search

Parcel Information

UPC/DocNum:

Parcel Owner:

Address: null null null null null null

Legal:

185 370



GUILLEN

3/24/2021

740



Land Grant: Not in Land Grant

Restrictions:

PLSS Description

NW SW NW SW Qtr of Sec 7 of 22S 32E

Derived from Projected PLSS- Qtr Sec locations are calculated and are only approximations

POD Information

Owner: EOG/GHD

File Number: C-4144 POD28

POD Status: NoData Permit Status: NoData Permit Use: NoData

Purpose: MON

Eddy County Parcels 2020

Lea County Parcels 2020

Sections

BLM Land Grant

PLSSTownship PLSSFirstDiv...

Coordinates

UTM - NAD 83 (m) - Zone 13

Easting 620196.468 Northing 3585889.178

State Plane - NAD 83 (f) - Zone E

Easting 730043.138

Northing 511092.585

Degrees Minutes Seconds

Latitude 32:24:12.900000 Longitude -103:43:18.850000 Location pulled from Coordinate Search

Parcel Information

UPC/DocNum:

Parcel Owner:

Address: null null null null null

Legal:

OF THE STATE ENGINEER

1:18,056

mi 0 0.05 0.1



GUILLEN

3/24/2021



County: Lea

Groundwater Basin: Carlsbad

Abstract Area:C

Land Grant: Not in Land Grant

Restrictions: NΑ

PLSS Description

NW SW NW SW Qtr of Sec 7 of 22S 32E

Derived from Projected PLSS- Qtr Sec. locations are calculated and are only approximations

POD Information

Owner: EOG/GHD

File Number: C-4144 POD29

POD Status: NoData

Permit Status: NoData

Permit Use: NoData

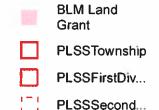
Purpose: MON

Coord Search Location

Eddy County Parcels 2020

Lea County

Parcels 2020



Latitude 32:24:13.220000 Longitude -103:43:18.110000

Location pulled from Coordinate Search

Parcel Information

UPC/DocNum:

Parcel Owner:

Address: null null null null null

Legal:

OCD: 2/22/2022 2:01:17 PA

GUILLEN

3/24/2021



Derived from Projected PLSS- Qtr Sec locations are calculated and are only approximations

POD Information

Owner: EOG/GHD

File Number: C-4144 POD30

POD Status: NoData Permit Status: NoData Permit Use: NoData

Purpose: MON

Coord Search Location

Eddy County

Parcels 2020

Lea County Parcels 2020



BLM Land Grant

PLSSTownship



PLSSSecond....



Location pulled from Coordinate Search

Parcel Information

UPC/DocNum:

Parcel Owner:

Address; null null null null null null

Legal:

Received by OCD: 2/22/2022 (2:01:17 PM



approximations

POD Information

Owner: EOG/GHD

File Number: C-4144 POD31

POD Status: NoData Permit Status: NoData Permit Use: NoData

Purpose: MON

Coord Search

Location

Eddy County Parcels 2020

Lea County Parcels 2020 **BLM Land** Grant

PLSSTownship

PLSSFirstDiv...

PLSSSecond

Spatial Information

NE SW NW SW Qtr of Sec 7 of 22S 32E

Derived from Projected PLSS- Qtr Sec. locations are calculated and are only

POD Information

Coord Search **BLM Land** Location Grant **Eddy County PLSSTownship** Parcels 2020 PLSSFirstDiv... Lea County Parcels 2020 PLSSSecond...

Longitude -103:43:15.440000 Location pulled from Coordinate Search

Parcel Information

UPC/DocNum:

Parcel Owner:

Address; null null null null null null

Legal:

GUILLEN

3/24/2021



locations are calculated and are only approximations

POD Information

Owner: EOG/GIS

File Number: C-4144 POD33

POD Status: NoData

Permit Status: NoData

Permit Use: NoData

Purpose: MON

Coord Search Location

Eddy County Parcels 2020

Lea County Parcels 2020

Sections

BLM Land Grant

PLSSTownship



PLSSFirstDiv...





Latitude 32:24:13.860000

Longitude -103:43:14.750000 Location pulled from Coordinate Search

Parcel Information

UPC/DocNum:

Parcel Owner:

Address: null null null null null

Legal:

Received by OCD: 2/22/2022 2:01:17 PM



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3/25/2021



NE SW NW SW Qtr of Sec 7 of 22S 32E

Derived from Projected PLSS- Qtr Sec. locations are calculated and are only approximations

POD Information

Owner: EOG/GHD

File Number: C-4144 POD34

POD Status: NoData Permit Status: NoData

Permit Use: NoData

Purpose: MON

Coord Search Location

Eddy County Parcels 2020

> Lea County Parcels 2020

BLM Land Grant

PLSSTownship PLSSFirstDiv...

PLSSSecond ...

Longitude -103:43:16.050000

Location pulled from Coordinate Search

Parcel Information

UPC/DocNum:

Parcel Owner:

Address: null null null null null

Legal:

GUILLEN

3/25/2021



locations are calculated and are only approximations

POD Information

Owner: EOG/GHD

File Number: C-4144 POD35

POD Status: NoData Permit Status: NoData

Permit Use: NoData

Purpose: MON

by OCD: 2/22/2022 2:01:17 PI

Coord Search Location

Eddy County

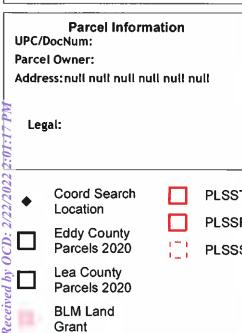
Parcels 2020

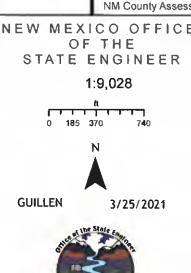
Lea County Parcels 2020

> **BLM Land** Grant

PLSSTownship PLSSFirstDiv...

Degrees Minutes Seconds Latitude 32:24:11.450000 Longitude -103:43:16.620000 Location pulled from Coordinate Search







SE SW NW SW Qtr of Sec 7 of 22S 32E

Derived from Projected PLSS- Qtr Sec locations are calculated and are only approximations

POD Information

Owner: OSE/GHD

File Number: C-4144 POD36

POD Status: NoData Permit Status: NoData

Permit Use: NoData

Purpose: MON

Coord Search **PLSSTownship** Location PLSSFirstDiv... **Eddy County** Parcels 2020 PLSSSecond.... Lea County Parcels 2020

> **BLM Land** Grant

Latitude 32: 24: 11.830000
Longitude -103: 43: 17.730000
Location pulled from Coordinate Search

Parcel Information

UPC/DocNum:

Parcel Owner:

Address: null null null null null null

Legal:

Received by OCD: 2/22/2022 2:01:17 PM

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3/25/2021



Research and Size As a second by the free Message Office of the State Engineer to ented Pale make securally interpreted the source data seed. Their products in november is elegated which a market in Lindout in Their make and and contain — Issuer (and a list an extended from position) accuracy, one segment and containing, with present in insured, data and posicontaining and another accuracy on segment and containing the present in insured, data and posicontaining and another accuracy on the segment of the segment of the second of the sec Derived from Projected PLSS- Qtr Sec locations are calculated and are only approximations

POD Information

Owner: EOG/GHD

File Number: C-4144 POD37

POD Status: NoData
Permit Status: NoData
Permit Use: NoData

Purpose: MON

Coord Search Location

Eddy County
Parcels 2020

Lea County
Parcels 2020

BLM Land Grant PLSSTownship

PLSSFirstDiv...

PLSSSecond...

Degrees Minutes Seconds

Latitude 32:24:11.180000 Longitude -103:43:17.820000

Location pulled from Coordinate Search

Parcel Information

UPC/DocNum:

Parcel Owner:

Address: null null null null null

Legal:

Received by OCD: 2/22/2022/2:01:17 PM



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3/25/2021



SE SW NW SW Qtr of Sec 7 of 22S 32E

Derived from Projected PLSS- Qtr Sec. locations are calculated and are only approximations

POD Information

Owner: EOG/GHD

File Number: C-4144 POD38

POD Status: NoData

Permit Status: NoData

Permit Use: NoData

Purpose: MON

Coord Search Location

Eddy County Parcels 2020

> Lea County Parcels 2020

BLM Land Grant

PLSSTownship

PLSSFirstDiv...

Coordinates

UTM - NAD 83 (m) - Zone 13

Easting 620200.240 Northing 3585835.941

State Plane - NAD 83 (f) - Zone E

Easting 730054.425

Northing 510917.817

Degrees Minutes Seconds

Latitude 32:24:11.170000 Longitude -103:43:18.730000 Location pulled from Coordinate Search

Parcel Information

UPC/DocNum:

Parcel Owner:

Address: null null null null null

Legal:

NEW MEXICO OFFICE OF THE STATE ENGINEER

1:18,056

0 0.05 0.1



GUILLEN

3/25/2021



Spatial Information

County: Lea

Groundwater Basin: Carlsbad

Abstract Area:C

Land Grant: Not in Land Grant Restrictions:

PLSS Description

SW SW NW SW Qtr of Sec 7 of 22S 32E

Derived from Projected PLSS- Qtr Sec. locations are calculated and are only approximations

POD Information

Owner: EOG/GHD

File Number: C-4144 POD39

POD Status: NoData

Permit Status: NoData

Permit Use: NoData

Purpose: MON

Received by OCD: 2/22/2022

Coord Search Location

Eddy County Parcels 2020

Lea County Parcels 2020

> **BLM Land** Grant

PLSSTownship

PLSSFirstDiv...

Easting 620200.947 Northing 3585820.550

State Plane - NAD 83 (f) - Zone E

Easting 730056,429

Northing 510867.299

Degrees Minutes Seconds

Latitude 32:24:10.670000 Longitude -103:43:18.710000

Location pulled from Coordinate Search

Parcel Information

UPC/DocNum:

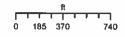
Parcel Owner:

Address: null null null null null null

Legal:

by OCD: 2/22/2022

1:9,028





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3/25/2021



Abstract Area:C

Land Grant:

Not in Land Grant Restrictions:

PLSS Description

SW SW NW SW Qtr of Sec 7 of 22S 32E

Derived from Projected PLSS- Qtr Sec. locations are calculated and are only approximations

POD Information

Owner: EOG/GHD

File Number: C-4144 POD40

POD Status: NoData

Permit Status: NoData

Permit Use: NoData

Purpose: MON

Coord Search Location

Eddy County Parcels 2020

Lea County Parcels 2020

> **BLM Land** Grant

PLSSFirstDiv...

PLSSTownship

PLSSSecond...

Released to Imaging: 5/2/2022 3:36:34 PM

Latitude 32:24:10.400000 Longitude -103:43:19.460000 Location pulled from Coordinate Search

Parcel Information

UPC/DocNum:

Parcel Owner:

Address: null null null null null null

Legal:

OCD: 2/22/2022 2:01:17



GUILLEN

3/25/2021



Derived from Projected PLSS- Qtr Sec. locations are calculated and are only approximations

POD Information

Owner: EOG/GHD

File Number: C-4144 POD41

POD Status: NoData Permit Status: NoData Permit Use: NoData

Purpose: MON

Coord Search Location

Eddy County Parcels 2020

Lea County Parcels 2020

> **BLM Land** Grant

PLSSTownship

PLSSFirstDiv...

Latitude 32:24:11.090000 Longitude -103:43:17.690000 Location pulled from Coordinate Search

Parcel Information

UPC/DocNum:

Parcel Owner:

Address: null null null null null null

Legal:

by OCD: 2/22/2022 2:01:17 PA



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3/25/2021



Derived from Projected PLSS- Qtr Sec. locations are calculated and are only approximations

POD Information

Owner: EOG/GHD

Permit Use: NoData

File Number: C-4144 POD42

POD Status: NoData Permit Status: NoData

Purpose: MON

Coord Search Location

Eddy County Parcels 2020

Lea County Parcels 2020

> BLM Land Grant

PLSSTownship PLSSFirstDiv...

Northing 511201.617

Degrees Minutes Seconds

Latitude 32:24:13.980000 Longitude -103:43:19.070000 Location pulled from Coordinate Search

Parcel Information

UPC/DocNum:

Parcel Owner:

Address; null null null null null null

Legal:

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3/25/2021



NA

PLSS Description

NW SW NW SW Qtr of Sec 7 of 22S 32E

Derived from Projected PLSS- Qtr Sec. locations are calculated and are only approximations

POD Information

Owner: EOG/GHD

File Number: C-4144 POD43

POD Status: NoData Permit Status: NoData

Permit Use: NoData

Purpose: MON

Coord Search Location

PLSSTownship

OCD: 2/22/2022 2:01:17 PA **Eddy County** Parcels 2020

PLSSFirstDiv...

Lea County Parcels 2020



Northing 511283.683

Degrees Minutes Seconds

Latitude 32:24:14.790000 Longitude -103:43:18.640000 Location pulled from Coordinate Search

Parcel Information

UPC/DocNum:

Parcel Owner:

Address: null null null null null null

Legal:

OCD: 2/22/2022 2:01:17

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GUILLEN

PLSSTownship

PLSSFirstDiv...

PLSSSecond...

3/25/2021



Responsibility that he is trein made by the free Mexico Office of the State Engineer (OSE) to verify that these maps but usery independs the case date of the own man state, respectively adjustment of state of the own of

PLSS Description

NW SW NW SW Qtr of Sec 7 of 22S 32E

Derived from Projected PLSS- Qtr Sec. locations are calculated and are only approximations

POD Information

Owner: EOG/GHD

File Number: C-4144 POD44

POD Status: NoData
Permit Status: NoData
Permit Use: NoData

Purpose: MON

Coord Search Location

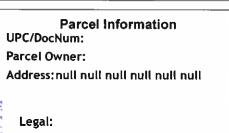
Eddy County

Parcels 2020

Lea County
Parcels 2020

BLM Land Grant Released to Imaging: 5/2/2022 3:36:34 PM

Latitude 32:24:8.900000 Longitude -103:43:21.500000 Location pulled from Coordinate Search





GUILLEN

3/25/2021



Derived from Projected PLSS-Qtr Sec locations are calculated and are only approximations

POD Information

Owner: EOG/GHD

File Number: C-4144 POD45

POD Status: NoData Permit Status: NoData

Permit Use: NoData

Purpose: MON

•	Coord Search Location Eddy County Parcels 2020	PLSSTownship PLSSFirstDiv PLSSSecond
	Lea County Parcels 2020	
	BLM Land	

Grant

Latitude 32:24:7.790000 Longitude -103:43:21.530000 Location pulled from Coordinate Search

Parcel Information

UPC/DocNum:

Parcel Owner:

Address: null null null null null null

Legal:

Received by OCD: 2/22/2022 2:01:17 P

GUILLEN

3/25/2021



Derived from Projected PLSS- Qtr Sec locations are calculated and are only approximations

POD Information

Owner: EOG/GHD

File Number: C-4144 POD46

POD Status: NoData Permit Status: NoData Permit Use: NoData

Purpose: MON

Coord Search Location

Eddy County Parcels 2020

Lea County Parcels 2020

> **BLM Land** Grant

PLSSTownship

PLSSFirstDiv...

John R. D Antonio, Jr., P.E. State Engineer



Roswell Office 1900 WEST SECOND STREET ROSWELL, NM 88201

STATE OF NEW MEXICO OFFICE OF THE STATE ENGINEER

Trn Nbr: 690620 File Nbr: C 04144

Mar. 25, 2021

ALAN BRANDON GHD SERVICES INC. 6121 INDIAN SCHOOL RD NE ALBUQUERQUE, NM 87110

Greetings:

Your approved copy of the above numbered permit to drill a well for non-consumptive purposes is enclosed. You must obtain an additional permit if you intend to use the water. It is your responsibility to provide the contracted well driller with a copy of the permit that must be made available during well drilling activities.

Carefully review the attached conditions of approval for all specific permit requirements.

- * If use of this well is temporary in nature and the well will be plugged at the end of the well usage, the OSE must initially approve of the plugging. If plugging approval is not conditioned in this permit, the applicant must submit a Plugging Plan of Operations for approval prior to the well being plugged. The Plugging Record must be properly completed and submitted to the OSE within 30 days of the well plugging.
- * If the final intended purpose and condition requires a well ID tag and meter installation, the applicant must immediately send a completed meter report form to this office.
- * The well record and log must be submitted within 30 days of the completion of the well or if the attempt was a dry hole.
- * This permit expires and will be cancelled if no well is drilled and/or a well log is not received by the date set forth in the conditions of approval.

Appropriate forms can be downloaded from the OSE website www.ose.state.nm.us.

Sincerely,

Claudia Guillen (575) 622-6521

Enclosure

explore

Released to Imaging: 5/2/2022 3:36:34 PM

Attachment D

Laboratory Reports and Chain-of-Custody Documentation

Environment Testing America

ANALYTICAL REPORT

Eurofins Xenco, Carlsbad 1089 N Canal St. Carlsbad, NM 88220 Tel: (575)988-3199

Laboratory Job ID: 890-492-1

Laboratory Sample Delivery Group: 11220747/02

Client Project/Site: Flamenco Federal #1

For:

GHD Services Inc. 2135 South Loop 250 West Midland, Texas 79703

Attn: Becky Haskell

Debbie Simmons

Authorized for release by: 4/27/2021 10:26:20 AM

Debbie Simmons, Project Manager (281)240-4200

debbie.simmons@eurofinset.com

.....LINKS

results through Total Access

Review your project

Have a Question?



Visit us at:

www.eurofinsus.com/Env

Released to Imaging: 5/2/2022 3:36:34 PM

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: GHD Services Inc.

Laboratory Job ID: 890-492-1

Project/Site: Flamenco Federal #1

SDG: 11220747/02

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QC Association Summary	11
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Sample Summary	16
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Definitions/Glossary

Client: GHD Services Inc. Job ID: 890-492-1 Project/Site: Flamenco Federal #1

SDG: 11220747/02

Qualifiers

GC VOA

Qualifier **Qualifier Description**

Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

U Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier **Qualifier Description**

U Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier **Qualifier Description**

Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation These commonly used abbreviations may or may not be present in this report.

Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery **CFL** Contains Free Liquid CFU Colony Forming Unit **CNF** Contains No Free Liquid

Duplicate Error Ratio (normalized absolute difference) **DER**

Dilution Factor Dil Fac

Detection Limit (DoD/DOE) DΙ

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin) LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level" MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

Method Detection Limit MDL ML Minimum Level (Dioxin) MPN Most Probable Number MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent POS Positive / Present

PQL **Practical Quantitation Limit**

Presumptive **PRES** QC **Quality Control**

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin) **TEQ** Toxicity Equivalent Quotient (Dioxin)

TNTC Too Numerous To Count

Case Narrative

Client: GHD Services Inc.

Project/Site: Flamenco Federal #1

Job ID: 890-492-1

SDG: 11220747/02

Job ID: 890-492-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative 890-492-1

Receipt

The samples were received on 4/6/2021 3:25 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 19.2°C

Receipt Exceptions

Insufficient sample volume was provided for the following sample for the <FRACTION_METHOD> analysis: MW-9 (890-492-5). One liter container not full for sample MW-9 for TDS

GC VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client: GHD Services Inc. Job ID: 890-492-1 Project/Site: Flamenco Federal #1 SDG: 11220747/02

Client Sample ID: MW-1 Lab Sample ID: 890-492-1 Date Collected: 04/06/21 11:50

Matrix: Water

Date Received: 04/06/21 15:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	0.000408	mg/L			04/08/21 17:33	1
Toluene	0.000594	J	0.00200	0.000367	mg/L			04/08/21 17:33	1
Ethylbenzene	<0.00200	U	0.00200	0.000657	mg/L			04/08/21 17:33	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	0.000629	mg/L			04/08/21 17:33	1
o-Xylene	<0.00200	U	0.00200	0.000642	mg/L			04/08/21 17:33	1
Xylenes, Total	< 0.00400	U	0.00400	0.00100	mg/L			04/08/21 17:33	1
Total BTEX	<0.00200	U	0.00200	0.00100	mg/L			04/08/21 17:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130			-		04/08/21 17:33	1
1,4-Difluorobenzene (Surr)	101		70 - 130					04/08/21 17:33	1
Method: 300.0 - Anions, Io	n Chromatogra	phy							
Analyte	•	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	37000		250	10.5	mg/L			04/18/21 19:51	500
General Chemistry									
	Daguill	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte	Result	Qualifiei							

Client Sample ID: MW-2 Lab Sample ID: 890-492-2

Date Collected: 04/06/21 12:40 Date Received: 04/06/21 15:25

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	0.000408	mg/L			04/08/21 22:06	1
Toluene	<0.00200	U	0.00200	0.000367	mg/L			04/08/21 22:06	1
Ethylbenzene	<0.00200	U	0.00200	0.000657	mg/L			04/08/21 22:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	0.000629	mg/L			04/08/21 22:06	1
o-Xylene	<0.00200	U	0.00200	0.000642	mg/L			04/08/21 22:06	1
Xylenes, Total	< 0.00400	U	0.00400	0.00100	mg/L			04/08/21 22:06	1
Total BTEX	<0.00200	U	0.00200	0.00100	mg/L			04/08/21 22:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130			- -		04/08/21 22:06	1
1,4-Difluorobenzene (Surr)	102		70 - 130					04/08/21 22:06	1
Method: 300.0 - Anions, lo	n Chromatogra	phy							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8940		50.0	2.10	mg/L			04/18/21 19:56	100
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

Job ID: 890-492-1

SDG: 11220747/02

Client Sample ID: MW-3

Date Received: 04/06/21 15:25

Lab Sample ID: 890-492-3 Date Collected: 04/06/21 13:20

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	0.000408	mg/L			04/08/21 22:27	1
Toluene	<0.00200	U	0.00200	0.000367	mg/L			04/08/21 22:27	1
Ethylbenzene	< 0.00200	U	0.00200	0.000657	mg/L			04/08/21 22:27	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	0.000629	mg/L			04/08/21 22:27	1
o-Xylene	<0.00200	U	0.00200	0.000642	mg/L			04/08/21 22:27	1
Xylenes, Total	< 0.00400	U	0.00400	0.00100	mg/L			04/08/21 22:27	1
Total BTEX	<0.00200	U	0.00200	0.00100	mg/L			04/08/21 22:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130			-		04/08/21 22:27	1
1,4-Difluorobenzene (Surr)	99		70 - 130					04/08/21 22:27	1
Method: 300.0 - Anions, Io	n Chromatogra	phy							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	39400		250	10.5	mg/L			04/18/21 20:01	500
Conoral Chamiatry									
General Chemistry				ME	I Imit	D	Dramarad	Analysed	D'I F
Analyte	Result	Qualifier	RL	MDL	Unit	ט	Prepared	Analyzed	Dil Fac

Client Sample ID: MW-8 Lab Sample ID: 890-492-4

Date Collected: 04/06/21 14:20

Matrix: Water

Date Received: 04/06/21 15:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	0.000408	mg/L			04/08/21 22:47	1
Toluene	<0.00200	U	0.00200	0.000367	mg/L			04/08/21 22:47	1
Ethylbenzene	<0.00200	U	0.00200	0.000657	mg/L			04/08/21 22:47	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	0.000629	mg/L			04/08/21 22:47	1
o-Xylene	<0.00200	U	0.00200	0.000642	mg/L			04/08/21 22:47	1
Xylenes, Total	< 0.00400	U	0.00400	0.00100	mg/L			04/08/21 22:47	1
Total BTEX	<0.00200	U	0.00200	0.00100	mg/L			04/08/21 22:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130					04/08/21 22:47	1
1,4-Difluorobenzene (Surr)	102		70 - 130					04/08/21 22:47	1
Method: 300.0 - Anions, Io	n Chromatogra	phy							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	765		25.0	1.05	mg/L			04/18/21 20:06	50
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

Job ID: 890-492-1

Client: GHD Services Inc. Project/Site: Flamenco Federal #1 SDG: 11220747/02

Client Sample ID: MW-9 Lab Sample ID: 890-492-5 Date Collected: 04/06/21 14:00 **Matrix: Water**

Date Received: 04/06/21 15:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	0.000408	mg/L			04/08/21 23:08	1
Toluene	<0.00200	U	0.00200	0.000367	mg/L			04/08/21 23:08	1
Ethylbenzene	<0.00200	U	0.00200	0.000657	mg/L			04/08/21 23:08	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	0.000629	mg/L			04/08/21 23:08	1
o-Xylene	<0.00200	U	0.00200	0.000642	mg/L			04/08/21 23:08	1
Xylenes, Total	<0.00400	U	0.00400	0.00100	mg/L			04/08/21 23:08	1
Total BTEX	<0.00200	U	0.00200	0.00100	mg/L			04/08/21 23:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130			-		04/08/21 23:08	1
1,4-Difluorobenzene (Surr)	103		70 - 130					04/08/21 23:08	1
Method: 300.0 - Anions, Io	n Chromatogra	phy							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	21800		100	4.21	mg/L			04/18/21 20:11	200
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
			1000		mg/L			04/10/21 15:16	

Lab Sample ID: 890-492-6 **Client Sample ID: Dup-1**

Date Collected: 04/06/21 00:00 **Matrix: Water** Date Received: 04/06/21 15:25

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	0.000408	mg/L			04/08/21 23:28	1
Toluene	<0.00200	U	0.00200	0.000367	mg/L			04/08/21 23:28	1
Ethylbenzene	<0.00200	U	0.00200	0.000657	mg/L			04/08/21 23:28	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	0.000629	mg/L			04/08/21 23:28	1
o-Xylene	<0.00200	U	0.00200	0.000642	mg/L			04/08/21 23:28	1
Xylenes, Total	<0.00400	U	0.00400	0.00100	mg/L			04/08/21 23:28	1
Total BTEX	<0.00200	U	0.00200	0.00100	mg/L			04/08/21 23:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130			•		04/08/21 23:28	1
1,4-Difluorobenzene (Surr)	101		70 - 130					04/08/21 23:28	1
Method: 300.0 - Anions, Io	n Chromatogra	phy							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	788		25.0	1.05	mg/L			04/18/21 20:16	50
General Chemistry									
General Chemistry Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

Surrogate Summary

Job ID: 890-492-1 Client: GHD Services Inc. Project/Site: Flamenco Federal #1 SDG: 11220747/02

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Water Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)						
		BFB1	DFBZ1					
Lab Sample ID	Client Sample ID	(70-130)	(70-130)					
890-492-1	MW-1		101					
890-492-2	MW-2	117	102					
890-492-3	MW-3	111	99					
890-492-4	MW-8	114	102					
890-492-5	MW-9	118	103					
890-492-6	Dup-1	115	101					
LCS 880-1527/3	Lab Control Sample	103	94					
LCSD 880-1527/4	Lab Control Sample Dup	103	98					
MB 880-1527/8	Method Blank	105	96					

DFBZ = 1,4-Difluorobenzene (Surr)

Client: GHD Services Inc. Job ID: 890-492-1 Project/Site: Flamenco Federal #1

SDG: 11220747/02

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-1527/8

Matrix: Water

Analysis Batch: 1527

Client Sample	e ID:	Meth	od Blank	
P	rep	Type:	Total/NA	

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac D Benzene <0.00200 U 0.00200 0.000408 mg/L 04/08/21 16:03 Toluene <0.00200 U 0.00200 0.000367 mg/L 04/08/21 16:03 Ethylbenzene 0.000657 mg/L <0.00200 U 0.00200 04/08/21 16:03 m-Xylene & p-Xylene <0.00400 U 0.00400 0.000629 mg/L 04/08/21 16:03 o-Xylene <0.00200 U 0.00200 0.000642 mg/L 04/08/21 16:03 Xylenes, Total <0.00400 U 0.00400 0.00100 mg/L 04/08/21 16:03 Total BTEX 0.00200 0.00100 mg/L <0.00200 U 04/08/21 16:03

MB MB Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 4-Bromofluorobenzene (Surr) 105 70 - 130 04/08/21 16:03 96 70 - 130 04/08/21 16:03 1,4-Difluorobenzene (Surr)

Lab Sample ID: LCS 880-1527/3

Matrix: Water

Analysis Batch: 1527

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Benzene 0.100 0.1034 mg/L 103 70 - 130 Toluene 0.100 0.1155 mg/L 116 70 - 130 0.100 Ethylbenzene 0.1192 mg/L 119 70 - 130 m-Xylene & p-Xylene 0.200 0.2423 mg/L 121 70 - 130 0.100 0.1170 o-Xylene mg/L 117 70 - 130

LCS LCS Limits Surrogate %Recovery Qualifier 4-Bromofluorobenzene (Surr) 103 70 - 130 70 - 130 1,4-Difluorobenzene (Surr) 94

Lab Sample ID: LCSD 880-1527/4

Matrix: Water

Analysis Batch: 1527

Client Sample ID: Lab Control Sample Dup **Prep Type: Total/NA**

	Spike	LCSD LCSD			%Rec.		RPD
Analyte	Added	Result Qualifier	Unit	D %Rec	Limits	RPD	Limit
Benzene	0.100	0.1132	mg/L	113	70 - 130	9	20
Toluene	0.100	0.1194	mg/L	119	70 - 130	3	20
Ethylbenzene	0.100	0.1203	mg/L	120	70 - 130	1	20
m-Xylene & p-Xylene	0.200	0.2468	mg/L	123	70 - 130	2	20
o-Xylene	0.100	0.1207	mg/L	121	70 - 130	3	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Client: GHD Services Inc. Job ID: 890-492-1 Project/Site: Flamenco Federal #1

SDG: 11220747/02

Prep Type: Total/NA

Client Sample ID: Method Blank

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-1981/38

Matrix: Water

Analysis Batch: 1981

MB MB

Result Qualifier RL **MDL** Unit Analyzed Dil Fac Analyte D Prepared Chloride 0.500 04/18/21 17:44 <0.500 U 0.0210 mg/L

Lab Sample ID: LCS 880-1981/39 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 1981

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits Chloride 25.0 90 - 110 25.71 mg/L 103

Lab Sample ID: LCSD 880-1981/40 Client Sample ID: Lab Control Sample Dup **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 1981

Spike LCSD LCSD %Rec. RPD Analyte Added Result Qualifier Limits **RPD** Limit Unit D %Rec Chloride 25.0 25.75 103 90 - 110 20 mg/L

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 880-1676/1 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 1676

MB MB

Result Qualifier Analyte RL MDL Unit Prepared Analyzed Dil Fac Total Dissolved Solids <25.0 U 25.0 25.0 mg/L 04/10/21 15:16

Lab Sample ID: LCS 880-1676/2 **Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Total/NA**

Analysis Batch: 1676

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Total Dissolved Solids 1000 1044 mg/L 104 80 - 120

Lab Sample ID: LCSD 880-1676/3 Client Sample ID: Lab Control Sample Dup **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 1676

LCSD LCSD RPD Spike %Rec. Added Result Qualifier %Rec RPD Analyte Unit Limits Limit Total Dissolved Solids 1000 989.0 NaN 80 - 120 mg/L

Lab Sample ID: 890-492-1 DU Client Sample ID: MW-1 Prep Type: Total/NA

Matrix: Water

Analysis Batch: 1676

DU DU **RPD** Sample Sample Analyte Result Qualifier Result Qualifier Unit D **RPD** Limit Total Dissolved Solids 61600 61500 mg/L 0.2 10

QC Association Summary

Job ID: 890-492-1 Client: GHD Services Inc. Project/Site: Flamenco Federal #1 SDG: 11220747/02

GC VOA

Analysis Batch: 1527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-492-1	MW-1	Total/NA	Water	8021B	
890-492-2	MW-2	Total/NA	Water	8021B	
890-492-3	MW-3	Total/NA	Water	8021B	
890-492-4	MW-8	Total/NA	Water	8021B	
890-492-5	MW-9	Total/NA	Water	8021B	
890-492-6	Dup-1	Total/NA	Water	8021B	
MB 880-1527/8	Method Blank	Total/NA	Water	8021B	
LCS 880-1527/3	Lab Control Sample	Total/NA	Water	8021B	
LCSD 880-1527/4	Lab Control Sample Dup	Total/NA	Water	8021B	

HPLC/IC

Analysis Batch: 1981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-492-1	MW-1	Total/NA	Water	300.0	
890-492-2	MW-2	Total/NA	Water	300.0	
890-492-3	MW-3	Total/NA	Water	300.0	
890-492-4	MW-8	Total/NA	Water	300.0	
890-492-5	MW-9	Total/NA	Water	300.0	
890-492-6	Dup-1	Total/NA	Water	300.0	
MB 880-1981/38	Method Blank	Total/NA	Water	300.0	
LCS 880-1981/39	Lab Control Sample	Total/NA	Water	300.0	
LCSD 880-1981/40	Lab Control Sample Dup	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 1676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-492-1	MW-1	Total/NA	Water	SM 2540C	
890-492-2	MW-2	Total/NA	Water	SM 2540C	
890-492-3	MW-3	Total/NA	Water	SM 2540C	
890-492-4	MW-8	Total/NA	Water	SM 2540C	
890-492-5	MW-9	Total/NA	Water	SM 2540C	
890-492-6	Dup-1	Total/NA	Water	SM 2540C	
MB 880-1676/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 880-1676/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 880-1676/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
890-492-1 DU	MW-1	Total/NA	Water	SM 2540C	

Job ID: 890-492-1 SDG: 11220747/02

Client Sample ID: MW-1

Client: GHD Services Inc.

Lab Sample ID: 890-492-1

Matrix: Water

Date Collected: 04/06/21 11:50 Date Received: 04/06/21 15:25

Project/Site: Flamenco Federal #1

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B			1527	04/08/21 17:33	AJ	XM
Total/NA	Analysis	300.0		500	1981	04/18/21 19:51	СН	XM
Total/NA	Analysis	SM 2540C		1	1676	04/10/21 15:16	SC	XM

Lab Sample ID: 890-492-2

Matrix: Water

Date Collected: 04/06/21 12:40 Date Received: 04/06/21 15:25

Client Sample ID: MW-2

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	1527	04/08/21 22:06	AJ	XM
Total/NA	Analysis	300.0		100	1981	04/18/21 19:56	СН	XM
Total/NA	Analysis	SM 2540C		1	1676	04/10/21 15:16	SC	XM

Client Sample ID: MW-3 Lab Sample ID: 890-492-3 Date Collected: 04/06/21 13:20

Matrix: Water

Date Received: 04/06/21 15:25

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	1527	04/08/21 22:27	AJ	XM
Total/NA	Analysis	300.0		500	1981	04/18/21 20:01	CH	XM
Total/NA	Analysis	SM 2540C		1	1676	04/10/21 15:16	SC	XM

Client Sample ID: MW-8 Lab Sample ID: 890-492-4

Date Collected: 04/06/21 14:20

Matrix: Water

Date Received: 04/06/21 15:25

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	1527	04/08/21 22:47	AJ	XM
Total/NA	Analysis	300.0		50	1981	04/18/21 20:06	СН	XM
Total/NA	Analysis	SM 2540C		1	1676	04/10/21 15:16	SC	XM

Client Sample ID: MW-9 Lab Sample ID: 890-492-5 Date Collected: 04/06/21 14:00

Matrix: Water Date Received: 04/06/21 15:25

Batch Dilution Batch Batch **Prepared** Prep Type Type Method Run **Factor** Number or Analyzed Analyst Lab Total/NA 8021B 1527 04/08/21 23:08 AJ $\overline{\mathsf{XM}}$ Analysis 1 Total/NA Analysis 300.0 200 1981 04/18/21 20:11 CH XM Total/NA Analysis SM 2540C 1 1676 04/10/21 15:16 SC XM

Lab Chronicle

Client: GHD Services Inc. Job ID: 890-492-1 Project/Site: Flamenco Federal #1 SDG: 11220747/02

Client Sample ID: Dup-1 Lab Sample ID: 890-492-6

Matrix: Water

Date Collected: 04/06/21 00:00 Date Received: 04/06/21 15:25

	Batch	Batch		Dilution	Batch	Prepared			
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab	
Total/NA	Analysis	8021B		1	1527	04/08/21 23:28	AJ	XM	
Total/NA	Analysis	300.0		50	1981	04/18/21 20:16	СН	XM	
Total/NA	Analysis	SM 2540C		1	1676	04/10/21 15:16	SC	XM	

Laboratory References:

XM = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: GHD Services Inc.

Job ID: 890-492-1
Project/Site: Flamenco Federal #1

SDG: 11220747/02

Laboratory: Eurofins Xenco, Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	F	Program	Identification Number	Expiration Date
Texas	1	NELAP	T104704400-20-21	06-30-21
The following analyte the agency does not		port, but the laboratory is	not certified by the governing authority.	This list may include analytes for which
Analysis Method	Prep Method	Matrix	Analyte	
300.0		Water	Chloride	
8021B		Water	Total BTEX	

Eurofins Xenco, Carlsbad

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Method Summary

Client: GHD Services Inc.

Project/Site: Flamenco Federal #1

Job ID: 890-492-1

SDG: 11220747/02

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XM
300.0	Anions, Ion Chromatography	MCAWW	XM
SM 2540C	Solids, Total Dissolved (TDS)	SM	XM
5030B	Purge and Trap	SW846	XM

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

XM = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Xenco, Carlsbad

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Sample Summary

Client: GHD Services Inc.

Project/Site: Flamenco Federal #1

Job ID: 890-492-1

SDG: 11220747/02

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
890-492-1	MW-1	Water	04/06/21 11:50	04/06/21 15:25	
890-492-2	MW-2	Water	04/06/21 12:40	04/06/21 15:25	
890-492-3	MW-3	Water	04/06/21 13:20	04/06/21 15:25	
890-492-4	MW-8	Water	04/06/21 14:20	04/06/21 15:25	
890-492-5	MW-9	Water	04/06/21 14:00	04/06/21 15:25	
890-492-6	Dup-1	Water	04/06/21 00:00	04/06/21 15:25	

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334 Chain of Custody

Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296

Work Order No: _

			Hobbs, N	JM (575-392-	Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)	AZ (480-;	355-0900) Atlanta,	3A (770-4	49-8800) Tampa	,FL (813-620-2		www.xenco.com Page	ge of 5	
Project Manager: B	Becky Haskell				Bill to: (if different)		James Kennedy	ennedy				Wor	Work Order Comments	ents	
	GHD				Company Name:		EOG Resources	sonrces			Prog	Program: UST/PST ☐ PR	≀P∏ Brownfields[PRP Brownfields RRC Superfund	
	2135 S. Loop 250 W	50 W.			Address:		5509 Ch	5509 Champions Drive	Drive		<i>s</i>	State of Project:			
te ZIP:	Midland, TX. 79703	1703			City, State ZIP:		Midland TX	X			Rep	Reporting:Level II	IIII □PST/UST []TRRP Level IV	Ô
	432-203-8471			Emai	Email: becky.haskell@ghd.com & Christopher.Knight@ghd.com	ell@gh	d.com &	k Christo	pher.Kn	ight@ghd.con	_	Deliverables: EDD	ADaPT	Other:	
Project Name: FI	Flamenco Federal #1	ral#1		T	Turn Around					ANALYSIS REQUEST	REQUEST		>	Work Order Notes	Si
<u></u>	11220747/02			Rou	Routine \										
				Rush:	ih:		-								
Sampler's Name:				Due	Due Date:										
SAMPLE RECEIPT		Temp Blank	Yes No	Wet Ice(e Yes No			_				7-068	890-492 Chain of Custody	ody	
Temperature (°C):	h, 61			Thermometer ID	er ID	sien							_		
Received Intact:	Yes	ů	2+	M-C	77	iistn		_							
Cooler Custody Seals:	Yes (No	N/A	Corre	Correction Factor	19.2	၂၀၁	0978						TAT st	TAT starts the day recevied by the	by the
Sample Custody Seals:	Yes /	N/A	Tota	Total Containers:	.;.	10 1							lab	lab, if received by 4:30pm) mc
Sample Identification	Ication	Matrix	Date Sampled	Time	Depth	edmuN	BTEX 80	Chloride TDS					Ö	Sample Comments	8
1-WM		36	4/6/2	1130	DIE	7	 `	+							
アルン		_	_	0n21	_	1	X	ろろ							
MW-3				1320		7	V	X	_						
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Total 200.7 / 6010 200.8 / 6020: Circle Method(s) and Metal(s) to be analyzed	0 200.8 / 6020: and Metal(s) to be	3020: to be an≀	11 11	BRCRA 13PPM TCLP / SPLF	Texas 6010:	₹ ¥	sb As B Sb As	a Be E Ba Be	o B B	Ca Cr Co Cu Fe Pb Me Cr Co Cu Pb Mn Mo Ni	Fe Pb Mg In Mo Ni S	Pb Mg Mn Mo Ni K Se Ag Mo Ni Se Ag TI U	Ag SiO2 Na Sr TI Sn U 1631 / 245.1 / 7470	V Zn / 7471	. Hg
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.	cument and relinquible only for the co	uishment or	of samples consider and shall no each project a	stitutes a valid ot assume any nd a charge o	d purchase order f y responsibility for if \$5 for each samp	from clien r any loss ple submi	t company es or expe tted to Xe	to Xenco, enses incu nco, but no	its affiliate red by the	s and subcontract client if such loss . These terms will	ors. It assigns es are due to ci be enforced uni	der from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and condi by for any losses or expenses incurred by the client if such losses are due to circumstances beyond the c sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.	Itions control		
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Work Order No:

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334 Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806)794-1296

Chain of Custody

1		Hobbs, Ni	M (575-392-7:	550) Phoenix,A	Z (480-3	55-0900)	Atlanta, G,	4 (770-449-8800)	Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)		www.xenco.com P	Page of 36
Project Manager:	Becky Haskell			Bill to: (if different)		James Kennedy	nnedy				Work Order Comments	nents
	GHD			Company Name:		EOG Resources	onrces			rogram: UST/PST	Program: UST/PST	s ☐RRC ☐ Superfund ☐
	2135 S. Loop 250 W.			Address:	5	509 Cha	5509 Champions Drive	hrive		State of Project:		
te ZIP:	Midland, TX. 79703			City, State ZIP:		Midland TX	×			Reporting:Level II	Reporting:Level II	☐TRRP Level IV ☐
	432-203-8471		Email:	becky.haske	ell@ghc	.com &	Christop	Email: becky.haskell@ghd.com & Christopher.Knight@ghd.com		Deliverables: EDD	☐ ADaPT ☐	Other:
Project Name:	Flamenco Federal #1		Tu	Turn Around				ANAL	ANALYSIS REQUEST	T		Work Order Notes
er:	11220747/02		Routine	ne 🔀								
			Rush:									
sampler's Name:			Due Date:	Jate:								
SAMPLE RECEIPT	PT Temp Blank(nk(Yes No	Wet Ice(Yes No	S						890-492 Chain of Custody	tody
emperature (°C):	19,4)	Thermometer ID	Ω	nəni						_	
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Cooler Custody Seals:	Yes (No		Correction Factor:	19.2	o D ì	978/					TAT	TAT starts the day recevied by the
Sample Custody Seals:	s: Yes (No) N/A		Total Containers:		0 16			-				iab, if received by 4:30pm
Sample Identification	Ification Matrix	Date Sampled	Time	Depth	Numbe	BTEX 8	SQT					Sample Comments
1-WW	30	4/6/2	1/30	DIE		-	X					
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Total 200 7 / 6010	10 200 8 / 6020:	ARCRA	RA 13PPM	M Texas 11	68 4	As Ba		Cd Ca Cr Co	o Cu Fe Pb Ma	Mn Mo Ni K	Se Aq SiO2 Na S	Sr Ti Sn U V Zn
Circle Method(s	п	5	4-1	-P 6010: 8R	CR.	b As	a Be (S	Pb Mn	Se Ag TI U	1631 /	.1 / 7470 / 74
otice: Signature of this d f service. Xenco will be li f Xenco. A minimum cha	fotice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions f service. Xenco 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 contro f service. Xenco will be include to sample and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.	nt of samples const imples and shall not d to each project an	titutes a valid r t assume any r nd a charge of t	ourchase order fr esponsibility for \$5 for each samp	om client any loss le submit	company is or experited to Xeno	to Xenco, it ises incurra co, but not	s affiliates and sut ed by the client if s analyzed. These te	contractors. It ass uch losses are due rms will be enforce	order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions billty for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control ich sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.	conditions I the control tiated.	
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1089 N Canal St.

Eurofins Xenco, Carlsbad

Chain of Custody Record

eurofins |

Environment Testing

State Zip TX, 79701 Note: Since laboratory accreditations are subject to change. Eurofins Xenco LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Xenco LLC. Deliverable Requested | II III IV Other (specify) Possible Hazard Identification Dup-1 (890-492-6) MW-9 (890-492-5) MW-2 (890-492-2) MW-1 (890-492-1) Flamenco Federal #1 Carlsbad, NM 88220 Phone. 575-988-3199 Fax: 575-988-3199 MW-8 (890-492-4) WW-3 (890-492-3) Midland 1211 W Florida Ave mpty Kit Relinquished by 432-704-5440(Tel) elinquished by elinquished by: Custody Seals Intact ample Identification - Client ID (Lab ID) oject Name rofins Xenco hipping/Receiving ient Information Yes Z 8 (Sub Contract Lab) Custody Seal No かも 0 Project #: 88000221 Date/Time: Due Date Requested 4/12/2021 Date/Time Primary Deliverable Rank 2 **₹** TAT Requested (days) hone Sample Date 4/6/21 4/6/21 4/6/21 4/6/21 4/6/21 4/6/21 Date Mountain 13 20 Mountain 12:40 Mountain 14 20 Mountain 14 00 Mountain Mountair 11 50 (C=comp, G=grab) Sample Type Preservation Code Company Company Company Water Matrix Water Water Water Water Water debbie simmons@eurofinset com
Accreditations Required (See note)
NELAP - Louisiana NELAP - Texas E-Mail Lab PM Simmons, Debbie Time Field Filtered Sample (Yes or No) Special Instructions/QC Requirements Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Perform MS/MSD (Yes or No) Received by: × × \times 8021B/5030B BTEX Coder Temperature(s) °C and Other Remarks × × × Return To Client × × × × × × 300_ORGFM_28D/ Chloride 2540C_Calcd/ Solids, Total Dissolved (TDS) × \times × × × × Analysis Requested Disposal By Lab State of Origin New Mexico Carrier Tracking No(s) Method of Shipment Date/Time: Archive For Total Number of containers 4 ¥ 4 4 COC No: 890-152 1 Preservation Codes Page 1 of : 390-492-1 ice
DI Water
EDTA
EDA NaOH
Zn Acetate
Zn Acetate
Nitric Acid
NaHSO4
MeOH
Amchlor
Ascorbic Acid 단 Special Instructions/Note: 5 N Hexane
N None
O AsNaO2
P Na2O4S
Q Na2SO3
Q Na2SO3
S R Na2S2O3
S R Na2SO4
T TSP Dodecahydrate W pH 4-5 Z other (sp U - Acetone V MCAA Company Company Company other (specify)

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: GHD Services Inc. Job Number: 890-492-1 SDG Number: 11220747/02

List Source: Eurofins Carlsbad Login Number: 492

List Number: 1 Creator: Clifton, Cloe

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 890-492-1 SDG Number: 11220747/02

Login Number: 492 List Source: Eurofins Midland
List Number: 2 List Creation: 04/07/21 03:23 PM

Creator: Mireles, David

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

1

2

3

4

6

8

10

10

13

14

Attachment E

2018 Annual Groundwater Monitoring Report



2018 Annual Groundwater Monitoring Report

Flamenco Fed #1 Lea, New Mexico

EOG Resources Inc.

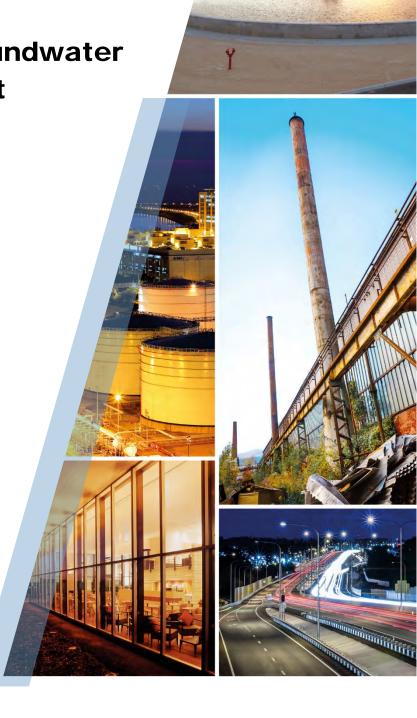




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Appendix A Soil Analytical Laboratory Results

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Appendix D Monitoring Well Surveys

Appendix E Groundwater Analytical Laboratory Results



1. Introduction

GHD Services Inc. (GHD) is pleased to present the results of groundwater monitoring well installation and quarterly groundwater monitoring conducted in 2018 and January 2019 at the Flamenco Fed #1 (Site). The Site is located within Unit L, Section 7, Township 22 South, Range 32 East, in Lea County, New Mexico (Figure 1). EOG Resources, Inc. (EOG) is the current Site producer. Surface ownership is that of the U.S. Bureau of Land Management (BLM).

2. Background Information

2.1 Tin Horn Area

The Site is an active well site located approximately 30 miles east of Carlsbad, New Mexico. According to EOG supplied data, a release of approximately 275 barrels (bbls) of produced water occurred when a water line connection in a tin horn failed. Approximately 260 bbls of produced water was recovered utilizing a vacuum truck. The release was discovered on October 21, 2011. A C-141 Form was submitted to the New Mexico Oil Conservation Division (NMOCD) on November 2, 2011 and remediation permit number 1RP-2790 was assigned. GHD was unable to determine if the final C-141 was approved.

A second release occurred on June 12, 2013 that consisted of 200 bbls of produced water. None of the produced water was recovered. A third release occurred on August 4, 2013 that consisted of 600 bbls of produced water, none of which was recovered. Both of these releases were also the result of a water line failure at a tin horn and occurred at the same location as the first release. Yates Petroleum Corporation (Yates), former Site producer, submitted a C-141 Form to the NMOCD and BLM on August 5, 2013 regarding the third release. A final C-141, dated January 31, 2014 was prepared, but was not approved by NMOCD. However, GHD was unable to determine if a remediation permit number was assigned to these releases. However, the releases were assigned 1RPs-4800 and 4801 by NMOCD on September 6, 2017.

Initial delineation samples were collected for the first release on November 30, 2011 by Yates. One composite soil sample, consisting of soil from three areas, was collected from depths of 1, 2, and 3 feet below ground surface (ft bgs). The samples were submitted to Xenco Laboratories (Xenco) in Odessa, Texas for analyses of chloride by EPA Method 300, benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8021B, and gasoline and diesel range total petroleum hydrocarbons (TPH) by EPA Method 8015. None of the samples contained BTEX or TPH constituents above the laboratory reporting limit (LRL). Chloride concentrations ranged from 4,210 to 8,260 milligrams per kilogram (mg/kg).

Initial delineation samples were collected for the second and third releases on August 21, 2013 by Yates. One composite soil sample, consisting of soil from three areas, was collected from depths of 1, 2, and 3 ft bgs. The samples were submitted to Cardinal Laboratories in Hobbs, New Mexico for analysis of chloride by method SM4500CL-B, BTEX by EPA Method 8021B, and TPH by EPA Method 8015. None of the samples contained BTEX or TPH constituents above the LRL. Chloride concentrations ranged from 7,730 to 11,400 mg/kg. Additional samples were collected and analyzed



between September 24, 2013 and January 24, 2014. Chloride concentrations exceeding the Recommended Remediation Action Limits (RRALs) were encountered to a depth of 8 ft bgs. Two samples collected at 8 ft bgs at two locations contained chloride concentrations of 2,460 and 4,200 mg/kg.

2.2 Battery Area

According to EOG-obtained information, a release of approximately 100 bbl) of oil and 600 bbls of produced water occurred when lightning struck a 750 bbl fiberglass gun tank causing a fire that destroyed four other tanks. None of the oil and produced water was recovered. The release was discovered on August 11, 2009. A C-141 Form was submitted to the NMOCD and the BLM on August 20, 2009 and 1RP-2281 was assigned. A final C-141 was submitted to the NMOCD on April 13, 2010; however, there was no indication that it was approved.

Initial delineation samples were collected for the release on August 27, 2009 by Yates. One composite soil sample from three areas was collected from depths of 3, 4, 5, and 6 ft bgs. The samples were submitted to Xenco analysis of chloride by EPA Method 300.0, BTEX by EPA Method 8021B, and TPH by EPA Method 8015. Total BTEX concentrations ranged from below the LRLs to 1.922 mg/kg and total TPH constituents ranged from below the LRLs to 2,800 mg/kg. Chloride concentrations ranged from 1,210 to 8,310 mg/kg.

Soil contaminated with TPH constituents above the applicable NMOCD Site-specific RRALs extended to a depth of 2 ft bgs and chloride contaminated soil exceeding the RRAL extended to a depth of 6 ft bgs.

Yates excavated the soil to a depth of 1 to 2 ft bgs and disposed of it at an NMOCD-approved facility. Yates proposed to remove 2 feet of soil from the pad and blend it with soils in the pasture to a depth of 3 ft bgs and reseed the area. The work was reportedly completed by Yates.

Yates collected three additional composite samples from three areas at depths of 3, 4, and 5 ft bgs on March 30, 2010. The samples were submitted to Xenco for chloride analysis by EPA Method 300.0. Chloride concentrations ranged from 824 to 8,310 mg/kg with the highest concentration from the sample collected at 5 ft bgs.

3. GHD Assessment Summary

Based on the above assumed Site history, GHD performed additional assessments to assess the horizontal and vertical extent of chlorides in the subsurface. A summary of GHD's assessment activities is presented below.

3.1 Tin Horn Area Releases (1RP-2790, 1RP-4800, and 1RP-4801)

- GHD performed assessment activities that included test pits, excavation oversight, and soil sampling (see attached Figure 2).
- Approximately 600 cubic yards of soil were excavated and stockpiled on-site (for possible future reuse).



- The horizontal extent of impacted soil was assessed to the north, east, and south. Chlorideimpacted soil with concentrations above the RRALs remain to the west due to the fence line and close proximity to Campbell Road.
- GHD advanced two soil borings (SB-2 and SB-3) to depths of 50 and 30 ft bgs, respectively.
- Groundwater was encountered at approximately 50 ft in SB-2 and the soil boring was terminated. Installation of a well was attempted, however, the boring collapsed.
- Laboratory soil chloride concentrations ranged from below the LRL to 9,000 mg/kg with the
 highest concentration found in TP-11 at a depth of 10 ft bgs during the above activities. The
 sample collected from 50 ft bgs in SB-2 contained a chloride concentration of 650 mg/kg.

3.2 Battery Area Release (1RP-2281)

- GHD performed assessment activities that included test pits, soil borings, and soil sampling (Figure 3).
- Analytical soil chloride concentrations ranged from below the LRL to 13,000 milligrams per kilogram (mg/kg) during the above activities.
- The horizontal extent of chloride-impacted soils was assessed to the east, south, and west. Chloride-impacted soil has not been assessed to the northwest.
- Soil chloride concentrations of 780 and 1,200 mg/kg were encountered at a depth of 45 ft bgs.

4. Soil Borings and Monitoring Well Installation

4.1 Soil Borings and Monitor Well Installation Activities

Ten soil borings were completed at the Site during 2018 in order to assess the vertical and horizontal extent of the chloride contaminated soil (locations are shown on Figure 4). Depths of the soil borings ranged from 25 to 65 ft bgs. A hard caliche layer was encountered in soil boring MW-5 at 25 ft bgs and it was terminated. Soil borings that did not encounter water were grouted. In five soil borings where groundwater was encountered, a monitoring well was installed. Soil samples were collected from the soil borings utilizing a split spoon sampler and select samples were submitted to Hall Environmental Analysis Laboratory (HEAL) of Albuquerque, New Mexico. The samples were analyzed for chloride by EPA Method 300. Chloride concentrations ranged from below the LRL to 2,200 mg/kg with the highest concentrations found in the soil from the MW-1 soil boring at a depth of 40 ft bgs.

The results are summarized on Table 1 and the analytical reports are included in Appendix A. Soil boring Logs with Well Completion Diagrams are included as Appendix B.

Monitoring wells MW-1, MW-2 and MW-3 were installed in January 2018 by White Drilling Company, Inc. of Clyde, Texas and wells MW-8 and MW-9 were installed in August 2018 by Authentic Drilling, Inc. of Castle Rock, Colorado. All borings were advanced utilizing an air rotary drill rig.



Prior to well installation, the appropriate permits were obtained from the New Mexico Office of the State Engineer and from the BLM. Copies are included in Appendix C. The soil boring locations were cleared via New Mexico One Call prior to mobilization.

Wells were constructed of 2-inch diameter flush-threaded schedule 40 polyvinyl chloride (PVC) casing and 0.020-inch slot PVC screen. Wells were completed to a depth of approximately 65-70 ft bgs with 20 ft of screen.

The annulus of each constructed monitoring well was backfilled with a 10/20 silica sand filter pack to approximately 2 ft above the top of the screen interval. An approximate 2 to 5-foot thick 3/8-inch bentonite chip seal was placed on top of the sand and hydrated. The remainder of each well annulus was grouted to the ground surface with a 95% Portland cement/ 5% bentonite powder grout. Each monitor well was constructed with a stick-up well completion in a concrete pad rising 2 to 3 ft above ground surface.

The well locations and tops of casing were surveyed by a New Mexico licensed surveyor from High Mesa Consulting Group of Albuquerque, New Mexico. A copies of the surveys are included in Appendix D.

5. Groundwater Monitoring

Monitor wells MW-1, MW-2 and MW-3 were gauged and sampled in 2018 during February, June and October. Monitor wells MW-8 and MW-9 were installed in August 2018 but were not sampled at installation or during the October 2018 and January 2019 sampling events due to insufficient water volume.

5.1 Groundwater Monitoring Methodology

Prior to collection of groundwater samples, the depth to groundwater in each well was measured using an oil/water interface probe. Fluid levels and groundwater elevations are detailed in Table 2.

A groundwater potentiometric surface map was created using gauging data from the June 2018, October 2018, and January 2019 quarterly monitoring events and are presented as Figures 5 through 8.

Site wells containing a sufficient quantity of water were purged of at least three casing volumes of groundwater using a 1.5-inch diameter, polyethylene bailer prior to sampling. Groundwater quality parameters including pH, temperature, conductivity, dissolved oxygen, and oxidation reduction potential were collected using a multi parameter groundwater quality sonde and are summarized on Table 3. Following collection, groundwater samples were labeled, placed on ice, and submitted to HEAL for analyses of chlorides and Total Dissolved Solids (TDS) by EPA Method 300.0. Field parameter data is included in Table 3.

5.2 Groundwater Monitoring Analytical Results

The following New Mexico Water Quality Control Commission (NMWQCC) groundwater standard exceedances are reported:



2018: February, June, and October

- Chloride concentrations exceeded the NMWQCC groundwater standard of 250 mg/L in all Site wells for all sampling events. Chloride concentrations ranged from 6,900 mg/L to 49,000 mg/L.
- TDS concentrations exceeded the NMWQCC groundwater standard of 1,000 mg/L in all Site
 wells for all sampling events. TDS concentrations ranged from 15,300 mg/L to 97,600 mg/L.

2019: January

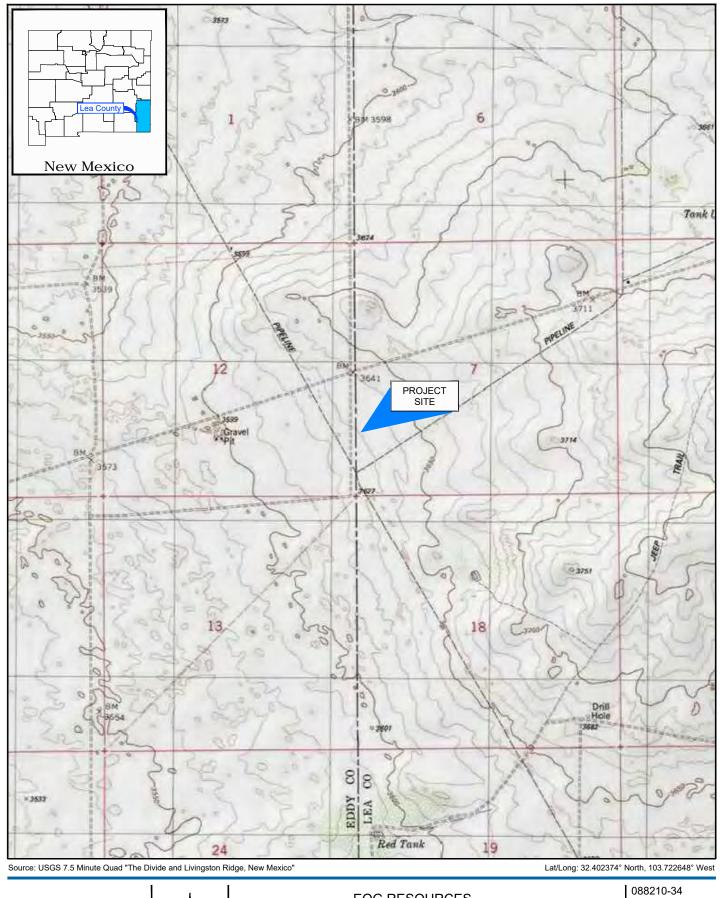
- Chloride concentrations exceeded the NMWQCC groundwater standard of 250 mg/L in all Site wells. Chloride concentrations ranged from 8,000 mg/L to 47,000 mg/L.
- TDS concentrations exceeded the NMWQCC groundwater standard of 1,000 mg/L in all Site wells. TDS concentrations ranged from 18,400 mg/L to 100,000 mg/L.

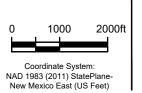
A summary of laboratory results is shown on Figure 3 and included on Table 4. Copies of Laboratory Analytical Reports for the 2018 and 2019 groundwater sampling events are included in Appendix E.

6. Conclusion and Recommendations

Based on the analytical data collected from Site groundwater monitoring wells, chloride and TDS concentrations exceeded the NMWQCC standards in all wells sampled for all sampling periods. GHD recommends the installation of a groundwater monitoring well in the hydraulically up-gradient direction to ascertain background groundwater quality, specifically, TDS concentration. If the groundwater concentration of TDS is established above 10,000 mg/kg in the background well, then in accordance with 20 NMAC 20.6.2.3103, the aquifer beneath the Site is not protected and Site closure will be requested.

Figures





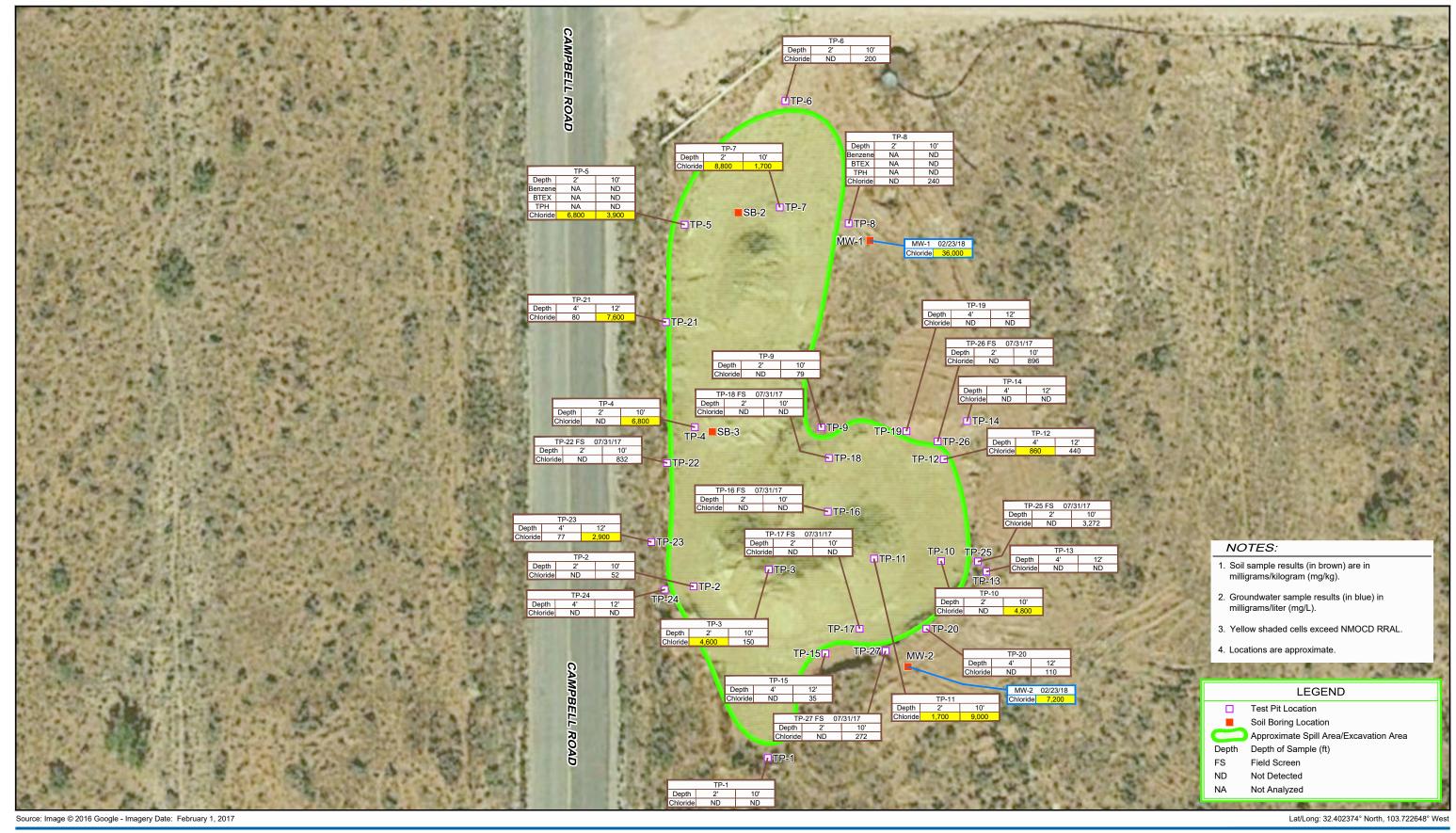




EOG RESOURCES LEA COUNTY, NEW MEXICO FLAMENCO FEDERAL No.1

Jun 21, 2017

SITE LOCATION MAP



O 15 30ft

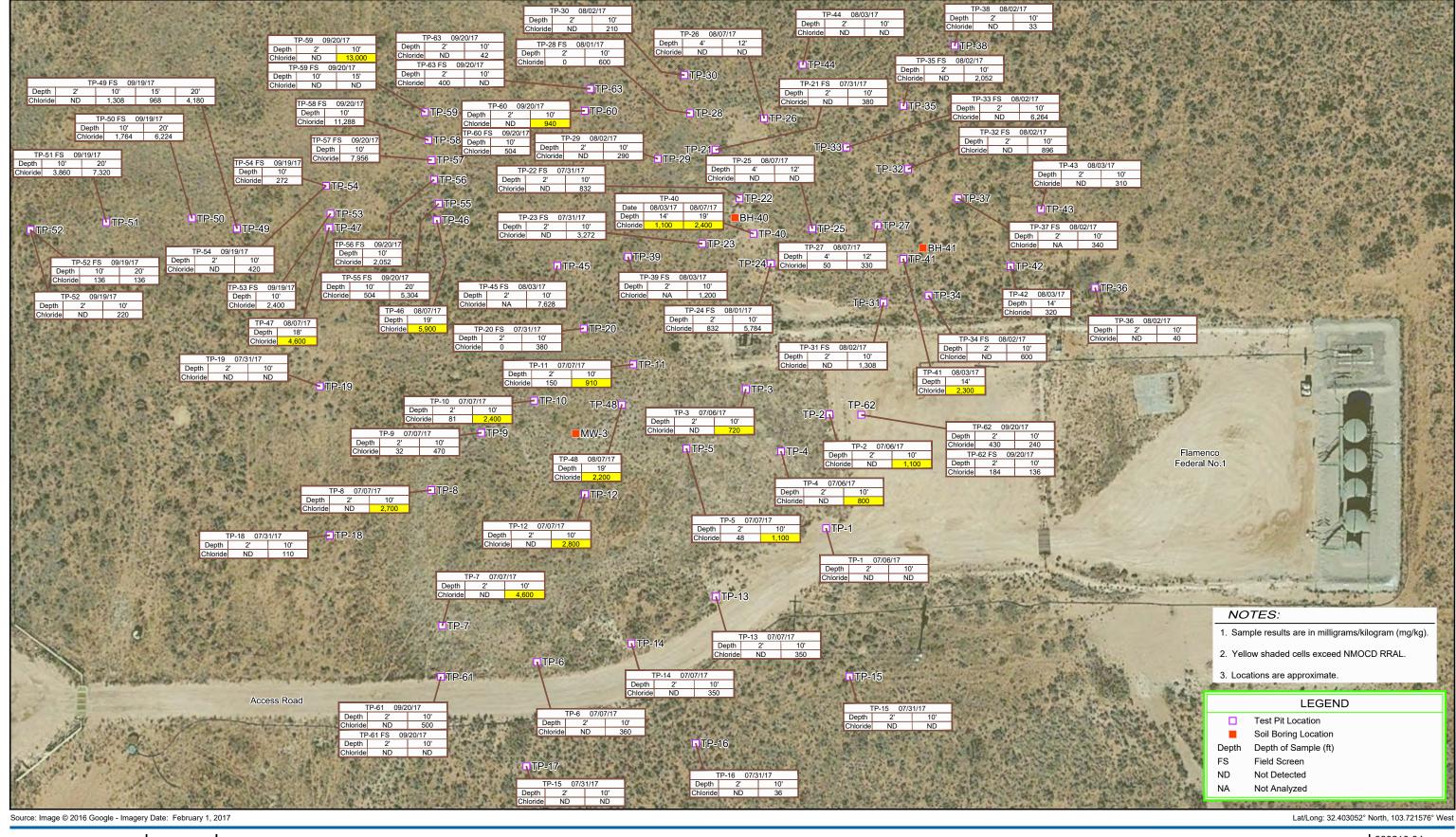
Coordinate System:
NAD 1983 (2011) StatePlaneNew Mexico East (US Feet)





EOG RESOURCES
LEA COUNTY, NEW MEXICO
FLAMENCO FEDERAL No.1
TIN HORN ASSESSMENT
SAMPLE LOCATION MAP

088210-34 Feb 18, 2019



0 20 60ft

NAD 1983 (2011) StatePlane-New Mexico East (US Feet)

GHD

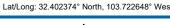
EOG RESOURCES LEA COUNTY, NEW MEXICO FLAMENCO FEDERAL No.1 - BATTERY AREA BATTERY AREA ASSESSMENT

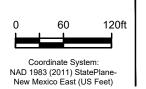
SAMPLE LOCATION MAP

088210-34 Jun 18, 2018



Source: Image © 2017 Google - Imagery Date: November 2, 2017







NOTES:

- 1. Chloride groundwater sample results in milligrams/kilogram (mg/kg).
- 2. Yellow shaded cells exceed NMOCD RRAL.
- 3. Locations are approximate.



EOG RESOURCES
LEA COUNTY, NEW MEXICO
FLAMENCO FEDERAL No.1
SITE DETAILS AND 2018
SOIL BORING SAMPLE CONCENTRATIONS MAP

088210-34 Feb 18, 2019

Received by OCD: 2/22/2022 2:01:17 PM Page 333 of 500



Source: Image © 2017 Google - Imagery Date: November 2, 2017



Coordinate System: NAD 1983 (2011) StatePlane-New Mexico East (US Feet)

NOTES:

- 1. Chloride groundwater sample results in milligrams/liter (mg/L).
- 2. TDS groundwater sample results in milligrams/liter (mg/L).
- 3. Yellow shaded cells exceed NMOCD RRAL.
- 4. Locations are approximate.

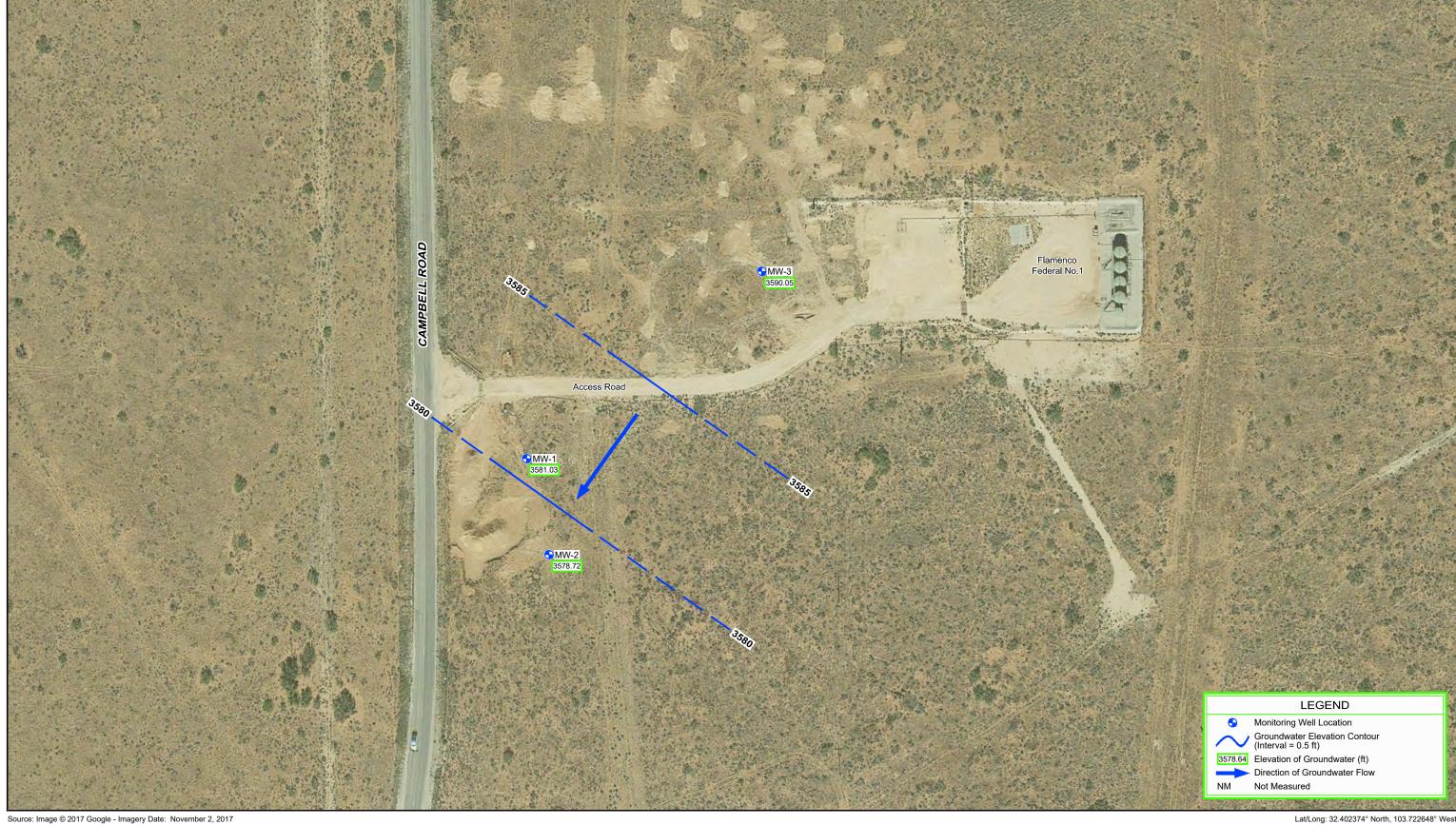


EOG RESOURCES LEA COUNTY, NEW MEXICO FLAMENCO FEDERAL No.1

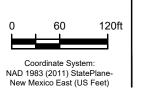
088210-34 Feb 18, 2019

2018/2019 GROUNDWATER CONCENTRATIONS MAP

Received by OCD: 2/22/2022 2:01:17 PM Page 334 of 500



Source: Image © 2017 Google - Imagery Date: November 2, 2017



NOTES:

- 1. Groundwater elevations indicated are from measurements obtained on June 21, 2018.
- 2. The apparent groundwater gradient and direction of flow were determined to be approximately 0.024 ft/ft to the southwest.



EOG RESOURCES LEA COUNTY, NEW MEXICO FLAMENCO FEDERAL No.1

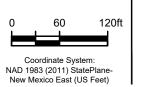
088210-34 Feb 18, 2019

GROUNDWATER GRADIENT MAP - JUNE 2018

Received by OCD: 2/22/2022 2:01:17 PM Page 335 of 500



Source: Image © 2017 Google - Imagery Date: November 2, 2017



NOTES:

- Groundwater elevations indicated are from measurements obtained on October 19, 2018.
- 2. The apparent groundwater gradient and direction of flow were determined to be approximately 0.045 ft/ft to the southwest.

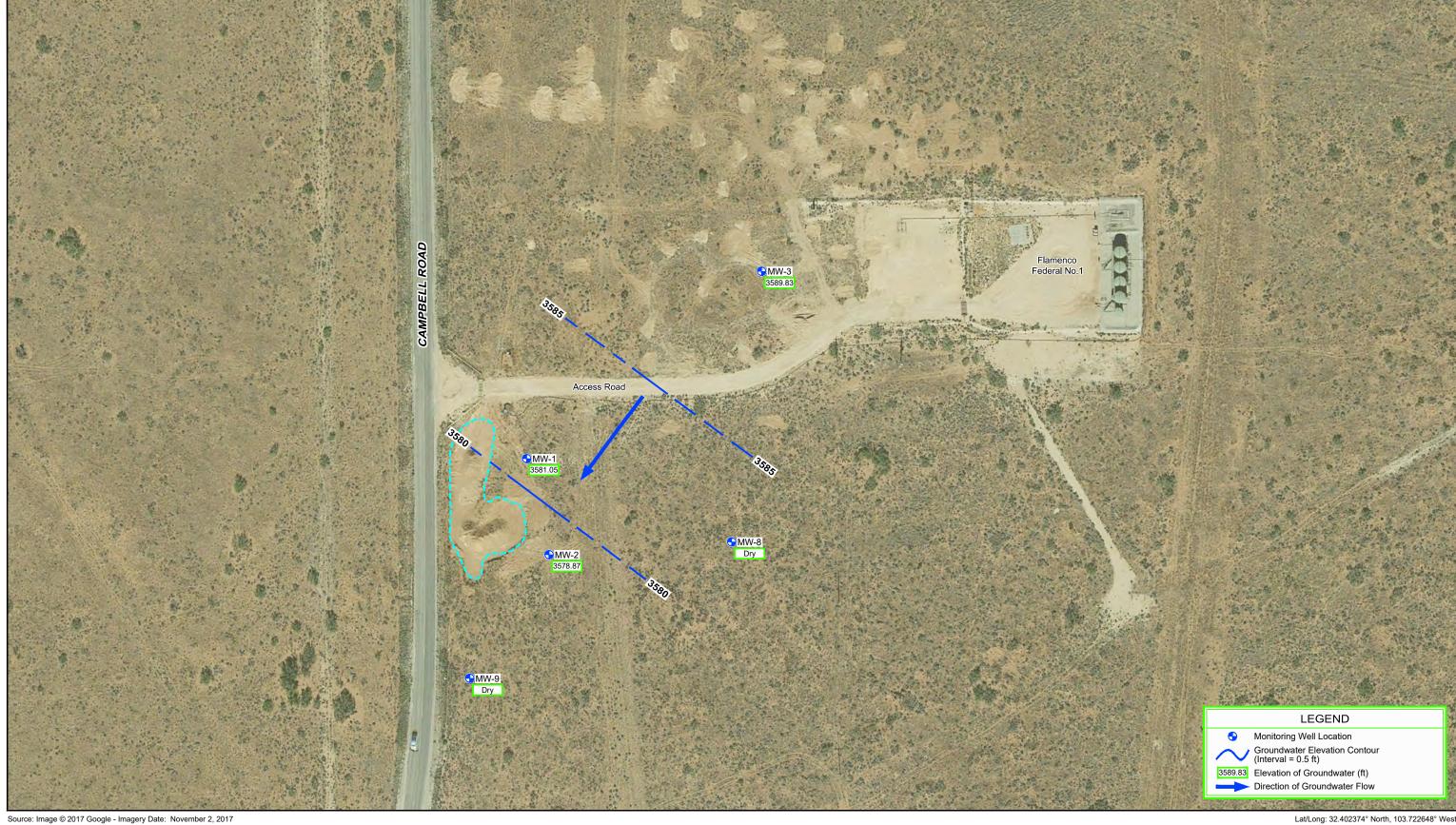


EOG RESOURCES LEA COUNTY, NEW MEXICO FLAMENCO FEDERAL No.1

088210-34 Feb 18, 2019

GROUNDWATER GRADIENT MAP - OCTOBER 2018

Received by OCD: 2/22/2022 2:01:17 PM Page 336 of 500



Source: Image © 2017 Google - Imagery Date: November 2, 2017



Coordinate System: NAD 1983 (2011) StatePlane-New Mexico East (US Feet)

NOTES:

- Groundwater elevations indicated are from measurements obtained on January 11, 2019.
- 2. The apparent groundwater gradient and direction of flow were determined to be approximately 0.025 ft/ft to the southwest.



EOG RESOURCES LEA COUNTY, NEW MEXICO FLAMENCO FEDERAL No.1

088210-34 Feb 18, 2019

GROUNDWATER GRADIENT MAP - JANUARY 2019

Tables

Table 1 Summary of Soil Analytical Data - 2018 EOG Resources Inc. Flamenco Fed #1 Lea County, New Mexico

	Monitoring Well	Depth		
Sample ID	ID	(feet)	Date	Chloride
088210-34-012918-MG-MW-5-10'	MW-1	10	1/29/2018	840
088210-34-012918-MG-MW-5-20'	MW-1	20	1/29/2018	1,100
088210-34-012918-MG-MW-5-30'	MW-1	30	1/29/2018	1,700
088210-34-012918-MG-MW-5-40'	MW-1	40	1/29/2018	2,200
088210-34-012918-MG-MW-5-50'	MW-1	50	1/29/2018	1,500
088210-34-012918-MG-MW-5-60'	MW-1	60	1/29/2018	820
088210-34-013018-MG-MW-6-10'	MW-2	10	1/30/2018	<30
088210-34-013018-MG-MW-6-20'	MW-2	20	1/30/2018	53
088210-34-013018-MG-MW-6-30'	MW-2	30	1/30/2018	540
088210-34-013018-MG-MW-6-40'	MW-2	40	1/30/2018	30
088210-34-013018-MG-MW-6-50'	MW-2	50	1/30/2018	<30
088210-34-013018-MG-MW-6-60'	MW-2	60	1/30/2018	160
088210-34-013018-MG-MW-7-10'	MW-3	10	1/30/2018	<30
088210-34-013018-MG-MW-7-20'	MW-3	20	1/30/2018	33
088210-34-013018-MG-MW-7-30'	MW-3	30	1/30/2018	460
088210-34-013018-MG-MW-7-40'	MW-3	40	1/30/2018	150
088210-34-013018-MG-MW-7-50'	MW-3	50	1/30/2018	160
088210-34-013018-MG-MW-7-60'	MW-3	60	1/30/2018	590
088210-34-080918-JP-SB-5-20		20	8/9/2018	45
088210-34-080918-JP-SB-6-50		50	8/9/2018	33
088210-34-080918-JP-SB-6-60		60	8/9/2018	<30
088210-34-081018-JP-SB-7-40		40	8/10/2018	<30
088210-34-081018-JP-SB-7-50		50	8/10/2018	32
088210-34-081018-JP-SB-8-50	MW-8	50	8/10/2018	<30
088210-34-081018-JP-SB-8-60	MW-8	60	8/10/2018	91
088210-34-081018-JP-SB-8-65	MW-8	65	8/10/2018	100
088210-34-080918-JP-SB-9-50	MW-9	50	8/9/2018	32
088210-34-080918-JP-SB-9-65	MW-9	65	8/9/2018	<30
088210-34-080918-JP-SB-9-70	MW-9	70	8/9/2018	<30
088210-34-080718-JP-SB-10-55		55	8/7/2018	1,300
088210-34-080818-JP-SB-10-60		60	8/8/2018	35
088210-34-080818-JP-SB-10-65		65	8/8/2018	<30
088210-34-080818-JP-SB-11-50		50	8/8/2018	34
088210-34-080818-JP-SB-11-65		65	8/8/2018	430
	[455
NMOCD RRAL	s (Total Ranking S	Score =20)		600

Notes:

All sample results are in milligrams per kilogram

NA = Not Analyzed

NMOCD = New Mexico Oil Conservation Division

RRALs = Recommended Remediation Action Limits

Highlighted = Exceeds NMOCD RRAL

Table 2 Fluid Levels and Groundwater Elevations EOG Resources Inc. Flamenco Fed #1 Lea County, New Mexico

Well	TOC Elevation (ft)	GW Elevation (ft)		
		2/23/2018	54.42	3,581.80
MW-1	3636.22	6/21/2018	55.19	3,581.03
10100-1	3030.22	10/19/2018	55.63	3,580.59
		1/11/2019	55.17	3,581.05
		2/23/2018	47.38	3,588.70
MW-2	3636.08	6/21/2018	57.36	3,578.72
10100-2	3030.00	10/19/2018	57.54	3,578.54
		1/11/2019	57.21	3,578.87
		2/23/2018	51.83	3,590.44
MW-3	3642.27	6/21/2018	52.22	3,590.05
10100-3	3042.21	10/19/2018	52.57	3,589.70
		1/11/2019	52.44	3,589.83
MW-8	3634.889	10/19/2018	65.04	3,569.85
IVIVV-O	3034.009	1/11/2019	Dry	
MW-9	3641.131	10/19/2018	66.87	3,574.26
10100-9	3041.131	1/11/2019	Dry	_

Page 1 of 1

Table 3 Field Parameters Summary EOG Resources Inc. Flamenco Fed #1 Lea County, New Mexico

Well ID	Sample Date	Temperat ure (°C)	рН	TDS (g/L)	Conductivi ty (µS/cm)	DO (mg/L)	ORP (mV)	Volume (gallons)
	2/23/2018	18.58	NA	51.14	78,692	10.92	315	
MW-1	6/21/2018	21.48	6.07	0.754	1,142	25.67		4.05
10100-1	10/19/2018	18.1	6.38	63.61	97,859	9.22	213	4.5
	1/11/2019	16.76	6.15	69.44	90,094	4.52	146.4	3.5
	2/23/2018	18.07	NA	12.55	19,260	13.38	294.3	
MW-2	6/21/2018	20.15	6.73	7.418	11,406	19.39		3
10100-2	10/19/2018	18.37	6.82	13.98	21,524	12.96	-21.9	3
	1/11/2019	17.27	6.60	15.09	19,849	6.80	30.2	2.5
	2/23/2018	18.35	NA	55.3	85,075	6.79	330.5	
MW-3	6/21/2018	19.21	6.21	69.75	107,268	6.6		4.5
10100-3	10/19/2018	17.83	6.26	68.62	105,520	4.4	7.4	4.5
	1/11/2019	17.20	5.83	77.89	101,192	2.83	3.3	3.5

--= not measured

Page 1 of 1

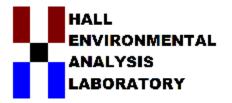
Table 4 Groundwater Analytical Results Summary EOG Resources Inc. Flamenco Fed #1 Lea County, New Mexico

Well ID	Sample ID	Date	Chloride (mg/L)	TDS (mg/L)
	NMWQCC Standard		250	1,000
	W-088210-34-022318-JP-MW-1	2/23/2018	36,000	
MW-1	W-088210-34-062118-PL-MW-1	6/21/2018	38,000	73,200
10100-1	GW-088210-34-101918-PL-MW-1	10/19/2018	47,000	82,000
	GW-088210-34-011119-MM-MW-1	1/11/2019	44,000	85,300
	W-088210-34-022318-JP-MW-2	2/23/2018	7,200	
MW-2	W-088210-34-062118-PL-MW-2	6/21/2018	6,900	15,300
10100-2	GW-088210-34-101918-PL-MW-2	10/19/2018	8,000	15,800
	GW-088210-34-011119-MM-MW-2	1/11/2019	8,000	18,400
	W-088210-34-022318-JP-MW-3	2/23/2018	38,000	
MW-3	W-088210-34-062118-PL-MW-3	6/21/2018	43,000	82,700
10100-3	GW-088210-34-101918-PL-MW-3	10/19/2018	49,000	97,600
	GW-088210-34-011119-MM-MW-3	1/11/2019	47,000	100,000

-- = not measured

Appendices

Appendix A Soil Analytical Laboratory Results



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

February 20, 2018

Bernie Bockisch GHD 6121 Indian School Road, NE #200 Albuquerque, NM 87110 TEL: (505) 884-0672

FAX

RE: Flamenco OrderNo.: 1802125

Dear Bernie Bockisch:

Hall Environmental Analysis Laboratory received 18 sample(s) on 2/2/2018 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andel

4901 Hawkins NE

Albuquerque, NM 87109

GHD

CLIENT:

Analyses

Analyses

Analyses

Analyses

Analytical Report

Lab Order: 1802125

DF Date Analyzed

DF Date Analyzed

DF Date Analyzed

DF Date Analyzed

Lab Order:

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 2/20/2018

1802125

Batch ID

Batch ID

Batch ID

Batch ID

Project:	Flamenco	
Lab ID:	1802125-001	Collection Date: 1/29/2018 12:30:00 PM
Client Sample ID:	S-088210-34-012918-MG-MW-5-10'	Matrix: SOIL

 EPA METHOD 300.0: ANIONS
 Analyst: MRA

 Chloride
 840
 30
 mg/Kg
 20
 2/13/2018 1:11:56 PM
 36495

PQL Qual Units

PQL Qual Units

POL Qual Units

POL Oual Units

Lab ID: 1802125-002 **Collection Date:** 1/29/2018 12:40:00 PM

Client Sample ID: S-088210-34-012918-MG-MW-5-20' **Matrix:** SOIL

Result

Result

 EPA METHOD 300.0: ANIONS
 Analyst: MRA

 Chloride
 1100
 30
 mg/Kg
 20
 2/13/2018 1:49:10 PM
 36495

Lab ID: 1802125-003 **Collection Date:** 1/29/2018 12:45:00 PM

Client Sample ID: S-088210-34-012918-MG-MW-5-30' **Matrix:** SOIL

Result

EPA METHOD 300.0: ANIONS Analyst: CJS

Chloride 1700 75 mg/Kg 50 2/16/2018 5:40:11 PM 36495

Lab ID: 1802125-004 **Collection Date:** 1/29/2018 12:55:00 PM

Client Sample ID: S-088210-34-012918-MG-MW-5-40' Matrix: SOIL

Result

 EPA METHOD 300.0: ANIONS
 Analyst: CJS

 Chloride
 2200
 75
 mg/Kg
 50
 2/16/2018 5:52:36 PM
 36495

Lab ID: 1802125-005 **Collection Date:** 1/29/2018 1:00:00 PM

Client Sample ID: S-088210-34-012918-MG-MW-5-50' Matrix: SOIL

Analyses Result PQL Qual Units DF Date Analyzed Batch ID

EPA METHOD 300.0: ANIONS Analyst: CJS

EPA METHOD 300.0: ANIONS

Chloride

Analyst: CJS

mg/Kg

50 2/16/2018 6:05:01 PM 3649

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

Qualifiers: * Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 5
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Analytical Report

Lab Order: 1802125

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 2/20/2018

CLIENT: GHD Lab Order: 1802125 Project: Flamenco 1802125-006 **Collection Date:** 1/29/2018 1:15:00 PM Lab ID: Client Sample ID: S-088210-34-012918-MG-MW-5-60' Matrix: SOIL **Analyses** Result **PQL Qual Units DF** Date Analyzed **Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride 820 30 mg/Kg 20 2/13/2018 2:38:47 PM 36495 1802125-007 **Collection Date:** 1/30/2018 9:45:00 AM Lab ID: Client Sample ID: S-088210-34-013018-MG-MW-6-10' Matrix: SOIL Result **PQL Qual Units DF** Date Analyzed **Batch ID** Analyses **EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride ND 30 mg/Kg 20 2/13/2018 3:16:01 PM 36495 **Collection Date:** 1/30/2018 9:50:00 AM Lab ID: 1802125-008 Client Sample ID: S-088210-34-013018-MG-MW-6-20' Matrix: SOIL **PQL Qual Units** Analyses Result **DF Date Analyzed Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride 53 30 mg/Kg 20 2/13/2018 3:28:26 PM 36495 Lab ID: 1802125-009 Collection Date: 1/30/2018 9:55:00 AM Client Sample ID: S-088210-34-013018-MG-MW-6-30' Matrix: SOIL Analyses Result **POL Oual Units DF Date Analyzed Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride 540 30 mg/Kg 20 2/13/2018 3:40:51 PM Lab ID: 1802125-010 **Collection Date:** 1/30/2018 10:00:00 AM Client Sample ID: S-088210-34-013018-MG-MW-6-40' Matrix: SOIL **Analyses** Result **PQL Qual Units DF Date Analyzed Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA

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

30

mg/Kg

30

Qualifiers: * Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

20 2/13/2018 3:53:15 PM

- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 5
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Chloride

GHD

CLIENT:

Analyses

Batch ID

Batch ID

Batch ID

Analytical Report

Lab Order: 1802125

Hall Environmental Analysis Laboratory, Inc.

Lab Order: 1802125

DF Date Analyzed

DF Date Analyzed

Analyte detected in the associated Method Blank

Date Reported: 2/20/2018

Project: Flamenco

1802125-011 **Collection Date:** 1/30/2018 10:05:00 AM Lab ID:

Client Sample ID: S-088210-34-013018-MG-MW-6-50' Matrix: SOIL Result

Analyses EPA METHOD 300.0: ANIONS Analyst: MRA

PQL Qual Units

Chloride ND 30 mg/Kg 20 2/13/2018 4:05:39 PM 36495

1802125-012 **Collection Date:** 1/30/2018 10:10:00 AM Lab ID:

Client Sample ID: S-088210-34-013018-MG-MW-6-60' Matrix: SOIL

Result

PQL Qual Units DF Date Analyzed Analyses **EPA METHOD 300.0: ANIONS** Analyst: MRA

Chloride 160 30 mg/Kg 20 2/13/2018 4:18:03 PM 36495

Collection Date: 1/30/2018 11:00:00 AM Lab ID: 1802125-013

Client Sample ID: S-088210-34-013018-MG-MW-7-10' Matrix: SOIL

PQL Qual Units Analyses Result **DF Date Analyzed Batch ID EPA METHOD 300.0: ANIONS** Analyst: CJS

20 2/14/2018 11:16:25 AM 36522 Chloride ND 30 mg/Kg

1802125-014 Lab ID: Collection Date: 1/30/2018 11:05:00 AM

Client Sample ID: S-088210-34-013018-MG-MW-7-20' Matrix: SOIL

Result

EPA METHOD 300.0: ANIONS Analyst: CJS Chloride 33 30 mg/Kg 20 2/14/2018 11:28:50 AM 36522

POL Oual Units

Lab ID: 1802125-015 **Collection Date:** 1/30/2018 11:10:00 AM

Client Sample ID: S-088210-34-013018-MG-MW-7-30' Matrix: SOIL

Analyses Result **PQL Qual Units DF Date Analyzed Batch ID**

EPA METHOD 300.0: ANIONS Analyst: CJS

Chloride 460 30 mg/Kg 20 2/14/2018 11:41:15 AM 36522

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

Qualifiers: Value exceeds Maximum Contaminant Level.

> D Sample Diluted Due to Matrix Ε Value above quantitation range

Holding times for preparation or analysis exceeded Analyte detected below quantitation limits Page 3 of 5

Not Detected at the Reporting Limit P Sample pH Not In Range Practical Quanitative Limit RL Reporting Detection Limit POL

% Recovery outside of range due to dilution or matrix Sample container temperature is out of limit as specified Analyses

Analyses

Batch ID

Batch ID

Analytical Report

Lab Order: 1802125

DF Date Analyzed

DF Date Analyzed

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 2/20/2018

CLIENT: GHD Lab Order: 1802125

Project: Flamenco

Lab ID: 1802125-016 **Collection Date:** 1/30/2018 11:15:00 AM

Client Sample ID: S-088210-34-013018-MG-MW-7-40' Matrix: SOIL

Result

EPA METHOD 300.0: ANIONS Analyst: CJS

PQL Qual Units

PQL Qual Units

Chloride 150 30 mg/Kg 20 2/14/2018 11:53:39 AM 36522

Lab ID: 1802125-017 **Collection Date:** 1/30/2018 11:20:00 AM

Client Sample ID: S-088210-34-013018-MG-MW-7-50' Matrix: SOIL

Result

 EPA METHOD 300.0: ANIONS
 Analyst: CJS

 Chloride
 160
 30
 mg/Kg
 20
 2/14/2018 12:06:04 PM 36522

Lab ID: 1802125-018 **Collection Date:** 1/30/2018 11:23:00 AM

Client Sample ID: S-088210-34-013018-MG-MW-7-60' Matrix: SOIL

Analyses Result PQL Qual Units DF Date Analyzed Batch ID

 EPA METHOD 300.0: ANIONS
 Analyst: CJS

 Chloride
 590
 30
 mg/Kg
 20
 2/14/2018 1:08:06 PM
 36522

Chiloride 590 30 Hig/kg 20 2/14/2016 1.06.06 PM 36522

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

Qualifiers: * Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits Page 4 of 5

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1802125 20-Feb-18

Client: GHD Project: Flamenco

Sample ID MB-36495 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: **PBS** Batch ID: 36495 RunNo: 49085

Prep Date: 2/13/2018 Analysis Date: 2/13/2018 SeqNo: 1583564 Units: mg/Kg

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Chloride ND 1.5

Sample ID LCS-36495 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 36495 RunNo: 49085

Prep Date: 2/13/2018 Analysis Date: 2/13/2018 SeqNo: 1583565 Units: mg/Kg

SPK value SPK Ref Val **RPDLimit** Analyte Result PQL %REC LowLimit HighLimit %RPD Qual

Chloride 14 1.5 15.00 0 92.3 110

Sample ID MB-36522 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: **PBS** Batch ID: 36522 RunNo: 49121

Prep Date: Analysis Date: 2/14/2018 2/14/2018 SeqNo: 1584649 Units: mg/Kg

Result **PQL** SPK value SPK Ref Val %REC LowLimit %RPD **RPDLimit** Analyte HighLimit Qual

Chloride ND 1.5

Sample ID LCS-36522 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: Batch ID: 36522 RunNo: 49121 **LCSS**

Units: mg/Kg Prep Date: 2/14/2018 Analysis Date: 2/14/2018 SeqNo: 1584650

Analyte Result PQI SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

93.9 Chloride 14 1.5 15.00 0 90 110

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- POL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- В
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Analyte detected in the associated Method Blank

Page 5 of 5



Hall Environmental Analysis Loboratory 4901 Hawkins NE Albuquerque NM 87109 IEL: 305-315-3975 FAX: 505-345-1107 Website: www.itallenvironmental.com

Sample Log-In Check List

Glient Name: GHD	Work Order Num	ber: 1802125		ReptNo 1	
Received By: Erin Melendrez	2/2/2018 10:35:00	AM	una	,	
Reviewed By: Erin Melendrez Reviewed By: DD 5	2/2/2018 1:19:49 F	M	una una		
Chain of Custody					
1. Is Chain of Custody complete?		Yes 🗸	No 🗔	Not Present	
2. How was the sample delivered?		Courier			
Log In					
3. Was an attempt made to cool the sample	s?	Yes 🔽	No 🗌	NA 🗆	
4. Were all samples received at a temperatu	are of >0° C to 6.0°C	Yes 🔽	No 🗆	NA 🗆	
5. Sample(s) in proper container(s)?		Yes 🗸	No 🗌		
6. Sufficient sample volume for indicated tes	t(s)?	Yes 🗸	No 🗆		
7. Are samples (except VOA and ONG) prop	erly preserved?	Yes 🗸	No L		
8. Was preservative added to bottles?	4 (100)	Yes 🗆	No 🗹	NA 🗌	
9. VOA vials have zero headspace?		Yes 🗆	No _	No VOA Vials 🔽	
10. Were any sample containers received bro	ken?	Yes 🗆	No 🗹	# of preserved	
 Does paperwork match bottle labels? (Note discrepancies on chain of custody) 		Yes 🗸	No .	for pH: (<2 or >12	unless noted)
12. Are matrices correctly identified on Chain	of Custody?	Yes 🗸	No 🗌	Adjusted?	50.00.00 (1.0053.7 4
13. Is it clear what analyses were requested?		Yes 🗹	No 🗌		
14. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🗹	No 🗆	Checked by:	
Special Handling (if applicable)					
15. Was client notified of all discrepancies with	h this order?	Yes	No 🗆	NA 🗹	
Person Notified:	Date:		-		
By Whom:	Via	eMail	Phone Fax	in Person	
Regarding:					
Client Instructions:					
16. Additional remarks:					
17 Cooler Information Cooler No Temp C Condition	Seal Intact Seal No	Seal Date	Signed By		
	es	1			

Page I of I

Client	Chain-of-Custody Record		Turn-Around	Time:						-IA		F	N	/TE	20	NI	ME	NT	A1	
Ciletta	.HD.	sen	ités	☐ Standard		1	15	7	F											RY
				Project Name:								v.ha								
Mailing	Address	6121	Indian School Rd	Flam.	enco			40	nt H									100		
NEA	(bugy	espice.	NM 87110 Ste 200	Project #:	/a.a.=.		4901 Hawkins NE - Albuquerque, NM 87109 Tel. 505-345-3975 Fax 505-345-4107													
Phone	# 501	5 88	40612	0.81	5210.34				J		10 0	_			Rec	_			-	
email o	r Fax#:	Berno	sod Prikischpaharon	Project Mana	ager:	all All I	_	S	Ô	Ε.		in								
QA/QC	Package:			Berr		ockisch.	(8021)	10 88	/ MF			3		38,	SB's		1	K 0	-	
□ Stan		Li Level 4 (Full validation)					6/5	TPH (Gas only)	RO			SIMS)		Od.	2 PC			3	3	
	Accreditation I NELAP I Other		Sampler: N	lichael		TMB	TPH	0/D	(1.3	=	8270		ON	808			200		2	
D EDD				Sample Tem	ZYes perature: U	□ No - .0(CF)=0.U	т ш	+	GRC	418	205	or 8	SIS	NOS	IBS /		VOA)	ğ		10
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type		BTEX + MTBE	BTEX + MTBE	TPH 8015B (GRO / DRO / MRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or	RCRA 8 Metals	Anions (F,CI,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride		Air Bubbles (Y or N)
1/24/18	1230	5	Sessio-34 advisans - No Sik	402 So 150	TCF	-001	-				<u></u>	late.	IL.	4	80	80	8	X	+	4
1	1240		3 08800 34012918 11 BALLED		1	-007												X	+	++
	1245		5 DEVALOTE A CIQUES A 6 MIN 5 30			-003							11					X	+	++-
	1256		3 C88216-34-61291 8 MG Mm SHE			-004												X	+	1
	300		508840-314-012818-115-115-55			-005												X	1	1
	1315	5 7	5 08826-54-00018-464-WS-60			-006			=									X	+	++
130/18			503386-31-DIXON-MA-MA-MA			-007			7	Ħ	=							X		++-
1	0950		5-1882410-24-013018-146-146-16		-1-1	-008				Ħ								\	+	++-
	MSS		3 C8840-34 D13018-W670W473			-069			\exists		Ħ							X	+	
-(1=	1000		5-08-640-34-673618-1/16-1/11 E40	- /		-010											-		+	11
	1005		5-0854.18-34-0100 18 M.G.MAN ES			-011			1									X	+	
	1610		3:088me 54 013018-116 mmbe			-012														
Date:	Time: BSO	Relinquishe	od by:	Received by	1		Rem	arks De	r	SK	TiF)				- 4	- Is		-	1
Jate 18	Time:	Relinguish		Received by	Councy	Date Time 72/2/18/034	5													

Clien	Chain-of-Custody Record Client GHD Securces Mailing Address: 6 21 Indian School Rd			Turn-Around Time: ☐ Standard ☐ Rush Project Name: ☐ Curverice					it Ha	A	WWW	AL hal	YS lenv	SIS	S L	Al tal.o	ВО	5/7/3/6	TAL			
NE	11 6043	iest	que	VM 87116 Ste 200	Project #: 086210-34			Tel. 505-345-3975 Fax 505-345-4107 Analysis Request														
email QA/Q	Phone #: 50 5 35 H 667 2 email or Fax#: Bak roand Dock schealth @ DA/QC Package: □ Standard □ Level 4 (Full Validation)						TPH (Gas only)	(O / MRO)			SIMS)			40	ues	t.	ZIZA8					
D NE	ditation LAP		□ Othe	r	On Ice:	Mieha e ZYOS	LI No	+ TMB's	+	RO / DE	(18.1)	504 1)	8270 S	S	sls	O3.NO2.	s / 8082		\\ \	TI		or N)
Date	D (Type	T	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO. 1802/25	BTEX + MTBE	BTEX + MTBE	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504 1)	PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,CI,NO3.NO2.PO4.SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride		Air Bubbles (Yor N)	
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Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

August 21, 2018

Alan Brandon GHD 6121 Indian School Road, NE #200 Albuquerque, NM 87110 TEL: (505) 884-0672

FAX

RE: Flamenco OrderNo.: 1808832

Dear Alan Brandon:

Hall Environmental Analysis Laboratory received 15 sample(s) on 8/14/2018 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

Indel

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order: 1808832

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 8/21/2018

CLIENT: GHD Lab Order: 1808832 **Project:** Flamenco Lab ID: 1808832-001 **Collection Date:** 8/8/2018 1:30:00 PM Client Sample ID: S-088210-34-080818-JP-SB-10-60 Matrix: SOIL PQL Qual Units DF Date Analyzed **Analyses** Result **Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride 35 30 8/20/2018 12:35:08 PM 39874 mg/Kg Lab ID: 1808832-002 **Collection Date:** 8/8/2018 1:35:00 PM Client Sample ID: S-088210-34-080818-JP-SB-10-65 Matrix: SOIL PQL Qual Units DF Date Analyzed Analyses Result **Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride ND 30 mg/Kg 20 8/20/2018 1:12:22 PM 39874 Lab ID: 1808832-003 **Collection Date:** 8/8/2018 4:38:00 PM Client Sample ID: S-088210-34-080818-JP-SB-11-50 Matrix: SOIL POL Qual Units DF Date Analyzed Analyses Result **Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride 34 30 mg/Kg 8/20/2018 1:24:46 PM 39874 1808832-004 **Collection Date:** 8/8/2018 5:00:00 PM Lab ID: Matrix: SOIL Client Sample ID: S-088210-34-080818-JP-SB-11-65 **Analyses** Result **POL Qual Units** DF Date Analyzed Batch ID **EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride 30 20 8/20/2018 1:37:10 PM 430 mg/Kg 39874 Lab ID: 1808832-005 **Collection Date:** 8/9/2018 9:50:00 AM Client Sample ID: S-088210-34-080918-JP-SB-6-50 Matrix: SOIL **Analyses** Result PQL Qual Units DF Date Analyzed **Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride 33 30 8/20/2018 1:49:35 PM 39874 mg/Kg

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 4
- P Sample pH Not In Range
- RL Reporting Detection Limit

GHD

CLIENT:

Analytical Report

Lab Order: **1808832**

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 8/21/2018

1808832

Lab Order:

Project: Flamenco

Analyses Result PQL Qual Units DF Date Analyzed Batch ID

EPA METHOD 300.0: ANIONS Analyst: MRA

Chloride ND 30 mg/Kg 20 8/20/2018 2:02:00 PM 39874

Lab ID: 1808832-007 **Collection Date:** 8/9/2018 12:05:00 PM

Client Sample ID: S-088210-34-080918-JP-SB-5-20 Matrix: SOIL

Analyses Result PQL Qual Units DF Date Analyzed Batch ID

EPA METHOD 300.0: ANIONS Analyst: MRA

Chloride 45 30 mg/Kg 20 8/20/2018 2:14:24 PM 39874

Lab ID: 1808832-008 **Collection Date:** 8/9/2018 4:00:00 PM

Client Sample ID: S-088210-34-080918-JP-SB-9-60 **Matrix:** SOIL

Analyses Result PQL Qual Units DF Date Analyzed Batch ID

 EPA METHOD 300.0: ANIONS
 Analyst: MRA

 Chloride
 ND
 30
 mg/Kg
 20
 8/20/2018 2:26:49 PM
 39874

Client Sample ID: S-088210-34-080918-JP-SB-9-70 Matrix: SOIL

Analyses Result PQL Qual Units DF Date Analyzed Batch ID

EPA METHOD 300.0: ANIONS Analyst: MRA

Chloride ND 30 mg/Kg 20 8/20/2018 3:04:02 PM 39874

Lab ID: 1808832-010 **Collection Date:** 8/10/2018 9:47:00 AM

Client Sample ID: S-088210-34-081018-JP-SB-8-65 Matrix: SOIL

Analyses Result PQL Qual Units DF Date Analyzed Batch ID

EPA METHOD 300.0: ANIONS Analyst: MRA

Chloride 100 30 mg/Kg 20 8/20/2018 3:16:27 PM 39874

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

Oualifiers: * Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits Page 2 of 4

P Sample pH Not In Range

RL Reporting Detection Limit

Analytical Report

Lab Order: 1808832

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 8/21/2018

CLIENT: GHD Lab Order: 1808832 **Project:** Flamenco Lab ID: 1808832-011 **Collection Date:** 8/10/2018 9:30:00 AM Client Sample ID: S-088210-34-081018-JP-SB-8-60 Matrix: SOIL PQL Qual Units DF Date Analyzed **Analyses** Result **Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride 91 30 8/20/2018 3:28:52 PM 39874 mg/Kg Lab ID: 1808832-012 **Collection Date:** 8/10/2018 12:00:00 PM Client Sample ID: S-088210-34-081018-JP-SB-7-50 Matrix: SOIL PQL Qual Units DF Date Analyzed Analyses Result **Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride 32 30 mg/Kg 20 8/20/2018 3:41:17 PM 39874 Lab ID: 1808832-013 **Collection Date:** 8/10/2018 12:45:00 PM Matrix: SOIL Client Sample ID: S-088210-34-081018-JP-SB-7-40 Result POL Qual Units DF Date Analyzed Analyses **Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride ND 30 mg/Kg 8/20/2018 3:53:42 PM 39874 1808832-015 **Collection Date:** 8/10/2018 9:15:00 AM Lab ID: Client Sample ID: S-088210-34-081018-JP-SB-8-50 Matrix: SOIL **Analyses** Result **PQL Qual Units** DF Date Analyzed **Batch ID**

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

ND

30

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

- B Analyte detected in the associated Method Blank
- E Value above quantitation range

mg/Kg

- J Analyte detected below quantitation limits Page 3 of 4
- P Sample pH Not In Range
- RL Reporting Detection Limit

EPA METHOD 300.0: ANIONS

Chloride

Analyst: MRA

39874

20 8/20/2018 4:06:06 PM

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1808832

21-Aug-18

Client: GHD Project: Flamenco

Sample ID LCS-39874 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 39874 RunNo: 53555

Units: mg/Kg Prep Date: 8/20/2018 Analysis Date: 8/20/2018 SeqNo: 1766307

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Chloride 14 15.00 0 92.7 90 1.5 110

Sample ID MB-39874 SampType: mblk TestCode: EPA Method 300.0: Anions

Batch ID: 39874 Client ID: PBS RunNo: 53555

Prep Date: 8/20/2018 Analysis Date: 8/20/2018 SeqNo: 1766308 Units: mg/Kg

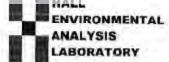
SPK value SPK Ref Val %REC LowLimit %RPD **RPDLimit** Analyte Result HighLimit Qual

Chloride ND 1.5

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Η
- ND Not Detected at the Reporting Limit
- POL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Ε Value above quantitation range
- J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Analyte detected below quantitation limits Page 4 of 4



Hall Environmental Analysis Laboratory 4901 Hawkins Ni-Albuquerque NM 87109 TEL: 305-345-3975 FAX: 505-345-4107 Website; www.hallenvironmental.com

Sample Log-In Check List

Client Name:	GHD	Work Order Nur	mber: 1808832		RoptNo: 1	
Received By	Isaiah Ortiz	8/14/2018 11 30:0	MA DO	ICA	e	
Completed By	Ashley Gallegos	8/14/2018 2:28:30	PM.	A		4. 30
Reviewed By:	.0	8/14/18	Labe	eled	by: JAB	08/14/18
Chain of Cus	tody					
1. Is Chain of C	ustody complete?		Yes V	No 🗌	Not Present	
2. How was the	sample delivered?		Courier			
Log In						
3 Was an attern	npt made to cool the sa	mples?	Yes 🗸	No 🗌	NA 🗌	
4. Were all samp	oles received at a temp	eralure of >0°C to 6.0°C	Yes 🗸	No 🗆	NA 🗔	
5. Sample(s) in	proper container(s)?		Yes 🔽	No 🗆		
6. Sufficient sam	ple volume for indicate	d (est(s)7	Yes 🗸	No L		
7. Are samples (except VOA and ONG)	properly preserved?	Yes 🗸	No _		
8. Was preservat	tive added to bottles?		Yes 🗌	No 🗸	NA 🗆	
9. VOA vials have	e zero headspace?		Yes =	No 🗆	No VOA Vials	8/14/18
10. Were any san	iple containers received	d broken7	Yes	No V	# of preserved	& Hall
	rk match bottle labels? Incies on chain of custo		Yes 🗹	No 🗌	or pH:	
12 Are matrices o	orrectly identified on Ch	nain of Custody?	Yes 🗸	No 🗔	Adjusted?	. 2230.4
	analyses were request		Yes V	No 🗌	100	
	ig times able to be met stomer for authorization		Yes 🗸	No 🗆	Checked by:	
	ng (if applicable)					
	tified of all discrepancie		Yes 🗌	No 🗆	NA 🗸	
Person t	Notified:	Date				
By Whor	m:	Via	eMail F	hone Fax	In Person	
Regardin	ng:					
Client In:	structions:					
16. Additional rem	narks: Sany	ele 5B-8-68,	not serev	ed. A		
17 Cooler Inform	nation			1		
Cooler No			Seal Date	Signed By		
1	2.3 Good	Yes				

Released to	0
Imaging:	T.
5/2/2022 3:36:34 PM	No el o nivini

Client:	GHD	-or-Ci	ustody Record	Standard	☐ Rush	YTERN				-	IN	AL	Y	SIS	S L	A	NMI BOR			
Mailing	Address	6121	Indian School Rd	Flamen	co			49	01 H					iron				à		
NE S	ite 20		google NM 87110	Project#: 088210-34				4901 Hawkins NE - Albuquerque, NM 87109 Tel. 505-345-3975 Fax 505-345-4107 Analysis Request												
			Brandon Oglid com	Project Mana	iger:		^	only)	(0)	T			Т	(†)		775		H	T	
	Package:		☐ Level 4 (Full Validation)	Alan Brandan		Also Paralina		+ TMB's (8021)	(Gas	DRO / MRO)		þ	(SIMS)		PO4,SC	PCB's				
Accredi		□ Othe	er	Sampler: J. On Ice:	Sampler: John Pigg / Mike On Ice: Seres E No		+ TMB	+ TPH	(GRO/DF	18.1)	04.1)	8270 8	L.	ON'S	\$ / 8082		A)	800		
□ EDD	(Type)			Sample Tem	perature: 33	10(CF) Z-3	BE.	MTBE	(G)	4 po	od 5	0 0	etals	N.	sides	F	2	5	2	
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 180883A	BTEX + MTBE	BTEX + MI	TPH 8015B	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA B Metals	Anions (F,CI,NO3,NO2,PO4,SO4)	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)	chlorides	1 de 1 de 1 de 1 de 1 de 1 de 1 de 1 de	
8-8-19	1530	5	5-093210-34-0808-9-7P-58-10-60	the glass Jan	ICE	-001						1						X		
8-8-19	1335		5-087210-34-080818-7P-58-10-65	9		-002												×		
8-8-18	1638		5-088210-34-081818-JP-38-11-50			-003							Π,					×		
8-8-8	1700		5-088210-34-080812-37-58-11-65			-004												×		
8-7-18	450		5-088110-34-080418-37-58-6-50			-005		-	1									>		
8-1-13	1020		5-087210-54-080918-3P-58-6 6	()(i_i)		-000												*		
8-9-18	1205		5-088210-34-080418-57-58-5-2			-007						T						x		
8-9-18	1600		5-088210-34-080918-29-58-9-6			-008			17			\Box						X		
8-4-18	1640		5-088210-34-080418-38-58-1-70	- 1-	1-1/2	-009												×		
8-10-18	0947		5-088210-34-090018-78-56-865			-010												X		
8-10-18	0430		5-08820-34-8 1018-38-8-8	(/		-011												X		
0-10-18 Date:	1200	-	5-082210-34-081018-37-58-7-5	11	49	-012												×		
13/18 13/16		Relinquish	2.h. (//	Received by:	1	Date Time 8/13/18/1000		nark	3.											

Pate:	Time:	Relinquished by:
13/15	1000	2-1-(1
Gate	Time:	Relinevished by:
Vie les	1 6600	MAAA

sample SB-11-65 not received \$ 8/15



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

August 27, 2018

Alan Brandon GHD 6121 Indian School Road, NE #200 Albuquerque, NM 87110 TEL: (505) 884-0672

FAX

RE: Flamenco OrderNo.: 1808911

Dear Alan Brandon:

Hall Environmental Analysis Laboratory received 2 sample(s) on 8/15/2018 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

Indel

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order: 1808911

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 8/27/2018

CLIENT: GHD Lab Order: 1808911

Project: Flamenco

Lab ID: 1808911-001 **Collection Date:** 8/7/2018 1:20:00 PM

Client Sample ID: S-088210-34-080718-JP-SB-10-55 Matrix: SOIL

Analyses Result PQL Qual Units DF Date Analyzed Batch ID

EPA METHOD 300.0: ANIONS Analyst: MRA

Chloride 1300 75 mg/Kg 50 8/24/2018 5:11:57 PM 39891

Lab ID: 1808911-002 **Collection Date:** 8/9/2018 3:32:00 PM

Client Sample ID: S-088210-34-080718-JP-SB-9-50 Matrix: SOIL

Analyses Result PQL Qual Units DF Date Analyzed Batch ID

EPA METHOD 300.0: ANIONS Analyst: MRA

Chloride 32 30 mg/Kg 20 8/20/2018 6:10:13 PM 39891

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 2
- P Sample pH Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1808911**

Page 2 of 2

27-Aug-18

Client: GHD
Project: Flamenco

Sample ID MB-39891 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 39891 RunNo: 53555

Prep Date: **8/20/2018** Analysis Date: **8/20/2018** SeqNo: **1766339** Units: **mg/Kg**

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

Chloride ND 1.5

Sample ID LCS-39891 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 39891 RunNo: 53555

Prep Date: 8/20/2018 Analysis Date: 8/20/2018 SeqNo: 1766340 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 91.8 90 110

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- 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: Work Order Number: 1808911 RcptNo: 1 Received By: **Ashley Gallegos** 8/15/2018 8:40:00 AM Completed By: **Ashley Gallegos** 8/15/2018 9:47:30 AM labeled 64: ENM 8/15/18 8/15/18 Reviewed By: Chain of Custody No 🗌 Not Present 1. Is Chain of Custody complete? Yes 🗸 2. How was the sample delivered? Courier Log In No 🗌 NA 🗆 Was an attempt made to cool the samples? Yes 🗸 No 🗆 NA 🗌 4. Were all samples received at a temperature of >0° C to 6.0°C Yes 🗸 No 🗌 Sample(s) in proper container(s)? Yes 🗸 No \square Sufficient sample volume for indicated test(s)? Yes 🗸 7. Are samples (except VOA and ONG) properly preserved? Yes 🗹 Νo No 🗹 NA 🔲 8. Was preservative added to bottles? Yes 🗀 Yes 🗌 No VOA Vials No 9. VOA vials have zero headspace? Yes 🗆 No 🗹 10. Were any sample containers received broken? # of preserved bottles checked Yes 🗹 No 11. Does paperwork match bottle labels? 12 unless noted) (Note discrepancies on chain of custody) 12. Are matrices correctly identified on Chain of Custody? Yes 🗹 No 13. Is it clear what analyses were requested? Yes ~ Nο Checked by: Yes 🗹 14. Were all holding times able to be met? Nο (If no, notify customer for authorization.) Special Handling (if applicable) Yes 🗌 NA 🗹 15. Was client notified of all discrepancies with this order? No 🗔 Person Notified: Date ☐ eMail ☐ Phone ☐ Fax By Whom: Via: In Person Regarding: Client Instructions: 16. Additional remarks: 17. Cooler Information Cooler No. Temp C. Condition | Seal Intact | Seal No. | Seal Date | Signed By 3.3 Good Yes

Received by	OCD:	2/22/202	2 2:01:17	7 PM
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Page 366 of 500

Appendix B Soil Boring Logs and Monitoring Well Details

Page 1 of 1

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

HOLE DESIGNATION: MW-5/SB-5

PROJECT NAME: FLAMENCO FED NO. 1
PROJECT NUMBER: 088210-34
CLIENT: EOG RESOURCES

DATE COMPLETED: 9 August 2018
DRILLING METHOD: AIR ROTARY

LOCATION: LEA COUNTY, NEW MEXICO

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft	BOREHOLE			SAME		
				NUMBER	INTERVAL	REC (%)	'N' VALUE	Chloride (mg/kg)
2 4 6 8 10 12 14 16	SM-SILTY SAND, few gravel, very fine grained, poorly graded, whitish pink, dry		BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS					
20 22 24	- very hard at 20.0ft BGS	25.00		SB-5-20				<1.0
26	- REFUSAL at 25.0ft BGS END OF BOREHOLE @ 25.0ft BGS	25.00	_					
28 30								
32								

GHD

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 2

PROJECT NAME: FLAMENCO FED NO. 1

PROJECT NUMBER: 088210-34 CLIENT: EOG RESOURCES

LOCATION: LEA COUNTY, NEW MEXICO

HOLE DESIGNATION: MW-7
DATE COMPLETED: 10 August 2018

DRILLING METHOD: AIR ROTARY

FIELD PERSONNEL: J. PIGG

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft	BOREHOLE			SAME		
11 200				NUMBER	INTERVAL	REC (%)	'N' VALUE	Chloride
4	SP-SAND, with fines, fine to medium grained, cohesive, low plasticity, yellow/reddish brown, dry		■ BACKFILLED WITH					
8								
10								
14								
18								
20 -	SM-SILTY SAND, fine to very fine grained, low plasticity, well sorted, reddish brown, dry	20.00		MW-7-20				<
24			■ BACKFILLED WITH	,				
26								
28								
30				MW-7-30				<
32			BENTONITE CHIPS AND SOIL CUTTINGS					
		[세시]						

GHD

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 2 of 2

PROJECT NAME: FLAMENCO FED NO. 1
PROJECT NUMBER: 088210-34

LOCATION: LEA COUNTY, NEW MEXICO

CLIENT: EOG RESOURCES

HOLE DESIGNATION: MW-7

DATE COMPLETED: 10 August 2018

DRILLING METHOD: AIR ROTARY

FIELD PERSONNEL: J. PIGG

EPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH	BOREHOLE			SAMI	PLE	
t BGS		ft		NUMBER	INTERVAL	REC (%)	'N' VALUE	Chloride (ma/ka)
36								
38								
10	- very fine grained, medium plasticity, reddish yellow at 40.0ft BGS			MW-7⊲	04			<1
12								
14								
46								
18								
50	END OF BOREHOLE @ 50.0ft BGS	50.00		MW-7-	50			<1
52								
54								
56								
58								
60								
52								
54								
66								
68								
N	NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; RE	FER TO CURI	RENT ELEVATION TABLE		-	1	1	1

GHD

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 2

PROJECT NAME: FLAMENCO FED NO. 1
PROJECT NUMBER: 088210-34

CLIENT: EOG RESOURCES

LOCATION: LEA COUNTY, NEW MEXICO

HOLE DESIGNATION: MW-8

DATE COMPLETED: 10 August 2018

DRILLING METHOD: AIR ROTARY

FIELD PERSONNEL: J. PIGG

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS		DEPTH ft	BORE	HOLE	~		SAMF		
						NUMBER	INTERVAL	REC (%)	'N' VALUE	Chloride
	SP-SAND, with gravel and fines, fine to medium grained, low plasticity, reddish brown, dry									
2	g , , p, ,									
4										
6										
8										
10										
12										
14										
40										
16										
· 18										
10										
- 20						MW-8-20				<
22										
24										
26										
28										
20			30.00							
30	SP/GP-SAND/GRAVEL, trace fines, medium to coarse grained, poor plasticity, light gray, dry	\$	30.00			MW-8-30				<
32	,	())::::								
		. Ø.		—	BACKFILLED WITH					
- 34		(· · · ·			BENTONITE CHIPS AND					
		\			SOIL					

Page 2 of 2

311

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

HOLE DESIGNATION: MW-8

FIELD PERSONNEL: J. PIGG

PROJECT NAME: FLAMENCO FED NO. 1 PROJECT NUMBER: 088210-34

LOCATION: LEA COUNTY, NEW MEXICO

PROJECT NUMBER: 088210-34 DATE COMPLETED: 10 August 2018
CLIENT: EOG RESOURCES DRILLING METHOD: AIR ROTARY

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft	BOREHOLE	SAMPLE					
11 000		II.		NUMBER	INTERVAL	REC (%)	'N' VALUE	Chloride	
- 36		& O	CUTTINGS						
-38			CUTTINGS						
-40	CL-SILTY CLAY, some sand, very fine grained, moderate plasticity, well graded, dark reddish brown, dry	40.00		MW-8-40				<	
-42									
-44									
- 46									
-48 -50	- reddish brown at 50.0ft BGS			MW-8-50				<	
- 52	- reduish diown at 30.01t DOS			1VIVV-8-5U					
- 54									
- 56									
- 58									
- 60	ML-SANDY SILT, some 3mm gravel, very fine	60.00		MW-8-60				<	
- 62	grained, moderate to low plasticity, reddish gray/brown, dry								
- 64									
- 66	END OF BOREHOLE @ 65.0ft BGS	65.00	1 28	MW-8-65				12	
- 68									

Page 1 of 2

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

HOLE DESIGNATION: SB-10

PROJECT NAME: FLAMENCO FED NO. 1
PROJECT NUMBER: 088210-34

DATE COMPLETED: 8 August 2018
DRILLING METHOD: AI ROTARY

CLIENT: EOG RESOURCES
LOCATION: LEA COUNTY, NEW MEXICO

EPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	D	EPTH	BOREH	IOI E			SAMF	PLE	
BGS	OTTATIONAL FILE DECOME FICH & NEW AND AND ADDRESS OF THE PERSON OF THE P		ft	BONEI		NUMBER	INTERVAL	REC (%)	'N' VALUE	
	SM-SILTY SAND, with gravel, very fine grained, poorly graded, reddish yellow, dry									
	poorly graded, reddish yellow, dry									
2										
4										
6										
8										
10										
12										
_										
14										
'										
10										
16										
18										
20						SB-10-20				
22										
24										
						SB-10-25				
26										
28										
30		30	0.00			SB-10-30				
	SP/CL-SAND/CLAY, very fine cemented sand, lean clay, poorly graded, reddish brown, dry					02-10-00				
22										
32				✓	- BACKFILLED					
					WITH BENTONITE					
34					CHIPS AND SOIL					

STRATIGRAPHIC A (O)

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 2 of 2

PROJECT NAME: FLAMENCO FED NO. 1
PROJECT NUMBER: 088210-34

LOCATION: LEA COUNTY, NEW MEXICO

CLIENT: EOG RESOURCES

DATE COMPLETED: 8 August 2018
DRILLING METHOD: AI ROTARY
FIELD PERSONNEL: M. GANT

SB-10

HOLE DESIGNATION:

EPTH t BGS	STRATIGRAPHIC DESCRIPTION & REMARKS		DEPTH ft	BOR	EHOLE	SAMPLE							
						NUMBER	INTERVAL	REC (%)	'N' VALUE	Chloride (mg/kg)			
36	SP-SAND, fine to medium grained, cemented, poorly graded, gray/brown, dry		35.00		CUTTINGS	SB-10-35 ⁻¹				<1			
40						SB-10-40				<1			
12													
46	SM-SILTY SAND, very fine grained, well graded, reddish brown, dry		45.00			SB-10-45				<1			
50						SB-10-50				<1			
52													
56	CL-SILTY CLAY, very fine grained, well graded, brown		55.00			SB-10-55				89:			
58	- light brown at 60.0ft BGS					SB-10-60				<1			
62	J												
66	END OF BOREHOLE @ 65.0ft BGS		65.00			SB-10-65				<1			
68													
N	OTES: MEASURING POINT ELEVATIONS MAY CHAN	GE; REFI	ER TO CURR	ENT ELEVAT	TION TABLE								

Page 1 of 2

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

HOLE DESIGNATION: SB-11

PROJECT NAME: FLAMENCO FED NO. 1
PROJECT NUMBER: 088210-34

CLIENT: EOG RESOURCES

DATE COMPLETED: 8 August 2018
DRILLING METHOD: AIR ROTARY

LOCATION: LEA COUNTY, NEW MEXICO

EPTH BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft	BOREHOLE			SAM	PLE	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		nt .		NUMBER	INTERVAL	REC (%)	'N' VALUE	Chloride (mg/kg)
	SM-SILTY SAND, trace 1-3mm pebbles), very fine grained, reddish brown, dry							
2								
	[.							
.								
3								
3								
0								
2								
4								
6								
18								
20	- 1-5mm pebbles, reddish yellow/brown at 20.0ft BGS			SB-11-2	0			<1
22								
.								
24								
26			 					
28								
	[:	30.00	BACKFILLE WITH BENTONIT CHIPS ANI SOIL					
во	ML-CLAYEY SILT, with sand, trace pebbles,	30.00		SB-11-3	o			<1
	very fine grained, dark brown, with red, dry							
32			BACKFILLE	ED				
			WITH BENTONIT	E				
34			CHIPS ANI SOIL					
- NI	IOTES: MEASURING POINT ELEVATIONS MAY CHANGE; I	REFER TO CL	JRRENT FLEVATION TABLE	'	1			

Page 2 of 2

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

HOLE DESIGNATION: SB-11

PROJECT NAME: FLAMENCO FED NO. 1 PROJECT NUMBER: 088210-34

CLIENT: EOG RESOURCES

DATE COMPLETED: 8 August 2018
DRILLING METHOD: AIR ROTARY

LOCATION: LEA COUNTY, NEW MEXICO

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH	BOREHOLE			SAMF	PLE	
ft BGS		ft		NUMBER	INTERVAL	REC (%)	'N' VALUE	Chloride (mg/kg)
	SM-SILTY SAND, with clay, some 1-4mm pebbles, very fine grained, light reddish brown, dry	40.00	CUTTINGS	SB-11-40				<1
46 48 50 52 54	CL-SILTY CLAY, with fine sand, very fine grained, light brown, with reddish tint, slightly moist	50.00		SB-11-50				<1
56 58 60 62 64 66 66 68 68	- trace fine sand and cohesive clay, fine grained, reddish brown at 60.0ft BGS	65.00		SB-11-60				<1
 	END OF BOREHOLE @ 65.0ft BGS NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; F	65.00 FEED TO CUP		SB-11-65				<6

Page 1 of 2

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

HOLE DESIGNATION: SB-6

PROJECT NUMBER: 088210-34 CLIENT: EOG RESOURCES DATE COMPLETED: 9 August 2018
DRILLING METHOD: AIR ROTARY

LOCATION: LEA COUNTY, NEW MEXICO

PROJECT NAME: FLAMENCO FED NO. 1

EPTH t BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft	BOREHOLE	~		SAMF		
				NUMBER	INTERVAL	REC (%)	'N' VALUE	Chloride (mg/kg)
2 4 6 8	SM-SILTY SAND, with silt, trace gravel, loose, very fine grained, plastic, well graded, reddish yellow, dry							
12 14 16 18	- poorly graded, increase in yellow at 20.0ft BGS			SB-6-20				<1
22 24 26								
30 - 32 34	CL/ML-CLAYEY SILT, with 2-14mm gravel, with sand, very fine grained, medium plasticity, poorly graded, tannish yellow, dry	30.00	BACKFILLED WITH BENTONITE CHIPS AND SOIL CUTTINGS	SB-6-30				<1

Page 2 of 2

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: FLAMENCO FED NO. 1

PROJECT NUMBER: 088210-34 CLIENT: EOG RESOURCES

LOCATION: LEA COUNTY, NEW MEXICO

HOLE DESIGNATION: SB-6

DATE COMPLETED: 9 August 2018
DRILLING METHOD: AIR ROTARY

EPTH t BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft	BOREHOLE			SAM		Ι
				NUMBER	INTERVAL	REC (%)	'N' VALUE	Chloride (ma/kg)
36								
38								
10	- increase in sand and gravel content at 40.0ft BGS			SB-6-40				<1
.2								
14								
16								
18								
50	ML-SANDY SILT, with 1-4mm gravel, very fine grained, medium to low plasticity, well graded, reddish yellow/brown, dry	50.00		SB-6-50				<
52								
54								
56								
58								
50	END OF BOREHOLE @ 60.0ft BGS	60.00	V4Z4	SB-6-60				<1
52								
54								
66								
68								
NC	OTES: MEASURING POINT ELEVATIONS MAY CHANGE; RI	EFER TO CUR	RENT ELEVATION TABLE	ı	l	1	1	1

Appendix C NMSOE Well Permits and BLM Sundry

STATE OF NEW MEXICO

OFFICE OF THE STATE ENGINEER
District 2 Office, Roswell, NM

Tom Blaine, P.E. State Engineer

DISTRICT II

1900 West Second St. Roswell, New Mexico 8820 Phone: (575) 622-6521 Fax: (575) 623-8559

Trn Nbr: 612679 File Nbr: C-4144

August 28, 2017

Christine Mathews GHD Services Inc. 6121 Indian School RD NE Albuquerque NM 87110 Zane Kurts EOG Resources 5509 Champion Drive Midland TX 79706

GREETINGS:

Enclosed is your copy of the above numbered permit that has been approved subject to the conditions set forth on the approval page. In accordance with the conditions of approval, the well can only be tested for 10 cumulative days, and the well is to be plugged on or before 08/28/2018, unless a permit to use the water is acquired from this office.

A well Record & Log (OSE Form wr-20) shall be filed in this office within thirty (30) days after completion of drilling, but no later than 08/28/2018.

Appropriate forms can be downloaded from the OSE website www.ose.state.nm.us or will be mailed upon request.

Sincerely,

Alvaro Alvarado

Water Resources Professional

ENCLOSURE cc Santa Fe

Received by OCD: 2/22/2022 2:01:17 PM

File No.		



NEW MEXICO OFFICE OF THE STATE ENGINEER

WR-07 APPLICATION FOR PERMIT TO DRILL A WELL WITH NO WATER RIGHT



(check applicable box):

	For fees, see State Engi	ineer website: http://www.ose.state.nm.us/
Purpose:	Pollution Control And/Or Recovery	☐ Ground Source Heat Pump
☐ Exploratory Well (Pump test)	Construction Site/ Works Dewatering	
Monitoring Well	☐ Mine Dewatering	
A separate permit will be required	to apply water to beneficia	al use regardless if use is consumptive or nonconsumptive.
Temporary Request - Requeste	ed Start Date: 8/28/2017	Requested End Date: TBD
Plugging Plan of Operations Subm	nitted? 🗌 Yes 🔳 No	65
		TE
1. APPLICANT(S)		
Name: GHD Services Inc. on behalf of E	06 Resources	Name: EOG Resources
Contact or Agent:	check here if Agent	Contact or Agent: check here if Agent
Christine Mathews		Zane Kurtz
Malling Address: 6121 Indian School Rd NE		Mailing Address: 5509 Champion Drive
City: Albuquerque		City: Midland
State: New Mexico	Zip Code: 87110	State: Zip Code: 79706
Phone: 505-269-0088 Phone (Work):	☐ Home ■ Cell	Phone: (432) 425-2023
E-mail (optional): chrsitine.mathews@ghd.com		E-mail (optional): Zane_Kurtz@eogresources.com

FOR OSE IN	ITERNAL	USE
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Application for Permit, Form WR-07, Rev 11/17/16

File No.: C 4144	Trn. No.: 612679	Receipt No.: 2-3853
Trans Description (optional):	-4144-PODI th	10 C-4144-PODY
Sub-Basin:	PCW/LOG Due	Date: 8-28-2018
		Deat 4 - 60

Page 1 of 3

Page 380 of 500

2. WELL(S) Describe the well(s) applicable to this application.

NM West ZoneNM East ZoneNM Central Zone		JTM (NAD83) (Mete]Zone 12N]Zone 13N	ers)		
Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (Quarters or Halves , Section, Township, Range) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name		
MW-1	-103 43' 21.51"W	32 24' 09.12"N			
MW-2	-103 43'21.21"	32 24' 07.85"	BOSTILL 7017 ATS		
MW-3	-103 43' 17.16"	32 24' 11.34"	60		
MW-4	-103 43' 18.74"	32 24' 10.25"			
NOTE: If more well locations in Additional well descriptions and Other description relating well to lust east of Campbell Rd. General	re attached: U Y common landmark	es ■ No s, streets, or other:	WR-08 (Attachment 1 – POD Descriptions) If yes, how many 3.722648		
Well is on land owned by: Bureau	u of Land Managem	nent - Simo	in included		
Well Information: NOTE: If mor If yes, how many	re than one (1) wel	I needs to be desc	cribed, provide attachment. Attached? Yes No		
Approximate depth of well (feet):	35	0	Outside diameter of well casing (inches): 2		
Driller Name: EnviroDrill Inc		D	Driller License Number: WD 1186		

FOR OSE INTERNAL USE

Application for Permit, Form WR-07

File No.: C-4144 Trn No.: 617

Page 381 of 500

Monitoring:
Include the reason for the monitoring well, and,
The duration of the planned monitoring.

☐ The annual diversion amount. ☐ The annual consumptive use amount. ☐ The maximum amount of water to be diverted and injected for the duration of the operation. The method and place of discharge. The method of measurement of water produced and discharged. The source of water to be injected. The method of measurement of water injected. The characteristics of the aguifer. The method of determining the resulting annual consumptive use of water and depletion from any related stream system. Proof of any permit required from the New Mexico Environment Department. An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.

A description of the need for the dewatering operation, A description of how the diverted water will be disposed Ground Source Heat Pump: ☐ Include a description of the geothermal heat exchange project, ☐ The number of boreholes for the completed project and required depths. The time frame for constructing the geothermal heat exchange project, and, ☐ The duration of the project. Preliminary surveys, design data, and additional information shall be included to provide all essential facts

aquifer(s). The maximum amount of water to be diverted per annum. ☐The maximum amount of water to be diverted for the duration of the operation. ☐The quality of the water. ☐The method of measurement of water diverted. ☐The recharge of water to the aquifer. Description of the estimated area of hydrologic effect of the project. The method and place of discharge. An estimation of the effects on surface water rights and underground water rights from the mine dewatering project. A description of the methods employed to estimate effects on surface water rights and underground water rights. ☐Information on existing wells, rivers. springs, and wetlands within the area of hydrologic effect.

ACKNOWLEDGEMENT

relating to the request.

	Print N	lame(s)		in)	
affirm that the foregoing statements are true to t	he best of (my,	our) knowledge and belie	f.	200	25
Viruo Metria	0			言	
Applicant Signature		Applicant Signa	ature	00	170
	ACTION OF T	THE STATE ENGINEER		23	100
	This	s application is:		11	600
□ (ε	pproved	partially approved	denied	8	961
Witness my hand and seal this 28 days	or Aug V.E.	JUST 20 17	_ , for the State	Engineer,	
Ву:	>	AZ	VAONAC	VARAMO	
Signature	0	Print			
	rec Ho	OFFSSION AC			
Title: WAJER COOR	Les I V			(4/2/3/3/4/	75.57
	FOR OSE INT	ERNAL USE		Application for Permit,	Form WR-07

Page 382 of 500

Page 3 of 3

Received by OCD: 2/22/2022 2:01:17 PM

NEW MEXICO STATE ENGINEER OFFICE PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL

- Depth of the well shall not exceed the thickness of the valley fill.
- 17-4 No water shall be appropriated and beneficially used under this permit.
- 17-7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.
- 17-B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with 72-12-12 NMSA 1978. A licensed driller shall not be required for the construction of a well driven without the use of a drill rig, provided that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter.
- 17-C The well driller must file the well record with the State Engineer and the applicant within 30 days after the well is drilled or driven. It is the well owner's responsibility to ensure that the well driller files the well record. The well driller may obtain the well record form from any District Office or the Office of the State Engineer website.
- 17-C2 No water shall be diverted from this well except for testing purposes which shall not exceed ten (10) cumulative days, and well shall be plugged or capped on or before , unless a permit to use water from this well is acquired from the Office of the State Engineer.

Trn Desc: C 04144-POD1 THRU POD4

File Number: C 04144

Trn Number: 612679

Received by OCD: 2/22/2022 2:01:17 PM

NEW MEXICO STATE ENGINEER OFFICE PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

- 17-P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between hydrogeologic zones.
- 17-Q The State Engineer retains jurisdiction over this permit.
- LOG The Point of Diversion C 04144 POD1 must be completed and the Well Log filed on or before 08/28/2018.
- LOG The Point of Diversion C 04144 POD2 must be completed and the Well Log filed on or before 08/28/2018.
- LOG The Point of Diversion C 04144 POD3 must be completed and the Well Log filed on or before 08/28/2018.
- LOG The Point of Diversion C 04144 POD4 must be completed and the Well Log filed on or before 08/28/2018.

ACTION OF STATE ENGINEER

Notice of Intention Rcvd: Date Rcvd. Corrected:
Formal Application Rcvd: 08/18/2017 Pub. of Notice Ordered:
Date Returned - Correction: Affidavit of Pub. Filed:

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the specific conditions listed previously.

Witness my hand and seal this 28 day of Aug A.D., 2017

Tom Blaine, P.E. , State Engineer

Alvaro Alvarado

Trn Desc: C 04144-POD1 THRU POD4

File Number: C 04144 Trn Number: 612679

OFFICE OF THE STATE ENGINEER/INTERSTATE STREAM COMMISSION - ROSWELL OFFICE

OFFICIAL RECEIPT NUMBER: 2 - 3	8532	DATE:	8-18-17	FILE NO	0.:	
TOTAL: \$\documents 0.00 REC	EIVED:	4,000	W 400	DOLLA	RS, CHECK NO.: 1131 CASH:	
PAYOR: CHESTINE N	nnu	20 100		21.2221	Dans Mi	110
PAYUR: OFFESTIVE IN	HILLING	ADD	RESS: 8810 COHO	10000	CITY: HI DO STA	TE: 1
ZIP: 8 11 RECEIVED BY:	DD				,	
INSTRUCTIONS: Indicate the number of actions for Water Rights. If a mistake is made, void the c	to the left of the original and all co	appropriate pies and sub	type of filing. Complete the receipt informit to Program Support/ASD as part of y	mation. Origina our daily deposit.	I to payor; pink copy to Program Support/ASD; and	yellow copy
A. Ground Water Filing Fees		B. Sur	face Water Filing Fees		C. Well Driller Fees	
1. Change of Ownership of Water Right	\$ 2.00	1.		\$ 5.00	1. Application for Well Driller's License	\$ 50.00
 Application to Appropriate or Supplement 		2.		\$ 10.00	2. Application for Renewal of Well	φ 50.00
Domestic 72-12-1 Well	\$ 125.00	3.	Amended Declaration	\$ 25.00	Driller's License	\$ 50.00
 Application to Repair or Deepen 		4.		n	3. Application to Amend Well Driller's	
72-12-1 Well	\$ 75.00		and Place and/or Purpose of Use from		License	\$ 50.00
4. Application for Replacement	Language Com-	-	Surface Water to Surface Water	\$ 200.00		
72-12-1 Well	\$ 75.00	5.	Application to Change Point of Diversion	n	D. Reproduction of Documents	
5. Application to Change Purpose of Use	1 75 00		and Place and/or Purpose of Use from	000000	@ 0.25¢	\$
72-12-1 Well	\$ 75.00	-	Ground Water to Surface Water	\$ 200.00		
6. Application for Stock Well/Temp. Use	\$ 5.00	6.	Application to Change Point of	+ 100.00	Map(s)	\$
		7	Diversion	\$ 100.00		
		_ /.	Application to Change Place and/or Purpose of Use	± 100 00		
 Application to Appropriate Irrigation, 	9 5000	0		\$ 100.00	E. Certification	\$
Municipal, or Commercial Use	\$ 25.00		Application to Appropriate Notice of Intent to Appropriate	\$ 25.00		
8. Declaration of Water Right	\$ 1.00	9.	Application for Extension of Time	\$ 25.00 \$ 50.00	F. Other	+
Application for Supplemental Non	1 25 00		Supplemental Well to a Surface Right	\$ 100.00	r. Other	>
72-12-1 Well	\$ 25.00		Return Flow Credit	\$ 100.00	C Commission	
10. Application to Change Place or	+ 25.00		Proof of Completion of Works	\$ 25.00	G. Comments:	
Purpose of Use Non 72-12-1 Well 11. Application to Change Point of Diversion	\$ 25.00	14	Proof of Application of Water to	\$ 23.00		
and Place and/or Purpose of Use from			Beneficial Use	\$ 25.00	= ted ex	
Surface Water to Ground Water	\$ 50.00	15	Water Development Plan	\$ 100.00	Day GID I For	DACO
12. Application to Change Point of Diversion			Declaration of Livestock Water	φ 100.00	REGIAD LEGG	Flocile
and Place and/or Purpose of Use from			Impoundment	\$ 10.00		
Ground Water to Ground Water	\$ 50.00	17	Application for Livestock Water	Ψ 10.00		
13. Application to Change Point of	\$ 50.00		Impoundment	\$ 10.00		
Diversion of Non 72-12-1 Well	\$ 25.00		A Mariante a	4	-	
14. Application to Repair or Deepen	Ψ 25.00					
Non 72-12-1 Well	\$ 5.00					
Maria de la Caracteria					-	
15. Application for Test, Expl. Observ. Well					-	
16. Application for Extension of Time	\$ 25.00					
17. Proof of Application to Beneficial Use	\$ 25.00					
18. Notice of Intent to Appropriate	\$ 25.00		Il food and man water dal	al a		



STATE OF NEW MEXICO

OFFICE OF THE STATE ENGINEER
District 2 Office, Roswell, NM

Tom Blaine, P.E. State Engineer

DISTRICT II

1900 West Second St. Roswell, New Mexico 88201 Phone: (575) 622-6521 Fax: (575) 623-8559

Trn Nbr: 612679 File Nbr: C-4144

August 28, 2017

Christine Mathews GHD Services Inc. 6121 Indian School RD NE Albuquerque NM 87110 Zane Kurts EOG Resources 5509 Champion Drive Midland TX 79706

GREETINGS:

Enclosed is your copy of the above numbered permit that has been approved subject to the conditions set forth on the approval page. In accordance with the conditions of approval, the well can only be tested for 10 cumulative days, and the well is to be plugged on or before 08/28/2018, unless a permit to use the water is acquired from this office.

A well Record & Log (OSE Form wr-20) shall be filed in this office within thirty (30) days after completion of drilling, but no later than 08/28/2018.

Appropriate forms can be downloaded from the OSE website <u>www.ose.state.nm.us</u> or will be mailed upon request.

Sincerely,

Alvaro Alvarado

Water Resources Professional

ENCLOSURE cc Santa Fe

File No.	



NEW MEXICO OFFICE OF THE STATE ENGINEER

WR-07 APPLICATION FOR PERMIT TO DRILL A WELL WITH NO WATER RIGHT



(check applicable box):

	For fees, see State Engi	ineer website: http://www.ose.state.nm.us/
Purpose:	Pollution Control And/Or Recovery	☐ Ground Source Heat Pump
☐ Exploratory Well (Pump test)	Construction Site/ Works Dewatering	/Public Other(Describe):
Monitoring Well	☐ Mine Dewatering	
A separate permit will be required	to apply water to beneficia	al use regardless if use is consumptive or nonconsumptive.
Temporary Request - Request	ed Start Date: 8/28/2017	Requested End Date: TBD
Plugging Plan of Operations Subm	nitted? 🗌 Yes 🔳 No	65
		翌 5
1. APPLICANT(S)		S 88
Name: GHD Services Inc. on behalf of E	o Gresources	Name: EOG Resources
Contact or Agent:	check here if Agent	Contact or Agent: check here if Agent
Christine Mathews		Zane Kurtz
Mailing Address: 6121 Indian School Rd NE		Mailing Address: 5509 Champion Drive
City: Albuquerque		City: Midland
State: New Mexico	Zip Code: 87110	State: Zip Code: 79706
Phone: 505-269-0088 Phone (Work):	☐ Home ■ Cell	Phone: (432) 425-2023
E-mail (optional): chrsitine.mathews@ghd.com		E-mail (optional): Zane_Kurtz@eogresources.com

FOR OSE IN	ITERNAL	USE
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Application for Permit, Form WR-07, Rev 11/17/16

File No.: C-4144	Trn. No.: 612679	Receipt No.: 2-3853
Trans Description (optional):	2-4144-PODI th	10 C-4144-PODY
Sub-Basin:	PCW/LOG Due	Date: 8-28-2018
		D-11.6

2. WELL(S) [Describe the well(s)	applicable to the	nis application.
--------------	----------------------	-------------------	------------------

NM State Plane (NAD83)NM West ZoneNM East ZoneNM Central Zone		JTM (NAD83) (Meter]Zone 12N]Zone 13N	(s) Lat/Long (WGS84) (to the nearest 1/10 th of second)
Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (Quarters or Halves, Section, Township, Range) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
MW-1	-103 43' 21.51"W	32 24' 09.12"N	
MW-2	-103 43'21.21"	32 24' 07.85"	ATT ATTE
MW-3	-103 43' 17.16"	32 24' 11.34"	818
MW-4	-103 43' 18.74"	32 24' 10.25"	
IOTE: If more well location	s need to be describ	ed complete form	WR-08 (Attachment 1 – POD Descriptions)
Additional well descriptions Other description relating well st east of Campbell Rd. Gen	to common landmark eral site coordinatesa	es ■ No s, streets, or other: are 32.402374, -103	If yes, how many
vell is on land owned by: Bure vell Information: NOTE: If n			ribed, provide attachment. Attached? Yes No
If yes, how many	TA 12 DEL 10100		,
pproximate depth of well (fee	et): 35		tside diameter of well casing (inches): 2
iller Name: EnviroDrill Inc		Dri	ller License Number: WD 1186

3

annulus around screen to 2 ft. above top of screen. A 2 ft. thick hydrated bentonite plug will be placed on top of the sand pack, and followed by cement/bentonite grout to surface.

Monitoring wells are being installed at the request of NMOCD to assress groundwater quality.

The duration of planned monitoring will continue until NMOCD grants remedial Site closure.

Application for Permit, Form WR-07

File No.: Trn No.:

Page 2 of 3

Print

Page 389 of 500

FOR OSE INTERNAL USE

Application for Permit, Form WR-07

Trn No.: 617 67

Page 3 of 3

Received by OCD: 2/22/2022 2:01:17 PM

NEW MEXICO STATE ENGINEER OFFICE PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL

- 17-1A Depth of the well shall not exceed the thickness of the valley fill.
- 17-4 No water shall be appropriated and beneficially used under this permit.
- 17-7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.
- 17-B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with 72-12-12 NMSA 1978. A licensed driller shall not be required for the construction of a well driven without the use of a drill rig, provided that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter.
- 17-C The well driller must file the well record with the State Engineer and the applicant within 30 days after the well is drilled or driven. It is the well owner's responsibility to ensure that the well driller files the well record.

 The well driller may obtain the well record form from any District Office or the Office of the State Engineer website.
- 17-C2 No water shall be diverted from this well except for testing purposes which shall not exceed ten (10) cumulative days, and well shall be plugged or capped on or before, unless a permit to use water from this well is acquired from the Office of the State Engineer.

Trn Desc: C 04144-POD1 THRU POD4

File Number: C 04144

Trn Number: 612679

Received by OCD: 2/22/2022 2:01:17 PM

NEW MEXICO STATE ENGINEER OFFICE PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

- 17-P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between hydrogeologic zones.
- 17-Q The State Engineer retains jurisdiction over this permit.
- LOG The Point of Diversion C 04144 POD1 must be completed and the Well Log filed on or before 08/28/2018.
- LOG The Point of Diversion C 04144 POD2 must be completed and the Well Log filed on or before 08/28/2018.
- LOG The Point of Diversion C 04144 POD3 must be completed and the Well Log filed on or before 08/28/2018.
- LOG The Point of Diversion C 04144 POD4 must be completed and the Well Log filed on or before 08/28/2018.

ACTION OF STATE ENGINEER

Notice of Intention Rcvd: Date Rcvd. Corrected:
Formal Application Rcvd: 08/18/2017 Pub. of Notice Ordered:
Date Returned - Correction: Affidavit of Pub. Filed:

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the specific conditions listed previously.

Witness my hand and seal this 28 day of Aug A.D., 2017

Tom Blaine, P.E. , State Engineer

Alvaro Alvarado

Trn Desc: C 04144-POD1 THRU POD4 File Number: C 04144

OFFICE OF THE STATE ENGINEER/INTERSTATE STREAM COMMISSION - ROSWELL OFFICE

	8532	DATE: _	8-18-17	FILE NO		
TOTAL: REC	EIVED:	Won	ty 400	DOLLAR	RS. CHECK NO.: 113 CASH:	
PAYOR: CHPISTINE N	Atthou	X ADDR	ESS: 8810 COHO	may	RETURN ALDO STA	TF. NP
ZIP: 87 N RECEIVED BY:	DD					
INSTRUCTIONS: Indicate the number of actions t for Water Rights. If a mistake is made, void the or	to the left of the a	appropriate ty pies and subm	pe of filing. Complete the receipt infor it to Program Support/ASD as part of yo	mation. Origina l our daily deposit.	I to payor; pink copy to Program Support/ASD; and	yellow copy
A. Ground Water Filing Fees		B. Surf	ace Water Filing Fees		C. Well Driller Fees	
1. Change of Ownership of Water Right	\$ 2.00	1.	Change of Ownership of a Water Right		1. Application for Well Driller's License	\$ 50.00
 Application to Appropriate or Supplemen Domestic 72-12-1 Well 	\$ 125.00		Declaration of Water Right Amended Declaration	\$ 10.00 \$ 25.00	 Application for Renewal of Well Driller's License 	\$ 50.00
 Application to Repair or Deepen 		4.	Application to Change Point of Diversion		3. Application to Amend Well Driller's	
72-12-1 Well 4. Application for Replacement	\$ 75.00		and Place and/or Purpose of Use from Surface Water to Surface Water	\$ 200.00	License	\$ 50.00
72-12-1 Well	\$ 75.00	5.	Application to Change Point of Diversion	n	D. Reproduction of Documents	
 Application to Change Purpose of Use 72-12-1 Well 	\$ 75.00		and Place and/or Purpose of Use from Ground Water to Surface Water	\$ 200.00	@ 0.25¢	\$
	\$ 5.00		Application to Change Point of	\$ 200.00	Map(s)	\$
			Diversion Application to Change Place and/or	\$ 100.00		
7. Application to Appropriate Irrigation,			Purpose of Use	\$ 100.00	E. Certification	1
Municipal, or Commercial Use	\$ 25.00	8.	Application to Appropriate	\$ 25.00	E. Ceruncation	\$
	\$ 1.00		Notice of Intent to Appropriate	\$ 25.00	F. Other	
Application for Supplemental Non	+ 25.00		Application for Extension of Time Supplemental Well to a Surface Right	\$ 50.00 \$ 100.00	r. Other	\$
72-12-1 Well 10. Application to Change Place or	\$ 25.00		Return Flow Credit	\$ 100.00	G. Comments:	
	\$ 25.00		Proof of Completion of Works	\$ 25.00	G. Comments:	
11. Application to Change Point of Diversion			Proof of Application of Water to		FRA-EN	
and Place and/or Purpose of Use from			Beneficial Use	\$ 25.00	TECH EX	
	\$ 50.00		Water Development Plan	\$ 100.00	KO! (SHI) / FOG	ROSOLIV
12. Application to Change Point of Diversion			Declaration of Livestock Water	± 10.00	14.0.1.0	1-000
and Place and/or Purpose of Use from			Impoundment Application for Livestock Water	\$ 10.00	· ·	
	\$ 50.00		Impoundment	\$ 10.00		
13. Application to Change Point of Diversion of Non 72-12-1 Well	\$ 25.00		impoundment	\$ 10.00	· ·	
14. Application to Repair or Deepen	\$ 23.00					
	\$ 5.00				-	
					-	
15. Application for Test, Expl. Observ. Well	\$ 5.00					
	\$ 25.00					
	\$ 25.00					
	\$ 25.00	62		91		
- A Secretary and the second	1 -2155	Al	I fees are non-refundab	le.	-	-

Tom Blaine, P.E. State Engineer



Roswell Office 1900 WEST SECOND STREET ROSWELL, NM 88201

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STATE OF NEW MEXICO

Trn Nbr: 629437 OFFICE OF THE STATE ENGINEER File Nbr: C 04144 POD5-11

Jul. 30, 2018

CHRISTINE MATHEWS GHD SERVICES INC. 6121 INDIAN SCHOOL RD NE ALBUQUERQUE, NM 87110

Greetings:

Enclosed is your copy of the above numbered permit that has been approved subject to the conditions set forth on the approval page. In accordance with the conditions of approval, the well can only be tested for 10 cumulative days, and the well is to be plugged on or before 07/31/2019, unless a permit to use the water is acquired from this office.

A Well Record & Log (OSE Form wr-20) shall be filed in this office within twenty (20) days after completion of drilling, but no later than 07/31/2019.

Appropriate forms can be downloaded from the OSE website www.ose.state.nm.us or will be mailed upon request.

Sincerely,

Juan Hernandez (575) 622 - 6521

Enclosure

explore

	File No.	1-4	144	
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NEW MEXICO OFFICE OF THE STATE ENGINEER



WR-07 APPLICATION FOR PERMIT TO DRILL A WELL WITH NO WATER RIGHT



(check applicable box):

	For fees, see State Engi	neer website: http://www.ose.state.nm.us/
Purpose:	Pollution Control And/Or Recovery	
☐ Exploratory Well (Pump test)	Construction Site/ Works Dewatering	
Monitoring Well	☐ Mine Dewatering	
A separate permit will be required	to apply water to beneficia	al use regardless if use is consumptive or nonconsumptive.
■ Temporary Request - Request	ed Start Date: 08/06/2018	Requested End Date: TBD
Plugging Plan of Operations Subn	nitted? Yes No	- 0
		E S
		21
1. APPLICANT(S)		
Name: GHD Services, Inc. on behalf of EC	OG Resources	Name: EOG Resources
Contact or Agent:	check here if Agent	Contact or Agent: check here if Agent
Alan Brandon		James Kennedy
Mailing Address: 6121 Indian School Road, NE		Mailing Address: 5509 Champion Drive
City: Albuquerque		City: Midland
State: NM	Zip Code: 87110	State: Zip Code: 79706
Phone: 505-697-2025 Phone (Work):	☐ Home ☐ Cell	Phone: 432-258-4346 ☐ Home ☐ Cell Phone (Work):
E-mail (optional): alan.brandon@ghd.com		E-mail (optional): james_kennedy@eogresources.com

FOR OSE INTERNAL USE	Application for Permit, Form WR-0	07, Rev 11/17/16
File No.: (LILL	Trn. No.: (129437	Receipt No.: 2 - 39 119
Trans Description (optional):	PODS - PO	DII
Sub-Basin: CVB	PCW/LOG Due	Date: 7-31-19
		D 4 -f 0

Page 1 of 3

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2. WELL(S) Describe the well(s) applicable to this application.

NM State Plane (NAD83)NM West ZoneNM East ZoneNM Central Zone		JTM (NAD83) (Met]Zone 12N]Zone 13N	ers) Lat/Long (WGS84) (to the nearest 1/10 th of second)
Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (Quarters or Halves, Section, Township, Range) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
C-4144 PODS	-103 43' 17.18"W	32 24' 15.21"N	
P01>4 MW-5	-103 43" 10.96"W	32 24' 11.35"N	
POD7	-103 43' 12.34W	32 24' 08.25"N	(0)
PODS MW-7	-103 43' 17.14"W	32 24' 07.55"N	
WW-8	-103 43' 21.60"W	32 24' 05.71"N	
NOTE: If more well location Additional well descriptions			n WR-08 (Attachment 1 – POD Descriptions) If yes, how many 2
Other description relating well ust east of Campbell Road. C	l to common landmark	s, streets, or other	
Well is on land owned by: Bur	eau of Land Managem	nent - Sundry enclo	osed
Well Information: NOTE: If n If yes, how many	nore than one (1) we	Il needs to be des	cribed, provide attachment. Attached? 🗌 Yes 🔳 No
approximate depth of well (fee	et): 60		Outside diameter of well casing (inches): 2
riller Name: Authentic Drilling	g, Inc.	1,0	Oriller License Number: WD 1767

pack and followed by a cement/bentonite grout to surface.

Monitoring wells are being installed at the request of NMOCD to assess groundwater quality.

The duration of planned monitoring will continue until NMOCD grants remedial site closure.

FOR OSE INTERNAL USE	Application for Permit, Form WR-07		
File No.: C-4144	Trn No.: (129437)		



NEW MEXICO OFFICE OF THE STATE ENGINEER



ATTACHMENT 1 POINT OF DIVERSION DESCRIPTIONS

This Attachment is to be completed if more than one (1) point of diversion is described on an Application or Declaration.

a. Is this a: Move-From Point of Diversion(s) Move-To Point of Diversion(s)			b. Information on Attachment(s): Number of points of diversion involved in the application:			
☐ Surface Point of Diversion	n OR 🔳	Well				
Name of ditch, acequi	ia, or spring:					
Stream or water cours	se:					
Tributary of:						
c. Location (Required): Required: Move to POD location	on coordinate must be ei	ther New Mexico State F	Plane (NAD 83), UTM (NAD 83), or Lat/Long (WGS84)			
NM State Plane (NAD83) (feet) NM West Zone NM Central Zone NM East Zone	UTM (NAD83) (meters) Zone 13N Zone 12N	Lat/Long– (WGS84) 1/10 th of second	OTHER (allowable only for move-from descriptions - see application form for format) PLSS (quarters, section, township, range) Hydrographic Survey, Map & Tract Lot, Block & Subdivision Grant			
POD Number: 10 C 4144 MW-9	X or Longitude -103.43" 23.01"W	Y or Latitude 32 24' 08.13"N	Other Location Description:			
POD Number: 1 1 C-4144 MW-10	X or Longitude -103 43' 23.11"W	Y or Latitude 32 24' 13.29"N	Other Location Description:			
POD Number:	X or Longitude	Y or Latitude	Other Location Description:			
POD Number:	X or Longitude	- Y or Latitude	Other Location Description:			
POD Number:	X or Longitude	Y or Latitude	Other Location Description:			
POD Number:	X or Longitude	Y or Latitude	Other Location Description:			
POD Number:	X or Longitude	Y or Latitude	Other Location Description:			
POD Number:	X or Longitude	Y or Latitude	Other Location Description:			
POD Number:	X or Longitude	Y or Latitude	Other Location Description:			

F	OR	OSE	INT	ERNAL	USE	

Form wr-08

POD DESCRIPTIONS - ATTACHMENT 1

File Number: C-4144	Trn Number: 420437
Trans Description (optional):	D5-11

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Page 3 of 3

4. SPECIFIC REQUIREMENTS: The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application: Mine De-Watering: Pollution Control and/or Recovery: Construction Exploratory: ☐ Include a plan for pollution ☐ Include a De-Watering: Include a plan for pollution control/recovery, that includes the following: control/recovery, that includes the ☐ Include a description of the description of A description of the need for mine proposed dewatering any proposed following: A description of the need for the pump test, if operation. dewatering. pollution control or recovery operation. The estimated duration of The estimated maximum period of time applicable. ☐ The estimated maximum period of the operation, for completion of the operation, ☐ The maximum amount of ☐ The source(s) of the water to be diverted. time for completion of the operation. ☐ The annual diversion amount. water to be diverted. The geohydrologic characteristics of the ☐ The annual consumptive use ☐ A description of the need aquifer(s). for the dewatering operation, ☐The maximum amount of water to be amount. ☐ The maximum amount of water to be and. diverted per annum. ☐The maximum amount of water to be diverted and injected for the duration of A description of how the diverted for the duration of the operation. diverted water will be disposed the operation. ☐The quality of the water. ☐ The method and place of discharge.☐ The method of measurement of Ground Source Heat Pump: ☐The method of measurement of water Monitoring: water produced and discharged. ☐ Include a description of the diverted. Include the ☐ The source of water to be injected.
☐ The method of measurement of ☐The recharge of water to the aquifer. geothermal heat exchange reason for the Description of the estimated area of monitoring project, hydrologic effect of the project. well, and. water injected. ☐ The number of boreholes ☐ The characteristics of the aquifer.
☐ The method of determining the ☐The method and place of discharge.
☐An estimation of the effects on surface for the completed project and The required depths. duration water rights and underground water rights of the planned resulting annual consumptive use of ☐ The time frame for water and depletion from any related from the mine dewatering project. constructing the geothermal monitoring. A description of the methods employed to stream system. heat exchange project, and, Proof of any permit required from the estimate effects on surface water rights and ☐ The duration of the project. New Mexico Environment Department. Preliminary surveys, design underground water rights. ☐Information on existing wells, rivers, An access agreement if the data, and additional springs, and wetlands within the area of applicant is not the owner of the land on information shall be included to hydrologic effect. which the pollution plume control or provide all essential facts recovery well is to be located. relating to the request. ACKNOWLEDGEMENT Alan Brandon of GHD Services, Inc. on behalf of EOG Resources I, We (name of applicant(s)) Print Name(s) affirm that the foregoing statements are true to the best of (my, our) knowledge and belief. Applicant Signature Applicant Signature **ACTION OF THE STATE ENGINEER** This application is: approved partially approved ☐ denied provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval. Witness my hand and seal this 30th July 20 18 , for the State Engineer, day of Tom Blaine P.E. State Engineer By: Signature uan Hernandez, Water Resources Manager 1 Title: Print Application for Permit, Form WR-07

FOR OSE INTERNAL USE

File No.:

Trn No.:

NEW MEXICO STATE ENGINEER OFFICE PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL

- 17-1A Depth of the well shall not exceed the thickness of the valley fill.
- 17-4 No water shall be appropriated and beneficially used under this permit.
- 17-6 The well authorized by this permit shall be plugged completely using the following method per Rules and Regulations Governing Well Driller Licensing, Construction, Repair and Plugging of Wells; Subsection C of 19.27.4.30 NMAC unless an alternative plugging method is proposed by the well owner and approved by the State Engineer upon completion of the permitted use. All pumping appurtenance shall be removed from the well prior to plugging. To plug a well, the entire well shall be filled from the bottom upwards to ground surface using a tremie pipe. The bottom of the tremie shall remain submerged in the sealant throughout the entire sealing process; other placement methods may be acceptable and approved by the state engineer. The well shall be plugged with an office of the state engineer approved sealant for use in the plugging of non-artesian wells. The well driller shall cut the casing off at least four (4) feet below ground surface and fill the open hole with at least two vertical feet of approved sealant. The driller must fill or cover any open annulus with sealant. Once the sealant has cured, the well driller or well owner may cover the seal with soil. A Plugging Report for said well shall be filed with the Office of the State Engineer in a District Office within 30 days of completion of the plugging.
- 17-7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.

Trn Desc: C 04144 POD5-11 File Number: C 04144
Trn Number: 629437

NEW MEXICO STATE ENGINEER OFFICE PERMIT TO EXPLORE

SPECIFIC CONDITIONS OF APPROVAL (Continued)

LOG	The	Point	of	Diversion	C	04144	POD5	must	be	completed	and	the	Well	
	Log	filed	on	or before	0'	7/31/20	019.							

- LOG The Point of Diversion C 04144 POD6 must be completed and the Well Log filed on or before 07/31/2019.
- LOG The Point of Diversion C 04144 POD7 must be completed and the Well Log filed on or before 07/31/2019.
- LOG The Point of Diversion C 04144 POD8 must be completed and the Well Log filed on or before 07/31/2019.
- LOG The Point of Diversion C 04144 POD9 must be completed and the Well Log filed on or before 07/31/2019.

IT IS THE PERMITTEES RESPONSIBILITY TO OBTAIN ALL AUTHORIZATIONS AND PERMISSIONS TO DRILL ON PROPERTY OF OTHER OWNERSHIP BEFORE COMMENCING ACTIVITIES UNDER THIS PERMIT.

SHOULD THE PERMITTEE CHANGE THE PURPOSE OF USE TO OTHER THAN MONITORING PURPOSES, AN APPLICATION SHALL BE ACQUIRED FROM THE OFFICE OF THE STATE ENGINEER.

ACTION OF STATE ENGINEER

Notice of Intention Rcvd: Date Rcvd. Corrected: Formal Application Rcvd: 07/18/2018 Pub. of Notice Ordered: Date Returned - Correction: Affidavit of Pub. Filed:

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the specific conditions listed previously.

Witness my hand and seal this 30 th day of Jul A.D., 2018 Tom Blaine, P.E. State Engineer By: Juan Hernandez

Trn Desc: C 04144 POD5-11

File Number: C 04144 Trn Number: 629437

page: 3

Form 3160-5 (June 2015)

UNITED STATES

FORM APPROVED OMB No. 1004-0137

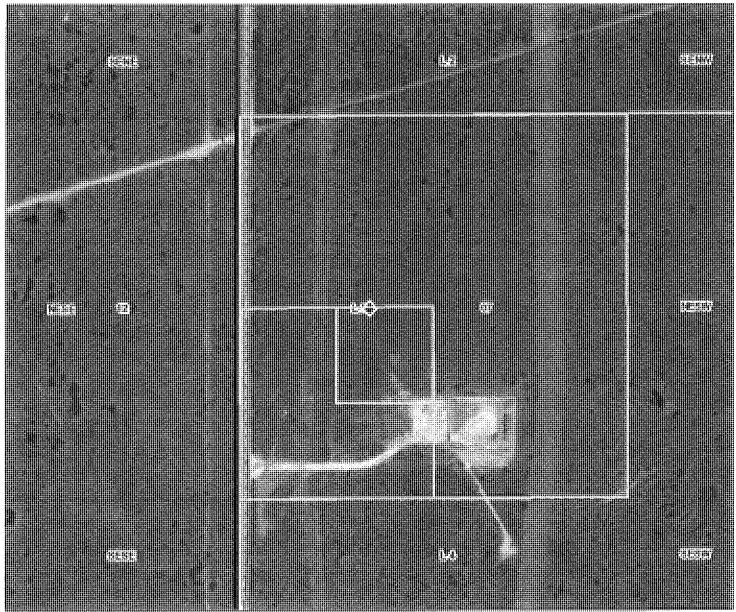
(June 2015) DE	PARTMENT OF THE :	INTERIOR		Expi	ires: January 31, 2018
BUR	REAU OF LAND MAN	IAGEMENT		5. Lease Serial No. NA	M-84890
Do not use this	NOTICES AND REP form for proposals Use Form 3160-3 (A	6. If Indian, Allottee or	Tribe Name		
SUBMIT IN	TRIPLICATE - Other Instr	uctions on page 2		7. If Unit of CA/Agree	ment, Name and/or No.
I. Type of Well Oil Well Gas		8. Well Name and No.	Flamenco Federal #1		
2. Name of Operator EOG Services,	Inc.			9. API Well No. 30-02	5-31076
3a. Address 6509 Champions Drive)	3b. Phone No. (include area cod (432) 6B6-3667	e}	10. Field and Pool or E	
4. Location of Well (Footage, Sec., T.,	R.,M., or Survey Description,			11. Country or Parish,	Stale
32.402502N, -103.722655				Lea County, NM	
12. CH	ECK THE APPROPRIATE B	OX(ES) TO INDICATE NATURI	E OF NOT	ice, report or oth	ER DATA
TYPE OF SUBMISSION		ТУ	PE OF AC	TION	
Votice of Intent	Acidize Alter Casing	Deepen Hydraulic Fracturing	==	luction (Start/Resume) amation	Water Shut-Off Well Integrity
Subsequent Report	Casing Repair Change Plans	New Construction Plug and Abandon	=	omplete porarily Abandon	Other
Final Abandonment Notice	Convert to Injection	Plug Back	Wate	er Disposal	
the Bond under which the work wi completion of the involved operati	ally or recomplete horizontal It be perfonned or provide th ons, If the operation results i	ly, give subsurface locations and r e Bond No. on file with BLM/BLA n a multiple completion or recomp	neasured a L. Required ofetion in a	nd true vertical depths of subsequent reports mus new interval, a Form 31	k and approximate duration thereof. If fall pertinent markers and zones. Attact the filed within 30 days following 60-4 must be filed once testing has been experted has determined that the site

Proposing to install 7 additional groundwater monitoring wells for the collection and analysis of water samples to assess the horizontal extent of chloride impacted groundwater due to a release. The wells are anticipated to be installed to a depth of approximately 50 feet below ground surface. Anticipated start date is August 6, 2018 and the end date is August 10, 2018.

14. I hereby certify that the foregoing is true and correct, Name (<i>Printed/Typed</i>) Jamon Hohensee	Environmental Rep Title	
Signature 3a //.h	Date 6-19-18	
THE SPACE FOR FED	ERAL OR STATE OFICE US	E
Approved by	Title E.P.S.	Date 7/12/2018
Conditions of approval if any, are attached. Approval of this notice does not warrar certify that the applicant holds legal or equitable title to those rights in the subject lewitch would entitle the applicant to conduct operations thereon.		idd Office, NM

Title 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)



Coor dinates UTM - NAD 83 (m) - Zone 13 Easting 620239.246 Northing 3585960.836

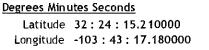
State Plane - NAD 83 (f) - Zone E Easting 730184.972

Northing 511326.842

Latitude 32:24:15.210000

Location pulled from Coordinate Search





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PLSS Coord Search

Location

Federal Lands Catron County

Parcel Points 2017 Guadalupe County Parcel Points 2016

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Mora County
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County Parcels 2018 Chaves County Parcels 2018

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Curry County Parcels 2018

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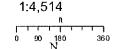


Image Info

Hidalgo County Parcels 2017

Lea County

Parcels 2018

Lincoln County

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Los Alamos

Source: DigitalGlobe Date: 5/4/2016 Resolution (m):0.5

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Spatial Information

County: Lea

Groundwater Basin: Carlsbad Sub-Basin: Upper Pecos-Black Land Grant: Not in Land Grant Restrictions:

PLSS Description NE SW NW SW Qtr of Sec 7 of 22S 32E

Derived from Projected PLSS- Qtr Sec locations are calculated and are only approximations

POD Information Owner: BLM/GHD SERV/EOG

File Number: C-4144POD5 POD Status: NoData Permit Status: NoData Permit Use: NoData Purpose: MONITOR

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Federal Lands

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Guadalupe

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Parcels 2018

BLM Land Grant

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County: Lea

PLSS Description

NA

Spatial Information

Groundwater Basin: Carlsbad

Sub-Basin: Upper Pecos-Black

Land Grant: Not in Land Grant Restrictions:

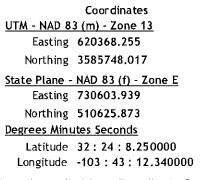
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Derived from Projected PLSS- Qtr Sec.

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Image Info Source: DigitalGlobe Date: 5/4/2016 Resolution (m):0.5 Accuracy (m): 10.2

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County Parcels 2018

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Parcels 2018

Spatial Information

County: Lea

Groundwater Basin: Carlsbad Sub-Basin: Upper Pecos-Black Land Grant: Not in Land Grant Restrictions:

PLSS Description NW NE SW SW Qtr of Sec 7 of 22S 32E

Derived from Projected PLSS- Otr Sec locations are calculated and are only approximations

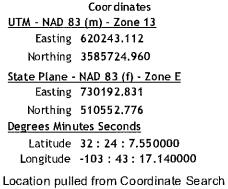
POD Information Owner: BLM/GHD SERV/EOG File Number: C-4144POD7 POD Status: NoData Permit Status: NoData Permit Use: NoData Purpose: MONITOR

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Quay County

Parcel Points 2018

Union County Parcel Points 2017

Chaves County

Parcels 2018

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Colfax County Parcels 2018

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County Parcels 2018

De Baca County Parcels 2017

Eddy County

Grant County Parcels 2017

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OF THE STATE ENGINEER 1:4,514 Image Info Source: DigitalGlobe

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BLM Land Grant

Groundwater Basin: Carlsbad Sub-Basin: Upper Pecos-Black Land Grant: Not in Land Grant Restrictions: **PLSS Description** NE NW SW SW Qtr of Sec 7 of 22S 32E Derived from Projected PLSS- Qtr Sec locations are catculated and are only approximations

POD Information Owner: BLM/GHD SERV/EOG File Number: C-4144POD8 POD Status: NoData Permit Status: NoData Permit Use: NoData Purpose: MONITOR

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Calculated PLSS

Coord Search Location

OSE District

Catron County

Boundary

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Parcel Points 2017

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Coordinates UTM - NAD 83 (m) - Zone 13 Easting 620127.271 Northing 3585666.905 State Plane - NAD 83 (f) - Zone E Easting 729811.528 Northing 510364.648 **Degrees Minutes Seconds** Loc

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Image Info Source: DigitalGlobe Date: 5/4/2016 Resolution (m):0.5 Accuracy (m): 10.2

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San Juan County Parcols 2018 San Miguel

County Parcels 2017 Sandoval County Parcels 2018 County Parcels 2018

Sierra County Parcels 2017 Socorro County Parcels 2017

Taos Gounty Parcels 2018 Torrance County Parcels 2018

Valencia County Parcels 2018

BLM Land Grant

Spatial Information

County: Lea

Groundwater Basin: Carlsbad Sub-Basin: Upper Pecos-Black Land Grant: Not in Land Grant Restrictions:

PLSS Description NW NW SW SW Qtr of Sec 7 of 22S 32E

Derived from Projected PLSS- Qtr Sec locations are calculated and are only approximations

POD Information Owner: BLM/GHD SERV/EOG File Number: C-4144POD9 POD Status: NoData Permit Status: NoData Permit Use: NoData Purpose: MONITOR

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Coor dinates UTM - NAD 83 (m) - Zone 13 Easting 620089.544 Northing 3585740.988 State Plane - NAD 83 (f) - Zone E Easting 729689.250 Northing 510608,512 **Degrees Minutes Seconds** Latitude 32:24:8.130000 Longitude -103:43:23.010000 NEW MEXICO OFFICE OF THE STATE ENGINEER 1:4,514

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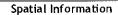
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Sierra County Parcels 2017 Socorro County Parcels 2017

Taos County Parcels 2018

Valencia County Parcels 2018



County: Eddy

Groundwater Basin: Carlsbad Sub-Basin: Upper Pecos-Black Land Grant: Not in Land Grant Restrictions:

NA

PLSS Description NENESESE Qtr of Sec 12 of 022\$ 031E

Derived from CADNSDI- Qtr Sec. locations are calculated and are only approximations

POD Information Owner: BLM/GHD SERV/EOG File Number: C-4144POD10 POD Status: NoData Permit Status: NoData Permit Use: NoData

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Purpose: MONITOR

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Coor dinates UTM - NAD 83 (m) - Zone 13 Easting 620085.033 Northing 3585899.858 State Plane - NAD 83 (f) - Zone E Easting 729677.700 Northing 511129.910 **Degrees Minutes Seconds** Latitude 32:24:13,290000 Longitude -103:43:23.110000

Location pulled from Coordinate Search

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PODs

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Colfax County Parcels 2018 Curry County 2014 Parcels 2018 Quay County Parcel Points 2018

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Cibola County Parcels 2018

Eddy County Parcels 2018 County Parcels 2018 Grant County Chaves County Parcels 2017

NEW MEXICO OFFICE OF THE STATE ENGINEER 1:4.514

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Los Alamos County Parcels 2017

McKinlay County Parcels 2017

Source: DigitalGlobe Date: 5/4/2016 Resolution (m):0.5

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2018 County Parcels

2016 San Miguel County Parcels 2017

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Valencia County Parcels 2018

BLM Land Grant

Spatial Information

County: Eddy

Groundwater Basin: Carlsbad Sub-Basin: Upper Pecos-Black Land Grant: Not in Land Grant Restrictions:

NA

PLSS Description NESENESE Qtr of Sec 12 of 022S 031E

Derived from CADNSDI- Qtr Sec. locations are calculated and are only approximations

POD Information Owner: BLM/GHD SERV/EOG File Number: C-4144POD11 POD Status: NoData Permit Status: NoData Permit Use: NoData

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Purpose: MONITOR



OFFICE OF THE STATE ENGINEER/INTERSTATE STREAM COMMISSION - ROSWELL OFFICE

OFFICIAL RECEIPT NUMBER: 2 - 39	9719 DA	TE: 1-18-18	FILE NO.:		
TOTAL: \$35.00 REC	EIVED: Thir	ty five	DOLLARS	CHECK NO .: 4215 CASH:	
PAYOR: Alan Brand	on	ADDRESS: 4801 OUG	erland &	ITY: Alba STAT	TE: N
ZIP: 87109 RECEIVED BY:	D2				
INSTRUCTIONS: Indicate the number of actions t for Water Rights. If a mistake is made, void the or	o the left of the approp	riate type of filing. Complete the receipt inform d submit to Program Support/ASD as part of yo	mation. Original to pour daily deposit.	payor; pink copy to Program Support/ASD; and	yellow cop
A. Ground Water Filing Fees	В.	Surface Water Filing Fees		C. Well Driller Fees	
1. Change of Ownership of Water Right	\$ 2.00	_ 1. Change of Ownership of a Water Right		1. Application for Well Driller's License	\$ 50.00
 Application to Appropriate or Supplemen Domestic 72-12-1 Well 	\$ 125.00	Declaration of Water Right Amended Declaration	\$ 10.00 \$ 25.00	2. Application for Renewal of Well Driller's License	\$ 50.00
3. Application to Repair or Deepen		4. Application to Change Point of Diversion		3. Application to Amend Well Driller's	
72-12-1 Well 4. Application for Replacement	\$ 75.00	and Place and/or Purpose of Use from Surface Water to Surface Water	\$ 200.00	License	\$ 50.00
	\$ 75.00	_ 5. Application to Change Point of Diversion		D. Reproduction of Documents	
5. Application to Change Purpose of Use		and Place and/or Purpose of Use from		@ 0.25¢	\$
	\$ 75.00 \$ 5.00	Ground Water to Surface Water 6. Application to Change Point of	\$ 200.00		
6. Application for Stock Well, Temp. use	\$ 5.00	Diversion	\$ 100.00	Map(s)	\$
		_ 7. Application to Change Place and/or	Ψ 200.00		
7. Application to Appropriate Irrigation,		Purpose of Use	\$ 100.00	E. Certification	\$
	\$ 25.00 —	_ 8. Application to Appropriate	\$ 25.00		4
	\$ 1.00 —	 9. Notice of Intent to Appropriate 10. Application for Extension of Time 	\$ 25.00 \$ 50.00	F. Other	¢
9. Application for Supplemental Non 72-12-1 Well	± 35.00	_ 11. Supplemental Well to a Surface Right	\$ 100.00	1. Other	P
10. Application to Change Place or	\$ 25.00 —	12. Return Flow Credit		G. Comments:	
	\$ 25.00	13. Proof of Completion of Works	\$ 25.00	G. Commence:	
11. Application to Change Point of Diversion		 14. Proof of Application of Water to 			
and Place and/or Purpose of Use from		Beneficial Use	\$ 25.00	• ^	
	\$ 50.00	15. Water Development Plan16. Declaration of Livestock Water	\$ 100.00	Moul	
12. Application to Change Point of Diversion	-	Impoundment	\$ 10.00		
and Place and/or Purpose of Use from Ground Water to Ground Water	\$ 50.00 —	_ 17. Application for Livestock Water	Ψ 10.00	<u> </u>	
13. Application to Change Point of	\$ 50.00 —	Impoundment	\$ 10.00		
	\$ 25.00				
14. Application to Repair or Deepen		141			
Non 72-12-1 Well	\$ 5.00				
7					
15. Application for Test, Expl. Observ. Well					-
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18. Notice of Intent to Appropriate	\$ 25.00	All foos are non-refundah	No		

RTMENT OF THE I	5. Lease Serial N	OMB No. 1004-0137 Expires: January 31, 2018	
TICES AND REPO	ORTS ON WELLS to drill or to re-enter an		ttee or Tribe Name
IPLICATE - Other Instr	uctions on page 2	7. If Unit of CA/	Agreement, Name and/or No.
1 Other			d No. Fiamenco Federal #1
		9. API Well No.	30-025-31076
		ol or Exploratory Area	
M., or Survey Description		II. Country or P Lea County, I	
THE APPROPRIATE B	OX(ES) TO INDICATE NATUR	E OF NOTICE, REPORT OF	OTHER DATA
	TY	PE OF ACTION	<u> </u>
Acidize Alter Casing Casing Repair Change Plans Convert to Injection	Deepen Hydraulic Fracturing New Construction Plug and Abandon Plug Back	Production (Start/Rest Reclamation Recomplete Temporarily Abandon Water Disposal	Well Integrity Other
ration: Clearly state all per y or recomplete horizontal to performed or provide the s. If the operation results it cs must be filed only after after monitoring wells to	ertinent details, including estimate ly, give subsurface locations and re the Bond No. on file with BLM/BIA n a multiple completion or recomp all requirements, including reclar	d starting date of any propose neasured and true vertical de a. Required subsequent repor oletion in a new interval, a Fo nation, have been completed	pths of all pertinent markers and zones. Attacts must be filed within 30 days following arm 3160-4 must be filed once testing has bee and the operator has detennined that the site
	TICES AND REPORT FOR THE INTERPORT OF LAND MAN. TICES AND REPORT FOR THE PROPERTY OF THE INTERPORT OF THE IN	Survey Description Survey Description	TICES AND REPORTS ON WELLS In for proposals to drill or to re-enter an is a Form 3160-3 (APD) for such proposals. IPLICATE - Other Instructions on page 2 7. If Unit of CAI 8. Well Name and 9. API Well No. 3b. Phone No. (include area code) (432) 686-3667 11. Country or P Lea County, I CTHE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OF TYPE OF ACTION Acidize Alter Casing Hydraulic Fracturing Casing Repair New Construction Recomplete Change Plans Plug and Abandon Temporarily Abandon

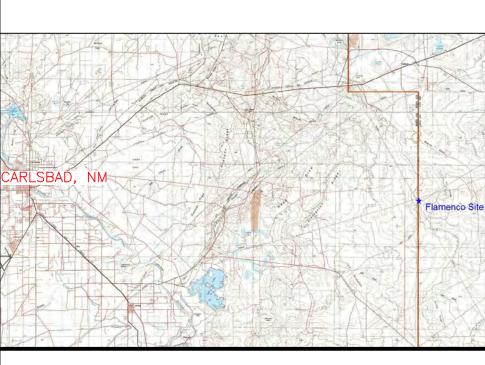
14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed) Zone Kuffz	Title EDG Ref
Signature	Date 8-2-2017
THE SPACE FOR FEE	DERAL OR STATE OFICE USE
Approved by Conditions of approval, if any, are altached. Approval of this notice does not warranterify that the applicant holds legal or equitable title to those rights in the subject I	Title & PS Date 08/14/30/7

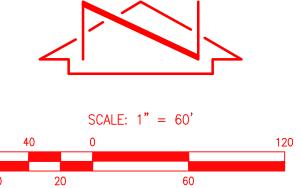
(Instructions on page 2)

Appendix D Monitoring Well Surveys

Received by OCD: 2/22/2022 2:01:17 PM Page 411 of 500







CONTROL COORDINATE TABLE

POINT NO.	NORTHING-GRID	EASTING-GRID	ELEVATION	DESCRIPTION	LATITUDE-NORTH	LONGITUDE-WEST
FLM-201	510846.624	730302.040	3641.96	PBM (OBSERVED-OPUS)	32°24'10.43219"	103°43'15.81355"
FLM-202	510802.663	729827.534	3634.13	TBM #1 (HMCG)	32°24'10.02404"	103°43'21.35111"

WELLS COORDINATE TABLE

POINT NO.	NORTHING-GRID	EASTING-GRID	ELEVATION	DESCRIPTION	LATITUDE-NORTH	LONGITUDE-WEST
1008	510695.323	729881.015	3633.500	FLM-MW1 (Ground)	32°24'08.95887"	103°43'20.73447"
1007	510693.364	729881.126	3633.809	FLM-MW1 (Concrete)	32°24'08.93947"	103°43'20.73329"
1006	510693.264	729881.168	3636.306	FLM-MW1 (Lid)	32°24'08.93848"	103°43'20.73281"
1005	510693.344	729881.224	3636.223	FLM-MW1 (Casing)	32°24'08.93927"	103°43'20.73216"
1009	510569.224	729910.691	3633.215	FLM-MW2 (Ground)	32°24'07.70941"	103°43'20.39673"
1010	510567.338	729910.661	3633.647	FLM-MW2 (Concrete)	32°24'07.69075"	103°43'20.39720"
1011	510567.307	729910.559	3636.167	FLM-MW2 (Lid)	32°24'07.69045"	103°43'20.39839"
1012	510567.247	729910.563	3636.078	FLM-MW2 (Casing)	32°24'07.68986"	103°43'20.39835"
1001	510940.945	730190.465	3639.206	FLM-MW3 (Ground)	32°24'11.37184"	103°43'17.10866"
1002	510939.540	730189.952	3639.744	FLM-MW3 (Concrete)	32°24'11.35797"	103°43'17.11475"
1003	510939.478	730189.936	3642.312	FLM-MW3 (Lid)	32°24'11.35736"	103°43'17.11493"
1004	510939.453	730189.904	3642.270	FLM-MW3 (Casing)	32°24'11.35710"	103°43'17.11531"

VICINITY MAP

NOT TO SCALE



GENERAL NOTES

- 1. AN UNCLASSIFIED SURVEY FOR WELL LOCATIONS WAS PERFORMED ON MARCH 22, 2018. THIS IS NOT A BOUNDARY SURVEY.
- 2. WELL LOCATIONS ARE NAD 83 GRID COORDINATES (NEW MEXICO EASTERN ZONE 3001). ELEVATIONS ARE NAVD 88 VERTICAL DATUM.
- 3. SITE LOCATED WITHIN SECTION 7, TOWNSHIP 22 SOUTH, RANGE 32 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO.
- 4. THE PHOTOBASED IMAGE, DEPICTED ON THIS SURVEY, WAS IMPORTED FROM THE GOOGLE EARTH WEB SITE. THIS PHOTOBASE IMAGE IS SHOWN TO PROVIDE A GENERAL SITE ORIENTATION AND MAY NOT REFLECT THE CURRENT SITE
- 5. THE PURPOSE OF THIS SURVEY IS TO ESTABLISH NEW MEXICO STATE PLANE GRID COORDINATES AND ELEVATIONS FOR THE LOCATIONS OF THE NEWLY INSTALLED AND EXISTING EOG MONITORING WELLS.

CONTROL SURVEY NOTE

A CONTROL SURVEY WAS CONDUCTED AT THE SITE ON MARCH 22, 2018 AND QUALITY CONTROLLED. BEARINGS ARE STATE PLANE GRID (NM EASTERN ZONE). CONTROL WAS PROJECTED ONTO THE SUBJECT SITE UTILIZING STATIC GPS COMBINED WITH RTK OBSERVATIONS TO ESTABLISH HORIZONTAL AND VERTICAL POSITIONS BASED UPON NAD 83/NAVD 88. THE STATIC OBSERVATIONS WERE PROCESSED USING NGS/NOAA ONLINE POSITIONING USER SERVICE COMBINED WITH GEOID12B, TO OBTAIN COORDINATES FOR THE PROJECT BENCHMARK.

A PERMANENT BENCHMARK WAS OCCUPIED ON SITE AS SHOWN ON THE DRAWING AND IS DESCRIBED AS FOLLOWS: PROJECT BM: A #5 REBAR W/CAP STAMPED "HMCG CONTROL NMPS 15075", LOCATED NEAR A FENCE POST AT THE MAIN ENTRANCE TO THE FACILITY, AS SHOWN ON THIS SHEET.

ELEVATION = 3641.96 FEET (NAVD 88)

PROJECT BENCHMARK (P.B.M.)

A #5 REBAR W/CAP STAMPED "HMCG CONTROL NMPS 15075" IN DIRT, NEAR A FENCE POST AT THE MAIN ENTRANCE TO THE FACILITY, AS SHOWN ON THIS SHEET. ELEVATION = 3641.96 FEET (NAVD 1988)

TEMPORARY BENCHMARK #1 (T.B.M. #1)

A #5 REBAR W/CAP STAMPED "HMCG CONTROL NMPS 15075" IN DIRT, NEAR A FENCE POST BY THE CATTLE GUARD AT THE ENTRANCE FROM CAMPBELL ROAD, AS SHOWN ON THIS SHEET.

ELEVATION = 3634.13 FEET (NAVD 1988)

SURVEYORS CERTIFICATION

. JOSEPH M. SOLOMON, JR., NEW MEXICO PROFESSIONAL SURVEYOR NO. 15075, DO HEREBY CERTIFY; THAT THIS PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR





April 23, 2018

HIGH
MESA Consulting Group
Engineers, Surveyors & Subsurface Utility Consultants 6010-B Midway Park Blvd. NE • Albuquerque, New Mexico 87109 Phone: 505.345.4250 • Fax: 505.345.4254 • www.highmesacg.com

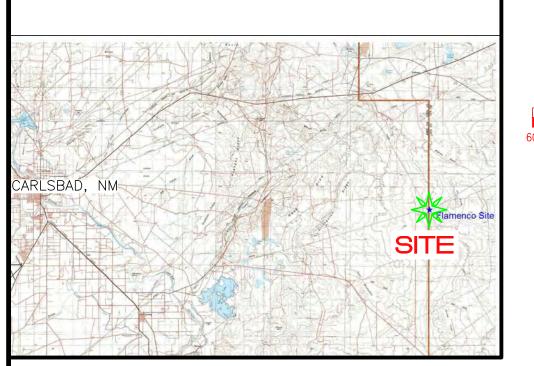
UNCLASSIFIED SURVEY - GROUNDWATER MONITOR WELLS EOG RESOURCES FLAMENCO FEDERAL No. 1 WELL - LEA COUNTY, NM

2018.013.1 SURVEYED BY <u>J.M.S.</u> 04-2018 DRAWN BY T.N.T. APPROVED BY <u>J.M.S.</u>

Page 412 of 500

Received by OCD: 2/22/2022 2:01:17 PM







CONTROL COORDINATE TABLE

ON TNIO	NORTHING-GRID	EASTING-GRID	ELEVATION	DESCRIPTION	LATITUDE-NORTH	LONGITUDE—WE
FLM-201	510846.624	730302.040	3641.96	PBM (OBSERVED-OPUS)	32°24'10.43219"	103°43'15.813
-I M-202	510802.663	729827.534	3634.13	TBM #1 (HMCG)	32°24'10.02404"	103°43'21.351

WELLS COORDINATE TABLE

POINT NO.	NORTHING-GRID	EASTING-GRID	ELEVATION	DESCRIPTION	LATITUDE-NORTH	LONGITUDE-WEST
1008	510695.323	729881.015	3633.500	FLM-MW1 (Ground)	32°24'08.95887"	103°43'20.73447"
1007	510693.364	729881.126	3633.809	FLM-MW1 (Concrete)	32°24'08.93947"	103°43'20.73329"
1006	510693.264	729881.168	3636.306	FLM-MW1 (Lid)	32°24'08.93848"	103°43'20.73281"
1005	510693.344	729881.224	3636.223	FLM-MW1 (Casing)	32°24'08.93927"	103°43'20.73216"
1009	510569.224	729910.691	3633.215	FLM-MW2 (Ground)	32°24'07.70941"	103°43'20.39673"
1010	510567.338	729910.661	3633.647	FLM-MW2 (Concrete)	32°24'07.69075"	103°43'20.39720"
1011	510567.307	729910.559	3636.167	FLM-MW2 (Lid)	32°24'07.69045"	103°43'20.39839"
1012	510567.247	729910.563	3636.078	FLM-MW2 (Casing)	32°24'07.68986"	103°43'20.39835"
1001	510940.945	730190.465	3639.206	FLM-MW3 (Ground)	32°24'11.37184"	103°43'17.10866"
1002	510939.540	730189.952	3639.744	FLM-MW3 (Concrete)	32°24'11.35797"	103°43'17.11475"
1003	510939.478	730189.936	3642.312	FLM-MW3 (Lid)	32°24'11.35736"	103°43'17.11493"
1004	510939.453	730189.904	3642.270	FLM-MW3 (Casing)	32°24'11.35710"	103°43'17.11531"
1014	510407.592	729807.205	3631.985	FLM-MW8 (Ground)	32°24'06.11588"	103°43'21.61454"
1015	510405.139	729806.482	3631.747	FLM-MW8 (Concrete)	32°24'06.09164"	103°43'21.62314"
1016	510404.937	729806.414	3634.908	FLM-MW8 (Lid)	32°24'06.08965"	103°43'21.62395"
1017	510404.789	729806.418	3634.889	FLM-MW8 (Casing)	32°24'06.08818"	103°43'21.62392"
1018	510585.972	730150.327	3637.999	FLM-MW9 (Ground)	32°24'07.86157"	103°43'17.60053"
1019	510584.350	730150.427	3638.048	FLM-MW9 (Concrete)	32°24'07.84552"	103°43'17.59946"
1020	510584.129	730150.440	3641.099	FLM-MW9 (Lid)	32°24'07.84333"	103°43'17.59933"
1021	510583.957	730150.496	3641.131	FLM-MW9 (Casing)	32°24'07.84163"	103°43'17.59869"



GENERAL NOTES

- 1. AN UNCLASSIFIED SURVEY FOR WELL LOCATIONS WAS PERFORMED ON MARCH 22, 2018 AND UPDATED ON AUGUST 22, 2018. THIS IS NOT A BOUNDARY
- 2. WELL LOCATIONS ARE NAD 83 GRID COORDINATES (NEW MEXICO EASTERN ZONE 3001). ELEVATIONS ARE NAVD 88 VERTICAL DATUM.
- 3. SITE LOCATED WITHIN SECTION 7, TOWNSHIP 22 SOUTH, RANGE 32 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO.
- 4. THE PHOTOBASED IMAGE, DEPICTED ON THIS SURVEY, WAS IMPORTED FROM THE GOOGLE EARTH WEB SITE. THIS PHOTOBASE IMAGE IS SHOWN TO PROVIDE A GENERAL SITE ORIENTATION AND MAY NOT REFLECT THE CURRENT SITE CONDITIONS.
- 5. THE PURPOSE OF THIS SURVEY IS TO ESTABLISH NEW MEXICO STATE PLANE GRID COORDINATES AND ELEVATIONS FOR THE LOCATIONS OF THE NEWLY INSTALLED AND EXISTING EOG MONITORING WELLS.
- 6. SCREENED WELL INFORMATION IS BASED UPON THE UNCLASSIFIED SURVEY OF FLAMENCO FEDERAL WELL NO. 1 PREPARED BY THIS FIRM DATED APRIL 23,

CONTROL SURVEY NOTE

A CONTROL SURVEY WAS CONDUCTED AT THE SITE ON MARCH 22, 2018 AND VERIFIED ON AUGUST 22, 2018. BEARINGS ARE STATE PLANE GRID (NM EASTERN ZONE). CONTROL WAS PROJECTED ONTO THE SUBJECT SITE UTILIZING STATIC GPS COMBINED WITH RTK OBSERVATIONS TO ESTABLISH HORIZONTAL AND VERTICAL POSITIONS BASED UPON NAD 83/NAVD 88. THE STATIC OBSERVATIONS WERE PROCESSED USING NGS/NOAA ONLINE POSITIONING USER SERVICE COMBINED WITH GEOID12B, TO OBTAIN COORDINATES FOR THE PROJECT BENCHMARK.

A PERMANENT BENCHMARK WAS OCCUPIED ON SITE AS SHOWN ON THE DRAWING AND IS DESCRIBED AS FOLLOWS: PROJECT BM: A #5 REBAR W/CAP STAMPED "HMCG CONTROL NMPS 15075", LOCATED NEAR A FENCE POST AT THE MAIN ENTRANCE TO THE FACILITY, AS SHOWN ON THIS SHEET. ELEVATION = 3641.96 FEET (NAVD 88)

PROJECT BENCHMARK (P.B.M.)

A #5 REBAR W/CAP STAMPED "HMCG CONTROL NMPS 15075" IN DIRT, NEAR A FENCE POST AT THE MAIN ENTRANCE TO THE FACILITY, AS SHOWN ON THIS SHEET. ELEVATION = 3641.96 FEET (NAVD 1988)

TEMPORARY BENCHMARK #1 (T.B.M. #1)

A #5 REBAR W/CAP STAMPED "HMCG CONTROL NMPS 15075" IN DIRT, NEAR A FENCE POST BY THE CATTLE GUARD AT THE ENTRANCE FROM CAMPBELL ROAD, AS SHOWN ON THIS SHEET.

ELEVATION = 3634.13 FEET (NAVD 1988)

SURVEYORS CERTIFICATION

UNCLASSIFIED SURVEY AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.





September 11, 2018



UNCLASSIFIED SURVEY - GROUNDWATER MONITOR WELLS
EOG RESOURCES FLAMENCO FEDERAL No. 1 WELL - LEA COUNTY, NM

SURVEYED BY M.V.Z. 2018.050.1

DRAWN BY E,J,S, DATE BY REVISIONS 2018.050.1

APPROVED BY J.M.S. SHEET 1

Appendix E Groundwater Analytical Laboratory Results



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

March 07, 2018

Bernie Bockisch GHD 6121 Indian School Road, NE #200 Albuquerque, NM 87110 TEL: (505) 884-0672

FAX

RE: Flamenco Fed 1 OrderNo.: 1802D75

Dear Bernie Bockisch:

Hall Environmental Analysis Laboratory received 4 sample(s) on 2/27/2018 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andel

4901 Hawkins NE

Albuquerque, NM 87109

Analyses

Batch ID

Analytical Report

DF Date Analyzed

Lab Order: **1802D75**Date Reported: **3/7/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Lab Order: 1802D75

Project: Flamenco Fed 1

Lab ID: 1802D75-001 **Collection Date:** 2/23/2018 1:40:00 PM

Client Sample ID: W-088210-34-022318-JP-MW-1 Matrix: AQUEOUS

Result

PQL Qual Units

 EPA METHOD 300.0: ANIONS
 Analyst: MRA

 Chloride
 36000
 2500 * mg/L
 5E 3/5/2018 6:37:33 PM
 R49564

Lab ID: 1802D75-002 **Collection Date:** 2/23/2018 2:00:00 PM

Client Sample ID: W-088210-34-022318-JP-MW-2 Matrix: AQUEOUS

Analyses Result PQL Qual Units DF Date Analyzed Batch ID

 EPA METHOD 300.0: ANIONS
 Analyst: MRA

 Chloride
 7200
 250 * mg/L
 500 3/5/2018 6:49:58 PM
 R49564

Lab ID: 1802D75-003 **Collection Date:** 2/23/2018 2:15:00 AM

Client Sample ID: W-088210-34-022318-JP-MW-3 Matrix: AQUEOUS

Analyses Result PQL Qual Units DF Date Analyzed Batch ID

EPA METHOD 300.0: ANIONS Analyst: MRA

Chloride 38000 2500 * mg/L 5E 3/5/2018 7:02:22 PM R49564

 Lab ID:
 1802D75-004
 Collection Date: 2/23/2018

 Client Sample ID:
 W-088210-34-022318-JP-MW-Dup
 Matrix: AQUEOUS

Analyses Result PQL Qual Units DF Date Analyzed Batch ID

EPA METHOD 300.0: ANIONS Analyst: MRA

Chloride 7300 250 * mg/L 500 3/5/2018 7:14:47 PM R49564

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

Qualifiers: * Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 2
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1802D75

07-Mar-18

Client: GHD

Project: Flamenco Fed 1

Sample ID MB SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: **PBW** Batch ID: R49564 RunNo: 49564

Prep Date: Analysis Date: 3/5/2018 SeqNo: 1602334 Units: mg/L

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Chloride ND 0.50

Sample ID LCS SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSW Batch ID: R49564 RunNo: 49564

Prep Date: Analysis Date: 3/5/2018 SeqNo: 1602335 Units: mg/L

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

Chloride 4.7 0.50 5.000 0 94.0 110

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Η
- ND Not Detected at the Reporting Limit
- POL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Ε Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL
- Sample container temperature is out of limit as specified

Reporting Detection Limit

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: **GHD** Work Order Number: 1802D75 RcptNo: 1 Received By: **Dennis Suazo** 2/27/2018 9:15:00 AM Isaiah Ortiz 2/27/2018 9:22:39 AM Completed By: 2/27/18 DDS Reviewed By: LB:MW 2/27/18 Chain of Custody Yes 🗹 No 🗌 Not Present 1. Is Chain of Custody complete? 2. How was the sample delivered? Courier Log In 3. Was an attempt made to cool the samples? Yes 🗸 Nα NA 🗔 No 4. Were all samples received at a temperature of >0° C to 6.0°C Yes 🗹 NA 🗌 Sample(s) in proper container(s)? Yes 🔽 No Yes 🔽 Sufficient sample volume for indicated test(s)? Nο 7. Are samples (except VOA and ONG) properly preserved? No Yes No 🗸 8. Was preservative added to bottles? Yes No VOA Vials 9. VOA vials have zero headspace? No Yes No 🔽 10. Were any sample containers received broken? Yes # of preserved bottles checked 11. Does paperwork match bottle labels? No 🗀 for pH: (Note discrepancies on chain of custody) (<2 or >12 unless noted) Adjusted? No 🗆 12. Are matrices correctly identified on Chain of Custody? Yes 🗸 **V** No 🗌 13 Is it clear what analyses were requested? No 🗌 Checked by: 14. Were all holding times able to be met? Yes 🔽 (If no, notify customer for authorization.) Special Handling (if applicable) 15. Was client notified of all discrepancies with this order? NA 🗸 Yes 🗀 No L Person Notified: Date: By Whom: Via: eMail Phone Fax In Person Regarding: Client Instructions: 16. Additional remarks: 17 Cooler Information Cooler No Temp ºC Seal Intact | Seal No Condition Seal Date Signed By 3.6 Good Yes

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email o QA/QC l □ Stan	Phone #: 505 884 6677 email or Fax#: Remark - Bickisch Eghd. (am DA/OC Package: Distandard Distandard Level 4 (Full Validation) Accreditation DISTANDARD DISTANDARD DISTANDARD DISTANDARD DISTANDARD EDD (Type)			Bernard Bockish			3's (8021)	TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)			SIMS)	illelly.		PCB's	003			
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□ EDD	(Type)	-		Sample Tem	perature: 3	6	8	BE.	(GF	pd 4	od 5(ō	stals	NON,	ides	8	-00/-	1	
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX + MTBE	BTEX + MTBE	TPH 8015B	TPH (Method 418.1)	EDB (Melhod 504.1)	PAH's (8310	RCRA 8 Metals	Anions (F,CI,NO3,NO2,PO4,SO4)	8081 Pesticides	8250B (VOA)	8270 (Semi-VOA)	chlocid	
2-23-18	1340	wite	w-088210-34-022318-JP-MW-1		IcE	-001		Ĩ										*	12
2-23-18	1400	Water	W-088210-34-0225/8-JP MWZ		ICE	-002							[1]		Tr			+	
2-23-18	1415	water	W-088210-34-022318-JP-42	3	ICE	-003							H.			1		+	
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Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

July 11, 2018

Alan Brandon GHD 6121 Indian School Road, NE #200 Albuquerque, NM 87110 TEL: (505) 884-0672

FAX

RE: Flamenco Fed 1 OrderNo.: 1806E54

Dear Alan Brandon:

Hall Environmental Analysis Laboratory received 8 sample(s) on 6/23/2018 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

andel

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order: **1806E54**Date Reported: **7/11/2018**

Hall Environmental Analysis Laboratory, Inc.

	GHD				L	ab O	order: 18	806E54	
Project:	Flamenco Fed 1								
Lab ID:	1806E54-001		C	ollecti	on Date	: 6/2	21/2018 1:47:0	0 PM	
Client Sample ID:	GW-088210-34-062118	8-PL-MW-1-A			Matrix	: GF	ROUNDWATE	ER	
Analyses		Result	PQL	Qual	Units	DF	Date Analyzo	ed Ba	atch ID
EPA METHOD 30	0.0: ANIONS							Analyst	MRA
Chloride		38000	2500	*	mg/L	5E	7/10/2018 12:4	40:46 AM	R52563
SM2540C MOD: T	OTAL DISSOLVED SOLI	DS						Analyst	: KS
Total Dissolved Sc	olids	73200	200	*D	mg/L	1	6/29/2018 6:37	7:00 PM	38956
Lab ID:	1806E54-002		C	ollecti	on Date	: 6/2	21/2018 1:47:0	0 PM	
Client Sample ID:	GW-088210-34-062118	B-PL-MW-1-B			Matrix	: GF	ROUNDWATE	ER	
Analyses		Result	PQL	Qual	Units	DF	Date Analyzo	ed Ba	atch ID
EPA METHOD 30	0.0: ANIONS							Analyst	: MRA
Chloride		38000	2500	*	mg/L	5E	7/10/2018 1:18	8:00 AM	R52563
SM2540C MOD: T	OTAL DISSOLVED SOLI	DS						Analyst	: KS
Total Dissolved Sc	olids	67400	200	*D	mg/L	1	6/29/2018 6:37	7:00 PM	38956
Lab ID:	1806E54-003		C	ollecti	on Date	: 6/2	21/2018 3:29:0	0 PM	
Client Sample ID:	GW-088210-34-062118	8-PL-MW-2-A			Matrix	: GF	ROUNDWATE	ER	
Analyses		Result	PQL	Qual	Units	DF	Date Analyzo	ed Ba	atch ID
EPA METHOD 30	0.0: ANIONS							Analyst	: MRA
Chloride		6900	500	*	mg/L	1E	7/10/2018 1:30	0:24 AM	R52563
SM2540C MOD: T	OTAL DISSOLVED SOLI	DS						Analyst	: KS
Total Dissolved Sc	olids	15300	100	*D	mg/L	1	6/29/2018 6:37	7:00 PM	38956
Lab ID:	1806E54-004		C	ollecti	on Date	: 6/2	21/2018 3:29:0	0 PM	
Client Sample ID:	GW-088210-34-062118	8-PL-MW-2-B			Matrix	: GF	ROUNDWATE	ER	
Analyses		Result	PQL	Qual	Units	DF	Date Analyzo	ed Ba	atch ID
EPA METHOD 30	0.0: ANIONS							Analyst	: MRA
Chloride		6100	500	*	mg/L	1E	7/10/2018 1:42	2:49 AM	R52563

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

100

*D

12800

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

SM2540C MOD: TOTAL DISSOLVED SOLIDS

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range

mg/L

Reporting Detection Limit Page 2 of 7

Total Dissolved Solids

Analyst: KS

6/29/2018 6:37:00 PM

Analytical Report

Lab Order: **1806E54**Date Reported: **7/11/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: GHD Lab Order: 1806E54 **Project:** Flamenco Fed 1 Lab ID: 1806E54-005 **Collection Date:** 6/21/2018 4:38:00 PM Client Sample ID: GW-088210-34-062118-PL-MW-3-A Matrix: GROUNDWATER PQL Qual Units DF Date Analyzed **Analyses** Result **Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride 43000 7/10/2018 1:55:13 AM R52563 2500 mg/L SM2540C MOD: TOTAL DISSOLVED SOLIDS Analyst: KS Total Dissolved Solids 82700 200 *D 6/29/2018 6:37:00 PM 38956 mg/L **Collection Date:** 6/21/2018 4:38:00 PM Lab ID: 1806E54-006 Client Sample ID: GW-088210-34-062118-PL-MW-3-B Matrix: GROUNDWATER **Analyses** Result **PQL Qual Units DF** Date Analyzed **Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride 44000 2500 mg/L 7/10/2018 2:07:37 AM R52563 SM2540C MOD: TOTAL DISSOLVED SOLIDS Analyst: KS 6/29/2018 6:37:00 PM **Total Dissolved Solids** 80000 200 *D mg/L 38956 **Collection Date:** 6/21/2018 Lab ID: 1806E54-007 Client Sample ID: GW-088210-34-062118-PL-DUP-A **Matrix:** GROUNDWATER **Analyses** Result **POL Qual Units DF** Date Analyzed **Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride 6100 500 mg/L 1E 7/10/2018 2:20:01 AM R52563 SM2540C MOD: TOTAL DISSOLVED SOLIDS Analyst: KS **Total Dissolved Solids** 13700 100 *D mg/L 6/29/2018 6:37:00 PM 38956 Lab ID: Collection Date: 6/21/2018 1806E54-008 **Matrix:** GROUNDWATER Client Sample ID: GW-088210-34-062118-PL-DUP-B **PQL Qual Units Analyses** Result DF Date Analyzed **Batch ID EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride R52563 6100 500 mg/L 7/10/2018 2:32:26 AM SM2540C MOD: TOTAL DISSOLVED SOLIDS Analyst: KS Total Dissolved Solids 13400 100 *D mg/L 6/29/2018 6:37:00 PM 38956

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 3 of 7

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806E54**

11-Jul-18

Client: GHD

Project: Flamenco Fed 1

Sample ID MB SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBW Batch ID: R52563 RunNo: 52563

Prep Date: Analysis Date: 7/10/2018 SeqNo: 1724282 Units: mg/L

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

Chloride ND 0.50

Sample ID LCS SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSW Batch ID: R52563 RunNo: 52563

Prep Date: Analysis Date: 7/10/2018 SeqNo: 1724283 Units: mg/L

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

Chloride 4.8 0.50 5.000 0 95.5 90 110

Qualifiers:

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

Page 4 of 7

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806E54**

11-Jul-18

Client: GHD

Project: Flamenco Fed 1

Sample ID MB-38956 SampType: MBLK TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: PBW Batch ID: 38956 RunNo: 52384

Prep Date: 6/28/2018 Analysis Date: 6/29/2018 SeqNo: 1716593 Units: mg/L

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

Total Dissolved Solids ND 20.0

Sample ID LCS-38956 SampType: LCS TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW Batch ID: 38956 RunNo: 52384

Prep Date: 6/28/2018 Analysis Date: 6/29/2018 SeqNo: 1716594 Units: mg/L

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

Total Dissolved Solids 1060 20.0 1000 0 106 80 120

Sample ID 1806E54-003AMS SampType: MS TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: GW-088210-34-0621 Batch ID: 38956 RunNo: 52384

Prep Date: 6/28/2018 Analysis Date: 6/29/2018 SeqNo: 1716598 Units: mg/L

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

Total Dissolved Solids 19800 100 5000 15320 88.8 80 120 D

Sample ID 1806E54-003AMSD SampType: MSD TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: GW-088210-34-0621 Batch ID: 38956 RunNo: 52384

Prep Date: 6/28/2018 Analysis Date: 6/29/2018 SeqNo: 1716599 Units: mg/L

Analyte Result **PQL** SPK value SPK Ref Val %REC I owl imit HighLimit %RPD **RPDLimit** Qual Total Dissolved Solids 20100 95.4 80 100 5000 15320 120 1.66 5 D

Qualifiers:

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

Page 5 of 7



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

GHD RoptNo: 1 Client Name: Work Order Number: 1806E54 Received By: Andy Freeman 6/23/2018 10:40:00 AM 6/25/2018 9:55:28 AM Completed By: Anne Thorne Reviewed By: No 🗌 Not Present 1. Is Chain of Custody complete? Yes V 2 How was the sample delivered? Courier Log In 3. Was an attempt made to cool the samples? No L Yes V No. Were all samples received at a temperature of >0" C to 6.0"C Yes V No . Sample(s) in proper container(s)? No Sufficient sample volume for indicated test(s)? No -7. Are samples (except VOA and ONG) properly preserved? No V NA 8. Was preservative added to bottles? Yes No VOA Vials No 🗌 9. VOA vials have zero headspace? Yes 10. Were any sample containers received broken? No V # of preserved bottles checked for pH No. 11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) No 12. Are matrices correctly identified on Chain of Custody? No -13. Is it clear what analyses were requested? No 🗆 effecked by: 14. Were all holding times able to be met? Yes (If no, notify customer for authorization.) Special Handling (if applicable) Yes 15. Was client notified of all discrepancies with this order? No NA V Person Notified: Date By Whom: Via: eMail Phone Fax In Person Regarding: Client Instructions: 16. Additional remarks: 17. Cooler Information Cooler No Temp °C | Condition Seal Intact | Seal No | Seal Date 4.2 Good

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13:47	GW	DI - MW-1-A	HOPE-500mL	Ice													X	X		
	55.5	6w-089310-34-062118-			202												X	X		
	GW.	GW-088210-24-062118-		1.7	-603												X	X		
15:29	GW	64-088210-34-062118-	NOSE-100 mL	Tee	004				12								/	+		
16:38	6W	6W-088210-34-062118-	4000-50m	Ice	705							E					X	4		
16:38	GW	CW-081210-345062118-	HDAE-100ML	Fee	706												X	1	+	
	GW	6W-036210-34-062118-	HODE-500mL		-607												X	X	-	
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PageTime:	1.	L hy	Received by:	11	Date Time Date Time 6/23/18 1040	Rer	l mark	s:												
	Address 6/2/21 #: 505- r Fax#: APPackage: dard tation AP (Type) Time 13:47 15:29 16:38	Address: Indian #: 505-884-0 r Fax#: 6/an, 6rd Package: dard tation AP □ Othe (Type) Time Matrix 13:47 GW 15:29 GW 15:29 GW 16:38 GW — GW — GW — GW — GW — GW	tation AP	Address: Addres	Address: Address: Fland School Rd, HE Standard Project Name: # 505-884-0672 # 505-884-0672 Project Manager: Project Manager: Rax#: Alan, brandon Johd, com Project Manager: Rizy, Brandon Project Manager: Rizy, Brandon Project Manager: Rizy, Brandon Sample: Phil Lorang On loe: Preservative Type Time Matrix Sample Request ID Container Type and # Type 13:47 GW R-08-310-34-06-3118- HOPE-180-1 Ice 15:29 GW Project Manager: Rizy Brandon Container Type and # Type 13:47 GW R-08-310-34-06-3118- HOPE-180-1 Ice 15:29 GW Project Manager: Rizy Brandon 16:38 GW GW-08-310-34-06-3118- HOPE-180-1 Ice 16:38 GW-08-310-34-06-3118- HOPE-180-1 Ice 16:38 GW-08-310-34-06-3118- HOPE-180-1 Ice 16:38 GW-08-310-34-06-3118- HOPE-180-1 Ice 16:38 GW-08-310-34-06-3118- HOPE-180-1 Ice 16:38 GW-08-310-34-06-3118- HOPE-180-1 Ice 16:38 GW-08-310-34-06-3118- HOPE-180-1 Ice 1	Address: Indian School Rd, HE St. 2000 Address: Indian School Rd, HE St. 2000 Project Name: Flamenco Fed #1 Project Name: Flamenco Fed #1 Project Name: Flamenco Fed #1 Project Name: Project Name: Project Manager: Received by Project Manager: Alen Brandon Project Manager: Alen Brandon Sampler Phill Lorang On loe: Project Manager: Alen Brandon HEAL No. Type On loe: Preservative Type and # Type If 2006 ES 4 I3:47 GW GW-08\$310-34-063118- I3:47 GW GW-08\$310-34-063118- IS:29 GW GW-08\$310-34-063118- Received by GW-08\$310-34-063118- IS:38 GW GW-08\$310-34-063118- BYES Tole GW-08\$310-34-063118- BYES Tole Tole GW-08\$310-34-063118- BYES Tole Tole Tole GW-08\$310-34-063118- BYES Tole T	Address: Indian School Rd. HE St. 200 Project Name: # 505-884-0672 Project Manager: # 505-884-0672 Project Manager: # 12	Signature Rush Project Name:	Address: And Institute Inc. Address: Address: Flamence Fed #1 Agon H Frequence Fed #1 Agon H	Standard Rush Project Name: Flamence Fed #1 Agon Hawking School Rd, HE St. 2000 Project Manager: FRAKE Blog branched at bl. Com Project Manager: Alan Brandon Sampler Phil Lorang On loe: Preservative Type and # Type Time Matrix Sample Request ID Time Matrix Sample Request	Address: Inc	HALL ANAL Www.hall Anal Www.hall Anal Www.hall Anal Www.hall Anal Www.hall Anal Www.hall Anal Www.hall Anal Www.hall Anal Anal Anal Www.hall Anal Anal Anal Anal Www.hall Anal An	Address: Indian School Rd. HE Sto Sto. Address: Indian School Rd. HE Sto Sto. Project Name: Flamenco Fed II Apollo School Rd. HE Sto Sto. Project Manager: # 505-884-0472 Project Manager: # 18 505-884-0472 Project Manager: # 18 505-884-0472 Project Manager: # 18 505-884-0472 Project Manager: # 18 505-884-0472 Project Manager: # 18 505-884-0472 Project Manager: # 18 505-884-0472 # 18 505-884-	Address: Indian School Rd. HE Ste Sto. Address: Indian School Rd. HE Ste Sto. Project Name: Flamenco Fed II Apol Hawkins NE - Albuque Tel. 505-884-0672 Project Manager: Analysis Faxt: Alon Arabin School Rd. HE Ste Sto. Project Manager: Alon Brandon AP Other On los: Project Manager: Alon Brandon AP Other On los: Preservative Type and # Type Time Matrix Sample Request ID Container Type and # Type ISAN BRANDON HEAL NO. Type Arabin Reversal Reservative Type and # Type ISAN BRANDON HEAL AND STORY HEAL NO. ISAN BRANDON HEAL AND STORY HEAL NO. ISAN BRANDON HEAL AND STORY HEAL AND STORY HEAL NO. ISAN BRANDON HEAL AND STORY HEAL AND STORY HEAL NO. ISAN BRANDON HEAL AND STORY HEAL NO. ISAN BRANDON HEAL AND STORY HEAL AND STORY HEAL AND STORY HEAL NO. ISAN BRANDON HEAL AND STORY HEAL AND	Standard Rush Project Name: Flamehoo Fed #1 AMALYSIS L Www.hallenvironment Address: Indian School Pal HE Se 2007 Project Name: Flamehoo Fed #1 A901 Hawkins NE - Albuquerqu Tel. 505-345-3975 Fax 505	## Standard Rush Project Name: Address: Indian Standard Standard Project Name: Flanch Co Fed I Address: Indian Standard Standard Project Name: ## 505-884-0672 O88210-324 Frank: 6lon, brandard 9.84.d. c. ain Project Manager: Alan Brandar Project Manager: Alan Brandar Sampler Project Manager: A	HALL ENVIRONMANALYSIS LABOO AND STUCIES INC Estandard Rush Project Name: Flanch Co Fed II Analysis Request Project H: 088210-321 Frant: 6100, branche Go h.J. c aim Project Manager: Albu, Brandon Analysis Request Albu, Brandon Analysis Request Albu, Brandon Analysis Request Analysis R	HALL ENVIRONME ANALYSIS LABORA Project Name: Flamen co Fed #1 Address: Indian Standard Rush Project Name: Flamen co Fed #1 Address: Indian Standard Rush Project Name: Flamen co Fed #1 Apoll Hawkins NE - Albuquerque, NM 87109 Tel. 505-884-0672 Research Rush Res	# Standard Rush Project Name: # Standard Rush Project Name: # Standard Rush Project Name: # Standard Rush Project Name: # Standard Rush Project Name: # Standard Rush Project Name: # Standard Rush Project Name: # Standard Rush Project Hamager: # Standard Rush Project Hamager: # Standard Rush Project Hamager: # Standard Rush Project Hamager: # Standard Rush Project Hamager: # Standard Rush Project Hamager: # Standard Rush Project Hamager: # Standard Rush Project Hamager: # Standard Rush Project Hamager: # Standard Rush Project Hamager: # Standard Rush Project Hamager: # Standard Rush Project Hamager: # Standard Rush Project Hamager: # Standard Rush # Standard Rush # Standard Rush # Standard Rush # Standard Rush # Standard Rush # Standard Rush # Standard Rush # Standard Rush # Standard Rush # Standard Rush # Standard Rush # Standard Rush # Standard Rush # Rush Contains Rush # Rush	HALL ENVIRONMENTAL ANALYSIS LABORATORY Project Name: # Standard Rush Project Name: # Flame in Co Fed # I # Spose 884 - 5672 # \$505-884 - 5672 # \$505-884 - 5672 # \$505-884 - 5672 # \$100



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

November 02, 2018

Alan Brandon GHD 6121 Indian School Road, NE #200 Albuquerque, NM 87110 TEL: (505) 884-0672

FAX

RE: Flamenco Fed 1 OrderNo.: 1810B73

Dear Alan Brandon:

Hall Environmental Analysis Laboratory received 3 sample(s) on 10/23/2018 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

andel

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order: **1810B73**

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/2/2018

CLIENT: C	GHD				I	ab C	Order:	1810B73	
Project: F	lamenco Fed 1								
Lab ID:	1810B73-001		C	ollecti	on Date	: 10	/19/2018 2:38	3:00 PM	
Client Sample ID:	GW-088210-34-101918-PI	L-MW-1			Matrix	: A(QUEOUS		
Analyses		Result	PQL	Qual	Units	DF	Date Analy	zed Ba	tch ID
EPA METHOD 300	0.0: ANIONS							Analyst:	MRA
Chloride		47000	2500	*	mg/L	5E	10/26/2018 5	5:33:56 PM	R55207
SM2540C MOD: To	OTAL DISSOLVED SOLIDS							Analyst:	KS
Total Dissolved Sol	ids	82000	2000	*D	mg/L	1	10/28/2018 4	:55:00 PM	41224
Lab ID:	1810B73-002		C	ollecti	on Date	: 10	/19/2018 1:20):00 PM	
Client Sample ID:	GW-088210-34-101918-PI	L-MW-2			Matrix	: A(QUEOUS		
Analyses		Result	PQL	Qual	Units	DF	Date Analyz	zed Ba	tch ID
EPA METHOD 300	0.0: ANIONS							Analyst:	MRA
Chloride		8000	500	*	mg/L	1E	10/26/2018 5	:46:47 PM	R55207
SM2540C MOD: To	OTAL DISSOLVED SOLIDS							Analyst:	KS
Total Dissolved Sol	ids	15800	100	*D	mg/L	1	10/26/2018 5	5:10:00 PM	41193
Lab ID:	1810B73-003		C	ollecti	on Date	: 10	/19/2018 3:26	5:00 PM	
Client Sample ID:	GW-088210-34-101918-PI	L-MW-3			Matrix	: A(QUEOUS		
Analyses		Result	PQL	Qual	Units	DF	Date Analyz	zed Ba	tch ID
EPA METHOD 300	0.0: ANIONS							Analyst:	MRA
Chloride		49000	2500	*	mg/L	5E	10/26/2018 5	5:59:39 PM	R55207
SM2540C MOD: TO	OTAL DISSOLVED SOLIDS							Analyst:	KS
Total Dissolved Sol	ids	97600	2000	*D	mg/L	1	10/28/2018 4	:55:00 PM	41224

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 3
- P Sample pH Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1810B73**

02-Nov-18

Client: GHD

Project: Flamenco Fed 1

Sample ID MB SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBW Batch ID: R55207 RunNo: 55207

Prep Date: Analysis Date: 10/26/2018 SeqNo: 1835753 Units: mg/L

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

Chloride ND 0.50

Sample ID LCS SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSW Batch ID: R55207 RunNo: 55207

Prep Date: Analysis Date: 10/26/2018 SeqNo: 1835754 Units: mg/L

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

Chloride 4.7 0.50 5.000 0 93.5 90 110

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1810B73 02-Nov-18

Client: GHD

Project: Flamenco Fed 1

Sample ID MB-41193 SampType: MBLK TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: **PBW** Batch ID: 41193 RunNo: 55204

Prep Date: 10/25/2018 Analysis Date: 10/26/2018 SeqNo: 1835649 Units: mg/L

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual

Total Dissolved Solids ND 20.0

TestCode: SM2540C MOD: Total Dissolved Solids Sample ID LCS-41193 SampType: LCS

Client ID: LCSW Batch ID: 41193 RunNo: 55204

Prep Date: 10/25/2018 Analysis Date: 10/26/2018 SeqNo: 1835650 Units: mg/L

%REC SPK value SPK Ref Val %RPD **RPDLimit** Analyte Result **PQL** LowLimit HighLimit Qual

Total Dissolved Solids 1020 20.0 1000 0 102 120

Sample ID MB-41224 SampType: MBLK TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: **PBW** Batch ID: 41224 RunNo: 55214

Prep Date: Analysis Date: 10/28/2018 SeqNo: 1835995 Units: mg/L 10/26/2018

Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Analyte

Total Dissolved Solids ND 20.0

Sample ID LCS-41224 SampType: LCS TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: Batch ID: 41224 RunNo: 55214 **LCSW**

Prep Date: 10/26/2018 Analysis Date: 10/28/2018 SeqNo: 1835996 Units: mg/L

Analyte Result **PQL** SPK value SPK Ref Val %REC I owl imit HighLimit %RPD **RPDLimit** Qual

Total Dissolved Solids 80 1020 20.0 1000 0 102 120

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Η Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

POL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В

Е Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

Analyte detected in the associated Method Blank

Page 3 of 3



Hall Environmental Analysis Laborator 4901 Hawkass NS Albuquerque, NM 87105 TEL: 503-345-3975 FAX: 505-345-4107 Websitz: www.hallenvironmental.com

Sample Log-In Check List

Client Name: GHD	Work Order Num	ber 1810B	73		ReptNo	ſ
Received By: Erin Melendrez	10/23/2018 9:10:00	AM.	il	MA		
Completed By Ashley Gallegos	10/23/2018 9:43:28	AM.	A	-ī-		
Reviewed By 10/23	168	lat	peted	by	DAD 10/7	3/18
Chain of Custody						
1. Is Chain of Custody complete?		Yes 6	. N	0.11	Not Present I	
2. How was the sample delivered?		Coune				
Log In						
3. Was an attempt made to cool the samples	,	Yes 5	N N	a [.]	NA 🗔	
4. Were all samples received at a temperature	of >0° C to 6,0°C	Yes N	N	o 🖸	LLAN	
5. Sample(s) in proper container(s)?		Yes b	N	o 🗆		
6. Sufficient sample volume for indicated tests	s)?	Yes W) No			
7. Are samples (except VOA and ONG) proper		Yes W				
8. Was preservative added to bottles?		Ves [N	V	NA IT	
9. VOA vials have zero headspace?		Yes [l No		No VOA Viais	7
10. Were any sample containers received broke	en?	Yes	N		# of preserved	/
11, Does paperwork match bottle labels?		Yes W) No		bottles checked for pH:	
(Note discrepancies on chain of custody)	Contado?	Yes V	Ale	I	Adjusted?	12 unless noted)
12 Are matrices correctly identified on Chain of 13 la if clear what analyses were requested?	Cusiodyr	Yes V			/	
14. Were all holding times able to be met?		Yes V		D	Offecked by:	AD 10/23/18
(If no, notify customer for authorization.)					1	
Special Handling (if applicable) 15, Was client notified of all discrepances with	this audio/2	Max T	T 14	· ET		
		Yes L	1 14	0 11	NA 🗹	
Person Notified:	Date			7	ED Company	
By Whom: Regarding:	Via:	eMail	Phone [Fax	☐ In Person	
Client Instructions:				_		
16. Additional remarks:						
17 Cooler Information Cooler No. Temp °C Condition S 1 2.5 Good Ye		Seal Date	Signed	і Ву		

Page 1 of 1

			ustody Record	Turn-Around	Time:		1						_							
Client:	GHD S	evvices	Inc.	⊠ Standard Project Nam						A	N	AL	Y	SIS	S L	A	30		NTA	
Mailing	Address	Tollar	n Solwi R). NE 56 29	Flene	nco Fed #1			40	01.6							tal.co		7109		
- A16	111111	22, NA	87110	ridject#.	10-34					15-34		975	F	ax	505-	345	410			
		-884-6	672					0	0			A	nal		Req	ues				
email o	Package:		☐ Level 4 (Full Validation)	Project Mana	-Alam Bi	vanton	TMB's (8021)	+ TPH (Gas only)	O / MRC			SIMS)		O5.504	PCB's					
Accred		□ Othe		Sampler: P/	Y Yes	g II No	14	+ трн (RO/DR	18.1)	04.1)	8270 S		J. NO2, I	3 / 8082 PCB		A)			(X
□ EDD	(Type)	_		Sample Tem	perature: Z.C	1-0.4(cf)=25	IBE	MTBE	3 (G	od 4	od 5	0.00	etals	SI,NC	cides	¥	1.00		5	2
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1810873	BTEX + MTBE	BTEX + M	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,CI,NO3,NO2,PO4,SO4)	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)	Tas	Chlorides	Air Bubbles (Y or N)
1-19-18	14:38	Waster	16W-098210-34-101918-	HOPE - 1	Tee	-001												X	X	
5-13-18	130.20	Water	01 - Arti - 2	HOPE - T	Ice	-002												X	X	
7-19-18	15:26	Water	6-11-058210-34-101718-	NORE-1	Ice	-003			Ţ							H.		X	X	
															-1)- <u>2</u> 1				H
-																				
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Date:	Time: 17:52	Relinquish	hry/	Sol		Date Time	Ren	arks	3".											
Date /22/18	1900	Relinquish	estoy:	Reibell ett by:	Courses Sursas	10/7×19														



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

January 25, 2019

Alan Brandon GHD 6121 Indian School Road, NE #200 Albuquerque, NM 87110 TEL: (505) 884-0672

FAX

RE: Flamenco Federal #1 OrderNo.: 1901556

Dear Alan Brandon:

Hall Environmental Analysis Laboratory received 3 sample(s) on 1/15/2019 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order: 1901556

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 1/25/2019

CLIENT: GHD Lab Order: 1901556 **Project:** Flamenco Federal #1 **Collection Date:** 1/11/2019 1:45:00 PM Lab ID: 1901556-001 Client Sample ID: GW-088210-34-011119-MM-MW-1 Matrix: AQUEOUS PQL Qual Units DF Date Analyzed **Analyses** Result **Batch ID EPA METHOD 300.0: ANIONS** Analyst: smb Chloride 44000 1/21/2019 2:17:48 PM R57164 2500 mg/L SM2540C MOD: TOTAL DISSOLVED SOLIDS Analyst: KS **Total Dissolved Solids** 85300 200 *D 1/16/2019 5:43:00 PM mg/L 42623 Lab ID: 1901556-002 **Collection Date:** 1/11/2019 2:24:00 PM **Matrix:** AQUEOUS Client Sample ID: GW-088210-34-011119-MM-MW-2 **Analyses** Result **POL Qual Units DF** Date Analyzed Batch ID **EPA METHOD 300.0: ANIONS** Analyst: smb 8000 Chloride 500 mg/L 1E 1/21/2019 2:30:39 PM R57164 SM2540C MOD: TOTAL DISSOLVED SOLIDS Analyst: KS **Total Dissolved Solids** 18400 200 *D mg/L 1/16/2019 5:43:00 PM 42623 Lab ID: 1901556-003 **Collection Date:** 1/11/2019 12:33:00 PM Client Sample ID: GW-088210-34-011119-MM-MW-3 Matrix: AQUEOUS **Analyses** Result **POL Qual Units DF** Date Analyzed **Batch ID EPA METHOD 300.0: ANIONS** Analyst: smb Chloride 47000 2500 mg/L 5E 1/21/2019 2:43:31 PM R57164 **SM2540C MOD: TOTAL DISSOLVED SOLIDS** Analyst: KS **Total Dissolved Solids** 100000 2000 *D mg/L 1/16/2019 5:43:00 PM

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 3
- P Sample pH Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1901556**

25-Jan-19

Client: GHD

Project: Flamenco Federal #1

Sample ID MB SampType: MBLK TestCode: EPA Method 300.0: Anions

Client ID: PBW Batch ID: R57164 RunNo: 57164

Prep Date: Analysis Date: 1/21/2019 SeqNo: 1912082 Units: mg/L

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

Chloride ND 0.50

Sample ID LCS SampType: LCS TestCode: EPA Method 300.0: Anions

Client ID: LCSW Batch ID: R57164 RunNo: 57164

Prep Date: Analysis Date: 1/21/2019 SeqNo: 1912083 Units: mg/L

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

Chloride 4.8 0.50 5.000 0 95.2 90 110

Qualifiers:

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

Page 2 of 3

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1901556**

Page 3 of 3

25-Jan-19

Client: GHD

Project: Flamenco Federal #1

Sample ID MB-42623 SampType: MBLK TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: PBW Batch ID: 42623 RunNo: 57045

Prep Date: 1/15/2019 Analysis Date: 1/16/2019 SeqNo: 1908245 Units: mg/L

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

Total Dissolved Solids ND 20.0

Sample ID LCS-42623 SampType: LCS TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW Batch ID: 42623 RunNo: 57045

Prep Date: 1/15/2019 Analysis Date: 1/16/2019 SeqNo: 1908246 Units: mg/L

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

Total Dissolved Solids 1020 20.0 1000 0 102 80 120

Qualifiers:

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

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Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107

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

Sample Log-In Check List

Client Name: GHD	Work Order Numb	per: 1901556	····	RcptNo: 1	- -
Received By: Erin Melendrez	1/15/2019 8:55:00 A	AM	unt-		
Completed By: Victoria Zellar Reviewed By: VVZ V(ら)(の	1/15/2019 9:24:17 A	AM	Victoria Gellan	labelled by	9
Chain of Custody				.,	•
1. Is Chain of Custody complete?		Yes 🗹	No 🗌	Not Present	
2. How was the sample delivered?		Courier			
Log In 3. Was an attempt made to cool the sa	mples?	Yes 🗹	No 🗌	NA 🗆	
4. Were all samples received at a temp	erature of >0° C to 6.0°C	Yes 🗹	No 🗌	NA 🗆	
5. Sample(s) in proper container(s)?		Yes 🗹	No 🗆		
6. Sufficient sample volume for indicate	d test(s)?	Yes 🗹	No 🗌		
7. Are samples (except VOA and ONG)		Yes 🗸	No 🗌		
8. Was preservative added to bottles?		Yes 🗌	No 🗹	NA 🗆	
9. VOA vials have zero headspace?		Yes 🗌	No □ No	VOA Vials ⊻	
10. Were any sample containers receive	ed broken?	Yes	No 🗹	-	/
11. Does paperwork match bottle labels? (Note discrepancies on chain of custo		Yes 🗹	_ bo	of preserved ttles checked pH:	oted)
12. Are matrices correctly identified on C		Yes 🗹	No 🗀	Adjusted?	
13. Is it clear what analyses were reques	ted?	Yes 🗹	No □ <		
 Were all holding times able to be me (If no, notify customer for authorization) 		Yes 🗹	No □	Checked by:	_
Special Handling (if applicable)					
15. Was client notified of all discrepanci	•	Yes 🗌	No 🗌	NA 🗹	
Person Notified:	Date				
By Whom:	Via:	eMail P	hone 🔲 Fax 📗	In Person	
Regarding:					
Client Instructions:					
16. Additional remarks:			-		
17. Cooler Information					
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about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

Jeff Walker Jeff.Walker@ghd.com 505.884.0672

Christine Mathews Christine.Mathews@ghd.com 505.884.0672

www.ghd.com

Attachment F

Excerpts from Referenced WIPP Hydrogeological Studies

GEOLOGICAL CHARACTERIZATION REPORT WASTE ISOLATION PILOT PLANT (WIPP) SITE, SOUTHEASTERN NEW MEXICO

SAND78-1596

VOLUME I

Dennis W. Powers, Steven J. Lambert, Sue-Ellen Shaffer, Leslie R. Hill, Wendell D. Weart, Editors

Department 4510
Waste Management Technology
Sandia Laboratories
Albuquerque, New Mexico 87185

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AUGUST, 1978
PRINTED DECEMBER, 1978

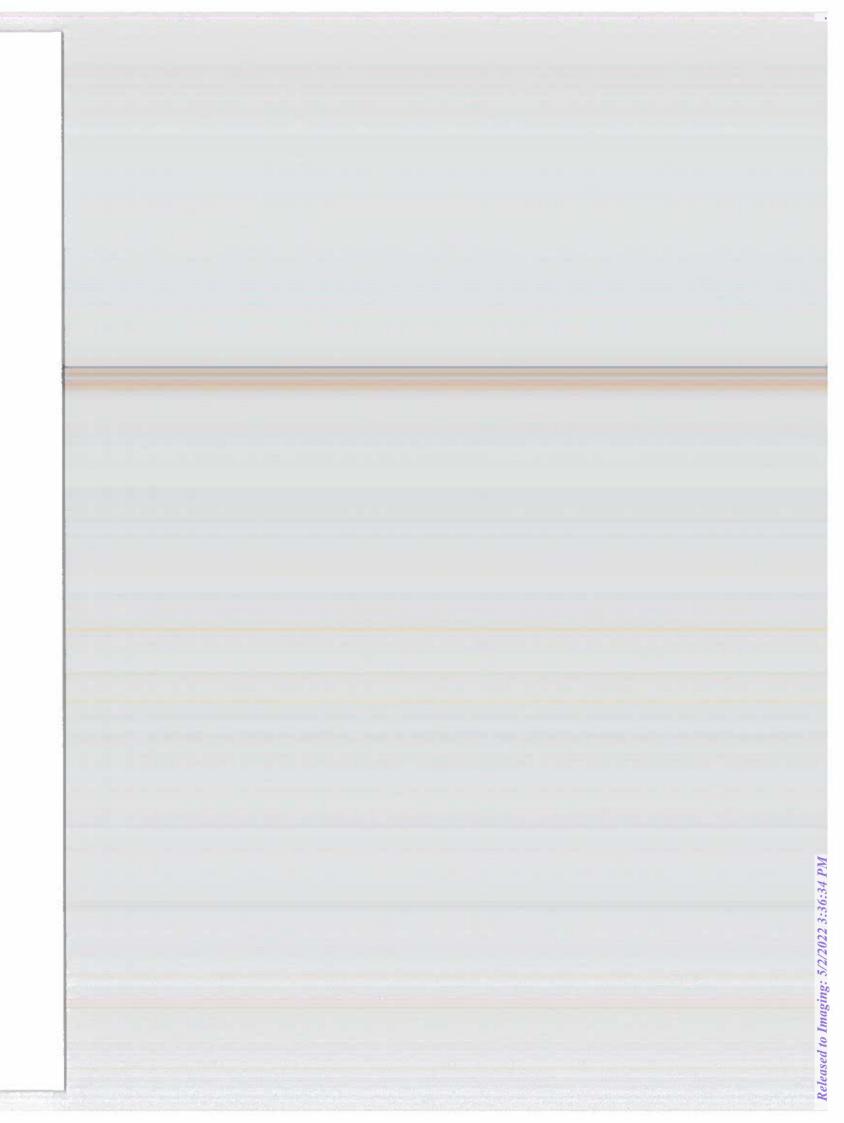
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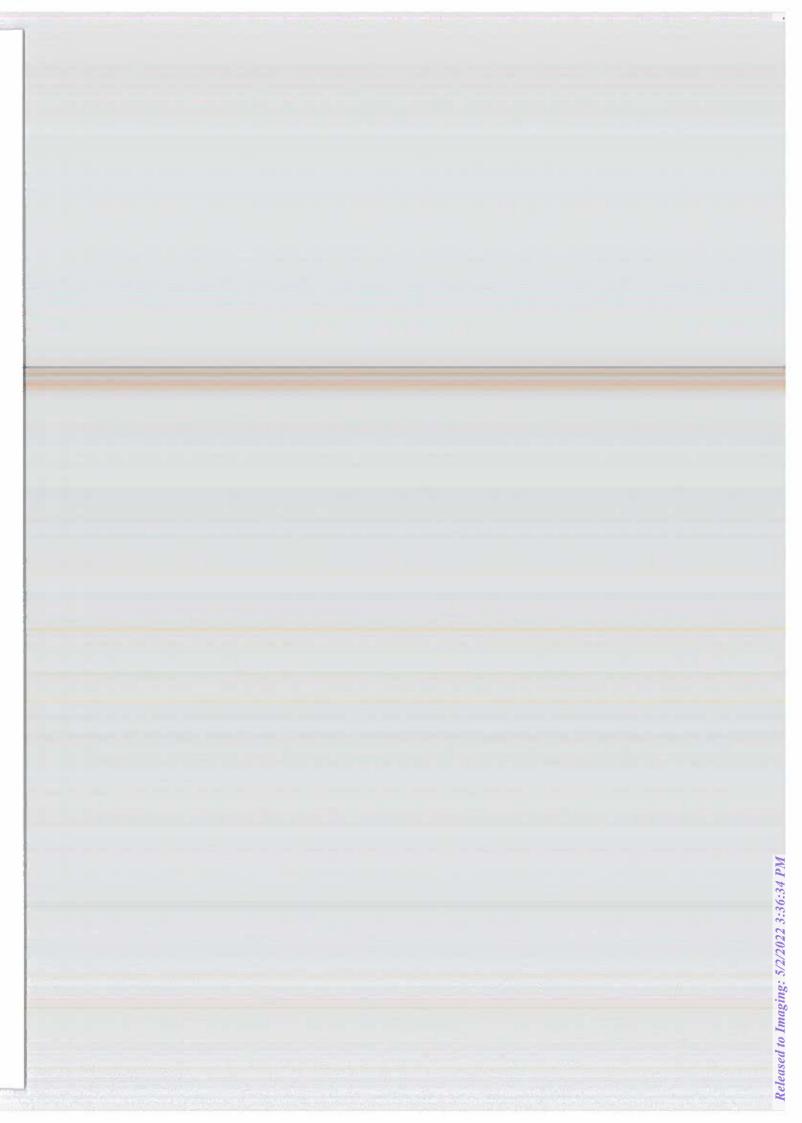
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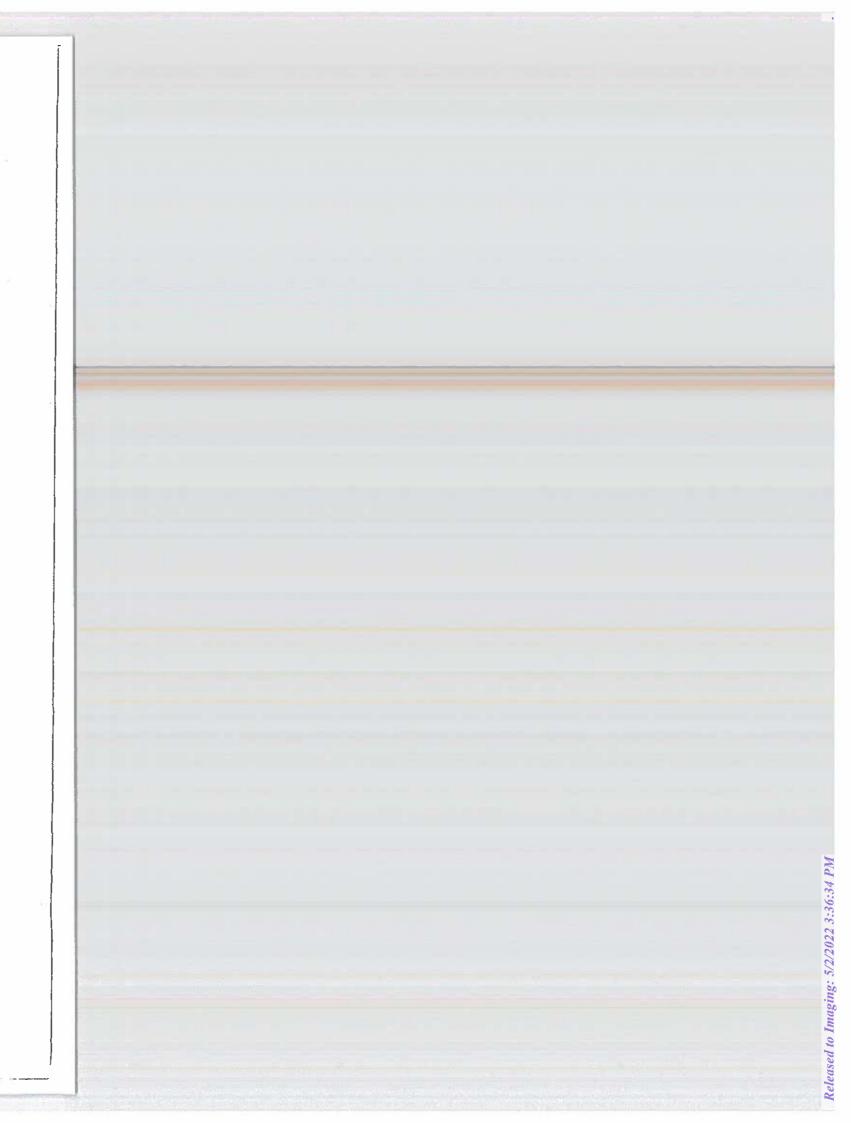
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and at this time is not required by regulatory process.

The Geological Characterization Report (GCR) for the WIPP has been created through the efforts of many individuals who are to be acknowledged for their contributions; little of the material presented, however, is original material created solely for the Geological Characterization Report. At Sandia Laboratories, principal contributors to the writing of the GCR are, in alphabetical order: G.E. Barr, B.M. Butcher, R.G. Dosch, L.R. Hill, S.J. Lambert, D.W. Powers, S.E. Shaffer, W. Wawersik, and W.D. Weart. Bechtel Corporation provided basic summaries for many chapters; the principal participants were:

D. Dale, C. Farrell, V. Howes, J. Litehiser, D. Roberts, R. Sayer. In particular, J. Litehiser provided the analysis of seismic risk in Chapter 5. G.B. Griswold of Tecolote Corporation summarized resources in Chapter 8. F.H. Dove of NUS summarized hydrology in Chapter 6.

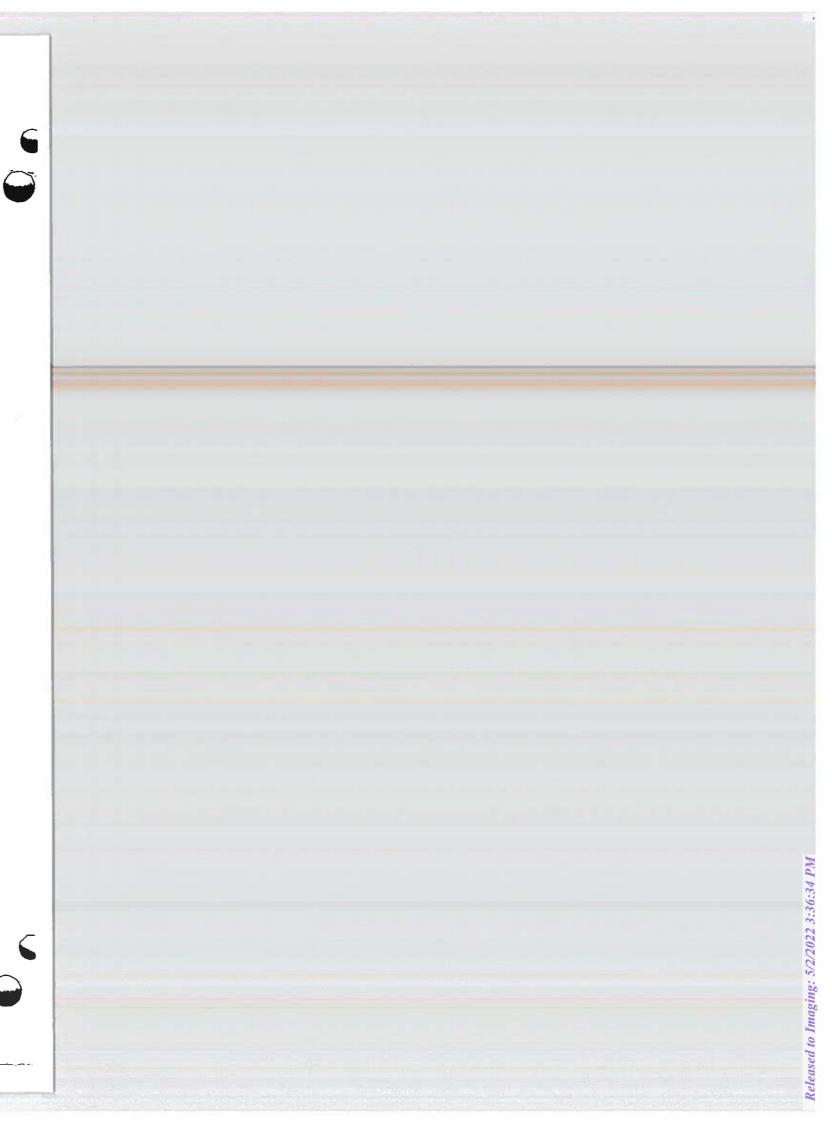


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Editorial and review comments were solicited on a working copy and received from independent agencies with personnel familiar with the geology of southeastern New Mexico, particularly the New Mexico Bureau of Mines and Mineral Resources. An internal review at Sandia Laboratories of a working copy of the entire document also resulted in detailed comments. Those review comments were incorporated as appropriate into this draft copy. As usual, some of the suggestions were not followed for various reasons. The draft copy received review and comment by the WIPP Panel (Committee on Radioactive Waste Management, National Research Council) of the National Academy of Science, the Office of Nuclear Waste Isolation (ONWI) and various subcontractors, and by Westinghouse as a contractor to DOE. Major parts of the draft were reviewed by members of the Special Projects Branch, USGS. These comments have resulted in some revision of the final copy, as seemed appropriate. The editors assume responsibility for the contents of this report.

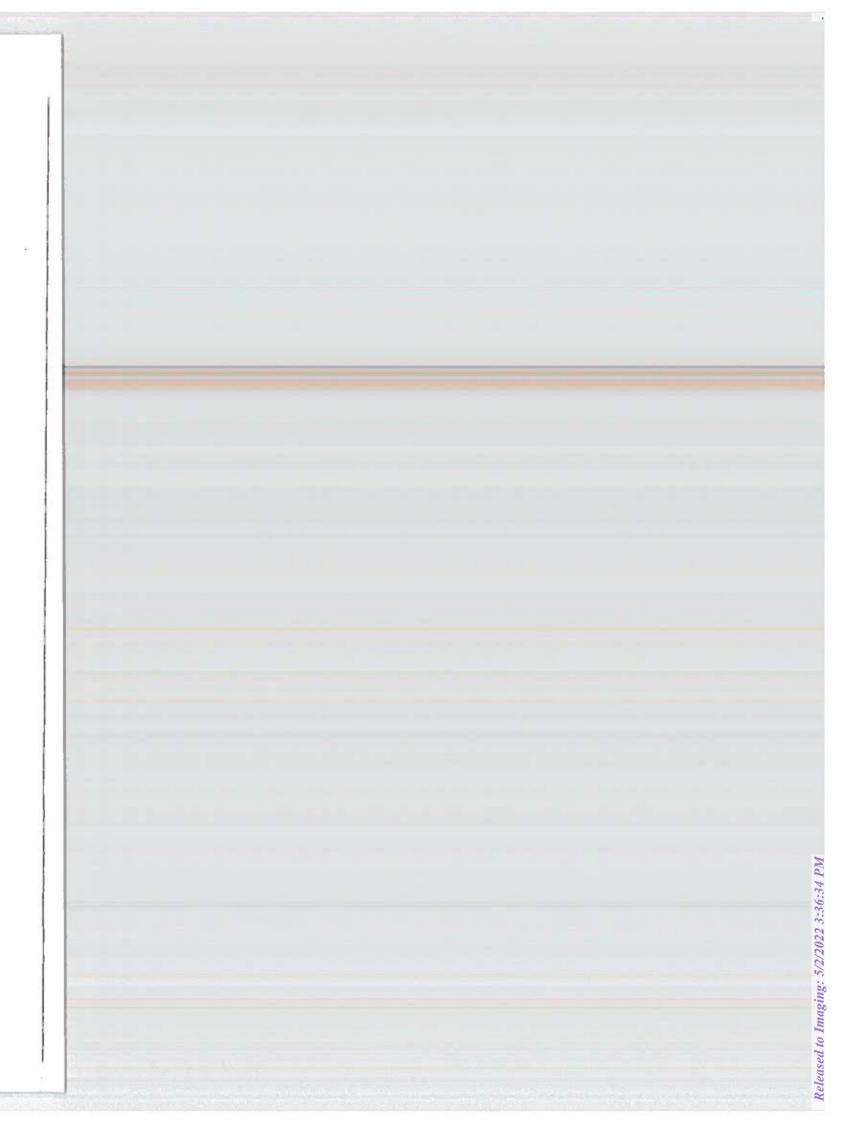
The editors and writers acknowledge the enormous volume of accumulated data and interpretations which provide the background for the Geological Characterization Report; referencing of authors is intended to reflect this background and to properly attribute material.

The Report is primarily intended for use by those with a technical background in earth sciences. However, the text should also be generally readable without all of this background by referral to the American Geological Institute Glossary of Geology (1974).



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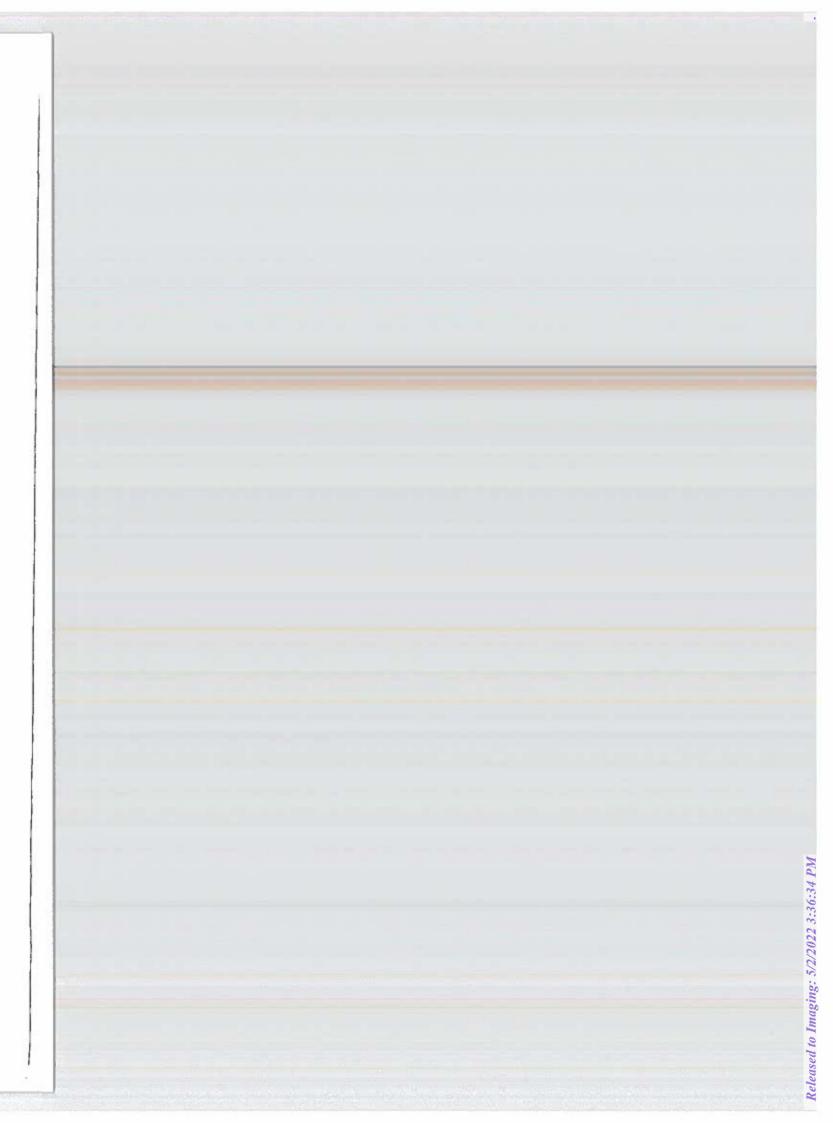
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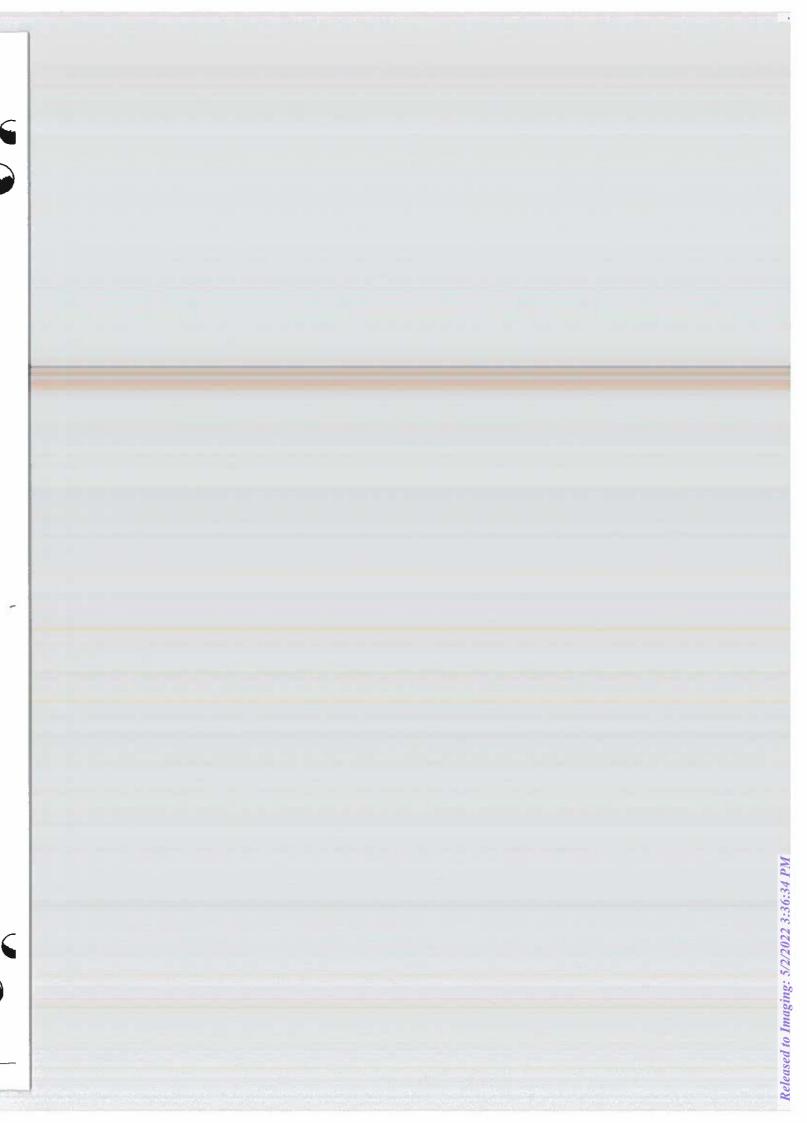


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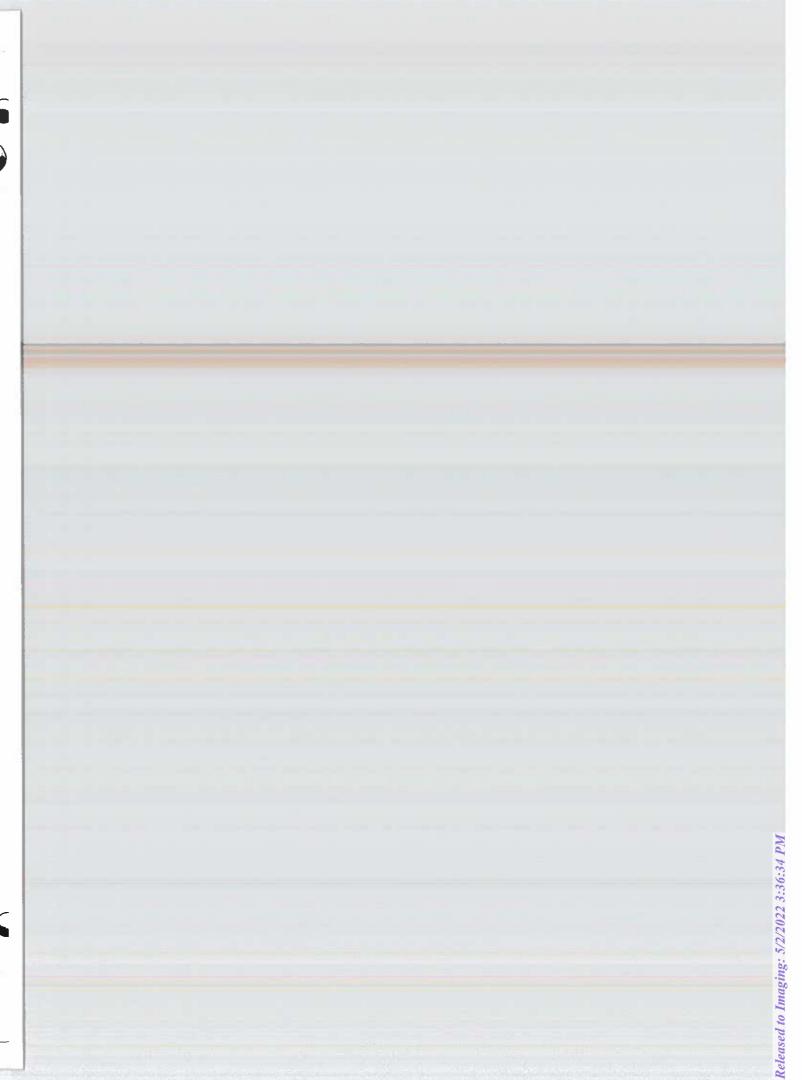
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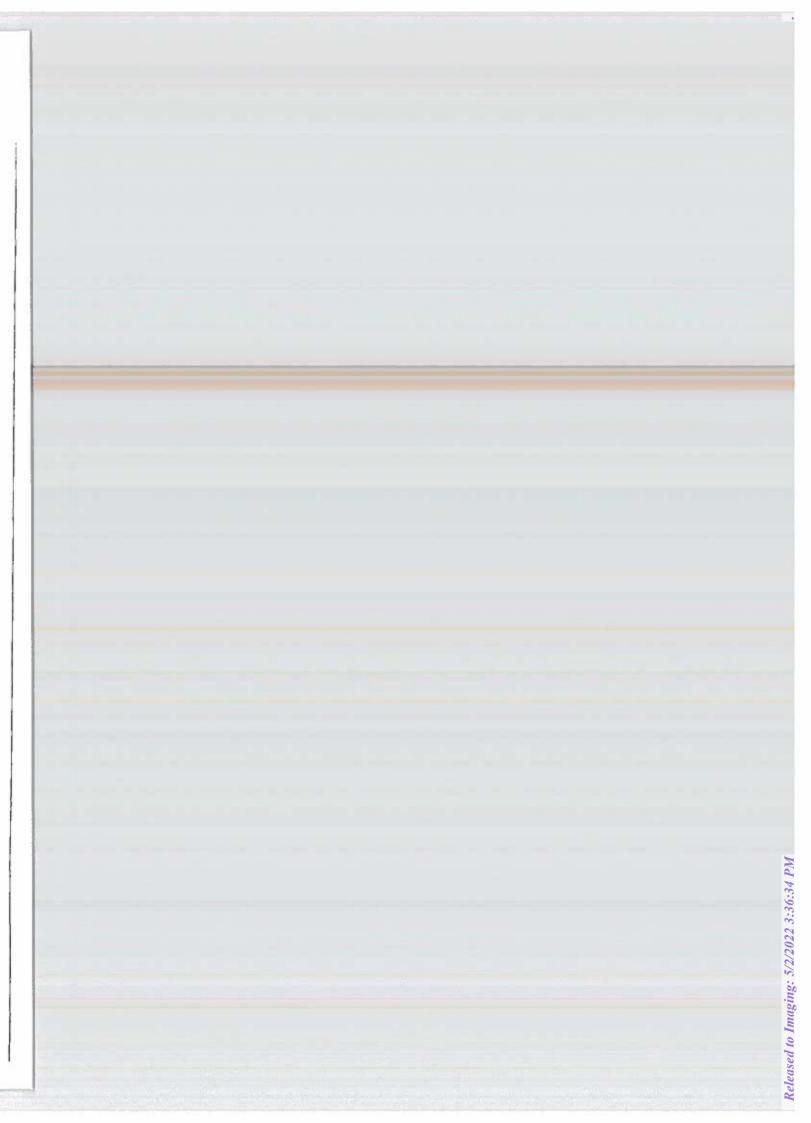
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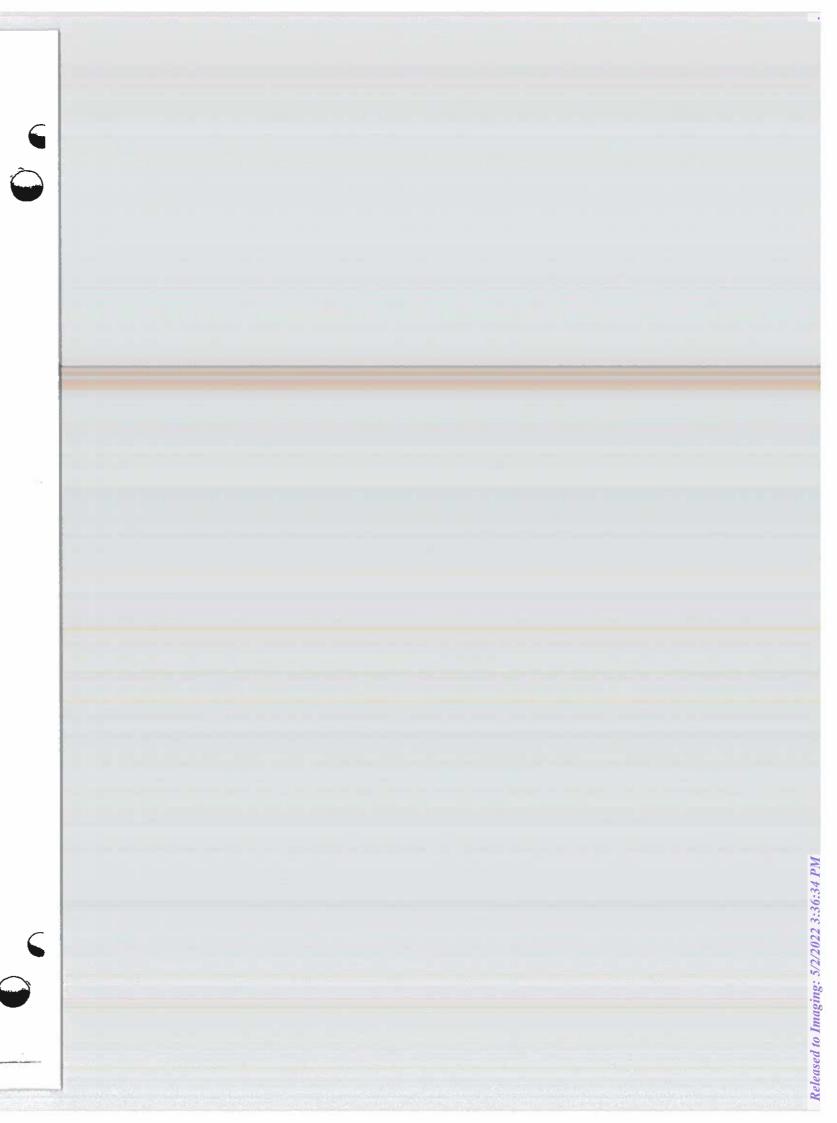
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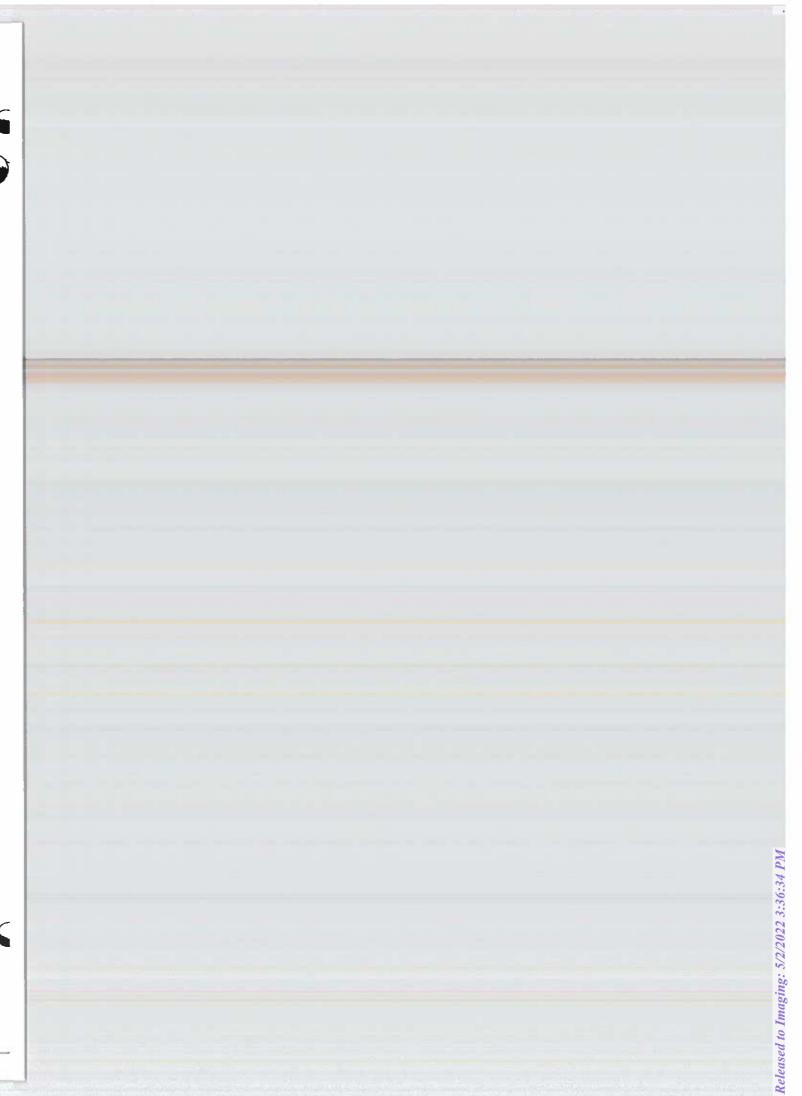
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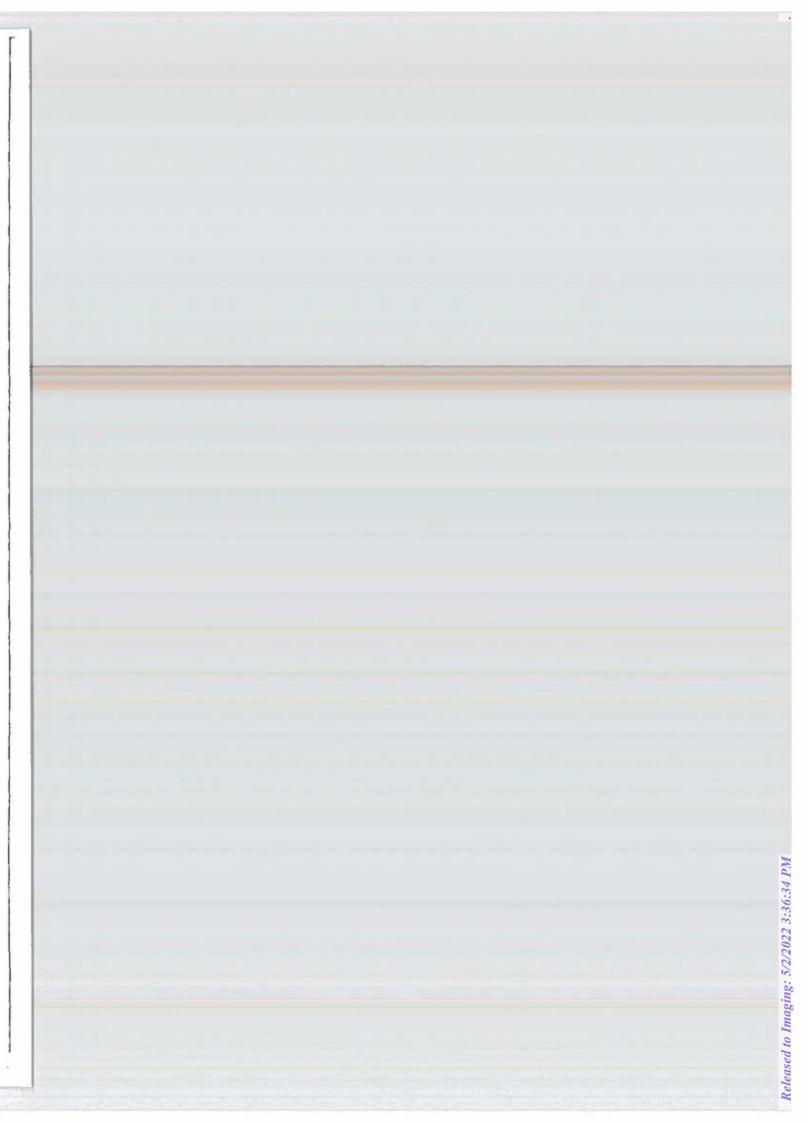
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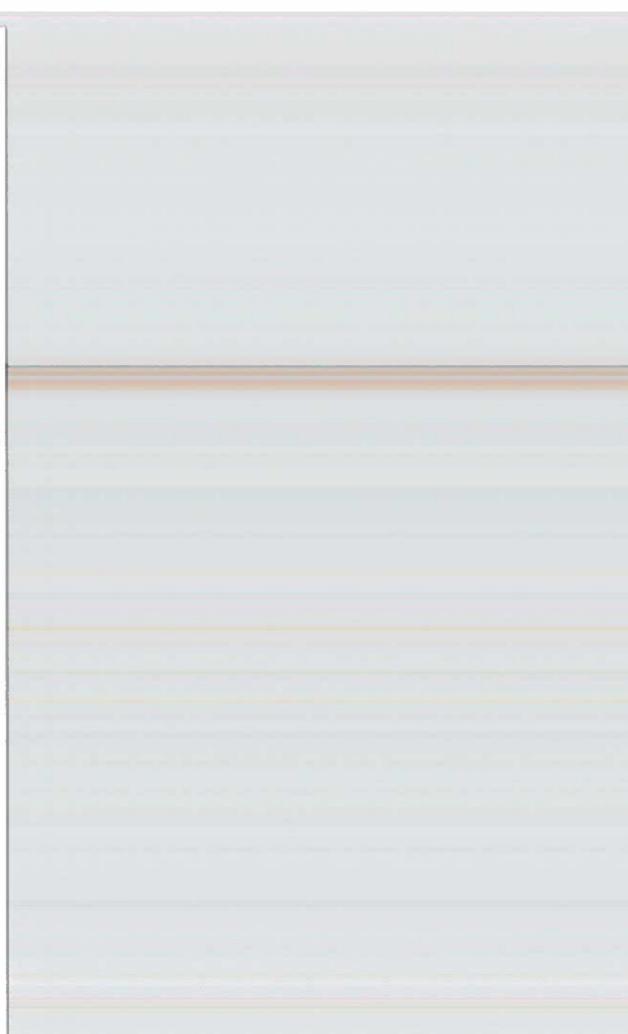
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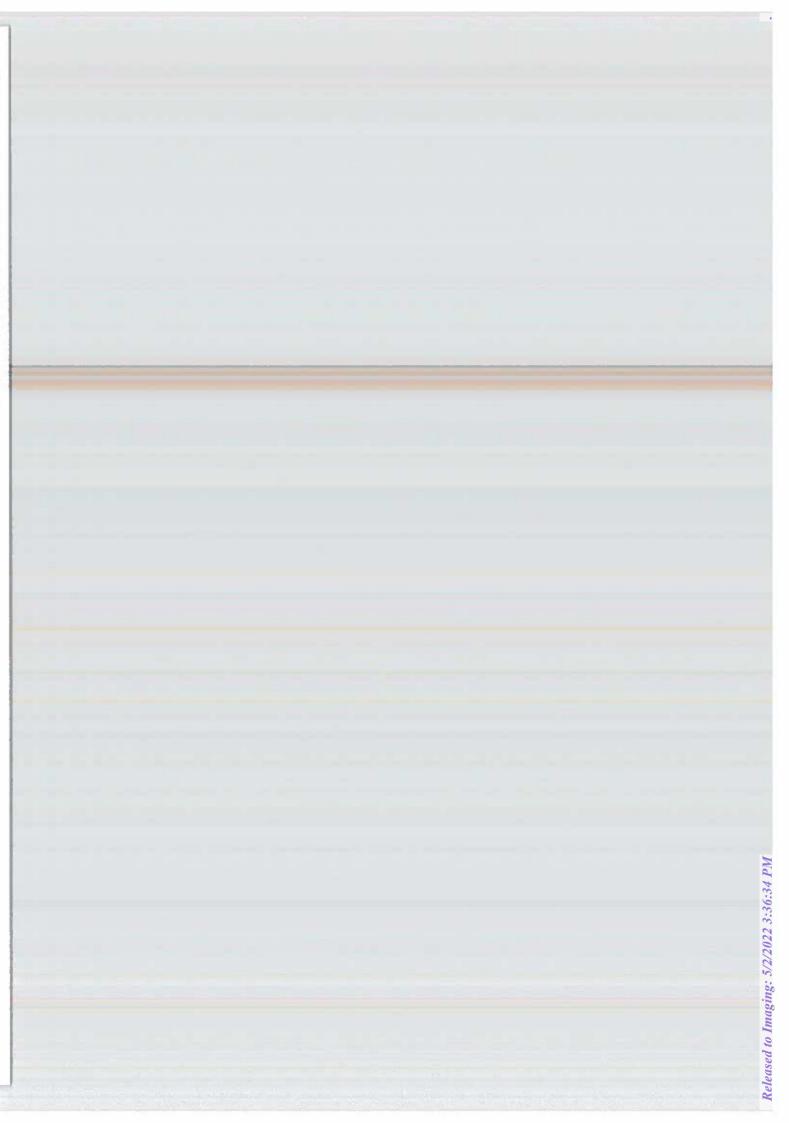


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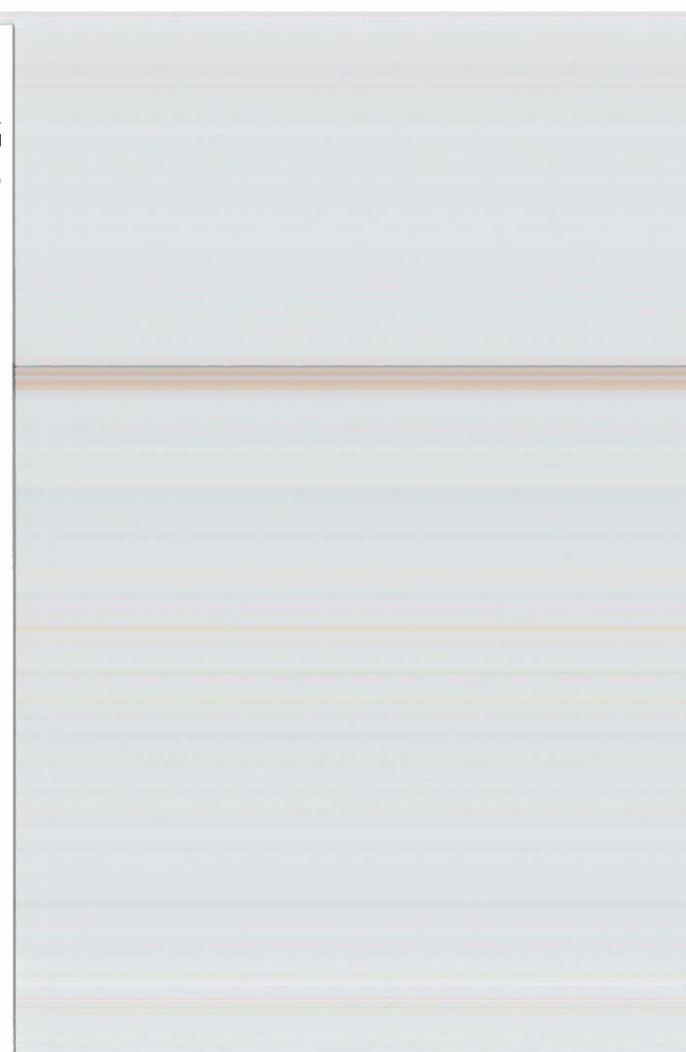
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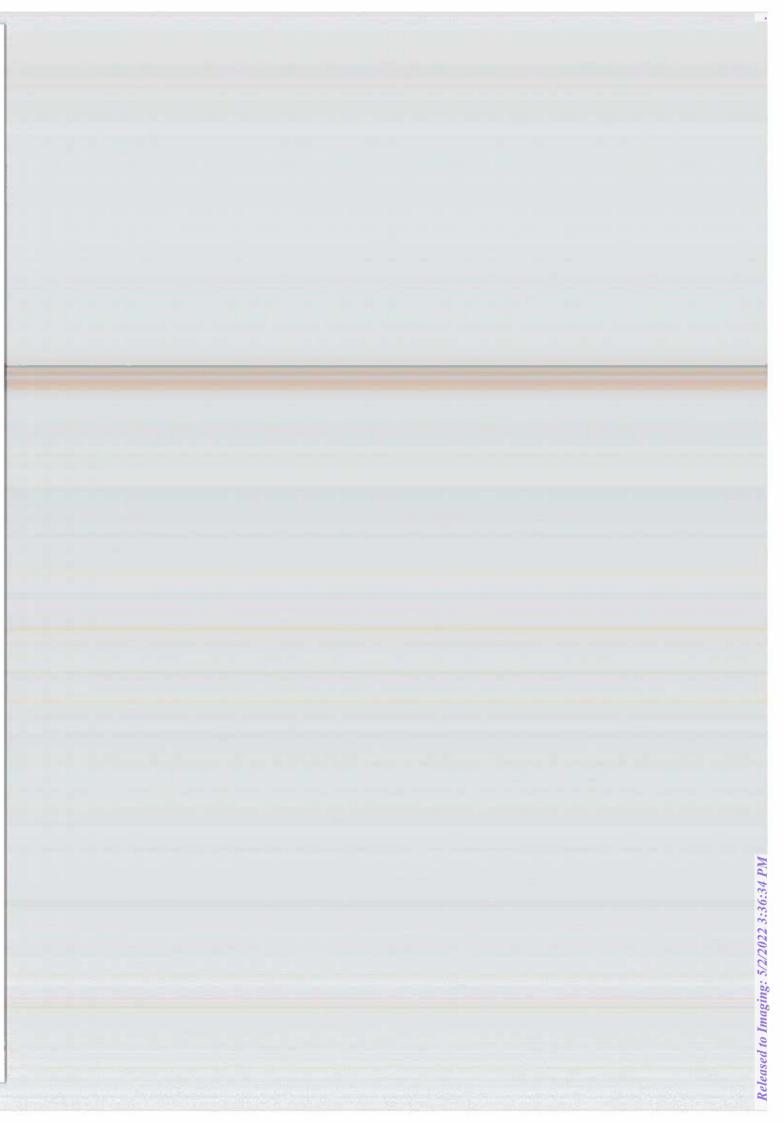


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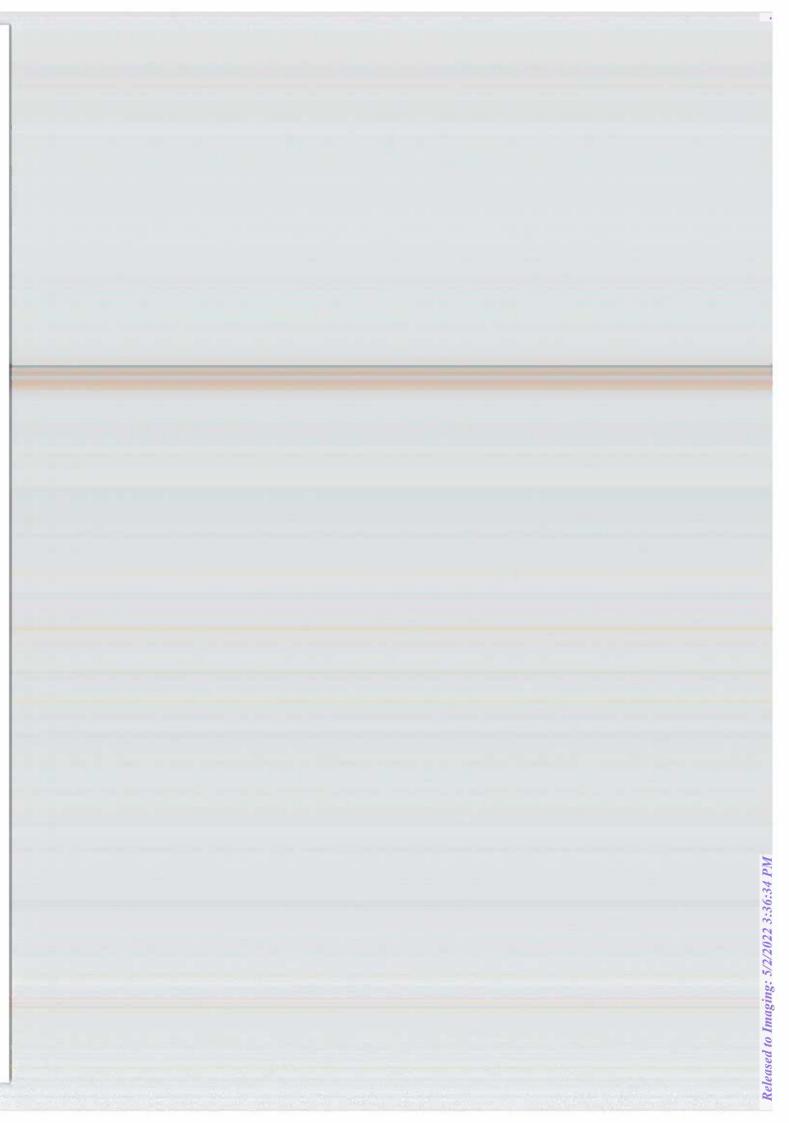
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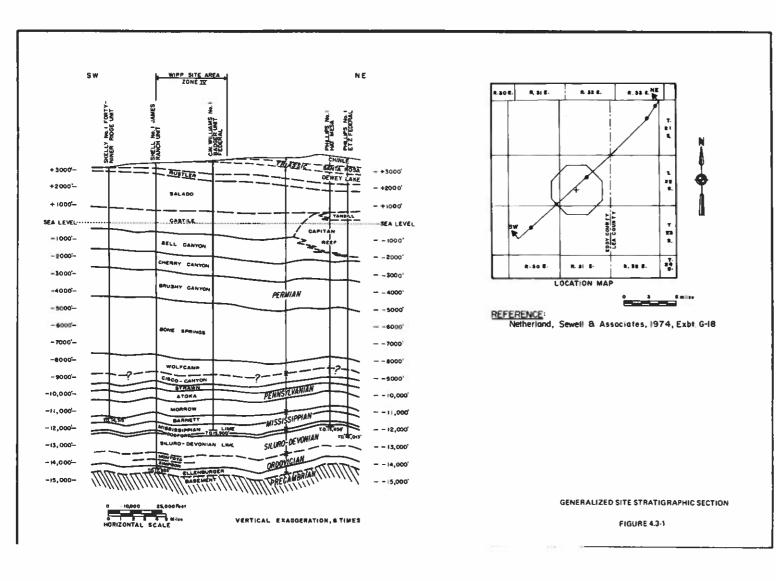
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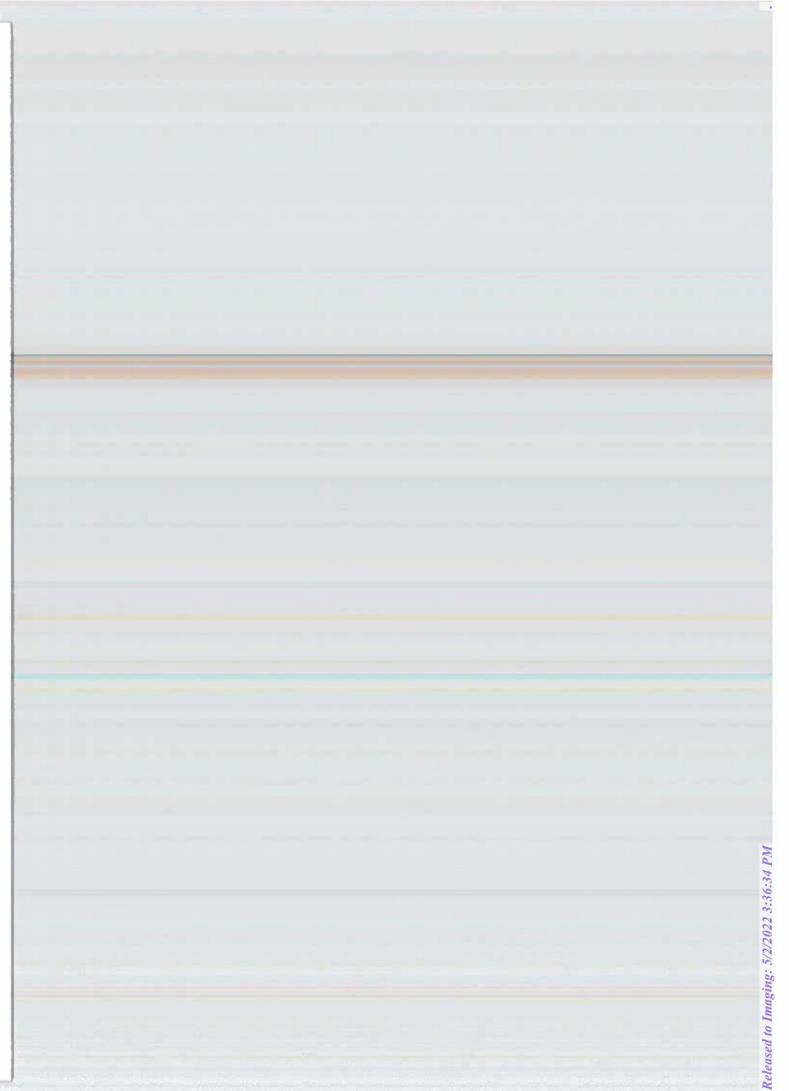


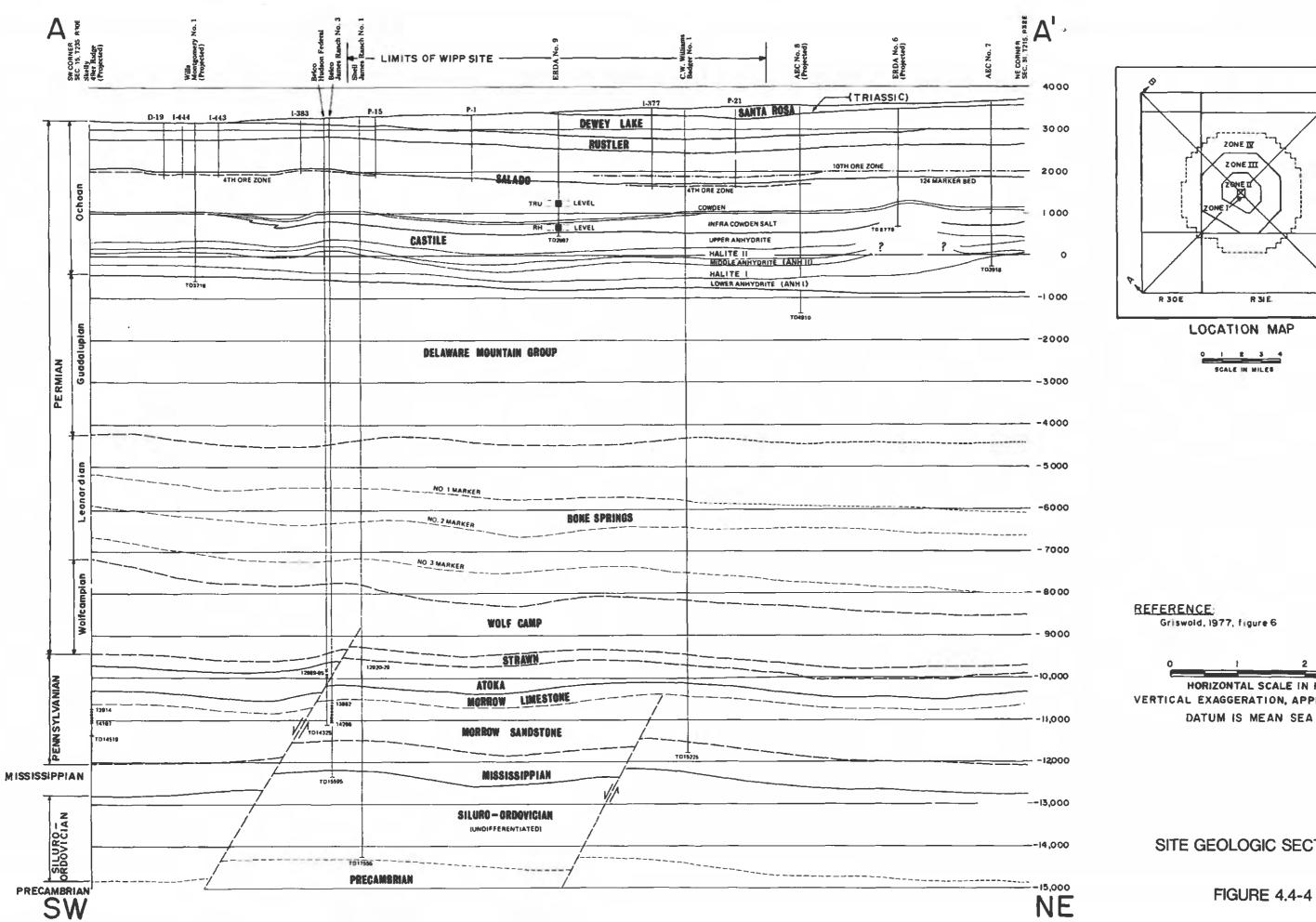
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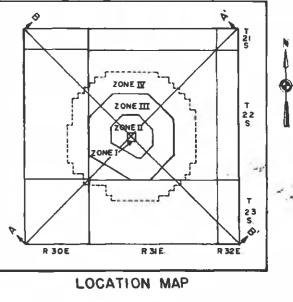
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HORIZONTAL SCALE IN MILES VERTICAL EXAGGERATION, APPROX. 3 1/2 TIMES DATUM IS MEAN SEA LEVEL

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GEOHYDROLOGY OF THE PROPOSED WASTE ISOLATION PILOT PLANT SITE, LOS MEDAÑOS AREA, SOUTHEASTERN NEW MEXICO

By Jerry W. Mercer

U.S. GEOLOGICAL SURVEY

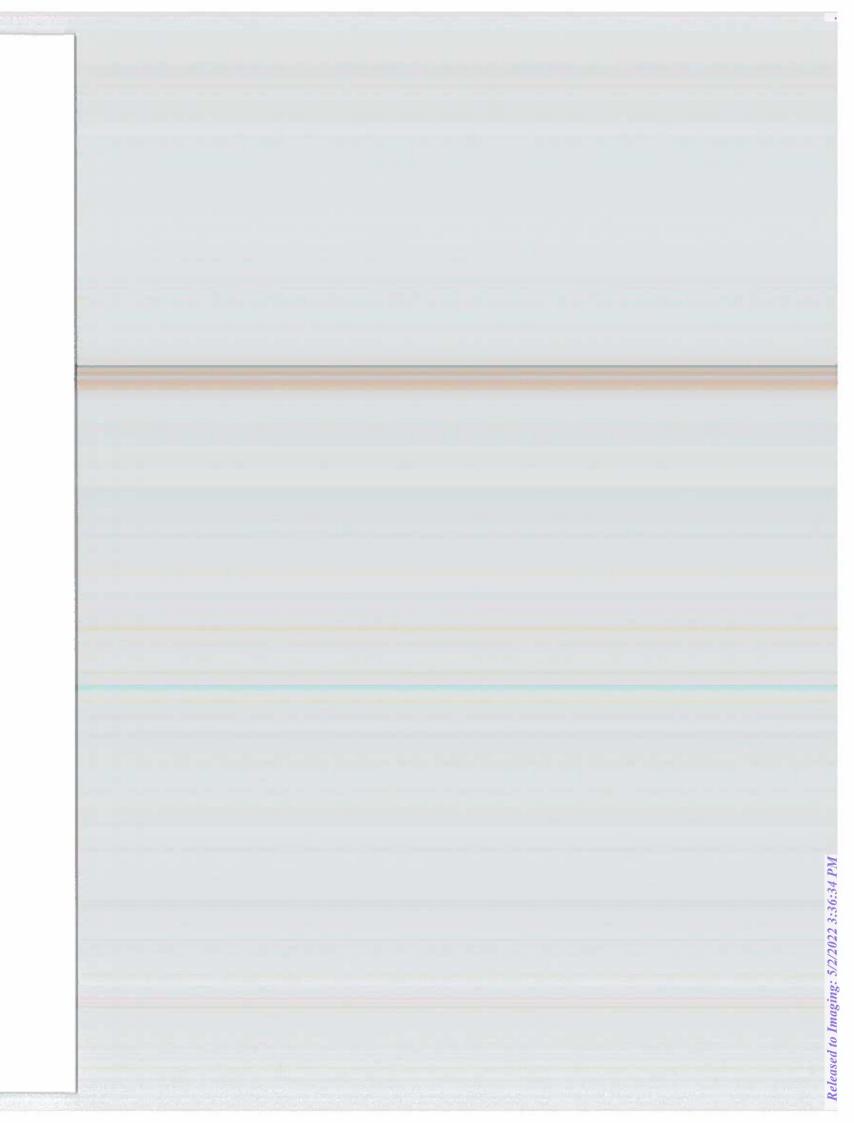
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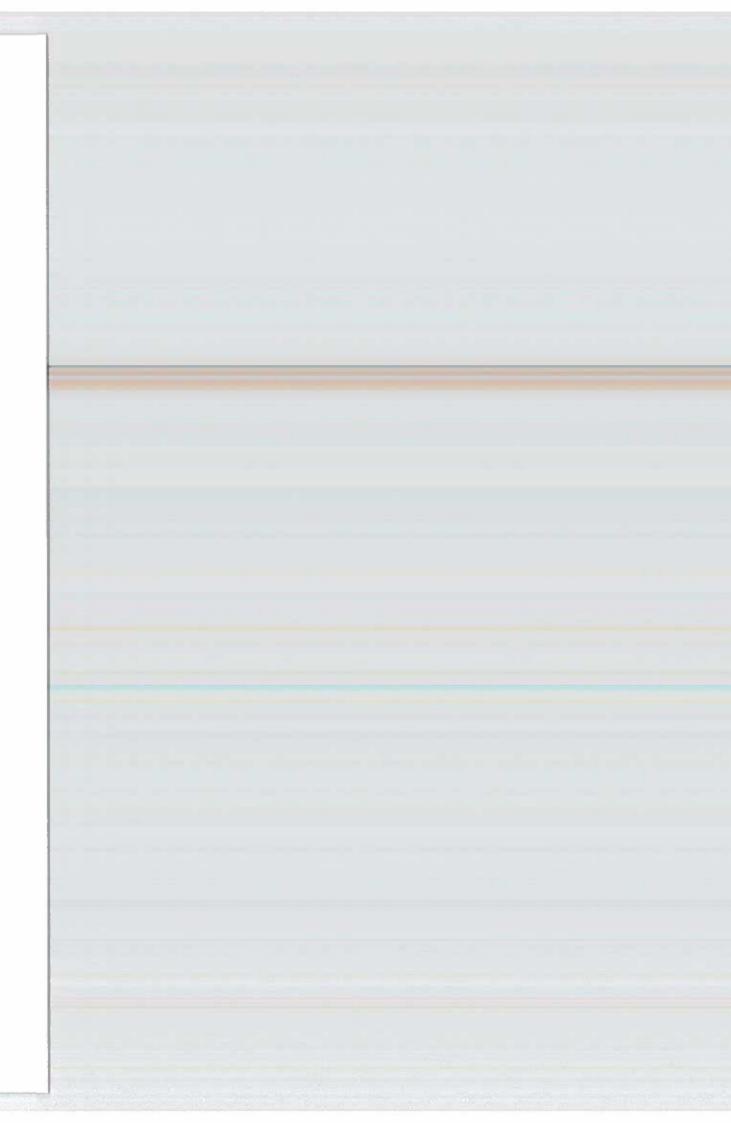
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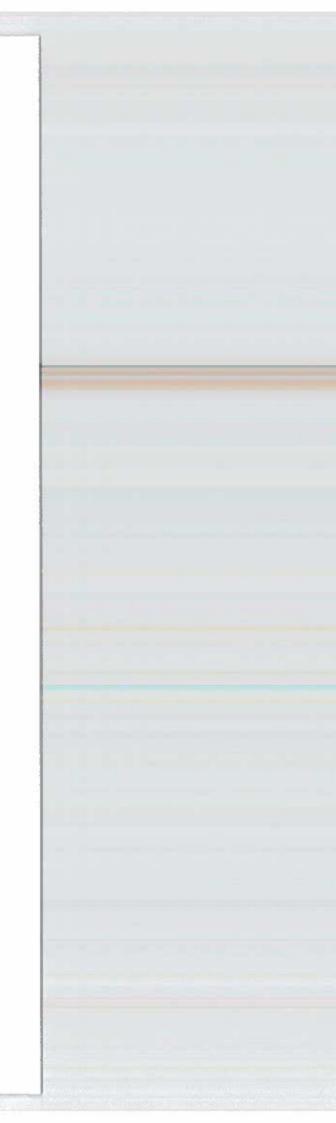
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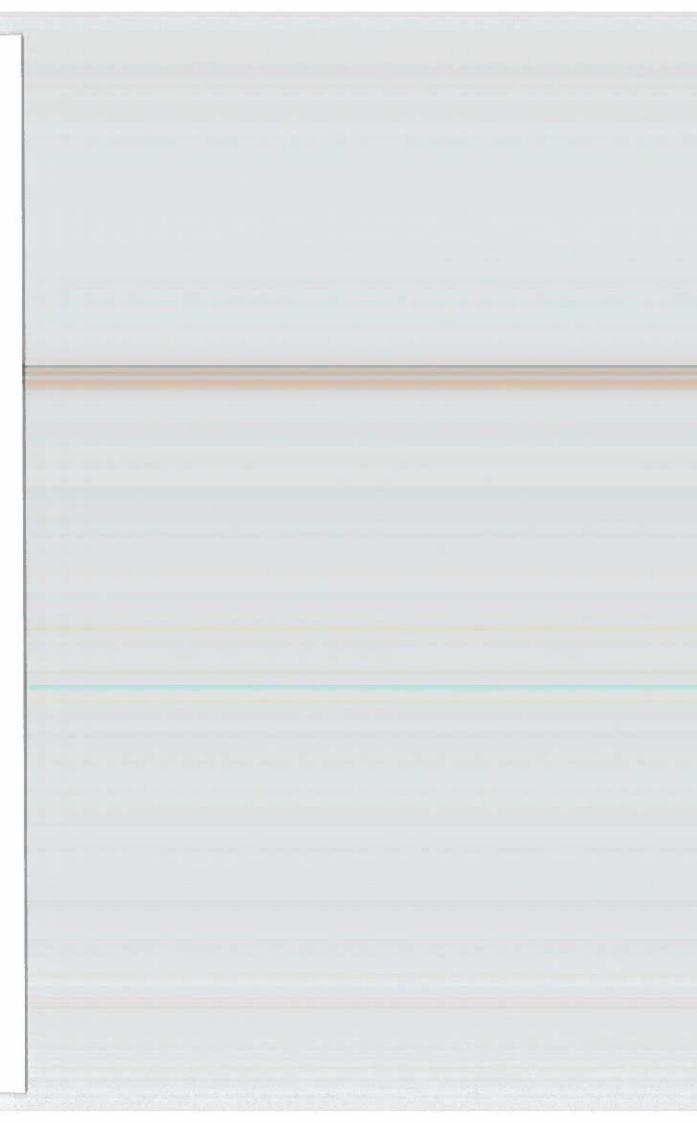
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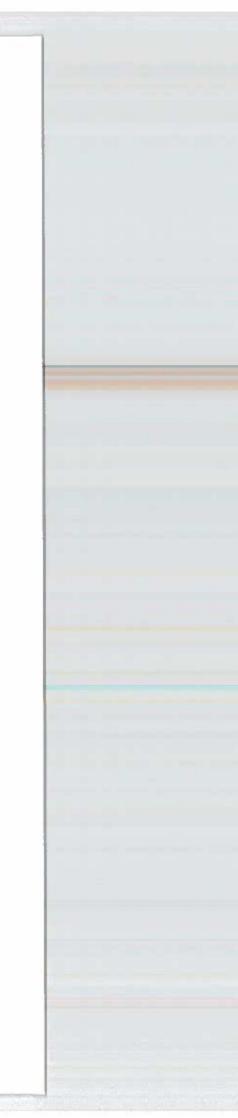
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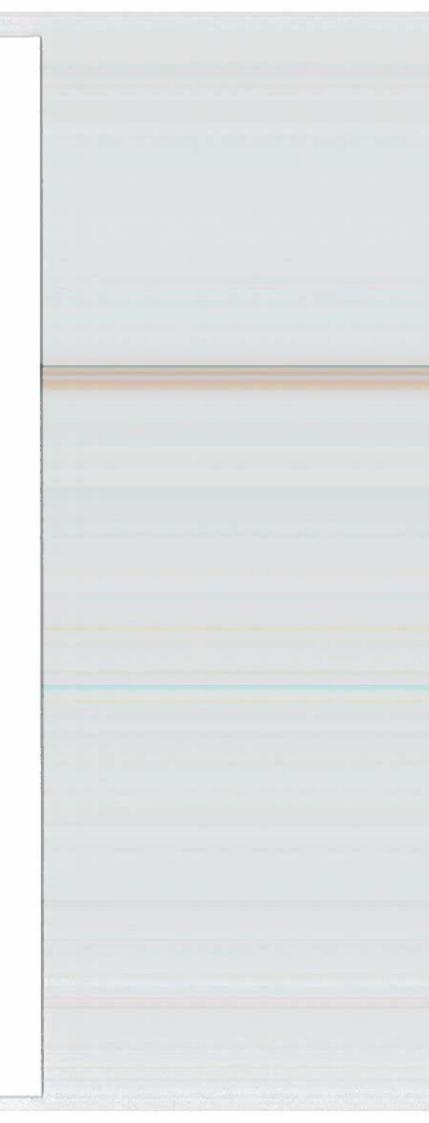
CONVERSION FACTORS

In this report figures for measurements are given in inch-pound units only. The following table contains factors for converting to International System (S.I.) units.

Multiply inch-pound units	<u>By</u>	To obtain S.I.units
foot foot per mile foot per day foot squared per day gallon per minute ton (short) pound per square inch mile square mile	0.3048 0.1894 0.3048 0.0929 0.06309 0.9072 0.07031 1.609 2.590	meter meter per kilometer meter per day meter squared per day liter per second megagram kilogram per square centimeter kilometer square kilometer
inch	25.40	millimeter

Chemical concentrations are given only in metric units--milligrams per liter, micrograms per liter, picocuries per liter, or milliequivalents per liter. Liquid densities are given only in metric units--grams per cubic centimeter.

National Geodetic Vertical Datum of 1929 (NGVD of 1929): A geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called "Mean Sea Level." NGVD of 1929 is referred to as sea level in this report.



GEOHYDROLOGY OF THE PROPOSED WASTE ISOLATION PILOT PLANT SITE, LOS MEDAÑOS AREA, SOUTHEASTERN NEW MEXICO

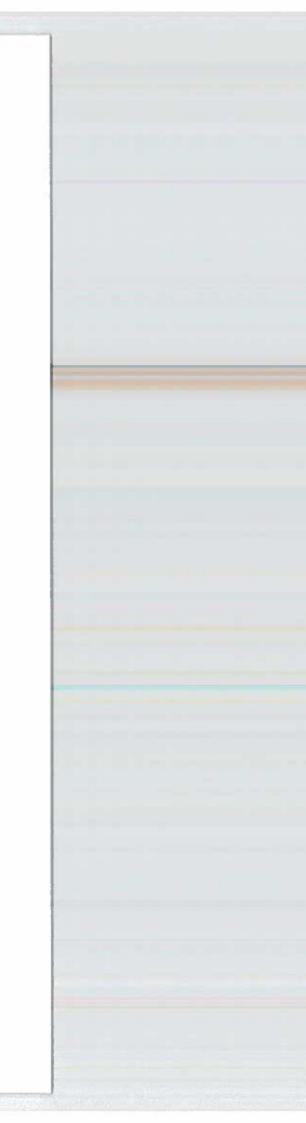
by Jerry W. Mercer

ABSTRACT

Geohydrologic data have been collected in the Los Medanos area at the U.S. Department of Energy's proposed Waste Isolation Pilot Plant (WIPP) site in southeastern New Mexico since 1975 as part of a study evaluating the feasibility of storing defense-associated nuclear wastes within the bedded salt of the Salado Formation of Permian age. Drilling and hydrologic testing have identified three principal water-bearing zones above the Salado Formation and one below that could potentially transport wastes to the biosphere if the proposed facility were breached. The zones above the Salado are the contact between the Rustler and Salado Formations and the Culebra and Magenta Dolomite Members of the Rustler Formation of Permian age. The zone below the Salado Formation consists of channel sandstones in the Bell Canyon Formation of the Permian Delaware Mountain Group.

Determinations of hydraulic gradients, directions of flow, and hydraulic properties were hindered because of the negligible permeability of the water-bearing zones. Special techniques in drilling, well completion, and hydraulic testing have been developed to determine the hydrologic characteristics of these water-bearing zones.

The Rustler Formation contains the principal water-bearing zones identified at the WIPP site, and thus was the most extensively studied. Calculations from pumping, slug, and pressure-pulse tests indicate that the transmissivities of the units vary laterally within, as well as between, the individual beds. The Culebra Dolomite Member is the most persistent and productive hydrologic unit in the WIPP site area and also has the greatest variability of hydraulic properties. This variability results from the size and number of fractures, which in turn are related to the degree of evaporite dissolution within the Rustler Formation. Transmissivities calculated for the Culebra in Nash Draw immediately west of the WIPP site range from 18 to 1,250 feet squared per day, whereas they range from 1 x 10⁻³ to 140 feet squared per day at the WIPP site. Potentiometric-surface maps (as equivalent



freshwater heads) indicate flow in the Culebra Dolomite Member of the Rustler Formation at the WIPP site to be southerly, eventually flowing southwestward to Nash Draw. Determination of flow directions, however, may be significantly affected by directional differences in permeability along fractures. The dominant dissolved ions are sodium and chloride, with calcium, magnesium, potassium, and sulfate being other major ions present. Hydrochemistry studies indicate an increase of mineralization of water from west to east along with a decrease in circulation of the flow system. The dissolved-solids concentrations across the WIPP site range from 3,200 to 420,000 milligrams per liter.

The Magenta Dolomite Member is the uppermost hydrologic unit. Water in this unit occurs either in thin silt beds and silty dolomite or in fractures where extensive evaporite dissolution has occurred in the Rustler Formation. Transmissivities calculated for the Magenta in Nash Draw range from 53 to 375 feet squared per day, whereas they range from 4 x 10^{-3} to 1 x 10^{-1} foot squared per day at the WIPP site. Potentiometric-surface maps (as equivalent freshwater heads) indicate flow in the Magenta to be westward toward Nash Draw where the flow direction is then controlled by the evaporite dissolution in the Rustler. The water is brackish to briny. The dominant dissolved ions are sodium and chloride with calcium, magnesium, potassium, and sulfate being other major ions. Dissolved-solids concentrations across the WIPP site range from 5,460 to 270,000 milligrams per liter.

The least productive water-producing zone is at the contact between the Rustler and Salado Formations where brine occurs either in an evaporite residuum or in clays along bedding planes. The residuum is concentrated along Nash Draw and is most extensive between Malaga Bend on the Pecos River, 10 miles southwest of the proposed WIPP site, and Laguna Grande de la Sal, where transmissivities are as large as 8,000 feet squared per day. North of Laguna Grande de la Sal in Nash Draw, the transmissivities range from 2 x 10^{-4} to 8 feet squared per day; transmissivities at the WIPP site range from 3 x 10^{-5} to 5 x 10^{-2} foot squared per day. Potentiometric surface maps (as equivalent freshwater heads) indicate flow in the contact zone to the southwest across the WIPP site toward Nash Draw. The dissolved solids in the brines at the Rustler-Salado contact are predominantly sodium chloride with dissolved-solids concentrations ranging from 79,800 to 480,000 milligrams per liter. Large potassium and magnesium ion concentrations in the eastern part of the site may indicate restricted circulation of the brines.

The relative static heads or formation pressures of the hydrologic units in the Rustler decrease with depth; that is, static heads are the highest in the Magenta and the lowest at the contact zone between the Rustler and Salado. In the WIPP site area, the presence of relatively impermeable interbeds of halite and anhydrite probably restricts vertical movement between units. The Rustler Formation probably is recharged in Bear Grass Draw about 20 miles northwest of the WIPP site and in Clayton Basin, which is about 12 miles northwest of the WIPP site. The major discharge occurs at Malaga Bend on the Pecos River.

Data collected from drill-stem tests in test wells penetrating the Bell Canyon Formation indicate that the brines associated with the unit usually occur in relatively isolated channel sandstones that are permeable (hydraulic conductivities ranging from 7 x 10^{-3} to 5 x 10^{-2} foot per day) but grade vertically and laterally into siltstones and shales with little permeability. Potentiometric-surface maps (as equivalent freshwater heads) show flow in the Bell Canyon Formation to be laterally across the basin to the northeast, but the movement probably is extremely slow. The dissolved ions in the brines of the Bell Canyon are predominantly sodium and chloride with dissolved-solids concentrations ranging from 180,000 to 270,000 milligrams per liter.

INTRODUCTION

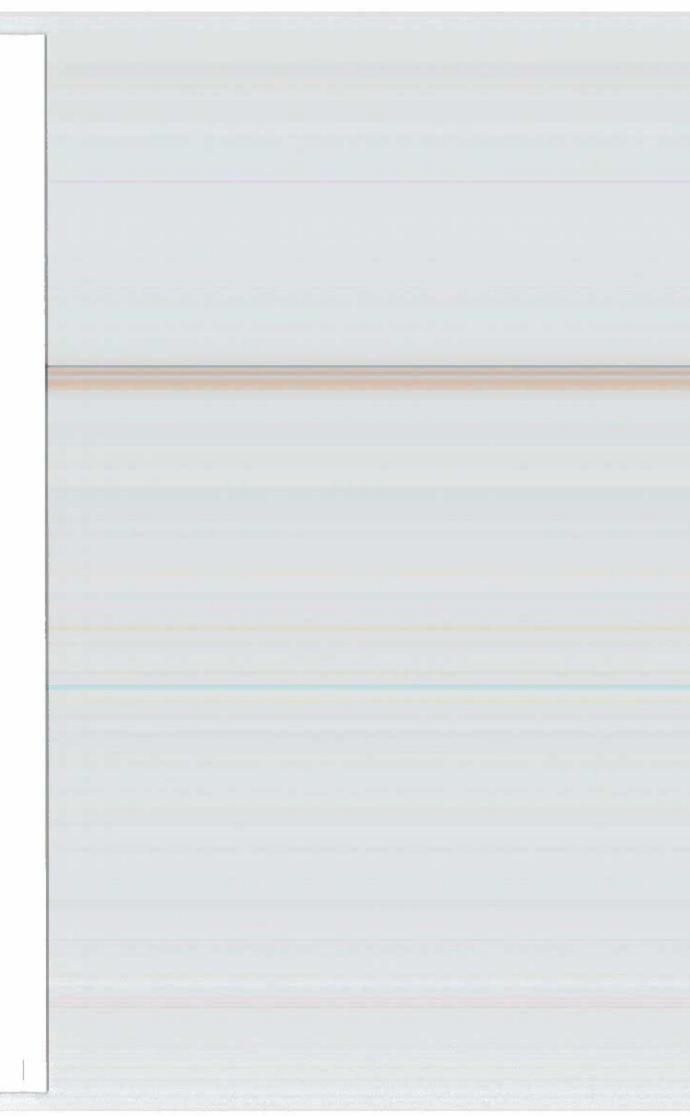
Purpose and Scope

The U.S. Geological Survey, at the request of the U.S. Department of Energy, is investigating the geohydrology of the proposed Waste Isolation Pilot Plant (WIPP) site in an area known as Los Medaños, 30 miles east of Carlsbad, New Mexico (fig. 1). Geohydrologic data have been collected from this area by the U.S. Geological Survey intermittently since 1972 and on a continuous basis since 1975.

The WIPP is a project of the Department of Energy and is proposed as a radioactive-waste storage facility to be placed at a depth of approximately 2,150 feet in the bedded salts of the Permian Salado Formation. The WIPP is planned to demonstrate disposal technology for transuranic wastes. After a period of "pilot" operation in a waste-retrievable mode, it is expected WIPP will be converted into a facility for permanent storage of transuranic wastes (Powers, 1981, p. 119).

The characteristics of the regional geohydrologic systems associated with the WIPP site need to be defined because of the potential for transport of radionuclides to the biosphere by ground water in the event the storage facility is breached. Another equally important aspect of the WIPP study is the determination of the geologic stability of the formation in which the wastes will be placed. Because the formation of concern is easily dissolved halite, the inherent stability of the formation is directly related to the hydrologic regime within and around the formation and needs to be studied in detail.

At the WIPP site, water-bearing zones above and below the salt section could affect stability as well as potentially transport radionuclides. Because some of these water-bearing zones are more likely to be involved than others, the degree of certainty required in the definition of flow paths, velocity of ground water, quality of water, and other characteristics is different for some zones than others.



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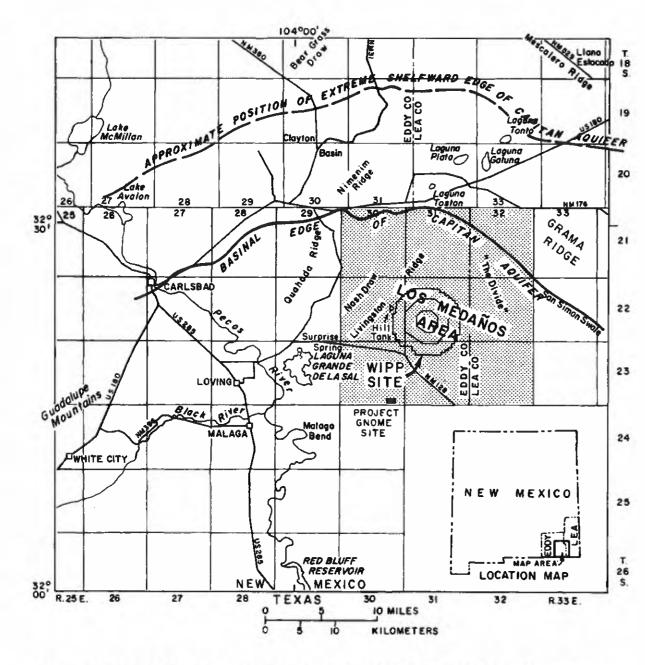


Figure 1.--Location of Los Medaños area and the proposed Waste Isolation
Pilot Plant (WIPP) site

This report discusses the ground-water systems and the interpretation of test results in the water-bearing zones above and below the proposed facility. Hydrologic data used in these analyses were collected during 7 years beginning in 1975 and were from 39 test holes drilled for, or converted to, hydrologic test holes. The study included: the determination of potential ground-water flow boundaries; potentiometric heads; ground-water chemistry; and hydraulic properties obtained through pumping, slug, pressure-pulse, and tracer tests.

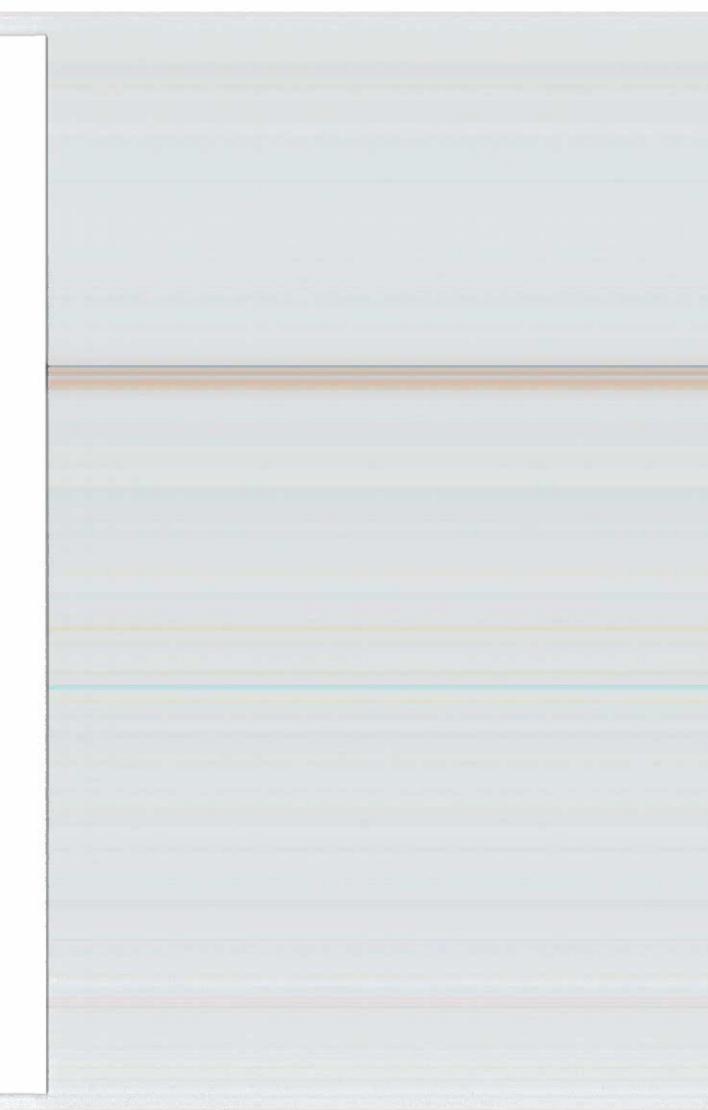
The hydrologic investigation is part of a comprehensive study related to site characterization and validation conducted on behalf of the U.S. Department of Energy by Sandia National Laboratories. The hydrologic studies were conducted by the U.S. Geological Survey and were designed to supplement the technical site-characterization program performed by Sandia.

Location and Areal Extent

The study area of approximately 800 square miles is located within the northern part of the Delaware Basin in eastern Eddy and western Lea Counties, New Mexico and includes all or part of Tps. 21-23 S., Rs. 30-32 E. (fig. 1). The WIPP site is approximately in the center of the study area and covers about 54 square miles, encompassing almost all of T. 22 S., R. 31 E. (fig. 1). It is outlined in figure 1 by a proposed exclusion boundary, or buffer zone, surrounding the area of the proposed facility.

The WIPP site is in an area referred to as Los Medanos. Los Medanos is part of a gently sloping terrain that rises eastward from the Pecos River to the "caprock" of the Llano Estacado. The topographic relief generally is less than 50 feet; the surface area is covered with sand dunes. Vegetation consists of mesquite, scrub oak, and other plants typical of the northern Chihuahuan desert. The average annual precipitation is 11 to 13 inches, while evaporation from surface water exceeds 98 inches per year. The primary land use is cattle grazing. Potash is being mined in the area to the north and west; petroleum exploration and development recently has become quite intensive.

The major topographic features in the area include two depressions called Nash Draw and Clayton Basin. Nash Draw is the larger, being 4 to 6 miles wide and 15 to 18 miles long, extending southward through the western part of the area (fig. 1). These features are believed to have been formed by solution-subsidence and collapse and then extensively modified by erosion. Neither Nash Draw nor Clayton Basin has external surface drainage.



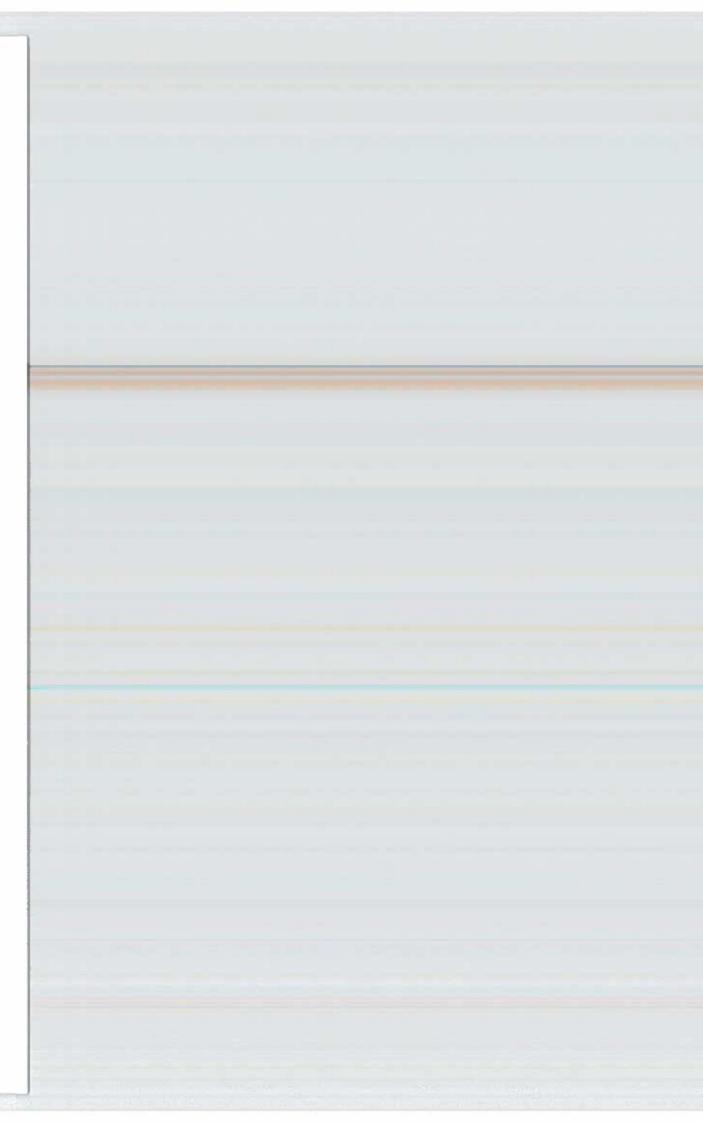
Los Medaños area is drained by the Pecos River, the only perennial stream in the region. The Pecos drainage system trends southeastward through the western margin of the study area and is at its closest point 10 miles from the WIPP site.

Laguna Grande de la Sal (Great Salt Lake), a large salt lake in the southern end of Nash Draw, contains water most of the time. Numerous small lakes and playas contain water only after intense rains, whereas small permanent tailings ponds, resulting from potash mining, occupy several of the smaller closed depressions.

Previous Investigations

The Delaware Basin geology in southeastern New Mexico has been studied extensively during the past 40 years, especially since the increase in oil and gas exploration. Prior to the establishment of the WIPP project, however, relatively little study was devoted to the Permian formations (above the Bell Canyon Formation), which include the evaporites of concern. Lang (1937) was one of the first to discuss these rock units and topographic features in the area; however, the most intensive geologic work prior to the WIPP project was done by C. L. Jones and others in connection with the U.S. Geological Survey's study of the potash deposits of the Carlsbad area. Reports were prepared by Jones (1954, 1959, 1972), Jones and Madsen (1959), and Jones, Bowles, and Bell (1960). The other significant geologic studies concentrating on this sequence of rocks were related to the Gnome experiment (an underground nuclear test) and include work by Vine (1963), Cooper (1960, 1961, 1962a, and 1962b), and Gard (1968). Numerous recent geologic papers concerned with the WIPP site investigations have been published and are included as references in this report and in a report published by Sandia National Laboratories (Powers and others, 1978).

The first detailed hydrologic work in the area was conducted by Robinson and Lang (1938) during studies of the occurrence of brine springs in the Malaga area during 1937-38. Additional work was performed in the Malaga Bend area from 1938 to 1941; the results of this work, particularly that of Theis and Sayre (1942), was published in "Reports of the participating agencies, the Pecos River Joint Investigation." Further detail on the Malaga Bend salinity problem was added by Hale (1945a, 1945b, 1961), Hale and Clebsch (1958), Hale, Hughes, and Cox (1954), Cox and Kunkler (1962), Cox and Havens (1965), and more recently, Havens and Wilkins (1980) and Kunkler (1980). The regional occurrence of ground water in the area was discussed by Hendrickson and Jones (1952) and Nicholson and Clebsch (1961). Hiss (1976) made an extensive contribution to the hydrology of the Capitan Reef in a dissertation prepared while working with the U.S. Geological Survey. Others that made contributions to an understanding of the Capitan Reef include Bjorklund and Motts (1959), Halpenny and Greene (1966), and Motts (1968). Associated with



the Project Gnome investigations, contributions by Cooper (1961, 1962a, 1962b), Cooper and others (1962), and Cooper and Glanzman (1971) have greatly added to an understanding of the geohydrology of the Rustler Formation.

Recent investigations related to hydrologic characteristics of the WIPP site began with a review of the geology and hydrology of the Carlsbad potash area (Brokaw, Jones, Cooley, and Hays, 1972) and a review of the Los Medanos area (Jones, Cooley, and Bachman, 1973). A review of the regional hydrology of the WIPP site area was presented by Mercer and Orr (1977), while detailed hydrologic studies are included in an interim data report by Mercer and Orr (1979) and in a paper by Mercer and Gonzalez (1981).

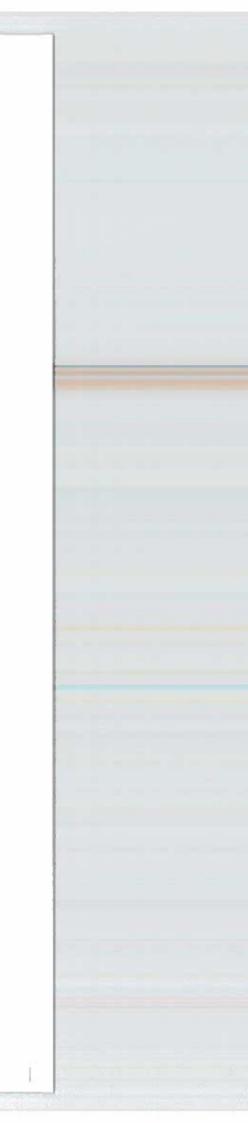
The dissolution in the WIPP area is complex and has been considered in studies of the Cenozoic history of the area by Bachman (1973, 1974, 1976, 1980, and 1981). These studies added greatly to an understanding of the hydrologic systems in the area. Additional interpretations of dissolution have been prepared by Lambert (1982) and Anderson (1978, 1981).

Methods of Investigation

The objective of the hydrologic program was to define the hydrologic characteristics of the flow path of the ground-water system that could potentially transport wastes to the biosphere. Hydrologic information required to define the flow-path characteristics included static heads or reservoir pressures, the magnitude and direction of ground-water flow, and the chemical characteristics of the water that may have an effect on dissolution or on chemical interactions with rocks along the flow path.

The lack of very permeable rocks and the consequent lack of existing wells within the WIPP study area necessitated the development of a comprehensive drilling and testing program. This program included test holes for both site-specific geohydrologic studies and regional studies. Seventy-one test holes were drilled during WIPP studies; of these, 26 were specifically for hydrologic testing (H series) and 13 of the 45 geologic test holes were later used or converted for hydrologic testing (table 1, fig. la). These holes range in depth from 154 to 4,910 feet. Because the water-producing zones had little permeability and consequently would require months of recovery time and testing, special techniques in drilling, well completion, and hydraulic testing were developed to determine the hydrologic characteristics of the water-producing zones (Basler, 1983).

The air-rotary method was used to drill two types of holes specifically designed for hydrologic testing: (1) Holes were drilled, cased, cemented, and then perforated at the selected test zone; and (2) three closely spaced holes were drilled in a complex, each cased down to a specific test interval.



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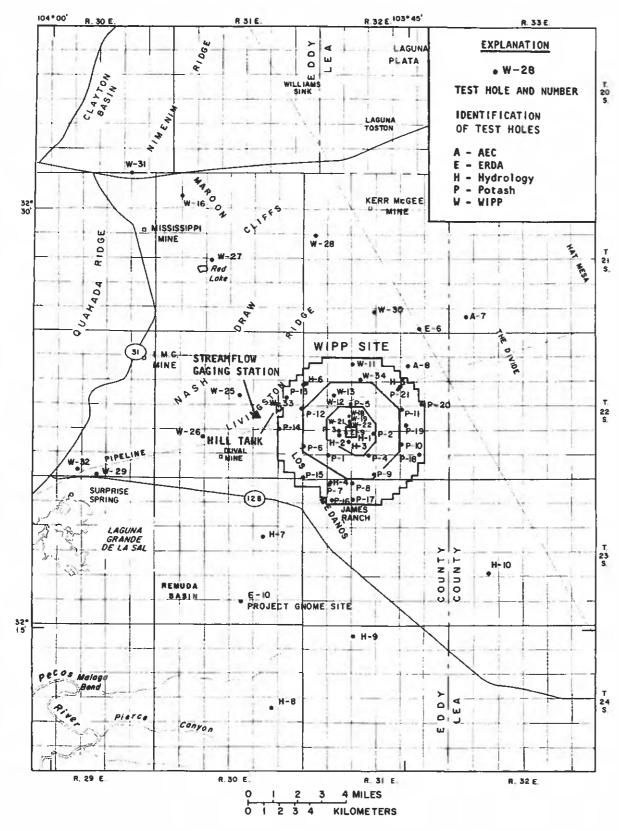


Figure 1a.--Location of test holes at and near the proposed Waste Isolation Pilot Plant (WIPP) site

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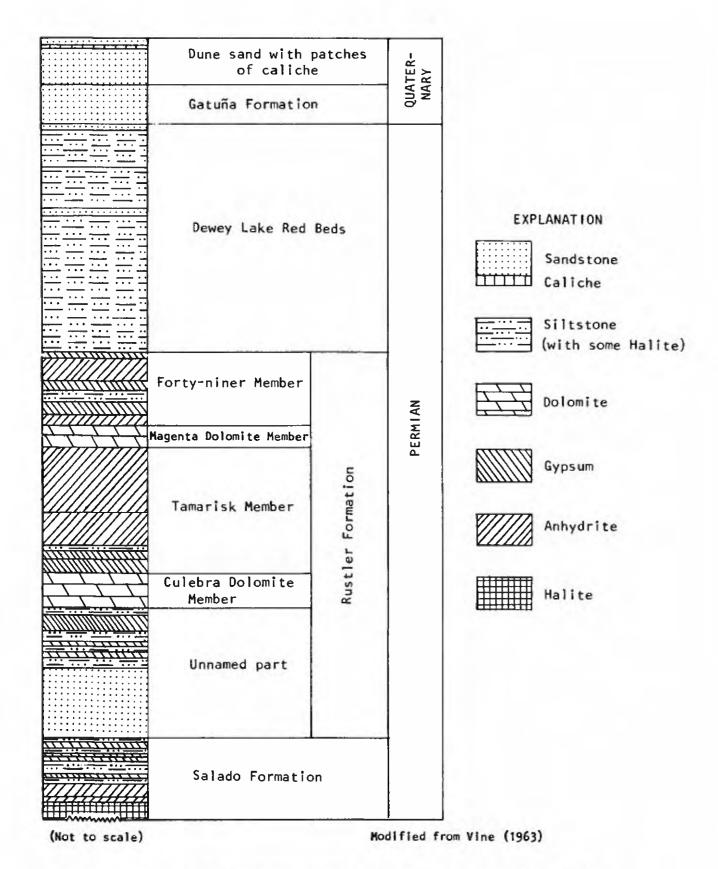


Figure 4.--The five subdivisions of the Rustler Formation in Nash Draw, Eddy County, New Mexico

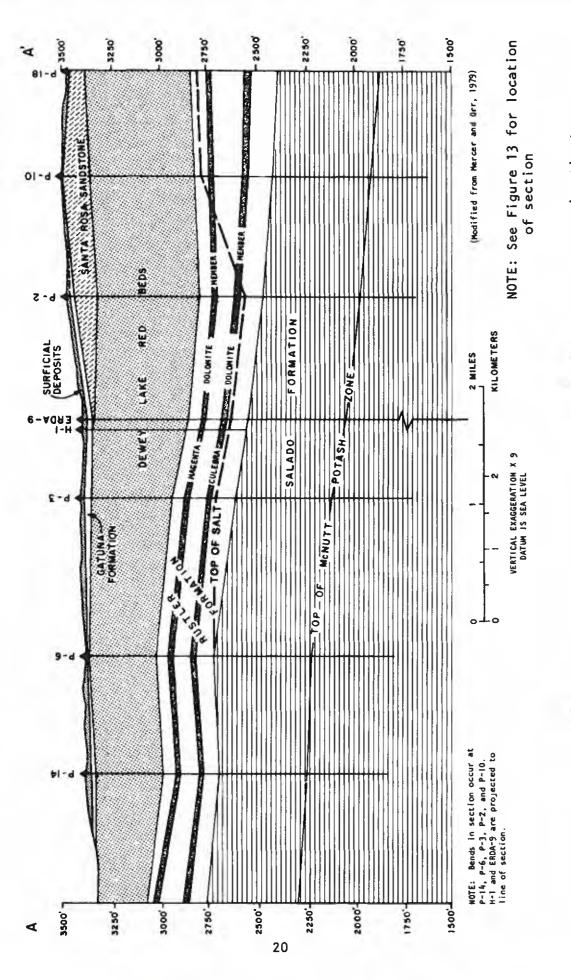


Figure 5.--Geologic section across the proposed Waste Isolation Pilot Plant (WIPP) site.

Geologic and hydrologic data from test holes drilled at and mear the proposed Weste Isolation Pilot Flant site Table 1.

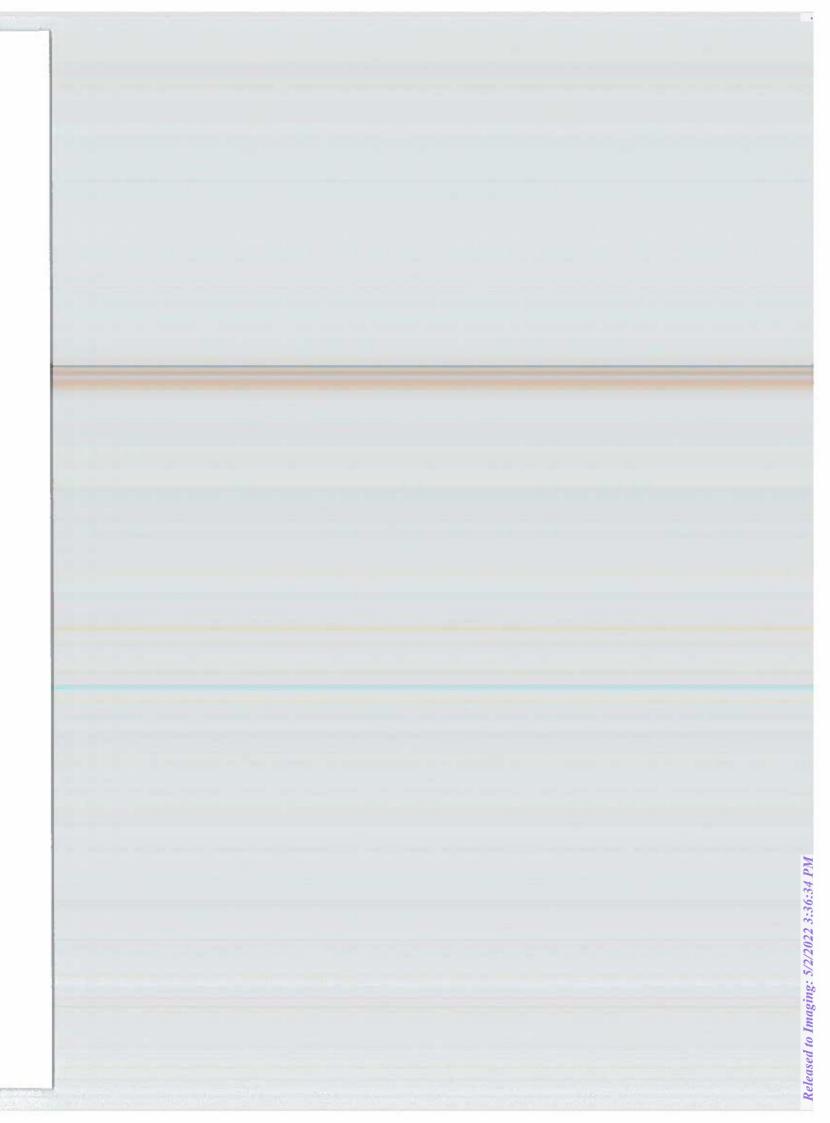
[FML, from north line; FEL, from east line, FSL, from south line; FWL, from west line; Sec., Section; T, Township; R. Range; units, in feet below land surface R; Rustler Formation; S, Salado Formation]

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3505.97 do 1006.40FML 234.21FEL do M.P. (Mot B-225 3506.37) do 1006.40FML 234.21FEL do M.P. do M.P. do 3347.26 18 225 31E 283.80FML 274.39FML 0-12 12-38 M.P. do 3163.55 14 235 30E 2495.04FML 2462.35FML do do M.P. do M.P. 3163.63 do 2563.8FML 2563.45FML do do M.P. do M.P. 3163.63 do 2563.8FML 2563.45FML do do do M.P. do M.P. 3433.0 do 2563.8FML 2563.45FML do do do M.P. do M.P. do 3433.0 do 2563.8FML 1405.39FEL do do M.P. do M.P. do M.P. do 3433.0 do 2563.8FML 1405.39FEL do do M.P. do M.P. do 3433.0 do 2563.9FML 1405.39FEL do do M.P. do M.P. do 3465.6 do 2593.06FML 180.2FML do do M.P. do M.P. do 3665.6 do M.P. do 3665.6 do M.P. do 3665.6 do M.P. do 3665.6 do M.P. do 3665.6 do 2693.9FML 180.14FEL do do do M.P. do 3665.6 do 2693.9FML 180.2FML do do do M.P. do 3665.6 do 2693.9FML 180.34FML do do do M.P. do 3665.6 do 2693.9FML 180.34FML do do do M.P. do 3665.6 do 2693.9FML 180.34FML do do do M.P. do 3665.6 do 3665.6 do 3665.6 do 3665.6 do do M.P. do 3665.6 do 3665.6 do 3665.6 do 3665.6 do do M.P. do 3665.6 do 3665.6 do 3665.6 do do M.P. do 3665.6 do 3665.6 do 3665.6 do 3665.6 do 3665.6 do 3665.6 do 3665.6 do 3665.6 do do M.P. do 3665.6 do 3665.	3 1 - ¥	3333.54	ę	446.36FNL	717.89FWL	ор	op P	<u>.</u>	op P
3505.37 do 1006.80FNL 234.21FEL do N.P. do 3347.26 18 225 316 283.80FNL 134.93FNL 60-12 12-38 N.P. 3347.26 18 225 316 280.61FNL 374.93FNL 60-6 60 N.P. 60 3347.57 40 195.61FNL 374.81FNL 40 60 N.P. 40 N.P. 3163.63 14 235 30E 280.61FNL 374.81FNL 40 40 N.P. 3163.63 40 2563.93FNL 2492.35FNL 40 40 N.P. 3433.0 40 2563.93FNL 1467.51FNL 40 40 N.P. 3433.0 40 1994.76FNL 1405.39FEL 40 40 N.P. 3433.0 40 2653.93FNL 1405.39FEL 40 N.P. 3405.4 4 245 31E 2392.14FNL 138.92FNL 40 N.P. 3405.6 40 280.50FNL	H-5A	3506.15	225	1093. I ZFNL	184.33FEL	89 - O	N.P. (Not Present)	8-225	125-732
3506.37 do 1006.47FML 134.20FEL do N.P. do 3347.26 18 225 31E 283.80FML 274.93FWL 0-12 12-38 N.P. 3347.57 do 195.61FML 374.81FWL do do N.P. 3163.63 do 280.61FML 374.81FWL do do N.P. 3163.63 do 280.61FML 374.81FWL do do N.P. 3163.63 do 2565.8FML 2563.45FML do do N.P. 3163.63 do 2565.8FML 2565.4FML 2665.5FML do N.P. 3433.0 do 2565.8FML 2565.4FML 2667.5FML do N.P. 3433.0 do 2565.8FML 2565.4FML 2667.5FML do N.P. 3433.0 do 2565.8FML 2565.4FML 1466.59FEL do N.P. 6 3433.0 do 2059.39FML 1470.14FEL do N.P. 7<	H-58	3505.97	op	1006.BOFNL	234.21FEL	op	Ŧ.	ą	op
3347.26 18 225 31E 283.80FML 274.93FWL 0-12 12-38 M.P. 3363.55 14 235 30E 2495.04FML 2402.13FWL do do M.P. 3363.63 do 2565.8FML 2563.45FML do do M.P. 3363.63 do 2591.93FML 2467.51FML do do M.P. 3433.0 23 245 30E 1962.61FML 1406.59FEL do do M.P. 3433.0 23 245 30E 1962.61FML 1408.39FEL do do M.P. 3433.0 do 2591.93FML 1403.39FEL do do M.P. 3405.4 4 245 31E 2392.14FML 138.92FML do do M.P. 3405.5 do 2239.04FML 283.63FML do do M.P. 3405.9 do 2499.06FML 188.02FML do do M.P. 3405.9 do 2499.06FML 188.02FML do do M.P. 3669.01 do 4494.54FSL 1984.84FEL do do M.P. 3668.51 do 384.54FSL 1984.84FEL do do do M.P.	H-5C	3506.37	ф	1006.47FNL	134. 20FEL	op	<u>.</u>	qp	op
3163.55 14 235 30E 280.61FNL 374.81FNL do do N.P. 3163.55 14 235 30E 285.04FNL 2892.35FML do do N.P. 3163.63 48 do 2565.8FNL 2563.45FML do do N.P. 3163.63 48 do 2565.8FNL 2563.45FML do do N.P. 3433.0 23 245 30E 1962.61FNL 1406.59FEL do do N.P. 3433.0 23 245 31E 2392.14FNL 1405.39FEL do do N.P. 3405.4 4 245 31E 2392.14FNL 138.92FML do do N.P. 3405.5 20 235 32E 433.04FNL 283.63FML do do N.P. 4 3405.6 40 249.06FNL 188.02FML do do N.P. 3405.7 40 2484.54FSL 1984.84FEL do do do N.P. 3405.8 3665.5 20 235 32E 433.04FSL 2068.91FEL do do do N.P.	H-6A	3347.26	18 22\$ 31E	283. BOFNL	274.93FWL	0-12	12-38	d.	38-427
3163.55 14 235 30E 2495.04FML 2492.35FWL 0-5 M.P. 3163.63 do 2565.8FML 2563.45FWL do do M.P. 3163.63 do 2565.8FML 2563.45FWL do Ho. M.P. 3433.0 23 245 30E 1962.61FML 1406.59FEL do Ho. M.P. 3433.0 23 245 30E 1962.61FML 1406.39FEL do Ho. M.P. 3433.0 do 2059.39FML 1470.14FEL do Ho. H.P. 3405.4 4 245 31E 2392.14FML 138.92FWL do Ho. M.P. 3405.5 do 2391.04FML 283.63FWL do Ho. H.P. 3405.6 do 2391.04FML 283.63FWL do Ho. H.P. 3405.7 do 2497.06FML 188.02FWL do Ho. H.P. 3405.9 do 2497.06FML 188.02FWL do Ho. H.P. 3405.9 do 2497.06FML 188.02FWL do Ho. H.P. 4 3686.52 20 235 32E 433.04FSL 1984.84FEL do Ho. H.P. 3686.58 do 384.54FSL 1981.84FEL do Ho. Ho. H.P.	89-H	3347.57	op	195.61FNL	322.15FWL	op	op	ж. Р.	op O
3163.55 14 235 30E 2495.04FNL 2492.33FWL do 40 N.P. 3163.63 do 2565.8FNL 2563.45FWL do do N.P. 3163.48 do 2591.93FML 2467.51FWL do do N.P. 3433.0 23 245 30E 1962.61FML 1486.59FEL 0-4 4-10 10-153 N.P. 3433.0 do 2059.39FML 1405.39FEL do do N.P. 3433.0 do 2059.39FML 138.92FML do N.P. 3405.4 4 245 31E 2392.14FML 138.92FML do N.P. 3405.6 do 2391.04FML 138.92FML do do N.P. 3405.9 do 2391.04FML 138.92FML do do N.P. 3686.52 20 235 32E 433.04FSL 2068.91FEL do do N.P. 3686.52 do do 484.54FSL 1981.84FEL do	н-6с	3347.93	op	280,61FHL	374.81FWL	op	op	ж е.	op.
3163.63 do 2565.8FNL 2563.45FWL do do M.P. 3163.48 do 2591.93FNL 2467.51FML do do M.P. 3433.0 23 245 30E 1962.61FML 1486.59FEL 0-4 4-10 10-153 N.P. 3433.0 do 1994.76FML 1405.39FEL do do N.P. 3433.0 do 2059.39FNL 1470.14FEL do do N.P. 3405.4 d 2059.39FNL 1470.14FEL do do N.P. 3405.6 do 2059.39FNL 188.92FML do do N.P. 3405.6 do 2391.04FML 283.63FML do do N.P. 3405.9 do 2479.06FML 188.02FML do do N.P. 3686.57 20 235 32E 433.04FSL 2068.91FEL do do do do 3686.88 do 484.54FSL 1984.84FEL do d	H-7A	3163.55		2495.04FNL	2492.35FWL	0-5		я 9.	57-87
3433.0 23 245 30E 1962.61FNL 1486.59FEL	H-78	3163.63	op		2563.45FWL	qo	ę	ж. Р.	ф
3433.0 23 245 30E 1962.61FNL 1486.59FEL O-4 4-10 10-153 N.P. 3433.8 do 1994.76FNL 1405.39FEL do Galiche do N.P. 3405.4 4 245 31E 2392.14FNL 138.92FNL O-5 5-25 N.P. 3405.6 do 2391.04FNL 283.63FNL do Go N.P. 3405.9 do 2479.06FNL 188.02FNL do Go N.P. 4 3686.52 20 235 32E 433.04FSL 2068.91FEL do Go Ghinle 482-658 8 3687.01 do 484.54FSL 1984.84FEL do Go Go Ghinle 482-658 C 3686.88 do 384.54FSL 1981.84FEL do Go Go Go Go Go Go Go Go Go Go Go Go Go	H-7C	3163.48	op		2467.51FWL	ę	qo		do
3433.8 do 1994.76FNL 1405.39FEL do Caliche do N.P. 3433.0 do 2059.39FNL 1470.14FEL do do M.P. 3405.4 4 245 31E 2392.14FML 138.92FML 0-5 5-25 N.P. 3405.6 do 2391.04FML 283.63FML do do M.P. A 3686.52 20 235 32E 433.04FSL 2068.91FEL do do M.P. C 3686.88 do 484.54FSL 1984.84FEL do do do do	H-8A	3433.0	23 245 30E	1962.63FNL	1486.59FEL	0-4 4-10 Mescalero		٠ -	153-399
3433.0 do 2059.39FNL 1470.14FEL do do N.P. 3405.4 4 245 31E 2392.14FNL 138.92FNL 0-5 5-25 N.P. 3405.6 do 2391.04FNL 283.63FNL do do N.P. 3405.9 do 2479.06FNL 188.02FWL do do N.P. 4 3686.52 20 235 32E 433.04FSL 2068.91FEL 0-9 9-90 Chinle 482-658 8 3687.01 do 484.54FSL 1984.84FEL do do do do do do do do do do do do do	H-88	3433.8	ф		1405.39FEL	Caliche		ж. Р.	ор
3405.4 4 245 31E 2392.14FNL 138.92FNL 0-5 5-25 N.P. 3405.6 do 2391.04FNL 283.63FNL do do N.P. 3405.9 do 2479.06FNL 188.02FNL do do N.P. 4 3686.52 20 235 32E 433.04FSL 2068.91FEL 0-9 9-90 Chinle Laston do do do do do do do do do do do do do	H-BC	3433.0	op	2059.39FNL	1470.14FEL	op	op	٠. ط. خ	ą
3405.6 do 2391.04FNL 283.63FNL do do N.P. 3405.9 do 2479.06FNL 188.02FWL do do N.P. 3686.52 20 235 32E 433.04FSL 2068.91FEL 0-9 9-90 Chinle 482-658 3687.01 do 484.54FSL 1984.84FEL do do do do do	H-9A	3405.4	245	2392.14FNL	138.92FWL	9-0	5-25	۰. ع	24-455
3405.9 do 2479.06FNL 188.02FWL do do N.P. 3686.52 20 235 32E 433.04FSL 2068.91FEL 0-9 9-90 Chinle 482-658 3687.01 do 484.54FSL 1984.84FEL do do do do	H-98	3405.6	ф	2391.04FNL	283.63FWL	оþ	ę P	Ξ.	ф
3686.52 20 235 32E 433.04FSL 2068.91FEL 0-9 9-90 Chinle 482-658 3687.01 do 484.54FSL 1984.84FEL do do do do do do do	H-9C	3405.9	op	2479.06FNL	188.02FWL	op	ор	ж.	qo
3687.0} do 484,54FSL 1964.84FEL do do do 3686.88 do 384,54FSL 1981.84FEL do do do	H-10A	3686.52	235		2068.91FEL	6-0	9-90	90-482 Chinle 482-658	658-1204
3686.88 do 384.54FSL 1981.84FEL do do do	H-108	3687,01	op	484,54FSL	1984.84FEL	op	ę,	op	op
	H-10C	3686.88	ор	384.54FSL	1981.84FEL	o p	qo	Q	ę

Rustler Formation	Magenta Dolomite Member of Rustler Formation	Culebra Dolomite Member of Rustler Formation	Top of Salado Formation	Top of salt in Salado Formation	Top of McNutt potash zone	Top of Castile Formation	Test hole depth in feet
502-824	563-589	676-699	824	731 (R)			856
-254	515-543						563
457	515-543	623-645	Ä.				199
457-764	515-543	623-645	764	676 (R)			795
502-821	185-655	672-694	821	623(5)			498
315-	375-400						415
315-	377-402	498-522					529
315-626	377-403	915-064	929	~			199
732~	783-810	897-920					824
732-	785-805	897-920					925
132-1041	788-812	899-924	1041				9/01
427-	492-511						525
427-	492-511	604-627					049
427-721	490-514	604-627	727	723.4(s)			141
87-283	117-140						154
87-283	117-140	237-283					286
87-283	117-140	237-273.5	283	405(5)			420
399-	466-488						505
399-	466-488	588-614					624
399-733	466-488	588-614	733	798(S)			808
-554	523-554						655
-554	523-554	647-677					708
455-791	523-554	647-677	191	791(S)			816
1204-	1256-1280						1318
-5021	1256-1280	1360-1391					1398
1001							

Table 1. Geologic and hydrologic data from test holes drilled at and near the proposed Waste Isolation Pilot Plant site - Continued

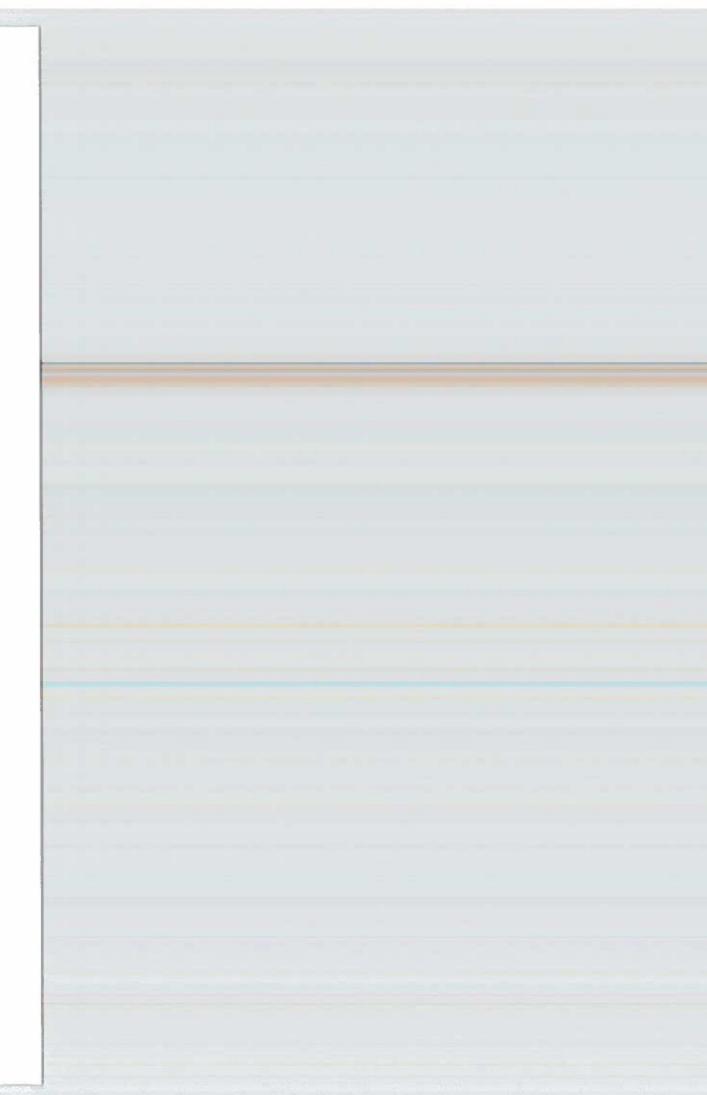
			Location		Depth	of rock	
Test hole	Altitude, in feet above sea level	Sec. T. R.	Distance, in feet, from section lines	Surficial deposits	Gatuma Formation	Santa Rosa Formation	Dewey Lak Red Beds
P-1	3345.1	29 225 316	328FSL 552FWL	0-10	10-40	N.P.	40-358
P+2	3479.4	28 225 316	121FNL 171FEL	0-18	18-38	38-164	164-690
P-3	3382.7	20 225 316	104FSL 2154FWL	0-10	10-41	N.P	41-468
P-4	3443.8	28 225 311	149FSL 1485FEL	9-8	N.P.	8-93	99-609
P-5	3470.9	17 225 311	186FSL 160FEL	0-13	N.P.	13-146	146-623
P-6	3354,1	30 225 310	2509FNL 195FWL	0-8	8-18	N.P.	18-357
P-7	3332.0	5 235 310	S14FNL 393FWL	0-11	11-45	N.P.	45-312
P-8	3338.6	4 235 311	640FNL 92FWL	0-11	9-39	N.P.	39-391
P-9	3411.5	33 225 31	1493FSL 126FEL	0-11	N.P.	11-66	66-562
P-10	3509.3	26 225 31	2341FNL 323FWL	0-8	N.P.	8-151	151-686
P=11	3503.9	23 225 31	156FNL 183FWL	0-9	N.P.	9-224	224-745
P-12	3373.6	24 225 30	165FNL 198FEL	0-8	N.P.	N.P.	8-461
P-13	3345.2	18 225 31	110FNL 147FWL	0-12	12-38	N.P.	38-427
P-14	3359.6	24 225 30	309FSL 613FWL	0-10	10-42	N.P.	42-387
P-15	3309.5	31-225 31	E 411FSL 190FWL	0-11	11-32	N.P.	32-231
P-16	3317.9	5 23\$ 31	E 939FSL 1647FWL	0-14	14-32	N.P.	32-316
P-17	3335.9	4 235 31	1356FSL 398FWL	0-14	14-46	N.P.	46-382
P-18	3477.2	26 225 31	E 139FSL 733FEL	0-9	N.P.	9-87	87-628
P-19	3545.1	23 225 31	E 1652FSL 2335FWL	Q-B	N.P.	8-232	232-758
P-20	3552.7	14 225 31	E 801FSL 79FEL	0-6	N.P.	6-261	261-780
P-21	3509	15 225 31	E 859FN. 130FEL	0-8	N.P.	8-225	225-734
ERDA-6	3540.2	35 2IS 3I	E 2152FSL 910FEL	0-17	17-42	42-71	71-536
ERDA-9	3418.86	20 225 31	267.23FSL 176.74FE	L 0-15	15-42	42-51	51-538
ERDA-10	3371.2	34 23\$ 30	E 200FNL 2327FEL	0-5	5-151	N.P.	151-366
AEC-7	3654.00	31 215 32	E 2040FNL 2040FEL	0-12	N.P.	12-112	112-662
AEC-B	3531.5	II 22S 31	E 935FNL 1979FWL		?	31-165	165-660



Rustler Formation	Magenta Dolomite Hember of Rustler Formation	Culebra Dolomite Member of Rustler Formation	Top of Salado Formation	Top of salt in Salado	Top of McNutt potash zone	Top of Castile Formation	Test hole depth in feet
358-677	423-448	538-565	677	597(R)	1191-1583		1591.0
690-1008	748-773	857-883	1008	906 (R)	1506-1883		1895.0
468-786	529-553	642-665	786	688(R)	1287-1668		1676.0
609-930	662-686	775-802	930	826(R)	1446-1853		1857.0
623-947	686-711	804-827	947	350(R)	1428-1785		1830.6
357-659	417-443	537-560	659	661(5)	1162-1560		1573.0
312-630	373-398	496-522	630	562 (R)	1155-1566		1575.0
391-715	450-474	563-588	715	606(R)	1237-1652		1660.0
562~881	617-644	734-757	881	778(R)	1401-1796		1796.0
686-1086	757-781	931-957	1086	712(R)	1594-1983		2010.8
745-1058	798-823	912-938	1058	958(R)	1550-1917		1943.1
461-749	519-543	633-656	749	752(S)	1226-1597		1598.4
427-721	490-514	604-627	721	725 (S)	1201-1547		1577.3
387-68?	453-477	573-595	687	695(S)	1158-1519		1545.0
231-542	294-321	413-435	542	460(R)	1057-1453		1465.0
316-646	376-401	500-523	646	552(R)	1174-1585		1585.0
382 - 715	438-463	558-583	715	602(R)	1234-1648		1660.7
628-1088	704-730	909-938	1088	654(R)	1604-2087		2000.5
758-1117	814-839	967-997	1117	890 (R)	1621-2011 projected		2000.0
780-1103	839-866	953-979	1103	1002(R)	1604-1977		1994.5
/34-1043	788-812	893-924	1043	944(R)	1526-1987		1916.5
536-815	595-621	710-735	815	815(5)		2401	2775
538-848	596-620	704-727	848	750(S)	1350-1730	2824	2876.6
366-628	366-385	476-504	628	678(5)		2337 3829(0)	4418
662-991	733-759	870-896	991	930(R) 1000(S)		3004 4522(D)	4721
660-985	715-738	833-859	985	985(S)		2966 4343(D)	4910

Table 1. Geologic and hydrologic data from test holes drilled at and near the proposed Waste Isolation Pilot Plant site - Concluded

			L	ocation			Depth	of rock	
Test hole	Altitude, in feet sbove sea level	Sec. T.	R.		, in feet, tion lines	Surficial deposits	Gatuma Formation	Santa Rosa Formation	Dewey Lake Red Beds
WIPP-11	3426.07	9 225	31E	711.70FNL	394.08FWL	9-13	13-29	29-161	161-663
WIPP-12	3471.53	17 225	31E	147.9FSL	83.91FEL	0-9	N.P.	9-155	155-628
WIPP-13	3405.43	17 225	315	2565.68FSL	1730.59F4L	0-13	N.P.	13-66	66-517
WIPP-15	3269.34	18 235	35E	2426FNL	1793FWL			543-2726 (Chinle)	
WJPP-16	3383	5 215	30E	2355FSL	140FWL	(0-13	48)Rubble?		
WIPP-18	3456.47	20 22\$	316	983.58FNL	11.45FEL	0-9	N.P.	9-138	138-613
WIPP-19	3433.13	20 225	316	2987.34FSL	12.68FEL	0-14	N.P.	14-96	96-589
WIPP-21	3417.00	20. 22\$	31E	1551.08FSL	11.74FEL	0-12	12-39	39-73	73-56¢
WIPP-22	3425.83	20 225	316	2544.45FSL	11.94FEL	0-20	20-25	25-80	80-573
WIPP-25	3212.51	15 225	30E	1852.72FSL	2838. IFEL	0-10	N.P.	N.P.	10-232
WIPP-26	3151.91	29 225	30E	2232.27FHL	12.2FEL	0-10	N.P.	N.P.	N.P.
WIPP-27	3177.17	21 215	30E	89.79F4L	1485.03FWL	0-79		N.P.	79-153
WIPP-28	3346.76	18 215	316	98.72FML	2400.99FEL	0-12	M.P.	N.P.	12-215
W1PP-29	2976.99	34 225	29E	406.62FSL	1827.54FEL	0-12	N.P.	N.P.	N. P.
WIPP-30	3427.54	33 2IS	31E	667.5FNL	177.41FWL		N.P.	N.P.	0-449
WIPP-31	3401.43	35 20S	30€	422.54FSL	1762.24FWL		N.P.	O(Breccia)	38(Breccia)
WIPP-32	3023.00	33 225	29E	1673FSL	29FEL				
WIPP-33	3323.00	13 225	30E	1762FSL	2427FWL	0-40			40-398
WIPP-34	3433.00	9 22\$	316	202FSL	2000FWL	0-11		11-154	154-657
8-25	3408.74	20 22\$	31£		E 6693.11± ce Coordinate		14-34.7	34.7-44.8	44.8-533



Rustler Formation	Magenta Dolomite Member of Rustler Formation	Culebra Dolomite Member of Rustler Formation	Top of Salado Pormation	Top of salt in Salado Formation	Top of McNutt potash zone	Top of Castile Formation	Test hole depth in fee
663-951	727-750	844-867	951	951(\$)		2339	3580.6
628-955	690-715	810-835	955	857(R) 955(S)		2727	2777.8
517-844	564-583	701-724	844	774(R) 918(S)			1025
							810.5
1148-1300+	1189-1199	1153-1176					1300
513-928	672-696	786-808	928	829 (R) 928 (S)			106C
89-894	647-672	756-777	894	894(\$)			1938
60-868	618-641	729-753	868	770(R) 868(S)			1045
573-883	630-654	742-764	883	785(R) 884(S)			1450
232-565	302-328	447-472	565	600(s)			655
10-309	70-99	186-209	309	320(\$)			503
153-416	176-194	292-318	416	508(s)			592
215-531.0	285-310	420-446	531	(2) (85			801
1.P.	N.P.	12-42	143	251(\$)			376
449-749	513-537	631-654	749	749(S)			913
50(Breccia)	1981 (Brecci	a)	N.P.				1981
0-166	19-36	61-90	166-390				390
398-675	449-469	550-578	657-840				840
657-973	718-741	834-860	973-1820+				1820
533-842.9	592.7-617	704,1-728	842.9				901

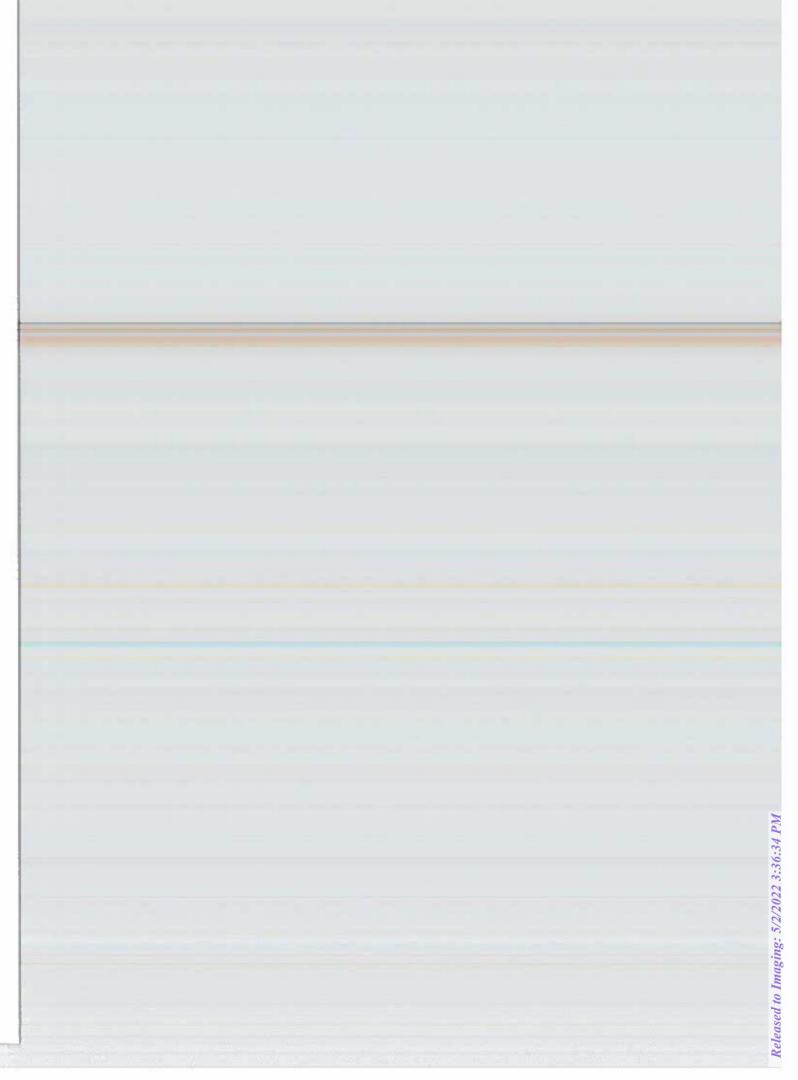


Table 2.—Selected chemical and radiochemical analyses of water from test holes at and near the proposed Waste Isolation Pilot Plant site

[GEOLOGIC UNIT: 231SNRS, Santa Rosa Sandstone; 313BLCN, Bell Canyon Formation; 312RSLRL, Rustler-Salado residuum; 312CLBR, Culebra Dolomíte Member; 310MGNT, Magenta Dolomíte Member. GM/ML AT 20 C: Grams per milliliter at 20 degrees Celsius; MG/L: milligrams per liter; UG/L: micrograms per liter; PCI/L: picocuries per liter.}

MITRO- GEN, HARD- DIS- SULFIDE NESS SOLVED TOTAL (MG/L (MG/L (MG/L AS N) AS S) CACO3)	.36 150 35000 3.1 .2 19000
CAR- NO24 BONATE DI FET-FLD SOL (NG/L (NG	0
BICAR- BONATE FET-FLD (MG/L AS HCO3)	240
ALKA- LINITY FIELD (#G/L AS	43
TY AL PH	91
0- DENSITY IC (GM/AL IT AT	38 1.130 N. 1.130 N. 1.165 N.
E 650-	78-05-24 2315NRS 79-04-28 313BLCN 77-09-27 313BLCN 77-09-29 313BLCN
DATE OF SAMPLE	
WELL	H-5C AEC-7 AEC-8 ERDA-10

								:			SOLIDS
	HARD-		一点とのなど		POTAS-	CHC		FLUO-	SILICA,		RESIDUE
	NESS.	CALCIUM	SIUM,	SODIUM.	SIUM,	KIDE,	SULFATE	RIDE,	-810	BORCH,	AT 105
	NONCAR	DIS-	-SIO	-SIQ	-810	018-	-SIO	-SIQ	SOLVED	-SIQ	DEG. C,
	BONATE	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	CMB/L	SOLVED	018-
WELL	(MB/L	1/9W)	(MG/L	(M0/L	(MG/L	1/8W)	(MG/L	C#G/L	A S	(1/91)	SOLVED
	CAC03)	AS CA)	AS #6)	AS NA)	AS K)	AS CL)	AS S04)	AS F.)	\$102)	AS B)	(MG/L)
H-5C	150	56	51	280	25	120	530	1.2	11.0	890	1200
AEC-7	35000	9700	2600	55000	970	110000	1800	1.4	14.0	76000	180000
AEC-8 ERDA-10		5300	1300	00048	720	150000	2400	0.3	3.4	20000	230000

Table 2.—Selected chemical and radiochemical analyses of water from test holes at and near the proposed Waste Isolation Pilot Plant site - Continued

	1	1
HARD- NESS (MG/L AS CACO3)	160000 130000 130000 340000 97000 10000 4800 6800 6800 6400 3400 12000 12000 12000	SOLIDS, PET 105, PISTONE SOLVED (MG/L) 480000 450000 327000 32
SULFIDE TOTAL (MG/L AS S)	{	BORON, DIS- SOLVED (UG/L AS B) 110000 150000 20000 20000 13000 120000 120000 17000 17000 17000 17000 13000 17000 17000 17000 17000 13000 17000 1
NITRO- GEN, GEN, DIS- SOLVED (MG/L AS N)	2.7.7.1.1.0.0.3.3.4.1.1.2.2.4.1.1.2.2.4.1.1.2.2.4.1.1.2.2.4.1.1.2.2.4.1.1.2.2.4.1.1.2.2.4.1.1.2.2.4.1.1.2.2.4.1.2.2.4.1.2.2.3.4.2.2.3.4.1.2.2.3.4.1.2.2.3.4.1.2.2.3.4.1.2.2.3.4.1.2.2.3.4.1.2.2.3.4.1.2.2.3.4.1.2.2.3.4.2.2.2.3.4.2.2.2.3.4.2.2.2.2.2.2	SILICA SOLVED ASOLVED ASOLVED 2002 2002 2003 20
CAR" BONATE FET-FLD (MG/L AS CO3)	00001111110111111111	RIDE: 8105- 8014ED ASSIVED ASS
BICAR- BONATE FET-FLD (MG/L AS HCO3)	467 467 467 300 300 11 11 11 11 11 11 11 11 11 11 11 11 1	SULFATE DIS- SOLVED (MG/L AS SO4) 1300 1300 22000 2000
ALKA- LINITY FIELD (MG/L AS CACO3)	25.4 3.8 3.8 3.8 3.8 3.8 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) AS CL) AS CL) 210000 2200000 2200000 2200000 210000 190000 190000 180000 180000 180000 154000 154000 154000
PH (UNITS)	9.40 40.40 80.00 0.00 0.00 0.00 0.00 0.00	POTAS- SOLVED (MG/L AS K) 17000 9100 14000 2100 2100 210 460 1200 1200 1200 1200 1200 1200 1200 12
DENSITY (GM/ML AT 20 C)	1,202 1,203 1,205 1,205 1,205 1,205 1,205	SODIUM, DIS- SOLVED (NG/L AS NA) 56000 56000 57000 57000 57000 57000 57000 57000 57000 57000 57000 57000 57000 57000 57000 57000 57000
GEO- LOGIC UNIT	312RSLRL 312RSLRL	#AGNE- SIUM, DIS- SOLVED (MG/L AS MG/L
DATE OF SAMPLE	77-02-23 77-02-23 77-02-23 77-02-23 79-03-16 79-05-16 79-05-16 80-03-20 80-03-19 80-03-19 80-03-19 80-03-19 80-03-19 80-03-19 80-03-19	CALCIUM DIS- SOLVED (MG/L AS CA) 13000 1200 1200 1200 1200 1200 1200 120
	00 00 00 00 00 00 00 00 00 00 00 00 00	HARD- NEBS. RONATE (AG/L CACO3) 130000 130000 150000 150000 150000 4700 4700 4700 4700 4700 15000000 1500000 1500000 1500000 1500000 1500000 1500000 15000000 15000000 1500000 1500000 1500000000
HELL	H-11 H-2C H-2C H-3C H-5C H-5C H-5C H-5C H-5C H-5C H-7C H-7C H-7C H-7C H-7C H-7C H-7C H-7	# ELL F

Table 2.—Selected chemical and radiochemical analyses of water from test holes at and mear the proposed Waste Isolation Pilot Plant site - Continued

			i	BROSS ALPHA,		SS HA,	BETA,	GROSS BETA,	RADIUM 226,	URANIUM	GROSS ALPHA,
	DATE		SELE- NIUM,	DIS- SOLVE			DIS- SOLVED		DIS- SOLVED,	DIS- SOLVED,	DIS- SOLVED
i		LOGIC	TOTAL	(PCI/L			(PCI/L	S	RADON	ä	1/8n)
WELL	SARPLE		(UG/L AS SE)	AS U-NAT)	þ	_	AS CS-137)	AS CS-137)	(PCI/L)	(10N (10/L)	U-NAT
1-1-1	7-02-23 31	ZRSLRL	₽	;		;	16000	160	49	.02	<6300
-20	7-02-23	312RSLRL	~	;	1	ł	8400	9.1	4.8	2.4	<5000
E-X	7-02-23	2RSLRL	₩.	١	1	1	12000	26	51	90.	<6000
-40	9-03-16	2RSLRL	₽	<7500	-		8900	*. ×	340		<11000
-50	9-05-16	312RSLRL	-	<13000		·	15000	9.	310		<19000
-6C	9-04-09	2RSLRL	***	<7500		٥.	0089	^* 2	280	*0*	<11000
H-7C	0-03-20	312RSLRL		<950			<580	}	بر	1.9	<1400
-80	90-60-0	2RSLRL	I	<1800		ł	<1100	1		.04	<2600
261	0-02-50	2RSLRL	¦	<5400		ļ	2400	i	, d	. 45	<8000
100	0-05-19	312RSLRL	1	2009			7200	1	01	.37	<8200
-14	7-02-24	2RSLRL	-	1			<2000	7	52	1.3	<3700
-15	9-04-03	2RSLRL	₹:	<1000			1300	7. V	.59	90.	<1500
-17	9-05-11	ZRSLRL	₹;	<7500			13000	, 12 13	340	×-02	00011>
118	9-05-31	ZKSLRL	7	0088		2	0096	**		96	000517
27-JA1	0-03-19	ZKSLKL	ľ	<5200 7200		1	×3600	1	,,,	N. S	00//>
1 PF - 20	0-03-18	ZKSLKL	b	43200			71,00	1 1		7.0	000
/Z-441	12-00-0	512K5LK	: :	0071		f I	2000]	* *	, ר י	00817
87144	0-03-50-0	31ZKSLKL	:	0011		t	00/25	1 1	o c	,,	0000
WIPP-30	80-03-19 31	312RSLRL 312RSLRL		<7500 <7500			×4500	1 1	98	 	<11000
			Ö ₹	580SS	GROSS	GRC	GROSS BETA				
			æū	ALFINA,	20,00	200	66.18				
			<u>-</u>	TOTAL	SOLVED	102	TOTAL				
			. =	CUG/L	(PCI/L	9	(PCI/L				
		WELL	•	AS	AS SK/	AS	AS SK/				
			⇒	U-NAT)	YT-90)	۲۲.	-90)				
		•			0000	•					
		TLU DE	, ,	100	4200	1,	74				
		1		8 4	0076						
		14.		6-4	8100	•	4-4				
		X		1,1	14000						
		H-60			6200		<.7				
		H-7C		: 1	4890		1				
		H-80		;	<1100		:				
		H-90		!	<7200		ł				
		H-10C	•		0049>		;				
		P-14			<1600		1.9				
		P-15			1200		4.4				
		P-17			12000		20.				
		9118	;		0098		4.				
		CZ-JAIM	2 1	! ;	0085		\$ 				
		271111	9 5		0000						
		4417	, c.	′	2800 2800		1				
		WIPP-29	5.5	1	730		;				
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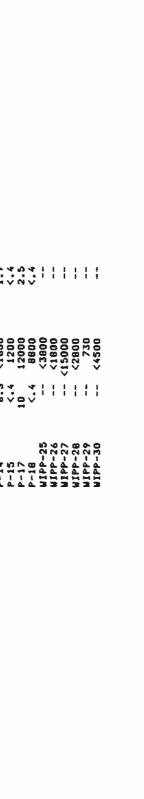


Table 2.—Selected chemical and radiochemical analyses of water from test holes at and near the proposed Waste Isolation Pilot Plant site - Continued

HARD- NESS (MG/L AS CACO3)	3100 2400 6500 2200 8700 7000 2100	8100 11000 2200 11000 8000 3,500 4,00 16000 26000 6300	SOLIDS, RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L)	30100 9700 62000 18100 144000 3610 3610 3200 3590 69200 24000 97000 420000 23100 238000 186000 239000
SULFIDE TOTAL (#G/L AS S)	911111111	1 1 1 1 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	BORON, DIS- SOLVED (UG/L AS B)	2400 20000 19000 34000 780 780 13000 1700 1700 1700 1900 1900 1900 1900 1
MOZ+NO3 NOZ+NO3 DIS- SOLVED (#6/L	1000000	3. 6. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.	SILICA, DIS- SOLVED (MG/L AS SI02)	22 23 24 25 25 25 25 25 25 25 25 25 25 25 25 25
CAR- BONATE FET-FLD (MG/L AS CO3)	000	10400	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	ಗು∪ ವವವವರಾಜವ ವವವವವ ವ ವ⊗ಶಿಶಿವಿಶಿವಿಶಿವಿಶಿವಿಶಿವಿಶಿವಿಶಿವಿಶಿವಿಶಿ
BICAR- BONATE FET-FLD (MG/L AS HC03)	105 115 37 41 41	357 83 77 310 310	SULFATE DIS- SOLVED (MG/L AS SO4)	7400 3000 5700 4000 810 3800 1900 2000 5600 1400 3200 2300 13000
ALKA- LINITY FIELD (AG/L AS CACO3)	8 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	37 290 92 63 370 130 150 670 210	CHLO- RIDE, DIS- SOLVED (NG/L AS CL)	12000 2800 29600 7500 86000 28000 350 350 350 350 350 350 350 350 350
PH (UNITS)	6 4 4 4 9 6 7 7 7 8 7 7 9 9 7 7 9 9 7 9 7 9 9 9 9 9	84 VV 444 8	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	190 430 1400 500 500 1400 520 600 120 6200 520 6200 120 6200
DENSITY (GM/ML AT 20 C)	1,000	1.045 1.014 1.014 1.094 1.178 1.072	SODIUM, DIS- SOLVED (MG/L AS NA)	9400 2100 19000 53000 18000 210 210 2100 7600 7600 3600 37000 37000 37000 37000 37000
GEO- LOGIC LNIT	312CLBR 312CLBR 312CLBR 312CLBR 312CLBR 312CLBR 312CLBR	312018R 312018R 312018R 312018R 312018R 312018R 312018R 312018R 312018R	MAGNE- SIUM, DIS- SOLVED (AG/L AS MG)	280 160 670 670 1900 1900 130 1000 1600 1600 1600 250 340 2000 470 5700
DATE OF SAMPLE	06-02-22-17-12-19-03-20-03-03-20-03-03-03-03-03-03-03-03-03-03-03-03-03	03-21 03-14 03-14 05-10 05-10 08-18 08-22 08-22 08-21	CALCIUM DIS- SOLVED (MG/L AS CA)	780 1500 180 340 1200 550 570 580 1600 3100 770 1700 5600 920 1200 3100 1200 3100
	NN NN NN NN NN NN NN NN NN NN NN NN NN	88 8 8 8 8 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0	HARD- NESS, NONCAR- BONATE (AG/L CACO3)	3000 2300 2300 2200 8700 6700 11000 11000 11000 3000 4300 25000
HELL	1	H-108 P-14 P-15 P-15 WIPP-25 WIPP-27 WIPP-27 WIPP-29	WELL	H-1 H-28 H-58 H-58 H-98 H-98 H-98 H-98 H-98 H-98 H-98 H-9

Table 2.—Selected chemical and radiochemical analyses of water from test holes at and near the proposed Waste Isolation Pilot Plant site - Continued

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DATE OF SAMPLE	GEO- LOGIC UNIT	SELE~ NIUM, TOTAL (UG/L AS SE)	GROSS ALPHA, DIS- SOLVED (PCI/L AS U-NAI)	GROSS ALPHA SUSP. TOTAL (PCI/L AS	6R0SS 6ETA, DIS- SOLVED (PCI/L AS	GROSS BEIA, SUSP, TOTAL (PCI/L AS	RADIUM 226, DIS- SOLVED, RADON METHOD	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L)	GROSS ALPHA, DIS- SOLVED (UG/L AS
X-11	79-03-13	312618	5	<200			4.4	1.7	.16	<290
H-28	77-02-22	Б	7	;			110	4.6	-	330
H-3	77-03-17	E	N	ì			4.4	22	60.	088>
H-48	78-12-14	M :	₽;	1	i		1	67	5.0	720
E 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	78-12-19	5	~	2700	i		ł		1.0	1000
100	02-21-8/ 80-03-30	312CLBK	ן ח	1 02 >		0747		0.0	\$ D	71700
200	80-03-20	5 F		6.4			4.4		4-7	9.6
200-1	80-02-05	; F	1	;	; i		;	7.3	34	<100
H-10B	80-03-21	100	ţ	<11100	i		!	29		<1600
P-14	77-03-14	5	=	1	i		4.4	89	•	<390
P-15	79-04-11	Ħ	4	<1300	3		4.4	11	2.2	<1900
P-17	77-05-10		-	1			۷ ۱	64	.10	2900
P-18	77-05-10	<u>ا</u> و	7				i i	261	55.	0084×
CZ-44IM	80-08-14	9 1	!	2200	1			1	9 5	7200
WIFF-20	80-08-18	9	! !		(0777	1 1	20 02		72400
17 L L L L L L L L L L L L L L L L L L L	77-90-00	3 1		000	i				. "	74600
TPP-29	80-08-20		1 1	<2500	}	18000	1 1	17	•	<11000
WIPP-30	80-08-13	מו נ	ł	088×	i		1	64	.29	<1300
			95			GROSS				
			Œ i	ALPHA, E	BETA,	BETA,				
			1			TOTAL				
			: =			(PCI/L				
		MELL			AS SR/	AS SR/				
			÷	U-NAT Y		YT-90)				
		1		4.5	390	4-4				
		H-28		380	97	88				
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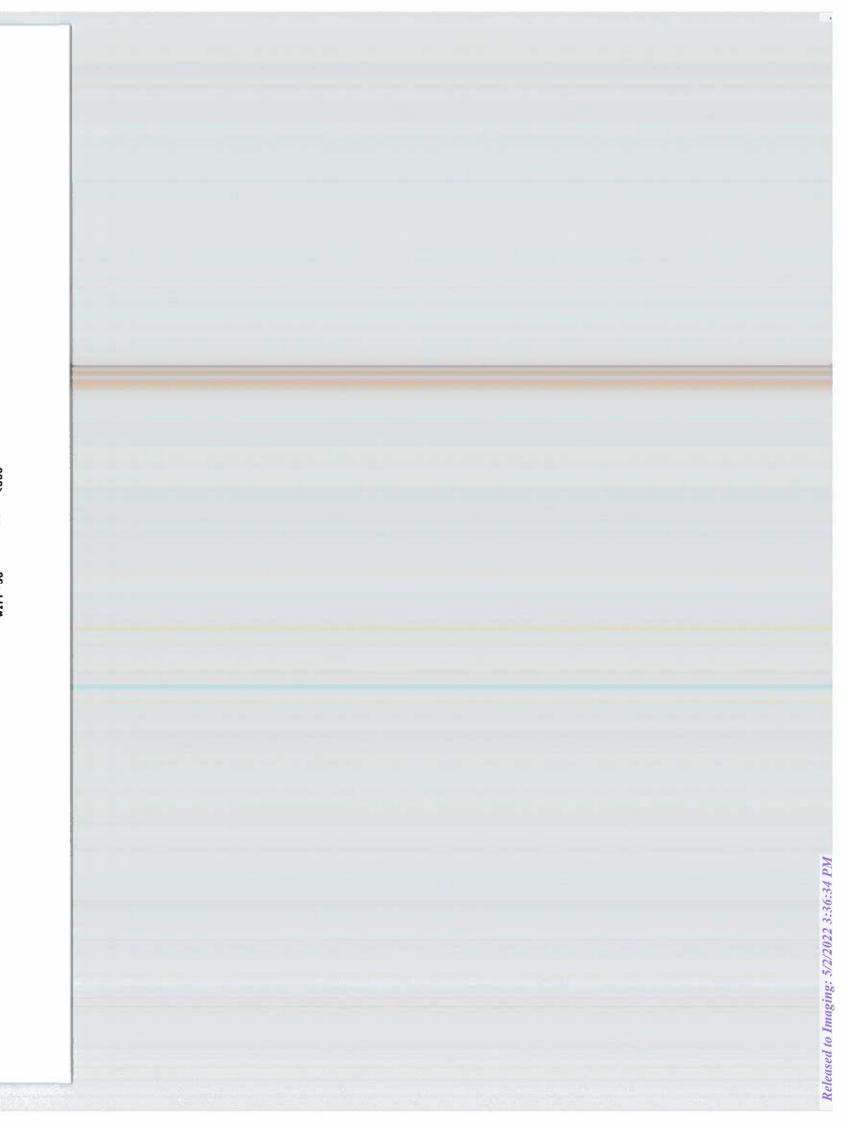


Table 2.—-Selected chemical and radiochemical analyses of water from test holes at and near the proposed Waste Isolation Pilot Plant site - Continued

	DATE OF Sample	BEO- LOGIC UNIT	DENSITY (GM/ML AT 20 C)	PH (UNITS)	ALKA- LINITY FIELD (MG/L AS	BICAR- BONATE FET-FLD (MG/L AS HCO3)	CAR- BONATE FET-FLD (MG/L AS C03)	GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	SULFIDE TOTAL (MG/L AS S)	MARD- NESS (MG/L AS
	76-06-04	SLONGNI	1	7.4	75	92	0	1	0.	3300
	77-02-22	SIONGNI	1	9.8	61	74	0	.04	1	2700
	77-05-10	310MGNT	ļ	0.8	42	51	0	.08	ı	2000
	78-12-14	MONGAT	;	6	125	63	' }	.01	1	2200
	78-12-14	310AGNT	1	7.8	4 4	80	}	10.	1	1300
	78-12-20	STONGENT	1	7.3	42	51	;	.03	;	2000
	80-02-12	STONGNT	1.006	0	2 2	; ;	1	90.	}	2200
	BO-02-05	TACACE	200	4) u'	ţ	1	200	;	100
	20-70-00	A TOMBAT	1001		9 5	; ;	1	20.	1	17000
	17-50-00	1201010	7	1 5		ı		2.		000
	40-04-04	STUBBAL	1.010	0	ויים ויים	ŀ	1	•	1.2	0000
	80-07-24	SIDMBNI	1.080	9.9	22	;	1	. 32	1	11000
	80-09-20	310001	1	9.0	180	1	1	. 40	1.8	17000
	80-09-24	310MGNT	1	8.8	95	ŧ	ł	90.	o.	2400
HARD		MAGNE	1	POTAS	CHLO	, , , , , , , , , , , , , , , , , , ,	FLUO-	SILICA,	n va va	SOLIDS, RESIDUE
7 LO LO LO LO LO LO LO LO LO LO LO LO LO	1017101	1010	, HO 100	1010	NIDE,	3011	1010	1010	F 1000	
NOTCER!		001131	1010	CO1 11ED	100	1010	201 102	30LVEV	201 105	7.0.0
		3000	3050	3000	3000	30105	200	2004	2000	
CACO3>	AS CA)	AS MG)	AS NA	AS K)	AS CL)	48 804)	AS F)	\$102)	AS B)	(MG/L)
3300	890	270	2700	20	8000	3900	2.8	1.3	2200	18900
2700	820	170	2700	81	4100	2400	1	0.9	220	12000
4900	1200	480	9300	250	15000	3400	1.8	4-9	13000	32000
2100	100	257	200	1 7	7.500	2002		4 4	00021	00200
		-		3 4	3 0	000				
	7 (2 .		0070		1		
2002	220	100	1100	9	1200	2/00	* .	:	200%	t :
2200	870	17	2400	97	3200	2100		٥.	3100	9410
2000	550	170	800	28	750	2700	1.8	3,53	2600	5460
7000	2500	2600	93000	510	160000	2700	1.3	1.9	3900	270000
3100	910	240	3100	80.	2600	1900	1.5	25	1900	18700
11000	1100	1900	34000	1800	61000	9400	•	1.7	26000	106000
12000	3600	2000	43000	10000	85000	2900	4.	13	230	173000
2400	490	200				2200	-	,	12000	10000

Table 2.--Selected chemical and radiochemical analyses of water from test holes at and near the proposed Waste Isolation Pilot Plant site - Concluded

				GROSS	GROSS	GROSS	GROSS	RADIUM		GROSS
				ALPHA,	ALPHA,	BETA,	BETA,	226,	URANIUM	ALPHA,
			SELE-	-810	SUSP.	DIS	SUSP.	-SIQ	DIS-	OIS-
	DATE	6E0-	ZICH.	SOLVED	TOTAL	SOLVED	TOTAL	SOLVED.	SOLVED.	SOLVE
	90	LOGIC	TOTAL	(PCI/L	(PCI/L	(PCI/L	(PCI/L	RADON	EXTRAC-	1/9N)
WELL	SAMPLE	LIND	(UG/L	AS	AS	ΑS	AS	METHOD	LION	AS
			AS SE)	U-NAT)	U-NAT)	CS-137)	CS-137)	(PCI/L)	(NG/L)	U-NAT
+1	77-05-10 3	STONGNT	-	;	1	940	4.4	170	09.	<400
H-2A	77-02-22 3	310MGNT	-	1	1	69	2.6	6.1	.80	<160
4-3		TUBMOT	7	1	1	530	**	77	;	550
	0	LIDMONT	-	<420	€.	1300	4.	10	.24	<620
1-4A		LOMBNT		1	}	<100	;	9.3	.08	<320
4-5A	78-12-14 3	310MGNT	7	!	1	ro Ou	1	17	1.0	160
4-6A	м С	LOMGNT	-	1	1	43	ì	11	6.7	110
1-8A	LJ	TOWENT	;	<140	٠°3	130	4.4	1.9	.08	<200
H-9A	80-02-05 3	LONGAT	;	•	•	<38	1	9.4	.15	<150
1-10A	80-03-21 3	TOMBELL	ŧ	<5300	ţ	<3500		480	~.10	<7800
1IPP-25	,,,	THOUGH	!	<160	1	<140	1	12	8.4	<230
1IPP-27	• •	10MGHT	1	1	}	1900	}	12	1	ì
	80-09-20 3	SIOMGNT	!	<2000	-	0009	1	24	5.8	<2900
11PP-30	80-09-24 3	TOMONI	1	<300	i	<200	}	26	.02	<440

WELL H-1 H-2A H-5A H-5A H-6A	040055 040055 04007	980SS 981A, 015- 50LVED (PC1/L AS SR/ YT-90) 790 55 260 1200 (92 48 48 39	6808S BETAT SUSP. 101AP. 101AP. 71-90) 71-90) 71-90)
H H H	1111	0 M G C	
WIPP-30	1) 🛁	•

Table 3.--Stratigraphic summary of rock units of Permian (Guadalupian and Ochoan) and younger age underlying the proposed Waste Isolation Pilot Plant site and adjacent areas

										_		
Description	Dune sand, uniformly fine grained, light-brown to reddish-brown	Limestone, chalky, includes fragments of underlying rock	Sandstone and siltstone, poorly indurated, dominantly reddish-orange, contains some conglomerate	Nudstone, shaly with lenses of sandstone and conglomerate	Sandstone, medium- to coarse-grained, commonly cross-stratified, gray and yellowish-brown; contains conglomerate and reddish brown mudstone and siltstone	Siltstone, shale and sandstone, very fine to fine-grained, reddish-orange to reddish-brown, contains interbedded reddish brown claystone; small-scale lamination and cross-stratification common	Anhydrite and halite with subordinate dolomite, sandstone, siltstone, claystone, and polyhalite; includes Magenta Dolomite and Culebra Dolomite Members	Halite with subordinate anhydrite, polyhalite, potash ores, sandstone, and magnesite	Anhydrite and halite with subordinate limestone	Sandstone, brown and gray, with minor limestone and shale	Sandstone, gray and brown, with limestone and minor shale	Sandstone, gray, with brown and black shale and brown limestone
Thickness (feet)	0-19	0-5	0-32	0-800	0-255	250-541	298-462	2,000+	1,300+	1,000+	1,000+	1,000+
Rock unit	Alluvium and sand	Mescalero caliche	Gatuna Formation	Chinle Formation (?)	Santa Rosa Sandstone	Dewey Lake Red Beds	Rustler Formation	Salado Formation	Castile Formation		Cherry Canyon Formation	
			(3)		Доскиш					хэ	compl	1991
Age	осере	но то	Pleis-		Late SesiTT		пвойро)			siquis eiquis	
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Modified from Bachman, 1980



New Mexico Office of the State Engineer Point of Diversion Summary

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

Q64Q16Q4 Sec Tws Rng X Y

2 2 3 14 22S 32E 627303 3584563* Well Tag POD Number

Driller Company: TAYLOR WATER WELL SERVICE

Driller License: 1348

Shallow Estimated Yield: 2 GPM Plug Date: 06/23/2001 Pipe Discharge Size: **Drill Finish Date:** PCW Rcv Date: 10/04/2001 **Drill Start Date:** 06/12/2001 Log File Date: **Driller Name:**

340 feet 540 Sandstone/Gravel/Conglomerate Depth Water: Top Bottom Description 540 feet **Top Bottom** 410 Depth Well: Casing Perforations: Water Bearing Stratifications: 5.00 Casing Size:

*UTM location was derived from PLSS - see Help

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Henneth J. Lichliter

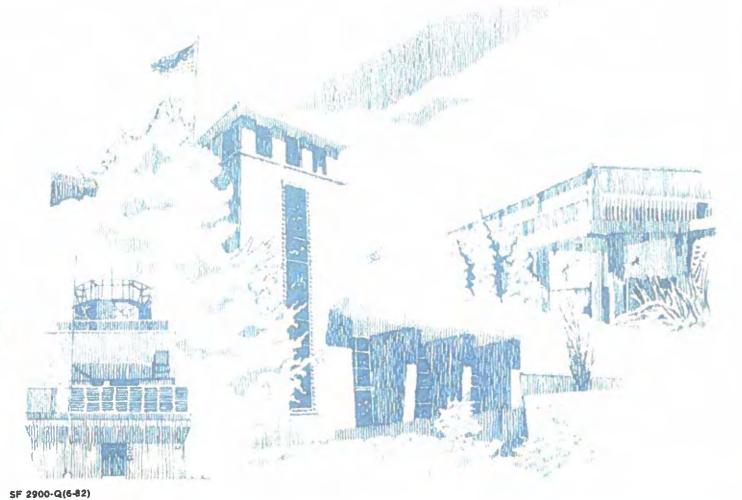
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Summary Evaluation of the Waste Isolation Pilot Plant (WIPP) Site Suitability

Wendell D. Weart

Prepared by
Sandia National Laboratories
Albuquerque, New Mexico 87185 and Livermore, California 94550 for the United States Department of Energy under Contract DE-AC04-76DP00789



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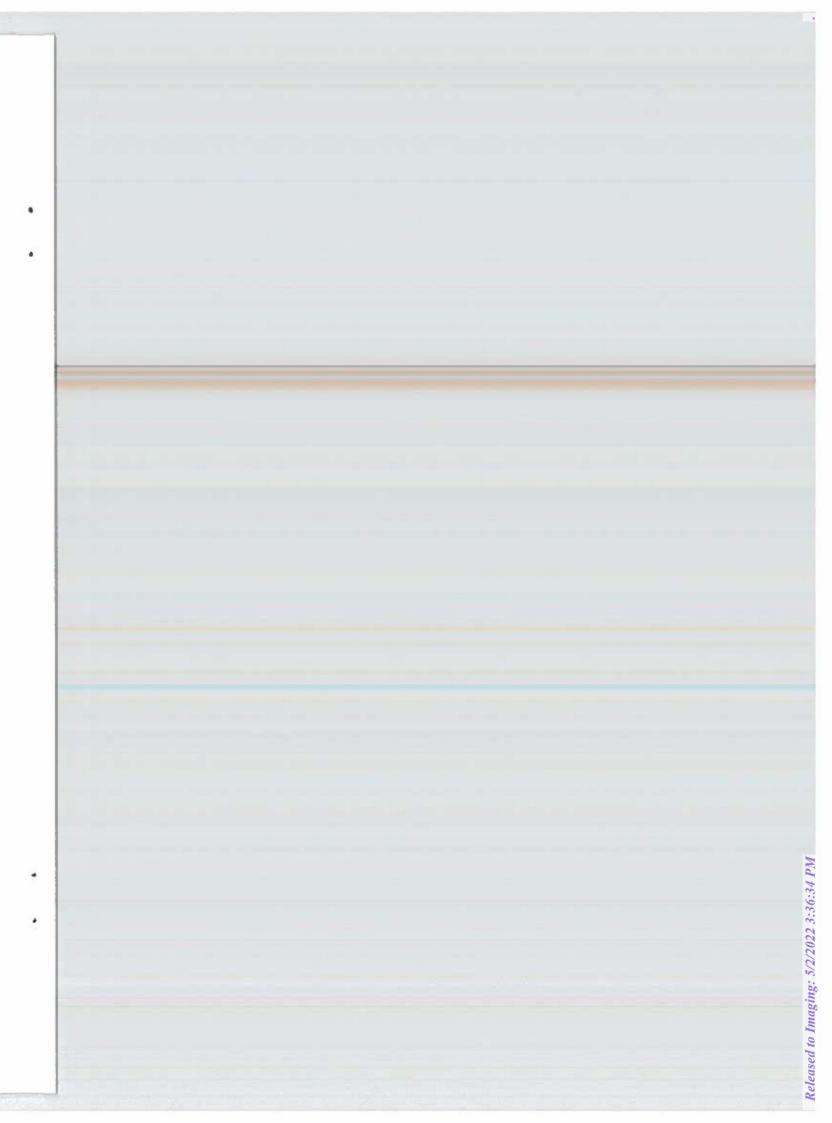
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Summary Evaluation of the Waste Isolation Pilot Plant (WIPP) Site Suitability

Wendell D. Weart
Waste Management Technology Department 9730
Sandia National Laboratories
Albuquerque, NM 87185

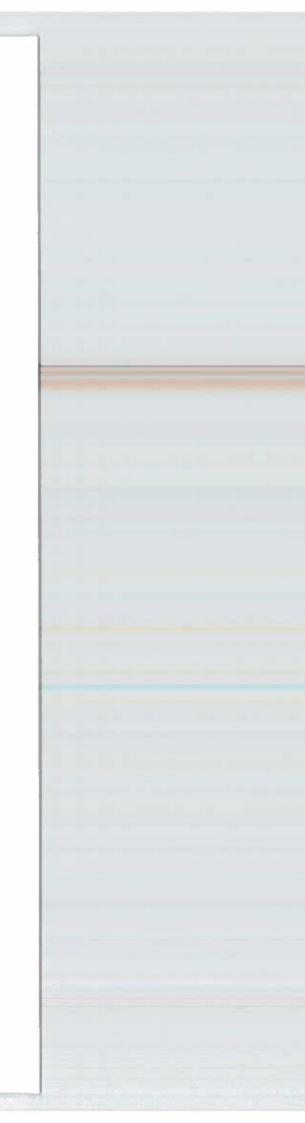
Abstract

Geotechnical studies oriented toward selecting a radioactive waste disposal site began in southeast New Mexico in 1972. These geological studies have focused on the present WIPP site since November 1975 and have been accompanied by investigations of the ecologic and socioeconomic environment. Surface-based geotechnical investigations have relied heavily on geologic mapping, on geophysical exploration techniques, and on drillholes for confirmation of interpretation, core examination, and acquisition of hydrologic parameters. These studies have now been supplemented by direct examination and measurement of the subsurface geology in two shafts and in several thousand feet of mined drift at the depth selected for the WIPP. Additional studies are not likely to change significantly the level of confidence that now exists with regard to the suitability of the WIPP site. Consequently, Sandia has now evaluated the information available on the WIPP site and, in this report, summarizes the information and judgments reached for each of the 21 site qualification criteria. The site satisfies the intent of all the site criteria. Sandia recommends, without reservation, the use of the Los Medaños site for the WIPP.



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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 1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

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Action 83322

CONDITIONS

Operator:	OGRID:
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P.O. Box 2267	Action Number:
Midland, TX 79702	83322
	Action Type:
	[C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Groundwater Closure Report Approved. Remediation Plan Approved. Incident # nOY1724941773 will be closed when Closure Report has been received and Approved.	5/2/2022