# Initial

# Application

## Part I

Received 11/4/20

November 04, 2020

Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico, 87505

Subject: Anthem Water Solutions, LLC – Maxey SWD #2 Application for Authorization to Inject

To whom it may concern:

On behalf of Anthem Water Solutions, LLC, ALL Consulting (ALL) has prepared and is submitting an application for the Maxey SWD #2, formerly Wersell Federal #1, to convert an existing plugged and abandoned well for the purpose of saltwater disposal into the Bell Canyon formations.

This re-open and re-completion is for API No. 30-015-20915, which was drilled and completed by Union Oil Company of California (Union) in 1973. The surface and intermediate casing were cemented to the surface, and the production casing was cemented to 8,180 feet with an original total depth of 11,660 feet. This well was properly plugged and abandoned by Cimarex Energy Company of Colorado (Cimarex) in November of 2016 and a copy of the Sundry Notice and plugging report (C-103) are included with this application package.

If you have any questions regarding this application, please contact me at (918) 382-7581 or e-mail me at <a href="mailto:nall-llc.com">nall-llc.com</a>.

Sincerely, ALL Consulting

Nathan Alleman

Sr. Regulatory Specialist

Attachment

GOUD2-201104-C-1080

11/4/20

**SWD** 

APP NO:

pBL2030938696

ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

### **NEW MEXICO OIL CONSERVATION DIVISION**

- Geological & Engineering Bureau – 1220 South St. Francis Drive, Santa Fe, NM 87505



ADMINISTRATIVE APPLICATION CHECKLIST	
INDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTION	IS
ATIONS WHICH DECLIDE DECCESSING AT THE DIVISION LEVEL IN SAN	ТΛ

Applicant:	OGRID Number:
Well Name:	
Pool:	D 10 1
SUBMIT ACCURATE AND COMPLETE INFORMATION I	
1) TYPE OF APPLICATION: Check those which apply A. Location – Spacing Unit – Simultaneous Ded  NSL NSP(PROJECT AREA)	ication
B. Check one only for [1] or [1]  [1] Commingling - Storage - Measurement  DHC CTB PLC PC  [11] Injection - Disposal - Pressure Increase -  WFX PMX SWD IPI	□ OLS □ OLM - Enhanced Oil Recovery □ EOR □ PPR FOR OCD ONLY
2) NOTIFICATION REQUIRED TO: Check those which  A. Offset operators or lease holders  B. Royalty, overriding royalty owners, revenue  C. Application requires published notice  D. Notification and/or concurrent approval  E. Notification and/or concurrent approval  F. Surface owner  G. For all of the above, proof of notification  H. No notice required	apply.  Notice Complete  Le owners  by SLO by BLM  Notice Complete  Complete
3) <b>CERTIFICATION:</b> I hereby certify that the informati administrative approval is <b>accurate</b> and <b>complet</b> understand that <b>no action</b> will be taken on this approximation of the description.	te to the best of my knowledge. I also
Note: Statement must be completed by an individ	ual with managerial and/or supervisory capacity.
	Date
Print or Type Name	
Nother Allers sdf	Phone Number
Signature	e-mail Address

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

### Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, New Mexico 87505

FORM C-108 Revised June 10, 2003

#### APPLICATION FOR AUTHORIZATION TO INJECT

I.	PURPOSE:Secondary RecoveryPressure MaintenanceXDisposalStorage Application qualifies for administrative approval?XYesNo
II.	OPERATOR: Anthem Water Solutions, LLC
	ADDRESS: 5914 W. Courtyard Dr. Suite 320, Austin, TX, 78730
	CONTACT PARTY: Nathan Alleman PHONE: 918-382-7581
III.	WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.  Additional sheets may be attached if necessary.
IV.	Is this an expansion of an existing project?YesXNo  If yes, give the Division order number authorizing the project:
V.	Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
VI.	Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
VII.	Attach data on the proposed operation, including:
	<ol> <li>Proposed average and maximum daily rate and volume of fluids to be injected;</li> <li>Whether the system is open or closed;</li> <li>Proposed average and maximum injection pressure;</li> <li>Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,</li> <li>If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).</li> </ol>
*VIII.	Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
IX.	Describe the proposed stimulation program, if any.
*X.	Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
*XI.	Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
XII.	Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
XIII.	Applicants must complete the "Proof of Notice" section on the reverse side of this form.
XIV.	Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.  NAME: Nathan Allema  TITLE: Sr. Regulatory Specialis
	SIGNATURE: Nothern Alleman DATE: 11/04/2020
*	E-MAIL ADDRESS: nalleman@all-llc.com  If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal:

#### III. WELL DATA

- A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:
  - (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
  - (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
  - (3) A description of the tubing to be used including its size, lining material, and setting depth.
  - (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

- B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.
  - (1) The name of the injection formation and, if applicable, the field or pool name.
  - (2) The injection interval and whether it is perforated or open-hole.
  - (3) State if the well was drilled for injection or, if not, the original purpose of the well.
  - (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
  - (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

#### XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

Application for Authorization to Inject

Well Name: Maxey SWD #2

### III - Well Data (The Wellbore Diagram is included as Attachment 1)

A.

#### (1) General Well Information:

Operator: Anthem Water Solutions, LLC (OGRID No. 330069)

Lease Name & Well Number: Maxey SWD #2 Location Footage Calls: 810 FNL & 1,980 FWL Legal Location: Unit Letter C, S4 T22S R27E

Ground Elevation: 3,218'

Proposed Injection Interval: 1,930' - 2,700'

County: Eddy

#### (2) Casing Information:

Type	Hole Size	Casing	Casing	Setting	Sacks of	Estimated	Method
Туре	Hole Size	Size	Weight	Depth	Cement	TOC	Determined
Surface	17.5"	13.375"	48.0 lb/ft	400'	600	Surface	Circulation
Intermediate	12.25"	9.625"	40 lb/ft	5,262	2,400	Surface	Circulation
Production: Hole	size: 8.5" Casi	ing Size: 5.5'	' Casing Weigh	t: 17 lb/ft Se	etting Depth:	11,660	
Sacks of Cement: 900 Estimated TOC: 8,180 Method Determined: CBL							
Note: 5.5" production casing cut off at 6,971' during previous plugging operations.							
Tubing	-	4.5"	11.6 lb/ft	1.830	-	-	-

#### (3) Tubing Information:

4.5" (11.6# N80 IPC) fiberglass-coated tubing with setting depth of 1,830'

(4) Packer Information: Baker Hughes Hornet or equivalent packer set at 1,830'

В.

(1) Injection Formation Name: Bell Canyon

Pool Name: SWD; BELL CANYON

**Pool Code:** 96769

- (2) Injection Interval: Perforated injection between 1,930' 2,700'
- (3) Drilling Purpose: Re-Completion for Salt Water Disposal
- **(4) Other Perforated Intervals:** All other perforations are separated from the injection zone by both CIBP and multiple cements plugs:
  - 3,267' 4,838'
  - 11,263' 11,505'
- (5) Overlying Oil and Gas Zones: No overlying oil and gas zones exist.
- **(6) Underlying Oil and Gas Zones:** Below are the approximate formation tops for known oil and gas producing zones in the area.
  - Bone Springs (5,096')
  - Wolfcamp (8,798')
  - Morrow (10,899')

### V - Well and Lease Maps

The following maps are included in **Attachment 2**:

- 2-mile Oil & Gas Well Map
- 2-mile Lease Map
- 2-mile Mineral Ownership Map
- 2-mile Surface Ownership map
- 1/2-mile Well Detail List with Casing Information for Penetrating Wells
- Potash Lease Map

#### VI – AOR Well List

A list of the wells within the 1/2-mile AOR is included in **Attachment 2**.

There are six (6) wells that penetrate the injection zone; two (2) of the wells that will penetrate the injection zone are active and one (1) has been temporarily abandoned, and, based on application information, they are properly cased and cemented to isolate the injection zone. Additionally, there are three (3) wells that penetrate the injection zone that have been plugged & abandoned. Wellbore diagrams and casing & cementing information for these wells are included in *Attachment 2*.

### VII – Proposed Operation

- (1) Proposed Maximum Injection Rate: 10,000 bpd Proposed Average Injection Rate: 8,000 bpd
- (2) A closed system will be used.
- (3) Proposed Maximum Injection Pressure: 386 psi (surface)
  Proposed Average Injection Pressure: approximately 150 200 psi (surface)
- (4) Source Water Analysis: It is expected that the injectate will consist of produced water from production wells completed in the Wolfcamp and Bone Springs formations. Analysis of water from these formations is included in *Attachment 3*.
- (5) Injection Formation Water Analysis: The proposed SWD will be injecting water into the Bell Canyon formation which is a non-productive zone known to be compatible with formation water from the Wolfcamp and Bone Springs formations. Water analyses results were selected from intervals comparable to that of the injection zone in the Bell Canyon Formation Delaware Mountain Group. Water analysis from in the area are included in *Attachment 4.*

### VIII – Geologic Description

The proposed injection interval includes the Bell Canyon formation from 1,930 - 2,700 feet. This formation consists of interbedded sandstones with interbedded siltstones and shales members. Several thick sections of porous and permeable intervals capable of taking water are present within the subject formation in the area.

The base of the deepest Underground Source of Drinking Water (USDW) is at a depth of approximately 460 feet which is covered by casing set at 5,262 feet, which is cemented to

surface and isolates the USDW. Geophysical log assessment was conducted to accurately determine the top of the Rustler formation, as well as, the top and the base of the Salado formation in this area. Water well depths in the area range from approximately 40 - 80 feet below ground surface.

### IX – Proposed Stimulation Program

A small cleanup acid job may be used to remove mud and drill cuttings from the formation. However, no other formation stimulation is currently planned.

### X – Logging and Test Data

Logs will be submitted to the Division upon completion of the well.

### XI – Fresh Groundwater Samples

Based on a review of data from the New Mexico Office of the State Engineer, there are six groundwater wells located within 1-mile of the proposed SWD location; Two (2) water samples were collected for this application. One (1) sample was collected on September 17<sup>th</sup>, 2020 (C-04346 Pod 1), and one (1) was collected on October 8<sup>th</sup>, 2020 (C-00105). Sampling results for water wells C-04346 Pod 1 and C-00105 are included in *Attachment 5*.

A water well map of the area is included in **Attachment 5**.

### XII – No Hydrologic Connection Statement

No faulting is present in the area that would provide a hydrologic connection between the injection interval and overlying USDWs. Additionally, the casing program has been designed to ensure there will be no hydrologic connection between the injection interval and overlying USDWs.

#### XIIII - Proof of Notice

A Public Notice was filed with the Carlsbad Current-Argus newspaper and an affidavit is included in **Attachment 6**.

A copy of the application was mailed to the OCD District Office, landowner, and leasehold operators within 1/2-mile of the proposed SWD location. A list of the recipients, as well as delivery confirmations, are included in **Attachment 6**.

### **Attachments**

#### Attachment 1:

- C-102
- Existing Wellbore Diagram
- Proposed Wellbore Diagram
- C-103

### Attachment 2: Area of Review Information:

- 2-mile Oil & Gas Well Map
- 2-mile Lease Map
- 2-mile Mineral Ownership Map
- 2-mile Surface Ownership Map
- 1/2-mile Well Detail List with Casing Information for Penetrating Wells
- Potash Lease Map

**Attachment 3:** Source Water Analyses

**Attachment 4:** Injection Formation Water Analyses

Attachment 5: Water Well Map and Well Data

Attachment 6: Public Notice Affidavit and Notice of Application Confirmations

### Attachment 1

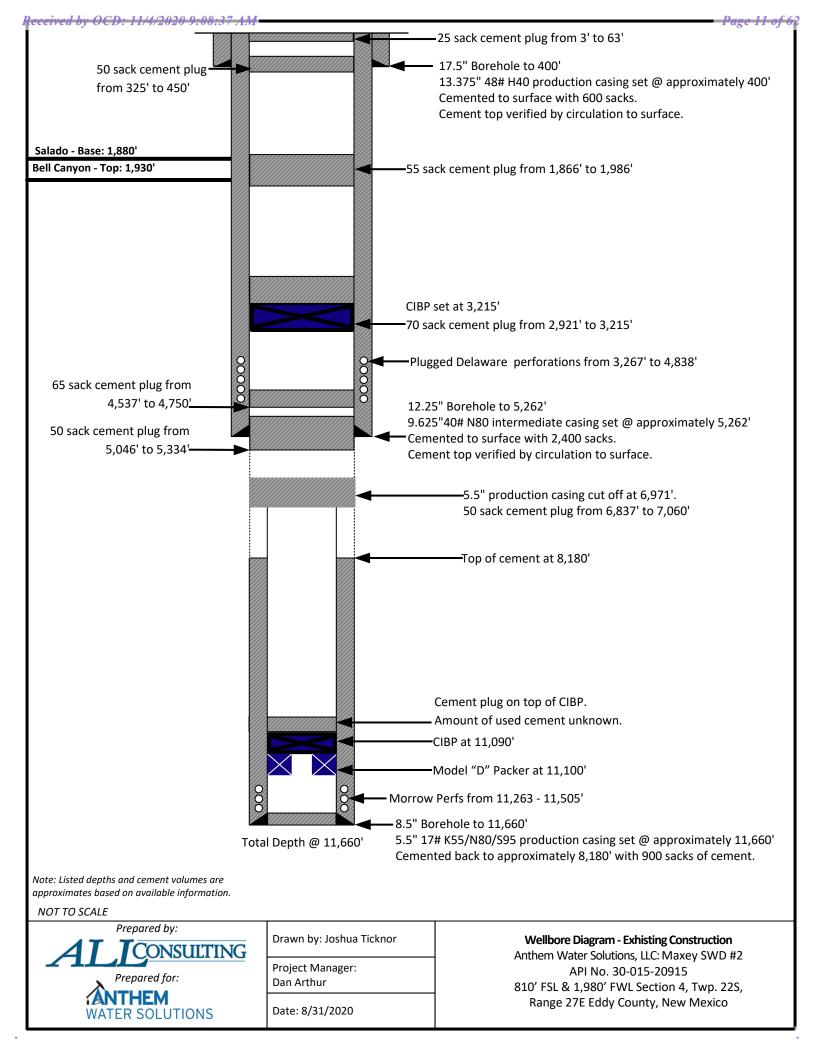
- C-102
- Existing Wellbore DiagramProposed Wellbore Diagram
- C-103

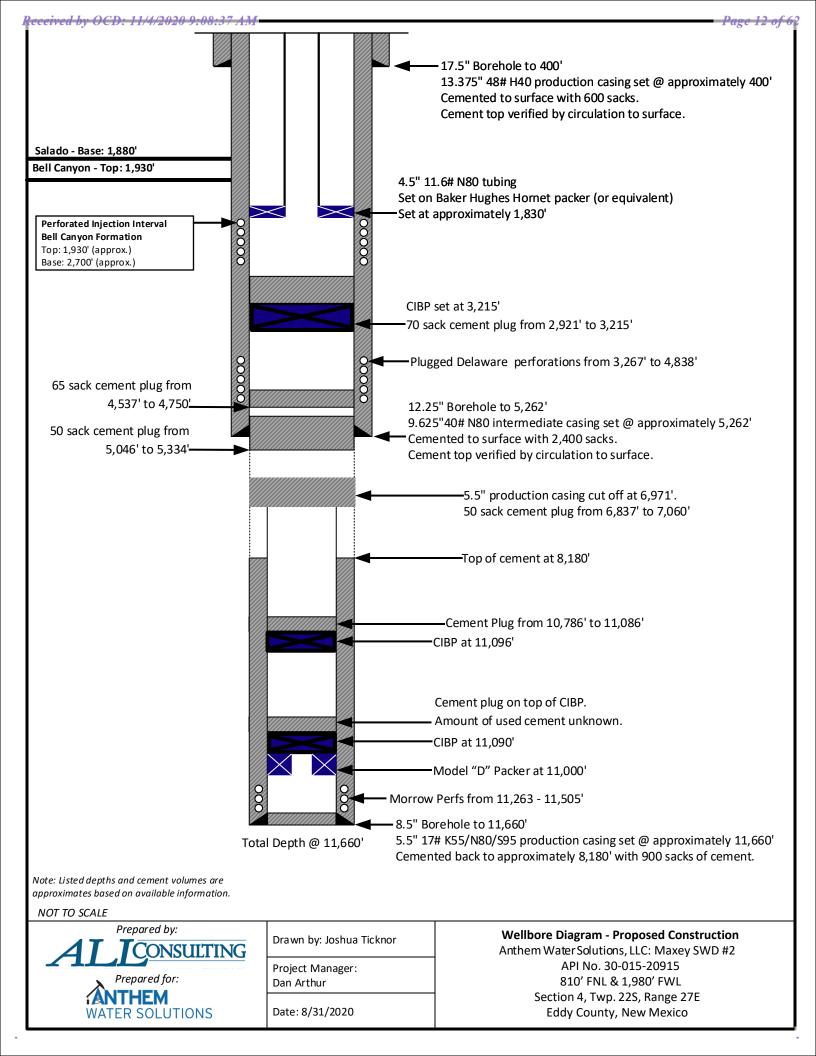
### MELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102 Supersedes C-128 Ettecuve 1-1-55

All distances must be from the outer boundaries of the Section

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PROCEDURE - Continued WERSELL FEDERAL COMP. WELL NO. 1 South Carlsbad (Morrow) Field Eddy County, New Mexico

Page 2

- 7. Perf & test the following intervals separately using straddle assembly:
  - Perf 4458-66' w/4" DP csg gun w/l SPF. Break down w/perf acid. Swab & evaluate. If necessary acidize, swab & evaluate. If productive put well on prod. If not
  - proceed to Step "B"

    b. Spot acid & perf 4392-96' w/4" DP-rsg gun w/1-SPF. Break down w/perf acid. Swab & evaluate.
  - Spot acid & perf 4298-4314' w/4" DP csg gun w/1-SPF. Break down w/perf acid. Swa
  - Spot acid & perf 3838-89' & 3896-3910' w/4" DP csg gun w/1-SPF. Break down w/peri acid. Swab & evaluate.
  - If necessary acidize perfs 3883-4396' w/2200 gals 7-1/2% MSA using 55 BS spaced evenly to divert. Rate 3-4 BPM, max pres 2500 psi. Swab & evaluate. If not productive, run cmt ret & sqz perfs 3883-4466' & proceed w/Step 8. If productive place well on prod.
- Spot 15% MSA 3480-3280'. Perf 3469-78' w/4" DP csg gun w/1-SPF. Break down w/perf acid Swab & evaluate. Acidize if necessary w/500 gals 7-1/2% MSA.
- If productive place well on prod. If not, run cmt ret & sqz perfs 3469-78'.
- Spot 15% MSA 3290-3090'. Perf 3267-82' w/4" DP csg gun w/1 SPF. Break down w/perf acid Swab & evaluate. Acidize if necessary w/750 gals 7-1/2% MSA.
- If productive place well on prod. If not, run cmt ret & sqz perfs 3267-82', temporarily 11. abandon.

MIDLAND DISTRICT DRILLING DEPARTMENT 3-19-81 JRH: MRT: 16

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2. Name of Operator CIMAREX ENERGY CO OF C	Contact: OLORA <b>BO</b> Mail: DEYLER@	DAVID A EYL MILAGRO-RES	ER S.COM	•	9. API Well No. 30-015-20915	
3a. Address 600 N. MARIENFELD, SUITE MIDLAND, TX 79701	600	3b. Phone No. Ph. 432-687	(include area code) 7-3033		10. Field and Pool, or ESPERANZA	Exploratory
4. Location of Well (Footage, Sec., T.	, R., M., or Survey Description	1)	·····		11. County or Parish,	and State
Sec 4 T22S R27E NENW 810	FNL 1980FWL				EDDY COUNT	Y, NM
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	☐ Convert to Injection	🗖 Plug	Back	☐ Water D	Disposal	
Attach the Bond under which the wor following completion of the involved testing has been completed. Final At determined that the site is ready for final fi	operations. If the operation repandonment Notices shall be final inspection.)  S.CMT. @ 4,750' (PER '(OK'D BY BLM); CIRC.\ T. @ 3,215'; WOC X TAGC CMT. @ 450'.  DK'D BY BLM).  JRF. 25 SXS.CMT. @ 63  NSTALL DRY HOLE MA	esults in a multiple led only after all r OCD X BLM); WELL; SET 9- G CMT. @ 2,92	e completion or rece equirements, included WOC. 5/8" CIBP @ 3,2 1'(OK'D BY BLI	ompletion in a reling reclamation 215' M); PUMP 59	new interval, a Form 31 n, have been completed 5 SXS.CMT. @ B.G.L.; WELD ON	60-4 shall be filed once and the operator has
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Title 18 U.S.C. Section 1001 and Title 43 States any false, fictitious or fraudulent					ike to any department o	r agency of the United

Form Approved. Form 9-331 Dec. 1973 Budget Bureau No. 42-R1424 UNITED STATES 5. LEASE NM-0454018 DEPARTMENT OF THE INTERIOR 6. IF INDIAN, ALLOTTEE OR TRIBE NAME **GEOLOGICAL SURVEY** RECEIVED BY 7. UNIT AGREEMENT NAME SUNDRY NOTICES AND REPORTS ON WELLS (Do not use this form for proposals to drill or to deepen or plug back to a different reservoir, Use Form 9-331-C for such proposals.) **MAY 1 0** 1984 8. FARM OR LEASE NAME Wersell Federal Com <del>O.</del> €. D. well well other 9. WELL NO. ARTESIA, OFFICE 2. NAME OF OPERATOR 10. FIELD OR WILDCAT NAME Union Oil Company of California Undesignated Delaware 3. ADDRESS OF OPERATOR 79702 P. O. Box 671 Midland, Texas 11. SEC., T., R., M., OR BLK, AND SURVEY OR AREA 4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 Sec 4 T-22-S R-27-E AT SURFACE: 810' FNL & 1980' FWL 12. COUNTY OR PARISH 13. STATE AT TOP PROD. INTERVAL: Eddy AT TOTAL DEPTH: 14. API NO. 16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE. 30 015 20915 REPORT. OR OTHER DATA 15. ELEVATIONS (SHOW DF, KDB, AND WD) 3152' GR SUBSEQUENT REPORT OF: REQUEST FOR APPROVAL TO: TEST WATER SHUT-OFF FRACTURE TREAT (NOTE: Report results of multiple completion or zone on Form 9–330.) NOVO3 SHOOT OR ACIDIZE REPAIR WELL PULL OR ALTER CASING MULTIPLE COMPLETE CHANGE ZONES ABANDON\* (other) 17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent details details details details details. including estimated date of starting any proposed work. If well is directionally drilled, give subsurface location measured and true vertical depths for all markers and zones pertinent to this work.)\* 9-21-83 - MIRUPU. POOH W/rods & pump Spot Spearhead acid 4838-4521'. Perf Delaware w/4" csg gun 1 JSPF 9-22-83 from 4822-4838' (17 holes). W/pkr set @ 4494' press Del. perfs 4822-4838' & trtd w/1000 gals 9-24-83

7-1/2% Spearhead acid.

Tested & trtd 4822-4838' thru 9-26-83. 9-25-83

W/RTBP @ 4207' perf Del w/l JSPF 3883-3889' (7 holes) 3896-3910' 9-27-83 (15 holes) press tbg & Del perfs 3883-3889' & 3896-3910' w/750 gals 7-1/2% Spearhead acid.

W/pkr @ 3827' acidized perfs 3883-86' & 3896-3910' w/2000 gals 7-1/2% 9-29-83 Spearhead acid.

10- 1-83 Tbg parted - POOH w/1730' tbg, caught fish @ 1740'. Unseat pkr & POOH.

Over Subsurface Safety Valve: Manu. and Type \_ \_\_\_ Set @ \_\_\_\_\_ Ft.

18. I h∉reby c∉rtify that the foregoing is true and correct

J.R. Hughes TITLE Dist. Drlg Supt. DATE 11-1-83

\_\_\_\_\_ DATE \_\_

ACCEPTED 102 RECORNS space for Federal or State office use)

\_ TITLE \_

CONDITIONS OF APPROVAL, IF ANY 7 1984

CONTR. NEW MEXICO

\*See Instructions on Reverse Side

NM OIJ CONS. COMMISSION

Drawe. .D

Dec. 1973		51a, NM 60210	Budget Burea	eo. Iu No. 42–R1424
	• • • • • • • • • • • • • • • • • • • •	STATES F THE INTERIOR	5. LEASE NM-0454018	RECEIVED
	GEOLOGIC	AL SURVEY	6. IF INDIAN, ALLOTTEE OR TR	IBE NAME
(Do not use this		D REPORTS ON WELLS Il or to deepen or plug back to a differencesals.)	7. UNIT AGREEMENT NAME 8. FARM OR LEASE NAME	— JUN 1 2 19 — O. C. D ARTESIA, OF
1. oil kell kell 2. NAME OF	gas othe	ır	Wersell Federal Gen 9. WELL NO. 1	
3. ADDRESS	Oil Company of OF OPERATOR Box 671 Midla		10. FIELD OR WILDCAT NAME  Underignated Delawar  11. SEC., T., R., M., OR BLK, AN	
4. LOCATION below.) AT SURFA	OF WELL (REPORT CE: 810' FNL ROD. INTERVAL:	LOCATION CLEARLY. See space 17	AREA Sec 4 T-22-5 R-27-E 12. COUNTY OR PARISH 13. S	
REPORT,	OR OTHER DATA	D INDICATE NATURE OF NOTICE	30 015 20915 15. ELEVATIONS (SHOW DF, K 3152' GR	DB, AND WD)
REQUEST FOR TEST WATER : FRACTURE TR SHOOT OR AC REPAIR WELL PULL OR ALT MULTIPLE COI CHANGE ZONI	EAT   CIDIZE   CIDIZE	SUBSEQUENT REPORT OF:		RECEIVED NOV 29 10 11 A BUR. CELETATION ROSVERE. DISTE

- 17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*
- 10-29-83 thru 11-3-83 Well flowing to tank on 10/64" choke
- 11- 4-83 Killed well, bled press off. Ran 154 jts 2-3/8" OD PCID tbg into Baker pkr @ 4775' w/parallel anchor @ 4708'- spaced out & landed string w/10000# tension. Ran short string 151 jts 2-3/8" OD J-55 EUE tbg in parallel anchor @ 4708' w/SN @ 4677' landed in 5000# tension. Ran pump & rods & clamped off.

11- 7-83 - 11-10-83 Re-setting pumping unit.

11-14-83 Put well on pump.

Subsurface Safety Valve: Manu. and Type	Set @ Ft.
18. I hereby contify that the foregoing is true and correct	
J.R. Hughes TITLE Dist. Drlg Supt. DATE	11-18-83
(This space for Federal or State office use)	
APPROVED BY SWE TITLE DATE	-

Carlolad NEW MEXICO

\*See Instructions on Reverse Side

### **HORNET Packer**

Product Family No. H64682

### HORNET EL Packer

Product Family No. H64683

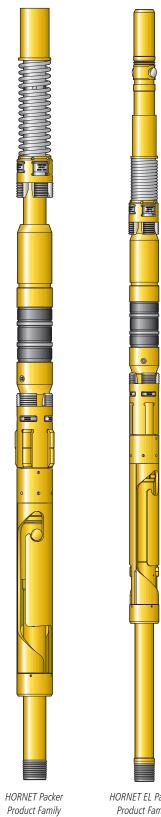
The mechanically set HORNET<sup>™</sup> packer offers ease of operation with quarter-turn right to set and release. Converting it for wireline-setting applications is simple and inexpensive. The HORNET packer provides for landing in compression, tension, or neutral positions. Every component from the jay track, to the internal bypass, to the packing-element system and the upper slip assembly has been developed to ensure the HORNET's setting and releasing reliability.

The HORNET EL packer is run and set on electric line using an E-4<sup>™</sup> (Product Family No. H43702) with a slow-set power charge or a J<sup>™</sup> setting tool (Product Family No. H41371) and a special wireline adapter kit. An L-10<sup>™</sup> type on/off seal nipple is run on top of the packer to connect the tubing to the packer and to house a blanking plug when the packer is used as a temporary bridge plug.

#### Features and Benefits

- Upper Slip Assembly:
  - Thoroughly tested across API minimum to maximum casing ID tolerances for each specified casing weight, for setting and releasing reliability
  - Slip-wicker configuration providing bidirectional-load support with solid upper cone to support highest tensile loads
  - Staged-release action eliminates high-overpull requirement
  - Minimal set-down weight required to anchor slips
- Internal Bypass Seal:
  - Durable bypass seal design provides sealing after unloading, under differential pressures
  - No O-ring sealing system
- Packing Element System:
  - Fully tested to combined ratings at the API's maximum ID tolerance

- Patented enhancements to control overboost
- High-performance, three-piece element system
- Lower Slip and Jay Assembly:
  - Slips and drag blocks tested to maximum API tolerance ID for positive set and ease of release
  - One-quarter-turn right setting and releasing action
  - Packoff of packing elements with applied tension or compression
  - Spacing in jay ensures opening of internal bypass, before slip releasing action beginsimportant to both ease of release and safety
  - Automatically returns to running position



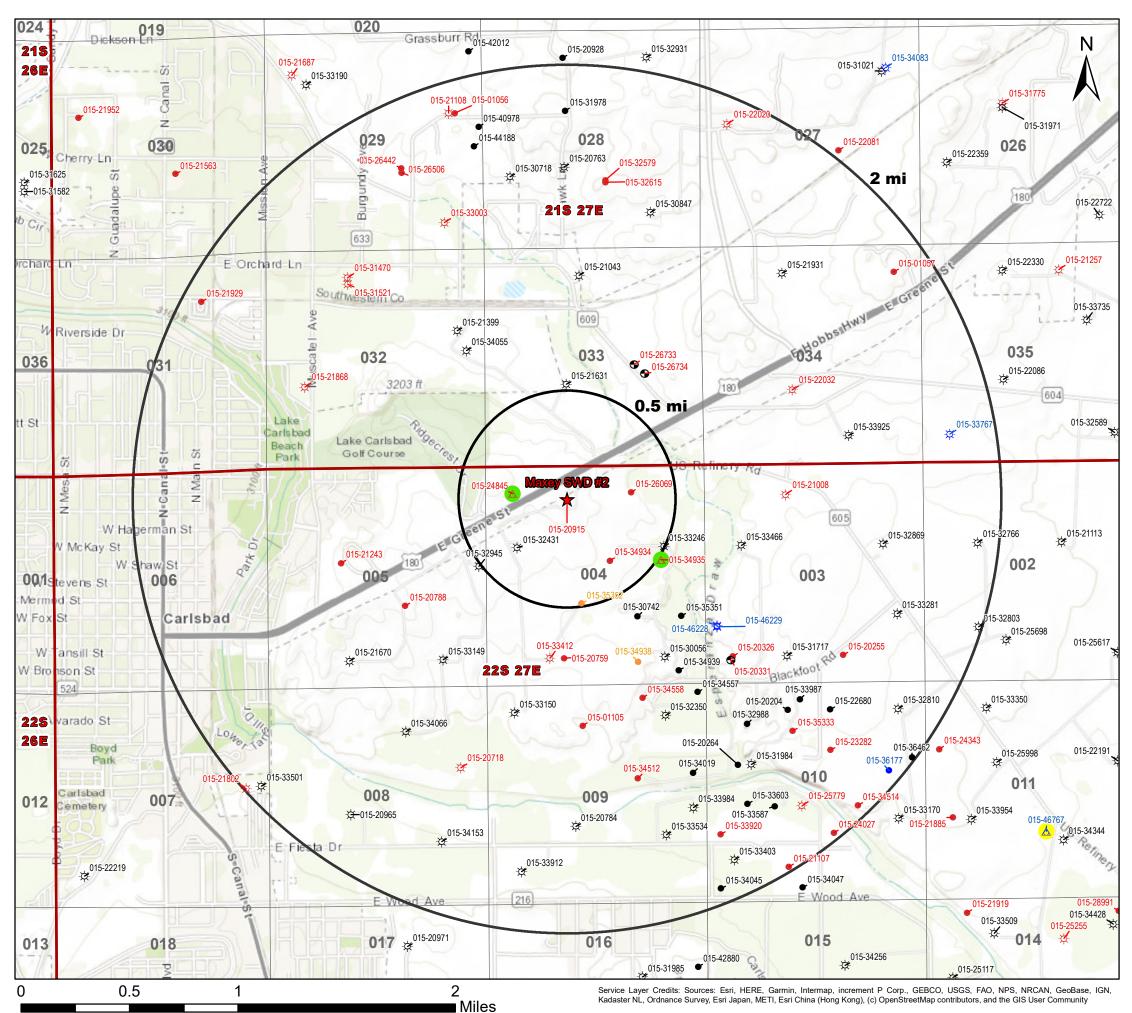
No. H64682

HORNET EL Packer Product Family No. H64683

### Attachment 2

Area of Review Information:

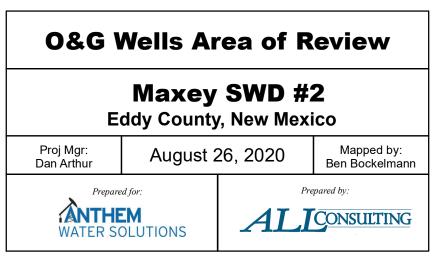
- 2-mile Oil & Gas Well Map
- 2-mile Lease Map
- 2-mile Mineral Ownership Map
- 2-mile Surface Ownership Map
- 1/2-mile Well Detail List with Casing Information for Penetrating Wells
- Potash Lease Map



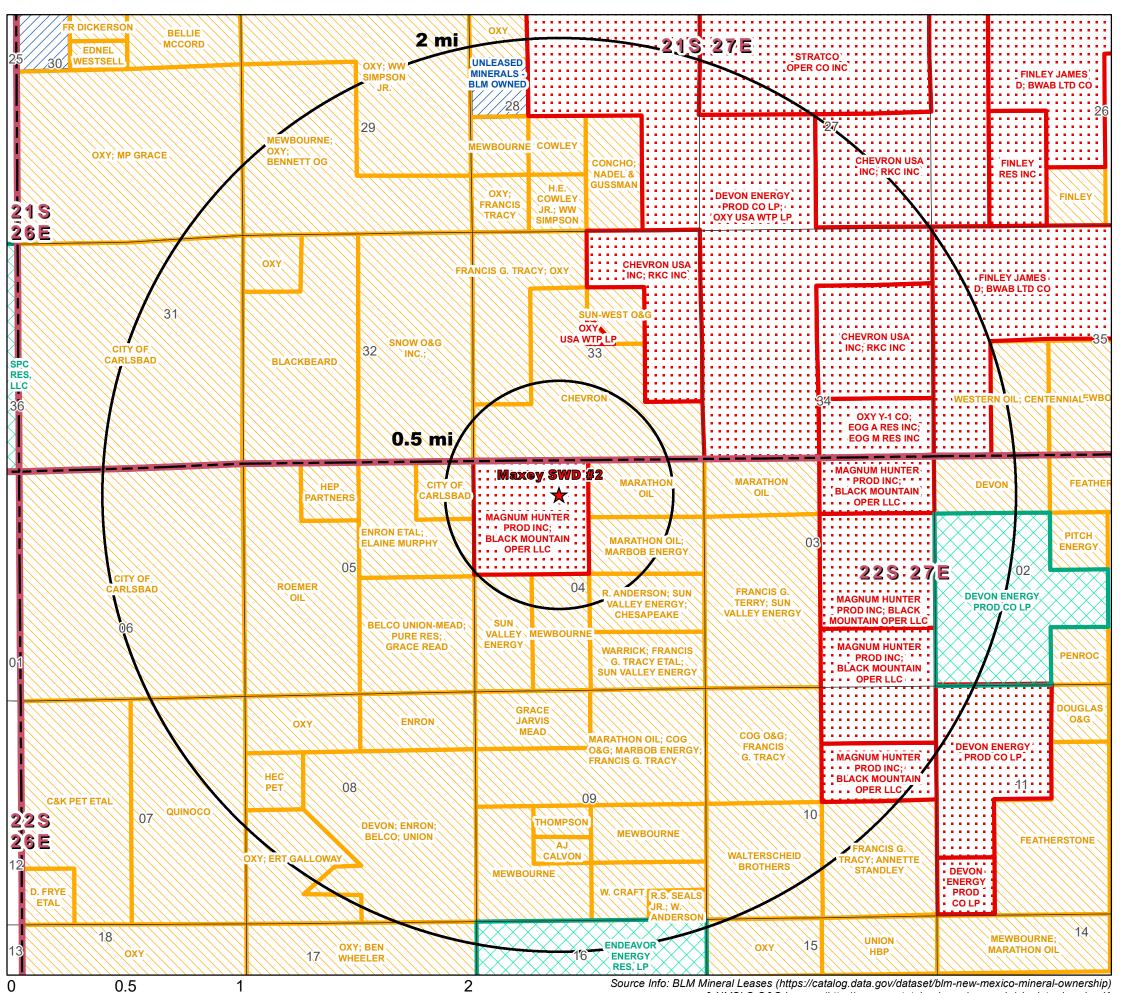
### Legend

- ★ Proposed SWD
- Miscellaneous (3)
- ⇔ Gas, Active (62)
- Gas, New (4)
- Gas, Plugged (17)
- Oil, Active (21)
- Oil, New (2)
- Oil, Plugged (31)
- Oil, Temporarily Abandoned (2)
- Salt Water Injection, New (1)
- △ Salt Water Injection, Plugged (2)
- Deep Injection Zone (1)
- Shallow Injection Zone (2)

Source Info: NMOCD O&G Wells updated 8/3/2020 (http://www.emnrd.state.nm.us/OCD/ocdgis.html)



Received by OCD: 11/4/2020 9:08:37 AM Page 20 of 62



■ Miles

### Legend



★ Proposed SWD



BLM Mineral Leases

**Private Mineral Leases** 

Unleased Minerals - BLM Owned

Unleased Minerals - Private Owned

### **Mineral Lease Area of Review**

### **Maxey SWD #2**

**Eddy County, New Mexico** 

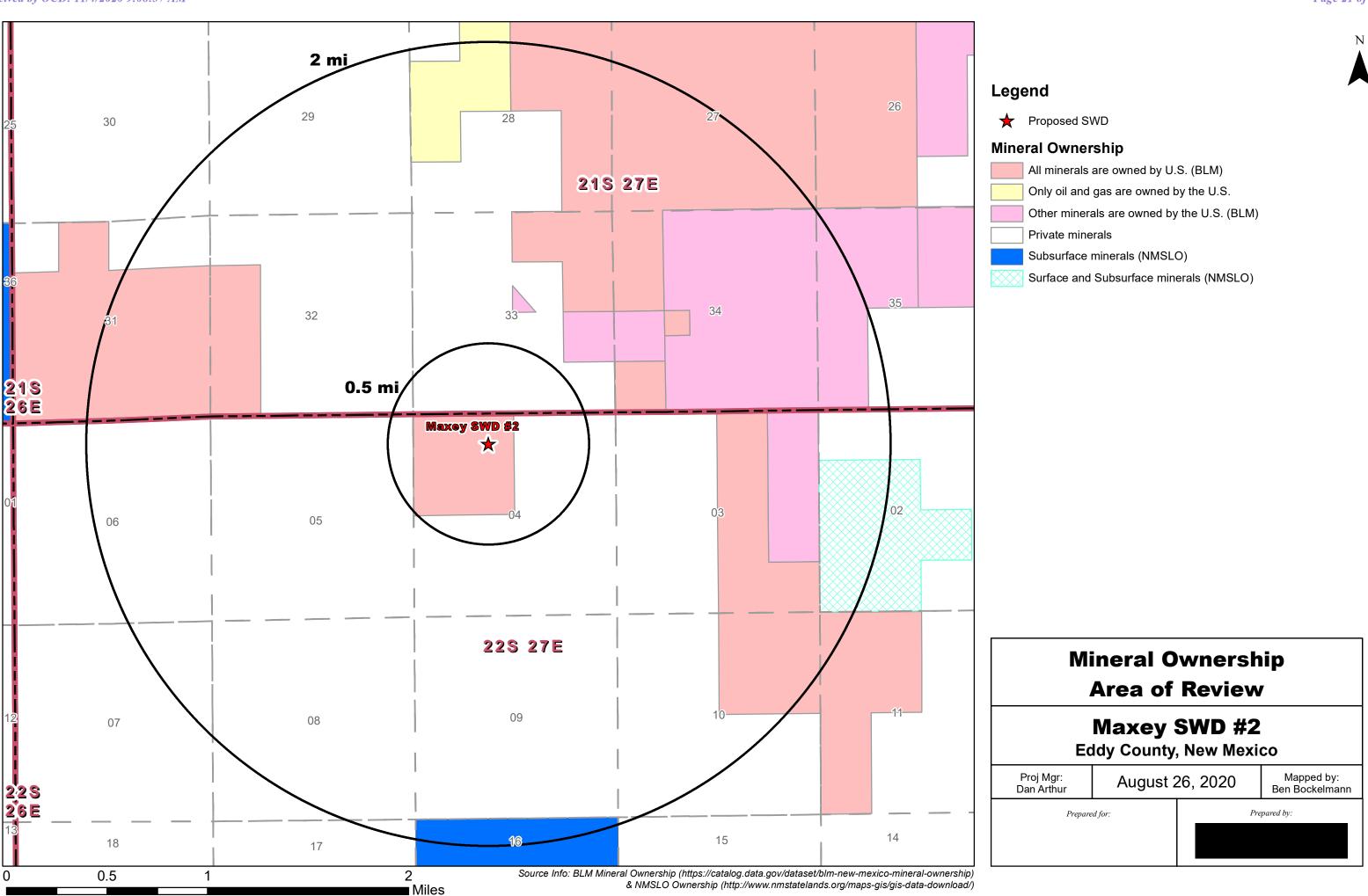
Proj Mgr: Dan Arthur October 21, 2020

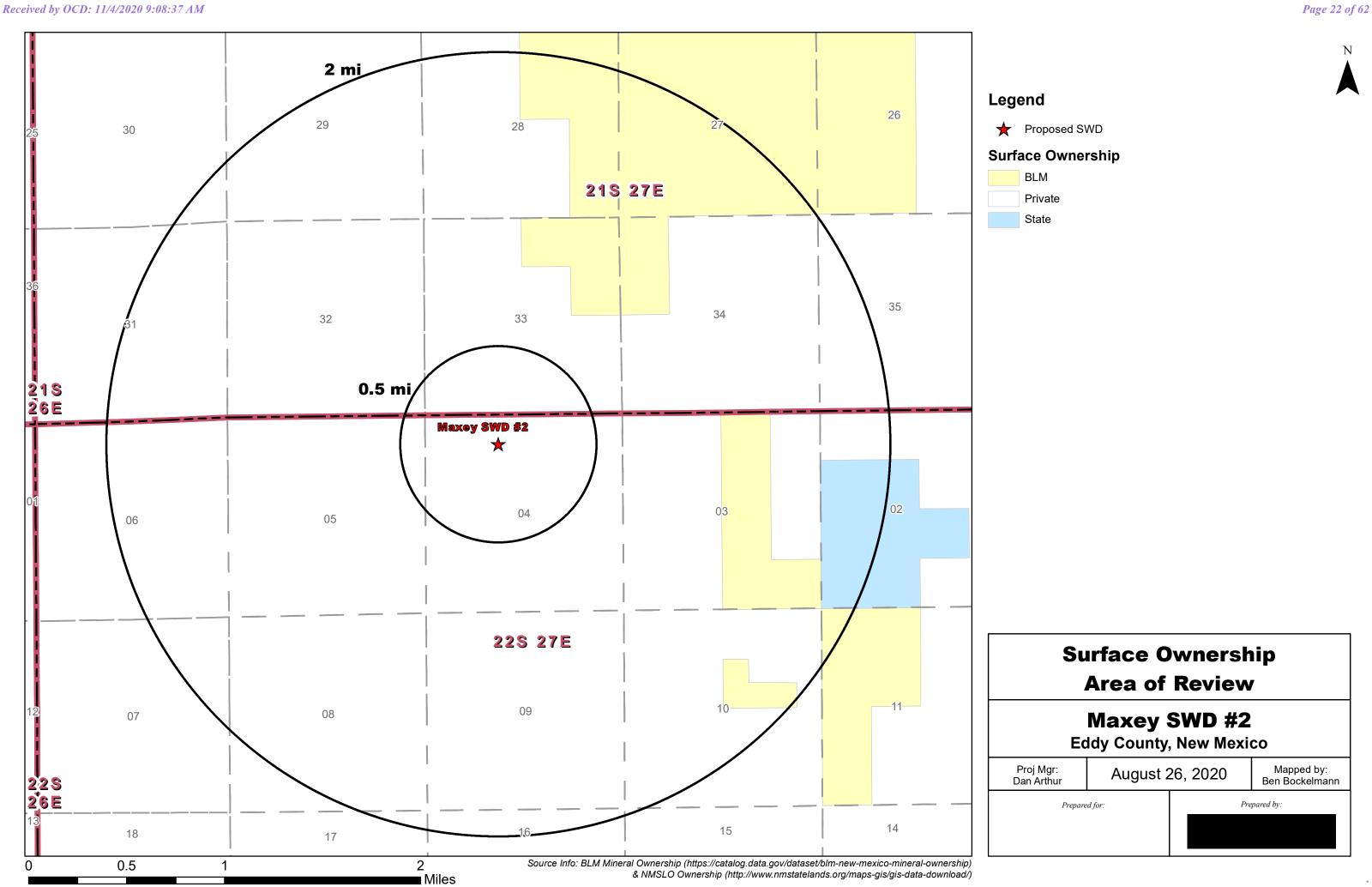
Mapped by: Ben Bockelmann





Source Info: BLM Mineral Leases (https://catalog.data.gov/dataset/blm-new-mexico-mineral-ownership) & NMSLO O&G Leases (http://www.nmstatelands.org/maps-gis/gis-data-download/)

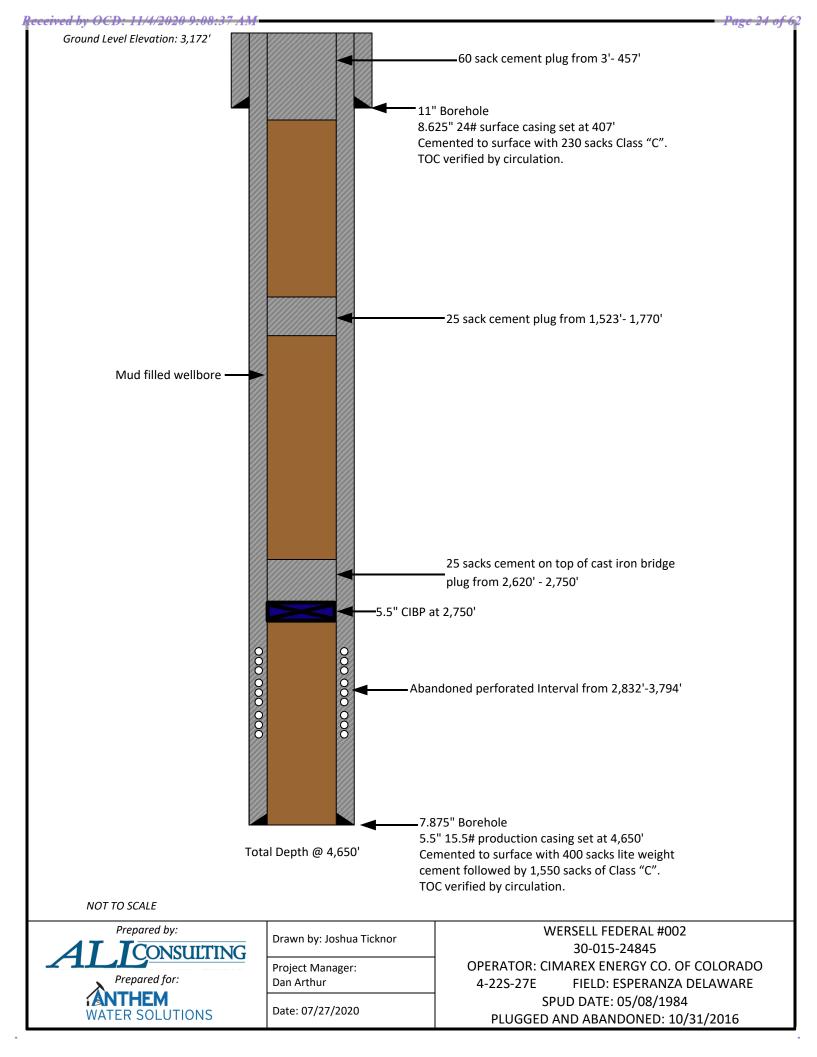


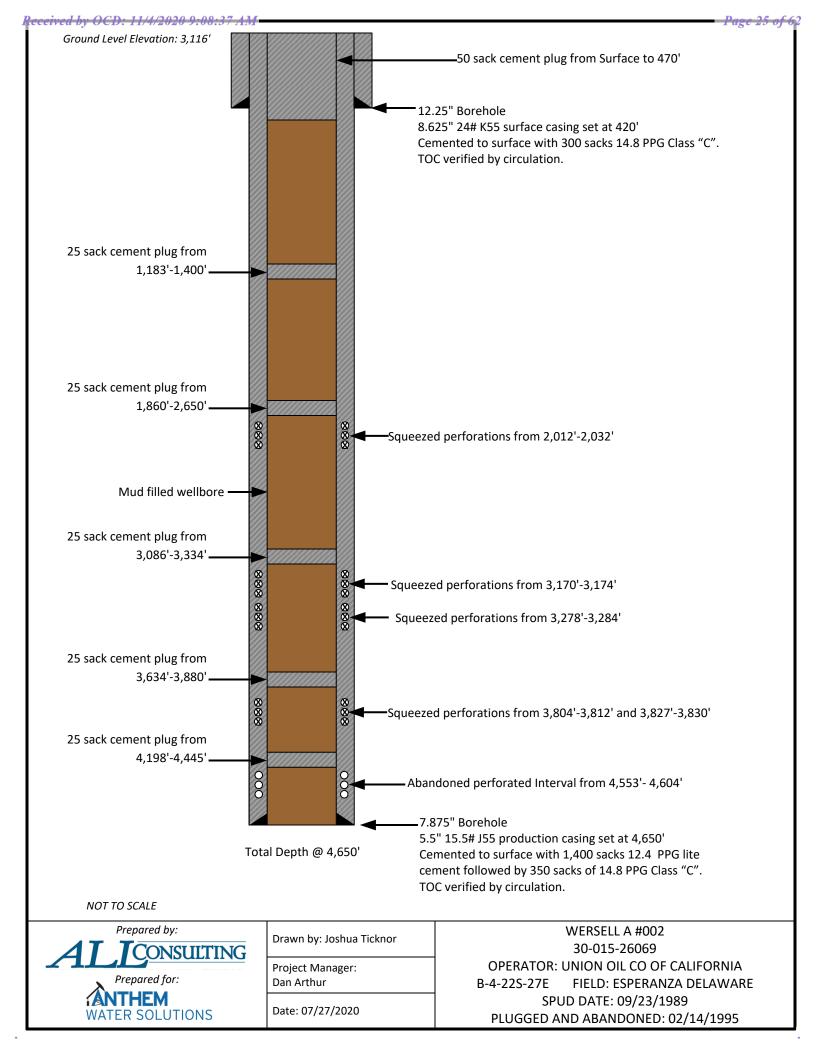


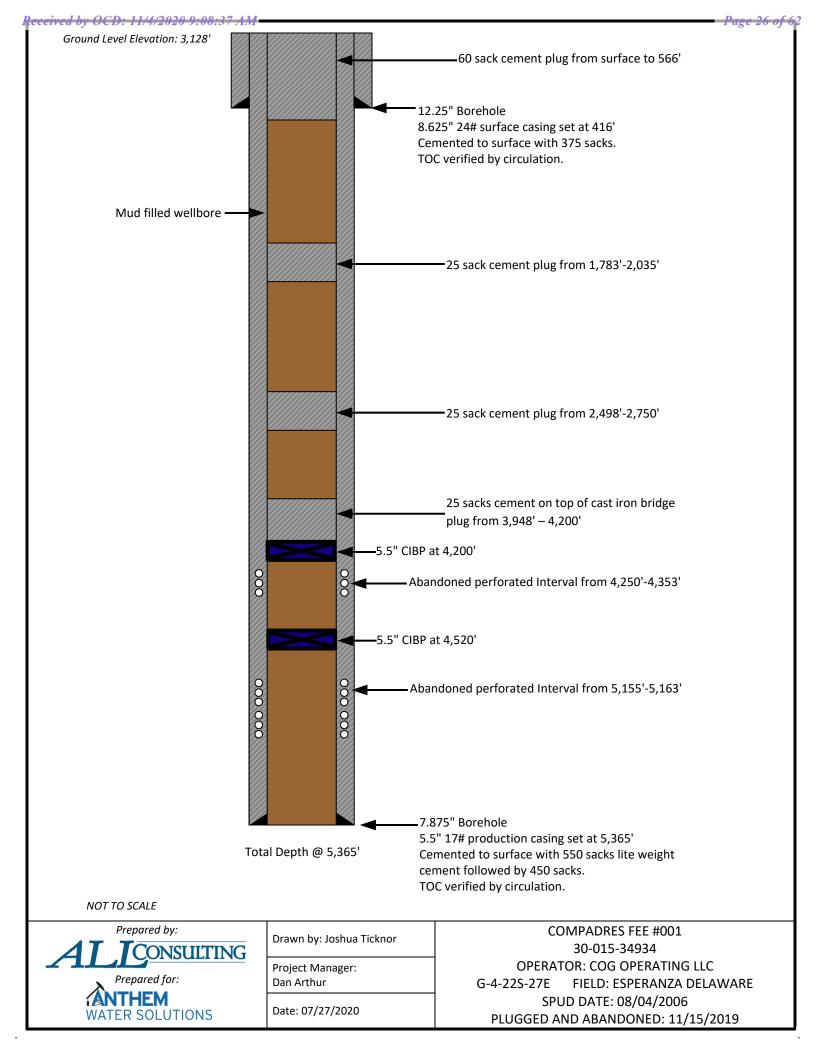
AG	AOR Tabulation for Maxey SWD #2 (Bell Canyon Injection Interval: 1930' - 2700')									
Well Name	Name API# Well Type Operator Spud Date		Location (Sec., Tn., Rng.)	Total Vertical Depth (feet)	Penetrate Inj. Zone?					
WERSELL FEDERAL #002	30-015-24845	Plugged	CIMAREX ENERGY CO. OF COLORADO	5/8/1984	4-22S-27E	Plugged (4650')	Yes			
WERSELL A #002	30-015-26069	Plugged	UNION OIL CO OF CALIFORNIA	9/23/1989	B-4-22S-27E	Plugged (4650')	Yes			
MOUNDS FEDERAL COM #001	30-015-32431	Gas	COG OPERATING LLC	2/27/2003	4-22S-27E	11589'	Yes			
COMPADRES FEE #001	30-015-34934	Plugged	COG OPERATING LLC	8/4/2006	G-4-22S-27E	Plugged (5365')	Yes			
ESPERANZA 4 #008	30-015-35352	Temporary Abandoned	MEWBOURNE OIL CO	1/28/2007	K-4-22S-27E	5270'	Yes			
TWIX FEE COM #001	30-015-33246	Gas	COG OPERATING LLC	3/15/2004	H-4-22S-27E	11785'	Yes			

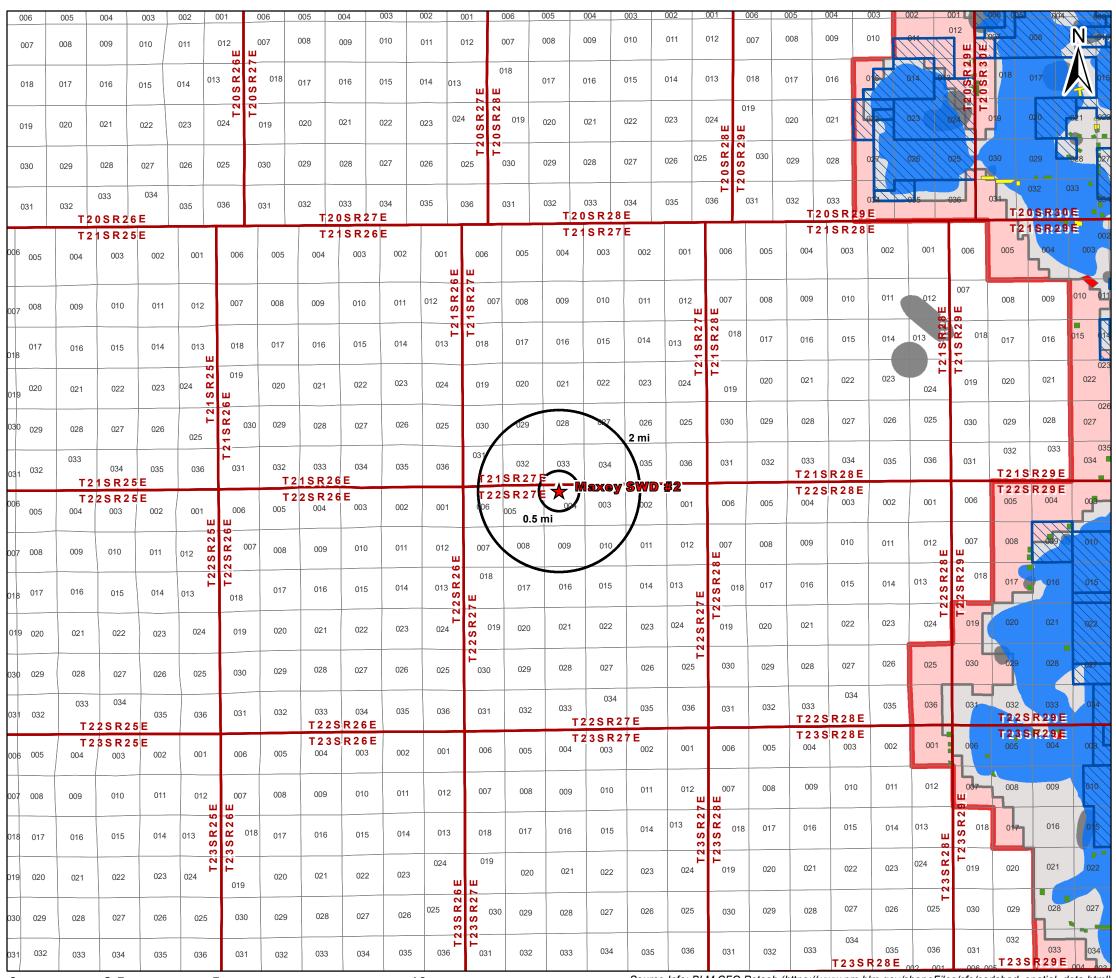
Casing Information for Wells Penetrating the Maxey SWD #2 Injection Zone (1930' - 2700')															
		Surface Casing								Intermediate Casing					
Well Name	Set Depth	Casing Size	тос	TOC Method Determined	Sks of Cement	Hole size	Set Depth	Casing Size	тос	TOC Method Determined	Sks of Cement	Hole Size			
WERSELL FEDERAL #002 30-015-24845	407	8 5/8	Surface	Circulation	230	11	-	-	-	-	-	-			
WERSELL A #002 30-015-26069	420	8 5/8	Surface	Circulation	300	12 1/4	-	-	-	-	-	-			
MOUNDS FEDERAL COM #001 30-015-32431	400	13 3/8	Surface	Circulation	450	17 1/2	1380	9 5/8	Surface	Circulation	700	12 1/4			
COMPADRES FEE #001 30-015-34934	416	8 5/8	Surface	Circulation	375	12 1/4	-	-	-	-	-	-			
ESPERANZA 4 #008 30-015-35352	433	8 5/8	Surface	Circulation	165	11	-	-	-	-	-	-			
TWIX FEE COM #001 30-015-33246	402	13 3/8	Surface	Circulation	450	17 1/2	1720	9 5/8	Surface	Circulation	650	12 1/4			

	Casing Information for Wells Penetrating the Maxey SWD #2 Injection Zone											
			Intermedia	ite II Casing				Production Casing				
Well Name	Set Depth	Casing Size	тос	TOC Method Determined	Sks of Cement	Hole Size	Set Depth	Casing Size	тос	TOC Method Determined	Sks of Cement	Hole Size
WERSELL FEDERAL #002 30-015-24845	-	-	-	-	-	-	4650	5 1/2	Surface	Circulation	1950	7 7/8
WERSELL A #002 30-015-26069	-	-	-	-	-	-	4650	5 1/2	Surface	Circulation	1750	7 7/8
MOUNDS FEDERAL COM #001 30-015-32431	9030	7	Surface	Circulation	1275	8 3/4	11749	4	7600	Calculation	335	6 1/8
COMPADRES FEE #001 30-015-34934	-	-	-	-	-	-	5365	5 1/2	Surface	Circulation	1000	7 7/8
ESPERANZA 4 #008 30-015-35352	-	-	-	-	-	-	5270	5 1/2	Surface	Circulation	575	7 7/8
TWIX FEE COM #001 30-015-33246	9049	7	Surface	Circulation	1600	8 3/4	11785	4 1/2	8400	Temp Survey	305	7 7/8

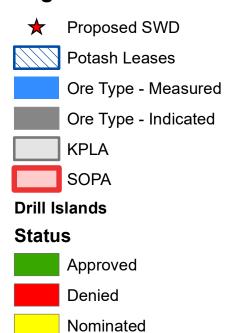








### Legend



### Potash Leases Area of Review

### **Maxey SWD #2**

**Eddy County, New Mexico** 

Proj Mgr: Dan Arthur August 28, 2020

Mapped by: Ben Bockelmann





0 2.5 5 10 Miles

Source Info: BLM CFO Potash (https://www.nm.blm.gov/shapeFiles/cfo/carlsbad\_spatial\_data.html)

### Attachment 3

Source Water Analyses



### **Water Analysis**

Date: 23-Aug-11

2708 West County Road, Hobbs NM 88240 Phone (575) 392-5556 Fax (575) 392-7307

Company		Well Name	Draw 1#	ounty	State
		BD		<del>Lea</del>	New Mexico
Sample Source	Swab Sa	mple	Sample #	ddy	1 <i>-265-296</i> 1
Formation			Depth		
Specific Gravity	1.170		SG @	60 °F	1.172
ρН	6.30		ક	ulfides	Absent
Temperature (*F)	70		Reducing i	Agents	
Cations					
Sodium (Calc)	commonte en e glad i Shinke Miladhe dhe Allen Allen y an easte	in Mg/L	77,962	in PPM	66,520
Calcium		in Mg/L	4,000	in PPM	3,413
Magnesium		in Mg/L	1,200	in PPM	1,024
Soluable Iron (FE2)		in Mg/L	10.0	in PPM	9
Anions					
Chlorides		in Mg/L	130,000	in PPM	110,922
Suffates		in Mg/L	250	in PPM	213
Bicarbonates		in Mg/L	127	in PPM	108
Total Hardness (as CaCO	3)	in Mg/L	15,000	in PPM	12,799
Total Dissolved Sollds (Ca	alc)	in Mg/L	213,549	in PPM	182,209
Equivalent NaCl Concenti	ation	in Mg/L	182,868	in PPM	156,031
Scaling Tendencies					
Calcium Carbonate Index					507,520
	_	000 - 1,000,000	Possible / Above 1		
Calcium Sulfate (Gyp) Ind			Passible / Above 16		1,000,000

Report #

Remarks

3188

RW=.048@70F

Sec 22, T25,5,R28E

North Permian Basin Region P.O. Box 740 Sundown, TX 79372-0740 (806) 229-8121 Lab Team Leader - Shella Hernandez

(432) 495-7240

Bone Spring

### Water Analysis Report by Baker Petrolite

Company:

Sales RDT:

33514.1

Region:

**PERMIAN BASIN** 

Account Manager:

TONY HERNANDEZ (575) 910-7135

Area:

ARTESIA, NM

Sample #:

534665

Lease/Platform:

PINOCHLE 'BPN' STATE COM

Analysis ID #:

106795

Entity (or well #):

Analysis Cost:

\$90.00

Formation:

UNKNOWN

Sample Point:

WELLHEAD

Summary		Analysis of Sample 534665 @ 75 F									
Sampling Date: 03/16	/11 Anions	mg/l	meq/I	Cations	mg/l	Npem					
Analysis Date: 03/11	/11 Chloride:	109618.0	3091.92	Sodium:	70275.7	3056.82					
Analyst: SANDRA GOA	EZ Bicarbonate:	2135.0	34.99	Magnesium:	195.0	18.04					
TDS (ma/l or a/m3): 18491	Carbonate:	0.0	٥.	Calcium:	844.0	42.12					
and the private	Sulfate:	747.0	15.55	Strontium:	220.0	5.02					
Density (p/cm3, tonne/m3): 1.11 Anion/Cation Ratio:	Phosphale:			Barlum:	0.8	0.01					
	Borate:			Iron:	6.5	0.23					
	Silicate:			Polassium:	889.0	22.22					
	-			Aluminum:							
Carbon Dioxide: 0 50 PP	Hydrogen Sulfide:		0 PPM	Chromlum:							
Oxygen:	all at time of some	aliaa.	,	Copper:							
Comments:	pH at time of samp	•	′ [	Lead:							
	pH at time of analy	/ais:		Manganese:	0.100	0.					
	pH used in Calcu	lation:	7	Nickel:							
	[		- 1								

Cond	tions		Values Calculated at the Given Conditions - Amounts of Scale in Ib/1000 bbl										
	Gauge Calcite CaCO <sub>3</sub>		- 74	sum 42H <sub>2</sub> 0		ydrite aSO <sub>4</sub>		estite rSO <sub>4</sub>	Ba Ba	CO <sub>2</sub> Press			
F	psi	index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi	
80	0	1.08	188.52	-1.20	0.00	-1.18	0.00	-0.11	0.00	0.58	0.29	1.72	
100	0	1.10	206.05	-1.29	0.00	-1.20	0.00	~0.15	0.00	0.35	0.29	2.35	
120	0	1.12	224.17	-1.36	0.00	-1.19	0.00	-0.17	0.00	0.16	0.00	3,17	
140	0	1.13	243.17	-1.42	0.00	-1.18	0 00	-0.18	0.00	0.00	0.00	4,21	

Note 1: When assessing the severity of the scale problem, both the saturation Index (SI) and amount of scale must be considered.

Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO2 pressure is actually the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.

### Attachment 4

Injection Formation Water Analyses

Injection Formation Analysis																			
	Anthem Water Solutions, LLC - Delaware Mountain Group Formation																		
Wellname	API	Latitude	Longitude	Section	Township	Range	Unit	tgns	ftgew	County	State	Company	Field	Formation	Depth	Tds_mgL	Chloride_mgL	Bicarbonate_mgL	Sulfate_mgL
GOMEZ #001	3001522595	32.3335838	-104.1125488	5	235	28E	K	23105	1650W	EDDY	NM		HERRADURA BEND	DELAWARE		133,440	80,500	303.00	2,100.00
PARDUE #001	3001501114	32.3143272	-104.1502228	12	235	27E	M	660S	660W	EDDY	NM		CASS DRAW	DELAWARE		129,765	79,570	101.00	175.00
KIM #001	3001524589	32.297123	-104.0955887	21	235	28E	С	330N	1650W	EDDY	NM	DAKOTA		DELAWARE		202,807	143,136	38.62	213.57
OLD INDIAN DRAW UNIT #003	3001521504	32.3836327	-104.1248856	19	225	28E	В	660N	1980E	EDDY	NM		INDIAN DRAW	DELAWARE		127,652	76,200	415.00	2,600.00
OLD INDIAN DRAW UNIT #005	3001521618	32.3946304	-104.1249771	18	225	28E	G	1980N	1980E	EDDY	NM		INDIAN DRAW	DELAWARE		129,878	77,300	439.00	2,600.00
OLD INDIAN DRAW UNIT #006	3001521619	32.3910103	-104.1290131	18	225	28E	K	20025	1721W	EDDY	NM		INDIAN DRAW	DELAWARE		126,911	74,800	525.00	3,300.00
OLD INDIAN DRAW UNIT #008	3001521766	32.3882904	-104.1282043	18	225	28E	N	10175	1973W	EDDY	NM		INDIAN DRAW	DELAWARE		123,893	74,100	671.00	2,000.00
OLD INDIAN DRAW UNIT #007	3001521765	32.3937187	-104.1281815	18	225	28E	F	2323N	1974W	EDDY	NM		INDIAN DRAW	DELAWARE		124,756	74,500	342.00	2,200.00
OLD INDIAN DRAW UNIT #001	3001520918	32.390892	-104.1249695	18	225	28E	J	19805	1980E	EDDY	NM		INDIAN DRAW	DELAWARE		128,431	76,200	98.00	3,200.00
OLD INDIAN DRAW UNIT #003	3001521504	32.3836327	-104.1248856	19	225	28E	В	660N	1980E	EDDY	NM		INDIAN DRAW	DELAWARE		122,782	73,800	120.00	2,100.00
OLD INDIAN DRAW UNIT #011	3001521844	32.3844833	-104.1206665	19	225	28E	Α	330N	668E	EDDY	NM		INDIAN DRAW	DELAWARE		130,991	78,000	586.00	1,800.00
OLD INDIAN DRAW UNIT #016	3001521959	32.4010544	-104.1319809	7	225	28E	M	330S	794W	EDDY	NM		INDIAN DRAW	DELAWARE		118,293	69,100	134.00	3,800.00
OLD INDIAN DRAW UNIT #016	3001521959	32.4010544	-104.1319809	7	225	28E	M	330S	794W	EDDY	NM		INDIAN DRAW	DELAWARE		124,945	73,100	139.00	3,900.00
BASS 10 FEDERAL #003	3001524933	32.4028931	-104.0732117	10	225	28E	0	990S	1980E	EDDY	NM	BASS ENTERPRISES	INDIAN DRAW EAST	DELAWARE		164,679	112,250	271.08	1,106.56
BASS 10 FEDERAL #005	3001525303	32.4056282	-104.0700073	10	225	28E	- 1	19805	990E	EDDY	NM	BASS ENTERPRISES	INDIAN DRAW EAST	DELAWARE		116,788	74,967	394.55	1,622.39
BASS 3 FEDERAL #002	3001527528	32.4199486	-104.0732498	3	225	28E	J	18805	2080E	EDDY	NM	BASS ENTERPRISES	INDIAN DRAW EAST	DELAWARE		162,875	109,783	416.56	1,671.73
BASS 3 FEDERAL #004	3001528736	32.4202232	-104.0675583	3	225	28E	- 1	19805	330E	EDDY	NM	BASS ENTERPRISES	INDIAN DRAW EAST	DELAWARE		158,759	107,057	269.62	1,465.23
TRACY #001	3001520204	32.412735	-104.1798248	10	225	27E	С	660N	1980W	EDDY	NM		ESPERANZA	DELAWARE		158,000	96,200	572.00	1,400.00
TRACY #001	3001520204	32.412735	-104.1798248	10	225	27E	С	660N	1980W	EDDY	NM		ESPERANZA	DELAWARE		157,000	95,000	574.00	1,400.00
INDIAN FLATS BASS FEDERAL #002	3001521715	32.438549	-104.0594788	35	215	28E	F	1980N	1980W	EDDY	NM	BASS ENTERPRISES	INDIAN FLATS	DELAWARE		149,252	99,299	267.18	2,081.59
INDIAN FLATS BASS FEDERAL #003	3001521853	32.4340134	-104.0648575	35	215	28E	L	16505	330W	EDDY	NM	BASS ENTERPRISES	INDIAN FLATS	DELAWARE		146,197	96,177	400.40	1,763.53
INDIAN FLATS BASS FEDERAL #004	3001522229	32.435833	-104.0605698	35	215	28E	K	23105	1650W	EDDY	NM	BASS ENTERPRISES	INDIAN FLATS	DELAWARE		148,805	99,247	335.20	1,728.73
INDIAN FLATS BASS FEDERAL #005	3001522671	32.4303894	-104.0584564	35	215	28E	N	3305	2310W	EDDY	NM	BASS ENTERPRISES	INDIAN FLATS	DELAWARE		144,959	95,968	200.20	1,882.77
INDIAN FLATS BASS FEDERAL #006	3001522673	32.4303932	-104.0561905	35	215	28E	0	3305	2310E	EDDY	NM	BASS ENTERPRISES	INDIAN FLATS	DELAWARE		163,756	110,195	134.57	1,662.22
INDIAN FLATS BASS FEDERAL #001	3001524968	32.438549	-104.0637589	35	215	28E	Е	1980N	660W	EDDY	NM	BASS ENTERPRISES	INDIAN FLATS	DELAWARE		136,419	89,021	397.84	1,681.59
BIG EDDY FEDERAL #098	3001524707	32.4960899	-104.1280518	7	215	28E	F	2180N	1980W	EDDY	NM	DAKOTA	FENTON NORTHWEST	DELAWARE		153,408	103,522	718.90	247.74

### Attachment 5

Water Well Map and Well Data

	Water Well Sampling Rationale									
Anthem Water Solutions - Maxey SWD #2										
Water Wells	Owner	Available Contact Information	Use	Notes						
C 00589	Josephine T. Eddy, Trust	P.O. Box 868 Carlsbad, NM 88221	Irrigation	No						
C 02921	Marbob Energy	P.O. Box 227, Artesia, NM 88211	Prospecting or Development of Natural Resources	No						
SP 01934 A	City of Carlsbad	P.O. Box 1569 Carlsbad, NM 88220	Municipal - City or County Supplied Water	No						
C 00105	Francis G. Tracy	P.O. Box 712 Carlsbad, NM 88220	Irrigation		Water samples were collected on 10/08/2020. Analysis included in application package.					
C 02193	Billy George West	102 W. Blodgett St. Carlsbad, NM 88220	Domestic One Household	No						
C 04346 Pod 1	Stan Watson	1700 E. Greene Carlsbad, NM 88220 (575) 390-1122	Domestic One Household		Water samples were collected on 09/17/2020. Analysis included in application package.					

Page 35 of 62 Received by OCD: 11/4/2020 9:08:37 AM



### Legend

★ Proposed SWD

### **NMOSE Points of Diversion**

- Active (17)
- Pending (8)
- Change Location of Well (0)
- Capped (1)
- Plugged (1)
- Incomplete (0)
- Unknown (9)

### **Water Wells Area of Review**

### Maxey SWD #2

**Eddy County, New Mexico** 

Proj Mgr: Dan Arthur

August 24, 2020

Mapped by: Ben Bockelmann



Prepared by:

**SourceInfo:** ttps://gis.ose.state.nm.us/arcgis/rest/services/WatersPod/OSE\_PODs/MapServer/0

Miles



October 06, 2020

DANIEL ARTHUR
ALL CONSULTING, LLC
1718 S. CHEYENNE AVE.
TULSA, OK 74119

RE: ANTHEM - WATER SAMPLING

Enclosed are the results of analyses for samples received by the laboratory on 09/18/20 8:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2 Total Haloacetic Acids (HAA-5)
Method EPA 524.2 Total Trihalomethanes (TTHM)
Method EPA 524.4 Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B Total Coliform and E. coli (Colilert MMO-MUG)

Method EPA 524.2 Regulated VOCs and Total Trihalomethanes (TTHM)

Method EPA 552.2 Total Haloacetic Acids (HAA-5)

Celey D. Keine

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



# **Analytical Results For:**

ALL CONSULTING, LLC 1718 S. CHEYENNE AVE. TULSA OK, 74119 Project: ANTHEM - WATER SAMPLING
Project Number: 32.4376416812,-104.185202145

Reported: 06-Oct-20 15:24

Project Manager: DANIEL ARTHUR

Fax To: NA

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C 04346	H002475-01	Water	17-Sep-20 00:00	18-Sep-20 08:20

Cardinal Laboratories \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence aring any other cause whistoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damage including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keine



# Analytical Results For:

ALL CONSULTING, LLC 1718 S. CHEYENNE AVE. TULSA OK, 74119

Project: ANTHEM - WATER SAMPLING Project Number: 32.4376416812,-104.185202145

Reported: 06-Oct-20 15:24

Project Manager: DANIEL ARTHUR

Fax To: NA

# C O4346 H002475-01 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardi	nal Laborato	ries					_
Inorganic Compounds										
Alkalinity, Bicarbonate	220		5.00	mg/L	1	0082102	GM	18-Sep-20	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	0082102	GM	18-Sep-20	310.1	
Chloride*	6100		4.00	mg/L	1	0091809	GM	18-Sep-20	4500-Cl-B	QM-07
Conductivity*	16500		1.00	umhos/cm @ 25°C	1	0091805	GM	18-Sep-20	120.1	
pH*	6.88		0.100	pH Units	1	0091805	GM	18-Sep-20	150.1	
Temperature °C	22.4			pH Units	1	0091805	GM	18-Sep-20	150.1	
Resistivity	0.606			Ohms/m	1	0091805	GM	18-Sep-20	120.1	
Sulfate*	1160		250	mg/L	25	0092103	AC	21-Sep-20	375.4	
TDS*	11100		5.00	mg/L	1	0091706	GM	21-Sep-20	160.1	
Alkalinity, Total*	180		4.00	mg/L	1	0082102	GM	18-Sep-20	310.1	
TSS*	33.0		2.00	mg/L	1	0091804	GM	21-Sep-20	160.2	
•				=	-			•		

# **Green Analytical Laboratories**

Total Recoverable Metals b	y ICP (E200.7)							
Barium*	< 0.250	0.250	mg/L	5	B202034	JDA	29-Sep-20	EPA200.7
Calcium*	1330	0.500	mg/L	5	B202034	JDA	29-Sep-20	EPA200.7
Hardness as CaCO3	5460	9.48	mg/L	20	[CALC]	JDA	29-Sep-20	2340 B
Iron*	< 0.250	0.250	mg/L	5	B202034	JDA	29-Sep-20	EPA200.7
Magnesium*	520	2.00	mg/L	20	B202034	JDA	29-Sep-20	EPA200.7
Potassium*	11.1	5.00	mg/L	5	B202034	JDA	29-Sep-20	EPA200.7
Sodium*	1590	5.00	mg/L	5	B202034	JDA	29-Sep-20	EPA200.7
Strontium*	24.5	0.500	mg/L	5	B202034	JDA	29-Sep-20	EPA200.7

Cardinal Laboratories \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence ar any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damage including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether su claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene



# **Analytical Results For:**

ALL CONSULTING, LLC 1718 S. CHEYENNE AVE. TULSA OK, 74119 Project: ANTHEM - WATER SAMPLING

Project Number: 32.4376416812,-104.185202145

Project Manager: DANIEL ARTHUR

Fax To: NA

Reported: 06-Oct-20 15:24

# **Inorganic Compounds - Quality Control**

#### **Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0082102 - General Prep - Wet Chem										
Blank (0082102-BLK1)				Prepared &	z Analyzed:	21-Aug-20	)			
Alkalinity, Carbonate	ND	1.00	mg/L							
Alkalinity, Bicarbonate	5.00	5.00	mg/L							
Alkalinity, Total	4.00	4.00	mg/L							
LCS (0082102-BS1)				Prepared &	k Analyzed:	21-Aug-20	)			
Alkalinity, Carbonate	ND	2.50	mg/L				80-120			
Alkalinity, Bicarbonate	305	12.5	mg/L				80-120			
Alkalinity, Total	250	10.0	mg/L	250		100	80-120			
LCS Dup (0082102-BSD1)				Prepared &	k Analyzed:	21-Aug-20	)			
Alkalinity, Carbonate	ND	2.50	mg/L				80-120		20	
Alkalinity, Bicarbonate	342	12.5	mg/L				80-120	11.6	20	
Alkalinity, Total	280	10.0	mg/L	250		112	80-120	11.3	20	
Batch 0091706 - Filtration										
Blank (0091706-BLK1)				Prepared:	17-Sep-20 A	nalyzed: 2	2-Sep-20			
TDS	ND	5.00	mg/L							
LCS (0091706-BS1)				Prepared: 1	17-Sep-20 A	nalyzed: 2	1-Sep-20			
TDS	827		mg/L	1000		82.7	80-120			
<b>Duplicate (0091706-DUP1)</b>	Sou	ırce: H002447-	-02	Prepared: 1	17-Sep-20 A	nalyzed: 2	2-Sep-20			
TDS	278	5.00	mg/L	•	353	•	•	23.8	20	QR-03
Batch 0091804 - Filtration										
Blank (0091804-BLK1)				Prepared:	18-Sep-20 A	nalyzed: 2	1-Sep-20			
TSS	ND	2.00	mg/L	•	*	<u> </u>	•			

#### Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence aring any other cause whistoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damage including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keine



80-120

#### Analytical Results For:

ALL CONSULTING, LLC 1718 S. CHEYENNE AVE. TULSA OK, 74119 Project: ANTHEM - WATER SAMPLING

Project Number: 32.4376416812,-104.185202145

Prepared & Analyzed: 18-Sep-20

50000

Project Manager: DANIEL ARTHUR

Fax To: NA

Reported: 06-Oct-20 15:24

#### **Inorganic Compounds - Quality Control**

#### **Cardinal Laboratories**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

#### Batch 0091804 - Filtration

LCS (0091805-BS1)

Conductivity

<b>Duplicate (0091804-DUP1)</b>	Source: H	002457-	01	Prepared: 18-Sep-20 Analyzed: 21-Sep-20		
TSS	253	2.00	mg/L	243	4.03	52.7

#### Batch 0091805 - General Prep - Wet Chem

рН	7.11	pH Units	7.00	102	90-110		
<b>Duplicate (0091805-DUP1)</b>	Source: H0024	74-01	Prepared & Analyzed: 18-	-Sep-20			
Conductivity	11300 1.00	umhos/cm@	11000			2.42	20
		25°C					
pH	6.96 0.100	pH Units	6.87			1.30	20
Resistivity	0.878	Ohms/m	0.907			3.15	20
Temperature °C	22.5	pH Units	22.6			0.443	200

uS/cm

51600

#### Batch 0091809 - General Prep - Wet Chem

Blank (0091809-BLK1)				Prepared & Ana	ılyzed: 18-Sep-20				
Chloride	ND	4.00	mg/L						
LCS (0091809-BS1)				Prepared & Ana	lyzed: 18-Sep-20				
Chloride	100	4.00	mg/L	100	100	80-120			
LCS Dup (0091809-BSD1)				Prepared & Ana	lyzed: 18-Sep-20				
Chloride	100	4.00	mg/L	100	100	80-120	0.00	20	

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%REC

# **Analytical Results For:**

ALL CONSULTING, LLC 1718 S. CHEYENNE AVE. TULSA OK, 74119 Project: ANTHEM - WATER SAMPLING
Project Number: 32.4376416812,-104.185202145

Spike

Source

Reported: 06-Oct-20 15:24

RPD

Project Manager: DANIEL ARTHUR

Fax To: NA

#### **Inorganic Compounds - Quality Control**

#### **Cardinal Laboratories**

Reporting

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 0092103 - General Prep - Wet Chem										
Blank (0092103-BLK1)				Prepared &	Analyzed:	21-Sep-20				
Sulfate	ND	10.0	mg/L							
LCS (0092103-BS1)				Prepared &	Analyzed:	21-Sep-20				
Sulfate	20.5	10.0	mg/L	20.0		102	80-120			
LCS Dup (0092103-BSD1)				Prepared &	Analyzed:	21-Sep-20				
Sulfate	22.2	10.0	mg/L	20.0		111	80-120	8.02	20	

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Celey D. Keine



# **Analytical Results For:**

ALL CONSULTING, LLC 1718 S. CHEYENNE AVE. TULSA OK, 74119 Project: ANTHEM - WATER SAMPLING

Project Number: 32.4376416812,-104.185202145

Reported: 06-Oct-20 15:24

Project Manager: DANIEL ARTHUR

Fax To: NA

# Total Recoverable Metals by ICP (E200.7) - Quality Control

#### **Green Analytical Laboratories**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch	B202034 -	Total Rec.	200.7/200.8/200.2	

Blank (B202034-BLK1)				Prepared: 28-Sep	p-20 Analyzed: 2	9-Sep-20			
Magnesium	ND	0.100	mg/L						
Strontium	ND	0.100	mg/L						
Calcium	ND	0.100	mg/L						
Sodium	ND	1.00	mg/L						
Iron	ND	0.050	mg/L						
Potassium	ND	1.00	mg/L						
Barium	ND	0.050	mg/L						
LCS (B202034-BS1)				Prepared: 28-Sep	p-20 Analyzed: 2	9-Sep-20			
Strontium	3.76	0.100	mg/L	4.00	94.1	85-115			
Sodium	3.10	1.00	mg/L	3.24	95.8	85-115			
Potassium	7.60	1.00	mg/L	8.00	95.0	85-115			
Magnesium	18.6	0.100	mg/L	20.0	93.1	85-115			
Iron	3.57	0.050	mg/L	4.00	89.2	85-115			
Calcium	3.64	0.100	mg/L	4.00	91.0	85-115			
Barium	1.85	0.050	mg/L	2.00	92.3	85-115			
LCS Dup (B202034-BSD1)				Prepared: 28-Sep	p-20 Analyzed: 2	9-Sep-20			
Strontium	3.75	0.100	mg/L	4.00	93.7	85-115	0.408	20	
Iron	3.57	0.050	mg/L	4.00	89.3	85-115	0.137	20	
Potassium	7.62	1.00	mg/L	8.00	95.2	85-115	0.257	20	
Calcium	3.63	0.100	mg/L	4.00	90.7	85-115	0.366	20	
Sodium	3.07	1.00	mg/L	3.24	94.6	85-115	1.19	20	
Barium	1.91	0.050	mg/L	2.00	95.4	85-115	3.29	20	
Magnesium	18.6	0.100	mg/L	20.0	92.8	85-115	0.275	20	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keine



#### **Notes and Definitions**

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

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below  $6^{\circ}\text{C}$ 

Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keine

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

Corrected Temp. °C Observed Temp. °C

116

Sample Condition
Cool Intact
Pres Pres
No No

CHECKED BY: (Initials) 8

Turnaround Time:

Standard Rush

Corrected Temp. °C

Thermometer ID #113
Correction Factor None

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



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Demages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable final be liable for incidental or consequential dramages, including without limitable, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.
pplicable
pplicable
Time: 870 MMMM Market All Results are emailed. Please provide Email address:



October 22, 2020

NATE ALLEMAN
ALL CONSULTING, LLC
1718 S. CHEYENNE AVE.
TULSA, OK 74119

RE: FRANCIS TRACY

Enclosed are the results of analyses for samples received by the laboratory on 10/08/20 15:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2 Total Haloacetic Acids (HAA-5)
Method EPA 524.2 Total Trihalomethanes (TTHM)
Method EPA 524.4 Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B Total Coliform and E. coli (Colilert MMO-MUG)

Method EPA 524.2 Regulated VOCs and Total Trihalomethanes (TTHM)

Method EPA 552.2 Total Haloacetic Acids (HAA-5)

Celey D. Keine

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



# **Analytical Results For:**

ALL CONSULTING, LLC 1718 S. CHEYENNE AVE. TULSA OK, 74119 Project: FRANCIS TRACY
Project Number: 32.415421-104.187351
Project Manager: NATE ALLEMAN

Reported: 22-Oct-20 13:27

Fax To: NA

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WELL 32.415421-104.187351	H002688-01	Water	08-Oct-20 11:20	08-Oct-20 15:30

Water Well: C-00105 Owner: Francis Tracy

Cardinal Laboratories \*=Accredited Analyte

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Celeg D. Keine

Reported:

22-Oct-20 13:27



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

# **Analytical Results For:**

ALL CONSULTING, LLC 1718 S. CHEYENNE AVE. TULSA OK, 74119 Project: FRANCIS TRACY
Project Number: 32.415421-104.187351

Project Manager: NATE ALLEMAN

Fax To: NA

# WELL 32.415421-104.187351 H002688-01 (Water)

Cardinal Laboratories	Notes	Method	Analyzed	Analyst	Batch	Dilution	Units	Reporting Limit	MDL	Result	Analyte
Alkalinity, Bicarbonate         200         5.00         mg/L         1         0100210         GM         09-Oct-20         310.1           Alkalinity, Carbonate         <1.00         1.00         mg/L         1         0100210         GM         09-Oct-20         310.1           Chloride*         1680         4.00         mg/L         1         0100504         GM         09-Oct-20         4500-Cl-B           Conductivity*         7940         1.00         umhos/cm@         1         0100901         GM         09-Oct-20         120.1           pH*         7.03         0.100         pH Units         1         0100901         GM         09-Oct-20         150.1           Temperature °C         22.2         pH Units         1         0100901         GM         09-Oct-20         150.1						ries	inal Laborato	Cardi			
Alkalinity, Carbonate <1.00 1.00 mg/L 1 0100210 GM 09-Oct-20 310.1  Chloride* 1680 4.00 mg/L 1 0100504 GM 09-Oct-20 4500-Cl-B  Conductivity* 7940 1.00 umhos/cm@ 1 0100901 GM 09-Oct-20 120.1  pH* 7.03 0.100 pH Units 1 0100901 GM 09-Oct-20 150.1  Temperature °C 22.2 pH Units 1 0100901 GM 09-Oct-20 150.1											Inorganic Compounds
Chloride*         1680         4.00         mg/L         1         0100504         GM         09-Oct-20         4500-Cl-B           Conductivity*         7940         1.00         umhos/cm @ 25°C         1         0100901         GM         09-Oct-20         120.1           pH*         7.03         0.100         pH Units         1         0100901         GM         09-Oct-20         150.1           Temperature °C         22.2         pH Units         1         0100901         GM         09-Oct-20         150.1		310.1	09-Oct-20	GM	0100210	1	mg/L	5.00		200	Alkalinity, Bicarbonate
Conductivity*         7940         1.00         umhos/cm @ 25°C         1         0100901         GM         09-Oct-20         120.1           pH*         7.03         0.100         pH Units         1         0100901         GM         09-Oct-20         150.1           Temperature °C         22.2         pH Units         1         0100901         GM         09-Oct-20         150.1		310.1	09-Oct-20	GM	0100210	1	mg/L	1.00		<1.00	Alkalinity, Carbonate
25°C       pH*     7.03     0.100     pH Units     1     0100901     GM     09-Oct-20     150.1       Temperature °C     22.2     pH Units     1     0100901     GM     09-Oct-20     150.1		4500-Cl-B	09-Oct-20	GM	0100504	1	mg/L	4.00		1680	Chloride*
Temperature °C         22.2         pH Units         1         0100901         GM         09-Oct-20         150.1		120.1	09-Oct-20	GM	0100901	1	_	1.00		7940	Conductivity*
		150.1	09-Oct-20	GM	0100901	1	pH Units	0.100		7.03	pH*
Resistivity 1.26 Ohms/m 1 0100901 GM 09-Oct-20 120.1		150.1	09-Oct-20	GM	0100901	1	pH Units			22.2	Temperature °C
		120.1	09-Oct-20	GM	0100901	1	Ohms/m			1.26	Resistivity
<b>Sulfate* 1890</b> 500 mg/L 50 0101402 GM 14-Oct-20 375.4		375.4	14-Oct-20	GM	0101402	50	mg/L	500		1890	Sulfate*
TDS* 5740 5.00 mg/L 1 0100903 GM 13-Oct-20 160.1		160.1	13-Oct-20	GM	0100903	1	mg/L	5.00		5740	TDS*
Alkalinity, Total* 1.00 mg/L 1 0100210 GM 09-Oct-20 310.1		310.1	09-Oct-20	GM	0100210	1	mg/L	4.00		164	Alkalinity, Total*
TSS* 5.00 2.00 mg/L 1 0100902 AC 13-Oct-20 160.2		160.2	13-Oct-20	AC	0100902	1	mg/L	2.00		5.00	TSS*

#### **Green Analytical Laboratories**

Total Recoverable Metals by	y ICP (E200.7)									
Barium*	< 0.500		0.500	mg/L	10	B202185	AES	20-Oct-20	EPA200.7	
Calcium*	642		1.00	mg/L	10	B202185	AES	20-Oct-20	EPA200.7	
Hardness as CaCO3	2530		6.62	mg/L	10	[CALC]	AES	20-Oct-20	2340 B	
Iron*	< 0.500		0.500	mg/L	10	B202185	AES	20-Oct-20	EPA200.7	
Magnesium*	225		1.00	mg/L	10	B202185	AES	20-Oct-20	EPA200.7	
Potassium*	7.73	1.52	10.0	mg/L	10	B202185	AES	20-Oct-20	EPA200.7	J
Sodium*	918		10.0	mg/L	10	B202185	AES	20-Oct-20	EPA200.7	
Strontium*	9.93		1.00	mg/L	10	B202185	AES	20-Oct-20	EPA200.7	

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Celey D. Keine



# Analytical Results For:

ALL CONSULTING, LLC 1718 S. CHEYENNE AVE. TULSA OK, 74119 Project: FRANCIS TRACY
Project Number: 32.415421-104.187351

Project Manager: NATE ALLEMAN

Fax To: NA

Reported: 22-Oct-20 13:27

# **Inorganic Compounds - Quality Control**

#### **Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
-				20101	resure	, with				110105
Batch 0100210 - General Prep - Wet Chem										
Blank (0100210-BLK1)				Prepared &	k Analyzed:	02-Oct-20				
Alkalinity, Carbonate	ND	1.00	mg/L							
Alkalinity, Bicarbonate	5.00	5.00	mg/L							
Alkalinity, Total	4.00	4.00	mg/L							
LCS (0100210-BS1)				Prepared &	k Analyzed:	02-Oct-20				
Alkalinity, Carbonate	ND	2.50	mg/L				80-120			
Alkalinity, Bicarbonate	292	12.5	mg/L				80-120			
Alkalinity, Total	240	10.0	mg/L	250		96.0	80-120			
LCS Dup (0100210-BSD1)				Prepared &	k Analyzed:	02-Oct-20				
Alkalinity, Carbonate	ND	2.50	mg/L				80-120		20	
Alkalinity, Bicarbonate	318	12.5	mg/L				80-120	8.20	20	
Alkalinity, Total	260	10.0	mg/L	250		104	80-120	8.00	20	
Batch 0100504 - General Prep - Wet Chem										
Blank (0100504-BLK1)				Prepared &	k Analyzed:	05-Oct-20				
Chloride	ND	4.00	mg/L		-					
LCS (0100504-BS1)				Prepared &	k Analyzed:	05-Oct-20				
Chloride	100	4.00	mg/L	100		100	80-120			
LCS Dup (0100504-BSD1)				Prepared &	t Analyzed:	05-Oct-20				
Chloride	100	4.00	mg/L	100	-	100	80-120	0.00	20	
Batch 0100901 - General Prep - Wet Chem										
LCS (0100901-BS1)				Prepared &	k Analyzed:	09-Oct-20				
Conductivity	502		uS/cm	500		100	80-120			
рН	7.07		pH Units	7.00		101	90-110			

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Celey D. Keine



# Analytical Results For:

ALL CONSULTING, LLC 1718 S. CHEYENNE AVE. TULSA OK, 74119 Project: FRANCIS TRACY
Project Number: 32.415421-104.187351
Project Manager: NATE ALLEMAN

Reported: 22-Oct-20 13:27

Fax To: NA

#### **Inorganic Compounds - Quality Control**

#### **Cardinal Laboratories**

	D. L	Reporting	TT '4	Spike	Source	0/DEC	%REC	DDD	RPD	NT 4
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 0100901 - General Prep - Wet Chem										
Duplicate (0100901-DUP1)	Sou	rce: H002688	-01	Prepared &	Analyzed:	09-Oct-20				
рН	7.06	0.100	pH Units		7.03			0.426	20	
Conductivity	7900	1.00 t	umhos/cm @ 25°C		7940			0.505	20	
Resistivity	1.27		Ohms/m		1.26			0.505	20	
Temperature °C	21.3		pH Units		22.2			4.14	200	
Batch 0100902 - Filtration										
Blank (0100902-BLK1)				Prepared: (	9-Oct-20 A	analyzed: 1	3-Oct-20			
TSS	ND	2.00	mg/L							
Duplicate (0100902-DUP1)	Sou	rce: H002688	-01	Prepared: (	9-Oct-20 A	nalyzed: 1	3-Oct-20			
TSS	6.00	2.00	mg/L		5.00			18.2	52.7	
Batch 0100903 - Filtration										
Blank (0100903-BLK1)				Prepared: (	9-Oct-20 A	analyzed: 1	3-Oct-20			
TDS	ND	5.00	mg/L							
LCS (0100903-BS1)				Prepared: (	9-Oct-20 A	analyzed: 1	3-Oct-20			
TDS	497		mg/L	500		99.4	80-120			
Duplicate (0100903-DUP1)	Sou	rce: H002664	-01	Prepared: (	9-Oct-20 A	nalyzed: 1	3-Oct-20			
TDS	5410	5.00	mg/L		5470			1.12	20	
Batch 0101402 - General Prep - Wet Chem										
Blank (0101402-BLK1)				Prepared &	Analyzed:	14-Oct-20				
Sulfate	ND	10.0	mg/L							

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Celey D. Keine

Reported:

22-Oct-20 13:27



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

# Analytical Results For:

ALL CONSULTING, LLC 1718 S. CHEYENNE AVE. TULSA OK, 74119

Project: FRANCIS TRACY Project Number: 32.415421-104.187351

Project Manager: NATE ALLEMAN

Fax To: NA

#### **Inorganic Compounds - Quality Control**

#### **Cardinal Laboratories**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 0101402 - General Prep - Wet Chem

LCS (0101402-BS1)				Prepared & Ana	alyzed: 14-Oct-20				
Sulfate	18.4	10.0	mg/L	20.0	92.0	80-120			
LCS Dup (0101402-BSD1)				Prepared & Ana	alyzed: 14-Oct-20				
Sulfate	18.9	10.0	mg/L	20.0	94.3	80-120	2.41	20	

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# **Analytical Results For:**

ALL CONSULTING, LLC 1718 S. CHEYENNE AVE. TULSA OK, 74119 Project: FRANCIS TRACY
Project Number: 32.415421-104.187351
Project Manager: NATE ALLEMAN

Reported: 22-Oct-20 13:27

Fax To: NA

# Total Recoverable Metals by ICP (E200.7) - Quality Control

# **Green Analytical Laboratories**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch B202185 -	Total Rec. 200.7/200.8/200.2	

Blank (B202185-BLK1)				Prepared: 15-Oc	t-20 Analyzed: 19	9-Oct-20			
Magnesium	ND	0.100	mg/L						
Strontium	ND	0.100	mg/L						
Calcium	ND	0.100	mg/L						
Barium	ND	0.050	mg/L						
Sodium	ND	1.00	mg/L						
Iron	ND	0.050	mg/L						
Potassium	ND	1.00	mg/L						
LCS (B202185-BS1)				Prepared: 15-Oc	t-20 Analyzed: 19	9-Oct-20			
Strontium	3.88	0.100	mg/L	4.00	96.9	85-115			
Sodium	3.25	1.00	mg/L	3.24	100	85-115			
Potassium	7.91	1.00	mg/L	8.00	98.9	85-115			
Magnesium	19.9	0.100	mg/L	20.0	99.7	85-115			
Iron	3.83	0.050	mg/L	4.00	95.8	85-115			
Calcium	3.98	0.100	mg/L	4.00	99.4	85-115			
Barium	1.94	0.050	mg/L	2.00	96.9	85-115			
LCS Dup (B202185-BSD1)				Prepared: 15-Oc	t-20 Analyzed: 19	9-Oct-20			
Magnesium	19.8	0.100	mg/L	20.0	99.1	85-115	0.654	20	
Strontium	3.88	0.100	mg/L	4.00	97.0	85-115	0.0974	20	
Potassium	7.90	1.00	mg/L	8.00	98.8	85-115	0.0694	20	
Calcium	3.95	0.100	mg/L	4.00	98.8	85-115	0.603	20	
Sodium	3.27	1.00	mg/L	3.24	101	85-115	0.612	20	
Barium	1.93	0.050	mg/L	2.00	96.6	85-115	0.378	20	
Iron	3.82	0.050	mg/L	4.00	95.5	85-115	0.280	20	

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#### **Notes and Definitions**

J Estimated conentration. Analyte concentration between MDL and RL.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below  $6^{\circ}\text{C}$ 

Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager

Page 8 of 9

# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST



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

Project Manager:	the Collection	BILL TO	ANALYSIS REQUEST	
Address:	The Company	7.0.#		
City:		Company:		
Phone #:	viaire. Zip:	Attn:		_
Project #	Fax #:	Address:	5	
	Project Owner:	City:	ns	
	icis Ira	State: Zin:	t	
Project Location: 3a.	24514	#	ni	
Sampler Name:	7 7	1	1	
FOR LAB USE ONLY		Fax #:	,;	-
	MATRIX	PRESERV. SAMPLING	5:	
			000	
Lab I.D. Sam	DWATER WATER	SE:		
H002688 Well 3:	(G)RAE	OTHER ACID/BA ICE / CO OTHER :	10	
781	87351	1 10.820 1/20	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
PLEASE NOTE: Liability and Damages. Cardinal's liabil analyses. All claims including those for negligence and service in progressions.	PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the sending those for negligence and any other cause whatseever shall be deemed valued to the contract or tort, shall be limited to the amount paid by the client for the	fort, shall be limited to the amount paid by the client for	Cha	
affiliates or successors arising out of or related to the per Relinquished By:	affiliates or successors arising out of or related to the performance of services hereunder by Central, regardless of whether such claim is based upon any of the above stated reasons or otherwise.  Relinquished By:  Date:	is of use, or loss of profits incurred by client, its subsidiarit based upon any of the above stated reasons or otherwise	the applicable mes.	
	10-8-20	All Results are	Verbal Result:	
Relinquished By:	Date: Received By:	SURVEY REMARKS:		
	Time:			
Delivered By: (Circle One)	Observed Temp. °C 3 8 Sample Condition	CHECKED BY:		
Sampler - UPS - Bus - Other:		(Initials)	me:	
	+ Cardinal canada	Correction F	1+0.4°C /0/8/20   Yes   Yes	Menne

nnot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

solin 821

# Attachment 6

Public Notice Affidavit and Notice of Application Confirmations

# **APPLICATION FOR AUTHORIZATION TO INJECT**

NOTICE IS HEREBY GIVEN: That Anthem Water Solutions, LLC, 5914 W. Courtyard Dr, Suite 320, Austin, TX, 78730, is requesting that the New Mexico Oil Conservation Division administratively approve the APPLICATION FOR AUTHORIZATION TO INJECT as follows:

PURPOSE: The intended purpose of the injection well is to dispose of salt water produced from permitted oil and gas wells.

WELL NAME AND LOCATION: Maxey SWD #2
Located 1.9 miles east of Carlsbad, NM
NE ½ NW ¼, Section 4, Township 22S, Range 27E
810' FNL & 1,980' FWL
Eddy County, NM

NAME AND DEPTH OF DISPOSAL ZONE: Bell Canyon (1,930' – 2,700')
EXPECTED MAXIMUM INJECTION RATE: 10,000 Bbls/day
EXPECTED MAXIMUM INJECTION PRESSURE: 386 psi (surface)

Objections or requests for hearing must be filed with the New Mexico Oil Conservation Division within fifteen (15) days. Any objection or request for hearing should be mailed to the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505.

Additional information may be obtained by contacting Nate Alleman at 918-382-7581.

# Carlsbad Current Argus.

# Affidavit of Publication Ad # 0004356272 This is not an invoice

ALL CONSULTING- CARL SBAD 1718 SOUTH CHEYENNE AVENUE

**TULSA, OK 74119** 

I, a legal clerk of the Carlsbad Current Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

09/02/2020

Legal Clerk

Subscribed and sworn before me this September 2, 2020:

State of WI, County of Brown

My commission expires

SHELLY HORA Notary Public State of Wisconsin

Ad # 0004356272 PO #: Maxey SWD #2 # of Affidavits 1

This is not an invoice

#### APPLICATION FOR AUTHORIZATION TO INJECT

NOTICE IS HEREBY GIVEN: That Anthem Water Solutions, LLC, 5914 W. Courtyard Dr, Suite 320, Austin, TX, 78730, is requesting that the New Mexico Oil Conservation Division administratively approve the APPLICATION FOR AUTHORIZATION TO INJECT as follows:

PURPOSE: The intended purpose of the injection well is to dispose of salt water produced from permitted oil and gas wells.

WELL NAME AND LOCATION: Maxey SWD #2 Located 1.9 miles east of Carlsbad, NM NE ¼ NW ¼, Section 4, Township 22S, Range 27E 810' FNL & 1,980' FWL Eddy County, NM

NAME AND DEPTH OF DISPOSAL ZONE: Bell Canyon (1,930' – 2,700') EXPECTED MAXIMUM INJECTION RATE: 10,000 Bbls/day EXPECTED MAXIMUM INJECTION PRESSURE: 386 psi (surface)

Objections or requests for hearing must be filed with the New Mexico Oil Conservation Division within fifteen (15) days. Any objection or request for hearing should be mailed to the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505.

Additional information may be obtained by contacting Nate Alleman at 918-382-7581. #4356272, Current Argus, September 2, 2020

Maxey SWD #2 - Notice of Application Recipients				
Entity	Address	City	State	Zip Code
	Landowner & Mineral Owner			
Frank Maxey	437 Pennington Dr.	Corpus Christi	TX	78412
David Wersell	24523 Ripple Way	San Antonio	TX	78266
	OCD District			
NMOCD District 2	811 S. 1st St.	Artesia	NM	88210
	Leasehold Operators			
Black Mountain Exploration (BLACK MOUNTAIN OPER LLC)	500 Main St., Suite 1200	Fort Worth	TX	76102
Chesapeake Operating, Inc. (CHESAPEAKE)	P.O. Box 18496	Oklahoma City	ОК	73154-0496
Chevron USA Inc. (CHEVRON)	6301 Deauville Blvd	Midland	TX	79706
City of Carlsbad	101 N. Halagueno`	Carlsbad	NM	88220
COG Operating, LLC (COG OPERATING LLC)	600 W. Illinois Ave.	Midland	TX	79701
Elaine M. Murphy (ELAINE MURPHY)	P.O. Box 1674	Carlsbad	NM	88221
Enron Oil & Gas, Inc. (ENRON ETAL)	P.O. Box 1188	Houston	TX	77251
Francis G. Tracy	415 Pecos River Dr.	Carlsbad	NM	88220
Magnum Hunter Production, Inc. (MAGNUM HUNTER PROD INC.)	3500 William D. Tate, Suite 200	Grapevine	TX	76051
Marathon Oil Company (MARATHON OIL)	P.O. Box 2069	Houston	TX	77252-2069
Marbob Energy Corporation (MARBOB ENERGY)	P.O. Box 227	Artesia	NM	88211
Mewbourne Oil Company (MEWBOURNE)	P.O. Box 7698	Tyler	TX	75711
New Mexico BLM	620 E Greene St.	Carlsbad	NM	88220
Oxy USA Inc. (OXY USA WTP LP) (OXY)	P.O. Box 27570	Houston	TX	77227
Richard Anderson (R. ANDERSON)	P.O. Box 213	Roy	NM	87743
Snow Oil & Gas, Inc. (SNOW O&G INC.)	P.O. Box 1277	Andrews	NM	79714
Sun Valley Energy, LLC (SUN VALLEY ENERGY)	1181 Estates Dr.	Gainesville	GA	30501

**Notes:** The table above shows the Entities who were identified as parties of interest requiring notification on either the 1/2-mile well detail list (Attachment 2) or on the 2-mile Mineral Lease Map (Attachment 2). The names listed above in parenthesis, are the abbreviated entity names used on either the 1/2-mile well detail list (Attachment 2) or on the 2-mile Mineral Lease Map (Attachment 2).

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