BEFORE THE OIL CONSERVATION DIVISION
EXAMINER HEARING OCTOBER 03, 2019

CASE NO. 20814

E. MURPHY NO. 1 WELL

LEA COUNTY, NEW MEXICO

DELAWARE WATER MANAGEMENT COMPANY, LLC

STATE OF NEW MEXICO
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION

APPLICATION OF DELAWARE WATER MANAGEMENT COMPANY, LLC FOR AUTHORIZATION TO INJECT INTO THE E MURPHY FEDERAL SWD No. 1 WELL FOR PURPOSES OF DISPOSAL, LEA COUNTY, NEW MEXICO.

CASE NO. 20814

AFFIDAVIT OF MARSHALL BROOKS VERSCHOYLE

I, Marshall Brooks Verschoyle, of lawful age and being first duly sworn, declares as follows:

1. My name is Marshall Brooks Verschoyle. I work for MRC Energy Company, an affiliate of Matador Production Company ("Matador"), as the surface land manager for MRC Energy. Delaware Water Management Company, LLC ("Delaware Water Management") is the applicant in this case and is an affiliated company.

2. I have previously testified before the New Mexico Oil Conservation Division as an expert witness in petroleum land matters. My credentials as an expert in petroleum land matters have been accepted by the Division and made a matter of record.

3. I am familiar with the application filed by Delaware Water Management in this case, and I am familiar with the status of the lands in the subject area.

4. This application was originally filed for administrative approval on August 9, 2019. It was protested during the administrative review period by the New Mexico State Land Office. As a result of that protest, Delaware Water Management requested that the application be set for hearing before a Division Examiner.

5. The New Mexico State Land Office is the only entity that objected to this application. The State Land Office has stated that it does not oppose presentation of this case by affidavit. Therefore, I do not expect any opposition at hearing.

6. **Exhibit 1**, attached hereto, is a full and complete copy of the C-108 application prepared for Delaware Water Management by Brian Wood of Permits West.

7. In this application, Delaware Water Management Company seeks authority to inject produced salt water for purposes of disposal through its proposed E Murphy Federal SWD No. 1 Well (API No. 30-025-PENDING), to be located 2,443 feet from the north line and 2,634 feet from the west line (Unit F), Section 1, Township 23 South, Range 32 East, NMPM, Lea County, New Mexico. Page 12 in Exhibit 1 contains a C-102 depicting the location for the proposed injection well.

8. The proposed injection disposal interval will be within the Devonian formation through an open-hole completion between approximately 16,314 feet and 17,294 feet below the surface. The estimated average disposal volume will be 40,000 barrels of water per day with a maximum anticipated volume of 45,000 barrels of water per day. The average injection pressure is expected to be approximately 2,500 psi with a maximum surface injection pressure of 3,262 psi.

9. The proposed injection is a new project and will be a closed injection system. It will operate as a commercial salt water disposal well.

10. Notice of this application was provided to the surface owner and oil and gas lessees and operators of record within a one-mile area of review that are entitled to receive notice. Parties entitled to notice were identified based on a determination of the title of lands and

interests as recorded in the records of Lea County and from a review of New Mexico Oil Conservation Division and BLM operator records as of the time the application was filed.

11. It is my opinion that Delaware Water Management undertook a good faith effort to locate and identify the correct parties and valid addresses required for notice within the one-mile area of review. To the best of my knowledge the addresses used for notice purposes are valid and correct. There were no unlocatable parties for whom we were unable to locate a valid address.

12. The U.S. Bureau of Land Management owns both the surface and minerals at the location of the proposed injection well. Page 15 in Exhibit 1 is a map depicting all oil and gas leases within a one-mile radius of the proposed injection well. Page 16 of that same exhibit contains a table identifying each of the lessees of record and the operators for those leases.

13. Pages 26 to 30 of Exhibit 1 contain a copy of a sample notice letter sent by certified mail, return receipt requested, to all parties entitled to notice of the C-108 administrative application within the one-mile area of review, along with proof that notice was sent, as required by Division rule. Constructive notice was also provided by publication in a newspaper of general circulation in Lea County, New Mexico, where the proposed injection well will be located. A copy of the affidavit of publication is included in Exhibit 1 at page 25.

14. **Exhibit 2** is a copy of an attorney affidavit prepared by Holland & Hart LLP reflecting that notice of this hearing was sent to the State Land Office, as the sole protestant.

FURTHER AFFIANT SAYETH NOT.

Marshall Brooks Verschoyle

STATE OF ~~TEXAS~~ New Mexico)
)
COUNTY OF Eddy)

SUBSCRIBED and SWORN to before me this 2 day of October 2019 by Marshall Brooks Verschoyle.

Melissa O. Contreras
NOTARY PUBLIC

My Commission Expires:
9/4/22

OFFICIAL SEAL
MELISSA O. CONTRERAS
NOTARY PUBLIC-STATE OF NEW MEXICO
My commission expires: 9/4/22

13592565_v1

Revised March 23, 2017

RECEIVED:	REVIEWER:	TYPE:	APP NO:

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

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Applicant: Delaware Water Management Company, LLC **OGRID Number:** 374146
Well Name: E Murphy Federal SWD 1 **API:** 30-025-
Pool: SWD; Devonian **Pool Code:** 96101

SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED BELOW

1) **TYPE OF APPLICATION:** Check those which apply for [A]
A. Location – Spacing Unit – Simultaneous Dedication
☐ NSL ☐ NSP (PROJECT AREA) ☐ NSP (PRORATION UNIT) ☐ SD

B. Check one only for [I] or [II]
[I] Commingling – Storage – Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM
[II] Injection – Disposal – Pressure Increase – Enhanced Oil Recovery
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

FOR OCD ONLY
☐ Notice Complete
☐ Application Content Complete

2) **NOTIFICATION REQUIRED TO:** Check those which apply.
A. ☒ Offset operators or lease holders
B. ☒ Royalty, overriding royalty owners, revenue owners
C. ☒ Application requires published notice
D. ☒ Notification and/or concurrent approval by SLO
E. ☒ Notification and/or concurrent approval by BLM
F. ☒ Surface owner
G. ☒ For all of the above, proof of notification or publication is attached, and/or,
H. ☐ No notice required

3) **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Brian Wood
Print or Type Name

Signature

8-9-19
Date

505 466-8120
Phone Number

brian@permitswest.com
e-mail Address

EXHIBIT A

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 1
Submitted by: **DELAWARE WATER MGMT CO.**
Hearing Date: October 3, 2019
Case No. 20814

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 Recovery _____Pressure Maintenance ___XXX___ Disposal _____Storage
Application qualifies for administrative approval? ___XXX___Yes _____No

II. OPERATOR: DELAWARE WATER MANAGEMENT COMPANY, LLC

ADDRESS: 5400 LBJ FREEWAY, SUITE 1500, DALLAS TX 75240

CONTACT PARTY: BRIAN WOOD (PERMITS WEST, INC.) PHONE: 505 466-8120

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? _____Yes ___XXX___No
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.

E MURPHY FEDERAL SWD 1
Devonian (96101)

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
5. 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.).

*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: BRIAN WOOD TITLE: CONSULTANT

SIGNATURE: BWood DATE: AUG. 7, 2019

E-MAIL ADDRESS: brian@permitswest.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: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

EXHIBIT A

Side 2

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.

Side I

INJECTION WELL DATA SHEET

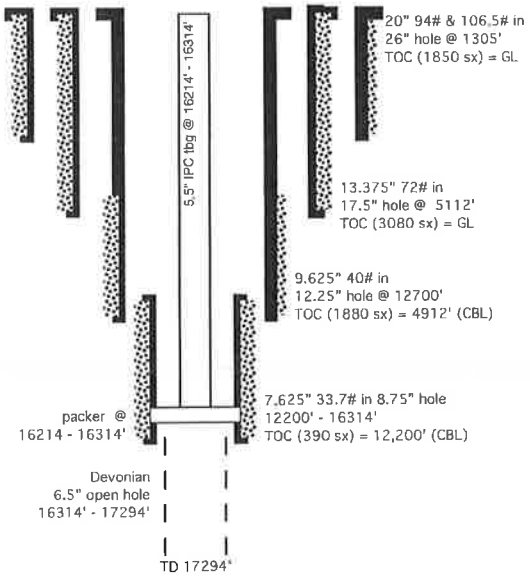
OPERATOR: DELAWARE WATER MANAGEMENT COMPANY, LLC

WELL NAME & NUMBER: E MURPHY FEDERAL SWD 1

WELL LOCATION:	F	1	23 S	32 E
FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

(not to scale)



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 26" Casing Size: 20"

Cemented with: 1850 sx. *or* _____ ft³

Top of Cement: SURFACE Method Determined: VISUAL

Intermediate Casing

Hole Size: 17.5" & 12.25 Casing Size: 13.375" & 9.625"

Cemented with: 3080 & 1880 sx. *or* _____ ft³

Top of Cement: SURFACE & 4912' Method Determined: VISUAL & CBL

Production Casing

Hole Size: 8.75" Casing Size: 7.625" 12,200' - 16,314'

Cemented with: 390 sx. *or* _____ ft³

Top of Cement: 12,200' Method Determined: CBL

Total Depth: csg @ 16,314' & TD @ 17,294'

Injection Interval 6.5" OPEN HOLE

16,314' feet to 17,294'

(Perforated or Open Hole; indicate which)

EXHIBIT A

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 5.5" Lining Material: IPC

Type of Packer: STAINLESS STEEL &/OR NICKEL

Packer Setting Depth: 16,214' - 16,314'

Other Type of Tubing/Casing Seal (if applicable): _____

Additional Data

1. Is this a new well drilled for injection? XXX Yes _____ No

   If no, for what purpose was the well originally drilled? _____

2. Name of the Injection Formation: DEVONIAN

3. Name of Field or Pool (if applicable): SWD; DEVONIAN (POOL CODE 96101)

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used.

   NO

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:

   OVER: BRUSHY CANYON (7226'), BONE SPRING (8844'), WOLFCAMP (12,125')

   UNDER: none

EXHIBIT A

I. Goal is to drill a 17,294' deep commercial saltwater disposal well. Disposal interval will be 16,314' – 17,294' in the SWD; Devonian (96101). See Exhibit A for C-102 and map. Well is on BLM surface and minerals.

II. Operator: Delaware Water Management Company, LLC [OGRID 374146]
Operator phone number: (972) 371-5420
Operator address: 5400 LBJ Freeway, Suite 1500, Dallas TX 75240
Contact for Application: Brian Wood (Permits West, Inc.)
Phone: (505) 466-8120

III. A. (1) Lease name: E Murphy Federal SWD
Well name and number: E Murphy Federal SWD 1
Location: 2443' FNL & 2634' FWL Section 1, T. 23 S., R. 32 E.

A. (2) Surface casing (20", 94# & 106.5#, J-55, BTC) will be set at 1,305' in a 26" hole and cemented to GL with 1,850 sacks (based on 50% OH excess).

First intermediate casing (13.375", 72#, P-110 HC, BTC) will be set at 5,112' in a 17.5" hole and cemented to GL with 3,080 sacks (based on 50% OH excess).

Second intermediate casing (9.625", 40#, P-110 EC, BTC) will be set at 12,700' in a 12.25" hole and cemented to 4,912 with 1,880 sacks (based on 40% OH excess).

Production liner (7.625", 33.7# P-110 HP, USS Liberty FJM) will be set from 12,200' to 16,314' in an 8.75" hole and cemented to 12,200' (CBL) with 390 sacks.

A 6.5" open hole will be drilled from 16,314' to 17,294'.

A. (3) Tubing will be IPC lined, 5.5", 20#, P-110 HC, BTC. Setting depth will be ≥16,214'. (Disposal interval will be 16,314' to 17,294'.)

A. (4) A stainless steel and/or nickel packer will be set at ≥16,214' (top of the open hole which will be at 16,314').

B. (1) Disposal zone will be the Devonian (SWD; Devonian (96101) pool). Estimated fracture gradient is ≈0.62 to ≈0.68 psi per foot. Variation depends on whether limestone or dolomite.

B. (2) Disposal interval will be open hole from 16,314' to 17,294'.

B. (3) Well has not been drilled. It will be drilled as a saltwater disposal well.

B. (4) No perforated intervals are in the well.

B. (5) Productive zones in the area of review and above the Devonian (16,304') are the Brushy Canyon (7,226'), Bone Spring (8,831'), and Wolfcamp (12,125'). No oil or gas zone is below the Devonian in the area of review.

IV. This is not an expansion of an existing injection project. It is disposal only.

V. Exhibit B shows and tabulates the 20 existing wells (13 oil + 6 P&A + 1 SWD; Delaware) within a mile radius. Exhibit C shows all 87 existing wells (65 oil or gas wells + 20 P & A wells + 2 disposal wells) within a two-mile radius. Closest SWD; Devonian APD (30-025-45605) is 1.62 miles south. It is Delaware Water Management's R Wallman State SWD 1. C-108 approval is pending. The 2 active SWD wells within 2 miles are Delaware wells.

All leases within a one-mile radius are BLM or State. Exhibit D shows and tabulates all the leases within a mile. Exhibit E shows all lessors within a two-mile radius. Two-mile radius leases are BLM or NMSLO.

VI. No Devonian penetrator is within a mile. Deepest existing or proposed well within a mile is a 10,860' Bone Spring well.

VII. 1. Average injection rate will be ≈40,000 bwpd.
Maximum injection rate will be 45,000 bwpd.
2. System will be open and closed. Water will both be trucked and piped.
3. Average injection pressure will be ≈2,500 psi
Maximum injection pressure will be 3,262 psi (= 0.2 psi/foot x 16,314' (top of open hole)).
4. Disposal water will be produced water, mainly from Bone Spring, Delaware, and Wolfcamp wells. There are 459 approved Bone Spring wells, 192 approved Delaware wells, and 38 approved Wolfcamp wells in T. 23 S., R. 32 and 33 E. The well will take other Permian Basin waters. A summary of produced water analyses from T. 23 S., R. 33 E. is in Exhibit F. Devonian produced water analyses (in mg/L) from wells in T. 23 S., R. 37 E. are in the table below. Compatibility problems are not expected.

API	Section	UL	TDS	chloride	bicarbonate	sulfate
3002510717	14	K	118979	71280	462	2593
3002510945	34	A	112959	67390	288	2765
3002510947	34	H	35639			
3002510950	34	A	236252	147000	129	781

5. No Devonian production is within ten miles.

VIII. The Devonian (estimated 1,200' thick) is comprised of limestone and dolomite. Closest possible underground source of drinking water above the proposed disposal interval is the Quaternary at the surface. There has been some interest in developing the <1280' deep brackish Dewey Lake.

According to State Engineer records (Exhibit G), no water well is within two miles. None were found within during a March 15, 2019 field inspection. No underground source of drinking water is below the proposed disposal interval.

Formation tops are:

Quaternary = 0'
Rustler anhydrite = 1280'
Salt top = 1769'
Castile = 3730'
Salt base = 5007'
Bell Canyon = 5062'
Cherry Canyon = 5859'
Brushy Canyon = 7226'
Bone Spring limestone = 8844'
Wolfcamp = 12125'
Strawn = 13310'
Atoka = 13792'
Morrow = 13993'
Barnett = 14725'
Mississippian limestone = 15740'
Woodford shale = 16104'
Devonian carbonate = 16304'
disposal interval = 16314' - 17294'
TD = 17294'
(Montoya = 17304')

No water wells are within a 2-mile radius according to State Engineer records (Exhibit G) and a March 15, 2019 field inspection. There will be >2.8 miles of vertical separation and shale, salt, and anhydrite intervals between the bottom of the only likely underground water source (Dewey Lake) and the top of the Devonian.

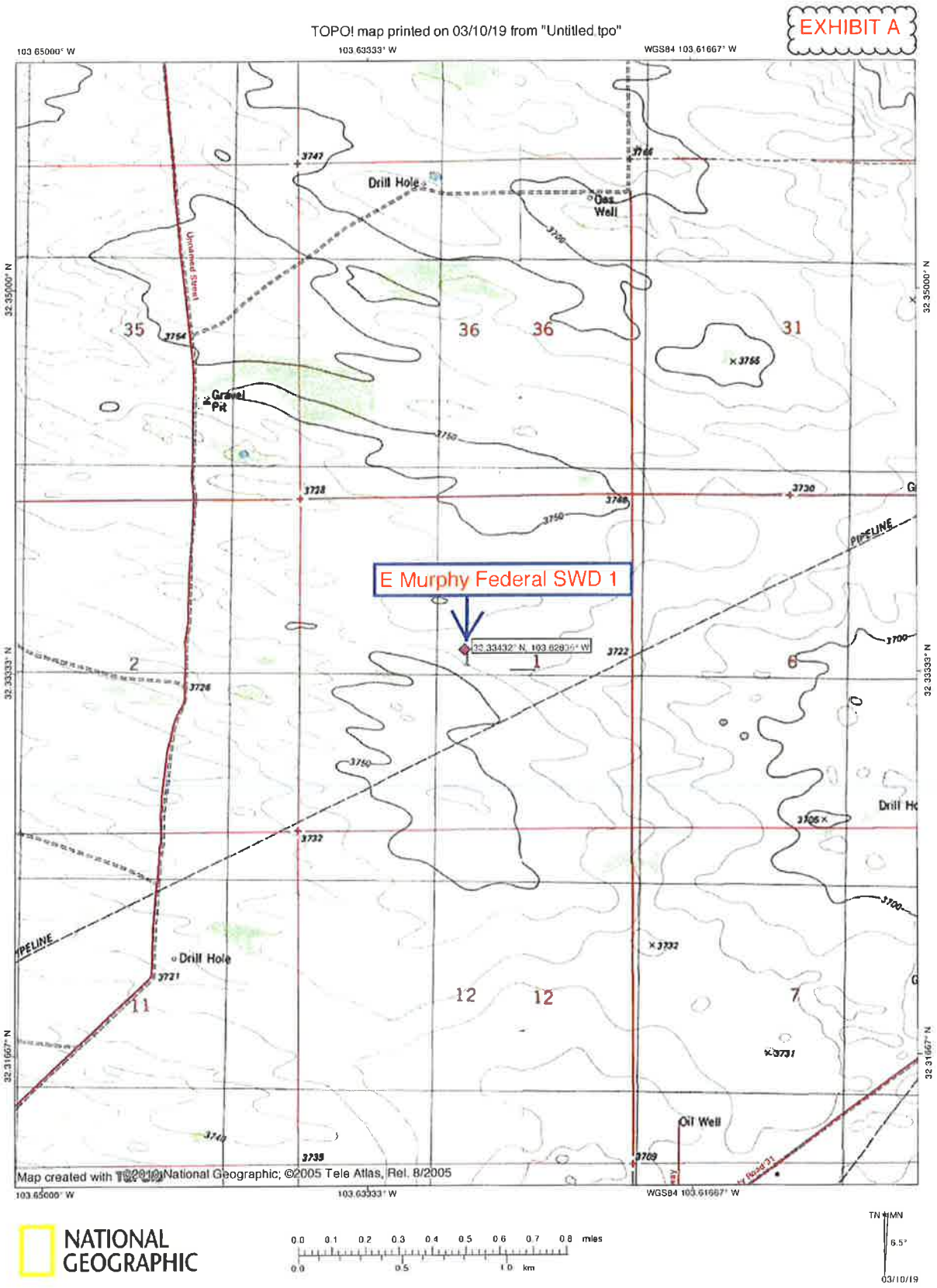
IX. The well will be stimulated with acid.

X. GR log will be run from the third intermediate to TD.

XI. No water well was found within a mile during a March 15, 2019 field inspection.

XII. Delaware Water Management Company, LLC (Exhibit H) is not aware of any geologic or engineering data that may indicate the Devonian is in hydrologic connection with any underground sources of water. Deepest water well within a 3-mile radius is 525'. It is 2.12 miles west. There are 155 active Devonian SWD wells in New Mexico.

XIII. A legal ad (see Exhibit I) was published on July 30, 2019. Notice (this application) has been sent (Exhibit J) to the surface owner (BLM) and all operators, lessees, and unleased mineral interest owners within a mile who are required to receive notice.


TOPO! map printed on 03/10/19 from "Untitled.tpo"
EXHIBIT A
103.65000° W
103.63333° W
WGS84 103.61667° W
32.35000° N
32.33333° N
32.31667° N
E Murphy Federal SWD 1
Drill Hole
Gas Well
Gravel Pit
PIPELINE
Oil Well
Map created with TOPO!
©National Geographic; ©2005 Tele Atlas, Rel. 8/2005
NATIONAL GEOGRAPHIC
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 miles
0.0 0.5 1.0 km
TN MN
6.5°
03/10/19

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 Road, Aztec, NM 87410
Phone (505) 334-6178 Fax (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3460 Fax (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources
Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

FORM C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

EXHIBIT A

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-025-	96101	SWD; Devonian

[4] Property Code	[5] Property Name	[6] Well Number
	E MURPHY FEDERAL SWD	1

[7] OGRID No.	[8] Operator Name	[9] Elevation
374146	DELAWARE WATER MANAGEMENT COMPANY, LLC	3742'

[10] Surface Location

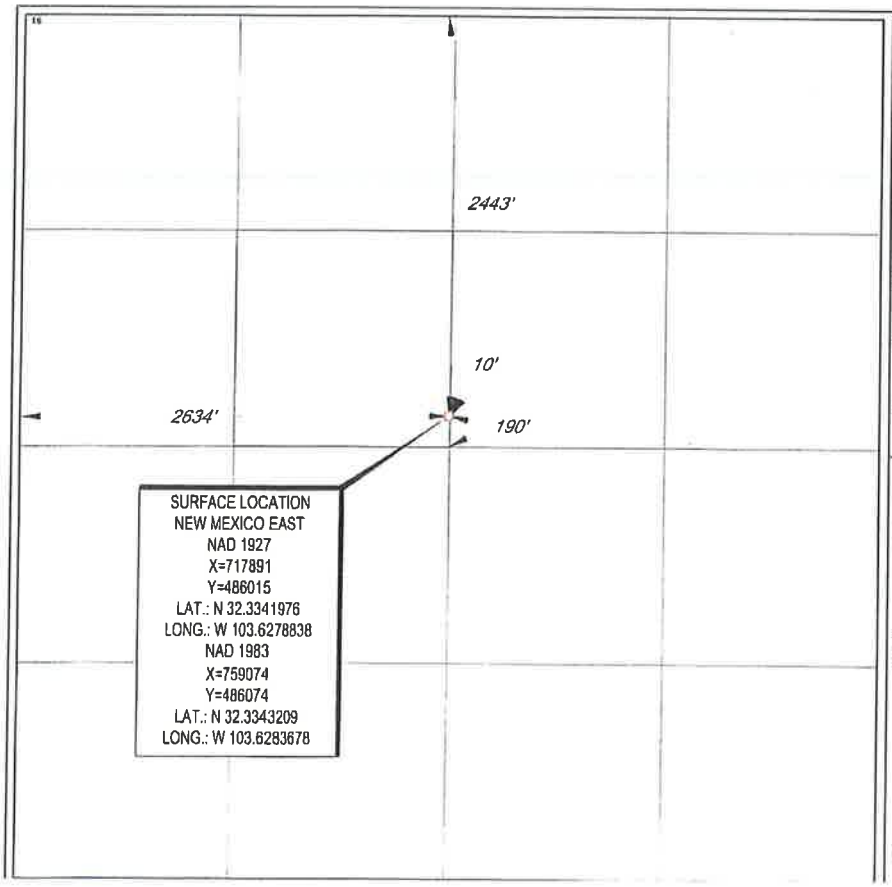
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	1	23-S	32-E	–	2443'	NORTH	2634'	WEST	LEA

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



[17] OPERATOR CERTIFICATION

B. Wood

Signature 7-29-19 Date

Brian Wood

Printed Name

brian@permitswest.com

E-mail Address 505 466-8120

[18] SURVEYOR CERTIFICATION

02/25/2019

Date of Survey
Signature and Seal of Professional Surveyor

ANGEL M. BARRIA
NEW MEXICO
(25116)
PROFESSIONAL SURVEYOR

Certificate Number

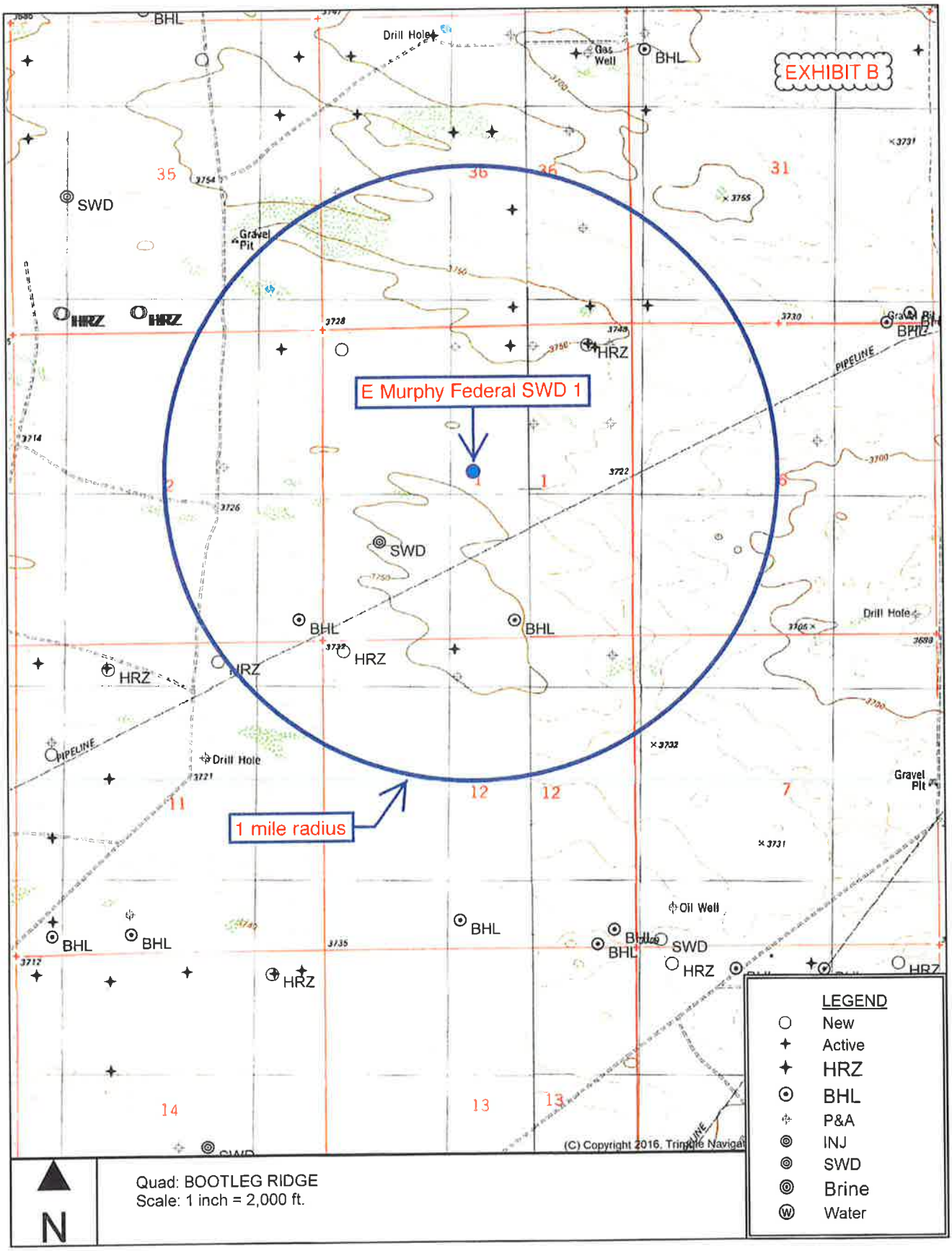


EXHIBIT B
E Murphy Federal SWD 1
1 mile radius
BHL
HRZ
SWD
Drill Hole
Gas Well
Gravel Pit
PIPELINE
Oil Well
LEGEND
New
Active
HRZ
BHL
P&A
INJ
SWD
Brine
Water
N
Quad: BOOTLEG RIDGE
Scale: 1 inch = 2,000 ft.
(C) Copyright 2016, Tri

EXHIBIT A

SORTED BY DISTANCE FROM E MURPHY FEDERAL SWD 1

API	OPERATOR	UNIT-SECTION	TVD	WELL	STATUS	ZONE @ TD	FEET FROM E MURPHY FEDRAL SWD 1	NOTE
3002533529	Cimarex	G-1	9154	Thyme Apy Federal 002	P&A	Bone Spring	1252	
3002536192	Cimarex	L-1	9150	Thyme Apy Federal 011	SWD	Bone Spring	2044	SWD; Delaware
3002533530	Lime Rock	3-1	9150	Thyme Apy Federal 003	P&A	Bone Spring	2111	
3002541501	Cimarex	2-1	9135	Thyme Apy Federal 009H	O	Bone Spring	2221	
3002533370	Cimarex	2-1	10250	Thyme Apy Federal 001	O	Bone Spring	2313	
3002533574	EOG Y	H-1	9170	Coriander Aoc State 002	P&A	Bone Spring	2440	
3002533498	EOG	O-36	9080	Mule Deer 36 State 006	O	Bone Spring	2827	
3002543737	Cimarex	1-1	9809	Coriander Aoc 1-12 State 002H	O	Bone Spring	2886	
3002543736	Cimarex	1-1	9557	Coriander Aoc 1-12 State 001H	O	Bone Spring	2926	
3002542170	COG	C-12	9788	Resolver Federal Com 002H	O	Bone Spring	3054	
3002533531	Cimarex	1-1	9121	Coriander Aoc State 001	O	Bone Spring	3122	
3002533688	EOG	P-36	9050	Mule Deer 36 State 007	O	Bone Spring	3394	
3002533538	Burlington	C-12	9200	Pronghorn 12 Federal 001	P&A	Bone Spring	3527	
3002540181	COG	1-2	9961	Redtail State Com 001H	O	Bone Spring	3876	
3002533354	Cimarex	A-12	10860	April APZ State 001	O	Bone Spring	3929	
3002533580	OXY	4-31	9100	Red Tank 31 State 004	O	Bone Spring	4057	
3002532108	Cimarex of CO	G-2	10320	Saffron Aon State 001	P&A	Bone Spring	4302	
3002533093	EOG	J-36	9000	Mule Deer 36 State 003	O	Bone Spring	4449	
3002533823	EOG	I-36	9088	Mule Deer 36 State 008	P&A	Bone Spring	4484	
3002535235	OXY	L-36	8950	Shell State 006	O	Bone Spring	5253	

EXHIBIT A **13A**

EXHIBIT B

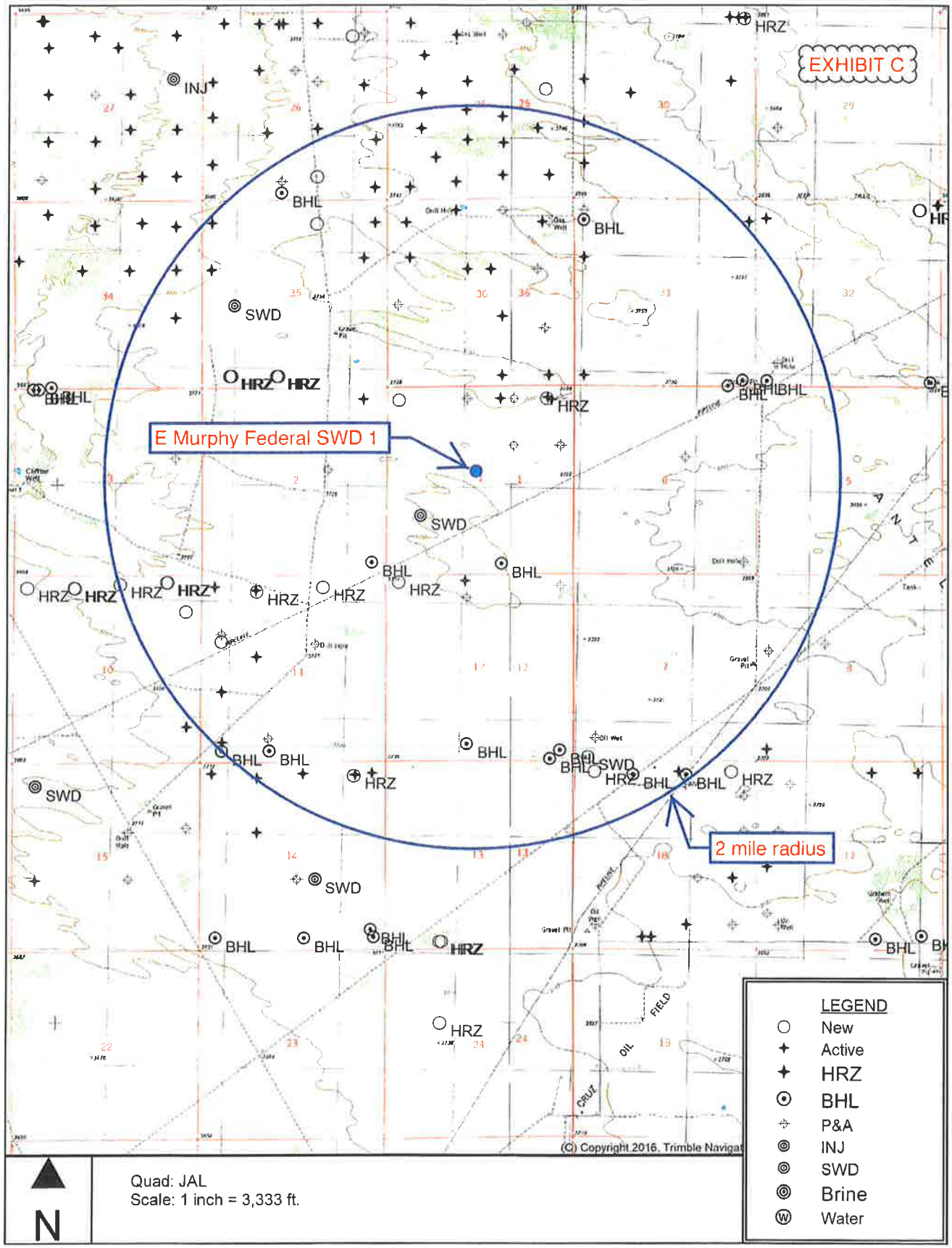
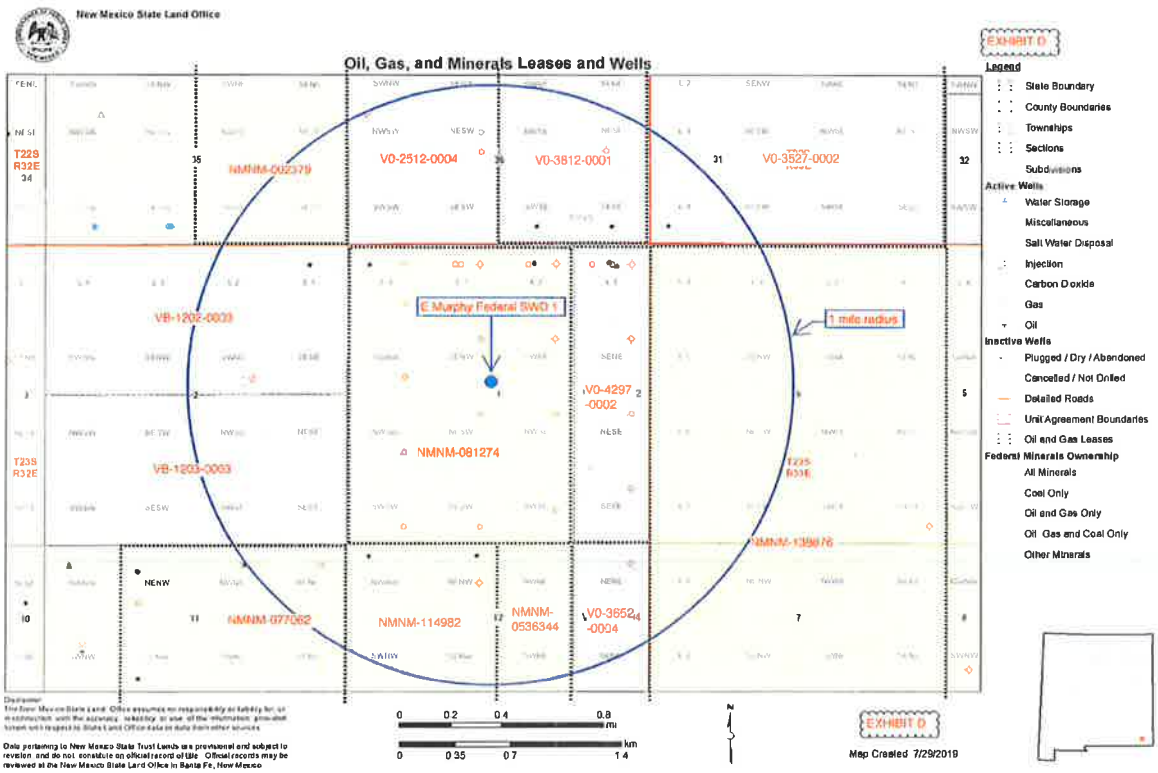


EXHIBIT C
E Murphy Federal SWD 1
2 mile radius
INJ
SWD
BHL
HRZ
LEGEND
New
Active
HRZ
BHL
P&A
INJ
SWD
Brine
Water
N
Quad: JAL
Scale: 1 inch = 3,333 ft.
(C) Copyright 2016, Trimble Navigat



Disclaimer
The New Mexico State Land Office assumes no responsibility or liability for, or in connection with the accuracy, reliability or use of the information provided herein with respect to State Land Office data or data from other sources.

Data pertaining to New Mexico State Trust Lands are provisional and subject to revision and do not constitute an official record of title. Official records may be reviewed at the New Mexico State Land Office in Santa Fe, New Mexico

EXHIBIT A

E MURPHY FEDERAL SWD 1 AREA OF REVIEW LEASES

Aliquot Parts in Area of Review	Lessor	Lease	Lessee(s) of Record	Operators (all shallower than Devonian)
NESE & S2SE4 35-22s-32e	BLM	NMNM-002379	OXY USA	Matador
SWNE & SE4 36-22s-32e	NMSLO	V0-3812-0001	EOG	EOG
S2NW4 & SW4 36-22s-32e	NMSLO	V0-2512-0004	OXY USA	OXY
W2SW4 & SESW 31-22s-33e	NMSLO	V0-3527-0002	OXY USA	OXY USA
E2E2 1-23s-32e	NMSLO	V0-4297-0002	Cimarex	Cimarex
W2E2 & W2 1-23s-32e	BLM	NMNM-081274	Cimarex	Cimarex
NE4 & SENW 2-23s-32e	NMSLO	VB-1202-0003	COG	COG
SE4 & NESW 2-23s-32e	NMSLO	VB-1203-0003	COG	COG
N2NE4 & SENE 11-23s-32e	BLM	NMNM-077062	Cimarex	Marathon
E2NE4 12-23s-32e	NMSLO	V0-3652-0004	Cimarex	Cimarex
W2NE4 & NWNE 12-23s-32e	BLM	NMNM-0536344	ConocoPhillips	COG
W2 6-23s-33e	BLM	NMNM-138876	Federal Abstract	none
N2NW4 & SWNW 7-23s-33e	BLM	NMNM-138876	Federal Abstract	none

EXHIBIT D

EXHIBIT A

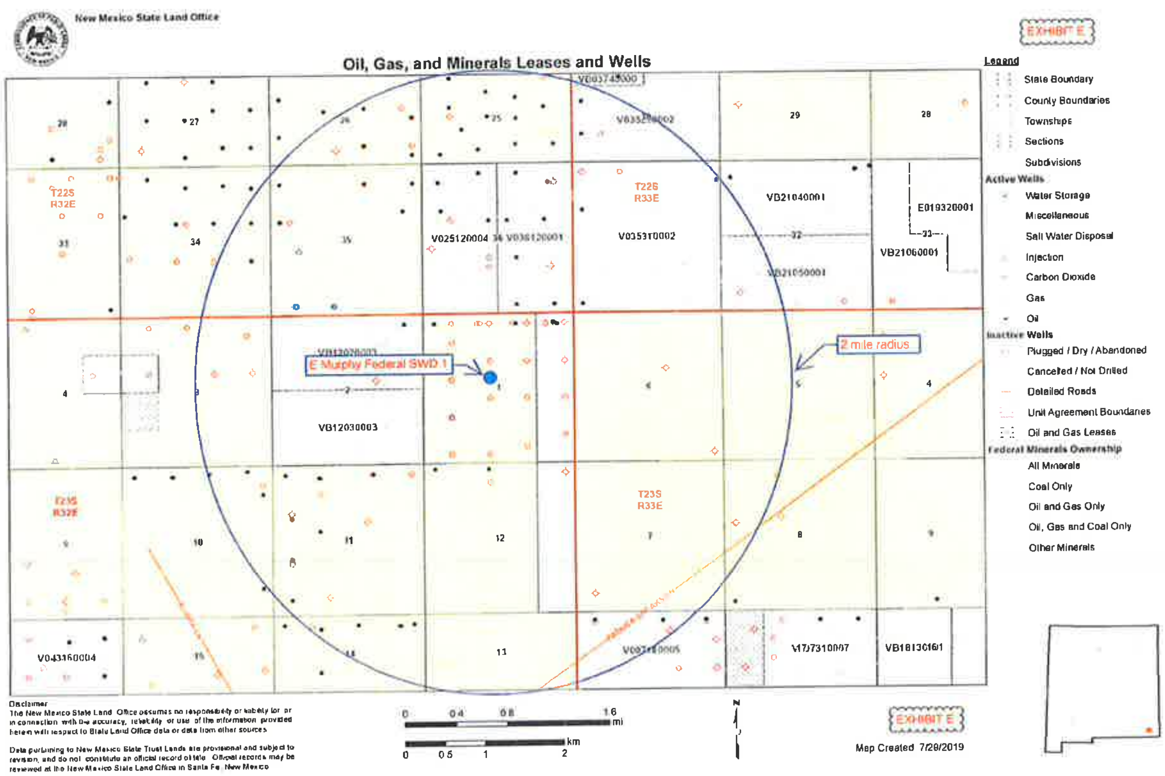

New Mexico State Land Office
Oil, Gas, and Minerals Leases and Wells
EXHIBIT E
Legend
State Boundary
County Boundaries
Townships
Sections
Subdivisions
Active Wells
Water Storage
Miscellaneous
Salt Water Disposal
Injection
Carbon Dioxide
Gas
Oil
Inactive Wells
Plugged / Dry / Abandoned
Cancelled / Not Drilled
Detailed Roads
Unit Agreement Boundaries
Oil and Gas Leases
Federal Minerals Ownership
All Minerals
Coal Only
Oil and Gas Only
Oil, Gas and Coal Only
Other Minerals
T22S R32E
T22S R33E
T23S R32E
T23S R33E
E Murphy Federal SWD 1
2 mile radius
VB21040001
E019320001
VB21060001
V035310002
V025120004
VB12030003
V043160004
VB18130161
Disclaimer
The New Mexico State Land Office assumes no responsibility or liability for or in connection with the accuracy, reliability or use of the information provided herein with respect to State Land Office data or data from other sources.
Data pertaining to New Mexico State Trust Lands are provisional and subject to revision, and do not constitute an official record of title. Official records may be reviewed at the New Mexico State Land Office in Santa Fe, New Mexico.
0 0.4 0.8 1.6 mi
0 0.5 1 2 km
EXHIBIT E
Map Created 7/29/2019

EXHIBIT A

PRODUCED WATER SAMPLES (mg/L) FROM T23S-R33E

API	Section	UL	Formation	TDS	Sodium	Calcium	Iron	Magnesium	Chloride	Bicarbonate	Sulfate
3002542425	27	A	Bone Spring 1st Sand	171476	55363	9140	40	1023	104576	244	560
3002540173	15	D	Bone Spring 2nd Sand	178123	56624	9330	65	985	108363	183	752
3002540743	15	D	Bone Spring 2nd Sand	179067	55815	9603	89	998	109984	122	684
3002540173	15	D	Bone Spring 2nd Sand		78099	12696	75	1273	148309	122	480
3002540743	15	D	Bone Spring 2nd Sand		57680	10931	52	1378	112000	134	492
3002540743	15	D	Bone Spring 2nd Sand	183674	59642	9492	48	1067	111975	61	765
3002541914	20	M	Bone Spring 2nd Sand	272936	76650	21050	35	4456	169062	40	600
3002541913	20	N	Bone Spring 2nd Sand	130154	49952	721	11	140	78282	159	740
3002541487	22	M	Bone Spring 2nd Sand		84834	7818	12	927	146896	146	480
3002541487	22	M	Bone Spring 2nd Sand		87007	9441	27	1109	154055	110	460
3002541488	22	M	Bone Spring 2nd Sand		84044	9093	39	1085	149239	122	500
3002541487	22	M	Bone Spring 2nd Sand		51734	13895	0	1692	109000	122	494
3002541488	22	M	Bone Spring 2nd Sand		56352	9467	37	1271	107000	122	556
3002541487	22	M	Bone Spring 2nd Sand	154844	51189	8663	20	924	91763	122	0
3002541488	22	M	Bone Spring 2nd Sand	144753	47941	7688	37	848	85978	122	0
3002541488	22	M	Bone Spring 2nd Sand		52748	8257	44	911	98911	73	460
3002541487	22	M	Bone Spring 2nd Sand	236468	65181	19100	45	4014	146667	75	425
3002541488	22	M	Bone Spring 2nd Sand	217107	62587	15640	26	3227	133870	256	635
3002541342	22	O	Bone Spring 2nd Sand	165330	52113	8757	23	937	101300	183	0
3002541466	22	O	Bone Spring 2nd Sand		45038	7608	34	833	86371	122	680
3002541467	22	O	Bone Spring 2nd Sand		47247	8197	19	896	90999	244	600
3002541468	22	O	Bone Spring 2nd Sand		47592	7723	16	841	90540	98	660
3002541340	22	O	Bone Spring 2nd Sand		85421	9052	22	1111	151169	122	570
3002541466	22	O	Bone Spring 2nd Sand		79770	8893	58	1105	142227	122	550
3002541467	22	O	Bone Spring 2nd Sand		75949	9227	44	1171	137451	122	590
3002541468	22	O	Bone Spring 2nd Sand		76951	8551	42	1055	137246	85	570
3002541340	22	O	Bone Spring 2nd Sand		55815	9341	28	1275	106000	122	499
3002541341	22	O	Bone Spring 2nd Sand		53627	10505	67	1394	105000	171	508
3002541466	22	O	Bone Spring 2nd Sand		53998	10179	69	1422	105000	232	563
3002541467	22	O	Bone Spring 2nd Sand		55684	8960	34	1264	105000	232	531

EXHIBIT F

PRODUCED WATER SAMPLES (mg/L) FROM T23S-R33E

API	Section	UL	Formation	TDS	Sodium	Calcium	Iron	Magnesium	Chloride	Bicarbonate	Sulfate
3002541468	22	O	Bone Spring 2nd Sand		58238	3662	50	740	98000	171	599
3002541341	22	O	Bone Spring 2nd Sand		79448	10789	52	1174	146515	122	520
3002541342	22	O	Bone Spring 2nd Sand		60347	10265	60	1130	115793	134	560
3002541468	22	O	Bone Spring 2nd Sand		47696	7829	32	888	90068	61	540
3002541341	22	O	Bone Spring 2nd Sand	130631	47917	2149	13	341	78382	561	710
3002541342	22	O	Bone Spring 2nd Sand	172312	54411	10120	45	1126	105276	305	425
3002541466	22	O	Bone Spring 2nd Sand	106745	32885	5523	1	1747	64286	976	1205
3002541467	22	O	Bone Spring 2nd Sand	164204	53030	8746	37	969	100077	193	635
3002541468	22	O	Bone Spring 2nd Sand	184017	59935	9356	57	1065	111875	256	940
3002541794	28	B	Bone Spring 2nd Sand		82792	8583	29	1027	146363	122	500
3002541796	28	B	Bone Spring 2nd Sand		87646	8631	66	1030	154089	73	520
3002541794	28	B	Bone Spring 2nd Sand		49335	11192	46	1560	100000	195	594
3002541796	28	B	Bone Spring 2nd Sand		59742	11512	106	1633	117000	220	363
3002541796	28	B	Bone Spring 2nd Sand	140111	47036	5996	30	763	84881	439	740
3002541897	28	C	Bone Spring 2nd Sand		71047	8062	27	970	127280	146	560
3002541897	28	C	Bone Spring 2nd Sand		51627	10603	46	1359	102000	195	468
3002541897	28	C	Bone Spring 2nd Sand	161549	51768	8900	56	1004	98778	73	425
3002541896	28	D	Bone Spring 2nd Sand		51318	7868	29	1149	96000	183	557
3002541896	28	D	Bone Spring 2nd Sand	101658	34199	4245	13	579	61286	159	1030
3002540898	33	M	Bone Spring 2nd Sand	143879	46057	7296	80	821	86700	244	0
3002540898	33	M	Bone Spring 2nd Sand		48663	10816	76	1497	98000	134	792
3002540898	33	M	Bone Spring 2nd Sand	155146	51156	7420	36	869	94479	183	600
3002541118	33	N	Bone Spring 2nd Sand	163164	52348	8192	46	890	99400	122	0
3002541032	33	N	Bone Spring 2nd Sand		55748	7983	68	924	103965	171	740
3002541032	33	N	Bone Spring 2nd Sand		74216	6933	14	882	129179	122	430
3002541032	33	N	Bone Spring 2nd Sand		77388	9133	27	1113	138954	98	640
3002541118	33	N	Bone Spring 2nd Sand		70262	10319	26	1543	131655	122	620
3002541032	33	N	Bone Spring 2nd Sand		54541	8845	28	1236	103000	146	534
3002541118	33	N	Bone Spring 2nd Sand		54205	8584	33	1249	102000	146	608
3002541118	33	N	Bone Spring 2nd Sand	166101	55345	7538	9	885	101077	244	635

EXHIBIT F

EXHIBIT A

PRODUCED WATER SAMPLES (mg/L) FROM T23S-R33E

API	Section	UL	Formation	TDS	Sodium	Calcium	Iron	Magnesium	Chloride	Bicarbonate	Sulfate
3002541303	33	P	Bone Spring 2nd Sand		80875	6665	79	871	138579	183	470
3002541303	33	P	Bone Spring 2nd Sand		87039	9224	50	1170	154348	98	700
3002541303	33	P	Bone Spring 2nd Sand		89233	8044	45	1013	154983	159	690
3002541303	33	P	Bone Spring 2nd Sand		53029	9452	70	1354	102000	122	668
3002541303	33	P	Bone Spring 2nd Sand	159590	52594	7634	39	906	97178	183	635
3002541254	34	N	Bone Spring 2nd Sand		51720	8636	84	1117	98474	183	690
3002541253	34	N	Bone Spring 2nd Sand	161403	51347	7893	19	857	99100	122	0
3002541254	34	N	Bone Spring 2nd Sand	161244	50960	7851	22	845	99300	122	0
3002541252	34	N	Bone Spring 2nd Sand		85383	8644	36	1037	150004	85	650
3002541253	34	N	Bone Spring 2nd Sand		59257	8179	13	1002	108767	110	630
3002541253	34	N	Bone Spring 2nd Sand		56181	7137	15	1083	102000	122	626
3002541254	34	N	Bone Spring 2nd Sand		53470	8231	38	1196	100000	183	695
3002541252	34	N	Bone Spring 2nd Sand		77109	10168	43	1135	141623	110	580
3002541253	34	N	Bone Spring 2nd Sand	162709	53858	7649	30	877	98978	244	675
3002541302	34	P	Bone Spring 2nd Sand	158786	51054	8122	11	875	96500	122	0
3002541302	34	P	Bone Spring 2nd Sand		83406	8769	52	1081	147503	122	540
3002541302	34	P	Bone Spring 2nd Sand		60221	6449	42	772	106000	195	717
3002541302	34	P	Bone Spring 2nd Sand	146169	47938	7126	54	824	88480	488	880
3002541625	35	M	Bone Spring 2nd Sand		48857	6766	26	1090	90000	183	655
3002541625	35	M	Bone Spring 2nd Sand	146174	48514	6777	39	763	88880	207	635
3002541599	35	N	Bone Spring 2nd Sand		49141	6084	22	921	89000	220	269
3002542283	35	O	Bone Spring 2nd Sand	118970	39811	5202	26	612	71981	232	820
3002508358	19	M	Delaware	238931					148600	127	156
3002542431	22	M	Del. - Brushy Canyon	133985	45519	5227	38	673	80482	972	880
3002540015	27	D	Del. - Brushy Canyon		85224	22553	30	4475	183663	85	250
3002540015	27	D	Del. - Brushy Canyon		60914	21590	26	5449	148000	61	220
3002540015	27	D	Del. - Brushy Canyon	167968	53996	9118	41	1014	102677	73	425
3002540015	27	D	Del. - Brushy Canyon	245475	66848	20494	40	3559	151089	61	990
3002540010	28	C	Del. - Brushy Canyon		93485	22643	31	4570	195932	73	270
3002540010	28	C	Del. - Brushy Canyon	254703	70207	20688	48	3452	157600	122	0

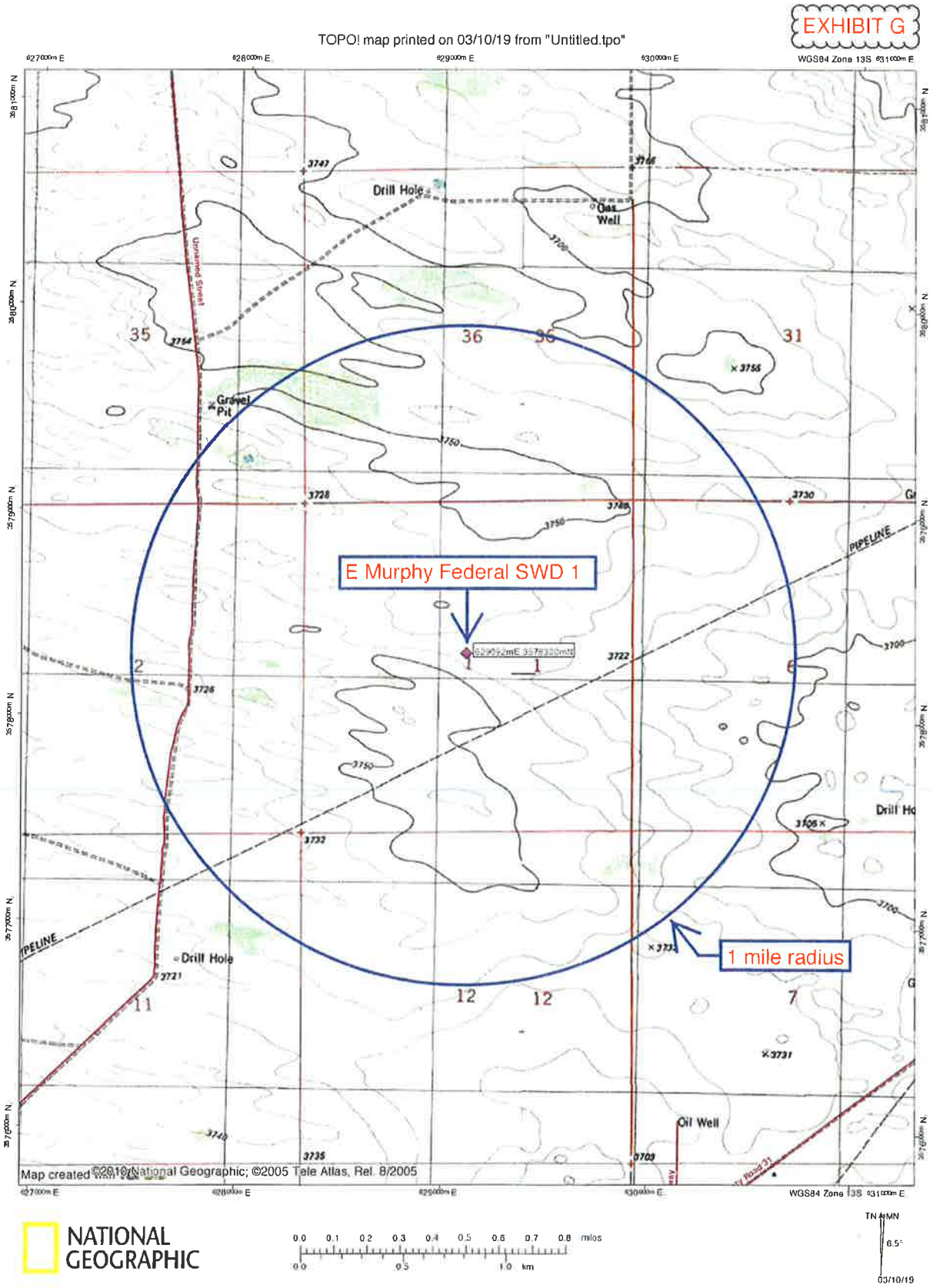
EXHIBIT F

PRODUCED WATER SAMPLES (mg/L) FROM T23S-R33E

API	Section	UL	Formation	TDS	Sodium	Calcium	Iron	Magnesium	Chloride	Bicarbonate	Sulfate
3002540010	28	C	Del. - Brushy Canyon		96068	22248	20	4460	199245	61	300
3002540010	28	C	Del. - Brushy Canyon		67920	21017	20	4509	155000	61	303
3002540010	28	C	Del. - Brushy Canyon	182009	56668	11090	47	1461	111475	61	600
3002539893	33	O	Del. - Brushy Canyon		89832	22107	15	4443	189304	73	200
3002539893	33	O	Del. - Brushy Canyon	283085	71469	25489	54	3894	179335	427	0
3002539893	33	O	Del. - Brushy Canyon		82059	19233	14	3716	169603	61	640
3002539893	33	O	Del. - Brushy Canyon	249358	68908	19792	108	3609	153350	61	1010
3002540016	33	P	Del. - Brushy Canyon	256045	68991	20375	31	3375	160600	122	0
3002540016	33	P	Del. - Brushy Canyon		91267	22892	11	4435	193029	37	250

EXHIBIT F

EXHIBIT G


TOPO! map printed on 03/10/19 from "Untitled.tpo"
WGS84 Zone 13S
E Murphy Federal SWD 1
1 mile radius
Drill Hole
Oil Well
Gravel Pit
PIPELINE
Map created with TOPO!
©2010 National Geographic; ©2005 Tele Atlas, Rel. 8/2005
NATIONAL GEOGRAPHIC
TN MN
6.5°
03/10/19

New Mexico Office of the State Engineer

EXHIBIT G

Water Column/Average Depth to Water

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

No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 629092 **Northing (Y):** 3578320 **Radius:** 3220

EXHIBIT H

Delaware Water Management Company, LLC

One Lincoln Centre • 5400 LBJ Freeway • Suite 1500 • Dallas, Texas 75240
Voice 972.371.5200 • Fax 972.371.5201
dbrugioni@matadorresources.com

Jake Harrington
Senior Geologist

July 31, 2019

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

Re: Geology Statement
E Murphy Federal SWD #1
Section 1, T. 23S, R. 32E
Lea County, New Mexico

To whom it may concern:

Available geologic and engineering data related to the proposed Well have been thoroughly reviewed, and no evidence for a hydrological connection between the proposed deep Devonian injection zone, located at approximately 16,314 ft., and any underground sources of drinking water has been found.

Sincerely,
Delaware Water Management Company, LLC

Jake Harrington

EXHIBIT I

Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

I, Daniel Russell, Publisher of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

Beginning with the issue dated
July 30, 2019
and ending with the issue dated
July 30, 2019.

Publisher

Sworn and subscribed to before me this 30th day of July 2019.

Business Manager

My commission expires
January 29, 2023
(Seal)

OFFICIAL SEAL
GUSSIE BLACK
Notary Public
State of New Mexico
My Commission Expires 1-29-23

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said

LEGALS

LEGAL NOTICE
JULY 30, 2019

Delaware Water Management Company, LLC is applying to drill the E Murphy Federal SWD 1 as a saltwater disposal well. The well is staked at 2443 FNL & 2634 FWL Sec. 1, T. 23 S., R. 32 E., Lea County and is 28 miles west-southwest of Eunice, NM. Disposal will be in the Devonian from 16,314' to 17,294'. Maximum injection pressure will be 3,262 psi. Maximum disposal rate will be 45,000 bwpd. Interested parties must file objections or requests for hearing with the NM Oil Conservation Division, 1220 South Saint Francis Dr., Santa Fe, NM 87505 within 15 days. Additional information can be obtained by contacting: Brian Wood, Permits West, Inc., 37 Verano Loop, Santa Fe, NM 87508. Phone number is (505) 466-8120. #34509

02108485

00231426

BRIAN WOOD
PERMITS WEST
37 VERANO LOOP
SANTA FE, NM 87508

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

EXHIBIT J

August 7, 2019

BLM
620 E Greene
Carlsbad NM 88220

TYPICAL LETTER

Delaware Water Management Company, LLC is applying (see attached application) to drill the E Murphy Federal SWD 1 well as a saltwater disposal well. As required by NM Oil Conservation Division (NMOCD) rules, I am notifying you of the following proposed saltwater disposal well. This letter is a notice only. No action is needed unless you have questions or objections.

Well Name: E Murphy Federal SWD 1 (BLM surface / BLM lease) TD = 17,294'
Proposed Disposal Zone: Devonian (from 16,314' to 17,294')
Location: 2443' FNL & 2634' FWL Sec. 1, T. 23 S., R. 32 E., Lea County, NM
Approximate Location: 28 miles west-southwest of Eunice, NM
Applicant: Delaware Water Management Company, LLC (972) 371-5420
Applicant's Address: 5400 LBJ Freeway, Suite 1500, Dallas TX 75240

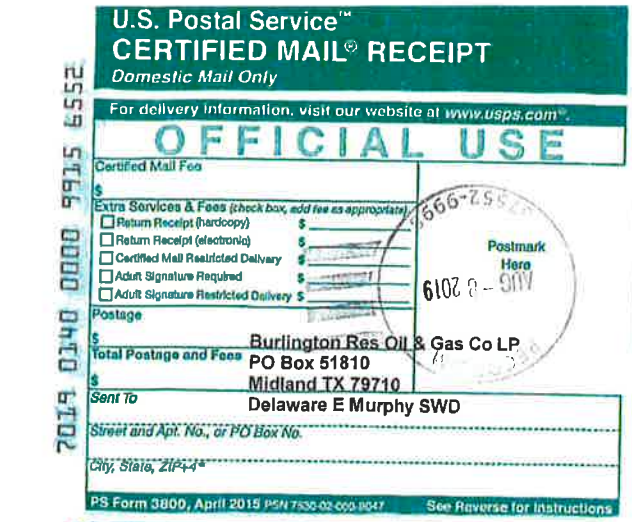
Submittal Information: Application for a saltwater disposal well will be filed with the NMOCD. If you have an objection, or wish to request a hearing, then it must be filed with the NMOCD within 15 days of receipt of this letter. NMOCD address is 1220 South St. Francis Dr. Santa Fe, NM 87505. Phone is (505) 476-3440.

Please call me if you have any questions.

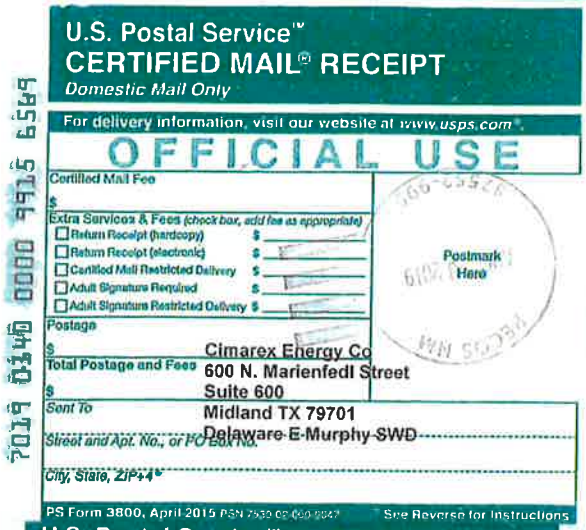
Sincerely,

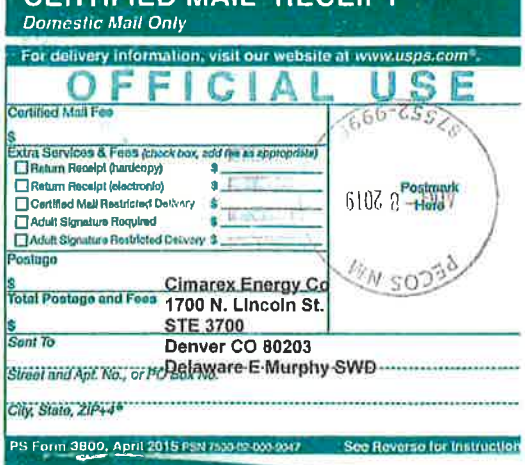
Brian Wood

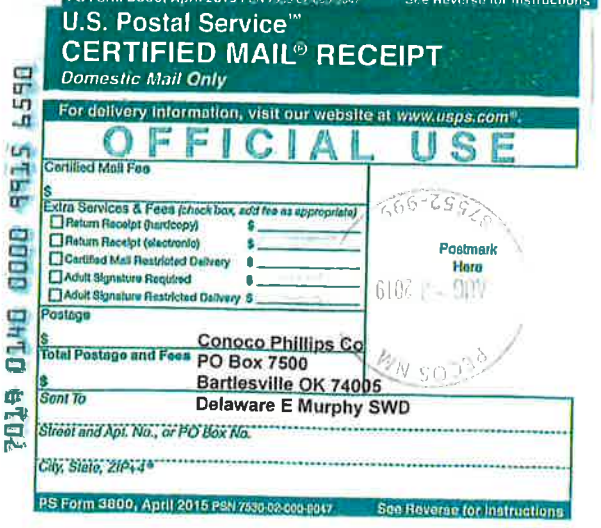
EXHIBIT J

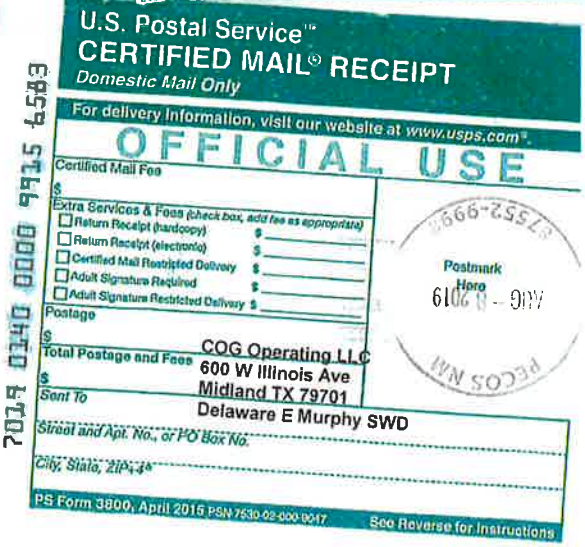

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy)
Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
Total Postage and Fees
Sent To
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
Postmark Here
AUG - 8 2019
Burlington Res Oil & Gas Co LP
PO Box 51810
Midland TX 79710
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions
7019 0140 0000 9915 6552

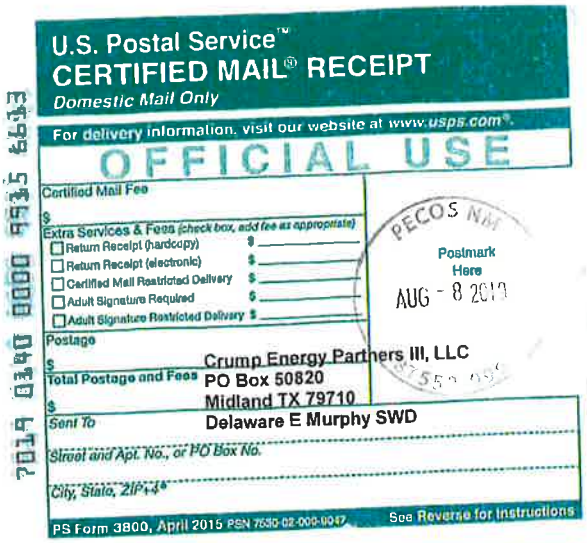

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
$3.50
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy) $2.80
Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
$1.30
Total Postage and Fees
$7.60
Sent To
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
Postmark Here
AUG - 8 2019
BLM
301 Dinosaur Trail
Santa Fe NM 87508
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instruction
7019 0140 0000 9915 6545

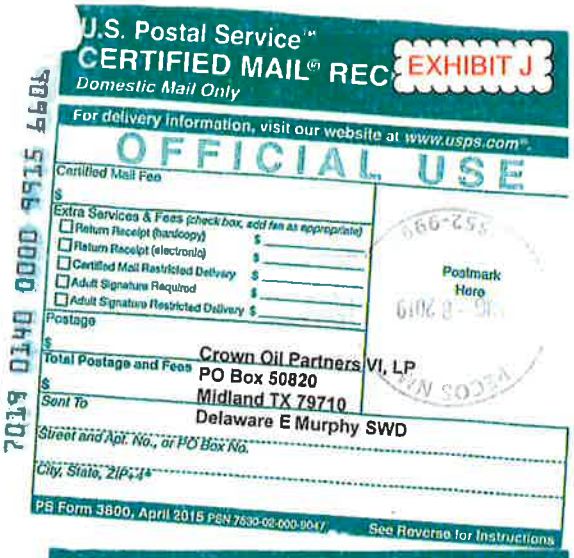

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy)
Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
Total Postage and Fees
Sent To
Midland TX 79701
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
Postmark Here
Cimarex Energy Co
600 N. Marienfedl Street
Suite 600
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions
7019 0140 0000 9915 6569

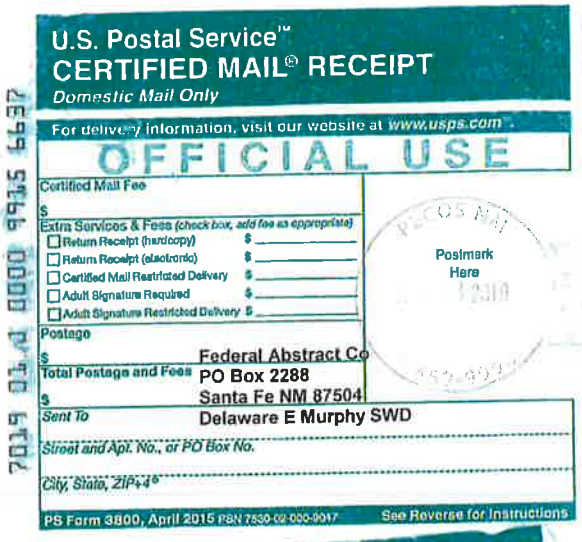

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy)
Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
Total Postage and Fees
Sent To
Denver CO 80203
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
Postmark Here
AUG - 8 2019
Cimarex Energy Co
1700 N. Lincoln St.
STE 3700
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instruction
7019 0140 0000 9915 6576


U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy)
Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
Total Postage and Fees
Sent To
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
Postmark Here
AUG - 8 2019
Conoco Phillips Co
PO Box 7500
Bartlesville OK 74005
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions
7019 0140 0000 9915 6590

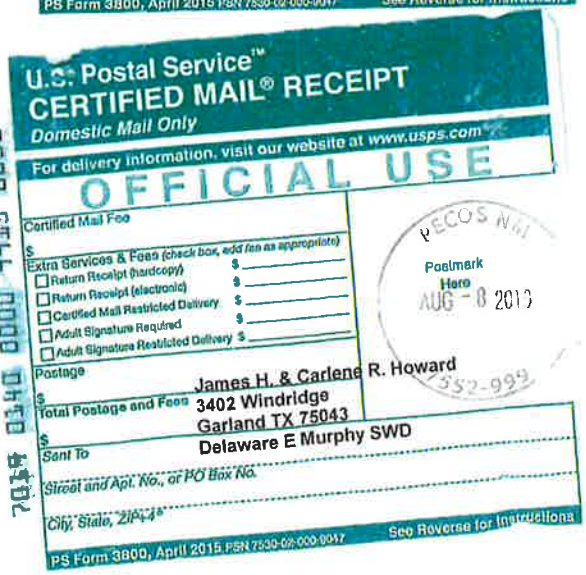

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy)
Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
Total Postage and Fees
Sent To
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
Postmark Here
AUG - 8 2019
COG Operating LLC
600 W Illinois Ave
Midland TX 79701
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions
7019 0140 0000 9915 6583

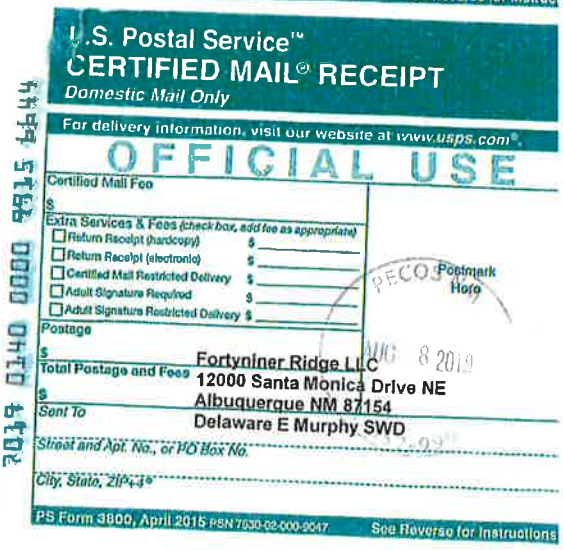

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy)
Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
Total Postage and Fees
Sent To
Crump Energy Partners III, LLC
PO Box 50820
Midland TX 79710
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions
PECOS NM
Postmark Here
AUG - 8 2013
7019 0140 0000 9915 6613


U.S. Postal Service™
CERTIFIED MAIL® REC
EXHIBIT J
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy)
Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
Total Postage and Fees
Sent To
Crown Oil Partners VI, LP
PO Box 50820
Midland TX 79710
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions
Postmark Here
7019 0140 0000 9915 6606


U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy)
Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
Total Postage and Fees
Sent To
Federal Abstract Co
PO Box 2288
Santa Fe NM 87504
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions
PECOS NM
Postmark Here
7019 0140 0000 9915 6637


U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy)
Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
Total Postage and Fees
Sent To
EOG Resources Inc
PO Box 2267
Midland TX 79702
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instruc
PECOS NM
Postmark Here
AUG - 8 20
7019 0140 0000 9915 6620

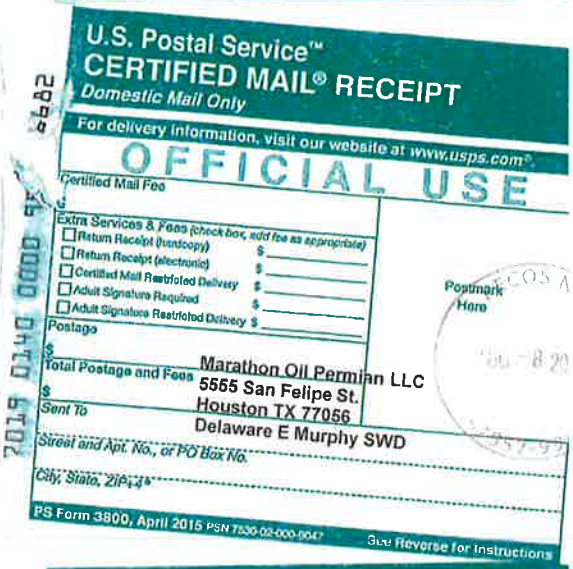

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy)
Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
Total Postage and Fees
Sent To
James H. & Carlene R. Howard
3402 Windridge
Garland TX 75043
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions
PECOS NM
Postmark Here
AUG - 8 2013
7019 0140 0000 9915 6651

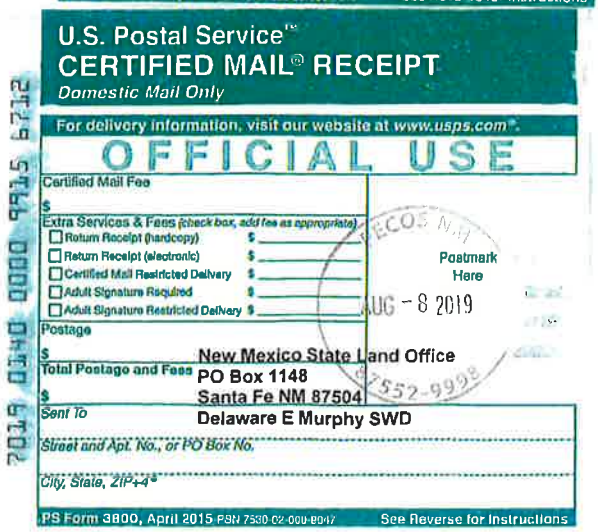

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy)
Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
Total Postage and Fees
Sent To
Fortyniner Ridge LLC
12000 Santa Monica Drive NE
Albuquerque NM 87154
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions
PECOS
Postmark Here
7019 0140 0000 9915 6644


U.S. Postal Service
CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
$
Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) $
☐ Return Receipt (electronic) $
☐ Certified Mail Restricted Delivery $
☐ Adult Signature Required $
☐ Adult Signature Restricted Delivery $
Postage
$
Total Postage and Fees
$
Sent To
Lakeiva L. Noel
PO Box 2197
Houston TX 77252
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions
Postmark Here
AUG - 8 2019
7019 0140 0000 9915 6611


U.S. Postal Service
CERTIFIED MAIL® RECEIPT
Domestic Mail Only
EXHIBIT J
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
$
Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) $
☐ Return Receipt (electronic) $
☐ Certified Mail Restricted Delivery $
☐ Adult Signature Required $
☐ Adult Signature Restricted Delivery $
Postage
$
Total Postage and Fees
$
Sent To
John Richardson
2 Soldiers Field Park #11
Boston MA 62163
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructio
Postmark Here
AUG - 8 2019
7019 0140 0000 9915 6628


U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
$
Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) $
☐ Return Receipt (electronic) $
☐ Certified Mail Restricted Delivery $
☐ Adult Signature Required $
☐ Adult Signature Restricted Delivery $
Postage
$
Total Postage and Fees
$
Sent To
Matador Production Company
One Lincoln Centre
5400 LBJ Fwy, Ste 1500
Dallas TX 75240
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions
Postmark Here
AUG - 8 2019
7019 0140 0000 9915 6699


U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
$
Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) $
☐ Return Receipt (electronic) $
☐ Certified Mail Restricted Delivery $
☐ Adult Signature Required $
☐ Adult Signature Restricted Delivery $
Postage
$
Total Postage and Fees
$
Sent To
Marathon Oil Permian LLC
5555 San Felipe St.
Houston TX 77056
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions
Postmark Here
7019 0140 0000 9915 6682


U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
$
Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) $
☐ Return Receipt (electronic) $
☐ Certified Mail Restricted Delivery $
☐ Adult Signature Required $
☐ Adult Signature Restricted Delivery $
Postage
$
Total Postage and Fees
$
Sent To
New Mexico State Land Office
PO Box 1148
Santa Fe NM 87504
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions
Postmark Here
AUG - 8 2019
7019 0140 0000 9915 6712

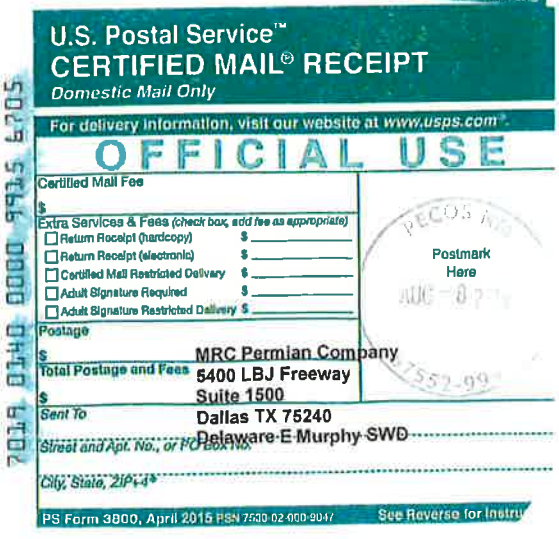
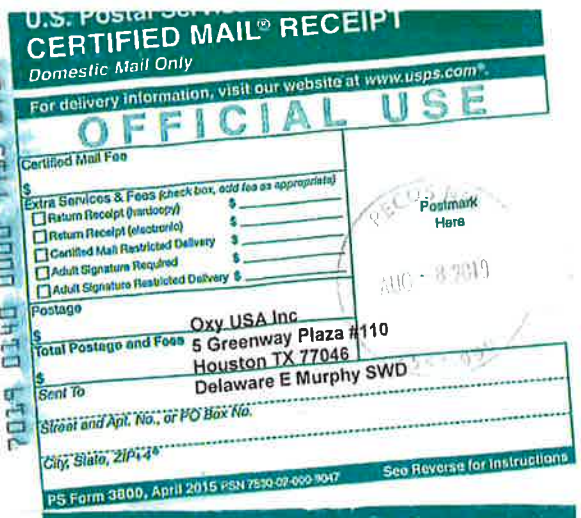
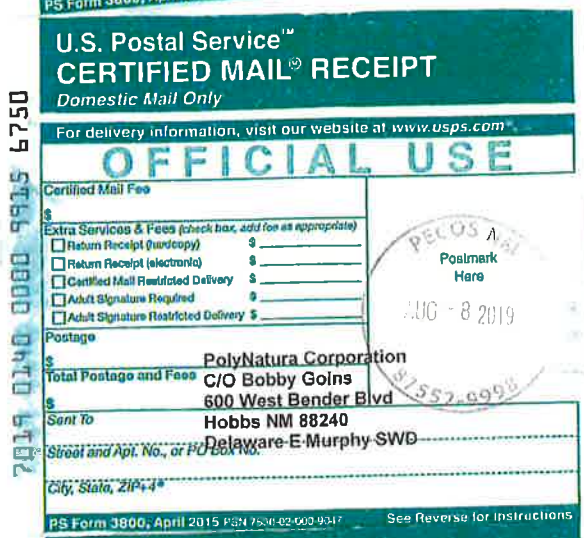
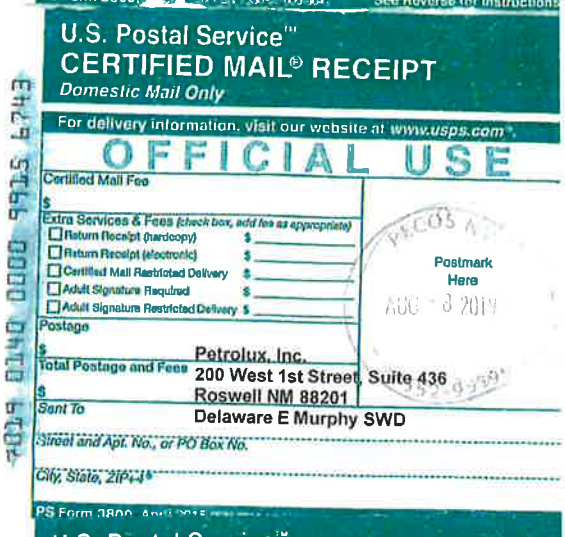

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
$
Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) $
☐ Return Receipt (electronic) $
☐ Certified Mail Restricted Delivery $
☐ Adult Signature Required $
☐ Adult Signature Restricted Delivery $
Postage
$
Total Postage and Fees
$
Sent To
MRC Permian Company
5400 LBJ Freeway
Suite 1500
Dallas TX 75240
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instru
Postmark Here
7019 0140 0000 9915 6705

EXHIBIT J

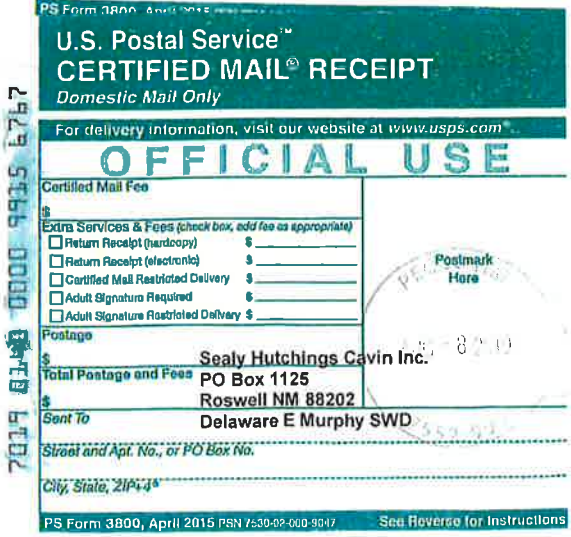

CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy)
Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
Total Postage and Fees
Postmark Here
AUG - 8 2019
Oxy USA Inc
5 Greenway Plaza #110
Houston TX 77046
Sent To
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
PS Form 3800, April 2015 PSN 7530-02-000-9047
See Reverse for Instructions
7019 0140 0000 9915 6729


CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy)
Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
Total Postage and Fees
Postmark Here
AUG - 8 2019
Oxy USA Inc
PO Box 4294
Houston TX 77210
Sent To
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
See Reverse for Instructions
7019 0140 0000 9915 6736


U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy)
Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
Total Postage and Fees
Postmark Here
AUG - 8 2019
PolyNatura Corporation
C/O Bobby Goins
600 West Bender Blvd
Hobbs NM 88240
Sent To
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
PS Form 3800, April 2015 PSN 7530-02-000-9047
See Reverse for Instructions
7019 0140 0000 9915 6750


U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy)
Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
Total Postage and Fees
Postmark Here
AUG - 8 2019
Petrolux, Inc.
200 West 1st Street, Suite 436
Roswell NM 88201
Sent To
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
7019 0140 0000 9915 6743


U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy)
Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
Total Postage and Fees
Postmark Here
AUG - 8 2019
Sun Valley Energy Corporation
PO Box 1000
Roswell NM 88202
Sent To
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
PS Form 3800, April 2015 PSN 7530-02-000-9047
See Reverse for Instructions
7019 0140 0000 9915 6774


U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only
For delivery information, visit our website at www.usps.com®.
OFFICIAL USE
Certified Mail Fee
Extra Services & Fees (check box, add fee as appropriate)
Return Receipt (hardcopy)
Return Receipt (electronic)
Certified Mail Restricted Delivery
Adult Signature Required
Adult Signature Restricted Delivery
Postage
Total Postage and Fees
Postmark Here
Sealy Hutchings Cavin Inc.
PO Box 1125
Roswell NM 88202
Sent To
Delaware E Murphy SWD
Street and Apt. No., or PO Box No.
City, State, ZIP+4®
PS Form 3800, April 2015 PSN 7530-02-000-9047
See Reverse for Instructions
7019 0140 0000 9915 6767

STATE OF NEW MEXICO
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION

APPLICATION OF DELAWARE WATER MANAGEMENT COMPANY, LLC FOR AUTHORIZATION TO INJECT INTO THE E MURPHY FEDERAL SWD No. 1 WELL FOR PURPOSES OF DISPOSAL, LEA COUNTY, NEW MEXICO.

CASE NO. 20814

AFFIDAVIT

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

Adam G. Rankin, attorney in fact and authorized representative of Delaware Water Management Company, LLC, the Applicant herein, being first duly sworn, upon oath, states that the above-referenced Application has been provided under the notice letters and proof of receipts attached hereto.

Adam G. Rankin

SUBSCRIBED AND SWORN to before me this 2nd day of October, 2019 by Adam G. Rankin.

Notary Public

My Commission Expires:

January 28, 2023

OFFICIAL SEAL
ANNA K. STORM
NOTARY PUBLIC - STATE OF NEW MEXICO
My Commission Expires: January 28, 2023

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 2
Submitted by: DELAWARE WATER MGMT CO.
Hearing Date: October 3, 2019
Case No. 20814

HOLLAND&HART LLP

Adam G. Rankin
Phone (505) 988-4421
Fax (505) 983-6043
agrankin@hollandhart.com

September 11, 2019

VIA CERTIFIED MAIL
CERTIFIED RECEIPT REQUESTED

TO: AFFECTED PARTIES

Re: Application of Delaware Water Management Company, LLC For Authorization to Inject into the E Murphy Federal SWD No. 1 Well For Purposes of Disposal, Lea County, New Mexico.
E Murphy Federal SWD No. 1 Well

Ladies & Gentlemen:

This letter is to advise you that Delaware Water Management Company, LLC has filed the enclosed application with the New Mexico Oil Conservation Division. A hearing has been requested before a Division Examiner on October 3, 2019 and the status of the hearing can be monitored through the Division's website at http://www.emnrd.state.nm.us/ocd/. Division hearings will commence at 8:15 a.m. in Porter Hall at the Oil Conservation Division's Santa Fe Offices located at 1220 South Saint Francis Drive, Santa Fe, New Mexico 87505. You are not required to attend this hearing, but as an owner of an interest that may be affected by this application, you may appear and present testimony. Failure to appear at that time and become a party of record will preclude you from challenging the matter at a later date.

Parties appearing in cases are required by Division Rule 19.15.4.13.B to file a Pre-hearing Statement four business days in advance of a scheduled hearing. This statement must be filed at the Division's Santa Fe office at the above specified address and should include: the names of the parties and their attorneys; a concise statement of the case; the names of all witnesses the party will call to testify at the hearing; the approximate time the party will need to present its case; and identification of any procedural matters that are to be resolved prior to the hearing.

If you have any questions about this matter please contact Tara Flume at (972) 629-2129 or tflume@matadorresources.com.

Sincerely,

Adam G. Rankin
ATTORNEY FOR DELAWARE WATER MANAGEMENT COMPANY, LLC

13492185_v1

Postal Delivery Report
Delaware Water Management Company - E. Murphy
Case No. 20814

Tracking Number	Recipient	Status
9214890194038389677741	New Mexico State Land Office 310 Old Santa Fe Trail Santa Fe NM 87501	Delivered Signature Received

$5.60

UNITED STATES POSTAL SERVICE®

Shipment Confirmation Acceptance Notice

A. Mailer Action

Note to Mailer: The labels and volume associated to this form online, **must** match the labeled packages being presented to the USPS® employee with this form.

Shipment Date: 09/11/2019

Shipped From:

Name: HOLLAND & HART LLP

Address: 110 N GUADALUPE ST # 1

City: SANTA FE

State: NM ZIP+4® 87501

Delaware Water Management - E. Murphy SDW 1
Case No. 20814
CM#83379.0001

Type of Mail	Volume
Priority Mail Express®*	
Priority Mail®	0
First-Class Package Service®	
Returns	
International*	
Other	1
Total	1

*Start time for products with service guarantees will begin when mail arrives at the local Post Office™ and items receive individual processing and acceptance scans.

B. USPS Action

Note to RSS Clerk:
1. Home screen > Mailing/Shipping > More
2. Select Shipment Confirm
3. Scan or enter the barcode/label number from PS Form 5630
4. Confirm the volume count message by selecting Yes or No
5. Select Pay and End Visit to complete transaction

USPS EMPLOYEE: Please scan upon pickup or receipt of mail. Leave form with customer or in customer's mail receptacle.

USPS SCAN AT ACCEPTANCE

9275 0901 1935 6200 0016 9583 94

SANTA FE, NM 87501-9211 DE VARGAS

UNITED STATES POSTAL SERVICE®

Firm Mailing Book For Accountable Mail

Name and Address of Sender

Holland & Hart LLP
110 N Guadalupe St # 1
Santa Fe NM 87501

Check type of mail or service

- ☐ Adult Signature Required
- ☐ Adult Signature Restricted Delivery
- ☒ Certified Mail
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery (COD)
- ☐ Insured Mail
- ☐ Priority Mail
- ☐ Priority Mail Express
- ☐ Registered Mail
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation
- ☐ Signature Confirmation Restricted Delivery

Affix Stamp Here
(if issued as an international certificate of mailing or for additional copies of this receipt).
Postmark with Date of Receipt.

USPS Tracking/Article Number	Addressee (Name, Street, City, State, & ZIP Code™)	Postage	(Extra Service) Fee	Handling Charge	Actual Value if Registered	Insured Value	Due Sender if COD	ASR Fee	ASRD Fee	RD Fee	RR Fee	SC Fee	SCRD Fee	SH Fee
1. 9214 8901 9403 8389 6777 41	New Mexico State Land Office 310 Old Santa Fe Trail Santa Fe NM 87501	0.50	3.50								1.60			

Handling Charge - if Registered and over $50,000 in value
Adult Signature Required
Adult Signature Restricted Delivery
Restricted Delivery
Return Receipt
Signature Confirmation
Signature Confirmation Restricted Delivery
Special Handling

Total Number of Pieces Listed by Sender	Total Number of Pieces Received at Post Office	Postmaster, Per *(Name of receiving employee)*
1		

Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

I, Daniel Russell, Publisher of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

Beginning with the issue dated
September 17, 2019
and ending with the issue dated
September 17, 2019.

Publisher

Sworn and subscribed to before me this
17th day of September 2019.

Business Manager

My commission expires
January 29, 2023
(Seal)

OFFICIAL SEAL
GUSSIE BLACK
Notary Public
State of New Mexico
My Commission Expires 1-29-23

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said

LEGAL LEGAL

LEGAL NOTICE
SEPTEMBER 17, 2019

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES
DEPARTMENT OIL CONSERVATION DIVISION
SANTA FE, NEW MEXICO

The State of New Mexico through its Oil Conservation Division hereby gives notice pursuant to law and the Rules and Regulations of the Division of the following public hearing to be held at 8:15 A.M. on **October 3, 2019**, in the Oil Conservation Division Hearing Room at 1220 South St. Francis, Santa Fe, New Mexico, before an examiner duly appoint for the hearing. If you are an individual with a disability who is in need of a reader, amplifier, qualified sign language interpreter, or any other form of auxiliary aid or service to attend or participate in the hearing, please contact: Florene Davidson at 505-476-3458 or through the New Mexico Relay Network, 1-800-659-1779 by **September 23, 2019**. Public documents, including the agenda and minutes, can be provided in various accessible forms. Please contact Florene Davidson if a summary or other type of accessible form is needed.

STATE OF NEW MEXICO TO:
All named parties and persons having any right, title, interest or claim in the following case and notice to the public.

(NOTE: All land descriptions herein refer to the New Mexico Principal Meridian whether or not so stated.)

To: All overriding royalty interest owners and pooled parties, including: New Mexico State Land Office.

Case No. 20814: Application of Delaware Water Management Company, LLC For Authorization to Inject Into the E Murphy Federal SWD No. 1 Well For Purposes of Disposal, Lea County, New Mexico. Applicant in the above-styled cause seeks an order authorizing it to drill and operate an injection well for purposes of disposing produced salt water to be named the **E Murphy Federal SWD No. 1 Well** (API No. 30-025-pending), to be located 2,443 feet from the north line and 2,634 feet from the west line (Unit F), Section 1, Township 23 South, Range 32 East, NMPM, Lea County, New Mexico. Injection will be into the Devonian formation through an open-hole completion between approximately 16,314 feet and 17,294 feet below the surface. Disposal fluid will be produced water from producing oil and gas wells in the area. Average disposal volume will be 40,000 bpd with a maximum of 45,000 bpd. Average surface injection pressure will be 2,500 psi with a maximum surface injection pressure of 3,262 psi. The subject well will be located approximately 28 miles west-southeast of Eunice, N.M.
#34704

67100754 00233504

HOLLAND & HART LLC
PO BOX 2208
SANTA FE,, NM 87504-2208

STATE OF NEW MEXICO
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION

APPLICATION OF DELAWARE WATER MANAGEMENT COMPANY, LLC FOR AUTHORIZATION TO INJECT INTO THE E MURPHY FEDERAL SWD No. 1 WELL FOR PURPOSES OF DISPOSAL, LEA COUNTY, NEW MEXICO.

CASE NO. 20814

AFFIDAVIT OF DR. EDMUND LOCKE FROST III

I, Dr. Edmund Locke Frost III, of lawful age and being first duly sworn, declares as follows:

1. My name is Dr. Edmund Locke Frost III. I work for MRC Energy Company, an affiliate of Matador Production Company ("Matador"), as the senior vice president of geoscience for MRC Energy and all of its affiliates. Delaware Water Management Company, LLC ("Delaware Water Management") is the applicant in this case and is an affiliated company.

2. I have previously testified before the New Mexico Oil Conservation Division as an expert witness in petroleum geology. My credentials as an expert in petroleum geology have been accepted by the Division and made a matter of record.

3. I am familiar with the application filed by Delaware Water Management in this case and have conducted a geologic study of the subject lands.

4. Item VIII in the C-108, starting at page 8 of **Exhibit 1**, contains all the geologic information, including a geologic description of the target injection interval and the approximate depth of the formation tops in the area, required for approval.

5. The proposed injection interval is the Devonian formation, or Siluro-Devonian, which is comprised of limestone and dolomite and is approximately 1,200 feet thick in the area of the proposed well. The proposed injection interval will be within the Devonian at approximately 16,314 feet to 17,294 feet below the surface.

6. My opinions and conclusions are based on my review of both publicly available data and information on the geology and injection interval in this area, as well as proprietary and confidential business records.

7. Injection into the Devonian will be contained and prevented from migrating out of the injection interval to shallower zones by the overlying Woodford formation, which is a shale deposit that functions as an impermeable barrier and is approximately 200 feet thick. Below the injection interval the Simpson Group functions as a basal seal, which is also a shale interval, and will prevent any downward migration of injection fluids out of the injection zone.

8. Recent nearby injection has demonstrated that the Devonian formation in this area is suitable for injection and is capable of receiving the injection volumes and rates proposed.

9. An analysis of proprietary 3D seismic data shows that there are no faults or other geologic features around the injection site that would serve as a conduit or pathway for injection fluids to escape the injection interval. The C-108, at page 24 of **Exhibit 1**, contains a geologic statement from Jake Harrington, senior geologist with the company, confirming that the geologic and engineering data related to the proposed injection well has been thoroughly reviewed and no evidence has been found for a hydrological connection between the proposed Devonian injection zone and any underground sources of drinking water.

10. Injection will not impair correlative rights and will not adversely affect the production of hydrocarbons. The Devonian formation is not prospective for hydrocarbons in this

area and no zones below the Devonian are prospective. The geologic seals identified above the injection interval will serve to isolate the disposal fluids from overlying zones capable of producing hydrocarbons. In addition, there is a significant vertical offset between the proposed injection and overlying formations capable of production.

11. Fresh water in this area is found within quaternary sediments at a depth of about 700 feet or less below the surface. No underground sources of drinking water exist below the injection interval in this area. A review of the State Engineer's database indicates that there are no freshwater wells within a one-mile radius of the proposed injection, as depicted in the search results on page 23 and a one-mile radius map on page 22 of Exhibit 1. A field inspection also was conducted and confirmed that there are no freshwater wells. Because we were unable to locate freshwater wells in the area, we were unable to obtain freshwater samples.

12. Based on this review and analysis of freshwater, the geologic seals above and below the injection interval, and the significant vertical offset between the injection zone and shallow zones containing freshwater, it is my opinion that the proposed injection will not threaten any drinking water sources or zones of freshwater.

13. In addition to the foregoing standard geologic analysis, I also prepared a modeling study characterizing the fault-slip potential of known faults in the area resulting from injection in the proposed well at the proposed rates and volumes, taking into consideration all currently existing and proposed injection into the Devonian in the area. That study is attached as **Exhibit 3**.

14. The results of the study indicate that the overall probability of a fault slip as a result of the proposed injection is less than 10 percent over a 30-year economic life of the injection well, even with multiple high-volume injectors spaced roughly one mile apart. The

geochemical modeling shows that distance to failure for all faults in the study area is greater than 700 psi; meaning that aquifer pore pressure would need to increase by greater than 700 psi at a given fault plane for there to be a risk of failure. The model predicts a maximum pressure increase of 242 psi by year 2048, assuming maximum injection rates for all wells in the study area, which is well below the potential threshold for fault failure. Therefore, I view this as a low-risk setting for fault-slip potential.

15. Caution still needs to be employed to avoid locating injection wells near potentially unstable geologic features. Accordingly, Delaware screened the proposed location for this well, as it does for all its disposal wells, against its proprietary 3D seismic data to avoid injecting near faults. The location for the proposed well was chosen to avoid potential faults, which further reduces the risk.

16. In my opinion, granting this application will help conserve resources, avoid waste, and protect correlative rights.

FURTHER AFFIANT SAYETH NOT.

Edmund Locke Frost III

Dr. Edmund Locke Frost III

STATE OF TEXAS)
)
COUNTY OF Dallas)

SUBSCRIBED and SWORN to before me this 2nd day of October 2019 by Dr. Edmund Locke Frost III.

TRISHA INURRIGARRO
My Notary ID # 12254918
Expires March 5, 2021

Trisha Inurrigarro

NOTARY PUBLIC

My Commission Expires:

3/5/21

13623693_v1

Fault-Slip Probability Assessment for the E Murphy Federal SWD #1, Bootleg Ridge Area, Lea County New Mexico

Dr. Edmund L Frost III, Vice President—Geoscience, Delaware Water Management Company, LLC

In order to minimize the potential risk of induced seismicity associated with deep waste water disposal, Delaware Water Management Company, LLC ("Delaware") has undertaken a study to characterize the fault-slip potential for the E Murphy Federal SWD #1 in Lea County, New Mexico. This document presents the results of an eight well model, which investigates the impact of waste water injection at a rate of 40,000 bbl/day until 2050 (Figure 1a, Table 1). This study utilizes a mix of public and proprietary data in conjunction with the Stanford Center for Induced and Triggered Seismicity's (SCITS) Fault Slip Potential (FSP; Walsh et al., 2017) code (table 2).

The model presented here interrogates the stability of population of 250 stochastically oriented, and located, faults. The orientations (strike, dip) of the model fault population are constrained by data from 17 regional basement faults mapped by Delaware in the E Murphy area on a 173 mi^2 proprietary PSTM 3D seismic volume. Stress data was derived from Matador Production Company's Nina Cortell 211 Pilot, where the maximum horizontal stress (SHmax) orientation was observed as N64°E. This orientation agrees with published regional stress orientations of N60°E to N75°E for Southern Lea County (Lund Snee and Zoback 2018). Horizontal stress magnitudes were not modeled explicitly by Delaware, instead the published Aø value of 0.6 (Lund Snee and Zoback 2018; Table 2) for southern Lea County, New Mexico was used, which implies a pure normal faulting environment.

The impact of high-rate injection in the eight-well case can be seen as a modest regional increase in pore pressure with time (Figure 1b). At the E Murphy Federal SWD #1 the model predicts a maximum reservoir pressure increase of 242 psi by year 2048. At the modelled depth of 16,750 ft, this translates to a pore pressure gradient increase of 0.014 psi/ft. Results of the geomechanical modeling show that all faults have a "distance to failure" of greater than 700 psi; meaning that aquifer pore pressure would need to be increased by greater than 700 psi at a given fault plane to potentially induce failure. The results of the model case presented here are well below this limit. Based on the simulation run by this study, the overall probability of fault slip is less than 10% well into the future (2048), even with multiple high-volume injectors spaced roughly one mile apart. However, caution still needs to be exercised to avoid injection near unstable features. In order to minimize risk, Delaware screens all of its SWD locations, including the E Murphy Federal SWD #1, against its 3D seismic to avoid injection near faults.

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 3
Submitted by: DELAWARE WATER MGMT CO.
Hearing Date: October 3. 2019
Case No. 20814

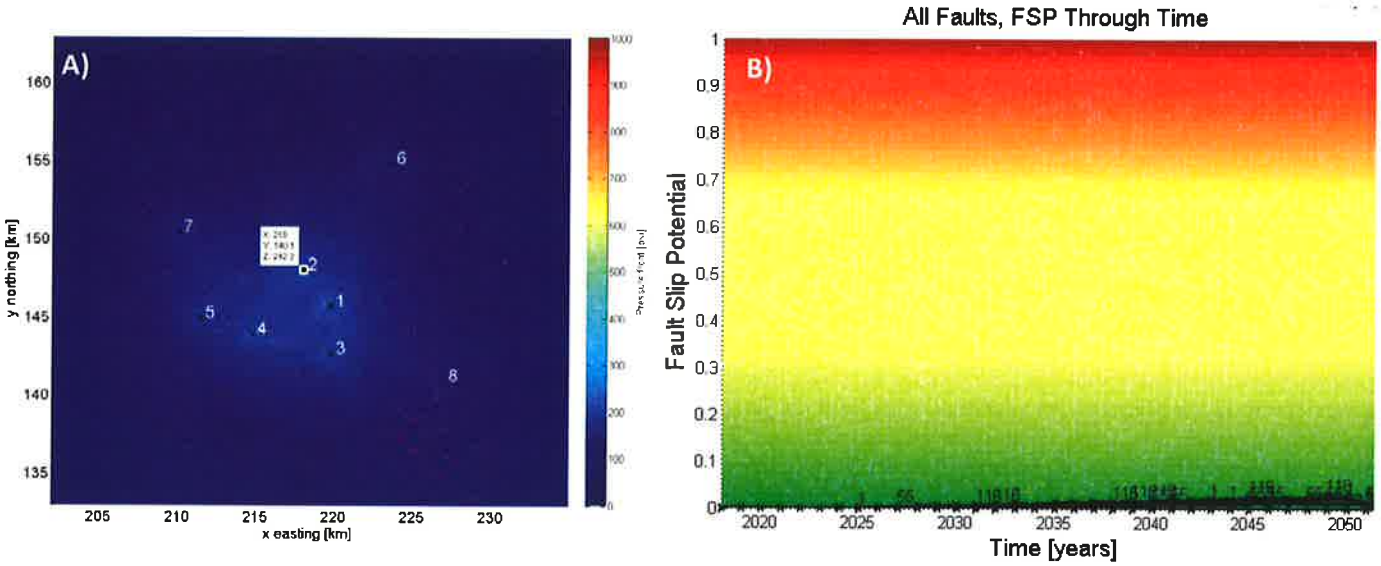


Figure 1: A) Modeled reservoir pressure for the eight-well case at year 2048. A maximum pressure of 265 psi is observed at E Murphy Federal SWD #1. B) Fault slip potential (FSP) for the eight-well case. On all faults FSP remains below 15%. The green dashed line marks year 2049, the black lines and numbers denote the slip probability of individual faults.

#	Well Name	Modeled Volume (bbl/d)	Start	End
1	R Wallman Federal SWD #1	40,000	2020	2050
2	E Murphy Federal SWD #1	40,000	2020	2050
3	Brinninstool SWD #3	40,000	2020	2050
4	Trey SWD #1	40,000	2020	2050
5	Sand 18 Federal #1	40,000	2020	2050
6	Doodle Bug SWD State #1	40,000	2020	2050
7	Deep Purple SWD #1	40,000	2018	2048
8	Brinninstool SWD #4	40,000	2020	2050

Table 1: Well Data for FSP Modeling. Well numbers correspond to wells in Figure 1.

Parameter	Input Value	Variability (+/-)	Data Source
Vertical Stress Gradient	1.05 psi/ft	0.05 psi/ft	Pilot Hole
Shmax	N 67° E	5°	Pilot Hole
Fault Strike	variable	5°	3D Seismic
Fault Dip	variable	15°	3D Seismic
Reference Depth	13500 ft	na	Pilot Hole, 3D Seismic, Regional Mapping
Initial Reservoir Pressure Gradient	0.43 psi/ft	0.03 psi/ft	Pilot Hole
A Phi Parameter	0.62	0.03	Lund Snee and Zoback 2018
Reference Friction Coefficient	0.6	0.01	Standard Value
Aquifer Thickness	1000 ft	200	Pilot Hole, Regional Mapping
Porosity	6%	2%	Pilot Hole
Permeability	150 mD	100 mD	Pilot Hole, Step-Rate Tests
Fluid Density	1029 kg/m³	10 kg/m³	Assumed value
Dynamic Viscosity	0.0004 Pa. S	0.0001 Pa. S	Calculated value corrected for reservoir temperature

Table 2: Model Inputs, Variance, and Source.

STATE OF NEW MEXICO
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION

APPLICATION OF DELAWARE WATER MANAGEMENT COMPANY, LLC FOR AUTHORIZATION TO INJECT INTO THE E MURPHY FEDERAL SWD No. 1 WELL FOR PURPOSES OF DISPOSAL, LEA COUNTY, NEW MEXICO.

CASE NO. 20814

AFFIDAVIT OF BRADLEY M. ROBINSON

I, Bradley M. Robinson, of lawful age and being first duly sworn, declares as follows:

1. My name is Bradley M. Robinson. I work for MRC Energy Company, an affiliate of Matador Production Company ("Matador"), as the Executive Vice President of Reservoir Engineering and Chief Technology Officer for MRC Energy and all of its affiliates. Delaware Water Management Company, LLC ("Delaware Water Management") is the applicant in this case and is an affiliated company.

2. I have previously testified before the New Mexico Oil Conservation Division as an expert witness in reservoir engineering. My credentials as an expert in petroleum engineering have been accepted by the Division and made a matter of record.

3. I am familiar with the application filed by Delaware Water Management in this case and have conducted an engineering study of the proposed injection.

4. The proposed well is the E Murphy Federal SWD No. 1. It will be located 2,443 feet from the north line and 2,634 feet from the west line in Section 1, Township 23 South, Range 32 East, Lea County, New Mexico. A C-102 depicting the well's location, along with latitude and longitude coordinates may be found at page 12 of the C-108 in Exhibit 1.

5. All the well data and operational information required by the C-108 is included in the application. The proposed well design is contained in the Injection Well Data Sheet at pages 4-5 of the C-108 in Exhibit 1. A description of the proposed well design may be found at pages 6-7 of the C-108 in Exhibit 1. The disposal interval will be a 6.5-inch open-hole completion from approximately 16,314 feet to 17,294 in the Devonian or Siluro-Devonian formation. An acid wash will be used to clean the hole prior to injection.

6. The proposed well will have 5.5-inch injection tubing, which will permit us to dispose of larger volumes of water over time. That means we will have to drill fewer injection wells over time, reducing the surface footprint of the industry. Delaware Water Management may request administrative approval to increase the injection tubing to 7-5/8 inch diameter at a later time.

7. The well's cement job will be confirmed with a cement bond log or an equivalent cement integrity log, to establish the top of the cement and the quality of the bonding to the casing.

8. The well's annular space between the injection tubing and casing will be filled with an inert packer fluid to protect both the casing and the tubing and the annular pressure will be monitored at the wellhead to confirm the integrity of the well during injection.

9. The well design and cement plan will be protective of freshwater sources in the area and protective of correlative rights.

10. The average injection rate will be approximately 40,000 barrels of water per day (bwpd), with a maximum injection rate of 45,000 bwpd. The injection system will be a closed system. The average surface injection pressure will be approximately 2,500 psi, with a maximum surface injection pressure of 3,262 psi, based on the Division's guideline limiting injection

pressures to 0.2 psi per foot of depth to the top-most injection interval. The proposed injection volumes can be easily achieved without exceeding the maximum surface injection pressure.

11. Injection parameters will be continuously monitored through an electronic SCADA system.

12. The source of injection fluids will be produced water from the Bone Spring, Delaware, and Wolfcamp formations. A summary of produced water chemistry from the area is provided in a table on pages 18-21 of the C-108 in Exhibit 1. A summary of Devonian formation water is provided on page 8 of the C-108 in Exhibit 1. A review of the water chemistry combined with experience in this area provides confidence that there will be no issues or problems with compatibility of fluids in the injection interval.

13. Page 17 of the C-108 in Exhibit 1 depicts a map of oil and gas wells with a two-mile radius around the proposed well. No wells, active, proposed, or plugged and abandoned, penetrate the proposed injection interval within a mile of the proposed well. The deepest existing or proposed well within a mile is a Bone Spring producing well which was completed at a total vertical depth of 10,860 feet.

14. None of wells within a one-mile area of review require remedial work to ensure that injection fluids are contained within the injection interval. And none of the wells within the one-mile area of review create a potential conduit for the transmission of injection fluids out of the injection zone.

15. In my opinion, granting this application will help conserve resources, avoid waste, and protect correlative rights.

FURTHER AFFIANT SAYETH NOT.

Bradley M. Robinson

Bradley M. Robinson

STATE OF TEXAS)
)
COUNTY OF Dallas)

SUBSCRIBED and SWORN to before me this 2nd day of October 2019 by Bradley M. Robinson.

TRISHA INURRIGARRO
My Notary ID # 12254918
Expires March 5, 2021

Trisha Inurrigarro
NOTARY PUBLIC

My Commission Expires:

3/5/21

13625644_v1