

RECEIVED: 4/30/19	REVIEWER:	TYPE: SWD	APP NO: PLEL 1912860756
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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



2104

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: Permian Oilfield Partners, LLC.	OGRID Number: 328259
Well Name: Deep Gorge State SWD #1	API: 30-025-Pending
Pool: SWD; Devonian-Silurian	Pool Code: 97869

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

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

FOR OCD ONLY

- ☐ Notice Complete
☐ Application Content Complete

- 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.

Sean Puryear

Print or Type Name

Signature

04/26/2019

Date

(817) 600-8772

Phone Number

spuryear@popmidstream.com

e-mail Address

APR 30 2019 AM 10:01



Mr. Phillip Goetze
New Mexico Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

Re: C-108 Application for SWD Well
Permian Oilfield Partners, LLC
Deep Gorge State SWD #1
Sec. 6, Twp. 24S, Rge. 34E
1176' FNL, 250' FEL
Lea County, NM

Mr. Goetze,
Attached is a C-108 Application for administrative approval of Permian Oilfield Partners LLC's proposed Deep Gorge State SWD #1 located in Sec 6, Twp 24S, Rge 34E, Lea County, New Mexico. This well will be completed open hole in the Devonian-Silurian formation and will be operated as a commercial salt water disposal well.

Similar application exhibits were sent to offset operators, mineral owners, lessees and the surface owner. The distribution list and proof of mailing, as well as affidavit of publication are enclosed. A copy of this application has also been sent to NM OCD District 1 in Hobbs.

If you have any questions, please contact us at (817)606-7630.

Sincerely,

Sean Puryear
Permian Oilfield Partners, LLC
spuryear@popmidstream.com

Date:

04/26/19

APPLICATION FOR AUTHORIZATION TO INJECT

- I. **PURPOSE: Disposal**
Application qualifies for administrative approval? **Yes**
- II. **OPERATOR: Permian Oilfield Partners, LLC.**
ADDRESS: P.O. Box 1220, Stephenville, TX. 76401
CONTACT PARTY: Sean Puryear **PHONE: (817) 600-8772**
- 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? **No**
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-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:
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: **Sean Puryear** TITLE: **Manager**
SIGNATURE:  DATE: **4-25-2019**
E-MAIL ADDRESS: **spuryear@popmidstream.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.

Additional Data

1. **Is this a new well drilled for injection?**
Yes
2. **Name of the Injection Formation:**
Devonian: Open Hole Completion
3. **Name of Field or Pool (if applicable):**
SWD; Devonian-Silurian
4. **Has the well ever been perforated in any other zone(s)?**
No: New Drill for Injection of Produced Water
5. **Give the name and depths of any oil or gas zones underlying or overlying the proposed Injection zone in this area:**

Overlying Potentially Productive Zones:
Delaware, Bone Spring, Wolfcamp, Strawn, Atoka & Morrow Tops all above 14,903'

Underlying Potentially Productive Zones:
None

WELL CONSTRUCTION DATA

Permian Oilfield Partners, LLC.
Deep Gorge State SWD #1
1176' FNL, 250' FEL
Sec. 6, T24S, R34E, Lea Co. NM
Lat 32.2506024° N, Lon 103.5013700° W
GL 3601', RKB 3631'

Surface - (Conventional)

Hole Size: 26" Casing: 20" - 94# H-40 & 106.5# J-55 STC Casing
Depth Top: Surface
Depth Btm: 1039'
Cement: 682 sks - Class C + Additives
Cement Top: Surface - (Circulate)

Intermediate #1 - (Conventional)

Hole Size: 17.5" Casing: 13.375" - 61# J-55 & 68# J-55 STC Casing
Depth Top: Surface
Depth Btm: 5304'
Cement: 1735 sks - Lite Class C (50:50:10) + Additives
Cement Top: Surface - (Circulate)

Intermediate #2 - (Conventional)

Hole Size: 12.25" Casing: 9.625" - 40# L-80 & 40# HCL-80 BTC Casing
Depth Top: Surface
Depth Btm: 12453' ECP/DV Tool: 5404'
Cement: 2125 sks - Lite Class C (60:40:0) + Additives
Cement Top: Surface - (Circulate)

Intermediate #3 - (Liner)

Hole Size: 8.5" Casing: 7.625" - 39# HCL-80 FJ Casing
Depth Top: 12253'
Depth Btm: 16844'
Cement: 237 sks - Lite Class C (60:40:0) + Additives
Cement Top: 12253' - (Volumetric)

Intermediate #4 - (Open Hole)

Hole Size: 6.5" Depth: 18667'
Inj. Interval: 16844' - 18667' (Open-Hole Completion)

Tubing - (Tapered)

Tubing Depth: 16799' Tubing: 7" - 26# HCP-110 FJ Casing & 5.5" 17# HCL-80
X/O Depth: 12253' FJ Casing (Fiberglass Lined)
X/O: 7" 26# HCP-110 FJ Casing - X - 5.5" 17# HCL-80 FJ Casing (Fiberglass Lined)
Packer Depth: 16809' Packer: 5.5" - Perma-Pak or Equivalent (Inconel)

WELLBORE SCHEMATIC

Permian Oilfield Partners, LLC.
Deep Gorge State SWD #1
1176' FNL, 250' FEL
Sec. 6, T24S, R34E, Lea Co. NM
Lat 32.2506024° N, Lon 103.5013700° W
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Depth Btm: 5304'
Cement: 1735 sks - Lite Class C (50:50:10) + Additives
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Intermediate #2 - (Conventional)

Hole Size: 12.25"
Casing: 9.625" - 40# L-80 & 40# HCL-80 BTC Casing
Depth Top: Surface
Depth Btm: 12453'
Cement: 2125 sks - Lite Class C (60:40:0) + Additives
Cement Top: Surface - (Circulate)
ECP/DV Tool: 5404'

Intermediate #3 - (Liner)

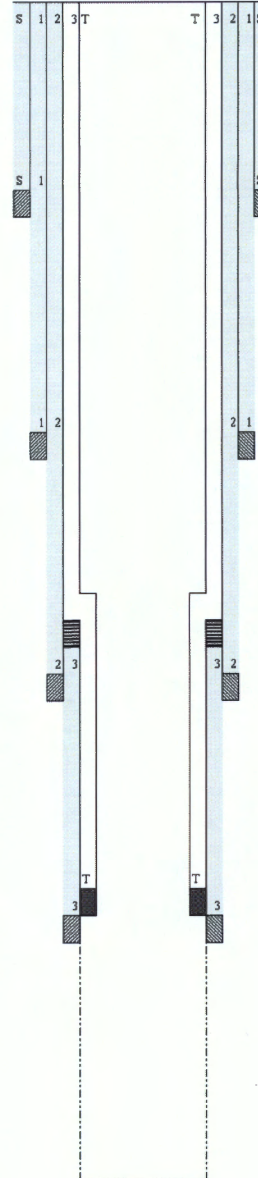
Hole Size: 8.5"
Casing: 7.625" - 39# HCL-80 FJ Casing
Depth Top: 12253'
Depth Btm: 16844'
Cement: 237 sks - Lite Class C (60:40:0) + Additives
Cement Top: 12253' - (Volumetric)

Intermediate #4 - (Open Hole)

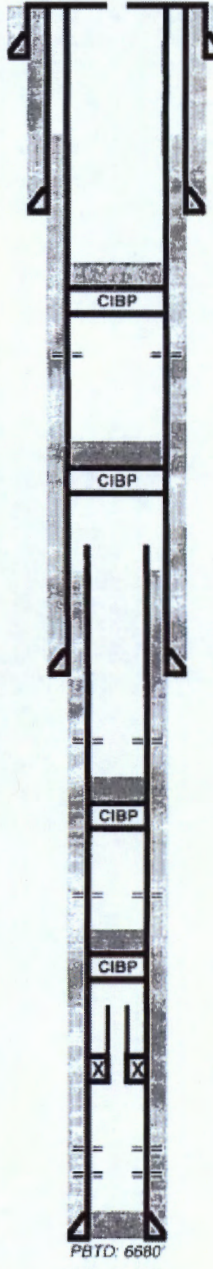
Hole Size: 6.5"
Depth: 18667'
Inj. Interval: 16844' - 18667' (Open-Hole Completion)

Tubing - (Tapered)

Tubing Depth: 16799'
Tubing: 7" - 26# HCP-110 FJ Casing & 5.5" 17# HCL-80 FJ Casing (Fiberglass Lined)
X/O Depth: 12253'
X/O: 7" 26# HCP-110 FJ Casing - X - 5.5" 17# HCL-80 FJ Casing (Fiberglass Lined)
Packer Depth: 16809'
Packer: 5.5" - Perma-Pak or Equivalent (Inconel)



VI: There is one plugged well within the proposed well's area of review that penetrates the Devonian Formation, the Kaiser-Francis South Bell Lake #1A, API #30-025-08488. The plugged well information is below.

Kaiser-Francis	South Bell Lake #1A
Location: 330' FSL, 2970' FEL, (SE-SW) Sec 31, T23S, R34E County: Lea State: New Mexico Elevation: DF - 3633'	API - 30-025-08488 Spud Date: 6/19/54 Completed: 4/55 Diagram: Updated - 2/10/14
 13-3/8" 48# @ 1254' w/ 1250 sx TOC - 3,460' ← CBL 9 5/8" 40# @ 6000' w/ 3145 sx CIBP 6700' w/ 20' cement on top. Cherry Canyon Perfs 6800'-6820' O/A CIBP at 11875' w/ 10 sx cmt on top TOL - 12,068' TOC 12,158' (TS) 7" 23/26/29/32# @ 12,545' w/ 1000 sx, Ong TOC - 8024' by TS Aloka Perfs 12,561'-12,586' O/A CIBP 13,100' w/ 5 sx (90') cmt on top Morrow Perfs 13,406'-13,432' O/A CIBP at 13,555' w/ 100' cmt on top 1260' 2 3/8" tbq Mod K 14820' Devonian Perfs 14,942'-15,025' O/A 15,055'-15,070' O/A 4 1/2" FJ 15072' w/ 250 sx PBTD: 6680' TD: 15,120'	
Work History: SPUD: 06/19/54 - Drilled by Continental Oil Co. Aloka Core #1 - 12,551'-601'. DST #1 - 12,545'-601', 1390 mcpd, 30 bwph. Core #2 - 12,601'-656'. DST #2 - 12,638'-656', recov 30' mud, 1r gas, no oil or wtr. Core #3 - 12,656'-699'. Whipstucked @ 14,785', no other details... COMPLETION - 4/55: Perf Devonian: 15,055'-70' (60 holes), flwd 6165 mcpd, 24 bwph. Test pkr was set above liner top, notes indicate concerns about poss wtr from Aloka. Perf 14942'-15,025' (332 holes). Az 14,942'-15,025' w/ 2000 gal - AOF 15.5 MMCFD. Reports indicate 15,055'-70' may have been plugged off. Recov 3.5 BCF from Devonian. 06/67: TA well. - Cut off tbq at 13,560'. Mod K Pkr 14820'. Set CIBP @ 13,555' w/ 100' cmt on top. PBTD 13,455'. Fill w/ 8.5# mud. 03/68: Perf Morrow 13,406'-13,432'. Recov 2.3 BCF from Morrow, wtrd out. 12/81: Spent weeks recovering junk. Set CIBP at 13,100' w/ 5 sx cmt on top. (PBTD 13,010'). PFL ATOKA: 12561, 63, 71, 73, 76, 84, 86. Az w/ 2000 gal 15% NEFE. Recov 227 BW, no gas. SI 3/13/81. 04/89: Perf: Cherry Canyon: 6800, 3, 5, 8, 11, 13, 15, 20 [6800'-6820' O/A]. Frac w/ 14284 g gel 30% CO2 + 20/40 ad 05/06: Set CIBP @ 6700' and dump 20' cmt on top. Ran MIT. 02/12: Ran MIT. Tested to 500#.	

VII:

1. The average injected volume anticipated is 40,000 BWPD
The maximum injected volume anticipated is 50,000 BWPD
2. Injection will be through a closed system
3. The average injection pressure anticipated is 2,000 psi
The proposed maximum injection pressure is 3,369 psi
4. Disposal Sources will be produced waters from surrounding wells in the Delaware, Avalon, Bone Spring and Wolfcamp formations. These formation waters are known to be compatible with Devonian formation water. Representative area produced water analyses were sourced from Go-Tech's website and are listed below.

WELL NAME	FIGHTING OKRA 18 FEDERAL COM #001H	SALADO DRAW 6 FEDERAL #001H	RATTLESNAKE 13 12 FEDERAL COM #001H	SNAPPING 2 STATE #014H
api	3002540382	3002541293	3002540912	3001542688
latitude	32.0435333	32.0657196	32.0369568	32.06555986
longitude	-103.5164566	-103.5146942	-103.416214	-103.7413815
section	18	6	13	2
township	26S	26S	26S	26S
range	34E	34E	34E	31E
unit	E	M	P	P
ftgns	2590N	200S	330S	250S
ftgew	330W	875W	330E	330E
county	Lea	Lea	Lea	EDDY
state	NM	NM	NM	NM
formation	AVALON UPPER	BONE SPRING 3RD SAND	DELAWARE-BRUSHY CANYON	WOLFCAMP
sampledate	42046	41850	41850	42284
ph	8	6.6	6.2	7.3
tds_mgL	201455.9	99401.9	243517.1	81366.4
resistivity_ohm_cm	0.032	0.064	0.026	0.1004
sodium_mgL	66908.6	34493.3	73409.8	26319.4
calcium_mgL	9313	3295	15800	2687.4
iron_mgL	10	0.4	18.8	26.1
magnesium_mgL	1603	396.8	2869	326.7
manganese_mgL	1.6	0.37	3.12	
chloride_mgL	121072.7	59986.5	149966.2	50281.2
bicarbonate_mgL	1024.8	109.8	48.8	
sulfate_mgL	940	710	560	399.7
co2_mgL	1950	70	200	100

5. Devonian water analysis from the area of review is unavailable. Representative area water analyses were sourced from Go-Tech's website and are listed below.

WELL NAME	ANTELOPE RIDGE UNIT #003	BELL LAKE UNIT #006
api	3002521082	3002508483
latitude	32.2593155	32.3282585
longitude	-103.4610748	-103.507103
sec	34	6
township	23S	23S
range	34E	34E
unit	K	O
ftgns	1980S	660S
ftgew	1650W	1980E
county	LEA	LEA
state	NM	NM
field	ANTELOPE RIDGE	BELL LAKE NORTH
formation	DEVONIAN	DEVONIAN
samplesource	UNKNOWN	HEATER TREATER
ph	6.9	7
tds_mgL	80187	71078
chloride_mgL	42200	47900
bicarbonate_mgL	500	476
sulfate_mgL	1000	900

VIII: Injection Zone Geology

Fluid injection will take place in the Devonian-Silurian formations. This sequence is bounded above by the Upper Devonian Woodford shale. Underlying the Woodford is the first injection formation, the Devonian, consisting of dolomitic carbonates & chert, followed by the Upper Silurian dolomites, and the Lower Silurian Fusselman dolomite. The lower bound of the injection interval is the limestone of the Upper Ordovician Montoya. This proposed well will TD above the top of the Montoya, and will not inject fluids into the Montoya itself, in order to provide a sufficient barrier to preclude fluid injection into the Middle Ordovician Simpson, the Lower Ordovician Ellenburger, the Cambrian, and the PreCambrian below.

Injection zone porosities are expected to range from 0% to a high of 8%, with the higher ranges being secondary porosity in the form of vugs & fractures due to weathering effects, with occasional interbedded shaly intervals. Permeabilities in the 2-3% porosity grainstone intervals are estimated to be in the 10-15 mD range, with the higher porosity intervals conservatively estimated to be in the 40-50 mD range. It is these intervals of high secondary porosity and associated high permeability that are expected to take the majority of the injected water.

The Devonian-Silurian sequence is well suited for SWD purposes, with a low permeability shale barrier overlying the injection interval to prevent upward fluid migrations to USDW's, sufficient permeabilities and porosities in zone, and multiple formations available over a large depth range. This large injection depth range means there is a large injection surface area available, allowing for low injection pressures at high injection rates.

Permian Oilfield Partners, LLC.
 Deep Gorge State SWD #1
 1176' FNL, 250' FEL
 Sec. 6, T24S, R34E, Lea Co. NM
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 GL 3601', RKB 3631'

GEOLOGY PROGNOSIS			
FORMATION	TOP KB TVD (ft)	BOTTOM KB TVD (ft)	THICKNESS (ft)
Salt	1,508	5,028	3,520
Delaware	5,279	9,209	3,930
Bone Spring	9,209	12,403	3,194
Wolfcamp	12,403	13,222	819
Lwr. Mississippian	16,291	16,558	267
Woodford	16,558	16,809	251
Devonian	16,809	18,072	1,263
Fusselman (Silurian)	18,072	18,692	620
Montoya (U. Ordovician)	18,692	19,326	634
Simpson (M. Ordovician)	19,326	20,103	777

2. According to the New Mexico Office of the State Engineer and field exploration, there are 4 fresh water wells within the proposed well's one-mile area of review indicating the presence of freshwater at depths less than 480'. Regionally, shallow fresh water is known to exist at depths less than 700'. There are no underground sources of fresh water present below the injection interval.

IX: Formation chemical stimulation with 40,000 gals of 15% Hydrochloric Acid is planned after well completion.

X: A compensated neutron/gamma ray log will be run from surface to TD upon well completion. All logs will be submitted to the NMOCD upon completion.

XI: According to the New Mexico Office of the State Engineer and field exploration, there are 4 fresh water wells within the proposed well's one-mile area of review, with another 3 nearby. Attempts were made to sample the below listed wells. All 7 of the wells were capped off. An unknown water well was sampled approximately 1.05 miles Northeast of the proposed injection well (32.2558452, -103.4848152). Permian Oilfield Partners searched the NM State Engineers database and could not locate any information on this well. Water analysis of this well is attached.

Well Name	Formation Name	Depth Top	Depth Bottom	Thickness	Status
C 03620 POD1	None Given	130'	480'	350'	Capped
C 03932 POD3	None Given	None Given	100'	N/A	Capped
C 04014 POD1	None Given	81'	91'	10'	Capped
C 04014 POD2	None Given	81'	95'	14'	Capped
C 04014 POD3	None Given	87'	95'	8'	Capped
C 04014 POD4	None Given	86'	96'	10'	Capped
C 04014 POD5	None Given	85'	95'	10'	Capped
No Public Record	No Public Record	N/A	N/A	N/A	Producing

XII: Hydrologic affirmative statement attached.

XIII: Proof of notice and proof of publication attached.

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-		² Pool Code 97869	³ Pool Name SWD; DEVONIAN-SILURIAN
⁴ Property Code	⁵ Property Name DEEP GORGE STATE SWD		⁶ Well Number 1
⁷ OGRID NO. 328259	⁸ Operator Name PERMIAN OILFIELD PARTNERS, LLC		⁹ Elevation 3601'

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
1	6	24S	34E		1176	NORTH	250	EAST	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

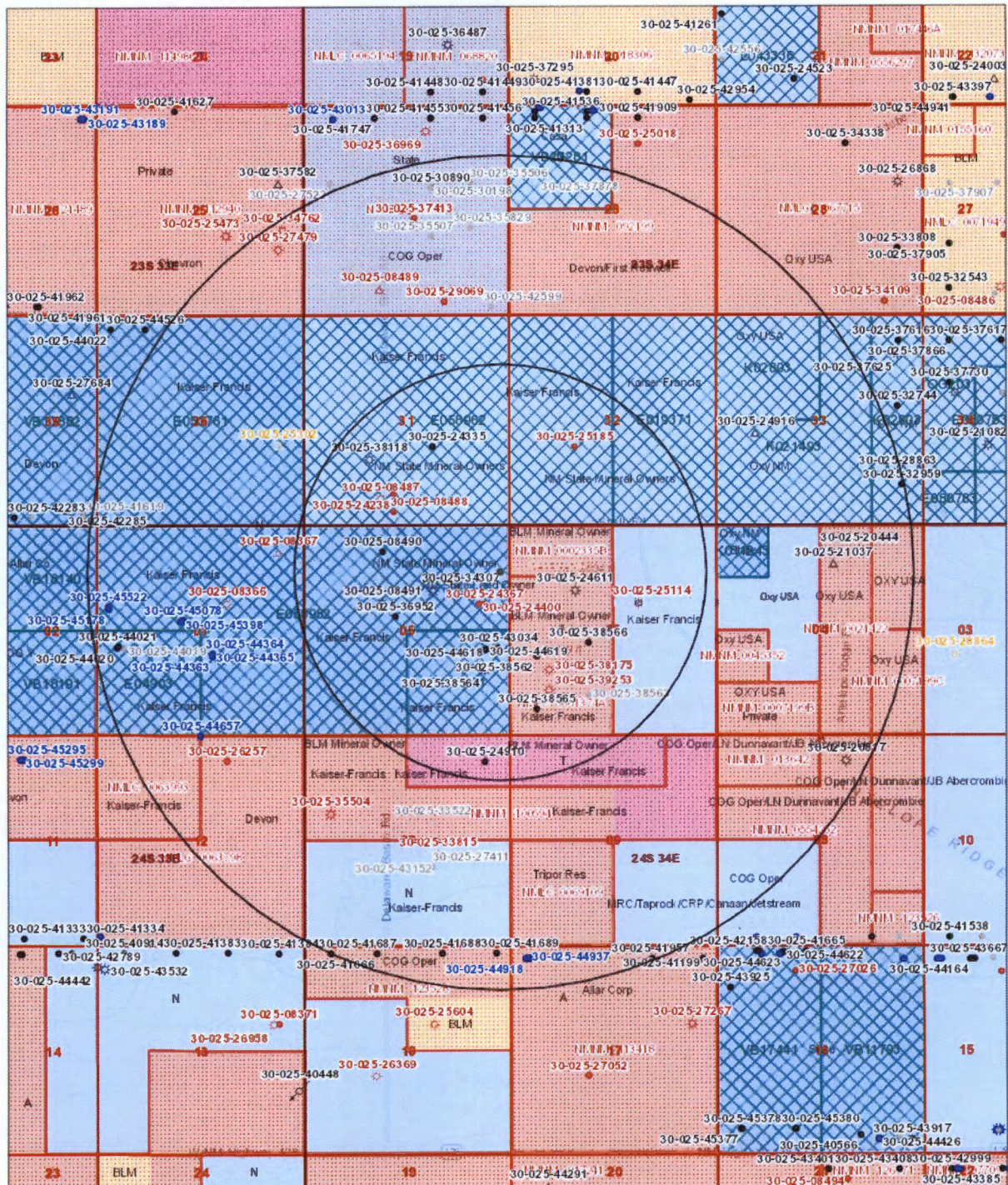
¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.

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

N 89°35'36" E 2602.28' N 89°34'09" E 2638.46' S 89°32'24" W 2617.67' S 89°09'21" W 2640.48'		17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Gary E Fisher</i> 4-17-2019 Signature Date Gary E Fisher Printed Name gfisher@popmidstream.com E-mail Address 18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. 4-13-19 Date of Survey Signature and Seal of Professional Surveyor 10034 Certificate Number
LOT 4 LOT 3 LOT 2 LOT 1 LOT 5 LOT 6 LOT 7 6 GEODETIC DATA NAD 83 GRID - NM EAST SURFACE LOCATION (S.L.) N:455899.0 - E:798536.2 LAT:32.2506024° N LONG:103.5013700° W CORNER DATA NAD 83 GRID - NM EAST A: FOUND BRASS CAP "1913" N:451761.7 - E:793574.6 B: FOUND BRASS CAP "1913" N:457038.8 - E:793533.3 C: FOUND 5/8" REBAR N:457057.2 - E:796135.0 D: FOUND BRASS CAP "1913" N:457077.1 - E:798772.9 E: FOUND BRASS CAP "1913" N:454445.4 - E:798802.6 F: FOUND REBAR ALUM/CAP N:451821.6 - E:798831.4 G: FOUND BRASS CAP "1913" N:451782.7 - E:796191.7		1176' S.L. 250' S 00°38'42" E S 00°37'48" E 2624.38'

Job No.: LS19030274

1 & 2 Mile AOR, Deep Gorge State SWD #1



4/20/2019, 11:25:18 PM

- Override 1
- Well Locations - Small Scale
 - Active
 - New
 - Plugged
 - Cancelled
 - Temporarily Abandoned
- Well Locations - Large Scale
 - Miscellaneous
 - CO2 Active
 - CO2 Cancelled
 - CO2 New
 - CO2 Plugged
 - CO2 Temporarily Abandoned
- Gas Active
- Gas, Cancelled, Never Drilled
- Gas, New
- Gas, Plugged
- Gas, Temporarily Abandoned
- Injection, Active
- Injection, Cancelled
- Injection, New
- Injection, Plugged
- Injection, Temporarily Abandoned
- Oil, Active
- Oil, Cancelled
- Oil, New
- Oil, Plugged
- Oil, Temporarily Abandoned
- Salt Water Injection, Active
- Salt Water Injection, Cancelled
- Salt Water Injection, New
- Salt Water Injection, Plugged
- Salt Water Injection Temporarily Abandoned
- Water, Active
- Water, Cancelled
- Water, New
- Water, Plugged
- Water, Temporarily Abandoned
- PLSS First Division



U.S. BLM
Sources: Esri, HERE, Garmin, Intermap, increment P Corp.,
GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL,
Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong),

New Mexico Oil Conservation Division

Deep Gorge State SWD #1 - Wells within 1 Mile Area of Review

API Number	Current Operator	Well Name	Well Number	Well Type	Well Direction	Well Status	Section	Township	Range	OCD Unit Letter	Surface Location	Bottomhole Location	Formation	MD	TVD
30-025-08487	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL	#001Y	Gas	Vertical	Plugged, Site Released	31	T235	R34E	N	N-31-235-34E 660 FSL 1940 FWL	N-31-235-34E 0 FSL 1940 FWL	WOLF CAMP	12616	12616
30-025-08488	KAISER-FRANCIS OIL CO	BELL LAKE STATE	#001	Oil	Vertical	Plugged, Site Released	31	T235	R34E	N	N-31-235-34E 330 FSL 2970 FWL	N-31-235-34E 660 FSL 1940 FWL	DEVONIAN	15120	15120
30-025-08490	KAISER-FRANCIS OIL CO	BELL LAKE UNIT	#003	Oil	Vertical	Active	06	T245	R34E	C	C-06-245-34E Lot: 3 660 FSL 1980 FWL	C-06-245-34E Lot: 3 660 FSL 1980 FWL	BONE SPRING	8866	8866
30-025-08491	KAISER-FRANCIS OIL CO	BELL LAKE UNIT 1	#004	Gas	Vertical	Active	06	T245	R34E	F	F-06-245-34E 1980 FSL 1980 FWL	F-06-245-34E 1980 FSL 1980 FWL	MORROW	13960	13960
30-025-34238	CONOCO INC	BELL LAKE UNIT	#011	Oil	Vertical	Plugged, Site Released	31	T235	R34E	N	N-31-235-34E 790 FSL 2265 FWL	N-31-235-34E 0 FSL 2265 FWL	BONE SPRING	8900	8900
30-025-34355	KAISER-FRANCIS OIL CO	BELL LAKE STATE	#012	Oil	Vertical	Active	31	T235	R34E	J	J-31-235-34E 1980 FSL 1980 FWL	J-31-235-34E 1980 FSL 1980 FWL	BONE SPRING	8910	8910
30-025-34367	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL	#013	Oil	Vertical	Plugged, Site Released	06	T245	R34E	H	H-06-245-34E 1980 FSL 660 FWL	H-06-245-34E 1980 FSL 660 FWL	BONE SPRING	8957	8957
30-025-34460	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL	#013Y	Oil	Vertical	Plugged, Site Released	06	T245	R34E	H	H-06-245-34E 1980 FSL 785 FWL	H-06-245-34E 1980 FSL 785 FWL	BONE SPRING	8910	8910
30-025-34611	KAISER-FRANCIS OIL CO	BELL LAKE UNIT	#014	Gas	Vertical	Active	05	T245	R34E	F	F-05-245-34E 1650 FSL 1650 FWL	F-05-245-34E 1650 FSL 1650 FWL	MORROW	14228	14228
30-025-24910	KAISER-FRANCIS OIL CO	BELL LAKE UNIT	#016	Oil	Vertical	Active	07	T245	R34E	A	A-07-245-34E 660 FSL 660 FWL	A-07-245-34E 660 FSL 660 FWL	MORROW	14140	14140
30-025-25114	PRE-ONGARD WELL OPERATOR	BELL LAKE UNIT	#001	Gas	Vertical	Plugged, Site Released	05	T245	R34E	G	G-05-245-34E 1980 FSL 1980 FWL	G-05-245-34E 0 FSL 1980 FWL	MORROW	14296	14296
30-025-25185	CONOCO INC	BELL LAKE UNIT	#017	Oil	Vertical	Plugged, Site Released	32	T235	R34E	K	K-32-235-34E 1980 FSL 1650 FWL	K-32-235-34E 0 FSL 1650 FWL	MORROW	14024	14024
30-025-24307	KAISER-FRANCIS OIL CO	BELL LAKE	#020	Gas	Vertical	Active	06	T245	R34E	G	G-06-245-34E 1650 FSL 1980 FWL	G-06-245-34E 1650 FSL 1980 FWL	MORROW	13366	13366
30-025-38562	KAISER-FRANCIS OIL CO	BELL LAKE UNIT	#021	Oil	Vertical	Active	06	T245	R34E	F	F-06-245-34E 2310 FSL 2310 FWL	F-06-245-34E 2310 FSL 2310 FWL	BONE SPRING	8900	8900
30-025-38118	KAISER-FRANCIS OIL CO	BELL LAKE	#023	Gas	Vertical	Active	31	T235	R34E	K	K-31-235-34E 1650 FSL 1650 FWL	K-31-235-34E 1650 FSL 1650 FWL	MORROW	13800	13800
30-025-38175	KAISER-FRANCIS OIL CO	BELL LAKE	#025	Gas	Vertical	Plugged, Site Released	05	T245	R34E	L	L-05-245-34E 1650 FSL 990 FWL	L-05-245-34E 1650 FSL 990 FWL	MORROW	13751	13751
30-025-38562	KAISER-FRANCIS OIL CO	BELL LAKE	#027	Oil	Vertical	Active	05	T245	R34E	L	L-05-245-34E 1980 FSL 660 FWL	L-05-245-34E 1980 FSL 660 FWL	BONE SPRING	8968	8968
30-025-38563	OXY USA INC	BELL LAKE	#030N	Oil	Vertical	Cancelled Apd	05	T245	R34E	N	N-05-245-34E 991 FSL 1981 FWL	N-05-245-34E 990 FSL 1980 FWL	BONE SPRING	8980	8980
30-025-38564	KAISER-FRANCIS OIL CO	BELL LAKE UNIT	#026	Gas	Vertical	Active	06	T245	R34E	I	I-06-245-34E 1650 FSL 660 FWL	I-06-245-34E 1650 FSL 660 FWL	MORROW	13625	13625
30-025-38565	KAISER-FRANCIS OIL CO	BELL LAKE	#028	Oil	Vertical	Active	05	T245	R34E	M	M-05-245-34E 660 FSL 660 FWL	M-05-245-34E 660 FSL 660 FWL	BONE SPRING	8965	8965
30-025-38566	KAISER-FRANCIS OIL CO	BELL LAKE	#029	Oil	Vertical	Active	05	T245	R34E	K	K-05-245-34E 2310 FSL 1980 FWL	K-05-245-34E 2310 FSL 1980 FWL	BONE SPRING	8952	8952
30-025-39253	KAISER-FRANCIS OIL CO	BELL LAKE	#033	Gas	Vertical	Plugged, Site Released	05	T245	R34E	M	M-05-245-34E 1150 FSL 990 FWL	M-05-245-34E 1150 FSL 990 FWL	MORROW	13810	13810
30-025-43094	KAISER-FRANCIS OIL CO	BELL LAKE UNIT SOUTH	#033H	Oil	Vertical	Active	06	T245	R34E	I	I-06-245-34E 2200 FSL 300 FWL	D-32-235-34E 235 FSL 433 FWL	BONE SPRING	18510	10596
30-025-43060	KAISER-FRANCIS OIL CO	SOUTH BELL LAKE UNIT E 28SS	#01C	Oil	Horizontal	Active	06	T245	R34E	I	I-06-245-34E 2241 FSL 375 FWL	B-31-235-34E 331 FSL 3700 FWL	BONE SPRING	18284	10300
30-025-44618	KAISER-FRANCIS OIL CO	BELL LAKE UNIT SOUTH	#30H	Oil	Horizontal	Cancelled Apd	06	T245	R34E	I	I-06-245-34E 2130 FSL 620 FWL	A-31-235-34E 331 FSL 539 FWL	BONE SPRING	19455	11566
30-025-44619	KAISER-FRANCIS OIL CO	BELL LAKE UNIT SOUTH	#430H	Oil	Horizontal	Active	06	T245	R34E	I	I-06-245-34E 2160 FSL 620 FWL	A-31-235-34E 87 FSL 619 FWL	WOLF CAMP	19877	11890



Statement of Notifications

Re: C-108 Application for SWD Well
Permian Oilfield Partners, LLC
Deep Gorge State SWD #1
Sec. 6, Twp. 24S, Rge. 34E
1176' FNL, 250' FEL
Lea County, NM

Permian Oilfield Partners, LLC has mailed notifications to offset operators, mineral owners, lessees and the surface owner as per the following list:

Deep Gorge State SWD #1 - Affected Persons within 1 Mile Area of Review					
Notified Name	Notified Address	Notified City, State, ZIP Code	Shipper	Tracking No.	Date Mailed
Kaiser-Francis Oil Co	P.O. Box 21468	Tulsa, OK 74121	USPS	9414811899561827620692	4/26/2019
Conoco Inc	P.O. Box 2197, WL3 3046	Houston, TX 77252	USPS	9414811899567827620682	4/26/2019
Bureau Of Land Management	620 E Greene St	Carlsbad, NM 88220	USPS	9414811899561827620739	4/26/2019
New Mexico State Land Office	2827 N Dal Paso St Suite 117	Hobbs, NM 88240	USPS	9414811899561827620340	4/26/2019
New Mexico State Land Office	310 Old Santa Fe Trail	Santa Fe, NM 87501	USPS	9414811899561827620128	4/26/2019

Sean Puryear
Permian Oilfield Partners, LLC
spuryear@popmidstream.com

Date: 4-26-2019

U.S. Postal Service **Certified Mail Receipt**

ARTICLE NUMBER: 9414 8118 9956 1827 6206 92

ARTICLE ADDRESSED TO:

Kaiser-Francis Oil Co.
PO Box 21468
Tulsa OK 74121-1468

FEES

Postage Per Piece	\$3.35
Certified Fee	3.50
Total Postage & Fees:	6.85

Postmark
Here



U.S. Postal Service **Certified Mail Receipt**

ARTICLE NUMBER: 9414 8118 9956 1827 6209 82

ARTICLE ADDRESSED TO:

Conoco Inc.
PO Box 2197
Houston TX 77252-2197

FEES

Postage Per Piece	\$3.35
Certified Fee	3.50
Total Postage & Fees:	6.85

Postmark
Here



U.S. Postal Service **Certified Mail Receipt**

ARTICLE NUMBER: 9414 8118 9956 1827 6207 39

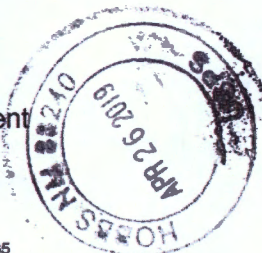
ARTICLE ADDRESSED TO:

Bureau of Land Management
620 E Greene St
Carlsbad NM 88220-6292

FEES

Postage Per Piece	\$3.35
Certified Fee	3.50
Total Postage & Fees:	6.85

Postmark
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U.S. Postal Service **Certified Mail Receipt**

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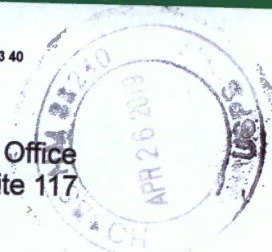
ARTICLE ADDRESSED TO:

New Mexico State Land Office
2827 N Dal Paso St. Suite 117
Hobbs NM 88240-2062

FEES

Postage Per Piece	\$3.35
Certified Fee	3.50
Total Postage & Fees:	6.85

Postmark
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U.S. Postal Service **Certified Mail Receipt**

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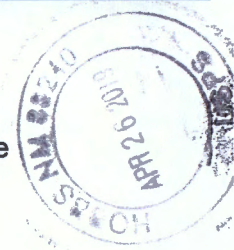
ARTICLE ADDRESSED TO:

New Mexico State Land Office
310 Old Santa Fe Trail
Santa Fe NM 87501-2708

FEES

Postage Per Piece	\$3.35
Certified Fee	3.50
Total Postage & Fees:	6.85

Postmark
Here

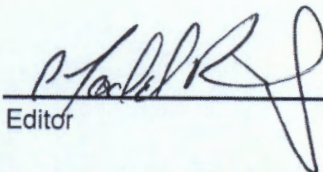


Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

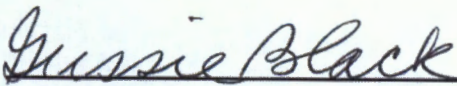
I, Todd Bailey, Editor of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

Beginning with the issue dated
April 25, 2019
and ending with the issue dated
April 25, 2019.



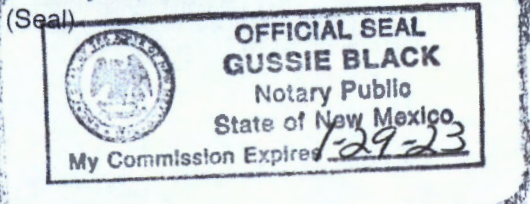
Editor

Sworn and subscribed to before me this
25th day of April 2019.



Business Manager

My commission expires
January 29, 2023



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 NOTICE
APRIL 25, 2019
Newspaper Publication Notice
Permian Oilfield Partners, LLC, PO Box 1220, Stephenville, TX 76401, phone (817)606-7630, attention Gary Fisher, has filed form C-108 (Application for Authorization for Injection) with the New Mexico Oil Conservation Division seeking approval to drill a commercial salt water disposal well in Lea County, New Mexico. The well name is the Deep Gorge State SWD #1, and is located 1176' FNL & 250' FEL, Unit Letter A, Section 6, Township 24 South, Range 34 East, NMPM. The well will dispose of water produced from nearby oil and gas wells into the Devonian formation from a depth of 16,844 feet to 18,667 feet. The maximum expected injection rate is 50,000 BWPD at a maximum surface injection pressure of 3,369 psi.
Interested parties must file objections or requests for hearing with the New Mexico Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico, 87505 within 15 days.
#34076

67115647

00227383

GARY FISHER
PERMIAN OILFIELD PARTNERS, LLC
PO BOX 1220
STEPHENVILLE, TX 76401

The map displays a 10x10 grid of cells, each labeled with a compass direction (e.g., NENE, SENE, etc.) and a letter (e.g., A, H, I, etc.). The grid is overlaid with a large black circle and a dashed orange circle. Various annotations are present, including 'C 03630 POD1-NO ACCESS / TAKEOFF', 'NOT ON PUBLIC RECORD-SAMPLE CAUGHT', 'C 03932 POD3-CAPPED/BURIED', and 'C 03931 POD1-CAPPED'. The map also shows 'Shell Rd' and 'Delaware County Rd'.

New Mexico Oil Conservation Division



New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

Well Tag	POD Number	Q64 Q16 Q4	Sec	Tws	Rng	X	Y
C	03620 POD1	1	4	3	32 23S 34E	641790	3569941

Driller License:	1682	Driller Company:	HUNGRY HORSE, LLC.
Driller Name:	NORRIS, JOHN D. (LD)		
Drill Start Date:	04/10/2013	Drill Finish Date:	04/29/2013
Log File Date:	06/18/2013	PCW Rcv Date:	
Pump Type:		Pipe Discharge Size:	
Casing Size:	8.00	Depth Well:	480 feet
		Depth Water:	130 feet

Water Bearing Stratifications:	Top	Bottom	Description
	14	30	Sandstone/Gravel/Conglomerate
	41	203	Shale/Mudstone/Siltstone
	203	215	Sandstone/Gravel/Conglomerate
	249	255	Sandstone/Gravel/Conglomerate
	362	367	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	0	480



New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	C 03932 POD3	4	3	2	05	24S	34E	642442	3568787

Driller License: 1222 **Driller Company:** PETERSON DRILLING & TESTING INC.

Driller Name: LEE PETERSON

Drill Start Date: 02/09/2016

Drill Finish Date: 02/10/2016

Plug Date:

Log File Date: 03/01/2016

PCW Rcv Date:

Source:

Pump Type:

Pipe Discharge Size:

Estimated Yield:

Casing Size:

Depth Well: 100 feet

Depth Water:



New Mexico Office of the State Engineer Point of Diversion Summary

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

Well Tag	POD Number	Q64 Q16 Q4	Sec	Tws	Rng	X	Y
C 04014 POD1		1 1 3	06	24S	34E	639811	3568638

Driller License: 1186	Driller Company: ENVIRO-DRILL, INC.	
Driller Name: HAMMER, RODNEY		
Drill Start Date: 02/13/2017	Drill Finish Date: 02/17/2017	Plug Date:
Log File Date: 03/03/2017	PCW Rcv Date:	Source: Shallow
Pump Type:	Pipe Discharge Size:	Estimated Yield:
Casing Size: 2.00	Depth Well: 91 feet	Depth Water: 81 feet

Water Bearing Stratifications:	Top	Bottom	Description
	47	91	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	76	91



New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64 Q16 Q4	Sec	Tws	Rng	X	Y
C 04014	POD2	4 4 2	01	24S	33E	639656	3568917

Driller License: 1186 **Driller Company:** ENVIRO-DRILL, INC.

Driller Name: HAMMER, RODNEY

Drill Start Date: 02/13/2017	Drill Finish Date: 02/17/2017	Plug Date:
Log File Date: 03/03/2017	PCW Rcv Date:	Source: Shallow
Pump Type:	Pipe Discharge Size:	Estimated Yield:
Casing Size: 2.00	Depth Well: 95 feet	Depth Water: 81 feet

Water Bearing Stratifications:	Top	Bottom	Description
	38	95	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	80	95



New Mexico Office of the State Engineer Point of Diversion Summary

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

Well Tag	POD Number	Q64 Q16 Q4	Sec	Tws	Rng	X	Y
C 04014 POD3		2 4 2	01	24S	33E	639497	3569007 

Driller License: 1186 **Driller Company:** ENVIRO-DRILL, INC.

Driller Name: HAMMER, RODNEY

Drill Start Date: 02/13/2017

Drill Finish Date: 02/17/2017

Plug Date:

Log File Date: 03/03/2017

PCW Rcv Date:

Source: Shallow

Pump Type:

Pipe Discharge Size:

Estimated Yield:

Casing Size: 2.00

Depth Well: 95 feet

Depth Water: 87 feet

Water Bearing Stratifications:

Top	Bottom	Description
49	95	Sandstone/Gravel/Conglomerate

Casing Perforations:

Top	Bottom
80	95



New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64 Q16 Q4 Sec Tws Rng	X	Y
C 04014 POD4		3 4 2 01 24S 33E	639295	3568859

Driller License: 1186	Driller Company: ENVIRO-DRILL, INC.	
Driller Name: HAMMER, RODNEY		
Drill Start Date: 02/13/2017	Drill Finish Date: 02/17/2017	Plug Date:
Log File Date: 03/03/2017	PCW Rcv Date:	Source: Shallow
Pump Type:	Pipe Discharge Size:	Estimated Yield:
Casing Size: 2.00	Depth Well: 96 feet	Depth Water: 86 feet

Water Bearing Stratifications:	Top	Bottom	Description
	35	96	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	35	96



New Mexico Office of the State Engineer Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

Well Tag	POD Number	Q64 Q16 Q4 Sec Tws Rng	X	Y
C 04014	POD5	1 4 2 01 24S 33E	639284	3569086

Driller License: 1186 **Driller Company:** ENVIRO-DRILL, INC.

Driller Name: HAMMER, RODNEY

Drill Start Date: 02/13/2017

Drill Finish Date: 02/17/2017

Plug Date:

Log File Date: 03/03/2017

PCW Rcv Date:

Source: Shallow

Pump Type:

Pipe Discharge Size:

Estimated Yield:

Casing Size: 2.00

Depth Well: 95 feet

Depth Water: 85 feet

Water Bearing Stratifications:

Top Bottom Description

70 95 Sandstone/Gravel/Conglomerate

Casing Perforations:

Top Bottom

80 95

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

Imperative Water Analysis Report

IMPERATIVE
CHEMICAL PARTNERS

SYSTEM IDENTIFICATION

Company: Permian Oilfield Partners, LLC
Location: Deep Gorge Federal SWD 1 Well 3
Sample Source: Pump Transfer
Account Rep:

Sample ID#: W-7908

Sample Date: 04-17-2019
Report Date: 04-24-2019

WATER CHEMISTRY

CATIONS

Calcium(as Ca)	111.70
Magnesium(as Mg)	54.83
Barium(as Ba)	0.04
Strontium(as Sr)	3.10
Sodium(as Na)	285.89
Potassium(as K)	39.49
Iron(as Fe)	7.59
Manganese(as Mn)	0.07

ANIONS

Chloride(as Cl)	600.00
Sulfate(as SO ₄)	286.00
Dissolved CO ₂ (as CO ₂)	50.00
Bicarbonate(as HCO ₃)	61.00
H ₂ S (as H ₂ S)	4.20
Boron(as B)	10.07

PARAMETERS

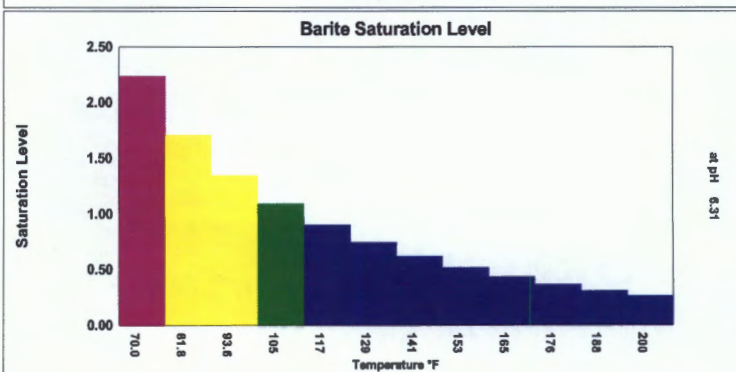
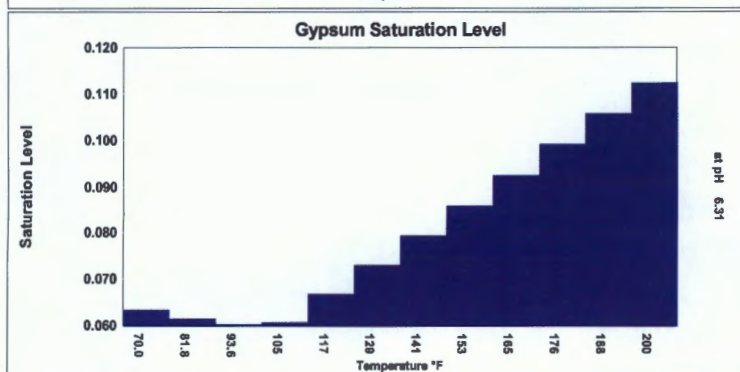
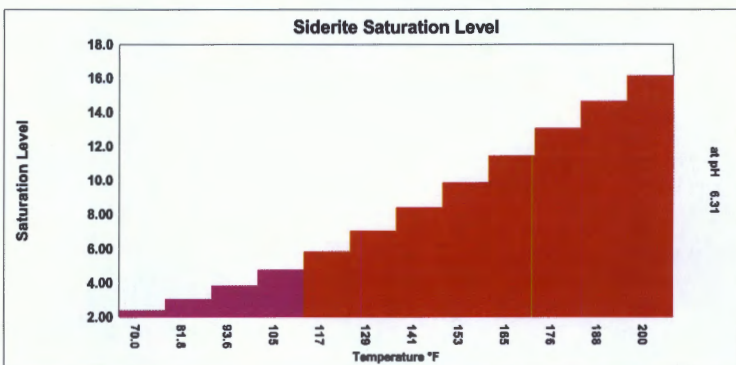
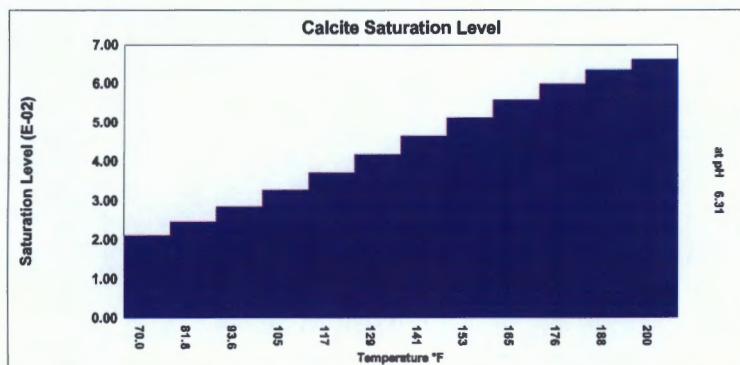
Temperature(°F)	103.90
Sample pH	6.29
Conductivity	2176
T.D.S.	1531
Resistivity	459.55
Sp.Gr.(g/mL)	1.00

SCALE AND CORROSION POTENTIAL

Temp. (°F)	Press. (atm)	Calcite CaCO ₃		Anhydrite CaSO ₄		Gypsum CaSO ₄ *2H ₂ O		Barite BaSO ₄		Celestite SrSO ₄		Siderite FeCO ₃		Mackawenite FeS		CO ₂ (mpy)	pCO ₂ (atm)
70.00	1.00	0.0211	-0.220	0.0371	-479.38	0.0636	-384.42	2.24	0.0137	0.101	-17.77	2.41	0.00321	7.09	0.348	0.0106	0.0297
81.82	1.36	0.0246	-0.197	0.0381	-466.12	0.0616	-387.90	1.71	0.0103	0.102	-17.62	3.06	0.00389	7.07	0.380	0.0627	0.0351
93.64	1.73	0.0285	-0.178	0.0403	-444.97	0.0604	-388.55	1.35	0.00641	0.104	-17.15	3.84	0.00448	7.11	0.412	0.0884	0.0405
105.45	2.09	0.0327	-0.161	0.0438	-417.56	0.0609	-381.95	1.09	0.00213	0.108	-16.52	4.76	0.00500	7.19	0.443	0.114	0.0459
117.27	2.45	0.0371	-0.147	0.0487	-385.52	0.0669	-354.15	0.900	-0.00278	0.112	-15.92	5.83	0.00545	7.26	0.474	0.115	0.0513
129.09	2.82	0.0418	-0.135	0.0554	-350.43	0.0732	-329.35	0.744	-0.00858	0.115	-15.39	7.05	0.00583	7.27	0.502	0.111	0.0566
140.91	3.18	0.0465	-0.124	0.0643	-313.68	0.0795	-307.18	0.618	-0.0154	0.119	-14.93	8.40	0.00616	7.21	0.528	0.104	0.0620
152.73	3.55	0.0512	-0.114	0.0761	-276.49	0.0860	-287.29	0.516	-0.0233	0.121	-14.54	9.87	0.00641	7.08	0.550	0.109	0.0674
164.55	3.91	0.0557	-0.106	0.0915	-239.85	0.0926	-269.43	0.433	-0.0326	0.124	-14.20	11.43	0.00659	6.88	0.568	0.114	0.0728
176.36	4.27	0.0599	-0.0981	0.112	-204.53	0.0992	-253.36	0.365	-0.0433	0.126	-13.90	13.03	0.00669	6.61	0.582	0.116	0.0782
188.18	4.64	0.0635	-0.0916	0.139	-171.13	0.106	-238.87	0.309	-0.0557	0.128	-13.66	14.61	0.00671	6.28	0.589	0.0616	0.0836
200.00	5.00	0.0665	-0.0859	0.175	-140.01	0.112	-225.79	0.262	-0.0699	0.130	-13.45	16.13	0.00665	5.89	0.591	0.0441	0.0890
		Lbs per		Lbs per		Lbs per		Lbs per		Lbs per		Lbs per		Lbs per			
		xSAT		xSAT		xSAT		xSAT		xSAT		xSAT		xSAT			
		1000		1000		1000		1000		1000		1000		1000			
		Barrels		Barrels		Barrels		Barrels		Barrels		Barrels		Barrels			

Saturation Levels (xSAT) are the ratio of ion activity to solubility, e.g. {Ca}{CO₃}/K_{sp}. pCO₂ (atm) is the partial pressure of CO₂ in the gas phase.

Lbs/1000 Barrels scale is the quantity of precipitation (or dissolution) required to instantaneously bring the water to equilibrium.





Item XII. Affirmative Statement

Re: C-108 Application for SWD Well
Permian Oilfield Partners, LLC
Deep Gorge State SWD #1
Sec. 6, Twp. 24S, Rge. 34E
1176' FNL, 250' FEL
Lea County, NM

Permian Oilfield Partners, LLC. has 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.

Gary Fisher
Manager
Permian Oilfield Partners, LLC.

Date: 4/25/2019

Plugging Risk Assessment
Permian Oilfield Partners, LLC.
Deep Gorge State SWD #1
SL: 1176' FNL & 250' FEL
Sec 6, T24S, R34E
Lea County, New Mexico

WELLBORE SCHEMATIC

Permian Oilfield Partners, LLC.
Deep Gorge State SWD #1
1176' FNL, 250' FEL
Sec. 6, T24S, R34E, Lea Co. NM
Lat 32.2506024° N, Lon 103.5013700° W
GL 3601', RKB 3631'

Surface - (Conventional)

Hole Size: 26"
Casing: 20" - 94# H-40 & 106.5# J-55 STC Casing
Depth Top: Surface
Depth Btm: 1039'
Cement: 682 sks - Class C + Additives
Cement Top: Surface - (Circulate)

Intermediate #1 - (Conventional)

Hole Size: 17.5"
Casing: 13.375" - 61# J-55 & 68# J-55 STC Casing
Depth Top: Surface
Depth Btm: 5304'
Cement: 1735 sks - Lite Class C (50:50:10) + Additives
Cement Top: Surface - (Circulate)

Intermediate #2 - (Conventional)

Hole Size: 12.25"
Casing: 9.625" - 40# L-80 & 40# HCL-80 BTC Casing
Depth Top: Surface
Depth Btm: 12453'
Cement: 2125 sks - Lite Class C (60:40:0) + Additives
Cement Top: Surface - (Circulate)
ECP/DV Tool: 5404'

Intermediate #3 - (Liner)

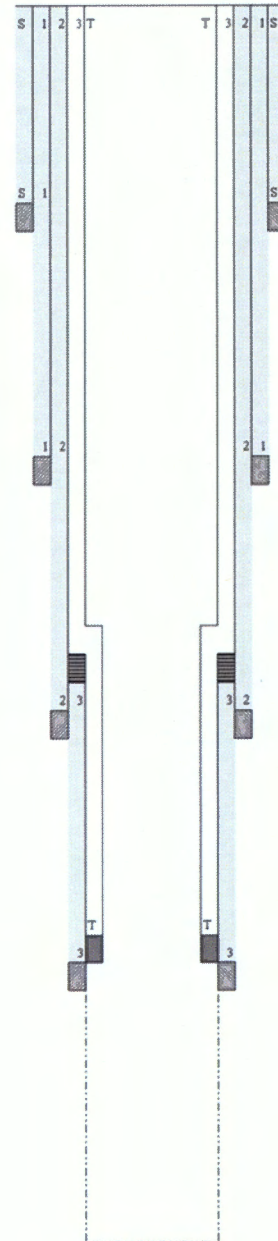
Hole Size: 8.5"
Casing: 7.625" - 39# HCL-80 FJ Casing
Depth Top: 12253'
Depth Btm: 16844'
Cement: 237 sks - Lite Class C (60:40:0) + Additives
Cement Top: 12253' - (Volumetric)

Intermediate #4 - (Open Hole)

Hole Size: 6.5"
Depth: 18667'
Inj. Interval: 16844' - 18667' (Open-Hole Completion)

Tubing - (Tapered)

Tubing Depth: 16799'
Tubing: 7" - 26# HCP-110 FJ Casing & 5.5" 17# HCL-80 FJ Casing (Fiberglass Lined)
X/O Depth: 12253'
X/O: 7" 26# HCP-110 FJ Casing - X - 5.5" 17# HCL-80 FJ Casing (Fiberglass Lined)
Packer Depth: 16809'
Packer: 5.5" - Perma-Pak or Equivalent (Inconel)



Plugging Risk Assessment

7" UFJ Tubing Inside of 9 5/8" 40# Casing

Bowen Series 150 Releasing and Circulation Overshots

Maximum Catch Size 6 5/8" to 7 1/8" Inclusive

Maximum Catch Size (Spiral)		6 5/8"	6 3/4"	7"	7 1/8"
Maximum Catch Size (Basket)		5 7/8"	6 1/8"	6 5/8"	6 5/8"
Overshot O.D.		8 3/4"	7 3/4"	8 3/4"	8 3/4"
Type		F.S.	S.H.	S.H.	S.H.
Complete Assembly	Part No.	C-3032	C-5222	Q217	C-5354
(Dressed Spiral Parts)	Weight	280	243	251	280

Replacement Parts

Top Sub	Part No.	A-3033	A-5223	Q218	A-5355
Bowl	Part No.	B-3034	B-5224	Q210	B-5356
Packer	Part No.	A-1814	B-5225	Q224	B-5357
Spiral Grapple	Part No.	N-84	B-5227	Q222	B-5359
Spiral Grapple Control	Part No.	M-89	A-5228	Q223	B-5360
Standard Guide	Part No.	A-1818	A-5220	Q226	A-5361

Basket Parts

Basket Grapple	Part No.	N-84	B-5227	Q222	B-5359
Basket Grapple Control	Part No.	M-89	A-5228	Q223	B-5360
Mill Control Packer	Part No.	A-1814-R	B-5225-R	Q224-R	B-5357-R

A 6.375" O.D. Bowen Series 150 Overshot will be used to perform this overshot operation. Details on the overshot are listed above. Casing to tubing clearance dimensions are listed below.

7" 26# FJ Casing Inside 9.625" 40# BTC Casing

Clearance (in)	Pipe Size (in)	Weight lb/ft	Grade	Conn.	Type	Body O.D. (in)	Coupling O.D. (in)	I.D. (in)	Drift (in)	Lined Wt. lb/ft	Lined I.D. (in)	Flare I.D. (in)	Lined Drift (in)
0.840	9 5/8	40.0	L-80	BTC	Casing	9.625	10.625	8.835	8.679	-	-	-	-
	7	26.0	HCP-110	FJ	Casing	7.000	7.000	6.276	6.151	28.500	6.080	5.940	5.815

*Red indicates Tubing

Fishing Procedure

Overshot Fishing Procedure

In the Event of a Connection Break

- If fishing neck is clean

1. Trip in hole with overshot and engage fish.
2. Pick up 2 points over neutral weight.
3. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
4. Once released from packer, trip out of hole with fish.

A skirted mill may be substituted for a standard mill to ensure pipe stabilization and the casing is not damaged while milling

- If dressing fishing neck is required

1. Trip in hole with mill and dress fishing neck to allow for overshot to engage tubing.
2. Trip out of hole with mill.
3. Trip in hole with overshot and engage fish.
4. Pick up 2 points over neutral weight.
5. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
6. Once released from packer, trip out of hole with fish.

A skirted mill may be substituted for a standard mill to ensure pipe stabilization and the casing is not damaged while milling

In the Event of a Body Break

- If fishing neck is clean

1. Trip in hole with overshot and engage fish.
2. Pick up 2 points over neutral weight.
3. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
4. Once released from packer, trip out of hole with fish.

- If dressing fishing neck is required

1. Trip in hole with mill and dress fishing neck to allow for overshot to engage tubing.
2. Trip out of hole with mill.
3. Trip in hole with overshot and engage fish.
4. Pick up 2 points over neutral weight.

5. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
6. Once released from packer, trip out of hole with fish.

A skirted mill may be substituted for a standard mill to ensure pipe stabilization and the casing is not damaged while milling

Spear Fishing Procedure

If an overshot cannot be used to retrieve the fish, a spear may be used.

- Due to the use of insert lined tubing, the composite liner must be removed from the tubing before engaging the fish with a spear.
1. Trip in hole with spear sized to engage the I.D. of the insert liner.
 2. Engage the insert liner inside the tubing with spear.
 3. Pull the insert liner out of the tubing.
 4. Trip out of hole with insert liner.
 5. Trip in hole with spear sized to engage the I.D. of the tubing.
 6. Engage the tubing with spear.
 7. Pick up 2 points over neutral weight.
 8. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
 9. Once released from packer, trip out of hole with fish.

Inside Diameter Cutting Tool Fishing Procedure

If an overshot is required but a mill cannot be used to dress off a fishing neck, an inside diameter cutting tool may be used.

- Due to the use of insert lined tubing, the composite liner must be removed from the tubing before engaging the fish with a spear.
1. Trip in hole with spear sized to engage the I.D. of the insert liner.
 2. Engage the insert liner inside the tubing with spear.
 3. Pull the insert liner out of the tubing.
 4. Trip out of hole with insert liner.
 5. Trip in hole with inside diameter cutting tool and cut the tubing below the damaged fishing neck.
 6. Trip out hole with cutting tool.
 7. Trip in hole with spear sized to engage the I.D. of the tubing.
 8. Engage the previously cut tubing segment with spear.
 9. Trip out hole with cut tubing segment and spear.
 10. Trip in hole with overshot and engage fish.
 11. Pick up 2 points over neutral weight.
 12. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
 13. Once released from packer, trip out of hole with fish.

5 1/2" UFJ Tubing Inside of 7 5/8" 39# Casing

Series 150 Overshots

Tools are listed in order of maximum catch size.

The following table shows only a partial listing of available NOV Dowhole Bowen® overshots.

NOTE: Nitralloy Grapples are available upon request.

Bowen Series 150 Releasing and Circulation Overshots

Maximum Catch Size 4 1/4" to 5 1/2" Inclusive

Maximum Catch Size (Spiral)		4 1/4"	4 1/2"	4 3/4"	4 7/8"	5"	5 1/4"	5 1/2"
Maximum Catch Size (Basket)		3 3/4"	4"	4 1/4"	4 1/2"	4 3/4"	4 7/8"	5"
Overshot O.D.		5 3/4"	5 1/2"	5 1/4"	5 1/8"	5 1/4"	5 1/8"	5 1/4"
Type		F.S.	S.H.	S.H.	S.F.S.	S.H.	F.S.	S.H.
Complete Assembly	Part No.	5898	5898	C-5188	8875	C-5171	C-4825	8825
(Dressed Spiral Parts)	Weight	130	130	133	138	140	182	185
Replacement Parts								
Top Sub	Part No.	5897	5899	A-5188	8876	A-5172	B-4826	8826
Bowl	Part No.	5898	5700	B-5170	8877	B-5173	B-4827	8817
Packer	Part No.	188	1140	B-2199	8114	L-5850	L-4505	8818
Spiral Grapple	Part No.	185	1135	B-2201	8112	B-4388	M-1071	8819
Spiral Grapple Control	Part No.	186	1137	B-2202	8113	B-4370	M-1072	8820
Standard Guide	Part No.	187	1143	B-2203	8121	B-4371	L-1074	8821
Basket Parts								
Basket Grapple	Part No.	185	1135	B-2201	8112	B-4388	M-1071	8819
Basket Grapple Control	Part No.	186	1137	B-2202	8113	B-4370	M-1072	8820
Mill Control Packer	Part No.	188-R	1140-R	B-2199-R	8114-R	L-5850-R	M-4505	L-8818-R

A (6.625" turned down to **6.500"** O.D.) Bowen Series 150 Overshot will be used to perform this overshot operation. Details on the overshot are listed above. Casing to tubing clearance dimensions are listed below.

5.5" 17# FJ Casing Inside 7.625" 39# FJ Casing													
Clearance (in)	Pipe Size (in)	Weight lb/ft	Grade	Conn.	Type	Body O.D. (in)	Coupling O.D. (in)	I.D. (in)	Drift (in)	Lined Wt. lb/ft	Lined I.D. (in)	Flare I.D. (in)	Lined Drift (in)
0.500	7 5/8	39.0	HCL-80	FJ	Casing	7.625	7.625	6.625	6.500	-	-	-	-
	5 1/2	17.0	HCL-80	FJ	Casing	5.500	5.500	4.892	4.767	18.500	4.520	4.400	4.275

*Red Indicates Tubing

Fishing Procedure

Overshot Fishing Procedure

In the Event of a Connection Break

- If fishing neck is clean

1. Trip in hole with overshot and engage fish.
2. Pick up 2 points over neutral weight.
3. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
4. Once released from packer, trip out of hole with fish.

A skirted mill may be substituted for a standard mill to ensure pipe stabilization and the casing is not damaged while milling

- If dressing fishing neck is required

1. Trip in hole with mill and dress fishing neck to allow for overshot to engage tubing.
2. Trip out of hole with mill.
3. Trip in hole with overshot and engage fish.
4. Pick up 2 points over neutral weight.
5. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
6. Once released from packer, trip out of hole with fish.

A skirted mill may be substituted for a standard mill to ensure pipe stabilization and the casing is not damaged while milling

In the Event of a Body Break

- If fishing neck is clean

1. Trip in hole with overshot and engage fish.
2. Pick up 2 points over neutral weight.
3. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
4. Once released from packer, trip out of hole with fish.

- If dressing fishing neck is required

1. Trip in hole with mill and dress fishing neck to allow for overshot to engage tubing.
2. Trip out of hole with mill.
3. Trip in hole with overshot and engage fish.
4. Pick up 2 points over neutral weight.

5. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
6. Once released from packer, trip out of hole with fish.

A skirted mill may be substituted for a standard mill to ensure pipe stabilization and the casing is not damaged while milling

Spear Fishing Procedure

If an overshot cannot be used to retrieve the fish, a spear may be used.

- Due to the use of insert lined tubing, the composite liner must be removed from the tubing before engaging the fish with a spear.
1. Trip in hole with spear sized to engage the I.D. of the insert liner.
 2. Engage the insert liner inside the tubing with spear.
 3. Pull the insert liner out of the tubing.
 4. Trip out of hole with insert liner.
 5. Trip in hole with spear sized to engage the I.D. of the tubing.
 6. Engage the tubing with spear.
 7. Pick up 2 points over neutral weight.
 8. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
 9. Once released from packer, trip out of hole with fish.

Inside Diameter Cutting Tool Fishing Procedure

If an overshot is required but a mill cannot be used to dress off a fishing neck, an inside diameter cutting tool may be used.

- Due to the use of insert lined tubing, the composite liner must be removed from the tubing before engaging the fish with a spear.
1. Trip in hole with spear sized to engage the I.D. of the insert liner.
 2. Engage the insert liner inside the tubing with spear.
 3. Pull the insert liner out of the tubing.
 4. Trip out of hole with insert liner.
 5. Trip in hole with inside diameter cutting tool and cut the tubing below the damaged fishing neck.
 6. Trip out hole with cutting tool.
 7. Trip in hole with spear sized to engage the I.D. of the tubing.
 8. Engage the previously cut tubing segment with spear.
 9. Trip out hole with cut tubing segment and spear.
 10. Trip in hole with overshot and engage fish.
 11. Pick up 2 points over neutral weight.
 12. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
 13. Once released from packer, trip out of hole with fish.

Abandonment Procedure

If the tubing cannot be recovered and the well is to be abandoned.

- The operator will ensure that all geologic formations are properly isolated.
- 1. Confirm the I.D. of the injection tubing is free from obstructions.
- 2. Run in hole with wireline set profile plug.
- 3. Set plug inside of packer assembly.
(Plug will allow cement to fill the I.D. of the injection tubing and the tubing to casing annulus)
- 4. Run in hole with wireline conveyed perforating guns and perforate the tubing immediately above the packer.
- 5. Trip in hole with an overshot, spear, cement retainer or isolation tool that will provide a work string-to- injection tubing seal.
- 6. Engage the fish with sealing tool.
- 7. Confirm circulation down the tubing and up the tubing-to-casing annulus.
- 8. Cement the work string, injection tubing, injection tubing-to-casing annulus and work string-to-casing annulus to surface.
- 9. Confirm the entirety of the wellbore is cemented to surface and all zones are isolated.
- 10. ND wellhead and install permanent capping flange.



Attachment to C-108
Permian Oilfield Partners, LLC
Deep Gorge State SWD #1
Sec. 6, Twp. 24S, Rge. 34E
1176' FNL, 250' FEL
Lea County, NM

April 17, 2019

STATEMENT REGARDING SEISMICITY

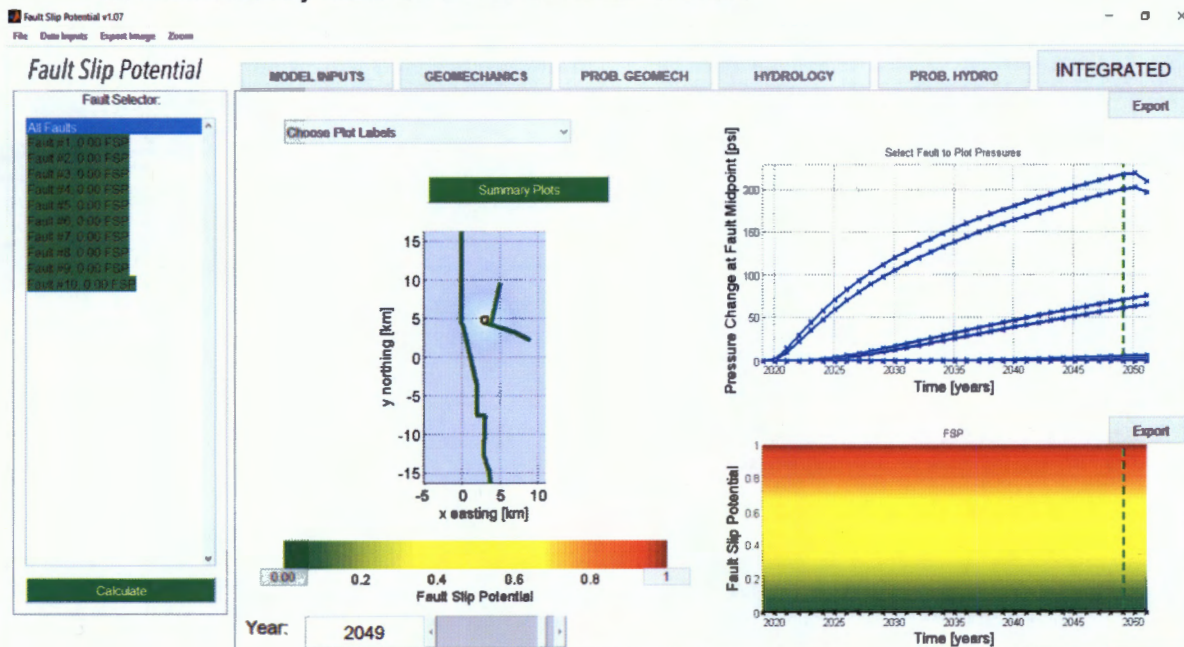
Examination of the USGS and TexNet seismic activity databases has shown minimal historic seismic activity in the area (< 30 miles) of our proposed above referenced SWD well as follows:

1. M2.9, 1984-12-09, 3.38 miles away @ 289.04 deg heading
2. M3.3, 2001-06-02, 21.86 miles away @ 74.39 deg heading
3. M4.6, 1992-01-02, 24.19 miles away @ 75.53 deg heading
4. M3.1, 2012-03-18, 22.98 miles away @ 275.47 deg heading

Permian Oilfield Partners does not own any 2D or 3D seismic data in the area of this proposed SWD well. Our fault interpretations are based on well to well correlations and publicly available data and software as follows:

1. USGS Quaternary Fault & Fold database shows no quaternary faults in the nearby area.
2. Based on offset well log data, we have not interpreted any faults in the immediate area.
3. Basement PreCambrian faults are documented in the Snee & Zoback paper, "State of stress in the Permian Basin, Texas and New Mexico: Implications for induced seismicity", published in the February 2018 issue of the SEG journal, The Leading Edge, along with a method for determining the probability of fault slip in the area.
4. Even though we do not propose to inject into the PreCambrian, Permian Oilfield Partners ran modeling to check for fault slip assuming the improbable occurrence of a total downhole well failure that would allow 100% of injected fluids to enter the PreCambrian. Software as discussed in #3 from the Stanford Center for Induced and Triggered Seismicity, "FSP 1.0: A program for probabilistic estimation of fault slip potential resulting from fluid injection", was used to calculate the probability of the PreCambrian fault being stressed so as to create an induced seismic event, with the following assumptions:
 - a. Full proposed capacity of 50,000 BBL/day for 30 years

- b. 12.5 mD average permeability, 3% average porosity, .75 psi/ft frac gradient, .45 psi/ft hydrostatic gradient
 - c. $A\text{-}\phi=0.60$ & Max Horizontal Stress direction 75 deg NW, as per Snee, Zoback paper noted above.
5. The probability of an induced seismic event in the PreCambrian is calculated to be 0% after 30 years as per the FSP results screenshot below. At its closest point, the well is approximately 0.4km away from this fault, but due to the direction of maximum horizontal stress, the localized probability of an induced seismic event still remains below 15%, even in the unlikely case of a catastrophic well failure that could see 225 psi localized pressure on the fault.
6. The analysis below assumes an improbable well failure through the Montoya and Simpson zones, into the PreCambrian. When the injected fluids stay in the Devonian-Silurian zone as per design, there will be very low probability of fault slip, since there are no known nearby faults within the Devonian-Silurian.



As per NM OCD requirements (injection well to injection well spacing minimum of 1.5 miles), this proposed above referenced SWD well is located 2.70 miles away from the nearest active or permitted Devonian disposal well.

Gay E. Fisher

gfisher@popmidstream.com

(817) 606-7630