

RECEIVED: <u>2/26/2019</u>	REVIEWER:	TYPE: <u>SWD</u>	APP NO: <u>PMAM/9063 47731</u>
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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



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: Super Siphon Federal 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.

Gary Fisher

Print or Type Name

Gary S. Fisher

Signature

02/22/2019

Date

(817) 606-7630

Phone Number

gfisher@permianoilfieldpartners.com

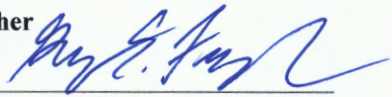
e-mail Address

APPLICATION FOR AUTHORIZATION TO INJECT

- I. **PURPOSE:** **Produced Water Disposal**
Application qualifies for administrative approval? **Yes**
- II. **OPERATOR:** **Permian Oilfield Partners, LLC.**
ADDRESS: **P.O. Box 1220, Stephenville, TX. 76401**
CONTACT PARTY: **Gary Fisher** **PHONE:** **(817) 606-7630**
- 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: **Gary Fisher**

TITLE: **Manager**

SIGNATURE: 

DATE: **02/23/2019**

E-MAIL ADDRESS: **gfisher@permianoilfieldpartners.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.

SUPER SIPHON FEDERAL SWD #1

SEND TO NMOCD

Checklist of Items Attached

- Administrative Application Checklist
- C102
- C108
 - *Additional Data*
 - *Well Construction Data*
 - *Wellbore Schematic*
 - *1 Mile AOR Map => On C102 Form*
 - *2 Mile Area Map*
 - *Operator Table within AOR*
 - *List of Notified Persons*
 - *Area Water Table Data Sheets*
 - *Water Well Map*
 - *Water Well Data Sheets*
 - *Water Well Lab Analysis*
- Hydrologic Affirmative Statement

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 14,867'

Underlying Potentially Productive Zones:

None

WELL CONSTRUCTION DATA

Permian Oilfield Partners, LLC.
Super Siphon Federal SWD #1
1800' FSL, 930' FEL
Sec. 3, T25S, R34E, Lea Co. NM
Lat 32.157224° N, Lon 103.452301° W
GL 3356', RKB 3386'

Surface - (Conventional)

Hole Size: 26" Casing: 20" - 94# H-40 STC Casing
Depth Top: Surface
Depth Btm: 816'
Cement: 511 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: 5291'
Cement: 1702 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: 12474' ECP/DV Tool: 5391'
Cement: 2126 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: 12274'
Depth Btm: 17260'
Cement: 247 sks - Lite Class C (60:40:0) + Additives
Cement Top: 12274' - (Volumetric)

Intermediate #4 - (Open Hole)

Hole Size: 6.5" Depth: 19335'
Inj. Interval: 17260' - 19335' (Open-Hole Completion)

Tubing - (Tapered)

Tubing Depth: 17215' Tubing: 7" - 26# HCP-110 FJ Casing & 5.5" 17# HCL-80
X/O Depth: 12274' FJ Casing (Fiberglass Lined)
X/O: 7" 26# HCP-110 FJ Casing - X - 5.5" 17# HCL-80 FJ Casing (Fiberglass Lined)
Packer Depth: 17225' Packer: 5.5" - "Perma-Pak" or Equivalent (Inconel)

WELLBORE SCHEMATIC

Permian Oilfield Partners, LLC.
Super Siphon Federal SWD #1
1800' FSL, 930' FEL
Sec. 3, T25S, R34E, Lea Co. NM
Lat 32.157224° N, Lon 103.452301° W
GL 3356', RKB 3386'

Surface - (Conventional)

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Casing: 20" - 94# H-40 STC Casing
Depth Top: Surface
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Cement Top: Surface - (Circulate)

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Casing: 9.625" - 40# L-80 & 40# HCL-80 BTC Casing
Depth Top: Surface
Depth Btm: 12474'
Cement: 2126 sks - Lite Class C (60:40:0) + Additives
Cement Top: Surface - (Circulate)
ECP/DV Tool: 5391'

Intermediate #3 - (Liner)

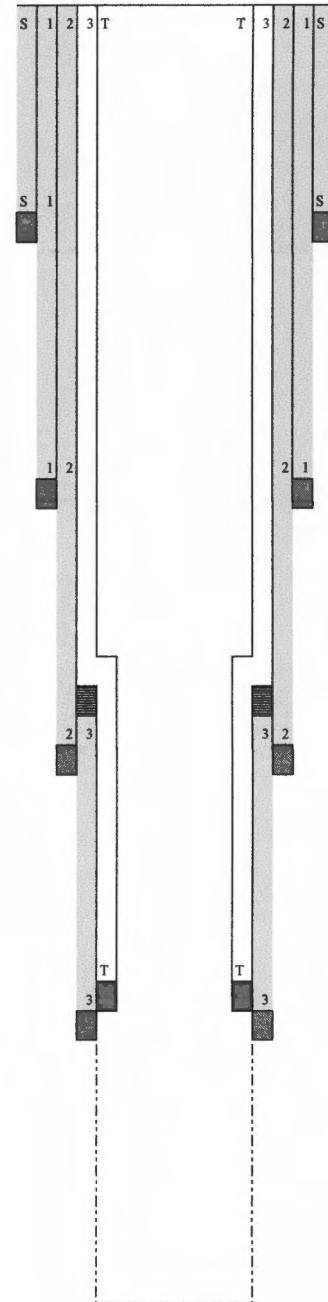
Hole Size: 8.5"
Casing: 7.625" - 39# HCL-80 FJ Casing
Depth Top: 12274'
Depth Btm: 17260'
Cement: 247 sks - Lite Class C (60:40:0) + Additives
Cement Top: 12274' - (Volumetric)

Intermediate #4 - (Open Hole)

Hole Size: 6.5"
Depth: 19335'
Inj. Interval: 17260' - 19335' (Open-Hole Completion)

Tubing - (Tapered)

Tubing Depth: 17215'
Tubing: 7" - 26# HCP-110 FJ Casing & 5.5" 17# HCL-80 FJ Casing (Fiberglass Lined)
X/O Depth: 12274'
X/O: 7" 26# HCP-110 FJ Casing - X - 5.5" 17# HCL-80 FJ Casing (Fiberglass Lined)
Packer Depth: 17225'
Packer: 5.5" - "Perma-Pak" or Equivalent (Inconel)



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, New Mexico 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
Property Code	Property Name SUPER SIPHON FEDERAL SWD	
OGRID No.	Operator Name PERMIAN OILFIELD PARTNERS, LLC	Well Number 1 Elevation 3356'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	3	25-S	34-E		1800	SOUTH	930	EAST	LEA

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
Dedicated Acres		Joint or Infill		Consolidation Code		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

LOT 4	LOT 3	LOT 2	LOT 1
GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=421990.8 N X=772798.9 E LAT.=32.157099° N LONG.=103.451831° W		GEODETIC COORDINATES NAD 83 NME SURFACE LOCATION Y=422049.0 N X=813984.8 E LAT.=32.157224° N LONG.=103.452301° W	

OPERATOR CERTIFICATION

I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Gary E. Fisher 2/22/19
Signature Date

Gary E. Fisher
Printed Name

gfisher@permianoilfield
E-mail Address partners.com

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.

JANUARY 31, 2019

Date of Survey
Signature & Seal of Professional Surveyor:

Ronald J. Eidson 2/20/2019
 Certificate Number Gary G. Eidson 12641
 Ronald J. Eidson 3239
 ACK JWSC W.D.: 19.11.0093

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Form C-102
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WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number		Pool Code	Pool Name
Property Code	Property Name SUPER SIPHON FEDERAL SWD		Well Number 1
OGRID No.	Operator Name PERMIAN OILFIELD PARTNERS, LLC		Elevation 3356'

Surface Location

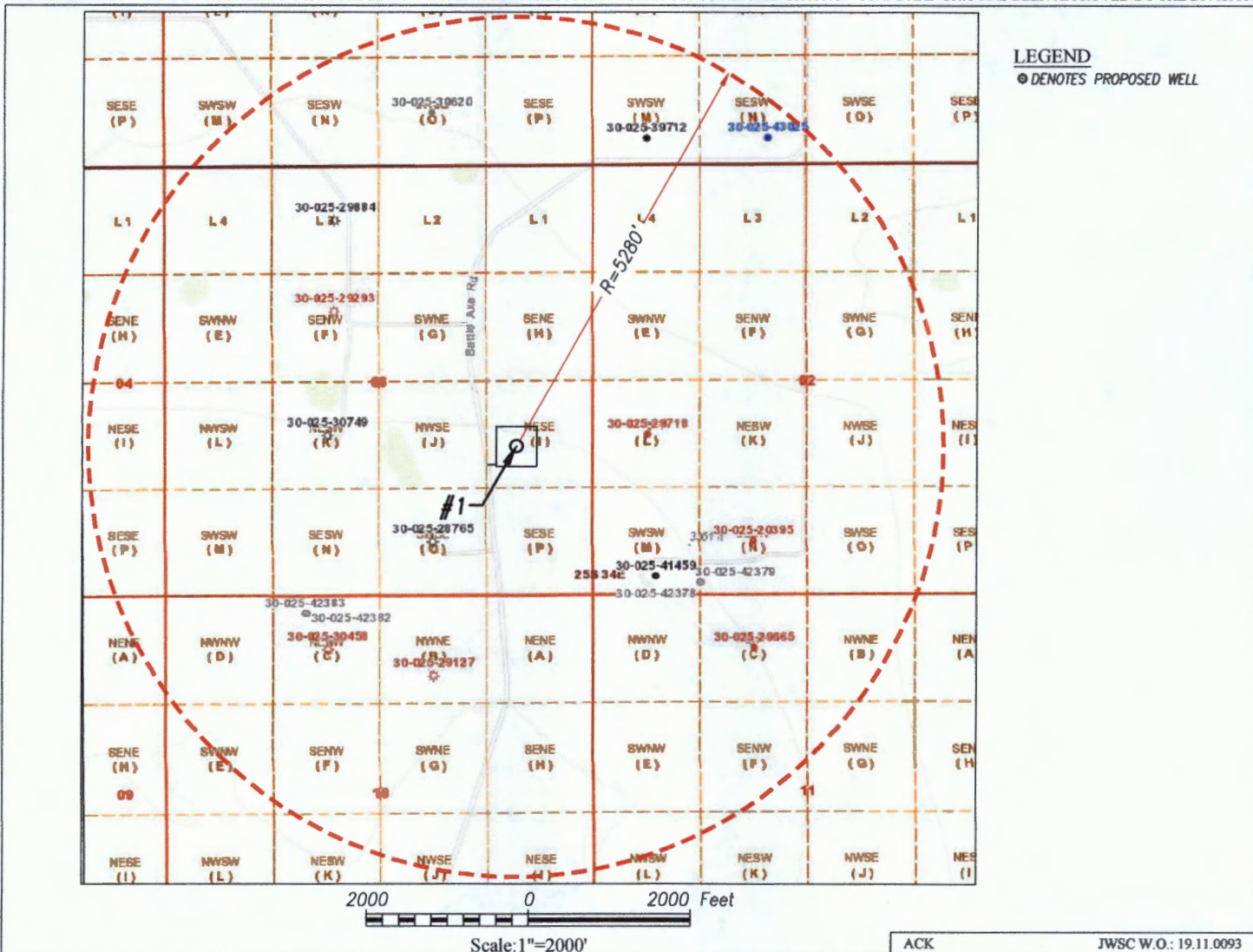
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	3	25-S	34-E		1800	SOUTH	930	EAST	LEA

Bottom Hole Location If Different From Surface

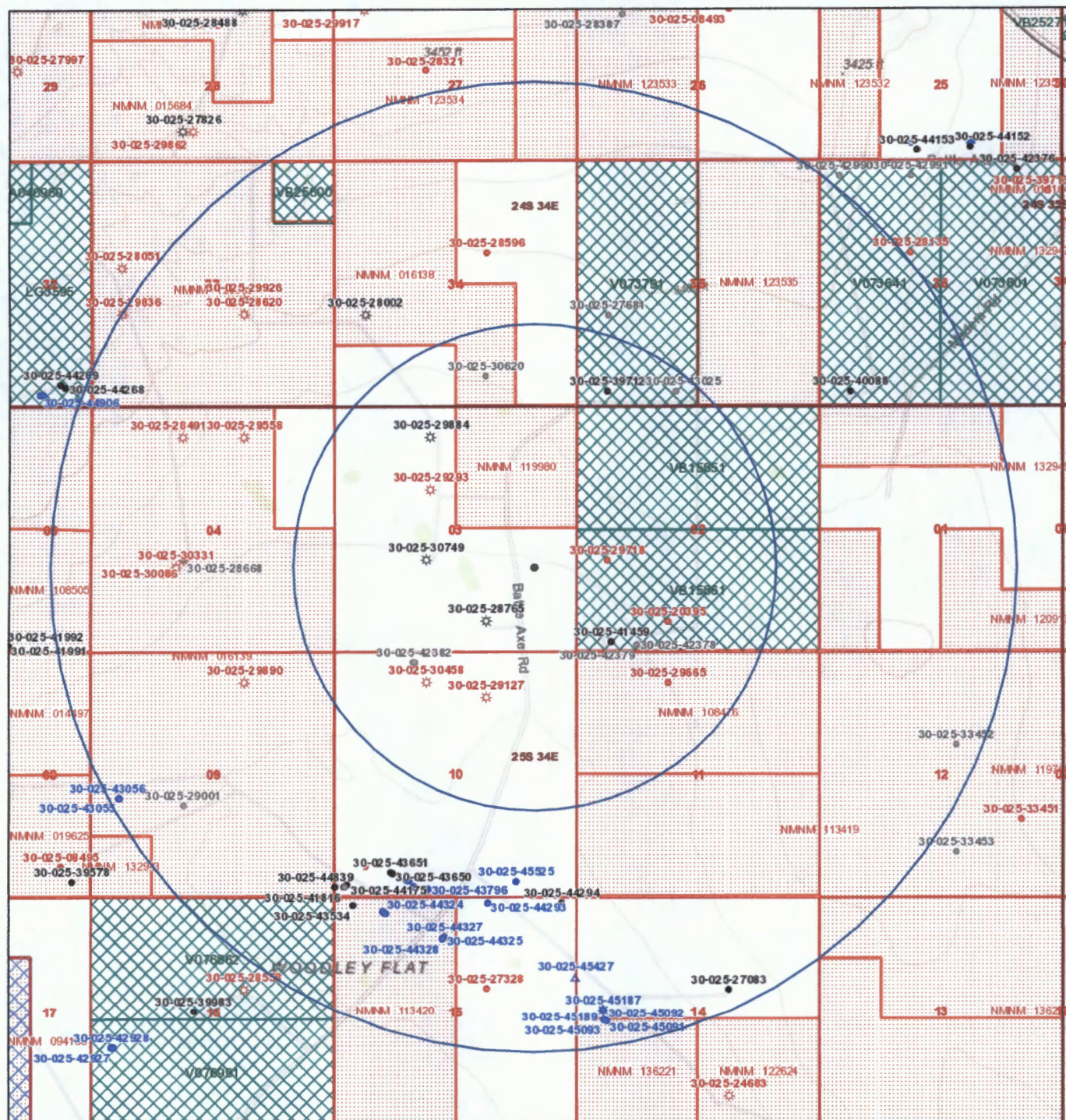
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres	Joint or Infill	Consolidation Code	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



Super Siphon Federal SWD #1 - 2 Mile Map w/1 Mile Area of Review



2/23/2019, 12:21:30 AM

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

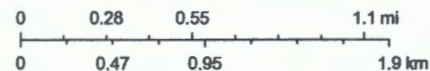
- Gas Active
- Gas, Cancelled, Never Drilled
- Gas, New
- Gas, Plugged
- Gas, Temporarily Abandoned
- Injection, Active
- Injection, Cancelled
- Injection, New
- Injection, Plugged
- Injection, Temporarily Abandoned

- 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

1:30,000



US Census Bureau, NMDOT, Sources: Earl, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors,

Super Siphon Federal 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	OCB Unit Letter	Surface Location	Methemhole Location	Formation	MD	TYD
3002530458	BURLINGTON RESOURCES OIL & GAS CO	PITCHFORK 1D	1	Gas	Vertical	Plugged (Site Released)	10	25S	34E	C	C-10-25S-34E	660 FNL	1980 FNL	15027	15027
3002539712	COG OPERATING LLC	ORANGE BADER BPV STATE	001H	Oil	Horizontal	Active	35	24S	34E	M	M-35-24S-34E	330 FNL	660 FNL	13850	9453
3002543025	COG OPERATING LLC	ORANGE BADER BPV STATE	004C	Oil	Horizontal	Cancelled APD	35	24S	34E	N	N-35-24S-34E	316 FSL	2185 FNL	13860	13860
3002528795	EOG RESOURCES INC	WARREN 3	1	Gas	Vertical	Active	3	25S	34E	O	O-03-25S-34E	660 FSL	1980 FNL	13420	13420
3002529273	EOG RESOURCES INC	PAGE 3 COM	1	Gas	Vertical	Plugged (Site Released)	3	25S	34E	F	F-03-25S-34E	1780 FNL	2080 FNL	15600	15600
3002529844	EOG RESOURCES INC	PAGE 3 COM	2	Gas	Vertical	Active	3	25S	34E	F	F-03-25S-34E	1780 FNL	2080 FNL	15600	15600
3002530670	EOG RESOURCES INC	PITCHFORK 34 FEDERAL COM	2	Oil	Vertical	Cancelled APD	34	24S	34E	O	O-34-24S-34E	660 FSL	1980 FNL	14110	14110
3002530760	EOG RESOURCES INC	WARREN 3	2	Oil	Vertical	Active	3	25S	34E	K	K-03-25S-34E	660 FSL	1980 FNL	14110	14110
3002541459	EOG RESOURCES INC	TUMBLING DICE 2 STATE COM	001H	Oil	Horizontal	Active	3	25S	34E	K	K-03-25S-34E	660 FSL	1980 FNL	14110	14110
3002542378	EOG RESOURCES INC	TUMBLING DICE 2 STATE COM	201C	Oil	Horizontal	Cancelled APD	2	25S	34E	M	M-02-25S-34E	120 FNL	1980 FNL	14110	14110
3002542378	EOG RESOURCES INC	TUMBLING DICE 2 STATE COM	201C	Oil	Horizontal	Cancelled APD	2	25S	34E	M	M-02-25S-34E	120 FNL	1980 FNL	14110	14110
3002542378	EOG RESOURCES INC	TUMBLING DICE 2 STATE COM	201C	Oil	Horizontal	Cancelled APD	2	25S	34E	M	M-02-25S-34E	120 FNL	1980 FNL	14110	14110
3002542382	EOG RESOURCES INC	OSPREY 1D	201C	Oil	Horizontal	Cancelled APD	10	25S	34E	C	C-10-25S-34E	231 FSL	1060 FNL	17661	12510
3002542383	EOG RESOURCES INC	OSPREY 1D	201C	Oil	Horizontal	Cancelled APD	10	25S	34E	C	C-10-25S-34E	231 FSL	1060 FNL	17661	12510
3002503995	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL	1	Gas	Vertical	Plugged (Site Released)	2	25S	34E	N	N-02-25S-34E	221 FNL	1685 FNL	12915	12915
300259177	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL	1	Gas	Vertical	Plugged (Site Released)	10	25S	34E	B	B-10-25S-34E	990 FNL	1980 FNL	15440	15440
300259665	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL	1	Oil	Vertical	Plugged (Site Released)	11	25S	34E	C	C-11-25S-34E	660 FNL	1980 FNL	15564	15564
300259718	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL	1	Oil	Vertical	Plugged (Site Released)	2	25S	34E	L	L-02-25S-34E	1980 FSL	660 FNL	15470	15470

*No Wells within the 1 Mile Area of Review Penetrate the Proposed Injection Zone

Permian Oilfield Partners, LLC.

P.O. Box 1220, Stephenville, TX. 76401 | (817) 606-7630 | gfisher@permianoilfieldpartners.com

Statement of Notifications

C-108 Application for Authorization to inject

Super Siphon #1 Federal SWD #1

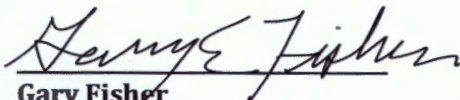
1800' FSL & 930' FEL

Section 3, T25S, R34E

Lea County, New Mexico

Permian Oilfield Partners, LLC. has mailed notifications to offset operators & leaseholders as per the following list.

SUPER SIPHON FEDERAL SWD #1 MAIL NOTIFICATIONS							
COMPANY	ADDRESS	CITY	STATE	ZIP	SHIPPER	TRACKING NUMBER	DATE
BURLINGTON RESOURCES	PO OX 51810	MIDLAND	TX	79710	USPS	70180360000030896496	3/4/2019
BLM	620 E GREENE ST	CARLSBAD	NM	88220	USPS	70180360000030896489	3/4/2019
NM OCD	1220 S SAINT FRANCIS DR	SANTA FE	NM	87505	USPS	70180360000030896526	3/4/2019
EOG RESOURCES	PO BOX 2267	MIDLAND	TX	79702	USPS	70180360000030896519	3/4/2019
COG OPERATING	600 W ILLINOIS AVE	MIDLAND	TX	79701	USPS	70180360000030896502	3/4/2019
MIDWEST RESOURCES	PO BOX 76	ELM GROVE	WI	53122	USPS	70180360000030896557	3/4/2019
MARK MCCLOY TRUST	PO BOX 795	TATUM	NM	88267	USPS	70180360000030896540	3/4/2019
THE ALLAR COMPANY	735 ELM ST	GRAHAM	TX	76450	USPS	70180360000030896533	3/4/2019
NM STATE LAND OFFICE	2827 N DAL PASO ST STE 117	HOBBS	NM	88240	USPS	70180360000030896595	3/4/2019
TE-RAY RESOURCES	13208 N. MACARTHUR BLVD	OKLAHOMA CITY	OK	73142	USPS	70180360000030896588	3/4/2019
RUPERT F. MADERA	PO BOX 2795	JAL	NM	88252	USPS	70180360000030896571	3/4/2019
OXY USA	PO BOX 4294	HOUSTON	TX	77210	USPS	70180360000030896564	3/4/2019
JOHNNY G. JONES	PO BOX 5126	MIDLAND	TX	79704	USPS	70183090000004167930	3/8/2019
NM STATE LAND OFFICE	310 OLD SANTA FE TRAIL	SANTA FE	NM	87501	USPS	9414811899560604661156	3/19/2019


Gary Fisher
Manager
Permian Oilfield Partners, LLC.

03/19/2019
Date

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MIDLAND, TX 79704

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☐ Adult Signature Required \$0.00
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Total Postage and Fees \$6.55

03/08/2019

Sent To **Johnny G. Jones**
 Street and Apt. No., or PO Box No. **PO Box 5126**
 City, State, ZIP+4® **Midland, TX 79704**

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See Reverse for Instructions

9859 690E 0000 0360 9108

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 Street and Apt. No., or PO Box No. **13208 N. MacArthur**
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 Street and Apt. No., or PO Box No. **PO Box 2795**
 City, State, ZIP+4® **Jal, NM 88252**

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Postage \$

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 Street and Apt. No., or PO Box No. **2827 N Dal Paso #117**
 City, State, ZIP+4® **Hobbs, NM 88240**

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 Street and Apt. No., or PO Box No. **PO Box 795**
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3/19/19.

Siphon

Super Siphon Federal SWD #1 - List of Operators Notified

Name	Address	Operator City, St, Zip
Burlington Resources Oil & Gas Co	P.O. Box 51810	Midland, TX 79710
COG Operating, LLC	600 West Illinois Ave	Midland, TX 79701
EOG Resources, Inc	P.O. Box 2267	Midland, TX 79702
Pre-Ongard Well Operator	1220 S St Francis Dr	Santa Fe, NM 87505

Super Siphon Federal SWD #1 - List of Leaseholders Notified

Name	Address	Operator City, St, Zip
Bureau of Land Management	620 E Greene St	Carlsbad, NM 88220
Bureau of Land Management	2909 W 2nd St	Roswell, NM 88201
Allar Co	735 Elm St	Graham, TX 76450
EOG Resources, Inc	P.O. Box 2267	Midland, TX 79702
Mark McCloy Trust	PO Box 795	Tatum, NM 88267
Midwest Resources	PO Box 76	Elm Grove, WI 53122
OXY USA Inc.	P.O. Box 4294	Houston, TX 77210
Pre-Ongard Well Operator	1220 S St Francis Dr	Santa Fe, NM 87505
Rupert F Madera	PO Box 2795	Jal, NM 88252
Te-Ray Resources	13208 N MacArthur Blvd	Oklahoma City, OK 73142
New Mexico State Land Office	2827 N Dal Paso St Suite 117	Hobbs, NM 88240

VI: There are no wells within the proposed wells area of review that penetrate the Devonian-Silurian Formation.

VII:

1. The average injected volume anticipated is 45,000 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 1920 psi
The proposed maximum injection pressure is 3446 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 what we are calling the Devonian-Silurian series of formations, although we are technically including the Ordovician Montoya in the proposed injection zone. This sequence is bounded on top by the Upper Devonian Woodford shale. Underneath the Woodford is the first injection formation, the Lower Devonian Thirtyone formation, consisting of dolomitic carbonates & chert, followed by the Upper Silurian Wristen Dolomite, the Lower Silurian Fusselman Dolomite, and the Upper Ordovician Montoya Limestone. The lower bound is the top of the Middle Ordovician Simpson. This proposed well will TD above the top of the Simpson, and will not inject fluids into the Simpson itself, in order to provide a sufficient barrier to preclude fluid injection into the Lower Ordovician Ellenburger, the Cambrian, and the PreCambrian below.

The injection formations are generally mixed as to rock types and deposition, with a preponderance of calcareous and siliceous sediments having been laid down, and then weathered to differing degrees due to rising and falling sea levels. This varied sequence of events led to large intervals of dolomitization mixed with intervals of limestones & cherts, relatively high primary porosities, high secondary porosities in the form of vugs and karsts, and intervals of mudstones, packstones and the like breaking up the relatively low porosity grainstones.

The Devonian-Silurian-Upper Ordovician sequence is ideally suited for SWD purposes, with a low permeability shale barrier over the top to prevent upward fluid migrations to USDW's, sufficient permeability, primary & secondary porosities in zone, and multiple formations available over a large depth range. This large injection depth range allows an equivalently large injection surface area, keeping injection pressures low, even at higher rates.

Formation	KB TVD (ft)	Thickness (ft)
Mississippian	16703	310
Woodford	17013	212
Devonian	17225	2160
Simpson	19385	791
Ellenburger	20176	N/A

2. According to the NM State Engineer's website, underground sources of fresh water are present at a depth of less than 600' (See Table below in XI). 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, there are no water wells within the proposed injection well's one-mile area of review. The nearest water wells are greater than 1.4 miles from the proposed injection well. See table below for details. No water samples were obtained.

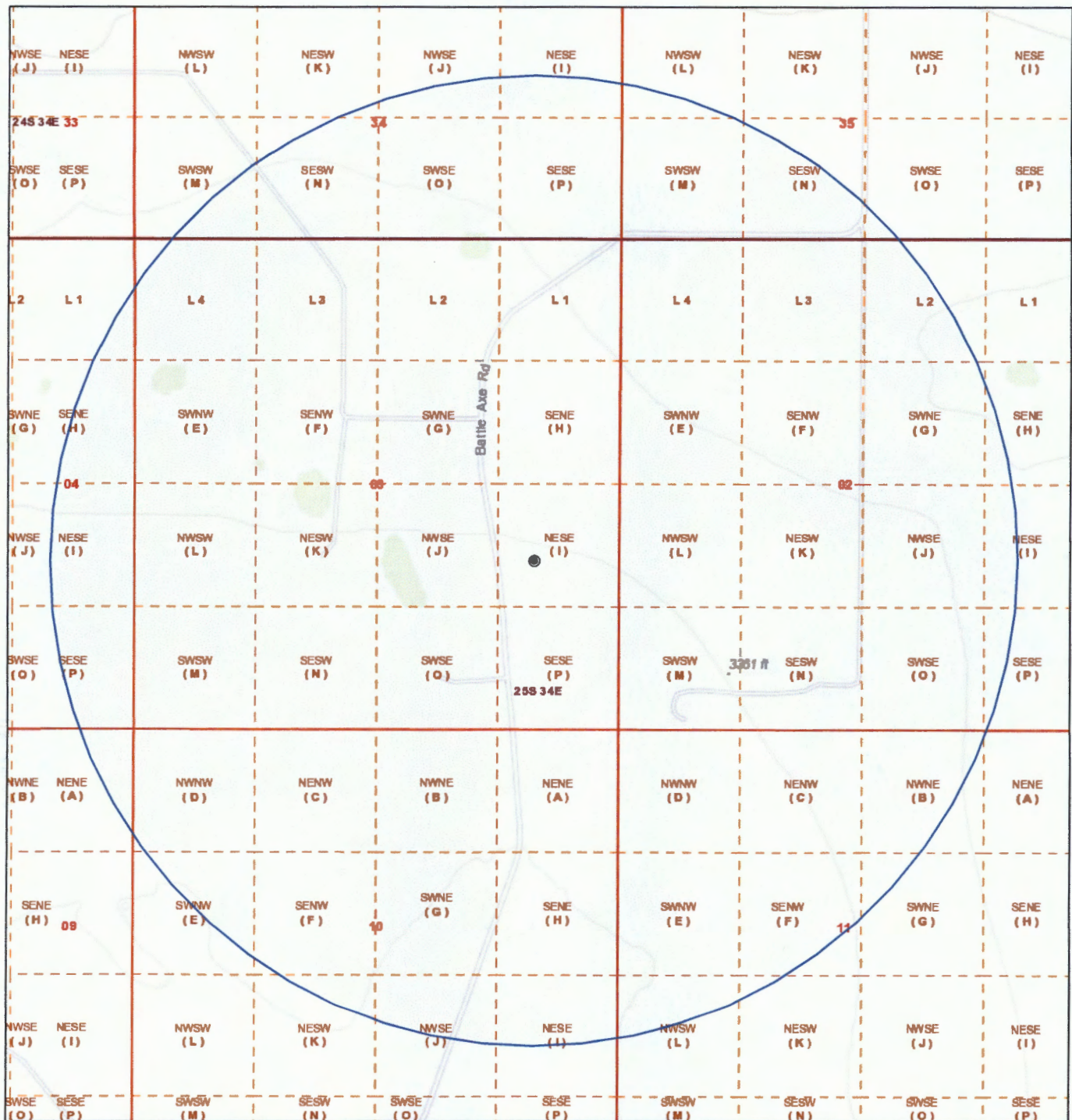
Underground Drinking Water Sources from Ground Level			
FORMATION	POD NUMBER	TOP DEPTH (ft)	BOTTOM DEPTH (ft)
Un-Named	C 02314	135	175
Un-Named	C 02315	135	175
Un-Named	C 02373	Not Given	600
Un-Named	C 02401	260	275

* No known fresh water sources below injection interval

XII: Hydrologic affirmative statement attached.

XIII: Proof of notice and proof of publication attached.

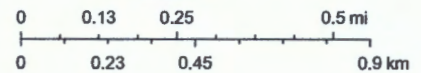
Super Siphon Federal SWD #1 - Water Well Map



2/23/2019, 6:19:46 PM

- Override 1
- Override 1
- PLSS First Division
- PLSS Second Division
- PLSS Townships
- New Mexico Counties
- New Mexico Towns
- NMDOT GPS ROADS
- NMDOT Railroads

1:15,000



US Census Bureau, NMDOT, 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), swisstopo, © OpenStreetMap contributors,



New Mexico Office of the State Engineer
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.

PLSS Search:

Section(s): 2

Township: 25S

Range: 34E

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2/23/19 6:16 PM

WATER COLUMN/ AVERAGE
DEPTH TO WATER



New Mexico Office of the State Engineer

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)

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Section(s): 3

Township: 25S

Range: 34E

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WATER COLUMN/ AVERAGE
DEPTH TO WATER



New Mexico Office of the State Engineer **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)

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PLSS Search:

Section(s): 4

Township: 25S

Range: 34E

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WATER COLUMN/ AVERAGE
DEPTH TO WATER



New Mexico Office of the State Engineer

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.

PLSS Search:

Section(s): 9

Township: 25S

Range: 34E

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WATER COLUMN/ AVERAGE
DEPTH TO WATER



New Mexico Office of the State Engineer **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)

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PLSS Search:

Section(s): 10

Township: 25S

Range: 34E

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WATER COLUMN/ AVERAGE
DEPTH TO WATER



New Mexico Office of the State Engineer **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)

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PLSS Search:

Section(s): 11

Township: 25S

Range: 34E

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2/23/19 6:18 PM

WATER COLUMN/ AVERAGE
DEPTH TO WATER

Permian Oilfield Partners, LLC.

P.O. Box 1220, Stephenville, TX. 76401 | (817) 606-7630 | gfisher@permianoilfieldpartners.com

Item XII. Affirmative Statement

C-108 Application for Authorization to inject

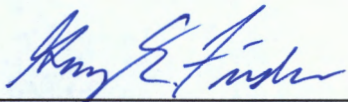
Super Siphon Federal SWD #1

1800' FSL & 930' FEL

Section 3, T25S, R34E

Lea County, New Mexico

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.

02/23/2018

Date

McMillan, Michael, EMNRD

From: McMillan, Michael, EMNRD
Sent: Monday, March 4, 2019 1:21 PM
To: 'gfisher@permianoilfieldpartners.com'
Cc: Goetze, Phillip, EMNRD; Jones, William V, EMNRD
Subject: Permian Oilfield Partners , L.L.C. Super Siphon Federal SWD Well No. 1

Gary:

I need the following information

- Tract map of affected parties within 1-mile AOR
- Clarify who is the surface owner
- Proof of mailing to the affected parties. Include the date and addresses (Green cards). This includes the operator, if no operator, then lessees, if not lessors, then the lessors. Further, the surface owner must be notified.
- Affidavit of publication in the county in which the well is located
- PRE-ONGARD is not an active operator. It is a well that has been P&A before 2003.
- Also, the OCD does not approve injection into the Montoya formation.
- Therefore, you will be expected to include the projected top of Montoya formation, to ensure you do not inject into this formation.
- You will be expected to include the **top and bottom of salt, Delaware formation, Bone Spring formation, Wolfcamp formation, Lower Ms, top and bottom of Woodford, and Devonian formations**
- Until the OCD gets the required information your application will be suspended.
- Further, if the OCD does not receive the required information within 10-business days, your application is cancelled.

Send the SWD application to the Hobbs District Office

Michael McMillan
1220 South St. Francis
Santa Fe, New Mexico
505-476-3448
Michael.mcmillan@state.nm.us

Permian Oilfield Partners, LLC.

P.O. Box 1220, Stephenville, TX. 76401 | (817) 606-7630 | gfisher@permianoilfieldpartners.com

3/8/3019

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

Re: Addendum to previously submitted C-108 dated 2/22/2019

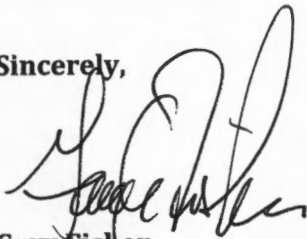
Permian Oilfield Partners, LLC.
C-108 Application for Authorization to inject
Super Siphon Federal SWD #1
1800' FSL & 930' FEL
Section 3, T 25S, R 34E
Lea County, New Mexico

Mr. Goetze:

This letter is an addendum to the C108 application for the above listed SWD well, by Permian Oilfield Partners LLC.

Enclosed please find the additional information required for the administrative approval of this requested C108 application. Please contact me with any further questions.

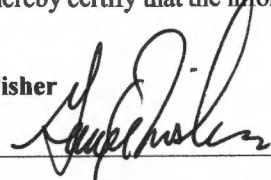
Sincerely,



Gary Fisher
Operations Manager
Permian Oilfield Partners, LLC.

Enclosure

APPLICATION FOR AUTHORIZATION TO INJECT

- I. **PURPOSE:** **Produced Water Disposal**
Application qualifies for administrative approval? **Yes**
- II. **OPERATOR:** **Permian Oilfield Partners, LLC.**
ADDRESS: **P.O. Box 1220, Stephenville, TX. 76401**
CONTACT PARTY: **Gary Fisher** **PHONE:** **(817) 606-7630**
- 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: **Gary Fisher**  TITLE: **Manager**
- SIGNATURE: _____ DATE: **03/08/2019**
- E-MAIL ADDRESS: **gfisher@permianoilfieldpartners.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: 2/23/2019, incomplete information

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 14,867'

Underlying Potentially Productive Zones:
None

WELL CONSTRUCTION DATA

Permian Oilfield Partners, LLC.
Super Siphon Federal SWD #1
1800' FSL, 930' FEL
Sec. 3, T25S, R34E, Lea Co. NM
Lat 32.157224° N, Lon 103.452301° W
GL 3356', RKB 3386'

Surface - (Conventional)

Hole Size: 26" Casing: 20" - 94# H-40 STC Casing
Depth Top: Surface
Depth Btm: 816'
Cement: 511 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: 5291'
Cement: 1702 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: 12474' ECP/DV Tool: 5391'
Cement: 2126 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: 12274'
Depth Btm: 17260'
Cement: 247 sks - Lite Class C (60:40:0) + Additives
Cement Top: 12274' - (Volumetric)

Intermediate #4 - (Open Hole)

Hole Size: 6.5" Depth: 18945'
Inj. Interval: 17260' - 18945' (Open-Hole Completion)

Tubing - (Tapered)

Tubing Depth: 17215' Tubing: 7" - 26# HCP-110 FJ Casing & 5.5" 17# HCL-80
X/O Depth: 12274' FJ Casing (Fiberglass Lined)
X/O: 7" 26# HCP-110 FJ Casing - X - 5.5" 17# HCL-80 FJ Casing (Fiberglass Lined)
Packer Depth: 17225' Packer: 5.5" - "Perma-Pak" or Equivalent (Inconel)

WELLBORE SCHEMATIC

Permian Oilfield Partners, LLC.
Super Siphon Federal SWD #1
1800' FSL, 930' FEL
Sec. 3, T25S, R34E, Lea Co. NM
Lat 32.157224° N, Lon 103.452301° W
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Hole Size: 17.5"
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Depth Top: Surface
Depth Btm: 5291'
Cement: 1702 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: 12474'
Cement: 2126 sks - Lite Class C (60:40:0) + Additives
Cement Top: Surface - (Circulate)
ECP/DV Tool: 5391'

Intermediate #3 - (Liner)

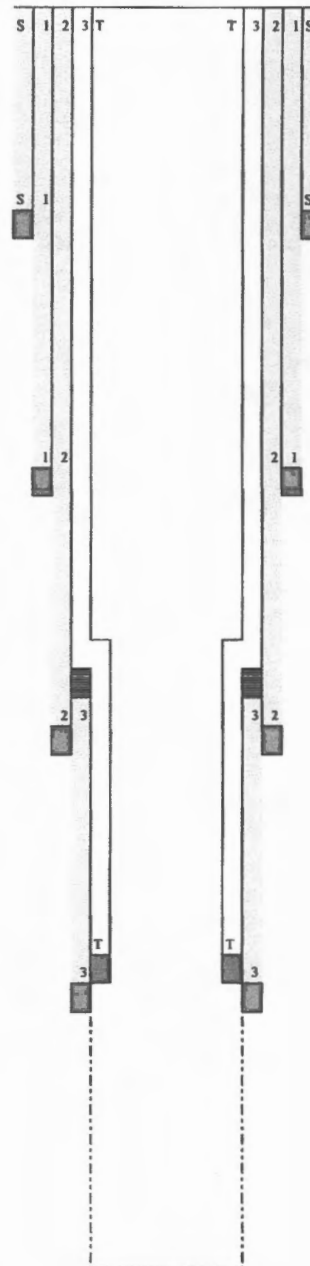
Hole Size: 8.5"
Casing: 7.625" - 39# HCL-80 FJ Casing
Depth Top: 12274'
Depth Btm: 17260'
Cement: 247 sks - Lite Class C (60:40:0) + Additives
Cement Top: 12274' - (Volumetric)

Intermediate #4 - (Open Hole)

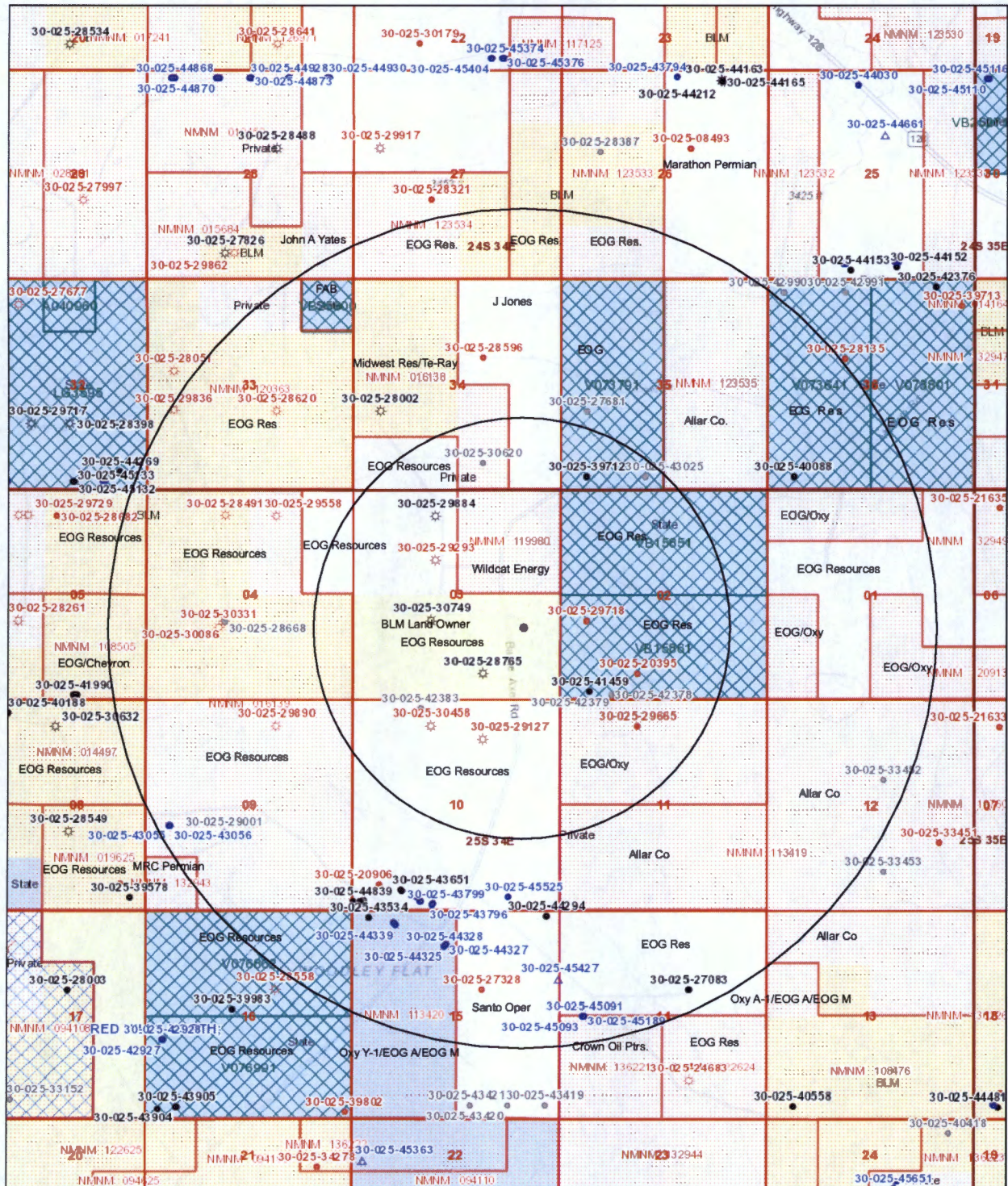
Hole Size: 6.5"
Depth: 18945'
Inj. Interval: 17260' - 18945' (Open-Hole Completion)

Tubing - (Tapered)

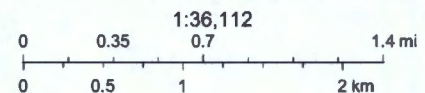
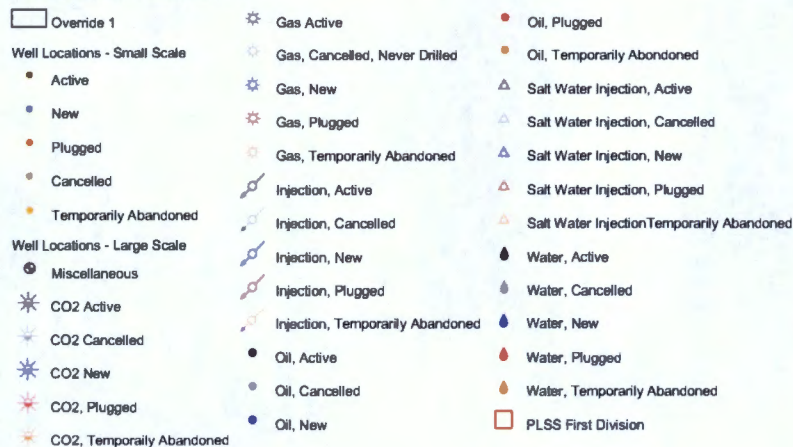
Tubing Depth: 17215'
Tubing: 7" - 26# HCP-110 FJ Casing & 5.5" 17# HCL-80 FJ Casing (Fiberglass Lined)
X/O Depth: 12274'
X/O: 7" 26# HCP-110 FJ Casing - X - 5.5" 17# HCL-80 FJ Casing (Fiberglass Lined)
Packer Depth: 17225'
Packer: 5.5" - "Perma-Pak" or Equivalent (Inconel)



Super Siphon Federal SWD #1, 1 & 2 Mile AOI



3/8/2019, 11:46:30 AM



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



VI: There are no wells within the proposed wells area of review that penetrate the Devonian-Silurian Formation.

VII:

1. The average injected volume anticipated is 45,000 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 1920 psi
The proposed maximum injection pressure is 3452 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 what we are calling the Devonian-Silurian series of formations. This sequence is bounded on top by the Upper Devonian Woodford shale. Underneath the Woodford is the first injection formation, the Lower Devonian Thirtyone formation, consisting of dolomitic carbonates & chert, followed by the Upper Silurian Wristen Dolomite, and the Lower Silurian Fusselman Dolomite. The lower bound is the top of the Upper Ordovician Montoya Limestone. 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.

The injection formations are generally mixed as to rock types and deposition, with a preponderance of calcareous and siliceous sediments having been laid down, and then weathered to differing degrees due to rising and falling sea levels. This varied sequence of events led to large intervals of dolomitization mixed with intervals of limestones & cherts, relatively high primary porosities, high secondary porosities in the form of vugs and karsts, and intervals of mudstones, packstones and the like breaking up the relatively low porosity grainstones.

The Devonian-Silurian sequence is ideally suited for SWD purposes, with a low permeability shale barrier over the top to prevent upward fluid migrations to USDW's, sufficient permeability, primary & secondary porosities in zone, and multiple formations available over a large depth range. This large injection depth range allows an equivalently large injection surface area, keeping injection pressures low, even at higher rates.

Permian Oilfield Partners, LLC.
 Super Siphon Federal SWD #1
 1800' FSL, 930' FEL
 Sec. 3, T25S, R34E, Lea Co. NM
 Lat 32.157224° N, Lon 103.452301° W
 GL 3356', RKB 3386'

GEOLOGY PROGNOSIS			
FORMATION	TOP KB TVD (ft)	BOTTOM KB TVD (ft)	THICKNESS (ft)
Salt	1257	4998	3,741
Delaware	5266	9219	3,953
Bone Spring	9219	12424	3,205
Wolfcamp	12424	13300	876
Lwr. Mississippian	16703	17013	310
Woodford	17013	17225	212
Devonian	17225	19015	1,790
Montoya	19015	19399	384

2. According to the NM State Engineer's website, underground sources of fresh water are present at a depth of less than 600' (See Table below in XI). 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, there are no water wells within the proposed injection well's one-mile area of review. The nearest water wells are greater than 1.4 miles from the proposed injection well. See table below for details. No water samples were obtained.

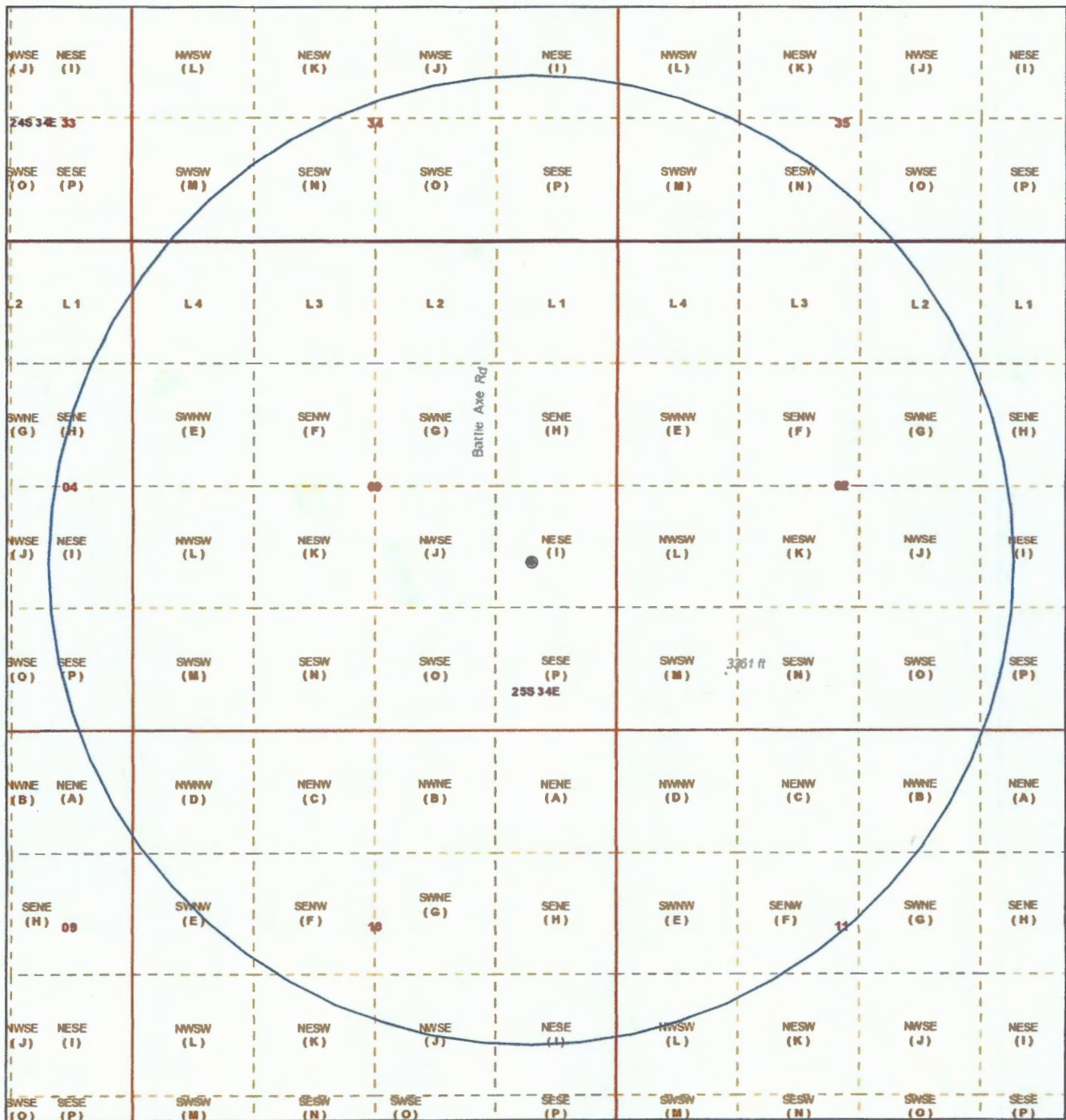
Underground Drinking Water Sources from Ground Level			
FORMATION	POD NUMBER	TOP DEPTH (ft)	BOTTOM DEPTH (ft)
Un-Named	C 02314	135	175
Un-Named	C 02315	135	175
Un-Named	C 02373	Not Given	600
Un-Named	C 02401	260	275

* No known fresh water sources below injection interval

XII: Hydrologic affirmative statement attached.

XIII: Proof of notice and proof of publication attached.

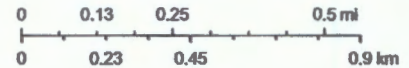
Super Siphon Federal SWD #1 - Water Well Map



2/23/2019, 6:19:46 PM

-  Override 1
-  Override 1
-  PLSS First Division
-  PLSS Second Division
-  PLSS Townships
-  New Mexico Counties
-  New Mexico Towns
-  NMDOT GPS ROADS
-  NMDOT Railroads

1:15,000



US Census Bureau, NMDOT, Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBasis, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors,

Affidavit of Publication

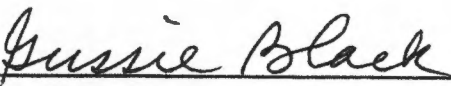
STATE OF NEW MEXICO
COUNTY OF LEA

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).

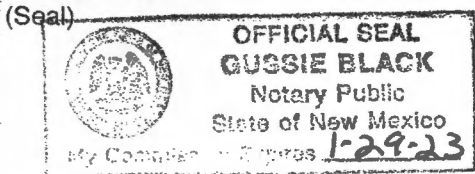
Beginning with the issue dated
March 02, 2019
and ending with the issue dated
March 02, 2019.


Publisher

Sworn and subscribed to before me this
2nd day of March 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 MARCH 2, 2019

Permian Oilfield Partners LLC, P.O. Box 1220 Stephenville, TX 76401 phone (817) 806-7630, 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 Super Siphon Federal SWD #1, and is located 1800' FSL & 930' FEL, Unit Letter I, Section 3, Township 25 South, Range 34 East, NMNM. The well will dispose of water produced from nearby oil and gas wells into the Devonian formation from a depth of 17,260 feet to 19,935'. The maximum expected injection rate is 50,000 BWP/D at a maximum surface injection pressure of 3,446 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.
#33814

67115647

00225255

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

PROOF OF MAILING

USPS CERTIFIED TRACKING NUMBER	COMPANY	ADDRESS	CITY	STATE	ZIP
70180360000030896496	BURLINGTON RESOURCES	PO OX 51810	MIDLAND	TX	79710
70180360000030896489	BLM	620 E GREENE ST	CARLSBAD	NM	88220
70180360000030896526	NM OCD	1220 S SAINT FRANCIS DR	SANTA FE	NM	87505
70180360000030896519	EOG RESOURCES	PO BOX 2267	MIDLAND	TX	79702
70180360000030896502	COG OPERATING	600 W ILLINOIS AVE	MIDLAND	TX	79701
70180360000030896557	MIDWEST RESOURCES	PO BOX 76	ELM GROVE	WI	53122
70180360000030896540	MARK MCCLOY TRUST	PO BOX 795	TATUM	NM	88267
70180360000030896533	THE ALLAR COMPANY	735 ELM ST	GRAHAM	TX	76450
70180360000030896595	NMSLO	2827 N DAL PASO ST STE 117	HOBBS	NM	88240
70180360000030896588	TE-RAY RESOURCES	13208 N. MACARTHUR BLVD	OKLAHOMA CITY	OK	73142
70180360000030896571	RUPERT F. MADERA	PO BOX 2795	JAL	NM	88252
70180360000030896564	OXY USA	PO BOX 4294	HOUSTON	TX	77210
70183090000004167930	JOHNNY G. JONES	PO BOX 5126	MIDLAND	TX	79704

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☐ Adult Signature Restricted Delivery	\$

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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	\$

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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

Burlington Res.
PO Box 51610
Midland TX 79710

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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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

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MMOCD
1220 S. St Francis
Santa Fe NM 87505

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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COG operating
600W Illinois
Midland TX 79701

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Total Postage and Fees

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670 E. Greene St.
Carlsbad, NM 87505

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☐ Return Receipt (electronic)	\$
☐ Certified Mail Restricted Delivery	\$
☐ Adult Signature Required	\$
☐ Adult Signature Restricted Delivery	\$

Postage

Total Postage and Fees

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EOG Res.
PO Box 2267
Midland TX 79702

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Certified Mail Fee

Extra Services & Fees (check box, add fee as appropriate)

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☐ Return Receipt (electronic)	\$
☐ Certified Mail Restricted Delivery	\$
☐ Adult Signature Required	\$
☐ Adult Signature Restricted Delivery	\$

Postage

Total Postage and Fees

Sent To

Midwest Res.
PO Box 76
Elm Grove, WI 53122

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

U.S. Postal Service[™]
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For delivery information, visit our website at www.usps.com.

MIDLAND, TX 79704

Certified Mail Fee \$3.50
\$0.00
Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) \$1.80
☐ Return Receipt (electronic) \$0.00
☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$

Postage \$1.45

Total Postage and Fees \$6.55

0446
03

Postmark
Here

03/08/2019

Sent To Johnny G. Jones

Street and Apt. No. or PO Box No.
PO Box 5726

City, State, ZIP+4[®]
Midland, TX 79704

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions



**PERMIAN OILFIELD
PARTNERS**

**Attachment to C-108
Permian Oilfield Partners, LLC
Super Siphon Federal SWD #1
Sec. 3, Twp. 25S, Rge. 34E
1800' FSL, 930' FEL
Lea County, NM**

March 08, 2019

STATEMENT REGARDING SEISMICITY

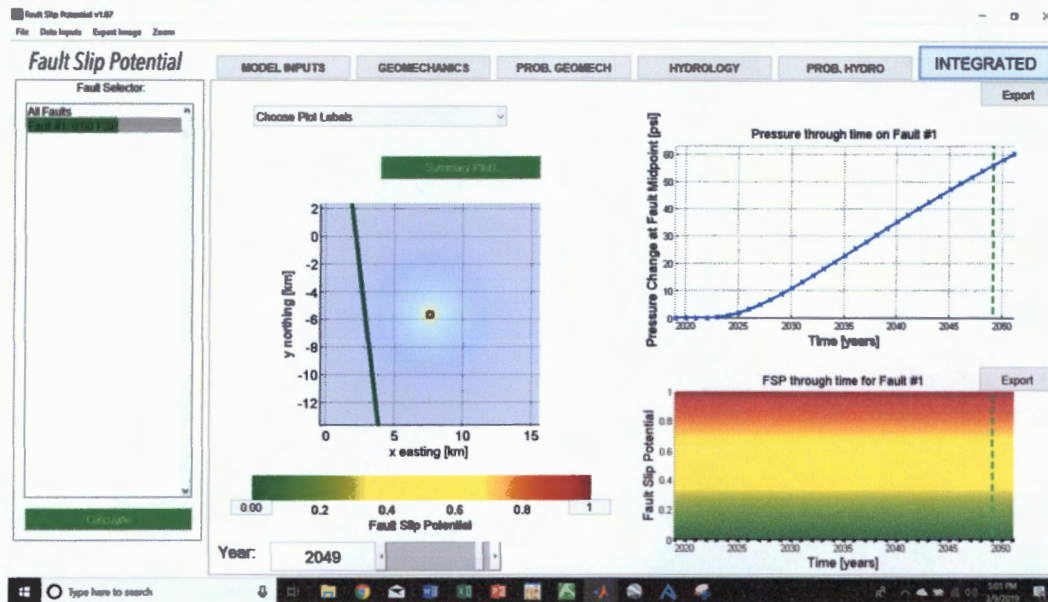
Examination of the USGS and TexNet seismic activity databases has shown minimal historic seismic activity in the area of our proposed above referenced SWD well as follows:

1. M2.9, 1984-12-09, 9.8 miles away @ 321 deg heading
2. M3.3, 2001-06-02, 22.0 miles away @ 56 deg heading
3. M4.6, 1992-01-02, 24 miles away @ 59 deg heading
4. M2.6, 2017-05-03, 25.8 miles away @ 101 deg heading
5. M3.1, 2012-03-18, 27.3 miles away @ 289 deg heading

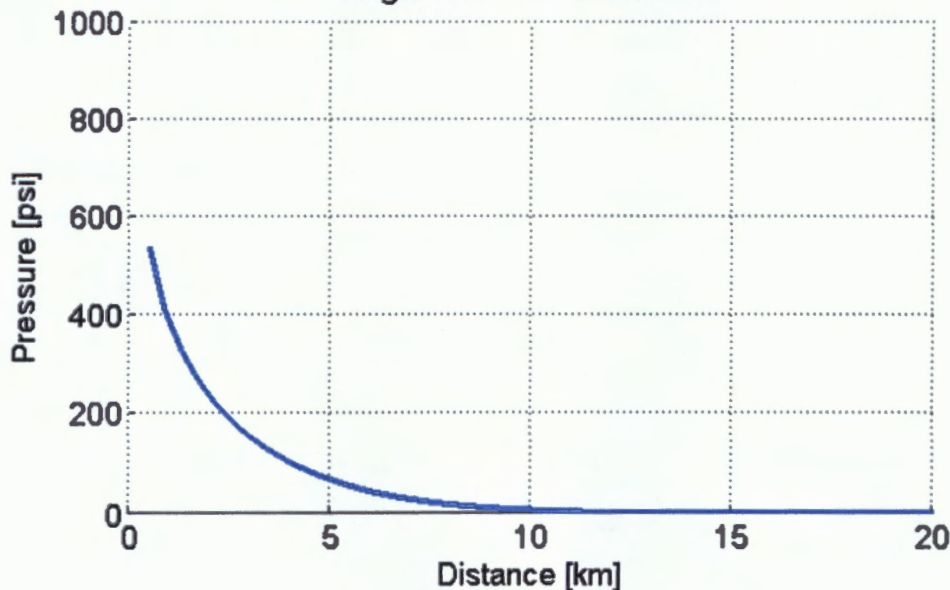
Permian Oilfield Partners does not own any 2D or 3D seismic data in the area of this proposed SWD well. Our fault interpretations are based on well to well correlations and publically available data and software as follows:

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. A basement PreCambrian fault is 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 and this fault is relatively far away from the proposed injection site, 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 at the midpoint of the fault as per the FSP results screenshot below, with a calculated 56 psi pressure change at that point, although the portion of the fault closest to the proposed well could potentially see approximately 100psi over a short length. However, due to the direction of maximum horizontal stress, the localized probability of an induced seismic event still remains less than 5%:

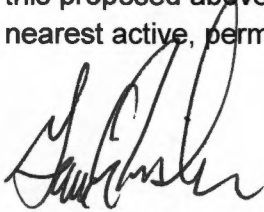


Single Well Radial Solutions



6. The above analysis 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 approximately 1.8 miles away from the nearest active, permitted or pending disposal well.



Gary E. Fisher

gfisher@permianoilfieldpartners.com

(817) 606-7630

**Plugging Risk Assessment
Permian Oilfield Partners, LLC.
Super Siphon Federal SWD #1
1800' FSL & 930' FEL
Sec 3, T25S, R34E
Lea County, New Mexico**

WELLBORE SCHEMATIC

Permian Oilfield Partners, LLC.
Super Siphon Federal SWD #1
1800' FSL, 930' FEL
Sec. 3, T25S, R34E, Lea Co. NM
Lat 32.157224° N, Lon 103.452301° W
GL 3356', RKB 3386'

Surface - (Conventional)

Hole Size: 26"
Casing: 20" - 94# H-40 STC Casing
Depth Top: Surface
Depth Btm: 816'
Cement: 511 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: 5291'
Cement: 1702 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: 12474'
Cement: 2126 sks - Lite Class C (60:40:0) + Additives
Cement Top: Surface - (Circulate)
ECP/DV Tool: 5391'

Intermediate #3 - (Liner)

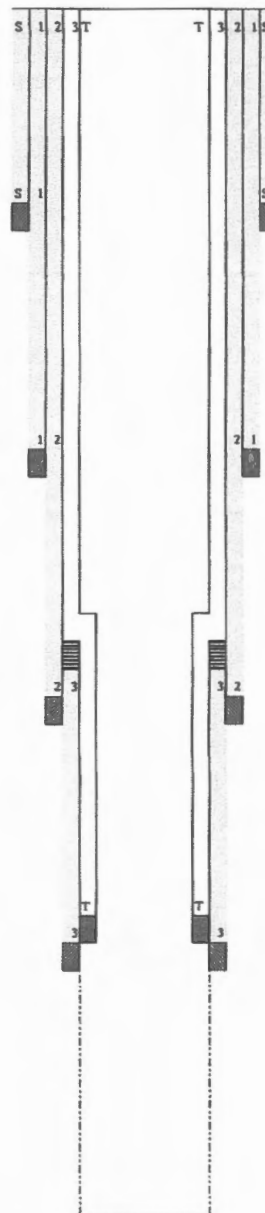
Hole Size: 8.5"
Casing: 7.625" - 39# HCL-80 FJ Casing
Depth Top: 12274'
Depth Btm: 17260'
Cement: 247 sks - Lite Class C (60:40:0) + Additives
Cement Top: 12274' - (Volumetric)

Intermediate #4 - (Open Hole)

Hole Size: 6.5"
Depth: 18945'
Inj. Interval: 17260' - 18945' (Open-Hole Completion)

Tubing - (Tapered)

Tubing Depth: 17215'
Tubing: 7" - 26# HCP-110 FJ Casing & 5.5" 17# HCL-80 FJ Casing (Fiberglass Lined)
X/O Depth: 12274'
X/O: 7" 26# HCP-110 FJ Casing - X - 5.5" 17# HCL-80 FJ Casing (Fiberglass Lined)
Packer Depth: 17225'
Packer: 5.5" - "Perma-Pak" or Equivalent (Inconel)



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

Bowen Series 150 Releasing and Circulation Overshots

Maximum Catch Size 6 1/4" to 7 1/2" Inclusive

Maximum Catch Size (Spiral)		5 1/2"	6"	7"	7 1/2"
Maximum Catch Size (Basket)		5 1/2"	6"	6 1/2"	6 3/4"
Overshot O.D.		8 1/2"	7 1/2"	8 1/2"	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	260

Replacement Parts

Top Sub	Part No.	A-3033	A-5223	Q218	A-5355
Bowl	Part No.	B-3034	B-5224	Q219	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-5229	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" FJ 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% to 5 1/2" inclusive

Maximum Catch Size (Spiral)		4%	4%	4%	4%	5	5	5 1/2"
Maximum Catch Size (Basket)		3 3/4"	4"	4"	4"	4"	4"	4 1/2"
Overshot O.D.		5 3/4"	5"	5"	5"	5"	6"	6"
Type		F.S.	S.H.	S.H.	S.F.S.	S.H.	F.S.	S.H.
Complete Assembly (Dressed Spiral Parts)	Part No.	5896	5898	C-5188	8975	C-5171	C-4825	8825
	Weight	130	130	133	138	140	102	185
Replacement Parts								
Top Sub	Part No.	5897	5899	A-5169	8976	A-5172	B-4826	8826
Bowl	Part No.	5898	5700	B-5170	8977	B-5173	B-4827	8817
Packer	Part No.	160	1140	B-2199	8114	L-5050	L-4505	8818
Spiral Grapple	Part No.	165	1135	B-2201	8112	B-4360	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.	165	1135	B-2201	8112	B-4360	M-1071	8819
Basket Grapple Control	Part No.	186	1137	B-2202	8113	B-4370	M-1072	8820
Mill Control Packer	Part No.	160-R	1140-R	B-2199-R	8114-R	L-5050-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.

WELLBORE SCHEMATIC

Permian Oilfield Partners, L.L.C.
Super Siphon Federal SWD #1
1800' FSL, 930' FEL
Sec. 3, T25S, R34E, Lea Co. NM
Lat 32.157224° N, Lon 103.452301° W
GL 3356', RKB 3386'

Surface - (Conventional)

Hole Size: 26"
Casing: 20" - 94# H-40 STC Casing
Depth Top: Surface
Depth Btm: 815'
Cement: 511 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: 5291'
Cement: 1702 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: 12474'
Cement: 2126 sks - Lite Class C (60:40:0) + Additives
Cement Top: Surface - (Circulate)
ECP/DW Tool: 5391'

Intermediate #3 - (Liner)

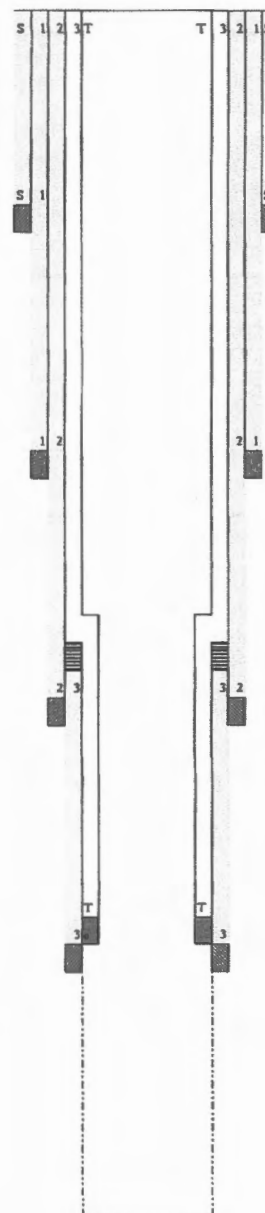
Hole Size: 8.5"
Casing: 7.625" - 39# HCL-80 FJ Casing
Depth Top: 12274'
Depth Btm: 17260'
Cement: 247 sks - Lite Class C (60:40:0) + Additives
Cement Top: 12274' - (Volumetric)

Intermediate #4 - (Open Hole)

Hole Size: 6.5"
Depth: 18945'
Inj. Interval: 17260' - 18945' (Open-Hole Completion)

Tubing - (Tapered)

Tubing Depth: 17215'
Tubing: 7" - 26# HCP-110 FJ Casing & 5.5" 17# HCL-80 FJ Casing (Fiberglass Lined)
X/O Depth: 12274'
X/O: 7" 26# HCP-110 FJ Casing - X - 5.5" 17# HCL-80 FJ Casing (Fiberglass Lined)
Packer Depth: 17225'
Packer: 5.5" - "Perma-Pak" or Equivalent (Inconel)



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

Bowen Series 150 Releasing and Circulation Overshots

Maximum Catch Size 6 3/4" to 7 1/4" Inclusive

Maximum Catch Size (Spiral)		6 3/4"	6 7/8"	7"	7 1/4"
Maximum Catch Size (Basket)		5 3/4"	6 1/8"	6 3/4"	6 7/8"
Overshot O.D.		8 3/4"	7 7/8"	8 3/4"	8 7/8"
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	260

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" FJ 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 Downhole Bowen® overshots.

NOTE: Nitralloy Grapples are available upon request.

Bowen Series 150 Releasing and Circulation Overshots

Maximum Catch Size 4% to 5% inclusive

Maximum Catch Size (Spiral)		4%	4%	4%	4%	5	5	5%
Maximum Catch Size (Basket)		3%	4%	4%	4%	4%	4%	4%
Overshot O.D.		5%	5%	5%	5%	5%	6%	6%
Type		F.S.	S.H.	S.H.	S.F.S.	S.H.	F.S.	S.H.
Complete Assembly	Part No.	5800	5808	C-5108	8075	C-5171	C-4825	8825
(Dressed Spiral Parts)	Weight	130	130	133	138	140	102	185
Replacement Parts								
Top Sub	Part No.	5807	5800	A-5100	8070	A-5172	B-4820	8820
Bowl	Part No.	5808	5700	B-5170	8077	B-5173	B-4827	8817
Packer	Part No.	100	1140	B-2100	0114	L-5050	L-4505	8818
Spiral Grapple	Part No.	105	1135	B-2201	0112	B-4300	M-1071	8819
Spiral Grapple Control	Part No.	180	1137	B-2202	0113	B-4370	M-1072	8820
Standard Guide	Part No.	187	1143	B-2203	0121	B-4371	L-1074	8821
Basket Parts								
Basket Grapple	Part No.	105	1135	B-2201	0112	B-4300	M-1071	8819
Basket Grapple Control	Part No.	180	1137	B-2202	0113	B-4370	M-1072	8820
Mill Control Packer	Part No.	100-R	1140-R	B-2100-R	0114-R	L-5050-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.