

CASE NO. 16506

NGL Water Solutions Permian, LLC (“NGL”), OGRID No. 372338, through its undersigned attorneys, hereby makes this application to the Oil Conservation Division pursuant to the provisions of N.M. Stat. Ann. § 70-2-12, for an order approving drilling of a salt water disposal well in Lea County, New Mexico. In support of this application, NGL states as follows:

(2) NGL seeks authority to inject salt water into the Silurian and Devonian formations at a depth of 16,525 – 18,202’.

(4) NGL anticipates using an average pressure of 2,479 psi for this well, and it requests that a maximum pressure of 3,305 psi be approved for the well.


(5) A proposed C-108 for the subject well is attached hereto in Attachment A.

(6) The granting of this application will avoid the drilling of unnecessary wells, will prevent waste, and will protect correlative rights.

WHEREFORE, NGL requests that this application be set for hearing before an Examiner of the Oil Conservation Division on November 1, 2018; and that after notice and hearing, the Division enter its order approving this application.

Respectfully submitted,

MODRALL, SPERLING, ROEHL, HARRIS
& SISK, P.A.

By: 
Jennifer Bradute
Deana Bennett
Post Office Box 2168
Bank of America Centre
500 Fourth Street NW, Suite 1000
Albuquerque, New Mexico 87103-2168
Telephone: 505.848.1800
Attorneys for Applicant

CASE NO. 16506 Application of NGL Water Solutions Permian, LLC for approval of salt water disposal well in Lea County, New Mexico. Applicant seeks an order approving disposal into the Silurian and Devonian formations through the Harpoon SWD #1 well at a surface location 457 feet from the North line and 2,353 feet from the East line of Section 33, Township 24 South, Range 34 East, NMPM, Lea County, New Mexico, for the purpose of operating a salt water disposal well. The target injection interval is the Silurian and Devonian formations at a depth of 16,525 – 18,202'. NGL further seeks approval of the use of 7 inch tubing inside the surface and intermediate casings and 5 ½ inch tubing inside the liner and requests that the Division approve a maximum daily injection rate for the well of 50,000 bbls per day. Said area is located approximately 17 miles west of Jal, New Mexico.

Revised March 23, 2017

| | | | |
|-----------|-----------|-------|---------|
| RECEIVED: | REVIEWER: | TYPE: | APP NO: |
|-----------|-----------|-------|---------|

ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Geological & Engineering Bureau -
1220 South St. Francis Drive, Santa Fe, NM 87505



ADMINISTRATIVE APPLICATION CHECKLIST

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

Applicant: NGL WATER SOLUTIONS PERMIAN LLC **OGRID Number:** 372338
Well Name: HARPOON SWD #1 **API:** TBD
Pool: SWD; SILURIAN-DEVONIAN **Pool Code:** 96101

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

1) TYPE OF APPLICATION: Check those which apply for [A]

A. Location - Spacing Unit - Simultaneous Dedication

☐ NSL ☐ NSP (PROJECT AREA) ☐ NSP (PRORATION UNIT) ☐ SD

B. Check one only for [I] or [II]

[I] Commingling - Storage - Measurement

☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[II] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery

☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

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.

CHRIS WEYAND

Print or Type Name

Signature

09/26/2018

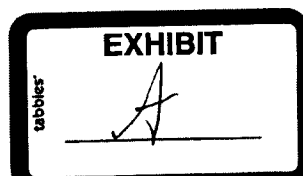
Date

512-600-1764

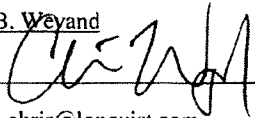
Phone Number

CHRIS@LONQUIST.COM

e-mail Address



APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance _____ ☒ Disposal _____ Storage
Application qualifies for administrative approval? _____ ☒ Yes _____ No
- II. OPERATOR: NGL WATER SOLUTIONS PERMIAN, LLC
ADDRESS: 1509 W WALL ST // STE 306 // MIDLAND, TX 79701
CONTACT PARTY: SARAH JORDAN PHONE: (432) 685-0005 x1989
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? _____ Yes _____ ☒ No
If yes, give the Division order number authorizing the project: _____
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- 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: Christopher B. Weyand TITLE: Consulting Engineer
SIGNATURE:  DATE: 9/28/2018
E-MAIL ADDRESS: chris@lonquist.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.

INJECTION WELL DATA SHEET

OPERATOR: NGL WATER SOLUTIONS PERMIAN, LLCWELL NAME & NUMBER: HARPOON SWD #1WELL LOCATION: 457 FNL & 2.353' FEL B 33 24S 34E
FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGEWELLBORE SCHEMATICWELL CONSTRUCTION DATASurface Casing

Hole Size: 24.000" Casing Size: 20.000"
Cemented with: 1,445 sx. or _____ ft³
Top of Cement: Surface Method Determined: Circulation
1st Intermediate Casing

Hole Size: 17.500" Casing Size: 13.375"
Cemented with: 2,977 sx. or _____ ft³
Top of Cement: Surface Method Determined: Circulation
2nd Intermediate Casing

Hole Size: 12.250" Casing Size: 9.625"
Cemented with: 3,232 sx. or _____ ft³
Top of Cement: Surface Method Determined: Circulation

Production Liner

Hole Size: 8.500"

Casing Size: 7.625"

Cemented with: 327 sx.

or _____ ft³

Top of Cement: 11,800'

Method Determined: Calculation

Total Depth: 18,202'

Injection Interval

16,525 feet to 18,202 feet

(Open Hole)

INJECTION WELL DATA SHEET

Tubing Size: 7", 26 lb/ft, P-110, TCPC from 0'-11,700' and 5,500", 17 lb/ft, P-110 TCPC from 11,700'-16,500'
 Lining Material: Duoline

Type of Packer: 7-5/8" x 5-1/2" TCPC Permanent Packer with High Temp Elastomer and Full Inconel

Packer Setting Depth: 16,500'

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

Additional Data

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

If no, for what purpose was the well originally drilled? N/A

2. Name of the Injection Formation: Devonian, Silurian, Fusselman and Montoya (Top 100')

3. Name of Field or Pool (if applicable): SWD, Silurian-Devonian

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. No, new drill.

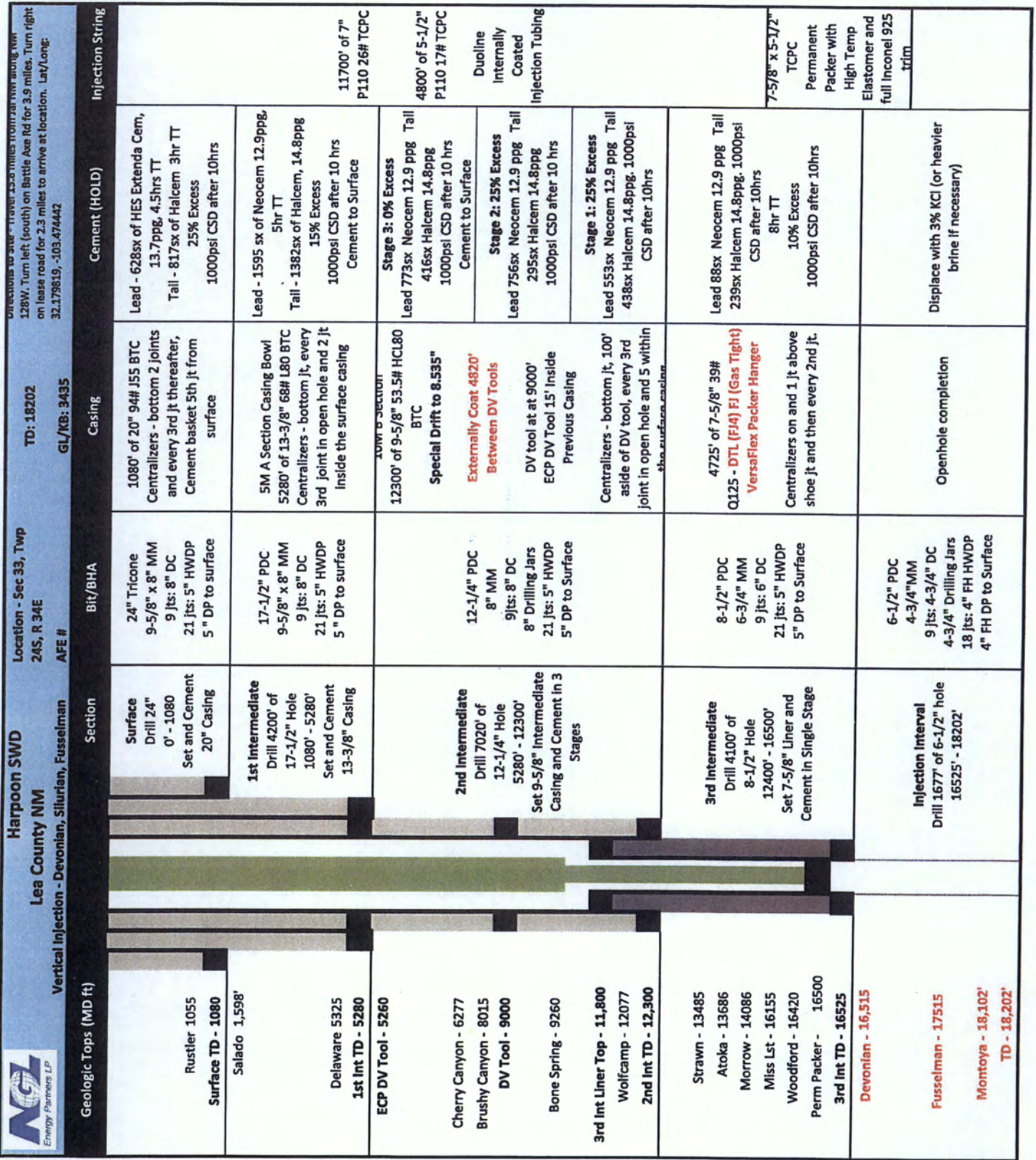
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:

Bone Spring: 9,260'

Wolfcamp: 12,077'

Atoka: 13,686'

Morrow: 14,086'



NGL Water Solutions Permian, LLC

Harpoon SWD No. 1

FORM C-108 Supplemental Information

III. Well Data

A. Wellbore Information

1.

| Well information | |
|------------------|-----------------------|
| Lease Name | Harpoon SWD |
| Well No. | 1 |
| Location | S-33 T-24S R-34E |
| Footage Location | 457' FNL & 2,353' FEL |

2.

a. Wellbore Description

| Casing Information | | | | |
|--------------------|----------|--------------|------------|----------|
| Type | Surface | Intermediate | Production | Liner |
| OD | 20" | 13.375" | 9.625" | 7.625" |
| WT | 0.438" | 0.480" | 0.545" | 0.500" |
| ID | 19.124" | 12.415" | 8.535" | 6.625" |
| Drift ID | 18.937" | 12.259" | 8.535" | 6.500" |
| COD | 21.00" | 14.375" | 10.625" | 7.625" |
| Weight | 94 lb/ft | 68 lb/ft | 53.5 lb/ft | 39 lb/ft |
| Grade | J-55 | L-80 | HCL-80 | Q-125 |
| Hole Size | 24" | 17.5" | 12.25" | 8.5" |
| Depth Set | 1,080' | 5,280' | 12,300' | 16,525' |

b. Cementing Program

| Cement Information | | | | |
|--------------------|----------------------|----------------------|--|---------|
| Casing String | Surface | Intermediate | Production | Liner |
| Lead Cement | HES Extenda Cem | Neocem | Neocem | Neocem |
| Lead Cement Volume | 628 | 1,595 | Stage 1: 553 sks Stage 2: 756 sks Stage 3: 773 sks | 88 |
| Tail Cement | Halcem | Halcem | Halcem | Halcem |
| Tail Cement Volume | 817 | 1,382 | Stage 1: 438 sks Stage 2: 295 sks Stage 3: 416 sks | 239 |
| Cement Excess | 25% | 15% | 25%, 25%, 0% | 10% |
| TOC | Surface | Surface | Surface | 11,800' |
| Method | Circulate to Surface | Circulate to Surface | Circulate to Surface | Logged |

3. Tubing Description

| Tubing Information | | |
|--------------------|------------|---------------------|
| OD | 7" | 5.5" |
| WT | 0.362" | 0.304" |
| ID | 6.276" | 4.892" |
| Drift ID | 7.875" | 6.050" |
| COD | 6.151" | 4.767" |
| Weight | 26 lb/ft | 17 lb/ft |
| Grade | P-110 TCPC | P-110 TCPC |
| Depth Set | 0'-11,700' | 11,700'- 16,500' |

Tubing will be lined with Duoline.

4. Packer Description

7-5/8" x 5-1/2" TCPC Permanent Packer with High Temp Elastomer and Full Inconel

B. Completion Information

1. Injection Formation: Devonian, Silurian, Fusselman, Montoya (Top 100')
2. Gross Injection Interval: 16,525' – 18,202'

Completion Type: Open Hole

3. Drilled for injection.
4. See the attached wellbore schematic.
5. Oil and Gas Bearing Zones within area of well:

| Formation | Depth |
|------------------|--------------|
| Bone Spring | 9,260' |
| Wolfcamp | 12,077' |
| Atoka | 13,686' |
| Morrow | 14,086' |

VI. Area of Review

No wells within the area of review penetrate the proposed injection zone.

VII. Proposed Operation Data

1. Proposed Daily Rate of Fluids to be Injection:

Average Volume: 40,000 BPD

Maximum Volume: 50,000 BPD

2. Closed System

3. Anticipated Injection Pressure:

Average Injection Pressure: 2,479 PSI (surface pressure)

Maximum Injection Pressure: 3,305 PSI (surface pressure)

4. The injection fluid is to be locally produced water. It is expected that the water will be predominantly sourced from the Bone Spring and Wolfcamp formations. Attached are produced water sample analyses taken from the closest wells that feature samples from the Atoka, Bone Spring, Morrow, and Wolfcamp formations.

5. The disposal interval is non-productive. No water samples are available from the surrounding area.

VIII. Geological Data

The Devonian formation is a dolomitic ramp carbonate that occurs below the Woodford shale and above the Fusselman formation. Strata found in the Devonian formation include two major groups, the Wristen Buildups and the Thirtyone Deepwater Chert, with the Wristen being more abundant. The Wristen Groups is composed of mixed limestone and dolomites with mudstone to grainstone and boundstone textures. Porosity in the Wristen group is a result of both primary and secondary development. Present are moldic, vugular, karstic (including collapse breccia) features that allow for higher porosities and permeabilities. The Thirtyone Formation contains two end-member reservoir facies, skeletal packstones/grainstones and spiculitic chert, with most of the porosity and permeability found in the coarsely crystalline cherty dolomite. These particular characteristics allow for this formation to be a tremendous Salt Water Disposal horizon.

A. Injection Zone: Siluro-Devonian Formation

| Formation | Depth |
|--------------------|---------|
| Rustler | 1,055' |
| Salado | 1,598' |
| Delaware | 5,325' |
| Bone Spring | 9,260' |
| Wolfcamp | 12,077' |
| Strawn | 13,485' |
| Atoka | 13,686' |
| Morrow | 14,086' |
| Mississippian Lime | 16,155' |
| Woodford | 16,420' |
| Devonian | 16,515' |

B. Underground Sources of Drinking Water

Within 1-mile of the proposed Harpoon SWD #1 location, there are no fresh water wells. However, water wells in the greater surrounding area have an average depth of 303 ft and an average water depth of 240 ft generally producing from the Santa Rosa. The upper Rustler may also be another USDW and will be protected.

IX. Proposed Stimulation Program

Stimulate with up to 50,000 gallons of acid.

X. Logging and Test Data on the Well

There are no logs or test data on the well. During the process of drilling and completion resistivity, gamma ray, and density logs will be run.

XI. Chemical Analysis of Fresh Water Wells

There are no water wells that exist within one mile of the well location, so fresh water analysis has not been included with the application. The closest water well is approximately 3 miles away.

XII. Affirmative Statement of Examination of Geologic and Engineering Data

Based on the available engineering and geologic data we find no evidence of open faults or any other hydrologic connection between the disposal zone (in the proposed Harpoon SWD #1) and any underground sources of drinking water.

NAME: John C. Webb

TITLE: Sr. Geologist

SIGNATURE: _____

John C. Webb

DATE: _____

9/24/2018

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 and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-101
Revised July 18, 2013

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

| | | |
|--|---|-------------------------------------|
| ¹ Operator Name and Address NGL WATER SOLUTIONS PERMIAN, LLC 1509 W WALL ST, STE 306 MIDLAND, TX 79701 | | ² OGRID Number 372338 |
| | | ³ API Number TBD |
| ⁴ Property Code | ⁵ Property Name HARPOON SWD | ⁶ Well No. 1 |

⁷ Surface Location

| UL - Lot | Section | Township | Range | Lot Idn | Feet from | N/S Line | Feet From | E/W Line | County |
|----------|---------|----------|-------|---------|-----------|----------|-----------|----------|--------|
| B | 33 | 24S | 34E | N/A | 457' | NORTH | 2,353' | EAST | LEA |

⁸ Proposed Bottom Hole Location

| UL - Lot | Section | Township | Range | Lot Idn | Feet from | N/S Line | Feet From | E/W Line | County |
|----------|---------|----------|-------|---------|-----------|----------|-----------|----------|--------|
| - | - | - | - | - | - | - | - | - | - |

⁹ Pool Information

| | |
|-------------------------------------|--------------------|
| Pool Name SWD, Silurian-Devonian | Pool Code 96101 |
|-------------------------------------|--------------------|

Additional Well Information

| | | | | |
|-------------------------------|---|--|-------------------------------------|--|
| ¹¹ Work Type N | ¹² Well Type SWD | ¹³ Cable/Rotary R | ¹⁴ Lease Type Private | ¹⁵ Ground Level Elevation 3,435' |
| ¹⁶ Multiple N | ¹⁷ Proposed Depth 18,202' | ¹⁸ Formation Siluro-Devonian | ¹⁹ Contractor TBD | ²⁰ Spud Date ASAP |
| Depth to Ground water 240' | | Distance from nearest fresh water well > 1 mile | | Distance to nearest surface water > 1 mile |

☐ We will be using a closed-loop system in lieu of lined pits

²¹ Proposed Casing and Cement Program

| Type | Hole Size | Casing Size | Casing Weight/ft | Setting Depth | Sacks of Cement | Estimated TOC |
|--------------|-----------|-------------|------------------|-------------------|-----------------|---------------|
| Surface | 24" | 20" | 94 lb/ft | 1,080' | 1,445 | Surface |
| Intermediate | 17.5" | 13.375" | 68 lb/ft | 5,280' | 2,977 | Surface |
| Production | 12.25" | 9.625" | 53.5 lb/ft | 12,300' | 3,232 | Surface |
| Prod. Liner | 8.5" | 7.625" | 39 lb/ft | 16,525' | 327 | 11,800' |
| Tubing | N/A | 7" | 26 lb/ft | 0' - 11,700' | N/A | N/A |
| Tubing | N/A | 5.5" | 17 lb/ft | 11,700' - 16,500' | N/A | N/A |

Casing/Cement Program: Additional Comments

See attached schematic.

²² Proposed Blowout Prevention Program

| Type | Working Pressure | Test Pressure | Manufacturer |
|-------------------------------|------------------|---------------|------------------------|
| Double Hydraulic/Blinds, Pipe | 10,000 psi | 8,000 psi | TBD - Schaffer/Cameron |

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief

I further certify that I have complied with 19.15.14.9 (A) NMAC ☐ and/or 19.15.14.9 (B) NMAC ☒ if applicable.

Signature

Printed name: Christopher B. Weyand

Title: Consulting Engineer

E-mail Address: chris@lonquist.com

Date: 9/25/2018

Phone: (512) 600-1764

OIL CONSERVATION DIVISION

Approved By:

Title:

Approved Date:

Expiration Date:

Conditions of Approval 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-10
Revised August 1
201

Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

| | | |
|----------------------------------|---|--|
| ¹ API Number | ² Pool Code 96101 | ³ Pool Name SWD; Silurian-Devonian |
| ⁴ Property Code | ⁵ Property Name HARPOON SWD | ⁶ Well Number 1 |
| ⁷ OGRID No. 372338 | ⁸ Operator Name NGL WATER SOLUTIONS PERMIAN LLC | ⁹ Elevation 3435.00'± |

" Surface Location

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | LEA | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|-----|--------|
| B | 33 | 24 S | 34 E | N/A | 457' | NORTH | 2353' | EAST | | |

" Bottom Hole Location If Different From Surface

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

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

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

| | | |
|---|---|--|
| <p>SECTION 33</p> <p>PROPOSED HARPOON SWD 1</p> <p>NMSP-E (NAD27) N: 430,311.83' E: 766,178.91'</p> <p>NMSP-E (NAD83) N: 430,370.25' E: 807,364.20' Lot: N32°10'48.87" Long: W103°28'24.52"</p> | <p>" OPERATOR CERTIFICATION</p> <p>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 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</p> <p>Signature: <i>Chris Weyand</i> Date: 9/28/2018</p> <p>Printed Name: Chris Weyand</p> <p>E-mail Address: chris@lonquist.com</p> | |
| | <p>"SURVEYOR CERTIFICATION</p> <p>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.</p> <p>Date of Survey: 8/17/18</p> <p>Signature and Seal of Professional Surveyor: <i>COLE A. CLARK</i></p> <p>Certificate Number: 23001</p> | |
| | | |
| | | |

NGL Water Solutions Permian, LLC
Lea Co., NM

| | | |
|------------------|-----------------|--------------|
| Approved by: ASG | Date: 9/25/2018 | Approved by: |
|------------------|-----------------|--------------|

PETROLEUM ENERGY

ENGINEERS
ADVISORS

1016

1/2-Mil.

20-Sector

Section (b)

sternal

Horizontal Surface Location

Active - Gas (12)

Muffled/Site Released - Gas (15)

(1) 80 - 100% of the total weight of the sample

... - Oil (13)

Permitted - Gas (1)

: Well SHL Data - NM-OCN (2)

(0107) 920-1111

Map Extent LEA

TEXAS LOVING

WINKLER

...

 $0 - \frac{1}{4} - \frac{1}{2}$

—

1000

Harpoon SWD No. 1
1 Mile Area of Review List

| API (30-025-...) | WELL NAME | WELL TYPE | STATUS | OPERATOR | TVD (FT.) | LATITUDE (NAD83 DD) | LONGITUDE (NAD83 DD) | DATE DRILLED |
|------------------|-------------------------------------|-----------|--------|--------------------------|-----------|---------------------|----------------------|--------------|
| 27826 | MADERA 28 FEDERAL COM #001 | G | A | EOG RESOURCES INC | 15300 | 32.18309780000 | -103.47696690000 | 6/18/1982 |
| 27997 | MADERA 29 FEDERAL #001 | G | A | EOG RESOURCES INC | 15290 | 32.18673710000 | -103.48870850000 | 1/21/1983 |
| 28002 | PITCHFORK 34 FEDERAL COM #001 | G | A | EOG RESOURCES INC | 15435 | 32.17219160000 | -103.46417240000 | 11/11/1982 |
| 28051 | MADERA 33 FEDERAL COM #001 | G | P | EOG RESOURCES INC | 15130 | 32.17493820000 | -103.48122410000 | 2/18/1982 |
| 28321 | PRE-ONGARD WELL #001 | O | P | PRE-ONGARD WELL OPERATOR | 15530 | 32.18671420000 | -103.45993040000 | 1/1/1900 |
| 28488 | PITCHFORK RANCH 28 FEDERAL COM #001 | G | A | EOG RESOURCES INC | 15250 | 32.19035720000 | -103.47274020000 | 12/2/1983 |
| 28620 | MADERA 33 FEDERAL COM #002 | G | P | EOG RESOURCES INC | 15159 | 32.17220310000 | -103.47270200000 | 5/9/1984 |
| 29836 | MADERA 33 FEDERAL COM #003 | G | P | EOG RESOURCES INC | 13960 | 32.17221070000 | -103.48122410000 | 7/19/1987 |
| 29862 | MADERA 28 FEDERAL COM #002 | G | P | EOG RESOURCES INC | 13945 | 32.18309780000 | -103.47625730000 | 3/10/1987 |
| 29917 | PRE-ONGARD WELL #001 | G | P | PRE-ONGARD WELL OPERATOR | 15142 | 32.19034960000 | -103.46420290000 | 1/1/1900 |
| 29926 | MADERA 33 FEDERAL COM #004 | G | P | EOG RESOURCES INC | 14000 | 32.17310330000 | -103.47270200000 | 7/18/1987 |
| 44268 | COBALT 32 STATE #701H | O | A | EOG RESOURCES INC | 12285 | 32.16786990000 | -103.48527900000 | 1/24/2018 |
| 44269 | COBALT 32 STATE #702H | O | A | EOG RESOURCES INC | 12291 | 32.16802350000 | -103.48563420000 | 1/26/2018 |
| 44866 | STONEMALL 28 FEDERAL COM #301H | O | N | EOG RESOURCES INC | 0 | 32.19525230000 | -103.48139220000 | 7/5/2018 |
| 44867 | STONEMALL 28 FEDERAL COM #302H | O | N | EOG RESOURCES INC | 0 | 32.19525220000 | -103.481128550000 | 7/7/2018 |
| 44868 | STONEMALL 28 FEDERAL COM #703H | O | N | EOG RESOURCES INC | 0 | 32.19525210000 | -103.48117880000 | 12/31/9999 |
| 44869 | STONEMALL 28 FEDERAL COM #704H | O | N | EOG RESOURCES INC | 0 | 32.19524910000 | -103.47770980000 | 12/31/9999 |
| 44870 | STONEMALL 28 FEDERAL COM #705H | O | N | EOG RESOURCES INC | 0 | 32.19524910000 | -103.47760310000 | 12/31/9999 |
| 44871 | STONEMALL 28 FEDERAL COM #706H | O | N | EOG RESOURCES INC | 0 | 32.19524900000 | -103.47749650000 | 12/31/9999 |
| 44872 | STONEMALL 28 FEDERAL COM #707H | O | N | EOG RESOURCES INC | 0 | 32.19524680000 | -103.47499170000 | 12/31/9999 |
| 44873 | STONEMALL 28 FEDERAL COM #708H | O | N | EOG RESOURCES INC | 0 | 32.19524590000 | -103.47488510000 | 12/31/9999 |
| 44874 | STONEMALL 28 FEDERAL COM #713H | O | N | EOG RESOURCES INC | 0 | 32.19524110000 | -103.46861270000 | 12/31/9999 |
| 44875 | STONEMALL 28 FEDERAL COM #714H | O | N | EOG RESOURCES INC | 0 | 32.19524100000 | -103.46850600000 | 12/31/9999 |
| 44905 | COBALT 32 STATE #201H | O | N | EOG RESOURCES INC | 0 | 32.16741620000 | -103.48683750000 | 12/31/9999 |
| 44906 | COBALT 32 STATE #202H | O | N | EOG RESOURCES INC | 0 | 32.16741620000 | -103.48705070000 | 12/31/9999 |
| 44907 | COBALT 32 STATE #301H | O | N | EOG RESOURCES INC | 0 | 32.16741620000 | -103.48694410000 | 12/31/9999 |
| 44926 | STONEMALL 28 FEDERAL COM #709H | O | N | EOG RESOURCES INC | 0 | 32.19524670000 | -103.47477840000 | 12/31/9999 |
| 44927 | STONEMALL 28 FEDERAL COM #710H | O | N | EOG RESOURCES INC | 0 | 32.19524400000 | -103.47181290000 | 12/31/9999 |
| 44928 | STONEMALL 28 FEDERAL COM #711H | O | N | EOG RESOURCES INC | 0 | 32.19524390000 | -103.47170620000 | 12/31/9999 |
| 44929 | STONEMALL 28 FEDERAL COM #712H | O | N | EOG RESOURCES INC | 0 | 32.19524390000 | -103.47159960000 | 12/31/9999 |
| 44930 | STONEMALL 28 FEDERAL COM #715H | O | N | EOG RESOURCES INC | 0 | 32.19524090000 | -103.46839930000 | 12/31/9999 |
| 45132 | COBALT 32 STATE #703H | O | N | EOG RESOURCES INC | 0 | 32.16733400000 | -103.48937420000 | 12/31/9999 |
| 45133 | COBALT 32 STATE #704H | O | N | EOG RESOURCES INC | 0 | 32.16733400000 | -103.48948080000 | 12/31/9999 |

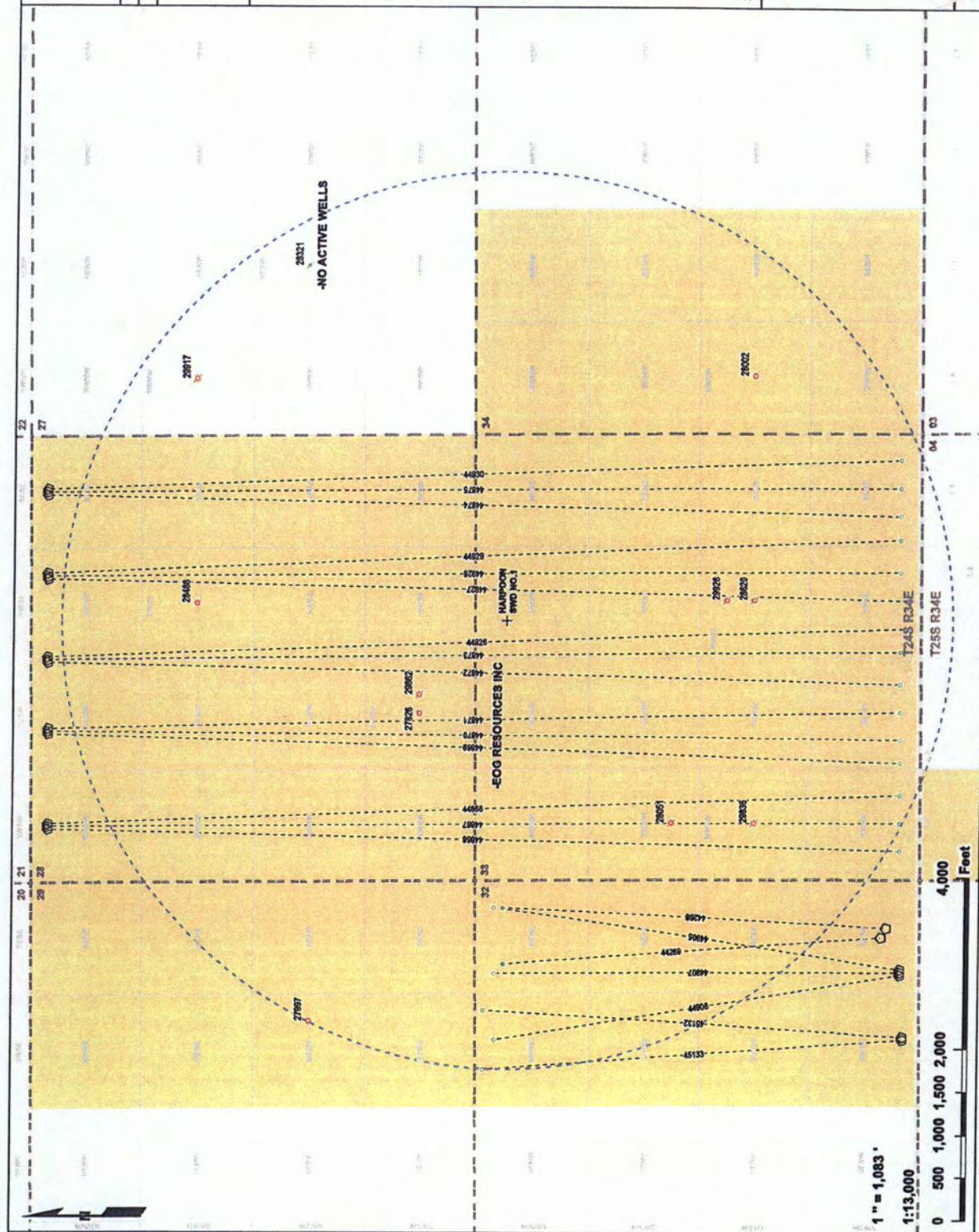
Harpoon SWD No. 1
Offset Operators - OCD
NGL Water Solutions Permian, LLC
Lea Co., NM

PCS: NAD 1983 SPCS NME FIPS 3001 (US Ft.)
 Drawn by: ASG Date: 9/26/2018 Approved by: ELR

LONQUIST & CO. LLC
PETROLEUM
ENGINEERS
ENERGY
ADVISORS

AUSTIN HOUSTON WICHITA DENVER CALGARY

- + Harpoon SWD No. 1 BHL
 - 1-Mile
 - OO-Sector (NM-PLS 2nd DW)
 - 1" Sector (NM-PLS 1st DW)
 - Township Range (NM-PLS)
 - Lateral
 - API (19-425-...) BHL Status-Type (Count)
 - Horizontal Surface Location (22)
 - Active - Gas (4)
 - Plugged/Sha Released - Gas (5)
 - Plugged/Sha Released - Oil (1)
 - API (19-425-...) BHL Status-Type (Count)
 - Active - Oil (2)
 - Permitted - Oil (20)
 - Harpoon Offset Operators
 - EOG RESOURCES INC
 - NO ACTIVE WELLS
- Source: Well SHL Data - NM-OCD (2018)



| wellname | api | section | township | range | unit | county | state | formation | ph | tds_mgl | sodium_mgl | calcium_mgl | iron_mgl | magnesium_mgl | chloride_mgl | bicarbonate_mgl | sulfate_mgl | co2_mgl |
|---------------------------|------------|---------|----------|-------|------|--------|-------|----------------------|------|----------|------------|-------------|----------|---------------|--------------|-----------------|-------------|---------|
| ANTELOPE RIDGE UNIT #002 | 3002520444 | 4 | 24S | 34E | B | LEA | NM | ATOKA | 6.7 | 51475 | | | 6215 | 37.9 | 759.3 | 31000 | 317 | |
| BELL LAKE 19 STATE #001H | 3002541024 | 19 | 24S | 33E | M | Lea | NM | BONE SPRING 2ND SAND | 6.77 | 134645.2 | | 44572.9 | 4207 | 41.9 | 705.9 | 81681.6 | 244 | 340 |
| BELL LAKE 19 STATE #002H | 3002541515 | 19 | 24S | 33E | O | Lea | NM | BONE SPRING 2ND SAND | 7.01 | 128413.3 | | 44427.6 | 5778 | 41.1 | 731.5 | 77482.5 | 366 | 200 |
| BELL LAKE 19 STATE #003H | 3002541516 | 19 | 24S | 33E | O | Lea | NM | BONE SPRING 2ND SAND | 6.67 | 138617.2 | | 46648.4 | 5917 | 30.5 | 718.2 | 84081 | 244 | 300 |
| BELL LAKE 19 STATE #004H | 3002541517 | 19 | 24S | 33E | O | Lea | NM | BONE SPRING 2ND SAND | 6.68 | 133460.5 | | 44483.1 | 5311.5 | 40.2 | 643.7 | 80981.7 | 244 | 300 |
| SERRANO 29 FEDERAL #001H | 3001537763 | 29 | 24S | 27E | H | EDDY | NM | WOLF CAMP | 6.9 | 102136.2 | | 90415.1 | | | | 62812.7 | 183 | 675 |
| CUSTER MOUNTAIN UNIT #001 | 3002520756 | 9 | 24S | 35E | K | LEA | NM | MORROW | | 282741 | | | | | | 176800 | 161 | 350 |



Proposed SWD Locations
Lea County, NM

13) HARPOON

LAT: -103.473477
LONG: 32.180243
X: 807364.199912
Y: 430370.249928

Coordinate System
NMSP-E (NAD83)

Legend

- Proposed_SWD_Buffer1
- OSE_Points_of_Diversion
- Proposed_SWD

