

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

APPLICATION OF NGL WATER
SOLUTIONS PERMIAN, LLC
TO APPROVE SALT WATER
DISPOSAL WELL IN LEA
COUNTY, NEW MEXICO.

CASE NO. 206.58

APPLICATION

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 Eddy County, New Mexico. In support of this application, NGL states as follows:

- (1) NGL proposes to drill the Osprey SWD #1 well at a surface location 470 feet from the South line and 208 feet from the West line of Section 25, Township 25 South, Range 35 East, NMPM, Lea County, New Mexico for the purpose of operating a salt water disposal well.
- (2) NGL seeks authority to inject salt water into the Devonian-Silurian formation at a depth of 18,114' to 20,109'.
- (3) 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.
- (4) NGL anticipates using an average pressure of 2,717 psi for this well, and it requests that a maximum pressure of 3,622 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 August 8, 2019; and that after notice and hearing, the Division enter its order approving this application.

Respectfully submitted,

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

By: Deana M Bennett

Deana Bennett
Post Office Box 2168
500 Fourth Street NW, Suite 1000
Albuquerque, New Mexico 87103-2168
Telephone: 505.848.1800
Attorneys for Applicant

CASE NO. 20658: 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 Devonian-Silurian formation through the Osprey SWD #1 well at a surface location 470 feet from the South line and 208 feet from the West line of Section 25, Township 25 South, Range 35 East, NMPM, Lea County, New Mexico for the purpose of operating a salt water disposal well. NGL seeks authority to inject salt water into the Devonian-Silurian formation at a depth of 18,114' to 20,109'. 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 location is approximately 10.7 miles west of Jal, New Mexico.

RECEIVED:	REVIEWER:	TYPE:	APP NO:
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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: NGL WATER SOLUTIONS PERMIAN LLC **OGRID Number:** 372338
Well Name: OSPREY SWD #1 **API:** TBD
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

FOR OCD ONLY	
<input type="checkbox"/>	Notice Complete
<input type="checkbox"/>	Application Content Complete

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

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

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

CHRIS WEYAND
 Print or Type Name

Chris Weyand
 Signature

6/18/2019
 Date

512-600-1764
 Phone Number

CHRIS@LONQUIST.COM
 e-mail Address



APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance X Disposal _____ Storage
Application qualifies for administrative approval? X 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 X 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.

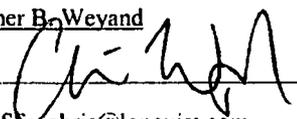
XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

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: 6/18/2019

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: _____

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

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

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

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

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

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

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

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

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

Side 1

INJECTION WELL DATA SHEET

OPERATOR: NGL WATER SOLUTIONS PERMIAN, LLC

WELL NAME & NUMBER: OPSREY SWD #1

WELL LOCATION: 470' FSL & 208' FWL M 25 25S 35E
FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 24.000"

Casing Size: 20.000"

Cemented with: 1,401 sx.

or _____ ft³

Top of Cement: Surface

Method Determined: Circulation

1st Intermediate Casing

Hole Size: 17.500"

Casing Size: 13.375"

Cemented with: 3,029 sx.

or _____ ft³

Top of Cement: Surface

Method Determined: Circulation

2nd Intermediate Casing

Hole Size: 12.250"

Casing Size: 9.625"

Cemented with: 3,540 sx.

or _____ ft³

Top of Cement: Surface

Method Determined: Circulation

Production Liner

Hole Size: 8.500"

Casing Size: 7.625"

Cemented with: 962 sx.

or _____ ft³

Top of Cement: 12,200'

Method Determined: Logged

Total Depth: 19,050'

Injection Interval

18,114 feet to 20,109 feet

(Open Hole)

INJECTION WELL DATA SHEET

Tubing Size: 7", 26 lb/ft, P-110, TCPC from 0' - 12,100' and 5.500", 17 lb/ft, P-110 TCPC from 12,100' - 18,094'

Lining Material: Duoline

Type of Packer: 7-5/8" x 5-1/2" TCPC Permanent Packer with High Temp Elastomer and Full Inconel 925 trim

Packer Setting Depth: 18,094'

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; Devonian-Silurian

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:

Delaware: 5,140'

Bone Spring: 9,014'

Wolfcamp: 12,594'

Strawn: 13,619'



Osprey SWD

Vertical Injection - Devonian-Silurian, Fusselman, Montoya (Top 100')

SWSWSW sec 25-T25S-R35E Lea County NM

Drill and Complete Cost

AFE tbd

\$11,488,228

TD

GL/KB

20,109

3090

Directions to Site - 10.7 miles W of Jal
Lat/Long - 32.095383,-103.329083

Geologic Tops (MD ft)	Section	Problems	Bit/BHA	Mud	Casing	Logging	Cement (HOLD)	Injection String
Rustler Anhy 802' Surface TD 1,100'	Surface Drill 24" 0' - 1100' Set and Cement 20" Casing	Loss Circulation Hole Cleaning Wellbore stability in the Red Beds	24" PDC + Bit sub w/ float 17 + 17" NBS + 1X8" DC + 17" IBS + 1X8" DC + SS + 4X8" DC's + X/O + 5" HWDP	Spud Mud MW< 9.0	1100' of 20" 94# J55 BTC Centralizers - bottom 2 joints and every 3rd jt thereafter, Cement basket 5th jt from surface	Mud loggers on site by Drillout of Surf.	1401sx of Halcem 3hr TT 50% Excess 1000psi CSD after 10hrs	
Top of Salt 1183 Castile 2,620' Delaware 5,140' 1st Int TD - 5,100'	1st Intermediate Drill 4000' of 17-1/2" Hole 1100 - 5100' Set and Cement 13-3/8" Casing	Seepage Losses Possible H2S Anhydrite Salt	17-1/2" PDC Bit + 9-5/8" X 8" 7/8 4.0 Combo MM w/ 17" Steel NBS + 17" IBS + 2X8" DC's + SS + 4X8" DC's + 18X6" DC's + X/O + HWDP	Brine	SM A Section Casing Bowl 5100' of 13-3/8" 68# HCL80 BTC Centralizers - bottom jt, every 3rd joint in open hole and 2 jt inside the surface casing.	Gyro Survey	Halcem, 3029sx, 13.7ppg 30% Excess 1000psi CSD after 10 hrs Cement to Surface	12,100' of 7" P110 26# TCPC
9-5/8" DV/ECP 5,200' Bell Canyon 5196 Cherry Canyon 6,158' Brushy Canyon 7,594' 9-5/8" DV 9,000' Bone Springs 9,014' TOC - Stage 1 Tail - 11,000' 7-5/8" Liner Top 12,200' Wolfcamp 12,594' 2nd Int TD - 12,700'	2nd Intermediate Drill 7600' of 12-1/4" Hole 5100' - 12700' Set 9-5/8" Intermediate Casing and Cement in 3 Stages	Seepage to Complete Loss Water Flows Some Anhydrite H2S possible Production in the Lower Wolfcamp	12-1/4" Smith XS 7165 AxeBlade PDC Bit, sub, 8" 7/8 4.0 0.16 MM w/ 12" NBS, ALS Roller Reamer DeMag, UBHO sub, ALS 12" RR/UBHO/NMDC, SS, 6 jts: 8" DC, X/O sub, 18 jts: 6" DC, X/O sub, 8" Drilling Jars HWDP + 5" DP to Surface	Cut Brine	10M B Section 12,700' of 9-5/8" 53.5# HCL80 BTC Special Drift to 8.535" Externally Coat 3850' Between DV Tools -DV/ECP tool at 2740' (DV Tool 100' Below Previous Casing shoe) -DV Tool w/ no ECP placed nominally above the Bone Springs top Centralizers - bottom jt, 100' aside of DV tool, every 3rd joint in open hole and 5 within the surface casing. ensure centralizers are 9-3/4" to fit Coated Pipe.	12.25" Open Hole: MWD GR Triple combo, Calliper, CBL of 13-3/8" Casing to surface Cased Hole: CBL/Pressure Pass to 1000 psi of 9-5/8" Casing before drillout	Stage 3: 10% Excess 1087sx Halcem 13.7ppg 1000psi CSD after 10 hrs Cement to Surface Stage 2: 50% Excess 1042sx Halcem 13.7ppg 1000psi CSD after 10 hrs Stage 1: 1411sx Halcem 1.37ppg, 50% XS. 1000psi CSD after 10hrs	5994' of 5-1/2" P110 17# TCPC Duoline Internally Coated Injection Tubing
Strawn 13,619' Atoka 14,262' Morrow 15,098' Miss Lime 16,594' Woodford 17,904' Injection Packer 18,094' Devonian 18,114' 3rd Int TD 18,114'	3rd Intermediate Liner Drill 5414' of 8-1/2" Hole 12700' - 18114'	Pressure in the Atoka Hard Drilling in the Atoka & Morrow	8-1/2" Smith XS 7165 AxeBlade PDC Bit, sub, 6-3/4" 7/8 5.7 MM w/ 8" NBS, UBHO sub, 8" NMIBS/UBHO/NMDC, SS, 18 jts: 6" DC 6" Drilling Jars HWDP + 5" DP to Surface	Weighted WBM 11.0 ppg- 13.5 ppg (MAX)	5914' of 7-5/8" 42.5# HCP110 USS FJ (Gas Tight). Special Drift to 6.5" VersaFlex Packer Hanger Centralizers on and 1 jt above shoe jt and then every 2nd jt.	8.5" Open Hole: MWD GR Triple combo, Calliper of 8.5" Open Hole Cased Hole: SCBL/Pressure Pass to 1000 psi of 7-5/8" Casing before drillout	962sx of Neocem 13.2 ppg 50% Excess 1000psi CSD after 12hrs	7-5/8" x 5-1/2" TCPC Permanent Packer with High Temp Elastomer and full Inconel 92S trim
Silurian - 19,029' Fusselman - 19,259' Montoya - 20,009' TD - 20,109'	Injection Interval Drill 1995 of 6-1/2" hole 18114 - 20109'	Chert is possible Loss of Circulation and or Flows are expected BHT estimated at 280F	6-1/2" Smith U611S PDC Bit, sub, 5" 7/8 2.6 0.26 1.5FBH MM w/ 6" NBS, 6" NMIBS, UBHO/NMDC, SS, X/O sub, 24 jts: 4-3/4" HWDP + 4" DP to Surface	Brine Water - flows possible	Openhole completion	MWD GR Triple Combo with FMI and CMR Tool	Displace with clean heavy brine	

NGL Water Solutions Permian, LLC

Osprey SWD No. 1

FORM C-108 Supplemental Information

III. Well Data

A. Wellbore Information

1.

Well information	
Lease Name	Osprey SWD
Well No.	1
Location	S-25 T-25S R-35E
Footage Location	470' FSL & 208' FWL

2.

a. Wellbore Description

Casing Information				
Type	Surface	Intermediate	Production	Liner
OD	20"	13.375"	9.625"	7.625"
WT	0.440"	0.480"	0.545"	0.500"
ID	19.124"	12.415"	8.535"	6.625"
Drift ID	18.936"	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	42.5 lb/ft
Grade	J-55	HCL-80	HCL-80	HCP-110
Hole Size	24"	17.5"	12.25"	8.5"
Depth Set	1,100'	5,100'	12,700'	18,114'

b. Cementing Program

Cement Information				
Casing String	Surface	Intermediate 1	Intermediate 2	Liner
Cement	Halcem	Halcem	Halcem	Neocem
Cement Volume	1,401 sx	3,029 sx	Stage 1: 1,411 sx Stage 2: 1,042 sx Stage 3: 1,087 sx	962 sx
Cement Excess	50%	30%	25%, 25%, 0%	50%
TOC	Surface	Surface	Surface	12,200'
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"	4.653"
Weight	26 lb/ft	17 lb/ft
Grade	P-110 TCPC	P-110 TCPC
Depth Set	0'-12,100'	12,100' -18,094'

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 925 trim

B. Completion Information

1. Injection Formation: Devonian, Silurian, Fusselman, Montoya (Top 100')
2. Gross Injection Interval: 18,114' – 20,109'

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
Delaware	5,140'
Bone Spring	9,014'
Wolfcamp	12,594'
Strawn	13,619'

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: 2,717 PSI (surface pressure)
Maximum Injection Pressure: 3,622 PSI (surface pressure)

4. The injection fluid is to be locally produced water. It is expected that the source water will predominantly be from the Bone Spring and Wolfcamp formations. Attached are produced water sample analyses taken from the closest wells that feature samples from the Delaware, Bone Spring, Wolfcamp, and Strawn 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 Anhydrite	802'
Salado	1,183'
Delaware	5,140'
Bone Spring	9,014'
Wolfcamp	12,594'
Penn	13,144'
Strawn	13,619'
Atoka	14,262'
Morrow	15,098'
Mississippian	16,594'
Woodford	17,904'
Devonian	18,114'
Fusselman	19,259'
Montoya	20,009'

B. Underground Sources of Drinking Water

One water well exists within one mile of the proposed Osprey SWD #1 location. Water wells in the surrounding area have an average depth of 688 ft and an average water depth of 274 ft generally producing from the Santa Rosa. The upper Rustler may also be another USDW and will be protected. Maps show that the Osprey SWD #1 location is very close to the Capitan Reef (another identified aquifer). If the Capitan is encountered, an additional casing string will be run to isolate it.

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

One water well exists within one mile of the proposed well location. If samples can be obtained, analysis results will be provided as soon as possible. A map showing water well locations is attached. Water Right Summaries from the New Mexico Office of the State Engineer were not available for any wells within one mile.

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 Osprey SWD #1) and any underground sources of drinking water.

NAME: John C. Webb

TITLE: Sr. Geologist

SIGNATURE: 

DATE: Oct 10, 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 Property Code		⁷ API Number TBD
⁴ Property Name Osprey SWD		⁶ Well No. 1

⁵ Surface Location

U.L. - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
M	25	25S	35E	N/A	470'	SOUTH	208'	WEST	LEA

⁸ Proposed Bottom Hole Location

U.L. - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County

⁹ Pool Information

⁹ Pool Name SWD; Devonian-Silurian	¹⁰ Pool Code 97869
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Additional Well Information

¹¹ Work Type N	¹² Well Type SWD	¹³ Cable/Robry R	¹⁴ Lease Type Private	¹⁵ Ground Level Elevation 3,090'
¹⁶ Multiple N	¹⁷ Proposed Depth 20,109'	¹⁸ Formation Siluro-Devonian	¹⁹ Contractor TBD	²⁰ Spud Date ASAP
Depth to Ground water 274'		Distance from nearest fresh water well 4,970'		Distance to nearest surface water 2,900'

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

²¹ Proposed Casing and Cement Program

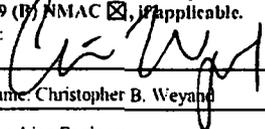
Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surface	24"	20"	94 lb/ft	1,100'	1,401	Surface
Intermediate	17.5"	13.375"	68 lb/ft	5,100'	3,029	Surface
Production	12.25"	9.625"	53.5 lb/ft	12,700'	3,540	Surface
Prod. Liner	8.5"	7.625"	42.5 lb/ft	12,200' - 18,114'	962	12,200'
Tubing	N/A	7"	26 lb/ft	0' - 12,100'	N/A	N/A
Tubing	N/A	5.5"	17 lb/ft	12,100' - 18,094'	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	TRD - Schaeffer/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: 6/7/2019
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
 111 S First St., Artesia, NM 88210
 Phone: (575) 748-1183 Fax: (575) 748-9720
 District III
 1000 Rio Brazos Road, Artec, NM 87410
 Phone: (505) 334-6178 Fax: (505) 334-6170
 District IV
 220 S. St. Francis Dr., Santa Fe, NM 87505
 Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number		² Pool Code 97869		³ Pool Name SWD; Devonian-Silurian	
⁴ Property Code		⁵ Property Name OSPREY SWD			⁶ Well Number 1
⁷ OGRID No. 372338		⁸ Operator Name NGL WATER SOLUTIONS PERMIAN,LLC			⁹ Elevation 3090.00'±

Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	25	25 S	35 E	N/A	470'	SOUTH	208'	WEST	LEA

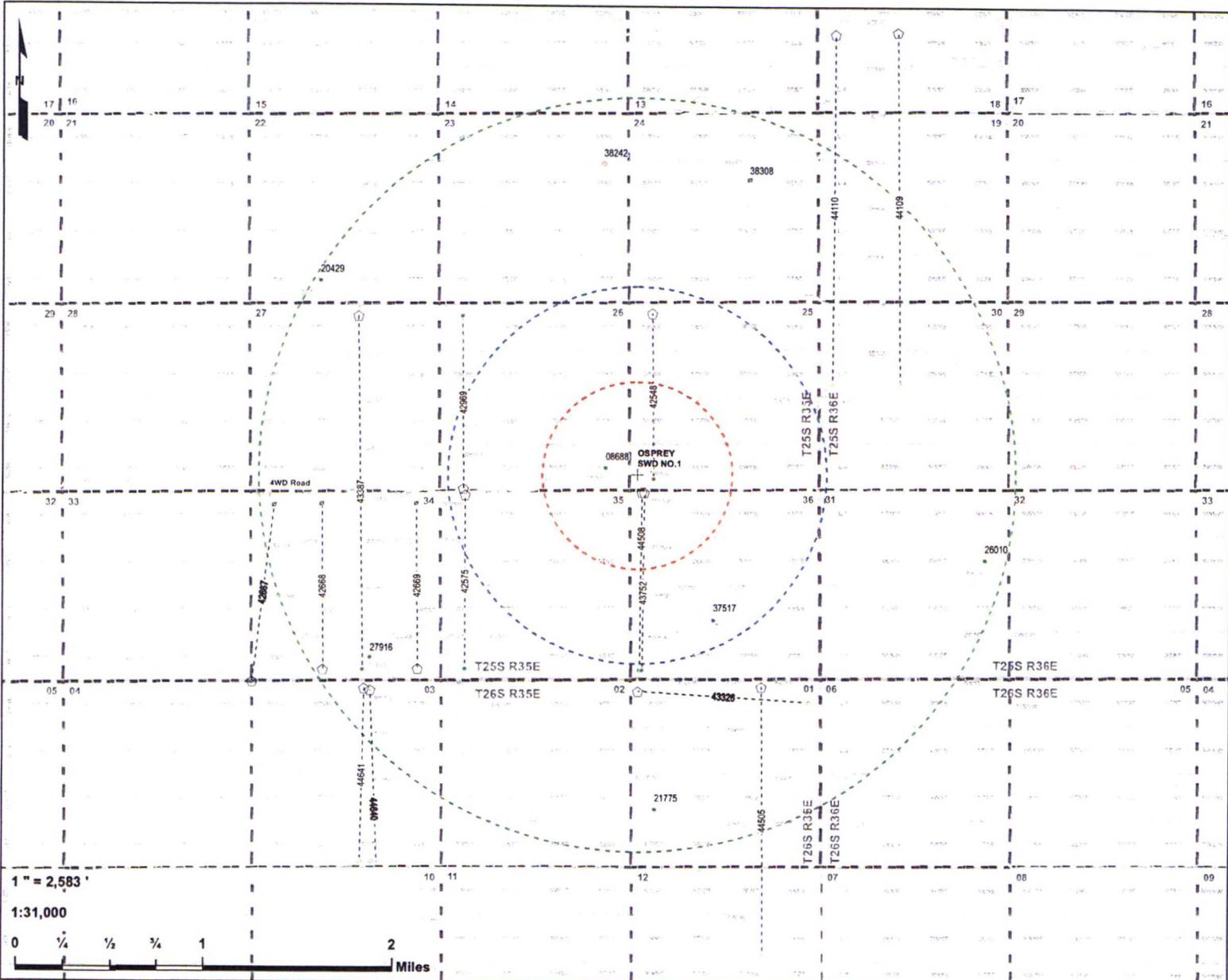
Bottom Hole Location If Different From Surface

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

¹⁰ Dedicated Acres	¹¹ Joint or Infill	¹² Consolidation Code	¹³ 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 25</p> <p>PROPOSED OSPREY SWD 1</p> <p>NMSP-E (NAD27) N: 399,827.47' E: 811,140.74'</p> <p>NMSP-E (NAD83) N: 399,885.50' E: 852,328.20' Lot: N32°05'43.38" Long: W103°19'44.69"</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 a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order</p> <p>As before entered by the division</p> <p><i>Chris Weyand</i> 6/18/2019 Signature Date</p> <p>Chris Weyand Printed Name chris@lonquist.com E-mail Address</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>9/18/2018 Date of Survey</p> <p><i>Clayton A. Clark</i> Signature and Seal</p> <p>CLAYTON A. CLARK NEW MEXICO 23001 PROFESSIONAL SURVEYOR</p> <p>Certificate Number</p>



Osprey SWD No. 1
2 Mile Area of Review
 NGL Water Solutions Permian, LLC
 Lea Co., NM

PCS: NAD 1983 SPCS NM-E FIPS 3001 (US Ft.)
 Drawn by: ASG | Date: 10/5/2018 | Approved by: ELR

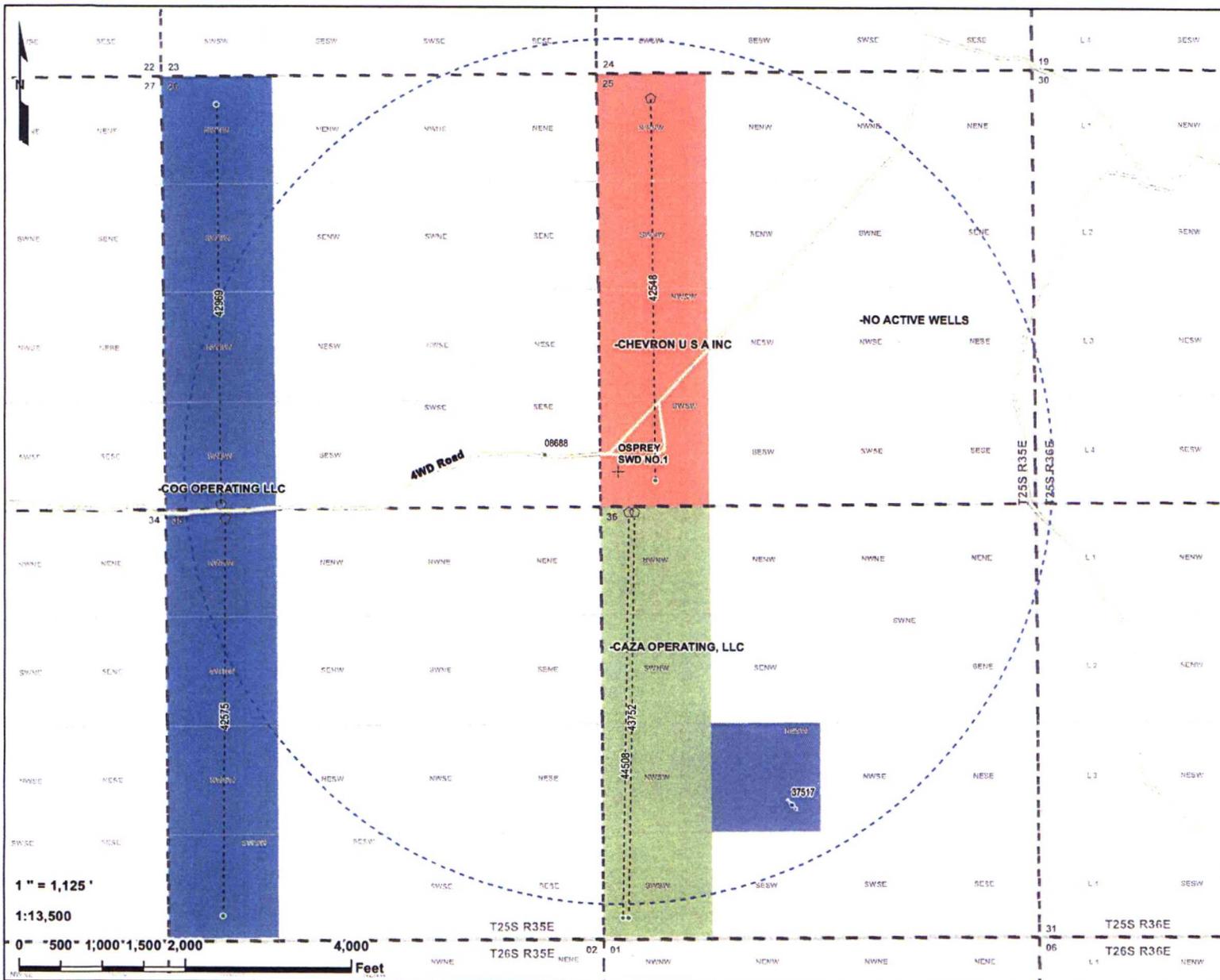
LONQUIST & CO. LLC
 PETROLEUM ENGINEERS | ENERGY ADVISORS
 AUSTIN HOUSTON WICHITA DENVER CALGARY

- ⊕ Osprey SWD No. 1 SHL
- ⊕ 1/2-Mile
- ⊕ 1-Mile
- ⊕ 2-Mile
- ⊕ OQ-Section (NM-PLSS 2nd Div.)
- ⊕ Section (NM-PLSS 1st Div.)
- ⊕ Township/Range (NM-PLSS)
- ⊕ Lateral
- API (30-025-...) SHL Status-Type (Count)**
- ⊕ Horizontal Surface Location (16)
- ⊕ Active - Oil (1)
- ⊕ Active - Gas (1)
- ⊕ Active - SWD (1)
- ⊕ Cancelled/Abandoned Location (1)
- ⊕ Plugged/Site Released - Oil (4)
- API (30-025-...) BHL Status-Type (Count)**
- ⊕ Active - Oil (6)
- ⊕ Cancelled/Abandoned Location (3)
- ⊕ Permitted - Oil (6)
- Source: Well SHL Data - NM-OCD (2018)



Osprey 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
08688	PRE-ONGARD WELL #001	O	P	PRE-ONGARD WELL OPERATOR	14993	32.0958862000	-103.331947300	1/1/1900
37517	MOMENTUM 36 STATE #001	S	A	COG OPERATING LLC	9693	32.0841141000	-103.322372400	2/21/2006
42548	TALCO 25 25 35 FEDERAL #001H	O	A	CHEVRON U S A INC	11897	32.1078071931	-103.327657581	8/1/2015
42575	CORONADO 35 FEDERAL #001H	O	A	COG OPERATING LLC	12274	32.0938250747	-103.344571560	6/25/2015
42969	MOONLIGHT BUTTRESS 26 FEDERAL #001H	O	A	COG OPERATING LLC	8802	32.0943169000	-103.344728700	12/22/2015
43752	SIOUX 36 STATE #001H	O	A	CAZA OPERATING, LLC	12255	32.0939530000	-103.328453000	5/30/2017
44508	SIOUX 36 STATE #005H	O	A	CAZA OPERATING, LLC	12074	32.0939530000	-103.328679000	3/18/2018



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

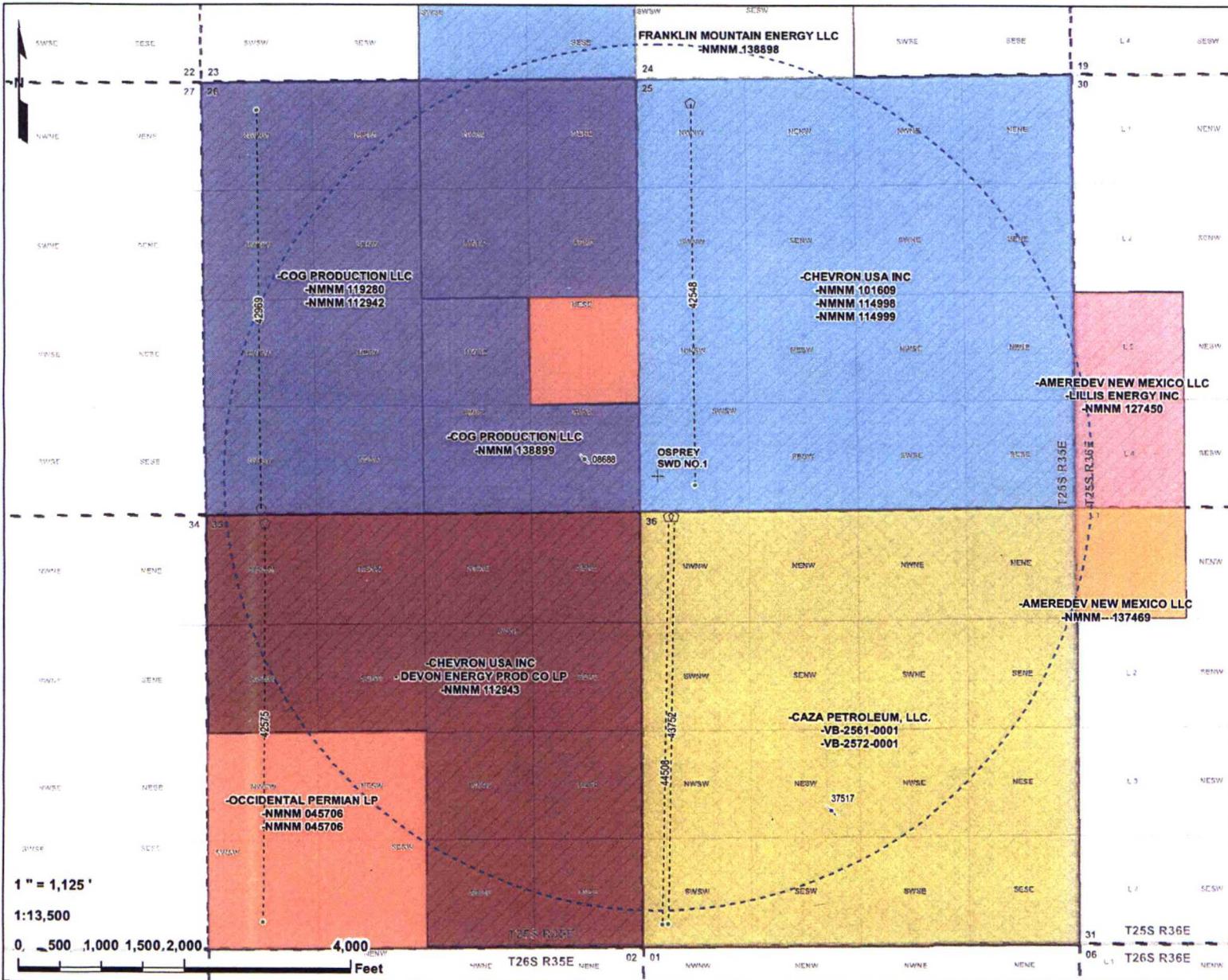
PCS: NAD 1983 SPCS NM-E FIPS 3001 (US Ft.)
 Drawn by: ASG | Date: 10/23/2018 | Approved by: ELR

LONQUIST & CO. LLC
 PETROLEUM ENGINEERS ENERGY ADVISORS
 AUSTIN HOUSTON WICHITA DENVER CALGARY

- ⊕ Osprey SWD No. 1 SHL
 - ⊖ 1-Mile
 - QQ-Section (NM-PLSS 2nd Div)
 - ⊖ Section (NM-PLSS 1st Div)
 - Township/Range (NM-PLSS)
 - Lateral
 - API (30-025-...) SHL Status-Type (Count)
 - ⊖ Horizontal Surface Location (5)
 - ⊖ Active - SWD (1)
 - ⊖ Plugged/Site Released - Oil (4)
 - API (30-025-...) BHL Status-Type (Count)
 - ⊖ Active - Oil (5)
 - Offset Operators
 - -CAZA OPERATING, LLC
 - -CHEVRON U S A INC
 - -COG OPERATING LLC
 - -NO ACTIVE WELLS
- Source: Well SHL Data - NM-OCD (2018)



1" = 1,125'
 1:13,500
 0 500 1,000 1,500 2,000 4,000 Feet



1" = 1,125'
 1:13,500
 0 500 1,000 1,500 2,000 4,000
 Feet

Osprey SWD No. 1
 1 Mile Lessee(s) - BLM & SLO
 NGL Water Solutions Permian, LLC
 Lea Co., NM

PCS: NAD 1983 SPCS NM-E FIPS 3001 (US Ft.)
 Drawn by: ASG Date: 6/11/2019 Approved by: ELR

LONQUIST & CO. LLC
 PETROLEUM ENGINEERS ENERGY ADVISORS
 AUSTIN HOUSTON WICHITA DENVER CALGARY

- + Osprey SWD No. 1 SHL
 - - - 1-Mile
 - NM-SLO
 - NM-BLM
 - OQ-Section (NM-PLSS 2nd Div.)
 - Section (NM-PLSS 1st Div.)
 - Township/Range (NM-PLSS)
 - - - Lateral
 - API (30-025-...) SHL Status-Type (Count)
 - Horizontal Surface Location (5)
 - Active - SWD (1)
 - Plugged/Site Released - Oil (4)
 - API (30-025-...) BHL Status-Type (Count)
 - Active - Oil (5)
 - Lessee(s)**
 - -AMEREDEV NEW MEXICO LLC
 - FRANKLIN MOUNTAIN ENERGY LLC
 - -AMEREDEV NEW MEXICO LLC; -LILLIS ENERGY INC
 - -CAZA PETROLEUM, LLC.
 - -CHEVRON USA INC
 - -CHEVRON USA INC; -DEVON ENERGY PROD CO LP
 - -COG PRODUCTION LLC
 - -OCCIDENTAL PERMIAN LP
- Source: Well SHL Data - NM-OCD (2018)



Osprey SWD No. 1 Notice List					
S-T-R	Notice Party Type	Notice Party	Address	Phone Number	Date Noticed
		Oil Conservation Division District IV	1220 South St. Francis Drive, Santa Fe, NM 87505	(505) 476-3440	
		Oil Conservation Division District I - Hobbs	1625 N. French Drive, Hobbs, New Mexico 88240	(575) 748-1283	
Surface Owner					
		NGL WATER SOLUTIONS PERMIAN, LLC	1509 W Wall St., Ste. 306, Midland, TX 79701	(432) 685-0005	
Mineral Owners					
32/T26S/R35E	ADJACENT TRACT MINERAL OWNER	NEW MEXICO STATE LAND OFFICE	P.O. Box 1148, Santa Fe, NM 87504	(505) 954-2000	
Multiple	ADJACENT TRACT MINERAL OWNER	BUREAU OF LAND MGMT	301 Dinosaur Trail Santa Fe, NM 87508		
Notice Parties - 1 Mile					
25/T25S/R35E	OPERATOR	CHEVRON U S A INC	6301 DEAUVILLE BLVD, MIDLAND, TX 79706		
26/T25S/R35E	OPERATOR	COG OPERATING LLC	600 W ILLINOIS AVE, MIDLAND, TX 79701		
35/T25S/R35E					
36/T25S/R35E					
36/T25S/R35E	OPERATOR	CAZA OPERATING, LLC	200 N LORIANE ST, SUITE 1550, MIDLAND, TX 79701		
23/T25S/R35E	LESSEE	CHEVRON USA INC	6301 DEAUVILLE BLVD, MIDLAND, TX 79706		
26/T25S/R35E					
35/T25S/R35E					
24/T25S/R35E	LESSEE	FRANKLIN MOUNTAIN ENERGY LLC	123 W MILLS AVE STE 600, EL PASO, TX 79901		
26/T25S/R35E	LESSEE	COG PRODUCTION LLC	600 W ILLINOIS AVE, MIDLAND, TX 79701		
26/T25S/R35E	LESSEE	OCCIDENTAL PERMIAN LP	5 E GREENWAY PLAZA #110, HOUSTON, TX 77046-0521		
35/T25S/R35E					
26/T25S/R35E	OPERATING RIGHTS	BETTIS BROTHERS INC	500 W TEXAS #830, MIDLAND, TX 79701		
35/T25S/R35E					
26/T25S/R35E	OPERATING RIGHTS	TRITEX ENERGY A LP	15455 DALLAS PKWY STE 600, ADDISON, TX 75001-6760		
35/T25S/R35E					
26/T25S/R35E	OPERATING RIGHTS	WESTALL OIL & GAS LLC	PO BOX 4, LOCO HILLS, NM 88255		
35/T25S/R35E					
26/T25S/R35E	OPERATING RIGHTS	ONEENERGY PTRNS OPER	2929 ALLEN PKWY STE 200, HOUSTON, TX 77019-7123		
35/T25S/R35E					
26/T25S/R35E	OPERATING RIGHTS	ENDURANCE PROPERTIES INC	15455 DALLAS PKWY STE 1050, ADDISON, TX 750016721		
35/T25S/R35E					
35/T25S/R35E	LESSEE	DEVON ENERGY PROD CO LP	333 W SHERIDAN AVE, OKLAHOMA CITY, OK 73102-5010		
36/T25S/R35E	LESSEE	CAZA PETROLEUM, LLC.	16945 NORTHCHASE DR. STE 1430, HOUSTON, TX 77060		
30/T25S/R35E	LESSEE	LILLIS ENERGY INC	300 E SONTERRA BLVD # 122, HOUSTON, TX 77019-7123		
30/T25S/R35E	LESSEE	AMEREDEV NEW MEXICO LLC	5707 SOUTHWEST PKWY STE 1- 275, SAN ANTONIO, TX 78258-3971		
31/T25S/R35E					

Osprey SWD #1: Offsetting Produced Water Analysis																		
wellname	api	section	township	range	unit	county	formation	ph	tds_mgl	sodium_mgl	calcium_mgl	iron_mgl	magnesium_mgl	manganese_mgl	chloride_mgl	bicarbonate_mgl	sulfate_mgl	co2_mgl
NORTH EL MAR UNIT #057	3002508440	31	26S	33E	F	LEA	DELAWARE		259554						163000	61	253	
GOEDEKE #002	3002508407	10	26S	33E	G	LEA	DELAWARE		293925						184000	85	210	
BELL LAKE UNIT #009	3002520261	18	23S	34E	K	LEA	BONE SPRING		204652						130000	512	260	
THISTLE UNIT #071H	3002542425	27	23S	33E	A	Lea	BONE SPRING 1ST SAND	5.6	171476.3	55363.2	9140	40.4	1023	1.1	104576.4	244	560	770
BELL LAKE 19 STATE #004H	3002541517	19	24S	33E	O	Lea	BONE SPRING 2ND SAND	6.3		76378	6238	11	834	0	131397	159	670	200
BELL LAKE 19 STATE #003H	3002541516	19	24S	33E	O	Lea	BONE SPRING 2ND SAND	6.7		59599	7326	11	942	0.69	108190	171	680	230
SALADO DRAW 6 FEDERAL #001H	3002541293	6	26S	34E	M	Lea	BONE SPRING 3RD SAND	6.7	95604	31066	3196	10	394	0.5	59071	183	0	100
SALADO DRAW 6 FEDERAL #001H	3002541293	6	26S	34E	M	Lea	BONE SPRING 3RD SAND	7			3289	0.3	474.5	0.38		219.6		300
SNAPPING 2 STATE #014H	3001542688	2	26S	31E	P	EDDY	WOLFCAMP	7.3	81366.4	26319.4	2687.4	26.1	326.7		50281.2		399.7	100
BELLOQ 2 STATE #002H	3001542895	2	23S	31E	C	EDDY	WOLFCAMP	6.8	119471.8	37359.2	5659.1	22.4	746.1		73172.5		1035.5	250
PRONGHORN AHO FEDERAL #001	3002526496	6	23S	33E	G	LEA	STRAWN	5.5			20.1	0	12.2		35.5	61.1	48.8	



Beckham Ranch
Proposed SWD Locations
Lea County, NM

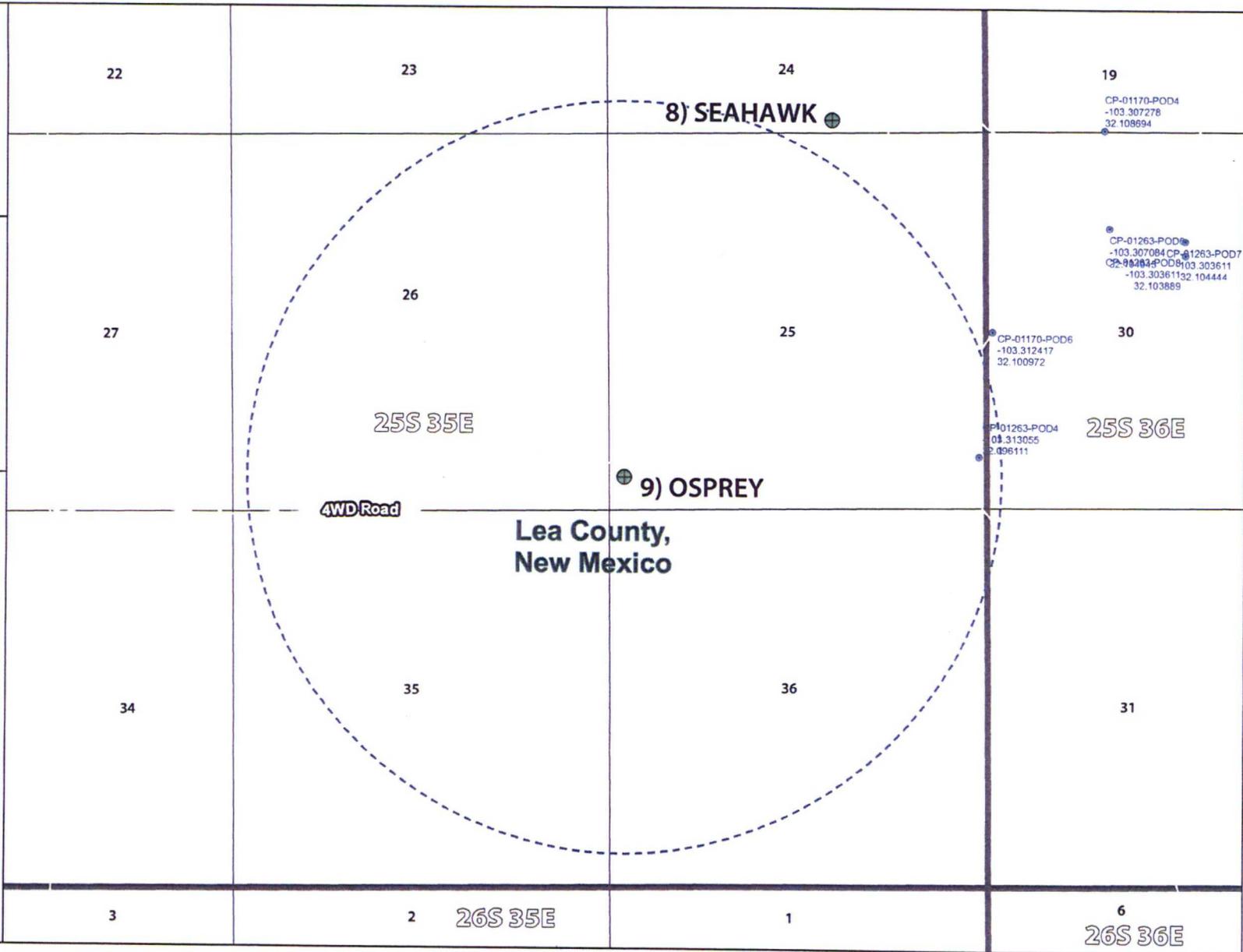
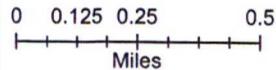
9) OSPREY

LAT: -103.32908
LONG: 32.095384
X: 852328.200071
Y: 399885.500163

Coordinate System
NMSP-E (NAD83)

Legend

- OSE_Points_of_Diversion
- ⊕ Proposed_SWD
- - - Proposed_SWD_Buffer link



8) SEAHAWK ⊕

19
CP-01170-POD4
-103.307278
32.108694

CP-01263-POD6
-103.307084 CP-01263-POD7
-103.303611
-103.3036132 104444
32.103889

CP-01170-POD6
-103.312417
32.100972

CP-01263-POD4
-103.313055
32.096111

9) OSPREY ⊕

4WD Road

Lea County,
New Mexico

3

2 26S 35E

1

6
26S 36E

CASE NO. ____: 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 Devonian-Silurian formation through the Osprey SWD #1 well at a surface location 470 feet from the South line and 208 feet from the West line of Section 25, Township 25 South, Range 35 East, NMPM, Lea County, New Mexico for the purpose of operating a salt water disposal well. NGL seeks authority to inject salt water into the Devonian-Silurian formation at a depth of 18,114' to 20,109'. 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 location is approximately 10.7 miles west of Jal, New Mexico.