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. 16507

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

(1) NGL proposes to drill the Moab SWD #1 well at a surface location 255 feet from the South line and 1,538 feet from the West line of Section 24, Township 24 South, Range 33 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 Siluro-Devonian formation at a depth of 16,400' – 18,004'.

(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 2,460 psi for this well, and it requests that a maximum pressure of 3,280 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 Bradfute
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. 16507: 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 Siluro-Devonian formation through the Moab SWD #1 well at a surface location 255 feet from the South line and 1,538 feet from the West line of Section 24, Township 24 South, Range 33 East, NMPM, Lea County, New Mexico for the purpose of operating a salt water disposal well. The target injection interval is the Siluro-Devonian formation at a depth of 16,400' – 18,004'. 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 22 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: MOAB 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

FOR OCD ONLY
☐ Notice Complete
☐ Application Content Complete

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

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

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

CHRIS WEYAND
Print or Type Name

09/25/2018
Date

512-600-1764
Phone Number

Signature

CHRIS@LONQUIST.COM
e-mail Address

EXHIBIT
tabbies
A

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: ___ Secondary Recovery ___ Pressure Maintenance _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: 9/24/2018

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: ___

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

Side 2

III. WELL DATA

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

(1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

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

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

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

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

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

(1) The name, address, phone number, and contact party for the applicant;

(2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;

(3) The formation name and depth with expected maximum injection rates and pressures; and,

(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

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

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

Side 1

INJECTION WELL DATA SHEET

OPERATOR: NGL WATER SOLUTIONS PERMIAN, LLC

WELL NAME & NUMBER: MOAB SWD #1

WELL LOCATION: 255 FSL & 1,538' FWL (FOOTAGE LOCATION) | N (UNIT LETTER) | 24 (SECTION) | 24S (TOWNSHIP) | 33E (RANGE)

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 24.000" Casing Size: 20.000"

Cemented with: 1,602 sx. *or* _____ ft^3

Top of Cement: Surface Method Determined: Circulation

1st Intermediate Casing

Hole Size: 17.500" Casing Size: 13.375"

Cemented with: 3,113 sx. *or* _____ ft^3

Top of Cement: Surface Method Determined: Circulation

2nd Intermediate Casing

Hole Size: 12.250" Casing Size: 9.625"

Cemented with: 3,268 sx. *or* _____ ft^3

Top of Cement: Surface Method Determined: Circulation

Production Liner

Hole Size: 8.500"

Casing Size: 7.625"

Cemented with: 318 sx.

or _____ ft³

Top of Cement: 11,900'

Method Determined: Calculation

Total Depth: 18,004'

Injection Interval

16,400 feet to 18,004 feet

(Open Hole)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 7", 26 lb/ft, P-110, TCPC from 0'- 11,800' and 5.500", 17 lb/ft, P-110 TCPC from 11,800' - 16,380'
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: 16,380'

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 Montova (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: 9,205'
   Wolfcamp: 12,187'
   Atoka: 13,984'
   Morrow: 14,470'

NGL Water Solutions Permian, LLC

Moab SWD No. 1

FORM C-108 Supplemental Information

III. Well Data

A. Wellbore Information

1.

Well information	
Lease Name	Moab SWD
Well No.	1
Location	S-24 T-24S R-33E
Footage Location	255' FSL & 1,538' FWL

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	L80	HCL-80	Q-125
Hole Size	24"	17.5"	12.25"	8.5"
Depth Set	1,260'	5,225'	12,400'	16,400'

b. Cementing Program

Cement Information				
Casing String	Surface	Intermediate	Production	Liner
Lead Cement	C	C	H,H,C	H
Lead Cement Volume	685	1,659	Stage 1: 553 sks Stage 2: 779 sks Stage 3: 773 sks	81
Tail Cement	C	C	H,H,C	H
Tail Cement Volume	917	1,454	Stage 1: 471 sks Stage 2: 295 sks Stage 3: 397 sks	237
Cement Excess	25%	15%	25%, 25%, 0%	10%
TOC	Surface	Surface	Surface	11,900'
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'-11,800'	11,800'-16,380'

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: 16,400' – 18,004'

   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	9,205'
Wolfcamp	12,187'
Atoka	13,984'
Morrow	14,470'

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: 2,460 PSI (surface pressure)
   Maximum Injection Pressure: 3,280 PSI (surface pressure)

4. The injection fluid is to be locally produced water. Attached are produced water sample analyses taken from the closest wells that feature samples from the Atoka, Bone Spring, Delaware, and Wolfcamp formations. Water is expected to be predominantly sourced from the Bone Spring 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	1,248'
Salado	1,814'
Delaware	5,278'
Bone Spring	9,205'
Wolfcamp	12,187'
Strawn	13,788'
Atoka	13,984'
Morrow	14,470'
Mississippian Lime	15,760'
Woodford	16,165'
Devonian	16,380'

B. Underground Sources of Drinking Water

Within 1-mile of the proposed Moab SWD #1 location, there are multiple water wells with depths ranging from 95 ft to 550 ft (average 360 ft) and water depths ranging from 81 ft to 575 ft (average 229 ft). These wells are generally producing from the Santa Rosa formation, but the upper Rustler formation may be another USDW, which 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 multiple water wells that exist within one mile of the well location, but none of the wells are active and available for sampling. A map and Water Right Summaries from the New Mexico Office of the State Engineer are attached for wells C-03600 POD 1,2,3 and C-03601-POD 1.

Moab SWD **Lea County NM** **TD: 18004**

Energy Partners LP

Vertical Injection - Devonian, Silurian, Fusselman **GL/KB: 3570**

Directions to Site - Travel 23.2 miles from Jal NM along NM 128W. Turn South at Vaca Lane onto locations. Lat/Long - 32.19736, -103.52945

Geologic Tops (MD ft)	Section	Casing	Logging	Cement (HOLD)	Injection String
Rustler 1248 **Surface TD - 1260**	**Surface** Drill 24" 0' - 1260 Set and Cement 20" Casing	1260' of 20" 94# J55 BTC Centralizers - bottom 2 joints and every 3rd jt thereafter, Cement basket 5th jt from surface	No Logs	Lead - 685sx of HES Extenda Cem, 13.7ppg, 4.5hrs TT Tail - 917sx of Halcem 3hr TT 25% Excess 1000psi CSD after 10hrs	
Salado 1,814' Delaware 5278 **1st Int TD - 5225**	**1st Intermediate** Drill 3965' of 17-1/2" Hole 1260' - 5225' Set and Cement 13-3/8" Casing	5M A Section Casing Bowl 5225' of 13-3/8" 68# L80 BTC Centralizers - bottom jt, every 3rd joint in open hole and 2 jt inside the surface casing	Mudlogger on site by 1250'	Lead - 1659 sx of Neocem 12.9ppg, 5hr TT Tail - 1454sx of Halcem, 14.8ppg 15% Excess 1000psi CSD after 10 hrs Cement to Surface	11,800' of 7" P110 26# TCPC
ECP DV Tool - 5200 Cherry Canyon - 6311 Brushy Canyon - 7972 **DV Tool - 9000** Bone Spring - 9205 **3rd Int Liner Top - 11,900** Wolfcamp - 12187 **2nd Int TD - 12,400**	**2nd Intermediate** Drill 7175' of 12-1/4" Hole 5225' - 12400' Set 9-5/8" Intermediate Casing and Cement in 3 Stages	10M B Section 12400' of 9-5/8" 53.5# HCL80 BTC **Special Drift to 8.535"** **Externally Coat 4820' Between DV Tools** DV tool at at 9000' ECP DV Tool 15' Inside Previous Casing Centralizers - bottom jt, 100' aside of DV tool, every 3rd joint in open hole and 5 within the surface casing	MWD GR Triple combo + CBL of 13-3/8" Casing	**Stage 3: 0% Excess** Lead 773sx Neocem 12.9 ppg Tail 397sx Halcem 14.8ppg 1000psi CSD after 10 hrs Cement to Surface **Stage 2: 25% Excess** Lead 779sx Neocem 12.9 ppg Tail 295sx Halcem 14.8ppg 1000psi CSD after 10 hrs **Stage 1: 25% Excess** Lead 553sx Neocem 12.9 ppg Tail 471sx Halcem 14.8ppg. 1000psi CSD after 10hrs	4580' of 5-1/2" P110 17# TCPC Duoline Internally Coated Injection Tubing
Strawn - 13788 Atoka - 13984 Morrow - 14470 Miss Lst - 15760 Woodford - 16165 Perm Packer - 16380 **3rd Int TD - 16400**	**3rd Intermediate** Drill 4000' of 8-1/2" Hole 12400' - 16400' Set 7-5/8" Liner and Cement in Single Stage	4500' of 7-5/8" 39# Q125 - **DTL (FJ4) FJ (Gas Tight) VersaFlex Packer Hanger** Centralizers on and 1 jt above shoe jt and then every 2nd jt.	MWD GR Triple combo, CBL of 9-5/8" Casing	Lead 81sx Neocem 12.9 ppg Tail 237sx Halcem 14.8ppg. 1000psi CSD after 10hrs 8hr TT 10% Excess 1000psi CSD after 10hrs	7-5/8" x 5-1/2" TCPC Permanent Packer with High Temp Elastomer and full Inconel 925 trim
Devonian - 16,380 Fusselman - 17383 Montoya - 17,904' TD - 18,004	**Injection Interval** Drill 1504' of 6-1/2" hole 16400' - 18004'	Openhole completion	MWD GR Triple Combo with FMI, CBL of 7-5/8"	Displace with 3% KCl (or heavier brine if necessary)	

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 Moab 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	[2] OGRID Number
NGL WATER SOLUTIONS PERMIAN, LLC 1509 W WALL ST, STE 306 MIDLAND, TX 79701	372338
	[3] API Number TBD

[4] Property Code	[5] Property Name	[6] Well No
	MOAB SWD	1

[7] Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
N	24	24S	33E	N/A	255'	SOUTH	1,538'	WEST	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	Pool Code
SWD; Silurian-Devonian	96101

Additional Well Information

[11] Work Type	[12] Well Type	[13] Cable/Rotary	[14] Lease Type	[15] Ground Level Elevation
N	SWD	R	Private	3,570'
[16] Multiple	**[17] Proposed Depth**	**[18] Formation**	**[19] Contractor**	**[20] Spud Date**
N	18,004'	Siluro-Devonian	TBD	ASAP

Depth to Ground water	Distance from nearest fresh water well	Distance to nearest surface water
229'	718'	> 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	1,260'	1,602	Surface
Intermediate	17.5"	13.375"	68 lb/ft	5,225'	3,113	Surface
Production	12.25"	9.625"	53.5 lb/ft	12,400'	3,268	Surface
Prod. Liner	8.5"	7.625"	39 lb/ft	16,400'	318	11,900'
Tubing	N/A	7"	26 lb/ft	0' – 11,800'	N/A	N/A
Tubing	N/A	5.5"	17 lb/ft	11,800' – 16,380'	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:	OIL CONSERVATION DIVISION Approved By:
Printed name: Christopher B. Weyand	Title:
Title: Consulting Engineer	Approved Date: / Expiration Date:
E-mail Address: chris@lonquist.com	
Date: 9/20/2018 Phone: (512) 600-1764	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
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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 appropriat
District Offic

☐ AMENDED REPOR

WELL LOCATION AND ACREAGE DEDICATION PLAT

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

[4] Property Code	[5] Property Name	[6] Well Number
	MOAB SWD	1

[7] OGRID No.	[8] Operator Name	[9] Elevation
372338	NGL WATER SOLUTIONS	3570.00'±

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	24	24 S	33 E	N/A	255'	SOUTH	1538'	WEST	LEA

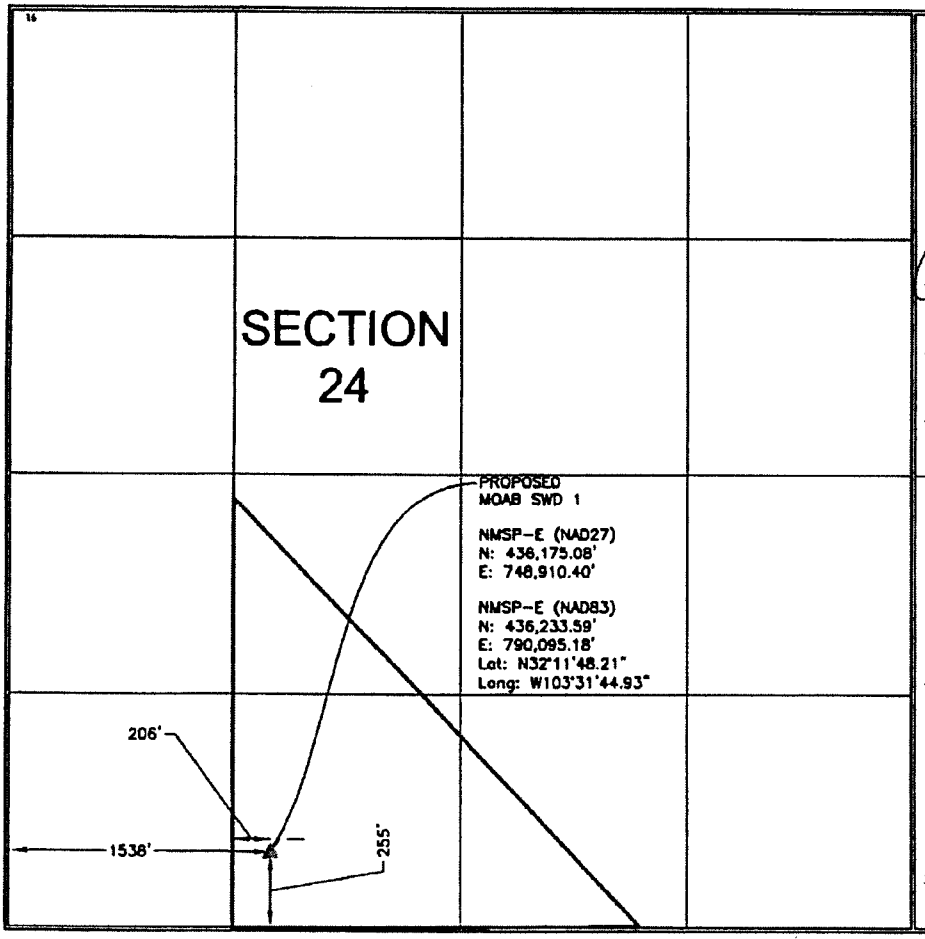
[11] Bottom Hole Location If Different From Surface

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

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

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

[16]



[17] OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete 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 locatic 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 divisio

9/24/2018
Signature Date

Chris Weyand
Printed Name

chris@lonquist.com
E-mail Address

[18] SURVEYOR CERTIFICATION

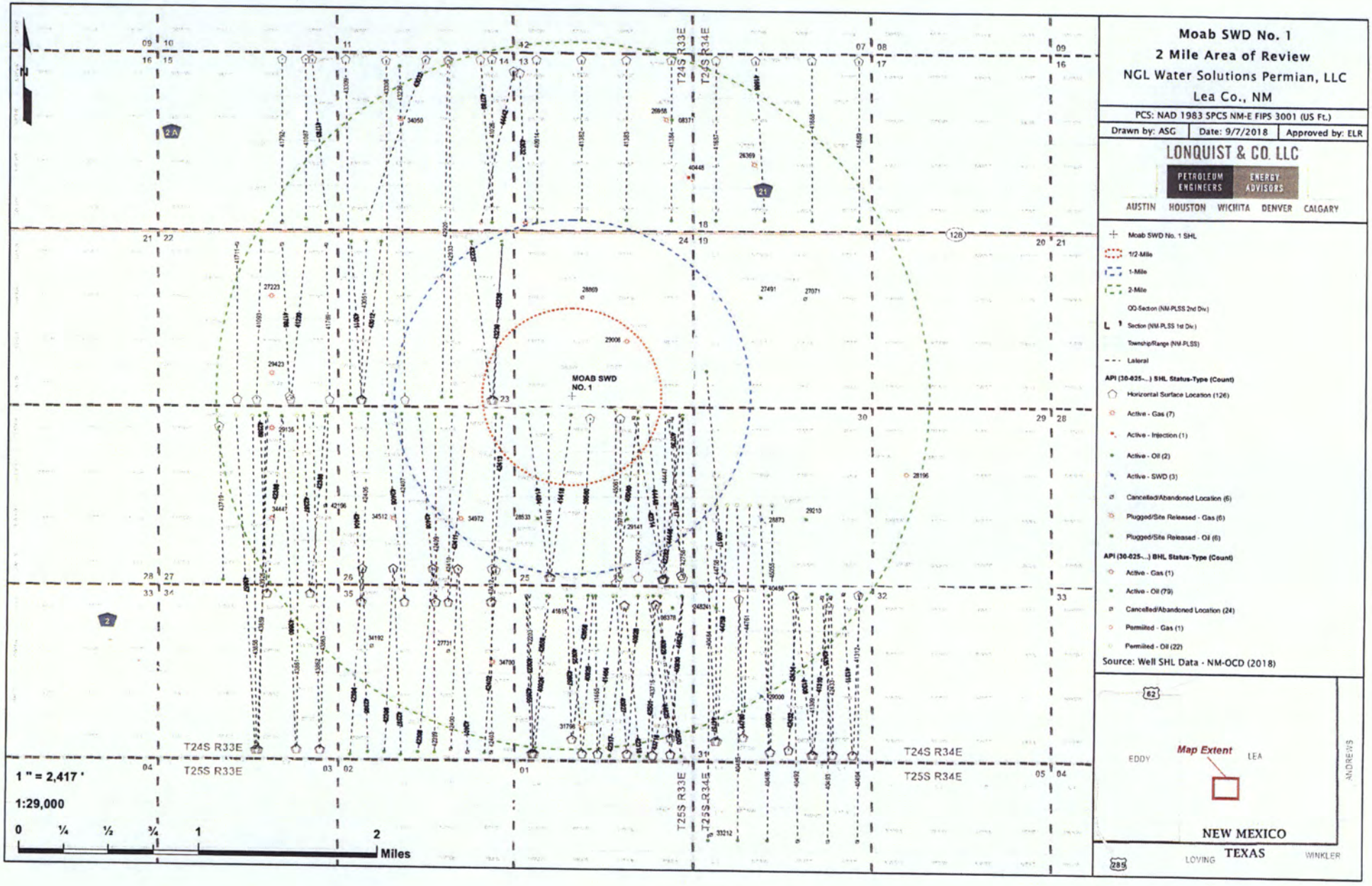
I hereby certify that the well location shown on this plat wa plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief

8/17/18
Date of Survey

Signature and Seal of Professional Surveyor

CODY A. CLARK
NEW MEXICO
23001
PROFESSIONAL SURVEYOR

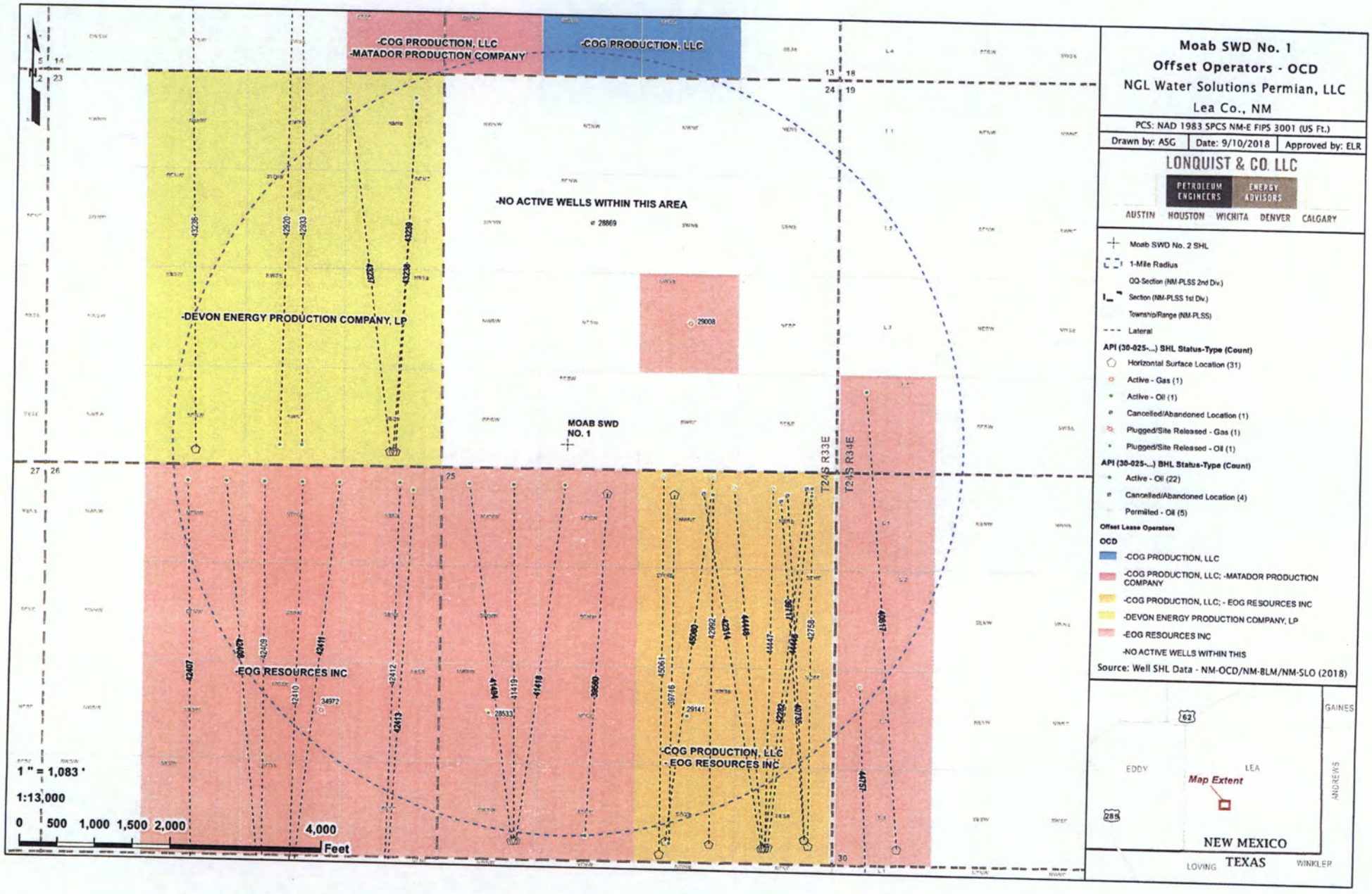
23001
Certificate Number

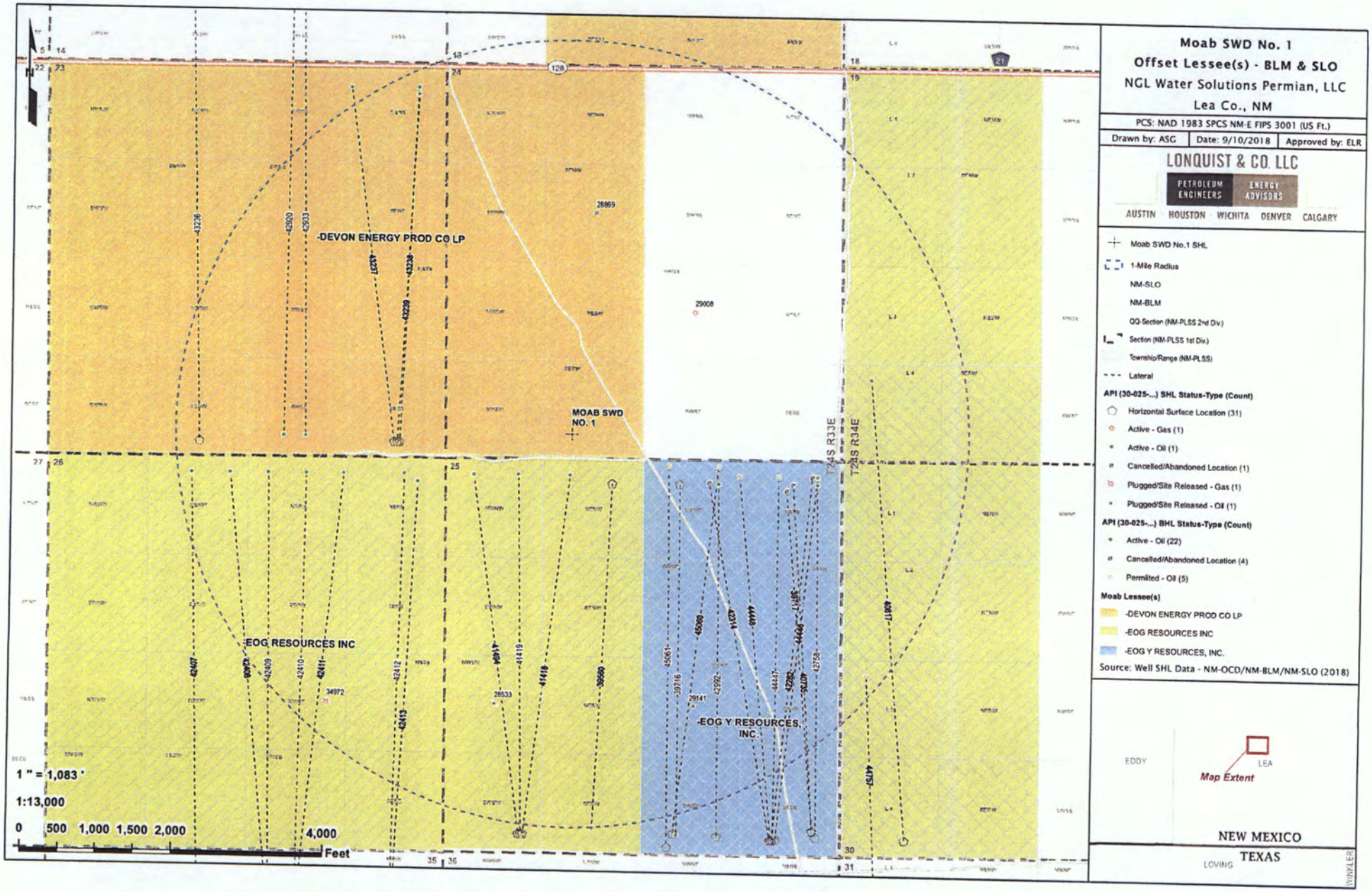

Moab SWD No. 1
2 Mile Area of Review
NGL Water Solutions Permian, LLC
Lea Co., NM
PCS: NAD 1983 SPCS NM-E FIPS 3001 (US Ft.)
Drawn by: ASG
Date: 9/7/2018
Approved by: ELR
LONQUIST & CO. LLC
PETROLEUM ENGINEERS
ENERGY ADVISORS
AUSTIN HOUSTON WICHITA DENVER CALGARY
Moab SWD No. 1 SHL
1/2-Mile
1-Mile
2-Mile
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 (126)
Active - Gas (7)
Active - Injection (1)
Active - Oil (2)
Active - SWD (3)
Cancelled/Abandoned Location (6)
Plugged/Site Released - Gas (6)
Plugged/Site Released - Oil (6)
API (30-025-...) BHL Status-Type (Count)
Active - Gas (1)
Active - Oil (79)
Cancelled/Abandoned Location (24)
Permitted - Gas (1)
Permitted - Oil (22)
Source: Well SHL Data - NM-OCD (2018)
MOAB SWD NO. 1
T24S R33E
T25S R33E
T24S R34E
T25S R34E
1 " = 2,417 '
1:29,000
0 ¼ ½ ¾ 1 2 Miles
Map Extent
EDDY
LEA
NEW MEXICO
TEXAS
LOVING
WINKLER
ANDREWS

Moab 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
28533	MADERA RIDGE 25 FEDERAL #001	O	V	EOG RESOURCES INC	15750	32.18676760000	-103.53242490000	9/8/1986
28869	PRE-ONGARD WELL #001	O	V	PRE-ONGARD WELL OPERATOR	0	32.20490757810	-103.52813214400	12/31/9999
29008	MADERA RIDGE 24 #001	G	V	EOG RESOURCES INC	15600	32.20127110000	-103.52386470000	11/7/1984
29141	RED RAIDER BKS STATE #001	O	V	COG OPERATING LLC	15360	32.18675610000	-103.52386470000	3/29/1985
34972	TRISTE DRAW 26 FEDERAL #002	G	V	EOG RESOURCES INC	13850	32.18677520000	-103.53973390000	3/27/2000
39560	FALCON 25 FEDERAL #001	O	H	EOG RESOURCES INC	9444	32.19492720000	-103.52741240000	11/30/2009
39716	RED RAIDER BKS STATE #002H	O	H	COG OPERATING LLC	9455	32.19492340000	-103.52451320000	4/1/2010
39717	RED RAIDER BKS STATE #003C	O	H	EOG Y RESOURCES, INC.	0	32.18221724250	-103.51873867300	12/31/9999
40735	RED RAIDER BKS STATE #003C	O	H	EOG Y RESOURCES, INC.	0	32.18220898240	-103.51872892700	12/31/9999
40817	VANGUARD 30 STATE COM #001H	O	H	EOG RESOURCES INC	9296	32.18190770000	-103.51476290000	11/29/2012
41418	FALCON 25 FEDERAL #002H	O	H	EOG RESOURCES INC	9730	32.18201070000	-103.53115840000	2/18/2014
41419	HAWK 25 FEDERAL #002H	O	H	EOG RESOURCES INC	9453	32.18201070000	-103.53125760000	1/30/2014
41494	HAWK 25 FEDERAL #001H	O	H	EOG RESOURCES INC	9453	32.18201070000	-103.53135680000	1/8/2014
42282	RED RAIDER BKS STATE #003C	O	H	COG OPERATING LLC	0	32.18185402190	-103.52046661600	12/31/9999
42314	RED RAIDER BKS STATE #004C	O	H	EOG Y RESOURCES, INC.	0	32.18185415620	-103.52056406000	12/31/9999
42407	HAWK 35 FEDERAL #004H	O	H	EOG RESOURCES INC	9420	32.17995445400	-103.54524338000	6/8/2017
42408	HAWK 35 FEDERAL #005H	O	H	EOG RESOURCES INC	9430	32.17995290200	-103.54231754000	5/18/2017
42409	HAWK 35 FEDERAL #006H	O	H	EOG RESOURCES INC	9434	32.17995285200	-103.54222012000	5/21/2017
42410	HAWK 35 FEDERAL #007H	O	H	EOG RESOURCES INC	9440	32.17995226400	-103.54107370000	3/23/2015
42411	HAWK 35 FEDERAL #008H	O	H	EOG RESOURCES INC	9457	32.17995221400	-103.54097628000	4/7/2015
42412	HAWK 35 FEDERAL #009H	O	H	EOG RESOURCES INC	9424	32.17996117000	-103.53691770000	3/20/2015
42413	HAWK 35 FEDERAL #010H	O	H	EOG RESOURCES INC	9434	32.17996197000	-103.53682020000	4/4/2015
42758	RED RAIDER BKS STATE #005H	O	H	COG OPERATING LLC	9331	32.18198970000	-103.51857200000	9/21/2015
42920	BOOMSLANG 14 23 FEDERAL #001H	O	H	DEVON ENERGY PRODUCTION COMPANY, LP	9517	32.22431530000	-103.54100470000	7/28/2017
42933	BOOMSLANG 14 23 FEDERAL #004H	O	H	DEVON ENERGY PRODUCTION COMPANY, LP	11274	32.22431510000	-103.54084320000	7/5/2017
42992	RED RAIDER BKS STATE #004H	O	H	COG OPERATING LLC	9342	32.18199740000	-103.52283770000	1/21/2017
43236	BLUE KRAIT 23 14 FEDERAL #002H	O	H	DEVON ENERGY PRODUCTION COMPANY, LP	11851	32.19639900000	-103.54524320000	6/18/2017
43237	BLUE KRAIT 23 FEDERAL #003H	O	H	DEVON ENERGY PRODUCTION COMPANY, LP	9399	32.19639820000	-103.53686120000	7/1/2017
43238	BLUE KRAIT 23 FEDERAL #004H	O	H	DEVON ENERGY PRODUCTION COMPANY, LP	11130	32.19639810000	-103.53662280000	6/21/2017
43239	BLUE KRAIT 23 FEDERAL #006H	O	H	DEVON ENERGY PRODUCTION COMPANY, LP	9408	32.19639800000	-103.53671980000	6/26/2017
44446	RED RAIDER 25 STATE #701H	O	H	EOG RESOURCES INC	12316	32.18191450000	-103.52030290000	3/14/2018
44447	RED RAIDER 25 STATE #702H	O	H	EOG RESOURCES INC	0	32.18190530000	-103.52040910000	3/11/2018
44448	RED RAIDER 25 STATE COM #703H	O	H	EOG RESOURCES INC	0	32.18189600000	-103.52051500000	12/31/9999
44757	DIAMOND 31 FEDERAL COM #701H	O	H	EOG RESOURCES INC	0	32.16849660000	-103.51548430000	6/11/2018
45060	RED RAIDER 25 STATE #704H	O	H	EOG RESOURCES INC	0	32.18208400000	-103.52471840000	12/31/9999
45061	RED RAIDER 25 STATE #705H	O	H	EOG RESOURCES INC	0	32.18158930000	-103.52498210000	12/31/9999


-COG PRODUCTION, LLC
-MATADOR PRODUCTION COMPANY
-COG PRODUCTION, LLC
-NO ACTIVE WELLS WITHIN THIS AREA
-DEVON ENERGY PRODUCTION COMPANY, LP
MOAB SWD NO. 1
T24S R33E
T24S R34E
-EOG RESOURCES INC
-COG PRODUCTION, LLC
-EOG RESOURCES INC
1 " = 1,083 '
1:13,000
0 500 1,000 1,500 2,000 4,000
Feet
Moab SWD No. 1
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: 9/10/2018
Approved by: ELR
LONQUIST & CO. LLC
PETROLEUM ENGINEERS
ENERGY ADVISORS
AUSTIN HOUSTON WICHITA DENVER CALGARY
Moab SWD No. 2 SHL
1-Mile Radius
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 (31)
Active - Gas (1)
Active - Oil (1)
Cancelled/Abandoned Location (1)
Plugged/Site Released - Gas (1)
Plugged/Site Released - Oil (1)
API (30-025-...) BHL Status-Type (Count)
Active - Oil (22)
Cancelled/Abandoned Location (4)
Permitted - Oil (5)
Offset Lease Operators
OCD
-COG PRODUCTION, LLC
-COG PRODUCTION, LLC; -MATADOR PRODUCTION COMPANY
-COG PRODUCTION, LLC; - EOG RESOURCES INC
-DEVON ENERGY PRODUCTION COMPANY, LP
-EOG RESOURCES INC
-NO ACTIVE WELLS WITHIN THIS
Source: Well SHL Data - NM-OCD/NM-BLM/NM-SLO (2018)
Map Extent
EDDY
LEA
GAINES
ANDREWS
LOVING
WINKLER
NEW MEXICO
TEXAS



Moab SWD No. 1
Offset 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: 9/10/2018	Approved by: ELR

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

- Moab SWD No.1 SHL
- 1-Mile Radius
- NM-SLO
- NM-BLM
- 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 (31)
- Active - Gas (1)
- Active - Oil (1)
- Cancelled/Abandoned Location (1)
- Plugged/Site Released - Gas (1)
- Plugged/Site Released - Oil (1)

API (30-025-...) BHL Status-Type (Count)
- Active - Oil (22)
- Cancelled/Abandoned Location (4)
- Permitted - Oil (5)

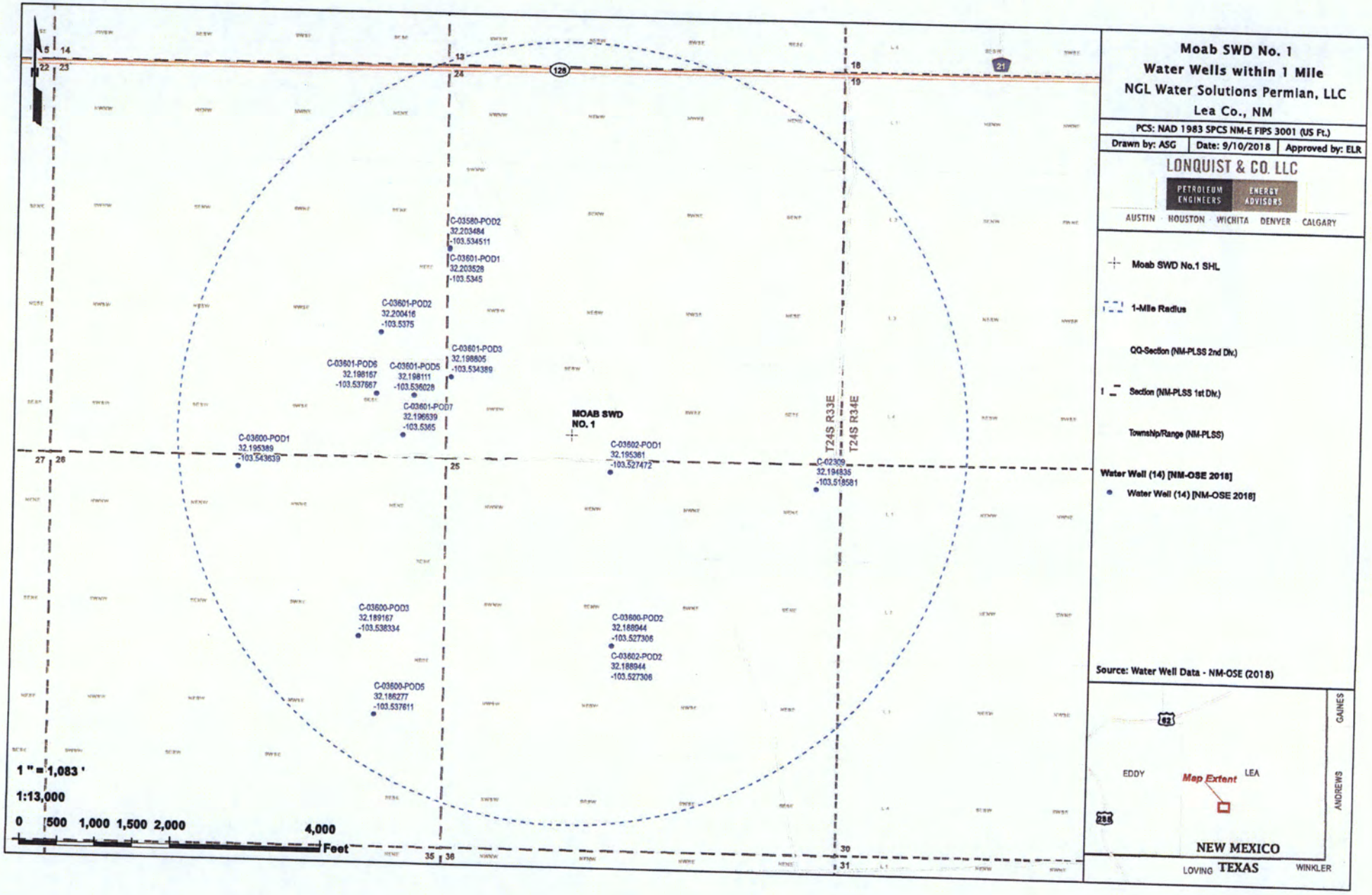
Moab Lessee(s)
- -DEVON ENERGY PROD CO LP
- -EOG RESOURCES INC
- -EOG Y RESOURCES, INC.

Source: Well SHL Data - NM-OCD/NM-BLM/NM-SLO (2018)

EDDY
LEA
Map Extent
NEW MEXICO
TEXAS
LOVING
WINKLER

Moab SWD #1: Offsetting Produced Water Analysis

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					31000	317	340	
BELL LAKE 19 STATE #001H	3002541024	19	24S	33E	M	Lea	NM	BONE SPRING 2ND SAND	6.77	134649.2	44572.9	6215	37.9	759.3	81681.6	244	765	200
BELL LAKE 19 STATE #002H	3002541515	19	24S	33E	O	Lea	NM	BONE SPRING 2ND SAND	7.01	128413.3	44427.6	4207	41.9	705.9	77482.5	366	910	300
BELL LAKE 19 STATE #003H	3002541516	19	24S	33E	O	Lea	NM	BONE SPRING 2ND SAND	6.67	138617.2	46648.4	5778	41.1	731.5	84081	244	710	300
BELL LAKE 19 STATE #004H	3002541517	19	24S	33E	O	Lea	NM	BONE SPRING 2ND SAND	6.68	133460.5	44483.1	5917	30.5	718.2	80981.7	244	675	300
BELL LAKE UNIT A #007	3002508367	1	24S	33E	A	LEA	NM	DELAWARE		87686					53920	391	749	
SERRANO 29 FEDERAL #001H	3001537763	29	24S	27E	H	EDDY	NM	WOLFCAMP	6.9	102136.2	30415.1	5311.5	40.2	643.7	62812.7	183	0	350


Moab SWD No. 1
Water Wells within 1 Mile
NGL Water Solutions Permian, LLC
Lea Co., NM
PCS: NAD 1983 SPCS NM-E FIPS 3001 (US Ft.)
Drawn by: ASG
Date: 9/10/2018
Approved by: ELR
LONQUIST & CO. LLC
PETROLEUM ENGINEERS
ENERGY ADVISORS
AUSTIN HOUSTON WICHITA DENVER CALGARY
Moab SWD No.1 SHL
1-Mile Radius
QQ-Section (NM-PLSS 2nd Div.)
Section (NM-PLSS 1st Div.)
Township/Range (NM-PLSS)
Water Well (14) [NM-OSE 2018]
Water Well (14) [NM-OSE 2018]
Source: Water Well Data - NM-OSE (2018)
MOAB SWD NO. 1
T24S R33E
T24S R34E
C-03580-POD2
32.203484
-103.534511
C-03601-POD1
32.203528
-103.5345
C-03601-POD2
32.200416
-103.5375
C-03601-POD3
32.198805
-103.534389
C-03601-POD6
32.198167
-103.537867
C-03601-POD5
32.198111
-103.536028
C-03601-POD7
32.196639
-103.5365
C-03600-POD1
32.195389
-103.543639
C-03602-POD1
32.195361
-103.527472
C-02309
32.194835
-103.518581
C-03600-POD3
32.189167
-103.538334
C-03600-POD2
32.188944
-103.527306
C-03602-POD2
32.188944
-103.527306
C-03600-POD5
32.186277
-103.537611
1 " = 1,083 '
1:13,000
0 500 1,000 1,500 2,000 4,000
Feet
EDDY
LEA
GAINES
ANDREWS
Map Extent
NEW MEXICO
LOVING
TEXAS
WINKLER

New Mexico Office of the State Engineer
Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	C 03600 POD1	2	2	1	26	24S	33E	637275	3563023

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

Driller Name: RODNEY HAMMER

Drill Start Date: 01/07/2013 **Drill Finish Date:** 01/07/2013 **Plug Date:**

Log File Date: 01/30/2013 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: **Depth Well:** **Depth Water:**

New Mexico Office of the State Engineer
Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	C 03600 POD2	4	4	1	25	24S	33E	638824	3562329

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

Driller Name: RODNEY HAMMER

Drill Start Date: 01/07/2013 **Drill Finish Date:** 01/08/2013 **Plug Date:**

Log File Date: 01/30/2013 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: **Depth Well:** **Depth Water:**

New Mexico Office of the State Engineer
Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	C 03600 POD3	3	4	2	26	24S	33E	637784	3562340

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

Driller Name: RODNEY HAMMER

Drill Start Date: 01/16/2013 **Drill Finish Date:** 01/16/2013 **Plug Date:**

Log File Date: 01/30/2013 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: **Depth Well:** **Depth Water:**

New Mexico Office of the State Engineer
Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	C 03601 POD1	4	4	2	23	24S	33E	638124	3563937

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

Driller Name: RODNEY HAMMER

Drill Start Date: 12/21/2012 **Drill Finish Date:** 12/21/2012 **Plug Date:**

Log File Date: 01/08/2013 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: **Depth Well:** **Depth Water:**