

APR 26 2019 PM02:45

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

APPLICATION OF NGL WATER SOLUTIONS
PERMIAN, LLC FOR APPROVAL OF SALT WATER
DISPOSAL WELL IN LEA COUNTY, NEW MEXICO

Case No. 20.57.5

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 NMSA 1978, Section 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 Ghost Rider SWD #1 well at a surface location 1,585 feet from the South line and 270 feet from the East line of Section 30, Township 26 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 Silurian-Devonian formation at a depth of 18,953' to 20,729'.
3. NGL further seeks approval of the use of 7 inch tubing inside the surface and intermediate casings and 5½ 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 2,843 psi for this well, and it requests that a maximum pressure of 3,790 psi be approved for the well.
5. A proposed C-108 for the subject well is attached hereto as Exhibit 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 June 13, 2019; and that after notice and hearing, the Division enter its order approving this application.

Respectfully submitted,

ABADIE & SCHILL, P.C.

By: 

Lara Katz
Darin C. Savage
214 McKenzie Street
Santa Fe, New Mexico 87501
(970) 385-4401
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darin@abadieschill.com

*Attorneys for NGL Water Solutions
Permian, LLC*

CASE NO. 20575 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-Devonian formation through the Ghost Rider SWD #1 well at a surface location 1,585 feet from the South line and 270 feet from the East line of Section 30, Township 26 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 Silurian-Devonian formation at a depth of 18,953' to 20,729'. NGL further seeks approval of the use of 7 inch tubing inside the surface and intermediate casings and 5½ 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 11.7 miles Southwest of Bennett, 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: <u>NGL WATER SOLUTIONS PERMIAN LLC</u>	OGRID Number: <u>372338</u>
Well Name: <u>GHOST RIDER SWD #1</u>	API: <u>TBD</u>
Pool: <u>SWD: DEVONIAN-SILURIAN</u>	Pool Code: <u>97869</u>

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	
<input type="checkbox"/>	Notice Complete
<input type="checkbox"/>	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

4/23/2019

 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: 4/23/2019

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

Side 1

INJECTION WELL DATA SHEET

OPERATOR: NGL WATER SOLUTIONS PERMIAN, LLC

WELL NAME & NUMBER: GHOST RIDER SWD #1

WELL LOCATION: 1,585' FSL & 270' FEL I 30 26S 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: 1,993 sx.

or _____ ft³

Top of Cement: Surface

Method Determined: Circulation

1st Intermediate Casing

Hole Size: 17.500"

Casing Size: 13.375"

Cemented with: 3,285 sx.

or _____ ft³

Top of Cement: Surface

Method Determined: Circulation

2nd Intermediate Casing

Hole Size: 12.250"

Casing Size: 9.625"

Cemented with: 3,249 sx.

or _____ ft³

Top of Cement: Surface

Method Determined: Circulation

INJECTION WELL DATA SHEET

Tubing Size: 7", 26 lb/ft, P-110, TCPC from 0' - 12,300' and 5.500", 17 lb/ft, P-110 TCPC from 12,300' - 18,903'

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: 18,903'

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: 5,340'

Bone Spring: 9,306'

Wolfcamp: 12,804'

Strawn: 14,488'

Atoka: 15,006'

Morrow: 15,564'



NGL Ghost Rider SWD #1

Vertical Injection - Devonian, Silurian, Fusselman

Location - Sec. 30 R265 T35E
Lea County, NM

Rig - ??

AFE Number

Estimated Drilling Cost

TD - 20,729'

GL/KB - 3172'/3192'

Directions to Site: From Jal, NM - Head South on NM-205 S (Frying Pan Road). Travel 6.8 miles and turn right (W) onto Beckham Rd. Continue on Beckham Road for 2.3 miles (past house on right). Location will be on the right (SE) side.
Lat/Long: 32.01281/-103.40131

Geologic Tops (MD ft)	Section	Problems	Bit/BHA	Mud	Casing	Logging	Cement (HOLD)	Injection String
Triassic - 25' Rustler Anhydrite - 1,034' Base of Silicates 1,581' Surface TD - 1,750'	Surface Drill 24" 0' - 1750' Set and Cement 20" Casing	Loss Circulation Hole Cleaning Wellbore stability in the Red Beds Anhydrite in the Rustler	24" PDC Bit + 9-5/8" X 8" 7/8 4.0 Combo MM w/17" NBS + 1X8" DC + 17" IBS + 1X8" DC + SS + 4X8" DC's + X/O + 5" HWDP	Spud Mud MW< 9.0	1750' of 20" 133# 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.	LEAD: 741 sx of 13.7 ppg EXTANDACEM, 1.694 ft3/sk @ 75% Excess (750' of fill) TAIL: 1252 sx of 14.8 ppg HALCEM, 1.342 ft3/sk @ 75% Excess (1000' of fill)	
Top of Salt - 1,806' 1st Int. DV Tool - 1,850' Castile - 2,816' Base Salt - 4,788' 1st Int TD - 5,300'	1st Intermediate Drill 3550' of 17-1/2" Hole 1750' - 5300' Set and Cement 13-3/8" Casing in 2 Stages	Seepage Losses Possible H2S Anhydrite Salt Sections	17-1/2" Varel PDC Bit + 9-5/8" X 8" 7/8 4.0 Combo MM w/ 17" Steel NBS + 17" IBS + 2X8" DC's + Thruster + 4X8" DC's + 18X6" DC's + X/O + HWDP	Brine Water MW 10-10.5	5300' of 13-3/8" 68# HCL80 BTC 5M A Section Casing Bowl Centralizers - bottom jt, every 3rd joint in open hole and 2 jt inside the surface casing	Gyro Survey	Stage 2: 1128 sx of 13.7 ppg HALCEM, 1.747 ft3/sk @ 50% Excess (0' - 1850') Stage 1: 2157 sx of 13.7 ppg HALCEM, 1.777 ft3/sk @ 50% Excess (1850' - 5300')	12300' of 7" P110 26# TCPC
Delaware Mtn Group - 5,340' Lamar Limestone - 5,343' Bell Canyon - 5,378' 2nd Int. DV Tool/ACP - 5,400' Cherry Canyon - 6,588' Brushy Canyon - 7,823' 2nd Int. DV Tool - 9,000' Bone Spring - 9,306' 3rd Int Liner Top - 12,400' Wolfcamp - 12,804' 2nd Int TD - 12,900'	2nd Intermediate Drill 7600' of 12-1/4" Hole 5300' - 12900' Set 9-5/8" Intermediate Casing and Cement in 3 Stages	Hard Drilling in the Brushy Canyon (watch for stick-slip) Seepage to Complete Losses/ Water Flows in DMG Some Anhydrite and H2S possible Production in the Bone Spring and Wolfcamp Ballooning is possible in Cherry Canyon and Brushy if Broken Down	12-1/4" Smith XS 716S 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, 6 jts: 8" DC, X/O sub, 18 jts: 6" DC, X/O sub, 8" Drilling Jars HWDP + 5" DP to Surface	Freshwater MW 8.6 - 9.2 High visc. Sweeps and mud up for tight spots (<10 FL, 30-35 visc.)	10M B Section 12,900' of 9-5/8" 53.5# HCP110 BTC Special Drift to 8.535" Externally Coat 3600' Between DV Tools DV Tool at at 9000' ECP/DV Tool @ top of loss zones (HOLD) Centralizers - bottom jt, 100' aside of DV tool, every 3rd joint in open hole and 5 within the surface casing	12.25" Open Hole: MWD GR Triple combo, Caliper, CBL of 13-3/8" Casing to surface Cased Hole: CBL/Pressure pass to 1000 psi IF cement is not circulated on 2nd and 3rd Stages	Stage 3: 1120 sx of 13.7 ppg HALCEM, 1.777 ft3/sk @ 10% Excess (Upper DV Tool to Surface) Stage 2: 827 sx of 11.9 ppg HALCEM, 1.713 ft3/sk @ 50% Excess (Between Upper and Lower DVT) Stage 1: 1302 sx of 15.6 ppg HALCEM, 1.232 ft3/sk @ 30% Excess (TD to Lower DVT)	6603' of 5-1/2" P110 17# TCPC Duoline Internally Coated Injection Tubing
Penn - 13,206' Strawn - 14,488' Atoka - 15,006' Morrow - 15,564' Miss Lst - 16,654' Woodford - 18,659' Perm Packer - 18,903' 3rd Int TD - 18,953'	3rd Intermediate Drill 6053' of 8-1/2" Hole 12900' - 18953' Set 7-5/8" Liner and Cement in Single Stage	High Pressure (up to 15ppg) and wellbore instability (fracturing) expected in the Atoka Production in the Wolfcamp Atoka and Morrow Hard Drilling in the Morrow Clastic	8-1/2" Smith XS 716S AxeBlade PDC Bit, sub, 6-3/4" 7/8 5.7 MM w/ 8" NBS, UBHO sub, 8" NMBS/UBHO/NMDC, Thruster, 18 jts: 6" DC 6" Drilling Jars HWDP + 5" DP to Surface	AES-VERT OBM MW 13.0-14.5 UBD/MPD using ADA	6553' of 7-5/8" 39# HCV150 USS Liberty FJM Centralizers on and 1 jt above shoe jt and then every 2nd jt.	8.5" Open Hole: MWD GR Triple combo, Caliper of 8.5" Open Hole/CBL of 9-5/8" Casing Cased Hole: SCBL/Pressure Pass to 1000 psi of 7-5/8" Liner before drillout	LEAD: 209 sx of 11.9 ppg HALCEM, 2.053 ft3/sk @ 20% Excess over caliper volume or 25% (17953' - 12400') TAIL: 147 sx of 13.2 ppg HALCEM, 1.439 ft3/sk @ 20% Excess over caliper volume or 25% (2000' of fill)	7-5/8" x 5-1/2" TCPC Permanent Packer with High Temp Elastomer and full Inconel 925 trim
Devonian - 18,953' Silurian - 19,954' Fusselman - 20,224' Montoya - 20,629' TD - 20,729'	Injection Interval Drill 1910' of 6-1/2" hole 18953' to 20729'	Chert is possible Loss of Circulation is 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" NMBS, UBHO/NMDC, Thruster, X/O sub, 24 jts: 4-3/4" HWDP + 4" DP to Surface	Cut Brine - low grav for possible losses	Openhole completion	MWD GR Triple Combo with FMI + CBL of 7-5/8"	Displace with 3% KCl (or heavier brine if necessary)	

NGL Water Solutions Permian, LLC

Ghost Rider SWD No. 1

FORM C-108 Supplemental Information

III. Well Data

A. Wellbore Information

1.

Well information	
Lease Name	Ghost Rider SWD
Well No.	1
Location	S-30 T-26S R-35E
Footage Location	1,585' FSL & 270' FEL

2.

a. Wellbore Description

Casing Information				
Type	Surface	Intermediate	Production	Liner
OD	20"	13.375"	9.625"	7.625"
WT	0.635"	0.480"	0.545"	0.500"
ID	18.730"	12.415"	8.535"	6.625"
Drift ID	18.542"	12.259"	8.535"	6.500"
COD	21.00"	14.375"	10.625"	8.500"
Weight	133 lb/ft	68 lb/ft	53.5 lb/ft	39 lb/ft
Grade	J-55	HCL-80	HCP-110	HCV-150
Hole Size	24"	17.5"	12.25"	8.5"
Depth Set	1,750'	5,300'	12,900'	18,953'

b. Cementing Program

Cement Information				
Casing String	Surface	Intermediate	Production	Liner
Lead Cement	Extenda Cem	Halcem	Halcem	Halcem
Lead Cement Volume	741	3,285	Stage 1: 1,302 sks Stage 2: 827 sks Stage 3: 1,120 sks	209
Tail Cement	Halcem			Halcem
Tail Cement Volume	1,252			147
Cement Excess	75%	50%	30%,50%,10%	25%
TOC	Surface	Surface	Surface	12,400'
Method	Circulate to Surface	Circulate to Surface	Circulate to Surface	Logged

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: 2,843 PSI (surface pressure)

Maximum Injection Pressure: 3,790 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 Avalon, Bone Spring, Delaware and Wolfcamp formations. Attached are produced water sample analyses taken from the closest wells that feature samples from the Avalon, Bone Spring, Delaware, and Wolfcamp formations.

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

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

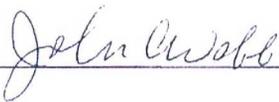
No water wells exist within one mile of the proposed well location.

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 **Ghost Rider SWD #1**) and any underground sources of drinking water.

NAME: John C. Webb

TITLE: Sr. Geologist

SIGNATURE: 

DATE: Nov. 1, 2018

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II
511 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
⁴ Property Code	³ Property Name GHOST RIDER SWD	⁵ API Number TBD
		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
I	30	26S	35E	N/A	1585'	SOUTH	270'	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: Devonian-Silurian	Pool Code 97869
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Additional Well Information

¹¹ Work Type N	¹² Well Type SWD	¹³ Cable Rotary R	¹⁴ Lease Type Private	¹⁵ Ground Level Elevation 3,175'
¹⁶ Multiple N	¹⁷ Proposed Depth 20,729'	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

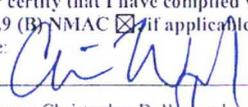
Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surface	24"	20"	133 lb/ft	1,750'	1,993	Surface
Intermediate	17.5"	13.375"	68 lb/ft	5,300'	3,285	Surface
Production	12.25"	9.625"	53.5 lb/ft	12,900'	3,249	Surface
Prod. Liner	8.5"	7.625"	39 lb/ft	18,953'	356	12,400'
Tubing	N/A	7"	26 lb/ft	0' - 12,300'	N/A	N/A
Tubing	N/A	5.5"	17 lb/ft	12,300' - 18,903'	N/A	N/A

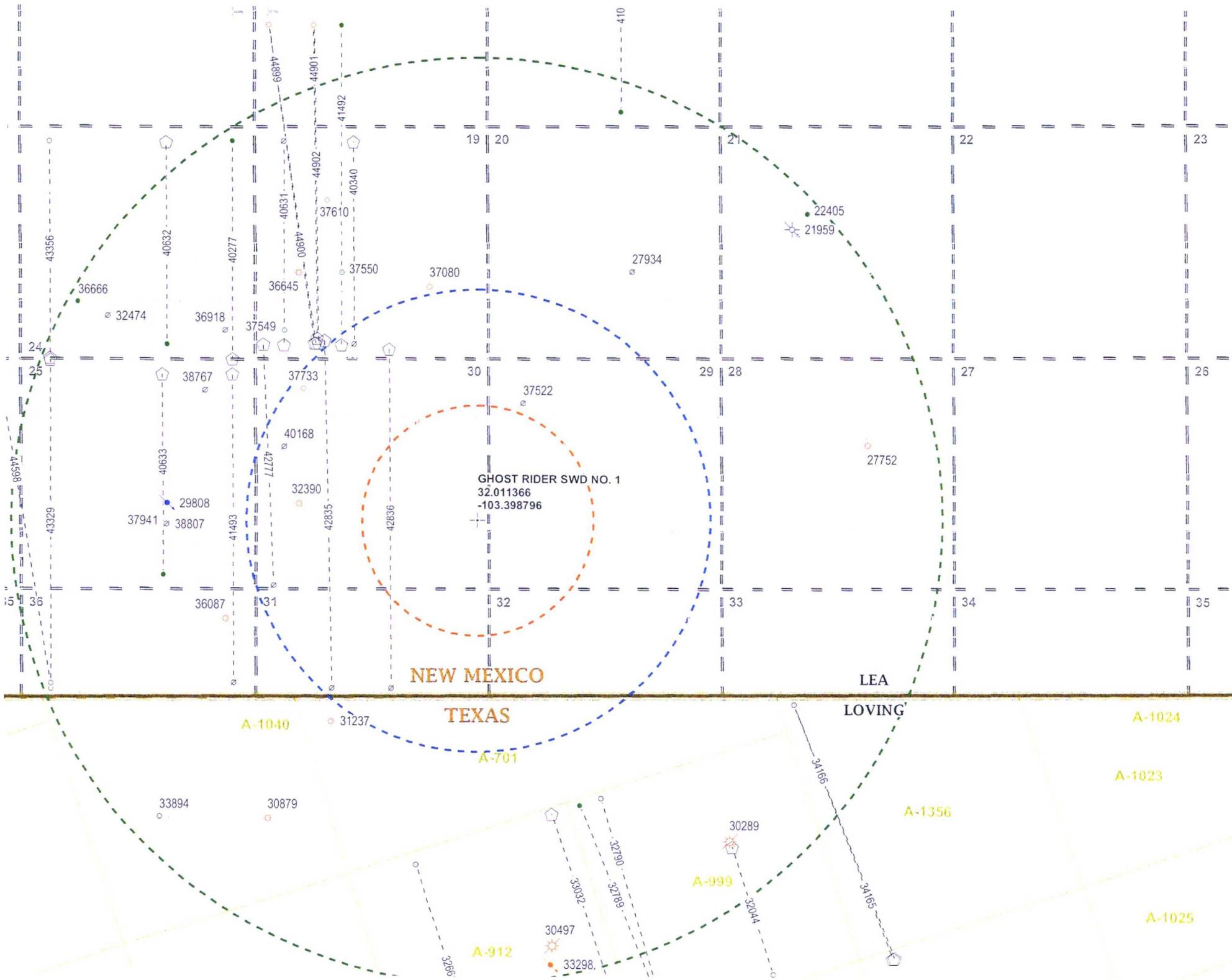
Casing/Cement Program: Additional Comments

See attached schematic.

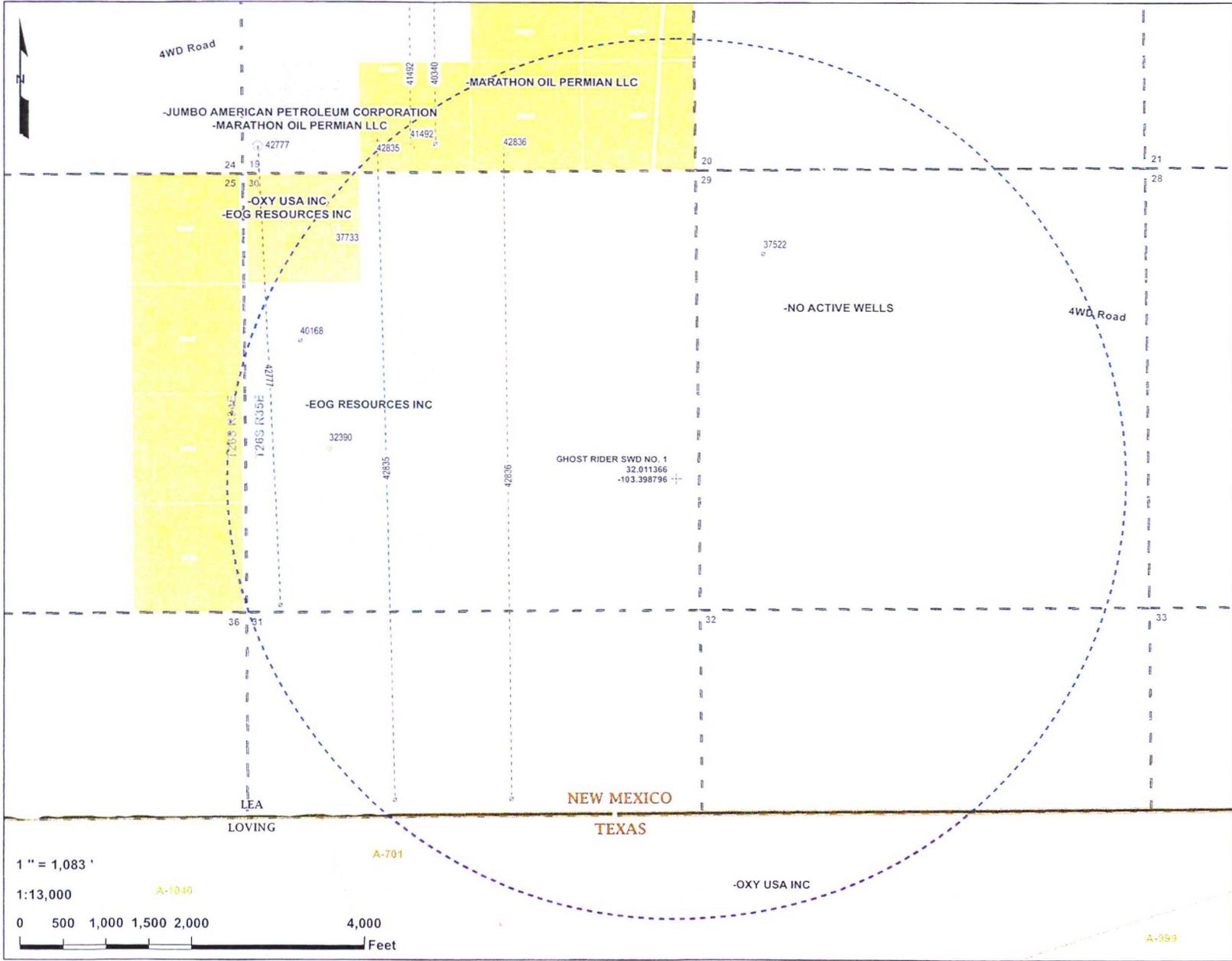
²² Proposed Blowout Prevention Program

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 <input type="checkbox"/> and/or 19.15.14.9 (B) NMAC <input checked="" type="checkbox"/> if applicable. Signature:  Printed name: Christopher B. Weiland Title: Consulting Engineer E-mail Address: chris@lonquist.com Date: 04/22/2019	OIL CONSERVATION DIVISION Approved By: Title: Approved Date: _____ Expiration Date: _____ Conditions of Approval Attached
Phone: (512) 600-1764	



- Dr
-  Red dashed circle
 -  Blue dashed circle
 -  Green dashed circle
 -  Black dashed line
 - API ( House symbol)
 -  Red dot
 -  Green dot
 -  Blue dot
 -  Black dot
 -  House symbol
 -  Sun symbol
 - API ( House symbol)
 -  Red dot
 -  Green dot
 -  Black dot
 -  House symbol
 -  Sun symbol
 - Sour



Ghost Rider SWD No. 1
1-Mile Offset Operators - OCD & RRC
 NGL Water Solutions Permian, LLC
 Lea Co., NM & Loving Co., TX

PCS NAD 1983 SPCS NM-E FIPS 3001 (US Ft.)

Drawn by: ASG	Date: 2/15/2019	Approved by: ELR
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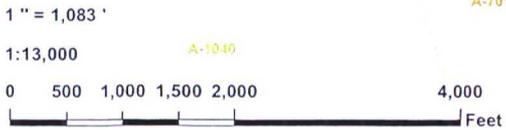
LONGQUIST & CO. LLC
PETROLEUM ENGINEERS ENERGY ADVISORS
 AUSTIN HOUSTON WICHITA DENVER CALGARY

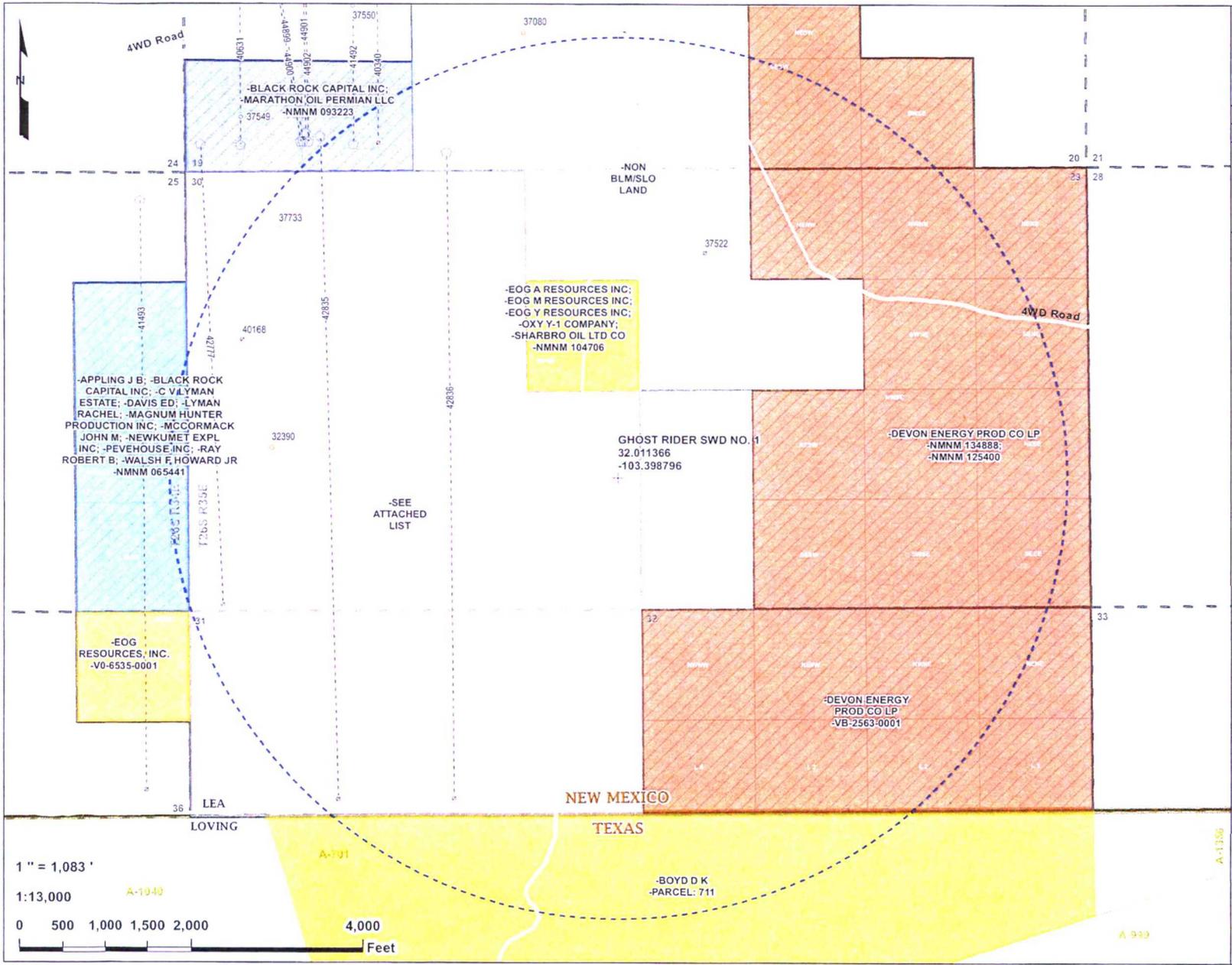
--- Ghost Rider SWD No 1 SHL
 --- 1-Mile
 --- QQ-Section (NM-PLSS 2nd Div)
 --- Section (NM-PLSS 1st Div)
 --- Township/Range (NM-PLSS)
 --- Lateral
API (30-025-...) SHL Status-Type (Count)
 () Horizontal Surface Location (5)
 () Active - Gas (1)
 () Cancelled/Abandoned Location (2)
 () Permitted - Gas (1)
API (30-025-...) BHL Status-Type (Count)
 () Active - Oil (1)
 () Cancelled/Abandoned Location (4)

Offset Operators

- () JUMBO AMERICAN PETROLEUM CORPORATION; - MARATHON OIL PERMIAN LLC
- () -OXY USA INC
- () -OXY USA INC; -EOG RESOURCES INC
- () -EOG RESOURCES INC
- () -MARATHON OIL PERMIAN LLC
- () -NO ACTIVE WELLS

Source: Well SHL Data - NM-OCD & DrillingInfo (2019)





Ghost Rider 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: 4/23/2019 Approved by: ELR

LONGQUIST & CO. LLC



AUSTIN HOUSTON WICHITA DENVER CALGARY

- Ghost Rider SWD No. 1 SHL
 - 1-Mile
 - NM-BLM
 - NM-SLO
 - OO-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 (11)
 - Plugged/Site Released - Gas (1)
 - Active - Gas (2)
 - Cancelled/Abandoned Location (2)
 - Permitted - Gas (1)
 - Permitted - Oil (2)
 - API (30-025-...) BHL Status-Type (Count)
 - Active - Oil (1)
 - Cancelled/Abandoned Location (6)
 - Permitted - Gas (3)
 - Permitted - Oil (1)
 - Lessee(s)
 - APPLING J B; -BLACK ROCK CAPITAL INC; -C V LYMAN ESTATE; -DAVIS ED; -LYMAN RACHEL; -MAGNUM HUNTER PRODUCTION INC; -MCCORMACK JOHN M; -NEWKUMET EXPL INC; -PEVEHOUSE INC; -RAY ROBERT B; -WALSH F HOWARD JR
 - BOYD D K
 - BLACK ROCK CAPITAL INC; -MARATHON OIL PERMIAN LLC
 - DEVON ENERGY PROD CO LP
 - EOG A RESOURCES INC; -EOG M RESOURCES INC; -EOG Y RESOURCES INC; -OXY Y-1 COMPANY; -SHARBRO OIL LTD CO
 - EOG RESOURCES, INC
 - SEE ATTACHED LIST
 - NON BLM/SLO LAND
- Source: Well SHL Data - NM-OC2 (2019)

