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 EDDY COUNTY, NEW MEXICO.

CASE NO. _____

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 Whitt 31 SWD #1 well at a surface location 1,191 feet from the North line and 2,335 feet from the East line of Section 31, Township 26 South, Range 31 East, NMPM, Eddy 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 14,990' to 16,137'.

(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 2,247 psi for this well, and it requests that a maximum pressure of 2,998 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 April 4, 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. _____: Application of NGL Water Solutions Permian, LLC for approval of salt water disposal well in Eddy County, New Mexico. Applicant seeks an order approving disposal into the Silurian-Devonian formation through the Whitt 31 SWD #1 well at a surface location 1,191 feet from the North line and 2,335 feet from the East line of Section 31, Township 26 South, Range 31 East, NMPM, Eddy 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 14,990' to 16,137'. 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 15.5 miles South of Malaga, 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: WHITT 31 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

Signature

02/19/2019
Date

512-600-1764
Phone Number

CHRIS@LONQUIST.COM
e-mail Address

EXHIBIT
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).

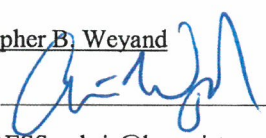
*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

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: 2/20/29

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: WHITT 31 SWD #1

WELL LOCATION: 1,191' FSL & 3,335' FWL | 4 | 31 | 26S | 29E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 24.000" Casing Size: 20.000"

Cemented with: 757 sx. *or* _____ ft^3

Top of Cement: Surface Method Determined: Circulation

1st Intermediate Casing

Hole Size: 17.500" Casing Size: 13.375"

Cemented with: 1,648 sx. *or* _____ ft^3

Top of Cement: Surface Method Determined: Circulation

2nd Intermediate Casing

Hole Size: 12.250" Casing Size: 9.625"

Cemented with: 2,805 sx. *or* _____ ft^3

Top of Cement: Surface Method Determined: Circulation

Production Liner

Hole Size: 8.500"

Casing Size: 7.625"

Cemented with: 958 sx.

or _____ ft^3

Top of Cement: 9,100'

Method Determined: Calculation

Total Depth: 16,137'

Injection Interval

14,990 feet to 16,137 feet

(Open Hole)

INJECTION WELL DATA SHEET

Tubing Size: 7", 26 lb/ft, P-110, TCPC from 0'- 9,000' and 5.500", 17 lb/ft, P-110 TCPC from 9,000' – 14,960'
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: 14,960'

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

Additional Data

1. Is this a new well drilled for injection? ___X___Yes _____No

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

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

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

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

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:
   Delaware: 2,643'
   Cherry Canyon: 3,550'
   Bone Spring: 6,383'
   Wolfcamp: 9,443'

NGL Energy Partners LP	Whitt 31 SWD	Eddy County NM	AFE	TD	16,137'	**Directions to Site** - SW of Sec 32, T26S, R29E. From Loving travel South on Hwy 285 22.4miles and Turn East (left) on Catfish Rd. Travel 1.4miles and location will be on the left.
	Vertical Injection - Devonian, Fusselman, Montoya	Drill and Complete Cost	$9.2MM	GL/KB	2880/	**Lat/Long - 32.00088889,-104.00750000**

Geologic Tops (MD ft)	Section	Problems	Bit/BHA	Mud	Casing	Logging	Cement (HOLD)	Injection String
Rustler 300' **Surface TD 500'**	**Surface** Drill 24" 0' - 500' Set and Cement 20" Casing	Loss Circulation Hole Cleaning Wellbore stability in the Red Beds	24" Mill Tooth Bit + 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	500' 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.	757sx of Halcem 3hr TT 50% Excess 1000psi CSD after 10hrs	9000' of 7" P110 26# TCPC
Castile 905' Delaware 2,643' **1st Int TD - 2,640'**	**1st Intermediate** Drill 1790' of 17-1/2" Hole 850' - 2640' Set and Cement 13-3/8" Casing	Seepage Losses Possible H2S Anhydrite Salt	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 + SS + 4X8" DC's + 18X6" DC's + X/O + HWDP	Brine	5M A Section Casing Bowl 2640' 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, 1648sx, 13.7ppg 30% Excess 1000psi CSD after 10 hrs Cement to Surface	
9-5/8" DV/ECP 2,740' Bell Canyon 2682 Cherry Canyon 3,550' Brushy Canyon 4,559' **9-5/8" DV 6,400'** Bone Springs 6,383' **TOC - Stage 1 Tail - 8,700'** **7-5/8" Liner Top 9,100'** Wolfcamp 9,443' **2nd Int TD - 9,600'**	**2nd Intermediate** Drill 6960' of 12-1/4" Hole 2640' - 9600' 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 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, 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 9600' of 9-5/8" 53.5# HCL80 BTC **Special Drift to 8.535"** **Externally Coat 3850' Between DV Tools** **-DV/ECP tool at 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, Caliper , 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 576sx Halcem 13.7ppg 1000psi CSD after 10 hrs Cement to Surface **Stage 2**: 50% Excess 1,004 sx Halcem 13.7ppg 1000psi CSD after 10 hrs **Stage 1:** 1220sx Halcem 1.37ppg, 50% XS. 1000psi CSD after 10hrs	5960' of 5-1/2" P110 17# TCPC Duoline Internally Coated Injection Tubing
Strawn 12,034' Atoka 12,256' Morrow 12,924' Miss Lime 14,582' Woodford 14,822' **Injection Packer 14,960'** Devonian 14,980' **3rd Int TD 14,990'**	**3rd Intermediate Liner** Drill 5470' of 8-1/2" Hole 9700' - 15170'	Pressure in the Atoka Hard Drilling in the Atoka & Morrow	8-1/2" Smith XS 716S 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)	5890' of 7-5/8" 39# HCP110 EZGO FJ3 (Gas Tight) VersaFlex Packer Hanger 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 **Cased Hole:** SCBL/Pressure Pass to 1000 psi of 7-5/8" Casing before drillout	958sx 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 925 trim
Fusselman - 15,414' **Montoya - 16,037'** **TD - 16,137'**	**Injection Interval** Drill 1500 of 6-1/2" hole 14990 - 16137'	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

Whitt 31 SWD No. 1

FORM C-108 Supplemental Information

III. Well Data

A. Wellbore Information

1.

Well information	
Lease Name	Whitt 31 SWD
Well No.	1
Location	S-31 T-26S R-29E
Footage Location	1,191' FNL & 2,335' FWL

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	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	39 lb/ft
Grade	J-55	HCL-80	HCL-80	HC-P110
Hole Size	24"	17.5"	12.25"	8.5"
Depth Set	500'	2,640'	9,600'	9,100' – 14,990'

b. Cementing Program

Cement Information				
Casing String	Surface	Intermediate	Production	Liner
Lead Cement	Extenda Cem	Halcem	Halcem	Neocem
Lead Cement Volume	161	1,648	Stage 1: 1,220 sx Stage 2: 1,004 sx Stage 3: 576 sx	958
Tail Cement	Halcem			
Tail Cement Volume	596			
Cement Excess	50%	30%	10%,50%,50%	50%
TOC	Surface	Surface	Surface	9,100'
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'-9,000'	9,000'-14,960'

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: 14,990' – 16,137'

   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	2,643'
Cherry Canyon	3,550'
Bone Spring	6,383'
Wolfcamp	9,443'

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: 2,247 PSI (surface pressure)
   Maximum Injection Pressure: 2,998 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, Delaware, Avalon, and Wolfcamp formations. Attached are produced water sample analyses taken from the closest wells that feature samples from the above mentioned 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	300
Delaware	2,643
Bone Spring	6,383
Wolfcamp	9,443
Strawn	12,034
Atoka	12,256
Morrow	12,924
Mississippian	14,582
Woodford	14,822
Devonian	14,980
Fusselman	15,414
Montoya	16,037

B. Underground Sources of Drinking Water

There are three water wells within 1-mile of the proposed Whitt 31 SWD #1 location. Mesquite Disposal Pit Well No. B-1, B-2, and B-3 are the three well names, and the drilled depths range from 35-40 ft. Water wells in the surrounding area have an average depth of 206 ft and an average water depth of 118 ft generally producing from the Santa Rosa. The upper Rustler may also be another USDW and will be protected. Active Texas oil and gas wells that were within 2 miles of the proposed Whitt 32 SWD #1 location had an average groundwater protection requirement depth of 440 ft based on the base of the Rustler.

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 three water wells that exist within one mile of the well location, but all wells had been plugged. A map and State of Texas Well Report is attached.

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 **Whitt 31 SWD #1**) and any underground sources of drinking water.

NAME: John C. Webb TITLE: Sr. Geologist

SIGNATURE: John C Webb DATE: 2/23/2017

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.
	WHITT 31 SWD	1

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
4	31	26S	29E	N/A	1,191'	NORTH	2,335'	WEST	EDDY

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	2,920'
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
N	16,137'	Siluro-Devonian	TBD	ASAP
Depth to Ground water	Distance from nearest fresh water well		Distance to nearest surface water	
118'	3,472'		> 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	500'	757	Surface
Intermediate	17.5"	13.375"	68 lb/ft	2,640'	1,648	Surface
Production	12.25"	9.625"	53.5 lb/ft	9,600'	2,805	Surface
Prod. Liner	8.5"	7.625"	39 lb/ft	14,990'	958	9,100'
Tubing	N/A	7"	26 lb/ft	0' – 9,000'	N/A	N/A
Tubing	N/A	5.5"	17 lb/ft	9,000' – 14,960'	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: 02/202019	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
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

Form C-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	[3] Pool Name
	96101	SWD; Silurian-Devonian

[4] Property Code	[5] Property Name	[6] Well Number
	Whitt 31 SWD	1

[7] OGRID No.	[8] Operator Name	[9] Elevation
372338	NGL Water Solutions Permian LLC	2920.00±

[10] Surface Location

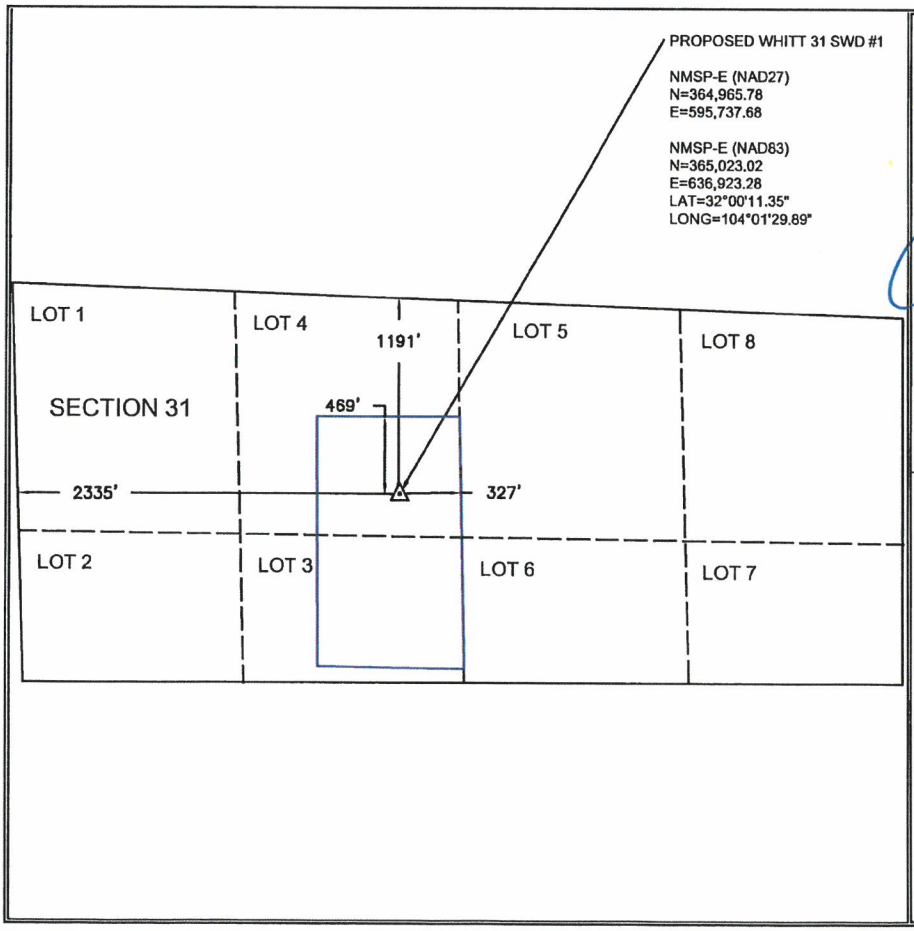
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
4	31	26S	29E	N/A	1191'	North	2335'	West	Eddy

[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.



[17] OPERATOR CERTIFICATION

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 heretofore entered by the division.

Signature — Date: 2/20/2019

Chris Weyand
Printed Name

chris@lonquist.com
E-mail Address

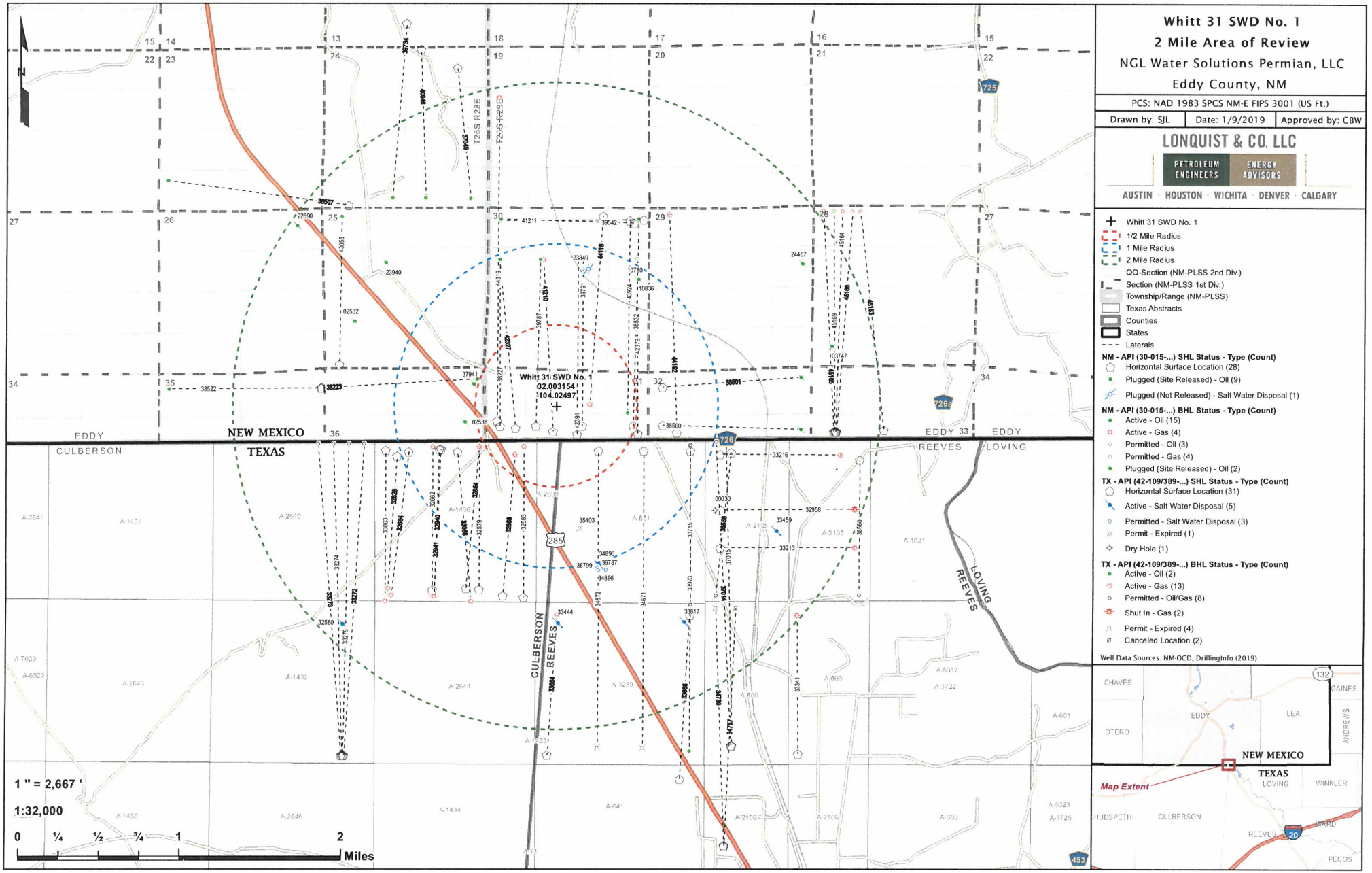
[18] SURVEYOR CERTIFICATION

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

12/19/2018
Date of Survey

Signature and Seal of Professional Surveyor: Billy W. Barr Jr. NEW MEXICO 25114 PROFESSIONAL SURVEYOR

25114
Certificate Number



Whitt 31 SWD No. 1
2 Mile Area of Review
NGL Water Solutions Permian, LLC
Eddy County, NM

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

Drawn by: SJL	Date: 1/9/2019	Approved by: CBW

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

- Whitt 31 SWD No. 1
- 1/2 Mile Radius
- 1 Mile Radius
- 2 Mile Radius
- QQ-Section (NM-PLSS 2nd Div.)
- Section (NM-PLSS 1st Div.)
- Township/Range (NM-PLSS)
- Texas Abstracts
- Counties
- States
- Laterals

NM - API (30-015-...) SHL Status - Type (Count)
- Horizontal Surface Location (28)
- Plugged (Site Released) - Oil (9)
- Plugged (Not Released) - Salt Water Disposal (1)

NM - API (30-015-...) BHL Status - Type (Count)
- Active - Oil (15)
- Active - Gas (4)
- Permitted - Oil (3)
- Permitted - Gas (4)
- Plugged (Site Released) - Oil (2)

TX - API (42-109/389-...) SHL Status - Type (Count)
- Horizontal Surface Location (31)
- Active - Salt Water Disposal (5)
- Permitted - Salt Water Disposal (3)
- Permit - Expired (1)
- Dry Hole (1)

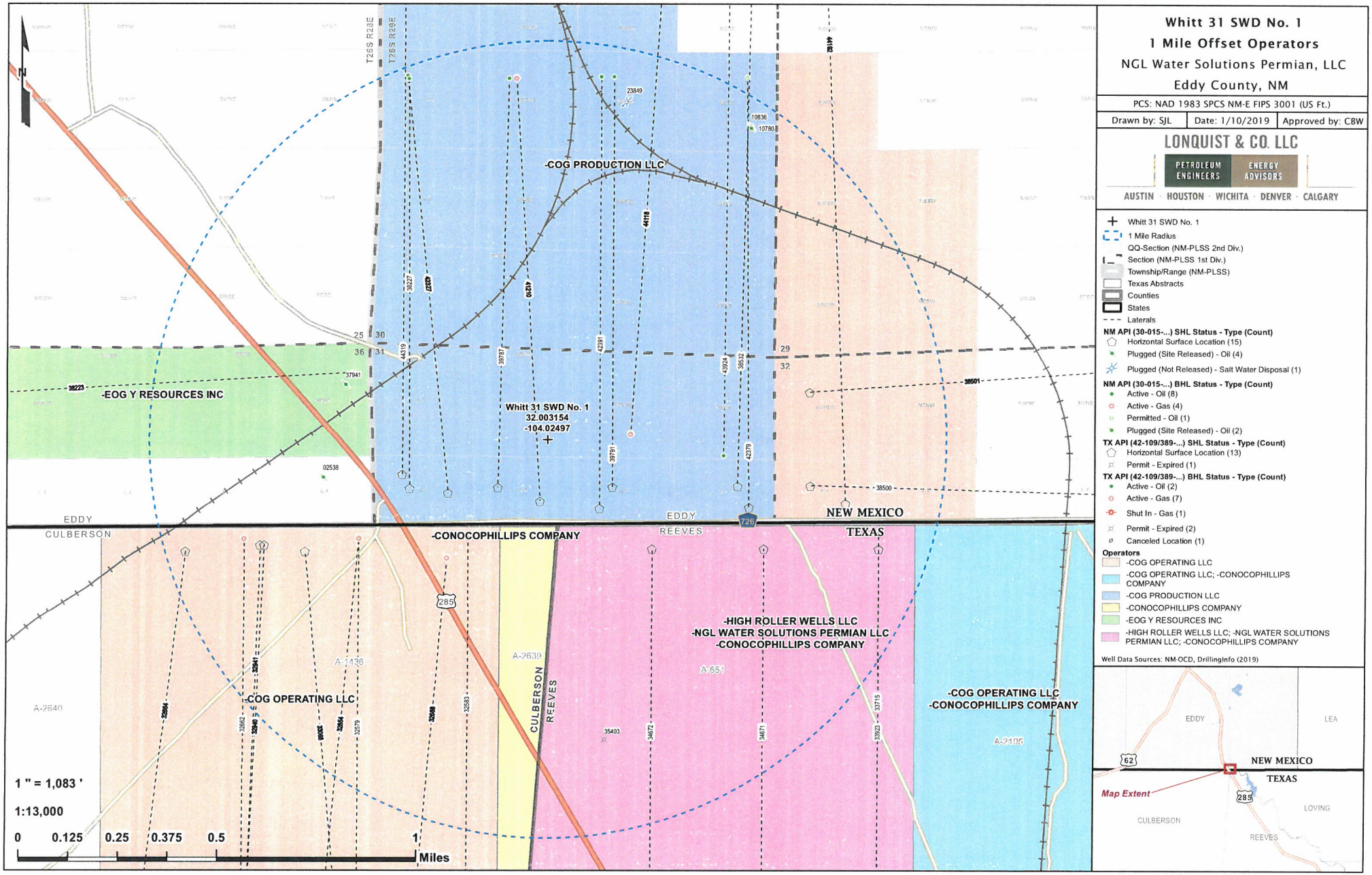
TX - API (42-109/389-...) BHL Status - Type (Count)
- Active - Oil (2)
- Active - Gas (13)
- Permitted - Oil/Gas (8)
- Shut In - Gas (2)
- Permit - Expired (4)
- Canceled Location (2)

Well Data Sources: NM-OCD, DrillingInfo (2019)

Whitt 31 SWD No. 1

1 Mile Area of Review List

API	WELL NAME	WELL TYPE	STATUS	OPERATOR	TVD (FT.)	LATITUDE (NAD83 DD)	LONGITUDE (NAD83 DD)	DATE DRILLED
3001502538	PRE-ONGARD WELL #001	O	P	PRE-ONGARD WELL OPERATOR	2766	32.0018120000	-104.034561200	10/3/1960
3001510780	PRE-ONGARD WELL #001	O	P	PRE-ONGARD WELL OPERATOR	395	32.0144806000	-104.016288800	4/4/1966
3001510836	PRE-ONGARD WELL #001	O	P	PRE-ONGARD WELL OPERATOR	2841	32.0145493000	-104.016288800	5/9/1966
3001523849	PERKINS SWD #001	S	H	COG PRODUCTION, LLC	4229	32.0154495000	-104.021606400	12/17/2010
3001537941	BUHO BQH STATE #002	O	P	EOG Y RESOURCES, INC.	165	32.0051804000	-104.033599900	6/30/2010
3001538223	BUHO BQH STATE #001H	O	A	EOG Y RESOURCES, INC.	7058	32.0048676000	-104.049636800	8/10/2011
3001538227	COPPERHEAD FEE A #001H	O	A	COG PRODUCTION, LLC	11703	32.0014076000	-104.030868500	8/8/2011
3001538500	SIDEWINDER #001H	O	P	COG PRODUCTION, LLC	9	32.0014343000	-104.013748200	6/18/2011
3001538501	SIDEWINDER #002H	O	P	COG PRODUCTION, LLC	7028	32.0052414000	-103.999687200	11/6/2011
3001538532	COPPERHEAD 31 FEDERAL COM #001H	O	A	COG PRODUCTION, LLC	6781	32.0014305000	-104.016845700	5/2/2011
3001539787	COPPERHEAD FEE A #002H	O	A	COG PRODUCTION, LLC	7043	32.0014153000	-104.027092000	2/12/2012
3001539791	COPPERHEAD 31 FEDERAL COM #002H	O	A	COG PRODUCTION, LLC	8302	32.0014229000	-104.022201500	3/6/2012
3001541210	COPPERHEAD FEE A #004H	G	A	COG PRODUCTION, LLC	10647	32.0009170000	-104.025290000	3/28/2017
3001542327	COPPERHEAD FEE A #003H	O	A	COG PRODUCTION, LLC	8295	32.0012321000	-104.029220600	12/8/2014
3001542379	COPPERHEAD 31 FEDERAL COM #003H	O	N	COG PRODUCTION, LLC	13701	32.0006599000	-104.016357400	-
3001542391	RIDGE NOSE FEDERAL COM #001H	O	A	COG PRODUCTION, LLC	6377	32.0006523000	-104.022750900	2/10/2015
3001543924	COPPERHEAD 31 FEDERAL COM #003H	O	A	COG PRODUCTION, LLC	10736	32.0197870000	-104.017210000	11/3/2016
3001544118	COPPERHEAD 31 FEDERAL COM #021H	G	A	COG PRODUCTION, LLC	10759	32.0201850000	-104.020036000	5/5/2017
3001544192	SIDEWINDER FEDERAL COM #004H	G	A	COG OPERATING LLC	10757	32.0007825000	-104.012251500	6/7/2017
3001544319	COPPERHEAD 31 FEE #020H	G	A	COG PRODUCTION, LLC	10708	32.0019120000	-104.031175000	11/1/2017
4210932579	CARPENTER C UNIT #203H	G	A	COG OPERATING LLC	8199	31.9867811622	-104.033068059	7/29/2013
4210932583	CARPENTER D UNIT #204H	G	A	COG OPERATING LLC	8240	31.9860278235	-104.028398613	11/20/2013
4210932662	CARPENTER B UNIT #202H	G	A	COG OPERATING LLC	8220	31.9867315047	-104.038012154	3/19/2014
4210932664	CARPENTER A UNIT #201H	G	A	COG OPERATING LLC	7512	31.9991482832	-104.040454071	5/24/2014
4210932668	CARPENTER F UNIT #224H	G	A	COG OPERATING LLC	10799	31.9862013627	-104.030588364	4/29/2014
4210932854	CARPENTER C UNIT #207H	O	A	COG OPERATING LLC	9350	31.9868746034	-104.034449051	8/16/2015
4210932940	CARPENTER E UNIT #223H	G	S	COG OPERATING LLC	9653	31.9993753042	-104.037081714	5/8/2016
4210932941	CARPENTER E UNIT #222H	G	A	COG OPERATING LLC	10523	31.9993753019	-104.037249568	4/27/2016
4210933068	CARPENTER F UNIT #226H	G	A	COG OPERATING LLC	10579	31.9991330958	-104.035334485	5/15/2017
4238933715	RAMSEY AA 1 #1H	O	C	CONOCOPHILLIPS COMPANY	0	31.9843553178	-104.010865335	-
4238933923	ALL IN BS #102H	O	A	CONOCOPHILLIPS COMPANY	8333	31.9991372474	-104.010835248	11/18/2013
4238934671	ALL IN BS #103H	O	X	CONOCOPHILLIPS COMPANY	0	31.9991619757	-104.015741200	-
4238934672	ALL IN BS #104H	O	X	CONOCOPHILLIPS COMPANY	0	31.9991752611	-104.020502186	-
4238935403	HWY 285 SWD #2	S	X	NGL WATER SOLUTIONS PERMIAN LLC	0	31.9922305898	-104.022500981	-



Whitt 31 SWD No. 1
1 Mile Offset Operators
NGL Water Solutions Permian, LLC
Eddy County, NM

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

Drawn by: SJL	Date: 1/10/2019	Approved by: CBW

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

- Whitt 31 SWD No. 1
- 1 Mile Radius
- QQ-Section (NM-PLSS 2nd Div.)
- Section (NM-PLSS 1st Div.)
- Township/Range (NM-PLSS)
- Texas Abstracts
- Counties
- States
- Laterals

NM API (30-015-...) SHL Status - Type (Count)
- Horizontal Surface Location (15)
- Plugged (Site Released) - Oil (4)
- Plugged (Not Released) - Salt Water Disposal (1)

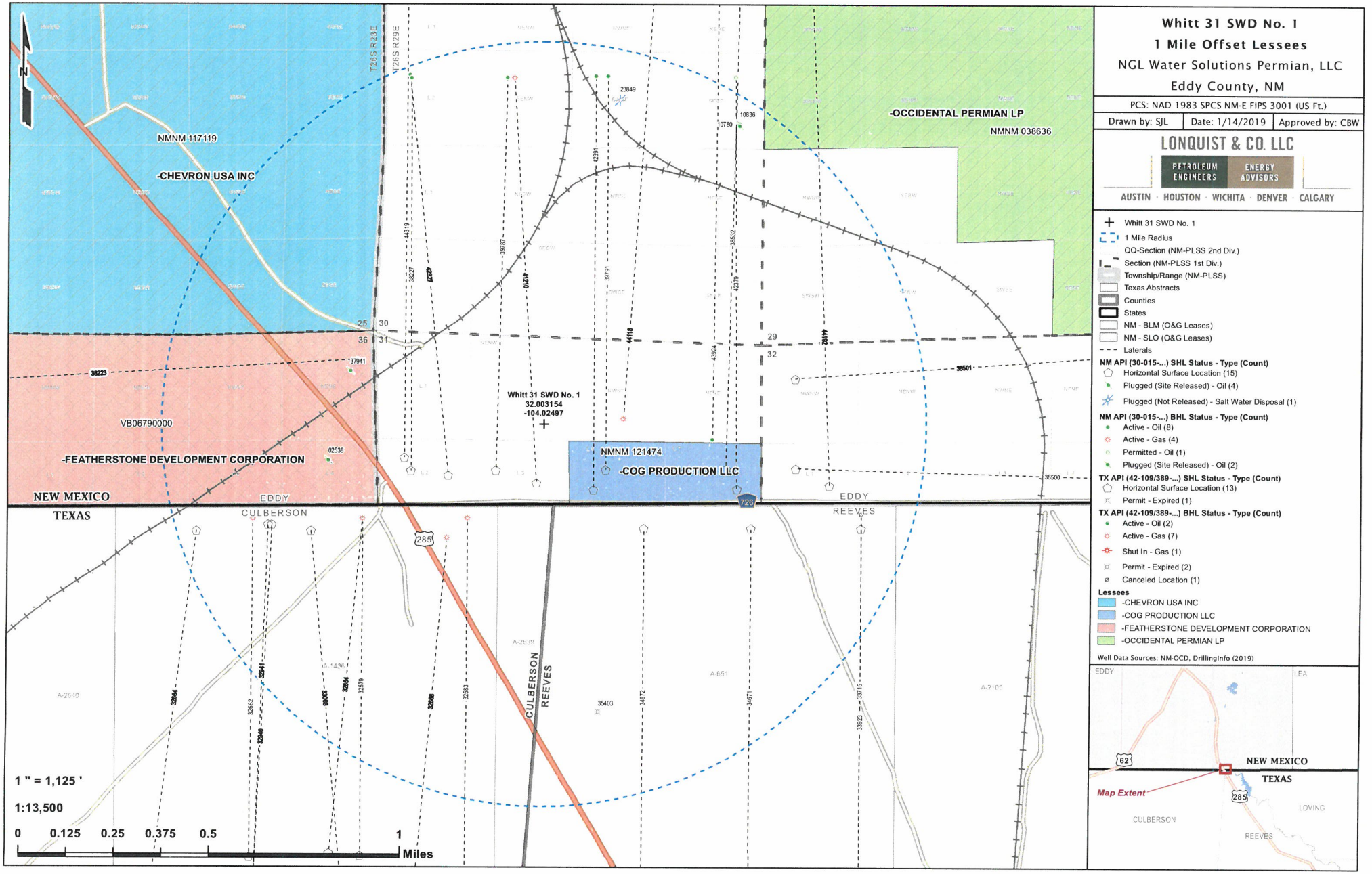
NM API (30-015-...) BHL Status - Type (Count)
- Active - Oil (8)
- Active - Gas (4)
- Permitted - Oil (1)
- Plugged (Site Released) - Oil (2)

TX API (42-109/389-...) SHL Status - Type (Count)
- Horizontal Surface Location (13)
- Permit - Expired (1)

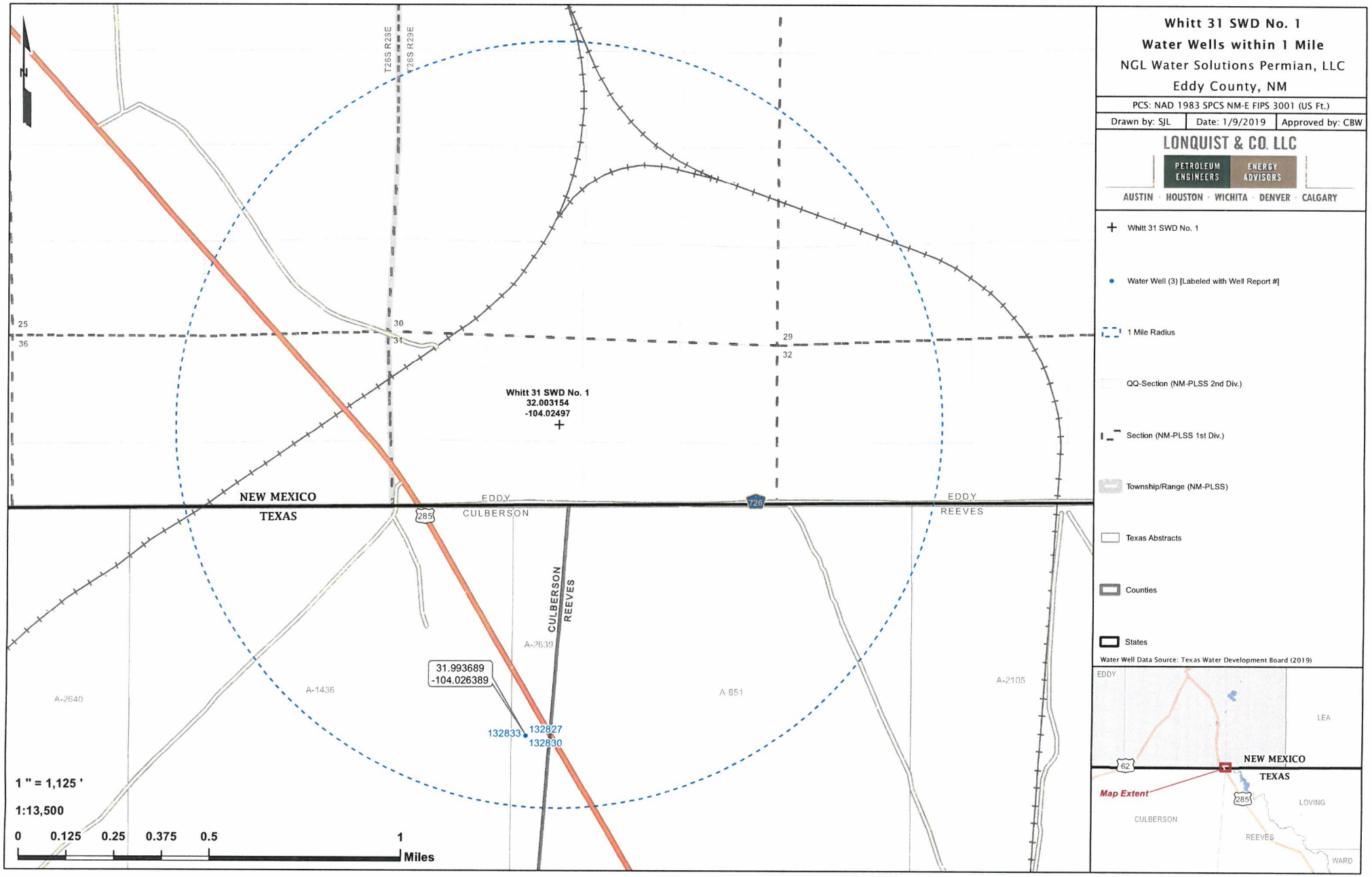
TX API (42-109/389-...) BHL Status - Type (Count)
- Active - Oil (2)
- Active - Gas (7)
- Shut In - Gas (1)
- Permit - Expired (2)
- Canceled Location (1)

Operators
- -COG OPERATING LLC
- -COG OPERATING LLC; -CONOCOPHILLIPS COMPANY
- -COG PRODUCTION LLC
- -CONOCOPHILLIPS COMPANY
- -EOG Y RESOURCES INC
- -HIGH ROLLER WELLS LLC; -NGL WATER SOLUTIONS PERMIAN LLC; -CONOCOPHILLIPS COMPANY

Well Data Sources: NM-OCD, DrillingInfo (2019)


Whitt 31 SWD No. 1
1 Mile Offset Lessees
NGL Water Solutions Permian, LLC
Eddy County, NM
PCS: NAD 1983 SPCS NM-E FIPS 3001 (US Ft.)
Drawn by: SJL
Date: 1/14/2019
Approved by: CBW
LONQUIST & CO. LLC
PETROLEUM ENGINEERS
ENERGY ADVISORS
AUSTIN · HOUSTON · WICHITA · DENVER · CALGARY
Whitt 31 SWD No. 1
1 Mile Radius
QQ-Section (NM-PLSS 2nd Div.)
Section (NM-PLSS 1st Div.)
Township/Range (NM-PLSS)
Texas Abstracts
Counties
States
NM - BLM (O&G Leases)
NM - SLO (O&G Leases)
Laterals
NM API (30-015-...) SHL Status - Type (Count)
Horizontal Surface Location (15)
Plugged (Site Released) - Oil (4)
Plugged (Not Released) - Salt Water Disposal (1)
NM API (30-015-...) BHL Status - Type (Count)
Active - Oil (8)
Active - Gas (4)
Permitted - Oil (1)
Plugged (Site Released) - Oil (2)
TX API (42-109/389-...) SHL Status - Type (Count)
Horizontal Surface Location (13)
Permit - Expired (1)
TX API (42-109/389-...) BHL Status - Type (Count)
Active - Oil (2)
Active - Gas (7)
Shut In - Gas (1)
Permit - Expired (2)
Canceled Location (1)
Lessees
-CHEVRON USA INC
-COG PRODUCTION LLC
-FEATHERSTONE DEVELOPMENT CORPORATION
-OCCIDENTAL PERMIAN LP
Well Data Sources: NM-OCD, DrillingInfo (2019)
NMNM 117119
-CHEVRON USA INC
-OCCIDENTAL PERMIAN LP
NMNM 038636
Whitt 31 SWD No. 1
32.003154
-104.02497
NMNM 121474
-COG PRODUCTION LLC
VB06790000
-FEATHERSTONE DEVELOPMENT CORPORATION
NEW MEXICO
TEXAS
EDDY
CULBERSON
REEVES
LEA
LOVING
Map Extent
1 " = 1,125 '
1:13,500
0 0.125 0.25 0.375 0.5 1 Miles

wellname	api	county	formation	ph	tds_mgL	sodium_mgL	calcium_mgL	iron_mgL	magnesium_mgL	manganese_mgL	chloride_mgL	bicarbonate_mgL	sulfate_mgL	co2_mgL
SNAPPING 2 STATE #013H	3001542113	EDDY	BONE SPRING 3RD SAND	6.5	94965.6	31352.7	3678.6	31.7	483.6	0.83	57489.5	244	0	200
SNAPPING 2 STATE #013H	3001542113	EDDY	BONE SPRING 3RD SAND	7	94518.2	30031.5	3402.8	19.9	438.9		58782.2		355.2	200
SNAPPING 2 STATE #013H	3001542113	EDDY	BONE SPRING 3RD SAND	7.2	94863.9	30224.8	3424	14.8	444		59015.2		365	200
SNAPPING 2 STATE #014H	3001542688	EDDY	WOLFCAMP	7.3	81366.4	26319.4	2687.4	26.1	326.7		50281.2		399.7	100
SNAPPING 2 STATE #013H	3001542113	EDDY	BONE SPRING 3RD SAND	6.8	91289.1	28721.3	3440.7	16.3	437.4		56957.4		327.9	150
FED J #001	3001522471	EDDY	DELAWARE	5.7	255599						160000	24	330	
USA #001	3001504776	EDDY	DELAWARE		176882						108700	139	1332	
SNAPPING 10 FEDERAL #005H	3001540994	EDDY	BONE SPRING 2ND SAND	6.6	138161.9	44458.5	6280.8	29.7	781.3	0	84470	122	0	20
SNAPPING 10 FEDERAL #005H	3001540994	EDDY	BONE SPRING 2ND SAND	6.6	138376	44458.5	6280.8	29.7	781.3	0	84470	122	618	20
SNAPPING 10 FEDERAL #001H	3001537899	EDDY	AVALON UPPER	6.5	199638.8	68948.2	7560.4	111.2	1522.8	2.19	118195	732	0	500
SNAPPING 11 FEDERAL #001H	3001538193	EDDY	AVALON UPPER	6.1	225189.8	77010.7	8743.8	636.1	1649.2	6.75	134075	366	0	300
SNAPPING 2 STATE #003H	3001539036	EDDY	AVALON UPPER	6.1	223019	76001.7	10437.8	209.9	1922.4	4.5	131072	366	632	1100
SNAPPING 2 STATE #006H	3001539162	EDDY	AVALON UPPER	6.5	179788.5	71575.7	617.4	21.8	109.6	0	101374	3660	0	500
SNAPPING 2 STATE #006H	3001539162	EDDY	AVALON UPPER	6.5	179938	71575.7	617.4	21.8	109.6	0	101374	3660	844	500
SNAPPING 10 FEDERAL #003H	3001539866	EDDY	BONE SPRING 2ND SAND	6.5	152439.2	48495.7	6731.3	29.1	801.4	1.06	94055	244	0	100
USA #001	3001504776	EDDY	DELAWARE		156733						98120	137	616	
USA #001	3001504776	EDDY	DELAWARE		159967						97900	137	1100	
E D WHITE FEDERAL NCT 1 #003	3001505886	EDDY	DELAWARE		212112						132100	195	425	
FED J #001	3001522471	EDDY	DELAWARE	7.4	265727						158000	37	3600	
FED J #001	3001522471	EDDY	DELAWARE	7.6	255336						156000	76	790	
FED J #001	3001522471	EDDY	DELAWARE	8.5	263830						157000	78	3700	
SNAPPING 10 FEDERAL #001H	3001537899	EDDY	AVALON UPPER	7.1	209352.4	70089.5	7327	203	1557	2.5	127230	146.4	600	600
SNAPPING 11 FEDERAL #001H	3001538193	EDDY	AVALON UPPER	7	196576.7	68797.3	5059	12	1066	0.9	118943	122	872	380
SNAPPING 11 FEDERAL #001H	3001538193	EDDY	AVALON UPPER	7	203078.9	72261.4	4407	112	904	1.5	122172	1098	658	80
SNAPPING 2 STATE #001Y	3001539104	EDDY	AVALON UPPER	7	162560.1	57137	3886	42	776	0.6	97161	1403	756	70


Whitt 31 SWD No. 1
Water Wells within 1 Mile
NGL Water Solutions Permian, LLC
Eddy County, NM
PCS: NAD 1983 SPCS NM-E FIPS 3001 (US Ft.)
Drawn by: SJL
Date: 1/9/2019
Approved by: CBW
LONQUIST & CO. LLC
PETROLEUM ENGINEERS
ENERGY ADVISORS
AUSTIN · HOUSTON · WICHITA · DENVER · CALGARY
Whitt 31 SWD No. 1
Water Well (3) [Labeled with Well Report #]
1 Mile Radius
QQ-Section (NM-PLSS 2nd Div.)
Section (NM-PLSS 1st Div.)
Township/Range (NM-PLSS)
Texas Abstracts
Counties
States
Water Well Data Source: Texas Water Development Board (2019)
N
T26S R28E
T26S R29E
25
36
30
31
29
32
Whitt 31 SWD No. 1
32.003154
-104.02497
NEW MEXICO
TEXAS
EDDY
CULBERSON
EDDY
REEVES
285
726
CULBERSON
REEVES
A-2639
A-1436
A-2640
A-651
A-2105
31.993689
-104.026389
132833
132827
132830
1 " = 1,125 '
1:13,500
0
0.125
0.25
0.375
0.5
1
Miles
EDDY
LEA
NEW MEXICO
TEXAS
62
285
Map Extent
LOVING
CULBERSON
REEVES
WARD