

MAY 14 2019 PM 01:31

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. 20568

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 Buckeye SWD #1 well at a surface location 420 feet from the North line and 210 feet from the East line of Section 33, Township 20 South, Range 29 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 Devonian-Silurian formation at a depth of 13,095' to 14,276'.

(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 1,964 psi for this well, and it requests that a maximum pressure of 2,619 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 June 13, 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. 20568. 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 Buckeye SWD #1 well at a surface location 420 feet from the North line and 210 feet from the East line of Section 33, Township 20 South, Range 29 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 Devonian-Silurian formation at a depth of 13,095' to 14,276'. NGL further seeks approval of the use of 7 inch tubing inside the surface and intermediate casings and 5 ½ inch tubing inside the liner and requests that the Division approve a maximum daily injection rate for the well of 50,000 bbls per day. Said location is approximately 12.1 miles northeast of Carlsbad, New Mexico.

RECEIVED:	REVIEWER:	TYPE:	APP NO:
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ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

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



ADMINISTRATIVE APPLICATION CHECKLIST

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

Applicant: NGL WATER SOLUTIONS PERMIAN L.L.C. **OGRID Number:** 372338
Well Name: BUCKEYE SWD #1 **API:** TBD
Pool: SWD; DEVONIAN-SILURIAN **Pool Code:** 97869

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

- 1) **TYPE OF APPLICATION:** Check those which apply for [A]
- A. Location - Spacing Unit - Simultaneous Dedication
 NSL NSP (PROJECT AREA) NSP (PRORATION UNIT) SD
- B. Check one only for [I] or [II]
- [I] Commingling - Storage - Measurement
 DHC CTB PLC PC OLS OLM
- [II] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
 WFX PMX SWD IPI EOR PPR

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

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

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

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

CHRIS WEYAND
 Print or Type Name

Chris Weyand
 Signature

5/13/2019
 Date

512-600-1764
 Phone Number

CHRIS@LONQUIST.COM
 e-mail Address



APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance _____ Disposal _____ Storage
Application qualifies for administrative approval? _____ Yes _____ No
- II. OPERATOR: NGL WATER SOLUTIONS PERMIAN, LLC
ADDRESS: 1509 W WALL ST // STE 306 // MIDLAND, TX 79701
CONTACT PARTY: SARAH JORDAN PHONE: (432) 685-0005 x1989
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? _____ Yes _____ No
If yes, give the Division order number authorizing the project: _____
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- *VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- *X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
- *XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: Christopher B. Weyand

TITLE: Consulting Engineer

SIGNATURE: _____

DATE: 8/13/2019

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: _____

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: BUCKEYE SWD #1

WELL LOCATION: 420' FNL & 210' FEL A 33 20S 29E
FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA
Surface Casing

Hole Size: 30.000"

Casing Size: 26.000"

Cemented with: 598 sx.

or _____ ft³

Top of Cement: Surface

Method Determined: Circulation

1st Intermediate Casing

Hole Size: 24.000"

Casing Size: 20.000"

Cemented with: 1,020 sx.

or _____ ft³

Top of Cement: Surface

Method Determined: Circulation

2nd Intermediate Casing

Hole Size: 17.500"

Casing Size: 13.375"

Cemented with: 2,278 sx.

or _____ ft³

Top of Cement: Surface

Method Determined: Circulation

Production Casing

Hole Size: 12.250"

Casing Size: 9.625"

Cemented with: 2,561 sx.

or _____ ft³

Top of Cement: Surface

Method Determined: Circulation

Production Liner

Hole Size: 8.500"

Casing Size: 7.625"

Cemented with: 307 sx.

or _____ ft³

Top of Cement: 8,900'

Method Determined: Logged

Total Depth: 14,276'

Injection Interval

13,095 feet to 14,276 feet

(Open Hole)

INJECTION WELL DATA SHEET

Tubing Size: 7", 26 lb/ft, P-110, TCPC from 0' - 8,800' and 5.500", 17 lb/ft, P-110 TCPC from 8,800' - 13,035'

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: 13,035'

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: 2,900'

Bone Spring: 5,921'

Wolfcamp: 9,291'

Strawn: 10,378'

Atoka: 10,756'

Morrow: 11,403'

NGL Water Solutions Permian, LLC

Buckeye SWD No. 1

FORM C-108 Supplemental Information

III. Well Data

A. Wellbore Information

1.

Well information	
Lease Name	Buckeye SWD
Well No.	1
Location	S-33 T-20S R-29E
Footage Location	420' FNL & 210' FEL

2.

a. Wellbore Description

Casing Information					
Type	Surface	Intermediate 1	Intermediate 2	Production	Liner
OD	26"	20"	13.375"	9.625"	7.625"
WT	0.75"	0.500"	0.455"	0.545"	0.500"
ID	24.500"	19.000"	12.415"	8.535"	6.625"
Drift ID	24.500"	18.872"	12.259"	8.535"	6.500"
COD	26"	21.00"	14.375"	10.625"	7.625"
Weight	202 lb/ft	106.5 lb/ft	68 lb/ft	53.5 lb/ft	39 lb/ft
Grade	X42	J-55	HCL-80	P-110	P-110
Hole Size	30"	24"	17.5"	12.25"	8.5"
Depth Set	400'	870'	2,900'	9,400'	8,900' – 13,095'

b. Cementing Program

Cement Information					
Casing String	Surface	Intermediate 1	Intermediate 2	Production	Liner
Lead Cement	Halcem	Extenda Cem	Neocem	Neocem, Neocem, Neocem	Neocem
Lead Cement Volume	598	499	846	Stage 1: 608 sx Stage 2: 456 sx Stage 3: 442 sx	339
Tail Cement	N/A	Halcem	Halcem	Versacem C, Halcem, Halcem	N/A
Tail Cement Volume	N/A	521	1,432	Stage 1: 471 sx Stage 2: 384 sx Stage 3: 201 sx	N/A
Cement Excess	75%	75%	60%	25%	35%
TOC	Surface	Surface	Surface	Surface	8,900'
Method	Circulate to Surface	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'-8,800'	8,800' -13,035'

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: 13,095' – 14,276'

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	2,900'
Bone Spring	5,921'
Wolfcamp	9,291'
Strawn	10,378'
Atoka	10,756'
Morrow	11,403'

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: 1,964 PSI (surface pressure)

Maximum Injection Pressure: 2,619 PSI (surface pressure)

4. The injection fluid is to be locally produced water. It is expected that the source water will predominantly be from the Bone Spring and Wolfcamp formations. Attached are produced water sample analyses taken from the closest wells that feature samples from the Delaware, Bone Spring, Wolfcamp, Strawn, Atoka, and Morrow 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	0'
Salado	127'
Yates	896'
Seven Rivers	1,309'
Capitan Reef	1,599'
Delaware	2,900'
Bone Spring	5,921'
Wolfcamp	9,291'
Strawn	10,378'
Atoka	10,756'
Morrow	11,403'
Mississippian	12,501'
Woodford	12,988'
Devonian	13,075'
Montoya	14,176'

B. Underground Sources of Drinking Water

Within 1-mile of the proposed Buckeye SWD #1 location, there is one water well. This water well has been reported to have a depth of 205 ft and a water depth of 90 ft. Water wells in the surrounding area have an average total depth of 180 ft and an average water depth of 116 ft generally producing from the Santa Rosa. The upper Rustler may also be another USDW and will be protected. The Capitan reef and corresponding aquifer has been identified as a protectable water source, so an additional casing string will be set in the well to isolate the Capitan.

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 is one water well that exists within one mile of the well location. If samples can be obtained, analysis results will be provided as soon as possible. A map and Water Right Summary from the New Mexico Office of the State Engineer is attached for water well CP-00759.

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

NAME: John C. Webb

TITLE: Sr. Geologist

SIGNATURE: _____



DATE: _____



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, Artec, 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

Operator Name and Address NGI WATER SOLUTIONS PERMIAN, LLC 1509 W WALL ST, STE 306 MIDLAND, TX 79701		UGRID Number 372338
Property Code	Property Name Buckeye SWD	API Number TBD
		Well No. 1

1. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
A	33	20S	29E	N/A	420'	NORTH	210'	EAST	EDDY

2. Proposed Bottom Hole Location

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

3. 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 BLM Surface	15. Ground Level Elevation 3,270.6'
16. Multiple N	17. Proposed Depth 14,276'	18. Formation Devonian-Silurian	19. Contractor TBD	20. Spud Date ASAP
Depth to Ground water 116'		Distance from nearest fresh water well 3,880'		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

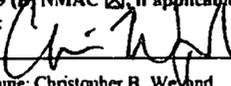
Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surface	30"	26"	202 lb/ft	400'	598	Surface
Intermediate 1	24"	20"	106.5 lb/ft	870'	1,020	Surface
Intermediate 2	17.5"	13.375"	68 lb/ft	2,900'	2,278	Surface
Production	12.25"	9.625"	53.5 lb/ft	9,400'	2,561	Surface
Prod. Liner	8.5"	7.625"	39 lb/ft	8,900' - 13,095'	307	8,900'
Tubing	N/A	7"	26 lb/ft	0' - 8,800'	N/A	N/A
Tubing	N/A	5.5"	17 lb/ft	8,800' - 13,035'	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

<p>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: </p>	<p>OIL CONSERVATION DIVISION</p>
Printed name: Christopher B. Weiland	Approved By:
Title: Consulting Engineer	Title:
E-mail Address: chris@longquist.com	Approved Date:
Date: 5/7/2019	Expiration Date:
Phone: (512) 600-1764	Conditions of Approval Attached

DISTRICT I
1825 N. FRENCH DR., HOBBBS, NM 88340
Phone: (505) 534-0101 Fax: (505) 534-0720

DISTRICT II
511 S. FIRST ST., ARTESIA, NM 88310
Phone: (505) 748-1283 Fax: (505) 748-9720

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
Phone: (505) 834-0178 Fax: (505) 834-0170

DISTRICT IV
1825 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 478-3480 Fax: (505) 478-3488

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code 97869	Pool Name SWD; DEVONIAN-SILURIAN
Property Code	Property Name BUCKEYE SWD	Well Number 1
OGED No. 372338	Operator Name NGL WATER SOLUTIONS PERMIAN, LLC	Elevation 3270.6'

Surface Location

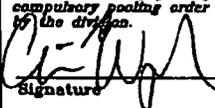
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	33	20-S	29-E		420	NORTH	210	EAST	EDDY

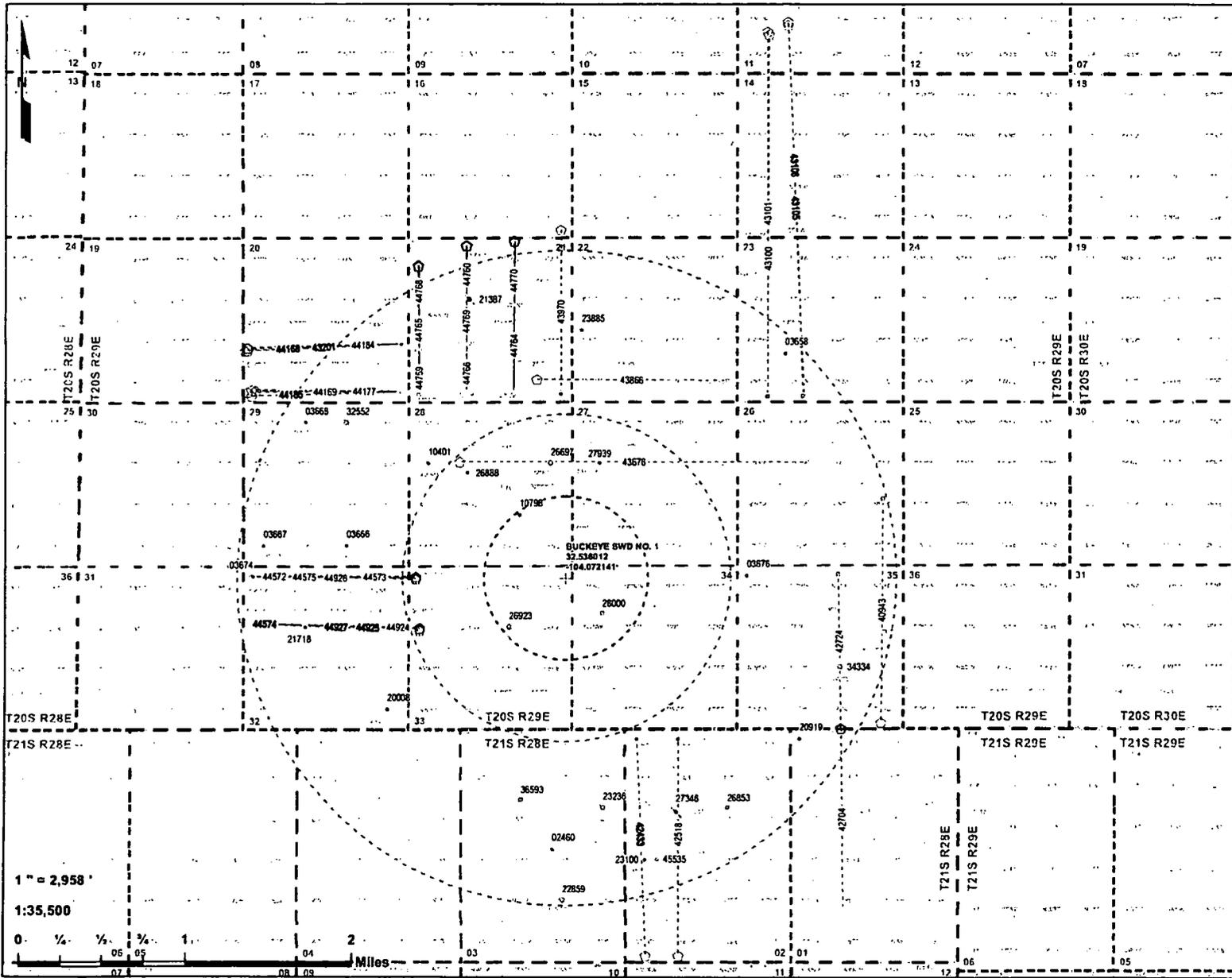
Bottom Hole Location If Different From Surface

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<p>NAD 83 NME SURFACE LOCATION Y=558830.4 N X=621829.6 E LAT.=32.536012' N LONG.=104.072141' W</p>	420'	<p>OPERATOR CERTIFICATION <i>I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i></p> <p> 6/13/2019 Signature Date</p> <p>Chris Weyand Printed Name</p> <p>chris@lonquist.com E-mail Address</p> <p>SURVEYOR CERTIFICATION <i>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.</i></p> <p>MARCH 14, 2019 Date of Survey</p> <p>Signature & Seal of Professional Surveyor</p> <p>03/03/2019  4/8/19 Certificate No. CHAD HARCROW 17777</p> <p>W.O. # 19-333 DRAWN BY: AM</p>
	S.L.C.	
	210	



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

PCS: NAD 1983 SPCS NM-E FIPS 3001 (US Ft.)
 Drawn by: ASG | Date: 4/17/2019 | Approved by: ELR

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

+ Buckeye 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 (30-015-...) SHL Status-Type (Count)

- Horizontal Surface Location (40)
- Active - Gas (4)
- Active - Oil (2)
- Active - SWD (2)
- Cancelled/Abandoned Location (3)
- Permitted - SWD (1)
- Plugged/Site Released - Gas (2)
- Plugged/Site Released - Oil (14)

API (30-015-...) BHL Status-Type (Count)

- Active - Gas (1)
- Active - Oil (6)
- Cancelled/Abandoned Location (6)
- Permitted - Gas (6)
- Permitted - Oil (24)

Source: Well SHL Data - NM-OCd (2019)

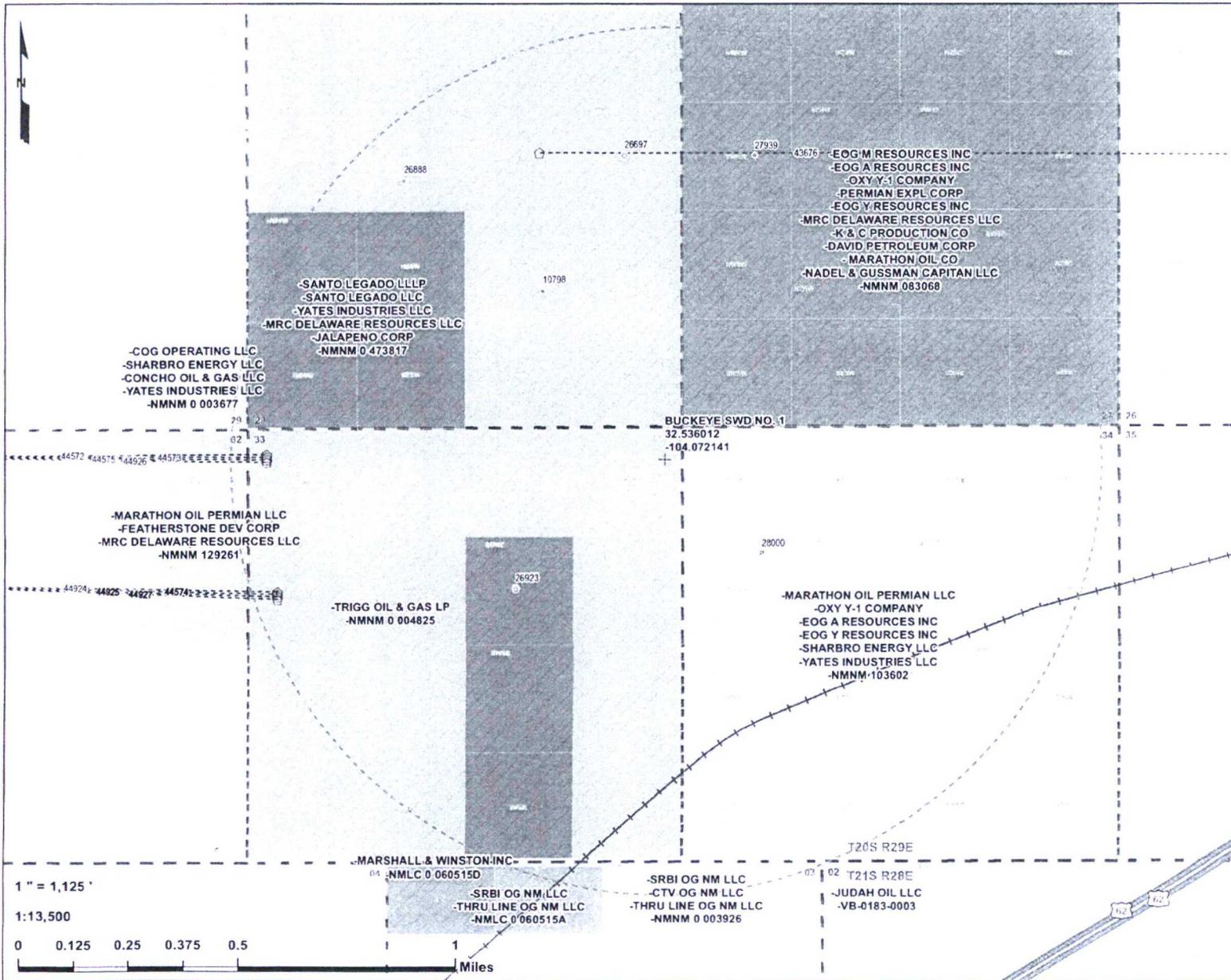
Map Extent

EDDY LEA

NEW MEXICO
 TEXAS CULBERSON LOVING

Buckeye SWD No. 1
1 Mile Area of Review List

API ID-0015--J	WELL NAME	WELL TYPE	STATUS	OPERATOR	TWO (FT.)	LATITUDE (NAD83 DD)	LONGITUDE (NAD83 DD)	SPUD DATE	FIELD
26697	TRIGGS ANN FEDERAL W001	G	A	LOG RESOURCES, INC.	12135	32.5462379000	104.0777300000	4/27/1991	[73800] BURTON LAT, STRAWN, EAST (GAS)
26623	CHAMOUS A&F FEDERAL COM P001	G	A	LOG RESOURCES, INC.	12220	32.53117192000	104.0766209000	4/13/1991	[64900] SLANGON, STRAWN (GAS)
27839	ZINVA BKC FEDERAL W001	G	A	LOG RESOURCES, INC.	12273	32.5462379000	104.0806015000	12/17/1994	[73800] BURTON LAT, STRAWN, EAST (GAS) [73800] GTTY, MOPROW (GAS) [76588] SLANGON, DELAWARE, EAST
28000	GOA ADA FEDERAL W001	G	C	LOG RESOURCES, INC.	0	32.53290565800	104.068348334	12/13/1999	
45323	PENNZON 32 FEDERAL B122H	O	N	MALADOR PRODUCTION COMPANY	0	32.5361672000	104.087887930	12/13/1999	[73820] GTTY, BONE SPRING
45373	PENNZON 32 FEDERAL B111H	O	N	MALADOR PRODUCTION COMPANY	0	32.5362495000	104.087887930	12/13/1999	[73820] GTTY, BONE SPRING
45375	PENNZON 32 FEDERAL B131H	O	N	MALADOR PRODUCTION COMPANY	0	32.5362846000	104.087887930	12/13/1999	[73820] GTTY, BONE SPRING
45377	PENNZON 32 FEDERAL B207H	O	N	MALADOR PRODUCTION COMPANY	0	32.5314123000	104.087659830	12/13/1999	[73800] BURTON LAT, WOLCAMP, EAST (GAS)
45374	PENNZON 32 FEDERAL B122H	O	N	MALADOR PRODUCTION COMPANY	0	32.5315725000	104.087659830	12/13/1999	[73820] GTTY, BONE SPRING
45325	PENNZON 32 FEDERAL B132H	O	N	MALADOR PRODUCTION COMPANY	0	32.531849000	104.087659830	12/13/1999	[73820] GTTY, BONE SPRING
45324	PENNZON 32 FEDERAL B122H	O	N	MALADOR PRODUCTION COMPANY	0	32.5318558000	104.087659830	12/13/1999	[73820] GTTY, BONE SPRING
45326	PHE-UNGAARD WELL W001	U	P	PHE-UNGAARD WELL OPERATOR	0	32.5360213000	104.083882730	12/13/1999	[73800] BURTON LAT, WOLCAMP, EAST (GAS)
7688R	PHE-UNGAARD WELL W001	U	P	PHE-UNGAARD WELL OPERATOR	0	32.54540613000	104.083431230	12/13/1999	
1079R	PHE-UNGAARD WELL W001	G	P	PHE-UNGAARD WELL OPERATOR	0	32.5456985000	104.0769146500	12/13/1999	
4387N	SCRIPPER FEDERAL COM	G	N	LOG RESOURCES, INC.	0	32.5282979000	104.0426146500	12/13/1999	



Buckeye SWD No. 1
1 Mile - Lessee(s)
 NGL Water Solutions Permian, LLC
 Eddy Co., NM

PCS: NAD 1983 SPCS NM-E FIPS 3001 (US Ft.)
 Drawn by ASG Date 4/18/2019 Approved by ELR

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

--- Buckeye SWD No. 1 SHL
 --- 1 Mile
 --- 20 Section (NM PLSS 2nd Div.)
 --- Section (NM PLSS 1st Div.)
 --- Township/Range (NM PLSS)

--- Lateral

API (30-015-) SHL Status-Type (Count)
 --- Horizontal Surface Location (9)
 --- Active - Gas (2)
 --- Active - Oil (1)
 --- Cancelled/Abandoned Location (1)
 --- Plugged/Sea Bakenet - Oil (2)

API (30-015-) BHL Status-Type (Count)
 --- Permitted - Gas (2)
 --- Permitted - Oil (7)

Lessee(s)
 --- EOG M RESOURCES INC, EOG A RESOURCES INC, OXY Y-1 COMPANY, PERMIAN EXPL CORP, EOG Y RESOURCES INC, MRC DELAWARE RESOURCES LLC, K & C PRODUCTION CO, DAVID PETROLEUM CORP, MARATHON OIL CO, NADEL & GUSSMAN CAPITAN LLC, NNMN 083068
 --- JUDAH OIL LLC, VB-0183-0003
 --- MARATHON OIL PERMIAN LLC, FEATHERSTONE DEV CORP, MRC DELAWARE RESOURCES LLC, NNMN 129261
 --- MARATHON OIL PERMIAN LLC, OXY Y-1 COMPANY, EOG A RESOURCES INC, EOG Y RESOURCES INC, SHARBRO ENERGY LLC, YATES INDUSTRIES LLC, NNMN 103602
 --- MARSHALL & WINSTON INC, NMLC 0 060515D
 --- SANTO LEGADO LLLP, SANTO LEGADO LLC, YATES INDUSTRIES LLC, MRC DELAWARE RESOURCES LLC, JALAPENO CORP, NNMN 0 473817
 --- SRBI OG NM LLC, CTV OG NM LLC, THRU LINE OG NM LLC, NNMN 0 003925
 --- SRBI OG NM LLC, THRU LINE OG NM LLC, NMLC 0 060515A
 --- TRIGG OIL & GAS LP, NNMN 0 004825
 --- COG OPERATING LLC, SHARBRO ENERGY LLC, CONCHO OIL & GAS LLC, YATES INDUSTRIES LLC, NNMN 0 003677

Source: Well SHL Data - NM-OC2 (2019)

Map Extent

NEW MEXICO
 TEXAS OBERSON EDDY

Buckeye SWD #1: Offsetting Produced Water Analysis																		
wellname	api	section	township	range	unit	county	formation	ph	tds_mgl	sodium_mgl	calcium_mgl	iron_mgl	magnesium_mgl	manganese_mgl	chloride_mgl	bicarbonate_mgl	sulfate_mgl	co2_mgl
BIG EDDY FEDERAL #098	3001524707	7	21S	28E	F	EDDY	DELAWARE	8.4	153408	55912.7	6545.31	17.696	1954.3		103522	718.9	247.744	
GOLDEN D FEDERAL #002	3001527060	8	21S	29E	O	EDDY	DELAWARE	6.9	242051	59394.7	39587.6	103.95	3865.79		173806	281.82	781.935	
CHAPARRAL ST #002	3001503612	32	19S	29E	D	EDDY	BONE SPRING		33760						15600	290	5500	
STONEWALL DS FEDERAL COM #002	3001521640	29	20S	28E	J	EDDY	BONE SPRING	8	142444	45649.6	10949.3	5.455	1820.88		93828.2	678.602	1878.7	
BERYL 33 FEDERAL COM #002H	3001539806	33	19S	29E	N	EDDY	BONE SPRING 2ND SAND	6.5	211695.4	65998.6	10786.1	36.5	2077		129141.8		628.5	3400
JASPER 32 STATE COM #004H	3001538476	32	19S	29E	A	EDDY	BONE SPRING 2ND SAND	6.8	203063	60960.2	10275.7	45.5	1680		127494.9		669.3	360
TURQUOISE PWU 27 #010H	3001543321	28	19S	29E	H	EDDY	BONE SPRING 3RD SAND	7.1	105001	35623.7	3951	18.3	690.1		62695.3		684.5	1200
DIAMOND PWU 22 #011H	3001542809	21	19S	29E	I	EDDY	BONE SPRING 3RD SAND	7.7	117584.8	38612.9	4526.1	39.4	774		71782.3		549.7	190
STATE AC COM #001	3001522299	21	20S	28E	J	EDDY	WOLFCAMP	6.2	43441						26100	446	100	
FED UNION #001	3001502416	22	20S	28E	O	EDDY	WOLFCAMP	6.7	55965						32400	252	2260	
TRIGG AIN FEDERAL #001	3001526697	28	20S	29E	H	EDDY	STRAWN	6.1	90200.5		8440	15	248.5		55380	244	12.5	
YATES FEDERAL #001	3001520008	32	20S	29E	P	EDDY	STRAWN	5.9	108466						66700	146	270	
BIG EDDY UT #001	3001502475	36	21S	28E	C	EDDY	ATOKA		31911						18000	1220	887	
STATE #001	3001503625	2	20S	29E	O	EDDY	MORROW		31170									
DOOLEY #001	3001510044	24	20S	29E	M	EDDY	MORROW		11718						4466	1634	1441	



New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64 Q16 Q4	Sec	Tws	Rng	X	Y
	CP 00759	4	2	28	20S 29E	586984	3601360*

Driller License: 421	Driller Company: GLENN'S WATER WELL SERVICE	
Driller Name: GLENN, CLARK A."CORKY" (LD)		
Drill Start Date: 04/29/1991	Drill Finish Date: 04/29/1991	Plug Date:
Log File Date: 05/02/1991	PCW Rcv Date:	Source: Shallow
Pump Type:	Pipe Discharge Size:	Estimated Yield: 150 GPM
Casing Size: 6.63	Depth Well: 205 feet	Depth Water: 90 feet

Water Bearing Stratifications:	Top	Bottom	Description
	148	172	Limestone/Dolomite/Chalk
	172	175	Other/Unknown

Casing Perforations:	Top	Bottom
	144	205

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

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 Buckeye SWD #1 well at a surface location 420 feet from the North line and 210 feet from the East line of Section 33, Township 20 South, Range 29 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 Devonian-Silurian formation at a depth of 13,095' to 14,276'. NGL further seeks approval of the use of 7 inch tubing inside the surface and intermediate casings and 5 ½ inch tubing inside the liner and requests that the Division approve a maximum daily injection rate for the well of 50,000 bbls per day. Said location is approximately 12.1 miles northeast of Carlsbad, New Mexico.