

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

OCTOBER 4, 2018 HEARING

**APPLICATION OF NGL WATER
SOLUTIONS PERMIAN, LLC TO
AMEND ADMINISTRATIVE ORDERS
SWD-1724 AND SWD 1711 FOR SALT
WATER DISPOSAL WELLS IN EDDY
COUNTY, NEW MEXICO**

CASE NO. 16426

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CASE NO. 16426

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August 21, 2018

Florene Davidson
NM Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

Jennifer L. Bradfute
505.848.1845
Fax: 505.848.1882
jlb@modrall.com

Case 16-126

**Re: APPLICATION OF NGL WATER SOLUTIONS
PERMIAN, LLC TO AMEND ADMINISTRATIVE
ORDERS SWD-1724 AND SWD-1711 FOR SALT WATER
DISPOSAL WELLS IN EDDY COUNTY, NEW MEXICO.**


Dear Ms. Davidson:

Enclosed please find three copies of the following:

1. NGL Water Solutions Permian, LLC's - Application

Thank you for your assistance. Please contact me if you have any questions.

Sincerely,


Zina Crum
Legal Assistant to
Jennifer L. Bradfute

JLB/zc
Enclosure

Modrall Sperling
Roehl Harris & Sisk
P.A.

Bank of America
Centre
500 Fourth Street
NW
Suite 1000
Albuquerque,
New Mexico 87102

PO Box 2168
Albuquerque,
New Mexico
87103-2168

Tel: 505.848.1800

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

**APPLICATION OF NGL WATER
SOLUTIONS PERMIAN, LLC
TO AMEND ADMINISTRATIVE ORDERS
SWD-1724 AND SWD-1711 FOR
SALT WATER DISPOSAL WELLS IN
EDDY COUNTY, NEW MEXICO.**

CASE NO. 164-26

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 amending the size of tubing approved by the Division in administrative orders SWD-1724 and SWD-1711. An amendment is being requested to increase the diameter of the approved injection tubing to allow for the use of 7 inch tubing inside the surface and intermediate casings and 5 ½ inch tubing inside the liner. In addition, NGL seeks approval of a maximum injection rate and an amendment to the approved surface pressures. In support of this application, NGL states as follows:

1. NGL is the operator of the Striker 1 SWD No. 1 Salt Water Disposal Well (API 30-015-44406). The Oil Conservation Division is expected authorized NGL through Administrative Order SWD-1724 to use the Striker 1 SWD No. 1 for disposal of oil filed produced water through an open-hole interval within the Devonian and Silurian formations from 13,750 feet to 15100 feet. The order expected to be issued by the Division approving the drilling of the well will state that injection will occur through either an internally-coated, 5-1/2-inch or

smaller tubing inside the surface and intermediate casings, and a 4-1/2-inch or smaller tubing inside the liner.

2. NGL is the operator of the Alpha SWD Well No. 2 (API 30-015-44530). The Oil Conservation Division has authorized NGL (and its predecessor in interest) through Administrative Order SWD-1711 to use the Alpha SWD NO. 2 well for disposal of oil filed produced water through an open-hole interval within the Devonian and Silurian formations from 13,275 feet to 14,465 feet. The order issued by the Division approving the drilling of the well states that injection will occur through either an internally-coated, 5-1/2-inch or smaller tubing inside the surface and intermediate casings, and a 5-inch or smaller tubing inside the liner.

3. NGL seeks an amendment to these orders or an initial order for the Striker 1 SWD No. 1 well, allowing it to use 7 inch tubing inside the surface and intermediate casings and 5 ½ inch tubing inside the liner.

4. The Striker 1 SWD No. 1 well is located 1016 feet from the North line and 1395 feet from the East line of Section 15, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico.

5. The Alpha SWD Well No. 2 is located 236 feet from the North line and 2433 feet from the West line of Section 18, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico.

6. NGL further requests that the Division approve a maximum daily injection rate for the wells of 50,000 bbls per day.

7. Finally, NGL requests that the maximum surface pressure approved under the order be 2,750 psi for the Striker 1 SWD No. 1 well, and that the maximum surface pressure approved for the Alpha SWD Well No. 2 be set at 2,655 psi.

8. 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 September 20, 2018; and that after notice and hearing, the Division enter its order approving this application to amend Administrative Orders SWD-1724 and SWD-1711, or otherwise issuing order to approve the above-mentioned wells, which to increase the diameter of the injection tubing in the wells to allow for the use of 7 inch tubing inside the surface and intermediate casings and 5 ½ inch tubing inside the liner. And, that the Division approve a maximum daily injection rate for the wells of 50,000 bbls per day, and set the that the maximum surface pressure approved under the order at 2,750 psi for the Striker 1 SWD No. 1 well, and 2,655 psi for the Alpha SWD Well No. 2 well.

Respectfully submitted,

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

By: 

~~Jennifer Bradfute~~

~~Deana Bennett~~

Post Office Box 2168

Bank of America Centre

500 Fourth Street NW, Suite 1000

Albuquerque, New Mexico 87103-2168

Telephone: 505.848.1800

Attorneys for Applicant

CASE NO. 16426 : Application of NGL Water Solutions Permian, LLC to Amend Administrative Orders SWD-1724 and SWD 1711 for Salt Water Disposal Wells in Eddy County, New Mexico. Applicant seeks an order amending the size of tubing approved by the Division in administrative orders SWD-1724 and SWD-1711 for its Striker 1 SWD No. 1 and Alpha SWD Well No. 2 salt water disposal wells. Applicant further seeks approval of a maximum injection rate of 50,000 bbls per day, and the approval of a maximum surface pressure of 2,750 psi for the Striker 1 SWD No. 1 well, and 2,655 psi for the Alpha SWD Well No. 2 well. The subject wells are located in Sections 15 and 18, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico. Said area is located approximately 3 miles north of Loving, New Mexico.

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State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

Ken McQueen
Cabinet Secretary

Matthias Sayer
Deputy Cabinet Secretary

David R. Catanach, Division Director
Oil Conservation Division



Administrative Order SWD-1711
December 21, 2017

**ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION**

Pursuant to the provisions of Division Rule 19.15.26.8B, NMAC, Alpha SWD Operating LLC (the "operator") seeks an administrative order for its proposed Alpha SWD Well No. 2 (API No. 30-015-44530, "proposed well") to be located 353 feet from the North line and 2398 feet from the West line, Unit C of Section 18, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico, for the purpose of commercial disposal of produced water.

THE DIVISION DIRECTOR FINDS THAT:

The application has been duly filed under the provisions of Division Rule 19.15.26.8B, NMAC and satisfactory information has been provided that affected parties as defined in said rule have been notified and no objection was received within the required suspense period. The applicant has presented satisfactory evidence that all requirements prescribed in Rule 19.15.26.8 NMAC have been met and the operator is in compliance with Rule 19.15.5.9 NMAC.

IT IS THEREFORE ORDERED THAT:

The applicant, Alpha SWD Operating LLC (OGRID 372180) is hereby authorized to utilize its proposed Alpha SWD Well No. 2 (API No. 30-015-44530) to be located 353 feet from the North line and 2398 feet from the West line, Unit C of Section 18, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico, for disposal of oil field produced water (UIC Class II only) through an open-hole interval within Devonian and Silurian formations from approximately 13275 feet to approximately 14465 feet.

Injection will occur through internally-coated, 5-1/2-inch or smaller tubing inside the surface and intermediate casings, and a 5-inch or smaller tubing inside the liner and a packer set within 100 feet of the top of the open-hole interval.

This permit does not allow disposal into the Ellenburger formation (lower Ordovician) or lost circulation intervals directly on top and obviously connected to this formation.

Prior to commencing disposal, the operator shall submit mudlog and geophysical logs information, to the Division's District geologist and Santa Fe Engineering Bureau office, showing evidence agreeable that only the permitted formation is open for disposal including a summary of depths (picks) for contacts of the formations which the Division shall use to amend this order for a final description of the depth for the injection interval.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the disposed water enters only the approved disposal interval and is not permitted to escape to other formations or onto the surface. This includes the well construction proposed in the application and any required modifications of construction as required by the Division.

The operator shall circulate the cement behind the casing to surface for all surface, and intermediate.

The operator shall run a CBL (or equivalent) across the 7-5/8-inch liner from 500 feet above the liner to the bottom of the liner to demonstrate a good cement across to demonstrate a good cement across the liner and good cement bond across the 9-5/8-inch casing.

Within two years after commencing disposal, the operator shall conduct an injection survey, consisting of a temperature log or equivalent, over the entire injection interval using representative disposal rates. Copies of the survey results shall be provided to the Division's District I office and Santa Fe Engineering Bureau office.

After installing tubing, the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge or an approved leak detection device in order to determine leakage in the casing, tubing, or packer. The casing shall be pressure tested from the surface to the packer setting depth to assure casing integrity.

The well shall pass an initial mechanical integrity test ("MIT") prior to initially commencing disposal and prior to resuming disposal each time the disposal packer is unseated. All MIT procedures and schedules shall follow the requirements in Division Rule 19.15.26.11A. NMAC. The Division Director retains the right to require at any time wireline verification of completion and packer setting depths in this well.

The wellhead injection pressure on the well shall be limited to **no more than 2655 psi**. In addition, the disposal well or system shall be equipped with a pressure limiting device in workable condition which shall, at all times, limit surface tubing pressure to the maximum allowable pressure for this well. The Division Director retains the right to require at any time the operator to install and maintain a chart recorder showing casing and tubing pressures during disposal operations.

The Director of the Division may authorize an increase in tubing pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the disposed fluid from the target formation. Such proper showing shall be demonstrated by sufficient evidence including but not limited to an acceptable Step-Rate Test.

The operator shall notify the supervisor of the Division's District office of the date and time of the installation of disposal equipment and of any MIT so that the same may be inspected and witnessed. The operator shall provide written notice of the date of commencement of disposal to the Division's District office. The operator shall submit monthly reports of the disposal

operations on Division Form C-115, in accordance with Division Rules 19.15.26.13 and 19.15.7.24 NMAC.

Without limitation on the duties of the operator as provided in Division Rules 19.15.29 and 19.15.30 NMAC, or otherwise, the operator shall immediately notify the Division's District office of any failure of the tubing, casing or packer in the well, or of any leakage or release of water, oil or gas from around any produced or plugged and abandoned well in the area, and shall take such measures as may be timely and necessary to correct such failure or leakage.

The injection authority granted under this order is not transferable except upon Division approval. The Division may require the operator to demonstrate mechanical integrity of any disposal well that will be transferred prior to approving transfer of authority to inject.

The Division may revoke this injection permit after notice and hearing if the operator is in violation of Rule 19.15.5.9 NMAC.

The disposal authority granted herein shall terminate two (2) years after the effective date of this order if the operator has not commenced injection operations into the subject well. One year after the last date of reported disposal into this well, the Division shall consider the well abandoned, and the authority to dispose will terminate *ipso facto*. The Division, upon written request mailed by the operator prior to the termination date, may grant an extension thereof for good cause.

Compliance with this order does not relieve the operator of the obligation to comply with other applicable federal, state or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

Jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh or protectable waters or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the disposal authority granted herein.



DAVID R. CATANACH
Director

DRC/mam

cc: Oil Conservation Division – Artesia
Well File - 30-015-44530

DATE 10/31/2017	SUSPENSE	ENGINEER MAM	LOGGED IN 10/31/2017	TYPE SCD	APP NO. 20170173044964
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- 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

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
 [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
 [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
 [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
 [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
 [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

- [A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

- [B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

- [D] Other: Specify _____

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or ☐ Does Not Apply

- [A] ☐ Working, Royalty or Overriding Royalty Interest Owners
 [B] ☒ Offset Operators, Leaseholders or Surface Owner
 [C] ☒ Application is One Which Requires Published Legal Notice
 [D] ☐ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
 [E] ☒ For all of the above, Proof of Notification or Publication is Attached, and/or,
 [F] ☐ Waivers are Attached

[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.

[4] **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

Consulting Engineer
 Title

10/27/2017
 Date

chris@lonquist.com
 e-mail Address

LONQUIST & CO. LLC

PETROLEUM
ENGINEERS

ENERGY
ADVISORS

AUSTIN • HOUSTON • WICHITA • DENVER • CALGARY

October 27, 2017

New Mexico Energy, Minerals, and Natural Resources Department
Oil Conservation Division District IV
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
(505) 476-3440

RECEIVED OGD
2017 OCT 31 P 12

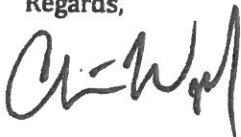
RE: ALPHA SWD NO. 2 AUTHORIZATION TO INJECT

To Whom It May Concern:

Attached for your review is Form C-108, Application for Authorization to Inject, and its supplemental documents prepared for Alpha SWD Operating LLC's Alpha SWD No. 2. In addition, Forms C-101 and C-102 have also been included with this package. Notices have been sent to offset leaseholders and the surface owner. Proof of notice will be sent to the OCD upon receipt.

Any questions should be directed towards Alpha SWD Operating LLC's agent Lonquist & Co., LLC.

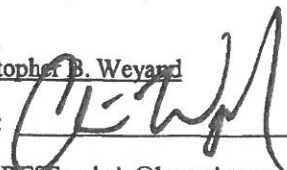
Regards,



Christopher B. Weyand
Staff Engineer
Lonquist & Co., LLC

(512) 600-1764
chris@lonquist.com

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: Secondary Recovery Pressure Maintenance X Disposal Storage
Application qualifies for administrative approval? X Yes No
- II. OPERATOR: ALPHA SWD OPERATING LLC
ADDRESS: 4436 STERLING LN // PLANO, TX 75093
CONTACT PARTY: KURT KNEWITZ PHONE: (214) 418-1177
- 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: 10/27/2017
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.

INJECTION WELL DATA SHEET

OPERATOR: ALPHA SWD OPERATING LLCWELL NAME & NUMBER: ALPHA SWD #2WELL LOCATION: 353' FNL & 2,398' FWL
FOOTAGE LOCATION

C

UNIT LETTER

18

SECTION

23S

TOWNSHIP

28E

RANGE

WELLBORE SCHEMATICWELL CONSTRUCTION DATASurface CasingHole Size: 26.000"Casing Size: 20.000"Cemented with: 1,145 sx.or _____ ft³Top of Cement: surfaceMethod Determined: circulation1st Intermediate CasingHole Size: 17.500"Casing Size: 13.375"Cemented with: 1,410 sx.or _____ ft³Top of Cement: surfaceMethod Determined: circulation2nd Intermediate CasingHole Size: 12.250"Casing Size: 9.625"Cemented with: 1,935 sx.or _____ ft³Top of Cement: surfaceMethod Determined: circulation

Production Casing

Hole Size: 8.500"

Casing Size: 7.625"

Cemented with: 1,600 sx.

or _____ ft³

Top of Cement: surface

Method Determined: circulation

Total Depth: 14,465'

Injection Interval

13,275 feet to 14,465 feet

(Open Hole)

INJECTION WELL DATA SHEET

Tubing Size: 5.500", 17 lb/ft, P-110 UFJ from 0' - 13,225'
 Lining Material: Duoline

Type of Packer: D&L Oil Tools 7.625" Permapack Packer - Single Bore

Packer Setting Depth: 13,225'

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:

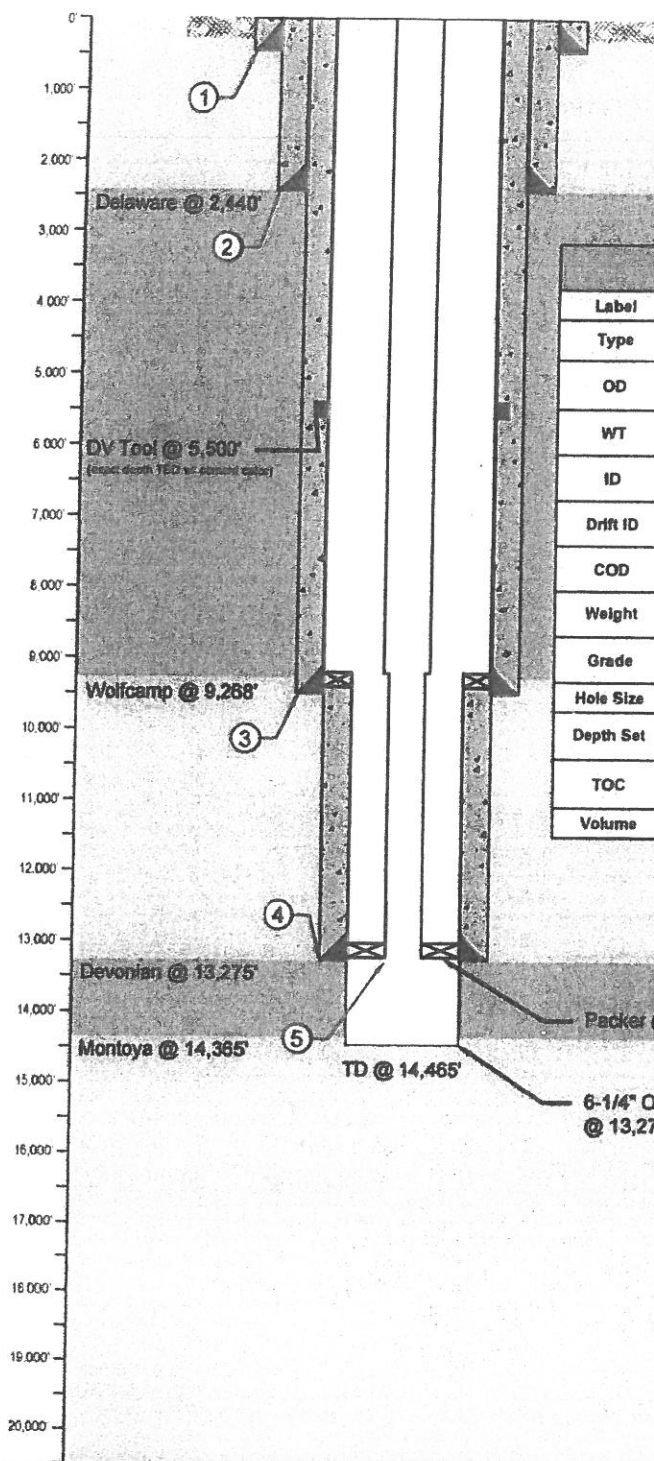
Delaware: 2,440'

Bone Spring: 5,956'

Wolfcamp: 9,268'

Atoka: 11,096'

Morrow: 11,921'



KB:	NA
BHF:	NA
GL:	NA
Spud:	NA

Casing/Tubing Information

Label	1	2	3	4	5
Type	Surface	Intermediate 1	Intermediate 2	Production	Tubing
OD	20"	13-3/8"	9-5/8"	7-5/8"	5-1/2" 5"
WT	0.438"	0.480"	0.472"	0.5"	0.304" 0.286"
ID	19.124"	12.415"	8.681"	6.625"	4.892" 4.408"
Drift ID	18.935"	12.259"	8.525"	6.5"	4.767" 4.283"
COD	21.000"	14.375"	10.625"	7.625"	6.050" 5"
Weight	94 lb/ft	68 lb/ft	47 lb/ft	39 lb/ft	17 lb/ft 15 lb/ft
Grade	J-55 STC	L-80 STC	HCL-80 LTC	P-110 UFJ	L-80 BTC L-80 UFJ
Hole Size	26"	17-1/2"	12-1/4"	8-1/2"	N/A
Depth Set	450'	2,450'	9,500'	9,200' - 13,275'	0' - 9,200' 9,200' - 13,225'
TOC	Surface (circulation)	Surface (circulation)	Surface (circulation)	9,200'	NA
Volume	1,145 sks	1,410 sks	1,935 sks	350 sks	NA

Injection Interval:
13,275' - 14,465'

LONQUIST

FIELD SERVICE

AUSTIN WICHITA
HOUSTON CALGARY

Texas License F-9147

3345 Bee Cave Road, Suite 201
Austin, Texas 78746
Tel: 512.732.9812
Fax: 512.732.9816

Alpha SWD

Country: USA

Location:

API No:

State ID No:

Drawn: CJG

Rev No: 1

Alpha SWD No. 2

State/Province: New Mexico

Site:

Field:

Project No:

Reviewed: CBW

Notes:

County/Parish: Eddy

Survey/STR: 18-23S-28E

Well Type/Status: SWD

Date: 12/20/2017

Approved: SLP

Alpha SWD Operating LLC

Alpha SWD No. 2

FORM C-108 Supplemental Information

III. Well Data

A. Wellbore Information

1.

Well Information	
Lease Name	Alpha SWD
Well No.	2
Location	S-18 T-23S R-28E
Footage Location	353' FNL & 2,398' FWL

2.

a. Wellbore Description

Casing Information				
Type	Surface	Intermediate 1	Intermediate 2	Production
OD	20"	13.375"	9.625"	7.625"
WT	0.438"	0.480"	0.472"	0.500"
ID	19.124"	12.415"	8.681"	6.625"
Drift ID	18.936"	12.259"	8.525"	6.500"
COD	21.00"	14.375"	10.625"	7.625"
Weight	94 lb/ft	68 lb/ft	47 lb/ft	39 lb/ft
Grade	J-55	L-80	HCL-80	P-110
Hole Size	26"	17.5"	12.25"	8.5"
Depth Set	450'	2,450'	9,500'	13,275'

b. Cementing Program

Cement Information				
Casing String	Surface	Intermediate 1	Intermediate 2	Production
Lead Cement	C	C	C	H
Lead Cement Volume	1,145 sx	1,145 sx	Stage 1: 615 sx Stage 2: 920 sx	Stage 1: 250 sx Stage 2: 1,350 sx
Tail Cement		C	H	
Tail Cement Volume		265 sx	Stage 1: 400 sx	
Cement Excess	100%	25%	50%	50%
TOC	Surface	Surface	Surface	Surface
Method	Circulate to Surface	Circulate to Surface	Circulate to Surface	Circulate to Surface

3. Tubing Description

Tubing Information	
OD	5.5"
WT	0.304"
ID	4.892"
Drift ID	4.767"
COD	5.500"
Weight	17 lb/ft
Grade	P-110 UFJ
Depth Set	13,225'

Tubing will be lined with Duoline.

4. Packer Description

D&L Oil Tools 7.625" Permapack Packer – Single Bore

B. Completion Information

1. Injection Formation: Devonian, Silurian, Fusselman, Montoya (Top 100')

2. Gross Injection Interval: 13,275' – 14,465'

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	2,440'
Bone Spring	5,956'
Wolfcamp	9,268'
Atoka	11,096'
Morrow	11,921'

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: 25,000 BPD

Maximum Volume: 32,000 BPD

2. Closed System

3. Anticipated Injection Pressure:

Average Injection Pressure: 1,800 PSI (surface pressure)

Maximum Injection Pressure: 2,655 PSI (surface pressure)

4. The injection fluid is to be locally produced water. Attached are produced water sample analyses taken from the closest wells that feature samples from the Delaware, Bone Spring, Wolfcamp, 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	Eroded, not present
Salado	175'
Delaware	2,440'
Bone Spring	5,956'
Wolfcamp	9,268'
Strawn	10,804'
Atoka	11,096'
Morrow	11,921'
Mississippian Lime	12,835'
Woodford	13,170'
Devonian	13,275'

B. Underground Sources of Drinking Water

Within 1-mile of the proposed Alpha SWD #2 location water wells range in depth from 30' to 220'. Reported depths to fresh water range from 14' to 217' (60' on average). This is not a known fresh water aquifer, but rather represents a sporadic alluvial source.

IX. Proposed Stimulation Program

No proposed stimulation program.

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

Cardinal Laboratories in Hobbs, New Mexico has been contracted to obtain water samples from fresh water wells within 1 mile and provide chemical analysis of the samples. When analysis is complete, the report will be provided to the OCD.

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 and any underground sources of drinking water.

NAME: Christopher B. Weyand

TITLE: Consulting Engineer

SIGNATURE: 

DATE: 10/29/2017

DISTRICT I

1035 N. French Dr., Hobbs, NM 88240
Phone (505) 526-6161 Fax (505) 526-5720

DISTRICT II

811 E. First St., Artesia, NM 88210
Phone (505) 745-1200 Fax (505) 745-0720

DISTRICT III

1000 Rio Brasos Rd., Artesia, NM 87410
Phone (505) 824-6170 Fax (505) 824-6170

DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 477-6400 Fax (505) 477-6400

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-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number		Pool Code 96101	Pool Name SWD; Silurian-Devonian
Property Code	Property Name ALPHA SWD		Well Number 2
OGED No. 372180	Operator Name ALPHA SWD OPERATING LLC		Elevation 3051'

Surface Location

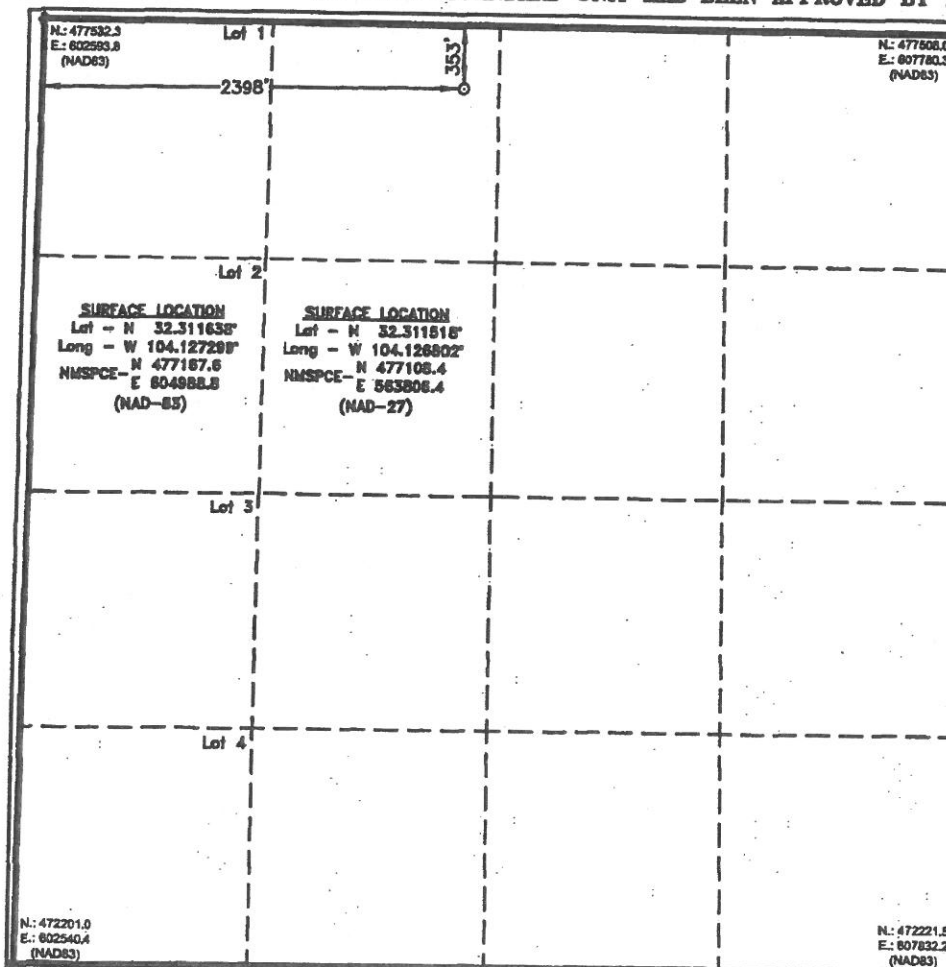
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	18	23 S	28 E		353	NORTH	2398	WEST	EDDY

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



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 undivided 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] 10/27/2011
Signature Date

Christopher Weyand

Printed Name

chris@longquist.com

Email Address

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.

OCTOBER-28-2011

Date Surveyed

[Signature]
Signature of Professional Surveyor

7977

Certified

7977

7977

7977

7977

7977

7977

7977

7977

7977

7977

7977

7977

0' 1000' 2000' 3000' 4000'
SCALE: 1" = 2000'
WO Num.: 33363

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 REPC

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

¹ Operator Name and Address ALPHA SWD OPERATING LLC 4436 STERLING LN PLANO, TX 75093		² OGRID Number 372180
		³ API Number 30-015-TBD
⁴ Property Code	⁵ Property Name ALPHA SWD	⁶ Well No. 2

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
C	18	23S	28E		353	NORTH	2,398	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 SWD; Silurian-Devonian	Pool Code 96101
-------------------------------------	--------------------

Additional Well Information

¹¹ Work Type N	¹² Well Type SWD	¹³ Cable/Rotary R	¹⁴ Lease Type Private	¹⁵ Ground Level Elevation 3,051'
¹⁶ Multiple N	¹⁷ Proposed Depth 14,465'	¹⁸ Formation Siluro-Devonian	¹⁹ Contractor TBD	²⁰ Spud Date ASAP
Depth to Ground water 60'		Distance from nearest fresh water well 862'		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

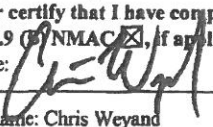
Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surface	26"	20"	94 lb/ft	450'	1,145	Surface
Intermediate 1	17.5"	13.375"	68 lb/ft	2,450'	1,410	Surface
Intermediate 2	12.25"	9.625"	47 lb/ft	9,500'	1,935	Surface
Production	8.5"	7.625"	39 lb/ft	13,275'	1,600	Surface
Tubing	N/A	5.5"	17 lb/ft	13,225'	N/A	N/A

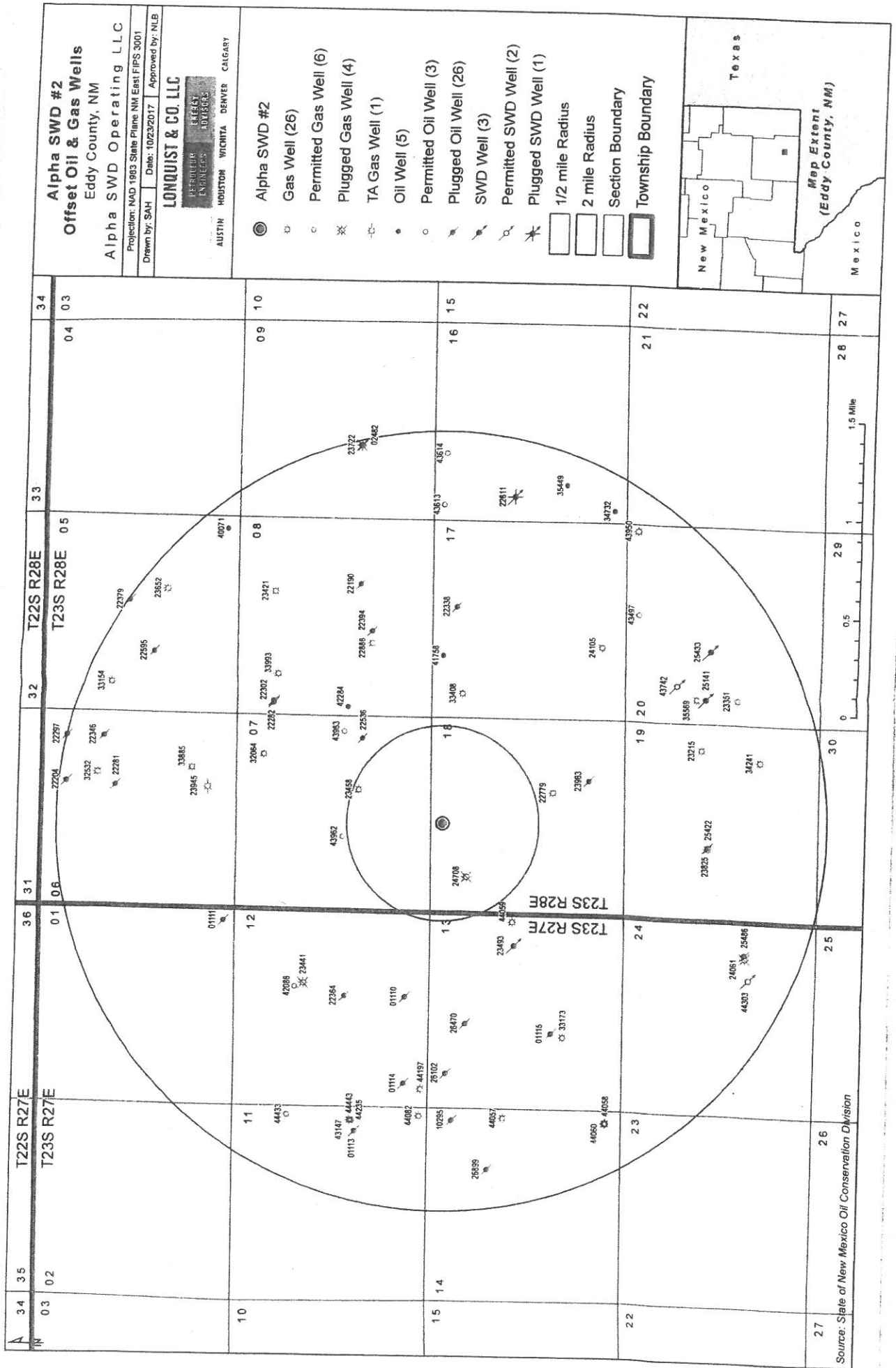
Casing/Cement Program: Additional Comments

See attached schematic.

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Hydraulic/Blinds, Pipe	5,000 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: Chris Weyand Title: Consulting Engineer E-mail Address: chris@lonquist.com Date: 10/27/2017		OIL CONSERVATION DIVISION Approved By: _____ Title: _____ Approved Date: _____ Expiration Date: _____ Conditions of Approval Attached	
Phone: 512-600-1764			



Alpha SWD #2
1/2 mile Area of Review
Eddy County, NM
Alpha SWD Operating LLC

Projection: NAD 1983 State Plane NM East FIPS 3001
Drawn by: SAH Date: 10/23/2017 Approved by: NLB

LONQUIST & CO. LLC



AUSTIN HOUSTON WICHITA DENVER CALGARY

Alpha SWD #2

Gas Well

Plugged Gas Well

1/2 mile Radius

Section Boundary

New Mexico

Texas

Map Extent
(Eddy County, NM)

Mexico

05 07 08

01 06 12

015-23458

015-24708

17 18

13

T23S R27E
T23S R28E

19 20

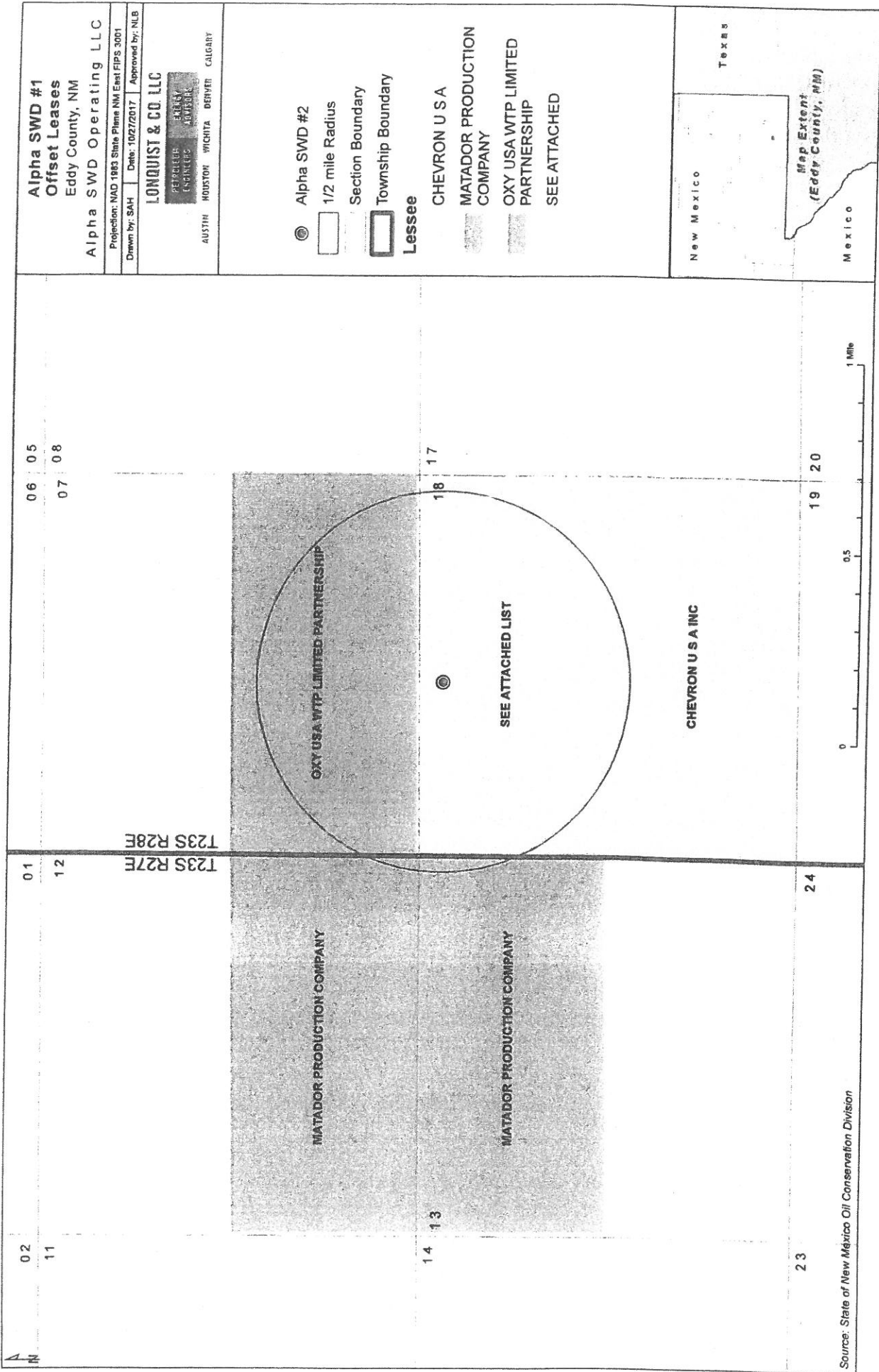
24

0 0.1 0.2 0.4 0.6 0.8 Miles

Source: Well Data - State of New Mexico Oil Conservation Division.
Lateral - Drilling Info

Half-Mile AOR
Alpha SWD #2

API (30-015-)	Well Name	Well Type	Status	Operator	TD (TVD)	Location	Date Drilled
23458	BRANTLEY A COM #001	Gas	Active	OXY USA WTP LIMITED PARTNERSHIP	12,545	J-07-23S-28E	1/20/1997
24708	CARRASCO 18 #001	Gas	Plugged	CHEVRON U S A INC	12,650	1-18-23S-28E	8/30/2006



Alpha SWD No. 2 Notice List			
Notice	Address	Phone Number	Date Noticed
Oil Conservation Division District IV	1220 South St. Francis Drive, Santa Fe, NM 87505	(505) 476-3440	
Oil Conservation Division District II	811 S. First St., Artesia, NM 8821C	(575) 748-1283	
Surface Owner			
POLK LAND & MINERALS LP	C/O GLEN WEBB PC, 3300 S. 14th, Suite 206, ABILENE, TX 79605	(325) 201-1738	
Leasehold Operators - 1/2 MBE			
MATADOR PRODUCTION COMPANY	ONE LINCOLN CENTER, 5400 LBJ FREEWAY STE 1500, DALLAS, TX 7524C	(972) 371-5200	
CHEVRON U S A INC	6301 DEAUVILLE BLVD, MIDLAND, TX 7970E	(866) 212-1212	
OXY USA WTP LIMITED PARTNERSHIP	PO BOX 4294, HOUSTON, TX 7721C	(713) 366-5716	
Leaseholders and Mineral Owners - N/2 of Sec. 1B-23S-28E			
Tap Rock Resources, LLC	602 Park Point Drive, Suite 200, Golden, CO 80401	(720) 772-5090	
Snow Oil & Gas	818 E Broadway St, Andrews, TX 79714	(432) 524-2371	
Crown Oil Partners V, LP	P.O. Box 50820, Midland, TX 79710-0820		
Crump Energy Partners II, LLC	P.O. Box 50820, Midland, TX 79710-0820		
Nadel & Gussman Delaware, LLC	15 East 5th Street, Suite 3300, Tulsa, OK 74103-434C		
Marathon Oil Permian, LLC	5555 San Felipe Street, Houston, TX 77056	(918) 583-3333	
Sally Carter Ballard	3616 133rd Street, Lubbock, TX 79423	(713) 629-6600	
Peter R. Carter	9320 Stratford Way, Dallas, TX 75220	(214) 902-9225	
Barbara Carter	24 Condesa Road, Santa Fe, NM 87508	(505) 820-9331	
Jeri Alexander Mangum, fka Jeri Alexander Lott and First Financial Trust and Asset Management Co., N.A., as Trustees of the Carol Gibson Trust and Cynthia Rhodes Trust	P.O. Box 701, Abilene, TX 79604		
Cald Family Limited Partnership	3721 Pallos Verdas, Dallas, TX 75229		
Catherine Gall Parker and Craig Parker Exempt Trust	3721 Pallos Verdas, Dallas, TX 75229		
Caren Gall Lucas Exempt Trust	P.O. Box 90621, Austin, TX 78709-0621		
JMA Oil Properties, Ltd, Whose General Partner is JMA Management, LLC	P.O. Box 58, Abilene, TX 79604		
Emma U. Carrasco	P.O. Box 26, Loving, NM 88256		
The Emilio R. Villa Revocable Trust	1206 Bryan Circle, Carlsbad, NM 88220		
Edmund T. Anderson, IV	2521 Humble, Midland, TX 79705	(432) 684-4560	
Edmund T. Anderson, IV, Trustee for the Mary Anderson Boll Family Trust	2521 Humble, Midland, TX 79705	(432) 684-4560	
Guitar Land & Cattle, LP	P.O. Box 2213, Abilene, TX 79604		
The Earl B. Guitar and Margaret Ann Guitar Revocable Trust	P.O. Box 748, Abilene, TX 79604		
CrownRock Minerals, L.P.	P.O. Box 51933, Midland, TX 79710		
Truchas Peaks, LLC	110 Louisiana, Suite 500, Midland, TX 79701		
Honey's Heritage LP	P.O. Box 833206, Richardson, TX 75083-3206		
The Mary Guitar Polk Estate Limited Partnership	15250 Prestonwood Blvd., #441, Dallas, TX 75248	(972) 388-1144	
Ruth Ann Polk Caudle	15250 Prestonwood Blvd., #441, Dallas, TX 75248	(972) 388-1144	
JPH Holdings, LP	4400 Arcady, Dallas, TX 75205		
POLK LAND & MINERALS LP	C/O GLEN WEBB PC, 3300 S. 14th, Suite 206, ABILENE, TX 79605	(325) 201-1738	

[illegible]

October 31, 2017

Legal Notice

Alpha SWD Operating LLC, 4436 Sterling Ln, Plano, Texas 75093 is filing Form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division for administrative approval for its salt water disposal well Alpha SWD No. 2. The proposed well will be located 353' FNL & 2,398' FWL in Section 18, Township 23S, Range 28E in Eddy County, New Mexico. Disposal water will be sourced from area production, and will be injected into the Siluro-Devonian Formation (determined by offset log analysis) through an open hole completion between a maximum applied for top of 13,275 feet to a maximum depth of 14,465 feet. The maximum surface injection pressure will not exceed 2,655 psi with a maximum rate of 32,000 BWPD. Interested parties opposing the action must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico 87505, within 15 days. Additional information can be obtained from the applicant's agent, Lonquist & Co., LLC, at (512) 600-1764.

McMillan, Michael, EMNRD

From:
Sent:
To:
Subject:

TrackingUpdates@fedex.com
Tuesday, October 31, 2017 10:12 AM
Chris Weyand
FedEx Shipment 770599377942 Delivered

Your package has been delivered

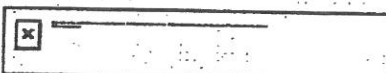
Tracking # 770599377942

Ship date:
Fri, 10/27/2017

Maria Rivas
Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Tue, 10/31/2017 10:09 am

1220 South Street
Oil Conservation Div. - District
IV
Francis Drive
SANTA FE, NM 87505
US



Delivered

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>770599377942</u>
Status:	Delivered: 10/31/2017 10:09 AM Signed for By: A.KILLOY
Reference:	#1538
Signed for by:	A.KILLOY
Delivery location:	SANTA FE, NM
Delivered to:	Mailroom
Service type:	FedEx 2Day A.M
Packaging type:	Your Packaging
Number of pieces:	1
Weight:	1.00 lb.
Special handling/Services:	Deliver Weekday
Standard transit:	10/31/2017 by 10:30 am

 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 11:11 AM CDT on 10/31/2017.

McMillan, Michael, EMNRD

From: TrackingUpdates@fedex.com
Sent: Tuesday, October 31, 2017 12:44 PM
To: Chris Weyand
Subject: FedEx Shipment 770599550871 Delivered

Your package has been delivered

Tracking # 770599550871

Ship date:
Mon, 10/30/2017

Maria Rivas
Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Tue, 10/31/2017 1:41
pm


Matador Production
Company
LBJ Freeway, Suite 1500 One
Lincoln Center, 5400
DALLAS, TX 75240
US

 Delivered

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>770599550871</u>
Status:	Delivered: 10/31/2017 1:41 PM Signed for By: LLISA
Reference:	#1538
Signed for by:	LLISA
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	10/31/2017

 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 1:43 PM CDT on 10/31/2017.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

McMillan, Michael, EMNRD

From:
Sent:
To:
Subject:

TrackingUpdates@fedex.com
Tuesday, October 31, 2017 12:57 PM
Chris Weyand
FedEx Shipment 770608267189 Delivered

Your package has been delivered

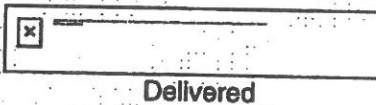
Tracking # 770608267189

Ship date:
Mon, 10/30/2017

Maria Rivas
Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Tue, 10/31/2017 1:50 pm


Marathon Oil Permian LLC
Marathon Oil Permian LLC
5555 San Felipe Street
HOUSTON, TX 77056
US



Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>770608267189</u>
Status:	Delivered: 10/31/2017 1:50 PM Signed for By: CMARCUS
Reference:	#1538
Signed for by:	CMARCUS
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	10/31/2017

 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 1:56 PM CDT on 10/31/2017.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

McMillan, Michael, EMNRD

From: TrackingUpdates@fedex.com
Sent: Tuesday, October 31, 2017 1:11 PM
To: Chris Weyand
Subject: FedEx Shipment 770608378123 Delivered

Your package has been delivered

Tracking # 770608378123

Ship date:
Mon, 10/30/2017

Maria Rivas
Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Tue, 10/31/2017 2:09
pm

Peter R. Carter
Peter R. Carter
9320 Stratford Way
DALLAS, TX 75220
US



Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>770608378123</u>
Status:	Delivered: 10/31/2017 2:09 PM
Reference:	#1538
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	10/31/2017

 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 2:11 PM CDT on 10/31/2017.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

Standard transit is the date the package should be delivered by, based on the selected service, destination, and ship date. Limitations and exceptions may apply. Please see the FedEx Service Guide for terms and conditions of service, including the FedEx Money-Back Guarantee, or contact your FedEx Customer Support representative.

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McMillan, Michael, EMNRD

From:
Sent:
To:
Subject:

TrackingUpdates@fedex.com
Tuesday, October 31, 2017 1:32 PM
Chris Weyand
FedEx Shipment 770608732545 Delivered

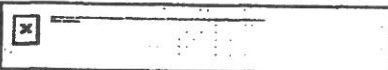
Your package has been delivered

Tracking # 770608732545

Ship date:
Mon, 10/30/2017

Maria Rivas
Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Tue, 10/31/2017 2:29
pm


 **The Mary Guitar Polk Estate LP**
The Mary Guitar Polk Estate LP
#441 15250 Prestonwood Blvd.
DALLAS, TX 75248
US

Delivered

Shipment Facts

Our records indicate that the following package has been delivered:

Tracking number:	<u>770608732545</u>
Status:	Delivered: 10/31/2017 2:29 PM Signed for By: MWILL
Reference:	#1538
Signed for by:	MWILL
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	10/31/2017

 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 2:31 PM CDT on 10/31/2017.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

McMillan, Michael, EMNRD

From: TrackingUpdates@fedex.com
Sent: Tuesday, October 31, 2017 1:32 PM
To: Chris Weyand
Subject: FedEx Shipment 770608747548 Delivered

Your package has been delivered


Tracking # 770608747548

Ship date:
Mon, 10/30/2017

Maria Rivas
Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Tue, 10/31/2017 2:29 pm


Ruth Ann Polk Caudle
Ruth Ann Polk Caudle
#441 15250 Prestonwood Blvd.
DALLAS, TX 75248
US


Delivered

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>770608747548</u>
Status:	Delivered: 10/31/2017 2:29 PM Signed for By: MWILL
Reference:	#1538
Signed for by:	MWILL
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	10/31/2017

 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 2:32 PM CDT on 10/31/2017.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

Standard transit is the date the package should be delivered by, based on the selected service, destination, and ship date. Limitations and exceptions may apply. Please see the FedEx Service Guide for terms and conditions of service, including the FedEx Money-Back Guarantee, or contact your FedEx Customer Support representative.

McMillan, Michael, EMNRD

From: McMillan, Michael, EMNRD
Sent: Tuesday, October 31, 2017 1:58 PM
To: 'Chris Weyand'
Cc: Goetze, Phillip, EMNRD; Jones, William V, EMNRD
Subject: Alpha SWD Alpha SWD Well No. 2

Chris:

Your application for Alpha SWD Alpha SWD Well No. 2 is cancelled.

The following information is not present:

- No affidavit of publication. I did not see a proposed publication in the packet.
- No proof of mailing

When you get a complete application you may reapply

Michael McMillan
1220 South St. Francis
Santa Fe, New Mexico
505-476-3448
Michael.mcmillan@state.nm.us

McMillan, Michael, EMNRD

From: Chris Weyand <chris@lonquist.com>
Sent: Wednesday, November 8, 2017 3:52 PM
To: McMillan, Michael, EMNRD
Cc: Goetze, Phillip, EMNRD; Jones, William V, EMNRD
Subject: RE: Alpha SWD Alpha SWD Well No. 2
Attachments: Affidavit for Alpha SWD #2.pdf; Alpha SWD #2 Water Analysis.pdf; Alpha SWD#2 Delivery Receipts.pdf

Mike,

Attached please find the following:

- Affidavit of Publication
- Water analysis from two nearby fresh water wells (C-00333 & C-01891)
- Delivery receipts

Please let me know if you need anything else.

Thanks,

Chris Weyand
Staff Engineer
Lonquist & Co., LLC
(512) 600-1764 Direct
(210) 846-2673 Mobile

From: McMillan, Michael, EMNRD [mailto:Michael.McMillan@state.nm.us]
Sent: Tuesday, October 31, 2017 3:06 PM
To: Chris Weyand
Cc: Goetze, Phillip, EMNRD; Jones, William V, EMNRD
Subject: RE: Alpha SWD Alpha SWD Well No. 2

Your application will not be cancelled

Your application will now be suspended for 10-days until the rest of the notices and affidavit of publication is received
Mike

From: Chris Weyand [mailto:chris@lonquist.com]
Sent: Tuesday, October 31, 2017 2:02 PM
To: McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>
Cc: Goetze, Phillip, EMNRD <Phillip.Goetze@state.nm.us>; Jones, William V, EMNRD <WilliamV.Jones@state.nm.us>
Subject: RE: Alpha SWD Alpha SWD Well No. 2

Mike,

Here's a proof for the publication that was scheduled to run today and delivery notices that we've received thus far.

Do we still need to reapply?

Thanks,

Chris Weyand
Staff Engineer
Lonquist & Co., LLC
(512) 600-1764 Direct
(210) 846-2673 Mobile

From: McMillan, Michael, EMNRD [<mailto:Michael.McMillan@state.nm.us>]
Sent: Tuesday, October 31, 2017 2:58 PM
To: Chris Weyand
Cc: Goetze, Phillip, EMNRD; Jones, William V, EMNRD
Subject: Alpha SWD Alpha SWD Well No. 2

Chris:

Your application for Alpha SWD Alpha SWD Well No. 2 is cancelled.

The following information is not present:

- No affidavit of publication. I did not see a proposed publication in the packet.
- No proof of mailing

When you get a complete application you may reapply

Michael McMillan
1220 South St. Francis
Santa Fe, New Mexico
505-476-3448
Michael.mcmillan@state.nm.us

Maria Rivas

From: TrackingUpdates@fedex.com
Sent: Tuesday, October 31, 2017 11:12 AM
To: Chris Weyand
Subject: FedEx Shipment 770599377942 Delivered

Your package has been delivered

Tracking # 770599377942

Ship date:
Fri, 10/27/2017

Maria Rivas
Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Tue, 10/31/2017 10:09
am


1220 South Street
Oil Conservation Div. - District
IV
Francis Drive
SANTA FE, NM 87505
US



Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number: 770599377942
Status: Delivered: 10/31/2017 10:09
AM Signed for By: A.KILLOY
Reference: #1538
Signed for by: A.KILLOY
Delivery location: SANTA FE, NM
Delivered to: Mailroom
Service type: FedEx 2Day A.M
Packaging type: Your Packaging
Number of pieces: 1
Weight: 1.00 lb.
Special handling/Services: Deliver Weekday
Standard transit: 10/31/2017 by 10:30 am

 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 11:11 AM CDT on 10/31/2017.

Maria Rivas

From: TrackingUpdates@fedex.com
Sent: Wednesday, November 01, 2017 3:07 PM
To: Chris Weyand
Subject: FedEx Shipment 770599457829 Delivered

Your package has been delivered

Tracking # 770599457829

Ship date:
Mon, 10/30/2017

Maria Rivas

Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Wed, 11/1/2017 2:05
pm



NM Oil Conservation District
II
811 South First Street
ARTESIA, NM 88210
US

FedEx

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>770599457829</u>
Status:	Delivered: 11/01/2017 2:05 PM Signed for By: RRANDI
Reference:	Project # 1538
Signed for by:	RRANDI
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	11/1/2017

✉ Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 3:06 PM CDT on 11/01/2017.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

Standard transit is the date the package should be delivered by, based on the selected service, destination, and ship date. Limitations and exceptions may apply. Please see the FedEx Service Guide for terms and conditions of service, including the FedEx Money-Back Guarantee, or contact your FedEx Customer Support representative.

Maria Rivas

From: TrackingUpdates@fedex.com
Sent: Tuesday, October 31, 2017 10:35 AM
To: Maria Rivas
Subject: FedEx Shipment 770599508640 Delivered

Your package has been delivered

Tracking # 770599508640

Ship date:
Fri, 10/27/2017

Maria Rivas

Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Tue, 10/31/2017 10:32
am

c/o Glen Webb

Polk land & Minerals, LP
3300 South 14th Street, Suite
206
ABILENE, TX 79605
US



FedEx

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>770599508640</u>
Status:	Delivered: 10/31/2017 10:32 AM Signed for By: G.WEBB
Reference:	#1538
Signed for by:	G.WEBB
Delivery location:	ABILENE, TX
Delivered to:	Receptionist/Front Desk
Service type:	FedEx 2Day A.M
Packaging type:	Your Packaging
Number of pieces:	1
Weight:	1.00 lb.
Special handling/Services:	Deliver Weekday
Standard transit:	10/31/2017 by 10:30 am

✉ Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 10:34 AM CDT on 10/31/2017.

Maria Rivas

From: TrackingUpdates@fedex.com
Sent: Tuesday, October 31, 2017 1:44 PM
To: Chris Weyand
Subject: FedEx Shipment 770599550871 Delivered

Your package has been delivered

Tracking # 770599550871

Ship date:
Mon, 10/30/2017

Maria Rivas
Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Tue, 10/31/2017 1:41
pm

Matador Production
Company
LBJ Freeway, Suite 1500 One
Lincoln Center, 5400
DALLAS, TX 75240
US



Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>770599550871</u>
Status:	Delivered: 10/31/2017 1:41 PM Signed for By: LLISA
Reference:	#1538
Signed for by:	LLISA
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	10/31/2017

 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 1:43 PM CDT on 10/31/2017.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

FedEx

Maria Rivas

From: TrackingUpdates@fedex.com
Sent: Wednesday, November 01, 2017 12:10 PM
To: Chris Weyand
Subject: FedEx Shipment 770599583050 Delivered

Your package has been delivered

Tracking # 770599583050

Ship date:
Mon, 10/30/2017

Maria Rivas

Longquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Wed, 11/1/2017 12:07
pm

chevron USA Inc.
6301 Deauville Blvd.
MIDLAND, TX 79706
US



Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>770599583050</u>
Status:	Delivered: 11/01/2017 12:07 PM Signed for By: MBROWN
Reference:	#1538
Signed for by:	MBROWN
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	11/1/2017

 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 12:09 PM CDT on 11/01/2017.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

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FedEx

Maria Rivas

From: TrackingUpdates@fedex.com
Sent: Thursday, November 02, 2017 6:34 PM
To: Chris Weyand
Subject: FedEx Shipment 770608051585 Delivered

Your package has been delivered

Tracking # 770608051585

Ship date:
Mon, 10/30/2017

Maria Rivas
Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Thu, 11/2/2017 3:51 pm

Tap Rock Resources
Tap Rock Resources
602 Park Point Drive Suite 200
GOLDEN, CO 80401
US



Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>770608051585</u>
Status:	Delivered: 11/02/2017 3:51 PM Signed for By: RBEERMA
Reference:	1538
Signed for by:	RBEERMA
Delivery location:	Golden, CO
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	11/1/2017

☒ Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 6:34 PM CDT on 11/02/2017.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

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Maria Rivas

From: TrackingUpdates@fedex.com
Sent: Wednesday, November 01, 2017 12:36 PM
To: Chris Weyand
Subject: FedEx Shipment 770608151029 Delivered

Your package has been delivered

Tracking # 770608151029

Ship date:
Mon, 10/30/2017

Maria Rivas
Lonquist and Co., LLC
Austin, TX 78738
US



Delivery date:
Wed, 11/1/2017 12:34
pm


Snow Oil & Gas
Snow Oil & Gas
818 E Broadway St
ANDREWS, TX 79714
US

FedEx

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>770608151029</u>
Status:	Delivered: 11/01/2017 12:34 PM
Reference:	1538
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	11/1/2017

 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 12:36 PM CDT on 11/01/2017.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

Standard transit is the date the package should be delivered by, based on the selected service, destination, and ship date. Limitations and exceptions may apply. Please see the FedEx Service Guide for terms and conditions of service, including the FedEx Money-Back Guarantee, or contact your FedEx Customer Support representative.

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Maria Rivas

From: TrackingUpdates@fedex.com
Sent: Wednesday, November 01, 2017 1:58 PM
To: Chris Weyand
Subject: FedEx Shipment 770608173262 Delivered

Your package has been delivered

Tracking # 770608173262

Ship date:
Mon, 10/30/2017

Maria Rivas
Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Wed, 11/1/2017 1:55
pm

Crown Oil Partners V, LP
Crown Oil Partners V, LP
4000 N Blg Spring, Suite 300
MIDLAND, TX 79705
US



Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number: 770608173262

Status: Delivered: 11/01/2017 1:55
PM Signed for By:
ADEVRIES

Reference: 1538

Signed for by: ADEVRIES

Service type: FedEx Ground

Packaging type: Package

Number of pieces: 1

Weight: 1.00 lb.

Standard transit: 11/1/2017

 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 1:58 PM CDT on 11/01/2017.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

Maria Rivas

From: TrackingUpdates@fedex.com
Sent: Wednesday, November 01, 2017 1:58 PM
To: Chris Weyand
Subject: FedEx Shipment 770608188747 Delivered

Your package has been delivered

Tracking # 770608188747

Ship date:
Mon, 10/30/2017

Maria Rivas
Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Wed, 11/1/2017 1:55
pm

Crump Energy Partners II,
LLC
Crump Energy Partners II, LLC
4000 N Blg Spring, Suite 310
MIDLAND, TX 79705
US



Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number: 770608188747
Status: Delivered: 11/01/2017 1:55
PM Signed for By:
ADEVRIES
Reference: #1538
Signed for by: ADEVRIES
Service type: FedEx Ground
Packaging type: Package
Number of pieces: 1
Weight: 1.00 lb.
Standard transit: 11/1/2017

 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 1:58 PM CDT on 11/01/2017.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

Maria Rivas

From:
Sent:
To:
Subject:

TrackingUpdates@fedex.com
Wednesday, November 01, 2017 4:08 PM
Chris Weyand
FedEx Shipment 770608221989 Delivered

Your package has been delivered

Tracking # 770608221989

Ship date:
Mon, 10/30/2017

Maria Rivas

Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Wed, 11/1/2017 4:04
pm

Nadel & Gussman Delaware
LLC

Nadel & Gussman Delaware
LLC

15 East 5th Street Suite 3300
TULSA, OK 74103
US



Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>770608221989</u>
Status:	Delivered: 11/01/2017 4:04 PM Signed for By: PPARDUE
Reference:	#1538
Signed for by:	PPARDUE
Delivery location:	Tulsa, OK
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	11/1/2017

✉ Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 4:07 PM CDT on 11/01/2017.

All weights are estimated.

FedEx

Maria Rivas

From: TrackingUpdates@fedex.com
Sent: Tuesday, October 31, 2017 1:57 PM
To: Chris Weyand
Subject: FedEx Shipment 770608267189 Delivered

Your package has been delivered

Tracking # 770608267189

Ship date:
Mon, 10/30/2017

Maria Rivas
Lonquist and Co., LLC
Austin, TX 78738
US



Delivery date:
Tue, 10/31/2017 1:50
pm

Marathon Oil Permian LLC
Marathon Oil Permian LLC
5555 San Felipe Street
HOUSTON, TX 77056
US

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>770608267189</u>
Status:	Delivered: 10/31/2017 1:50 PM Signed for By: CMARCUS
Reference:	#1538
Signed for by:	CMARCUS
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	10/31/2017

✉ Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 1:56 PM CDT on 10/31/2017.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

FedEx

Maria Rivas

From: TrackingUpdates@fedex.com
Sent: Tuesday, October 31, 2017 2:11 PM
To: Chris Weyand
Subject: FedEx Shipment 770608378123 Delivered

Your package has been delivered

Tracking # 770608378123

Ship date:
Mon, 10/30/2017

Maria Rivas
Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Tue, 10/31/2017 2:09
pm

Peter R. Carter
Peter R. Carter
9320 Stratford Way
DALLAS, TX 75220
US



Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>770608378123</u>
Status:	Delivered: 10/31/2017 2:09 PM
Reference:	#1538
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	10/31/2017

☒ Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 2:11 PM CDT on 10/31/2017.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

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Maria Rivas

From: TrackingUpdates@fedex.com
Sent: Thursday, November 02, 2017 11:15 AM
To: Chris Weyand
Subject: FedEx Shipment 770608514871 Delivered

Your package has been delivered

Tracking # 770608514871

Ship date:
Mon, 10/30/2017

Maria Rivas
Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Thu, 11/2/2017 10:14
am

Barbara Carter
Barbara Carter
24 Condessa Road
SANTA FE, NM 87508
US



FedEx

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>770608514871</u>
Status:	Delivered: 11/02/2017 10:14 AM Signed for By: Signature Not Req
Reference:	#1538
Signed for by:	Signature Not Req
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	11/2/2017

✉ Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 11:15 AM CDT on 11/02/2017.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

Maria Rivas

From:
Sent:
To:
Subject:

TrackingUpdates@fedex.com
Wednesday, November 01, 2017 10:24 AM
Chris Weyand
FedEx Shipment 770608568790 Delivered

Your package has been delivered

Tracking # 770608568790

Ship date:
Mon, 10/30/2017

Maria Rivas
Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Wed, 11/1/2017 10:23
am

Edmund T Anderson
Edmund T Anderson
2521 Humble
MIDLAND, TX 79705
US




Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>770608568790</u>
Status:	Delivered: 11/01/2017 10:23 AM Signed for By: Signature Not Req
Reference:	#1538
Signed for by:	Signature Not Req
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	11/1/2017

FedEx

 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 10:24 AM CDT on 11/01/2017.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

Maria Rivas

From: TrackingUpdates@fedex.com
Sent: Wednesday, November 01, 2017 10:25 AM
To: Chris Weyand
Subject: FedEx Shipment 770608584960 Delivered

Your package has been delivered

Tracking # 770608584960

Ship date:
Mon, 10/30/2017

Maria Rivas
Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Wed, 11/1/2017 10:23
am

Edmund T. Anderson, IV,
Trustee
Mary Anderson Boll Family
Trust
2521 Humble
MIDLAND, TX 79705
US



FedEx

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>770608584960</u>
Status:	Delivered: 11/01/2017 10:23 AM Signed for By: Signature Not Req
Reference:	#1538
Signed for by:	Signature Not Req
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	11/1/2017

✉ Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 10:24 AM CDT on 11/01/2017.

All weights are estimated.

Maria Rivas

From: TrackingUpdates@fedex.com
Sent: Tuesday, October 31, 2017 2:32 PM
To: Chris Weyand
Subject: FedEx Shipment 770608732545 Delivered

Your package has been delivered

Tracking # 770608732545

Ship date:
Mon, 10/30/2017

Maria Rivas
Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Tue, 10/31/2017 2:29
pm

The Mary Gultar Polk Estate
LP
The Mary Gultar Polk Estate LP
#441 15250 Prestonwood Blvd.
DALLAS, TX 75248
US



Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>770608732545</u>
Status:	Delivered: 10/31/2017 2:29 PM Signed for By: MWILL
Reference:	#1538
Signed for by:	MWILL
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	10/31/2017

Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 2:31 PM CDT on 10/31/2017.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

FedEx

Marla Rivas

From: TrackingUpdates@fedex.com
Sent: Tuesday, October 31, 2017 2:32 PM
To: Chris Weyand
Subject: FedEx Shipment 770608747548 Delivered

Your package has been delivered

Tracking # 770608747548

Ship date:
Mon, 10/30/2017

Marla Rivas
Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Tue, 10/31/2017 2:29
pm

Ruth Ann Polk Caudle
Ruth Ann Polk Caudle
#441 15250 Prestonwood Blvd.
DALLAS, TX 75248
US



Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>770608747548</u>
Status:	Delivered: 10/31/2017 2:29 PM Signed for By: MWILL
Reference:	#1538
Signed for by:	MWILL
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	10/31/2017

✉ Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 2:32 PM CDT on 10/31/2017.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

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Maria Rivas

From: TrackingUpdates@fedex.com
Sent: Tuesday, November 07, 2017 6:10 PM
To: Chris Weyand
Subject: FedEx Shipment 770668744474 Delivered

Your package has been delivered

Tracking # 770668744474

Ship date:
Fri, 11/3/2017

Maria Rivas

Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Tue, 11/7/2017 6:08 pm

Catherine Parker & Craig

Parker


Catherine Parker & Craig Parker
3721 Pallos Verdas
DALLAS, TX 75229
US



Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>770668744474</u>
Status:	Delivered: 11/07/2017 6:08 PM Signed for By: Signature Not Req
Reference:	#1538
Signed for by:	Signature Not Req
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	11/8/2017

 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 8:09 PM CST on 11/07/2017.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

FedEx

Maria Rivas

From: TrackingUpdates@fedex.com
Sent: Monday, November 06, 2017 6:05 PM
To: Chris Weyand
Subject: FedEx Shipment 770668810230 Delivered

Your package has been delivered

Tracking # 770668810230

Ship date:
Fri, 11/3/2017

Maria Rivas
Lonquist and Co., LLC
Austin, TX 78738
US



Delivery date:
Mon, 11/6/2017 6:04
pm

Cakt Family Limited
Partnership
3721 Pallos Verdas
DALLAS, TX 75228
US

FedEx

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	<u>770668810230</u>
Status:	Delivered: 11/06/2017 6:04 PM Signed for By: Signature Not Req
Reference:	#1538
Signed for by:	Signature Not Req
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	11/6/2017

 Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 6:05 PM CST on 11/06/2017.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.



November 8, 2017

Dear Customer:

The following is the proof-of-delivery for tracking number **770682019651**.

Delivery Information:

Status:	Delivered	Delivered to:	Receptionist/Front Desk
Signed for by:	S.PINKERTON	Delivery location:	MIDLAND, TX
Service type:	FedEx Priority Overnight	Delivery date:	Nov 7, 2017 12:35
Special Handling:	Deliver Weekday		

Signature Image is available. In order to view image and detailed information, the shipper or payor account number of the shipment must be provided.

Shipping Information:

Tracking number:	770682019651	Ship date:	Nov 6, 2017
		Weight:	0.5 lbs/0.2 kg

Recipient:
MIDLAND, TX US

Shipper:
Austin, TX US

Reference

#

Thank you for choosing FedEx.

Maria Rivas

From: auto-reply@usps.com
Sent: Monday, November 06, 2017 11:07 AM
To: Chris Weyand
Subject: USPS® Item Delivered, To Agent 70141820000032039875



UNITED STATES
POSTAL SERVICE

Hello Chris Weyand,

Your item has been delivered to an agent at 4:46 am on November 6, 2017 in HOUSTON, TX 77210.

Tracking Number: 70141820000032039875

Delivered, To Agent



Tracking & Delivery Options

My Account

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INFORMED DELIVERY

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Download USPS Mobile®

Maria Rivas

From: auto-reply@usps.com
Sent: Friday, November 03, 2017 9:05 AM
To: Chris Weyand
Subject: USPS® Item Delivered, Individual Picked Up at Postal Facility 70171000000034025471



UNITED STATES
POSTAL SERVICE®

Hello Chris Weyand,

Your item was picked up at a postal facility at 8:15 am on November 2, 2017 in ABILENE, TX 79604.

Tracking Number: 70171000000034025471

Delivered, Individual Picked Up at Postal Facility



Tracking & Delivery Options

My Account

Visit [USPS Tracking®](#) to check the most up-to-date status of your package. Sign up for [Informed Delivery®](#) to digitally preview the address side of your incoming letter-sized mail and manage your packages scheduled to arrive soon! To update how frequently you receive emails from USPS, log in to your [USPS.com](#) account.

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Maria Rivas

From: auto-reply@usps.com
Sent: Monday, November 06, 2017 10:09 AM
To: Chris Weyand
Subject: USPS® Item Delivered, Individual Picked Up at Post Office 70171000000034025518



UNITED STATES
POSTAL SERVICE

Hello Chris Weyand,

Your item was picked up at the post office at 11:37 am on November 4, 2017 in LOVING, NM 88256.

Tracking Number: **70171000000034025518**

Delivered, Individual Picked Up at Post Office



Tracking & Delivery Options

My Account

Visit **USPS Tracking®** to check the most up-to-date status of your package. Sign up for **Informed Delivery®** to digitally preview the address side of your incoming letter-sized mail and manage your packages scheduled to arrive soon! To update how frequently you receive emails from USPS, log in to your **USPS.com** account.

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Maria Rivas

From: auto-reply@usps.com
Sent: Friday, November 03, 2017 11:27 AM
To: Chris Weyand
Subject: USPS® Item Delivered 70171000000034025525



UNITED STATES
POSTAL SERVICE

Hello Chris Weyand,

Your item was delivered at 11:08 am on November 3, 2017 in ABILENE, TX 79601.

Tracking Number: 70171000000034025525

Delivered



Tracking & Delivery Options

My Account

Visit **USPS Tracking®** to check the most up-to-date status of your package. Sign up for **Informed Delivery®** to digitally preview the address side of your incoming letter-sized mail and manage your packages scheduled to arrive soon! To update how frequently you receive emails from USPS, log in to your **USPS.com** account.

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INFORMED DELIVERY

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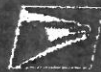


Download USPS Mobile®



Maria Rivas

From: auto-reply@usps.com
Sent: Friday, November 03, 2017 9:15 AM
To: Chris Weyand
Subject: USPS® Item Delivered 70171000000034025563



UNITED STATES
POSTAL SERVICE®

Hello Chris Weyand,

Your item was delivered at 10:57 am on November 2, 2017 in MIDLAND, TX 79705.

Tracking Number: 70171000000034025563

Delivered



Tracking & Delivery Options

My Account

Visit **USPS Tracking®** to check the most up-to-date status of your package. Sign up for **Informed Delivery®** to digitally preview the address side of your incoming letter-sized mail and manage your packages scheduled to arrive soon! To update how frequently you receive emails from USPS, log in to your **USPS.com** account.

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Maria Rivas

From: auto-reply@usps.com
Sent: Friday, November 03, 2017 9:17 AM
To: Chris Weyand
Subject: USPS® Item Delivered, Left with Individual 70171000000034025594



UNITED STATES
POSTAL SERVICE

Hello Chris Weyand,

Your item was delivered to an individual at the address at 12:11 pm on November 2, 2017 in DALLAS, TX 75205.

Tracking Number: 70171000000034025594

Delivered, Left with Individual



Tracking & Delivery Options

My Account

Visit **USPS Tracking®** to check the most up-to-date status of your package. Sign up for **Informed Delivery®** to digitally preview the address side of your incoming letter-sized mail and manage your packages scheduled to arrive soon! To update how frequently you receive emails from USPS, log in to your **USPS.com** account.

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Download USPS Mobile®

Maria Rivas

From: auto-reply@usps.com
Sent: Friday, November 03, 2017 2:37 PM
To: Chris Weyand
Subject: USPS® Item Delivered, Left with Individual 70171000000034025600



UNITED STATES
POSTAL SERVICE

Hello Chris Weyand,

Your item was delivered to an individual at the address at 2:31 pm on November 3, 2017 in LUBBOCK, TX 79423.

Tracking Number: 70171000000034025600

Delivered, Left with Individual



Tracking & Delivery Options

My Account

Visit [USPS Tracking®](#) to check the most up-to-date status of your package. Sign up for [Informed Delivery®](#) to digitally preview the address side of your incoming letter-sized mail and manage your packages scheduled to arrive soon! To update how frequently you receive emails from USPS, log in to your [USPS.com](#) account.

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INFORMED DELIVERY®

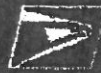
Sign up to view your mail
online or via email



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Maria Rivas

From: auto-reply@usps.com
Sent: Wednesday, November 08, 2017 11:17 AM
To: Chris Weyand
Subject: USPS® Item Delivered 70171000000034025631



UNITED STATES
POSTAL SERVICE

Hello Chris Weyand,

Your item was delivered at 10:06 am on November 7, 2017 in ABILENE, TX 79601.

Tracking Number: 70171000000034025631

Delivered



Tracking & Delivery Options

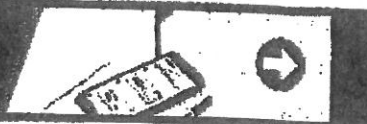
My Account

Visit [USPS Tracking](#) to check the most up-to-date status of your package. Sign up for [Informed Delivery](#) to digitally preview the address side of your incoming letter-sized mail and manage your packages scheduled to arrive soon! To update how frequently you receive emails from USPS, log in to your [USPS.com](#) account.

Want regular updates on your package? [Set up text alerts](#).

INFORMED DELIVERY

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Download USPS Mobile®



Maria Rivas

From: auto-reply@usps.com
Sent: Friday, November 03, 2017 3:25 PM
To: Chris Weyand
Subject: USPS® Ready for Pickup 70171000000034025587



UNITED STATES
POSTAL SERVICE

Hello Chris Weyand,

Your package is ready for pickup at your designated post office.

Your item arrived at the RICHARDSON, TX 75083 post office at 1:46 pm on November 3, 2017 and is ready for pickup.

Tracking Number: 70171000000034025587

Ready for Pickup!



Tracking & Delivery Options

My Account

Visit **USPS Tracking®** to check the most up-to-date status of your package. Sign up for **Informed Delivery®** to digitally preview the address side of your Incoming letter-sized mail and manage your packages scheduled to arrive soon! To update how frequently you receive emails from USPS, log in to your **USPS.com** account.

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INFORMED DELIVERY®

Sign up to view your mail
online or via email



SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY		SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<p>1. Complete items 1, 2, and 3.</p> <p>2. Print your name and address on the reverse so that we can return the card to you.</p> <p>3. Attach this card to the back of the mailpiece, or on the front if space permits.</p>		<p>A. Signature <i>[Signature]</i></p> <p>B. Received by (Printed Name) <i>[Name]</i></p> <p>C. Date of Delivery <i>11/21/17</i></p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If YES, enter delivery address below:</p>		<p>1. Complete items 1, 2, and 3.</p> <p>2. Print your name and address on the reverse so that we can return the card to you.</p> <p>3. Attach this card to the back of the mailpiece, or on the front if space permits.</p>		<p>A. Signature <i>[Signature]</i></p> <p>B. Received by (Printed Name) <i>[Name]</i></p> <p>C. Date of Delivery <i>11/21/17</i></p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If YES, enter delivery address below:</p>	
<p>Article Addressed to:</p> <p>JPH Holdings, LP 4400 Arcady Dallas, TX 75205</p>		<p>2. Service Type</p> <p><input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Certified Mail <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail <input type="checkbox"/> Registered Mail <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation <input type="checkbox"/> Signature Confirmation Restricted Delivery</p>		<p>Article Addressed to:</p> <p>CrownRock Minerals, L.P. P.O. Box 51933 Midland, TX 79710</p>		<p>2. Service Type</p> <p><input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Certified Mail <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail <input type="checkbox"/> Registered Mail <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation <input type="checkbox"/> Signature Confirmation Restricted Delivery</p>	
<p>2. Article Number (Transfer from service label)</p> <p>7017 1000 0000 3402 5594</p> <p>PS Form 3811, July 2016 PSN 7530-02-000-9055</p>		<p>Domestic Return Receipt</p>		<p>2. Article Number (Transfer from service label)</p> <p>7017 1000 0000 3402 5563</p> <p>PS Form 3811, July 2016 PSN 7530-02-000-9055</p>		<p>Domestic Return Receipt</p>	

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY		SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<p>1. Complete items 1, 2, and 3.</p> <p>2. Print your name and address on the reverse so that we can return the card to you.</p> <p>3. Attach this card to the back of the mailpiece, or on the front if space permits.</p>		<p>A. Signature <i>[Signature]</i></p> <p>B. Received by (Printed Name) <i>[Name]</i></p> <p>C. Date of Delivery <i>11/21/17</i></p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If YES, enter delivery address below:</p>		<p>1. Complete items 1, 2, and 3.</p> <p>2. Print your name and address on the reverse so that we can return the card to you.</p> <p>3. Attach this card to the back of the mailpiece, or on the front if space permits.</p>		<p>A. Signature <i>[Signature]</i></p> <p>B. Received by (Printed Name) <i>[Name]</i></p> <p>C. Date of Delivery <i>11/21/17</i></p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If YES, enter delivery address below:</p>	
<p>Article Addressed to:</p> <p>Jon Alexander Mangum, Rita J. Alexander and First Financial Trust and Asset Management Co., N.A., as Trustees of the Carol Gibson Trust and Cynthia Rhodes Trust P.O. Box 701 Abilene, TX 79604</p>		<p>2. Service Type</p> <p><input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Certified Mail <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail <input type="checkbox"/> Registered Mail <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation <input type="checkbox"/> Signature Confirmation Restricted Delivery</p>		<p>Article Addressed to:</p> <p>Sally Carter Ballard 3616 132nd St. Lubbock, TX 79423</p>		<p>2. Service Type</p> <p><input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Certified Mail <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail <input type="checkbox"/> Registered Mail <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation <input type="checkbox"/> Signature Confirmation Restricted Delivery</p>	
<p>2. Article Number (Transfer from service label)</p> <p>7017 1000 0000 3402 5471</p> <p>PS Form 3811, July 2016 PSN 7530-02-000-9055</p>		<p>Domestic Return Receipt</p>		<p>2. Article Number (Transfer from service label)</p> <p>7017 1000 0000 3402 5600</p> <p>PS Form 3811, July 2016 PSN 7530-02-000-9055</p>		<p>Domestic Return Receipt</p>	

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY		SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<p>1. Complete items 1, 2, and 3.</p> <p>2. Print your name and address on the reverse so that we can return the card to you.</p> <p>3. Attach this card to the back of the mailpiece, or on the front if space permits.</p>		<p>A. Signature <i>[Signature]</i></p> <p>B. Received by (Printed Name) <i>[Name]</i></p> <p>C. Date of Delivery <i>11-2-17</i></p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If YES, enter delivery address below:</p>		<p>1. Complete items 1, 2, and 3.</p> <p>2. Print your name and address on the reverse so that we can return the card to you.</p> <p>3. Attach this card to the back of the mailpiece, or on the front if space permits.</p>		<p>A. Signature <i>[Signature]</i></p> <p>B. Received by (Printed Name) <i>[Name]</i></p> <p>C. Date of Delivery <i>11-4-17</i></p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If YES, enter delivery address below:</p>	
<p>Article Addressed to:</p> <p>JMA Oil Properties, Ltd, Whose General Partner is JMA Management, LLC P.O. Box 58 Abilene, TX 79604</p>		<p>2. Service Type</p> <p><input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Certified Mail <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail <input type="checkbox"/> Registered Mail <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation <input type="checkbox"/> Signature Confirmation Restricted Delivery</p>		<p>Article Addressed to:</p> <p>Emma U. Carrasco P.O. Box 26 Loving, NM 88256</p>		<p>2. Service Type</p> <p><input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Certified Mail <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail <input type="checkbox"/> Registered Mail <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation <input type="checkbox"/> Signature Confirmation Restricted Delivery</p>	
<p>2. Article Number (Transfer from service label)</p> <p>7017 1000 0000 3402 5525</p> <p>PS Form 3811, July 2016 PSN 7530-02-000-9055</p>		<p>Domestic Return Receipt</p>		<p>2. Article Number (Transfer from service label)</p> <p>7017 1000 0000 3402 5538</p> <p>PS Form 3811, July 2016 PSN 7530-02-000-9055</p>		<p>Domestic Return Receipt</p>	

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY		SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<p>1. Complete items 1, 2, and 3.</p> <p>2. Print your name and address on the reverse so that we can return the card to you.</p> <p>3. Attach this card to the back of the mailpiece, or on the front if space permits.</p>		<p>A. Signature <i>[Signature]</i></p> <p>B. Received by (Printed Name) <i>[Name]</i></p> <p>C. Date of Delivery <i>11-2-17</i></p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If YES, enter delivery address below:</p>		<p>1. Complete items 1, 2, and 3.</p> <p>2. Print your name and address on the reverse so that we can return the card to you.</p> <p>3. Attach this card to the back of the mailpiece, or on the front if space permits.</p>		<p>A. Signature <i>[Signature]</i></p> <p>B. Received by (Printed Name) <i>[Name]</i></p> <p>C. Date of Delivery <i>11-2-17</i></p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If YES, enter delivery address below:</p>	
<p>Article Addressed to:</p> <p>Truchas Peaks, LLC 110 Louisiana, Suite 500 Midland, TX 79701</p>		<p>2. Service Type</p> <p><input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Certified Mail <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail <input type="checkbox"/> Registered Mail <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation <input type="checkbox"/> Signature Confirmation Restricted Delivery</p>		<p>Article Addressed to:</p> <p>Oxy USA WTP Limited Partnership P.O. Box 4294 Houston, Texas 77210</p>		<p>2. Service Type</p> <p><input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Certified Mail <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail <input type="checkbox"/> Registered Mail <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation <input type="checkbox"/> Signature Confirmation Restricted Delivery</p>	
<p>2. Article Number (Transfer from service label)</p> <p>7017 1000 0000 3402 5570</p> <p>PS Form 3811, July 2016 PSN 7530-02-000-9055</p>		<p>Domestic Return Receipt</p>		<p>2. Article Number (Transfer from service label)</p> <p>7017 1000 0000 3402 5570</p> <p>PS Form 3811, July 2016 PSN 7530-02-000-9055</p>		<p>Domestic Return Receipt</p>	

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY		SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<p>1. Complete items 1, 2, and 3.</p> <p>2. Print your name and address on the reverse so that we can return the card to you.</p> <p>3. Attach this card to the back of the mailpiece, or on the front if space permits.</p>		<p>A. Signature <i>[Signature]</i></p> <p>B. Received by (Printed Name) <i>[Name]</i></p> <p>C. Date of Delivery <i>11-9-17</i></p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If YES, enter delivery address below:</p>		<p>1. Complete items 1, 2, and 3.</p> <p>2. Print your name and address on the reverse so that we can return the card to you.</p> <p>3. Attach this card to the back of the mailpiece, or on the front if space permits.</p>		<p>A. Signature <i>[Signature]</i></p> <p>B. Received by (Printed Name) <i>[Name]</i></p> <p>C. Date of Delivery <i>11-9-17</i></p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If YES, enter delivery address below:</p>	
<p>Article Addressed to:</p> <p>Guitar Land & Cattle, LP P.O. Box 2213 Abilene, TX 79604</p>		<p>2. Service Type</p> <p><input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Certified Mail <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail <input type="checkbox"/> Registered Mail <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation <input type="checkbox"/> Signature Confirmation Restricted Delivery</p>		<p>Article Addressed to:</p> <p>Honey's Heritage LP P.O. Box 833206 Richardson, TX 75083-3206</p>		<p>2. Service Type</p> <p><input type="checkbox"/> Adult Signature <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Certified Mail <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Insured Mail <input type="checkbox"/> Registered Mail <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Signature Confirmation <input type="checkbox"/> Signature Confirmation Restricted Delivery</p>	
<p>2. Article Number (Transfer from service label)</p> <p>7017 1000 0000 3402 5570</p> <p>PS Form 3811, July 2016 PSN 7530-02-000-9055</p>		<p>Domestic Return Receipt</p>		<p>2. Article Number (Transfer from service label)</p> <p>7017 1000 0000 3402 5570</p> <p>PS Form 3811, July 2016 PSN 7530-02-000-9055</p>		<p>Domestic Return Receipt</p>	

SENDER: COMPLETE THIS SECTION

Complete items 1, 2, and 3.

Print your name and address on the reverse so that we can return the card to you.

Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Barl B + Margaret Ann
Guitar Revocable Trust
PO Box 748
Abilene, TX 79604

9590 9402 3291 7196 8828 22

Article Number (Transfer from service label)

7016 3560 0000 5828 3507

PS Form 3811, July 2015 PSN 7630-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *[Signature]*

B. Received by (Printed Name)

Caroline Guitar 11/14/17

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes ☐ No

If YES, enter delivery address below:

3. Service Type

☐ Priority Mail Express

☐ Registered Mail

☐ Registered Mail Restricted Delivery

☐ Certified Mail

☐ Certified Mail Restricted Delivery

☐ Collect on Delivery

☐ Collect on Delivery Restricted Delivery

☐ Signature Confirmation

☐ Signature Confirmation Restricted Delivery

☐ Return Receipt for Merchandise

☐ Return Receipt for Restricted Delivery

☐ Signature Confirmation Restricted Delivery

☐ Signature Confirmation Restricted Delivery

☐ Return Receipt for Merchandise

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☐ Signature Confirmation

☐ Signature Confirmation Restricted Delivery

☐ Return Receipt for Merchandise

☐ Return Receipt for Restricted Delivery

☐ Signature Confirmation

☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

Complete items 1, 2, and 3.

Print your name and address on the reverse so that we can return the card to you.

Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

KAREN GALL LUCAS TRUST
P.O. Box 90621
Austin, TX 78709-0621

9590 9402 3107 7100 0000 01

Article Number (Transfer from service label)

7017 1000 0000 3402 5662

PS Form 3811, July 2015 PSN 7630-02-000-6053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *[Signature]*

B. Received by (Printed Name)

Caroline Lucas 11/15/17

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes ☐ No

If YES, enter delivery address below:

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☐ Priority Mail Express

☐ Registered Mail

☐ Registered Mail Restricted Delivery

☐ Certified Mail

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Domestic Return Receipt

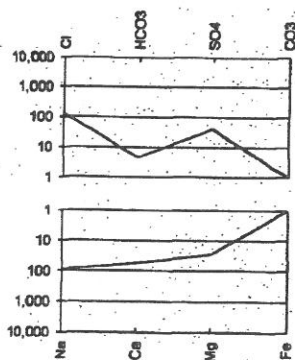
CARDINAL LABORATORIES **SCALE INDEX WATER ANALYSIS REPORT**

Company :	LONGQUIST FIELD SERVICES	Date Sampled :	10/27/17
Lease Name :	NOT GIVEN	Company Rep. :	CHRIS WEYAND
Well Number :	WELL C 00333 (H702956-01)		
Location :	NOT GIVEN		

ANALYSIS

1. pH	6.56			
2. Specific Gravity @ 60/60 F.	1.0100			
3. CaCO3 Saturation Index @ 80 F.	+0.582			'Calcium Carbonate Scale Possible'
@ 140 F.	+1.432			'Calcium Carbonate Scale Possible'
Dissolved Gasses				
4. Hydrogen Sulfide	0.012	PPM		
5. Carbon Dioxide	ND	PPM		
6. Dissolved Oxygen	ND	PPM		
Cations				
		/	Eq. Wt. =	MEQ/L
7. Calcium (Ca++)	1,110.00	/	20.1 =	55.22
8. Magnesium (Mg++)	335.00	/	12.2 =	27.46
9. Sodium (Na+)	1,740	/	23.0 =	90.79
10. Barium (Ba++)	0.000	/	68.7 =	0.00
Anions				
11. Hydroxyl (OH-)	0	/	17.0 =	0.00
12. Carbonate (CO3=)	0	/	30.0 =	0.00
13. Bicarbonate (HCO3-)	278	/	61.1 =	4.55
14. Sulfate (SO4=)	1,920	/	48.8 =	39.34
15. Chloride (Cl-)	4,600	/	35.5 =	129.58
Other				
16. Total Iron (Fe)	0.000	/	18.2 =	0.00
17. Total Dissolved Solids	10,400			
18. Total Hardness As CaCO3	4,151.0			
19. Calcium Sulfate Solubility @ 90 F.	2,620			'Calcium Sulfate Scale Possible'
20. Resistivity (Measured)	0.827			Ohm/Meters @ 77 Degrees (F)

Logarithmic Water Pattern



PROBABLE MINERAL COMPOSITION

COMPOUND	Eq. Wt.	X	MEQ/L	=	mg/L
Ca(HCO3)2	81.04	X	4.55	=	369
CaSO4	68.07	X	39.34	=	2,678
CaCl2	55.50	X	11.33	=	629
Mg(HCO3)2	73.17	X	0.00	=	0
MgSO4	60.19	X	0.00	=	0
MgCl2	47.62	X	27.46	=	1,308
NaHCO3	84.00	X	0.00	=	0
NaSO4	71.03	X	0.00	=	0
NaCl	58.46	X	90.79	=	5,308

CARDINAL LABORATORIES SCALE INDEX WATER ANALYSIS REPORT

Company	: LONGQUIST FIELD SERVICES
Lease Name	: NOT GIVEN
Well Number	: WELL C 01891 (H702956-02)
Location	: NOT GIVEN

Date Sampled : 10/27/17
Company Rep. : CHRIS WEYAND

ANALYSIS

- | | | |
|---|--------|------------------------------------|
| 1. pH | 6.84 | |
| 2. Specific Gravity @ 60/60 F. | 1.0090 | |
| 3. CaCO ₃ Saturation Index @ 80 F. | +0.924 | 'Calcium Carbonate Scale Possible' |
| @ 140 F. | +1.624 | 'Calcium Carbonate Scale Possible' |

Dissolved Gasses

- | | | | | |
|---------------------|--------|-----|-----------|-------|
| 4. Hydrogen Sulfide | 0.000 | PPM | | |
| 5. Carbon Dioxide | ND | PPM | | |
| 6. Dissolved Oxygen | ND | PPM | | |
| Cations | | | | |
| 7. Calcium (Ca++) | 944.00 | / | Eq. Wt. = | MEQ/L |
| 8. Magnesium (Mg++) | 221.00 | / | 12.2 = | 18.11 |
| 9. Sodium (Na+) | 1,050 | / | 23.0 = | 54.83 |
| 0. Barium (Ba++) | 0.000 | / | 68.7 = | 0.00 |

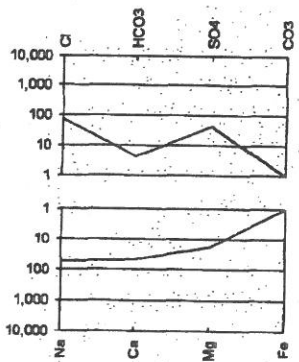
Anlons

- | | | | | | |
|-------------------------|-------|---|------|---|-------|
| 11. Hydroxyl (OH-) | 0 | / | 17.0 | = | 0.00 |
| 12. Carbonate (CO3=) | 0 | / | 30.0 | = | 0.00 |
| 13. Bicarbonate (HCO3-) | 249 | / | 61.1 | = | 4.08 |
| 14. Sulfate (SO4=) | 2,010 | / | 48.8 | = | 41.19 |
| 15. Chloride (Cl-) | 2,650 | / | 35.5 | = | 74.65 |

Other

- | | | | | | |
|---|---------|---|------|---|----------------------------------|
| 16. Total Iron (Fe) | 1.980 | / | 18.2 | = | 0.11 |
| 17. Total Dissolved Solids | 7,400 | | | | |
| 18. Total Hardness As CaCO ₃ | 3,267.0 | | | | |
| 19. Calcium Sulfate Solubility @ 90 F. | 2,622 | | | | |
| 20. Resistivity (Measured) | 1.168 | | | | |
| | | | | | 'Calcium Sulfate Scale Possible' |
| | | | | | Ohm/Meters @ 77 Degrees (F) |

Logarithmic Water Pattern



PROBABLE MINERAL COMPOSITION

COMPOUND	Eq. Wt.	X	MEQ/L	=	mg/L
Ca(HCO ₃) ₂	81.04	X	4.08	=	330
CaSO ₄	68.07	X	41.19	=	2,804
CaCl ₂	55.50	X	1.70	=	94
Mg(HCO ₃) ₂	73.17	X	0.00	=	0
MgSO ₄	60.19	X	0.00	=	0
MgCl ₂	47.62	X	18.11	=	863
NaHCO ₃	84.00	X	0.00	=	0
NaSO ₄	71.03	X	0.00	=	0
NaCl	58.46	X	54.83	=	3,205



PHONE (575) 293-2326 • 101 E. MARLAND • HOBBS, NM 88240

November 03, 2017

CHRIS WEYAND

Lonquist Field Services, LLC

3345 Bee Cave Road, Suite 201

Austin, TX 78746

RE: WATER SAMPLES

Enclosed are the results of analyses for samples received by the laboratory on 10/27/17 14:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-9. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Total Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in cursive script that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

Analytical Results For:

Lonquist Field Services, LLC
3345 Bee Cave Road, Suite 201
Austin TX, 78746

Project: WATER SAMPLES
Project Number: NONE GIVEN
Project Manager: CHRIS WEYAND
Fax To: (512) 732-9816

Reported:
03-Nov-17 16:45

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WELL C- 00333	H702956-01	Water	27-Oct-17 10:00	27-Oct-17 14:50
WELL C- 01891	H702956-02	Water	27-Oct-17 11:00	27-Oct-17 14:50

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Lonquist Field Services, LLC
3345 Bee Cave Road, Suite 201
Austin TX, 78746

Project: WATER SAMPLES
Project Number: NONE GIVEN
Project Manager: CHRIS WEYAND
Fax To: (512) 732-9816

Reported:
03-Nov-17 16:45

**WELL C- 00333
H702956-01 (Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Alkalinity, Bicarbonate	278		5.00	mg/L	1	7101105	AC	30-Oct-17	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	7101105	AC	30-Oct-17	310.1	
Chloride*	4600		4.00	mg/L	1	7103006	AC	30-Oct-17	4500-Cl-B	
Conductivity*	12100		1.00	uS/cm	1	7102713	AC	27-Oct-17	120.1	
pH*	6.56		0.100	pH Units	1	7102713	AC	27-Oct-17	150.1	
Resistivity	0.827			Ohms/m	1	7102713	AC	27-Oct-17	120.1	
Specific Gravity @ 60° F	1.010		0.000	[blank]	1	7110311	AC	03-Nov-17	SM 2710F	
Sulfate*	1920		250	mg/L	25	7103009	AC	30-Oct-17	375.4	
TDS*	10400		5.00	mg/L	1	7102613	AC	30-Oct-17	160.1	
Alkalinity, Total*	228		4.00	mg/L	1	7101105	AC	30-Oct-17	310.1	
Sulfide, total	0.0122		0.0100	mg/L	1	7103007	AC	30-Oct-17	376.2	

Green Analytical Laboratories

Total Recoverable Metals by ICP (E200.7)

Barium*	<1.25		1.25	mg/L	25	B710265	JDA	01-Nov-17	EPA200.7	
Calcium*	1110		2.50	mg/L	25	B710265	JDA	01-Nov-17	EPA200.7	M5
Iron*	<1.25		1.25	mg/L	25	B710265	JDA	01-Nov-17	EPA200.7	
Magnesium*	335		2.50	mg/L	25	B710265	JDA	01-Nov-17	EPA200.7	
Potassium*	<25.0		25.0	mg/L	25	B710265	JDA	01-Nov-17	EPA200.7	
Sodium*	1740		25.0	mg/L	25	B710265	JDA	01-Nov-17	EPA200.7	M5

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Lonquist Field Services, LLC
3345 Bee Cave Road, Suite 201
Austin TX, 78746

Project: WATER SAMPLES
Project Number: NONE GIVEN
Project Manager: CHRIS WEYAND
Fax To: (512) 732-9816

Reported:
03-Nov-17 16:45

**WELL C- 01891
H702956-02 (Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Alkalinity, Bicarbonate	249		5.00	mg/L	1	7101105	AC	30-Oct-17	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	7101105	AC	30-Oct-17	310.1	
Chloride*	2650		4.00	mg/L	1	7103006	AC	30-Oct-17	4500-Cl-B	
Conductivity*	8560		1.00	uS/cm	1	7102713	AC	27-Oct-17	120.1	
pH*	6.84		0.100	pH Units	1	7102713	AC	27-Oct-17	150.1	
Resistivity	1.17			Ohms/m	1	7102713	AC	27-Oct-17	120.1	
Specific Gravity @ 60° F	1.009		0.000	[blank]	1	7110311	AC	03-Nov-17	SM 2710F	
Sulfate*	2010		500	mg/L	50	7103009	AC	30-Oct-17	375.4	
TDS*	7400		5.00	mg/L	1	7102613	AC	30-Oct-17	160.1	
Alkalinity, Total*	204		4.00	mg/L	1	7101105	AC	30-Oct-17	310.1	
Sulfide, total	<0.0100		0.0100	mg/L	1	7103007	AC	30-Oct-17	376.2	

Green Analytical Laboratories

Total Recoverable Metals by ICP (E200.7)

Barium*	<1.25	1.25	mg/L	25	B710265	JDA	01-Nov-17	EPA200.7	
Calcium*	944	2.50	mg/L	25	B710265	JDA	01-Nov-17	EPA200.7	
Iron*	1.98	1.25	mg/L	25	B710265	JDA	01-Nov-17	EPA200.7	
Magnesium*	221	2.50	mg/L	25	B710265	JDA	01-Nov-17	EPA200.7	
Potassium*	<25.0	25.0	mg/L	25	B710265	JDA	01-Nov-17	EPA200.7	
Sodium*	1050	25.0	mg/L	25	B710265	JDA	01-Nov-17	EPA200.7	

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Lonquist Field Services, LLC
3345 Bee Cave Road, Suite 201
Austin TX, 78746

Project: WATER SAMPLES
Project Number: NONE GIVEN
Project Manager: CHRIS WEYAND
Fax To: (512) 732-9816

Reported:
03-Nov-17 16:45

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7101105 - General Prep - Wet Chem										
Blank (7101105-BLK1)										
Prepared & Analyzed: 11-Oct-17										
Alkalinity, Carbonate	ND	1.00	mg/L							
Alkalinity, Bicarbonate	5.00	5.00	mg/L							
Alkalinity, Total	4.00	4.00	mg/L							
LCS (7101105-BS1)										
Prepared & Analyzed: 11-Oct-17										
Alkalinity, Carbonate	ND	2.50	mg/L				80-120			
Alkalinity, Bicarbonate	318	12.5	mg/L				80-120			
Alkalinity, Total	260	10.0	mg/L	250		104	80-120			
LCS Dup (7101105-BSD1)										
Prepared & Analyzed: 11-Oct-17										
Alkalinity, Carbonate	ND	2.50	mg/L				80-120		20	
Alkalinity, Bicarbonate	330	12.5	mg/L				80-120	3.86	20	
Alkalinity, Total	270	10.0	mg/L	250		108	80-120	3.77	20	
Batch 7102613 - Filtration										
Blank (7102613-BLK1)										
Prepared: 26-Oct-17 Analyzed: 28-Oct-17										
TDS	ND	5.00	mg/L							
LCS (7102613-BS1)										
Prepared: 26-Oct-17 Analyzed: 30-Oct-17										
TDS	217	5.00	mg/L	213		102	80-120			
Duplicate (7102613-DUP1)										
Source: H702901-17 Prepared: 26-Oct-17 Analyzed: 28-Oct-17										
TDS	702	5.00	mg/L		674			4.07	20	
Batch 7102713 - General Prep - Wet Chem										
LCS (7102713-BS1)										
Prepared & Analyzed: 27-Oct-17										
Conductivity	467		uS/cm	500		93.4	80-120			
pH	7.07		pH Units	7.00		101	90-110			

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*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

Analytical Results For:

Lonquist Field Services, LLC
3345 Bee Cave Road, Suite 201
Austin TX, 78746

Project: WATER SAMPLES
Project Number: NONE GIVEN
Project Manager: CHRIS WEYAND
Fax To: (512) 732-9816

Reported:
03-Nov-17 16:45

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7102713 - General Prep - Wet Chem										
Duplicate (7102713-DUP1)		Source: H702952-06		Prepared & Analyzed: 27-Oct-17						
Conductivity	3690	1.00	uS/cm		3690			0.00	20	
pH	8.24	0.100	pH Units		8.23			0.121	20	
Resistivity	2.71		Ohms/m		2.71			0.00	20	
Batch 7103006 - General Prep - Wet Chem										
Blank (7103006-BLK1)		Prepared & Analyzed: 30-Oct-17								
Chloride	ND	4.00	mg/L							
LCS (7103006-BS1)		Prepared & Analyzed: 30-Oct-17								
Chloride	104	4.00	mg/L	100		104	80-120			
LCS Dup (7103006-BSD1)		Prepared & Analyzed: 30-Oct-17								
Chloride	104	4.00	mg/L	100		104	80-120	0.00	20	
Batch 7103007 - General Prep - Wet Chem										
Blank (7103007-BLK1)		Prepared & Analyzed: 30-Oct-17								
Sulfide, total	ND	0.0100	mg/L							
Duplicate (7103007-DUP1)		Source: H702952-06		Prepared & Analyzed: 30-Oct-17						
Sulfide, total	0.00700	0.0100	mg/L		0.00600			15.4	20	
Batch 7103009 - General Prep - Wet Chem										
Blank (7103009-BLK1)		Prepared & Analyzed: 30-Oct-17								
Sulfate	ND	10.0	mg/L							

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Celley D. Keene

Celley D. Keene, Lab Director/Quality Manager



CARDINAL
Laboratories

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NH 08240

Analytical Results For:

Lonquist Field Services, LLC
3345 Bee Cave Road, Suite 201
Austin TX, 78746

Project: WATER SAMPLES
Project Number: NONE GIVEN
Project Manager: CHRIS WEYAND
Fax To: (512) 732-9816

Reported:
03-Nov-17 16:45

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7103009 - General Prep - Wet Chem										
LCS (7103009-BS1)				Prepared & Analyzed: 30-Oct-17						
Sulfate	23.3	10.0	mg/L	20.0		116	80-120			
LCS Dup (7103009-BSD1)				Prepared & Analyzed: 30-Oct-17						
Sulfate	23.0	10.0	mg/L	20.0		115	80-120	1.21	20	
Batch 7110311 - General Prep - Wet Chem										
Duplicate (7110311-DUP1)				Source: H702956-01		Prepared & Analyzed: 03-Nov-17				
Specific Gravity @ 60° F	1.010	0.000	[blank]		1.010			0.0505	20	

Cardinal Laboratories

*=Accredited Analyte

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Celestine Keene

Celestine D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

Analytical Results For:

Lonquist Field Services, LLC
3345 Bee Cave Road, Suite 201
Austin TX, 78746

Project: WATER SAMPLES
Project Number: NONE GIVEN
Project Manager: CHRIS WEYAND
Fax To: (512) 732-9816

Reported:
03-Nov-17 16:45

Total Recoverable Metals by ICP (E200.7) - Quality Control

Green Analytical Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B710265 - Total Rec. 200.7/200.8/200.2										
Blank (B710265-BLK1)										
Prepared: 31-Oct-17 Analyzed: 01-Nov-17										
Iron	ND	0.050	mg/L							
Sodium	ND	1.00	mg/L							
Calcium	ND	0.100	mg/L							
Potassium	ND	1.00	mg/L							
Magnesium	ND	0.100	mg/L							
Barium	ND	0.050	mg/L							
LCS (B710265-BS1)										
Prepared: 31-Oct-17 Analyzed: 01-Nov-17										
Sodium	6.72	1.00	mg/L	6.48		104	85-115			
Barium	2.08	0.050	mg/L	2.00		104	85-115			
Potassium	8.33	1.00	mg/L	8.00		104	85-115			
Magnesium	20.8	0.100	mg/L	20.0		104	85-115			
Calcium	4.07	0.100	mg/L	4.00		102	85-115			
Iron	4.12	0.050	mg/L	4.00		103	85-115			
LCS Dup (B710265-BSD1)										
Prepared: 31-Oct-17 Analyzed: 01-Nov-17										
Calcium	4.21	0.100	mg/L	4.00		105	85-115	3.31	20	
Potassium	8.50	1.00	mg/L	8.00		106	85-115	2.02	20	
Sodium	6.83	1.00	mg/L	6.48		105	85-115	1.59	20	
Barium	2.11	0.050	mg/L	2.00		105	85-115	1.47	20	
Iron	4.22	0.050	mg/L	4.00		106	85-115	2.58	20	
Magnesium	21.3	0.100	mg/L	20.0		107	85-115	2.55	20	

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence or any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damage including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether the claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- M5 Sample was chosen for matrix spike. Spike recovery did not meet laboratory acceptance criteria, possible matrix interference in sample.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500C-B does not require samples be received at or below 6°C
- Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

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* = Accredited Analyte


Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(505) 393-2326 FAX (505) 393-2476

ANALYSIS REQUEST																																																					
Company Name: Lab Services		P.O. #:		<div style="border: 1px solid black; padding: 5px;"> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2">Matrix</th> <th>Preserv</th> <th>Sampling</th> </tr> <tr> <td>(G)RAB OR (C)OUP</td> <td>3 CONTAINERS</td> <td></td> <td></td> </tr> <tr> <td>GROUNDWATER</td> <td></td> <td></td> <td></td> </tr> <tr> <td>WASTEWATER</td> <td></td> <td></td> <td></td> </tr> <tr> <td>SOIL</td> <td></td> <td></td> <td></td> </tr> <tr> <td>OIL</td> <td></td> <td></td> <td></td> </tr> <tr> <td>SLUDGE</td> <td></td> <td></td> <td></td> </tr> <tr> <td>OTHER:</td> <td></td> <td></td> <td></td> </tr> <tr> <td>ACID/BASE</td> <td></td> <td></td> <td></td> </tr> <tr> <td>ICE / COOL</td> <td></td> <td></td> <td></td> </tr> <tr> <td>OTHER:</td> <td></td> <td></td> <td></td> </tr> </table> </div>						Matrix		Preserv	Sampling	(G)RAB OR (C)OUP	3 CONTAINERS			GROUNDWATER				WASTEWATER				SOIL				OIL				SLUDGE				OTHER:				ACID/BASE				ICE / COOL				OTHER:			
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OTHER:																																																					
Project Manager: Dusty Armstrong		City:																																																			
Address:		State:																																																			
City:		Zip:																																																			
Phone #:		Fax #:																																																			
Project Name: Longquist		Project Owner:		<div style="border: 1px solid black; padding: 5px;"> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>DATE</th> <th>TIME</th> </tr> <tr> <td>10/27/07</td> <td>10:30</td> </tr> <tr> <td>11:20</td> <td></td> </tr> </table> </div>						DATE	TIME	10/27/07	10:30	11:20																																							
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FOR LAB USE ONLY																																																					
<div style="border: 1px solid black; padding: 5px;"> Lab I.D. H702936 1 Well C-00333 2 Well C-D1991 </div>				<div style="border: 1px solid black; padding: 5px;"> Received By: 10/27/07 8:50 10/27/07 8:50 </div>																																																	
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† Cardinal cannot accept verbal channels. Please say written channels/term and leave

Affidavit of Publication

State of New Mexico,
County of Eddy, ss.

Danny Fletcher, being first duly
sworn, on oath says:

That he is the Publisher of the
Carlsbad Current-Argus, a
newspaper published daily at the
City of Carlsbad, in said county of
Eddy, state of New Mexico and of
general paid circulation in said
county; that the same is a duly
qualified newspaper under the laws
of the State wherein legal notices
and advertisements may be
published; that the printed notice
attached hereto was published in the
regular and entire edition of said
newspaper and not in supplement
thereof on the date as follows, to wit:

October 31 2017

That the cost of publication is **\$68.15**
and that payment thereof has been
made and will be assessed as court
costs.

[Signature]

Subscribed and sworn to before me
this 3 day of November, 2017

Cynthia Arredondo

My commission Expires 2/13/21

Notary Public



October 31, 2017

Legal Notice

Alpha SWD Operating LLC, 4436 Sterling Ln, Plano, Texas 75093 is filing Form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division for administrative approval for its salt water disposal well Alpha SWD No. 2. The proposed well will be located .353' FNL & 2,398' FWL in Section 18, Township 23S, Range 28E in Eddy County, New Mexico. Disposal water will be sourced from area production, and will be injected into the Siluro-Devonian Formation (determined by offset log analysis) through an open hole completion between a maximum applied for top of 13,275 feet to a maximum depth of 14,465 feet. The maximum surface injection pressure will not exceed 2,655 psi with a maximum rate of 32,000 BWPD. Interested parties opposing the action must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico 87505, within 15 days. Additional information can be obtained from the applicant's agent, Lonquist & Co., LLC, at (512) 600-1764.

Affidavit of Publication

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That he is the Publisher of the
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City of Carlsbad, in said county of
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general paid circulation in said
county; that the same is a duly
qualified newspaper under the laws
of the State wherein legal notices
and advertisements may be
published; that the printed notice
attached hereto was published in the
regular and entire edition of said
newspaper and not in supplement
thereof on the date as follows, to wit:

October 31 2017

That the cost of publication is **\$68.15**
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costs.

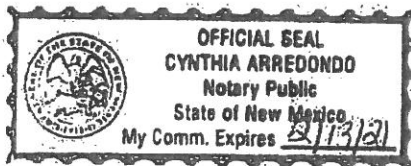
[Signature]

Subscribed and sworn to before me
this 3 day of November, 2017

Cynthia Arredondo

My commission Expires 2/13/21

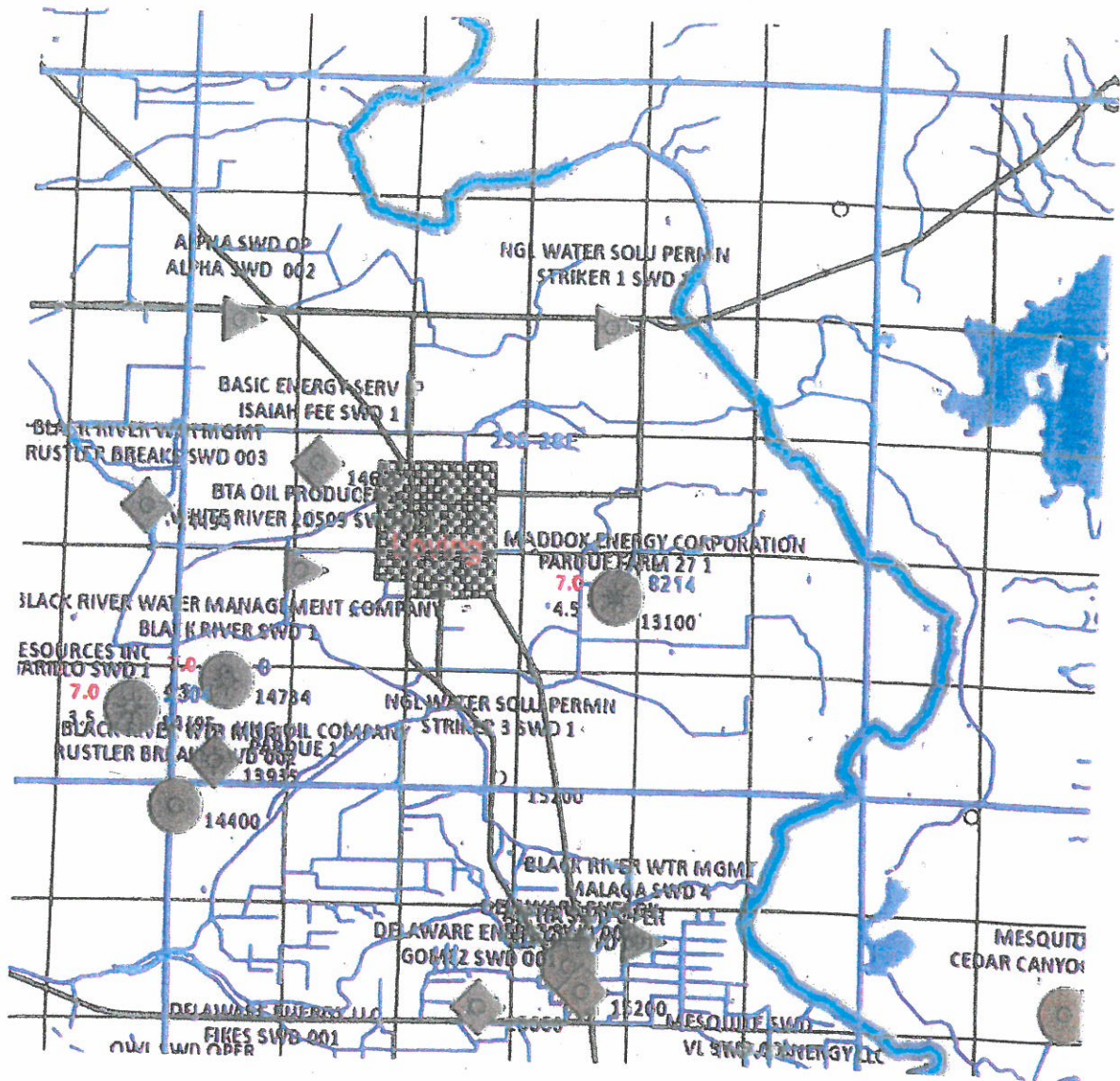
Notary Public



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rs.osa.state.nm.us/nmwms/ReportProxy?queryData=%7B"report"%3A"waterColumn"

Average Depth to Water:	195 feet
Minimum Depth:	80 feet
Maximum Depth:	221 feet

PLSS Search:

Section(s): 13 **Township:** 23S **Range:** 26E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSF/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.

12/13/17 12:06 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER



New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the
POD suffix indicates the
POD has been replaced
& no longer serves a
water right file.)

(R=POD has been replaced,
O=orphaned,
C=the file is closed)

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

(NAD83 UTM in meters)

(In feet)

POD Number	Code	Sub-basin	County	Q	Q	Q	Rng	X	Y	Depth	Well	Water Column
			64	16	4	Sec	Tws					
			ED	3	3	1	20	23S	28E			
C 00312	O		ED	3	3	1	20	23S	28E	583140	3573106*	230 70 160
C 00313			ED	3	3	3	17	23S	28E	583136	3573915*	250 75 175
C 00333			ED	3	1	2	18	23S	28E	582325	3575118*	147
C 00851	C		ED			3	17	23S	28E	583438	3574217*	200 50 150
C 00911 POD2	C		ED	1	2	4	20	23S	28E	584359	3572911*	69 34 35
C 00911 POD3	C		ED	1	2	4	20	23S	28E	584359	3572911*	218 60 158
C 01477			ED	1	3	3	19	23S	28E	581532	3572484*	127 10 117
C 01992	C		ED	3	4	1	19	23S	28E	581929	3573094*	232 45 187
C 02180	C		ED			3	18	23S	28E	581831	3574198*	140 80 60
C 02697	C		ED	1	3	18	23S	28E	28E	581629	3574401*	220 42 178
C 03082	C		ED	1	3	3	18	23S	28E	581529	3574096*	220 217 3
C 03542 POD1	CUB		ED	2	4	4	20	23S	28E	584615	3572530	22 16 6
C 03542 POD2	CUB		ED	2	4	4	20	23S	28E	584620	3572497	30
C 03753 POD1	C		ED	3	3	1	18	23S	28E	581515	3574658	210 60 150
C 03762 POD1	CUB		ED	4	4	2	17	23S	28E	585314	3574066	40 31 9
C 03762 POD2	CUB		ED	4	4	2	17	23S	28E	584893	3575598	40 30 10
C 03779 POD1	C		ED	2	3	3	18	23S	28E	581707	3574103	110 70 40
C 03922 POD1	C		ED	3	2	3	18	23S	28E	581844	3574230	138 75 63
C 04066 POD1	C		ED	2	4	1	18	23S	28E	587038	3574823	155 80 75

%0A"BasinDiv"%3Atrue"%2C%0A"Basin"%3A""%2C%0A"County"%3A""%2C%0A"S...basin"%...

Minimum Depth: 10 feet

Maximum Depth: 217 feet

PLSS Search:

Section(s): 17-20 **Township:** 23S **Range:** 28E

*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.

12/13/17 12:02 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

McMillan, Michael, EMNRD

From: Chris Weyand <chris@lonquist.com>
Sent: Tuesday, November 28, 2017 4:13 PM
To: McMillan, Michael, EMNRD
Subject: RE: Alpha SWD Alpha SWD Well No. 2
Attachments: FedEx Shipment 770682019651 Truchas.pdf, FedEx Shipment 770681830802 Villa Trust.pdf

Mike,

I realized there were two FedEx notices I hadn't not provided the delivery confirmation for.

Please see attached.

Thanks,

Chris Weyand
Staff Engineer
Lonquist & Co., LLC
(512) 600-1764 Direct
(210) 846-2673 Mobile

From: Chris Weyand
Sent: Tuesday, November 28, 2017 4:58 PM
To: 'McMillan, Michael, EMNRD'
Subject: RE: Alpha SWD Alpha SWD Well No. 2

Mike – Sorry to bother you again, but if you're able, please let me know if you need anything else to "Complete" this application.

I think I've gotten you everything.

Thanks,

Chris Weyand
Staff Engineer
Lonquist & Co., LLC
(512) 600-1764 Direct
(210) 846-2673 Mobile

From: Chris Weyand
Sent: Tuesday, November 28, 2017 4:16 PM
To: 'McMillan, Michael, EMNRD'
Subject: RE: Alpha SWD Alpha SWD Well No. 2

Mike,

The requested green cards just came back.

Thanks,

Chris Weyand

From: Maria Rivas
Sent: Thursday, November 09, 2017 12:19 PM
To: Chris Weyand
Subject: FW: FedEx Shipment 770681830802 Delivered

Thank you,
Maria

LONQUIST & CO. LLC

PEPETOLEM
ENGINEERS ENERGY
ADVISORS

HOUSTON | CALGARY
AUSTIN | WICHITA | DENVER

Maria L Rivas • Administrative Assistant • Lonquist & Co., LLC • 12912 Hill Country Blvd., Suite F-200 • Austin, Texas, USA 78738
Direct: 512-600-1763 • Cell: 516-851-9899 • Fax: 512-732-9816 • maria@lonquist.com • www.lonquist.com

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From: TrackingUpdates@fedex.com [<mailto:TrackingUpdates@fedex.com>]
Sent: Wednesday, November 08, 2017 6:11 PM
To: Maria Rivas
Subject: FedEx Shipment 770681830802 Delivered

Your package has been delivered

Tracking # 770681830802

Ship date:
Mon, 11/6/2017

Maria Rivas
Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Wed, 11/8/2017 5:07
pm

The Emilio R. Villa Recovable
Trust
1206 Bryan Circle
CARLSBAD, NM 88220
US

Delivered

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number: 770681830802

Status: Delivered: 11/08/2017 5:07
PM Signed for By: Signature
not required

Chris Weyand

From: Maria Rivas
Sent: Tuesday, November 07, 2017 12:42 PM
To: Chris Weyand
Subject: FW: FedEx Shipment 770682019651 Delivered

Thank you,
Maria

LONQUIST & CO. LLC



**HOUSTON | CALGARY
AUSTIN | WICHITA | DENVER**

Maria L Rivas • Administrative Assistant • Lonquist & Co., LLC • 12912 Hill Country Blvd., Suite F-200 • Austin, Texas, USA 78738
Direct: 512-600-1763 • Cell: 516-851-9899 • Fax: 512-732-9816 • maria@lonquist.com • www.lonquist.com

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From: TrackingUpdates@fedex.com [<mailto:TrackingUpdates@fedex.com>]
Sent: Tuesday, November 07, 2017 12:41 PM
To: Maria Rivas
Subject: FedEx Shipment 770682019651 Delivered

Your package has been delivered

Tracking # 770682019651

Ship date:
Mon, 11/6/2017

Maria Rivas
Lonquist and Co., LLC
Austin, TX 78738
US

Delivery date:
Tue, 11/7/2017 12:35
pm

Truchas Peaks, LLC
110 Louisiana, Suite 500
MIDLAND, TX 79701
US

Delivered

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number: 770682019651

Status: Delivered: 11/07/2017 12:35
PM Signed for By:
S.PINKERTON

Reference: #

McMillan, Michael, EMNRD

From: Chris Weyand <chris@lonquist.com>
Sent: Wednesday, December 20, 2017 1:16 PM
To: McMillan, Michael, EMNRD
Cc: Jones, William V, EMNRD
Subject: RE: Alpha SWD Alpha SWD Well No. 2
Attachments: Alpha SWD #2_20171220 v2.pdf

Mike / Will,

Would it be acceptable to run a liner instead of production casing back to surface and as a result run a split string of tubing?

Please see attached.

Thanks,

Chris Weyand
Staff Engineer
Lonquist & Co., LLC
(512) 600-1764 Direct
(210) 846-2673 Mobile

From: McMillan, Michael, EMNRD [mailto:Michael.McMillan@state.nm.us]
Sent: Wednesday, December 20, 2017 10:35 AM
To: Chris Weyand
Cc: Jones, William V, EMNRD
Subject: RE: Alpha SWD Alpha SWD Well No. 2

Chris:

Based on work by Will Jones, the maximum tubing size that will be allowed with the wellbore diagram in your proposed SWD is a 5-inch tubing.

As a result, the OCD will require a revised wellbore diagram.

Thank You

Mike

From: Chris Weyand [mailto:chris@lonquist.com]
Sent: Tuesday, December 12, 2017 9:10 AM
To: McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>
Subject: RE: Alpha SWD Alpha SWD Well No. 2

Hi Mike,

Hope all is well. Are you able to provide an estimated date the order will be issued for the Alpha SWD #2?



FORM C-108 Technical Review Summary

[Prepared by reviewer and included with application; V16.2]

DATE RECORD: First Rec: 10/3/2017 Admin Complete: 11/28/2017 or Suspended: _____ Add. Request/Reply: _____ORDER TYPE: WFX / PMX (SWD) Number: _____ Order Date: _____ Legacy Permits/Orders: _____Well No. 2 Well Name(s): Alpha SWDAPI: 30-0 15-44 S30 Spud Date: TBD New or Old (EPA): N (UIC Class II Primacy 03/07/1982)Footages 353 FAL Lot _____ or Unit C Sec 18 Tsp 23S Rge 24E County EddyGeneral Location: 2 miles NW Loving Pool: SWD, Devonian-Silurian Pool No.: 97869BLM 100K Map: Charlesbad Operator: Operating LLC OGRID: 372180 Contact: Chris Weyan, AgentCOMPLIANCE RULE 5.9: Total Wells: 2 Inactive: 0 Fincl Assur: OK Compl. Order? MA IS 5.9 OK? Y Date: 12-15-2017WELL FILE REVIEWED ☐ Current Status: ProposedWELL DIAGRAMS: NEW: Proposed ☒ or RE-ENTER: Before Conv. ☐ After Conv. ☐ Logs in Imaging: _____

Planned Rehab Work to Well: _____

Well Construction Details		Sizes (in)	Setting	Cement	Cement Top and
		Borehole / Pipe	Depths (ft)	Sx or Cf	Determination Method
Planned or Existing Surface		26"/20"	450	1145	SURFACE / VISUAL
Planned or Existing Interm/Prod		17 1/2"/13 1/4"	2450	1410	SURFACE / VISUAL
Planned or Existing Interm/Prod		12 1/4"/9 1/8"	9500	1935	SURFACE / VISUAL
Planned or Existing Prod/Liner		8 1/2"/7 1/8"	13275	1600	SURFACE / VISUAL
Planned or Existing Liner					
Planned or Existing OH / PERF		13275/14465			
			Inj Length		
			1150'		
Injection Lithostratigraphic Units:		Depths (ft)	Injection or Confining Units	Tops	Completion/Operation Details:
Adjacent Unit: Litho. Struc. Por.			WD	13170	Drilled TD 14465 PBDT
Confining Unit: Litho. Struc. Por.			DV	13275	NEW TD _____ NEW PBDT _____
Proposed Inj Interval TOP:					NEW Open Hole <input checked="" type="radio"/> or NEW Perfs <input type="radio"/>
Proposed Inj Interval BOTTOM:					Tubing Size <u>4</u> in. Inter Coated? <u>SK4</u>
Confining Unit: Litho. Struc. Por.					Proposed Packer Depth 13225 ft <u>Surface</u>
Adjacent Unit: Litho. Struc. Por.					Min. Packer Depth 13175 (100-ft limit)
					Proposed Max. Surface Press. 2655 psi
					Admin. Inj. Press. 2655 (0.2 psi per ft)
AOR: Hydrologic and Geologic Information					
POTASH: R-111-P <u>MA</u> Noticed? _____ BLM Sec Ord <input type="radio"/> WIPP <input type="radio"/> Noticed? _____ Salt/Salado T: <u>175</u> B: <u>2440</u> NW: <u>Cliff House fm</u>					
FRESH WATER: Aquifer <u>Quaternary</u> Max Depth <u>2220</u> HYDRO AFFIRM STATEMENT By Qualified Person <input checked="" type="radio"/>					
NMOSE Basin: <u>Charlesbad</u> CAPTAIN REEF: thru <u>Permian</u> adj. <u>NA</u> No. GW Wells in 1-Mile Radius? <u>4</u> FW Analysis? <u>Y</u>					
Disposal Fluid: Formation Source(s) <u>Permian, Permian, Permian</u> Analysis? <u>Y</u> On Lease <input type="radio"/> Operator Only <input type="radio"/> or Commercial <input checked="" type="radio"/>					
Disposal Interval: Inject Rate (Avg/Max BWPD): <u>254/324</u> Protectable Waters? _____ Source: _____ System: <u>Closed</u> or Open					
HC Potential: Producing Interval? <u>MA</u> Formerly Producing? _____ Method: Logs/DST/P&A/Other _____ 2-Mi Radius Pool Map <input type="radio"/>					
AOR Wells: 1/2-M Radius Map and Well List? <u>Y</u> No. Penetrating Wells: <u>0</u> [AOR Horizontals: _____ AOR SWDs: _____]					
Penetrating Wells: No. Active Wells <u>0</u> Num Repairs? _____ on which well(s)? _____ Diagrams? _____					
Penetrating Wells: No. P&A Wells <u>0</u> Num Repairs? _____ on which well(s)? _____ Diagrams? _____					
NOTICE: Newspaper Date <u>10-3-2017</u> Mineral Owner <u>W-21200</u> Surface Owner <u>PAK Land Services</u> N. Date <u>10-27-17</u>					
RULE 26.7(A): Identified Tracts? <u>Y</u> Affected Persons: <u>DX, Matt & Dan Chelkron</u> N. Date <u>11-26-17</u>					
Order Conditions: Issues: <u>SPLIT + APER tubing - 75' - 25' Surface + 24' 5" / Liner 2</u>					
Additional COAs: _____					

CB-L

3

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

Ken McQueen
Cabinet Secretary

Matthias Sayer
Deputy Cabinet Secretary

Heather Riley, Division Director
Oil Conservation Division



Administrative Order SWD-1724
August 23, 2018

**ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION**

Pursuant to the provisions of Division Rule 19.15.26.8(B) NMAC, NGL Water Solutions Permian, LLC (the "operator") seeks an administrative order for its proposed Striker 1 SWD Well No. 1 (the "proposed well") with a location of 1015 feet from the North line and 1395 feet from the East line, Unit letter B of Section 15, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico, for the purpose of commercial disposal of produced water.

THE DIVISION DIRECTOR FINDS THAT:

The application has been duly filed under the provisions of Division Rule 19.15.26.8(B) NMAC and satisfactory information has been provided that affected parties have been notified. One objection was received but was subsequently withdrawn after the applicant relocated the proposed well. The applicant has presented satisfactory evidence that all requirements prescribed in Division Rule 19.15.26.8 NMAC have been met and the operator is in compliance with Division Rule 19.15.5.9 NMAC.

IT IS THEREFORE ORDERED THAT:

The applicant, NGL Water Solutions Permian, LLC (OGRID 372338), is hereby authorized to utilize its Striker 1 SWD Well No. 1 (API 30-015-44406) with a location of 1015 feet from the North line and 1395 feet from the East line, Unit letter B of Section 15, Township 23 South, Range 28 East, NMPM, Eddy County, for disposal of oil field produced water (UIC Class II only) through open-hole completion into an interval consisting of the Devonian and Silurian formations from approximately 13750 feet to approximately 15100 feet. Injection will occur through internally-coated, 4½-inch or smaller tubing inside the 7⅝-inch liner with a packer set within 100 feet of the top of the disposal interval.

This permit does not allow disposal into formations below the Silurian including the Montoya formation and the Ellenburger formation (lower Ordovician) or lost circulation intervals directly on top and obviously connected to these formations.

Prior to commencing disposal, the operator shall submit mudlog and geophysical logs information, to the Division's District geologist and Santa Fe Bureau Engineering office, showing evidence agreeable that only the permitted formation is open for disposal including a summary of depths (picks) for contacts of the formations which the Division shall use to amend this order for a final description of the depth for the injection interval. If significant hydrocarbon shows occur while drilling, the operator shall notify the Division's District II and the operator shall be required to receive written permission prior to commencing disposal.

If cement does not circulate on any casing string, the operator shall run a cement bond log (CBL) or other log to determine top of cement and shall notify the Artesia District with the top of cement on the emergency phone number prior to continuing with any further cement activity with the proposed well. If cement did not tie back in to next higher casing shoe, the operator shall perform remedial cement job to bring cement, at a minimum, 300 feet above the next higher casing shoe.

The operator shall run a CBL (or equivalent) across the 7½-inch liner from 500 feet above the liner to the bottom of the liner to demonstrate placement cement across the length of the liner and the cement bond with the tie-in with the 9½-inch casing. The operator shall notify District Office II of the top of the cement in the 7½-inch liner. Next, the operator shall provide a copy of the CBL to the Division's District II prior to commencing disposal. Lastly, the operator shall notify District Office II of the top of the cement in the 7½-inch liner.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the disposed water enters only the approved disposal interval and is not permitted to escape to other formations or onto the surface. This includes the completion and construction of the well as described in the application and, if necessary, as modified by the District Supervisor.

After installing tubing, the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge or an approved leak detection device in order to determine leakage in the casing, tubing, or packer. The casing shall be pressure tested from the surface to the packer setting depth to assure casing integrity.

The well shall pass an initial mechanical integrity test ("MIT") prior to initially commencing disposal and prior to resuming disposal each time the disposal packer is unseated. All MIT procedures and schedules shall follow the requirements in Division Rule 19.15.26.11(A) NMAC. The Division Director retains the right to require at any time wireline verification of completion and packer setting depths in this well.

Without limitation on the duties of the operator as provided in Division Rules 19.15.29 and 19.15.30 NMAC, or otherwise, the operator shall immediately notify the Division's District II office of any failure of the tubing, casing or packer in the well, or of any leakage or release of water, oil or gas from around any produced or plugged and abandoned well in the area, and shall take such measures as may be timely and necessary to correct such failure or leakage.

If the disposal well fails a MIT or if there is evidence that the mechanical integrity of said well is impacting correlative rights, the public health, any underground sources of fresh water, or the environment, the Division Director shall require the well to be shut-in within 24 hours of discovery and the operator shall redirect all disposal waters to another facility. The operator shall take the necessary actions to address the impacts resulting from the mechanical integrity issues in accordance with Division Rule 19.15.26.10 NMAC, and the well shall be tested pursuant to Rule 19.15.26.11 NMAC prior to returning to injection.

The wellhead injection pressure on the well shall be limited to **no more than 2750 psi**. In addition, the disposal well or system shall be equipped with a pressure limiting device in workable condition which shall, at all times, limit surface tubing pressure to the maximum allowable pressure for this well.

The Director of the Division may authorize an increase in tubing pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the disposed fluid from the target formations. Such proper showing shall be demonstrated by sufficient evidence including but not limited to an acceptable step-rate test.

The operator shall notify the supervisor of the Division's District II office of the date and time of the installation of disposal equipment and of any MIT so that the same may be inspected and witnessed. The operator shall provide written notice of the date of commencement of disposal to the Division's District II office. The operator shall submit monthly reports of the disposal operations that includes number of days of operation, injection volume, and injection pressure on Division Form C-115, in accordance with Division Rules 19.15.26.13 and 19.15.7.24 NMAC.

The injection authority granted under this order is not transferable except upon Division approval. The Division may require the operator to demonstrate mechanical integrity of any injection well that will be transferred prior to approving transfer of authority to inject.

The Division may revoke this injection order after notice and hearing if the operator is in violation of Rule 19.15.5.9 NMAC.

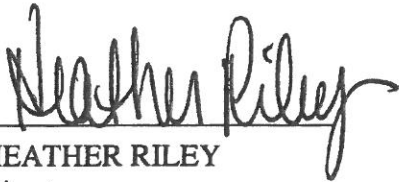
The disposal authority granted herein shall terminate one (1) year after the effective date of this Order if the operator has not commenced injection operations into the subject well. One year after the last date of reported disposal into this well, the Division shall consider the well abandoned, and the authority to dispose will terminate *ipso facto*. The Division, upon written request mailed by the operator prior to the termination date, may grant an extension thereof for good cause.

Compliance with this Order does not relieve the operator of the obligation to comply with other applicable federal, state or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

Jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh or protectable waters or (2) consistent with the

Administrative Order SWD-1724
NGL Water Solutions Permian, LLC
August 23, 2018
Page 4 of 4

requirements in this order, whereupon the Division may, after notice and hearing, terminate the disposal authority granted herein.

A handwritten signature in black ink, appearing to read "Heather Riley", is written over a horizontal line.

HEATHER RILEY
Director

HR/prg

cc: Oil Conservation Division – Artesia District Office
Well File 30-015-44406

Attachment: Proposed well completion diagram from C-108 application

KB	NA
BHF	NA
GL	NA
Spud	NA

Casing/Tubing Information					
Label	1	2	3	4	5
Type	Surface	Intermediate	Production	Liner	Tubing
OD	20"	13-3/8"	9-5/8"	7-5/8"	5-1/2" 4-1/2"
WT	0.438"	0.480"	0.472"	0.562"	0.304" 0.250"
ID	19.124"	12.415"	8.681"	6.501"	4.892" 4.000"
Drift ID	18.936"	12.259"	8.525"	6.376"	4.767" 3.875"
COD	21,000'	14,375'	10,625'	7,625'	6,050" 5,000"
Weight	94 lb/ft	68 lb/ft	47 lb/ft	42.8 lb/ft	17 lb/ft 11.6 lb/ft
Grade	J-55 STC	L-80 STC	HCL-80 LTC	P-110 UFJ	L-80 BTC P-110 LTC
Hole Size	26"	17-1/2"	12-1/4"	8-1/2"	Varies
Depth Set	500'	2,600'	9,700'	9,400' - 13,750'	0' - 9,400' 9,400' - 13,700'
TOC	Surface (circulation)	Surface (circulation)	Surface (circulation)	9,400'	NA
Volume	1,195 sks	1,445 sks	1,855 sks	570 sks	NA

Delaware @ 2,570'

DV Tool @ 5,500'
(exact depth TBD w/ cement calc)

Wolfcamp @ 9,470'

Devonian @ 13,810'

Silurian @ 14,350'

Fusselman @ 14,660'

Montoya @ 14,973'

TD @ 15,100'

Packer @ 13,700'

6-1/8" Open Hole Section
@ 13,750' - 15,100'

CBL

LONQUIST
FIELD SERVICE

NGL Water Solutions Permian LLC

Striker 1 SWD No. 1

Country: USA

State/Province: New Mexico

County/Parish: Eddy

Location:

Site:

Survey/STR: Sec. 15-23S-28E

API No:

Field:

Well Type/Status: SWD

Texas License F-9147

State ID No:

Project No:

Date: 8/7/17

3345 Bee Cave Road, Suite 201
Austin, Texas 78746
Tel: 512.732.9812
Fax: 512.732.9816

Drawn: WHG

Reviewed: CBW

Approved: SLP

Rev No: 1

Notes:

DATE: 8/18/2017	SUSPENSE	ENGINEER: MAM	LOGGED IN: 8/18/2017	TYPE: SWD	APP NO: PMAM1722752133
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- 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

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
 [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
 [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
 [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
 [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
 [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication

☐ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement

☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery

☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

[D] Other: Specify _____

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☒ Offset Operators, Leaseholders or Surface Owner

[C] ☒ Application is One Which Requires Published Legal Notice

[D] ☐ Notification and/or Concurrent Approval by BLM or SLO
 U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☒ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.

[4] **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

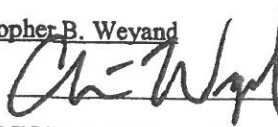
Consulting Engineer
 Title

chris@lonquist.com
 e-mail Address

8/9/2017
 Date

- SWD
 - NGL Water Solutions
 Permian, LLC
 372388
 Well
 Striker (SWD #)
 30-015-44406
 Pool
 SWD, Devonian-
 Silurian
 97869

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: 8/9/2017
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: _____

II. 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.

INJECTION WELL DATA SHEET

OPERATOR: NGL WATER SOLUTIONS PERMIAN, LLCWELL NAME & NUMBER: STRIKER 1 SWD #1WELL LOCATION: 459' FNL & 1.469' FEL
FOOTAGE LOCATIONB UNIT LETTER SECTION TOWNSHIP RANGE
15 23S 28EWELLBORE SCHEMATICWELL CONSTRUCTION DATA
Surface CasingHole Size: 26.000"Casing Size: 20.000"Cemented with: 1,195 sx.or _____ ft³Top of Cement: surfaceMethod Determined: circulation1st Intermediate CasingHole Size: 17.500"Casing Size: 13.375"Cemented with: 1,445 sx.or _____ ft³Top of Cement: surfaceMethod Determined: circulation2nd Intermediate CasingHole Size: 12.250"Casing Size: 9.625"Cemented with: 1,855 sx.or _____ ft³Top of Cement: surfaceMethod Determined: circulation

Production Liner

Hole Size: 8.500"

Casing Size: 7.625"

Cemented with: 570 sx.

or _____ ft³

Top of Cement: 2,400'

Method Determined: calculation

Total Depth: 15,100'

Injection Interval

13,750 feet to 15,100 feet

(Open Hole)

INJECTION WELL DATA SHEET

Tubing Size: 5.500", 17 lb/ft, L-80, BT&C from 0' - 9,400' and 4.500", 11.6 lb/ft, P-110 LTC from 9,400' - 13,700'
 Lining Material: Duoline

Type of Packer: D&L Oil Tools 7.625" Permapack Packer - Single Bore

Packer Setting Depth: 13,700'

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: 2,570'

Bone Spring: 6,178'

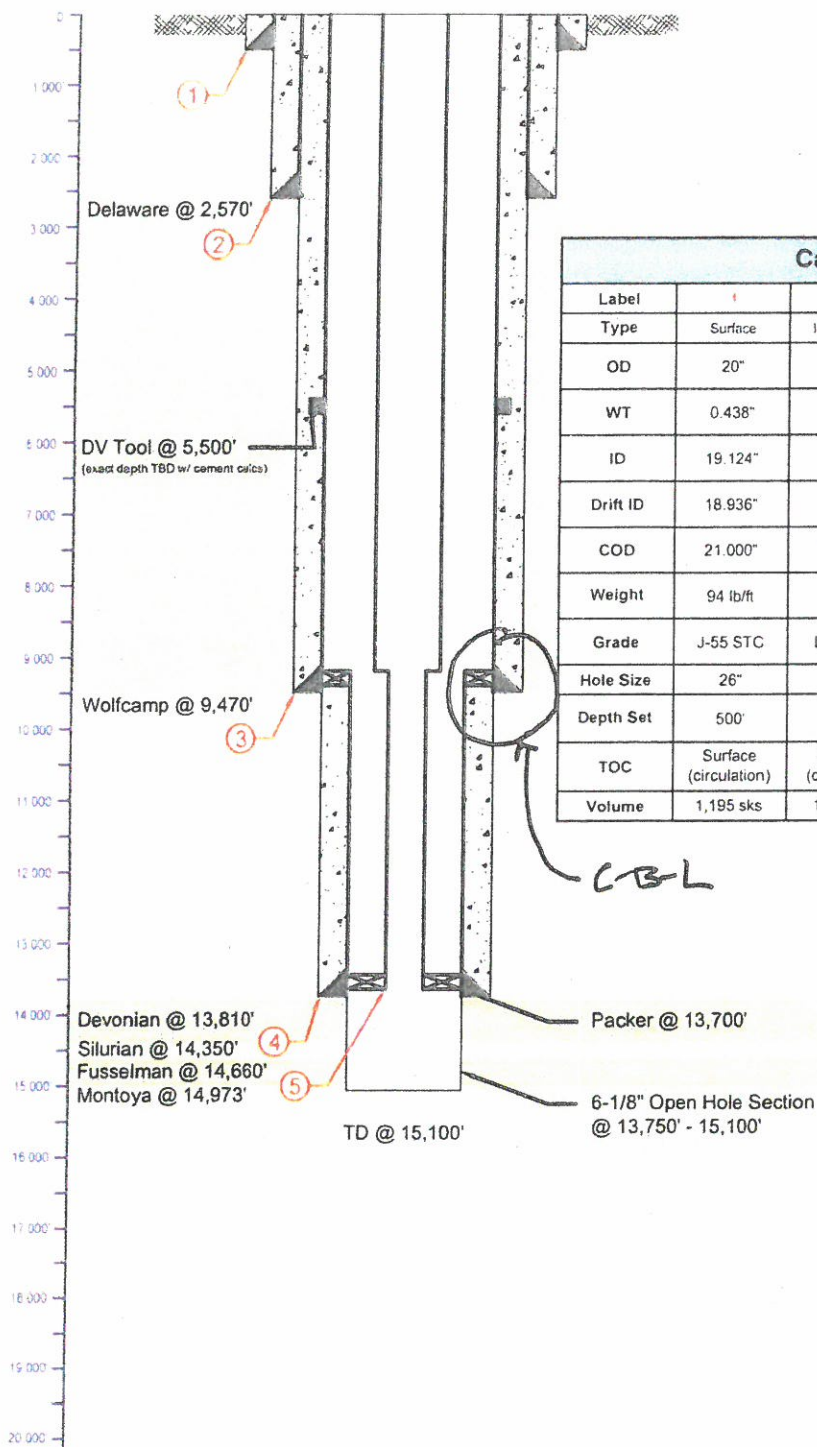
Wolfcamp: 9,470'

Atoka: 11,312'

Morrow: 12,040'

KB:	NA
BHF:	NA
GL:	NA
Spud:	NA

Casing/Tubing Information					
Label	1	2	3	4	5
Type	Surface	Intermediate	Production	Liner	Tubing
OD	20"	13-3/8"	9-5/8"	7-5/8"	5-1/2" 4-1/2"
WT	0.438"	0.480"	0.472"	0.562"	0.304" 0.250"
ID	19.124"	12.415"	8.681"	6.501"	4.892" 4.000"
Drift ID	18.936"	12.259"	8.525"	6.376"	4.767" 3.875"
COD	21.000"	14.375"	10.625"	7.625"	6.050" 5.000"
Weight	94 lb/ft	68 lb/ft	47 lb/ft	42.8 lb/ft	17 lb/ft 11.6 lb/ft
Grade	J-55 STC	L-80 STC	HCL-80 LTC	P-110 UFJ	L-80 BTC P-110 LTC
Hole Size	26"	17-1/2"	12-1/4"	8-1/2"	Varies
Depth Set	500'	2,600'	9,700'	9,400' - 13,750'	0' - 9,400' 9,400' - 13,700'
TOC	Surface (circulation)	Surface (circulation)	Surface (circulation)	9,400'	NA
Volume	1,195 sks	1,445 sks	1,855 sks	570 sks	NA



CBL

LONQUIST FIELD SERVICE	NGL Water Solutions Permian LLC		Striker 1 SWD No. 1	
	Country: USA	State/Province: New Mexico	County/Parish: Eddy	
	Location:	Site:	Survey/STR: Sec. 15-23S-28E	
	API No:	Field:	Well Type/Status: SWD	
Texas License F-9147	State ID No:	Project No:	Date: 8/7/17	
3345 Bee Cave Road, Suite 201 Austin, Texas 78746 Tel: 512.732.9812 Fax: 512.732.9816	Drawn: WHG	Reviewed: CBW	Approved: SLP	
	Rev No: 1	Notes:		

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

District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-101
Revised July 18, 2013

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

¹ Operator Name and Address NGL WATER SOLUTIONS PERMIAN, LLC 1509 W WALL ST, STE 306 MIDLAND, TX 79701		² OGRID Number 372338	
⁴ Property Code		³ API Number TBD	
⁵ Property Name STRIKER 1 SWD		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
B	15	23S	28E		459	NORTH	1,469	EAST	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 SWD; Silurian-Devonian	Pool Code 96101
-------------------------------------	--------------------

Additional Well Information

¹¹ Work Type N	¹² Well Type SWD	¹³ Cable/Rotary R	¹⁴ Lease Type Private	¹⁵ Ground Level Elevation
¹⁶ Multiple N	¹⁷ Proposed Depth 15,100'	¹⁸ Formation Siluro-Devonian	¹⁹ Contractor TBD	²⁰ Spud Date ASAP
Depth to Ground water 33'		Distance from nearest fresh water well 811'		Distance to nearest surface water 4,362'

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

²¹ Proposed Casing and Cement Program

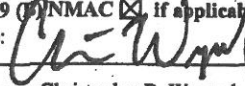
Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surface	26"	20"	94 lb/ft	500'	1,195	Surface
Intermediate	17.5"	13.375"	68 lb/ft	2,600'	1,445	Surface
Production	12.25"	9.625"	47 lb/ft	9,700'	1,855	Surface
Prod. Liner	8.5"	7.625"	42.8 lb/ft	9,400' - 13,750'	570	9,400'
Tubing	N/A	5.5"	17 lb/ft	0' - 9,400'	N/A	N/A
Tubing	N/A	4.5"	11.6 lb/ft	9,400' - 13,700'	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	5,000 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: 

Printed name: Christopher B. Weyand

Title: Consulting Engineer

E-mail Address: chris@longquist.com

Date: 8/9/2017

Phone: (512) 600-1764

OIL CONSERVATION DIVISION

Approved By:

Title:

Approved Date:

Expiration Date:

Conditions of Approval Attached

NGL Water Solutions Permian, LLC

Striker 1 SWD No. 1

FORM C-108 Supplemental Information

III. Well Data

A. Wellbore Information

1.

Well Information	
Lease Name	Striker 1 SWD
Well No.	1
Location	S-15 T-23S R-28E
Footage Location	459' FNL & 1,469' FEL

2.

a. Wellbore Description

Casing Information				
Type	Surface	Intermediate	Production	Liner
OD	20"	13.375"	9.625"	7.625"
WT	0.438"	0.480"	0.472"	0.562"
ID	19.124"	12.415"	8.681"	6.501"
Drift ID	18.936"	12.259"	8.525"	6.376"
COD	21.00"	14.375"	10.625"	7.625"
Weight	94 lb/ft	68 lb/ft	47 lb/ft	42.8 lb/ft
Grade	J-55	L-80	HCL-80	P-110
Hole Size	26"	17.5"	12.25"	8.5"
Depth Set	500'	2,600'	9,700'	9,400' – 13,750'

b. Cementing Program

Cement Information				
Casing String	Surface	Intermediate	Production	Liner
Lead Cement	C	C	NeoCem	H
Lead Cement Volume	1,195	1,075	Stage 1: 545 sks Stage 2: 770 sks	570
Tail Cement		C	NeoCem/HALCEM	
Tail Cement Volume		370	Stage 1: 390 sks Stage 2: 150 sks	
Cement Excess	100%	25%	25%	25%
TOC	Surface	Surface	Surface	9,400'
Method	Circulate to Surface	Circulate to Surface	Circulate to Surface	Logged

3. Tubing Description

Tubing Information		
OD	5.5"	4.5"
WT	0.304"	0.250"
ID	4.892"	4.000"
Drift ID	4.767"	3.875"
COD	6.050"	5.000"
Weight	17 lb/ft	11.6 lb/ft
Grade	L-80 BTC	P-110 LTC
Depth Set	0'-9,400'	9,400'-13,700'

Tubing will be lined with Duoline.

4. Packer Description

D&L Oil Tools 7.625" Permapack Packer – Single Bore

B. Completion Information

1. Injection Formation: Devonian, Silurian, Fusselman, Montoya (Top 100')
2. Gross Injection Interval: 13,750' – 15,100'

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	2,570'
Bone Spring	6,178'
Wolfcamp	9,470'
Atoka	11,312'
Morrow	12,040'

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: 25,000 BPD

Maximum Volume: 30,500 BPD

2. Closed System

3. Anticipated Injection Pressure:

Average Injection Pressure: 1,900 PSI (surface pressure)

Maximum Injection Pressure: 2,750 PSI (surface pressure)

4. The injection fluid is to be locally produced water. Attached are produced water sample analyses taken from the closest wells that feature samples from the Delaware, Bone Spring, Wolfcamp, 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	Eroded, not present
Salado	240'
Delaware	2,570'
Bone Spring	6,178'
Wolfcamp	9,470'
Strawn	11,072'
Atoka	11,312'
Morrow	12,040'
Mississippian Lime	12,817'
Woodford	13,664'
Devonian	13,810'

at surface & to limited depth [RM-7]

B. Underground Sources of Drinking Water

Within 1-mile of the proposed Striker 1 SWD #1 location water wells range in depth from 40' to 240'. Reported depths to fresh water range from 12' to 54' (33' on average). (This is ~~not a~~ known fresh water aquifer, but rather represents a sporadic alluvial source.)

2 Still a USDW/ Cenozoic alluvial + Rustler aquifer [84-4077]
Surface casing covers interval

IX. Proposed Stimulation Program

No proposed stimulation program.

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

Quite a few fresh water wells exist within one mile of the well location. Fresh water samples were obtained from two of the wells (SP-01955 & C-00608) and analysis of these samples, a map, and the Water Right Summary from the New Mexico Office of the State Engineer are attached.

Water Rights Consolidation / No
specific well - surface
water rights along Pecos

surface permit / Intrepid

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 and any underground sources of drinking water.

NAME: Christopher B. Weyand

TITLE: Consulting Engineer

SIGNATURE: 

DATE: 8/9/2017
















Striker 1 SWD #1
2 mile Area of Review
Eddy County, NM

NGL Water Solutions Permian, LLC

Projection: NAD 1983 State Plane NM East FIPS 3001

Drawn by: SAH	Date: 4/13/2017	Approved by: N
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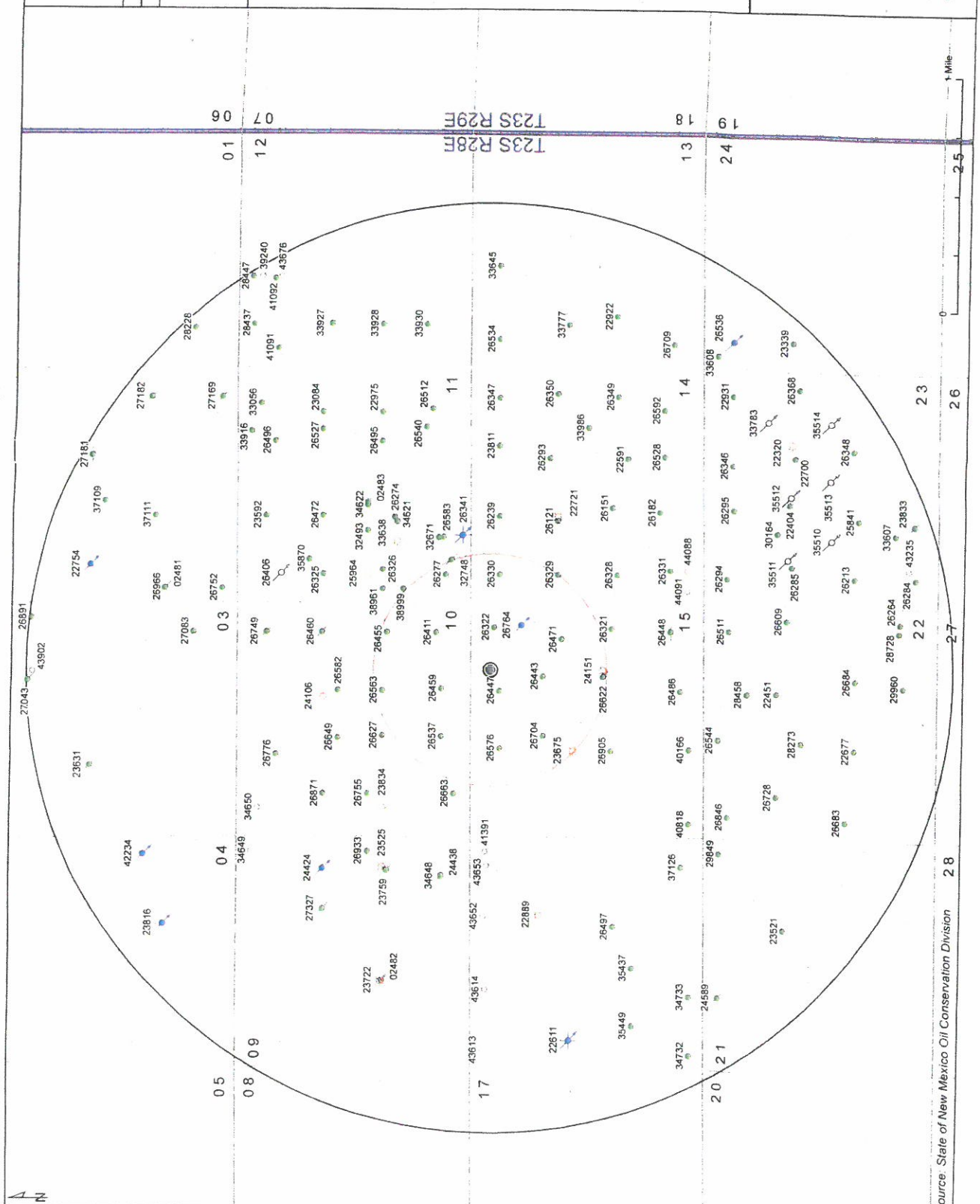
- | | |
|---|--------------------|
|  | Striker 1 SWD #1 |
|  | Gas Well |
|  | Permitted Gas Well |
|  | Plugged Gas Well |
|  | Oil Well |
|  | TA Oil Well |
|  | Plugged Oil Well |
|  | Permitted Oil Well |
|  | Injection Well |
|  | SWD Well |
|  | Plugged SWD Well |
|  | 1/2 mile Radius |
|  | 2 mile Radius |
|  | Section Boundary |
|  | Township Boundary |

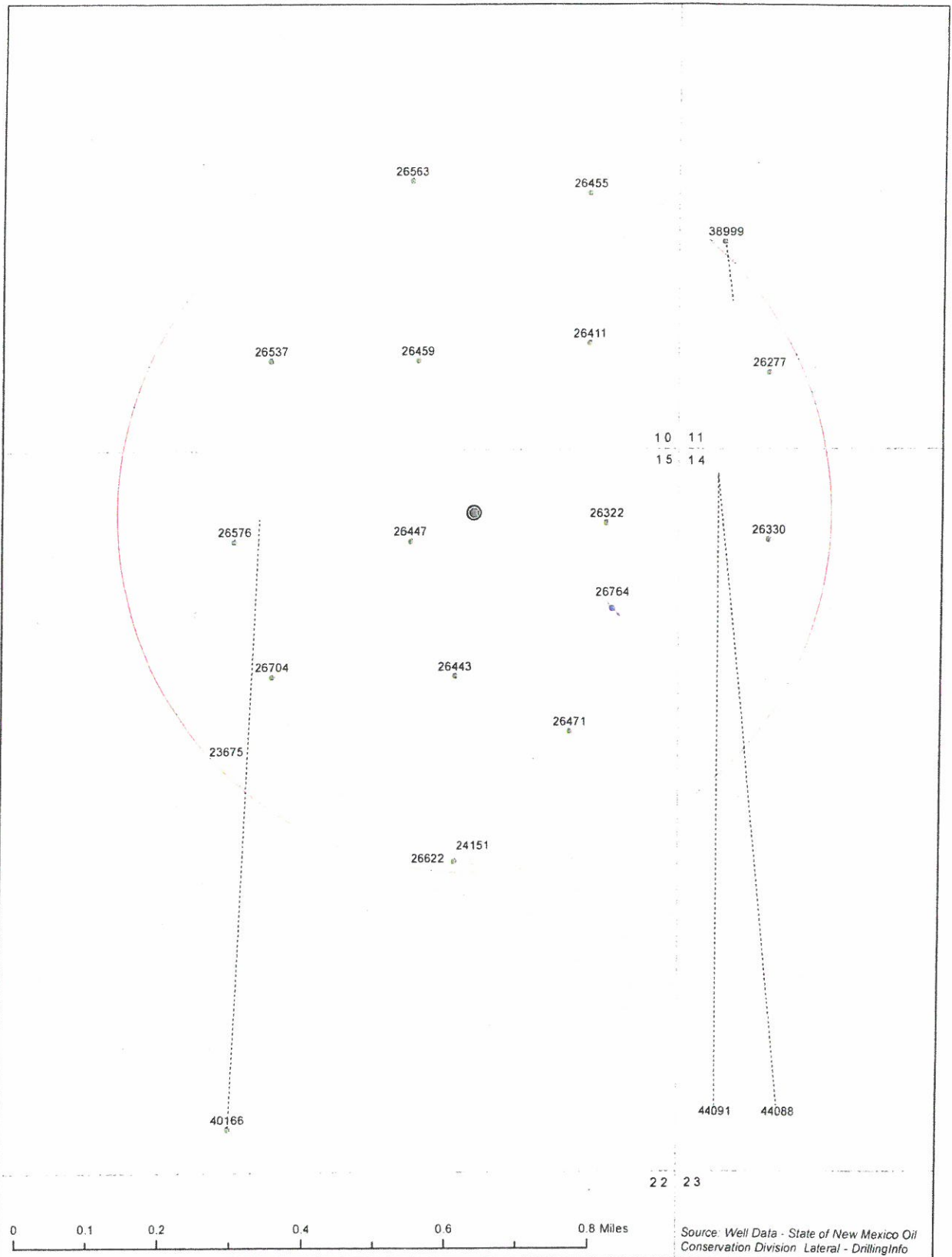
New Mexico

Texas

Map Extent
(Eddy County, NM)

Mexico

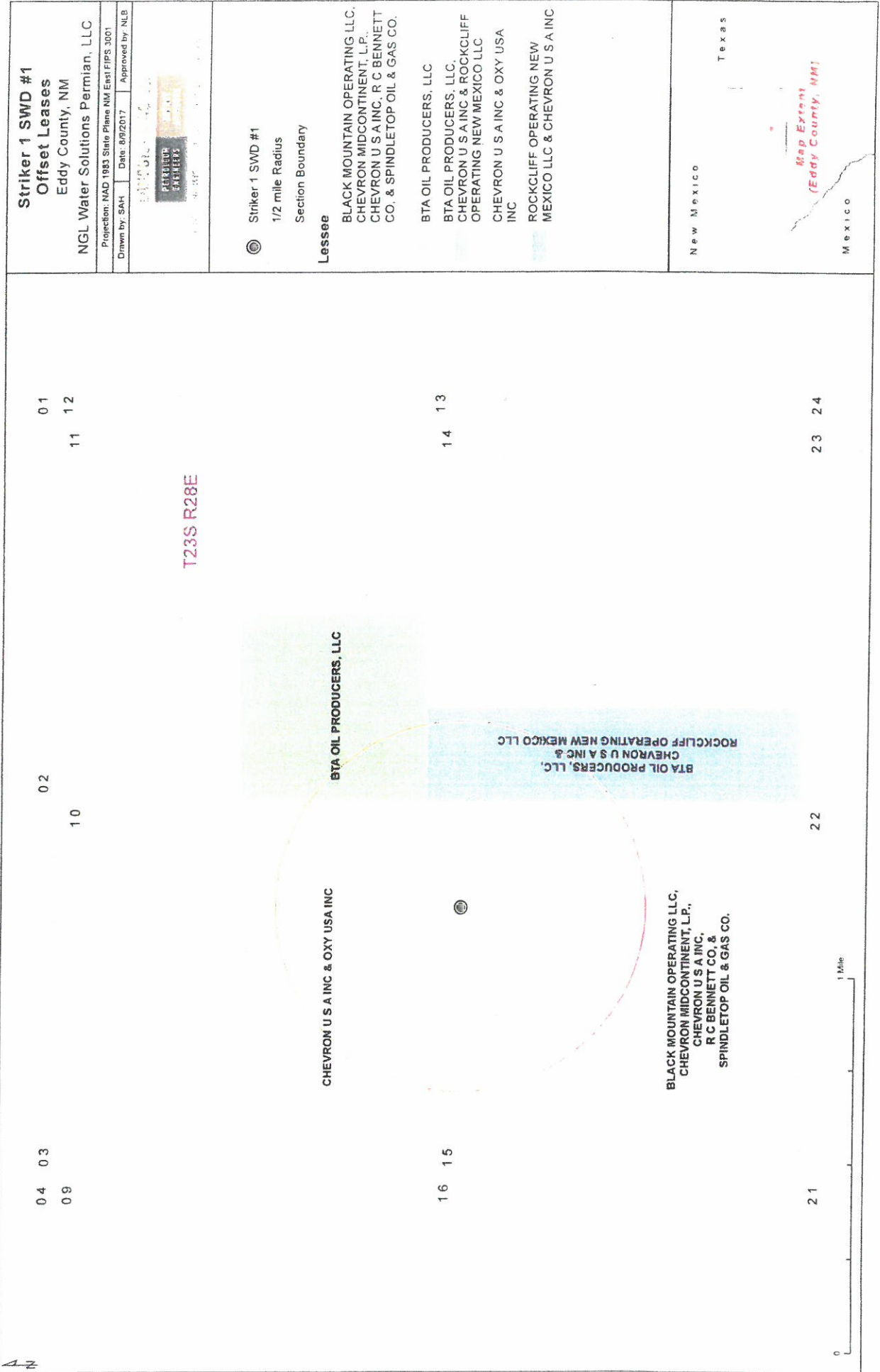




Striker 1 SWD #1 1/2 mile Area of Review Eddy County, NM NGL Water Solutions Permian, LLC			New Mexico Texas Mexico <i>MSP Extent (Eddy County, NM)</i>
Projection: NAD 1983 State Plane NM East FIPS 3001 Drawn by: SAH Date: 4/13/2017 Approved by: NLB			
PERMIAN ENGINEERS			
Legend: ● Striker 1 SWD #1 ○ Gas Well ○ Permitted Gas Well ● Oil Well ● Plugged Oil Well ○ Permitted Oil Well ○ SWD Well --- Lateral --- 1/2 mile Radius --- Section Boundary			

Half-Mile AOR
Striker 1 SWD #1

API (30-015-)	Well Name	Well Type	Status	Operator	TD (TVD)	Location	Date Drilled
23675	NYMEYER #001	Gas	Active	CHEVRON MIDCONTINENT, L.P.	12820	F-15-23S-28E	4/5/1981
24151	YARBRO A COM #001	Gas	Active	SPINDLETOP OIL & GAS CO.	12875	J-15-23S-28E	6/9/1982
26277	PARDUE C 8808 JVP #002	Oil	Active	BTA OIL PRODUCERS, LLC	6250	M-11-23S-28E	2/22/1990
26322	SIEBERT #001	Oil	Active	CHEVRON U S A INC	6219	A-15-23S-28E	5/20/1990
26330	TELEDYNE #002	Oil	Active	BTA OIL PRODUCERS, LLC	6187	D-14-23S-28E	5/6/1990
26411	PARDUE FARMS #001	Oil	Active	CHEVRON U S A INC	6200	P-10-23S-28E	7/25/1990
26443	KIDD #001	Oil	Active	R C BENNETT CO	6400	G-15-23S-28E	1/10/1991
26447	CHAVES #001	Oil	Active	CHEVRON U S A INC	6211	B-15-23S-28E	9/27/1990
26455	LEWIS ESTATE #001	Oil	Active	CHEVRON U S A INC	6240	I-10-23S-28E	9/11/1990
26459	PARDUE FARMS #003	Oil	Active	CHEVRON U S A INC	6200	O-10-23S-28E	10/7/1990
26471	WITT #001	Oil	Active	BLACK MOUNTAIN OPERATING LLC	6250	H-15-23S-28E	10/17/1990
26537	URQUIDEZ #002	Oil	Active	OXY USA INC	6400	N-10-23S-28E	12/30/1990
26563	PARDUE FARMS #005	Oil	Active	CHEVRON U S A INC	6215	J-10-23S-28E	1/10/1990
26576	NYMEYER A #001	Oil	Active	CHEVRON MIDCONTINENT, L.P.	6390	C-15-23S-28E	2/1/1991
26622	USA CAVINESS PAINE #004	Oil	Plugged	CHEVRON U S A INC	6352	J-15-23S-28E	2/4/1991
26704	NYMEYER A #002	Oil	Active	CHEVRON MIDCONTINENT, L.P.	6400	F-15-23S-28E	7/11/1991
26764	EAST LOVING SWD #001	SWD	Active	CHEVRON U S A INC	4600	A-15-23S-28E	6/24/1991
38999	PARDUE C 8808 JVP #005	Oil	Active	BTA OIL PRODUCERS, LLC	8503	L-11-23S-28E	4/13/2012
40166	HERITAGE 2 15 #001H	Oil	Active	CHEVRON MIDCONTINENT, L.P.	12332	N-15-23S-28E	6/4/2012
44088	EL TORO INVICTA 14 #301H	Gas	Permitted	ROCKCLIFF OPERATING NEW MEXICO LLC	0	M-14-23S-28E	NA
44091	EL TORO INVICTA 14 #221H	Oil	Permitted	ROCKCLIFF OPERATING NEW MEXICO LLC	0	M-14-23S-28E	NA



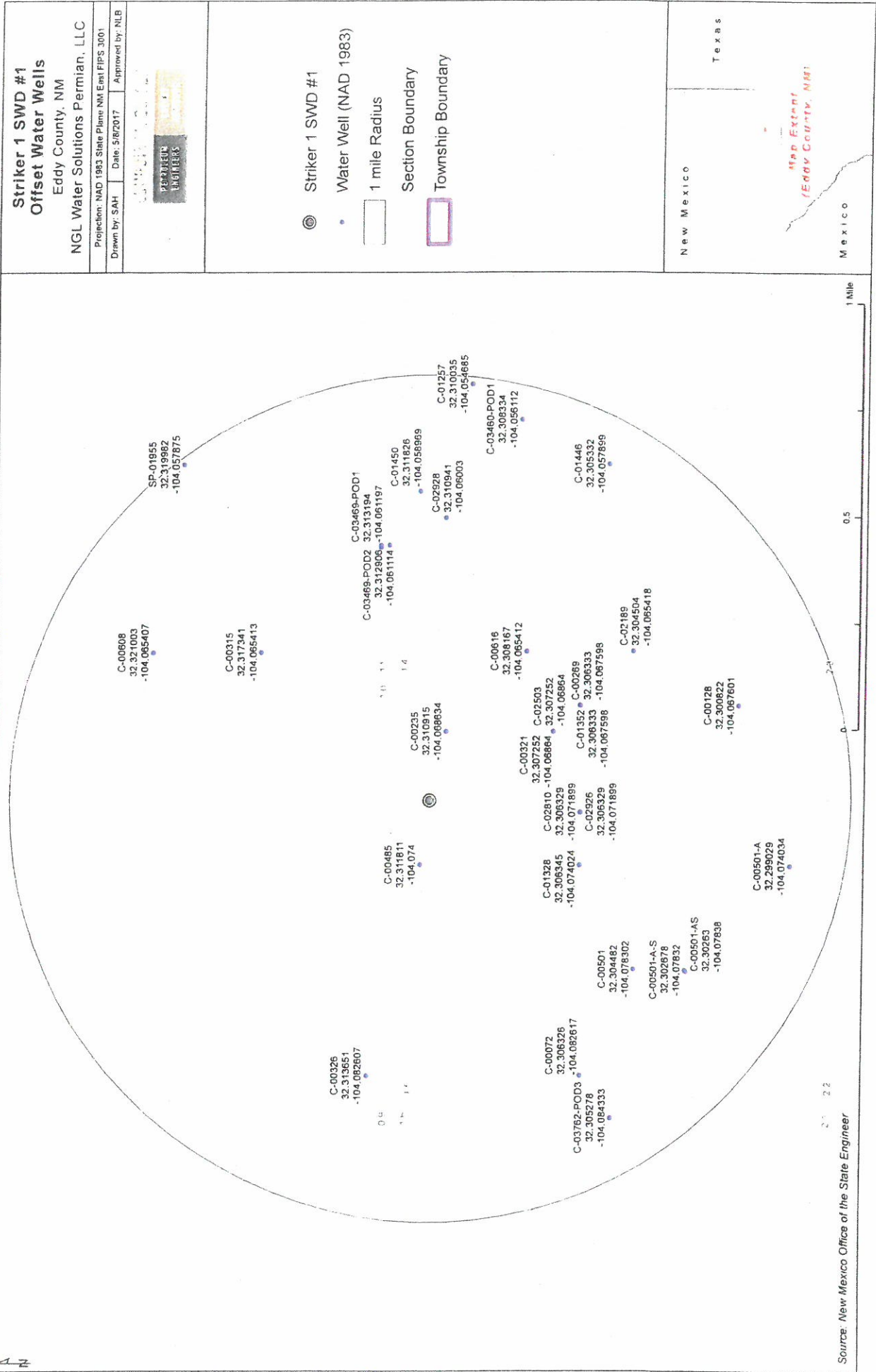
Striker 1 SWD No. 1 Notice List			
Notice	Address	Phone Number	Date Noticed
Oil Conservation Division District IV	1220 South St. Francis Drive, Santa Fe, NM 87505	(505) 476-3440	8/9/2017
Oil Conservation Division District II	811 S. First St., Artesia, NM 88210	(575) 748-1283	8/9/2017
Surface Owner			
NGL WATER SOLUTIONS PERMIAN, LLC	1509 W Wall St., Ste. 306, Midland, TX 79701	(432) 685-0005	N/A
Leasehold Operators - 1/2 Mile			
CHEVRON MIDCONTINENT, L.P.	15 Smith Rd, Midland, TX 79705	(866) 212-1212	8/9/2017
SPINDLETOP OIL & GAS CO.	P.O. Box 741988, Dallas, TX 75374	(972) 644-2581	8/9/2017
BTA OIL PRODUCERS, LLC	104 S Pecos, Midland, TX 79701	(432) 682-3753	8/9/2017
CHEVRON U S A INC	P.O. Box 2100, Houston, TX 77252	(866) 212-1212	8/9/2017
R C BENNETT CO	P.O. Box 264, Midland, TX 79702		8/9/2017
BLACK MOUNTAIN OPERATING LLC	500 Main Street Suite 1200, Fort Worth, TX 76102	(817) 698-9901	8/9/2017
ROCKCLIFF OPERATING NEW MEXICO LLC	1301 McKinney Steet, Suite 1300, Houston, TX 77010	(713) 351-0500	8/9/2017
OXY USA INC	P.O. Box 4294, Houston, TX 77210	(713) 215-7000	8/9/2017

This legal notice will appear in the Carlsbad Current-Argus on Wednesday, August 9, 2017, and run in the paper for one day. The affidavit of publication will be forwarded to the New Mexico Oil Conservation Division upon receipt.

Legal Notice

NGL Water Solutions Permian, LLC, 1509 W. Wall Street, Suite 306, Midland, Texas 79701 is filling Form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division for administrative approval for its salt water disposal well Striker 1 SWD No. 1. The proposed well will be located 459' FNL & 1,469' FEL in Section 15, Township 23S, Range 28E in Eddy County, New Mexico. Disposal water will be sourced from area production, and will be injected into the Siluro-Devonian Formation (determined by offset log analysis) through an open hole completion between a maximum applied for top of 13,750 feet to a maximum depth of 15,100 feet. The maximum surface injection pressure will not exceed 2,750 psi with a maximum rate of 30,500 BWPD. Interested parties opposing the action must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico 87505, within 15 days. Additional information can be obtained from the applicant's agent, Lonquist & Co., LLC, at (512) 600-1774.

Well Name		Stratum 1 SWD #1 - Produced Water Analysis													
well	formation	pH	tds_mg	sodium_mg	calcium_mg	iron_mg	barium_mg	immaginate_mg	potassium_mg	strontium_mg	chloride_mg	bicarbonate_mg	sulfate_mg	12a_mg	12b_mg
WILLIAMS GAS COM #001	3001522686 ATOKA	8.2	236539									130000	2370	3950	
WILLIAMS GAS COM #001	3001522686 ATOKA	7.9	217050									170000	1030	3300	
SPUD 16 STATE #009H	3001530059 AVALON UPPER	7	154164.4	54960.3	797.8	35.2		202.5				92020.7	3660		1100
SPUD 16 STATE #009H	3001530059 AVALON UPPER	7	154965.1	58687.2	719	54		131				91118	1671.4	1502	70
HEMUDA BASIN UNIT #001	3001503691 BONE SPRING		271010									168000	130	100	
SPUD 16 STATE #010H	3001541148 BONE SPRING 1ST SAND	7	152943.4	54183.5	1409.3	16.2		274.9				92807.2	2305.8		400
SPUD 16 STATE #011H	3001541149 BONE SPRING 1ST SAND	7	152041.8	53895.7	1294.2	0		272.5				92818.4	2708.4		460
SPUD 16 STATE #012H	3001541150 BONE SPRING 1ST SAND	7	146424.7	55118.3	1444.9	11.4		312.8				84786.2	2659.6		420
SPUD 16 STATE #008H	3001540038 BONE SPRING 1ST SAND	6.7	153750.7	57590.8	1198	10		244				91697	951.6	755	60
GONZALEZ #001	3001522595 DELAWARE	6.4	133440									80500	303	2100	
KIM #001	3001524589 DELAWARE	4.9	202807	60819.2	20577.5	2.44	6.816	4029.39	994	570.272		143136	38.624	213.568	11.36
CARRASCO 14 #002	3001526293 DELAWARE-BRUSHY CANYON	4.3	203860	69537.6	23562	77.35						148750	536.69	148.75	0
AMOCO FEDERAL 11 #002	3001526540 DELAWARE-BRUSHY CANYON	4.5	244865	91960.9	21510	101.575						179250	72.895	119.5	0
AMOCO FEDERAL 11 #005	3001526527 DELAWARE-BRUSHY CANYON	6.2	283902	77440	39539.6	36.983	2.386	6396.87	2346.63	1455.46	211161	72.773	243.372	0	
AMOCO FEDERAL 11 #006	3001526496 DELAWARE-BRUSHY CANYON	5.38	307701	96916.8	34317.6	46.8	1.8	5392.8	2449.2	992.4	228593	26.4	505.2	0	
AMOCO FEDERAL 11 #005	3001526527 DELAWARE-BRUSHY CANYON	6.03	297557	90601.8	35088.6	63.017	1.705	4688.23	2993.9	1055.83	219532	49.938	619.469		
WILLIAMS ESTATE #001	3001527173 DELAWARE-BRUSHY CANYON	5.96	101919	34645.1	5772.75	33.325	0.213	1197.55	211.775	142.975	67283.6	40.85	228.975		
BRANTLEY #001	3001522677 MORROW	6.5	278468									166000	78	3400	
VILLA A COM #001	3001522866 MORROW	5.08	27040.2	8664.21	1172.13	553.382	5.6155	128.646	120.478	152.129	16623.9	39.819	147.024	0	
VILLA A COM #001	3001522866 MORROW	6.32	6803.65	2064.35	329.289	154.071	3.021	39.273	22.154	34.238	389.38	56.592	209.456		
VILLA A COM #001	3001522866 MORROW	6.7	7960.18	1292.43	422.1	1059.27	13.065	56.26	37.185	47.295	4157.88	308.51	8.04		
BRANTLEY #001	3001522677 MORROW	6.5	278468									166000	78	3400	
HABANERO 17 FEDERAL COM #001H	3001536108 WOLF CAMP	6.5	108205	35110.8	4480.2	28.5		627.9				65927.2	146	0	300
SERRANO 29 FEDERAL #001H	3001537763 WOLF CAMP	6.9	102136.2	30415.1	5311.5	40.2		643.7				62812.7	183	0	350
SERRANO 29 FEDERAL #001H	3001537763 WOLF CAMP	6.5	100994.9	28702.1	5341.9	46.2		619.5				63450.1	268	0	350



**Striker 1 SWD #1
Offset Water Wells**

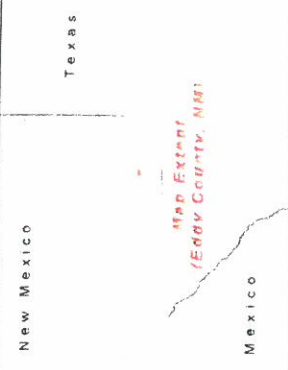
Eddy County, NM

NGL Water Solutions Permian, LLC

Projection: NAD 1983 State Plane NM East FIPS 3001
Drawn by: SAH Date: 5/8/2017 Approved by: NLB



- Striker 1 SWD #1
- Water Well (NAD 1983)
- 1 mile Radius
- - - Section Boundary
- Township Boundary



Source: New Mexico Office of the State Engineer



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

June 29, 2017

Will George

Lonquist Field Services, LLC

3345 Bee Cave Road, Suite 201

Austin, TX 78746

RE: WATER SAMPLES

Enclosed are the results of analyses for samples received by the laboratory on 06/15/17 8:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-9. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/ga/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Total Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

Lonquist Field Services, LLC
3345 Bee Cave Road, Suite 201
Austin TX, 78746

Project: WATER SAMPLES
Project Number: STRIKER 1 SWD #1
Project Manager: Will George
Fax To: (512) 732-9816

Reported:
29-Jun-17 16:54

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SP-01955	H701561-01	Water	14-Jun-17 14:00	15-Jun-17 08:25
C-00608	H701561-02	Water	14-Jun-17 14:00	15-Jun-17 08:25

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence or any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damage including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Lonquist Field Services, LLC
3345 Bee Cave Road, Suite 201
Austin TX, 78746

Project: WATER SAMPLES
Project Number: STRIKER 1 SWD #1
Project Manager: Will George
Fax To: (512) 732-9816

Reported:
29-Jun-17 16:54

SP-01955
H701561-01 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories
Inorganic Compounds

Alkalinity, Bicarbonate	342		5.00	mg/L	1	7060101	AC	16-Jun-17	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	7060101	AC	16-Jun-17	310.1	
Chloride*	1620		4.00	mg/L	1	7061501	AC	16-Jun-17	4500-Cl-B	
Conductivity*	8090		1.00	uS/cm	1	7061606	AC	16-Jun-17	120.1	
pH*	6.98		0.100	pH Units	1	7061606	AC	16-Jun-17	150.1	
Resistivity	1.24			Ohms/m	1	7061606	AC	16-Jun-17	120.1	
Specific Gravity @ 60° F	1.008		0.000	[blank]	1	7061605	AC	16-Jun-17	SM 2710F	
Sulfate*	2140		500	mg/L	50	7061507	AC	15-Jun-17	375.4	
TDS*	6610		5.00	mg/L	1	7061508	AC	19-Jun-17	160.1	
Alkalinity, Total*	280		4.00	mg/L	1	7060101	AC	16-Jun-17	310.1	
Sulfide, total	0.0570		0.0100	mg/L	1	7061607	AC	16-Jun-17	376.2	

Green Analytical Laboratories
Total Recoverable Metals by ICP (E200.7)

Barium*	<0.500		0.500	mg/L	10	B706136	JDA	20-Jun-17	EPA200.7	
Calcium*	671		1.00	mg/L	10	B706136	JDA	20-Jun-17	EPA200.7	
Iron*	<0.500		0.500	mg/L	10	B706136	JDA	20-Jun-17	EPA200.7	
Magnesium*	260		1.00	mg/L	10	B706136	JDA	20-Jun-17	EPA200.7	
Potassium*	<10.0		10.0	mg/L	10	B706136	JDA	20-Jun-17	EPA200.7	
Sodium*	1110		10.0	mg/L	10	B706136	JDA	20-Jun-17	EPA200.7	

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

Analytical Results For:

Lonquist Field Services, LLC
3345 Bee Cave Road, Suite 201
Austin TX, 78746

Project: WATER SAMPLES
Project Number: STRIKER 1 SWD #1
Project Manager: Will George
Fax To: (512) 732-9816

Reported:
29-Jun-17 16:54

C-00608
H701561-02 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Alkalinity, Bicarbonate	288	5.00	mg/L	1	7060101	AC	16-Jun-17	310.1		
Alkalinity, Carbonate	<1.00	1.00	mg/L	1	7060101	AC	16-Jun-17	310.1		
Chloride*	1300	4.00	mg/L	1	7061501	AC	16-Jun-17	4500-Cl-B		
Conductivity*	7380	1.00	uS/cm	1	7061606	AC	16-Jun-17	120.1		
pH*	7.18	0.100	pH Units	1	7061606	AC	16-Jun-17	150.1		
Resistivity	1.36		Ohms/m	1	7061606	AC	16-Jun-17	120.1		
Specific Gravity @ 60° F	1.007	0.000	[blank]	1	7061605	AC	16-Jun-17	SM 2710F		
Sulfate*	1970	500	mg/L	50	7061507	AC	15-Jun-17	375.4		
TDS*	5970	5.00	mg/L	1	7061508	AC	19-Jun-17	160.1		
Alkalinity, Total*	236	4.00	mg/L	1	7060101	AC	16-Jun-17	310.1		
Sulfide, total	0.0133	0.0100	mg/L	1	7061607	AC	16-Jun-17	376.2		

Green Analytical Laboratories**Total Recoverable Metals by ICP (E200.7)**

Barium*	<0.500	0.500	mg/L	10	B706136	JDA	20-Jun-17	EPA200.7		
Calcium*	646	1.00	mg/L	10	B706136	JDA	20-Jun-17	EPA200.7		
Iron*	9.15	0.500	mg/L	10	B706136	JDA	20-Jun-17	EPA200.7		
Magnesium*	270	1.00	mg/L	10	B706136	JDA	20-Jun-17	EPA200.7		
Potassium*	<10.0	10.0	mg/L	10	B706136	JDA	20-Jun-17	EPA200.7		
Sodium*	959	10.0	mg/L	10	B706136	JDA	20-Jun-17	EPA200.7		

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

Analytical Results For:Lonquist Field Services, LLC
3345 Bee Cave Road, Suite 201
Austin TX, 78746Project: WATER SAMPLES
Project Number: STRIKER 1 SWD #1
Project Manager: Will George
Fax To: (512) 732-9816Reported:
29-Jun-17 16:54**Inorganic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7060101 - General Prep - Wet Chem										
Blank (7060101-BLK1)			Prepared & Analyzed: 01-Jun-17							
Alkalinity, Carbonate	ND	1.00	mg/L							
Alkalinity, Bicarbonate	5.00	5.00	mg/L							
Alkalinity, Total	4.00	4.00	mg/L							
LCS (7060101-BS1)			Prepared & Analyzed: 01-Jun-17							
Alkalinity, Carbonate	ND	1.00	mg/L				80-120			
Alkalinity, Bicarbonate	137	5.00	mg/L				80-120			
Alkalinity, Total	112	4.00	mg/L	100		112	80-120			
LCS Dup (7060101-BSD1)			Prepared & Analyzed: 01-Jun-17							
Alkalinity, Carbonate	ND	1.00	mg/L				80-120		20	
Alkalinity, Bicarbonate	146	5.00	mg/L				80-120	6.36	20	
Alkalinity, Total	120	4.00	mg/L	100		120	80-120	6.90	20	
Batch 7061501 - General Prep - Wet Chem										
Blank (7061501-BLK1)			Prepared & Analyzed: 15-Jun-17							
Chloride	ND	4.00	mg/L							
LCS (7061501-BS1)			Prepared & Analyzed: 15-Jun-17							
Chloride	104	4.00	mg/L	100		104	80-120			
LCS Dup (7061501-BSD1)			Prepared & Analyzed: 15-Jun-17							
Chloride	104	4.00	mg/L	100		104	80-120	0.00	20	
Batch 7061507 - General Prep - Wet Chem										
Blank (7061507-BLK1)			Prepared & Analyzed: 15-Jun-17							
Sulfate	ND	10.0	mg/L							

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Lonquist Field Services, LLC
 3345 Bee Cave Road, Suite 201
 Austin TX, 78746

 Project: WATER SAMPLES
 Project Number: STRIKER 1 SWD #1
 Project Manager: Will George
 Fax To: (512) 732-9816

 Reported:
 29-Jun-17 16:54

Inorganic Compounds - Quality Control
Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 7061507 - General Prep - Wet Chem
LCS (7061507-BS1)

Prepared & Analyzed: 15-Jun-17

Sulfate	23.6	10.0	mg/L	20.0	118	80-120				
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LCS Dup (7061507-BSD1)

Prepared & Analyzed: 15-Jun-17

Sulfate	22.7	10.0	mg/L	20.0	113	80-120	4.14	20		
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Batch 7061508 - Filtration
Blank (7061508-BLK1)

Prepared: 15-Jun-17 Analyzed: 19-Jun-17

TDS	ND	5.00	mg/L							
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LCS (7061508-BS1)

Prepared: 15-Jun-17 Analyzed: 19-Jun-17

TDS	220	5.00	mg/L	213	103	80-120				
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Duplicate (7061508-DUP1)

Source: H701559-01

Prepared: 15-Jun-17 Analyzed: 19-Jun-17

TDS	1500	5.00	mg/L	1550			3.55	20		
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Batch 7061605 - General Prep - Wet Chem
Duplicate (7061605-DUP1)

Source: H701561-01

Prepared & Analyzed: 16-Jun-17

Specific Gravity @ 60° F	1.010	0.000	[blank]	1.008			0.153	20		
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Batch 7061606 - General Prep - Wet Chem
LCS (7061606-BS1)

Prepared & Analyzed: 16-Jun-17

Conductivity	476		uS/cm	500	95.2	80-120				
pH	7.08		pH Units	7.00	101	90-110				

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Lonquist Field Services, LLC
 3345 Bee Cave Road, Suite 201
 Austin TX, 78746

 Project: WATER SAMPLES
 Project Number: STRIKER 1 SWD #1
 Project Manager: Will George
 Fax To: (512) 732-9816

 Reported:
 29-Jun-17 16:54

Inorganic Compounds - Quality Control
Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 7061606 - General Prep - Wet Chem

Duplicate (7061606-DUP1)	Source: H701561-01			Prepared & Analyzed: 16-Jun-17					
Conductivity	8130	1.00	uS/cm		8090		0.493	20	
pH	7.00	0.100	pH Units		6.98		0.286	20	
Resistivity	1.23		Ohms/m		1.24		0.493	200	

Batch 7061607 - General Prep - Wet Chem

Blank (7061607-BLK1)	Prepared & Analyzed: 16-Jun-17								
Sulfide, total	ND	0.0100	mg/L						
Duplicate (7061607-DUP1)	Source: H701561-01			Prepared & Analyzed: 16-Jun-17					
Sulfide, total	0.0460	0.0100	mg/L		0.0570		21.4	20	QR-05

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Lonquist Field Services, LLC
3345 Bee Cave Road, Suite 201
Austin TX, 78746

Project: WATER SAMPLES
Project Number: STRIKER 1 SWD #1
Project Manager: Will George
Fax To: (512) 732-9816

Reported:
29-Jun-17 16:54

Total Recoverable Metals by ICP (E200.7) - Quality Control

Green Analytical Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B706136 - Total Rec. 200.7/200.8/200.2

Blank (B706136-BLK1)

Prepared: 19-Jun-17 Analyzed: 20-Jun-17

Barium	ND	0.050	mg/L							
Sodium	ND	1.00	mg/L							
Potassium	ND	1.00	mg/L							
Iron	ND	0.050	mg/L							
Magnesium	ND	0.100	mg/L							
Calcium	ND	0.100	mg/L							

LCS (B706136-BS1)

Prepared: 19-Jun-17 Analyzed: 20-Jun-17

Magnesium	20.8	0.100	mg/L	20.0		104	85-115			
Calcium	4.09	0.100	mg/L	4.00		102	85-115			
Sodium	6.97	1.00	mg/L	6.48		108	85-115			
Potassium	8.14	1.00	mg/L	8.00		102	85-115			
Barium	2.03	0.050	mg/L	2.00		101	85-115			
Iron	4.04	0.050	mg/L	4.00		101	85-115			

LCS Dup (B706136-BSD1)

Prepared: 19-Jun-17 Analyzed: 20-Jun-17

Iron	4.03	0.050	mg/L	4.00		101	85-115	0.280	20	
Magnesium	20.5	0.100	mg/L	20.0		102	85-115	1.61	20	
Calcium	4.01	0.100	mg/L	4.00		100	85-115	2.00	20	
Sodium	6.79	1.00	mg/L	6.48		105	85-115	2.50	20	
Barium	2.02	0.050	mg/L	2.00		101	85-115	0.140	20	
Potassium	8.10	1.00	mg/L	8.00		101	85-115	0.481	20	

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- QR-05 The RPD exceeded historical limits.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500C-B does not require samples be received at or below 6°C
- Samples reported on an as received basis (wet) unless otherwise noted on report

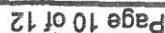
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Celey D. Keene, Lab Director/Quality Manager



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CARDINAL LABORATORIES
SCALE INDEX WATER ANALYSIS REPORT

Company : LONQUIST FIELD SERVICES
Lease Name : STRIKER / SWD #1
Well Number : SP-01955 (H701561-01)
Location : NOT GIVEN

Date Sampled : 06/14/17
Company Rep. : WILL GEORGE

ANALYSIS

1. pH	6.98	
2. Specific Gravity @ 60/60 F.	1.0080	
3. CaCO3 Saturation Index @ 80 F.	+0.913	'Calcium Carbonate Scale Possible'
@ 140 F.	+1.613	'Calcium Carbonate Scale Possible'

Dissolved Gasses

4. Hydrogen Sulfide	0.057	PPM
5. Carbon Dioxide	ND	PPM
6. Dissolved Oxygen	ND	PPM

Cations

		/	Eq. Wt.	=	MEQ/L
7. Calcium (Ca++)	671.00	/	20.1	=	33.38
8. Magnesium (Mg++)	260.00	/	12.2	=	21.31
9. Sodium (Na+)	1,110	/	23.0	=	45.92
10. Barium (Ba++)	0.000	/	68.7	=	0.00

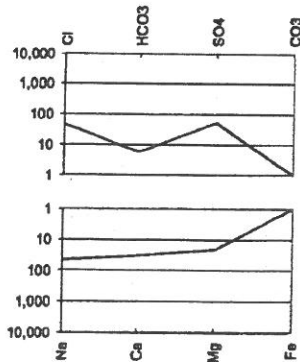
Anions

11. Hydroxyl (OH-)	0	/	17.0	=	0.00
12. Carbonate (CO3=)	0	/	30.0	=	0.00
13. Bicarbonate (HCO3-)	342	/	61.1	=	5.60
14. Sulfate (SO4=)	2,410	/	48.8	=	49.39
15. Chloride (Cl-)	1,620	/	35.5	=	45.63

Other

16. Total Iron (Fe)	0.000	/	18.2	=	0.00
17. Total Dissolved Solids	6,610				
18. Total Hardness As CaCO3	2,746.0				
19. Calcium Sulfate Solubility @ 90 F.	2,292				
20. Resistivity (Measured)	1.240	Ohm/Meters	@ 77	Degrees (F)	

Logarithmic Water Pattern



PROBABLE MINERAL COMPOSITION

COMPOUND	Eq. Wt.	X	MEQ/L	=	mg/L
Ca(HCO3)2	81.04	X	5.60	=	454
CaSO4	68.07	X	27.79	=	1,891
CaCl2	55.50	X	0.00	=	0
Mg(HCO3)2	73.17	X	0.00	=	0
MgSO4	60.19	X	21.31	=	1,283
MgCl2	47.62	X	0.00	=	0
NaHCO3	84.00	X	0.00	=	0
NaSO4	71.03	X	0.29	=	20
NaCl	58.46	X	45.63	=	2,668

CARDINAL LABORATORIES **SCALE INDEX WATER ANALYSIS REPORT**

Company : LONQUIST FIELD SERVICES
 Lease Name : STRIKER / SWD #1
 Well Number : C-00608 (H701561-02)
 Location : NOT GIVEN

Date Sampled : 06/14/17
 Company Rep. : WILL GEORGE

ANALYSIS

1. pH	7.18	
2. Specific Gravity @ 60/60 F.	1.0070	
3. CaCO ₃ Saturation Index @ 80 F.	+0.822	'Calcium Carbonate Scale Possible'
@ 140 F.	+1.522	'Calcium Carbonate Scale Possible'

Dissolved Gasses

4. Hydrogen Sulfide	0.013	PPM
5. Carbon Dioxide	ND	PPM
6. Dissolved Oxygen	ND	PPM

Cations

		/	Eq. Wt.	=	MEQ/L
7. Calcium (Ca++)	646.00	/	20.1	=	32.14
8. Magnesium (Mg++)	270.00	/	12.2	=	22.13
9. Sodium (Na+)	959	/	23.0	=	27.43
10. Barium (Ba++)	0.000	/	68.7	=	0.00

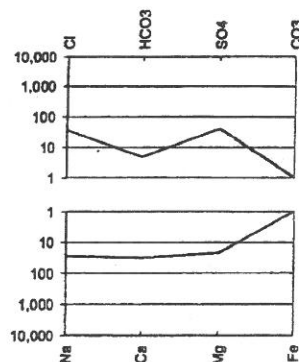
Anions

11. Hydroxyl (OH-)	0	/	17.0	=	0.00
12. Carbonate (CO ₃ =)	0	/	30.0	=	0.00
13. Bicarbonate (HCO ₃ -)	288	/	61.1	=	4.71
14. Sulfate (SO ₄ =)	1,970	/	48.8	=	40.37
15. Chloride (Cl-)	1,300	/	35.5	=	36.62

Other

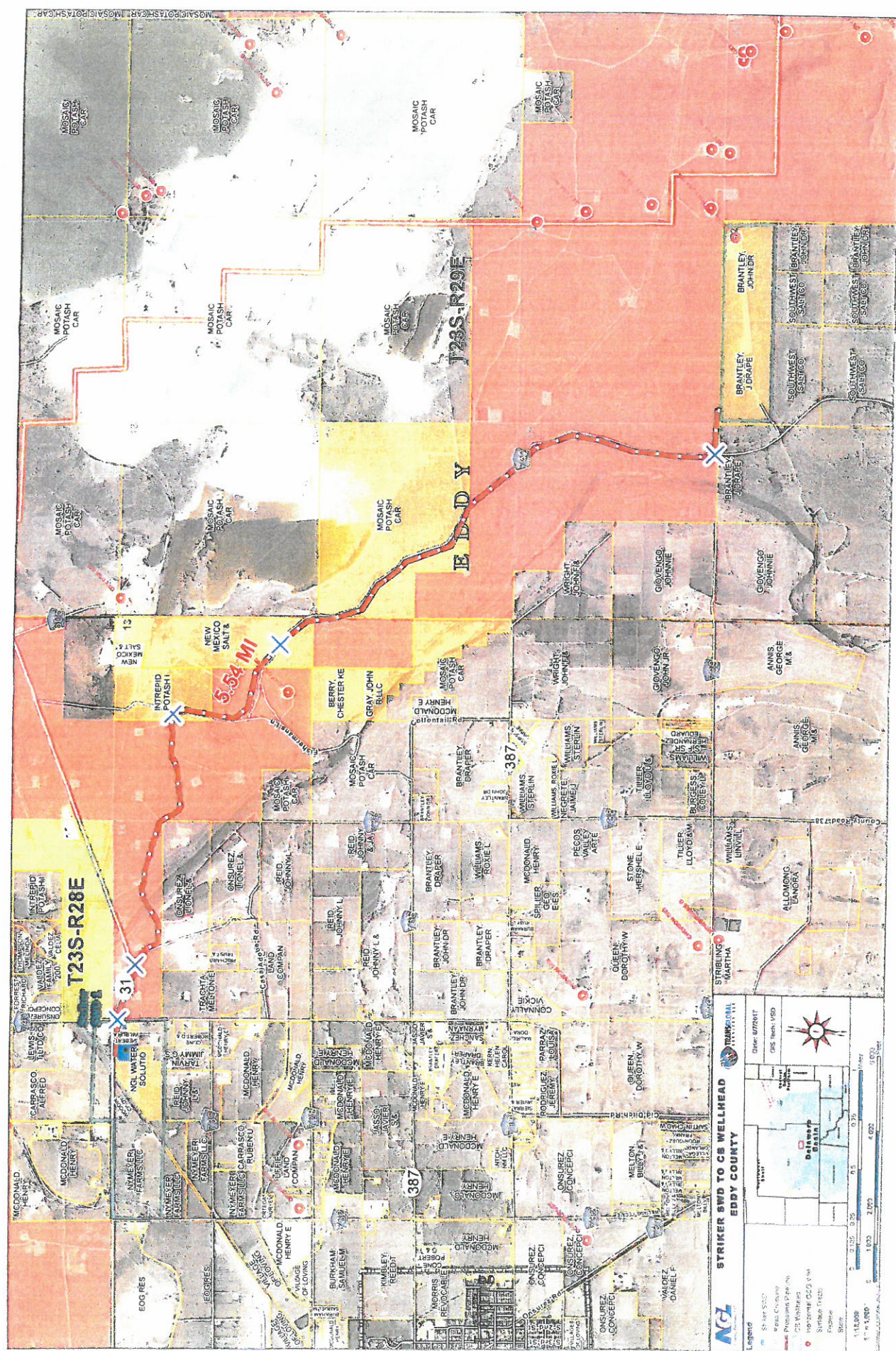
16. Total Iron (Fe)	9.150	/	18.2	=	0.50
17. Total Dissolved Solids	5,970				
18. Total Hardness As CaCO ₃	2,725.0				
19. Calcium Sulfate Solubility @ 90 F.	2,180				
20. Resistivity (Measured)	1.360	Ohm/Meters	@ 77	Degrees (F)	

Logarithmic Water Pattern



PROBABLE MINERAL COMPOSITION

COMPOUND	Eq. Wt.	X	MEQ/L	=	mg/L
Ca(HCO ₃) ₂	81.04	X	4.71	=	382
CaSO ₄	68.07	X	27.43	=	1,867
CaCl ₂	55.50	X	0.00	=	0
Mg(HCO ₃) ₂	73.17	X	0.00	=	0
MgSO ₄	60.19	X	12.94	=	779
MgCl ₂	47.62	X	9.19	=	438
NaHCO ₃	84.00	X	0.00	=	0
NaSO ₄	71.03	X	0.00	=	0
NaCl	58.46	X	27.43	=	1,604



Affidavit of Publication

State of New Mexico,
County of Eddy, ss.

Danny Fletcher, being first duly
sworn, on oath says:

That he is the Publisher of the
Carlsbad Current-Argus, a
newspaper published daily at the
City of Carlsbad, in said county of
Eddy, state of New Mexico and of
general paid circulation in said
county; that the same is a duly
qualified newspaper under the laws
of the State wherein legal notices
and advertisements may be
published; that the printed notice
attached hereto was published in the
regular and entire edition of said
newspaper and not in supplement
thereof on the date as follows, to wit:

August 9 2017

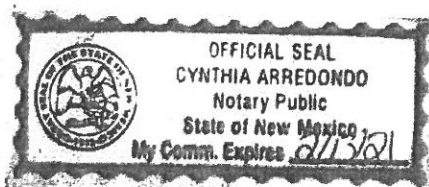
That the cost of publication is **\$70.15**
and that payment thereof has been
made and will be assessed as court
costs.

Subscribed and sworn to before me
this 10 day of August, 2017

Cynthia Arredondo

My commission Expires 2/13/21

Notary Public



August 9, 2017

Legal Notice

NGL Water Solutions
Permian, LLC, 1509 W.
Wall Street, Suite 306,
Midland, Texas 79701
is filing Form C-108
(Application for Au-
thorization to Inject)
with the New Mexico
Oil Conservation Divi-
sion for administrative
approval for its salt
water disposal well
Striker 1 SWD No. 1.
The proposed well will
be located 459' ENL &
1,469' FEL in Section 15,
Township 23S, Range 28E
in Eddy County,
New Mexico. Disposal
water will be sourced
from area production,
and will be injected in-
to the Siluro-Devonian
Formation (deter-
mined by offset log
analysis) through an
open hole completion
between a maximum
applied for top of
13,750 feet to a maxi-
mum depth of
15,100 feet. The maxi-
mum surface injection
pressure will not ex-
ceed 2,750 psi with a
maximum rate of
30,500 BWPD. Inter-
ested parties oppos-
ing the action must
file objections or re-
quests for hearing
with the Oil Conserva-
tion Division, 1220
South St. Francis Drive,
Santa Fe, New Mexico
87505, within 15 days.
Additional information
can be obtained from
the applicant's agent,
Lonquist & Co., LLC, at
(512) 600-1774.

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PS Form 3800, July 2011

Oil Conservation Division District II
 811 South First Street
 Artesia, New Mexico 88210

PS Form 3800, July 2011

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Total Fee	

PS Form 3800, July 2011

Chevron Midcontinent, L.P.
 15 Smith Road
 Midland, Texas 79705

PS Form 3800, July 2011

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PS Form 3800, July 2011

BTA Oil Producers, LLC
 104 South Pecos
 Midland, Texas 79701

PS Form 3800, July 2011

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PS Form 3800, July 2011

Oil Conservation Division District IV
 1220 South St., Francis Drive
 Santa Fe, New Mexico 87505

PS Form 3800, July 2011

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PS Form 3800, July 2011

Spindletop Oil & Gas Company
 P. O. Box 741988
 Dallas, Texas 75374

PS Form 3800, July 2011

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PS Form 3800, July 2011

Chevron USA Inc.
 P. O. Box 2100
 Houston, Texas 77252

PS Form 3800, July 2011

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PS Form 3800, July 2011

Black Mountain Operating, LLC
 500 Main Street
 Suite 1200
 Fort Worth, Texas 76102

PS Form 3800, July 2011

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PS Form 3800, July 2011

Rockcliff Operating New Mexico, LLC
 Suite 1300
 Houston, Texas 77010

PS Form 3800, July 2011

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PS Form 3800, July 2011

OXY USA, Inc.
 P.O. Box 4294
 Houston, Texas 77210

PS Form 3800, July 2011

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Restricted Delivery Fee (Endorsement Required)	
Total Fee	

PS Form 3800, July 2011

R.C. Bennett Company
 P. O. Box 264
 Midland, Texas 79702

PS Form 3800, July 2011

<p>SENDER: COMPLETE THIS SECTION</p> <p>■ Complete items 1, 2, and 3. ■ Print your name and address on the reverse so that we can return the card to you. ■ Attach this card to the back of the mailpiece, or on the front if space permits.</p> <p>1. Article Addressed to:</p> <p>Black Mountain Operating, LLC 500 Main Street Suite 1200 Fort Worth, Texas 76102</p> <p>9590 9402 2913 7094 7235 53</p> <p>2. Article Number (Transfer from service label)</p> <p>7014 1620 0000 3203 6676</p> <p>PS Form 3811, July 2015 PSN 7530-02-000-8053</p>	<p>COMPLETE THIS SECTION ON DELIVERY</p> <p>A. Signature X <i>[Signature]</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) C. Date of Delivery 8/14/17</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input type="checkbox"/> No If YES, enter delivery address below:</p> <p>3. Service Type <input type="checkbox"/> Adult Signature <input type="checkbox"/> Priority Mail Express® <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Registered Mail™ <input type="checkbox"/> Certified Mail® <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Signature Confirmation™ <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Signature Confirmation Restricted Delivery</p>	<p>SENDER: COMPLETE THIS SECTION</p> <p>■ Complete items 1, 2, and 3. ■ Print your name and address on the reverse so that we can return the card to you. ■ Attach this card to the back of the mailpiece, or on the front if space permits.</p> <p>1. Article Addressed to:</p> <p>OXY USA, Inc. P.O. Box 4294 Houston, Texas 77210</p> <p>9590 9402 2818 7069 5924 01</p> <p>2. Article Number (Transfer from service label)</p> <p>7014 1620 0000 3203 6692</p> <p>PS Form 3811, July 2015 PSN 7530-02-000-8053</p>	<p>COMPLETE THIS SECTION ON DELIVERY</p> <p>A. Signature X <i>[Signature]</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) C. Date of Delivery 8-15-17</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input type="checkbox"/> No If YES, enter delivery address below:</p> <p>3. Service Type <input type="checkbox"/> Adult Signature <input type="checkbox"/> Priority Mail Express® <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Registered Mail™ <input type="checkbox"/> Certified Mail® <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Signature Confirmation™ <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Signature Confirmation Restricted Delivery</p>
<p>SENDER: COMPLETE THIS SECTION</p> <p>■ Complete items 1, 2, and 3. ■ Print your name and address on the reverse so that we can return the card to you. ■ Attach this card to the back of the mailpiece, or on the front if space permits.</p> <p>1. Article Addressed to:</p> <p>BTA Oil Producers, LLC 104 South Pecos Midland, Texas 79701</p> <p>9590 9403 0494 5173 8869 72</p> <p>2. Article Number (Transfer from service label)</p> <p>7014 1620 0000 3203 6647</p> <p>PS Form 3811, April 2015 PSN 7530-02-000-8053</p>	<p>COMPLETE THIS SECTION ON DELIVERY</p> <p>A. Signature X <i>[Signature]</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) C. Date of Delivery 8/14/17</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input type="checkbox"/> No If YES, enter delivery address below:</p> <p>3. Service Type <input type="checkbox"/> Adult Signature <input type="checkbox"/> Priority Mail Express® <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Registered Mail™ <input type="checkbox"/> Certified Mail® <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Signature Confirmation™ <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Signature Confirmation Restricted Delivery</p>	<p>SENDER: COMPLETE THIS SECTION</p> <p>■ Complete items 1, 2, and 3. ■ Print your name and address on the reverse so that we can return the card to you. ■ Attach this card to the back of the mailpiece, or on the front if space permits.</p> <p>1. Article Addressed to:</p> <p>Oil Conservation Division District II 811 South First Street Artesia, New Mexico 86210</p> <p>9590 9403 0494 5173 8870 30</p> <p>2. Article Number (Transfer from service label)</p> <p>7014 1620 0000 3203 6793</p> <p>PS Form 3811, April 2015 PSN 7530-02-000-8053</p>	<p>COMPLETE THIS SECTION ON DELIVERY</p> <p>A. Signature X <i>[Signature]</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) C. Date of Delivery 8/14/17</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input type="checkbox"/> No If YES, enter delivery address below:</p> <p>3. Service Type <input type="checkbox"/> Adult Signature <input type="checkbox"/> Priority Mail Express® <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Registered Mail™ <input type="checkbox"/> Certified Mail® <input type="checkbox"/> Registered Mail Restricted Delivery <input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Signature Confirmation™ <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Signature Confirmation Restricted Delivery</p>
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Striker I SWD#1

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■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Spindletop Oil & Gas Company

P. O. Box 744

Dallas, TX 75374

753745089-1N

DALLAS, TX 75374

753745089-1N

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3203 8830

PS Form 3811

July 2015 PSN 7530-02-000-9053

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■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Marathon Oil Permian, LLC
5555 San Felipe Street
Houston, Texas 77056

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COMPLETE THIS SECTION ON DELIVERY

- A. Signature ☒ Agent
B. Received by (Printed Name) ☐ Addressee
C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes ☐ No

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Restricted Delivery

Domestic Return Receipt

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1. Article Addressed to:

R.C. Bennett Company
P. O. Box 264
Midland, Texas 79702

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9590 9402 2818 7069 5923 88

7014 1820 0000 3203 1861

PS Form 3811

July 2015 PSN 7530-02-000-9053

Domestic Return Receipt

COMPLETE THIS SECTION ON DELIVERY

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B. Received by (Printed Name) ☐ Addressee
C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes ☐ No

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Registered Mail™

Registered Mail Restricted Delivery

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Signature Confirmation™

Restricted Delivery

Domestic Return Receipt

McMillan, Michael, EMNRD

From: McMillan, Michael, EMNRD
Sent: Tuesday, August 15, 2017 2:26 PM
To: 'Chris Weyand'
Subject: NGL Water Solutions Permian, LLC Striker 1 SWD Well No. 1 administrative application

Chris:

The OCD received the NGL Water Solutions Permian, LLC Striker 1 SWD Well No. 1 on Tuesday August 15, 2017.

The OCD needs the following information

- Proof of mailing for the affected parties.
- Affidavit of publication

As a result, your application will be suspended. If the required information is not received within 10-days, your application will be cancelled.

Thanks

Mike

Michael McMillan
1220 South St. Francis
Santa Fe, New Mexico
505-476-3448
Michael.mcmillan@state.nm.us

McMillan, Michael, EMNRD

From: McMillan, Michael, EMNRD
Sent: Thursday, August 24, 2017 2:55 PM
To: 'Chris Weyand'
Cc: Goetze, Phillip, EMNRD; Lowe, Leonard, EMNRD; Jones, William V, EMNRD
Subject: Protested Application: NGL Water Solutions Permian, LLC Striker 1I SWD No. 1 Well Eddy Co.

Mr. Weyand:

Chevron USA Inc. is protesting this application for approval of a salt water disposal well into Silurian and Devonian formations. Chevron USA Inc. has been identified as an affected person for the proposed salt-water disposal well. Therefore, you are being notified that if NGL Water Solutions Permian, LLC wishes for this application to be considered, it must either go to hearing or may be reviewed administratively if the protest is withdrawn as a result of a negotiated resolution with this party. The application will be retained by OCD, but suspended from further administrative review. Please contact OCD once you have made a decision regarding the application within the next 30 days. If the protest remains after 30 days, OCD will initiate the process for the application to be reviewed at hearing. Please contact me with any questions regarding this matter. Mike

Contact for Chevron USA Inc
Michael Feldewert
Attorney
Holland and Hart LLP
110 North Guadalupe Suite 1
Santa Fe, NM 87501
Phone: 505.988.4421
E-mail: mfeldewert@hollandhart.com

Michael McMillan
1220 South St. Francis
Santa Fe, New Mexico
505-476-3448
Michael.mcmillan@state.nm.us

LONQUIST & CO. LLC

PETROLEUM
ENGINEERS

ENERGY
ADVISORS

RECEIVED OCD

AUSTIN · HOUSTON · WICHITA · DENVER · CALGARY 2017 AUG 15 A 9:29

August 9, 2017

New Mexico Energy, Minerals, and Natural Resources Department
Oil Conservation Division District IV
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
(505) 476-3440

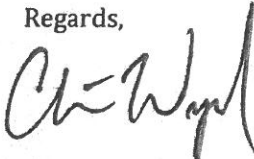
RE: STRIKER 1 SWD NO. 1 AUTHORIZATION TO INJECT

To Whom It May Concern:

Attached for your review is Form C-108, Application for Authorization to Inject, and its supplemental documents prepared for NGL Water Solutions Permian, LLC's Striker 1 SWD No. 1. In addition, Forms C-101 and C-102 have also been included with this package. Notices have been sent to offset leaseholders and the surface owner. Proof of notice will be sent to the OCD upon receipt.

Any questions should be directed towards NGL Water Solutions Permian, LLC's agent Lonquist & Co., LLC.

Regards,



Christopher B. Weyand
Staff Engineer
Lonquist & Co., LLC

(512) 600-1764
chris@lonquist.com



FORM C-108 Technical Review Summary [Prepared by reviewer and included with application; V16.2]

DATE RECORD: First Rec: 08/15/18 Admin Complete: 09/26/18 * Amended
or Suspended: Protest Add. Request/Reply: _____

ORDER TYPE: WFX / PMX / SWD Number: 1724 Order Date: 8/23/18 Legacy Permits/Orders: Protest
withdrawn

Well No. 1 Well Name(s): Striker 1 SWD

API: 30-015-44406 Spud Date: TBD New or Old (EPA): New (UIC Class II Primacy 03/07/1982)

Footages: *New SL: 1015' FNL / 1395' FEL Lot - or Unit B Sec 15 Tsp 23S Rge 28E County Eddy

General Location: ~2 mi northeast of Loving Pool: SWD; Devonian-Silurian Pool No.: 97869

BLM 100K Map: Carlsbad Operator: NGL Water Solutions Permian LLC OGRID: 972338 Contact: Steve Patta

COMPLIANCE RULE 5.9: Total Wells: 5 Inactive: 0 Fincl Assur: OK Compl. Order? No IS 5.9 OK? Yes Date: 8/23/18

WELL FILE REVIEWED ☒ Current Status: New C-102 for relocation of well; remaining portion unchanged

WELL DIAGRAMS: NEW: Proposed ☒ or RE-ENTER: Before Conv. ☐ After Conv. ☐ Logs in Imaging: _____

Planned Rehab Work to Well: * New SL still within Unit B; re-noticed was required for new SL

Well Construction Details		Sizes (in) Borehole / Pipe	Setting Depths (ft)	Cement Sx or Cf	Cement Top and Determination Method
Planned ___ or Existing ___ Surface					
Planned ___ or Existing ___ Interm/Prod			<u>unchanged</u>		
Planned ___ or Existing ___ Interm/Prod			<u>from</u>		
Planned ___ or Existing ___ Prod/Liner			<u>original</u>		
Planned ___ or Existing ___ Liner			<u>application</u>		
Planned ___ or Existing ___ OH / PERF			<u>(Unchanged) 3750 to 5100</u>		

Injection Lithostratigraphic Units	Depths (ft)	Injection or Confining Units	Tops
Adjacent Unit: Litho. Struc. Por.		<u>Mississippian</u>	<u>12817</u>
Confining Unit: <u>Litho</u> Struc. Por.	<u>10' into Woodford Shale</u>	<u>Devonian-Silurian</u>	<u>13664</u>
Proposed Inj Interval TOP:	<u>13750</u>	<u>Montoya</u>	<u>14973</u>
Proposed Inj Interval BOTTOM:	<u>15100</u>	<u>+100 into top</u>	<u>14973</u>
Confining Unit: Litho. Struc. Por.		<u>Simpson (?)</u>	
Adjacent Unit: Litho. Struc. Por.			

Completion/Operation Details:	
Drilled TD <u>15100</u>	PBTD <u>-</u>
NEW TD <u>-</u>	NEW PBTD <u>-</u>
NEW Open Hole <input checked="" type="checkbox"/> or NEW Perfs <input type="checkbox"/>	
Tubing Size <u>5x5.5 in.</u>	Inter Coated? <u>Yes</u>
Proposed Packer Depth <u>13700</u> ft	
Min. Packer Depth <u>-</u>	(100-ft limit)
Proposed Max. Surface Press. <u>2750</u> psi	
Admin. Inj. Press. <u>2750</u>	(0.2 psi per ft)

AOR: Hydrologic and Geologic Information

POTASH: R-111-P NA Noticed? NA BLM Sec Ord NA WIPP NA Noticed? NA Salt/Salado T: 3500 B: 2370 NW: Cliff House fm

FRESH WATER: Aquifer Alluvial / Rustler fm Max Depth < 300' HYDRO AFFIRM STATEMENT By Qualified Person ☒

NMOSE Basin: Carlsbad CAPITAN REEF: thru - adj NA No. GW Wells in 1-Mile Radius? 32 FW Analysis? Yes

Disposal Fluid: Formation Source(s) BS/WC/Penn/Devonian Analysis? Yes On Lease ☐ Operator Only ☐ or Commercial ☒

Disposal Interval: Inject Rate (Avg/Max BWPD): 25000/30000 Protectable Waters? NA Source: Historical System: Closed or Open

HC Potential: Producing Interval? NO Formerly Producing? NO Method: Logs/DST/P&A/Other Mudlog 2-Mi Radius Pool Map ☐

AOR Wells: 1/2-M Radius Map and Well List? Yes No. Penetrating Wells: 0 [AOR Horizontal: 0 AOR SWDs: 0]

Penetrating Wells: No. Active Wells 0 Num Repairs? - on which well(s)? - Diagrams? -

Penetrating Wells: No. P&A Wells 0 Num Repairs? - on which well(s)? - Diagrams? -

NOTICE: Newspaper Date Aug 8, 2017 Mineral Owner NGL / fee Surface Owner NGL / fee N. Date NA

RULE 26.7(A): Identified Tracts? Yes Affected Persons: Renoticed Llano / Chevron / Rubicon N. Date 07/26/18

Order Conditions: Issues: Cement requirements; Stat. control;

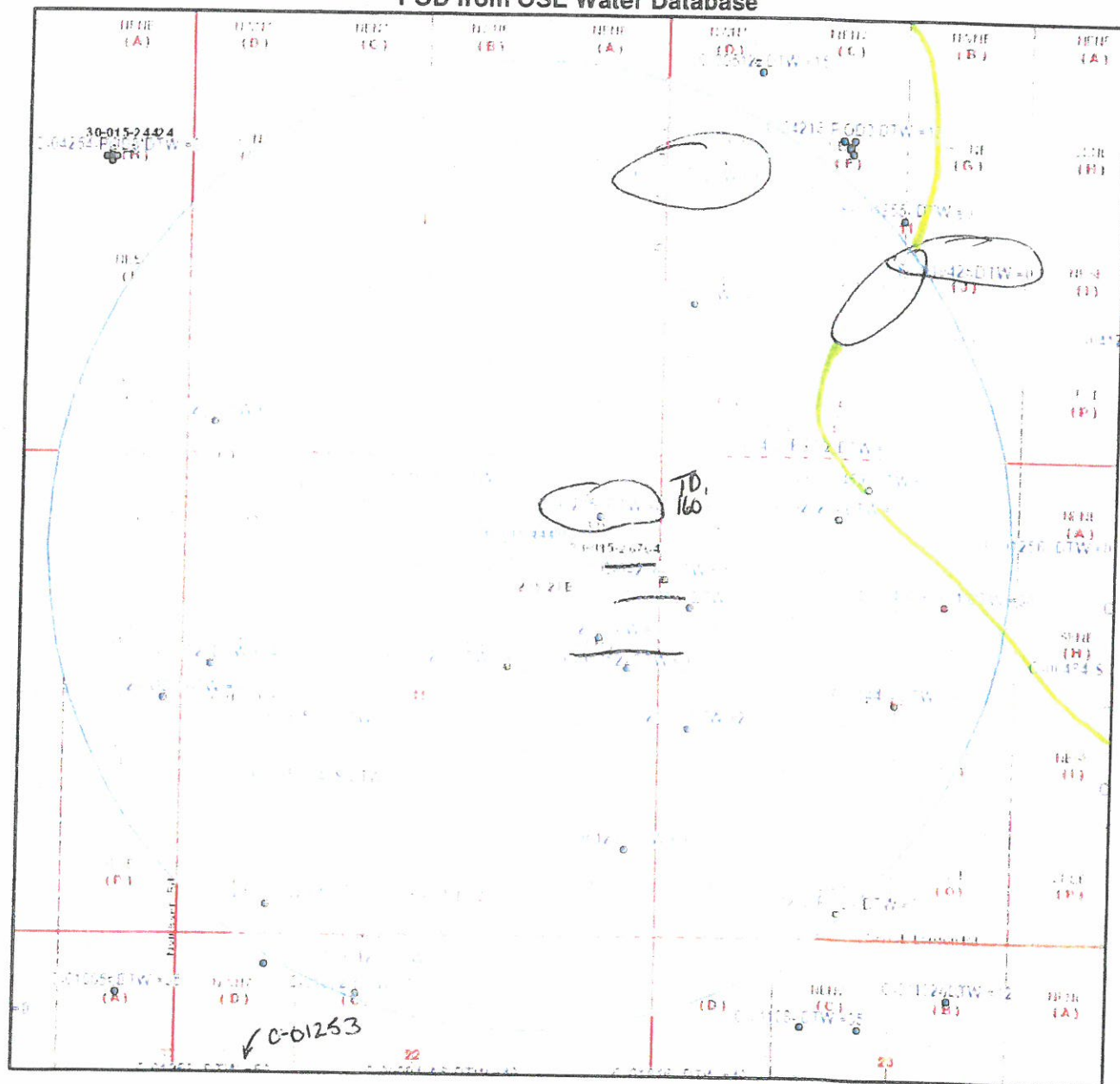
Additional COAs: CBL for liner; cement clause; mudlog with picks

[illegible]

Product Description: Intrepid SWD No. 1 (30-015-44511) not yet drilled; approved current tubing: 5-in tapering to 5-in in liner.

**Pending Application for High-Volume Devonian Disposal Well
C-108 Application for Striker 1 SWD No. 1 – NGL Water Solution Permian – 08/23/2018**

POD from OSE Water Database



Striker 1 SWD No. 1; NGL Water Solutions Permian; SWD-1724
API 30-015-44406; Application No. pMAM172275233



New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

(R=POD has been replaced and no longer serves this file, C=the file is closed)																			
(quarters are 1=NTW 2=NE 3=SW 4=SE)																			
(quarters are smallest to largest)																			
(NAD83 UTM in meters)																			
WR File Nbr	Salb	basin	Use	Diversion	Owner	County	POD Number	Code	Grant	Source	q	q	q	X	Y	Distance			
C.00501A	CUB	IRR	443.64	HENRY E MCDONALD	ED	C.00501A				Shallow	3	3	4	15	23S	28E	587179	3573958*	282
C.00501B	CUB	IRR	194.49	UFFIE LAND CO	ED	C.00501A				Shallow	3	3	4	15	23S	28E	587179	3573958*	282
C.00501	CUB	IRR	93.51	EQUITABLE LIFE ASSURANCE SOCIETY	ED	C.00501A-S				Shallow	3	2	3	15	23S	28E	586772	3574359*	288
C.00501A	CUB	IRR	443.64	HENRY E MCDONALD	ED	C.00501A-S				Shallow	3	2	3	15	23S	28E	586766	3574353	288
C.00501D	CUB	IRR	296.46	LIONEL ONSUREZ	ED	C.00501A-S				Shallow	3	2	3	15	23S	28E	586766	3574353	288
C.00447	CUB	IRR	0	C.B. HICKS	ED	C.00127				Shallow	2	2	1	22	23S	28E	586977	3573748*	405
C.00211	C	DOM	3	DAVID A. CARPENTER	ED	C.00211				Shallow	4	3	3	15	23S	28E	586570	3573949*	452
C.00501	CUB	IRR	93.51	EQUITABLE LIFE ASSURANCE SOCIETY	ED	C.00501				Shallow	1	2	3	15	23S	28E	586772	3574559*	453
C.00501C	CUB	IRR	2.67	CARRASCO CANDELARIO JR	ED	C.00501				Shallow	1	2	3	15	23S	28E	586772	3574559*	453
C.00501CA	CUB	IRR	111	RUBEN U CARRASCO	ED	C.00501				Shallow	1	2	3	15	23S	28E	586772	3574559*	453
C.01872	C	DOL	3	WESTERN COMMERCE BANK	ED	C.01872				Shallow	2	1	22	23S	28E		586878	3573649*	513
C.01336	C	DOM	3	JAMES NYMEYER	ED	C.01336				Shallow	2	1	22	23S	28E		586572	3573744*	573
C.01228	CUB	IRR	0	URQUIDEZ-HERNANDEZ	ED	C.01328				Shallow	3	3	2	15	23S	28E	587173	3574769*	647
C.02810	C	DOM	3	JOHN REID	ED	C.02810				Shallow	4	3	2	15	23S	28E	587373	3574769*	733
C.02926	C	STK	3	JOHNNY L REID	ED	C.02926				Shallow	4	3	2	15	23S	28E	587373	3574769*	733
C.00128	C	DOL	3	YLARIO URQUIDEZ	ED	C.00128				Shallow	2	4	4	15	23S	28E	587783	3574162*	809
C.00994A	CUB	GLS	0	DOROTHY W. QUEEN	ED	C.00994A-S				Shallow	1	3	2	22	23S	28E	587183	3573346*	833
C.00072	CUB	IRR	552	J L NYMEYER	ED	C.00072				Shallow	3	3	1	15	23S	28E	586364	3574760*	860
C.03262	CUB	MON	0	SOUTHWEST ENGINEERING INC.	ED	C.03262 POD3				Shallow	4	2	2	16	23S	28E	586203	3574642	912
C.00321	C	DOM	0	WJ. BAILEY	ED	C.00321				Shallow	4	2	15	23S	28E		587679	3574874*	1008
C.02503	C	DOM	3	JIMMY G TARVIN SR	ED	C.02503				Shallow	4	2	15	23S	28E		587679	3574874*	1008
C.01253	CUB	IRR	277.644	NEW MEXICO INTERSTATE STREAM	ED	C.01253				Shallow	1	3	1	22	23S	28E	586375	3573338*	1011
C.00269	C	IRR	3	JOHNNY GIOVENGO JR.	ED	C.00269				Shallow	4	4	2	15	23S	28E	587778	3574773*	1015
C.01352	C	DOM	3	D H MAGBY	ED	C.00269				Shallow	4	4	2	15	23S	28E	587778	3574773*	1015

NTW 80 / TO 179 / 122-179

55/609

DTW 80' TO 179' / 122'-179'
96/1009

8/23/2018

nmwrs.ose.state.nm.us/nmwrs/ReportProxy?queryData=%7B%22report%3A%22podByLc

nmwrs.ose.state.nm.us/nmwrs/ReportProxy?queryData=%7B%22report%3A%22podByLc										ar%2C%0A%22PodNbrDiv%3A%22true%2C%0A%22PodBasin%3A%22C%0A%22PodNbr%2C%...									
C	DOM	C	DOM	C	DOM	C	DOM	C	DOM	4	4	2	15	23S	28E	587778	3574773*	1015	
C.01364	CUB	IRR	226.8	JAVIER S & BRETHER A. JASSO	ED	C.00269	ED	C.00269	ED	Shallow	4	4	2	15	23S	28E	587778	3574773*	1015
C.01487	C	DOL	3	JAVIER S JASSO	ED	C.01487	ED	C.01487	ED	Shallow	3	4	1	22	23S	28E	586779	3573142*	1029
C.01885	C	DOM	3	FRANK LONDON	ED	C.02913	ED	C.02913	ED	3	4	1	22	23S	28E	586779	3573142*	1029	
C.02182	CUB	CLS	0	RB-OPERATING-COMPANY	ED	C.01885	ED	C.01885	ED	Shallow	2	2	21	23S	28E	586070	3573640*	1039	
C.00048	CUB	CLS	0	JACKIE REID	ED	C.02182	ED	C.02182	ED	Shallow	1	1	3	14	23S	28E	587985	3574572*	1094
C.00094	CUB	CLS	0	DOROTHY W. QUEEN	ED	C.00094	ED	C.00094	ED	Shallow	3	4	2	22	23S	28E	587588	3573151*	1175
C.00094	CUB	CLS	0	JOHNNY L. REID	ED	C.00094	ED	C.00094	ED	Shallow	3	4	2	22	23S	28E	587588	3573151*	1175
C.00485	CUB	IRR	0	G.W. CRISP	ED	C.00485	ED	C.00485	ED	Shallow	3	4	2	22	23S	28E	587588	3573151*	1175
C.02847	CUB	COM	40	DRAPER BRANTLEY JR.	ED	C.02847	ED	C.02847	ED	1	1	2	15	23S	28E	587170	3573375*	1237	
C.02849	CUB	COM	40	HENRY MCDONALD	ED	C.02849	ED	C.02849	ED	2	1	4	22	23S	28E	587386	3572941*	1280	
C.01816	C	DOL	3	A R DONALDSON	ED	C.01816	ED	C.01816	ED	2	1	4	22	23S	28E	587386	3572941*	1280	
C.04268	C	DOM	0	JOSEPH VALENCEA	ED	C.04268	ED	C.04268	ED	Shallow	1	3	1	23	23S	28E	587992	3573355*	1293
C.00616	CUB	IRR	0	LEE & WILLIAM VOIGT	ED	C.00616	ED	C.00616	ED	1	3	1	14	23S	28E	587894	3575069	1298	
C.02796	CUB	MON	0	IMG	ED	C.02796	ED	C.02796	ED	Shallow	1	3	1	14	23S	28E	587982	3574978*	1302
C.00235	C	STK	3	LEE S. WILLIAMS	ED	C.00235	ED	C.00235	ED	2	3	2	22	23S	28E	586882	3572838*	1318	
C.01861	C	DOL	0	DRAPER BRANTLEY JR.	ED	C.01861	ED	C.01861	ED	Shallow	2	2	15	23S	28E	587676	3573280*	1327	
C.00024	CUB	IRR	246.959	HENRY E MCDONALD	ED	C.00024	ED	C.00024	ED	1	4	2	22	23S	28E	587287	3572842*	1347	
C.00048	CUB	CLS	0	JOHNNY L. REID	ED	C.00048	ED	C.00048	ED	1	3	2	22	23S	28E	586478	3572834*	1409	
C.00048.1	CUB	IRR	124.589	JACKIE REID	ED	C.00048	ED	C.00048	ED	Shallow	3	3	1	23	23S	28E	587997	3573160	1425
C.00048.2	CUB	STO	0.739	JOHNNY L. REID	ED	C.00048	ED	C.00048	ED	Shallow	3	3	1	23	23S	28E	587997	3573160	1425
C.00048.1	CUB	CLS	0	WILLIAM & MARIA T. STEPHENS	ED	C.00048.1	ED	C.00048.1	ED	Shallow	3	3	1	23	23S	28E	587997	3573160	1425
C.00144	CUB	CLS	0	REVOCABLE TRUST	ED	C.00144	ED	C.00144	ED	Shallow	3	3	1	23	23S	28E	587997	3573160	1425
C.00453	C	DOM	3	MAXIMIANO JASSO	ED	C.00453	ED	C.00453	ED	2	2	4	22	23S	28E	587790	3572945*	1457	
C.00048.1	CUB	CLS	0	WILLIAM & MARIA T. STEPHENS	ED	C.00048.1	ED	C.00048.1	ED	3	2	1	23	23S	28E	588395	3573566*	1537	
C.00144	CUB	CLS	0	REVOCABLE TRUST	ED	C.00144	ED	C.00144	ED	3	2	1	23	23S	28E	588395	3573566*	1537	
C.01108	C	STK	3	CLARENCE REID	ED	C.01108	ED	C.01108	ED	Shallow	3	2	1	23	23S	28E	588395	3573566*	1537
C.00453	CUB	IRR	0	FRANK L. LONDON	ED	C.00453	ED	C.00453	ED	3	1	2	21	23S	28E	585566	3573535*	1537	
C.00326	CUB	IRR	221.45	HENRY E MCDONALD	ED	C.00326	ED	C.00326	ED	Shallow	3	3	3	10	23S	28E	586358	3575572*	1546
C.04268	CUB	MON	0	CHEVRON-NORTH AMERICAL-PROD.	ED	C.04252	ED	C.04252	ED	4	4	3	14	23S	28E	588513	3573957	1551	

8/23/2018

nmwrrs.osg.state.nm.us/nmwrrs/ReportProxy?queryData=%7B%22report%3A%22podByL

mer%2C%0A%22PodNbrDiv%3A%22true%2C%0A%22PodBasin%3A%2C%0A%22PodNb

Record Count: 57 - 21 (inactive) = 36 Active POD

POD Search:

POD Basin: Carlsbad

UTMNADE3 Radius Search (in meters):

Easting (X): 586974

Northing (Y): 3574153

Radius: 1609

Sorted by: Distance

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSSE/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.

8/23/18 11:15 AM

ACTIVE & INACTIVE POINTS OF DIVERSION

Goetze, Phillip, EMNRD

From: Chris Weyand <chris@lonquist.com>
Sent: Thursday, July 26, 2018 11:06 AM
To: Goetze, Phillip, EMNRD
Cc: Doug White; Neel Duncan
Subject: RE: Striker 1 SWD #1 Location Change - API No. 30-015-44406
Attachments: Striker 1 SWD #1_Loc Change_C-103_2018-07-10.pdf; STRIKER 1 SWD 1 Revised C-102_signed.pdf; Striker_1_SWD_No_1_Half_Mile_AOR_Map_v2.pdf; Striker_1_SWD_No_1_Half_Mi_AO_Offset_Lease_Map.pdf; 1467 - Striker 1 SWD #1.FedEx sent Receipts.072618.pdf

Hi Phillip,

To follow up on the location change submittal for the Striker 1 SWD #1 (C-103 & C-102 attached), attached please find the following:

- ½-mile AOR map (there are no wells penetrating the Devonian)
- ½-mile Lease Map for notification
- Proof of notice to 2 new parties (Llano & Rubicon) and the protesting party (Chevron)

Though the proposed location has changed, remaining portions of the C-108 are unchanged.

A 1-mile AOR for future expansion of injection rates is in the works, but for now, NGL would like to proceed with permitting with the standard ½-mile AOR.

Thanks,

Chris Weyand
Staff Engineer
Lonquist & Co., LLC
(512) 600-1764 Direct
(210) 846-2673 Mobile

From: Chris Weyand
Sent: Tuesday, July 10, 2018 3:56 PM
To: Podany, Raymond, EMNRD (Raymond.Podany@state.nm.us)
Cc: 'Dickerson, Kevin'; Doug White; McEniry, Kerry; Joshua Patterson (External); Neel Duncan; Phillip.Goetze@state.nm.us
Subject: Striker 1 SWD #1 Location Change - API No. 30-015-44406

Hi Raymond,

Attached is the C-103 and updated C-102 for a proposed location change for the Striker 1 SWD #1 in Eddy County. Please let me know if you have any questions.

Updated AORs will be provided to the UIC as soon as they are complete.

Thanks,

LONQUIST & CO. LLC

PETROLEUM
ENGINEERS

ENERGY
ADVISORS

HOUSTON | CALGARY
AUSTIN | WICHITA | DENVER

Chris Weyand • Staff Engineer • Lonquist & Co., LLC • 12912 Hill Country Blvd., Suite F-200 • Austin,
Texas, USA 78738

Direct: 512-600-1764 • Cell: 210-846-2673 • Fax: 512-732-9816 • chris@lonquist.com • www.lonquist.com

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Submit 1 Copy To Appropriate District
Office
District I - (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II - (575) 748-1283
811 S. First St., Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV - (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised July 18, 2013

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO. 30-015-44406
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name STRIKER 1 SWD
8. Well Number 1
9. OGRID Number 372338
10. Pool name or Wildcat SWD; DEVONIAN-SILURIAN

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH
PROPOSALS.)

1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other SWD
2. Name of Operator NGL WATER SOLUTIONS PERMIAN, LLC
3. Address of Operator 3773 Cherry Creek North Drive // Denver, CO 80209
4. Well Location Unit Letter <u>B</u> : <u>1015</u> feet from the <u>NORTH</u> line and <u>1395</u> feet from the <u>EAST</u> line Section <u>15</u> Township <u>23S</u> Range <u>28E</u> NMPM County <u>EDDY</u>
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 2,994.32' GL

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P. AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
DOWNHOLE COMMINGLE <input type="checkbox"/>			
CLOSED-LOOP SYSTEM <input type="checkbox"/>			
OTHER: <input type="checkbox"/>		OTHER: <input type="checkbox"/>	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

- The operator is proposing to move the location approximately 560' south of the current location to better accommodate O&G operations of offset operators. The revised location remains located in Unit B of Sec. 15-23S-28E.

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE

TITLE

Consulting Engineer

DATE

07/10/2018

Type or print name Chris Weyand

E-mail address: chris@lonquist.com

PHONE: (512) 600-1764

For State Use Only

APPROVED BY:

TITLE

DATE

Conditions of Approval (if any):

Submit 1 Copy To Appropriate District Office
District I - (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II - (575) 748-1283
811 S. First St., Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV - (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised July 18, 2013

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-015-44406
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other SWD <input type="checkbox"/>		5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
2. Name of Operator NGL WATER SOLUTIONS PERMIAN, LLC		6. State Oil & Gas Lease No.
3. Address of Operator 3773 Cherry Creek North Drive // Denver, CO 80209		7. Lease Name or Unit Agreement Name STRIKER 1 SWD
4. Well Location Unit Letter <u>B</u> : <u>1015</u> feet from the <u>NORTH</u> line and <u>1395</u> feet from the <u>EAST</u> line Section <u>15</u> Township <u>23S</u> Range <u>28E</u> NMPM County <u>EDDY</u>		8. Well Number <u>1</u>
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 2,994.32' GL		9. OGRID Number 372338
		10. Pool name or Wildcat SWD; DEVONIAN-SILURIAN

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☒
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐
CLOSED-LOOP SYSTEM ☐
OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

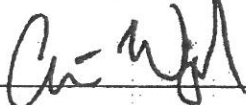
- The operator is proposing to move the location approximately 560' south of the current location to better accommodate O&G operations of offset operators. The revised location remains located in Unit B of Sec. 15-23S-28E.

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE



TITLE

Consulting Engineer

DATE

07/10/2018

Type or print name Chris Weyand

E-mail address: chris@lonquist.com

PHONE: (512) 600-1764

For State Use Only

APPROVED BY:

TITLE

DATE

Conditions of Approval (if any):

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) 334-6170 Fax: (505) 334-6170
District IV
1230 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 30-015-44406		2 Pool Code 98101		3 Pool Name SWD, Silurian-Devonian	
4 Property Code		5 Property Name Striker 1 SWD			6 Well Number #1
7 OGRID No. 372338		8 Operator Name NGL WATER SOLUTIONS PERMIAN, LLC			9 Elevation 2994.32

10 Surface Location

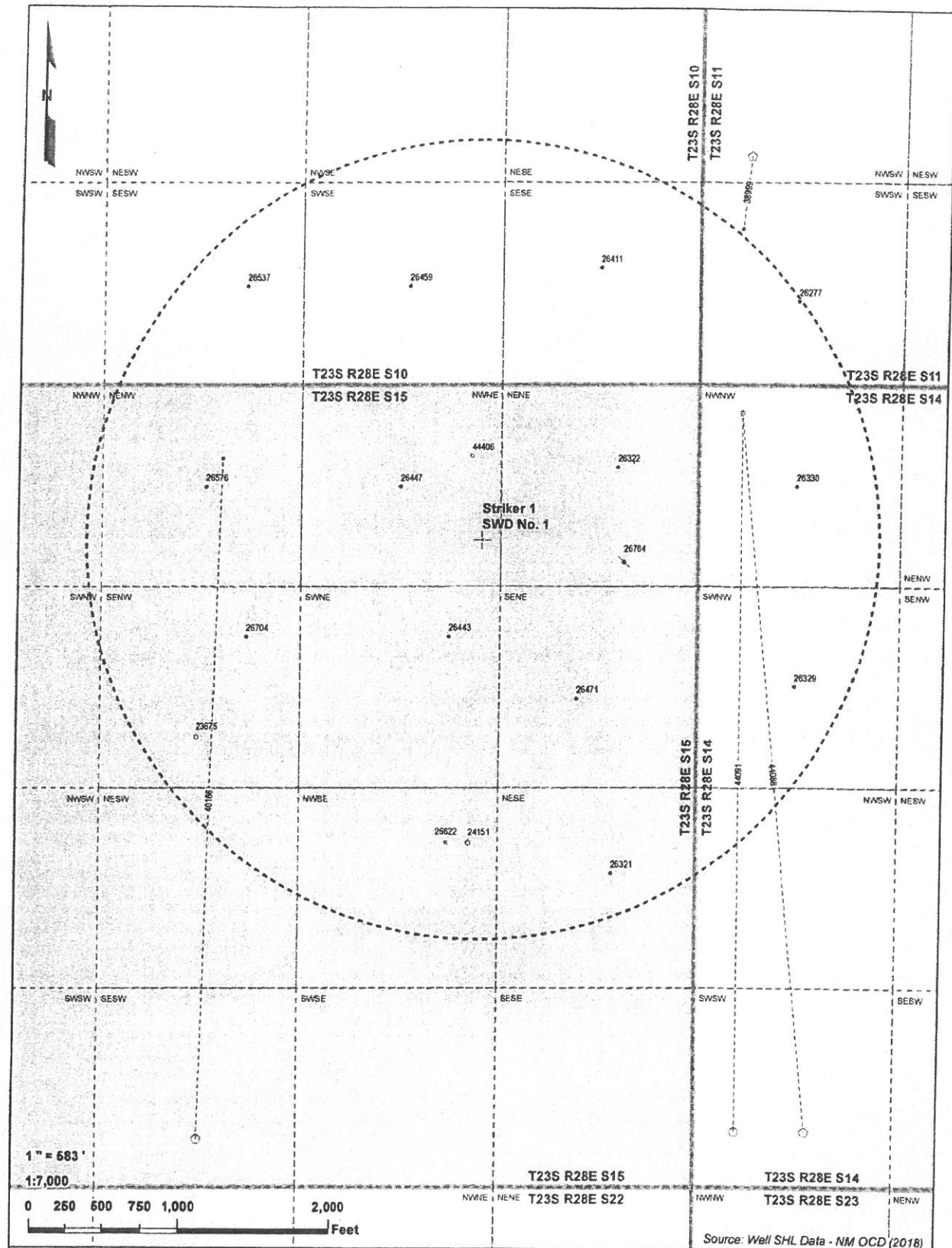
11 UL or lot no. B	12 Section 15	13 Township 23 S	14 Range 28 E	15 Lot Ida	16 Feet from the 1016	17 North/South line NORTH	18 Feet from the 1395	19 East/West line EAST	20 County EDDY
------------------------------	-------------------------	----------------------------	-------------------------	------------	---------------------------------	-------------------------------------	---------------------------------	----------------------------------	--------------------------

21 Bottom Hole Location If Different From Surface

22 UL or lot no.	23 Section	24 Township	25 Range	26 Lot Ida	27 Feet from the	28 North/South line	29 Feet from the	30 East/West line	31 County
32 Dedicated Acres		33 Joint or Infill		34 Consolidation Code		35 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>GEODETIC DATA NAD 83 GRID - NM EAST STRIKER 1 SWD #1 Y= 478960.31 N X= 622330.25 E LAT= 32.808947 N LONG= -104.071171 W</p> <p>CORNER DATA NAD 83 GRID - NM EAST A - Y= 477558.26, X= 618388.01 B - Y= 477823.24, X= 623724.43 C - Y= 472325.87, X= 623729.21 D - Y= 472241.13, X= 618414.91</p>	<p>11 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 unshared 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 into by order.</p> <p><i>Christopher Weyand</i> 7/10/2013 Signature Date</p> <p>Christopher Weyand Printed Name</p> <p>chris@longquist.com E-mail Address</p>	
	<p>12 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.</p> <p>18 June 2013 Date of Survey</p> <p><i>[Signature]</i> Signature and Seal of Professional Surveyor</p> <p>20552 Certificate Number</p>	
	<p>NEW MEXICO 20552 PROFESSIONAL SURVEYOR</p>	
	<p>E. HUDSON</p>	



Striker 1 SWD No. 1 1/2-Mile Area of Review NGL Water Solutions Permian, LLC Eddy Co., NM PCS: NAD 1983 SPCS NM-E FIPS 3001 (US FL) Drawn by: ELR Date: 6/21/2018 Approved by: NLB			Striker 1 SWD No. 1 SHL 1/2-Mile Radius Property Boundary QQ-Section (NM-PLSS 2nd Div.) Section (NM-PLSS 1st Div.) Lateral Horizontal Surface Location (4) Active - Gas (2) Active - Oil (13) Active - SWD (1) Permitted - SWD (1) Zones Temp./Plugged - Oil (1)		API (30-016-...) BHL Status-Type (Count) ○ Active - Gas (1) * Active - Oil (3) API (30-015-...) SHL Status-Type (Count) ○ Horizontal Surface Location (4) Active - Gas (2) Active - Oil (13) Active - SWD (1) Permitted - SWD (1) Zones Temp./Plugged - Oil (1)	
LONQUIST & CO. LLC PETROLEUM ENGINEERS ENERGY ADVISORS AUSTIN • HOUSTON • WICHITA • DENVER • CALGARY			CHAVES OTERO CULBERSON LEA ANDREWS GAINES WINKLER LOVING TEXAS NEW MEXICO Map Extent			

Striker 1 SWD No. 1

Offset Leases

NGL Water Solutions Permian, LLC
Eddy Co., NM

PCS NAD 1983 SPCS NAD FIPS 3001 (US FT.)	
Drawn by: ELR	Date: 7/25/2018
Approved by: NUB	

LONGQUIST & CO. LLC



AUSTIN HOUSTON WICHITA DENVER CALGARY

Striker 1 SWD No. 1 SHL

12-Mile Radius

00 Section (MM-PLSS 2nd D-7)

11 Section (T23S R28E) (MM-PLSS 1st D-7)

Lateral

API (D0-015-...) SHL Status-Type (Count)

Horizontal Surface Location (d)

Active - Gas (2)

Active - Oil (13)

Active - SWD (1)

Permitted - SWD (1)

Zones Temp Plugback - Oil (1)

API (D0-015-...) BHL Status-Type (Count)

Active - Gas (1)

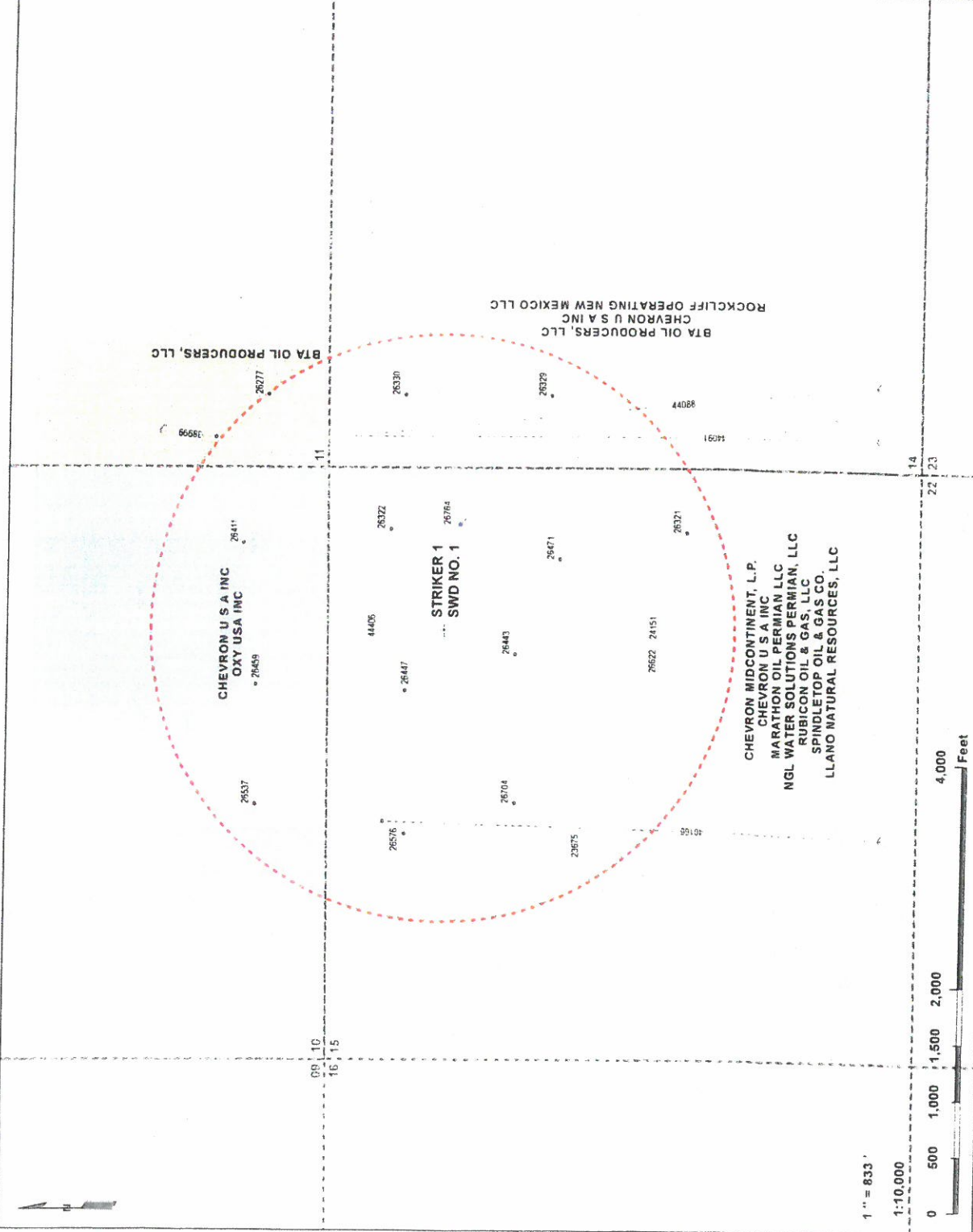
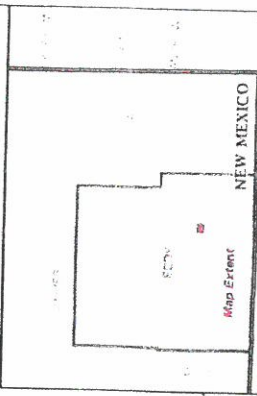
Active - Oil (3)

Offset Lease Boundary

Lessee(s)

CHEVRON MIDCONTINENT L.P. CHEVRON U.S.A. INC.
MARATHON OIL PERMIAN LLC NGL WATER SOLUTIONS
PERMIAN OIL & GAS LLC RUBICON OIL & GAS LLC SPINDLETOP OIL
& GAS CO. LLANO NATURAL RESOURCES, LLC
BTA OIL PRODUCERS, LLC
BTA OIL PRODUCERS, LLC CHEVRON U.S.A. INC.
ROCKCLIFF OPERATING NEW MEXICO LLC
CHEVRON U.S.A. INC. OXY USA INC.

Source: Lease Boundary/Well SHL Data
NM OCD (2018)



1" = 833'

1:10,000

0 500 1,000 1,500 2,000 4,000 Feet

**Shipment Receipt****Address Information****Ship to:**

Llano Natural Resources, LLC

4920 S Loop 289

Suite 206

LUBBOCK, TX

79414

US

5126001774

Ship from:

Steve Pattee

1001 MCKINNEY ST

STE 1650

HOUSTON, TX

770026423

US

7135599956

Shipment Information:

Tracking no.: 772622785323

Ship date: 07/26/2018

Estimated shipping charges: 13.80 USD

Package Information

Pricing option: FedEx Standard Rate

Service type: FedEx Ground

Package type: Your Packaging

Number of packages: 1

Total weight: 1 LBS

Declared Value: 0.00 USD

Special Services: Adult signature required

Pickup/Drop-off: Use an already scheduled pickup at my location

Billing Information:

Bill transportation to: MyAccount-089

Your reference: 1467 - Legal Notice

P.O. no.:

Invoice no.:

Department no.:

Thank you for shipping online with FedEx ShipManager at fedex.com.

Please Note

FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Medium for items of extraordinary value is \$1000, e.g., jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits. Consult the applicable FedEx Service Guide for details. The estimated shipping charge may be different than the actual charges for your shipment. Differences may occur based on actual weight, dimensions, and other factors. Consult the applicable FedEx Service Guide or the FedEx Rate Sheets for details on how shipping charges are calculated.

**Shipment Receipt****Address Information**

Ship to:
Chevron Midcontinent, LP

6301 Deauville Blvd

MIDLAND, TX
79706
US
886-212-1212

Ship from:
Steve Pattee

1001 MCKINNEY ST
STE 1650
HOUSTON, TX
770026423
US
7135599956

Shipment Information:

Tracking no.: 772822799775

Ship date: 07/26/2018

Estimated shipping charges: 13.80 USD

Package Information

Pricing option: FedEx Standard Rate

Service type: FedEx Ground

Package type: Your Packaging

Number of packages: 1

Total weight: 1 LBS

Declared Value: 0.00 USD

Special Services: Adult signature required

Pickup/Drop-off: Use an already scheduled pickup at my location

Billing Information:

Bill transportation to: MyAccount-089

Your reference: 1467-Legal Notice

P.O. no.:

Invoice no.:

Department no.:

Thank you for shipping online with FedEx ShipManager at fedex.com.

Please Note

FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs; and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1000, e.g., jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits; Consult the applicable FedEx Service Guide for details. The estimated shipping charge may be different than the actual charges for your shipment. Differences may occur based on actual weight, dimensions, and other factors. Consult the applicable FedEx Service Guide or the FedEx Rate Sheets for details on how shipping charges are calculated.

**Shipment Receipt****Address Information****Ship to:**

Select or enter
Rubicon Oil & Gas, LLC
508 W. Wall Street,
Suite 500
MIDLAND, TX
79701
US
432-687-5100

Ship from:

Steve Pattee
1001 MCKINNEY ST
STE 1650
HOUSTON, TX
770026423
US
7135599956

Shipment Information:

Tracking no.: 772822549010
Ship date: 07/26/2018
Estimated shipping charges: 13.80 USD

Package Information

Pricing option: FedEx Standard Rate
Service type: FedEx Ground
Package type: Your Packaging
Number of packages: 1
Total weight: 1 LBS
Declared Value: 100.00 USD
Special Services: Adult signature required
Pickup/Drop-off: Use an already scheduled pickup at my location

Billing Information:

Bill transportation to: MyAccount-089
Your reference: 1467-Legal Notice
P.O. no.:
Invoice no.:
Department no.:

Thank you for shipping online with FedEx ShipManager at fedex.com.

Please Note


FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1000, e.g., jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits. Consult the applicable FedEx Service Guide for details. The estimated shipping charge may be different than the actual charges for your shipment. Differences may occur based on actual weight, dimensions, and other factors. Consult the applicable FedEx Service Guide or the FedEx Rate Sheets for details on how shipping charges are calculated.

Goetze, Phillip, EMNRD

From: Michael Feldewert <MFeldewert@hollandhart.com>
Sent: Wednesday, July 18, 2018 2:04 PM
To: Goetze, Phillip, EMNRD
Cc: Podany, Raymond, EMNRD; McEniry, Kerry; Chris Weyand
Subject: Striker 1 SWD #1 Location Change - API No. 30-015-44406
Attachments: Striker 1 SWD #1_Loc Change_C-103_2018-07-10.pdf; STRIKER 1 SWD 1 Revised C-102_signed.pdf

Mr. Goetze: Pursuant to this location change filed by NGL Water Solutions, Chevron withdraws its objection to the administrative application for injection. Please let me know if you need any additional information.

Michael H. Feldewert
Santa Fe Office
505-988-4421
505-983-6043 (fax)
mfeldewert@hollandhart.com

HOLLAND&HART. 

CONFIDENTIALITY NOTICE: This message is confidential and may be privileged. If you believe that this email has been sent to you in error, please reply to the sender that you received the message in error; then please delete this e-mail. Thank you.

From: Chris Weyand [<mailto:chris@lonquist.com>]
Sent: Tuesday, July 10, 2018 3:56 PM
To: Podany, Raymond, EMNRD (Raymond.Podany@state.nm.us) <Raymond.Podany@state.nm.us>
Cc: Dickerson, Kevin <Kevin.Dickerson@chevron.com>; Doug White <Doug.White@nglep.com>; McEniry, Kerry <Kerry.McEniry@chevron.com>; Joshua Patterson (External) <Joshua.Patterson@nglep.com>; Neel Duncan <neel.duncan@iptenergyservices.com>; Phillip.Goetze@state.nm.us
Subject: **[**EXTERNAL**]** Striker 1 SWD #1 Location Change - API No. 30-015-44406

Hi Raymond,

Attached is the C-103 and updated C-102 for a proposed location change for the Striker 1 SWD #1 in Eddy County. Please let me know if you have any questions.

Updated AORs will be provided to the UIC as soon as they are complete.

Thanks,

LONGQUIST & CO. LLC

PETROLEUM ENGINEERS
ENERGY ADVISORS

HOUSTON | CALGARY
AUSTIN | WICHITA | DENVER

Chris Weyand • Staff Engineer • Lonquist & Co., LLC • 12912 Hill Country Blvd., Suite F-200 • Austin, Texas, USA 78738
Direct: 512-600-1764 • Cell: 210-846-2673 • Fax: 512-732-9816 • chris@lonquist.com • www.lonquist.com

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4

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

**APPLICATION OF NGL WATER
SOLUTIONS PERMIAN, LLC TO
AMEND ADMINISTRATIVE ORDERS
SWD-1724 AND SWD 1711 FOR SALT
WATER DISPOSAL WELLS IN EDDY
COUNTY, NEW MEXICO**

CASE NO. 16426

AFFIDAVIT OF SCOTT J. WILSON

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

I, Scott J. Wilson, make the following affidavit based upon my own personal knowledge.

1. I am over eighteen (18) years of age and am otherwise competent to make the statements contained herein.

2. I am the Senior Vice President for Ryder Scott Company in Denver, Colorado. My responsibilities at Ryder Scott Company include the performance of reserve appraisals, technical evaluations, and reservoir analysis.

3. I have obtained a bachelor's degree in petroleum engineering from the Colorado School of Mines, and a master's degree business from the University of Colorado. I have worked as a petroleum engineer since 1983.

4. I am familiar with the application that NGL Water Solutions Permian, LLC ("NGL") has filed in this matter, and I have conducted a nodal analysis and reservoir study related to the area which is the subject matter of that application. Copies of my study are attached hereto as Exhibit A.

5. The applicant, NGL (OGRID No. 372338), seeks an order amending administrative orders SWD-1724 and SWD-1711 for its Striker 1 SWD No. 1 and Alpha SWD Well No. 2 salt water disposal wells.

6. The Oil Conservation Division has authorized NGL through Administrative Order SWD-1724 to use the Striker 1 SWD No. 1 for disposal of oil field produced water through an open-hole interval within the Devonian and Silurian formations from 13,750 feet to 15100 feet. The order expected to be issued by the Division approving the drilling of the well will state that injection will occur through either an internally-coated, 5-1/2-inch or smaller tubing inside the surface and intermediate casings, and a 4-1/2-inch or smaller tubing inside the liner.

7. The Oil Conservation Division has authorized NGL (and its predecessor in interest) through Administrative Order SWD-1711 to use the Alpha SWD NO. 2 well for disposal of oil field produced water through an open-hole interval within the Devonian and Silurian formations from 13,275 feet to 14,465 feet. The order issued by the Division approving the drilling of the well states that injection will occur through either an internally-coated, 5-1/2-inch or smaller tubing inside the surface and intermediate casings, and a 5-inch or smaller tubing inside the liner.

8. The wells will be spaced out and not located closer than approximately 1 mile from other disposal wells, approved for injection into the Devonian and Silurian formations.

9. The approved injection zone for the wells is located below the base of the Woodford Shale formation and above the Ordovician formation, which consists of significant shale deposits.

10. The well will primarily be injecting fluids into the Wristen Group and Fusselman formations, with some fluids potentially being injected into the Upper Montoya Group. Each of these sub-formations or zones are located within what is commonly referred to by operators and the Division as the "Devonian Silurian" formations. These zones consist of a very thick sequence

of limestone and dolostone which has significant primary and secondary porosity and permeability that is collectively between 800 to 1,800 feet thick.

11. I have reviewed step rate tests for similar disposal wells drilled within the area and conducted a nodal analysis. It is my opinion that a large percentage of surface pressure it was encountering using smaller diameter tubing was a result of friction pressure. In Case No. 15720 evidence had been presented to the Division showing that up to 85% of this surface pressure was due to friction. Increasing the tubing size would reduce friction and would conserve pump horsepower, fuel and reduce emissions.

12. My nodal analysis indicates that increasing the tubing size to 7" by 5 1/2" would not significantly increase reservoir pressures over a twenty-year time period. The injection zone is located within a thick, high permeability reservoir which disperses injected fluids easily and quickly. Only small local pressure increases result when injecting 40,000 barrels per day over a 20 year period.


13. It is my opinion that increasing the tubing size will not cause fractures in the formation. Wellhead pressures are set at a maximum that is below the formation fracture pressure and, as a result, it is impossible to get above the formation fracture pressure while honoring wellhead pressure constraints. Consequently, it is highly unlikely that increasing the tubing size in the wells would result in fractures to the formation.

14. I have also studied the potential impact on pore pressures and put together a simulation of the radial influence that the wells would have if larger tubing is used for a period of time. A copy of this study is included within Exhibit A to this affidavit. This study shows that it is anticipated that there will be a minimal impact on reservoir pressures and that the majority of fluids will not travel greater than 1 mile in 20 years.

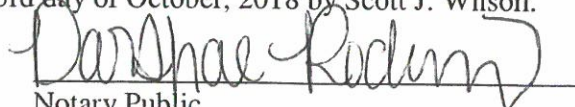
15. My studies further indicate that additional injection wells located one mile away from the wells, will not create any materially adverse pressures in the formation.

16. I attest that the information provided herein is correct and complete to the best of my knowledge and belief.

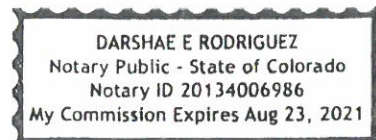
17. The granting of this application is in the interests of conservation and the prevention of waste.


Scott J. Wilson

SUBSCRIBED AND SWORN to before me this 3rd day of October, 2018 by Scott J. Wilson.

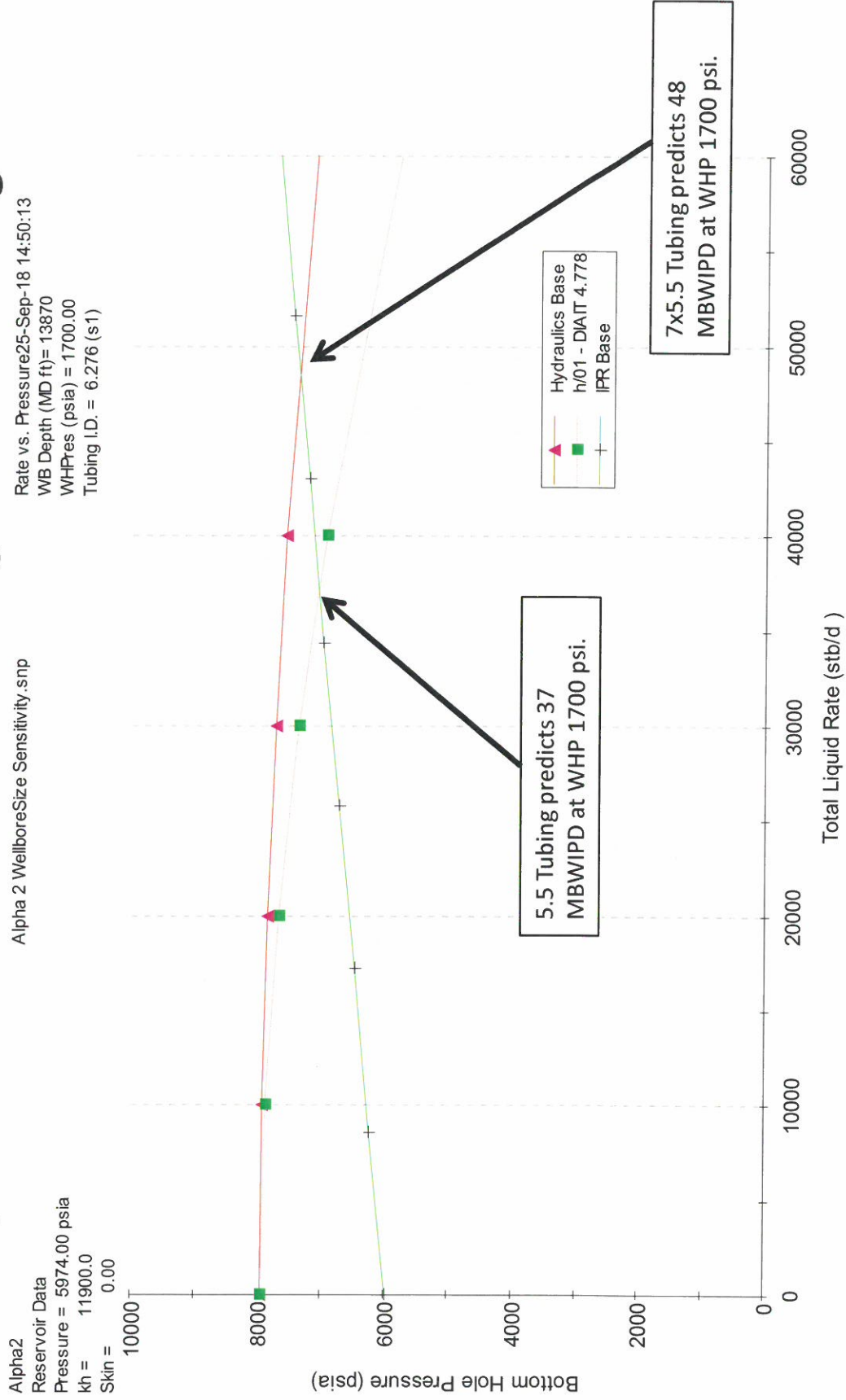

Notary Public

My commission expires: 8/23/21



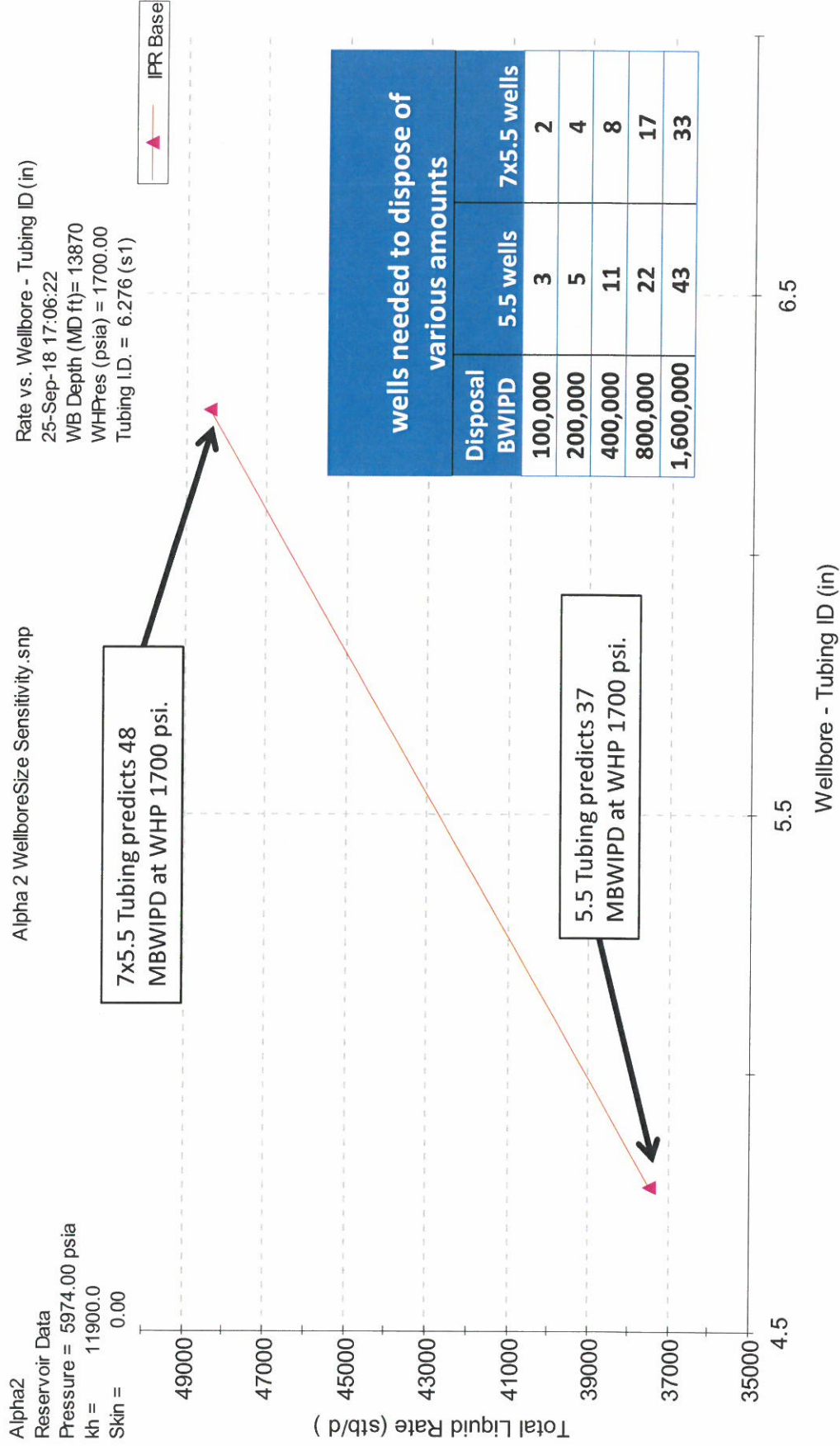
NGL Water Solutions, LLC

Typical Wellbore Hydraulics Models predict a 30% increase in maximum injection rate between 5.5 tubing and 7x5.5 tubing.



NGL Water Solutions, LLC

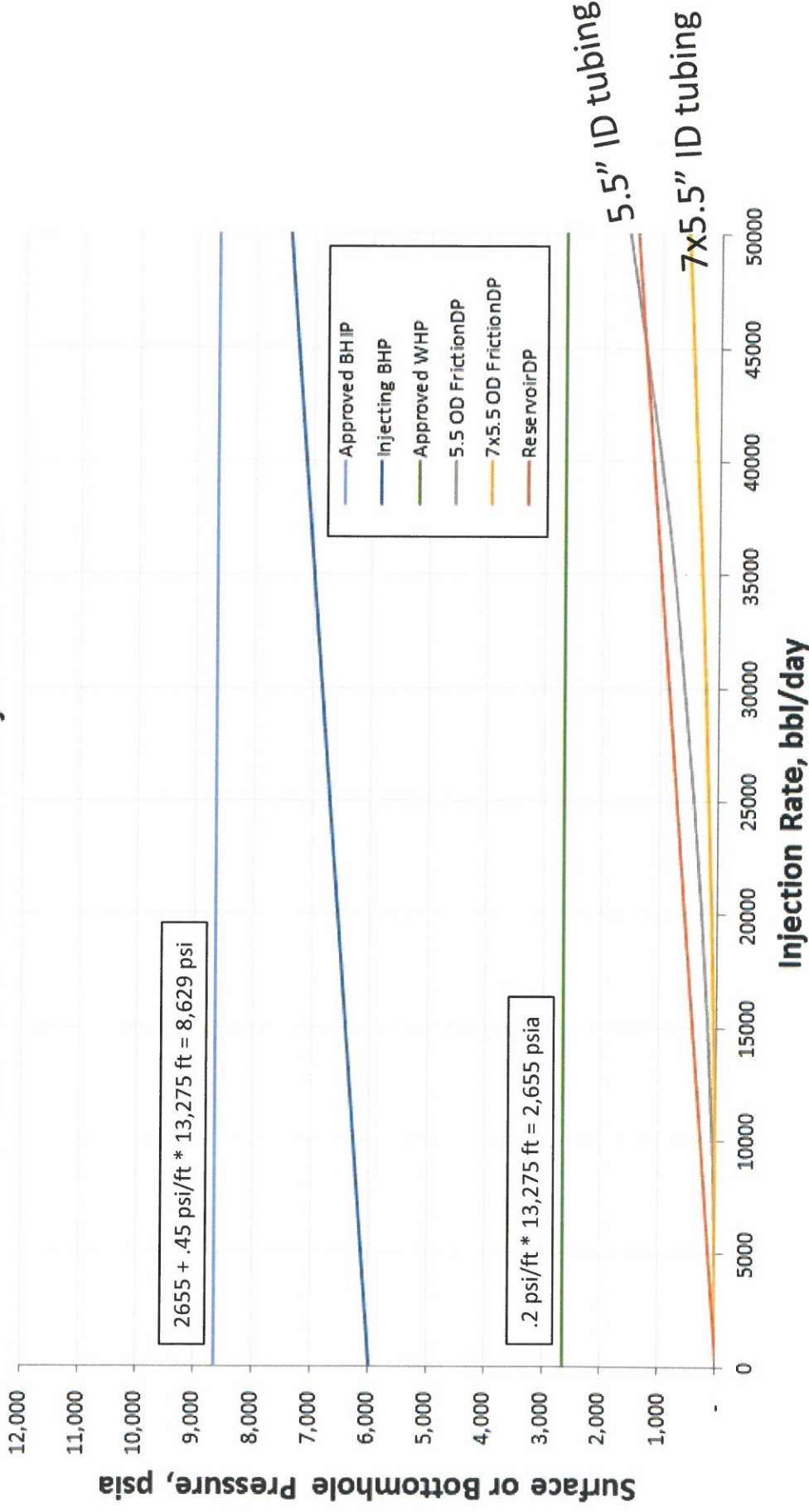
Increased injection rate per well equates to fewer injectors.



NGL Water Solutions, LLC

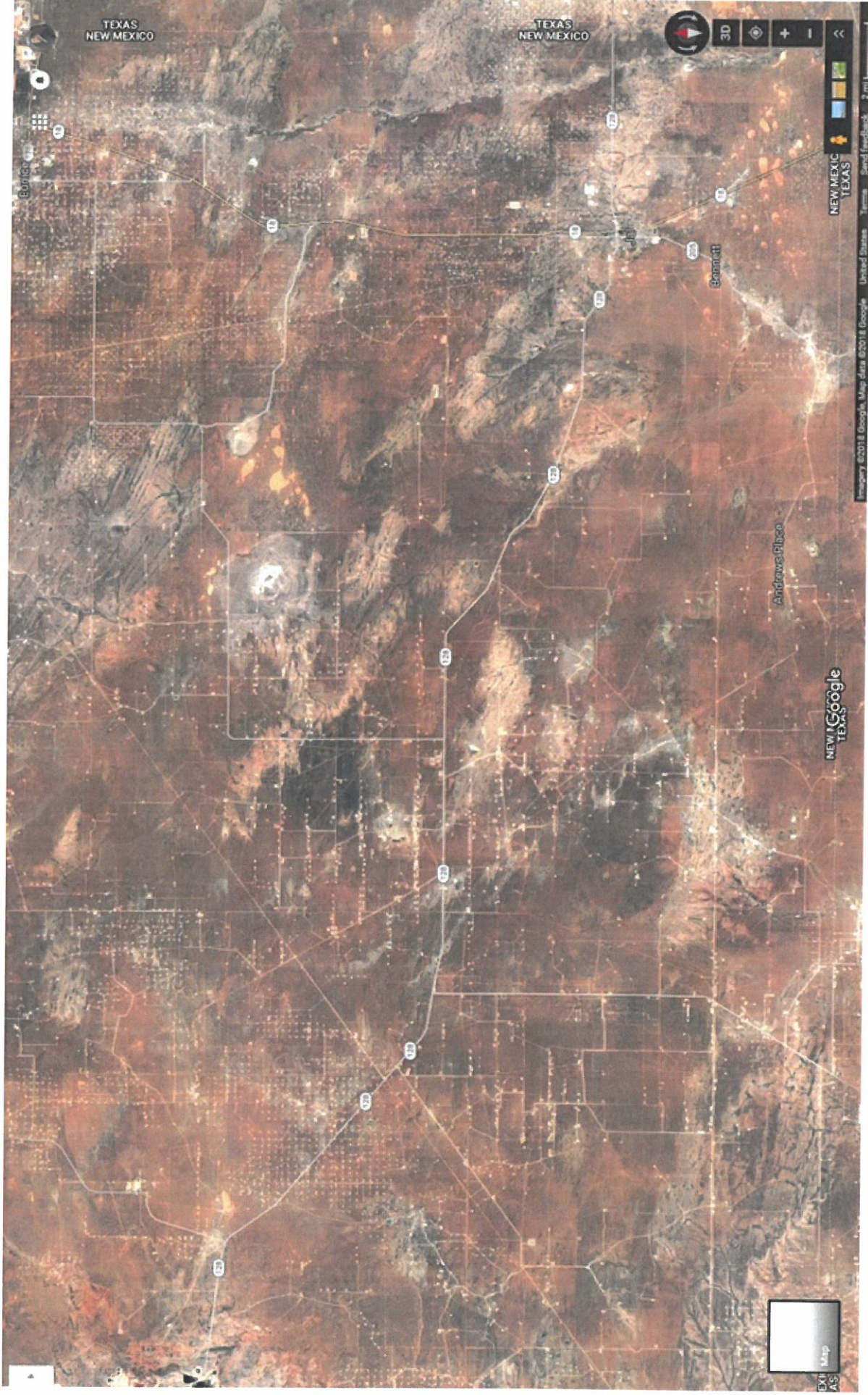
Increasing tubing size will decrease friction losses and conserve horsepower
2 example tubing sizes and their impact on friction losses

Pressure losses at various injection rates



NGL Water Solutions, LLC

Terrain is level and infrastructure is plentiful.

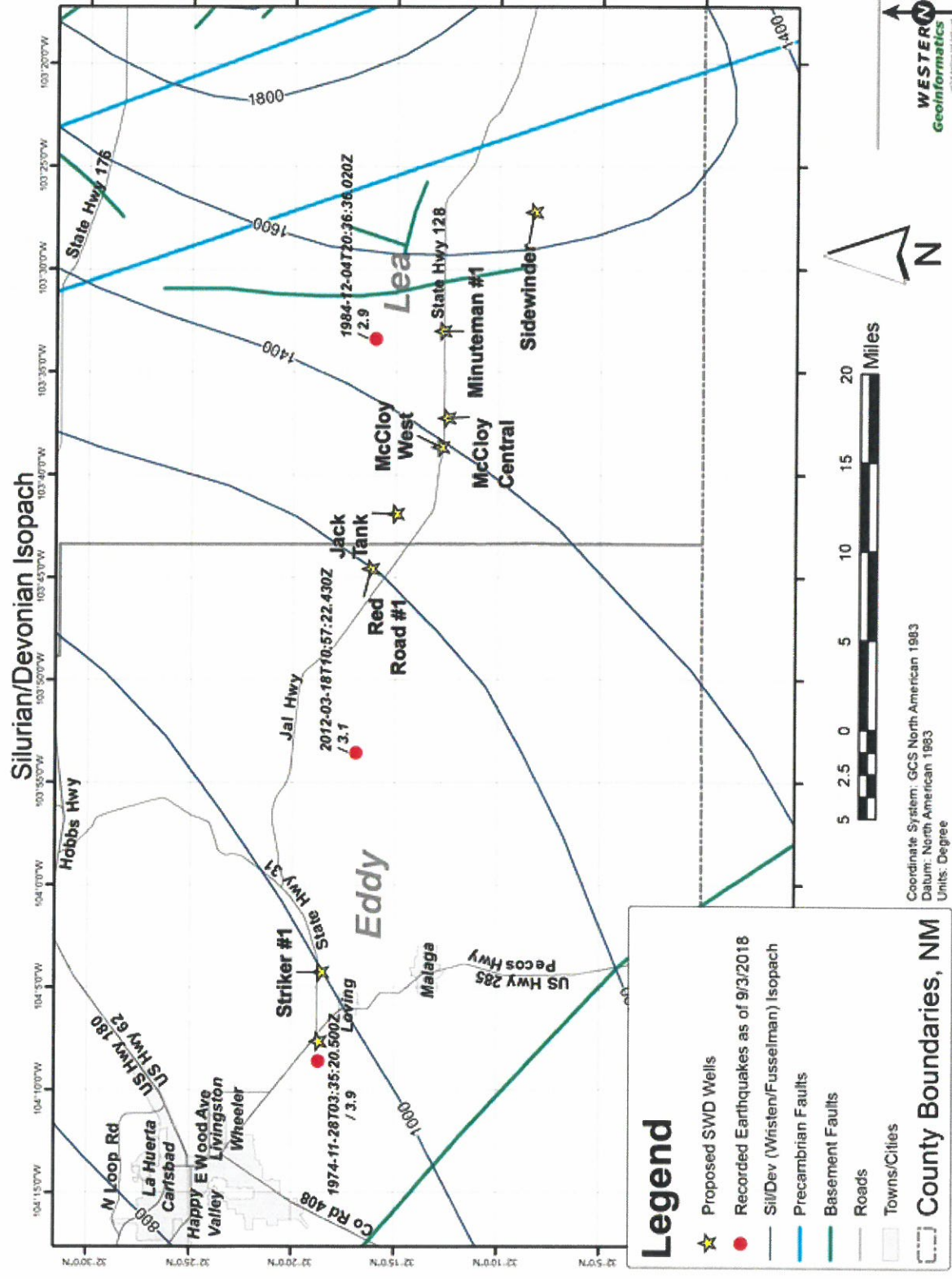


Area is roughly 60 miles (E-W) by 35 miles (N-S)



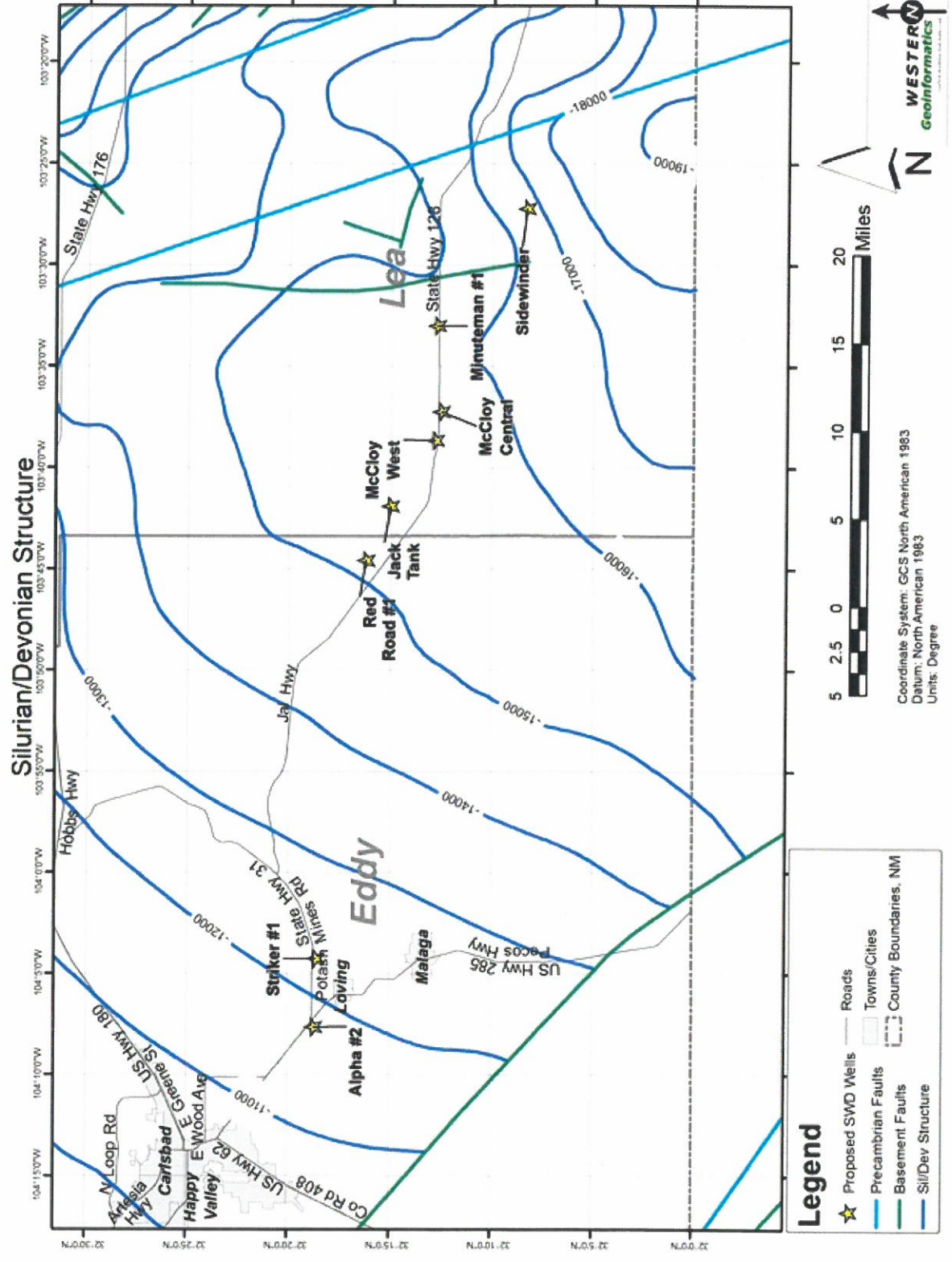
NGL Water Solutions, LLC

Sil/Dev Thickness increases from NW to E-SE



NGL Water Solutions, LLC

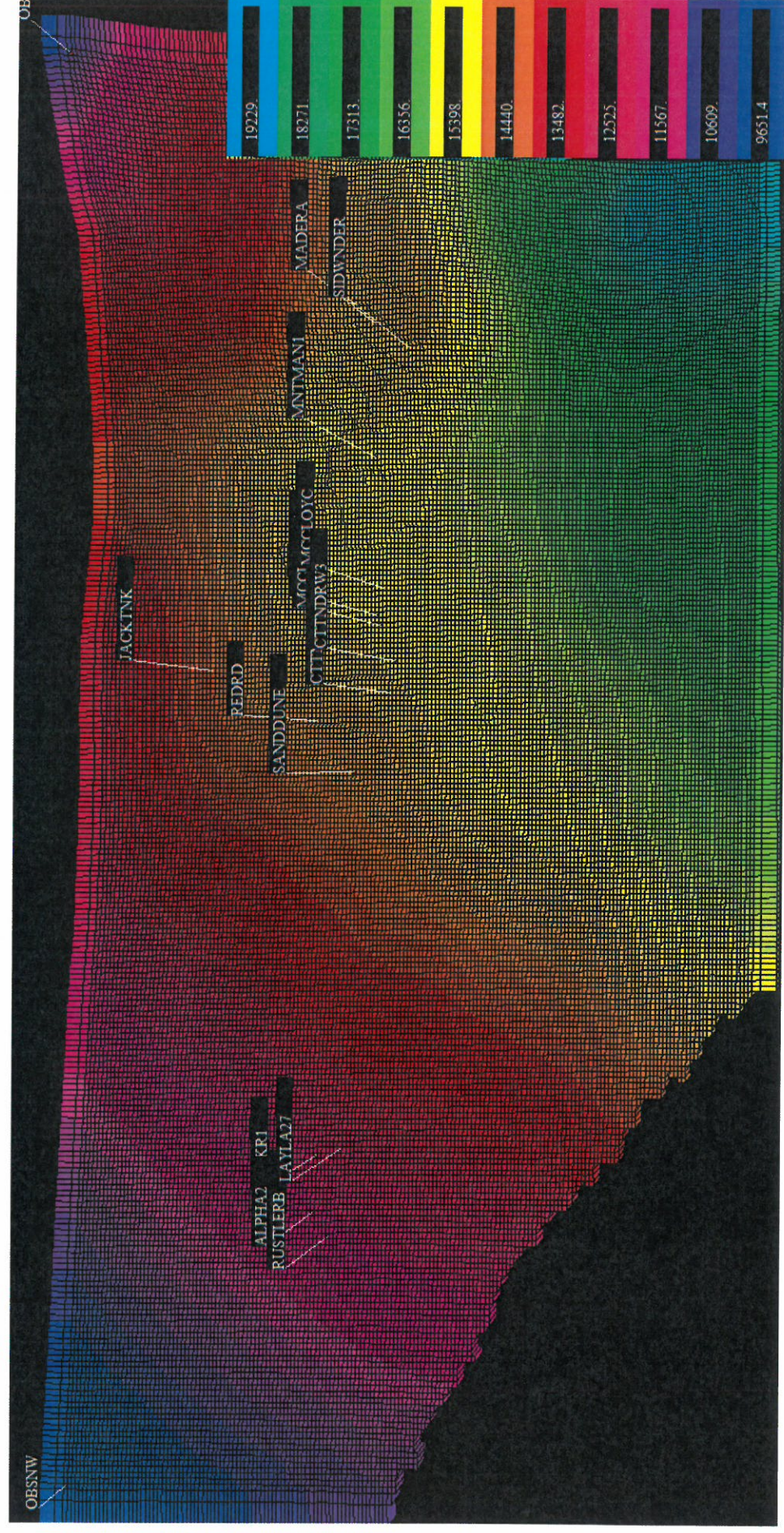
Sil/Dev structure dips from NW to SE



NGL Water Solutions, LLC

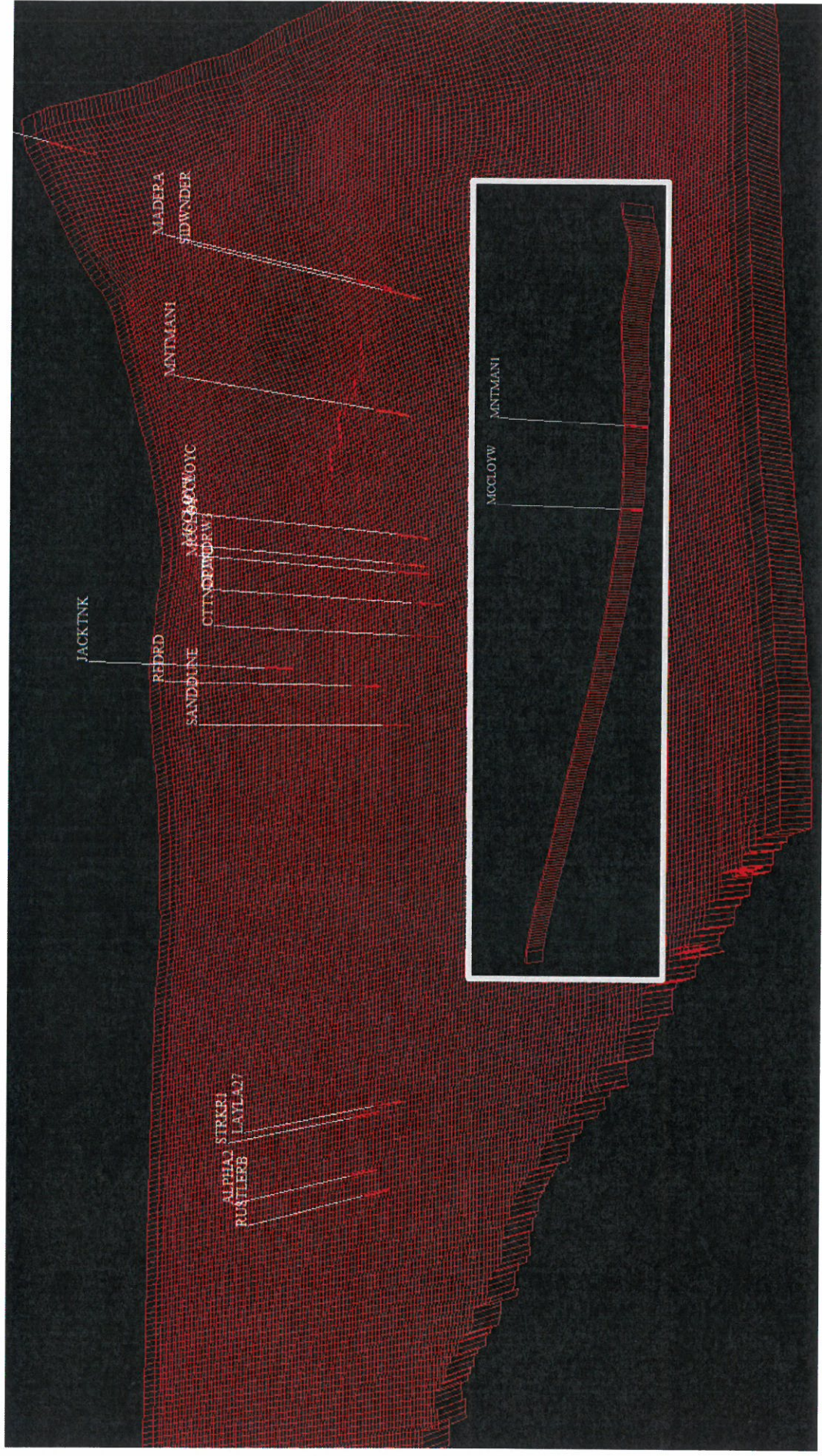
Simulation Grid matches Structure and Thickness

Reservoir Simulation grid incorporates the NGL proposed wells and the close offsets. Observation wells are placed in grid corners to monitor the large scale pressure distribution.



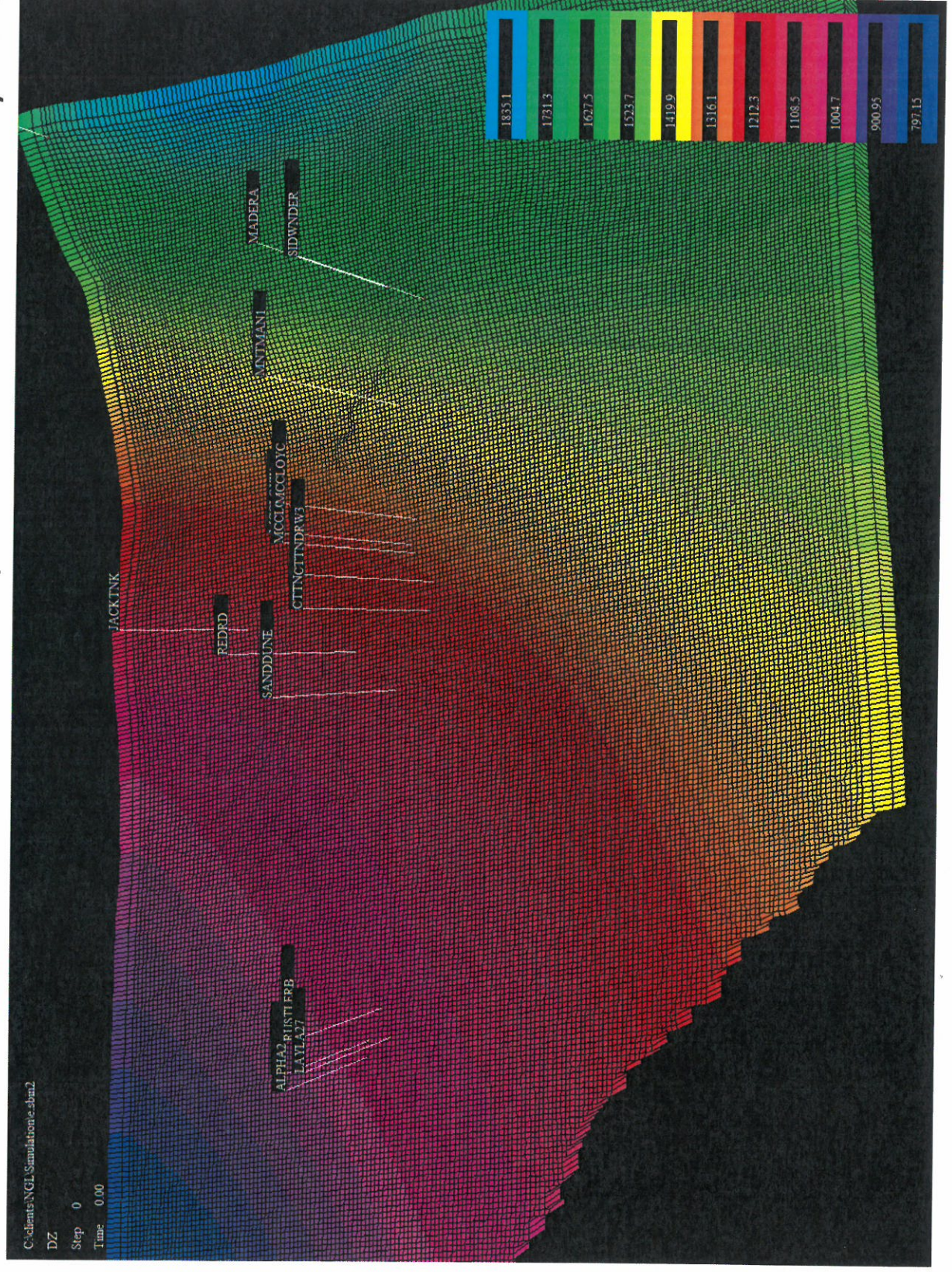
NGL Water Solutions, LLC

Thickness is accurate but not easy to see at this aspect ratio.



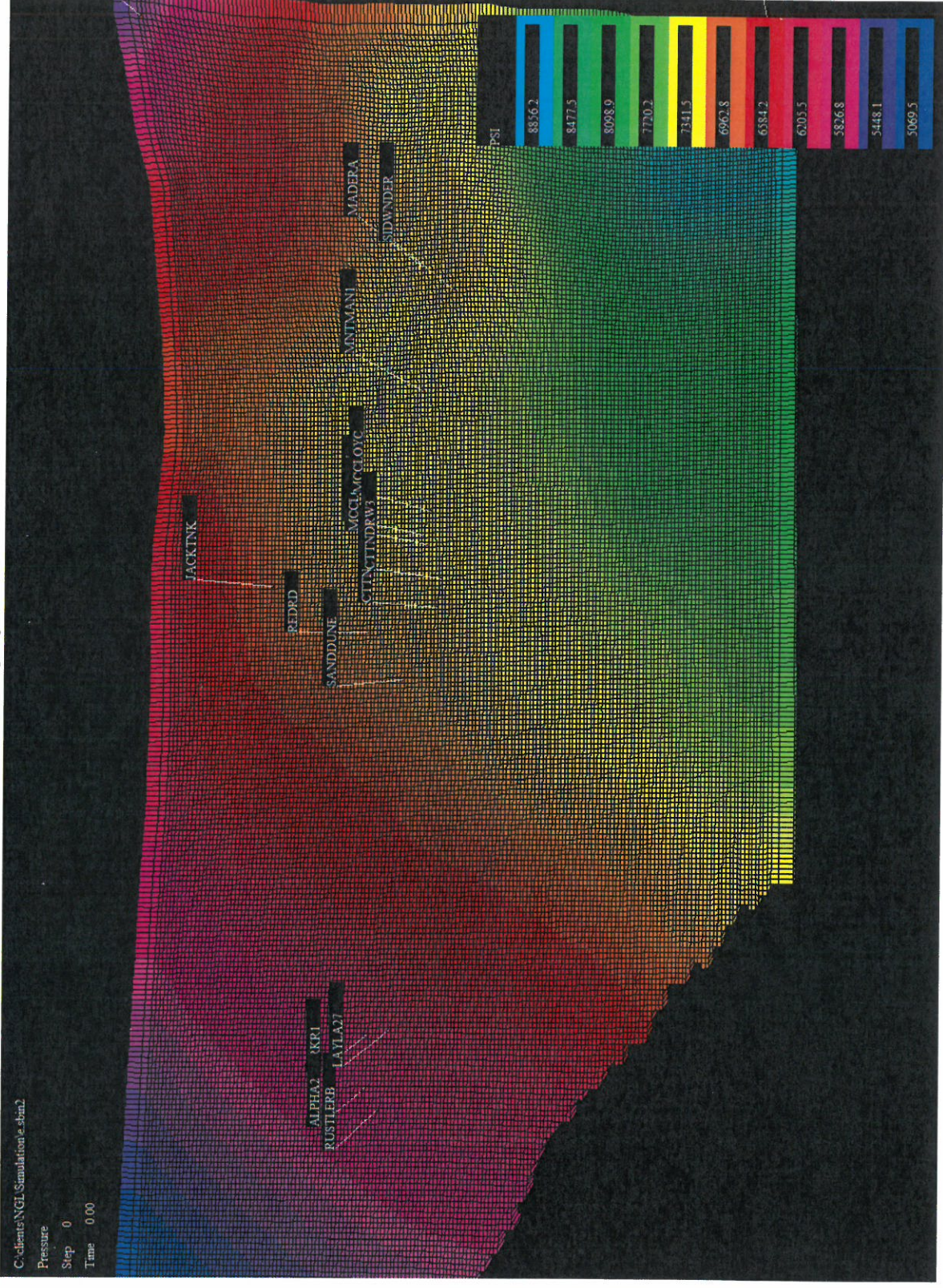
NGL Water Solutions, LLC

Light Blue color to the North East represents the thickest Sil/Dev.



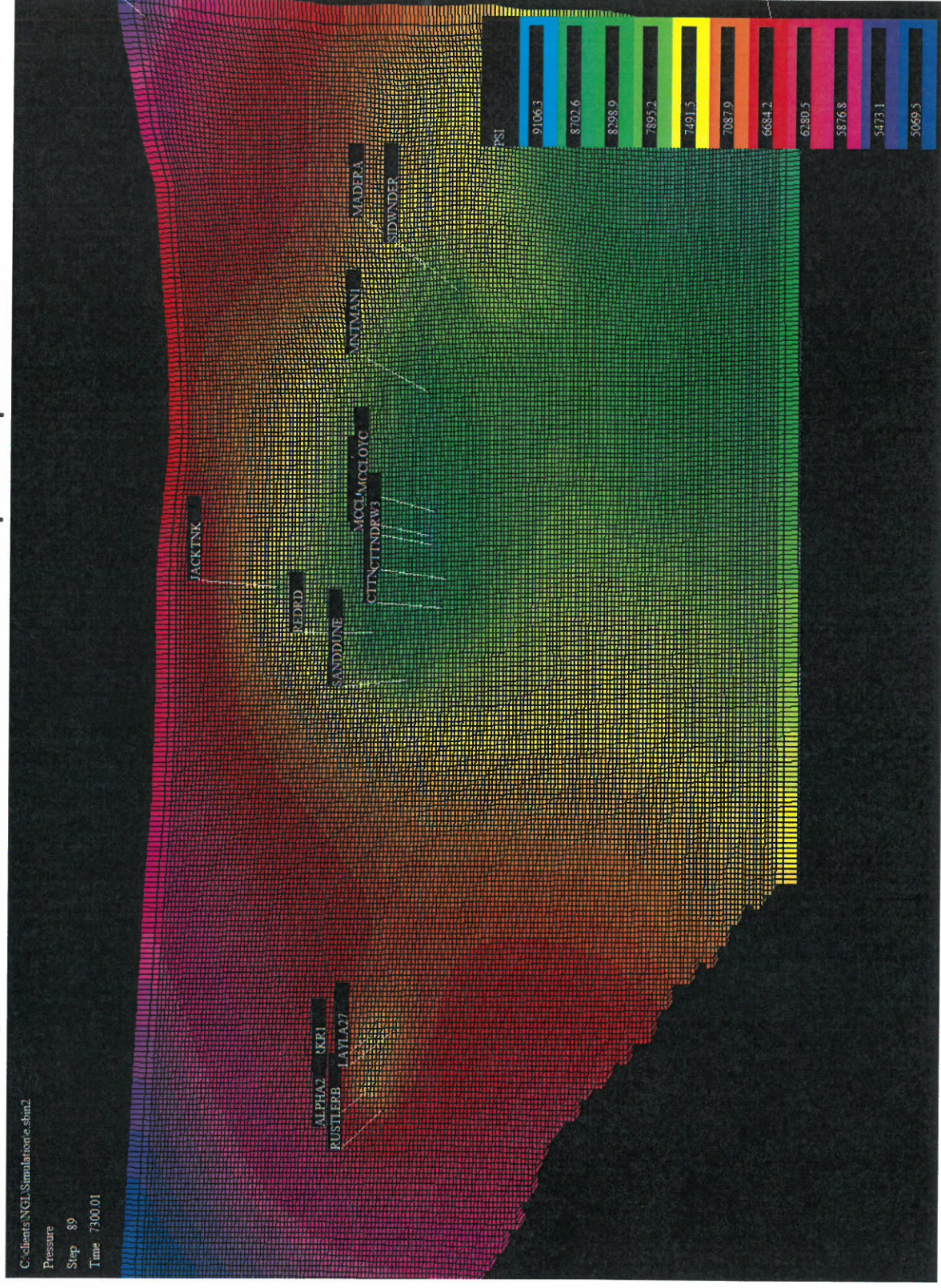
NGL Water Solutions, LLC

Initial pressure is equilibrated by the model based on grid cell depth, fluids(water) and capillary pressure.



NGL Water Solutions, LLC

Pressure at 20 years is affected by original pressure, injected volumes, and the ability of the reservoir to dissipate pressure.



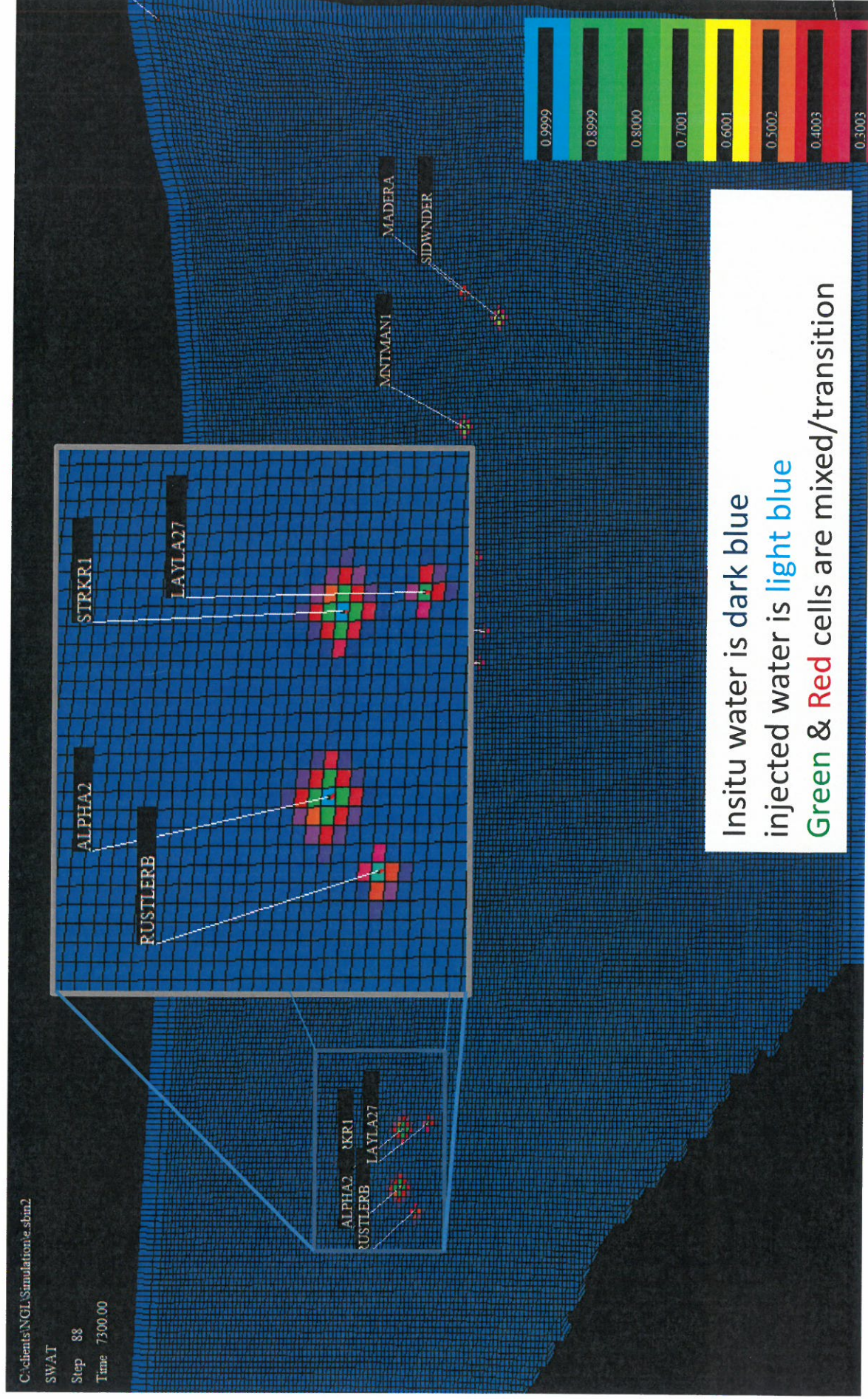
NGL Water Solutions, LLC

Large scale saturation profiles after 20 years of injection.

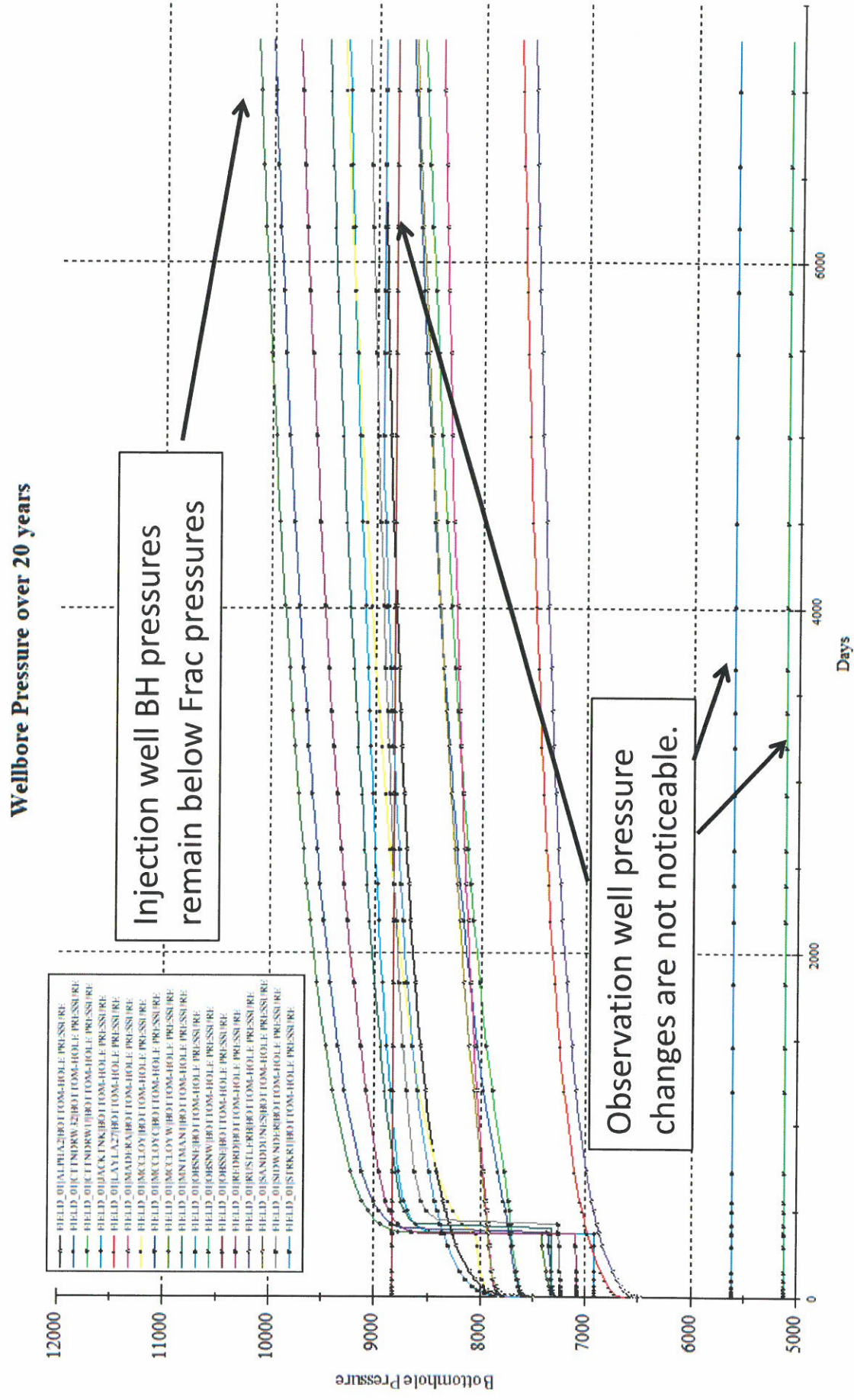


NGL Water Solutions, LLC

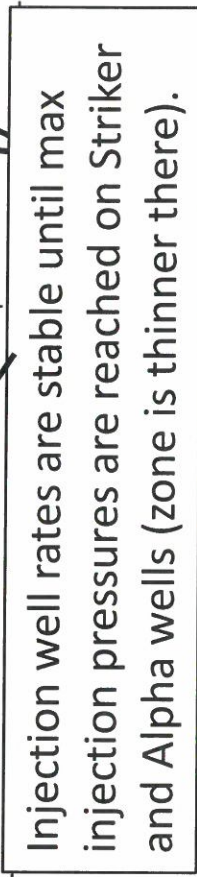
Detailed saturation profiles after 20 years of injection.



Simulation predictions for individual wells over time



Simulation predictions for individual wells over time



5

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

**APPLICATION OF NGL WATER
SOLUTIONS PERMIAN, LLC TO
AMEND ADMINISTRATIVE ORDERS
SWD-1724 AND SWD 1711 FOR SALT
WATER DISPOSAL WELLS IN EDDY
COUNTY, NEW MEXICO**

CASE NO. 16426

AFFIDAVIT OF KATE ZEIGLER

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

I, Kate Zeigler, make the following affidavit based upon my own personal knowledge.

1. I am over eighteen (18) years of age and am otherwise competent to make the statements contained herein.

2. I am the senior geologist at Zeigler Geologic Consulting, and I provide a wide range of geoscience related services to companies and other entities in Southeastern New Mexico.

3. I have obtained a bachelor's degree in geology from Rice University, a master's degree in paleontology from the University of New Mexico, and a Ph.D. in stratigraphy and paleomagnetism from the University of New Mexico. Additionally, I have completed several surface geologic maps for the New Mexico Bureau of Geology and Mineral Resource's Geologic Mapping Program as well as for independent operators who are exploring prospects within the western Permian Basin. I have also conducted a prior geologic study concerning what is commonly referred to as the Devonian and Silurian formations in Southeastern New Mexico to

help determine whether the approval of 7" by 5 1/2" tubing is appropriate in Devonian and Silurian salt water disposal wells approved by the New Mexico Oil Conservation Division.

4. I am familiar with the application that NGL Water Solutions Permian, LLC ("NGL") has filed in this matter, and I have conducted a geologic study of the lands which are the subject matter of that application. A copy of my geologic study, including cross sections, a structure map and isopach are is included in Attachment A to this affidavit.

5. The applicant, NGL (OGRID No. 372338), seeks an order amending administrative orders SWD-1724 and SWD-1711 for its Striker 1 SWD No. 1 and Alpha SWD Well No. 2 salt water disposal wells.

6. The Oil Conservation Division has authorized NGL through Administrative Order SWD-1724 to use the Striker 1 SWD No. 1 for disposal of oil field produced water through an open-hole interval within the Devonian and Silurian formations from 13,750 feet to 15100 feet. The order expected to be issued by the Division approving the drilling of the well will state that injection will occur through either an internally-coated, 5-1/2-inch or smaller tubing inside the surface and intermediate casings, and a 4-1/2-inch or smaller tubing inside the liner.

7. The Oil Conservation Division has authorized NGL (and its predecessor in interest) through Administrative Order SWD-1711 to use the Alpha SWD NO. 2 well for disposal of oil field produced water through an open-hole interval within the Devonian and Silurian formations from 13,275 feet to 14,465 feet. The order issued by the Division approving the drilling of the well states that injection will occur through either an internally-coated, 5-1/2-inch or smaller tubing inside the surface and intermediate casings, and a 5-inch or smaller tubing inside the liner.

8. I have been informed that the injection intervals for the wells will be isolated to the Devonian and Silurian formations (also referred to as the Wristen Group and Fusselman

Formation) and the wells will have four strings of casing protecting the fresh water aquifer, the salt-bearing interval, the Permian aged rocks through the Wolfcamp Formation. The deepest casing 7 5/8", which is cemented and cement is circulated on the 7 5/8" casing.

9. The wells will be spaced out and not located closer than approximately 1 mile from other disposal wells that have been approved for injection into the Devonian and Silurian formations.

10. The injection zone for the well is located below the Woodford Shale. The Woodford Shale is an Upper Devonian unit which has low porosity and permeability and consists predominantly of shale and mudstone with some carbonate beds. The Woodford Shale acts as a permeability boundary to prevent fluids from moving upward out of the underlying formations. The Woodford Shale formation in the areas where the well is located is between 80 feet to 140 feet thick.

11. Below the injection zone for the well is the Ordovician formation, also referred to as the Simpson Group, which contains sequences of shale that make up approximately 55% of the total thickness of the formation in any given place and can likewise act as a permeability boundary which prevents fluids from migrating downwards into deeper formations and the basement rock. In the areas where the well is located, the Ordovician formation is between 100' and 300' feet thick and, as a result, there is a significant thickness in this lower shale. Below the Ordovician is the Ellenburger Formation, which is up to 1,000 feet thick.

12. Based on my geologic study of the area, it is my opinion that the approved injection zone for the wells is located below the base of the Woodford Shale formation and above the Simpson Group formation, both of which consist of significant shale deposits. Evidence indicates

that shale formations located above and below the approved injection zones will likely restrict fluids from migrating beyond the approved injection zones for the wells.

13. The wells will primarily be injecting fluids into the Wristen Group and Fusselman Formation, with some fluids potentially being injected into the Upper Montoya Group. Each of these rock units are located within what is commonly referred to by operators and the Division as the "Devonian-Silurian" formations. These zones consist of a very thick sequence of limestone and dolostone which has significant primary and secondary porosity and permeability that is collectively between 1,500 to 3,000 feet thick.

14. It is my opinion that there is no risk to freshwater resources for injection within the Wristen Group, Fusselman, and Upper Montoya Group because of the depth of these sub-formations and the upper shale permeability boundary created by the Woodford Shale.

15. I have also studied the location of known fault lines within the area where the well is proposed to be drilled and the closest known fault line to the well is located approximately 8 miles away from where the wells are proposed to be drilled.

16. There are no currently recognized production shales within the Wristen Group, Fusselman Formation, and Upper Montoya Group in this part of the western Permian Basin. While there may be some isolated traps located within these sub-formations, it takes significant ability with imaging to be able to locate these deposits in order to properly target them.

17. I attest that the information provided herein is correct and complete to the best of my knowledge and belief.

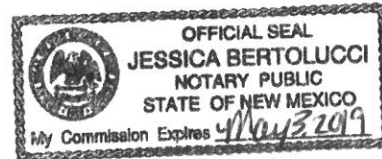
18. The granting of this application is in the interests of conservation and the prevention of waste.

Kate Zeigler
Kate Zeigler

SUBSCRIBED AND SWORN to before me this 2nd day of October, 2018 by Kate Zeigler.

Jessica Bertolucci
Notary Public

My commission expires: ~~May 3, 2018~~
May 3, 2019



Delaware Basin Stratigraphic Unit Descriptions

Lower Paleozoic

Woodford Shale (Upper Devonian)

The Woodford Shale is dominated by organic-rich mudstone interbedded with carbonate (limestone and/or dolostone) beds, chert beds and radiolarian laminae. This unit has been interpreted to include sedimentary gravity-flow deposits. Dominantly shale means lower porosity and permeability than the limestone/dolostone units above and below. The Woodford Shale is unconformable on the units below it. Locally this contact includes solution cavities and fissures down into the underlying carbonate unit(s), creating a complex boundary. It is up to 150' thick locally.

Thirtyone Formation (Lower Devonian)

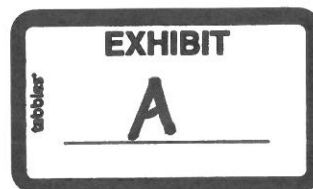
The Thirtyone Formation is part of a wedge of sedimentary rocks that thins to the north and the west where the wedge ends up truncated beneath the base of the overlying Woodford Shale. The Thirtyone Formation is only present in southeastern Lea County and consists of an upper coarsely crystalline dolostone unit and lower chert unit. This unit is not present in the area of concern.

Wristen Group (Middle-Upper Silurian)

The Wristen Group consists of interbedded limestone and dolostone that has a maximum thickness in Lea County, then thins to the north and the west. Thicknesses range from 0 to 1,400' thick. In the Delaware Basin, it occurs up to 19,000' below land surface, then rises to 10,000' to 12,000' subsurface to the north and west. It represents deposition in a shelf-margin environment and includes buildups of coral reefs, stromatoporoids and other invertebrate colonialists. The carbonate beds include boundstones, rudstones and oolitic grainstones with significant primary porosity. To the north, reservoirs targeted for production are dolomitic with vugular and fracture-related porosity.

Fusselman Formation (Late Ordovician-Lower Silurian)

The Fusselman Formation is almost entirely dolostone and can be up to 1,500' thick. As with the overlying Thirtyone Formation and Wristen Group, the Fusselman Formation thins to the north and west where it is truncated beneath the Woodford Shale to the north of where the Wristen Group pinches out. In Lea County, the Fusselman Formation can be 18,000' or more below land surface. It is primarily coarsely crystalline dolostone that is vugular, fractured and/or brecciated, with significant secondary porosity due to the fracturing and brecciation.



Montoya Group (Middle-Upper Ordovician)

The Montoya Formation includes three dolostone members overlying a sandstone unit. The three upper carbonate units include the Upham, Aleman and Cutter Members and the lower sandstone unit is the Cable Canyon Sandstone. The entire package can be up to 600' thick and depth to the top of the unit ranges from 5,500' near the northern pinchout in Chaves County to as much as 20,000' in southern Lea County. The Montoya Group was stripped from the higher parts of the Central Basin Platform by erosion in the Late Pennsylvanian and Early Permian.

Simpson Group (Middle-Upper Ordovician)

The Simpson Group is a heterogeneous unit with limestone, dolostone, sandstone and green shale horizons. Up to 1000' thick, it is dominated by the shale beds (55% of total thickness), followed by the dolostone and limestone beds (40%) and finally sandstone (5%). The shale horizons can serve as a permeability barrier between the underlying Precambrian basement rocks and overlying reservoirs where the Simpson Group is present and has sufficient thickness. Depths to the Simpson Group range from 6,700' on parts of the Central Basin Platform to up to 21,000' in the Delaware Basin.

Ellenburger Formation (Lower Ordovician)

The Ellenburger Formation is up to 1000' thick and composed of limestone and dolostone that represent cyclic deposition in waters of the inner platform with restricted circulation. Porosity in the Ellenburger Formation includes porosity in the matrix, vugs, major karst dissolution features, collapse karst breccias and fractures. Depths to the top of the unit range from 7,500' on the Central Basin Platform to up to 22,000' in the Delaware Basin.

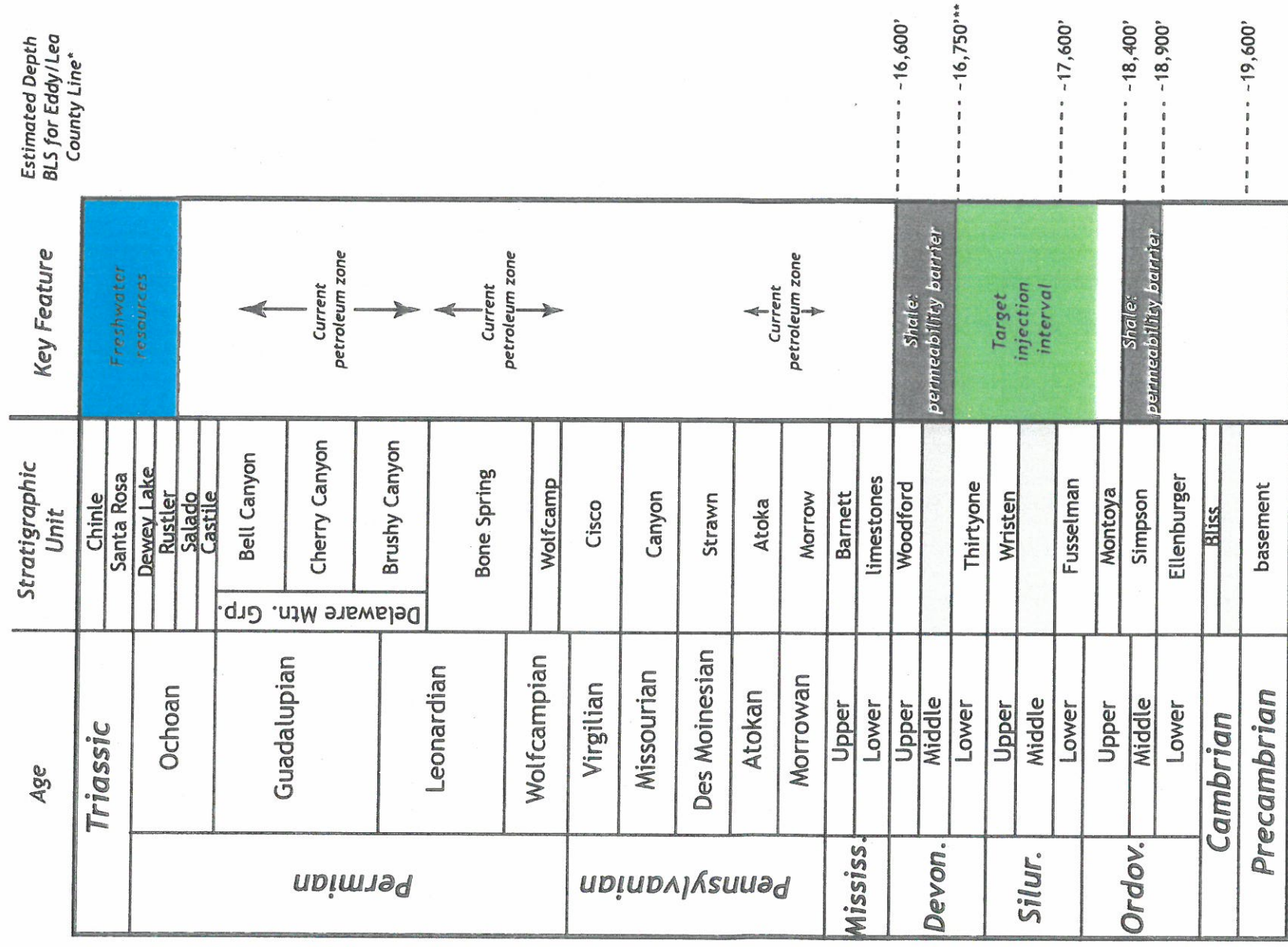
References

Broadhead, R.F., 2017, Petroleum Geology: *in* V.T. McLemore, S. Timmons and M. Wilks (eds.), Energy and Mineral Resources of New Mexico, New Mexico Bureau of Geology and Mineral Resources Memoir 50, vol. A, 90 p.

Comer, J.B., 1991, Stratigraphic analysis of the Upper Devonian Woodford Formation, Permian Basin, West Texas and southeastern New Mexico: Bureau of Economic Geology, University of Texas at Austin, Report of Investigations no. 201, 63 p.

Hemmesch, N.T., Harris, N.B., Mnich, C.A. and Selby, D., 2014, A sequence-stratigraphic framework for the Upper Devonian Woodford Shale, Permian Basin, west Texas: American Association of Petroleum Geologists Bulletin, v. 98, no. 1, p. 23-47, doi:10.1306/05221312077

Texas Bureau of Economic Geology, 2009, Integrated Synthesis of the Permian Basin: Data and Models for Recovering Existing and Undiscovered Oil Resources from the Largest Oil-Bearing Basin in the U.S.: Department of Energy Final Technical Report, Award No: DE-FC26-04NT15509, 964 p.

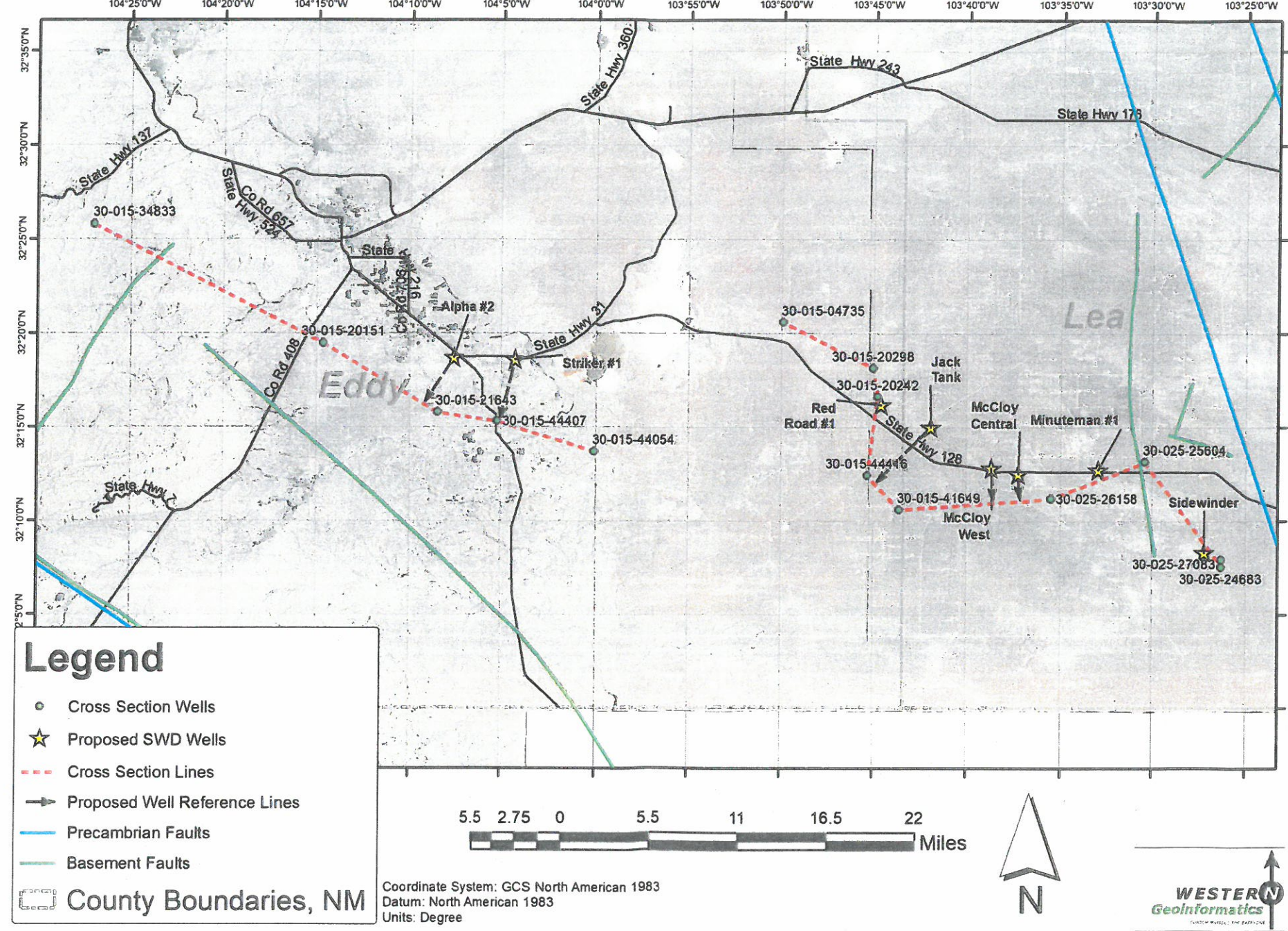


Stratigraphic chart for the Delaware Basin from Broadhead (2017).

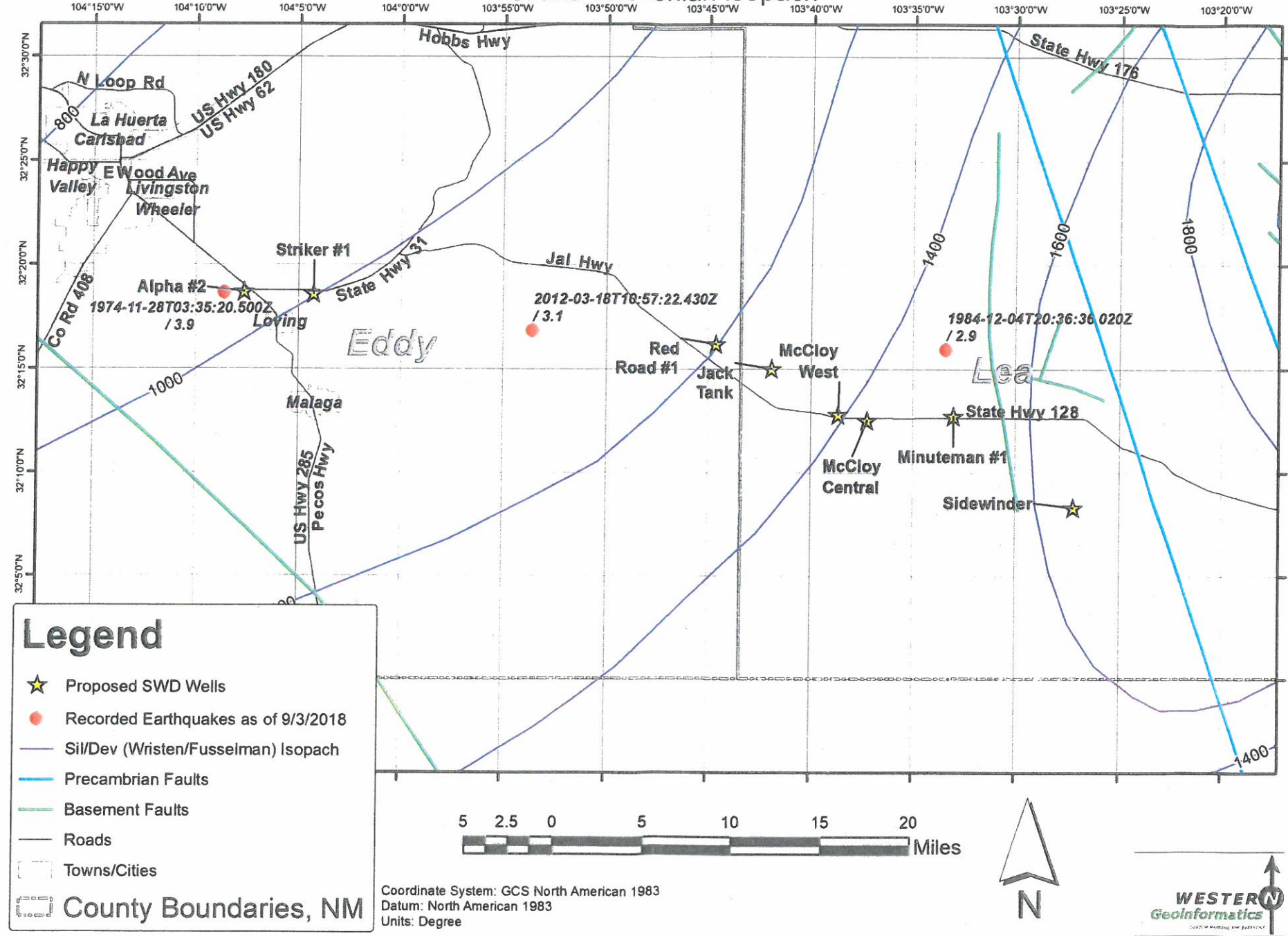
* Based on data from 30-015-44416 Striker 2 SWD #1 (23-24S-31E).

**Note the Thirtyone Formation is not present in the project area.

Cross Section Wells/Lines

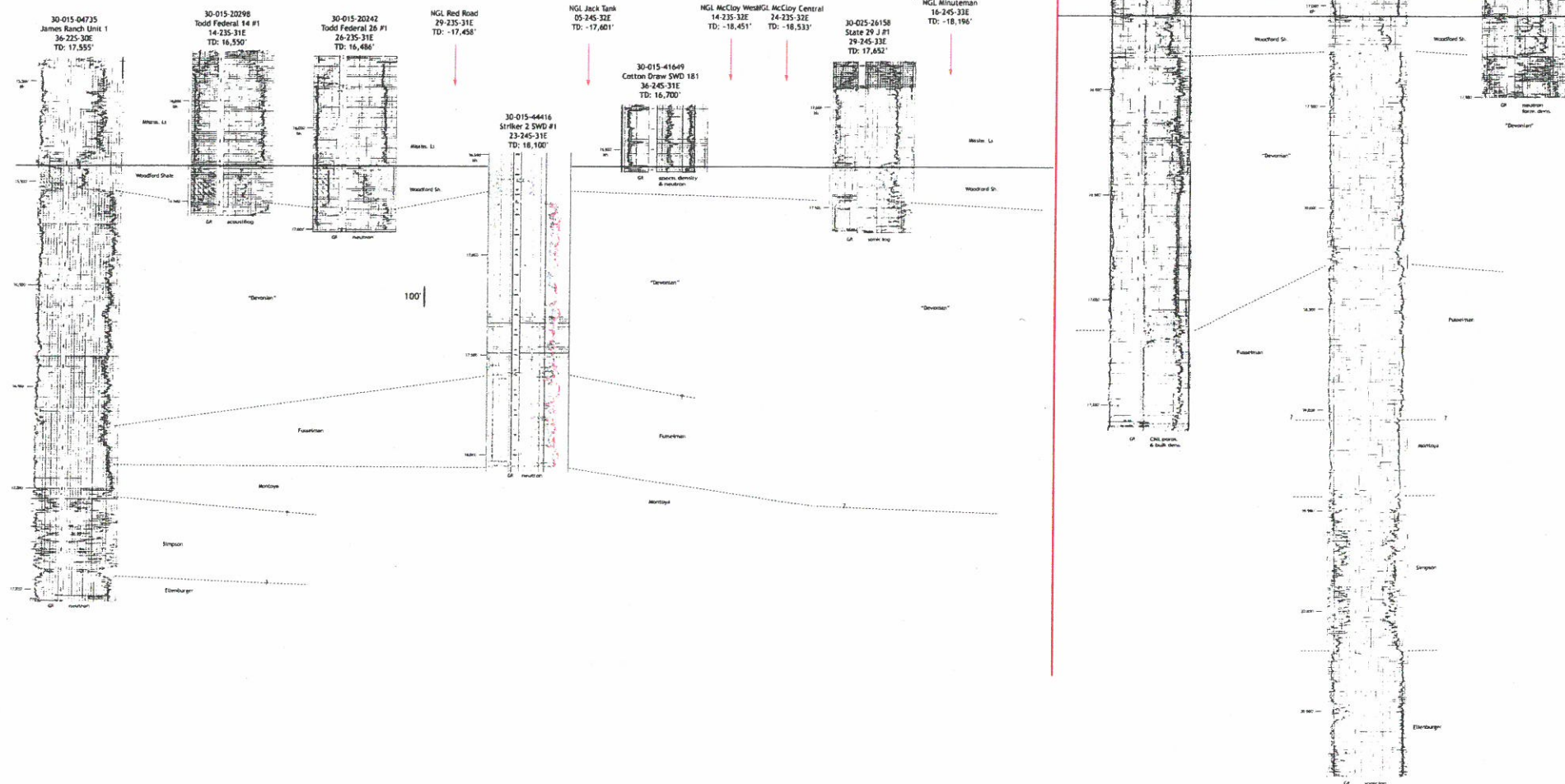


Silurian/Devonian Isopach



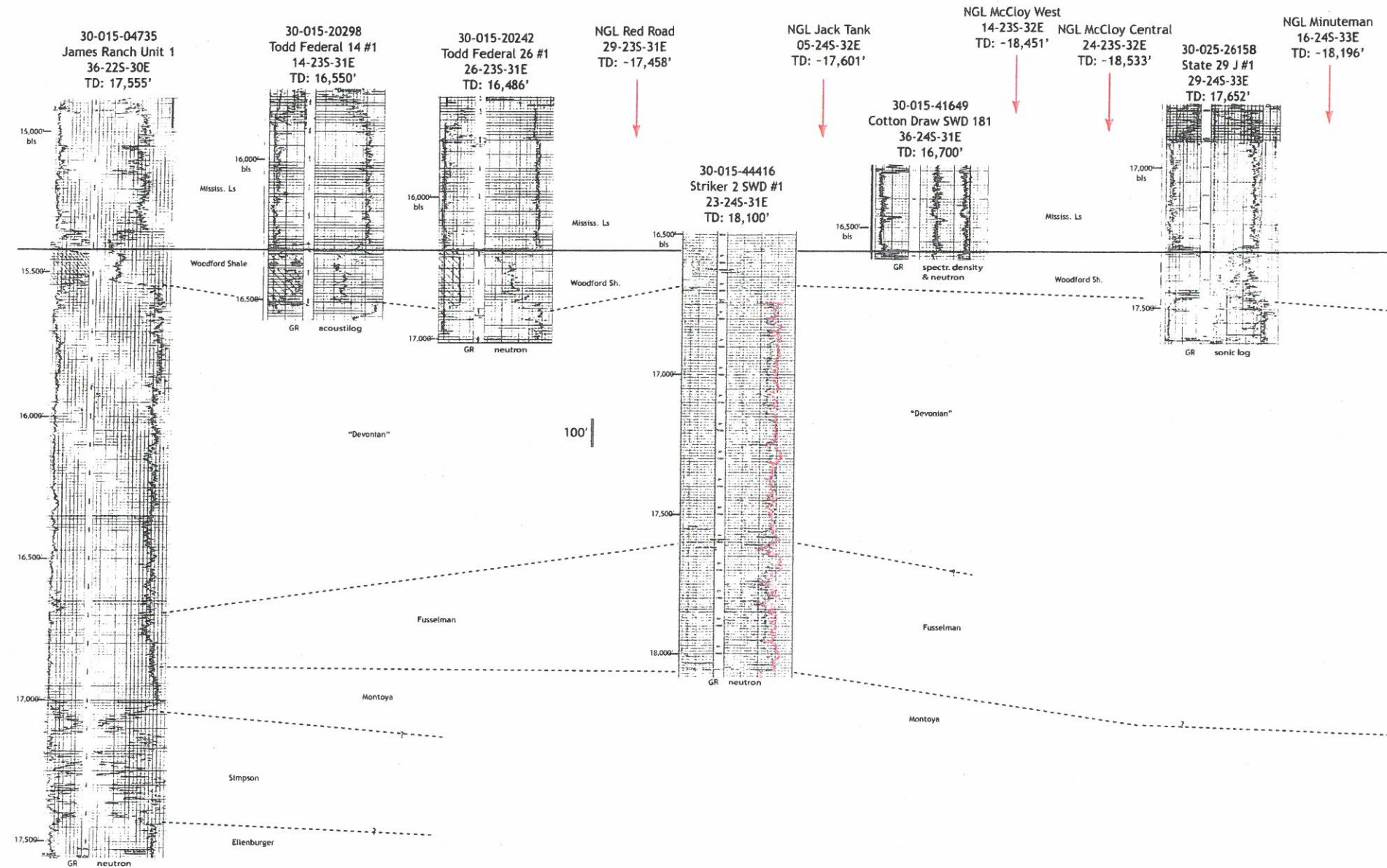
Northwest

Southeast



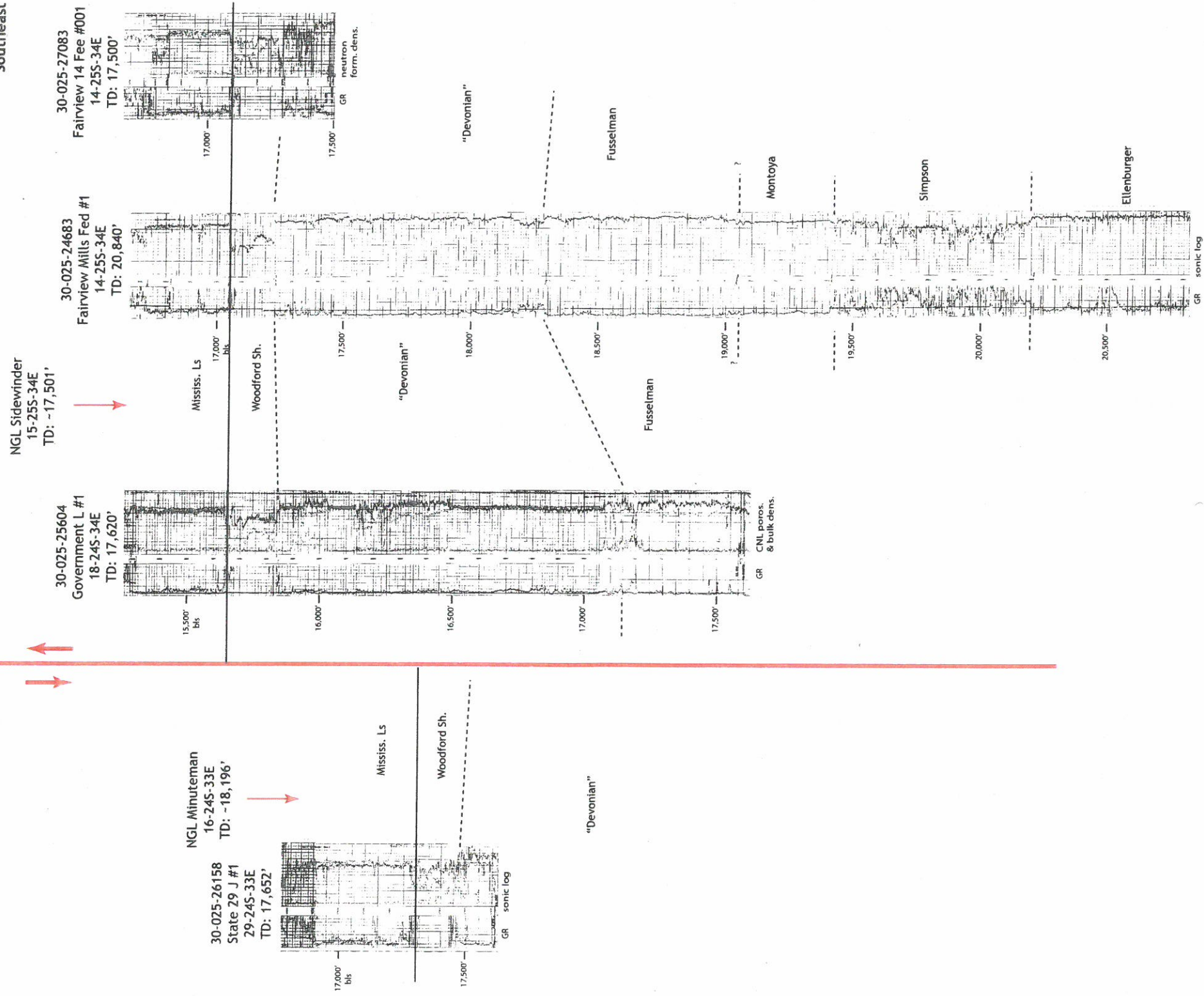
Northwest

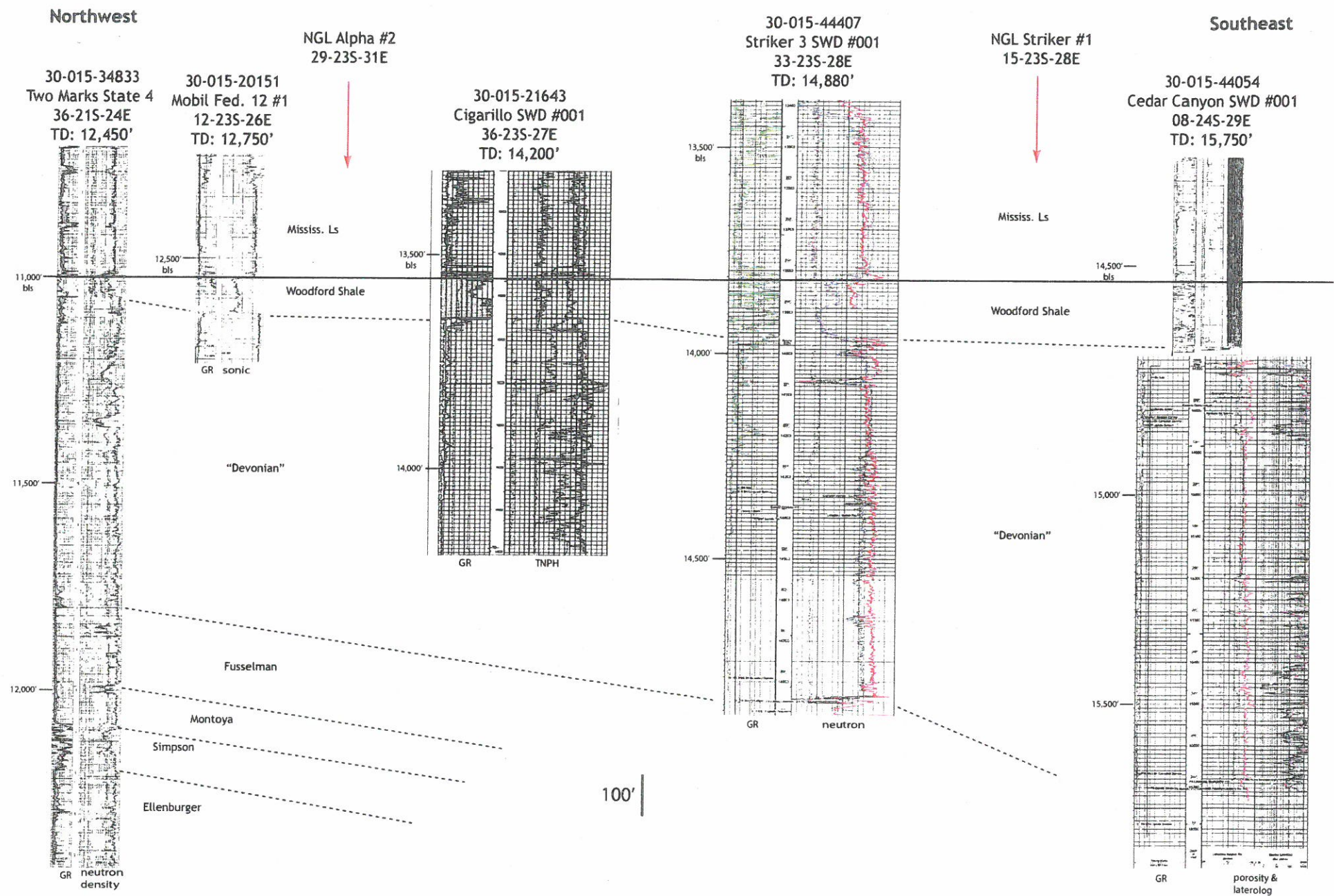
Southeast



Northwest

Southeast





6

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

**APPLICATION OF NGL WATER
SOLUTIONS PERMIAN, LLC TO
AMEND ADMINISTRATIVE ORDERS
SWD-1724 AND SWD 1711 FOR SALT
WATER DISPOSAL WELLS IN EDDY
COUNTY, NEW MEXICO**

CASE NO. 16426

AFFIDAVIT OF DECLARATION OF STEVEN TAYLOR

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

I, Dr. Steven Taylor, make the following affidavit based upon my own personal knowledge.

1. I am over eighteen (18) years of age and am otherwise competent to make the statements contained herein.

2. I have worked at the Los Alamos National Labs from 1991 to 2006. I currently am the secretary of GeoEnergy Monitoring Systems, Inc., a company that builds and conducts seismic monitoring.

3. I have obtained a Bachelor of Science degree in geology at Ohio University (1975) and a Ph.D. in Geophysics at the Massachusetts Institute of Technology (1980).

4. I am familiar with the application that NGL Water Solutions Permian, LLC ("NGL") has filed in this matter, and I have conducted a study related to the area which is the subject matter of that application.

5. The applicant, NGL (OGRID No. 372338), seeks an order amending administrative orders SWD-1724 and SWD-1711 for its Striker 1 SWD No. 1 and Alpha SWD Well No. 2 salt water disposal wells.

6. The Oil Conservation Division has authorized NGL through Administrative Order SWD-1724 to use the Striker 1 SWD No. 1 for disposal of oil filed produced water through an open-hole interval within the Devonian and Silurian formations from 13,750 feet to 15100 feet. The order expected to be issued by the Division approving the drilling of the well will state that injection will occur through either an internally-coated, 5-1/2-inch or smaller tubing inside the surface and intermediate casings, and a 4-1/2-inch or smaller tubing inside the liner.

7. The Oil Conservation Division has authorized NGL (and its predecessor in interest) through Administrative Order SWD-1711 to use the Alpha SWD NO. 2 well for disposal of oil filed produced water through an open-hole interval within the Devonian and Silurian formations from 13,275 feet to 14,465 feet. The order issued by the Division approving the drilling of the well states that injection will occur through either an internally-coated, 5-1/2-inch or smaller tubing inside the surface and intermediate casings, and a 5-inch or smaller tubing inside the liner.

8. In its application, NGL requests approval to use larger diameter tubing in both wells which is 7" by 5 1/2".

9. The wells will be spaced out and not located closer than approximately 1 mile from other disposal wells, approved for injection into the Devonian and Silurian formations.

10. The approved injection zone for the wells is located below the base of the Woodford Shale formation and above the Ordovician formation, which consists of significant shale deposits.

11. The wells will primarily be injecting fluids into the Wristen Group and Fusselman formations, with some fluids potentially being injected into the Upper Montoya Group. Each of these sub-formations or zones are located within what is commonly referred to by operators and the Division as the "Devonian and Silurian" formations. These zones consist of a very thick sequence of limestone and dolostone which has significant primary and secondary porosity and permeability that is collectively between 1,500 to 3,000 feet thick.

12. The closest known fault line is located approximately 2 to 20 miles away from where the wells are located.

13. I have studied seismic catalogs, unpublished catalogs and USGS catalogs for the time period of 2010 – 2017 selective events within 50 km of one the Striker SWD wells, located in the area where the Striker 1 and Alpha 2 wells are located. Attached as Exhibit A is a copy of my study. My study concludes that there is very little seismic activity in the areas where the wells are located.

14. I have also reviewed information provided by FTI Platt Sparks involving several different fault slip probability analysis conducted, using a tool created by Stanford University. These fault slip potential models showed low probability of slip or earthquakes to known mapped faults located closest to the wells. A copy of the studies are attached hereto as Exhibit B.

15. I attest that the information provided herein is correct and complete to the best of my knowledge and belief.

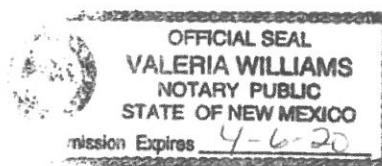
16. The granting of this application is in the interests of conservation and the prevention of waste.

Steven Taylor
Steven Taylor

SUBSCRIBED AND SWORN to before me this ^{3rd} ~~2nd~~ day of October, 2018 by Steven Taylor.

Valeria Williams
Notary Public

My commission expires: 4-6-20



Seismic Catalog Analysis Within 50 km of Striker SWD #2, #3, #6

Prepared for NGL-Permian
by
GeoEnergy Monitoring Systems
August 22, 2018

Analysis based on NMT seismic catalogs, unpublished catalogs and USGS catalogs for the time period 2010-2017 selecting events within 50 km of one of the Striker SWD wells. **Figure 1** shows seismic station locations for three wells (blue pushpins) with estimated detection levels for M 1.0 (green circles) and M 1.5 (red circles) along with NGL-Permian stations (yellow pushpins). **Figure 2** shows seismicity listed in Table 1 shown as red circles and additional regional stations from TexNet and NMT (green pushpins). These regional stations will be used along with the 3 Striker SWD seismic stations for regional monitoring.

Striker Two, Sand Dunes well, Lat/Long: 32.2072820/-103.7557370

Striker Three, Gossett well, Lat/Long: 32.2551110/-104.0868610

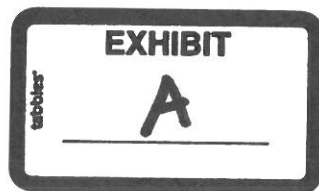
Striker Six, Madera well, Lat/Long: 32.2091150/-103.5359570

The USGS reports only two events in the vicinity since 2010. New Mexico Tech runs a seismic network (SC) north of the wells for the DOE Waste Isolation Plant (only short-period vertical components). There are a total of seven seismic events in this time period ranging in magnitude from 1.0 to 3.1.

Table 1: Seismicity Within 50 km of Striker SWD Wells 2010-2017

Date	Origin Time GMT	Latitude	Longitude	Depth (km)	Magnitude
20111227	23:10:37	32.37	-103.95	NaN	1.6
20120318	10:57:22	32.281	-103.892	5.0	3.1
20170211	14:34:27	32.29	-103.92	NaN	1.5
20170302	11:38:53	32.37	-103.88	NaN	1.7
20170325	22:46:01	32.13	-103.77	NaN	1
20170503	17:47:21	32.082	-103.023	5.0	2.6
20170814	01:09:56	32.39	-103.56	NaN	1.2

Snee and Zoback (2018) have mapped out fault slip potential across the Permian Basin of New Mexico and Texas in response to injection-related pressure changes at depth by combining maximum horizontal compressive stress orientation along mapped faults. Their estimates of fault slip potential is shown in **Figure 3** (from Figure 3 of Snee and Zoback, 2018). As indicated by the green lines in Figure 3, the fault slip potential is predicted to be very low in southeastern New Mexico.



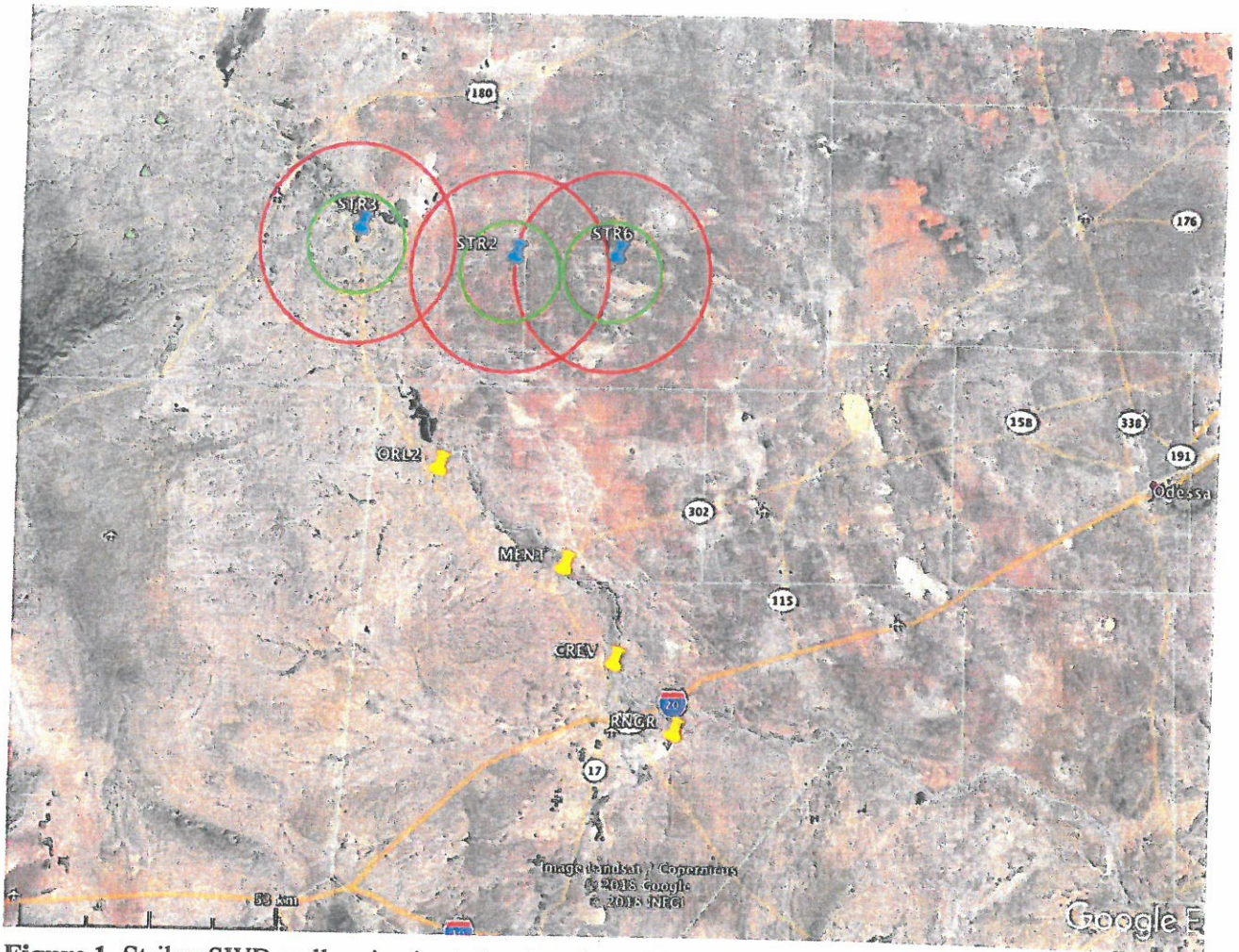


Figure 1. Striker SWD wells seismic station locations (blue push pins) and existing NGL-Permian seismic stations (yellow pushpins). Green and red circles around stations show approximate detection levels for ML 1.0 and 1.5, respectively.

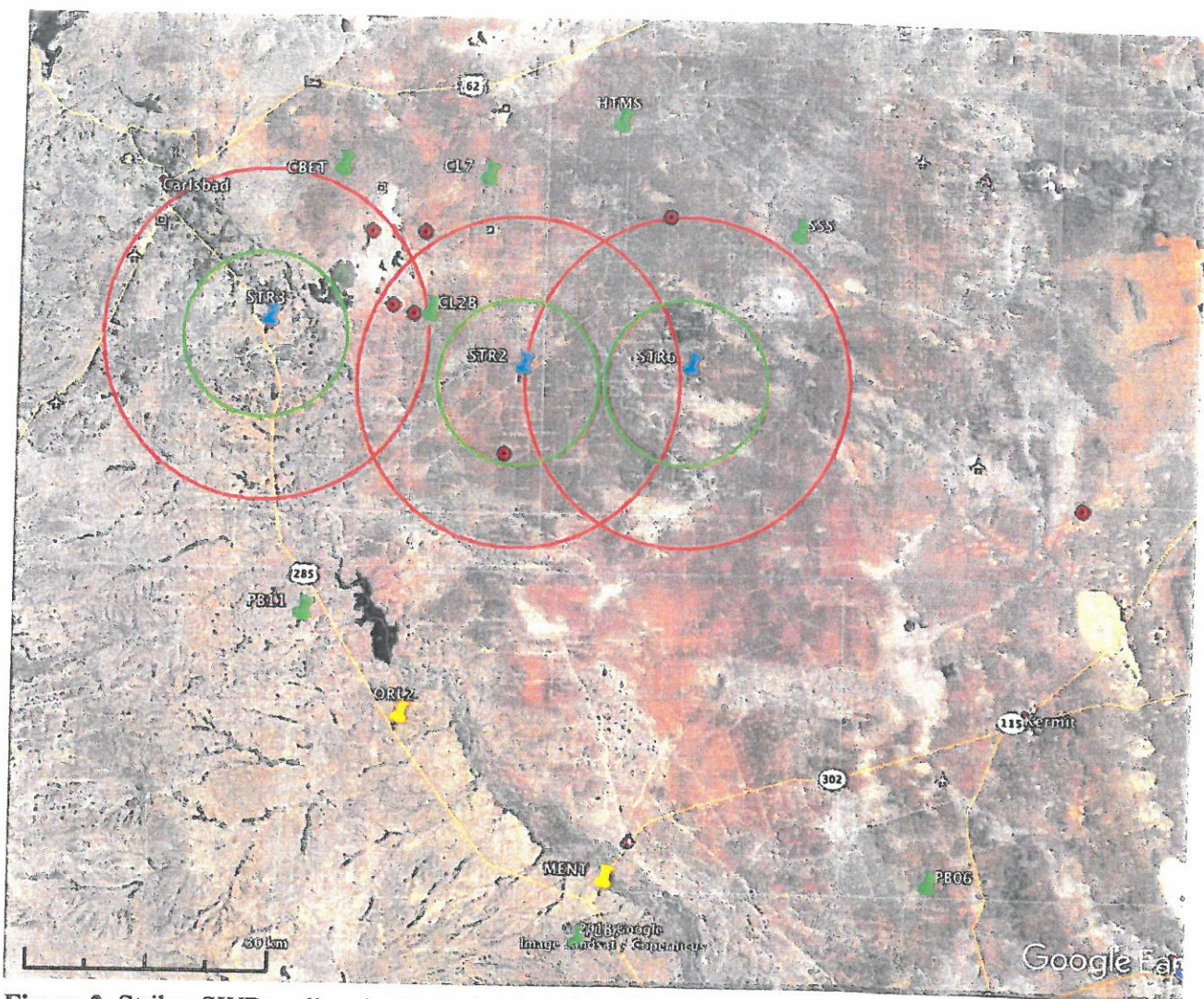


Figure 2. Striker SWD wells seismic station locations (blue push pins) and existing NGL-Permian seismic stations (yellow pushpins). Green and red circles around stations show approximate detection levels for ML 1.0 and 1.5, respectively. Other regional seismic stations run by TexNet and New Mexico Tech are shown as green pushpins. Seismicity listed in Table 1 shown as red circles.

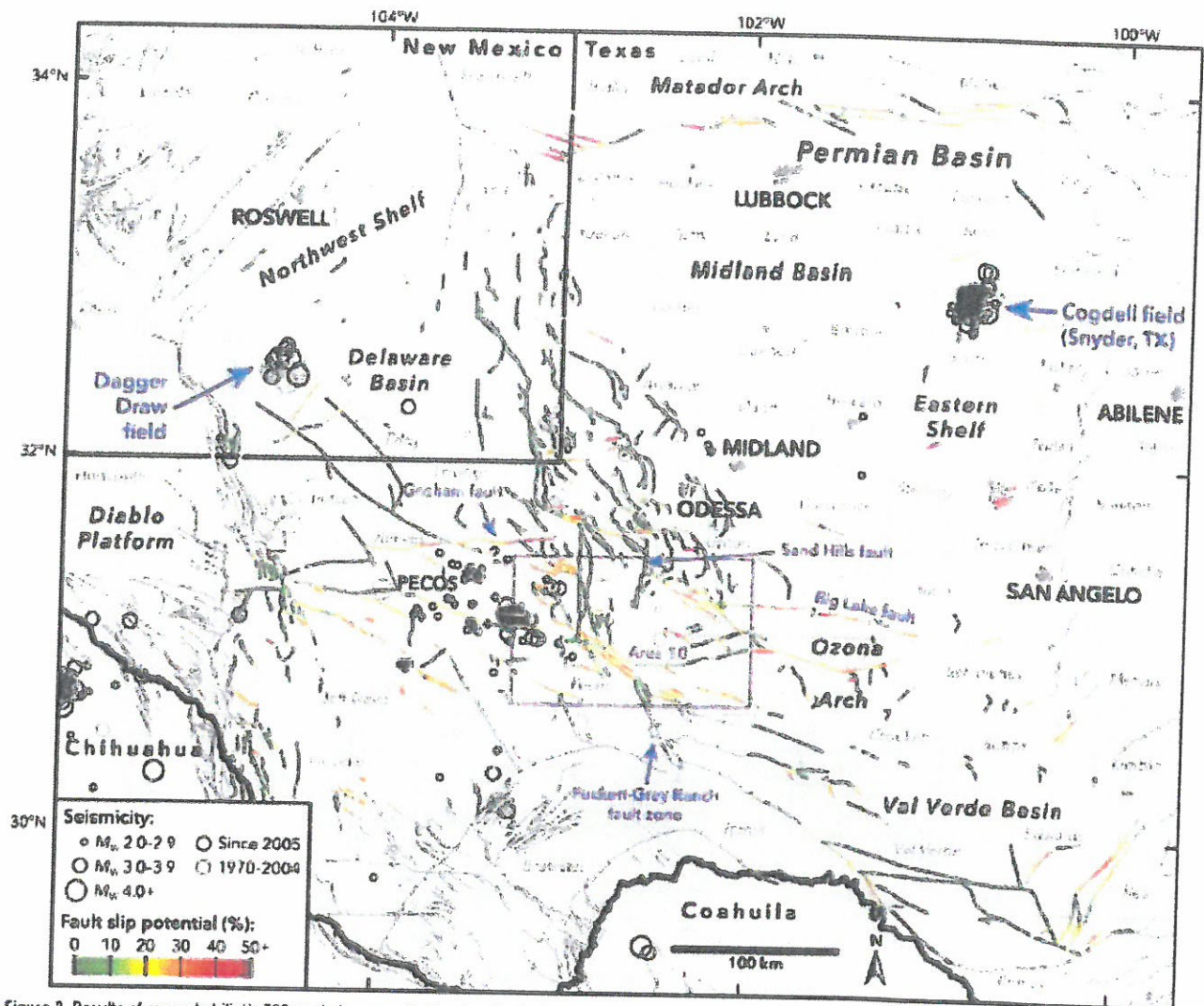


Figure 3. Results of our probabilistic FSP analysis across the Permian Basin. Data sources are as in Figures 1 and 2.

Figure 3. Fault slip analysis from Snee and Zoback (2018) for the Delaware Basin of southeast New Mexico and western Texas. Potential for induced seismicity fault slip in response to injection-related pressure changes at depth in southeast New Mexico appears to be very low as indicated by the green lines on mapped faults.

October 1, 2018

RE: Striker 1 SWD and Alpha 2 SWD
Eddy County, New Mexico
30-015-44406 and 30-015-44530

I have reviewed the geology, seismic activity, production and injection history near the Alpha SWD 2 and Striker 1 SWD and I would conclude that the Subject wells do not pose a substantial risk of increasing seismicity in the area.

1. Geologic mapping and cross-sections through the area of review did not reveal any faults that would present any type of concern regarding confinement or provide a conduit that might induce seismicity at deeper depths. (see enclosed maps and cross-sections). The localized mapping did not reveal any faults however I have included regional basement faults in the FSP analysis.
2. FSP analysis was conducted in the area to analyze the potential for fault slip and induced seismicity related to SWD injection. Regional basement fault trends mapped and published by the Texas Bureau of Economic Geology and referenced in the Lund Snee and Zoback paper (State of Stress in the Permian Basin - 2018) were digitized and input into the FSP analysis. None of the faults reached a critical pressure that would initiate fault slip based on the FSP analysis.

1 - Geologic mapping

The cross-sections and maps show simple "layer-cake" geology within the injection interval with no evidence of faulting or significant changes in interval thickness. The enclosed maps and cross-sections illustrate the geologic setting near the Subject wells:

- Map 1 - Devonian Structure Area of Review (Striker 1 SWD, and Alpha 2 SWD)
- Cross-section A-A'
- Cross-section B-B'

- Cross-section C-C'

Map 1 is a structure map on the top of the Devonian and top of the proposed injection interval in the Area of Review (Striker 1 SWD, and Alpha 2 SWD). This map also shows ESE dip and there is no evidence of faulting or any specific structural anomaly indicative of faulting within the 100 sq. mile area of review. There are published fault locations for basement faults approximately 10 km WNW and SW of the Subject wells. It is likely that the 3.9 Mw event of 11-28-74 occurred along the fault system to the west which is approximately 5 miles west of the USGS location for this earthquake. It would not be uncommon for locations to be in error by +/- 5.0 miles for this time period due to the sparsity of seismographs in the area at this time. These faults were digitized and imported into the FSP analysis to determine the potential for fault slip or induced seismicity as a result of SWD injection.

Cross-sections A-A', B-B', and C-C' provide visual representations of the geology in the area of review. Each of these cross-sections demonstrate simple "layer-cake" geology with no indication of significant faulting in the areas of review.

2 – FSP Analysis

Fault slip potential (FSP) was analyzed in the area of review. Fault segment orientation/azimuth is shown on **Map 2**. Additional input values for the model are shown in **Figure 1**. Depths were determined from the cross-sections and structure maps included in this report. All other input values are typical for the targeted formations.

Figure 2 shows the location of existing Devonian SWD injection wells and the proposed Subject wells (Striker 1 SWD, and Alpha 2 SWD). The estimated locations of basement faults are shown as fault segments F1-F9. Faults are segmented to account for deviations in fault azimuth since that input value is most critical in determining fault slip potential.

Figure 3 shows the historical Devonian injection and potential future injection that was input into the FSP analysis. The existing injection wells were held constant and the Subject wells were held constant at 40,000 bbls/day for 10 years and then stepped down to a rate of 25,000 bbls/day by 2038.

Figure 4 – Figure 12 shows the sensitivity analysis of varying the input stress data values by 10% for fault segments F1-F9. The orientation of SHmax used in the analysis is estimated from the values reported by Lund Snee and Zoback (2018). The faults F1-F5 in this area are not optimally oriented for slip in the current stress environment with a difference of +/- 100 deg. which yields very high pressures to initiate slip even with the 10% variance. Thus, the conclusion in this area is that faults F1-F5 are not likely to slip as a result of SWD injection.

Faults F6-F9 are more optimally oriented for potential slip and represent some cause for concern. These faults are fortunately still over 5 miles from the Subject wells and thus pressure increases at the fault remain below critical values. Fault segment F6 represents the most concerning fault which shows a potential for slip at 1,300 psi increase for the input values and 400 psi for the 10% varied inputs. The 400 psi value assumes a shallower dipping fault.

Figure 13 – Figure 15 shows the calculated pressure front resulting from the modelled injection at time periods ending in years 2025, 2035, and 2045. This analysis indicates modest pressure change (5 -84 psi) along faults F1-F5 however these faults require substantial pressure increases to slip due to their orientation relative to SHmax. The primary fault segment of concern is F6 which is more optimally oriented to slip. The calculated pressure along F6 by 2045 is 152 psi. which remains below the 400-psi pressure that would initiate fault slip. This scenario is only if the fault dip angle is 10% shallower than the assumed 80 deg angle. (Figure 9 Sensitivity analysis Fault 6)

Conclusion

At this time there is no indication that any wells should be rate restricted. The majority of the faults and fault trends in the area of review are not optimally oriented to slip. In the event that seismicity occurs in the future in this area modifications could be made to all injectors in the area to mitigate the potential for seismicity. I would recommend monitoring of injection rates and seismicity in the area to determine if rate adjustments should be made over the operating life of the injection wells within the area of review.

Should you have any questions, please do not hesitate to call me at (512) 327-6930 or email me at todd.reynolds@ftiplattsparks.com.

Regards,

Todd W. Reynolds – Geologist/Geophysicist

Senior Director, Economics/FTI Platt Sparks



Todd W. Reynolds

FTI Platt Sparks

512.327.6930 office

Map 1

22S 30E

22S 29E

5.64 miles

Eddy County
015

22S 26E

23S 26E

24S 26E

24S 27E

25S 27E

24S 28E

24S 29E

24S 30E

25S 29E

25S 30E

26S 29E

26S 30E

27S 29E

27S 30E

28S 29E

28S 30E

29S 29E

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148S 29E

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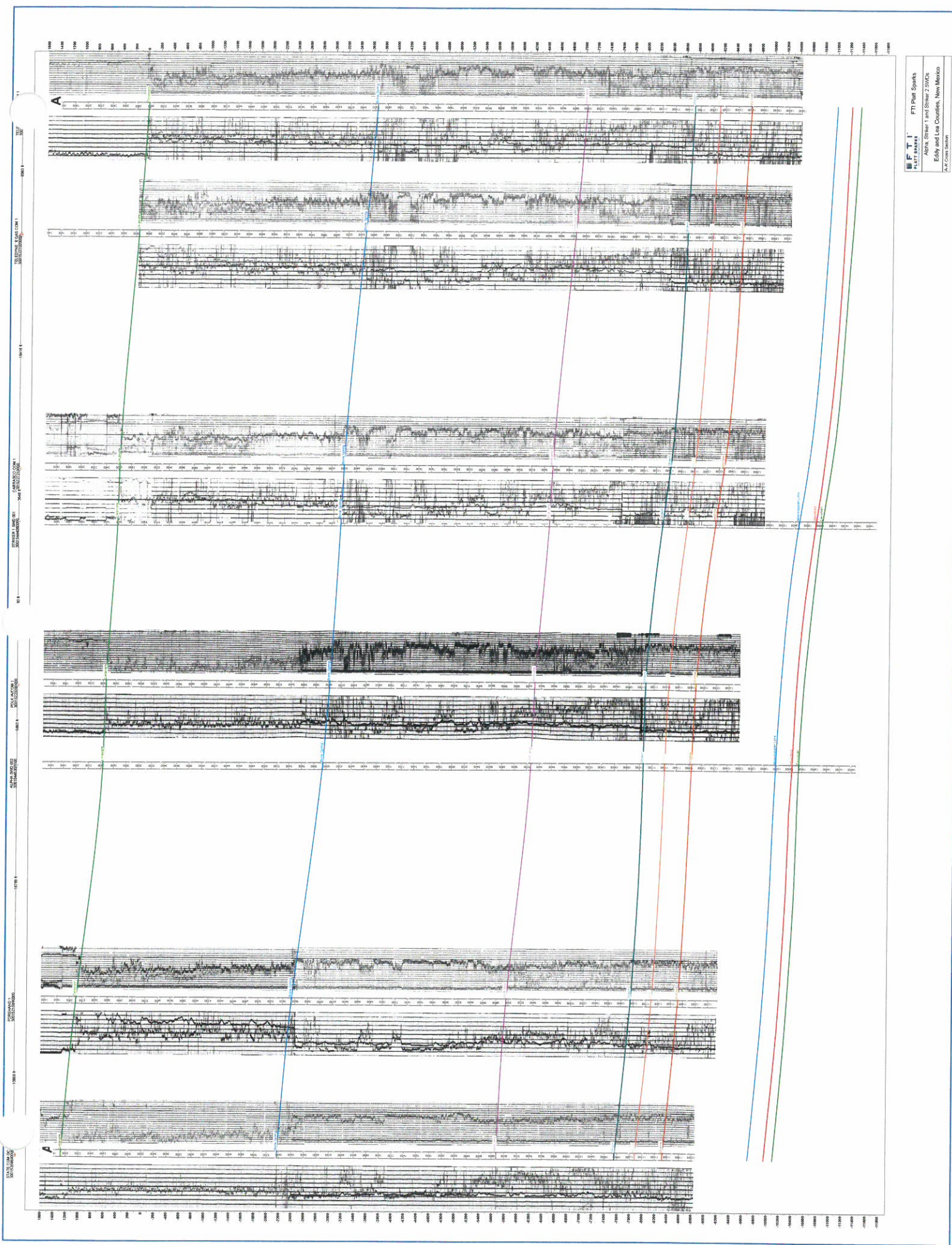
150S 29E

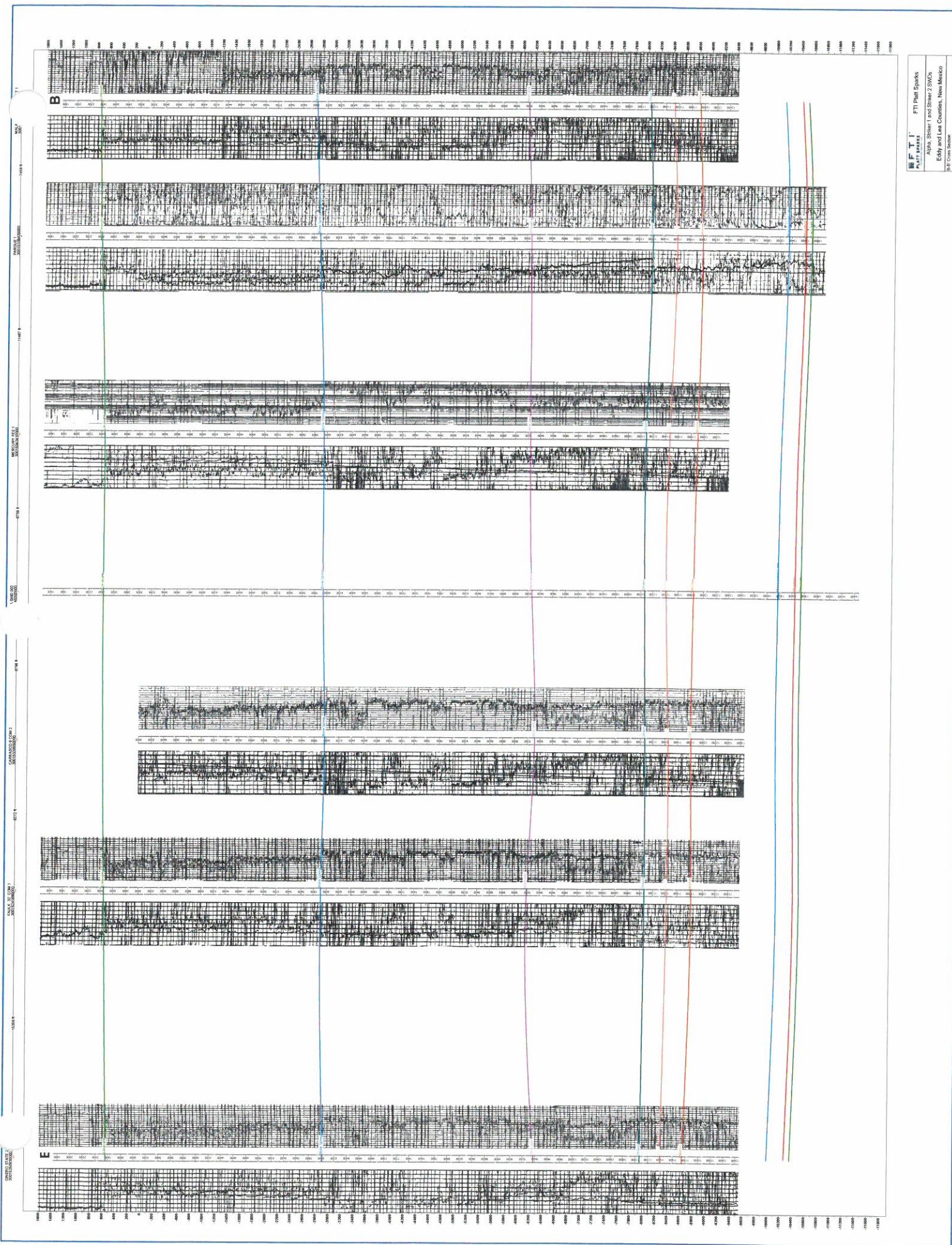
150S 30E

151S 29E

151S 30E

152





Map 2

Eddy County
015

5.64 miles



596
6

627
7

3

135.6

445
8

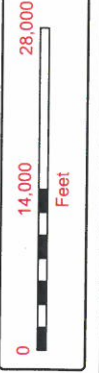
2

529
9

136.0
1

137.6
4

126.9
5



Subject wells:

Striker 1 SWD & Alpha 2 SWD

MODEL INPUTS

Mid Injection Depth	14,425	ft
Injection Gross Interval	1,469	ft
Injection Net Interval	500	ft
Avg. Porosity	5.0%	
Permeability	20	mD
Vertical Stress Gradient	1.1	psi/ft
Max Horiz. Stress Gradient	A ϕ 0.52 (Snee/Zoback)	
Min Horiz. Stress Gradient	A ϕ 0.52 (Snee/Zoback)	
Initial Res. Pressure Gradient	0.465	psi/ft
Max Horiz Stress Dir.	55	deg
Fault friction	0.6	mu
Fault dip	80	deg

The analysis was conducted based on the existence of faults that are approximately 10 km NW and SW of the subject wells noted by A2 & S1. The faulting is broken into 9 fault segments to account for azimuth change along the fault system

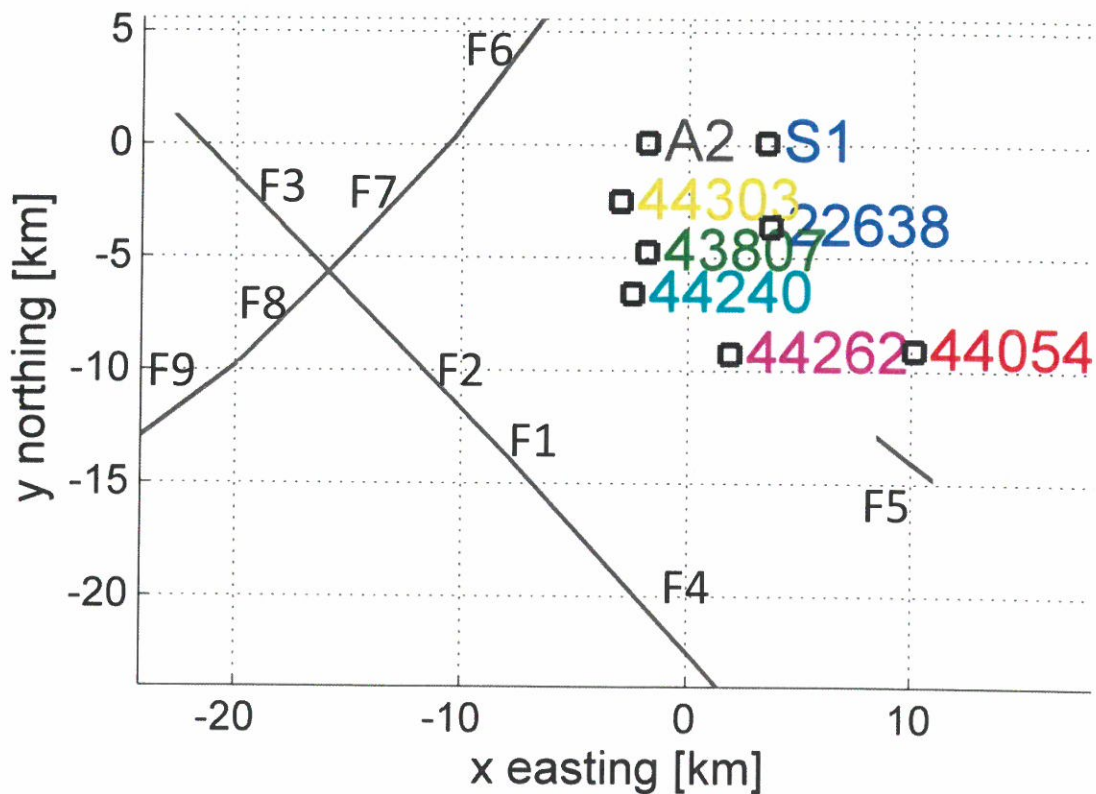
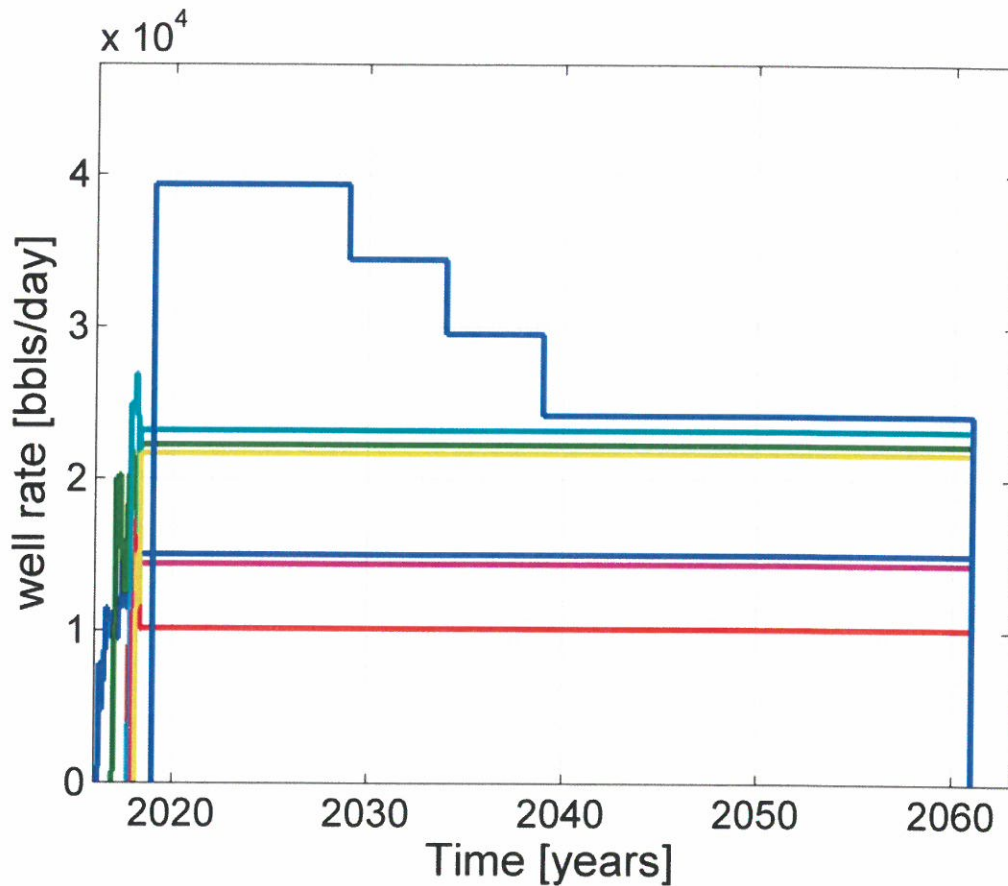
Figure 1 – Input parameters

Exhibit B
Figure 2 – Locations of Inj. Wells and Faults

WELL INJECTION RATES FOR MODEL West Area of Review



Historical rates for deep injection in the area of review held constant through the end of the model. Subject wells proposed injection rate of 40,000 bbls per day (blue line) initially for 10 years then steps down over the next 10 years to 25,000 bbls per day through the end of the model.

Figure 3

Input parameters were varied by +/- 10% from the expected input values to arrive at the range of pore pressure changes that would initiate slip. Faults F1-F5 strike generally NW-SE near an azimuth of 135 and Shmax direction is generally 35 deg which leads to high values of pressure to initiate fault slip (low likelihood). The plots for faults F1-F5 indicate a change in pore pressure, at the fault, in excess of **2,900 psi** is needed to initiate fault slip.

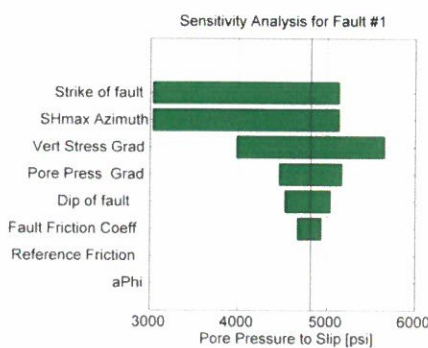


Figure 4

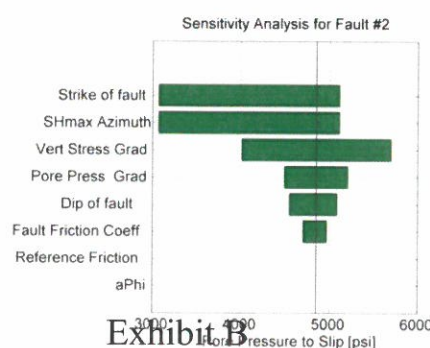


Figure 5

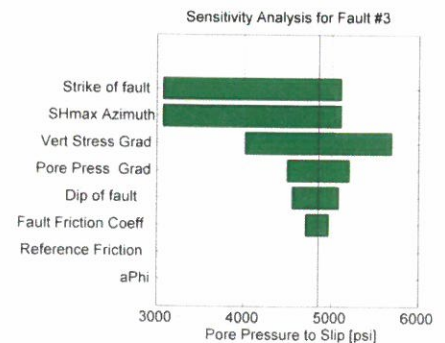


Figure 6

+2,900 psi F1-F5

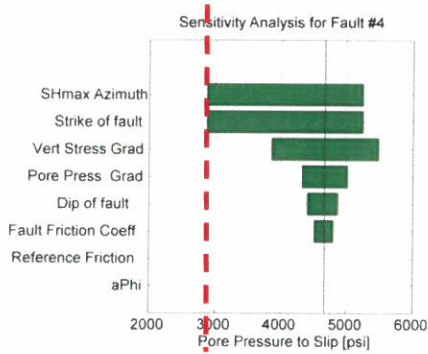


Figure 7

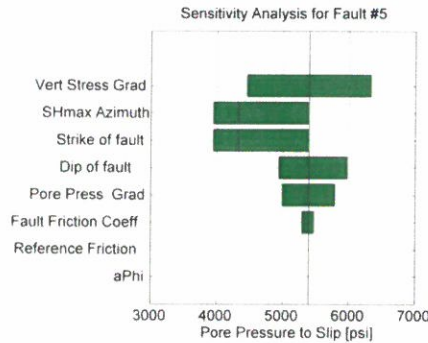


Figure 8

400 psi F6 lower angle fault

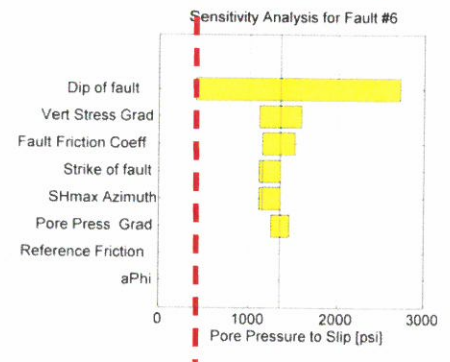


Figure 9

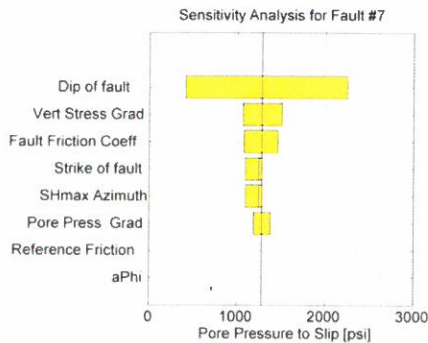


Figure 10

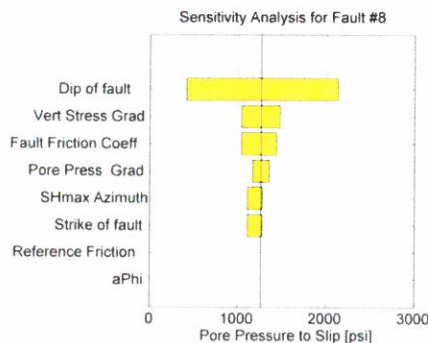


Figure 11

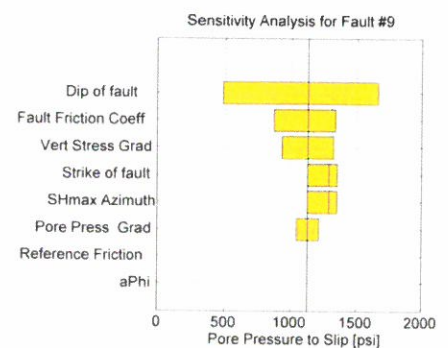


Figure 12

Faults F6-F9 strike generally NE-SW between an azimuth of 37-53 deg. and Shmax direction is generally 35 deg which leads to low values of pressure to initiate fault slip (higher likelihood). The plots for faults F6-F9 indicate a change in pore pressure, at the fault, of **400 psi** could initiate fault slip along fault segment F6 which is the fault most proximal to Subject well A2 (Alpha 2 SWD). Fault segment F6 is the fault to be concerned with since the calculated pressure change at this fault is 152 psi in 2045.

It should be noted that the 400 psi pressure needed to initiate fault slip is based on a more shallow fault dip angle than the 80 degrees expected value. If faults are steep (80 deg. as expected) the pressure needed to initiate fault slip is much higher, near 1,200 psi.

Faults F7-F9 are more distal to the injection activity and these faults experience considerably lower pressure increases well below the calculated values needed to initiate fault slip.

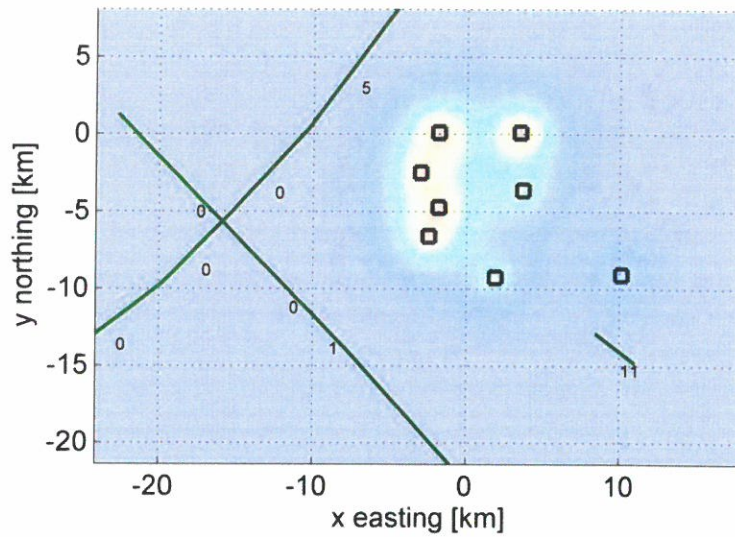


Figure 13 – Pressure Front 2025

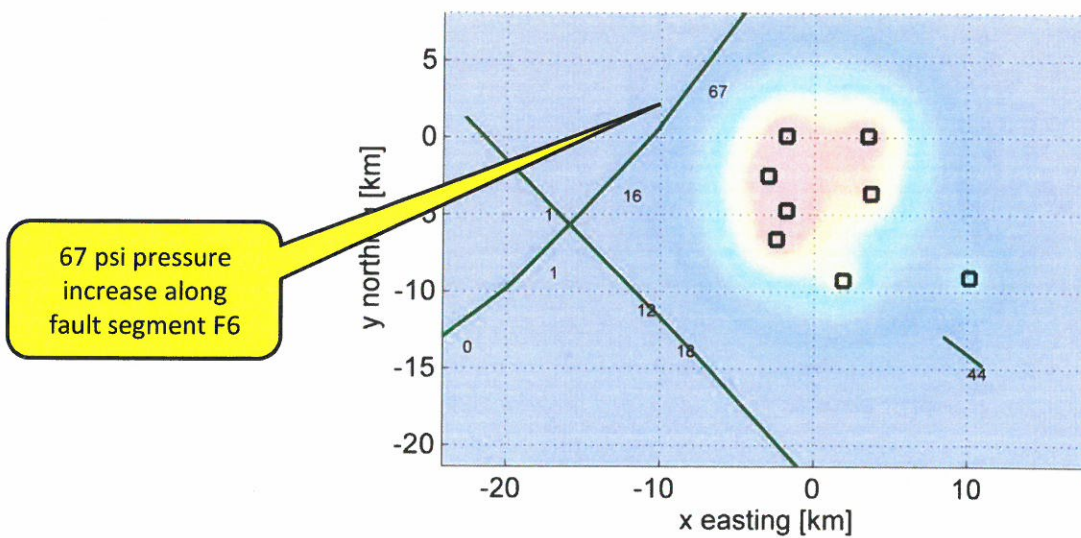


Figure 14 – Pressure Front 2035

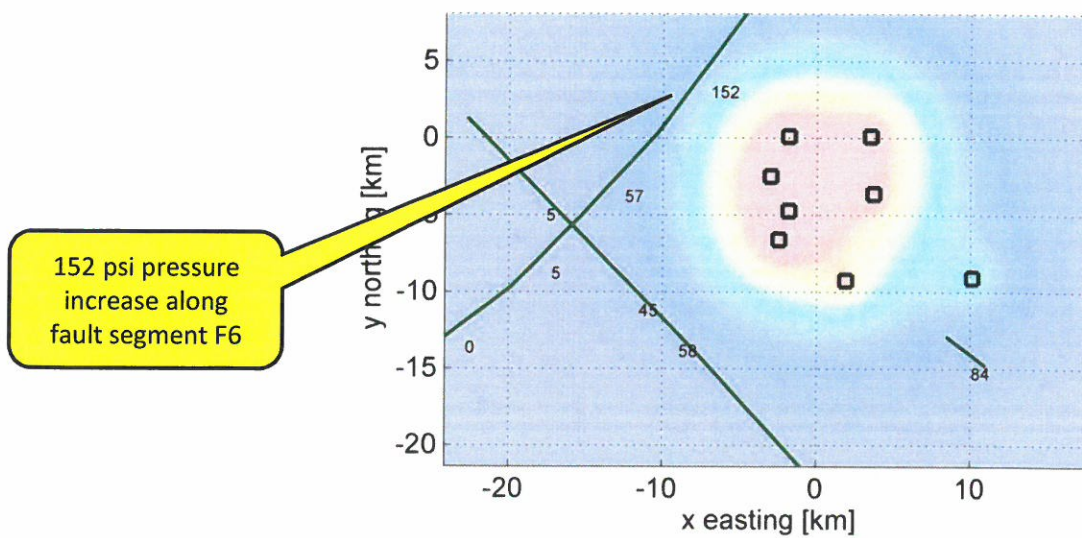
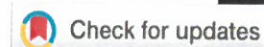


Figure 15 – Pressure Front 2045

State of stress in the Permian Basin, Texas and New Mexico: Implications for induced seismicity

Jens-Erik Lund Snee¹ and Mark D. Zoback¹



Abstract

Since the 1960s, the Permian Basin of west Texas and southeast New Mexico has experienced earthquakes that were possibly triggered by oil and gas activities. In recent years, seismicity has been concentrated near Pecos, Texas; around the Dagger Draw Field, New Mexico; and near the Cogdell Field, Snyder, Texas. We have collected hundreds of measurements of stress orientation and relative magnitude to identify potentially active normal, normal/strike-slip, or strike-slip faults that might be susceptible to earthquake triggering in this region. In the Midland Basin and Central Basin Platform, the faulting regime is consistently normal/strike slip, and the direction of the maximum horizontal compressive stress (S_{Hmax}) is approximately east–west, although modest rotations of the S_{Hmax} direction are seen in some areas. Within the Delaware Basin, however, a large-magnitude clockwise rotation ($\sim 150^\circ$) of S_{Hmax} occurs progressively from being nearly north–south in the north to east–southeast–west–northwest in the south, including the western Val Verde Basin. A normal faulting stress field is observed throughout the Delaware Basin. We use these stress data to estimate the potential for slip on mapped faults across the Permian Basin in response to injection-related pressure changes at depth that might be associated with future oil and gas development activities in the region.

Introduction

The Permian Basin of west Texas and southeast New Mexico is one of the most important petroleum-producing regions in the United States, containing numerous vertically stacked producing intervals (Dutton et al., 2005). The basin is subdivided into several structural regions (Figure 1), including the prolific Midland and Delaware basins, which are separated by the Central Basin Platform, a crystalline-basement-involved structural high overlain by carbonate reef deposits and clastic rocks (Cartwright, 1930; Galley, 1958; Matchus and Jones, 1984).

Fluid injection and hydrocarbon production have been suspected as the triggering mechanisms for numerous earthquakes that have occurred in the Permian Basin since the 1960s (Rogers and Malkiel, 1979; Keller et al., 1981; Orr, 1984; Keller et al., 1987). The area is also naturally seismically active (Doser et al., 1991, 1992). Seismicity in the Permian Basin has historically occurred in several localized areas (Figure 1), including parts of the Central Basin Platform and around the Dagger Draw and Cogdell fields (Sanford et al., 2006; Gan and Frohlich, 2013; Pursley et al., 2013; Herzog, 2014; Frohlich et al., 2016). Since about 2009, seismicity has occurred in the southern Delaware Basin (Jing et al., 2017), an area where the USGS National Earthquake Information Center and Keller et al. (1987) report very little previous seismicity. Since the TexNet Seismological Network (Savvaidis et al., 2017) began recording

earthquakes across Texas in January 2017, at least three groups of earthquakes, surrounded by more diffusely located events, have occurred in the southern Delaware Basin, near Pecos, Texas. A fourth group of events occurred mostly in mid-November 2017 farther to the west in northeastern Jeff Davis County. In addition, a group of mostly small ($M_L < 2$) earthquakes occurred between Midland and Odessa, in the Midland Basin.

As illustrated through recent studies of induced seismicity in Oklahoma (Walsh and Zoback, 2016), knowledge of the current state of stress is an essential component in estimating the pore-pressure perturbation needed to trigger an earthquake on a given fault. Such analyses enable both retrospective analyses of potential triggering conditions of past earthquakes as well as estimates of the likelihood of future slip on mapped faults due to fluid injection or extraction. As part of our work to map the state of stress in Texas, we (Lund Snee and Zoback, 2016) recently contributed more than 100 new, reliable (A–C-quality) maximum horizontal compressive stress (S_{Hmax}) orientations specifically within the Permian Basin, together with an interpolated map of the relative principal stresses expressed using the A_ϕ parameter (Simpson, 1997). In anticipation of fluid-injection activities associated with the thousands of wells to be drilled in the Permian Basin in the next few years, we report more than 100 additional S_{Hmax} orientations and a refined map of the relative stress magnitudes (Figure 1) to provide a comprehensive view of the state of stress in the Permian Basin and its relation to potential earthquake triggering on faults in the region.

In this paper, we first summarize the compilation of new stress measurements and provide an overview of relative stress magnitudes. We then discuss the stress field (especially in areas where it varies considerably, such as the Delaware Basin) and apply the new stress data to estimate the fault slip potential that would be expected due to fluid-pressure increases that might be associated with fluid injection at depth. This analysis will utilize FSP v.1.07, a freely available software tool developed by the Stanford Center for Induced and Triggered Seismicity in collaboration with ExxonMobil (Walsh et al., 2017). We use only publicly available information about faults in the region.

Methods

In the earth, a combination of tectonic driving forces and local factors such as density heterogeneities give rise to anisotropic principal stresses with consistent orientations and relative magnitudes throughout the brittle upper crust (Zoback and Zoback, 1980; Zoback, 1992). These principal stresses, which are continually replenished by tectonic activity, are modulated by the finite strength of the crust, which dissipates accumulated stresses through seismic and aseismic slip on faults. Consequently, most of the brittle crust is thought to be critically stressed, meaning

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horizontal azimuth of the fastest shear-wave propagation in subvertical wells using measurements from crossed-dipole sonic logs. We also include several new S_{Hmax} orientations that were obtained from formal inversions of focal mechanisms from microseismic events detected during hydraulic fracturing operations. Several other S_{Hmax} orientations were obtained by measuring the orientations of aligned microseismic events thought to represent propagating hydraulic fractures. When collecting stress measurements from microseismic data, we do not account for the possibility of localized changes of stress orientations that might develop as a result of fracturing and proppant emplacement. It is unlikely that stimulation-induced changes in stress orientation would occur except in areas of very low stress anisotropy (which we demonstrate are rare). In such areas, there would not be consistent microseismic alignments orthogonal to the least principal stress that would satisfy the quality-control criterion for reliable stress orientations that we have developed (Table A3).

In addition to our new data, Figure 1 also includes previously published S_{Hmax} orientations from the Permian Basin area that we consider reliable. The 2016 release of the World Stress Map (Heidbach et al., 2016) included only a handful of S_{Hmax} orientations in the Permian Basin. We have downgraded the quality ratings for two older measurements that we suspect were made on the basis of mistaken interpretations. A large collection of S_{Hmax} orientations published by Tingay et al. (2006) and included in the World Stress Map Database were given D-quality ratings due to the lack of sufficient quality information (e.g., depth ranges, number of fractures, or standard deviations of fracture orientations), although many are in agreement with high-quality nearby measurements we utilize. Previously unpublished information contributed by R. Cornell (personal communication) is reported in Table A1, but there is not sufficient quality information to upgrade any of his measurements to C quality and be included in Figure 1. We also include S_{Hmax} orientations recently published by Forand et al. (2017), who report S_{Hmax} patterns consistent with the variations shown by Lund Snee and Zoback (2016). Although Forand et al. (2017) do not list the number and depth intervals for the stress indicators that they present, this information is included in their map because the distributions of fracture orientations shown in their rose diagrams allow us to interpret means, standard deviations, and the minimum number of fractures.

We interpolate the relative principal stress magnitudes across this area (colored background in Figure 1) using measurements reported in Table A4. We choose to represent the relative magnitudes of the three principal stresses (S_v , S_{Hmax} , and S_{hmin}) using the A_ϕ parameter (Simpson, 1997). The A_ϕ parameter (explained graphically in Figure A1) conveniently describes the ratio between the principal stress magnitudes using a single, readily interpolated value that ranges smoothly from 0 (the most extensional possible condition of radial normal faulting) to 3 (the most compressive possible condition of radial reverse faulting). The parameter is defined mathematically by

$$A_\phi = (n + 0.5) + (-1)^n (\phi - 0.5), \quad (1)$$

where

$$\phi = \frac{S_2 - S_3}{S_1 - S_3}, \quad (2)$$

S_1 , S_2 , and S_3 are the magnitudes of the maximum, intermediate, and minimum principal stresses, respectively, and n is 0 for normal faulting, 1 for strike-slip faulting, and 2 for reverse faulting.

Probabilistic analysis of fault slip potential. As mentioned earlier, we utilize FSP v.1.07 (Walsh et al., 2017) to estimate the slip potential on faults throughout the Permian Basin. The FSP tool allows operators to estimate the potential that planar fault segments will be critically stressed within a local stress field. Critically stressed conditions occur when the ratio of resolved shear stress to normal stress reaches a failure criterion, in this case the linearized Mohr-Coulomb failure envelope. The FSP program allows for either deterministic or probabilistic geomechanical analysis of the fault slip potential, the former of which treats each input as a discrete value with no uncertainty range. The probabilistic geomechanics function estimates the FSP on each fault segment using Monte Carlo-type analysis to randomly sample specified, uniform uncertainty distributions for input parameters including the fault strike and dip, ambient stress field, rock properties, and initial fluid pressure.

We conducted our analysis on fault traces compiled from Ewing et al. (1990), Green and Jones (1997), Ruppel et al. (2005), and the USGS Quaternary Faults and Folds Database (Crone and Wheeler, 2000). Most of these databases do not specify fault dips, so we make the conservative assumption that, within the generally normal and normal/strike-slip faulting environment of the Permian Basin, all potentially active faults dip in the range of 50° to 90°. This assumption implies that all fault segments could be ideally oriented for slip in either normal or strike-slip faulting environments at reasonable coefficients of friction, depending on the alignment of their strike with respect to S_{Hmax} (Figure A1).

Here we apply the probabilistic geomechanics function of the FSP tool. We apply reasonable stress values and uncertainty ranges based on the variability of the stress field we observe within 16 study areas (listed in Table A5). The study areas were selected to represent fairly uniform A_ϕ values and S_{Hmax} orientations (Figure 2) to minimize spatial variations of stress field in any given study area. As an example, Figure A2 shows input parameter distributions sampled during FSP analysis for a random fault within Area 10.

For the purposes of this demonstration, we do not hydrologically model the pressure changes associated with any known injection scenario; we instead estimate the fault slip potential in response to an increase in the fluid-pressure gradient corresponding to a 4% increase relative to hydrostatic (0.4 MPa/km or 0.018 psi/ft) to evaluate the potential for relatively modest pressure changes in crystalline basement (2 MPa [300 psi] at 5 km [16,400 ft]) associated with produced water disposal. This is the same gradient of pore-pressure perturbation applied by Walsh and Zoback (2016) for FSP analysis in north-central Oklahoma. The eventual pore-pressure increase that will occur in the uppermost parts of the crystalline basement due to injection in this area is of course unknown, and it is important to note that *relative* differences in slip potential between differently oriented faults will remain the

same regardless of the magnitude of uniform pressure increase (although the absolute fault slip potential will vary). Operators interested in screening potential sites for wastewater injection wells, for example, might alternatively use the software to test specific scenarios of pore-pressure evolution with time due to injection from wells in a localized area. Although large portions of the Permian Basin are known to be overpressured and underpressured at certain stratigraphic intervals (e.g., Orr, 1984; Doser et al., 1992; Rittenhouse et al., 2016), for the sake of simplicity in this whole-basin demonstration, we initially assume hydrostatic conditions ($P_p = 9.8 \text{ MPa/km} \approx 0.43 \text{ psi/ft}$). In general, hypocentral depths for potentially damaging injection-triggered earthquakes are within the upper crystalline basement (e.g., Zhang et al., 2013; Walsh and Zoback, 2015), for which little pore-pressure information is available but for which hydrostatic values are reasonable (Townend and Zoback, 2000).

State of stress in the Permian Basin

Figure 1 shows all reliable S_{Hmax} orientations and an interpolated view of the A_ϕ parameter across the Permian Basin. Throughout the Midland Basin, the eastern part of the Permian Basin, the stress field is remarkably consistent, with S_{Hmax} oriented ~east–west (with modest rotations of S_{Hmax} in some areas) and $A_\phi \approx 1.0$ (indicative of normal/strike-slip faulting). The stress field is more extensional in the Val Verde Basin to the south, with $A_\phi \approx 0.7$. Few S_{Hmax} orientations are presently available in that subbasin, but S_{Hmax} is northwest–southeast in the western part of the basin and appears to be ~northeast–southwest in the central part of the basin. This is similar to the stress state seen farther to the southeast, where S_{Hmax} follows the trend of the growth faults that strike subparallel to the Gulf of Mexico coastline (Lund Snee

and Zoback, 2016). Along the Central Basin Platform, S_{Hmax} is generally ~east–west but rotates slightly clockwise from east to west, with $A_\phi \approx 0.8$ –1.0. In the Delaware Basin, the stress field is locally coherent but rotates dramatically by ~150° clockwise from north to south across the basin. In the western part of Eddy County, New Mexico, S_{Hmax} is ~north–south (consistent with the state of stress in the Rio Grande Rift; Zoback and Zoback, 1980) but rotates to ~east–northeast–west–southwest in southern Lea County, New Mexico, and the northernmost parts of Culberson and Reeves counties, Texas. It should be noted that where rapid stress rotations are observed in the Delaware Basin are areas with low values of A_ϕ (indicative of relatively small differences between the horizontal stresses) and elevated pore pressure (Rittenhouse et al., 2016), making it possible for relatively minor stress perturbations to cause significant changes in stress orientation (e.g., Moos and Zoback, 1993).

S_{Hmax} continues to rotate clockwise southward in the Delaware Basin to become ~N155°E in western Pecos County, westernmost Val Verde Basin, and northern Mexico (Suter, 1991; Lund Snee and Zoback, 2016). On the Northwest Shelf, A_ϕ varies from ~0.5 (normal faulting) in north Eddy County to ~0.9 (normal and strike-slip faulting) further east. S_{Hmax} rotates significantly across the Northwest Shelf as well, from ~north–south in northwest Eddy County to ~east–southeast–west–northwest in northern Lea and Yoakum counties.

Slip potential on mapped faults

Figure 3 shows the results of our fault slip potential analysis for all study areas across the Permian Basin. We selected a color scale in which dark green lines represent faults with $\leq 5\%$ probability of being critically stressed at the specified pore-pressure increase; dark red indicates faults with $\geq 45\%$ fault slip potential; and yellow, orange, and light red represent intermediate values. The results shown in Figure 3 indicate that high fault slip potential is expected for dramatically different fault orientations across the basin, reflecting the varying stress field. In the northern Delaware Basin and much of the Central Basin Platform, for example, faults striking ~east–west are the most likely to slip in response to a fluid-pressure increase. However, farther south in the southern Delaware Basin, faults striking northwest–southeast are the most likely to slip, and ~east–west–striking faults have relatively low slip potential. Notably, we find high slip potential for large fault traces mapped across the southern Delaware Basin and Central Basin Platform, and along the Matador Arch. Figure 3 also indicates the faults that are *unlikely* to slip in response to a modest fluid-pressure increase. We find that large groups of mostly north–south–striking faults, predominantly located along the Central Basin Platform, the western Delaware Basin, and large parts of the Northwest Shelf have low fault slip potential at the modeled fluid-pressure perturbation. Knowing the orientations of faults that are unlikely to slip at a given fluid-pressure perturbation can be of great value because it provides operators with practical options for injection sites. Probabilistic geomechanical analysis of the type enabled by the FSP software is especially useful in areas with complex fault patterns. Figure 4 shows a larger-scale view of Area 10, an area of particularly dense faults. In Figure 4, it is clear that even

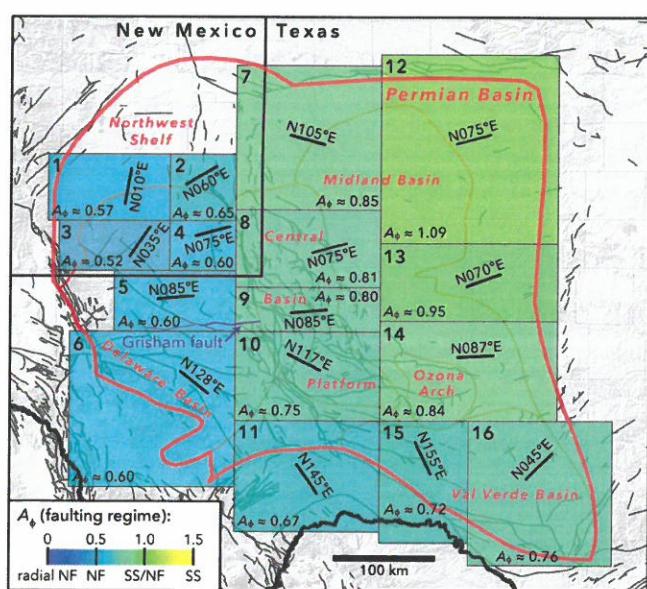


Figure 2. Map of study areas chosen for FSP analysis on the basis of broadly similar stress conditions. Text annotations indicate representative S_{Hmax} orientation and relative principal stress magnitudes (A_ϕ parameter) for each study area based on the data presented in Figure 1. Gray lines in the background indicate fault traces compiled from Ewing et al. (1990), Green and Jones (1997), Ruppel et al. (2005), and the USGS Quaternary Faults and Folds Database (Crone and Wheeler, 2000), to which we apply FSP analysis.

seemingly minor variations in fault strike can significantly change the fault slip potential.

Figures 3 and 4 illustrate the locations of earthquakes that have been recorded since 1970 in relation to the mapped faults. It is noteworthy that many earthquakes have occurred away from faults mapped at this regional scale, with the most obvious examples being groups of events described earlier, near the Dagger Draw Field (southeast New Mexico); the Cogdell Field (near Snyder, Texas); a group around the town of Pecos, Texas; and a recent group of mostly $M < 2$ events between the towns of Midland and Odessa, Texas. As the earthquakes undoubtedly occurred on faults, this observation underscores the necessity of developing improved subsurface fault maps, particularly for use in areas that might experience injection-related pore-pressure increases. Nevertheless, Figures 3 and 4 also show a number of earthquakes that may have occurred on mapped faults for which we estimate elevated fault slip potential. Of particular note are the recent (2009–2017) earthquakes in southeastern Reeves and northwestern Pecos counties, Texas, of which an appreciable number occurred on or

near yellow or orange faults. Potentially active faults are identified near some towns in the Permian Basin, including Odessa (Figure 3) and Fort Stockton, Texas (Figure 4). In some areas, such as northern Brewster County, Texas, and parts of the northern Central Basin Platform, earthquakes occurred on or near orange or red faults that have relatively short along-strike lengths, making the faults appear fairly insignificant at this scale. In the area of active seismicity in Pecos and Reeves counties, we estimate relatively high slip potential for several significantly larger faults (>20 km along-strike length) on which few or no earthquakes have been recorded thus far (Figures 3 and 4). Larger faults are of particular concern for seismic hazard because they are more likely to extend into basement and, therefore, to potentially be associated with larger magnitude earthquakes.

As labeled in Figure 3, a number of regional-scale faults are known to exist in this area (Walper, 1977; Shumaker, 1992; Yang and Dorobek, 1995). The Permian Basin overlies a major boundary separating Precambrian-age lithospheric basement domains (Lund et al., 2015), and its crystalline “basement” hosts numerous major

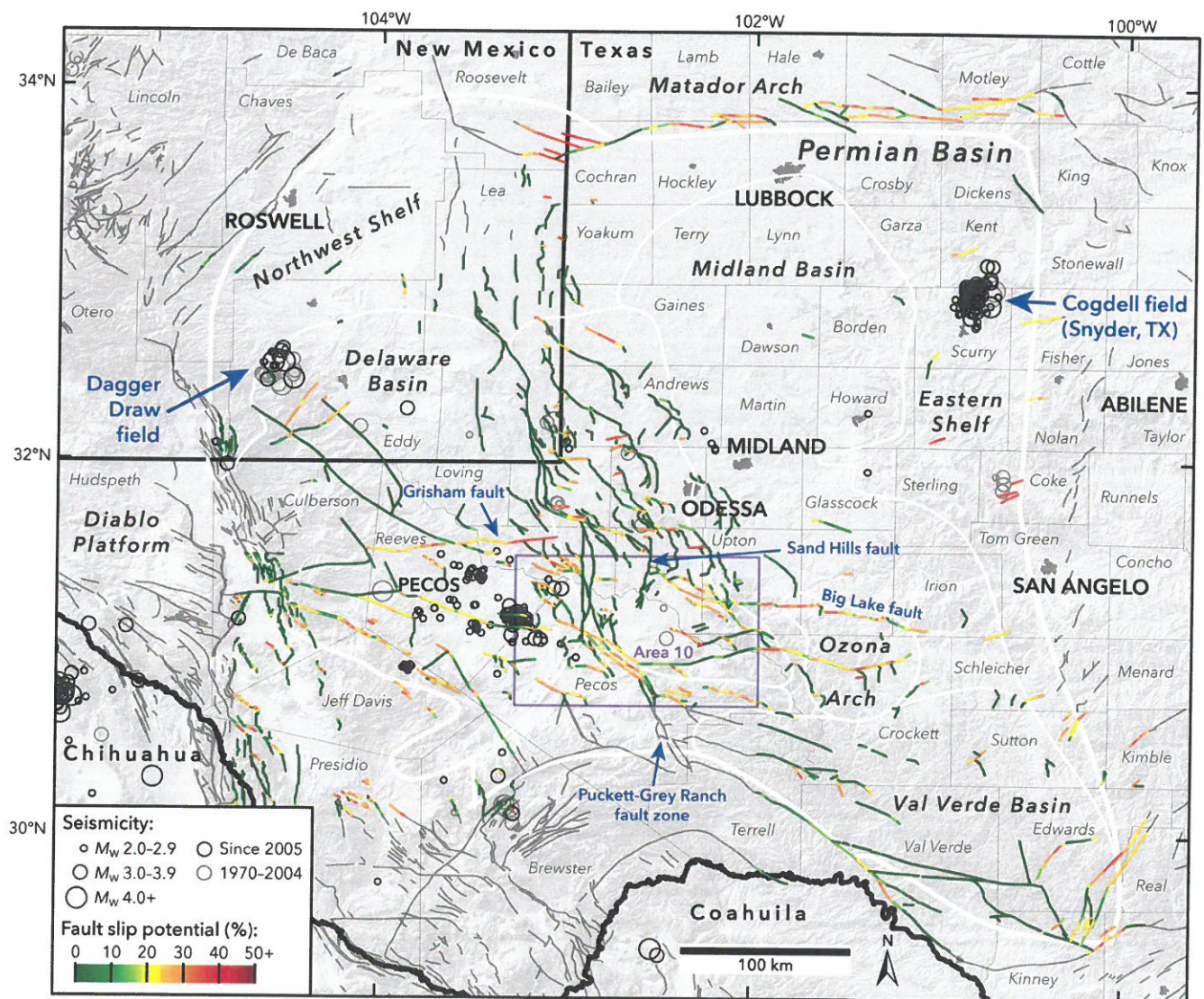


Figure 3. Results of our probabilistic FSP analysis across the Permian Basin. Data sources are as in Figures 1 and 2.

structures that have been repeatedly activated during subsequent plate collisions and rifting events (Kluth and Coney, 1981; Thomas, 2006). One notable example is the east–west-striking Grisham Fault (also referred to as the Mid-Basin Fault), which is between the rift margin of the Rodinia supercontinent and the boundary between the Shawnee and Mazatzal basement domains. The Grisham Fault is of particular importance for understanding the potential for induced seismicity in the Permian Basin because it is laterally extensive, offsets basement, and may have high slip potential. The upper part of Figure 5 (and Figure 3) shows a scenario in which the stresses resolved on the Grisham Fault are representative of Area 5, with S_{Hmax} oriented N085°E. However, the measured stress field changes dramatically from north to south across the Grisham Fault (Figures 1 and 2), presenting uncertainty about the stresses resolved upon the fault, reflected by its close proximity to Area 6, with a generalized S_{Hmax} orientation of N128°E. The lower part of Figure 5 shows the Grisham Fault in detail if the stress field shown in Area 6, just to the south, was appropriate. Needless to say, in the stress field represented by Area 5, fault segments oriented east–west are expected to have high probability of being critically stressed in response to a pore-pressure increase, but nearby west-northwest–east-southeast-striking faults

have relatively low fault slip potential. In contrast, inclusion within the Area 6 stress field would result in low expected fault slip potential on the east–west segments but high values on the west-northwest–east-southeast-striking segments.

The results shown in Figures 3–5 are not intended to provide a definitive view of the fault slip potential across this complex basin, nor do they constitute a seismic hazard map. While the stress field is complicated in this area, the changes in the stress field are coherent and mappable. We consider the greatest uncertainties in the map to be the lack of knowledge of subsurface faults and the magnitude and extent of potential pore-pressure changes in areas where increased wastewater injection may occur in the future, especially wastewater injection that might change pore pressure on basement faults. Operators wishing to use the FSP tool to screen sites for fluid injection should use detailed fault maps that are specific to the injection interval, the underlying basement, and any intervening units, which take into account geometric uncertainties.

Conclusions

As part of our stress mapping across the U.S. midcontinent, we have collected hundreds of S_{Hmax} orientations within the Permian Basin, and we also map the faulting regime across the region. Our new data reveal dramatic rotations of S_{Hmax} within the Delaware Basin and Northwest Shelf but relatively consistent stress orientations elsewhere. The rapid stress rotations in the Delaware Basin are observed in areas with relatively small differences between the horizontal stresses and with elevated pore pressure, making it easier for stress perturbations to cause significant changes in the stress field.

We show how the FSP software package can be used as a quantitative screening tool to estimate the fault slip potential in a region with large variations of the stress field, and accounting for uncertainties in stress measurements, rock properties, fault orientations, and fluid pressure. Although many historical earthquakes have occurred away from mapped faults in this area, we find that a number of earthquakes have occurred on or near faults for which there is high fault slip potential under the modeled conditions. **TL**

Acknowledgments

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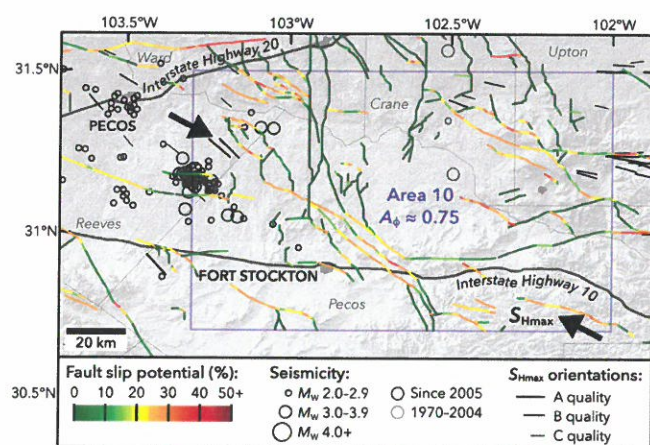


Figure 4. Large-scale view of the results of FSP analysis in Area 10 (location shown in Figures 2 and 3). Data sources are as in Figures 1 and 3.

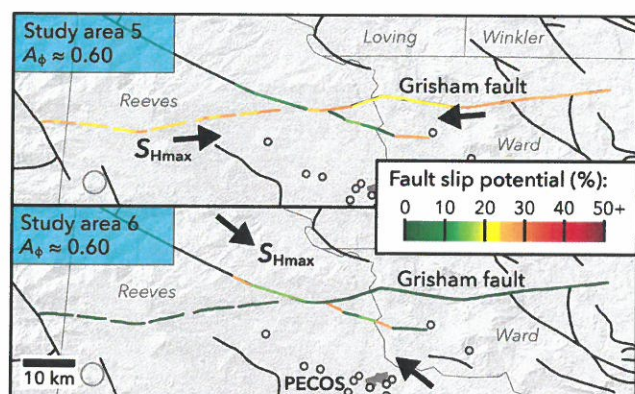


Figure 5. Map comparing the results of fault slip potential analysis on the Grisham (Mid-Basin) fault and selected nearby structures (locations shown in Figure 3) for stress conditions of Area 5 (S_{Hmax} N085°E \pm 8°; top panel) and Area 6 (S_{Hmax} N128°E \pm 15°; bottom panel). Symbols as in Figures 3 and 4.

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7

DECLARATION OF STEVEN NAVE

I, Steven Nave, declare under penalty of perjury under the law of New Mexico that the following is true and correct to the best of my knowledge and belief.

1. I am over eighteen (18) years of age and am otherwise competent to make this declaration.

2. I am the president of Nave Oil and Gas, which is a fishing tool company that performs fishing operations in several areas, including the area of Southeastern, New Mexico.

3. I worked as a fisherman for Star Tool Company, a fishing tool company, from 1980 until 2001. I later became a partner in Star Tool Company until that company was sold. I then later started my own company, Nave Oil and Gas, which also performs fishing operations. Over the years, I have developed expertise in fishing operations and I have performed fishing operations on Devonian salt water disposal wells located within Southeastern, New Mexico.

4. I am familiar with tubing and casing design requested by NGL Water Solutions Permian, LLC which consists of using tapered string tubing that is 7" x 5 1/2".

5. I have been informed that NGL's wells will be isolated to the Devonian and Silurian formations and will have four strings of casing protecting the fresh water, the salt interval, the Permian aged rocks through the Wolfcamp formation, and the depths to the top of the Devonian. There is a liner, and the deepest casing is 7 5/8", which will be cemented and cement will be circulated.

6. Based on my experience as a fisherman, it is my opinion that there is sufficient clearance between the 7 5/8" 39 pounds per foot or less casing and the proposed 5 1/2" tubing to

perform fishing operations. My company regularly performs fishing operations in situations involving similar dimensions and clearances.

7. Fishing can be performed through different methods when 7 5/8" 39 pounds per foot or less casing and the proposed 5 1/2" tubing is utilized; such as through the use of overshot tools, spear fishing tools, and (if needed) cutting tools.

8. The use of 7 5/8" 39 pounds per foot or less casing and the proposed 5 1/2" tubing will actually allow for the use of a wider variety of fishing tools that cannot typically be used within salt water disposal wells equipped with smaller tubing and casing sizes. This is because there is more room to run tools through the inside of the tubing. Additionally, it is my opinion that it is easier to perform fishing operations when 5 1/2" tubing is used.

9. Recently, I supervised a fishing job which involved a horizontal Wolfcamp well which was equipped with casing with a diameter of 7 5/8" 39 pounds per foot or less and casing with a diameter of 5 1/2". In that situation, my company was able to mill off the collar and use overshot tools to latch on to the piping that needed to be fished out of the well.

10. In my opinion, fishing operations could be successfully performed even at deeper depths for Devonian disposal wells provided that a sufficient rig is obtained for the operation.

[Signature Page Follows.]



Steven Nave

STEPHAN NAVE

8

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

APPLICATION OF NGL WATER
SOLUTIONS PERMIAN, LLC TO
AMEND ADMINISTRATIVE ORDERS
SWD-1724 AND SWD 1711 FOR SALT
WATER DISPOSAL WELLS IN EDDY
COUNTY, NEW MEXICO

CASE NO. 16426

AFFIDAVIT

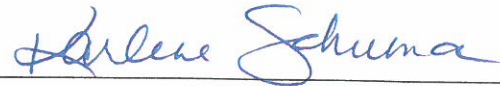
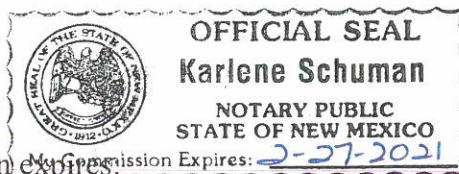
STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

Deana M. Bennett, attorney in fact and authorized representative of NGL Water Solutions Permian, LLC., the Applicant herein, being first duly sworn, upon oath, states that the above-referenced Application was provided under the notice letter and that proof of receipt is attached hereto.



Deana M. Bennett

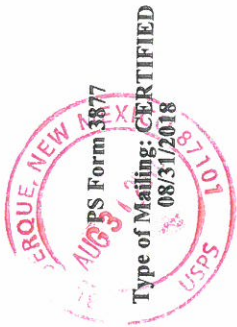
SUBSCRIBED AND SWORN to before me this 3rd day of October, 2018 by Deana M. Bennett.



Notary Public

My commission expires

Zina Crum
Modrall Sperling
500 4th Street NW
Suite 1000
Albuquerque NM 87102



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11	9314 8699 0430 0050 3017 62	COG OPERATING LLC 550 W Texas Midland TX 79701	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
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13	9314 8699 0430 0050 3017 86	Edmund T. Anderson, IV 2521 Humble Midland TX 79705	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
14	9314 8699 0430 0050 3017 93	Edmund T. Anderson, IV, Trustee for the Mary Anderson Boll Family Trust 2521 Humble Midland TX 79705	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
15	9314 8699 0430 0050 3018 09	Emma U. Carrasco P.O. Box 26 Loving NM 88256	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice

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18	9314 8699 0430 0050 3018 30	Guitar Land & Cattle, LP P.O. Box 2213 Abilene TX 79604	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
19	9314 8699 0430 0050 3018 47	Honey's Heritage LP P.O. Box 833206 Richardson TX 75083	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
20	9314 8699 0430 0050 3018 54	Jeri A. Mangum, First Financial as Trustees of the Carol Gibson Trust and Cynthia Rhodes Trust P.O. Box 701 Abilene TX 79604	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
21	9314 8699 0430 0050 3018 61	JMA Oil Properties, Ltd, Whose General Partner is JMA Management, LLC P.O. Box 58 Abilene TX 79604	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
22	9314 8699 0430 0050 3018 78	JPH Holdings, LP 4400 Arcady Dallas TX 75205	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
23	9314 8699 0430 0050 3018 85	KEY ENERGY SERVICES, LLC P.O. Box 99 2105 Avenue O Eunice NM 88231	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
24	9314 8699 0430 0050 3018 92	LEGACY RESERVES OPERATING, LP 303 W Wall Suite 1600 Midland TX 79701	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
25	9314 8699 0430 0050 3019 08	LLANO NATURAL RESOURCES, LLC 4920 S. Loop 289, Suite 206 Lubbock TX 79414	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
26	9314 8699 0430 0050 3019 15	MARATHON OIL PERMIAN LLC 5555 San Felipe Street Houston TX 77056	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
27	9314 8699 0430 0050 3019 22	MATADOR PRODUCTION COMPANY 5400 Lbj Freeway, Ste 1500 Dallas TX 75240	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
28	9314 8699 0430 0050 3019 39	MEWBOURNE OIL CO PO Box 5270 Hobbs NM 88241	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
29	9314 8699 0430 0050 3019 46	MEWBOURNE OIL COMPANY LLC PO Box 7698 Tyler TX 75701	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
30	9314 8699 0430 0050 3019 53	MRC PERMIAN COMPANY 5400 LBJ Freeway, Suite 1500 Dallas TX 75240	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice

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Firm Mailing Book ID: 150152

Line	Article Number	Name, Street & P.O. Address	Postage	Fee	R.R.Fee	Reference	Rest.Del.Fee Contents
31	9314 8699 0430 0050 3019 60	NEW MEXICO STATE LAND OFFICE P.O. Box 1148 Santa Fe NM 87504	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
32	9314 8699 0430 0050 3019 77	NGL WATER SOLUTIONS PERMIAN, LLC 1509 W Wall St., Ste. 306 Midland TX 79701	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
33	9314 8699 0430 0050 3019 84	OCCIDENTAL PERMIAN LP 5 E GREENWAY PLAZA #110 HOUSTON TX 77046	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
34	9314 8699 0430 0050 3019 91	Oil Conservation Division District II 811 S. First St. Artesia NM 88210	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
35	9314 8699 0430 0050 3020 04	Oil Conservation Division District IV 1220 South St. Francis Drive Santa Fe NM 87505	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
36	9314 8699 0430 0050 3020 11	OXY USA INC P.O. Box 4294 Houston TX 77210	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
37	9314 8699 0430 0050 3020 28	OXY USA WTP LIMITED PARTNERSHIP P.O. Box 4294 Houston TX 77210	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
38	9314 8699 0430 0050 3020 35	Peter R. Carter 9320 Stratford Way Dallas TX 75220	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
39	9314 8699 0430 0050 3020 42	POLK LAND & MINERALS LP C/O GLEN WEBB PC 3300 S. 14th, Suite 206 ABILENE TX 79605	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
40	9314 8699 0430 0050 3020 59	ROCKCLIFF OPERATING NEW MEXICO LLC 1301 McKinney Steet, Suite 1300 Houston TX 77010	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
41	9314 8699 0430 0050 3020 66	RUBICON OIL & GAS, LLC 508 W. Wall Street, Suite 500, Midland TX 79701	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
42	9314 8699 0430 0050 3020 73	Ruth Ann Polk Caudle 15250 Prestonwood Blvd., #441 Dallas TX 75248	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
43	9314 8699 0430 0050 3020 80	Sally Carter Ballard 3616 133rd Street Lubbock TX 79423	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
44	9314 8699 0430 0050 3020 97	Snow Oil & Gas 818 E Broadway St Andrews TX 79714	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
45	9314 8699 0430 0050 3021 03	SPINDLETOP OIL & GAS CO. P.O. Box 741988 Dallas TX 75374	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice

Zina Crum
Modrall Sperlberg
500 4th Street NW
Suite 1000
Albuquerque NM 87102

PS Form 3877

Type of Mailing: CERTIFIED
08/31/2018



Firm Mailing Book ID: 150152

Line	Article Number	Name, Street & P.O. Address	Postage	Fee	R.R.Fee	Reference	Rest.Del.Fee Contents
46	9314 8699 0430 0050 3021 10	The Earl B. Guitar and Margaret Ann Guitar Revocable Trust P.O. Box 748 Abilene TX 79604	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
47	9314 8699 0430 0050 3021 27	The Emilio R. Villa Revocable Trust 1206 Bryan Circle Carlsbad NM 88220	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
48	9314 8699 0430 0050 3021 34	The Mary Guitar Polk Estate Limited Partnership 15250 Prestonwood Blvd., #441 Dallas TX 75248	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
49	9314 8699 0430 0050 3021 41	Truchas Peaks, LLC 110 Louisiana, Suite 500 Midland TX 79701	\$1.21	\$3.45	\$1.50	87806-0003	\$0.00 Notice
Totals:			\$59.29	\$169.05	\$73.50		\$0.00
					Grand Total:		\$301.84

List Number of Pieces
Listed by Sender

Total Number of Pieces
Received at Post Office

Postmaster:

Name of receiving employee

Dated:

Transaction Report Details - CertifiedProm.net
Firm Mail Book ID= 150152
Generated: 10/3/2018 10:48:25 AM

Certified Mail Article Number	Date Created	Name 1	Name 2	Address	City	State	Zip	Certified Mailing Status	Service Options	Mail Delivery Date
9314869904300050302141	2018-08-31 12:25 PM	Truchas Peaks, LLC		110 Louisiana, Suite 500	Midland	TX	79701	Delivered	Return Receipt - Electronic	09-05-2018
9314869904300050302134	2018-08-31 12:25 PM	The Mary Guitars Polk Estate Limited Partnership		15250 Prestonwood Blvd., #441	Dallas	TX	75248	Undelivered	Return Receipt - Electronic	09-12-2018
9314869904300050302127	2018-08-31 12:25 PM	The Emilio R. Villa Revocable Trust	Guitar Revocable Trust	1206 Bryan Circle	Carlsbad	NM	88220	Delivered	Return Receipt - Electronic	09-05-2018
9314869904300050302110	2018-08-31 12:25 PM	The Earl B. Guitars and Margaret Ann		P.O. Box 748	Abilene	TX	79604	Delivered	Return Receipt - Electronic	09-05-2018
9314869904300050302103	2018-08-31 12:25 PM	SPINDLETOP OIL & GAS CO.		P.O. Box 741988	Dallas	TX	75374	Undelivered	Return Receipt - Electronic	09-06-2018
9314869904300050302097	2018-08-31 12:25 PM	Snow Oil & Gas		818 E Broadway St	Andrews	TX	79714	Delivered	Return Receipt - Electronic	09-04-2018
9314869904300050302080	2018-08-31 12:25 PM	Sally Carter Ballard		3616 133rd Street	Lubbock	TX	79423	Undelivered	Return Receipt - Electronic	09-04-2018
9314869904300050302073	2018-08-31 12:25 PM	Ruth Ann Polk Caudle		15250 Prestonwood Blvd., #441	Dallas	TX	75248	Delivered	Return Receipt - Electronic	09-04-2018
9314869904300050302066	2018-08-31 12:25 PM	RUBICON OIL & GAS, LLC		508 W. Wall Street, Suite 500,	Midland	TX	79701	Delivered	Return Receipt - Electronic	09-04-2018
9314869904300050302059	2018-08-31 12:25 PM	ROCKCLIFF OPERATING NEW MEXICO LLC		1301 McKinney Street, Suite 1300	Houston	TX	77010	Delivered	Return Receipt - Electronic	09-04-2018
9314869904300050302042	2018-08-31 12:25 PM	POLK LAND & MINERALS LP	C/O GLEN WEBB PC	3300 S. 14th, Suite 206	ABILENE	TX	79605	To be Returned	Return Receipt - Electronic	09-04-2018
9314869904300050302035	2018-08-31 12:25 PM	Peter R. Carter		9320 Stratford Way	Dallas	TX	75220	Delivered	Return Receipt - Electronic	09-04-2018
9314869904300050302028	2018-08-31 12:25 PM	OXY USA WTP LIMITED PARTNERSHIP		P.O. Box 4294	Houston	TX	77210	Delivered	Return Receipt - Electronic	09-04-2018
9314869904300050302011	2018-08-31 12:25 PM	OXY USA INC		P.O. Box 4294	Houston	TX	77210	Delivered	Return Receipt - Electronic	09-04-2018
9314869904300050302012	2018-08-31 12:25 PM	Oil Conservation Division District IV		1220 South St. Francis Drive	Santa Fe	NM	87505	Delivered	Return Receipt - Electronic	09-07-2018
9314869904300050301991	2018-08-31 12:25 PM	Oil Conservation Division District II		811 S. First St.	Artesia	NM	88210	Delivered	Return Receipt - Electronic	09-04-2018
9314869904300050301984	2018-08-31 12:25 PM	OCCIDENTAL PERMIAN LP		5 E GREENWAY PLAZA #110	HOUSTON	TX	77046	Delivered	Return Receipt - Electronic	09-04-2018
9314869904300050301977	2018-08-31 12:25 PM	NGL WATER SOLUTIONS PERMIAN, LLC		1509 W Wall St., Ste. 306	Midland	TX	79701	Delivered	Return Receipt - Electronic	09-05-2018
9314869904300050301960	2018-08-31 12:25 PM	NEW MEXICO STATE LAND OFFICE		P.O. Box 1148	Santa Fe	NM	87504	Delivered	Return Receipt - Electronic	09-04-2018
9314869904300050301953	2018-08-31 12:25 PM	MRC PERMIAN COMPANY		5400 LB Freeway, Suite 1500	Dallas	TX	75240	Lost	Return Receipt - Electronic	09-04-2018
9314869904300050301946	2018-08-31 12:25 PM	MEWBOURNE OIL COMPANY LLC		PO Box 7698	Tyler	TX	75701	Delivered	Return Receipt - Electronic	09-21-2018
9314869904300050301939	2018-08-31 12:25 PM	MEWBOURNE OIL CO		PO Box 5270	Hobbs	NM	88241	Delivered	Return Receipt - Electronic	09-04-2018
9314869904300050301922	2018-08-31 12:25 PM	MATADOR PRODUCTION COMPANY		5400 Lb Freeway, Ste 1500	Dallas	TX	75240	Delivered	Return Receipt - Electronic	09-04-2018
9314869904300050301915	2018-08-31 12:25 PM	MARATHON OIL PERMIAN LLC		5555 San Felipe Street	Houston	TX	77056	Lost	Return Receipt - Electronic	09-04-2018
9314869904300050301908	2018-08-31 12:25 PM	LLANO NATURAL RESOURCES, LLC		4920 S. Loop 289, Suite 206	Lubbock	TX	79414	Delivered	Return Receipt - Electronic	09-04-2018
9314869904300050301892	2018-08-31 12:25 PM	LEGACY RESERVES OPERATING, LP		303 W Wall Suite 1600	Midland	TX	79701	Delivered	Return Receipt - Electronic	09-11-2018
9314869904300050301885	2018-08-31 12:25 PM	KEY ENERGY SERVICES, LLC		P.O. Box 99 2105 Avenue O	Eunice	NM	88231	Delivered	Return Receipt - Electronic	09-05-2018
9314869904300050301878	2018-08-31 12:25 PM	JPH Holdings, LP		4400 Arcady	Dallas	TX	75205	Delivered	Return Receipt - Electronic	09-05-2018
9314869904300050301861	2018-08-31 12:25 PM	JMA Oil Properties, Ltd, Whose General Partner is JMA Management, LLC		P.O. Box 58	Abilene	TX	79604	Delivered	Return Receipt - Electronic	09-05-2018
9314869904300050301854	2018-08-31 12:25 PM	Jeri A. Mangum, First Financial as Trustees of the	Carol Gibson Trust and Cynthia Rhodes Trust	P.O. Box 701	Abilene	TX	79604	Delivered	Return Receipt - Electronic	09-05-2018
9314869904300050301847	2018-08-31 12:25 PM	Honey's Heritage LP		P.O. Box 833206	Richardson	TX	75083	Delivered	Return Receipt - Electronic	09-04-2018
9314869904300050301830	2018-08-31 12:25 PM	Guitar Land & Cattle, LP		P.O. Box 2213	Abilene	TX	79604	Delivered	Return Receipt - Electronic	09-05-2018
9314869904300050301823	2018-08-31 12:25 PM	Guitar Holding Company, L.P.		P.O. Box 58	Abilene	TX	79604	Delivered	Return Receipt - Electronic	09-05-2018
9314869904300050301816	2018-08-31 12:25 PM	EGG Y RESOURCES		104 S 4th Street	Artesia	NM	88210	Delivered	Return Receipt - Electronic	09-05-2018
9314869904300050301809	2018-08-31 12:25 PM	Emma U. Carrasco		P.O. Box 26	Loving	NM	88256	Delivered	Return Receipt - Electronic	09-04-2018
9314869904300050301793	2018-08-31 12:25 PM	Edmund T. Anderson, IV, Trustee for the		2521 Humble	Midland	TX	79705	Delivered	Return Receipt - Electronic	09-04-2018
9314869904300050301786	2018-08-31 12:25 PM	Edmund T. Anderson, IV		2521 Humble	Midland	TX	79705	Delivered	Return Receipt - Electronic	09-04-2018
9314869904300050301779	2018-08-31 12:25 PM	CrownRock Minerals, L.P.	Mary Anderson Boll Family Trust	P.O. Box 51933	Midland	TX	79701	Delivered	Return Receipt - Electronic	09-04-2018
9314869904300050301762	2018-08-31 12:25 PM	COG OPERATING LLC		550 W Texas	Midland	TX	79706	Delivered	Return Receipt - Electronic	09-05-2018
9314869904300050301755	2018-08-31 12:25 PM	CHEVRON U S A INC		6301 DEAUVILLE BLVD	MIDLAND	TX	79706	Delivered	Return Receipt - Electronic	09-05-2018
9314869904300050301748	2018-08-31 12:25 PM	CHEVRON U S A INC		P.O. Box 2100	Houston	TX	77252	Delivered	Return Receipt - Electronic	09-07-2018
9314869904300050301731	2018-08-31 12:25 PM	CHEVRON MIDCONTINENT, L.P.		6301 Deauville Blvd	Midland	TX	79706	Delivered	Return Receipt - Electronic	09-05-2018
9314869904300050301724	2018-08-31 12:25 PM	Catherine Gail Parker and	Craig Parker Exempt Trust	3721 Pallos Verdas	Dallas	TX	75229	To be Returned	Return Receipt - Electronic	09-06-2018
9314869904300050301717	2018-08-31 12:25 PM	Caren Gail Lucas Exempt Trust		P.O. Box 90621	Austin	TX	78709	Delivered	Return Receipt - Electronic	09-06-2018
9314869904300050301700	2018-08-31 12:25 PM	Caki Family Limited Partnership		3721 Pallos Verdas	Dallas	TX	75229	To be Returned	Return Receipt - Electronic	09-06-2018
9314869904300050301694	2018-08-31 12:25 PM	BUREAU OF LAND MGMT		301 Dinosaur Trail	Santa Fe	NM	87508	To be Mailed	Return Receipt - Electronic	

9314869904300050301687 2018-08-31 12:25 PM BTA OIL PRODUCERS, LLC
9314869904300050301670 2018-08-31 12:25 PM BK EXPLORATION CORP
9314869904300050301663 2018-08-31 12:25 PM Barbara Carter

104 S Pecos
10159 E 11th Suite 401
24 Condesa Road

Midland
Tulsa
Santa Fe

TX
OK
NM

79701
74128
87508

Delivered
Delivered
Delivered

Return Receipt - Electronic 09-13-2018
Return Receipt - Electronic 09-04-2018
Return Receipt - Electronic 09-06-2018

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[FAQs > \(https://www.usps.com/faqs/uspstracking-faqs.htm\)](https://www.usps.com/faqs/uspstracking-faqs.htm)

Track Another Package +

Tracking Number: 9314869904300050302134

Remove X

The delivery status of your item has not been updated as of September 4, 2018, 9:11 pm. We apologize that it may arrive later than expected.

Alert

September 4, 2018 at 9:11 pm
Awaiting Delivery Scan

[Get Updates](#) ✓

Feedback

[Text & Email Updates](#)[Return Receipt Electronic](#)[Tracking History](#)[Product Information](#)[See Less](#) ^

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Track Another Package +

Tracking Number: 9314869904300050302042

Remove X

Your package is moving within the USPS network and is on track to be delivered to its final destination. It is currently in transit to the next facility.

In-Transit

October 3, 2018

In Transit to Next Facility

Get Updates ▼

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Tracking History ▼

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Track Another Package +

Tracking Number: 9314869904300050302103

Remove X

Your package is moving within the USPS network and is on track to be delivered to its final destination. It is currently in transit to the next facility.

In-Transit

September 10, 2018

In Transit to Next Facility

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Feedback

Text & Email Updates ▼

Return Receipt Electronic ▼

Tracking History ▼

Product Information ▼

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Go to our FAQs section to find answers to your tracking questions.

USPS Tracking®FAQs > (<https://www.usps.com/faqs/uspstracking-faqs.htm>)**Track Another Package +****Tracking Number:** 9314869904300050302042

Remove X

Your package is moving within the USPS network and is on track to be delivered to its final destination. It is currently in transit to the next facility.

In-Transit

October 3, 2018

In Transit to Next Facility

Get Updates ▼

Feedback

Text & Email Updates**Return Receipt Electronic****Tracking History****Product Information****See Less** ^**Can't find what you're looking for?**

Go to our FAQs section to find answers to your tracking questions.

USPS Tracking®FAQs > (<https://www.usps.com/faqs/uspstracking-faqs.htm>)**Track Another Package +****Tracking Number:** 9314869904300050301953

Remove X

Your package is moving within the USPS network and is on track to be delivered to its final destination. It is currently in transit to the next facility.

In-Transit

September 6, 2018

In Transit to Next Facility

Get Updates ▼

Feedback

Text & Email Updates ▼

Return Receipt Electronic ▼

Tracking History ▼

Product Information ▼

See Less ^

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Track Another Package +

Tracking Number: 9314869904300050301915

Remove X

Your package is moving within the USPS network and is on track to be delivered to its final destination. It is currently in transit to the next facility.

In-Transit

September 6, 2018

In Transit to Next Facility

Get Updates ✓

Feedback

Text & Email Updates



Return Receipt Electronic



Tracking History



Product Information



See Less ^

Can't find what you're looking for?

Go to our FAQs section to find answers to your tracking questions.

Track Another Package +

Tracking Number: 9314869904300050301724

Remove X

This is a reminder to arrange for redelivery of your item or your item will be returned to sender.

Delivery Attempt

Reminder to Schedule Redelivery of your item

Get Updates ∨

Text & Email Updates



Feedback

Return Receipt Electronic



Tracking History



Product Information



See Less ^

Can't find what you're looking for?

Go to our FAQs section to find answers to your tracking questions.

FAQs (<https://www.usps.com/faqs/uspstracking-faqs.htm>)

USPS Tracking®**FAQs** > (<https://www.usps.com/faqs/uspstracking-faqs.htm>)**Track Another Package** +**Tracking Number:** 9314869904300050301700

Remove X

This is a reminder to arrange for redelivery of your item or your item will be returned to sender.

Delivery Attempt

Reminder to Schedule Redelivery of your item

Get Updates ✓**Text & Email Updates**

Feedback

Return Receipt Electronic**Tracking History****Product Information****See Less** ^

Can't find what you're looking for?

Go to our FAQs section to find answers to your tracking questions.

FAQs (<https://www.usps.com/faqs/uspstracking-faqs.htm>)

Track Another Package +

Tracking Number: 9314869904300050301694

Remove X

Your package is on its way to a USPS facility. Sign up to **get updates**, and we'll send you a delivery date and time when available.

Pre-Shipment

August 31, 2018

Pre-Shipment Info Sent to USPS, USPS Awaiting Item

Get Updates ✓

Feedback

Text & Email Updates



Return Receipt Electronic



Tracking History



Product Information



See Less ^

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Go to our FAQs section to find answers to your tracking questions.

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32853093

AFFIDAVIT OF PUBLICATION

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MODRALL SPERLING
PO BOX 2168

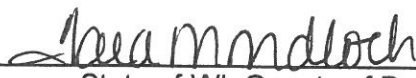
ALBUQUERQUE NM 87103

I, a legal clerk of the **Carlsbad Current-Argus**, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

09/06/18


Legal Clerk

Subscribed and sworn before me this
6th of September 2018.


State of WI, County of Brown
NOTARY PUBLIC


My Commission Expires

CASE No. 16426: Notice to all affected parties, as devisees of Barbara Carter; BK EXPLORATION CERS, LLC; BUREAU OF LAND MGMT; Caki Family Caren Gall Lucas Exempt Trust Catherine Gall Pa Exempt Trust; CHEVRON MIDCONTINENT, L.P.; COG OPERATING LLC; CrownRock Minerals, L.P. IV; Edmund T. Anderson, IV, Trustee for Mary Ann Trust; Emma U. Carrasco; EOG Y RESOURCES; C L.P.; Guitar Land & Cattle, LP; Honey's Heritage L First Financial as Trustees of the Carol Gibson Tr des Trust; JMA Oil Properties, Ltd, Whose Genera agement, LLC; JPH Holdings, LP; KEY ENERGY S RESERVES OPERATING, LP; LLANO NATURAL R THON OIL PERMIAN LLC; MATADOR PRODUCTIC MEWBOURNE OIL CO; MEWBOURNE OIL COMPA MIAN COMPANY; NEW MEXICO STATE LAND OFI PERMIAN LP; OXY USA INC; OXY USA WTP LIMIT ter R. Carter; POLK LAND & MINERALS LP; ROCK NEW MEXICO LLC; RUBICON OIL & GAS, LLC; Ru Sally Carter Ballard; Snow Oil & Gas; SPINDLETO Earl B. Guitar and Margaret Ann; The Emilio R. Vil The Mary Guitar Polk Estate Limited Partnership; LLC of NGL Water Solutions Permian, LLC's appli ministrative Orders SWD-1724 and SWD 1711 for s Wells in Eddy County, New Mexico. The State of Nev its Oil Conservation Division, hereby gives notice that conduct a public hearing at 8:15 a.m. on September 20 er this application. Applicant seeks an order from the the size of tubing approved by the Division in adminis SWD-1724 and SWD-1711 for its Striker 1 SWD No. 1 ar No. 2 salt water disposal wells. Applicant further seek maximum injection rate of 50,000 bbls per day, and t maximum surface pressure of 2,750 psi for the Strike and 2,655 psi for the Alpha SWD Well No. 2 well. The located in Sections 15 and 18, Township 23 South, Rar NMPM, Eddy County, New Mexico. Said area is locate miles north of Loving, New Mexico.
Pub: Sept. 6, 2018 Legal #1260733

TARA MONDLOCH
Notary Public
State of Wisconsin