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

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

CASE NO. 20236 (THUNDERBOLT)

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

AMENDED APPLICATION OF NGL WATER SOLUTIONS PERMIAN, LLC TO APPROVE SALT WATER DISPOSAL WELL IN LEA COUNTY, NEW MEXICO.

CASE NO. 20236
(THUNDERBOLT)

AMENDED APPLICATION

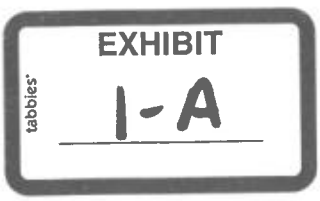
NGL Water Solutions Permian, LLC ("NGL"), OGRID No. 372338, through its undersigned attorneys, hereby submits this amended application to the Oil Conservation Division pursuant to the provisions of N.M. Stat. Ann. § 70-2-12, for an order approving drilling of a salt water disposal well in Lea County, New Mexico. In support of this application, NGL states as follows:

(1) NGL submitted an application to drill the Thunderbolt SWD #1 in December 2018. NGL is filing this amended application to update the proposed location for drilling the well.

(2) NGL proposes to drill the Thunderbolt SWD #1 well at a surface location 910 feet from the North line and 250 feet from the East line of Section 19, Township 26 South, Range 35 East, NMPM, Lea County, New Mexico for the purpose of operating a salt water disposal well.

(3) NGL further seeks approval of the use of 7 inch tubing inside the surface and intermediate casings and 5 ½ inch tubing inside the liner and requests that the Division approve a maximum daily injection rate for the well of 50,000 bbls per day.

(4) Apart from the change in location, NGL makes no further changes to the application NGL previously filed with the Division in December 2018.



(5) A revised plat, revised maps of the area of review, and a revised lists of wells and operators within the one-mile area of review are attached hereto in Attachment A.

WHEREFORE, NGL requests that this amended application be set for hearing before an Examiner of the Oil Conservation Division on September 5, 2019; and that after notice and hearing, the Division enter its order approving this application.

Respectfully submitted,

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

By: Deana M Bennett

Deana Bennett
Post Office Box 2168
500 Fourth Street NW, Suite 1000
Albuquerque, New Mexico 87103-2168
Telephone: 505.848.1800
Attorneys for Applicant

CASE NO. 20236: Application of NGL Water Solutions Permian, LLC for approval of salt water disposal well in Lea County, New Mexico. Applicant seeks an order approving disposal into the Silurian-Devonian formation through the Thunderbolt SWD #1 well at a surface location 910 feet from the North line and 250 feet from the East line of Section 19, Township 26 South, Range 35 East, NMPM, Lea County, New Mexico for the purpose of operating a salt water disposal well. NGL seeks authority to inject salt water into the Silurian-Devonian formation at a depth of 18,966' to 20,722'. NGL further seeks approval of the use of 7 inch tubing inside the surface and intermediate casings and 5 ½ inch tubing inside the liner and requests that the Division approve a maximum daily injection rate for the well of 50,000 bbls per day. Said location is approximately 11.6 miles southwest of Bennett, NM.

Case 20236

District I
1625 N French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax (575) 393-0720
District II
811 S First St., Artesia, NM 88210
Phone (575) 748-1283 Fax (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone (505) 334-6178 Fax (505) 334-6170
District IV
1220 S St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3460 Fax (505) 476-3462

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

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

☑ AMENDED REPORT
Moved Location

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
	97869	SWD; Devonian-Silurian

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

[7] OGRID No.	[8] Operator Name	[9] Elevation
372338	NGL WATER SOLUTIONS PERMIAN, LLC	3180.00'±

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	19	26 S	35 E	N/A	910'	NORTH	250'	EAST	LEA

[11] Bottom Hole Location If Different From Surface

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

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

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

[16]

SECTION 19

910'
250'

PROPOSED
THUNDERBOLT SWD 1

NMSP-E (NAD27)
N: 377,140.97'
E: 789,754.24'

NMSP-E (NAD83)
N: 377,198.20'
E: 830,942.39'
Lat: N32°02'00.78"
Long: W103°23'55.56"

[17] OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature 3/20/2019 Date

John Moltz
Printed Name

john.moltz@lonquist.com
E-mail Address

[18] SURVEYOR CERTIFICATION

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

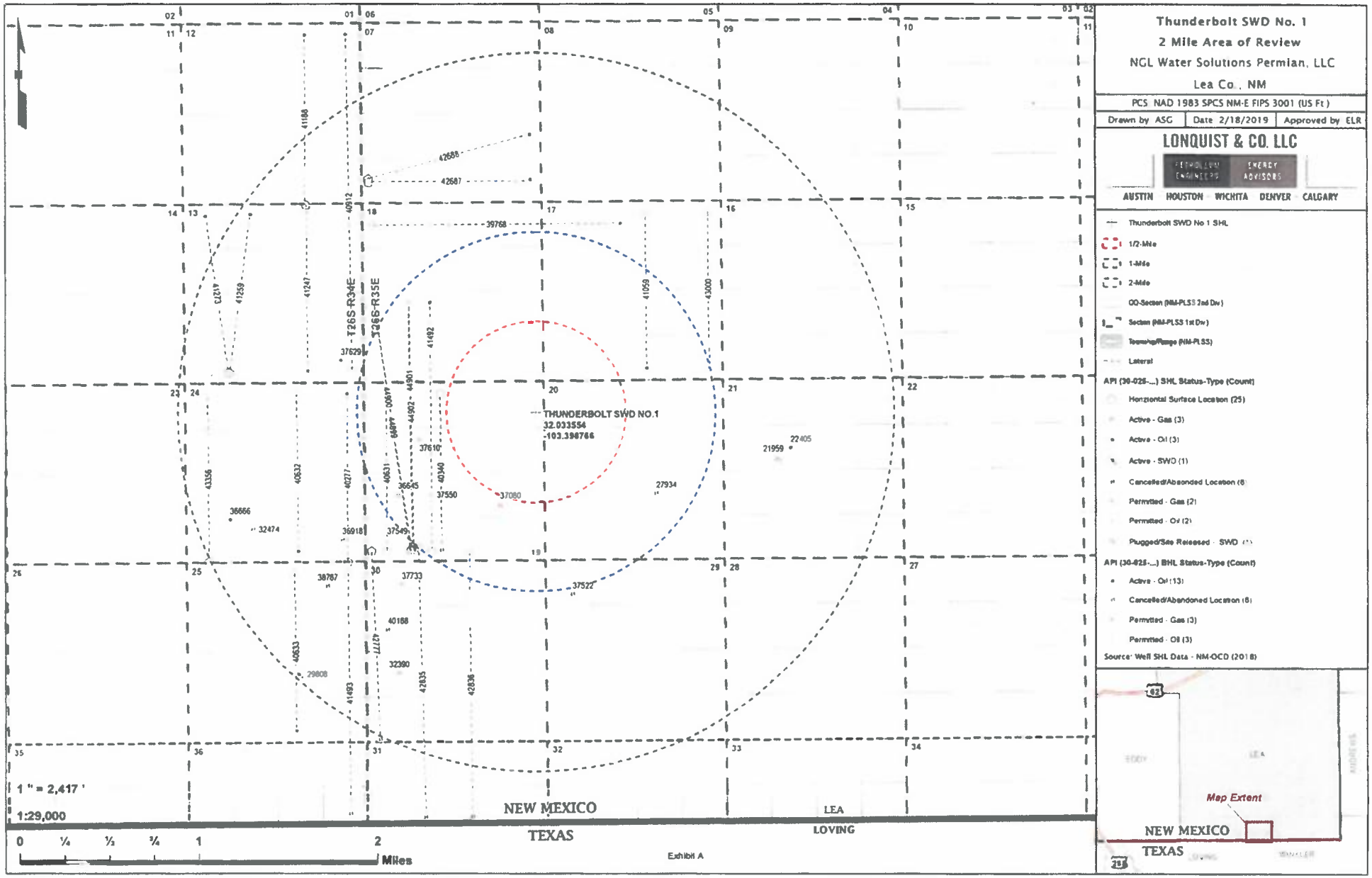
02/07/19
Date of Survey

Signature and Seal of Professional Surveyor

Billy W. Barr Jr. NEW MEXICO 25114 PROFESSIONAL SURVEYOR

25114 Billy W. Barr Jr.
Certificate Number

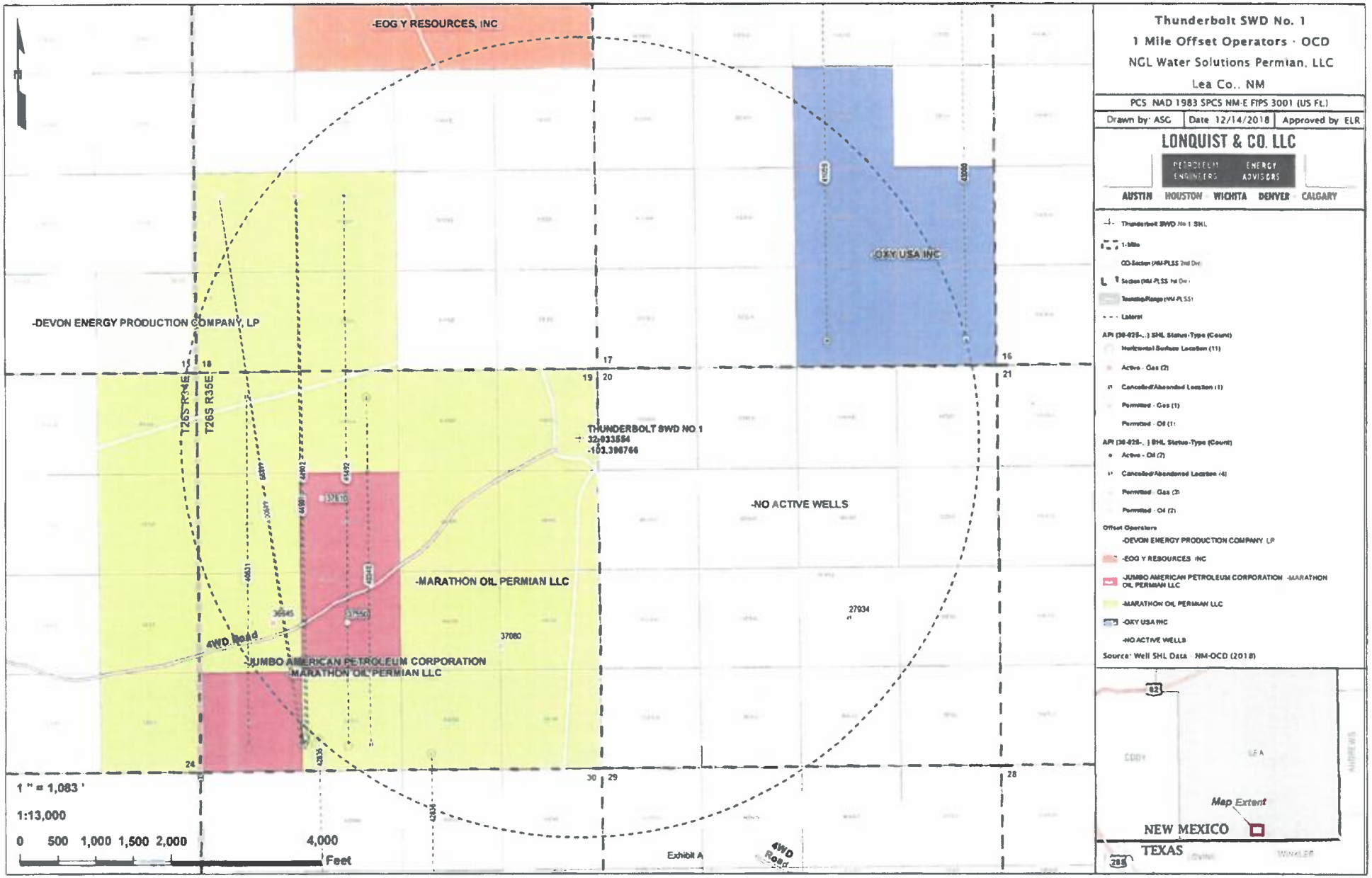
Exhibit A

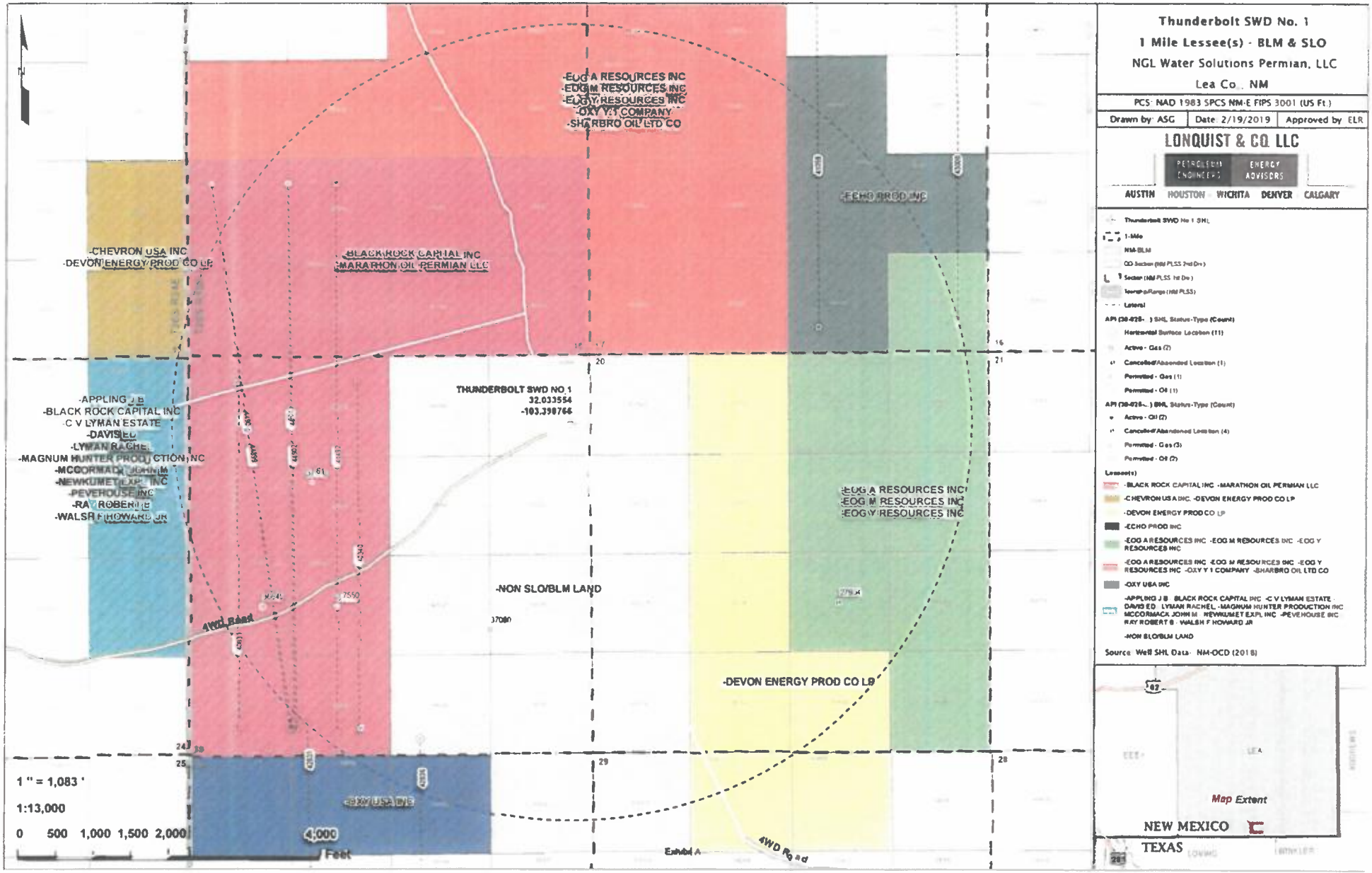

Thunderbolt SWD No. 1
2 Mile Area of Review
NGL Water Solutions Permian, LLC
Lea Co., NM
PCS: NAD 1983 SPCS NM-E FIPS 3001 (US Ft)
Drawn by: ASG
Date: 2/18/2019
Approved by: ELR
LONQUIST & CO. LLC
AUSTIN HOUSTON WICHITA DENVER CALGARY
Thunderbolt SWD No 1 SHL
1/2-Mile
1-Mile
2-Mile
Horizontal Surface Location (25)
Active - Gas (3)
Active - Oil (3)
Active - SWD (1)
Permitted - Gas (2)
Permitted - Oil (2)
Active - Oil (13)
Permitted - Gas (3)
Permitted - Oil (3)
Source: Well SHL Data - NM-OCD (2018)
THUNDERBOLT SWD NO.1
32.033554
-103.398766
T26S-R34E
T26S-R35E
1 " = 2,417 '
1:29,000
0 ¼ ½ ¾ 1 2 Miles
NEW MEXICO
TEXAS
LEA
LOVING
Map Extent
Exhibit A

Thunderbolt SWD No. 1

1 Mile Area of Review List

API (30-025-...)	WELL NAME	WELL TYPE	STATUS	OPERATOR	TVD (FT.)	LATITUDE (NAD83 DD)	LONGITUDE (NAD83 DD)	DATE DRILLED
27934	PRE-ONGARD WELL #001	O	C	PRE-ONGARD WELL OPERATOR	0	32.0269502482	-103.387363047	12/31/9999
36645	MADERA 19 FEDERAL #001	G	A	MARATHON OIL PERMIAN LLC	15456	32.0269737000	-103.411941500	5/28/2004
37080	BECKHAM 19 #001	G	A	MARATHON OIL PERMIAN LLC	15823	32.0260544000	-103.402221700	4/12/2005
37550	MADERA 19 FEDERAL #003	O	N	JUMBO AMERICAN PETROLEUM CORPORATION	0	32.0269699000	-103.408775300	12/31/9999
37610	MADERA 19 FEDERAL #004	G	N	JUMBO AMERICAN PETROLEUM CORPORATION	0	32.0315056000	-103.409835800	12/31/9999
40340	MADERA 19 FEDERAL #003C	O	C	RMR OPERATING, LLC	0	32.0351334000	-103.407859800	12/31/9999
40631	MADERA 19 FEDERAL #002C	O	C	RMR OPERATING, LLC	0	32.0224380000	-103.413047800	12/31/9999
41059	MADERA 17 FEDERAL #001H	O	A	OXY USA INC	9264	32.0496407000	-103.388176000	4/10/2013
41492	MADERA 19 FEDERAL COM #004H	O	A	MARATHON OIL PERMIAN LLC	9046	32.0224342000	-103.408783000	11/29/2013
42835	MADERA 30 FEDERAL #002C	O	C	OXY USA INC	0	32.0227172000	-103.410053900	12/31/9999
42836	MADERA 30 FEDERAL #003C	O	C	OXY USA INC	0	32.0221583600	-103.405233900	12/31/9999
43000	MADERA 17 FEDERAL COM #002H	O	N	OXY USA INC	0	32.0496444800	-103.382234100	12/31/9999
44899	MADERA 19 FEDERAL 26 35 19 TB #001H	O	N	MARATHON OIL PERMIAN LLC	0	32.0225297800	-103.410704080	12/31/9999
44900	MADERA 19 FEDERAL 26 35 19 WA #002H	G	N	MARATHON OIL PERMIAN LLC	0	32.0225304900	-103.410800860	12/31/9999
44901	MADERA 19 FEDERAL 26 35 19 WB #005H	G	N	MARATHON OIL PERMIAN LLC	0	32.0228290800	-103.410607290	12/31/9999
44902	MADERAL 19 FEDERAL 26 35 19 WXY #006H	G	N	MARATHON OIL PERMIAN LLC	0	32.0225284000	-103.410510510	12/31/9999


-EOG Y RESOURCES, INC
-DEVON ENERGY PRODUCTION COMPANY, LP
-OXY USA INC
T26S R34E
T26S R35E
THUNDERBOLT SWD NO 1
32.033584
-103.396766
-NO ACTIVE WELLS
-MARATHON OIL PERMIAN LLC
4WD Road
-JUMBO AMERICAN PETROLEUM CORPORATION
-MARATHON OIL PERMIAN LLC
1 " = 1,083 '
1:13,000
0 500 1,000 1,500 2,000 4,000
Feet
Exhibit A
Thunderbolt SWD No. 1
1 Mile Offset Operators - OCD
NGL Water Solutions Permian, LLC
Lea Co., NM
PCS: NAD 1983 SPCS NM-E FIPS 3001 (US FT.)
Drawn by: ASG
Date: 12/14/2018
Approved by: ELR
LONQUIST & CO. LLC
PETROLEUM ENGINEERS
ENERGY ADVISORS
AUSTIN HOUSTON WICHITA DENVER CALGARY
Thunderbolt SWD No 1 SHL
1-Mile
Horizontal Surface Location (11)
Active - Gas (2)
Permitted - Gas (1)
Permitted - Oil (1)
Active - Oil (2)
Permitted - Gas (3)
Permitted - Oil (2)
Offset Operators
-DEVON ENERGY PRODUCTION COMPANY, LP
-EOG Y RESOURCES, INC
-JUMBO AMERICAN PETROLEUM CORPORATION -MARATHON OIL PERMIAN LLC
-MARATHON OIL PERMIAN LLC
-OXY USA INC
-NO ACTIVE WELLS
Source: Well SHL Data - NM-OCD (2018)
Map Extent
NEW MEXICO
TEXAS


Thunderbolt SWD No. 1
1 Mile Lessee(s) - BLM & SLO
NGL Water Solutions Permian, LLC
Lea Co., NM
PCS: NAD 1983 SPCS NM-E FIPS 3001 (US Ft.)
Drawn by: ASG
Date: 2/19/2019
Approved by: ELR
LONQUIST & CO. LLC
PETROLEUM ENGINEERS
ENERGY ADVISORS
AUSTIN HOUSTON WICHITA DENVER CALGARY
-EOG A RESOURCES INC
-EOG M RESOURCES INC
-EOG Y RESOURCES INC
-OXY Y 1 COMPANY
-SHARBRO OIL LTD CO
-ECHO PROD INC
-CHEVRON USA INC
-DEVON ENERGY PROD CO LP
-BLACK ROCK CAPITAL INC
-MARATHON OIL PERMIAN LLC
THUNDERBOLT SWD NO 1
32.033554
-103.398766
-APPLING J B
-BLACK ROCK CAPITAL INC
-C V LYMAN ESTATE
-DAVIS ED
-LYMAN RACHEL
-MAGNUM HUNTER PRODUCTION INC
-MCCORMACK JOHN M
-NEWKUMET EXPL INC
-PEVEHOUSE INC
-RAY ROBERT B
-WALSH F HOWARD JR
-NON SLO/BLM LAND
-OXY USA INC
4WD Road
Exhibit A
1 " = 1,083 '
1:13,000
0 500 1,000 1,500 2,000
4,000
Feet
Source: Well SHL Data: NM-OCD (2018)
Map Extent
NEW MEXICO
TEXAS

XII. Affirmative Statement of Examination of Geologic and Engineering Data

Based on the available engineering and geologic data we find no evidence of open faults or any other hydrologic connection between the disposal zone (in the revised location of the proposed **Thunderbolt SWD #1**) and any underground sources of drinking water.

NAME: John C. Webb

TITLE: Sr. Geologist

SIGNATURE: John C Webb

DATE: 8/30/2019

EXHIBIT
1-B
tabbies

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

APPLICATION OF NGL WATER SOLUTIONS PERMIAN, LLC TO APPROVE SALT WATER DISPOSAL WELL IN LEA COUNTY, NEW MEXICO.

CASE NO. _____

APPLICATION

NGL Water Solutions Permian, LLC ("NGL"), OGRID No. 372338, through its undersigned attorneys, hereby makes this application to the Oil Conservation Division pursuant to the provisions of N.M. Stat. Ann. § 70-2-12, for an order approving drilling of a salt water disposal well in Lea County, New Mexico. In support of this application, NGL states as follows:

(1) NGL proposes to drill the Thunderbolt SWD #1 well at a surface location 1,152 feet from the North line and 1,436 feet from the East line of Section 19, Township 26 South, Range 35 East, NMPM, Lea County, New Mexico for the purpose of operating a salt water disposal well.

(2) NGL seeks authority to inject salt water into the Silurian-Devonian formation at a depth of 18,966' to 20,722'.

(3) NGL further seeks approval of the use of 7 inch tubing inside the surface and intermediate casings and 5 ½ inch tubing inside the liner and requests that the Division approve a maximum daily injection rate for the well of 50,000 bbls per day.

(4) NGL anticipates using an average pressure of 2,844 psi for this well, and it requests that a maximum pressure of 3,793 psi be approved for the well.

(5) A proposed C-108 for the subject well is attached hereto in Attachment A.

EXHIBIT
tabbies
1-C

(6) The granting of this application will avoid the drilling of unnecessary wells, will prevent waste, and will protect correlative rights.

WHEREFORE, NGL requests that this application be set for hearing before an Examiner of the Oil Conservation Division on January 24, 2018; and that after notice and hearing, the Division enter its order approving this application.

Respectfully submitted,

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

By: _____

Jennifer Bradfute
Deana Bennett
Post Office Box 2168
Bank of America Centre
500 Fourth Street NW, Suite 1000
Albuquerque, New Mexico 87103-2168
Telephone: 505.848.1800
Attorneys for Applicant

CASE NO. ____: Application of NGL Water Solutions Permian, LLC for approval of salt water disposal well in Lea County, New Mexico. Applicant seeks an order approving disposal into the Silurian-Devonian formation through the Thunderbolt SWD #1 well at a surface location 1,152 feet from the North line and 1,436 feet from the East line of Section 19, Township 26 South, Range 35 East, NMPM, Lea County, New Mexico for the purpose of operating a salt water disposal well. NGL seeks authority to inject salt water into the Silurian-Devonian formation at a depth of 18,966' to 20,722'. NGL further seeks approval of the use of 7 inch tubing inside the surface and intermediate casings and 5 ½ inch tubing inside the liner and requests that the Division approve a maximum daily injection rate for the well of 50,000 bbls per day. Said location is 11.6 miles southwest of Bennett, NM.

Revised March 23, 2017

RECEIVED:	REVIEWER:	TYPE:	APP NO:

ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

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

ADMINISTRATIVE APPLICATION CHECKLIST

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

Applicant: NGL WATER SOLUTIONS PERMIAN LLC **OGRID Number:** 372338
Well Name: THUNDERBOLT SWD #1 **API:** TBD
Pool: SWD; SILURIAN-DEVONIAN **Pool Code:** 96101

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

1) **TYPE OF APPLICATION:** Check those which apply for [A]
A. Location – Spacing Unit – Simultaneous Dedication
☐ NSL ☐ NSP (PROJECT AREA) ☐ NSP (PRORATION UNIT) ☐ SD

B. Check one only for [I] or [II]
[I] Commingling – Storage – Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM
[II] Injection – Disposal – Pressure Increase – Enhanced Oil Recovery
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

FOR OCD ONLY
☐ Notice Complete
☐ Application Content Complete

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

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

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

CHRIS WEYAND
Print or Type Name

Signature

12/04/2018
Date

512-600-1764
Phone Number

CHRIS@LONQUIST.COM
e-mail Address

EXHIBIT A

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance ___X___ Disposal _____ Storage
Application qualifies for administrative approval? ___X___ Yes _____ No

II. OPERATOR: NGL WATER SOLUTIONS PERMIAN, LLC

ADDRESS: 1509 W WALL ST // STE 306 // MIDLAND, TX 79701

CONTACT PARTY: SARAH JORDAN PHONE: (432) 685-0005 x1989

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? _____ Yes ___X___ No
If yes, give the Division order number authorizing the project: _____

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).

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

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: Christopher B. Wevand TITLE: Consulting Engineer

SIGNATURE: DATE: 12/13/2018

E-MAIL ADDRESS: chris@lonquist.com

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: _____

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

Side 2

III. WELL DATA

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

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

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

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

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

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

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

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

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

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

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

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

XIV. PROOF OF NOTICE

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

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

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

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

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

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

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

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

Side 1

INJECTION WELL DATA SHEET

OPERATOR: NGL WATER SOLUTIONS PERMIAN, LLC

WELL NAME & NUMBER: THUNDERBOLT SWD #1

WELL LOCATION:	1,152' FNL & 1,436' FEL	B	19	26S	35E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 24.000" Casing Size: 20.000"

Cemented with: 1,490 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: Circulation

1st Intermediate Casing

Hole Size: 17.500" Casing Size: 13.375"

Cemented with: 2,973 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: Circulation

2nd Intermediate Casing

Hole Size: 12.250" Casing Size: 9.625"

Cemented with: 3,719 sx. *or* _____ ft³

Top of Cement: Surface Method Determined: Circulation

Production Liner

Hole Size: 8.500"

Casing Size: 7.625"

Cemented with: 546 sx.

or _____ ft^3

Top of Cement: 12,150'

Method Determined: Calculation

Total Depth: 20,722'

Injection Interval

18,966' feet to 20,722' feet

(Open Hole)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 7", 26 lb/ft, P-110, TCPC from 0'- 12,050' and 5.500", 17 lb/ft, P-110 TCPC from 12,050' – 18,906'
Lining Material: Duoline

Type of Packer: 7-5/8" x 5-1/2" TCPC Permanent Packer with High Temp Elastomer and Full Inconel 925 trim

Packer Setting Depth: 18,906'

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

Additional Data

1. Is this a new well drilled for injection? ___X___ Yes _____ No

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

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

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

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

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:
   Delaware: 5,333'
   Bone Spring: 9,299'
   Wolfcamp: 12,511'
   Penn: 13,606'
   Strawn: 14,481'
   Atoka: 14,999'

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

Form C-101
Revised July 18, 2013

☐ AMENDED REPORT

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

1. Operator Name and Address	2. OGRID Number
NGL WATER SOLUTIONS PERMIAN, LLC 1509 W WALL ST, STE 306 MIDLAND, TX 79701	372338
	3. API Number TBD

4. Property Code	5. Property Name	6. Well No.
	THUNDERBOLT SWD	1

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
B	19	26S	35E	N/A	1152'	NORTH	1436'	EAST	LEA

8. Proposed Bottom Hole Location

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

9. Pool Information

Pool Name	Pool Code
SWD; Silurian-Devonian	96101

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
N	SWD	R	Private	3,180'
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
N	20,722'	Siluro-Devonian	TBD	ASAP
Depth to Ground water	Distance from nearest fresh water well		Distance to nearest surface water	
264'	> 1 mile		4,200'	

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

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surface	24"	20"	106.5 lb/ft	1,500'	1,431	Surface
Intermediate	17.5"	13.375"	68 lb/ft	5,300'	2,973	Surface
Production	12.25"	9.625"	53.5 lb/ft	12,650'	3,719	Surface
Prod. Liner	8.5"	7.625"	39 lb/ft	12,150 - 18,966'	546	12,150'
Tubing	N/A	7"	26 lb/ft	0' – 12,050'	N/A	N/A
Tubing	N/A	5.5"	17 lb/ft	12,050' – 18,906'	N/A	N/A

Casing/Cement Program: Additional Comments

See attached schematic.

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Hydraulic/Blinds, Pipe	10,000 psi	8,000 psi	TBD – Schaffer/Cameron

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that I have complied with 19.15.14.9 (A) NMAC ☐ and/or 19.15.14.9 (B) NMAC ☒, if applicable. Signature:		OIL CONSERVATION DIVISION	
		Approved By:	
Printed name: Christopher B. Weyand		Title:	
Title: Consulting Engineer		Approved Date:	Expiration Date:
E-mail Address: chris@lonquist.com			
Date: 12/4/2018	Phone: (512) 600-1764	Conditions of Approval Attached	

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

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

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

[7] OGRID No.	[8] Operator Name	[9] Elevation
372338	NGL WATER SOLUTIONS PERMIAN, LLC	3180.00'±

[10] Surface Location

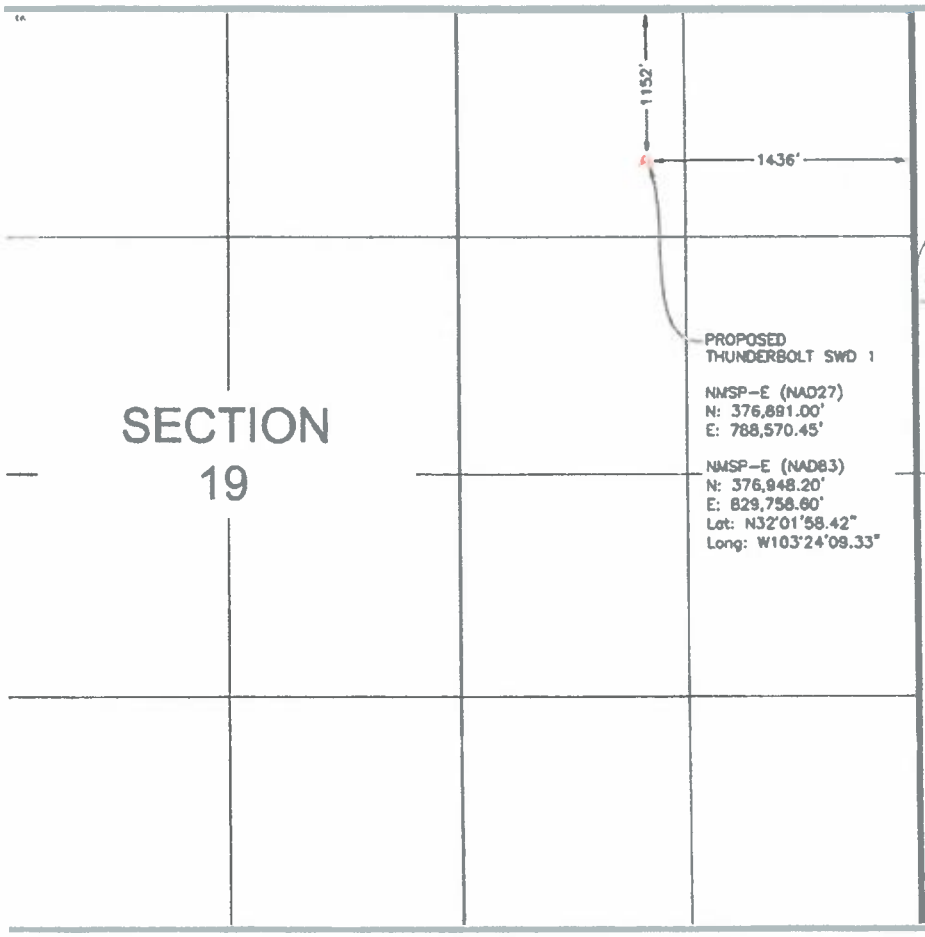
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	19	26 S	35 E	N/A	1152'	NORTH	1436'	EAST	LEA

[11] Bottom Hole Location If Different From Surface

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

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

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



[17] OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature — Date: 12/13/2018

Chris Weyand
Printed Name

chris@lonquist.com
E-mail Address

[18] SURVEYOR CERTIFICATION

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

9/18/2018
Date of Survey

Signature and Seal of Professional Surveyor

CODY R. CLARK
23001
PROFESSIONAL SURVEYOR

Cody Clark 23001
Certificate Number

NGL Water Solutions Permian, LLC

Thunderbolt SWD No. 1

FORM C-108 Supplemental Information

III. Well Data

A. Wellbore Information

1.

Well information	
Lease Name	Thunderbolt SWD
Well No.	1
Location	S-19 T-26S R-35E
Footage Location	1,152' FNL & 1,436' FEL

2.

a. Wellbore Description

Casing Information				
Type	Surface	Intermediate	Production	Liner
OD	20"	13.375"	9.625"	7.625"
WT	0.500"	0.480"	0.545"	0.500"
ID	19"	12.415"	8.535"	6.625"
Drift ID	18.812"	12.259"	8.535"	6.500"
COD	21.00"	14.375"	10.625"	7.625"
Weight	106.5 lb/ft	68 lb/ft	53.5 lb/ft	39 lb/ft
Grade	J-55	HCL-80	P-110	Q-125
Hole Size	24"	17.5"	12.25"	8.5"
Depth Set	1,500'	5,300'	12,650'	12,150' - 18,966'

b. Cementing Program

Cement Information				
Casing String	Surface	Intermediate	Production	**Liner**
Lead Cement	Extenda Cem	-	-	-
Lead Cement Volume	680	-	-	-
Tail Cement	Halcem	Halcem	Halcem	**NeoCem**
Tail Cement Volume	751	2,973 sx	Stage 1: 1,402 sx Stage 2: 1,206 sx Stage 3: 1,111 sx	546
Cement Excess	50%	30%	50%, 50%, 10%	50%
TOC	Surface	Surface	Surface	11,900'
Method	Circulate to Surface	Circulate to Surface	Circulate to Surface	Logged

3. Tubing Description

Tubing Information		
OD	7"	5.5"
WT	0.362"	0.304"
ID	6.276"	4.892"
Drift ID	7.875"	6.050"
COD	6.151"	4.653"
Weight	26 lb/ft	17 lb/ft
Grade	P-110 TCPC	P-110 TCPC
Depth Set	0'-12,050'	12,050' -18,906

Tubing will be lined with Duoline.

4. Packer Description

7-5/8" x 5-1/2" TCPC Permanent Packer with High Temp Elastomer and Full Inconel 925 trim

B. Completion Information

1. Injection Formation: Devonian, Silurian, Fusselman, Montoya (Top 100')
2. Gross Injection Interval: 18,966' – 20,722'

   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	5,333'
Bone Spring	9,299'
Wolfcamp	12,511'
Penn	13,606'
Strawn	14,481'
Atoka	14,999'

VI. Area of Review

No wells within the area of review penetrate the proposed injection zone.

VII. Proposed Operation Data

1. Proposed Daily Rate of Fluids to be Injection:

   Average Volume: 40,000 BPD
   Maximum Volume: 50,000 BPD

2. Closed System

3. Anticipated Injection Pressure:

   Average Injection Pressure: 2,844 PSI (surface pressure)
   Maximum Injection Pressure: 3,793 PSI (surface pressure)

4. The injection fluid is to be locally produced water. It is expected that the source water will predominantly be from the Bone Spring and Wolfcamp formations. Attached are produced water sample analyses taken from the closest wells that feature samples from the Delaware, Bone Spring, Wolfcamp, Pennsylvanian, Strawn, and Atoka formations.

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

VIII. Geological Data

The Devonian formation is a dolomitic ramp carbonate that occurs below the Woodford shale and above the Fusselman formation. Strata found in the Devonian formation include two major groups, the Wristen Buildups and the Thirtyone Deepwater Chert, with the Wristen being more abundant. The Wristen Groups is composed of mixed limestone and dolomites with mudstone to grainstone and boundstone textures. Porosity in the Wristen group is a result of both primary and secondary development. Present are moldic, vugular, karstic (including collapse breccia) features that allow for higher porosities and permeabilities. The Thirtyone Formation contains two end-member reservoir facies, skeletal packstones/grainstones and spiculitic chert, with most of the porosity and permeability found in the coarsely crystalline cherty dolomite. These particular characteristics allow for this formation to be a tremendous Salt Water Disposal horizon.

A. Injection Zone: Siluro-Devonian Formation

Formation	Depth
Rustler Anhydrite	1,027'
Delaware	5,333'
Bone Spring	9,299'
Wolfcamp	12,511'
Penn	13,606'
Strawn	14,481'
Atoka	14,999'
Morrow	15,557'
Mississippian	16,647'
Woodford	18,652'
Devonian	18,946'
Fusselman	20,217'
Montoya	20,622'

B. Underground Sources of Drinking Water

No water well exists within one mile of the proposed Thunderbolt SWD #1 location. Water wells in the surrounding area have an average depth of 524 ft and an average water depth of 264 ft generally producing from the Santa Rosa. The upper Rustler may also be another USDW and will be protected.

IX. Proposed Stimulation Program

Stimulate with up to 50,000 gallons of acid.

X. Logging and Test Data on the Well

There are no logs or test data on the well. During the process of drilling and completion resistivity, gamma ray, and density logs will be run.

XI. Chemical Analysis of Fresh Water Wells

No water wells exist within one mile of the proposed Thunderbolt SWD #1 location.

XII. Affirmative Statement of Examination of Geologic and Engineering Data

Based on the available engineering and geologic data we find no evidence of open faults or any other hydrologic connection between the disposal zone (in the proposed **Thunderbolt SWD #1**) and any underground sources of drinking water.

NAME: John C. Webb

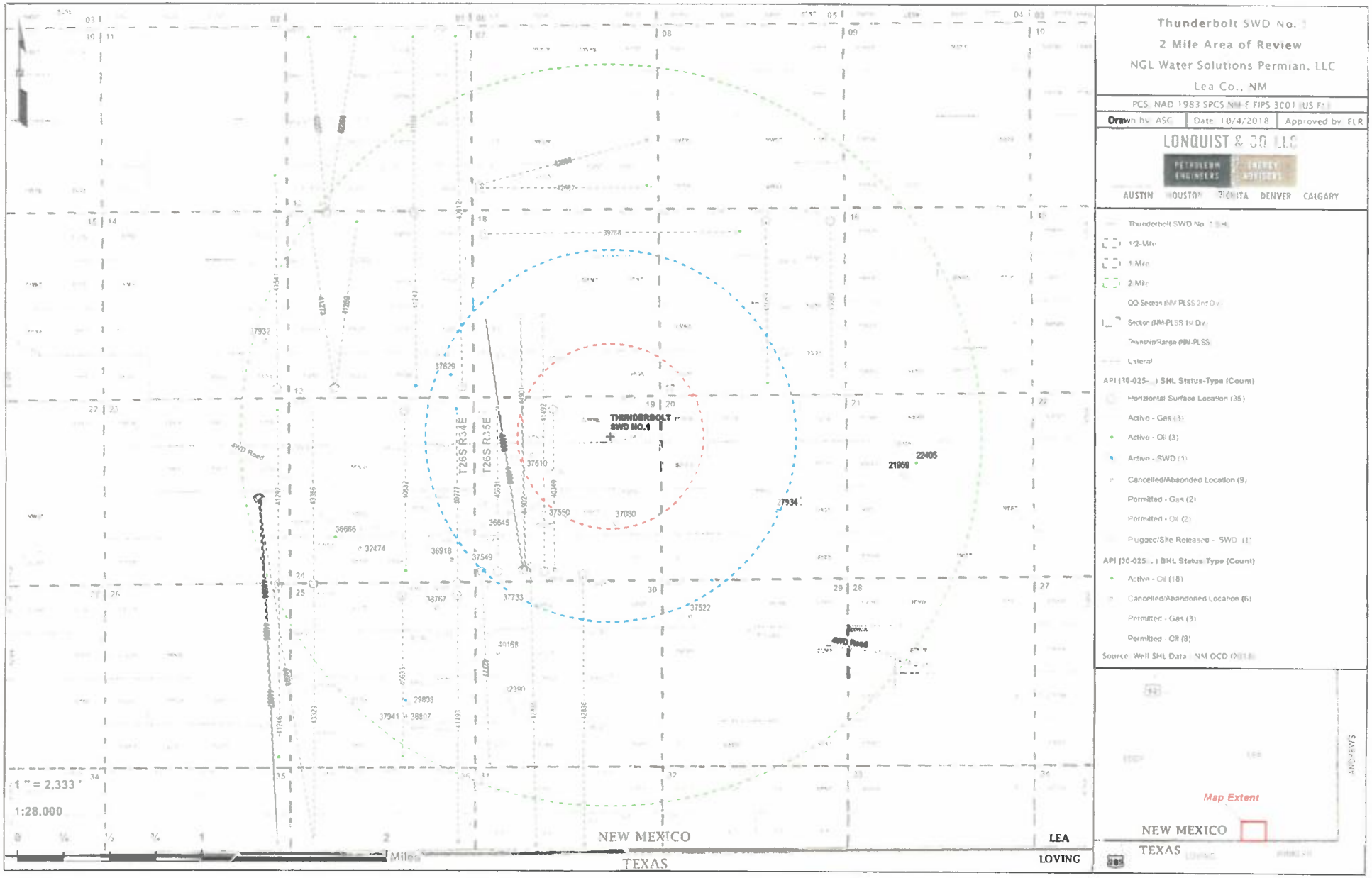
TITLE: Sr. Geologist

SIGNATURE: John C. Webb

DATE: Oct. 10, 2018

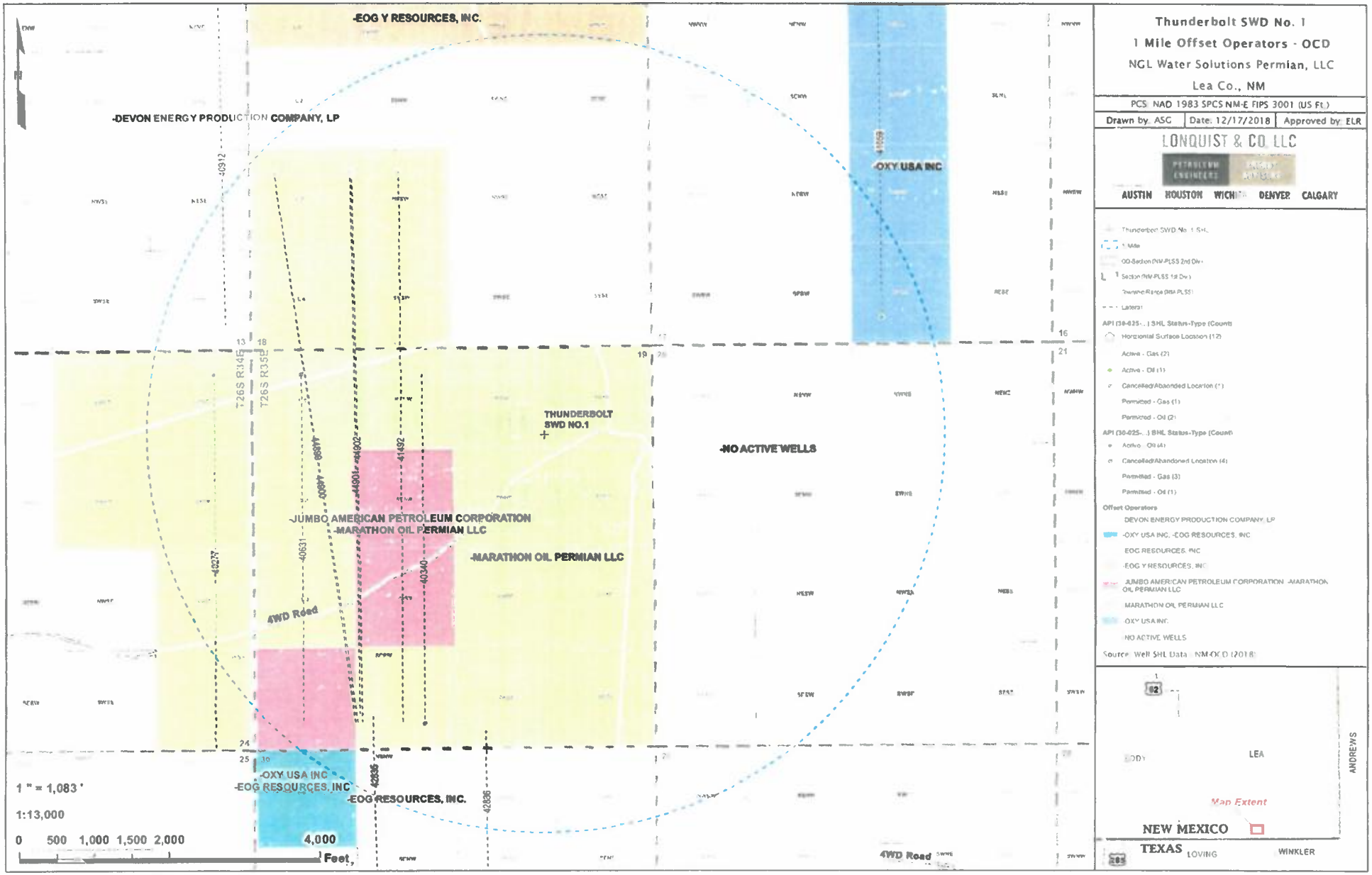
Thunderbolt SWD Lea County NM Vertical Injection - Devonian, Silurian, Fusselman, Montoya	Location - NWNE Sec 19, Twp 26S, R 35E Drilling Cost - $11.53MM	AFE #	TD GL/KB	20,722 3180'	Directions to Site - Travel SW on Hwy 205 18.3 miles from Jal NM Lat/Long 32.03289444 -103.4025000			

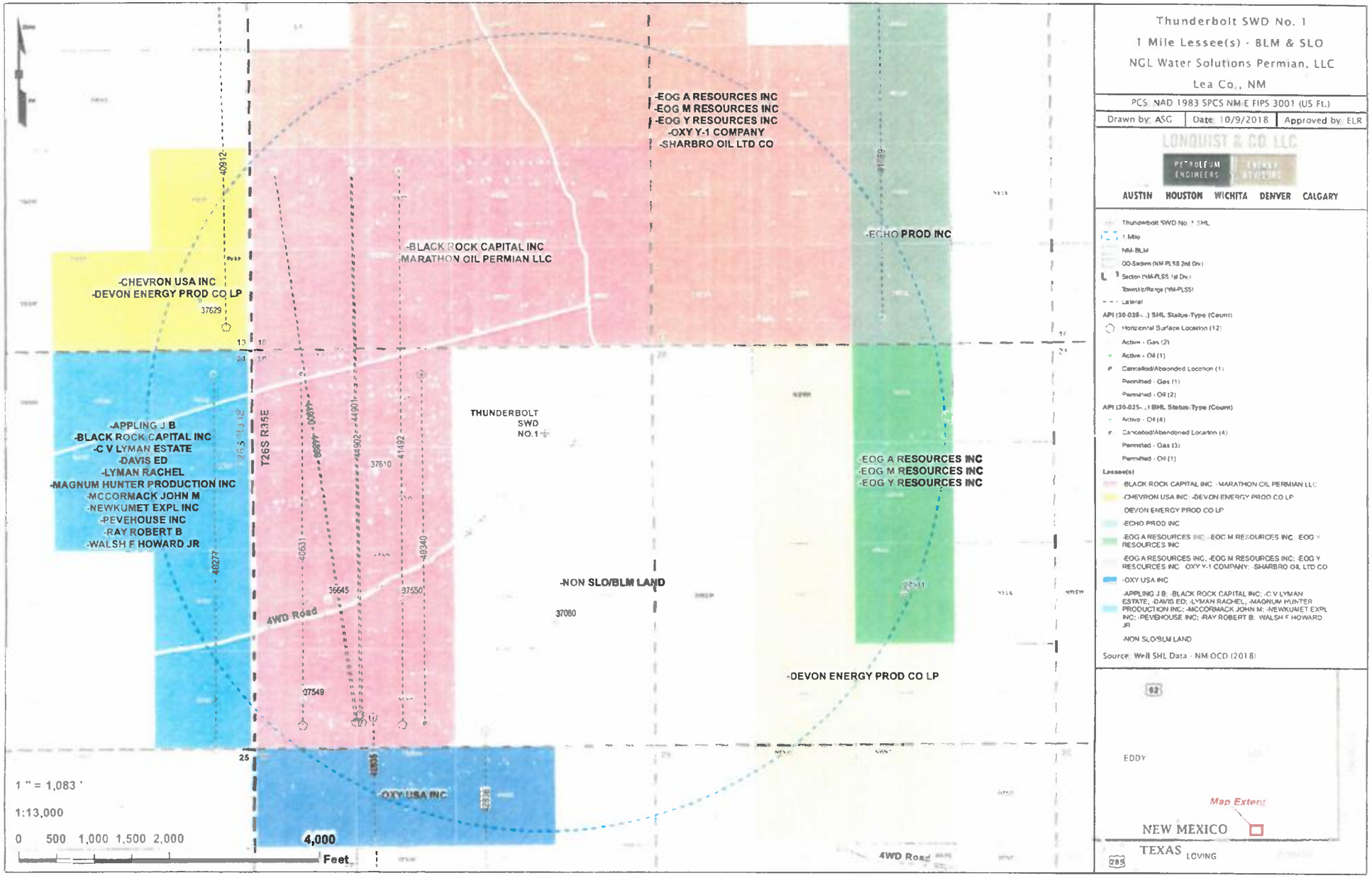
Geologic Tops (MD ft)	Section	Problems	Bit/BHA	Mud	Casing	Logging	Cement	Injection String
Rustler 1027 **Surface TD - 1500**	**Surface** Drill 24" 0' - 1500 Set and Cement 20" Casing	Loss Circulation Hole Cleaning Wellbore stability in the Red Beds Anhydrite in the Rustler	24" Tricone 9-5/8" x 8" MM 9 jts: 8" DC 21 jts: 5" HWDP 5 " DP to surface	Spud Mud MW< 9.0	1500' of 20" 106.5# J55 STC Centralizers - bottom 2 joints and every 3rd jt thereafter, Cement basket at 200'	No Logs	Lead - 680sx of HES Extenda Cem, 13.7ppg, 4.5hrs TT Tail - 751sx of Halcem 3hr TT 50% Excess 1000psi CSD after 10hrs	
Salado 1,574' Top of Salt 1799 Base of Salt 4781 **1st Int TD - 5300**	**1st Intermediate** Drill 3800' of 17-1/2" Hole 1500' - 5300' Set and Cement 13-3/8" Casing	Seepage Losses Possible H2S Anhydrite Salt Sections	17-1/2" PDC 9-5/8" x 8" MM 9 jts: 8" DC 21 jts: 5" HWDP 5 " DP to surface		5M A Section Casing Bowl 5300' of 13-3/8" 68# HCL80 BTC Centralizers - bottom jt, every 3rd joint in open hole and 2 jt inside the surface casing	Mudlogger on site by 1080'	2973sx of Halcem, 13.7ppg 30% Excess 1000psi CSD after 10 hrs Cement to Surface	12050' of 7" P110 26# TCPC 6856' of 5-1/2" P110 17# TCPC Duoline Internally Coated Injection Tubing
ECP DV Tool - 5350 Delaware 5333 Bell Canyon 5371 Cherry Canyon - 6581 Brushy Canyon - 7816 **DV Tool - 9000** Bone Spring - 9299 **3rd Int Liner Top - 12,150** Wolfcamp - 12511 **2nd Int TD - 12,650**	**2nd Intermediate** Drill 7350' of 12-1/4" Hole 5300' - 12650' Set 9-5/8" Intermediate Casing and Cement in 3 Stages	Hard Drilling in the Brushy Canyon Seepage to Complete Loss Water Flows Some Anhydrite H2S possible Production in the Bone Spring and Wolfcamp Ballooning is possible in Cherry Canyon and Brushy if Broken Down	12-1/4" PDC 8" MM 9jts: 8" DC 8" Drilling Jars 21 jts: 5" HWDP 5" DP to Surface	8.5 ppg OBM High Vis Sweeps UBD/MPD usig ADA	10M B Section 12650' of 9-5/8" 53.5# P110 **BTC** **Special Drift to 8.535"** Externally Coat 3650' Between DV Tools DV tool at at 9000' ECP DV Tool below 1st Int shoe Centralizers - bottom jt, 100' aside of DV tool, every 3rd joint in open hole and 5 within the surface casing	MWD GR Triple combo + CBL of 13-3/8" Casing	**Stage 3: 10% Excess** 1402sx Halcem 13.7ppg 1000psi CSD after 10 hrs Cement to Surface **Stage 2: 50% Excess** 1206sx Halcem 13.7ppg 1000psi CSD after 10 hrs **Stage 1: 50% Excess** 1402sx Halcem 15.6ppg. 1000psi CSD after 10hrs	
Strawn - 14481 Atoka - 14999 Morrow - 15557 Miss Lst - 15583 Woodford - 18652 Perm Packer - 18,906 **3rd Int TD - 18,966**	**3rd Intermediate** Drill 6316' of 8-1/2" Hole 12650' - 18966' Set 7-5/8" Liner and Cement in Single Stage	High Pressure (up to 15ppg) and wellbore instability (fracturing) expected in the Atoka 150 target radius Hard Drilling in the Morrow Clastic	8-1/2" PDC 6-3/4" MM 9 jts: 6" DC 21 jts: 5" HWDP 5" DP to Surface	12.5 ppg OBM UBD/MPD using ADA	6818' of 7-5/8" 39# Q125 DTL (FJ4) FJ (Gas Tight) VersaFlex Packer Hanger Centralizers on and 1 jt above shoe jt and then every 2nd jt.	MWD GR Triple combo, CBL of 9-5/8" Casing	564sx Neocem 12.9 ppg 50% Excess 1000psi CSD after 12hrs	7-5/8" x 5-1/2" TCPC Permanent Packer with High Temp Elastomer and full Inconel 925 trim
Devonian - 18,946 Fusselman - 20217 Montoya - 20,622' TD - 20,722'	**Injection Interval** Drill 1756' of 6-1/2" hole 18,966' - 20,722'	Chert is possible Loss of Circulation and or Flows are expected BHT estimated at 280F	6-1/2" PDC 4-3/4"MM 9 jts: 4-3/4" DC 4-3/4" Drilling Jars 18 jts: 4" FH HWDP 4" FH DP to Surface	Brine Water - flows possible	Openhole completion	MWD GR Triple Combo with FMI, CBL of 7-5/8"	Displace with 3% KCl (or heavier brine if necessary)	


Thunderbolt SWD No. 1
2 Mile Area of Review
NGL Water Solutions Permian, LLC
Lea Co., NM
PCS: NAD 1983 SPCS NM E FIPS 3001 (US Ft)
Drawn by: ASC
Date: 10/4/2018
Approved by: ELR
LONQUIST & CO LLC
PETROLEUM ENGINEERS
ENERGY ADVISORS
AUSTIN HOUSTON ENCINITA DENVER CALGARY
Thunderbolt SWD No. 1 (Pt)
1/2-Mile
1 Mile
2 Mile
QQ-Section (NM PLSS 2nd Div)
Section (NM-PLSS 1st Div)
Township/Range (NM-PLSS)
Lateral
API (30-025-__) SHL Status-Type (Count)
Horizontal Surface Location (35)
Active - Gas (3)
Active - Oil (3)
Active - SWD (1)
Cancelled/Abeonded Location (9)
Permitted - Gas (2)
Permitted - Oil (2)
Plugged/Site Released - SWD (1)
API (30-025-__) BHL Status-Type (Count)
Active - Oil (18)
Cancelled/Abandoned Location (6)
Permitted - Gas (3)
Permitted - Oil (8)
Source: Well SHL Data - NM OCD (2018)
THUNDERBOLT SWD NO.1
T26S R34E
T26S R35E
4WD Road
4WD Road
22405
21959
37629
37610
37550
37080
37934
36645
36666
32474
36918
37549
38767
37733
37522
40168
12390
29808
37941
38807
1 " = 2,333 '
1:28,000
0 ½ 1 2 Miles
NEW MEXICO
TEXAS
LEA
LOVING
Map Extent
NEW MEXICO
TEXAS
ANDREWS

Thunderbolt SWD No. 1
1 Mile Area of Review List

API (30-025-...)	WELL NAME	WELL TYPE	STATUS	OPERATOR	TVD (FT.)	LATITUDE (NAD83 DD)	LONGITUDE (NAD83 DD)	DATE DRILLED
27934	PRE-ONGARD WELL #001	O	C	PRE-ONGARD WELL OPERATOR	0	32.0269502482	-103.387363047	12/31/9999
36645	MADERA 19 FEDERAL #001	G	A	MARATHON OIL PERMIAN LLC	15456	32.0269737000	-103.411941500	5/28/2004
37080	BECKHAM 19 #001	G	A	MARATHON OIL PERMIAN LLC	15823	32.0260544000	-103.402221700	4/12/2005
37549	MADERA 19 FEDERAL #002	O	N	JUMBO AMERICAN PETROLEUM CORPORATION	0	32.0233459000	-103.413040200	12/31/9999
37550	MADERA 19 FEDERAL #003	O	N	JUMBO AMERICAN PETROLEUM CORPORATION	0	32.0269699000	-103.408775300	12/31/9999
37610	MADERA 19 FEDERAL #004	G	N	JUMBO AMERICAN PETROLEUM CORPORATION	0	32.0315056000	-103.409835800	12/31/9999
37629	RATTLESNAKE FEDERAL UNIT #006	O	A	DEVON ENERGY PRODUCTION COMPANY, LP	9600	32.0378685000	-103.417274500	12/26/2006
40277	MADERA 24 FEDERAL #002H	O	A	MARATHON OIL PERMIAN LLC	9070	32.0215645000	-103.416786200	10/26/2011
40340	MADERA 19 FEDERAL #003C	O	C	RMR OPERATING, LLC	0	32.0351334000	-103.407859800	12/31/9999
40631	MADERA 19 FEDERAL #002C	O	C	RMR OPERATING, LLC	0	32.0224380000	-103.413047800	12/31/9999
40912	RATTLESNAKE 13 12 FEDERAL COM #001H	O	A	DEVON ENERGY PRODUCTION COMPANY, LP	8961	32.0369568000	-103.416214000	2/19/2013
41059	MADERA 17 FEDERAL #001H	O	A	OXY USA INC	9264	32.0496407000	-103.388176000	4/10/2013
41492	MADERA 19 FEDERAL COM #004H	O	A	MARATHON OIL PERMIAN LLC	9046	32.0224342000	-103.408783000	11/29/2013
42835	MADERA 30 FEDERAL #002C	O	C	OXY USA INC	0	32.0227172000	-103.410053900	12/31/9999
42836	MADERA 30 FEDERAL #003C	O	C	OXY USA INC	0	32.0221583600	-103.405233900	12/31/9999
44899	MADERA 19 FEDERAL 26 35 19 TB #001H	O	N	MARATHON OIL PERMIAN LLC	0	32.0225297800	-103.410704080	12/31/9999
44900	MADERA 19 FEDERAL 26 35 19 WA #002H	G	N	MARATHON OIL PERMIAN LLC	0	32.0225304900	-103.410800860	12/31/9999
44901	MADERA 19 FEDERAL 26 35 19 WB #005H	G	N	MARATHON OIL PERMIAN LLC	0	32.0228290800	-103.410607290	12/31/9999
44902	MADERAL 19 FEDERAL 26 35 19 WXY #006H	G	N	MARATHON OIL PERMIAN LLC	0	32.0225284000	-103.410510510	12/31/9999


-EOG Y RESOURCES, INC.
-DEVON ENERGY PRODUCTION COMPANY, LP
-OXY USA INC
THUNDERBOLT SWD NO.1
-NO ACTIVE WELLS
-JUMBO AMERICAN PETROLEUM CORPORATION
-MARATHON OIL PERMIAN LLC
-MARATHON OIL PERMIAN LLC
4WD Road
-OXY USA INC
-EOG RESOURCES, INC
-EOG RESOURCES, INC.
4WD Road
T26S R34E
T26S R35E
1 " = 1,083 '
1:13,000
0 500 1,000 1,500 2,000 4,000
Feet
Thunderbolt SWD No. 1
1 Mile Offset Operators - OCD
NGL Water Solutions Permian, LLC
Lea Co., NM
PCS: NAD 1983 SPCS NM-E FIPS 3001 (US Ft.)
Drawn by: ASC | Date: 12/17/2018 | Approved by: ELR
LONQUIST & CO. LLC
AUSTIN HOUSTON WICHITA DENVER CALGARY
Thunderbolt SWD No. 1 SHL
1 Mile
QQ-Section (NM-PLSS 2nd Div)
Section (NM-PLSS 1st Div)
Township-Range (NM-PLSS)
Lateral
API (30-025-...) SHL Status-Type (County)
Horizontal Surface Location (12)
Active - Gas (2)
Active - Oil (1)
Cancelled/Abandoned Location (1)
Permitted - Gas (1)
Permitted - Oil (2)
API (30-025-...) BHL Status-Type (County)
Active - Oil (4)
Cancelled/Abandoned Location (4)
Permitted - Gas (3)
Permitted - Oil (1)
Offset Operators
DEVON ENERGY PRODUCTION COMPANY, LP
-OXY USA INC, -EOG RESOURCES, INC
EOG RESOURCES, INC
-EOG Y RESOURCES, INC
-JUMBO AMERICAN PETROLEUM CORPORATION -MARATHON OIL PERMIAN LLC
MARATHON OIL PERMIAN LLC
-OXY USA INC
NO ACTIVE WELLS
Source: Well SHL Data - NM-OCD (2018)
82
285
EDDY
LEA
ANDREWS
Map Extent
NEW MEXICO
TEXAS
LOVING
WINKLER



Thunderbolt SWD No. 1
1 Mile Lessee(s) - BLM & SLO
NGL Water Solutions Permian, LLC
Lea Co., NM

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

Drawn by: ASG	Date: 10/9/2018	Approved by: ELR

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

Thunderbolt SWD No. 1 SHL
1 Mile
NM-BLM
QQ-Section (NM PLSS 2nd Div)
Section (NM-PLSS 1st Div)
Township/Range (NM-PLSS)
Lateral
API (30-025-...) SHL Status-Type (Count)
Horizontal Surface Location (12)
Active - Gas (2)
Active - Oil (1)
Cancelled/Abandoned Location (1)
Permitted - Gas (1)
Permitted - Oil (2)
API (30-025-...) BHL Status-Type (Count)
Active - Oil (4)
Cancelled/Abandoned Location (4)
Permitted - Gas (3)
Permitted - Oil (1)

Lessee(s)
-BLACK ROCK CAPITAL INC; -MARATHON OIL PERMIAN LLC
-CHEVRON USA INC; -DEVON ENERGY PROD CO LP
-DEVON ENERGY PROD CO LP
-ECHO PROD INC
-EOG A RESOURCES INC; -EOG M RESOURCES INC; -EOG Y RESOURCES INC
-EOG A RESOURCES INC; -EOG M RESOURCES INC; -EOG Y RESOURCES INC; -OXY Y-1 COMPANY; -SHARBRO OIL LTD CO
-OXY USA INC
-APPLING J B; -BLACK ROCK CAPITAL INC; -C V LYMAN ESTATE; -DAVIS ED; -LYMAN RACHEL; -MAGNUM HUNTER PRODUCTION INC; -MCCORMACK JOHN M; -NEWKUMET EXPL INC; -PEVEHOUSE INC; -RAY ROBERT B; -WALSH F HOWARD JR
-NON SLO/BLM LAND

Source: Well SHL Data - NM OCD (2018)

3

Thunderbolt SWD #1: Offsetting Produced Water Analysis														
wellname	api	county	formation	ph	tds_mgL	sodium_mgL	calcium_mgL	iron_mgL	magnesium_mgL	manganese_mgL	chloride_mgL	bicarbonate_mgL	sulfate_mgL	co2_mgL
RAGIN CAJUN 13 FEDERAL #001H	3002541259	Lea	DELAWARE-BRUSHY CANYO	6.2	194590	55244.8	15260	22.6	2592	2.88	119973	48.8	710	200
MEAN GREEN 23 FEDERAL #001H	3002541292	Lea	DELAWARE-BRUSHY CANYO	7.5	172606	56152.9	9156	24.6	1515	3.5	104576.4	183	675	1800
BELL LAKE UNIT #009	3002520261	LEA	BONE SPRING		204652						130000	512	260	
THISTLE UNIT #071H	3002542425	Lea	BONE SPRING 1ST SAND	5.6	171476	55363.2	9140	40.4	1023	1.1	104576.4	244	560	770
BELL LAKE 19 STATE #004H	3002541517	Lea	BONE SPRING 2ND SAND	6.3		76378	6238	11	834	0	131397	159	670	200
COTTON DRAW UNIT #237H	3002541996	Lea	BONE SPRING 2ND SAND	6.5	207155	68477	4041.6	41.3	1744.6	1.53	126763.4	122	0	200
SALADO DRAW 6 FEDERAL #001H	3002541293	Lea	BONE SPRING 3RD SAND	6.7	95604	31066	3196	10	394	0.5	59071	183	0	100
SALADO DRAW 6 FEDERAL #001H	3002541293	Lea	BONE SPRING 3RD SAND	6.6	99401.9	34493.3	3295	0.4	396.8	0.37	59986.5	109.8	710	70
SNAPPING 2 STATE #014H	3001542688	EDDY	WOLFCAMP	7.3	81366.4	26319.4	2687.4	26.1	326.7		50281.2		399.7	100
SOUTHWEST JAL UNIT F #001	3002520843	LEA	PENNSYLVANIAN	7.8	35220						20000	621	1039	
STATE A A/C 1 #017	3002509401	LEA	PENNSYLVANIAN		196831						120300	208	1271	
PRONGHORN AHO FEDERAL #001	3002526496	LEA	STRAWN	5.5			20.1	0	12.2		35.5	61.1	48.8	
ANTELOPE RIDGE UNIT #002	3002520444	LEA	ATOKA	6.7	51475						31000	317	340	

Exhibits of Scott Wilson
On Behalf of NGL Water Solutions Permian, LLC

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

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

CASE NO. 20236
(THUNDERBOLT)

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 amended application that NGL Water Solutions Permian, LLC ("NGL") has filed in this matter, and I have conducted a nodal analysis and reservoir study

EXHIBIT
tabbies
2

related to the area which is the subject matter of the application. A copy of my study is attached hereto as Exhibit A.

5. The applicant, NGL (OGRID No. 372338), seeks an order approving the Thunderbolt SWD #1 well, which is a salt water disposal well.

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

7. 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.

8. My nodal analysis indicates that increasing the tubing size to 7" by 5 ½" would not significantly increase reservoir pressures over a twenty-year time period. The injection zone is located within a reservoir with significant thickness which consists of high permeability rocks, which results in only very small pressure increases even when injection is increased to a rate of 40,000 barrels per day over a 20 year period.

9. 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 well would result in fractures to the formation.

10. I have also studied the potential impact on pore pressures and put together a simulation of the radial influence that the well 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.

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

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

[Signature page follows]

Scott J. Wilson

SUBSCRIBED AND SWORN to before me this 30th day of August, 2019 by Scott J. Wilson.

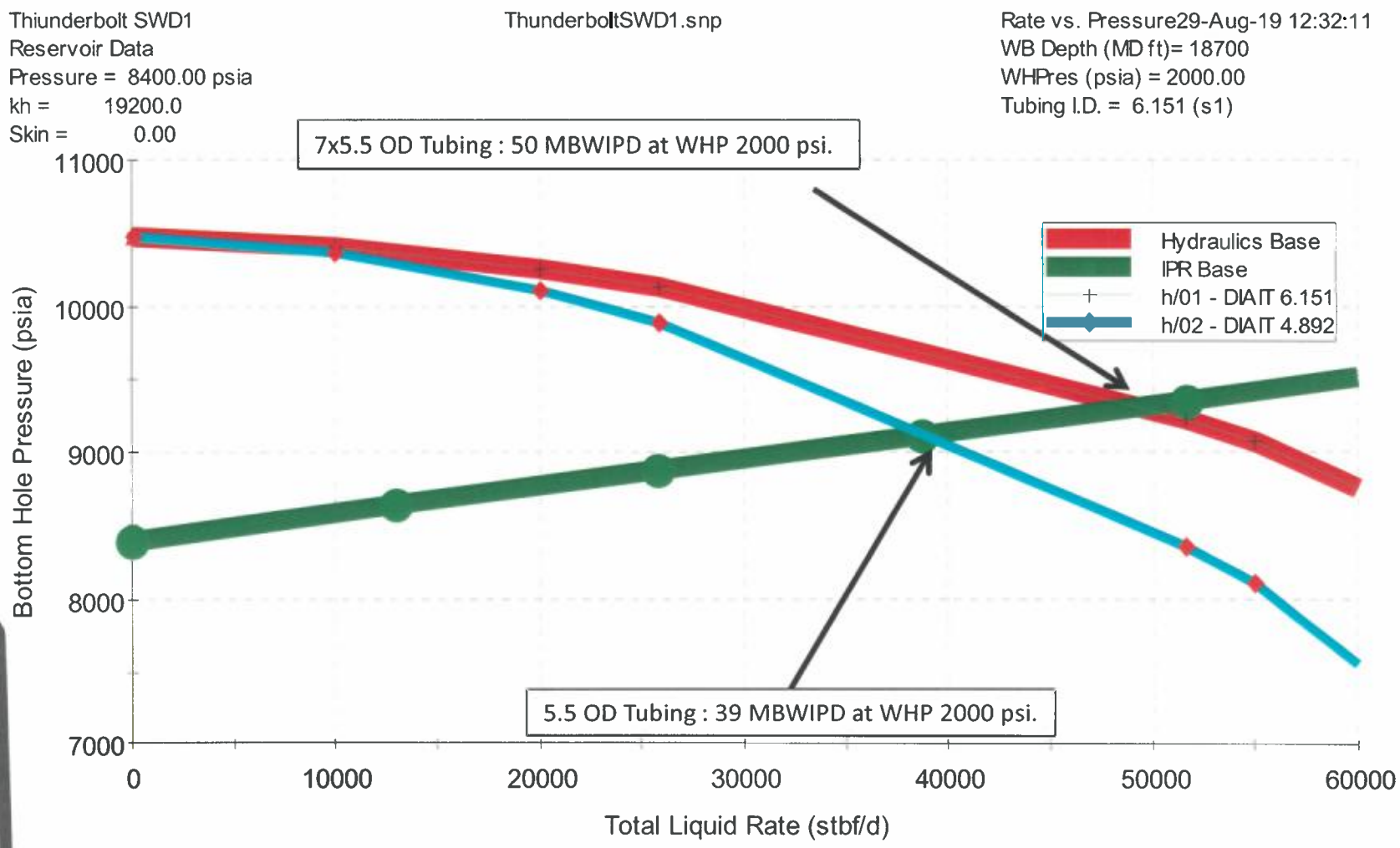
Notary Public

My commission expires: 08/23/21

DARSHAE E RODRIGUEZ
Notary Public - State of Colorado
Notary ID 20134006986
My Commission Expires Aug 23, 2021

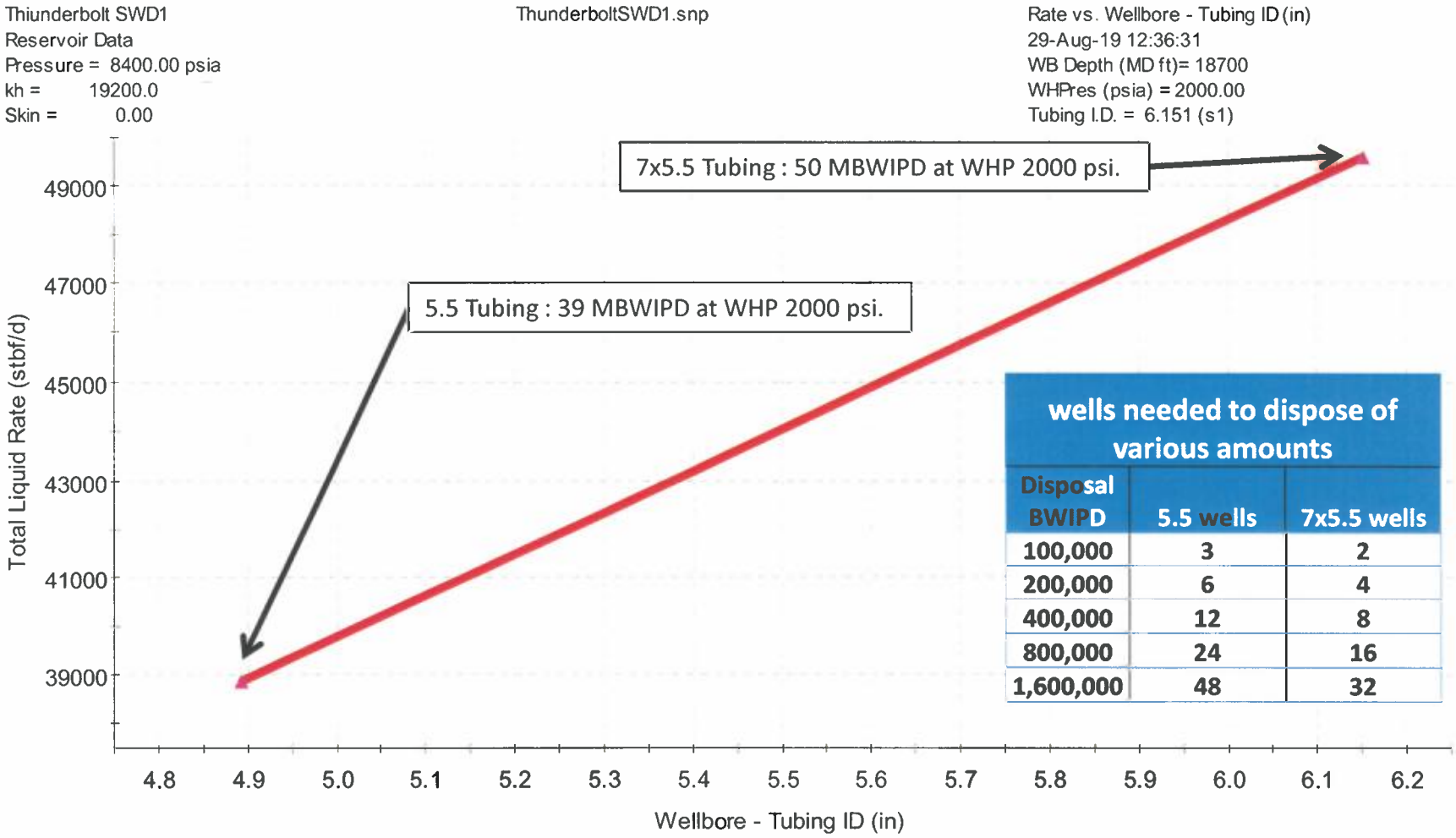
NGL Water Solutions, LLC

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.

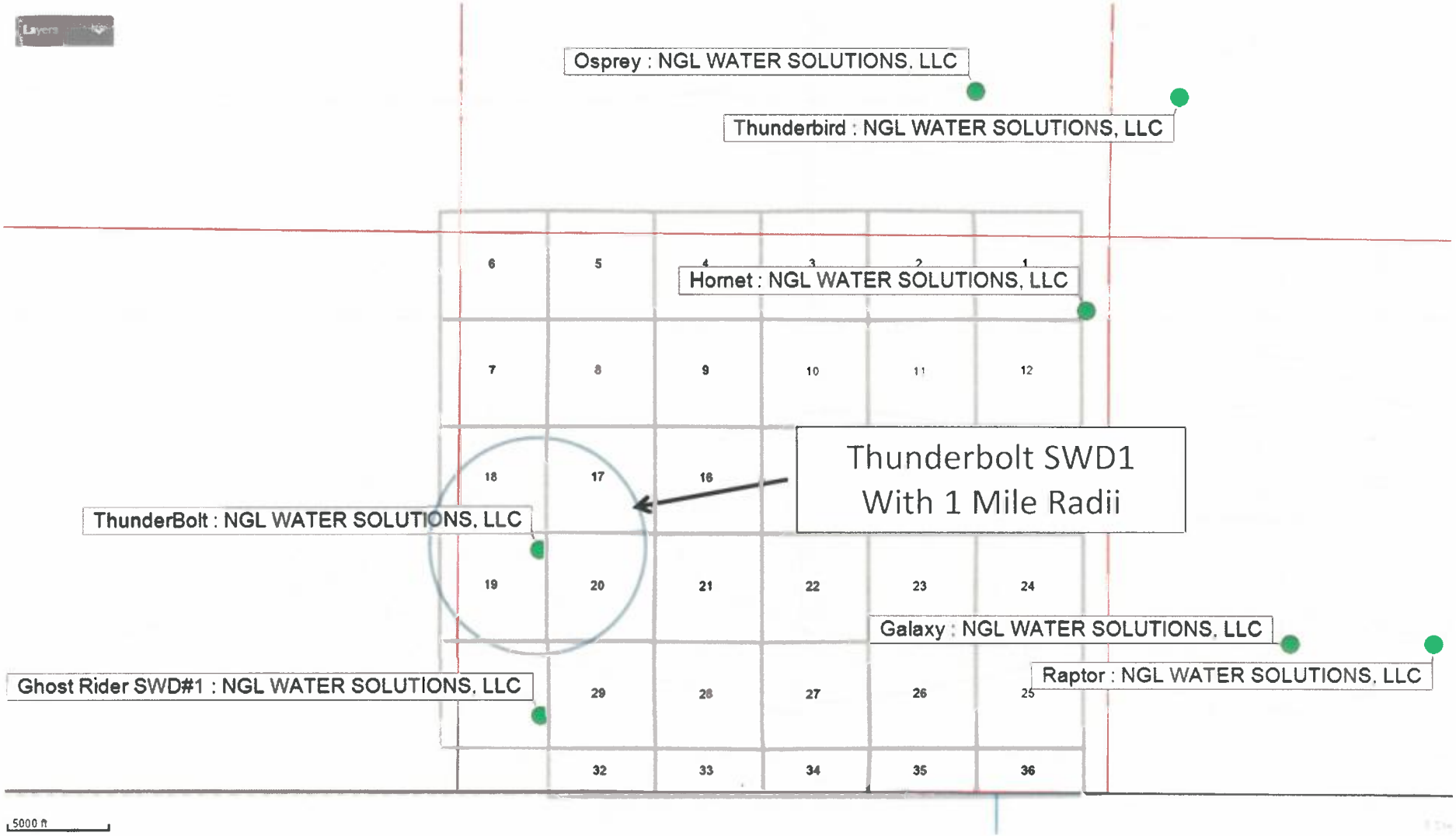


wells needed to dispose of various amounts		
Disposal BWIPD	5.5 wells	7x5.5 wells
100,000	3	2
200,000	6	4
400,000	12	8
800,000	24	16
1,600,000	48	32

NGL Water Solutions, LLC

Exh. A3

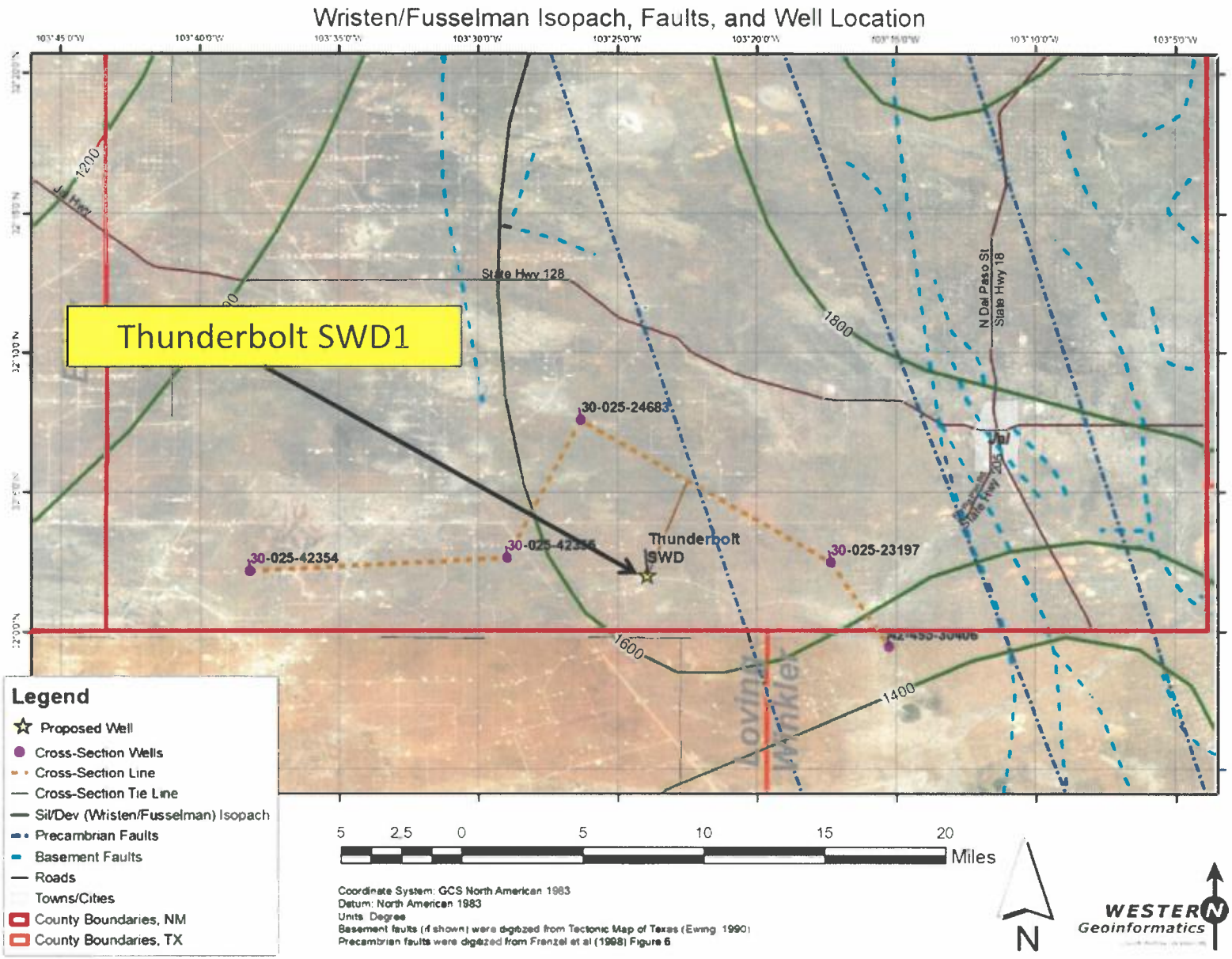
Wells injecting water into the Devonian formation in the area.
Area is roughly 12 miles (E-W) by 8 miles (N-S)



NGL Water Solutions, LLC

Exh. A4

Target Zone Thickness at Thunderbolt is 1600 feet



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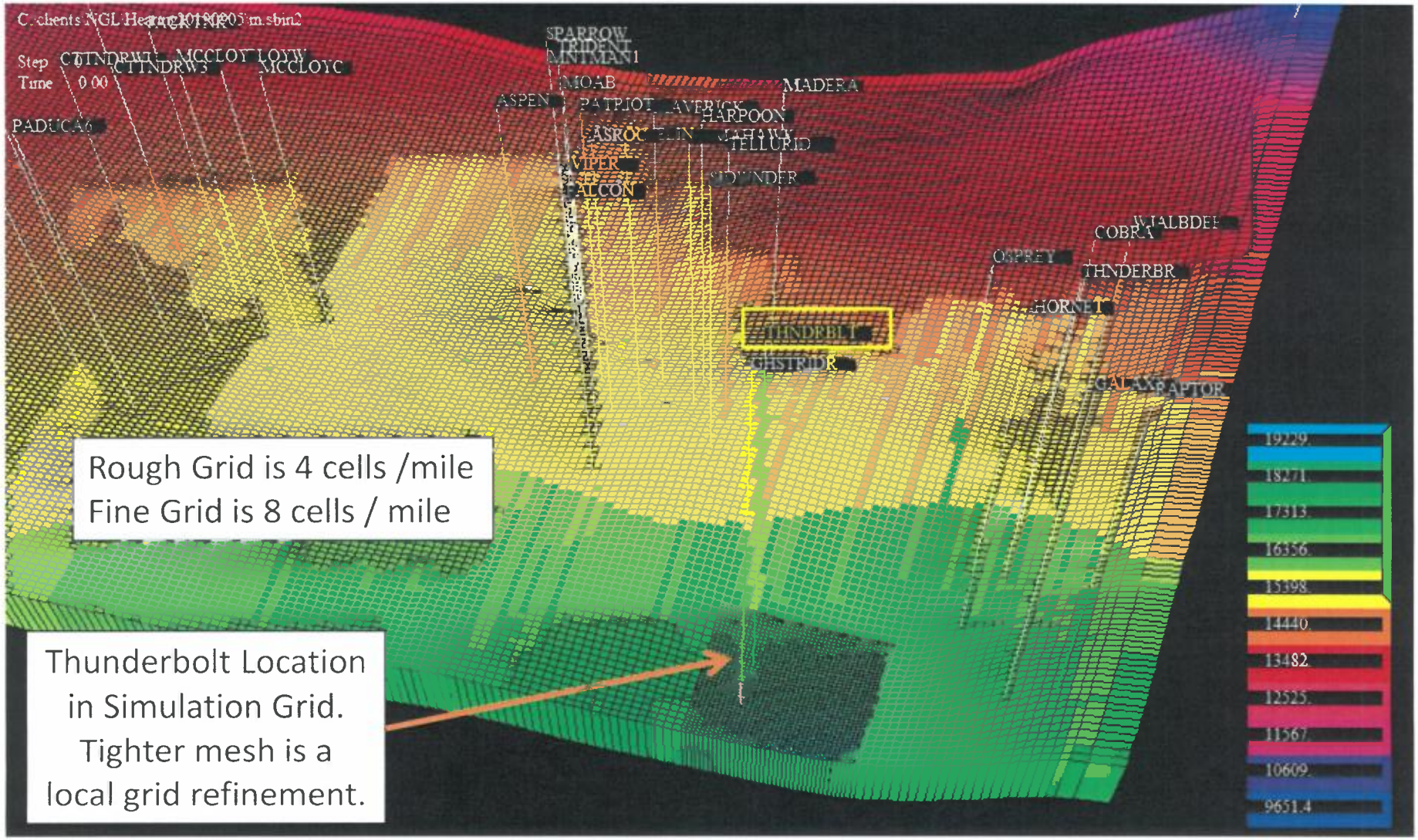
NGL Water Solutions, LLC

Simulation Grid matches Structure and Thickness

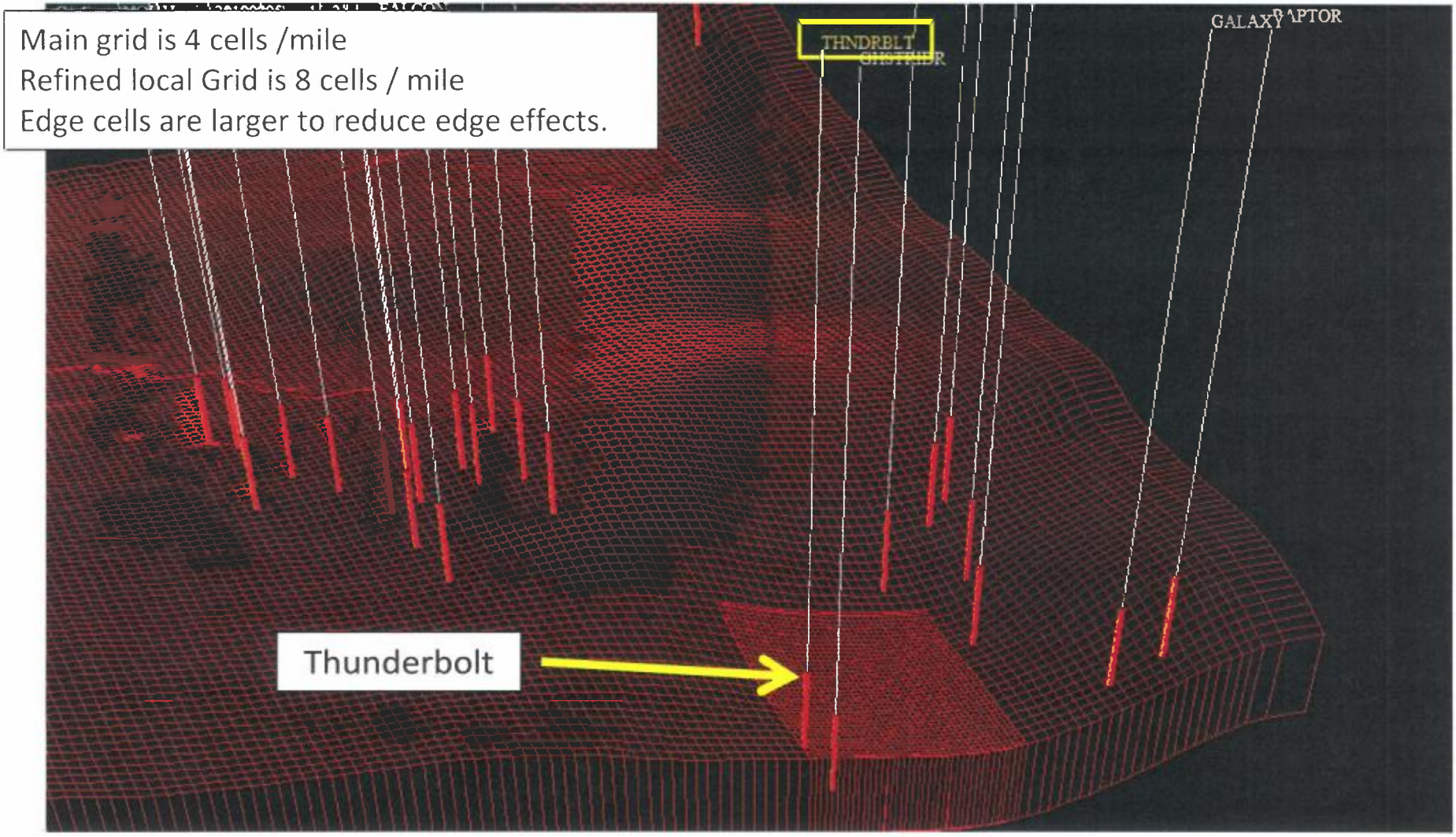
Reservoir Simulation grid incorporates the NGL proposed wells and the close offsets.



NGL Water Solutions, LLC

3D view of grid shows Structural Relief.

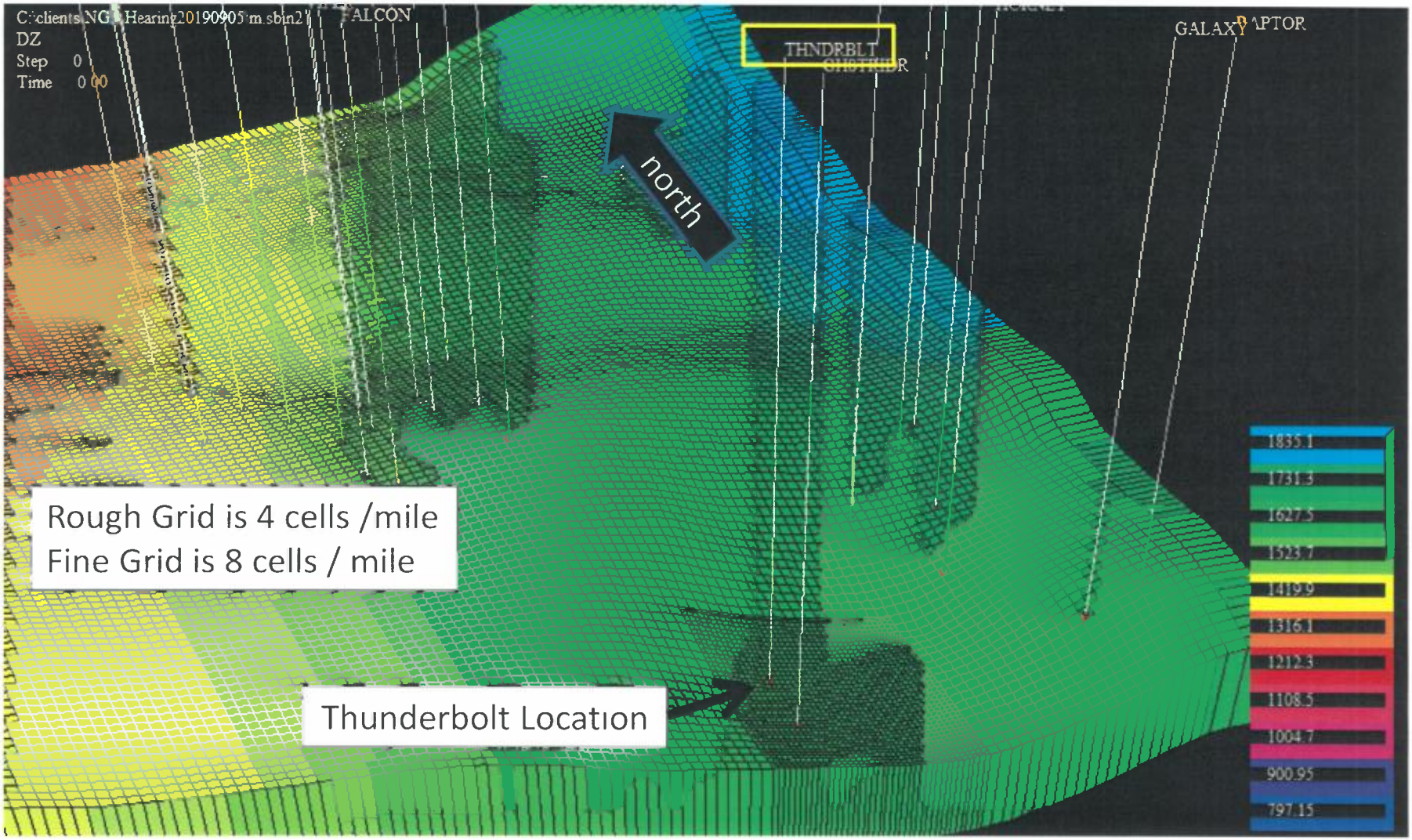
Thickness is accurate but not easy to see at this aspect ratio.



Exh. A7

NGL Water Solutions, LLC

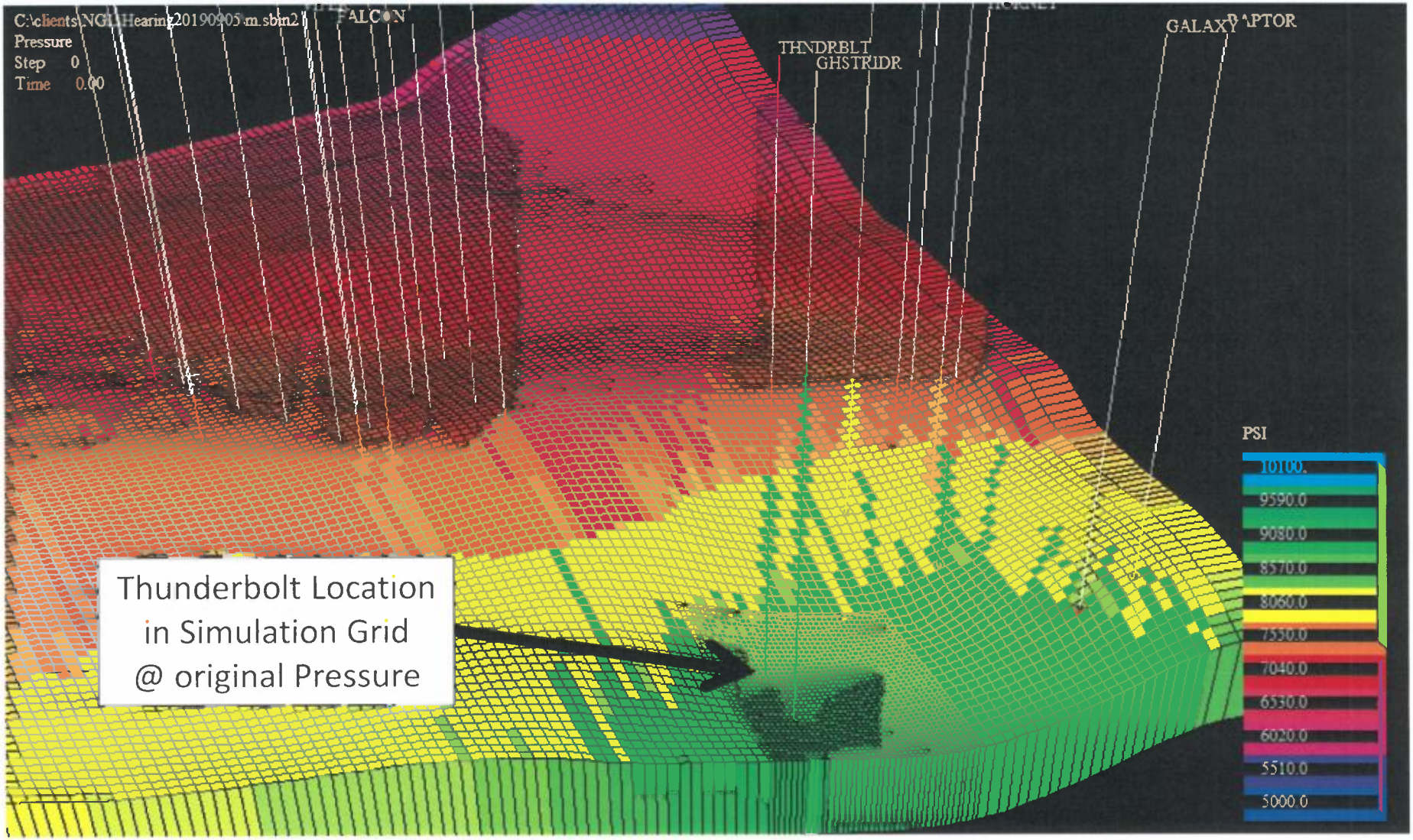
Red and dark blue to the East is the thickest Sil/Dev.



NGL Water Solutions, LLC

Exh. A8

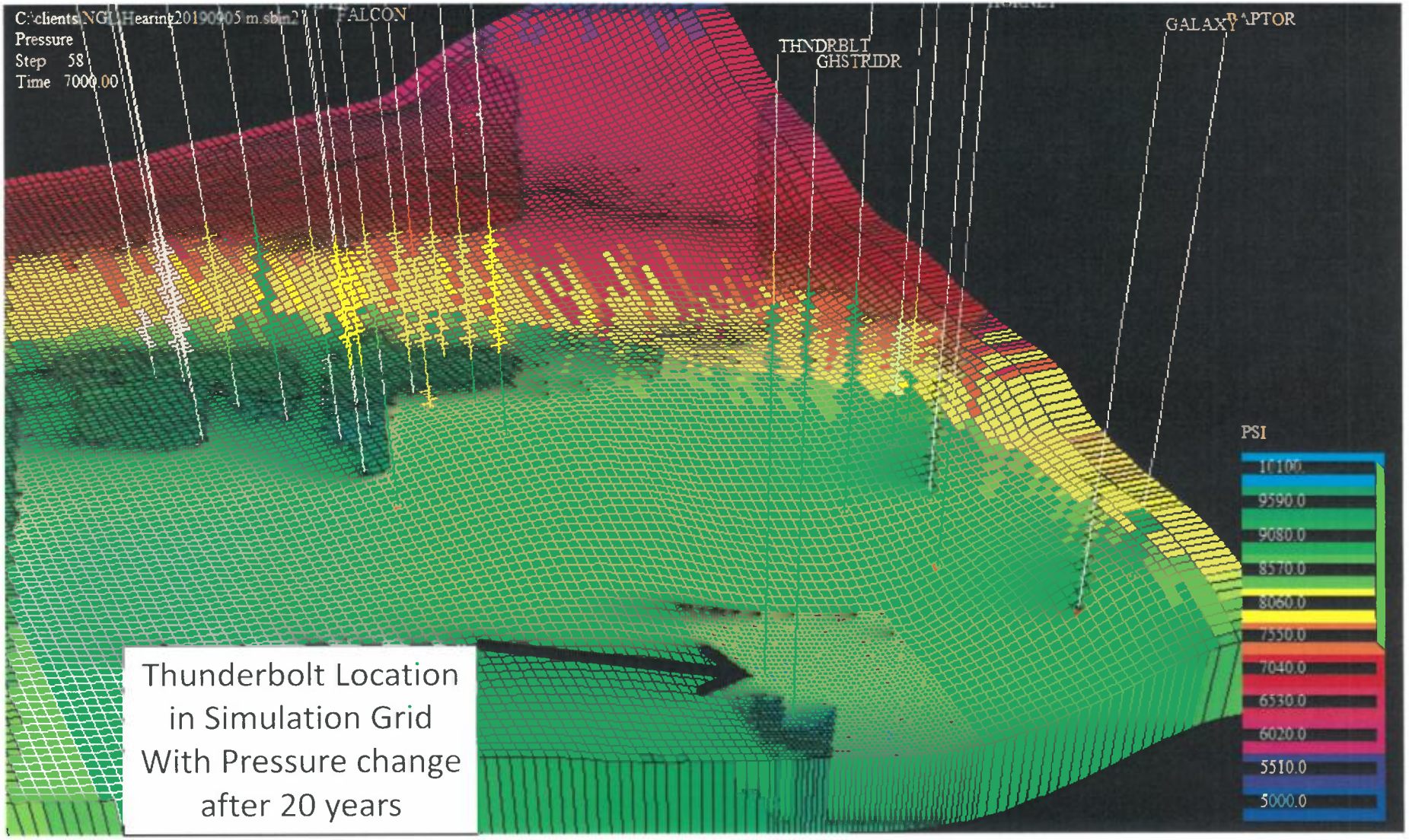
Initial pressure is equilibrated by the model based on grid cell depth, fluids(water) and capillary pressure.



NGL Water Solutions, LLC

Exh. A9

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



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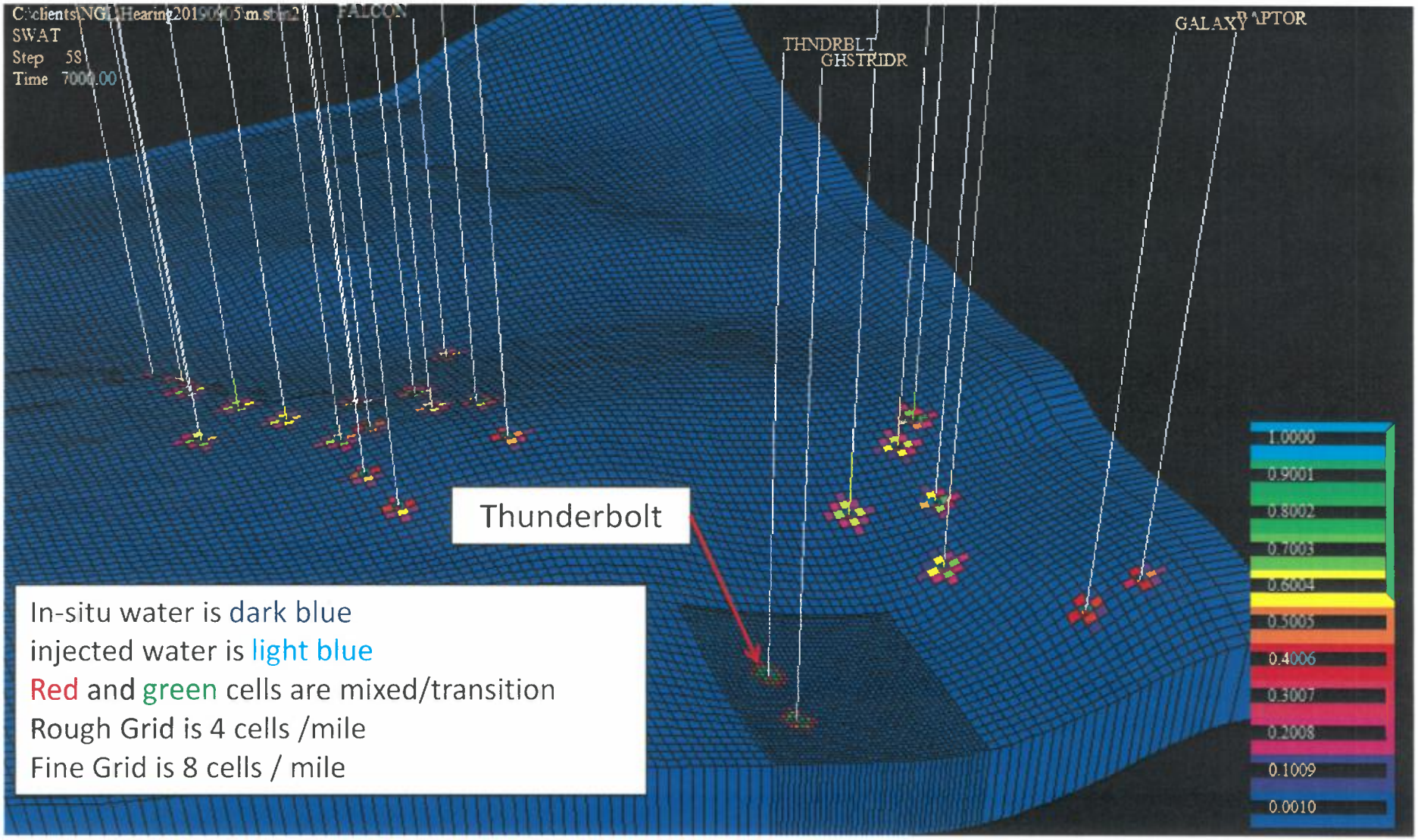
NGL Water Solutions, LLC

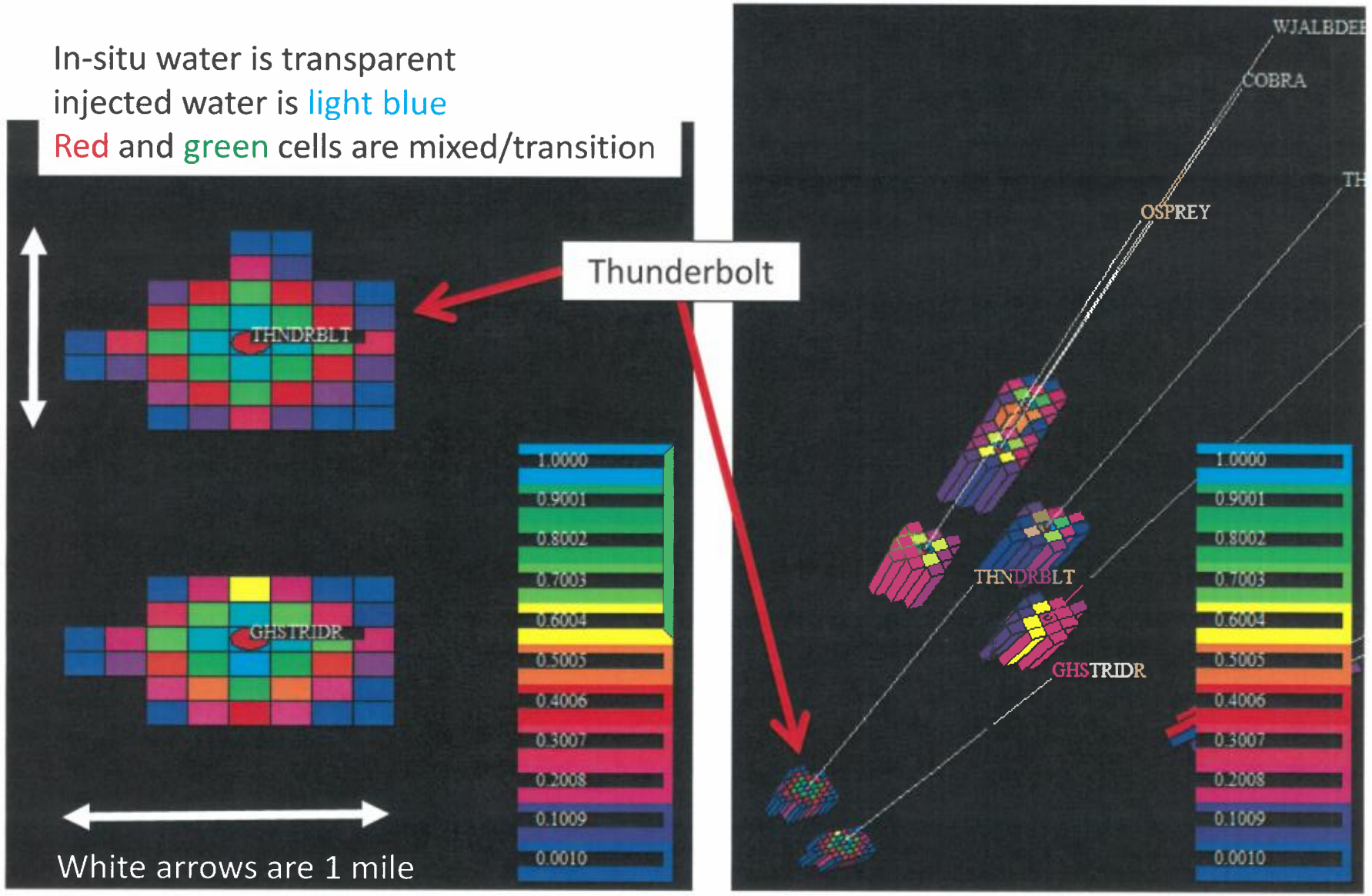
Large scale saturation profiles after 20 years of injection.



Exh. A11

NGL Water Solutions, LLC

Detailed saturation profiles after 20 years of injection.



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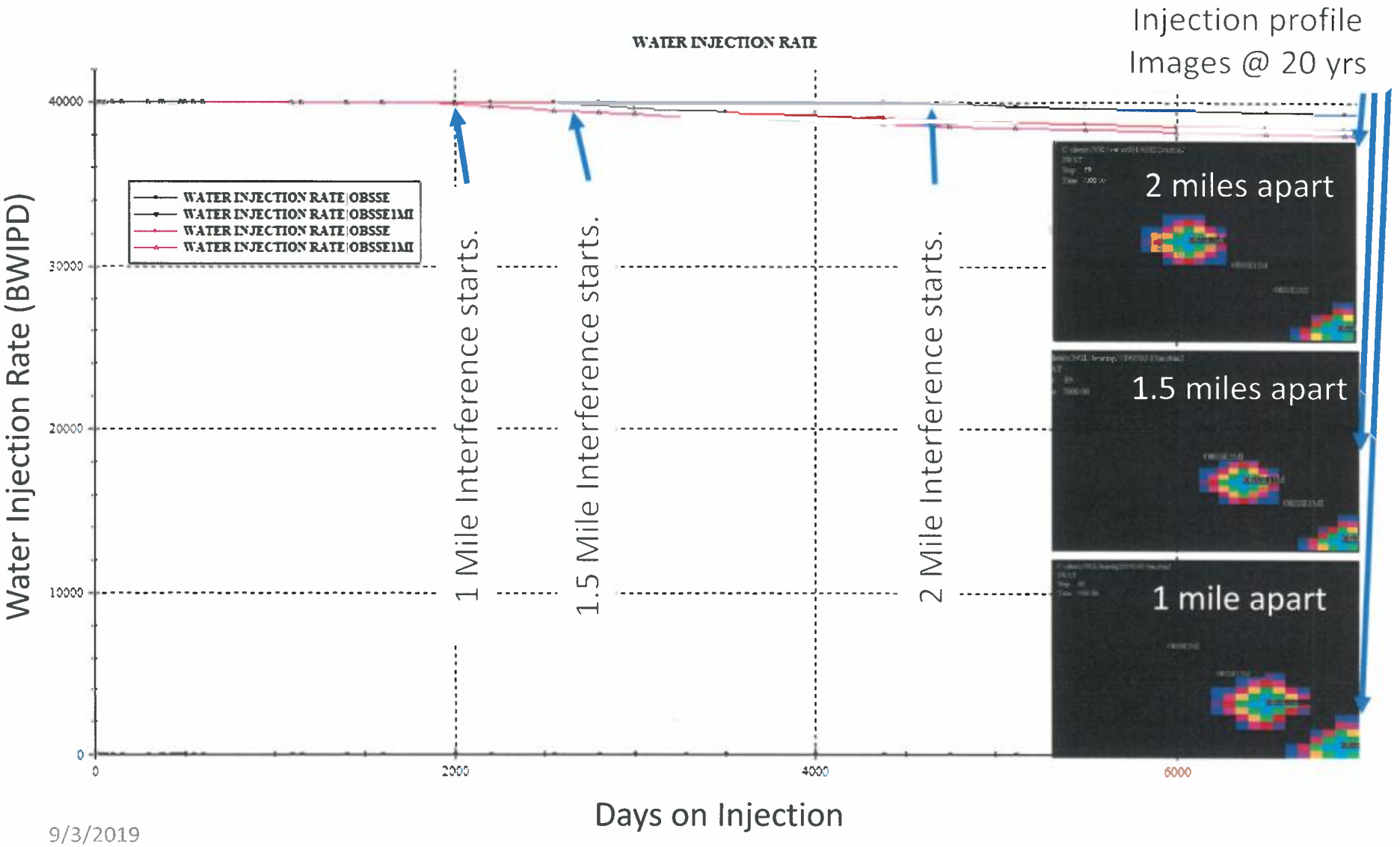
NGL Water Solutions, LLC

Exh. A12

Typical wells showing interference when spaced 1, 1.5, and 2 miles apart.
Closer spacing causes rates to fall, but not significantly.



9/3/2019

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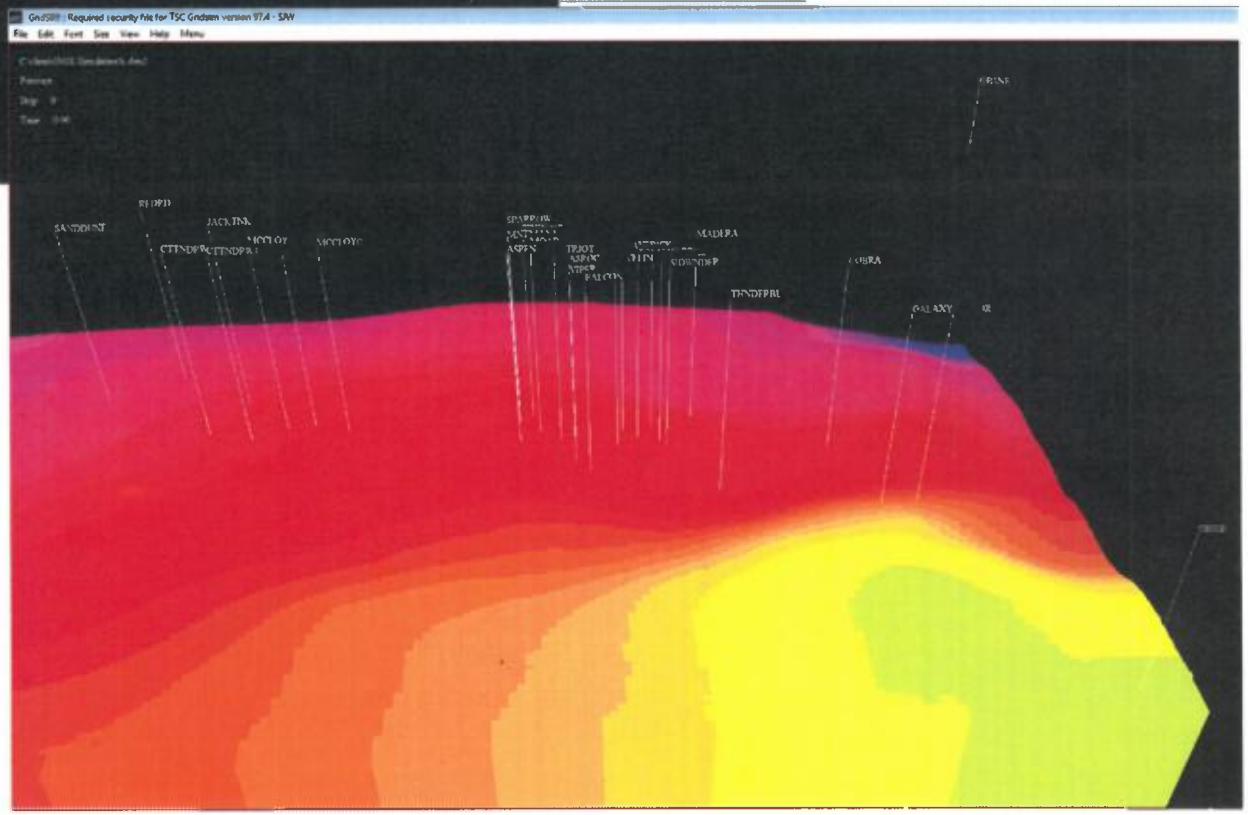
Exh. A13

2019
(0 years)

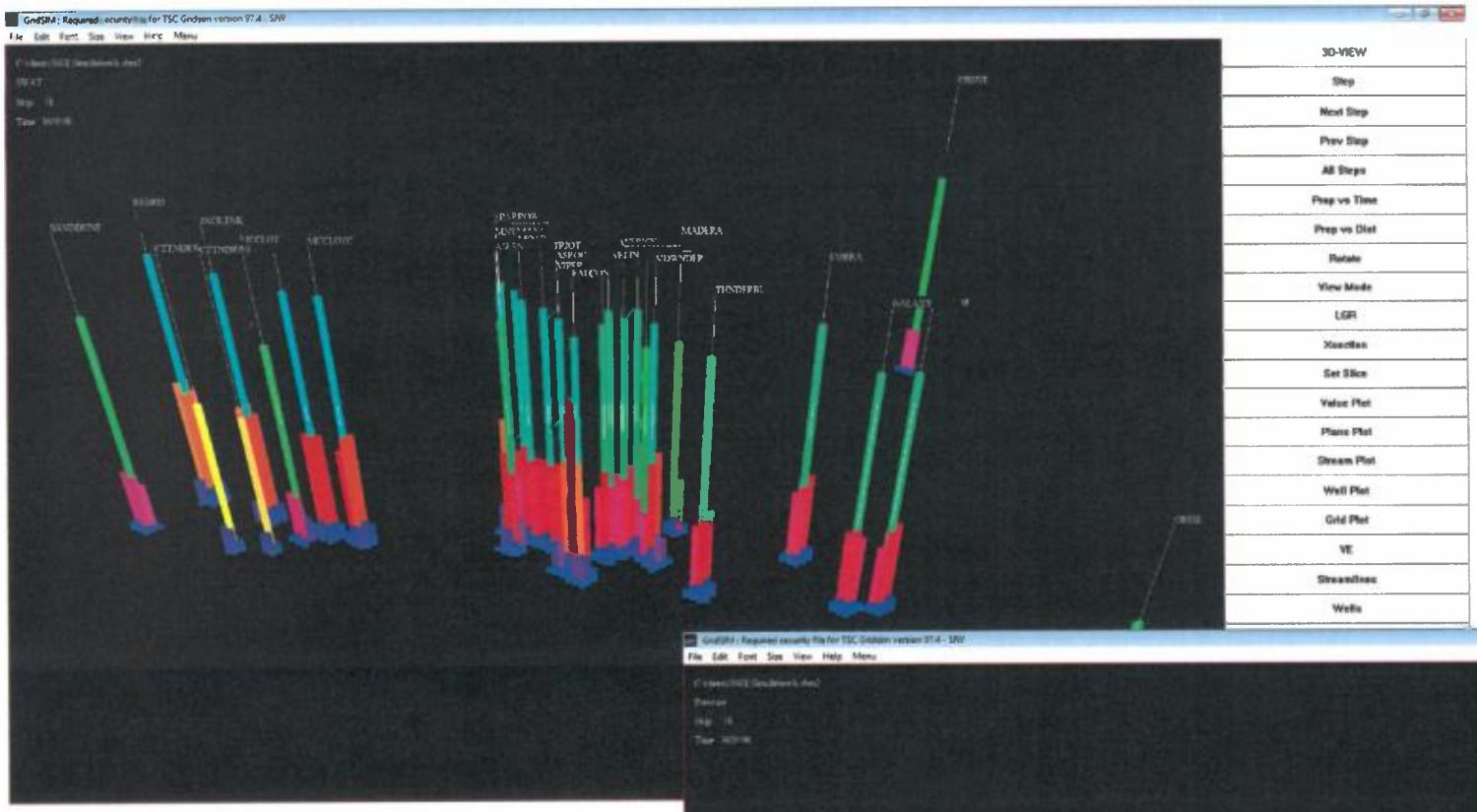


Typical Water movement & Pressure

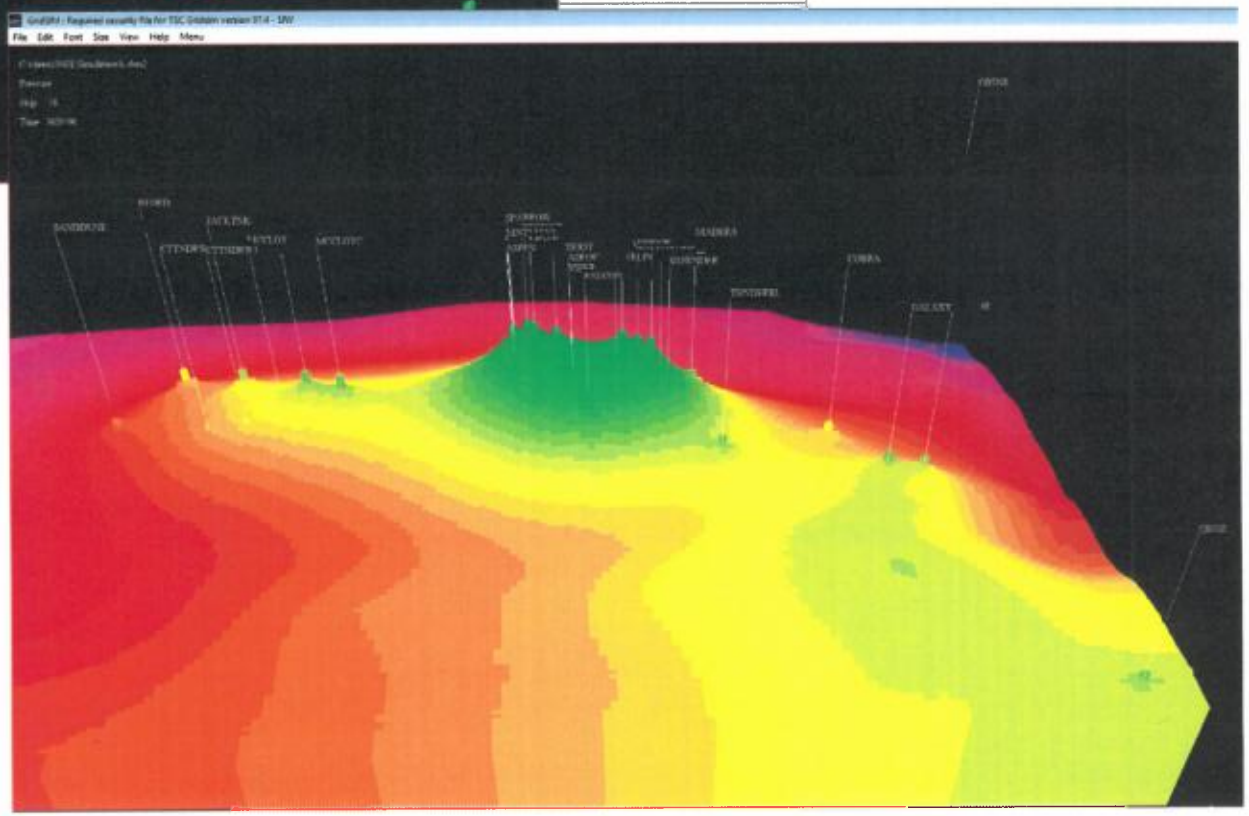
9/3/2019

64

Exh. A14



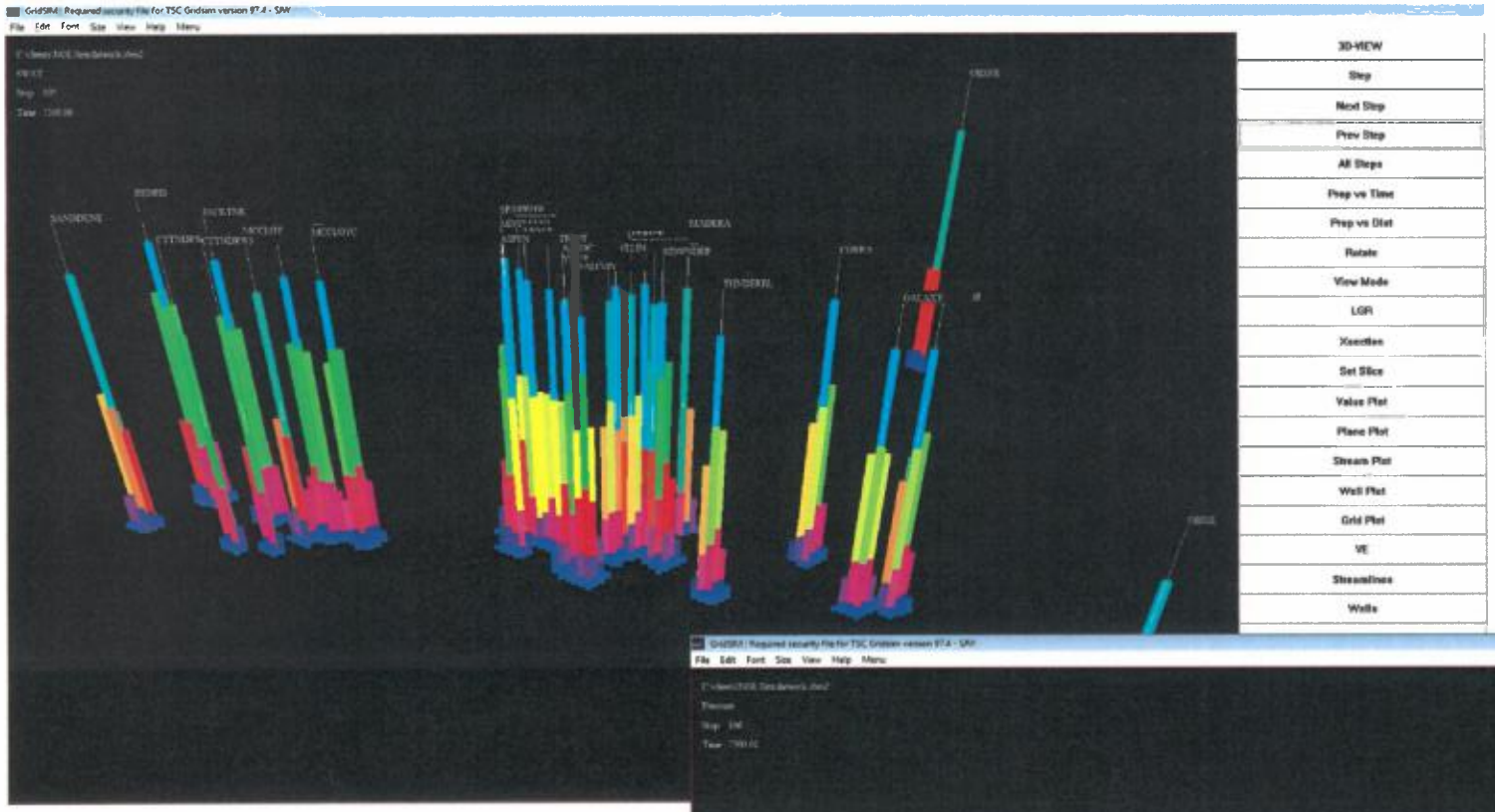
2029
(10 years)



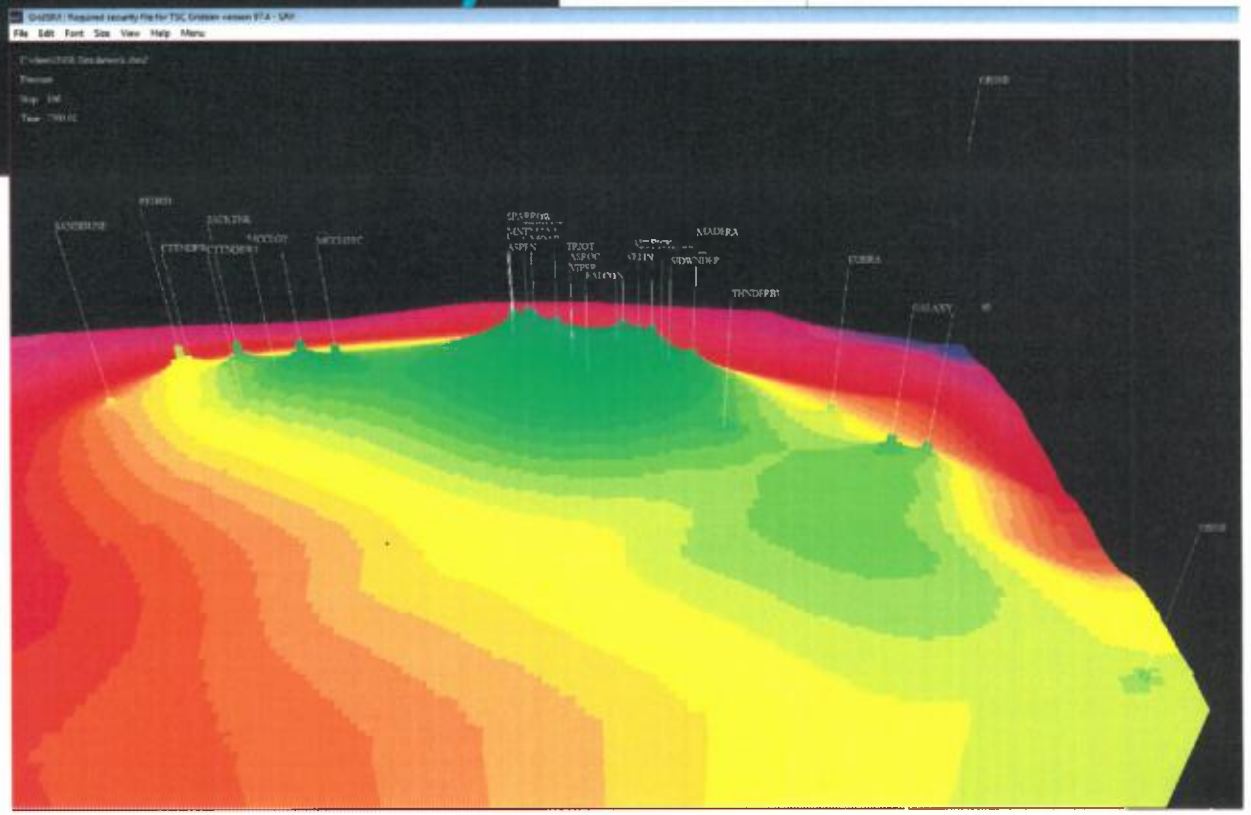
Typical Water movement & Pressure

9/3/2019

Exh. A15



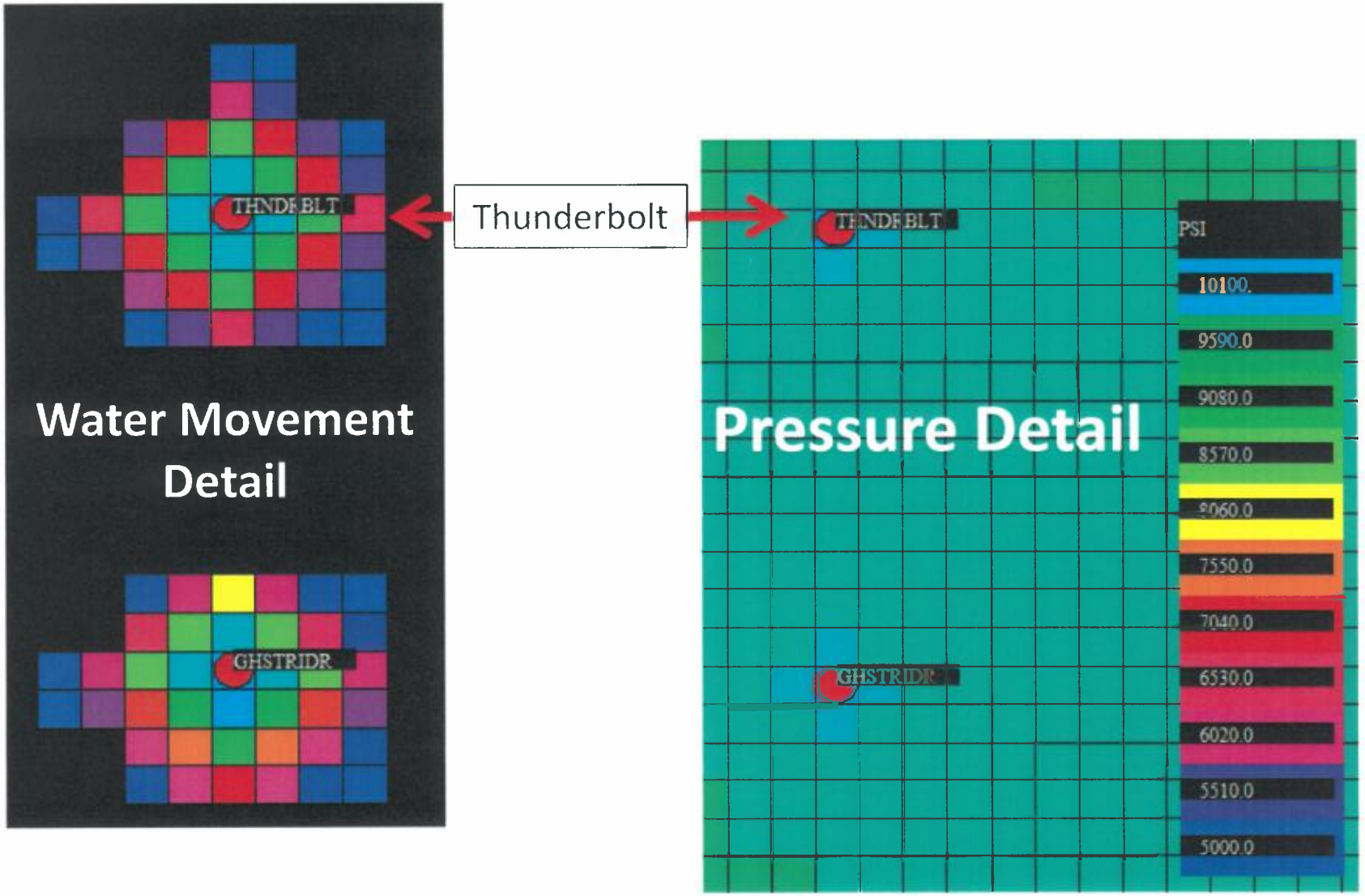
2039
(20 years)



Typical Water movement & Pressure

9/3/2019

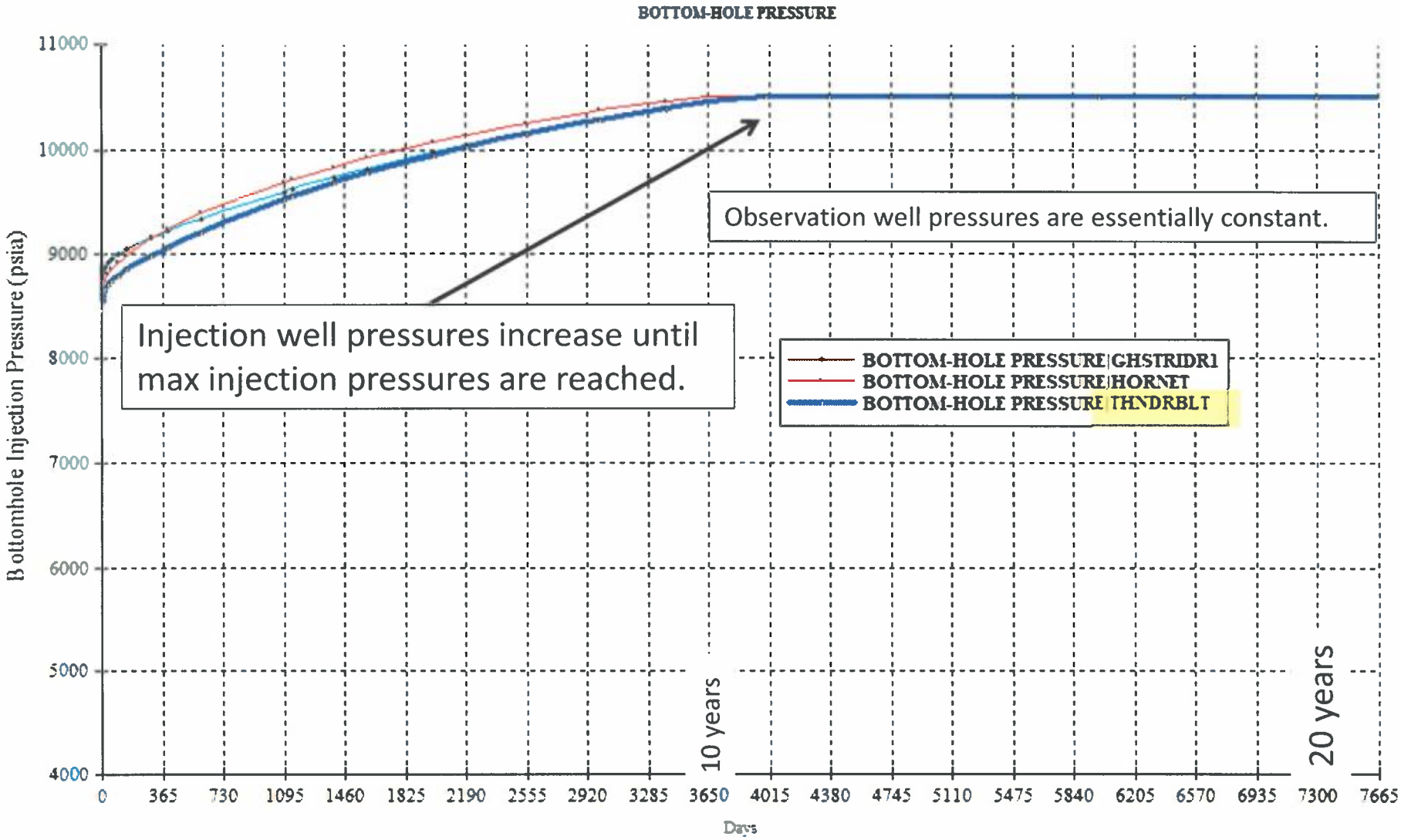
Detailed water saturation and pressure distribution at 2039 (20 years)



NGL Water Solutions, LLC

Exh. A17

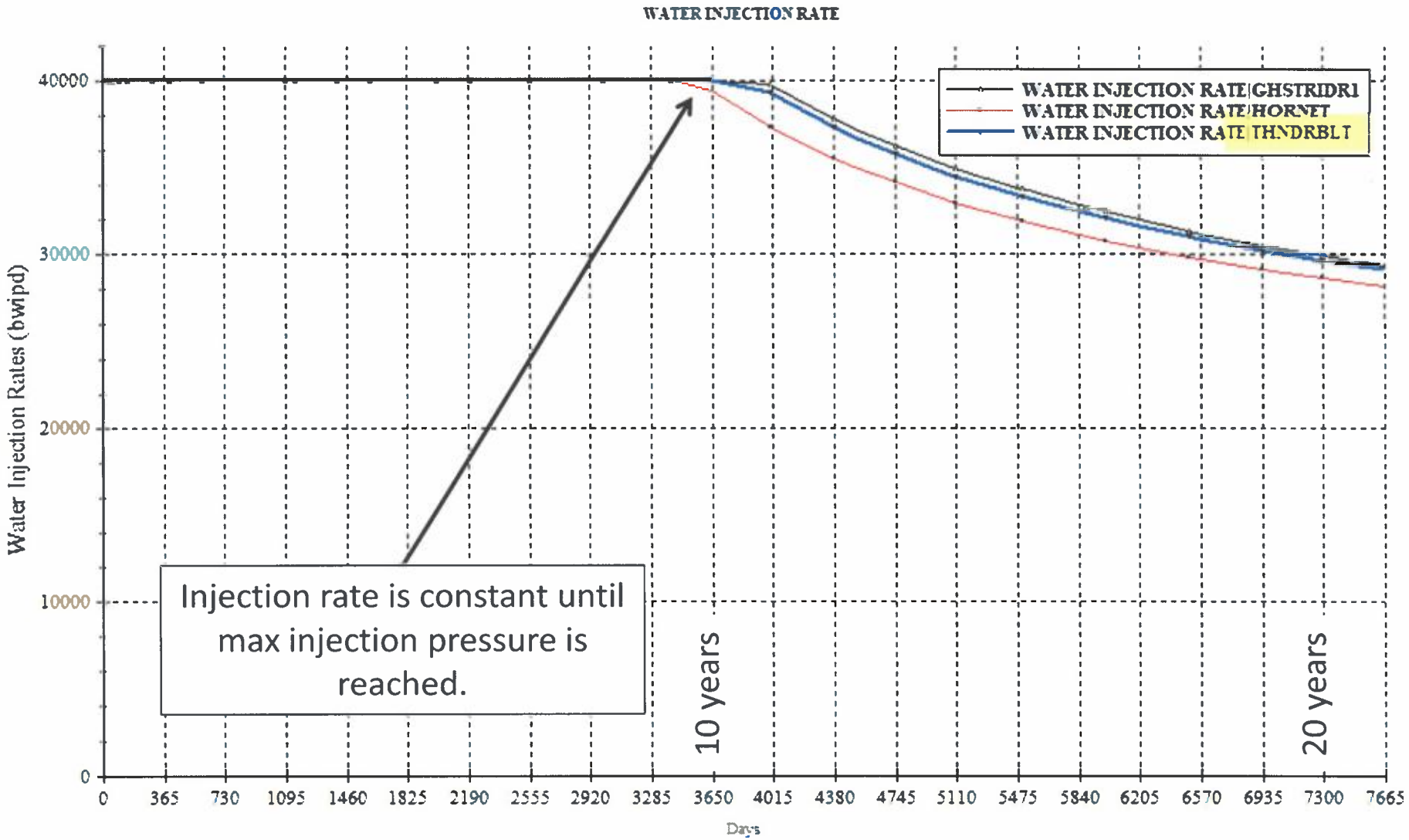
Simulation BHIP predictions for wells near Thunderbolt



NGL Water Solutions, LLC

Exh. A18

Simulation predictions for individual wells over 20 Years



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Exhibits of Dr. Kate Zeigler
On Behalf of NGL Water Solutions Permian, LLC

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

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

CASE NO. 20236
(THUNDERBOLT)

AFFIDAVIT OF DR. KATE ZEIGLER

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

I, Dr. 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 ½" 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 amended 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 the 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 approving the Thunderbolt SWD #1, which is a salt water disposal well.

6. I have been informed that the injection intervals for the well will be isolated to the Devonian and Silurian formations (also referred to as the Wristen Group and Fusselman Formation) and the well 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 is 7 5/8", which is cemented and cement is circulated on the 7 5/8" casing.

7. 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 area where the well is located is between 300 feet and 320 feet thick.

8. 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 1,000' and 1,100' 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 700 feet thick.

9. Based on my geologic study of the area, it is my opinion that the approved injection zone for the well 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 well.

10. The well 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 1,600 to 1,700 feet thick.

11. 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.

12. 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 4 miles away from where the well is proposed to be drilled.

13. 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.

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

15. In my opinion, the granting of this application is in the interests of conservation and the prevention of waste.

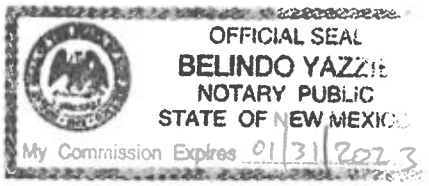
[Signature page follows]

Dr. Kate Zeigler

SUBSCRIBED AND SWORN to before me this 31 th day of August, 2019 by Dr. Kate Zeigler.

Notary Public

My commission expires: 01/31/2023



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 thinks 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.

EXHIBIT
3.A

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 in 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.

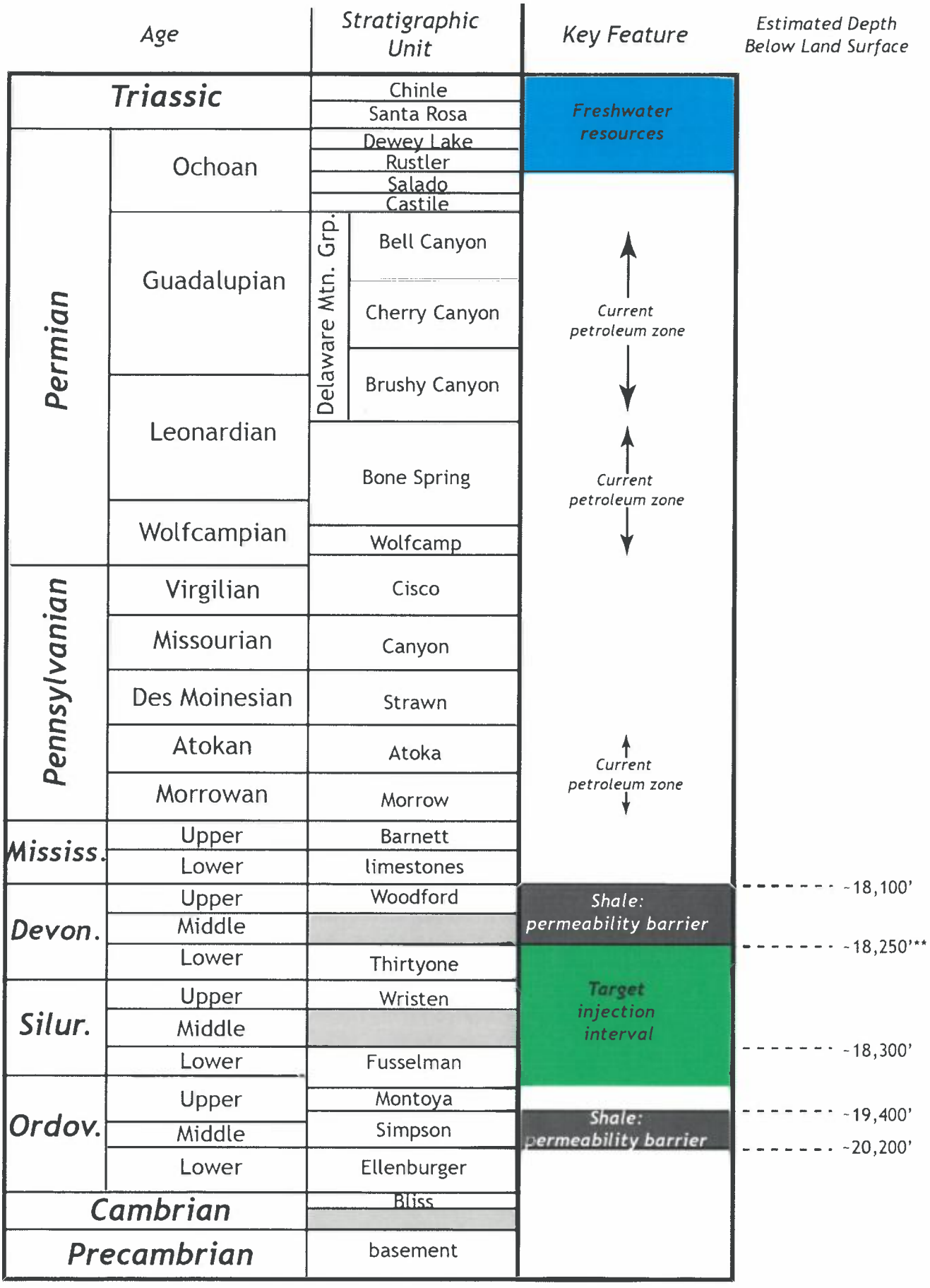
References

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.

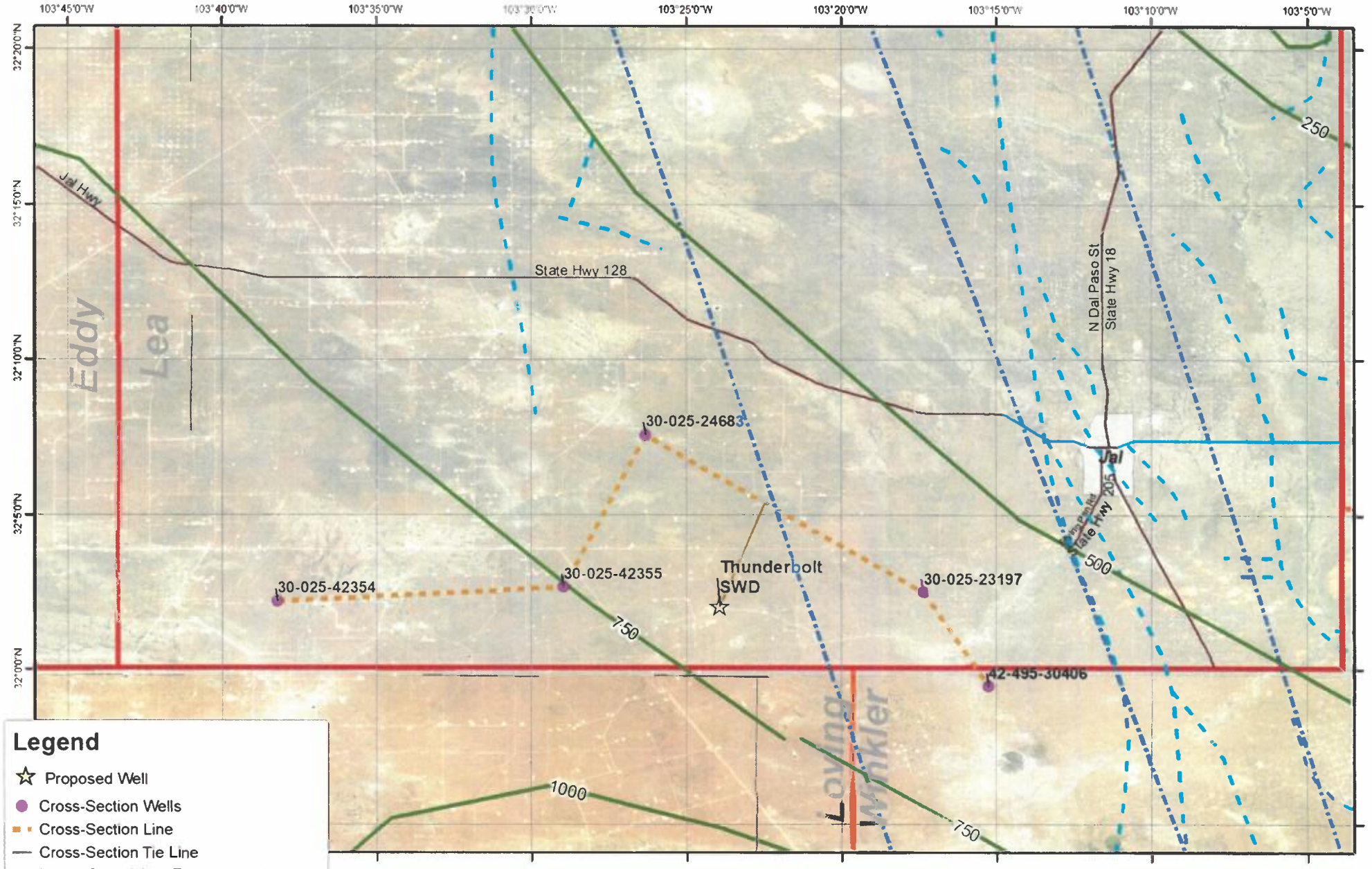
Hemmesch, N.T., Harris, N.B., Mnich, C.A. and Selby, D., 2014, A sequence-stratigraphic framework for the Upper Devonian Woodford Shale, Permian Basin, west Texas: American Association of Petroleum Geologists Bulletin, v. 98, no. 1, p. 23-47, doi:10.1306/05221312077

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 30-025-24683 Fairview Mills Fed #1 (14-25S-34E).

Elllenburger Isopach, Faults, and Well Location



Legend

- Proposed Well
- Cross-Section Wells
- Cross-Section Line
- Cross-Section Tie Line
- Lower Ordovician (Ellenburger) Isopach
- Precambrian Faults
- Basement Faults
- Roads
- Towns/Cities
- County Boundaries, NM
- County Boundaries, TX

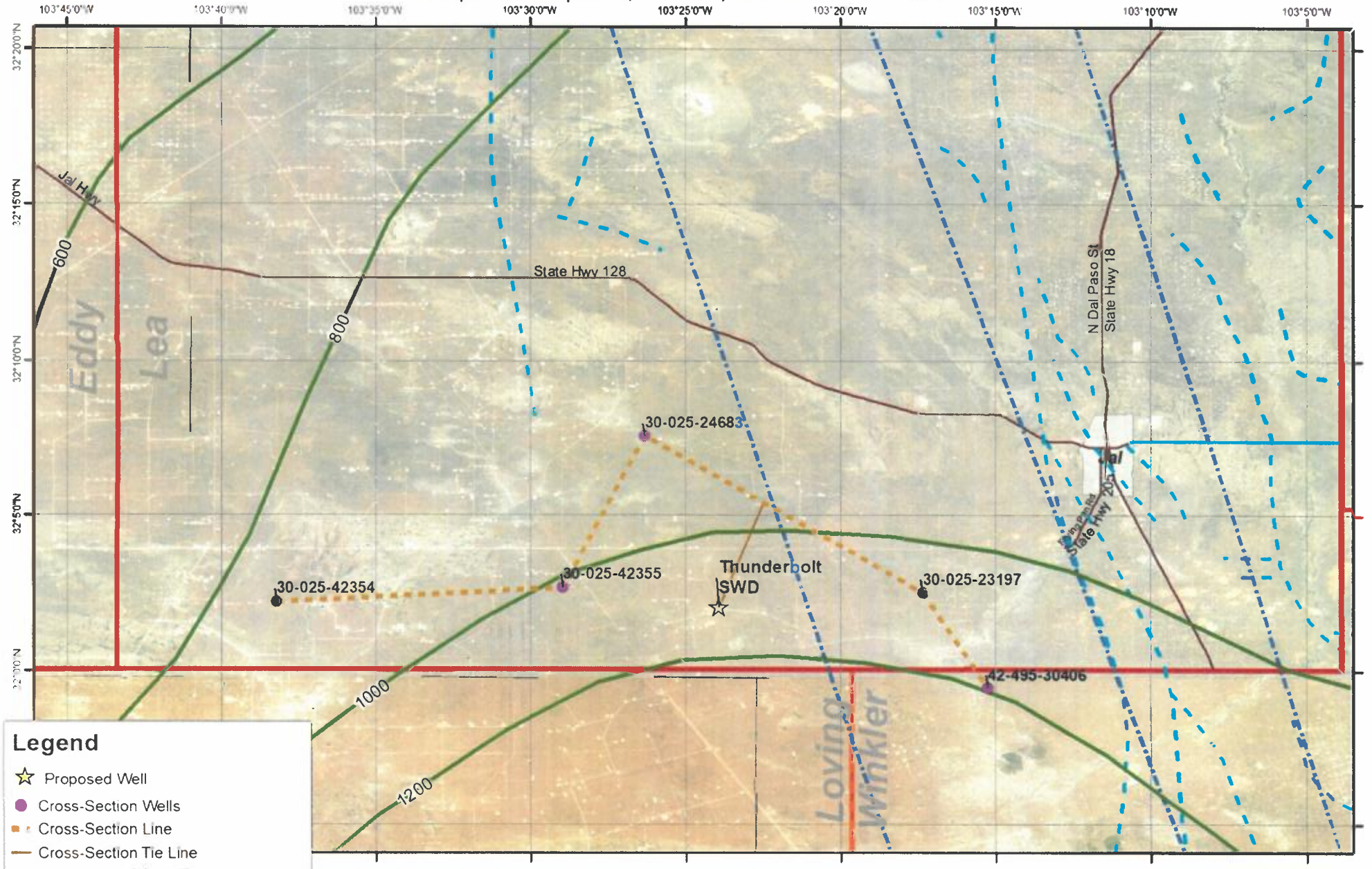
5 2.5 0 5 10 15 20 Miles

N

Coordinate System: GCS North American 1983
Datum: North American 1983
Units: Degree
Basement faults (if shown) were digitized from Tectonic Map of Texas (Ewing, 1990)
Precambrian faults were digitized from Frenzel et al (1998) Figure 6.

WESTERN Geoinformatics

Simpson Isopach, Faults, and Well Location



Legend

- Proposed Well
- Cross-Section Wells
- Cross-Section Line
- Cross-Section Tie Line
- Middle Ordovician (Simpson) Isopach
- Precambrian Faults
- Basement Faults
- Roads
- Towns/Cities
- County Boundaries, NM
- County Boundaries, TX

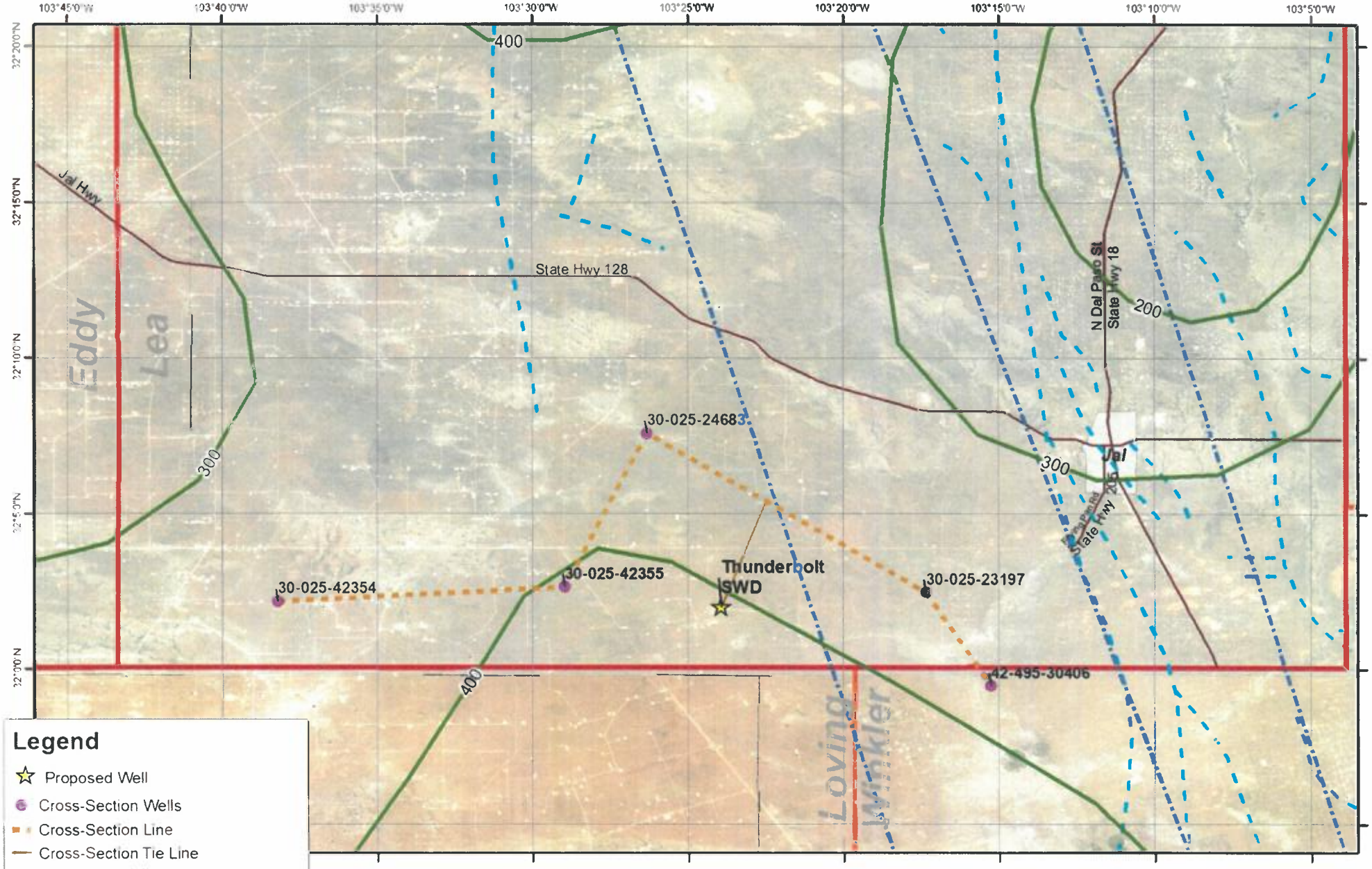
5 2.5 0 5 10 15 20 Miles

N

Coordinate System: GCS North American 1983
Datum: North American 1983
Units: Degree
Basement faults (if shown) were digitized from Tectonic Map of Texas (Ewing, 1990)
Precambrian faults were digitized from Frenzel et al (1998) Figure 6

WESTERN Geoinformatics

Montoya Isopach, Faults, and Well Location



Legend

- Proposed Well
- Cross-Section Wells
- Cross-Section Line
- Cross-Section Tie Line
- Upper Ordovician (Montoya) Isopach
- Precambrian Faults
- Basement Faults
- Roads
- Towns/Cities
- County Boundaries, NM
- County Boundaries, TX

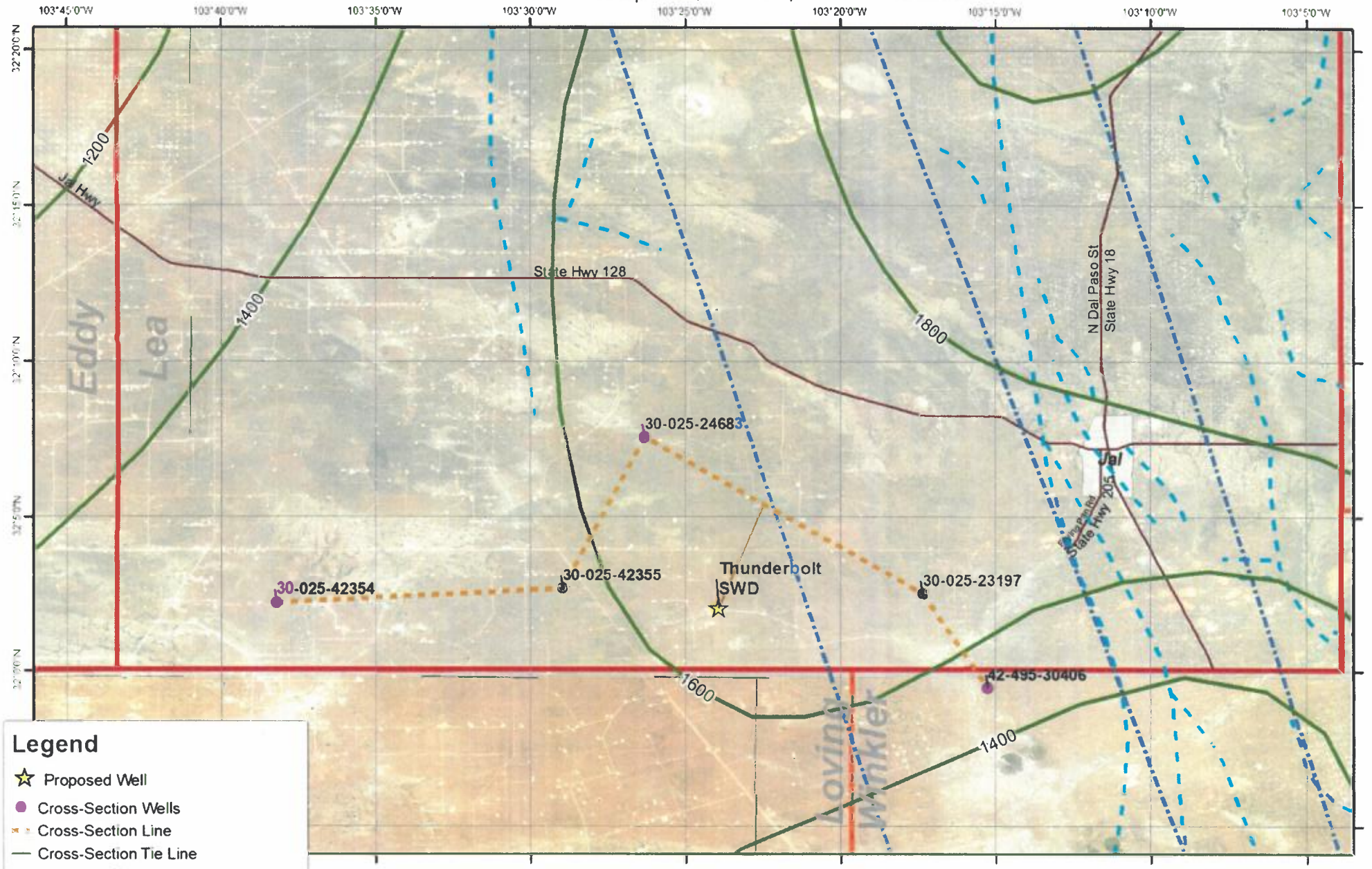
5 2.5 0 5 10 15 20 Miles

N

Coordinate System: GCS North American 1983
Datum: North American 1983
Units: Degree
Basement faults (if shown) were digitized from Tectonic Map of Texas (Ewing, 1990)
Precambrian faults were digitized from Frenzel et al (1998) Figure 6.

WESTERN Geoinformatics

Wristen/Fusselman Isopach, Faults, and Well Location



Legend

- Proposed Well
- Cross-Section Wells
- Cross-Section Line
- Cross-Section Tie Line
- Sil/Dev (Wristen/Fusselman) Isopach
- Precambrian Faults
- Basement Faults
- Roads
- Towns/Cities
- County Boundaries, NM
- County Boundaries, TX

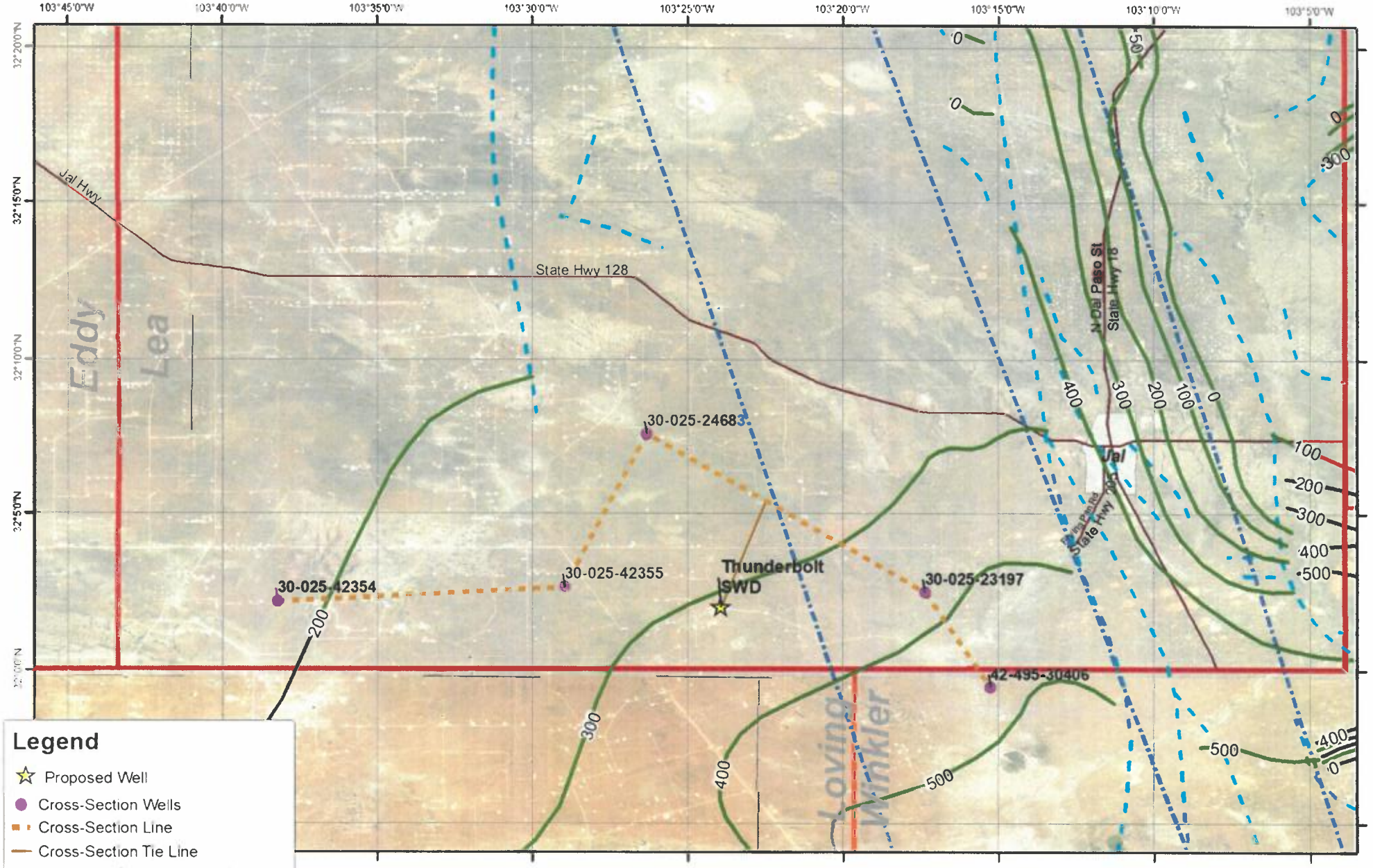
5 2.5 0 5 10 15 20 Miles

N

Coordinate System: GCS North American 1983
Datum: North American 1983
Units: Degree
Basement faults (if shown) were digitized from Tectonic Map of Texas (Ewing, 1990)
Precambrian faults were digitized from Frenzel et al (1998) Figure 6.

WESTERN Geoinformatics

Woodford Isopach, Faults, and Well Location



Legend

- Proposed Well
- Cross-Section Wells
- Cross-Section Line
- Cross-Section Tie Line
- Late Devonian (Woodford) Isopach
- Precambrian Faults
- Basement Faults
- Roads
- Towns/Cities
- County Boundaries, NM
- County Boundaries, TX

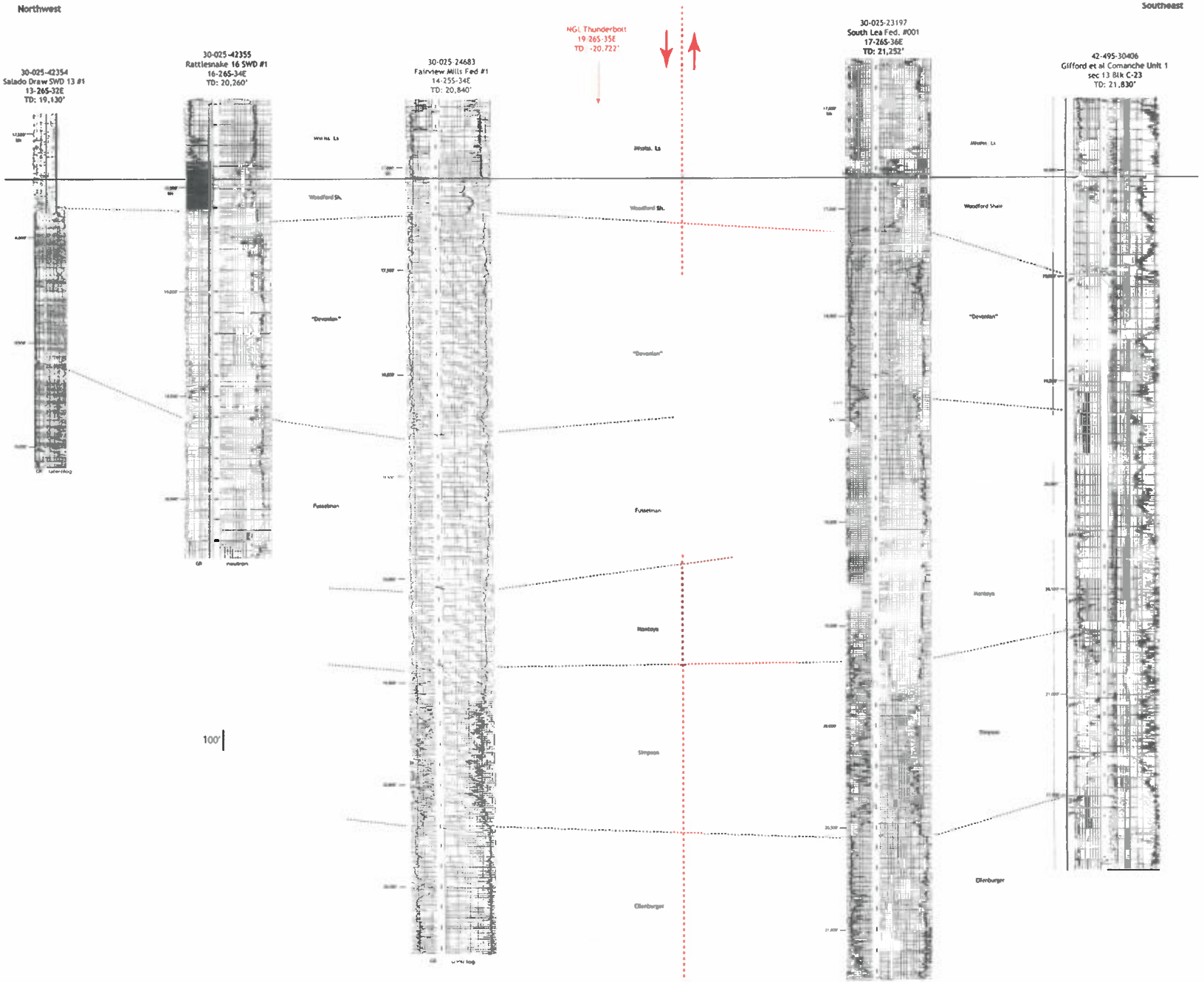
5 2.5 0 5 10 15 20 Miles

N

Coordinate System: GCS North American 1983
Datum: North American 1983
Units: Degree
Basement faults (if shown) were digitized from Tectonic Map of Texas (Ewing, 1990)
Precambrian faults were digitized from Frenzel et al (1998) Figure 6.

WESTERN Geoinformatics

80


Northwest
Southeast
30-025-42354
Salado Draw SWD 13 #1
13-26S-32E
TD: 19,130'
30-025-42355
Rattlesnake 16 SWD #1
16-26S-34E
TD: 20,260'
30-025-24683
Fairview Mills Fed #1
14-25S-34E
TD: 20,840'
NGL Thunderbolt
19-26S-35E
TD ~20,722'
30-025-23197
South Lea Fed. #001
17-26S-36E
TD: 21,252'
42-495-30406
Gifford et al Comanche Unit 1
sec 13 Blk C-23
TD: 21,830'
Woodford Sh.
"Devonian"
Fusselman
Montoya
Simpson
Ellenburger
100'

Exhibits of Dr. Steven Taylor
On Behalf of NGL Water Solutions Permian, LLC

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

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

CASE NO. 20236
(THUNDERBOLT)

AFFIDAVIT OF DR. STEVEN TAYLOR

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

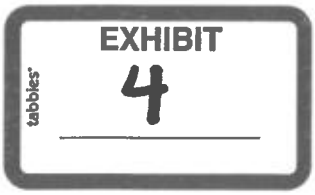
I, Dr. Steven Taylor, make the following affidavit based upon my own personal knowledge.

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 amended application that NGL Water Solutions Permian, LLC ("NGL") filed in this matter and I have conducted a study related to the areas which is the subject matter of the application.



5. The applicant, NGL (OGRID No. 372338), seeks an order approving the Thunderbolt SWD #1 well, which is a salt water disposal well.

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

7. The closest known fault line is located approximately 2 to 20 miles away from where the well is proposed to be located.

8. 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. Attached as Exhibit A is a copy of my study.

9. 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 well. A copy of the studies are attached hereto as Exhibit B.

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

[Signature page follows]

Dr. Steven Taylor

SUBSCRIBED AND SWORN to before me this 3 th day of ~~August~~ September, 2019 by Dr. Steven Taylor.

Notary Public

My commission expires: 3/8/2023

OFFICIAL SEAL
SAMANTHA R. NORWOOD
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 3/8/2023

Seismic Catalog Analysis Within 50 km of Thunderbolt SWD #1 Well

Prepared for NGL-Permian
by
GeoEnergy Monitoring Systems
August 28, 2019

Analysis is based on NMT seismic catalogs, unpublished catalogs and USGS catalogs for the time period 2010-2017 selecting events within 50 km of the Thunderbolt SWD well. Additionally, seismic monitoring from September 6, 2018 to date from the three NGL seismic stations installed at Striker 2, Striker 3 and Striker 6 SWD wells. NGL/GeoEMS installed a seismic monitor at the Salty Dog SWD well (SDOG) in Texas just across New Mexico border on March 28, 2019 that will help constrain locations in southeastern NM.

Striker Two (STR2), Sand Dunes well, Lat/Long: 32.2072820/-103.7557370
Striker Three (STR3), Gossett well, Lat/Long: 32.2551110/-104.0868610
Striker Six (STR6), Madera well, Lat/Long: 32.2091150/-103.5359570
Salty Dog (SDOG), Salty Dog well, Lat/Long: 32.22531/ -103.045212

Figure 1 shows seismic station locations 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 are used along with the 3 Striker SWD seismic stations for regional monitoring.

The USGS reports no events in the vicinity since 2010. New Mexico Tech runs a seismic network (SC) north of the wells for the DOE Waste Isolation Plant (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. Since the seismic deployment, there have been event detections listed in **Table 2** having preliminary locations using available regional data (**Figure 3**). Due to the small magnitudes, the signal-to-noise levels are low so the locations have large uncertainty and there is little constraint on depth.

No historic events have been located in the vicinity of Thunderbolt SWD well. There was one small event located approximately 9 km from the Thunderbolt SWD well in October of 2018 (Table 2)

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

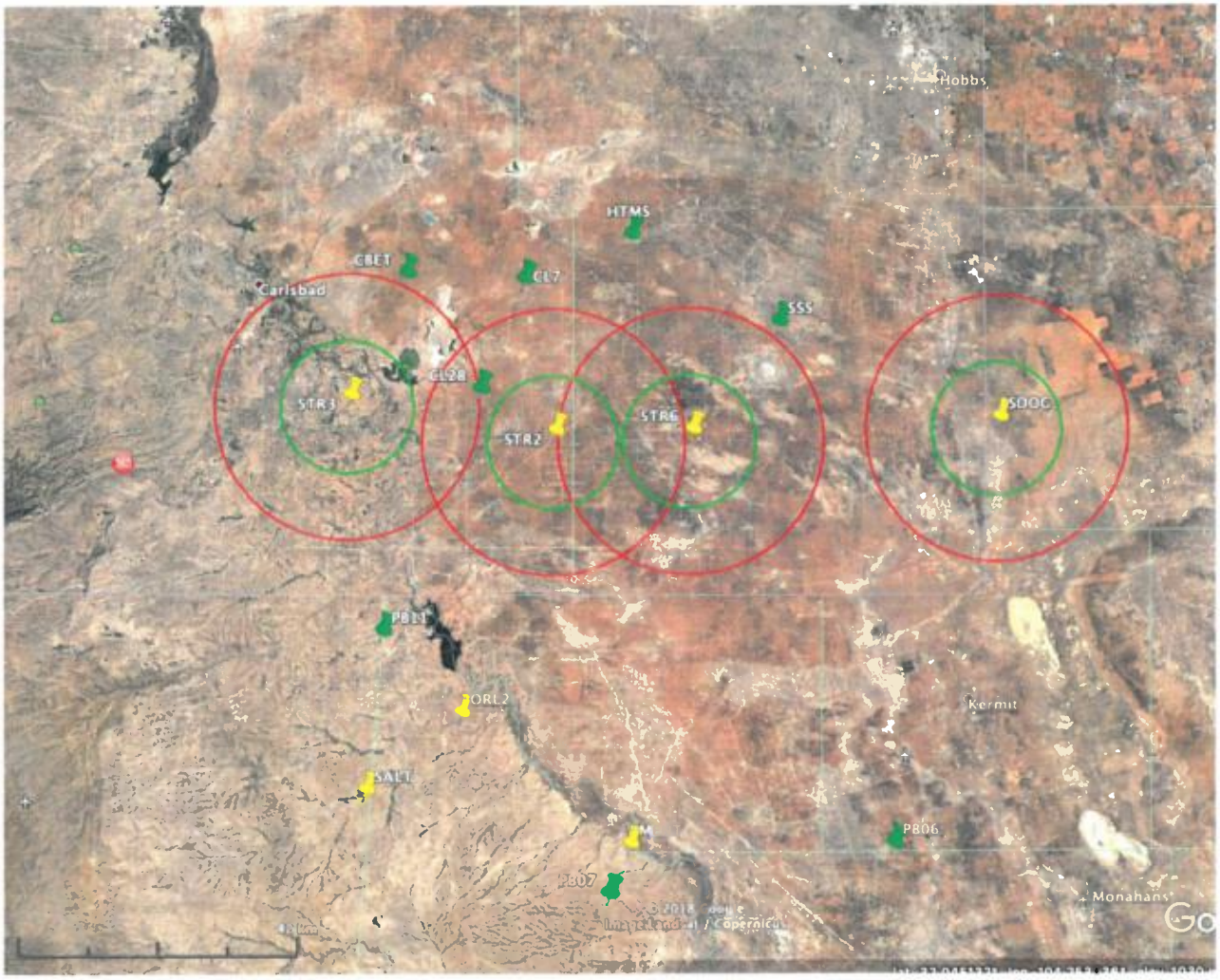


Figure 1. Striker SWD wells seismic station locations and existing NGL-Permian seismic stations (yellow pushpins). Green and red circles around stations show approximate detection levels for ML 1.0 and 1.5, respectively.

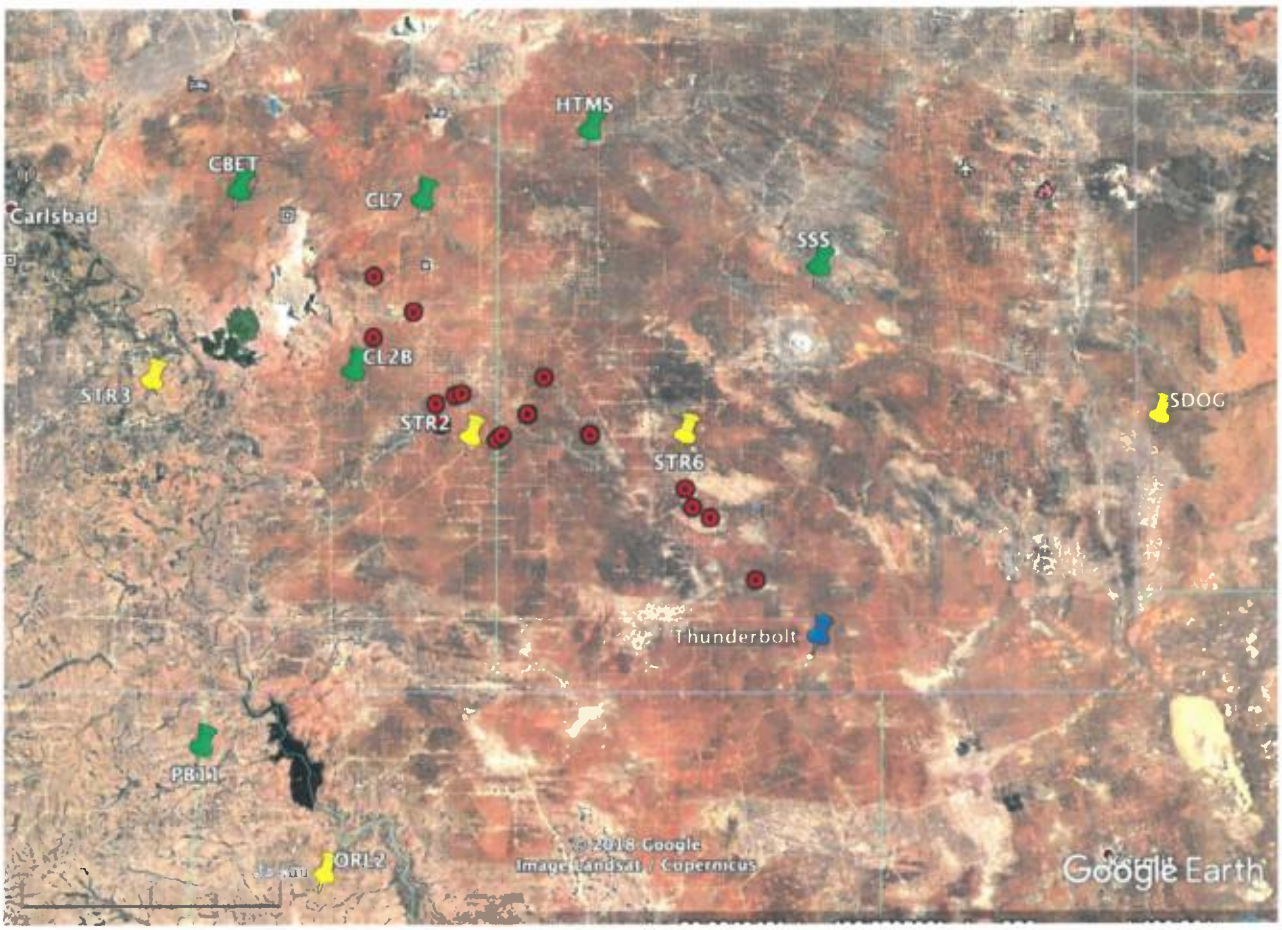


Figure 3. Seismic events in between September 6, 2018 to date as red circles (Table 2). Seismic stations as yellow (NGL) or green (NMT and TexNet) pushpins. Thunderbolt SWD well shown as blue pushpin.

FTI™
PLATT SPARKS

Texas Registered Engineering Firm No F – 16381

September 3, 2019

RE: Application for Fluid Injection or Disposal Permit
NGL Water Solutions Permian, LLC
Thunderbolt SWD #1
Lea County, New Mexico

FSP Analysis (Fault slip potential)

I have reviewed the geology and seismic activity near the Thunderbolt SWD #1 and I would conclude that this well does not pose a risk related to seismicity in this area. The Area of review (AOR) and subject well are shown on **(FSP Exh. 2)** in relation to the historical earthquake events in the area. (USGS) (None within the AOR).

** The FSP software used for this analysis was jointly developed by Stanford University, Exxon Mobil and XTO Energy as a tool for estimating fault slip potential resulting from fluid injection.*

FSP Methodology

- FSP input variables were determined from nearby Deep injection wells in the review area and published data. (**FSP Exh.1**)
- Stress gradients and pore pressure gradients were derived from testing and published papers (**FSP Exh.1**).
- Fault slip potential (FSP) was analyzed in the area of review shown on **FSP Exh.2.** The analysis integrates all of the proposed well locations as well as any existing injection wells in order to fully assess the pressure implications of injection in the area and the potential for slip along existing faults. Historical USGS earthquake events are denoted by the "blue" bulls-eye symbols (none in the AOR).
- Azimuth direction of Shmax was derived from Snee/Zoback 2018. (**FSP Exh.3**)
- Viscosity of the formation fluid was derived from temperature values at the mid-point injection depth (**FSP Exh.4**)

925-A Capital of Texas Highway, South | Austin, TX 78746
512.327.6930 telephone | 512.327.7069 fax | ftiplattsparks.com

EXHIBIT tabbies 4-B

- The wells input into the FSP model and the potential faults in the area are shown on **FSP Exh. 5.**
    - Existing injection wells are projected into the future at the last reported injection volume and then held constant.
    - The subject well is tested at the proposed maximum injection rate and held constant for 20 years. If the ΔP at the well exceeds the allowed injection pressure, then the modelled injection rates are decreased over time to stay within the allowed maximum injection pressure. This analysis is important because the model should represent realistic injection values over the life of the model and arbitrarily using the permitted rate over the life of the well does not reflect the reality that as the reservoir pressure increases the well's ability to inject fluid may be reduced.
    - The Subject well is denoted in the model as follows:
        - 16 – Thunderbolt SWD #1 (40,000 bbls/d)
    - Also included in the model are existing SWD injection wells as follows:
        - 1 – 3002512014 – injection reported (last reported rate held constant)
        - 2 – 3002527085 – injection reported (last reported rate held constant)
        - 3 – 3002542054 – no injection to date (30,000 bbls/d)
        - 4 – 3002542355 – injection reported (last reported rate held constant)
        - 5 – 3002543360 – injection reported (last reported rate held constant)
        - 6 – 3002544954 – no injection to date (30,000 bbls/d)
        - 7 - 3002545151 – no injection to date (30,000 bbls/d)
        - 8 - 3002545346 – no injection to date (30,000 bbls/d)
        - 9 - 3002545795 – no injection to date (30,000 bbls/d)
        - 17 – West Jal B Deep #1 – no injection to date (30,000 bbls/d)
        - And these other pending NGL well locations
        - 10 – Cobra SWD #1 (40,000 bbls/d)
        - 11 - Galaxy SWD #1 (40,000 bbls/d)
        - 12 – Ghost Rider SWD #1 (40,000 bbls/d)
        - 13 – Hornet SWD #1 (40,000 bbls/d)
        - 14 – Raptor SWD #1 (40,000 bbls/d)

  - 15 – Thunderbird SWD #1 (40,000 bbls/d)
  - 18 – Osprey SWD #1 (40,000 bbls/d)
  - 19 – Seahawk SWD #1 (40,000 bbls/d)

- **FSP Exh.6** shows the geomechanical properties of the possible faults (with segment numbers).
- **FSP Exh.7** shows the pressure to slip, ΔP, at each possible fault segment.
- **FSP Exh.8** shows the probability of fault slip for each fault segment and shows that a ΔP 3,500 psi increase at segment F16 shows a 10% probability of fault slip. The model calculates a ΔP increase of 265 psi at F16 by 2045 thus the calculated pressures remain well below the 10% probability level. (See FSP Exh. 12)
- **FSP Exh.9 - FSP Exh.11** show the calculated pressures at the possible fault segments as of 1/1/2025, 1/1/2035, and 1/1/2045. Note that by 2045 none of the faults have reached pressures that would initiate fault slip.
- **FSP Exh.12** shows the pressure recap for all of the modelled fault segments as of 2045 and the corresponding pressures required to cause fault slip. Also shown are the sources of the fault segments included in the model and the depths where fault displacement can be demonstrated.

FSP Analysis (Findings and Conclusions)

The N-S faults and fault trends in this area of review are not optimally oriented to slip. The orientation of the faults requires significant pressure changes (ΔP +4,200 psi) based on the fixed input parameters and the ΔP increase at the most critical fault only reaches 265 psi by 2045.

This model assumes constant injection rates over the next +25 years which is not a typical scenario as SWD wells tend to decrease injection volumes over time as the well ages and disposal demand decreases in the area. If injection volumes are lower over time than the modelled values, then the risk for fault slip is lowered.

In the event seismicity should occur in the future, the wells closest to the faults (proposed and existing) should be the wells considered for modification or reduction of injection rates. At this time there is no evidence to support rate reduction for any of the existing or proposed wells.

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

Managing Director, Economics/FTI Platt Sparks

Todd W. Reynolds

FTI Platt Sparks

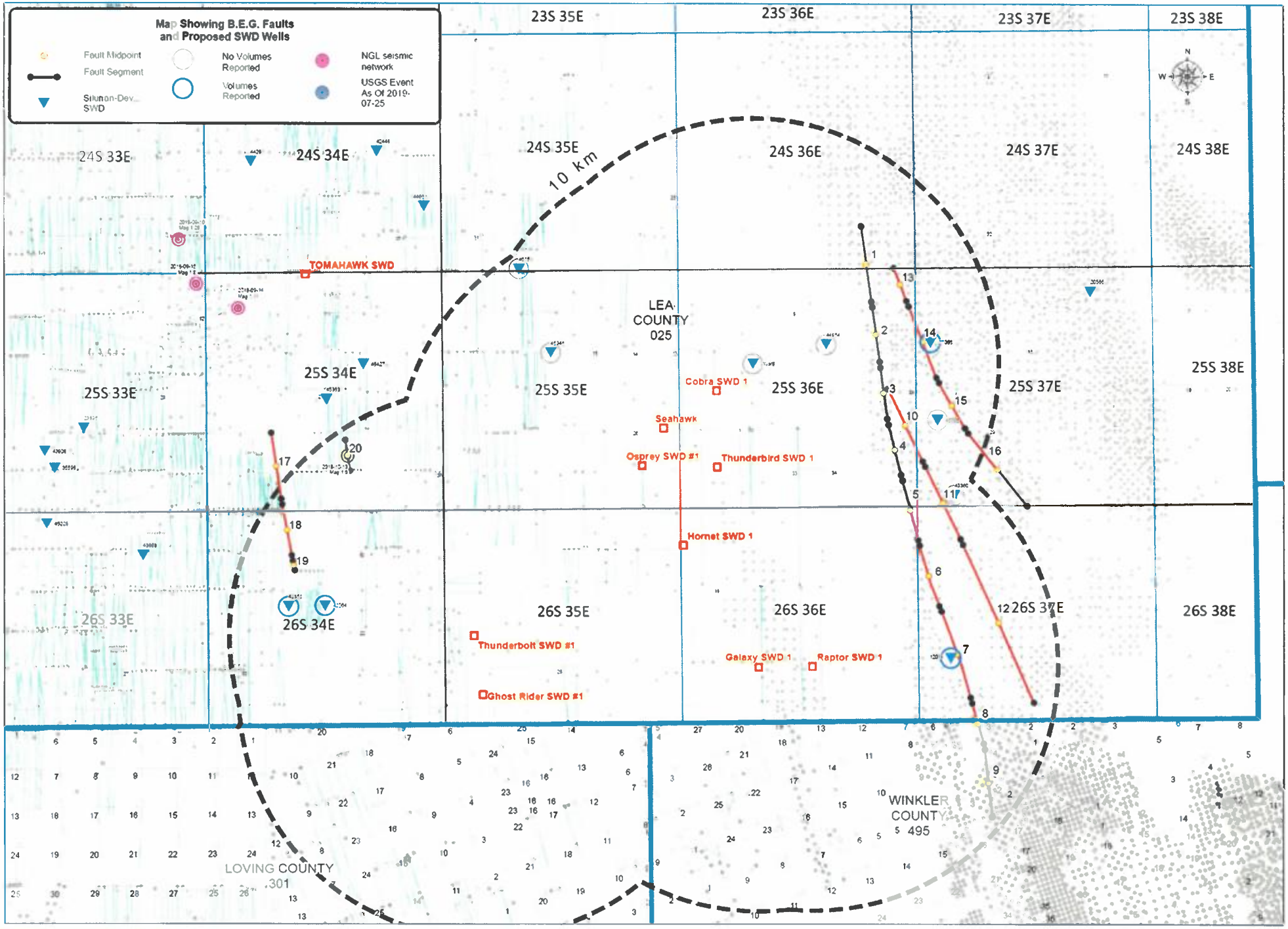
512.327.6930 office

FSP DATA WORKSHEET (General information and Input data)

		Comments	Variance (+/-)
Well	**Thunderbolt SWD #1**		
Operator	NGL Water Solutions Permian, LLC		
API			
Top Injection Depth (ft)	18966		
Base Injection Depth(ft)	20722		
Mid Injection Depth(ft)	19844		
Mid Injection Depth(m)	6048		
Injection Formation(s)	Siluro-Devonian, Fusselman		
Est Formation Temp (F)	266	*Temp graphs (UTPB 2006)*	
Est Formation Temp (C)	130	*Temp graphs (UTPB 2006)*	
Density (kg/m3)	1000	*Estimated*	40
Viscosity (Pa.s)	0.00026	*Calculated*	0.00005
Compressibility-Formation (1/Pa)	8.70E-10	*Estimated*	
Compressibility-Fluid (1/Pa)	4.57E-10	*Estimated*	
Aquifer thickness (ft)	878		50
Porosity (%)	5		2
Perm (mD)	20		4
Vertical stress grad. (psi/ft)	1.1	*Calculated from density log*	0.05
Min. Horiz. Stress grad. (psi/ft)	0.67	*Determined from A Phi parameter (0.6)*	0.02
Max. Horiz. Stress grad. (psi/ft)	0.92	*Determined from A Phi parameter (0.6)*	0.02
Initial Pore Pressure grad. (psi/ft)	0.46	*Normal saltwater pore pressure gradient*	0.01
Azimuth of Max Horiz Stress (deg)	80	*From Snee/Zoback*	5
Fault Orientation (deg)	Dependent on Fault		5
Fault Dip (deg)	85		5
Friction of Coefficient	0.6	*typical for pre-existing fault/facture*	0.02
Max Injection pressure @ 0.20 psi/ft	3793		
Max Injection rate (bbls/day)	40000		

08

FSP Exh. 1



FSP Exh. 2

01_FaultSeg_NM.mxd

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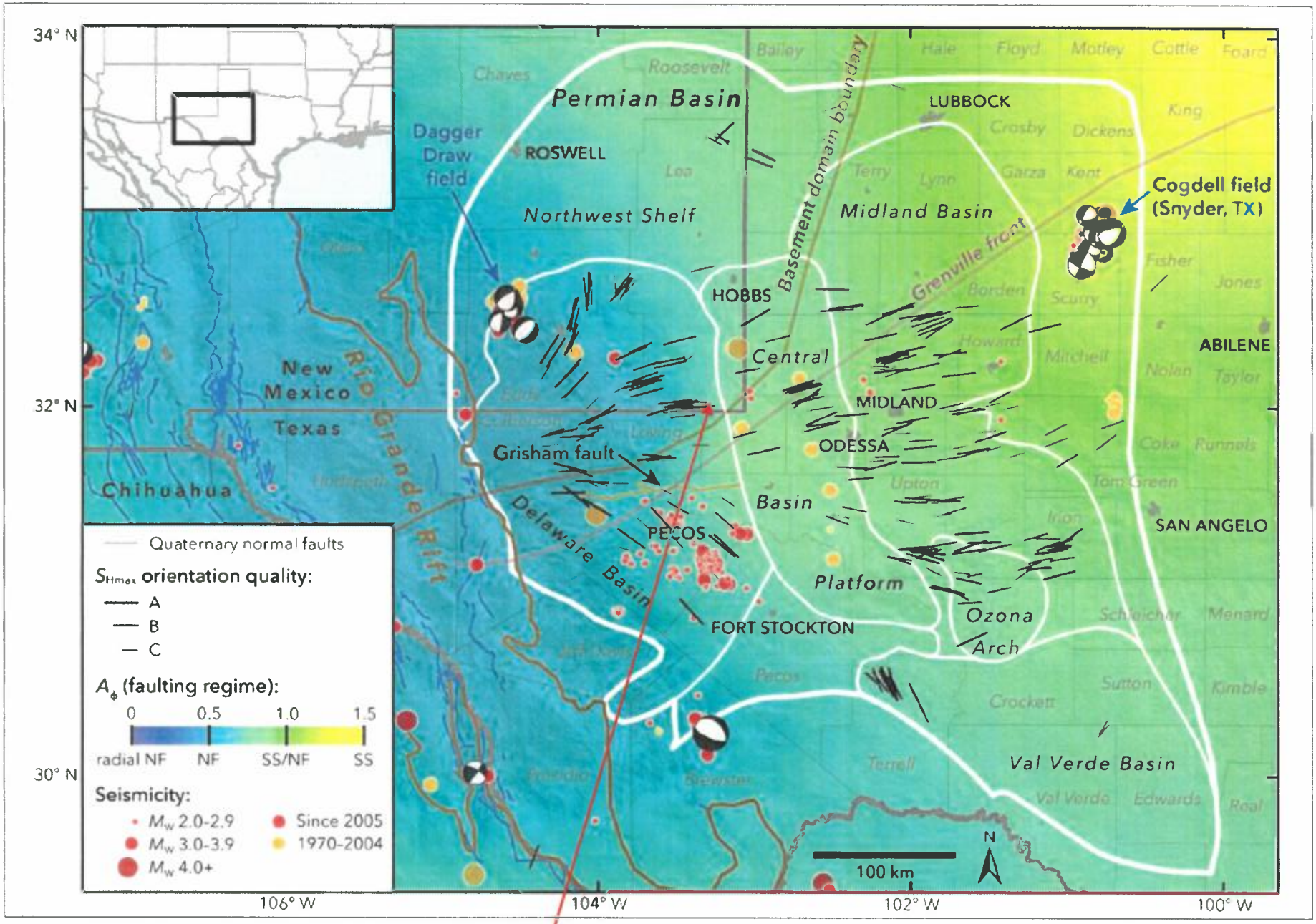


82

FSP Exh. 3

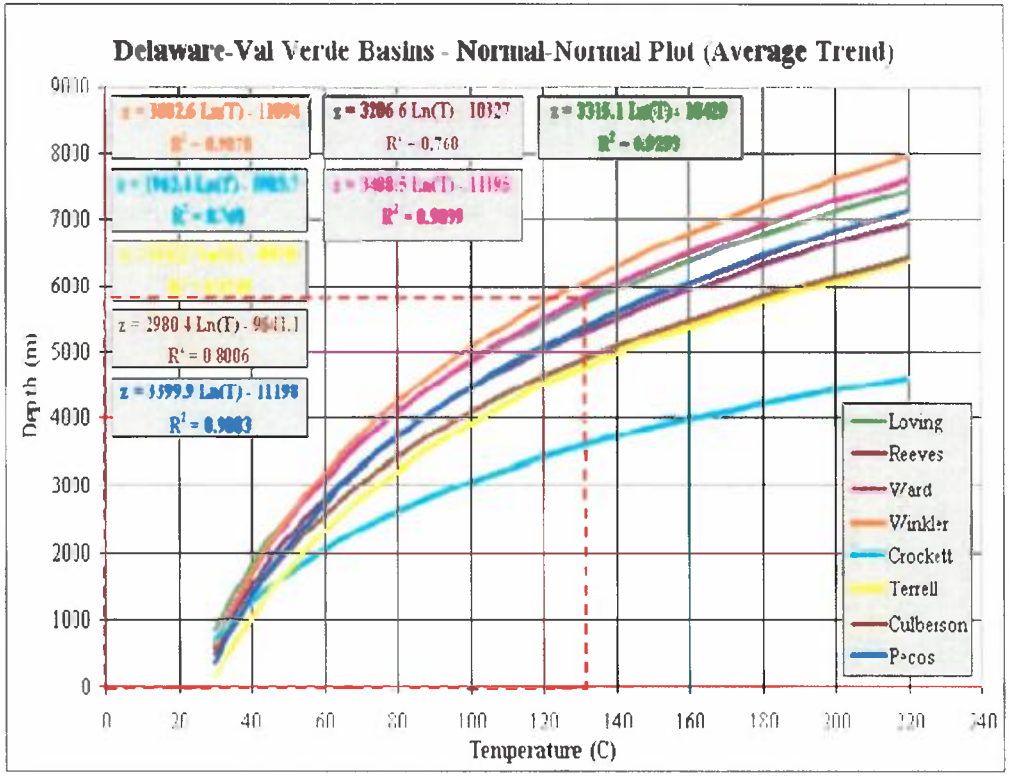
Stress Data Inputs

80

Azimuth Shmax

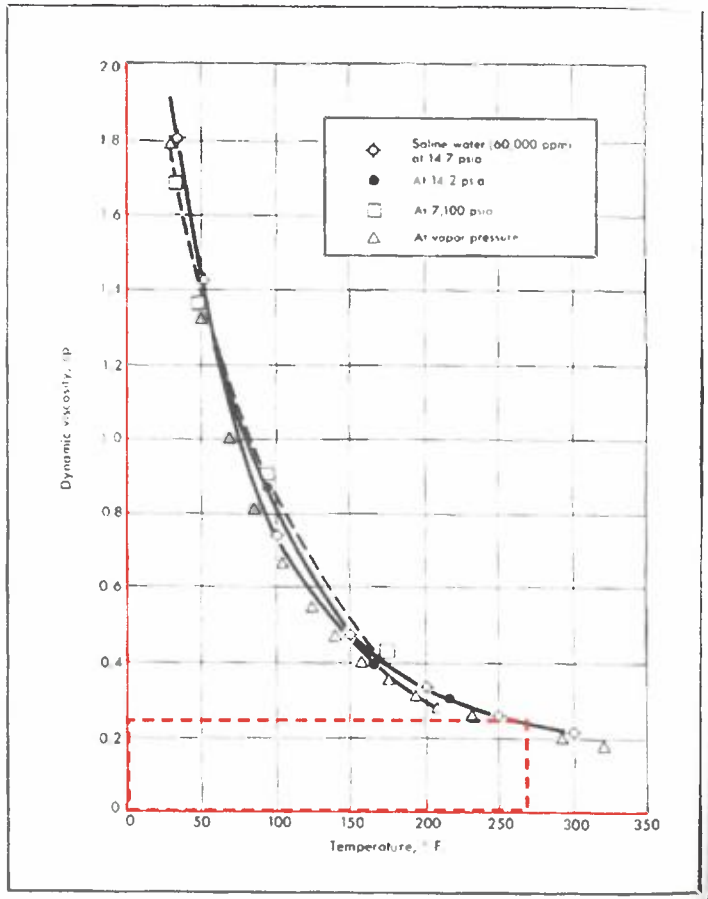
Subject Area

Determination of Viscosity



A

130 (C)
266 (F)



26 cp

FIG. 6-9. Viscosity of water at oil-field temperature and pressure. (Van Wingen. *Secondary Recovery of Oil in the United States*, API, 1950, 127, with permission)

FSP Exh. 4

Fault Slip Potential v1.07

File Data Inputs Export Image Zoom

Fault Slip Potential

MODEL INPUTS | GEOMECHANICS | PROB. GEOMECH | HYDROLOGY | PROB. HYDRO | INTEGRATED

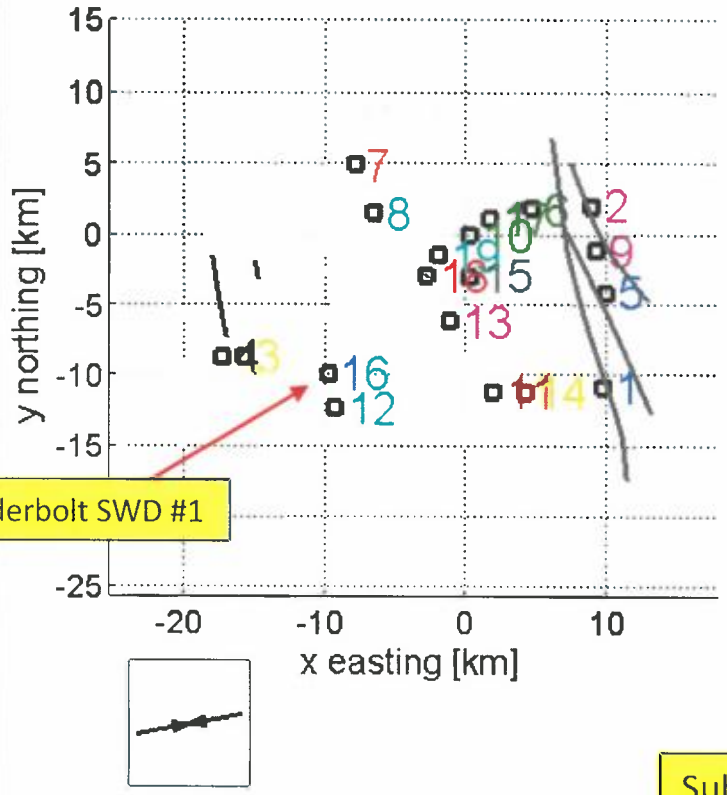
Fault Selector:

All Faults
Fault #1
Fault #2
Fault #3
Fault #4
Fault #5
Fault #6
Fault #7
Fault #8
Fault #9
Fault #10
Fault #11
Fault #12
Fault #13
Fault #14
Fault #15
Fault #16
Fault #17
Fault #18
Fault #19
Fault #20
Fault #21

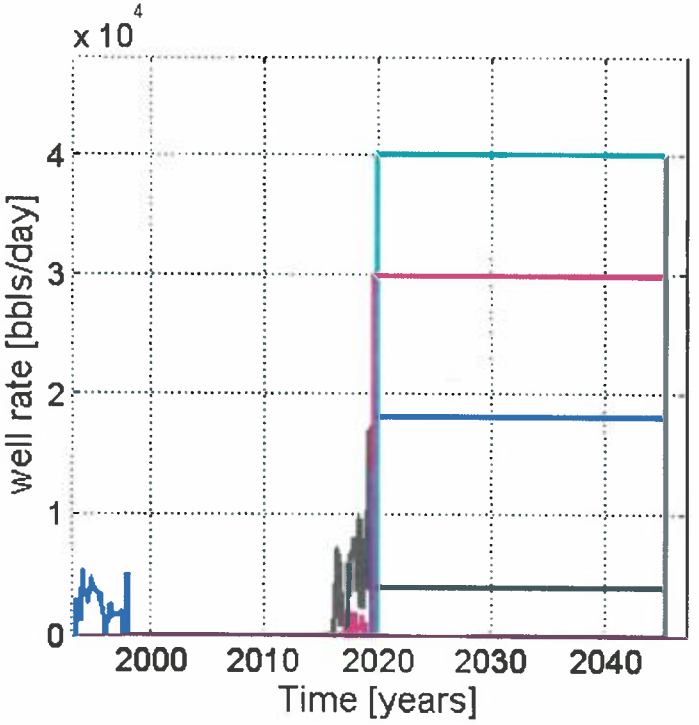
Calculate

Stress Regime: Normal Faulting

Select Well: All



Subject well: Thunderbolt SWD #1



Subject Well input at 40,000 bbls/day beginning rate
18 other injection wells in area of study

FSP Exh. 5

Fault Slip Potential v1.07

File Data Inputs Export Image Zoom

Fault Slip Potential

MODEL INPUTS | GEOMECHA... | PROB. GEOMECH | HYDROLOGY | PROB. HYDRO | INTEGRATED

Fault Selector

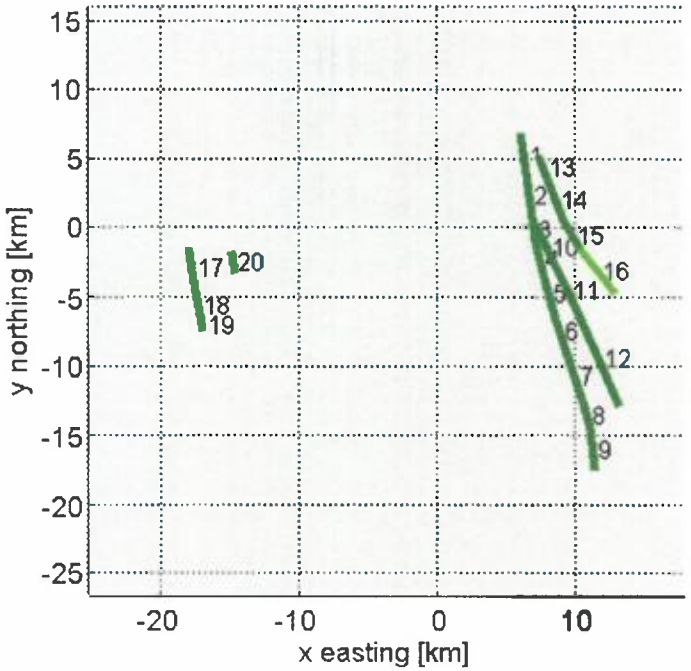
All Faults
Fault #1
Fault #2
Fault #3
Fault #4
Fault #5
Fault #6
Fault #7
Fault #8
Fault #9
Fault #10
Fault #11
Fault #12
Fault #13
Fault #14
Fault #15
Fault #16
Fault #17
Fault #18
Fault #19
Fault #20

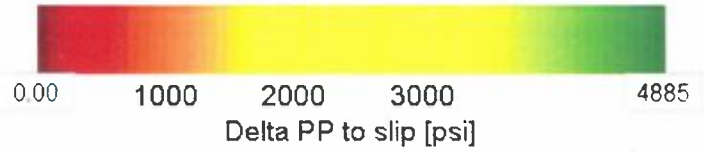
Calculate

a) Fault Number

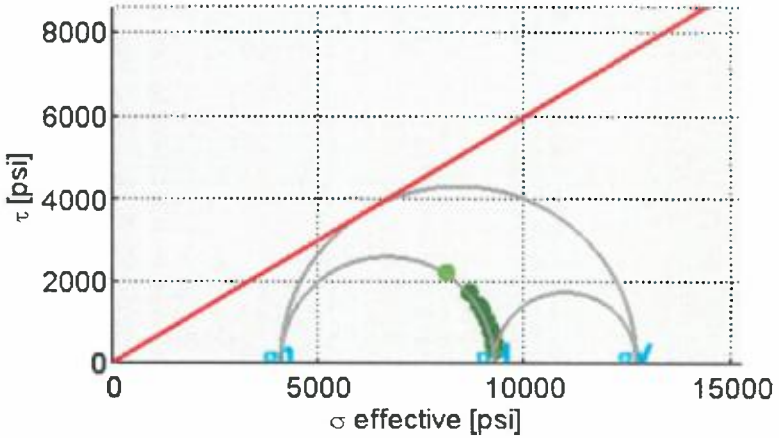
Help

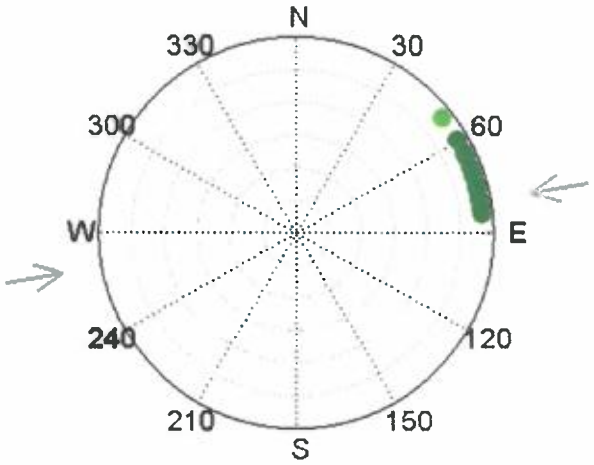
Fault segment numbers





Stress Regime: Normal Faulting





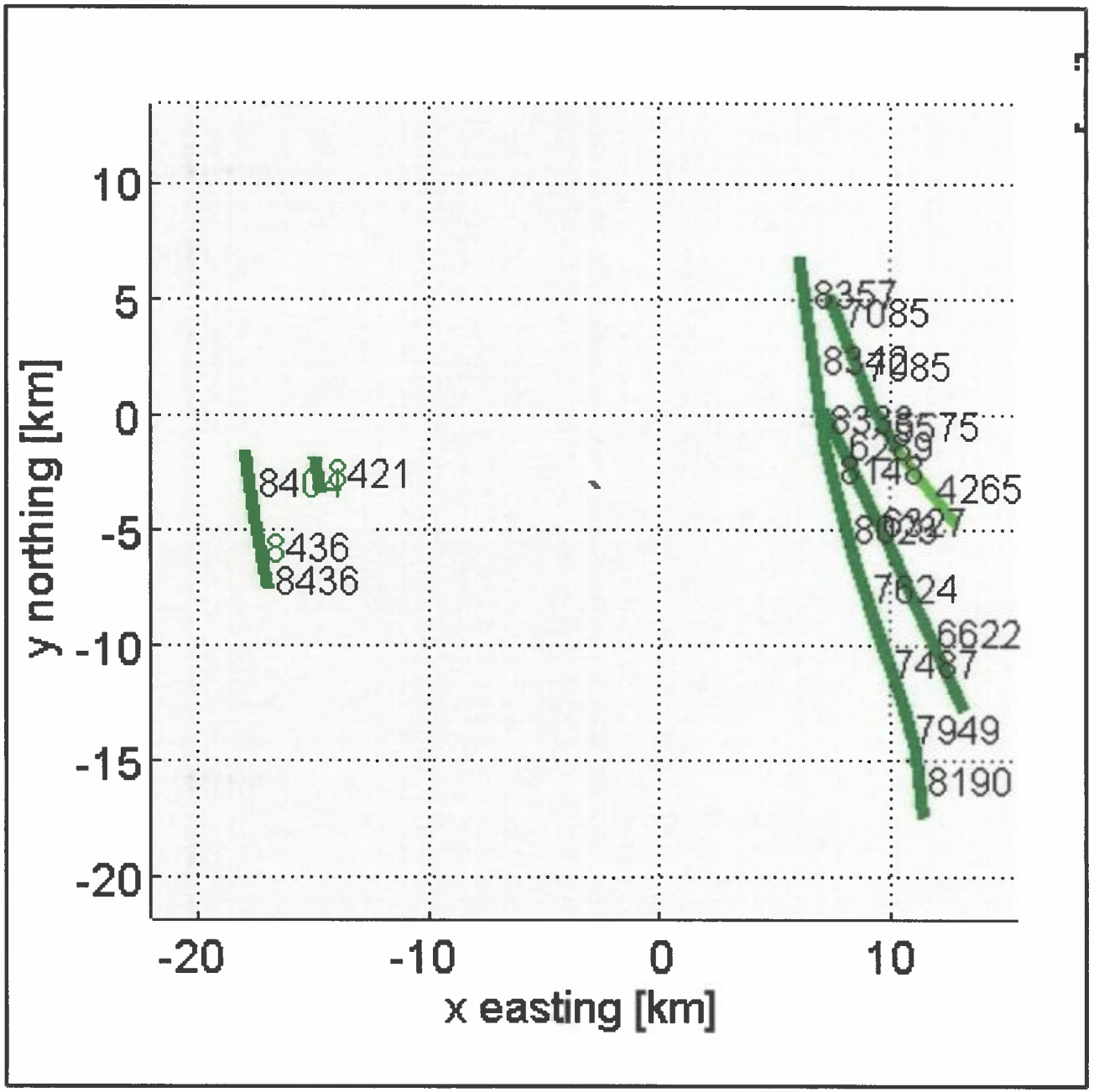
Stereonet Show: Fault Normals

FSP Exh. 6

Calculated Pore Pressure to Slip

ΔP

At each fault segment



FSP Exh 7

Fault Slip Potential v1.07

File Data Inputs Export Image Zoom

Fault Slip Potential

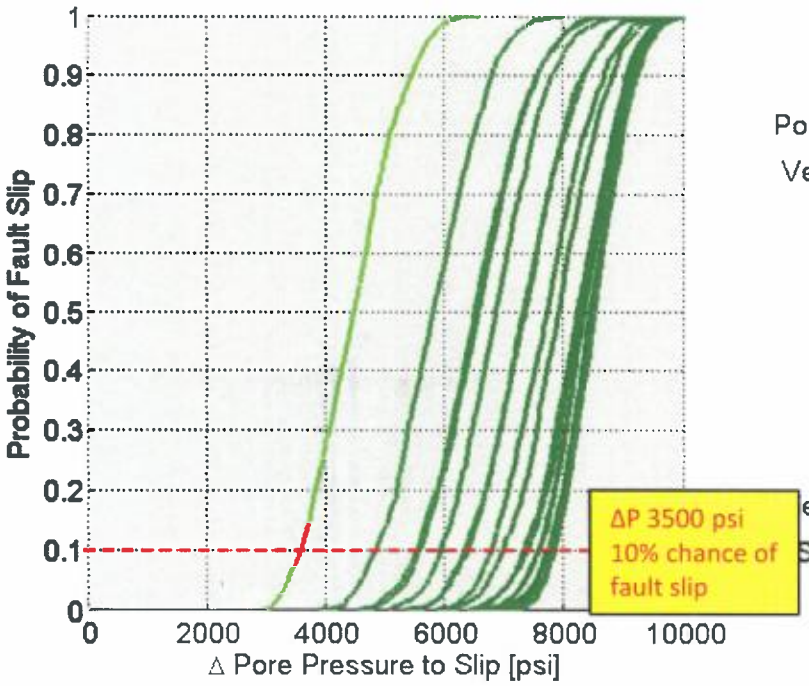
MODEL INPUTS | GEOMECHANICS | PROB. GEOM... | HYDROLOGY | PROB. HYDRO | INTEGRATED

Fault Selector:

All Faults
Fault #1
Fault #2
Fault #3
Fault #4
Fault #5
Fault #6
Fault #7
Fault #8
Fault #9
Fault #10
Fault #11
Fault #12
Fault #13
Fault #14
Fault #15
Fault #16
Fault #17
Fault #18
Fault #19
Fault #20

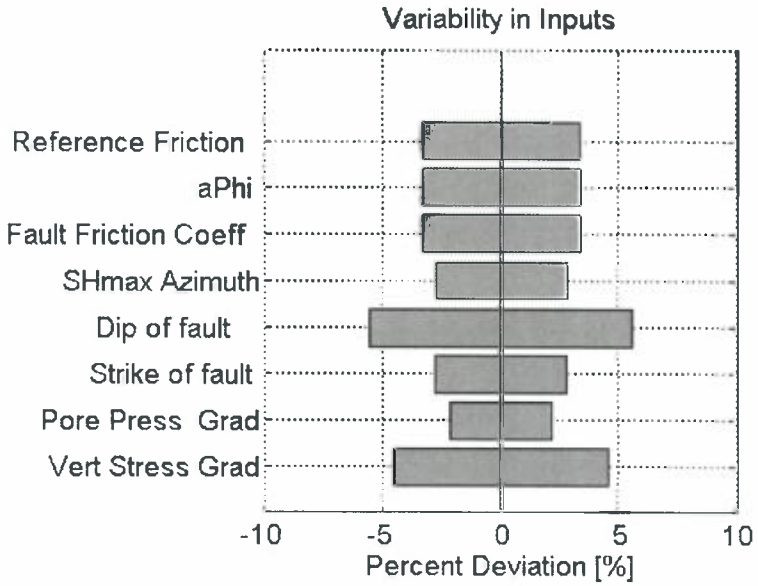
Calculate

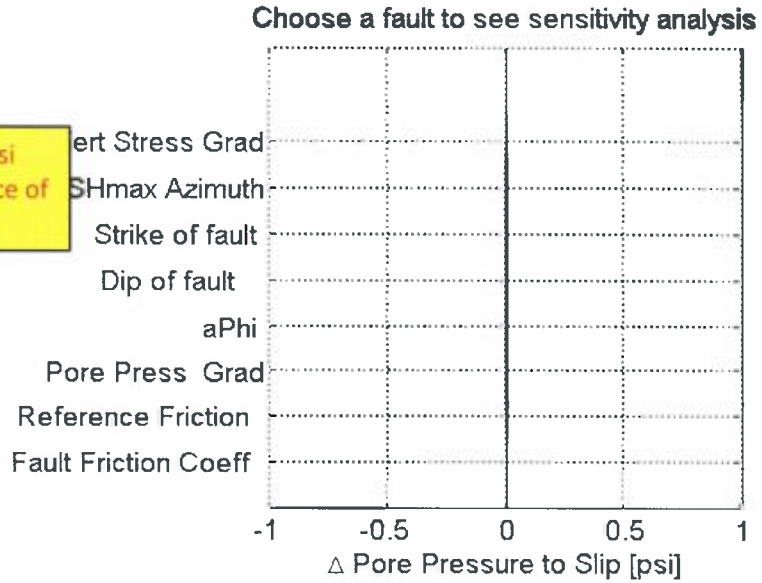
Load Distributions | Run Analysis



Max Delta PP [psi]: 10000

Export CDF data | Show Input Distributions





FSP Exh. 8

Fault Slip Potential v1.07

File Data Inputs Export Image Zoom

Fault Slip Potential

MODEL INPUTS | GEOMECHANICS | PROB. GEOMECH | HYDROLOGY | PROB. HYDRO | INTEGRATED

Fault Selector:

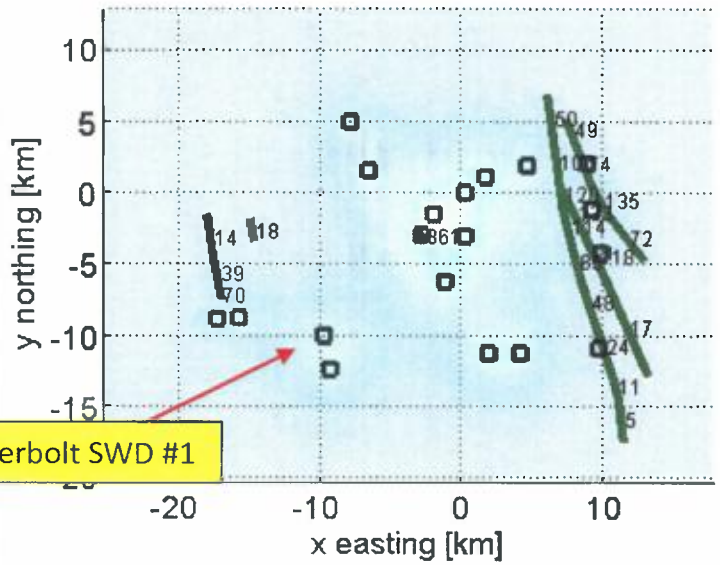
All Faults
Fault #1, 0.00 FSP
Fault #2, 0.00 FSP
Fault #3, 0.00 FSP
Fault #4, 0.00 FSP
Fault #5, 0.00 FSP
Fault #6, 0.00 FSP
Fault #7, 0.00 FSP
Fault #8, 0.00 FSP
Fault #9, 0.00 FSP
Fault #10, 0.00 FSP
Fault #11, 0.00 FSP
Fault #12, 0.00 FSP
Fault #13, 0.00 FSP
Fault #14, 0.00 FSP
Fault #15, 0.00 FSP
Fault #16, 0.00 FSP
Fault #17, 0.00 FSP
Fault #18, 0.00 FSP
Fault #19, 0.00 FSP
Fault #20, 0.00 FSP
Fault #21, 0.00 FSP

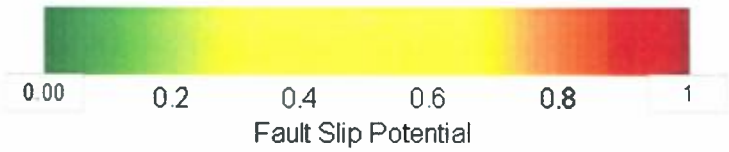
Calculate

Export

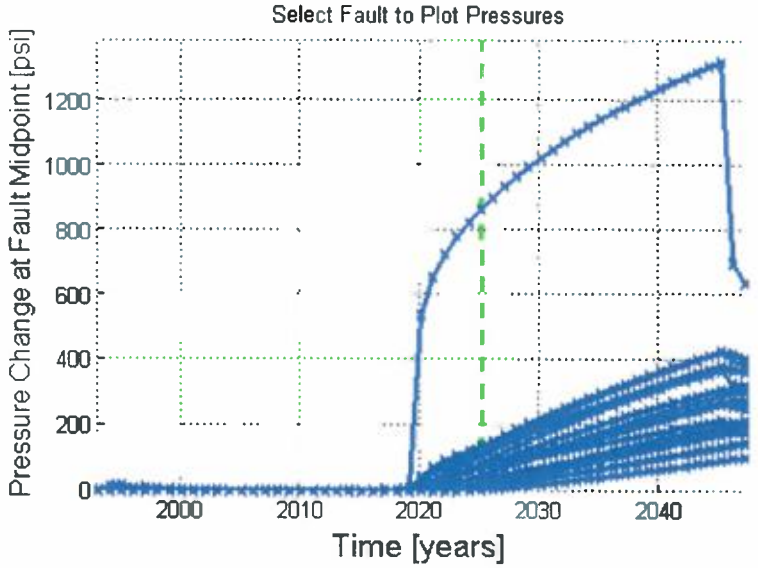
b) PP Change at fault [psi]

Summary Plots

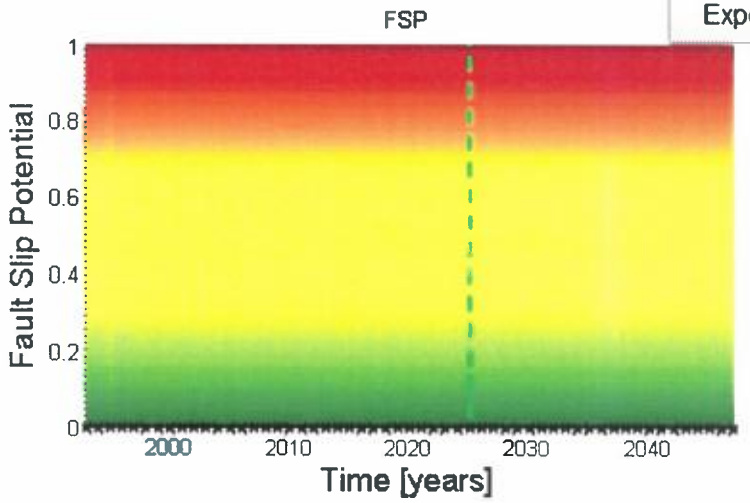




Year: 2025



Export



Fault Slip Potential v1.07

File Data Inputs Export Image Zoom

Fault Slip Potential

MODEL INPUTS | GEOMECHANICS | PROB. GEOMECH | HYDROLOGY | PROB. HYDRO | INTEGRATED

Export

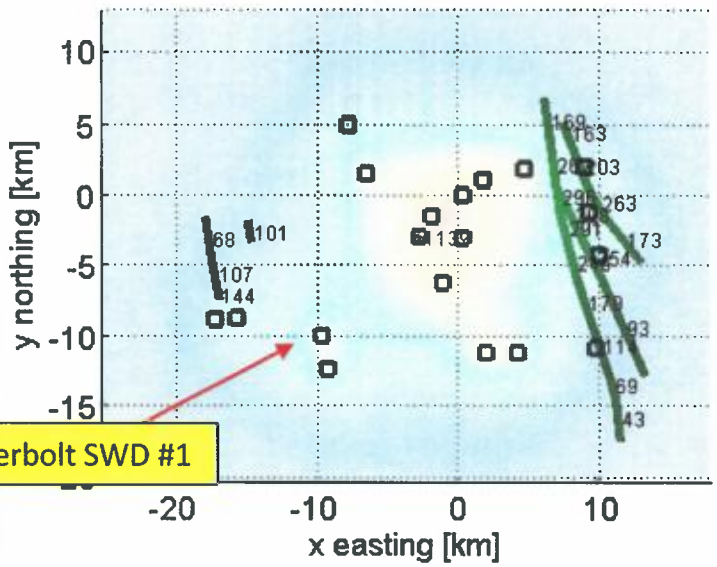
Fault Selector:

All Faults
Fault #1, 0.00 FSP
Fault #2, 0.00 FSP
Fault #3, 0.00 FSP
Fault #4, 0.00 FSP
Fault #5, 0.00 FSP
Fault #6, 0.00 FSP
Fault #7, 0.00 FSP
Fault #8, 0.00 FSP
Fault #9, 0.00 FSP
Fault #10, 0.00 FSP
Fault #11, 0.00 FSP
Fault #12, 0.00 FSP
Fault #13, 0.00 FSP
Fault #14, 0.00 FSP
Fault #15, 0.00 FSP
Fault #16, 0.00 FSP
Fault #17, 0.00 FSP
Fault #18, 0.00 FSP
Fault #19, 0.00 FSP
Fault #20, 0.00 FSP
Fault #21, 0.00 FSP

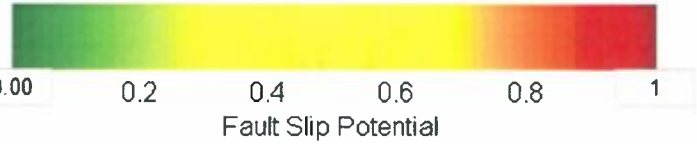
Calculate

b) PP Change at fault [psi]

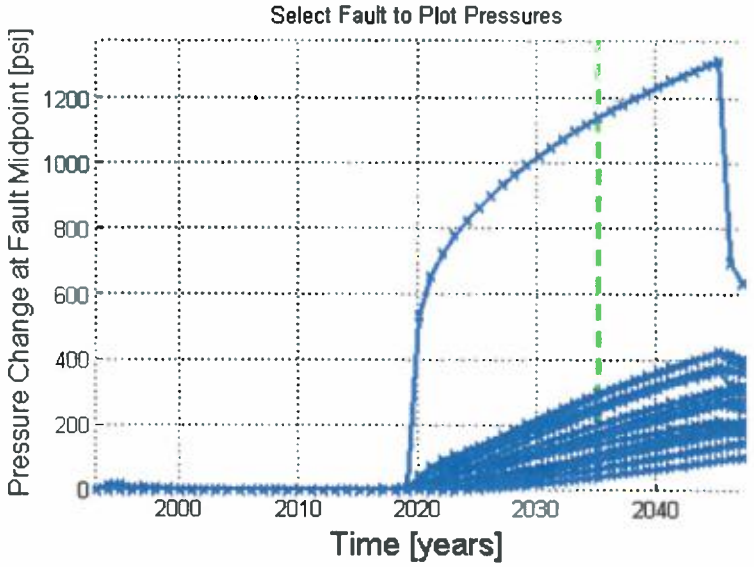
Summary Plots



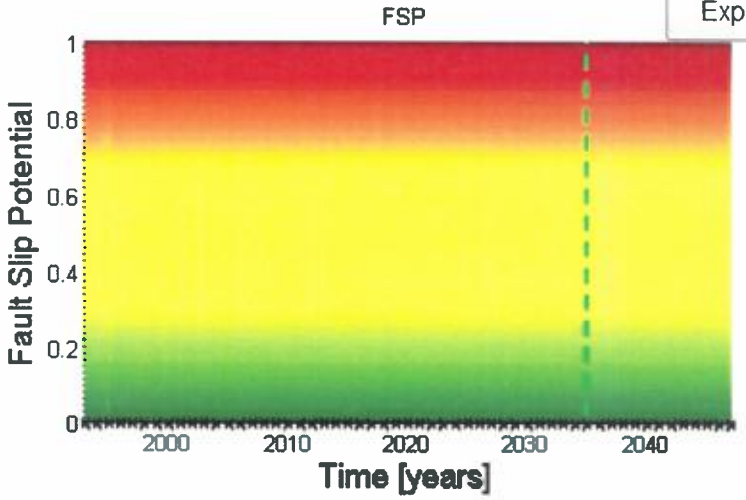
Subject well: Thunderbolt SWD #1



Year: 2035



Export



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FSP Exh. 10

Fault Slip Potential v1.07

File Data Inputs Export Image Zoom

Fault Slip Potential

MODEL INPUTS | GEOMECHANICS | PROB. GEOMECH | HYDROLOGY | PROB. HYDRO | INTEGRATED

Fault Selector:

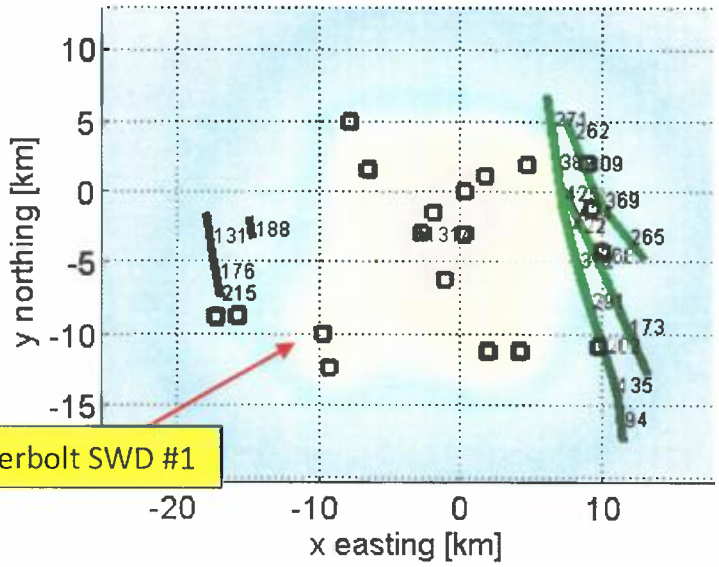
All Faults
Fault #1, 0.00 FSP
Fault #2, 0.00 FSP
Fault #3, 0.00 FSP
Fault #4, 0.00 FSP
Fault #5, 0.00 FSP
Fault #6, 0.00 FSP
Fault #7, 0.00 FSP
Fault #8, 0.00 FSP
Fault #9, 0.00 FSP
Fault #10, 0.00 FSP
Fault #11, 0.00 FSP
Fault #12, 0.00 FSP
Fault #13, 0.00 FSP
Fault #14, 0.00 FSP
Fault #15, 0.00 FSP
Fault #16, 0.00 FSP
Fault #17, 0.00 FSP
Fault #18, 0.00 FSP
Fault #19, 0.00 FSP
Fault #20, 0.00 FSP
Fault #21, 0.00 FSP

Calculate

Export

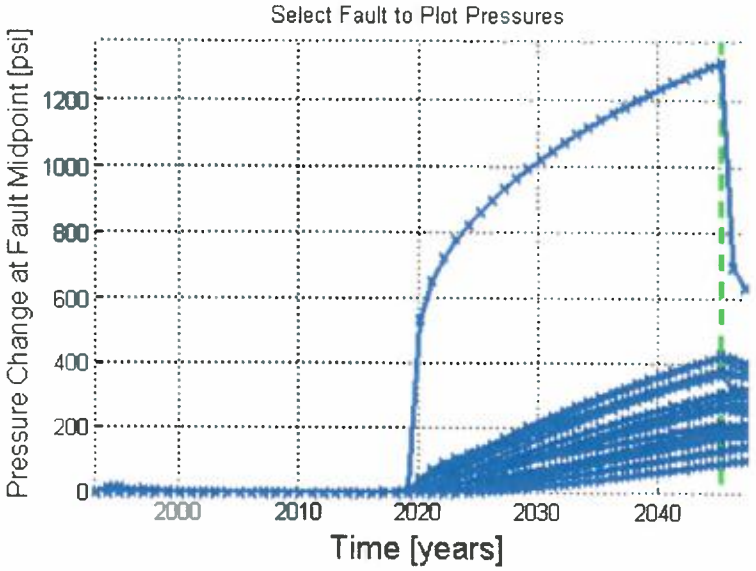
b) PP Change at fault [psi]

Summary Plots

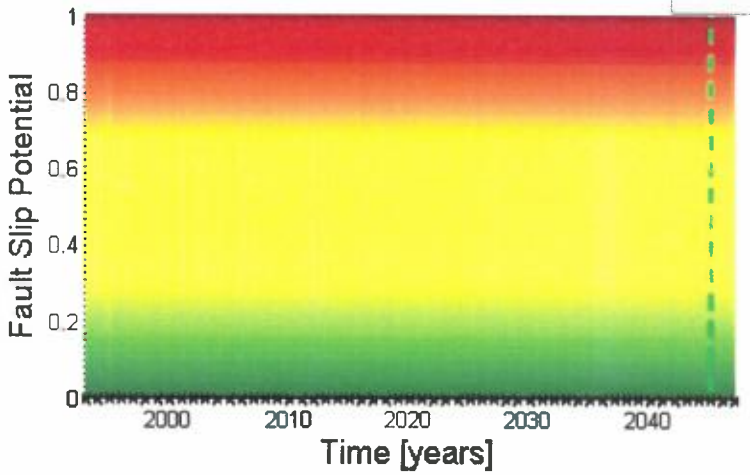


Subject well: Thunderbolt SWD #1

Year: 2045



Export



05

FSP Exh. 11

Table 1

FSP ANALYSIS WITH SUBJECT WELL

Fault Segment	Fault Source	ΔP to slip	ΔP at 2045
F1	BEG (Basement)	8,357	271
F2	BEG (Basement)	8,342	382
F3	BEG (Basement)	8,333	425
F4	BEG (Basement)	8,148	422
F5	BEG (Basement)	8,023	372
F6	BEG (Basement)	7,624	291
F7	BEG (Basement)	7,487	202
F8	BEG (Basement)	7,949	135
F9	BEG (Basement)	8,190	94
F10	BEG (Basement)	6,289	424
F11	BEG (Basement)	6,327	368
F12	BEG (Basement)	6,622	173
F13	BEG (Basement)	7,085	262
F14	BEG (Basement)	7,085	309
F15	BEG (Basement)	5,575	369
F16	BEG (Basement)	4,265	265
F17	BEG (Basement)	8,404	131
F18	BEG (Basement)	8,436	176
F19	BEG (Basement)	8,436	215
F20	BEG (Basement)	8,421	188
F21	BHP at well	NA	1,314

FSP Exh. 12

Notice Affidavits

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

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

CASE NO. 20236
THUNDERBOLT

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 a notice letter and that proof of receipt is attached hereto.

Deana M Bennett
Deana M. Bennett

SUBSCRIBED AND SWORN to before me this 30th day of August, 2019 by Deana M. Bennett.

Karlene Schuman
Notary Public

My commission expires: 02/27/21

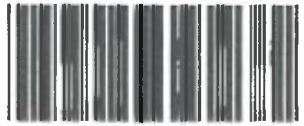
OFFICIAL SEAL
Karlene Schuman
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires: 02/27/21

EXHIBIT
5

Karlene Schuman
Modrall Sperling Roehl Harris & Sisk P.A.
500 Fourth Street, Suite 1000
Albuquerque NM 87102

PS Form 3877

Type of Mailing: CERTIFIED MAIL
08/15/2019



Firm Mailing Book ID: 172653

Line	USPS Article Number	Name, Street, City, State, Zip	Postage	Service Fee	RR Fee	Rest.Del.Fee	Reference Contents
1	9314 8699 0430 0062 2057 75	Oil Conservation Division District IV 1220 South St. Francis Drive Santa Fe NM 87505	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
2	9314 8699 0430 0062 2057 82	Oil Conservation Division District I - Hobbs 1625 N. French Drive Hobbs NM 88240	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
3	9314 8699 0430 0062 2057 99	NGL WATER SOLUTIONS PERMIAN, LLC Attn: Joe Vargo 1509 W Wall St., Ste. 306 Midland TX 79701	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
4	9314 8699 0430 0062 2058 05	BUREAU OF LAND MGMT 301 Dinosaur Trail Santa Fe NM 87508	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
5	9314 8699 0430 0062 2058 12	EOG Resources Y, Inc. 105 S 4TH ST Artesia NM 88210	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
6	9314 8699 0430 0062 2058 29	EOG Resources M, Inc. 105 S 4TH ST Artesia NM 88210	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
7	9314 8699 0430 0062 2058 36	EOG Resources A, Inc. 105 S 4TH ST Artesia NM 88210	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
8	9314 8699 0430 0062 2058 43	SHARBRO OIL LTD CO PO BOX 840 Artesia NM 88210	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
9	9314 8699 0430 0062 2058 50	OXY Y-1 COMPANY PO BOX 27570 Houston TX 77227	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
10	9314 8699 0430 0062 2058 67	EOG RESOURCES INC PO Box 2267 Midland TX 79702	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
11	9314 8699 0430 0062 2058 74	DEVON ENERGY PRODUCTION COMPANY, LP 20 N BROADWAY Oklahoma City OK 73102	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
12	9314 8699 0430 0062 2058 81	OXY USA INC P.O. BOX 4294 Houston TX 77210	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
13	9314 8699 0430 0062 2058 98	OXY USA INC PO BOX 27570 Houston TX 77227	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
14	9314 8699 0430 0062 2059 04	JUMBO AMERICAN PETROLEUM CORPORATION 550 W TEXAS, SUITE 1303 Midland TX 79701	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice

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Karlene Schuman
Modrall Sperling Roehl Harris & Sisk P.A.
500 Fourth Street, Suite 1000
Albuquerque NM 87102

PS Form 3877

Type of Mailing: CERTIFIED MAIL
08/15/2019

Firm Mailing Book ID: 172653

Line	USPS Article Number	Name, Street, City, State, Zip	Postage	Service Fee	RR Fee	Rest.Del.Fee	Reference Contents
15	9314 8699 0430 0062 2059 11	MARATHON OIL PERMIAN LLC 5555 San Felipe St. Houston TX 77056	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
16	9314 8699 0430 0062 2059 28	BLACK ROCK CAPITAL INC 16623 CANTRELL RD STE 18 Little Rock AR 72223	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
17	9314 8699 0430 0062 2059 35	DEVON ENERGY PROD CO LP 333 W SHERIDAN AVE Oklahoma City OK 73102	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
18	9314 8699 0430 0062 2059 42	BMOG, LLC 500 Main St. Suite 1200 Fort Worth TX 76102	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
19	9314 8699 0430 0062 2059 59	Black Mountain Operating, LLC 500 Main St. Suite 1200 Fort Worth TX 76102	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
20	9314 8699 0430 0062 2059 66	Providence Energy Partners III, LLC 16400 Dallas Parkway Dallas TX 75248	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
21	9314 8699 0430 0062 2059 73	Colgate Production, LLC 306 W. Wall St., Suite 500 Midland TX 79701	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
22	9314 8699 0430 0062 2059 80	Boaz Energy II, LLC 201 W. Wall St., Suite 421 Midland TX 79701	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
23	9314 8699 0430 0062 2059 97	Tap Rock Resources, LLC 602 Park Point Dr., Suite 200 Golden CO 80401	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
24	9314 8699 0430 0062 2060 00	Talon Oil & Gas III, LLC 3131 McKinney Ave., Suite 750 Dallas TX 75204	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
25	9314 8699 0430 0062 2060 17	Santa Elena Minerals IV, LP P. O. Box 2063 Midland TX 79702	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
26	9314 8699 0430 0062 2060 24	Pegasus Resources, LLC P. O. Box 470698 Fort Worth TX 76147	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
27	9314 8699 0430 0062 2060 31	Easterling New Mexico Minerals, LLC 10 Wind Rd, NW Albuquerque NM 87120	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
28	9314 8699 0430 0062 2060 48	Tundra Holdings, LLC P. O. Box 192428 Dallas TX 75043	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
29	9314 8699 0430 0062 2060 55	Brigham Minerals, LLC 5914 W. Courtyard Dr., Suite 100 Austin TX 78730	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice

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Karlene Schuman
Modrall Sperling Roehl Harris & Sisk P.A.
500 Fourth Street, Suite 1000
Albuquerque NM 87102

PS Form 3877

Type of Mailing: CERTIFIED MAIL
08/15/2019

Firm Mailing Book ID: 172653

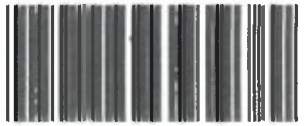
Line	USPS Article Number	Name, Street, City, State, Zip	Postage	Service Fee	RR Fee	Rest.Del.Fee	Reference Contents
30	9314 8699 0430 0062 2060 62	William Brian Beckham 11205 Limoncillo Court Austin TX 78750	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
31	9314 8699 0430 0062 2060 79	Monty Brad Beckham P. O. Box 823 Jal NM 88252	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
32	9314 8699 0430 0062 2060 86	GGM Exploration, Inc. P. O. Box 123610 Forth Worth TX 76121	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
33	9314 8699 0430 0062 2060 93	CMP Acquisitions, LLC 901 Lamberton PL NE Albuquerque NM 87107	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
34	9314 8699 0430 0062 2061 09	Lela Ellen Madera 187 George Strait Canyon Lake TX 78133	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
35	9314 8699 0430 0062 2061 16	Katherine Ross Madera P. O. Box 443 Manhattan MT 59741	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
36	9314 8699 0430 0062 2061 23	Lea Claire McDonald Brooker 4001 N Bensing Road Hobbs NM 88240	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
37	9314 8699 0430 0062 2061 30	Fortis Minerals, LLC P. O. Box 876 Stowe VT 05672	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
38	9314 8699 0430 0062 2061 47	C. D. Martin 47 Rodeo Dr. La Luz NM 88337	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
39	9314 8699 0430 0062 2061 54	WilderPan, LLC P. O. Box 50088 Midland TX 79710	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
40	9314 8699 0430 0062 2061 61	Crown Rock Minerals, LP 611 W Brown St Wylie TX 75098	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
41	9314 8699 0430 0062 2061 78	Bernard Lee House Family Trust 49 Burleson Ln Tularosa NM 88352	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
42	9314 8699 0430 0062 2061 85	Tommie Knight Calley P. O. Box 2244 Quemado NM 87829	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
43	9314 8699 0430 0062 2061 92	Malcolm Raymond Sharbutt 7041 5th #3 Woodside NY 11377	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
44	9314 8699 0430 0062 2062 08	Will Ross Sharbutt 4029 Harmon Ln Carlsbad NM 88220	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice

Karlene Schuman
Modrall Sperling Roehl Harris & Sisk P.A.
500 Fourth Street, Suite 1000
Albuquerque NM 87102

PS Form 3877

Type of Mailing: CERTIFIED MAIL
08/15/2019

AUG 15 2019



Firm Mailing Book ID: 172653

Line	USPS Article Number	Name, Street, City, State, Zip	Postage	Service Fee	RR Fee	Rest.Del.Fee	Reference Contents
45	9314 8699 0430 0062 2062 15	Diana Northington 1630 CR 87 #A Deatsville AL 36022	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
46	9314 8699 0430 0062 2062 22	Robert C. Northington 1655 Chambers Brooks Spring Rd Sandersville GA 31082	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
47	9314 8699 0430 0062 2062 39	John W. B. Northington 12613 Avelar Creek Dr Riverview FL 33578	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
48	9314 8699 0430 0062 2062 46	Katherine Madea Jarrett 12667 S FM 730 Azle TX 76020	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
49	9314 8699 0430 0062 2062 53	Salt Creek Midstream, LLC 122c Crazy Rabbit Rd Santa Fe NM 87508	$1.45	$3.50	$1.60	$0.00	87806-0003 Notice
		Totals:	$71.05	$171.50	$78.40	$0.00	
					Grand Total:	$320.95	

List Number of Pieces Listed by Sender	Total Number of Pieces Received at Post Office	Postmaster: Name of receiving employee	Dated:
49			

Transaction Report Details - CertifiedPro.net
Firm Mail Book ID= 172653
Generated: 8/30/2019 10:17:18 AM

USPS Article Number	Date Created	Name 1	Address	City	State	Zip	Mailing Status	Service Options	Batch ID	Mail Delivery Date
9314869904300062206253	2019-08-15 9:03 AM	Salt Creek Midstream, LLC	122c Crazy Rabbit Rd	Santa Fe	NM	87508	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-29-2019
9314869904300062206246	2019-08-15 9:03 AM	Katherine Madea Jarrett	12667 S FM 730	Azle	TX	76020	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-19-2019
9314869904300062206239	2019-08-15 9:03 AM	John W. B. Northington	12613 Avelar Creek Dr	Riverview	FL	33578	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-19-2019
9314869904300062206222	2019-08-15 9:03 AM	Robert C. Northington	1655 Chambers Brooks Spring Rd	Sandersville	GA	31082	To be Returned	Return Receipt - Electronic, Certified Mail	170029	
9314869904300062206215	2019-08-15 9:03 AM	Diana Northington	1630 CR 87 #A	Deatsville	AL	36022	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-19-2019
9314869904300062206208	2019-08-15 9:03 AM	Will Ross Sharbutt	4029 Harmon Ln	Carlsbad	NM	88220	Forwarded	Return Receipt - Electronic, Certified Mail	170029	
9314869904300062206192	2019-08-15 9:03 AM	Malcolm Raymond Sharbutt	7041 5th #3	Woodside	NY	11377	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-20-2019
9314869904300062206185	2019-08-15 9:03 AM	Tommie Knight Calley	P. O. Box 2244	Quemado	NM	87829	To be Returned	Return Receipt - Electronic, Certified Mail	170029	
9314869904300062206178	2019-08-15 9:03 AM	Bernard Lee House Family Trust	49 Burleson Ln	Tularosa	NM	88352	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-19-2019
9314869904300062206161	2019-08-15 9:03 AM	Crown Rock Minerals, LP	611 W Brown St	Wylie	TX	75098	To be Returned	Return Receipt - Electronic, Certified Mail	170029	
9314869904300062206154	2019-08-15 9:03 AM	WilderPan, LLC	P. O. Box 50088	Midland	TX	79710	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-20-2019
9314869904300062206147	2019-08-15 9:03 AM	C. D. Martin	47 Rodeo Dr.	La Luz	NM	88337	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-23-2019
9314869904300062206130	2019-08-15 9:03 AM	Fortis Minerals, LLC	P. O. Box 876	Stowe	VT	05672	To be Returned	Return Receipt - Electronic, Certified Mail	170029	
9314869904300062206123	2019-08-15 9:03 AM	Lea Claire McDonald Brooker	4001 N Bensing Road	Hobbs	NM	88240	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-24-2019
9314869904300062206116	2019-08-15 9:03 AM	Katherine Ross Madera	P. O. Box 443	Manhattan	MT	59741	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-21-2019
9314869904300062206109	2019-08-15 9:03 AM	Lela Ellen Madera	187 George Strait	Canyon Lake	TX	78133	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-20-2019
9314869904300062206093	2019-08-15 9:03 AM	CMP Acquisitions, LLC	901 Lamberton PL NE	Albuquerque	NM	87107	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-19-2019
9314869904300062206086	2019-08-15 9:03 AM	GGM Exploration, Inc.	P. O. Box 123610	Forth Worth	TX	76121	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-26-2019
9314869904300062206079	2019-08-15 9:03 AM	Monty Brad Beckham	P. O. Box 823	Jal	NM	88252	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-23-2019
9314869904300062206062	2019-08-15 9:03 AM	William Brian Beckham	11205 Limoncillo Court	Austin	TX	78750	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-26-2019
9314869904300062206055	2019-08-15 9:03 AM	Brigham Minerals, LLC	5914 W. Courtyard Dr., Suite 100	Austin	TX	78730	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-19-2019
9314869904300062206048	2019-08-15 9:03 AM	Tundra Holdings, LLC	P. O. Box 192428	Dallas	TX	75043	Returned to Sender	Return Receipt - Electronic, Certified Mail	170029	08-26-2019
9314869904300062206031	2019-08-15 9:03 AM	Easterling New Mexico Minerals, LLC	10 Wind Rd, NW	Albuquerque	NM	87120	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-17-2019
9314869904300062206024	2019-08-15 9:03 AM	Pegasus Resources, LLC	P. O. Box 470698	Fort Worth	TX	76147	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-19-2019
9314869904300062206017	2019-08-15 9:03 AM	Santa Elena Minerals IV, LP	P. O. Box 2063	Midland	TX	79702	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-20-2019
9314869904300062206000	2019-08-15 9:03 AM	Talon Oil & Gas III, LLC	3131 McKinney Ave., Suite 750	Dallas	TX	75204	Mailed	Return Receipt - Electronic, Certified Mail	170029	
9314869904300062205997	2019-08-15 9:03 AM	Tap Rock Resources, LLC	602 Park Point Dr., Suite 200	Golden	CO	80401	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-21-2019
9314869904300062205980	2019-08-15 9:03 AM	Boaz Energy II, LLC	201 W. Wall St., Suite 421	Midland	TX	79701	To be Returned	Return Receipt - Electronic, Certified Mail	170029	
9314869904300062205973	2019-08-15 9:03 AM	Colgate Production, LLC	306 W. Wall St., Suite 500	Midland	TX	79701	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-19-2019
9314869904300062205966	2019-08-15 9:03 AM	Providence Energy Partners III, LLC	16400 Dallas Parkway	Dallas	TX	75248	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-19-2019
9314869904300062205959	2019-08-15 9:03 AM	Black Mountain Operating, LLC	500 Main St. Suite 1200	Fort Worth	TX	76102	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-19-2019
9314869904300062205942	2019-08-15 9:03 AM	BMOG, LLC	500 Main St. Suite 1200	Fort Worth	TX	76102	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-19-2019
9314869904300062205935	2019-08-15 9:03 AM	DEVON ENERGY PROD CO LP	333 W SHERIDAN AVE	Oklahoma City	OK	73102	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-19-2019
9314869904300062205928	2019-08-15 9:03 AM	BLACK ROCK CAPITAL INC	16623 CANTRELL RD STE 18	Little Rock	AR	72223	Forwarded	Return Receipt - Electronic, Certified Mail	170029	
9314869904300062205911	2019-08-15 9:03 AM	MARATHON OIL PERMIAN LLC	5555 San Felipe St.	Houston	TX	77056	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-19-2019
9314869904300062205904	2019-08-15 9:03 AM	JUMBO AMERICAN PETROLEUM CORPORATION	550 W TEXAS, SUITE 1303	Midland	TX	79701	To be Returned	Return Receipt - Electronic, Certified Mail	170029	
9314869904300062205898	2019-08-15 9:03 AM	OXY USA INC	PO BOX 27570	Houston	TX	77227	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-19-2019
9314869904300062205881	2019-08-15 9:03 AM	OXY USA INC	P.O. BOX 4294	Houston	TX	77210	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-21-2019
9314869904300062205874	2019-08-15 9:03 AM	DEVON ENERGY PRODUCTION COMPANY, LP	20 N BROADWAY	Oklahoma City	OK	73102	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-19-2019
9314869904300062205867	2019-08-15 9:03 AM	EOG RESOURCES INC	PO Box 2267	Midland	TX	79702	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-20-2019
9314869904300062205850	2019-08-15 9:03 AM	OXY Y-1 COMPANY	PO BOX 27570	Houston	TX	77227	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-19-2019
9314869904300062205843	2019-08-15 9:03 AM	SHARBRO OIL LTD CO	PO BOX 840	Artesia	NM	88210	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-19-2019
9314869904300062205836	2019-08-15 9:03 AM	EOG Resources A, Inc.	105 S 4TH ST	Artesia	NM	88210	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-23-2019
9314869904300062205829	2019-08-15 9:03 AM	EOG Resources M, Inc.	105 S 4TH ST	Artesia	NM	88210	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-23-2019
9314869904300062205812	2019-08-15 9:03 AM	EOG Resources Y, Inc.	105 S 4TH ST	Artesia	NM	88210	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-23-2019
9314869904300062205805	2019-08-15 9:03 AM	BUREAU OF LAND MGMT	301 Dinosaur Trail	Santa Fe	NM	87508	To be Returned	Return Receipt - Electronic, Certified Mail	170029	
9314869904300062205799	2019-08-15 9:03 AM	NGL WATER SOLUTIONS PERMIAN, LLC	1509 W Wall St., Ste. 306	Midland	TX	79701	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-19-2019
9314869904300062205782	2019-08-15 9:03 AM	Oil Conservation Division District I - Hobbs	1625 N. French Drive	Hobbs	NM	88240	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-19-2019
9314869904300062205775	2019-08-15 9:03 AM	Oil Conservation Division District IV	1220 South St. Francis Drive	Santa Fe	NM	87505	Delivered	Return Receipt - Electronic, Certified Mail	170029	08-16-2019

Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

I, Daniel Russell, Publisher of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

Beginning with the issue dated
August 23, 2019
and ending with the issue dated
August 23, 2019.

Publisher

Sworn and subscribed to before me this
23rd day of August 2019.

Business Manager

My commission expires
January 29, 2023
(Seal)

OFFICIAL SEAL
GUSSIE BLACK
Notary Public
State of New Mexico
My Commission Expires 1-29-23

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said

LEGAL LEGAL

LEGAL NOTICE
AUGUST 23, 2019

CASE NO. 20236: Notice to all affected parties, as well as the heirs and devisees of Bureau of Land Management; EOG Y RESOURCES INC; EOG M RESOURCES INC; EOG A RESOURCES INC; SHARBRO OIL LTD CO; OXY Y-1 COMPANY; EOG RESOURCES INC; DEVON ENERGY PRODUCTION COMPANY, LP; OXY USA INC; OXY USA INC; JUMBO AMERICAN PETROLEUM CORPORATION; MARATHON OIL PERMIAN LLC; BLACK ROCK CAPITAL INC; DEVON ENERGY PROD CO LP; BMOG, LLC; BLACK MOUNTAIN OPERATING, LLC; PROVIDENCE ENERGY PARTNERS III, LLC; COLGATE PRODUCTION, LLC; BOAZ ENERGY II, LLC; TAP ROCK RESOURCES, LLC; TALON OIL & GAS III, LLC ; SANTA ELENA MINERALS IV, LP; PEGASUS RESOURCES, LLC; EASTERLING NEW MEXICO MINERALS, LLC; TUNDRA HOLDINGS, LLC; BRIGHAM MINERALS, LLC; WILLIAM BRIAN BECKHAM; MONTY BRAD BECKHAM; GGM EXPLORATION, INC.; CMP ACQUISITIONS, LLC; LELA ELLEN MADERA; KATHERINE ROSS MADERA; LEA CLAIRE MCDONALD BROOKER; FORTIS MINERALS, LLC; C. D. MARTIN; WILDERPAN, LLC; CROWN ROCK MINERALS, LP; BERNARD LEE HOUSE FAMILY TRUST; TOMMIE KNIGHT CALLEY; MALCOLM RAYMOND SHARBUTT; WILL ROSS SHARBUTT; DIANA NORTHINGTON; ROBERT C. NORTHINGTON; JOHN W. B. NORTHINGTON; KATHERINE MADEA JARRETT; SALT CREEK MIDSTREAM, LLC that NGL Water Solutions Permian, LLC, 1509 W. Wall Street. Suite 306, Midland, Texas 79701 has filed an amended application for hearing along with a C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division for approval of salt water disposal well in Lea County, New Mexico. The State of New Mexico, through its Oil Conservation Division, hereby gives notice that the Division will conduct a public hearing at 8:15 a.m. on September 5, 2019, to consider this application. In its application, NGL seeks an order approving disposal into the Silurian-Devonian formation through the Thunderbolt SWD #1 well at a surface location 910 feet from the North line and 250 feet from the East line of Section 19, Township 26 South, Range 35 East, NMPM, Lea County, New Mexico for the purpose of operating a salt water disposal well. NGL seeks authority to inject salt water into the Silurian-Devonian formation at a depth of 18,966' to 20,722'. NGL further seeks approval of the use of 7 inch tubing inside the surface and intermediate casings and 5 ½ inch tubing inside the liner and requests that the Division approve a maximum daily injection rate for the well of 50,000 bbls per day. Said location is approximately 11.6 miles southwest of Bennett, NM.
#34614

01104570 00232414

DOLORES SERNA
MODRALL, SPERLING, ROEHL, HARRIS &
P. O. BOX 2168
ALBUQUERQUE, NM 87103-2168

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

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

CASE NO. 20236
(THUNDERBOLT)

AFFIDAVIT OF CHRIS WEYAND

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

I, Chris Weyand, 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 a Staff Engineer at Lonquist & Co., LLC. My responsibilities at Lonquist & Co., LLC include saltwater disposal well permitting efforts in New Mexico as well as other states and jurisdictions.

3. I graduated from Texas A&M University in 2010 with an engineering degree.

4. I am familiar with the application and amended application that NGL Water Solutions Permian, LLC ("NGL") has filed in this matter.

5. In this case, NGL (OGRID No. 372338) seeks an order approving the Thunderbolt SWD #1 well, which is a salt water disposal well.

6. I compiled a list of all parties entitled to notice within a one-mile area of review for the original application that was filed. I reviewed County and Division records to determine the parties entitled to notice, including the owner of the surface (NGL) and leasehold operators or other affected person. With respect to affected parties, I determined whether there was an operator, as shown in the Division records, or a designated unit operator, and if not, whether there were any working interests whose interest is evidenced by a written conveyance document either of record; and as to any tract or interest not subject to an existing oil and gas lease, whether there were mineral interest owner whose interest is evidenced by a written conveyance document either of record; and whether the United States or state of New Mexico owns the mineral estate in the spacing unit or identified tract or any part thereof, the BLM or state land office, as applicable.

7. NGL filed an amended application for the Thunderbolt SWD #1. This was due to a change in location of the Thunderbolt SWD #1. I determined that no additional parties were entitled to notice.

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

[Signature page follows]

Chris Weyand

SUBSCRIBED AND SWORN to before me this 30 th day of August, 2019 by Chris Weyand.

Notary Public

MARIA L. RIVAS
Notary Public, State of Texas
My Commission Expires
September 16, 2019

My commission expires: 9/16/2019