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CASE NO. 16505 AND CASE NO. 16509

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 Galaxy SWD #1 well at a surface location 345 feet from the North line and 336 feet from the East line of Section 29, Township 26 South, Range 36 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 18,743' – 20,088'.

(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 2,810 psi for this well, and it requests that a maximum pressure of 3,748 psi be approved for the well.

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

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

WHEREFORE, NGL requests that this application be set for hearing before an Examiner of the Oil Conservation Division on November 1, 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: Deana M Bennett

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 Galaxy SWD #1 well at a surface location 345 feet from the North line and 336 feet from the East line of Section 29, Township 26 South, Range 36 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 18,743' – 20,088'. 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 area is located approximately 5 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: GALAXY 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

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

FOR OCD ONLY
☐ Notice Complete
☐ Application Content Complete

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

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

CHRIS WEYAND
Print or Type Name

09/28/2018
Date

512-600-1764
Phone Number

Signature

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).

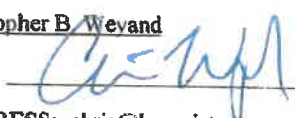
*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

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: 10/2/2018

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.

NGL Water Solutions Permian, LLC

Galaxy SWD No. 1

FORM C-108 Supplemental Information

III. Well Data

A. Wellbore Information

1.

Well information	
Lease Name	Galaxy SWD
Well No.	1
Location	S-29 T-26S R-36E
Footage Location	345' FNL & 336' FEL

2.

a. Wellbore Description

Casing Information				
Type	Surface	Intermediate	Production	Liner
OD	20"	13.375"	9.625"	7.625"
WT	0.635"	0.480"	0.545"	0.500"
ID	18.730"	12.415"	8.535"	6.625"
Drift ID	18.542"	12.259"	8.535"	6.500"
COD	21.00"	14.375"	10.625"	7.625"
Weight	133 lb/ft	68 lb/ft	53.5 lb/ft	39 lb/ft
Grade	K-55	HCL-80	P-110	V140
Hole Size	24"	17.5"	12.25"	8.5"
Depth Set	2,000'	5,400'	12,800'	18,743'

b. Cementing Program

Cement Information				
Casing String	Surface	Intermediate	Production	Liner
Lead Cement	HES Extenda	Neocem	Neocem	Neocem
Lead Cement Volume	713	1,762	Stage 1: 829 sks Stage 2: 447 sks Stage 3: 773 sks	198
Tail Cement	Halcem	Halcem	Halcem	Halcem
Tail Cement Volume	953	2,013	Stage 1: 602 sks Stage 2: 295 sks Stage 3: 444 sks	253
Cement Excess	25%	10%	25%, 25%, 0%	10%
TOC	Surface	Surface	Surface	12,300'
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' - 12,200'	12,200' – 18,720'

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

B. Completion Information

1. Injection Formation: Devonian, Silurian, Fusselman, Montoya (Top 100')
2. Gross Injection Interval: 18,743' – 20,088'

   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
Yates - Seven Rivers	3,339'
Bone Spring	8,549'
Wolfcamp	12,563'
Strawn	13,041'

Note: The South Lea Federal #1 (API No. 30-025-23197) produced 172 MMcf from the Devonian ~1.5 miles to the NE from Dec. 1998 through June 2000.

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: 2,810 PSI (surface pressure)
   Maximum Injection Pressure: 3,748 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 Bone Spring, Wolfcamp, and Strawn formations.

5. The disposal interval is currently 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	2,064'
Delaware	5,399'
Bone Spring	8,549'
Wolfcamp	12,563'
Penn	12,633'
Atoka	13,193'
Morrow	14,533'
Mississippian Lime	16,923'
Woodford	18,273'
Devonian	18,723'
Fusselman	19,493'
Montoya	19,988'

B. Underground Sources of Drinking Water

Depths have been reported for two water wells within 1-mile of the proposed Galaxy 1 SWD #1 location. These depths are 604 ft and 800 ft. Water depth has been reported for one of these wells at 270 ft. Water wells in the surrounding area have an average depth of 566 ft and an average water depth of 254 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

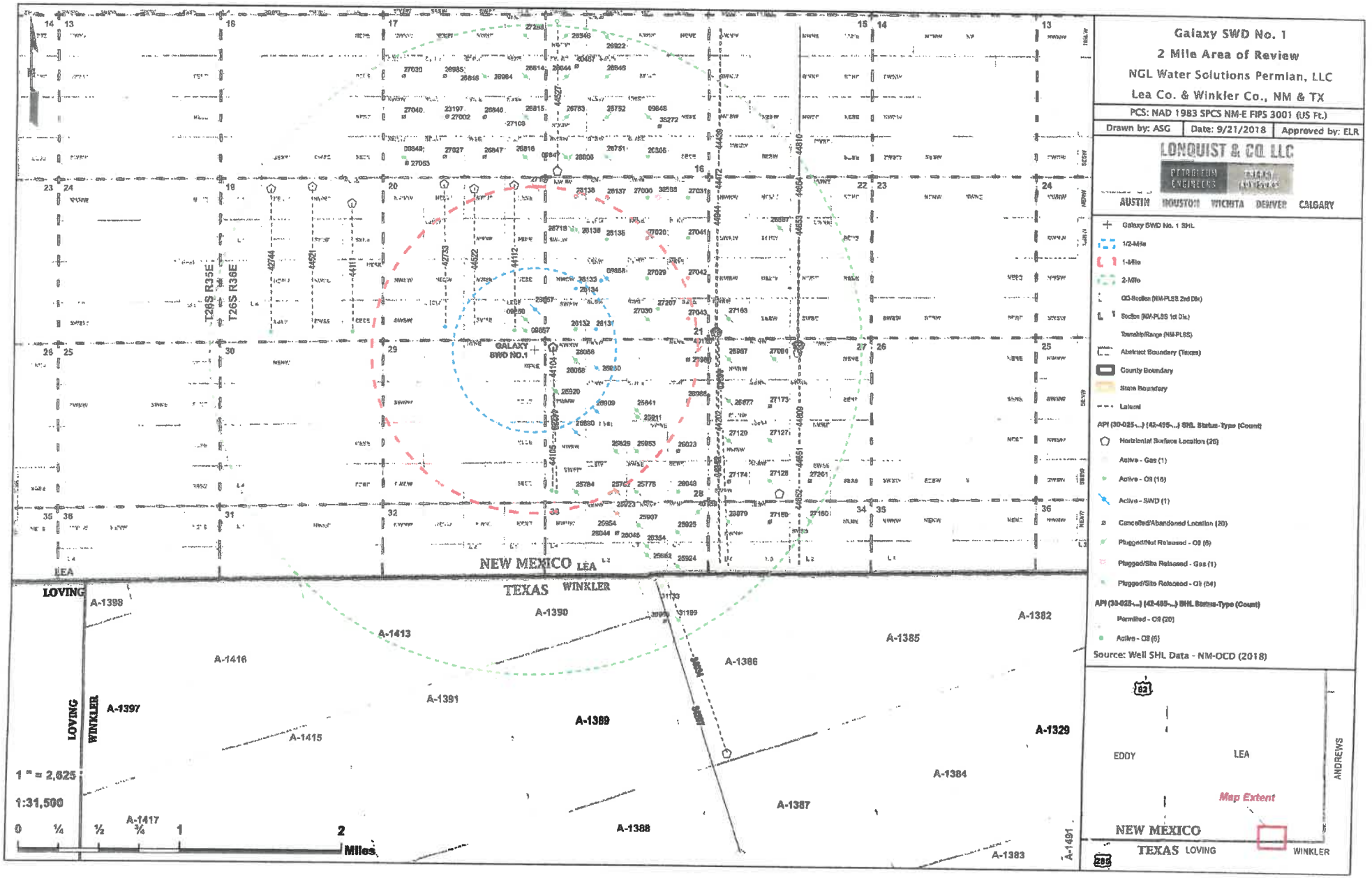
Attached is a map of all water wells that exist within one mile of the well location. A 3rd party is currently attempting to identify active wells and obtain sample. If samples can be obtained, analysis results will be provided as soon as possible. Water Right Summaries from the New Mexico Office of the State Engineer, are attached for water wells J-00025 POD2 and J-00004POD1.

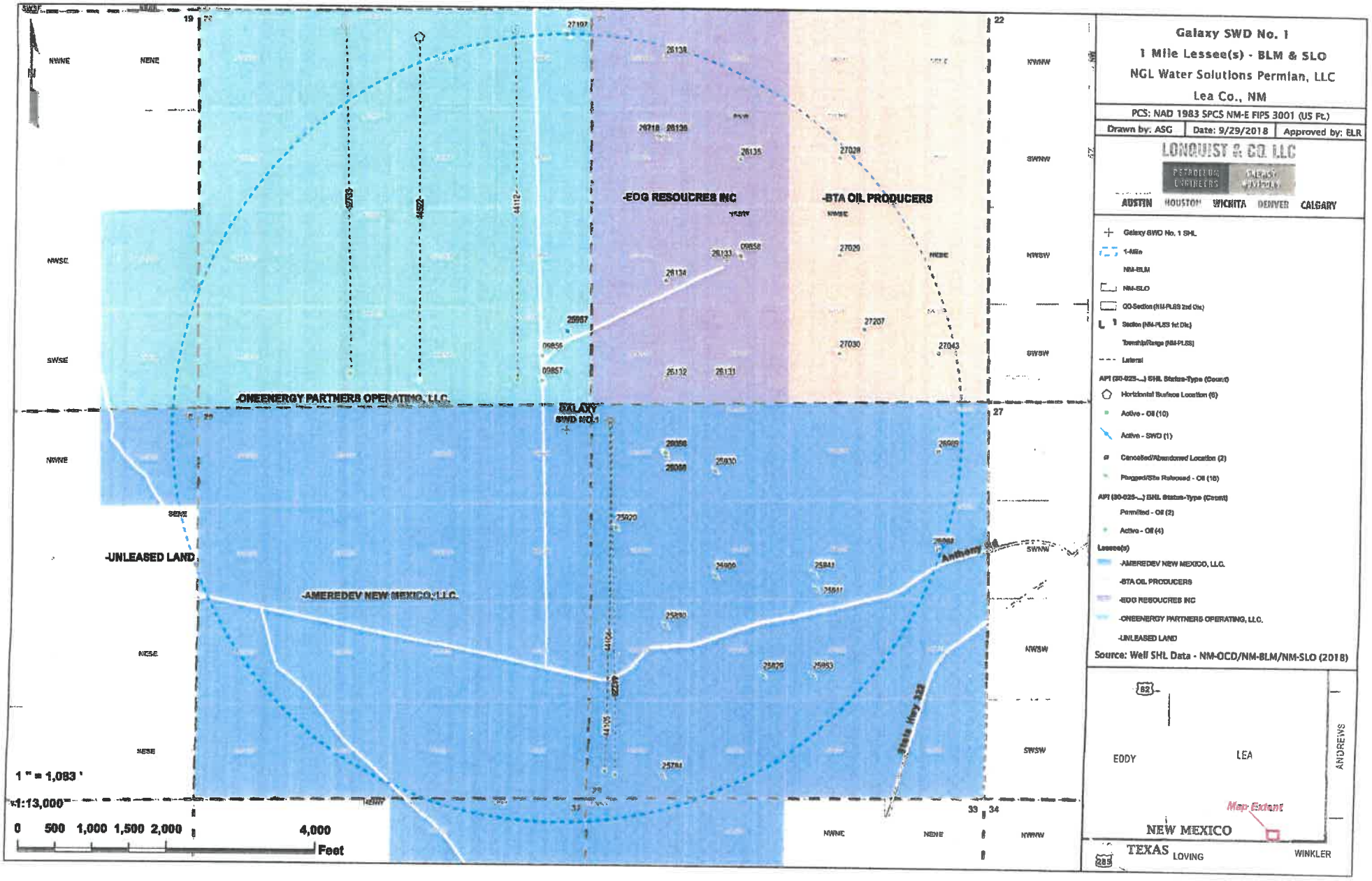
XII. Affirmative Statement of Examination of Geologic and Engineering Data

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

NAME: John C. Webb TITLE: Sr. Geologist

SIGNATURE: John C. Webb DATE: 7/24/2018


Galaxy SWD No. 1
2 Mile Area of Review
NGL Water Solutions Permian, LLC
Lea Co. & Winkler Co., NM & TX
PCS: NAD 1983 SPCS NM-E FIPS 3001 (US Ft.)
Drawn by: ASG
Date: 9/21/2018
Approved by: ELR
LONQUIST & CO. LLC
AUSTIN HOUSTON WICHITA DENVER CALGARY
Galaxy SWD No. 1 SHL
1/2-Mile
1-Mile
2-Mile
QQ-Section (NM-PLSS 2nd Div.)
Section (NM-PLSS 1st Div.)
Township/Range (NM-PLSS)
Abstract Boundary (Texas)
County Boundary
State Boundary
Lateral
API (30-025-...) (42-495-...) SHL Status-Type (Count)
Horizontal Surface Location (26)
Active - Gas (1)
Active - Oil (18)
Active - SWD (1)
Cancelled/Abandoned Location (20)
Plugged/Not Released - Oil (6)
Plugged/Site Released - Gas (1)
Plugged/Site Released - Oil (54)
API (30-025-...) (42-495-...) SHL Status-Type (Count)
Permitted - Oil (20)
Active - Oil (6)
Source: Well SHL Data - NM-OCD (2018)
GALAXY SWD NO.1
NEW MEXICO
TEXAS
LEA
WINKLER
LOVING
A-1398
A-1390
A-1413
A-1416
A-1382
A-1385
A-1386
A-1391
A-1389
A-1397
A-1415
A-1329
A-1384
A-1387
A-1388
A-1383
A-1491
A-1417
T26S R35E
T26S R36E
1 " = 2,625
1:31,500
0 ¼ ½ ¾ 1 2 Miles
EDDY
LEA
ANDREWS
Map Extent
82
285


Galaxy 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: 9/29/2018
Approved by: ELR
LONQUIST & CO. LLC
PETROLEUM ENGINEERS
ENERGY ADVISORS
AUSTIN HOUSTON WICHITA DENVER CALGARY
Galaxy SWD No. 1 SHL
1-Mile
NM-BLM
NM-SLO
GO-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 (6)
Active - Oil (10)
Active - SWD (1)
Canceled/Abandoned Location (2)
Plugged/Site Released - Oil (15)
API (30-025-...) SHL Status-Type (Count)
Permitted - Oil (2)
Active - Oil (4)
Lessee(s)
-AMEREDEV NEW MEXICO, LLC.
-BTA OIL PRODUCERS
-EOG RESOURCES INC
-ONEENERGY PARTNERS OPERATING, LLC.
-UNLEASED LAND
Source: Well SHL Data - NM-OCD/NM-BLM/NM-SLO (2018)
-EOG RESOURCES INC
-BTA OIL PRODUCERS
-ONEENERGY PARTNERS OPERATING, LLC.
GALAXY SWD NO. 1
-UNLEASED LAND
-AMEREDEV NEW MEXICO, LLC.
Anthony
State Hwy 128
1 " = 1,093 '
1:13,000
0 500 1,000 1,500 2,000 4,000
Feet
EDDY
LEA
ANDREWS
Map Extent
NEW MEXICO
TEXAS
LOVING
WINKLER

New Mexico Office of the State Engineer
Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Twp	Rng	(NAD83 UTM in meters) X	Y
	J 00004 POD1	4	1	3	29	26S	36E	661366	3542970

Driller License: 298 **Driller Company:** LINK RAT HOLE DRILLING

Driller Name:

Drill Start Date: 07/05/1969 **Drill Finish Date:** 10/04/1969 **Plug Date:**

Log File Date: 12/16/1969 **PCW Rcv Date:** 03/26/1973 **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: 8.63 **Depth Well:** 604 feet **Depth Water:** 270 feet

Water Bearing Stratifications:	Top	Bottom	Description
	490	525	Sandstone/Gravel/Conglomerate
	575	604	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	490	525
	575	604

New Mexico Office of the State Engineer
Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Twn	Rng	(NAD83 UTM in meters) X	Y
	J 00025 POD2	3	4	4	21	26S	36E	663984	3544155

Driller License:	331	**Driller Company:**	SBQ2, LLC DBA STEWART BROTHERS DRILLING CO.		
Driller Name:	BRUNSON, WILLIAM				
Drill Start Date:	03/16/2017	**Drill Finish Date:**	04/03/2017	**Plug Date:**	
Log File Date:	04/07/2017	**PCW Rcv Date:**		**Source:**	Artesian
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	12.00	**Depth Well:**	800 feet	**Depth Water:**	

Casing Perforations:	Top	Bottom
	287	800

Side 1

INJECTION WELL DATA SHEET

OPERATOR: NGL WATER SOLUTIONS PERMIAN, LLC

WELL NAME & NUMBER: GALAXY SWD #1

WELL LOCATION: 345 FNL & 336' FEL | A | 29 | 26S | 36E

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 24.000"

Casing Size: 20.000"

Cemented with: 1,666 sx.

or _____ ft^3

Top of Cement: Surface

Method Determined: Circulation

1st Intermediate Casing

Hole Size: 17.500"

Casing Size: 13.375"

Cemented with: 3,775 sx.

or _____ ft^3

Top of Cement: Surface

Method Determined: Circulation

2nd Intermediate Casing

Hole Size: 12.250"

Casing Size: 9.625"

Cemented with: 3,390 sx.

or _____ ft^3

Top of Cement: Surface

Method Determined: Circulation

Production Liner

Hole Size: 8.500"

Casing Size: 7.625"

Cemented with: 451 sx.

or _____ ft^3

Top of Cement: 12,300'

Method Determined: Calculation

Total Depth: 20,088'

Injection Interval

18,743 feet to 20,088 feet

(Open Hole)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 7", 26 lb/ft, P-110, TCPC from 0'- 12,200' and 5.500", 17 lb/ft, P-110 TCPC from 12,200' – 18,720'
Lining Material: Duoline

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

Packer Setting Depth: 18,720'

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

Additional Data

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

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

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

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

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

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:
   Yates – Seven Rivers: 3,339'
   Bone Spring: 8,549'
   Wolfcamp: 12,563'
   Strawn: 13,041'

Galaxy 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
09856	PRE-ONGARD WELL #006	O	P	PRE-ONGARD WELL OPERATOR	1247	32.02330400000	-103.28069310000	1/1/1900
09857	PRE-ONGARD WELL #006	O	P	PRE-ONGARD WELL OPERATOR	3349	32.02239990000	-103.28069310000	1/1/1900
09858	PRE-ONGARD WELL #001	O	P	PRE-ONGARD WELL OPERATOR	3940	32.02693180000	-103.27217860000	1/1/1900
25784	PRE-ONGARD WELL #003	O	P	PRE-ONGARD WELL OPERATOR	887	32.00788880000	-103.27535250000	1/1/1900
25829	LEA 7406 JV-S #004	O	P	BTA OIL PRODUCERS	3268	32.01151660000	-103.27110290000	12/31/9999
25841	PRE-ONGARD WELL #002	O	P	PRE-ONGARD WELL OPERATOR	284	32.01514820000	-103.26896670000	1/1/1900
25890	PRE-ONGARD WELL #005	O	P	PRE-ONGARD WELL OPERATOR	3266	32.01333240000	-103.27536010000	1/1/1900
25909	LEA 7406 JV-S #006	O	P	BTA OIL PRODUCERS	3250	32.01514050000	-103.27323150000	12/31/9999
25911	QUANAH PARKER #002Y	O	P	WHITING OIL AND GAS CORPORATION	3258	32.01459880000	-103.26888280000	12/31/9999
25920	PRE-ONGARD WELL #007	O	P	PRE-ONGARD WELL OPERATOR	3270	32.01695250000	-103.27749630000	1/1/1900
25930	LEA 7406 JV-S #008	O	P	BTA OIL PRODUCERS	3270	32.01901250000	-103.27323910000	12/31/9999
25953	NEW MEXICO CV STATE #001	O	P	WHITING OIL AND GAS CORPORATION	3239	32.01150130000	-103.26896670000	6/23/1978
25957	LEA 20 #001	S	A	CHANCE PROPERTIES COMPANY	3420	32.02421190000	-103.27963260000	5/21/1978
26056	PRE-ONGARD WELL #009	O	P	PRE-ONGARD WELL OPERATOR	1406	32.01967620000	-103.27536770000	1/1/1900
26068	LEA 7406 JV-S #009Y	O	P	BTA OIL PRODUCERS	3270	32.01956560000	-103.27536770000	12/31/9999
26131	WILSON 21 FEDERAL #001	O	A	FULFER OIL & CATTLE LLC	3340	32.02239610000	-103.27323910000	12/31/9999
26132	WILSON 21 FEDERAL #002	O	A	FULFER OIL & CATTLE LLC	3500	32.02239610000	-103.27536770000	12/31/9999
26133	WILSON 21 FEDERAL #003	O	A	FULFER OIL & CATTLE LLC	3797	32.02674100000	-103.27275850000	12/31/9999
26134	WILSON 21 FEDERAL #004	O	A	FULFER OIL & CATTLE LLC	3575	32.02602390000	-103.27537540000	12/31/9999
26135	WILSON 21 FEDERAL #005	O	A	FULFER OIL & CATTLE LLC	3800	32.03051380000	-103.27218630000	12/31/9999
26136	PRE-ONGARD WELL #006	O	P	PRE-ONGARD WELL OPERATOR	1682	32.03133770000	-103.27538300000	1/1/1900
26138	WILSON 21 FEDERAL #008	O	A	FULFER OIL & CATTLE LLC	3700	32.03427890000	-103.27538300000	12/31/9999
26718	PRE-ONGARD WELL #006Y	O	P	PRE-ONGARD WELL OPERATOR	3750	32.03133770000	-103.27570340000	1/1/1900
26988	PRE-ONGARD WELL #003	O	C	PRE-ONGARD WELL OPERATOR	0	32.01605629660	-103.26365298700	12/31/9999
26989	PRE-ONGARD WELL #004	O	C	PRE-ONGARD WELL OPERATOR	0	32.01968494540	-103.26365625500	12/31/9999
27028	LEA 21, 7406 JV-S #002	O	A	FULFER OIL & CATTLE LLC	3658	32.03056720000	-103.26791380000	12/31/9999
27029	LEA 21, 7406 JV-S #003	O	A	FULFER OIL & CATTLE LLC	3574	32.02693180000	-103.26791380000	3/23/2010
27030	PRE-ONGARD WELL #004	O	P	PRE-ONGARD WELL OPERATOR	1060	32.02330400000	-103.26790620000	1/1/1900
27043	LEA 21, 7406 JV-S #008	O	A	FULFER OIL & CATTLE LLC	3570	32.02330400000	-103.26364900000	12/31/9999
27197	LEA 20 7426 JV-S #002	O	P	BTA OIL PRODUCERS	3670	32.03510670000	-103.27964780000	12/31/9999
27207	LEA 21, 7406 JV-S #004Y	O	A	FULFER OIL & CATTLE LLC	3550	32.02421190000	-103.26684570000	1/26/1981
42733	WILDHOG BWX STATE COM #001H	O	A	Impetro Operating LLC	12517	32.03547200000	-103.28921400000	9/1/2015
44104	AZALEA 26 36 28 STATE #111H	O	A	AMEREDEV OPERATING, LLC	11966	32.02088300000	-103.27775280000	12/15/2017
44105	AZALEA 26 36 28 STATE #121H	O	N	AMEREDEV OPERATING, LLC	0	32.02088320000	-103.27768840000	12/31/9999
44112	WILDHOG BWX STATE COM #002H	O	A	Impetro Operating LLC	12008	32.03534380000	-103.28189170000	1/21/2018
44229	AZALEA 26 36 28 STATE #121Y	O	A	AMEREDEV OPERATING, LLC	12434	32.02088300000	-103.27781670000	11/30/2017
44522	WILDHOG BWX STATE COM #003H	O	N	Impetro Operating LLC	0	32.03506600000	-103.28605410000	12/31/9999

Galaxy 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
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
BELL LAKE 19 STATE #003H	3002541516	Lea	BONE SPRING 2ND SAND	6.7		59599	7326	11	942	0.69	108190	171	680	230
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	7			3289	0.3	474.5	0.38		219.6		300
PRONGHORN AHO FEDERAL #001	3002526496	LEA	STRAWN	5.5			20.1	0	12.2		35.5	61.1	48.8	
SNAPPING 2 STATE #014H	3001542688	EDDY	WOLFCAMP	7.3	81366.4	26319.4	2687.4	26.1	326.7		50281.2		399.7	100

Galaxy SWD Lea County NM Vertical Injection - Devonian, Silurian, Fusselman, Montoya	Location - Sec 29, Twp 26S, R 36E Drilling and Complete Cost - $11.2MM	AFE #	TD GL/KB	20,088 2,920	Directions to Site - Travel 6.4 miles from Jct along NM 206 - S/Frying Pan Road. Turn right (North and travel to location. Lat/Long - 32.92111, -103.27939			

Geologic Tops (MD ft)	Section	Problems	Bit/BHA	Mud	Casing	Logging	Cement (HOLD)	Injection String
Rustler 2064' **Surface TD - 2000**	**Surface** Drill 24" 0' - 2000 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	2000' of 20" 133# K55 STC Centralizers - bottom 2 joints and every 3rd jt thereafter, Cement basket at 200'	No Logs	Lead - 713sx of HES Extenda Cem, 13.7ppg, 4.5hrs TT Tail - 953sx of Halcem 3hr TT 25% Excess 1000psi CSD after 10hrs	12200' of 7" P110 26# TCPC 6520' of 5-1/2" P110 17# TCPC Duoline Internally Coated Injection Tubing
Top of Salt 2010 Salado 2010 Base of Salt 3050 Delaware 5399 **1st Int TD - 5400**	**1st Intermediate** Drill 2400' of 17-1/2" Hole 2000' - 5400' 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 5400' 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 2000'	Lead - 1762 sx of Neocem 12.9ppg, 5hr TT Tail - 2013sx of Halcem, 14.8ppg 60% Excess 1000psi CSD after 10 hrs Cement to Surface	
ECP DV Tool - 5380 Bell Canyon 5689 Cherry Canyon - 6419 Brushy Canyon - 7259 **DV Tool - 8000** Bone Spring - 8549 **3rd Int Liner Top - 12,300** Wolfcamp - 12563 **2nd Int TD - 12,800**	**2nd Intermediate** Drill 7400' of 12-1/4" Hole 5400' - 12,800' 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 12800' of 9-5/8" 53.5# P110 BTC **Special Drift to 8.535"** Externally Coat 3600' Between DV Tools DV tool at at 8000' ECP DV Tool 15' inside Previous Casing 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: 0% Excess** Lead 773sx Neocem 12.9 ppg Tail 444sx Halcem 14.8ppg 1000psi CSD after 10 hrs Cement to Surface **Stage 2: 25% Excess** Lead 447sx Neocem 12.9 ppg Tail 295sx Halcem 14.8ppg 1000psi CSD after 10 hrs **Stage 1: 25% Excess** Lead 829sx Neocem 12.9 ppg Tail 602sx Halcem 14.8ppg. 1000psi CSD after 10hrs	
Strawn - 13041 Atoka - 13193 Morrow - 14533 Miss Lst - 17798 Woodford - 18273 Perm Packer - 18720 **3rd Int TD - 18,743**	**3rd Intermediate** Drill 5943' of 8-1/2" Hole 12800' - 18743' 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	6543' of 7-5/8" 39# V140 - 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	Lead 198sx Neocem 12.9 ppg Tail 253sx Halcem 14.8ppg. 1000psi CSD after 10hrs 8hr TT 10% Excess 1000psi CSD after 10hrs	7-5/8" x 5-1/2" TCPC Permanent Packer with High Temp Elastomer and full Inconel 925 trim
Devonian - 18,723 Fusselman - 19493 Montoya - 19,988' TD - 20,088'	**Injection Interval** Drill 1365' of 6-1/2" hole 18743' - 20088'	Chert is possible Loss of Circulation is expected H2S encountered on the Striker 3 well 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	Fresh Water - possible flows	Openhole completion	MWD GR Triple Combo with FMI, CBL of 7-5/8"	Displace with 3% KCl (or heavier brine if necessary)	

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 GALAXY SWD
	6. Well No. 1

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
a	29	26S	36E	N/A	345'	NORTH	336'	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	2,920'
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
N	20,088'	Siluro-Devonian	TBD	ASAP
Depth to Ground water	**Distance from nearest fresh water well**		**Distance to nearest surface water**	
254'	< 100 ft		> 1 mile	

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

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surface	24"	20"	133 lb/ft	2,000'	1,666	Surface
Intermediate	17.5"	13.375"	68 lb/ft	5,400'	3,775	Surface
Production	12.25"	9.625"	53.5 lb/ft	12,800'	3,390	Surface
Prod. Liner	8.5"	7.625"	39 lb/ft	18,743'	451	12,300'
Tubing	N/A	7"	26 lb/ft	0' – 12,200'	N/A	N/A
Tubing	N/A	5.5"	17 lb/ft	12,200' – 18,720'	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 compiled 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: [redacted]	
Date: 9/28/2018 / Phone: (512) 600-1764	Conditions of Approval Attached

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

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

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

[7] OGRID No.	[8] Operator Name	[9] Elevation
372338	NGL WATER SOLUTIONS PERMIAN, LLC	2920.00'±

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	29	26 S	36 E	N/A	345'	NORTH	336'	EAST	LEA

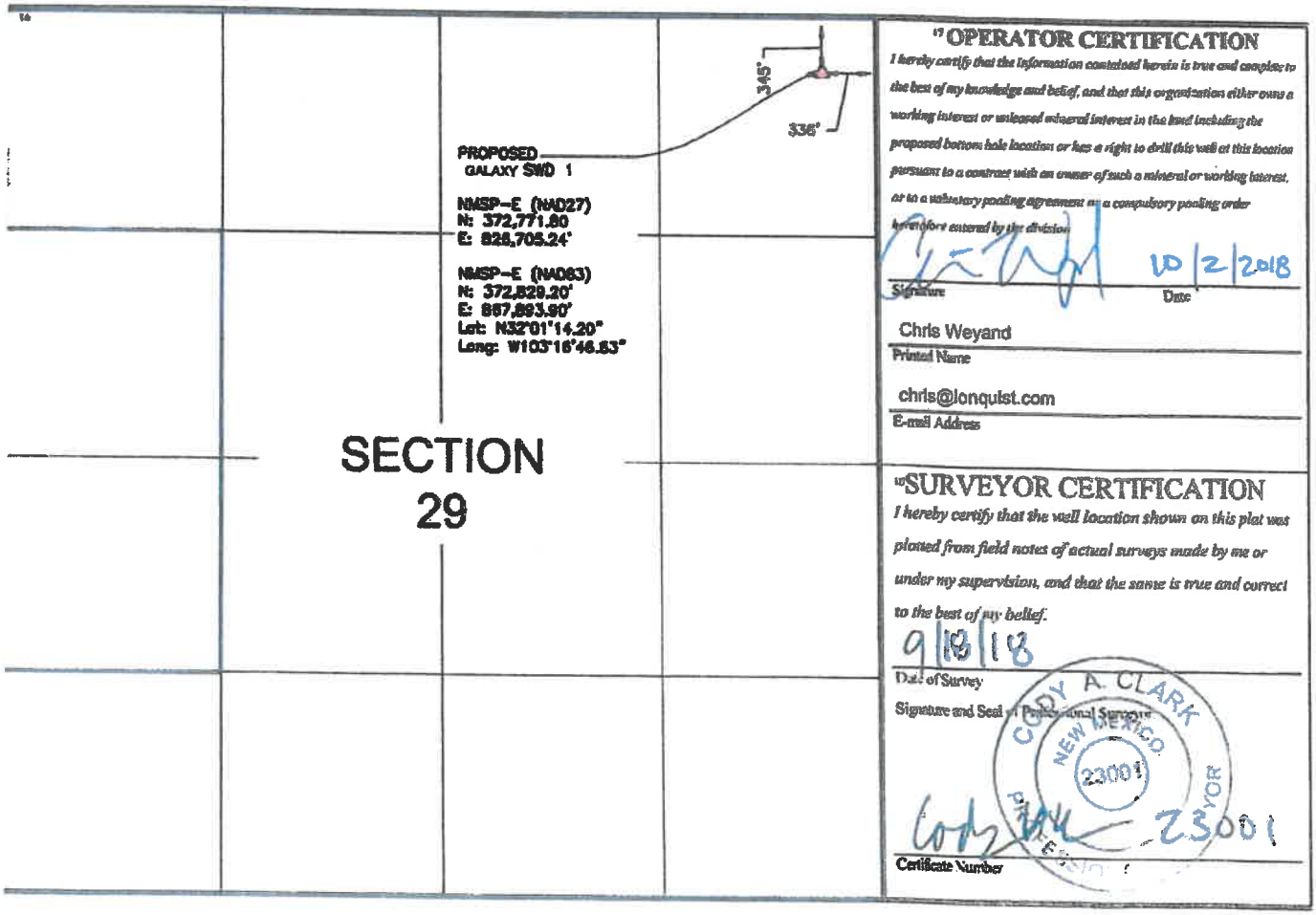
[11] Bottom Hole Location If Different From Surface

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]



[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: 10/2/2018

Chris Weyand
Printed Name

chris@lonquist.com
E-mail Address

[18] SURVEYOR CERTIFICATION

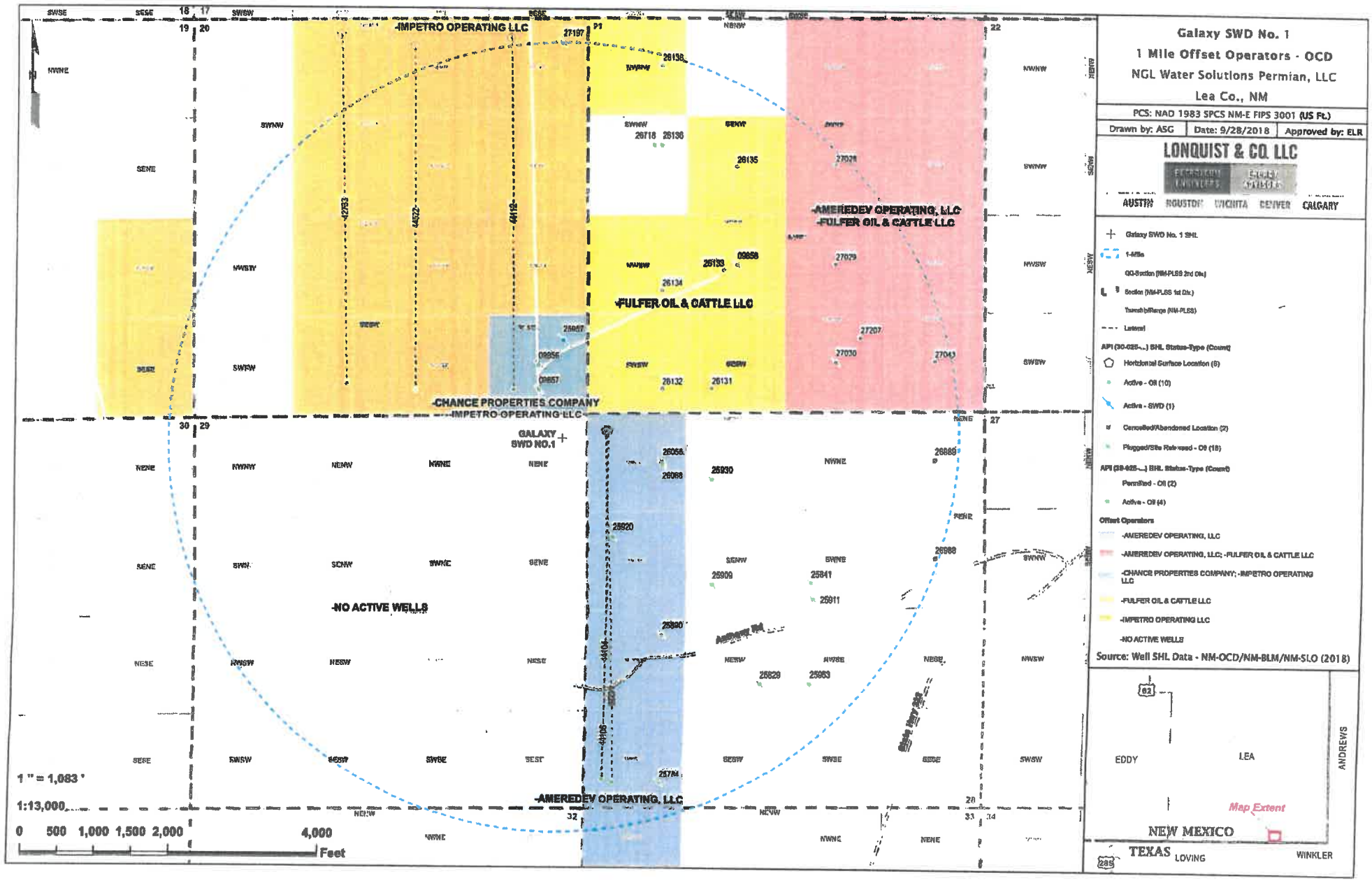
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

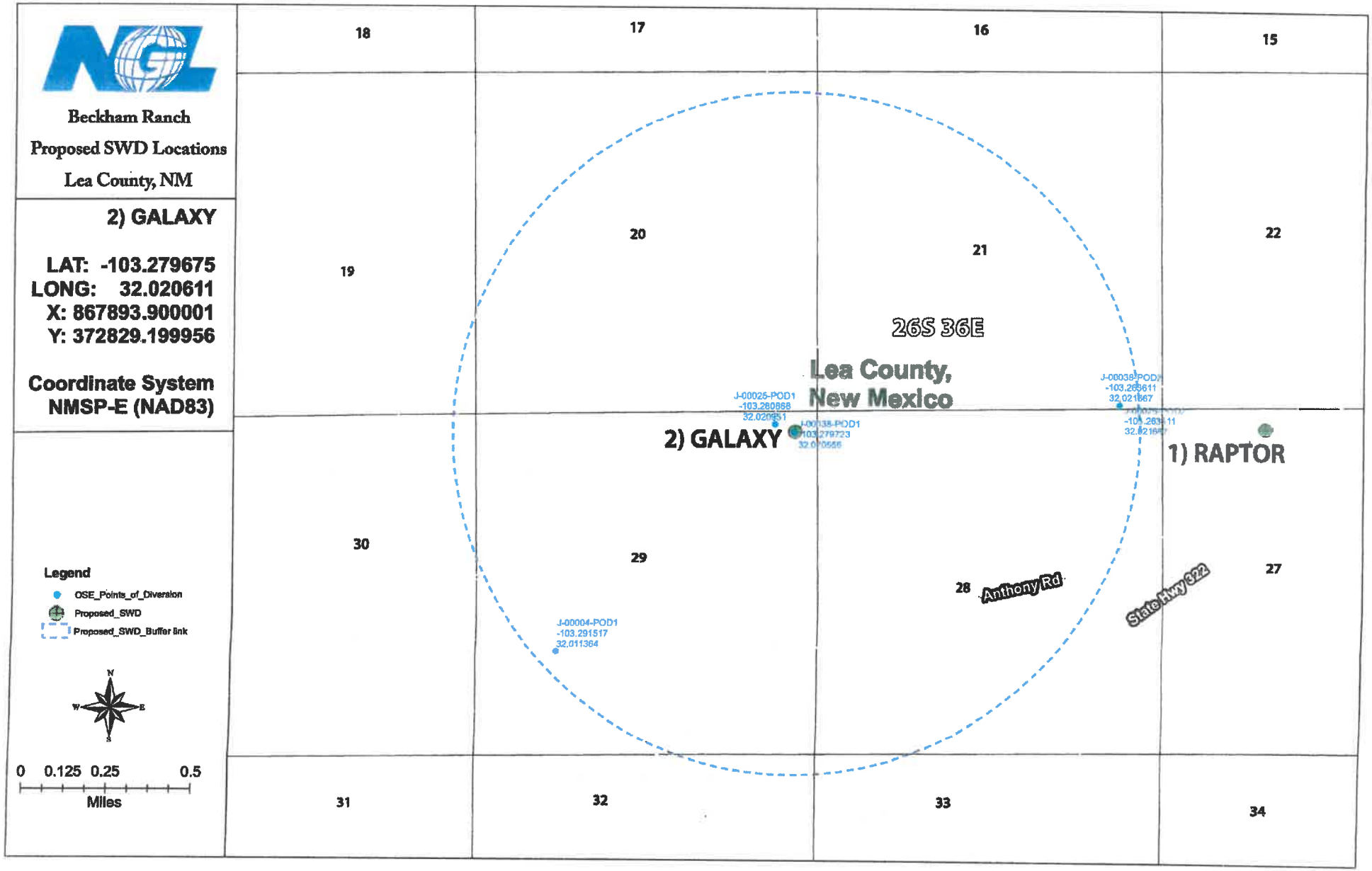
9/18/18
Date of Survey

Signature and Seal of Professional Surveyor

CODY A. CLARK
NEW MEXICO
23001
PROFESSIONAL SURVEYOR

23001
Certificate Number


-IMPETRO OPERATING LLC
-AMEREDEV OPERATING, LLC
-FULFER OIL & CATTLE LLC
-FULFER OIL & CATTLE LLC
-CHANCE PROPERTIES COMPANY
-IMPETRO OPERATING LLC
GALAXY SWD NO.1
-NO ACTIVE WELLS
-AMEREDEV OPERATING, LLC
1 " = 1,083 '
1:13,000
0 500 1,000 1,500 2,000 4,000
Feet
Galaxy 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: 9/28/2018
Approved by: ELR
LONQUIST & CO. LLC
AUSTIN HOUSTON WICHITA DENVER CALGARY
Galaxy SWD No. 1 SHL
1-Mile
Section (NM-PLSS 1st Div.)
Lateral
Horizontal Surface Location (5)
Active - Oil (10)
Active - SWD (1)
Cancelled/Abandoned Location (2)
Plugged/Site Released - Oil (18)
Permitted - Oil (2)
Active - Oil (4)
Offset Operators
-AMEREDEV OPERATING, LLC
-AMEREDEV OPERATING, LLC; -FULFER OIL & CATTLE LLC
-CHANCE PROPERTIES COMPANY; -IMPETRO OPERATING LLC
-FULFER OIL & CATTLE LLC
-IMPETRO OPERATING LLC
-NO ACTIVE WELLS
Source: Well SHL Data - NM-OCD/NM-BLM/NM-SLO (2018)
EDDY
LEA
ANDREWS
Map Extent
NEW MEXICO
TEXAS
LOVING
WINKLER


Beckham Ranch
Proposed SWD Locations
Lea County, NM
2) GALAXY
LAT: -103.279675
LONG: 32.020611
X: 867893.900001
Y: 372829.199956
Coordinate System
NMSP-E (NAD83)
Legend
OSE_Points_of_Diversion
Proposed_SWD
Proposed_SWD_Buffer 8nk
0 0.125 0.25 0.5
Miles
18
17
16
15
19
20
21
22
30
29
28
27
31
32
33
34
26S 36E
Lea County, New Mexico
2) GALAXY
1) RAPTOR
J-00025-POD1
-103.280868
32.020851
J-00038-POD1
-103.279723
J-00004-POD1
-103.291517
32.011364
Anthony Rd
State Hwy 322

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 Raptor SWD #1 well at a surface location 295 feet from the North line and 1,580 feet from the West line of Section 27, Township 26 South, Range 36 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 and Devonian formations at a depth of 18,529 – 19,874'.

(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 2,779 psi for this well, and it requests that a maximum pressure of 3,750 psi be approved for the well.

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

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

WHEREFORE, NGL requests that this application be set for hearing before an Examiner of the Oil Conservation Division on November 1, 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 and Devonian formations through the Raptor SWD #1 well at a surface location 295 feet from the North line and 1,580 feet from the West line of Section 27, Township 26 South, Range 36 East, NMPM, Lea County, New Mexico, for the purpose of operating a salt water disposal well. The target injection interval is the Silurian and Devonian formations at a depth of 18,529 – 19,874'. 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 area is located approximately 4 miles southwest of Jal, New Mexico.

Revised March 23, 2017

RECEIVED:	REVIEWER:	TYPE:	APP NO.

ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

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

ADMINISTRATIVE APPLICATION CHECKLIST

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

Applicant: NGL WATER SOLUTIONS PERMIAN LLC **OGRID Number:** 372338
Well Name: RAPTOR 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

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

FOR OCD ONLY
☐ Notice Complete
☐ Application Content Complete

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

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

CHRIS WEYAND
Print or Type Name

09/27/2018
Date

512-600-1764
Phone Number

Signature

CHRIS@LONQUIST.COM
e-mail Address

EXHIBIT
tabbies
A

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. OPERATOR: NGL WATER SOLUTIONS PERMIAN, LLC

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

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

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

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

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

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

VII. Attach data on the proposed operation, including:

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

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

IX. Describe the proposed stimulation program, if any.

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

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

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

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

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

NAME: Christopher B. Weyand TITLE: Consulting Engineer

SIGNATURE:  DATE: 9/20/2018

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: RAPTOR SWD #1

WELL LOCATION: 295 FNL & 1,580' FWL (FOOTAGE LOCATION) | C (UNIT LETTER) | 27 (SECTION) | 26S (TOWNSHIP) | 36E (RANGE)

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 24.000"

Casing Size: 20.000"

Cemented with: 1,487 sx. *or* _____ ft³

Top of Cement: Surface

Method Determined: Circulation

1st Intermediate Casing

Hole Size: 17.500"

Casing Size: 13.375"

Cemented with: 3,627 sx. *or* _____ ft³

Top of Cement: Surface

Method Determined: Circulation

2nd Intermediate Casing

Hole Size: 12.250"

Casing Size: 9.625"

Cemented with: 3,310 sx. *or* _____ ft³

Top of Cement: Surface

Method Determined: Circulation

Production Liner

Hole Size: 8.500"

Casing Size: 7.625"

Cemented with: 452 sx.

or _____ ft³

Top of Cement: 12,200'

Method Determined: Calculation

Total Depth: 19,874'

Injection Interval

18,529 feet to 19,874 feet

(Open Hole)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 7", 26 lb/ft, P-110, TCPC from 0'- 12,100' and 5.500", 17 lb/ft, P-110 TCPC from 12,100' - 18,500'
Lining Material: Duoline

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

Packer Setting Depth: 18,500'

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

Additional Data

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

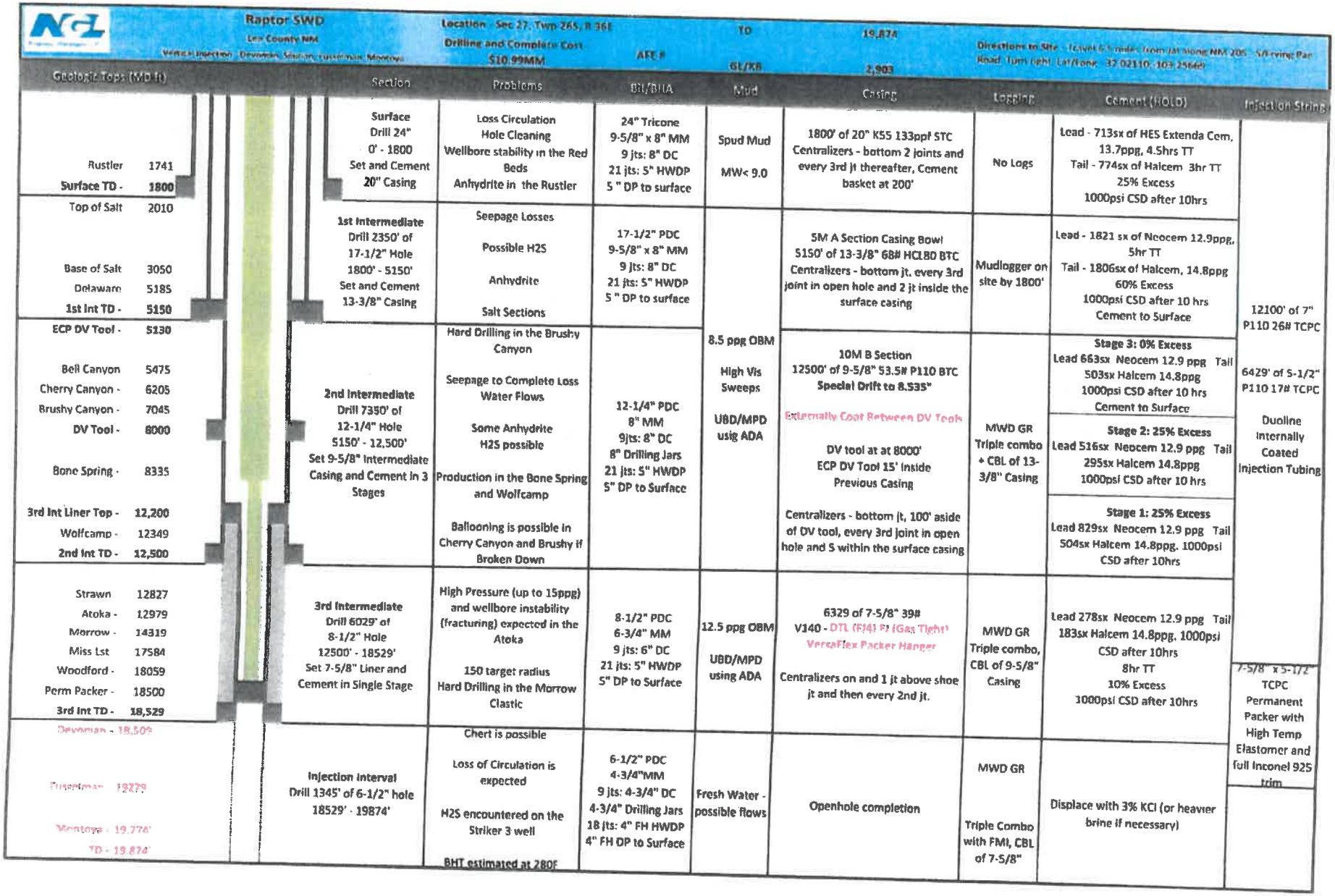
   If no, for what purpose was the well originally drilled? N/A

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

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

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

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:
   Yates-Seven Rivers: 3,125'
   Bone Spring: 8,559'
   Wolfcamp: 11,969'
   Strawn: 12,827


Raptor SWD
Lea County NM
Vertical Injection - Devonian, Silurian, Fusselman, Montoya
Location - Sec 27, Twp 26S, R 36E
Drilling and Complete Cost
$10.99MM
AFE #
TD
19,874
GL/KB
2,903
Directions to Site - Travel 6.5 miles from Jal along NM 205 - SA ring Pan Road. Turn right. Lat/long: 32.02110, 103.25640
Geologic Tops (MD ft)
Section
Problems
Bit/BHA
Mud
Casing
Logging
Cement (HOLD)
Injection String
Rustler 1741
Surface TD - 1800
Surface
Drill 24"
0' - 1800
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
1800' of 20" K55 133ppf STC
Centralizers - bottom 2 joints and every 3rd jt thereafter, Cement basket at 200'
No Logs
Lead - 713sx of HES Extenda Cem, 13.7ppg, 4.5hrs TT
Tail - 774sx of Halcem 3hr TT
25% Excess
1000psi CSD after 10hrs
Top of Salt 2010
Base of Salt 3050
Delaware 5185
1st Int TD - 5150
1st Intermediate
Drill 2350' of
17-1/2" Hole
1800' - 5150'
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
8.5 ppg OBM
High Vis Sweeps
UBD/MPD usig ADA
5M A Section Casing Bowl
5150' 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 1800'
Lead - 1821 sx of Neocem 12.9ppg, 5hr TT
Tail - 1806sx of Halcem, 14.8ppg
60% Excess
1000psi CSD after 10 hrs
Cement to Surface
12100' of 7" P110 26# TCPC
6429' of 5-1/2" P110 17# TCPC
Duoline Internally Coated Injection Tubing
ECP DV Tool - 5130
Bell Canyon 5475
Cherry Canyon - 6205
Brushy Canyon - 7045
DV Tool - 8000
Bone Spring - 8335
3rd Int Liner Top - 12,200
Wolfcamp - 12349
2nd Int TD - 12,500
2nd Intermediate
Drill 7350' of
12-1/4" Hole
5150' - 12,500'
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
10M B Section
12500' of 9-5/8" 53.5# P110 BTC
Special Drift to 8.535"
Externally Cast Between DV Tools
DV tool at at 8000'
ECP DV Tool 15' inside Previous Casing
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: 0% Excess
Lead 663sx Neocem 12.9 ppg Tail 503sx Halcem 14.8ppg
1000psi CSD after 10 hrs
Cement to Surface
Stage 2: 25% Excess
Lead 516sx Neocem 12.9 ppg Tail 295sx Halcem 14.8ppg
1000psi CSD after 10 hrs
Stage 1: 25% Excess
Lead 829sx Neocem 12.9 ppg Tail 504sx Halcem 14.8ppg. 1000psi CSD after 10hrs
Strawn 12827
Atoka - 12979
Morrow - 14319
Miss Lst 17584
Woodford - 18059
Perm Packer - 18500
3rd Int TD - 18,529
3rd Intermediate
Drill 6029' of
8-1/2" Hole
12500' - 18529'
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
6329 of 7-5/8" 39#
V140 - DTL (EJ4) 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
Lead 278sx Neocem 12.9 ppg Tail 183sx Halcem 14.8ppg. 1000psi CSD after 10hrs
8hr TT
10% Excess
1000psi CSD after 10hrs
7-5/8" x 5-1/2" TCPC Permanent Packer with High Temp Elastomer and full Inconel 925 trim
Devonian - 18,509
Fusselman - 19279
Montoya - 19,774'
TD - 19,874
Injection Interval
Drill 1345' of 6-1/2" hole
18529' - 19874'
Chert is possible
Loss of Circulation is expected
H2S encountered on the Striker 3 well
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
Fresh Water - possible flows
Openhole completion
MWD GR
Triple Combo with FMI, CBL of 7-5/8"
Displace with 3% KCl (or heavier brine if necessary)

NGL Water Solutions Permian, LLC

Raptor SWD No. 1

FORM C-108 Supplemental Information

III. Well Data

A. Wellbore Information

1.

Well information	
Lease Name	Raptor SWD
Well No.	1
Location	S-27 T-26S R-36E
Footage Location	295' FNL & 1,580' FWL

2.

a. Wellbore Description

Casing Information				
Type	Surface	Intermediate	Production	Liner
OD	20"	13.375"	9.625"	7.625"
WT	0.635"	0.480"	0.545"	0.500"
ID	18.730"	12.415"	8.535"	6.625"
Drift ID	18.542"	12.259"	8.535"	6.500"
COD	21.00"	14.375"	10.625"	7.625"
Weight	133 lb/ft	68 lb/ft	53.5 lb/ft	39 lb/ft
Grade	K-55	HCL-80	P-110	V-140
Hole Size	24"	17.5"	12.25"	8.5"
Depth Set	1,800'	5,150'	12,500'	18,529'

b. Cementing Program

Cement Information				
Casing String	Surface	Intermediate	Production	Liner
Lead Cement	Extenda Cem	Neocem	Neocem, Halcem	Neocem
Lead Cement Volume	713	1,821	Stage 1: 829 sks Stage 2: 516 sks Stage 3: 663 sks	278
Tail Cement	Halcem	Halcem	Neocem, Halcem	Halcem
Tail Cement Volume	774	1,806	Stage 1: 504 sks Stage 2: 295 sks Stage 3: 503 sks	173
Cement Excess	25%	60%	25%, 25%, 0%	10%
TOC	Surface	Surface	Surface	12,200'
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'-12,100'	12,100' -18,500'

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

B. Completion Information

1. Injection Formation: Devonian, Silurian, Fusselman, Montoya (Top 100')
2. Gross Injection Interval: 18,529' – 19,874'

   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
Yates-Seven Rivers	3,125'
Bone Spring	8,559'
Wolfcamp	11,969'
Strawn	12,827'

VI. Area of Review

API No. 30-025-26557 penetrates the proposed injection zone within 1-mile of the proposed Raptor SWD #1. The completion report is attached. The well was drilled to the Devonian (TD 18,577') and plugged back to 15,550' (which is in the Morrow formation) with multiple cement plugs. A CIBP was set at 15,190'.

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: 2,779 PSI (surface pressure)
   Maximum Injection Pressure: 3,705 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 Bone Spring, Wolfcamp, and Strawn 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	1,741'
Yates-Seven Rivers	3,125'
Delaware	5,185'
Bone Spring	8,335'
Wolfcamp	12,349'
Penn	12,419'
Atoka	12,979'
Morrow	14,319'
Mississippian Lime	16,709'
Woodford	18,059'
Devonian	18,509'

B. Underground Sources of Drinking Water

Within 1-mile of the proposed Raptor SWD #1 location, there are two water wells. Only one water well has been reported of having a depth of 800 ft. Water wells in the surrounding area have an average depth of 564 ft and an average water depth of 254 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

There are two water wells that exist within one mile of the well location. If samples can be obtained, analysis results will be provided as soon as possible. A map and Water Right Summary from the New Mexico Office of the State Engineer is attached for water well J-00025 POD2.

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.
	RAPTOR SWD	1

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
C	27	26S	36E	N/A	295'	NORTH	1580'	WEST	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	2,903'
16 Multiple	**17 Proposed Depth**	**18 Formation**	**19 Contractor**	**20 Spud Date**
N	19,874'	Siluro-Devonian	TBD	ASAP
Depth to Ground water	Distance from nearest fresh water well		Distance to nearest surface water	
254'	2,246'		> 1 mile	

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

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surface	24"	20"	133 lb/ft	1,800'	1,487	Surface
Intermediate	17.5"	13.375"	68 lb/ft	5,150'	3,627	Surface
Production	12.25"	9.625"	53.5 lb/ft	12,500'	3,310	Surface
Prod Liner	8.5"	7.625"	39 lb/ft	18,529'	452	12,200'
Tubing	N/A	7"	26 lb/ft	0' - 12,100'	N/A	N/A
Tubing	N/A	5.5"	17 lb/ft	12,100' - 18,500'	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: 9.27.2018 / Phone: (512) 600-1764	Conditions of Approval Attached

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

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

4 Property Code	5 Property Name	6 Well Number
	RAPTOR SWD	1

7 OGRID No.	8 Operator Name	9 Elevation
372338	NGL WATER SOLUTIONS PERMIAN, LLC	2903.00'±

10 Surface Location

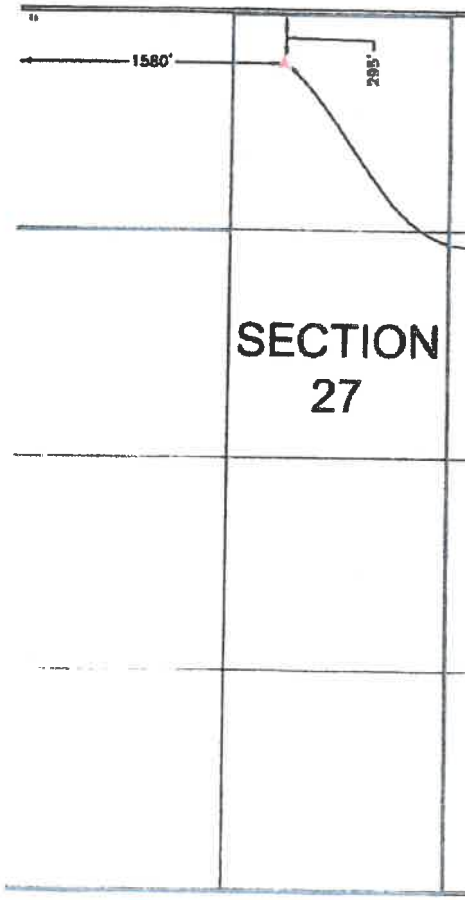
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	27	26 S	36 E	N/A	295'	NORTH	1580'	WEST	LEA

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: 9/20/2018

Chris Weyand
Printed Name

chris@lonquist.com
E-mail Address

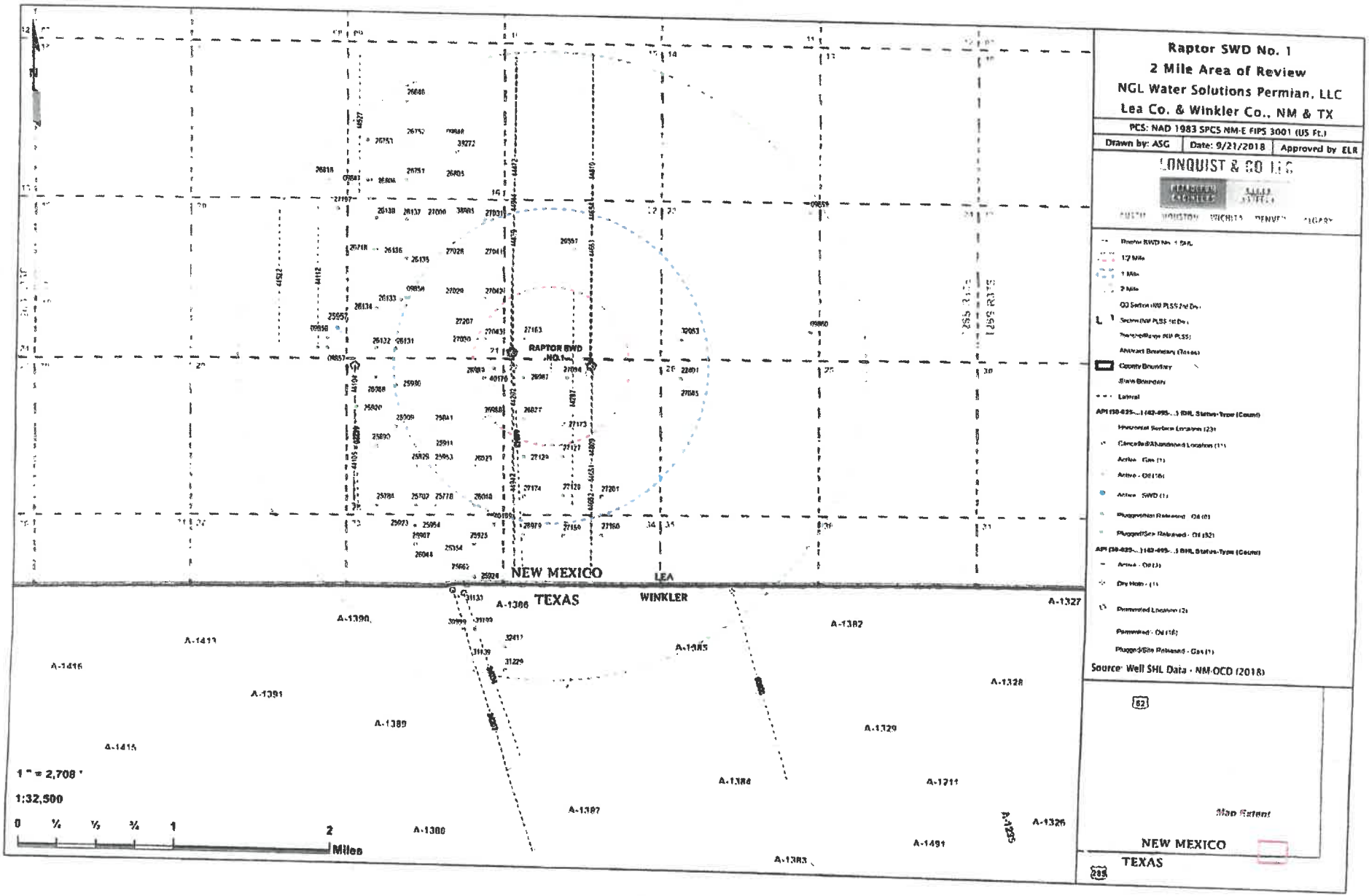
18 SURVEYOR CERTIFICATION

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.

09/19/2018
Date of Survey

Signature and Seal of Professional Surveyor: CODY FOX CLARK — NEW MEXICO — 23001 — PROFESSIONAL SURVEYOR

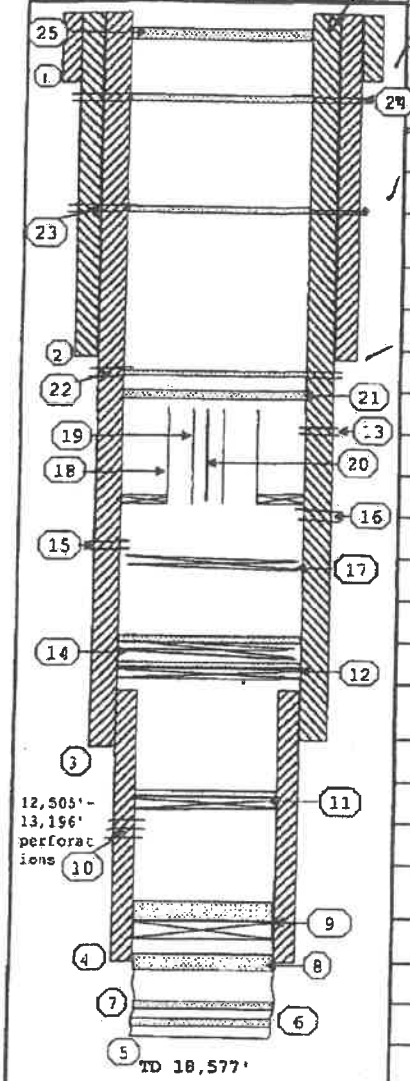
23001
Certificate Number


Raptor SWD No. 1
2 Mile Area of Review
NGL Water Solutions Permian, LLC
Lea Co. & Winkler Co., NM & TX
PCS: NAD 1983 SPCS NM-E FIPS 3001 (US Ft.)
Drawn by: ASG
Date: 9/21/2018
Approved by: ELR
LONQUIST & CO LLC
AUSTIN HOUSTON DENVER
Raptor SWD No. 1 SHL
1/2 Mile
1 Mile
2 Mile
Source: Well SHL Data - NM-OCD (2018)
RAPTOR SWD #1
NEW MEXICO
TEXAS
LEA
WINKLER
A-1386
A-1390
A-1413
A-1416
A-1391
A-1389
A-1415
A-1385
A-1382
A-1328
A-1329
A-1386
A-1211
A-1387
A-1326
A-1491
A-1383
A-1327
A-1388
1" = 2,708'
1:32,500
0 ¼ ½ ¾ 1 2 Miles
Map Extent
NEW MEXICO
TEXAS

Raptor 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
22401	PRE-ONGARD WELL #001	O	P	PRE-ONGARD WELL OPERATOR	3502	32.01966860000	-103.24238590000	1/1/1900
25841	PRE-ONGARD WELL #002	O	P	PRE-ONGARD WELL OPERATOR	284	32.01514820000	-103.26896670000	1/1/1900
25911	QUANAH PARKER #002Y	O	P	WHITING OIL AND GAS CORPORATION	3258	32.01459880000	-103.26888280000	12/31/9999
25930	LEA 7406 JV-S #008	O	P	BTA OIL PRODUCERS	3270	32.01901250000	-103.27323910000	12/31/9999
25953	NEW MEXICO CV STATE #001	O	P	WHITING OIL AND GAS CORPORATION	3239	32.01150130000	-103.26896670000	6/23/1978
26023	PRE-ONGARD WELL #003	O	C	PRE-ONGARD WELL OPERATOR	0	32.01152777980	-103.26471870700	12/31/9999
26131	WILSON 21 FEDERAL #001	O	A	FULFER OIL & CATTLE LLC	3340	32.02239610000	-103.27323910000	12/31/9999
26557	PAWNEE DEEP UNIT #001	O	P	HERITAGE RESOURCES, INC.	18577	32.03146740000	-103.25407410000	11/25/1979
26877	BUFFALO HUMP #001	O	P	WHITING OIL AND GAS CORPORATION	3585	32.01591110000	-103.25938420000	12/31/9999
26987	BUFFALO HUMP #002	O	P	WHITING OIL AND GAS CORPORATION	3545	32.01967620000	-103.25938420000	12/31/9999
26988	PRE-ONGARD WELL #003	O	C	PRE-ONGARD WELL OPERATOR	0	32.01605629660	-103.26365298700	12/31/9999
26989	PRE-ONGARD WELL #004	O	C	PRE-ONGARD WELL OPERATOR	0	32.01968494540	-103.26365625500	12/31/9999
27028	LEA 21, 7406 JV-S #002	O	A	FULFER OIL & CATTLE LLC	3658	32.03056720000	-103.26791380000	12/31/9999
27029	LEA 21, 7406 JV-S #003	O	A	FULFER OIL & CATTLE LLC	3574	32.02693180000	-103.26791380000	3/23/2010
27030	PRE-ONGARD WELL #004	O	P	PRE-ONGARD WELL OPERATOR	1060	32.02330400000	-103.26790620000	1/1/1900
27041	LEA 21, 7405 JV-S #006	O	A	FULFER OIL & CATTLE LLC	3495	32.03056340000	-103.26365660000	11/21/1980
27042	LEA 21, 7406 JV-S #007	O	A	FULFER OIL & CATTLE LLC	3525	32.02693560000	-103.26364900000	12/31/9999
27043	LEA 21, 7406 JV-S #008	O	A	FULFER OIL & CATTLE LLC	3570	32.02330400000	-103.26364900000	12/31/9999
27045	LEA 26 7406 JV-S #001	O	P	BTA OIL PRODUCERS	3660	32.01939010000	-103.24238590000	12/31/9999
27094	PRE-ONGARD WELL #003	O	P	PRE-ONGARD WELL OPERATOR	3608	32.01967240000	-103.25464630000	1/1/1900
27127	BUFFALO HUMP #005	O	P	WHITING OIL AND GAS CORPORATION	3554	32.01242070000	-103.25511930000	12/31/9999
27128	BUFFALO HUMP #006	O	P	WHITING OIL AND GAS CORPORATION	3564	32.00879290000	-103.25511930000	12/31/9999
27129	BUFFALO HUMP #008	O	P	WHITING OIL AND GAS CORPORATION	3606	32.01242450000	-103.25938420000	12/31/9999
27163	AMERICAN EAGLE #001	O	P	WHITING OIL AND GAS CORPORATION	3550	32.02330400000	-103.25939180000	1/23/1981
27173	PRE-ONGARD WELL #004	O	C	PRE-ONGARD WELL OPERATOR	0	32.01550009560	-103.25509350400	12/31/9999
27174	PRE-ONGARD WELL #007	O	C	PRE-ONGARD WELL OPERATOR	0	32.00880363520	-103.25936686400	12/31/9999
27201	PRE-ONGARD WELL #001	O	C	PRE-ONGARD WELL OPERATOR	0	32.00879094530	-103.25093918500	12/31/9999
27207	LEA 21, 7406 JV-S #004Y	O	A	FULFER OIL & CATTLE LLC	3550	32.02421190000	-103.26684570000	1/26/1981
32053	BEARTOOTH STATE UNIT #001	O	P	EOG Y RESOURCES, INC.	7725	32.02329640000	-103.24238590000	7/26/1993
40170	GOOD CHIEF STATE #001	O	H	RMR OPERATING, LLC	3873	32.02058410000	-103.26258090000	7/13/2011
44202	AMEN CORNER 26 36 27 STATE COM #111H	O	N	AMEREDEV OPERATING, LLC	0	32.02216530000	-103.26060600000	12/31/9999
44287	BOSSHOG #001H	O	N	Impetro Operating LLC	0	32.00769392000	-103.25411597000	12/31/9999
44439	MAGNOLIA 26 36 22 STATE COM #111H	O	N	AMEREDEV OPERATING, LLC	0	32.02216540000	-103.26073510000	12/31/9999
44472	MAGNOLIA 26 36 22 STATE COM #101H	O	N	AMEREDEV OPERATING, LLC	0	32.02216530000	-103.26067060000	12/31/9999
44651	AMEN CORNER 26 36 27 STATE COM #115H	O	N	AMEREDEV OPERATING, LLC	0	32.02097400000	-103.25202220000	12/31/9999
44652	AMEN CORNER 26 36 27 STATE COM #125H	O	N	AMEREDEV OPERATING, LLC	0	32.02097420000	-103.25208670000	12/31/9999
44653	MAGNOLIA 26 36 22 STATE COM #105H	O	N	AMEREDEV OPERATING, LLC	0	32.02097430000	-103.25215130000	12/31/9999
44654	MAGNOLIA 26 36 22 STATE COM #115H	O	N	AMEREDEV OPERATING, LLC	0	32.02027440000	-103.25221580000	12/31/9999
44809	AMEN CORNER 26 36 27 STATE COM #105H	O	N	AMEREDEV OPERATING, LLC	0	32.02097390000	-103.25195770000	12/31/9999
44810	MAGNOLIA 26 36 22 STATE COM #125H	O	N	AMEREDEV OPERATING, LLC	0	32.02097450000	-103.25228030000	12/31/9999
44942	AMEN CORNER 26 36 27 STATE COM #121H	O	N	AMEREDEV OPERATING, LLC	0	32.02216550000	-103.26079970000	12/31/9999
44943	AMEN CORNER 26 36 27 STATE COM #091H	O	N	AMEREDEV OPERATING, LLC	0	32.02216530000	-103.26054150000	12/31/9999
44944	MAGNOLIA 26 36 22 STATE COM #121H	O	N	AMEREDEV OPERATING, LLC	0	32.02216540000	-103.26086450000	12/31/9999

HERITAGE RESOURCES, INC.				WELL NAME: PAWNEE DEEP UNIT #1					
COMPANY REP:	CASING	SIZE:	WT:	GRADE:	THREAD:	PACKER FLUID:			
COUNTY: LEA STATE: NEW MEXICO	LINER	SIZE:	WT:	GRADE:	THREAD:	TUBING WT. ON	LOWER:	MIDDLE:	UPPER:
SEC. 22, T-26-S, R-36-E		SIZE:	WT:	GRADE:	THREAD:	TYPE LATCH	LOWER:	MIDDLE:	UPPER:
		SIZE:	WT:	GRADE:	THREAD:	OPERATOR: HERITAGE RESOURCES, INC.			
		SIZE:	WT:	GRADE:	THREAD:	OFFICE:		DATE: 10/30/2013	



ITEM	DEPTH	LENGTH	JTS	DESCRIPTION
1	925'	925'		20" @925' w/1700 sx cmt circ. to surface
2	4,950'	4,950'		13 3/8" @4,950' w/3800 sx cmt circ to surface
3	11,854'	11,854'		9 5/8" @11,854' w/2425 sx cmt. Top of cmt @5800' by temp survey.
4	16,504'	4,943'		7 3/4" liner set @11,561' - 16,504' w/700 sx cmt
5				Open hole from 16,504' to TD of 18,577'
6	18,035'			18,035' - 18,535' cmt plug spotted
7	17,000'			17,000' - 17,500' cmt plug spotted
8	15,550'			15,550' - 16,550' cmt plug spotted
9	15,190'			Castiron bridge plug @15190' w/10' cmt on top
10				Perforations 12,505' - 13,196'
11	12400'			7 5/8" CIBP set at 12,400' w/6 sx cmt. to 12,365'
12	11,500'			7.71" CIBP set at 11,500' w/12 sx cmt.
13	6,652'			Perforations 6,652'-6,672' squeezed w/150 sx cmt.
14	11,500'			Loose 9 5/8" packer w/cmt. on top & dump bailer left in hole.
15				Perforations 9,498'-9,526'
16				Perforations 9,332'-9,372'
17	9,650'			Loose 9 5/8" packer.
18	9,306'	9,306		5 1/2" casing set on 9 5/8" pkr @9,306'. 2,930' remaining in well.
19	9,306'	2,930		2,930' of 2 7/8" tubing remaining in well.
20				2,930 ' of 1" steel rods remaining in well.
21				50 sx cement plug @ 6,390'.
22				Perforate @ 5,000', 65 sx cmt. in & out of casing with packer and tag.
23				Perforate @ 2,195', 65 sx cmt. in & out of casing with packer and tag.
24				Perforate @975', 65 sx cmt. in & out of casing with packer and tag.
25				Circulate cement thru parted casing @340' w/250 sx cmt.

PROPOSED

Submit 3 Copies To Appropriate District Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

HOBBS OCD
JUN 19 2014
RECEIVED

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

Form C-103
May 27, 2004

WELL API NO. 30-025-26557
5. Indicate Type of Lease STATE ☒ FEE ☐
6. State Oil & Gas Lease No. LG 3340

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

7. Lease Name or Unit Agreement Name: Pawnee Deep Unit
1. Type of Well: Oil Well ☒ Gas Well ☐ Other
8. Well Number 1
2. Name of Operator: Heritage Resources, Inc.
9. OGRID Number 289348
3. Address of Operator: 3131 McKinney, Avenue, Suite 710, Dallas, Texas 75204
10. Pool name or Wildcat: Bone Spring

4. Well Location
Unit Letter F : 1650 feet from the North line and 2310 feet from the West line
Section 22 Township 26S Range 36E NMPM County LEA

11. Elevation (Show whether DR, RKB, RT, GR, etc.)

Pit or Below-grade Tank Application ☐ or Closure ☐
Pit type ____ Depth to Groundwater ____ Distance from nearest fresh water well ____ Distance from nearest surface water ____
Pit Liner Thickness: ____ mil Below-Grade Tank: Volume ____ bbls; Construction Material

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

E-PERMITTING - CSNG____
PERFORM (P&A) Kz TA____ ON ☐
TEMPORA COMP____ NEW WELL____ ☐
PULL OR LOC CHG____ ☐
OTHER: ☐

SUBSEQUENT REPORT OF:
REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☒
CASING/CEMENT JOB ☐
OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

5/13/14- Spot 50sx Cmt @ 6340' POOH WOC & Tag @ 6338' Spoke w/ Mark RRC advised to spot 50sx more WOC & Tag. RIH w/ Tbg. Tag Cmt @ 6268' POOH

5/20/14- Perf @ 5000' RIH w/ Pkr to 4850' Sqz 75sx Cmt WOC & Tag @ 4785'

5/21/14- @ 2995' Load hole set Pkr & Pump fluid up to 2000 PSI. Did not Sqz down to 2230' Spot 65sx Cmt. POOH w/ Tbg WOC & Tag RIH w/ Tbg Cmt @ 2180' Spot 65sx more @ 2119' WOC & Tag @ 1956'

5/22/14- Perf @ 975' Set Pkr @ 847' Sqz 100sx Cmt WOC & Tag @ 838' POOH w/ Pkr. Pump fluid to backside up to 300 PSI. Advised to RBIH w/ Pkr to 260' Sqz 100sx Cmt. Pump fluid did not get Pres. RIH w/ Tbg. Did not Tag Cmt

5/23/14- 100sx Started pump Cmt Pres. to 1500 PSI. Was able to Sqz 35sx Co. Man advised to Disp to 302' Shut Tbg valve w/ 1000 PSI & SDFD

5/27/14- Perf @ 60' Try Sqz. Did not Inj. RIH w/ Tbg to 230' spot Cmt to Surf. Visual w/ 85sx Cmt. WOC & Tag @ 10'

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE [signature] TITLE General Manager DATE 6-2-14

Type or print name E-mail address: Telephone No.

For State Use Only

APPROVED BY: Maley Brown TITLE Dist. Supervisor DATE 6/23/2014
Conditions of Approval (if any):

JUN 24 2014

WORKOVER PROCEDURE

PROJECT: Pawnee Deep Unit #1 – Acidize and Jet Tubing

DRILLED & COMPLETED: 11/79 LAST WO: 11/89 – Change Tbg from 3 1/2" to 2 3/8"

LOCATION: 1650' FNL and 2310' FWL, Sec. 22-26S-36E API# 30-025-26557

FIELD: Pawnee (Strawn) COUNTY: Lea STATE: NM

TD: 18,577' PBTD: 15,180' KB: 26'

CASING AND LINER RECORD

SIZE	WEIGHT	DEPTH	CEMENT	HOLE SIZE	TOC	REMARKS
20"	94#	925'	1700 sx	26"	surf	Circ
13 3/8"	61/68#	4950'	3800 sx	17 1/2"	surf	Circ
9 5/8"	47#	11,854'	2425 sx	12 1/4"	5800'	By TS
7 3/4" Liner	46.1#	16,504'	700 sx	8 1/2"		Liner top 11,561'

Producing formation: Strawn (12,505' – 13,196') w/21 – 0.29" holes

Tubing: See Attached Schematic
(NOTE: One 3 1/2", 12.95# C-75 PH-6-CB Hydril Tbg as top jt)

Note: Tight spot at 9393'. Could not broach w/ 1.89 pineapple broach.
2.31" Model F Nipple w/ FSP Blanking plug in place at 12,324'.
Tbg perforated 12,320' – 12,324' w/ 12 – 0.43" holes
CIBP set at 15,190' w/ 10' cmt cap. OH f/(16,504' – 18,577').
Cmt plugs spotted at (18,035' – 18,535'), (17,000' – 17,500') and (15,550' – 16,550').

PROCEDURE

- **Run acid compatibilities on produced fluids.**
- **Use 2% KCl for all water pumped into the well.**
- **Install 500 bbl frac tank and flow line prior to workover.**

1. MIRU CTU. RU BOP's and CT Packoff.
2. RIH w/ 1 1/4" CT and 1 11/16" gauge ring to the 2.31" FSP blanking plug @ 12,324'.
3. POH w/ CT.
4. RU Wireline. RIH w/ 1 11/16" jet cutter and cut tbg at +/- 12,324'. Tag "F" plug to see if tubing is cut. Repeat as needed. POH w/ WL. RD WL.
5. RIH w/ 1 1/4" CT to 13,196'. Spot acid across Strawn perfs 12,505' – 13,196'. PUH +/- 100'. SI CT annulus. Pump 2000 gal 15% AS acid at +/- 1 BPM using 200 – 300 scf/bbl N_2. Flush to btm perf w/ 2% KCl and 200 – 300 scf/bbl N_2. Record injection rates and ISIP.
6. Open CT annulus and flow back load if possible.
7. PUH to +/- 5000'.
8. Start N_2 injection at +/- 200 – 300 SCF per minute.
9. FIH to 13,200', adjusting N_2 flowrate as needed to jet fluid from well.
10. POOH w/ CT. RD CTU.
11. Flow well back to frac tank to recover load and clean up.
12. Return well to production. Monitor tests and flowing pressures.

OIL & GAS CORP.

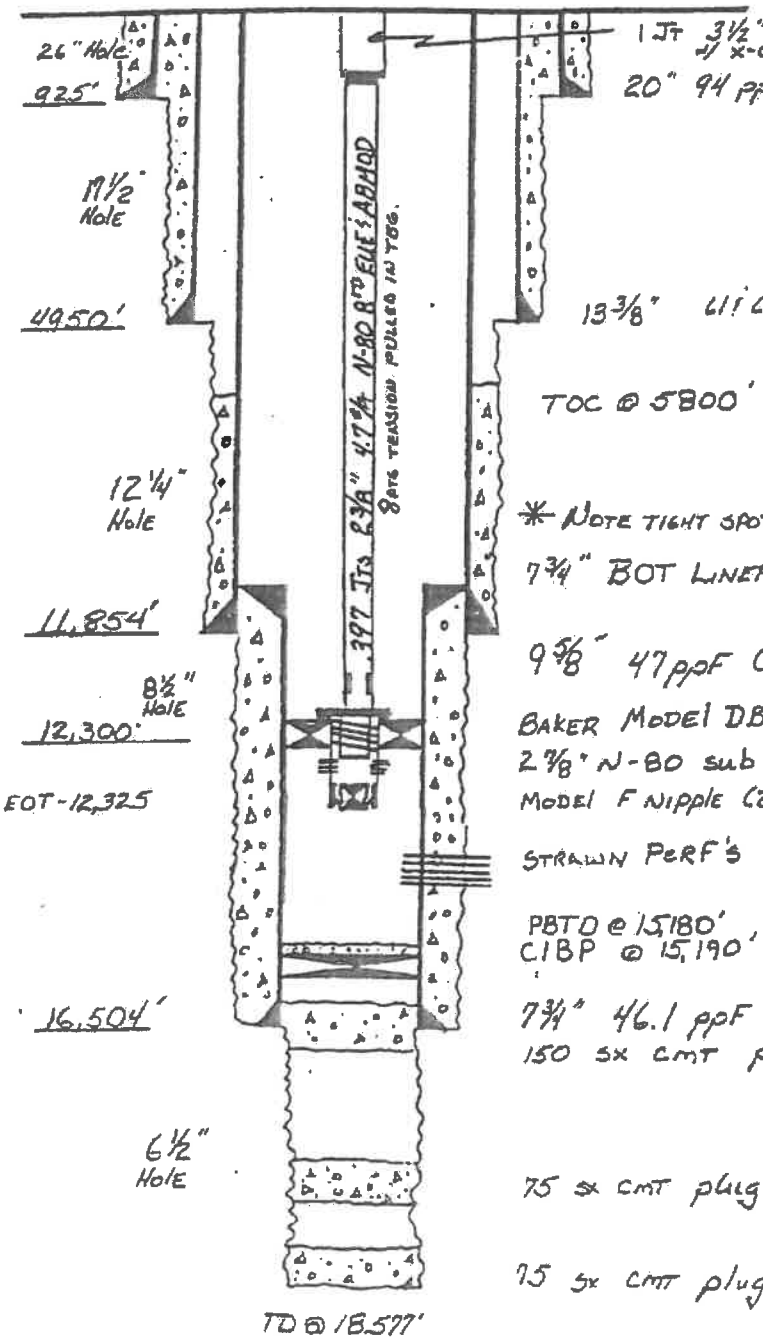
al Purpose Worksheet

PAWNEE DEEP UNIT # 1 | Page No. 1 Of 2

PAWNEE FIELD (STRAWN) | By DE Kelly TSIGER | Date MAY 29, 91 8/17/00

PRESENT STATUS

G.L. @ 2909 KB @ 2935'



1 Jt 3½" 12.95#/ft C-75 PH-6-CB Hydril Tbg w/ x-o

20" 94 ppf Csg w/ 1700 sx cmt - Circ'd

13⅜" 4[illegible] ppf Csg w/ 3800 sx cmt - Circ'd

TOC @ 5800' by T.S.

* Note tight spot in tubing at 9393'.

7¾" BOT Liner Hngr @ 11,561'. *Squ'd w/ 175 sx cmt

9⅝" 47ppf Csg w/ 2425 sx Cmt

Baker Model DB (88-32) w/ Seal Bore Extesion ; 10' N-80 Sub 2⅞" N-80 sub (perf'd w/ 12-.43" holes F/ 12,320-324') Model F Nipple (2.31") w/ "FSP" Blanking Plug IN PLACE

Strawn Perf's 12,505-13,196 (21 Shots)

PBTD @ 15,180'
CIBP @ 15,190' w/ 10' cmt on Top

7¾" 46.1 ppf Liner w/ 700 sx cmt
150 sx cmt plug F/ 15,550-16,550

75 sx cmt plug F/ 17,000-17,500

75 sx cmt plug F/ 18,035'-18,535'

(Note: Detailed Tbg Schematic on Following Page)

NO. OF COPIES RECEIVED		
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FILE		
U.S.G.S.		
LAND OFFICE		
OPERATOR		

Form C-105
Revised 10-1-78

NEW MEXICO OIL CONSERVATION COMMISSION

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5a. Indicate Type of Lease: State [X] Fee [ ]

5. State Oil & Gas Lease No.: LG - 3340

1a. TYPE OF WELL

b. TYPE OF COMPLETION: NEW WELL [X] WORK OVER [ ] DEEPEN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] OTHER [ ]

OIL WELL [ ] GAS WELL [X] DRY [ ] OTHER

7. Unit Agreement Name: GMW - Pawnee Deep

8. Farm or Lease Name: White Eagle

2. Name of Operator: Gifford, Mitchell & Wisenbaker

9. Well No.: 1

3. Address of Operator: 1280 Midland National Bank Tower Midland, Texas 79701

10. Field and Pool, or Wildcat: Wildcat

4. Location of Well: UNIT LETTER F LOCATED 1650 FEET FROM THE North LINE AND 2310 FEET FROM THE West LINE OF SEC. 22 TWP. 26-S RGE. 36-E NMPM

12. County: Lea

15. Date Spudded	16. Date T.D. Reached	17. Date Compl. (Ready to Prod.)	18. Elevations (DF, RKB, RT, GR, etc.)	19. Elev. Cashinghead
11/25/79	3/28/80	4/18/80	GR 2910	2908

20. Total Depth	21. Plug Back T.D.	22. If Multiple Compl., How Many	23. Intervals Drilled By	Rotary Tools	Cable Tools
18,577	15,180		→	All	

24. Producing Interval(s), of this completion — Top, Bottom, Name: 12,505' - 13,196' (Strawn)

25. Was Directional Survey Made: yes (dipmeter)

26. Type Electric and Other Logs Run: Dual Laterolog & Comp. Neutron Density

27. Was Well Cored: No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
20"	94	925'	26"	1700 sx	
13 3/8"	61 & 68	4950'	17-1/2"	3800 sx	
9 5/8"	47	11854'	12-1/4"	2425 sx	

29. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN
7-3/4"	11,561	16,504	875	

30. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
3-1/2	12,300	12,300

31. Perforation Record (Interval, size and number): 21 holes (0.29") from 12,505 to 13,196

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
12,505 - 13,196	5000 gals. of 15% HCL aci

33. PRODUCTION

Date First Production	Production Method (Flowing, gas lift, pumping - Size and type pump)	Well Status (Prod. or Shut-in)
4/18/80	Flowing	shut-in (WO pipeline)

Date of Test	Hours Tested	Choke Size	Prod'n. For Test Period →	Oil - bbl.	Gas - MCF	Water - bbl.	Gas - Oil Ratio
4/21/80	1	15/64		7.88	214.25	0.87	27.9 MCF/bbl.

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate →	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API (Corr.)
4790	pkr.		189	5142	21	47.7

34. Disposition of Gas (Sold, used for fuel, vented, etc.): well shut in - waiting on pipeline connection

Test Witnessed by: Delton Shirley

35. List of Attachments: One copy of each elec. log and deviation survey

36. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

SIGNED J. B. Stiff TITLE Production Engineer DATE 4/29/80

477

This form is to be filed with the appropriate District Office of the Commission not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radioactivity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 35 through 38 shall be reported for each zone. This form is to be filed in quintuplicate except for state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico				Northwestern New Mexico			
T. Anhy	2195	T. Canyon	12,430	T. Ojo Alamo		T. Penn. "B"	
T. Salt		T. Strawn		T. Kirtland-Fruitland		T. Penn. "C"	
B. Salt		T. Atoka	13,274	T. Pictured Cliffs		T. Penn. "D"	
T. Yates	3364	T. Miss		T. Cliff House		T. Leadville	
T. 7 Rivers		T. Devonian	17,330	T. Menefee		T. Madison	
T. Queen		T. Silurian		T. Point Lookout		T. Elbert	
T. Grayburg		T. Montoya		T. Mancos		T. McCracken	
T. San Andres		T. Simpson		T. Gallup		T. Ignacio Qtzte	
T. Glorieta		T. McKee		Base Greenhorn		T. Granite	
T. Paddock		T. Ellenburger		T. Dakota		T.	
T. Blinebry		T. Gr. Wash		T. Morrison		T.	
T. Tubb		T. Granite		T. Todilto		T.	
T. Drinkard		T. Delaware Sand	5247	T. Entrada		T.	
T. Abo		T. Bone Springs	8235	T. Wingate		T.	
T. Wolfcamp	11,304	T.		T. Chinle		T.	
T. Penn.	11,948	T.		T. Permian		T.	
T Cisco (Bough C)		T.		T. Penn. "A"		T.	

OIL OR GAS SANDS OR ZONES

No. 1, from ..... to ..... No. 4, from ..... to .....

No. 2, from ..... to ..... No. 5, from ..... to .....

No. 3, from ..... to ..... No. 6, from ..... to .....

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from ..... to ..... feet. .....

No. 2, from ..... to ..... feet. .....

No. 3, from ..... to ..... feet. .....

No. 4, from ..... to ..... feet. .....

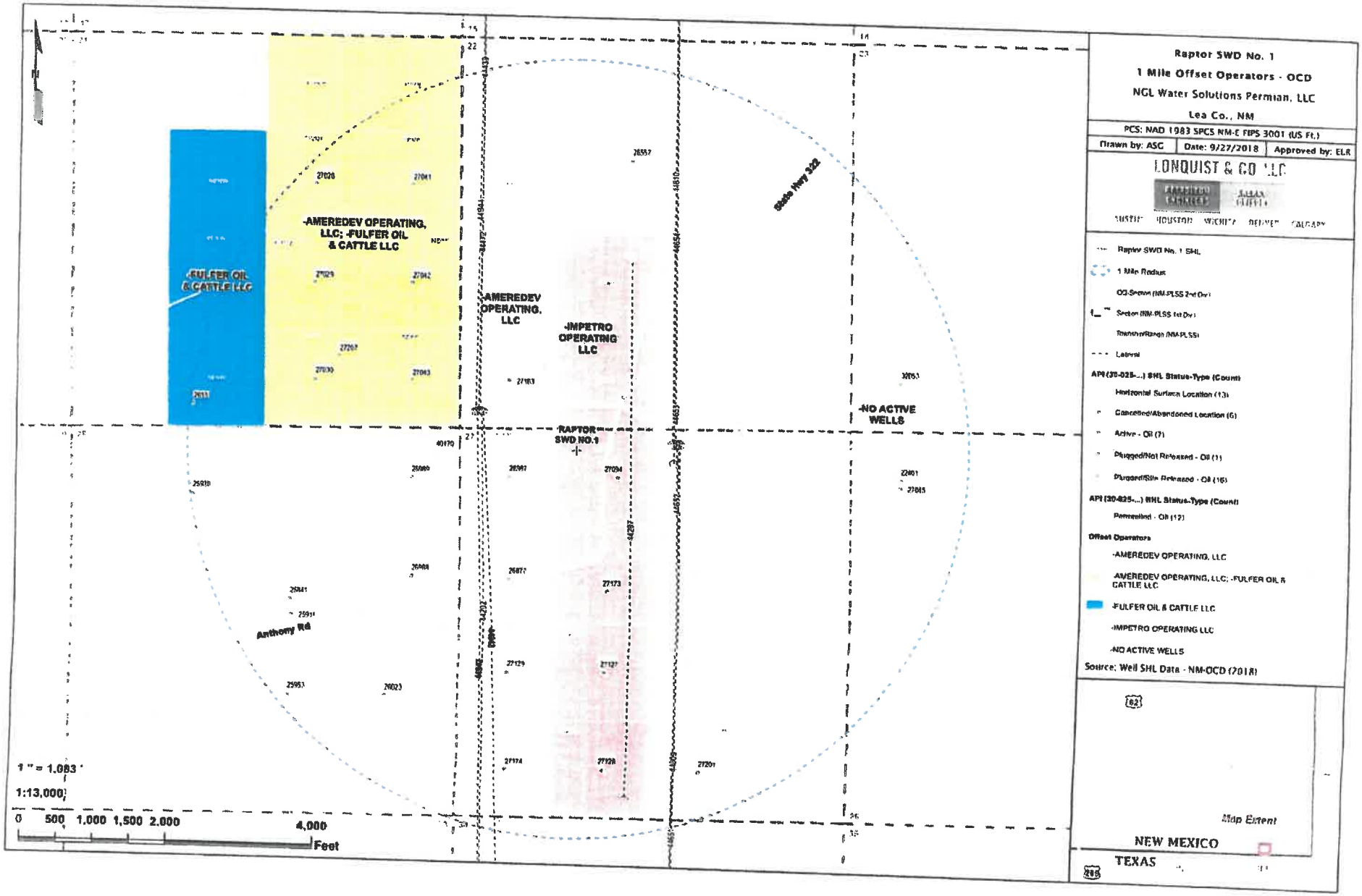
FORMATION RECORD (Attach additional sheets if necessary)

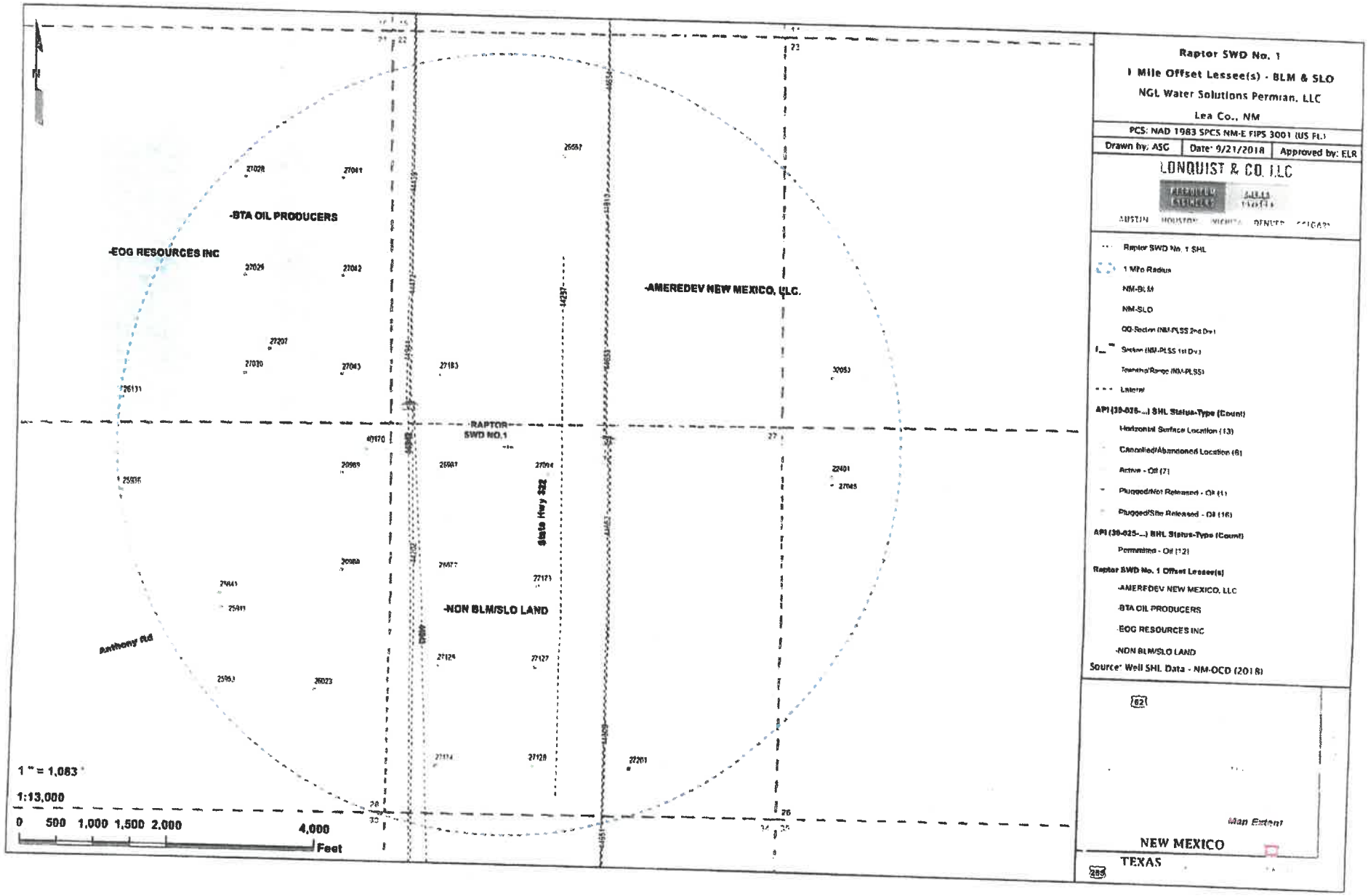
From	To	Thickness in Feet	Formation	From	To	Thickness in Feet	Formation

RECEIVED

APR 30 1980

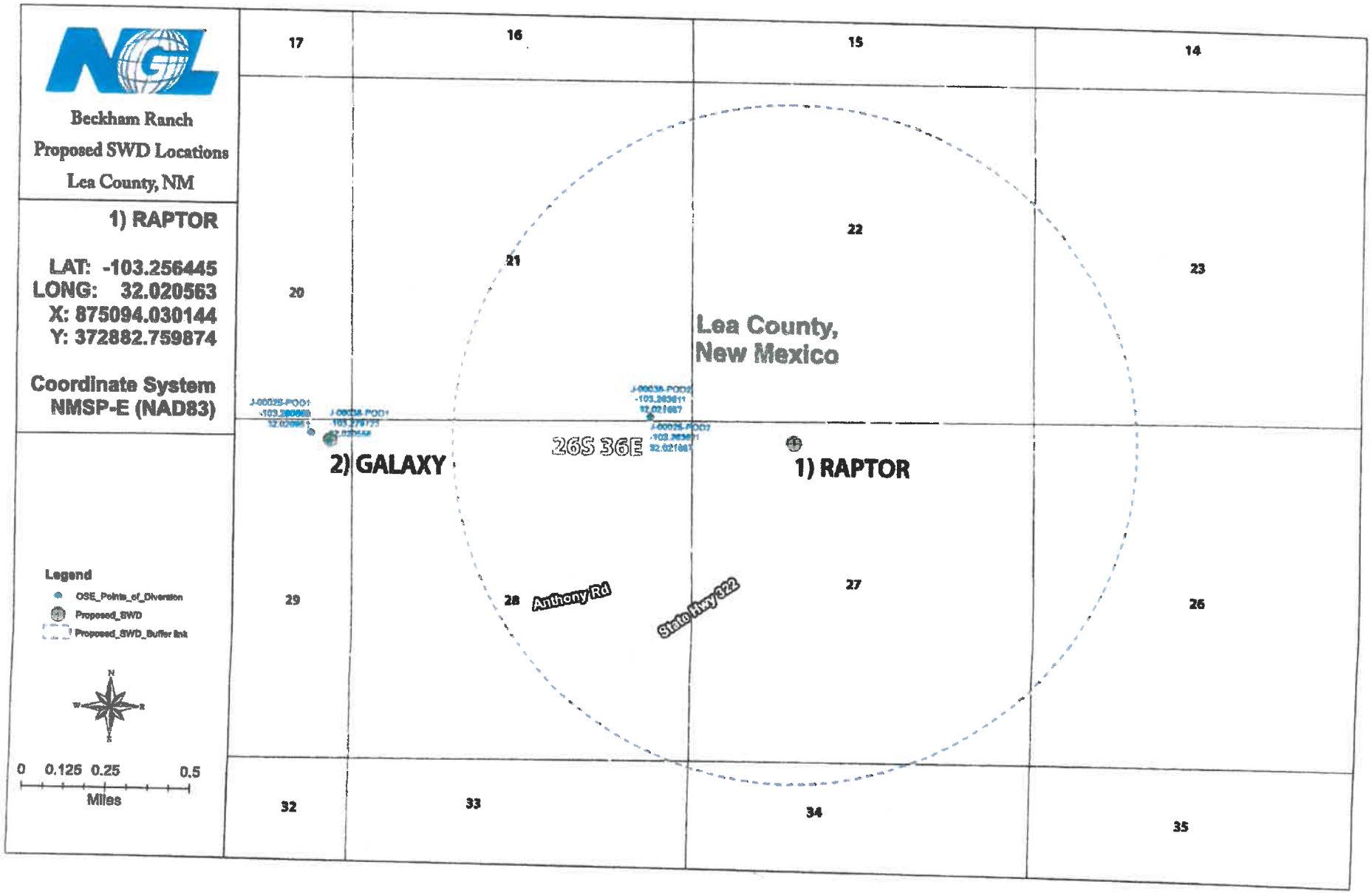
OIL CONSERVATION DIV.


-AMEREDEV OPERATING, LLC; -FULFER OIL & CATTLE LLC
-FULFER OIL & CATTLE LLC
-AMEREDEV OPERATING, LLC
-IMPETRO OPERATING LLC
-NO ACTIVE WELLS
RAPTOR SWD NO.1
State Hwy 322
Anthony Rd
1 " = 1,083 '
1:13,000
0 500 1,000 1,500 2,000 4,000
Feet
Raptor 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: 9/27/2018
Approved by: ELR
LONQUIST & CO LLC
AUSTIN HOUSTON WICHITA DENVER CALGARY
Raptor SWD No. 1 SHL
1 Mile Radius
OCD 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 (13)
Cancelled/Abandoned Location (6)
Active - Oil (7)
Plugged/Not Released - Oil (1)
Plugged/Site Released - Oil (16)
API (30-025-...) SHL Status-Type (Count)
Permitted - Oil (12)
Offset Operators
-AMEREDEV OPERATING, LLC
-AMEREDEV OPERATING, LLC; -FULFER OIL & CATTLE LLC
-FULFER OIL & CATTLE LLC
-IMPETRO OPERATING LLC
-NO ACTIVE WELLS
Source: Well SHL Data - NM-OCD (2018)
Map Extent
NEW MEXICO
TEXAS


-BTA OIL PRODUCERS
-EOG RESOURCES INC
-AMEREDEV NEW MEXICO, LLC
RAPTOR SWD NO.1
-NON BLM/SLO LAND
State Hwy 522
Anthony Rd
1 " = 1,083 '
1:13,000
0 500 1,000 1,500 2,000 4,000
Feet
Raptor SWD No. 1
1 Mile Offset Lessee(s) - BLM & SLO
NGL Water Solutions Permian, LLC
Lea Co., NM
PCS: NAD 1983 SPCS NM-E FIPS 3001 (US FT.)
Drawn by: ASC
Date: 9/21/2018
Approved by: ELR
LONQUIST & CO. LLC
AUSTIN HOUSTON DENVER CHICAGO
Raptor SWD No. 1 SHL
1 Mile Radius
NM-BLM
NM-SLO
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 (13)
Cancelled/Abandoned Location (6)
Active - Oil (7)
Plugged/Not Released - Oil (1)
Plugged/Site Released - Oil (16)
API (30-025-...) BHL Status-Type (Count)
Permitted - Oil (12)
Raptor SWD No. 1 Offset Lessee(s)
-AMEREDEV NEW MEXICO, LLC
-BTA OIL PRODUCERS
-EOG RESOURCES INC
-NON BLM/SLO LAND
Source: Well SHL Data - NM-OCD (2018)
Map Extent
NEW MEXICO
TEXAS

Raptor 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
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
BELL LAKE 19 STATE #003H	3002541516	Lea	BONE SPRING 2ND SAND	6.7		59599	7326	11	942	0.69	108190	171	680	230
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	7			3289	0.3	474.5	0.38		219.6		300
PRONGHORN AHD FEDERAL #001	3002526496	LEA	STRAWN	5.5			20.1	0	12.2		35.5	61.1	48.8	
SNAPPING 2 STATE #014H	3001542688	EDDY	WOLFCAMP	7.3	81366.4	26319.4	2687.4	26.1	326.7		50281.2		399.7	100


Beckham Ranch
Proposed SWD Locations
Lea County, NM
1) RAPTOR
LAT: -103.256445
LONG: 32.020563
X: 875094.030144
Y: 372882.759874
Coordinate System
NMSP-E (NAD83)
Legend
OSE_Points_of_Diversion
Proposed_SWD
Proposed_SWD_Buffer 8mi
0 0.125 0.25 0.5
Miles
17
16
15
14
20
21
22
23
29
28
27
26
32
33
34
35
Lea County,
New Mexico
26S 36E
2) GALAXY
1) RAPTOR
Anthony Rd
State Hwy 322

New Mexico Office of the State Engineer
Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	J 00025 POD2	3	4	4	21	26S	36E	663984	3544155

Driller License: 331 **Driller Company:** SBQ2, LLC DBA STEWART BROTHERS DRILLING CO.

Driller Name: BRUNSON, WILLIAM

Drill Start Date: 03/16/2017 **Drill Finish Date:** 04/03/2017 **Plug Date:**

Log File Date: 04/07/2017 **PCW Rcv Date:** **Source:** Artesian

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: 12.00 **Depth Well:** 800 feet **Depth Water:**

Casing Perforations:	Top	Bottom
	287	800

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. 16505

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

CASE NO. 16509

AFFIDAVIT OF SCOTT J. WILSON

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

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

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

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

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

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

5. The applicant, NGL (OGRID No. 372338), seeks an order approving the Galaxy SWD #1 and Raptor SWD #1 salt water disposal wells.

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

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

8. The well will primarily be injecting fluids into the Wristen Group and Fusselman formations, with some fluids potentially being injected into the Upper Montoya Group. Each of these sub-formations or zones are located within what is commonly referred to by operators and the Division as the "Devonian Silurian" formations. These zones consist of a very thick sequence of limestone and dolostone which has significant primary and secondary porosity and permeability that is collectively between 800 to 1,800 feet thick.

9. 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.

10. 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.

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

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

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

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

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

Scott J. Wilson

SUBSCRIBED AND SWORN to before me this 30th day of October, 2018 by Scott J. Wilson.

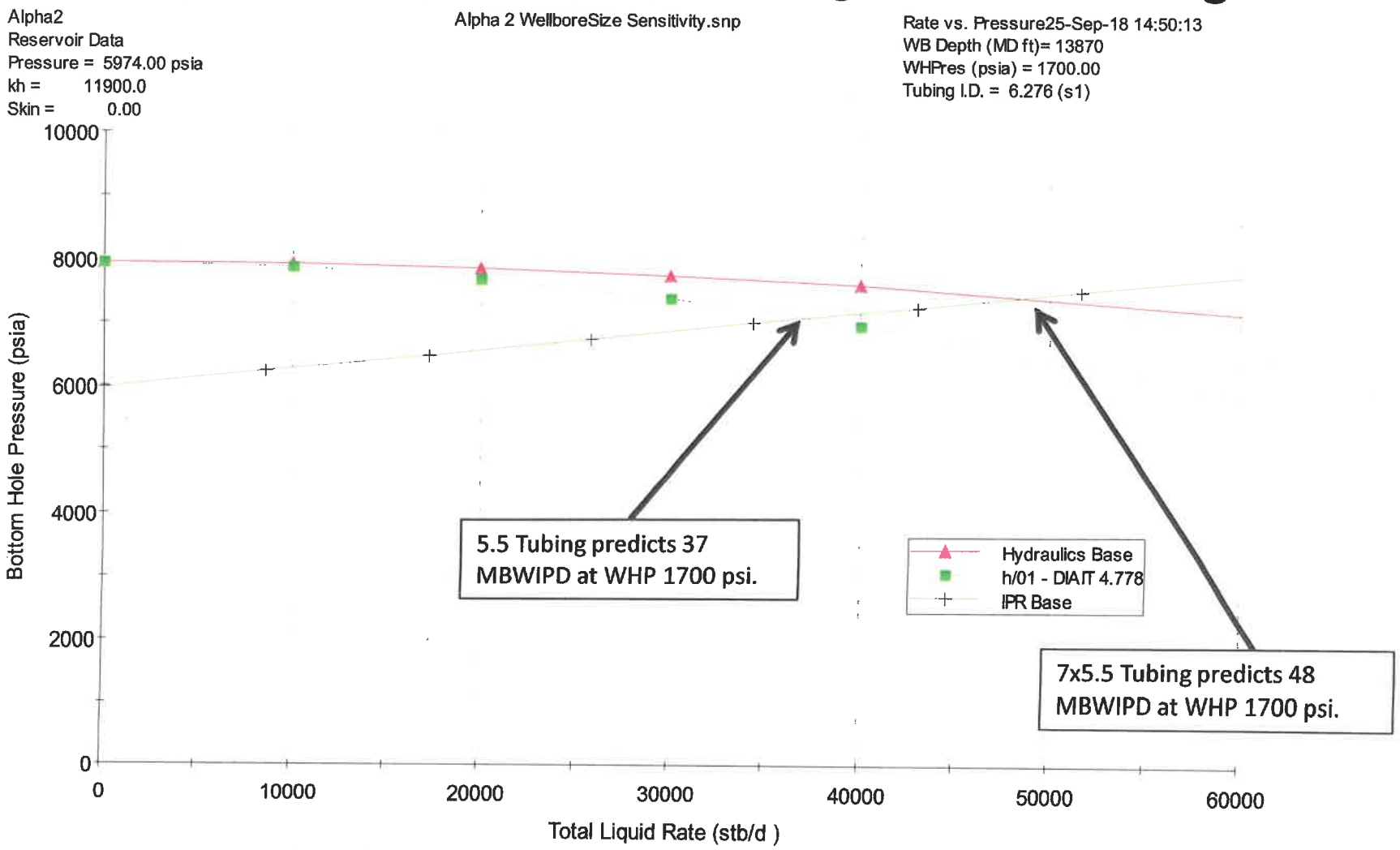
Notary Public

My commission expires: 08/23/2021

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

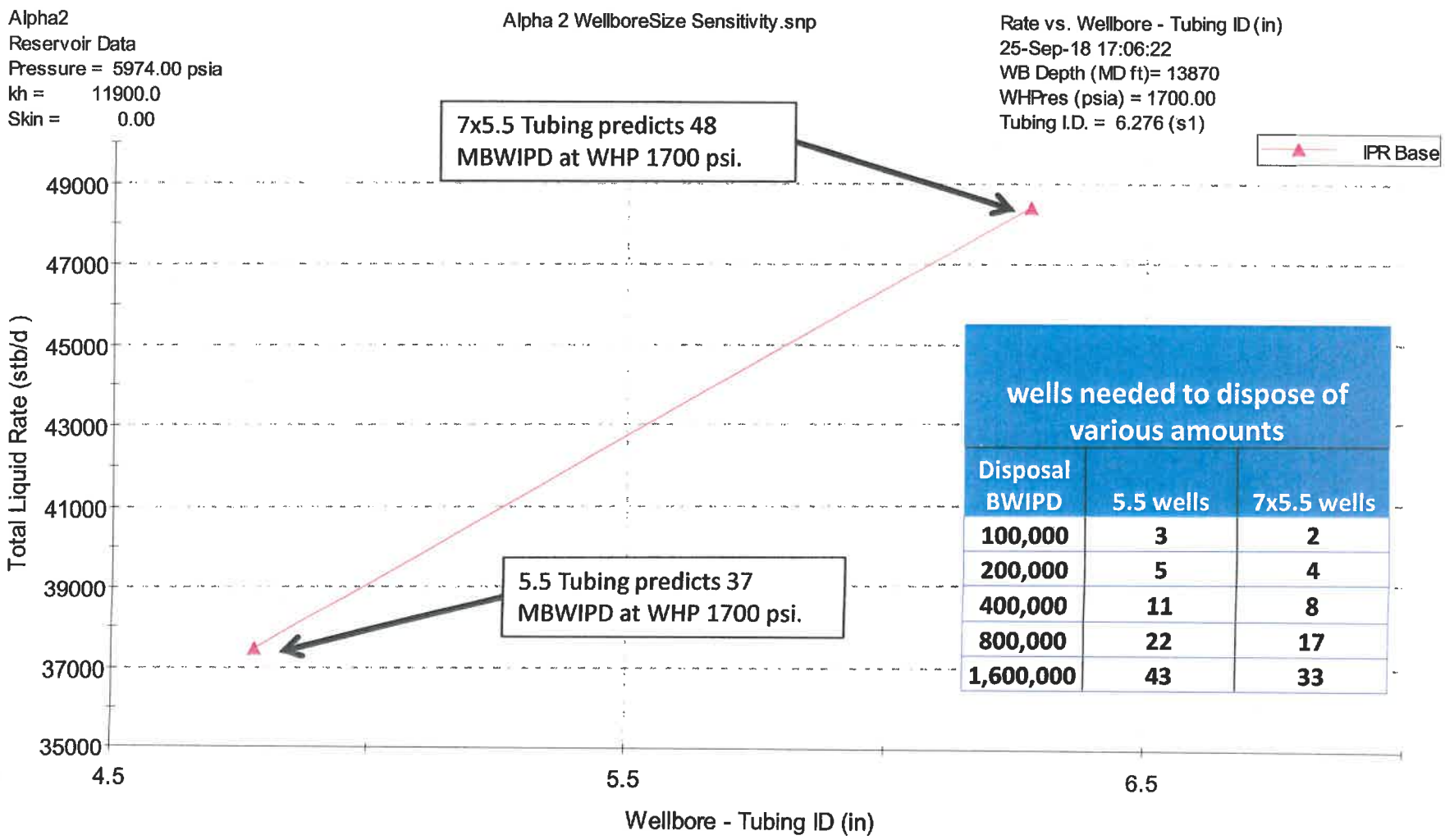
NGL Water Solutions, LLC

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.

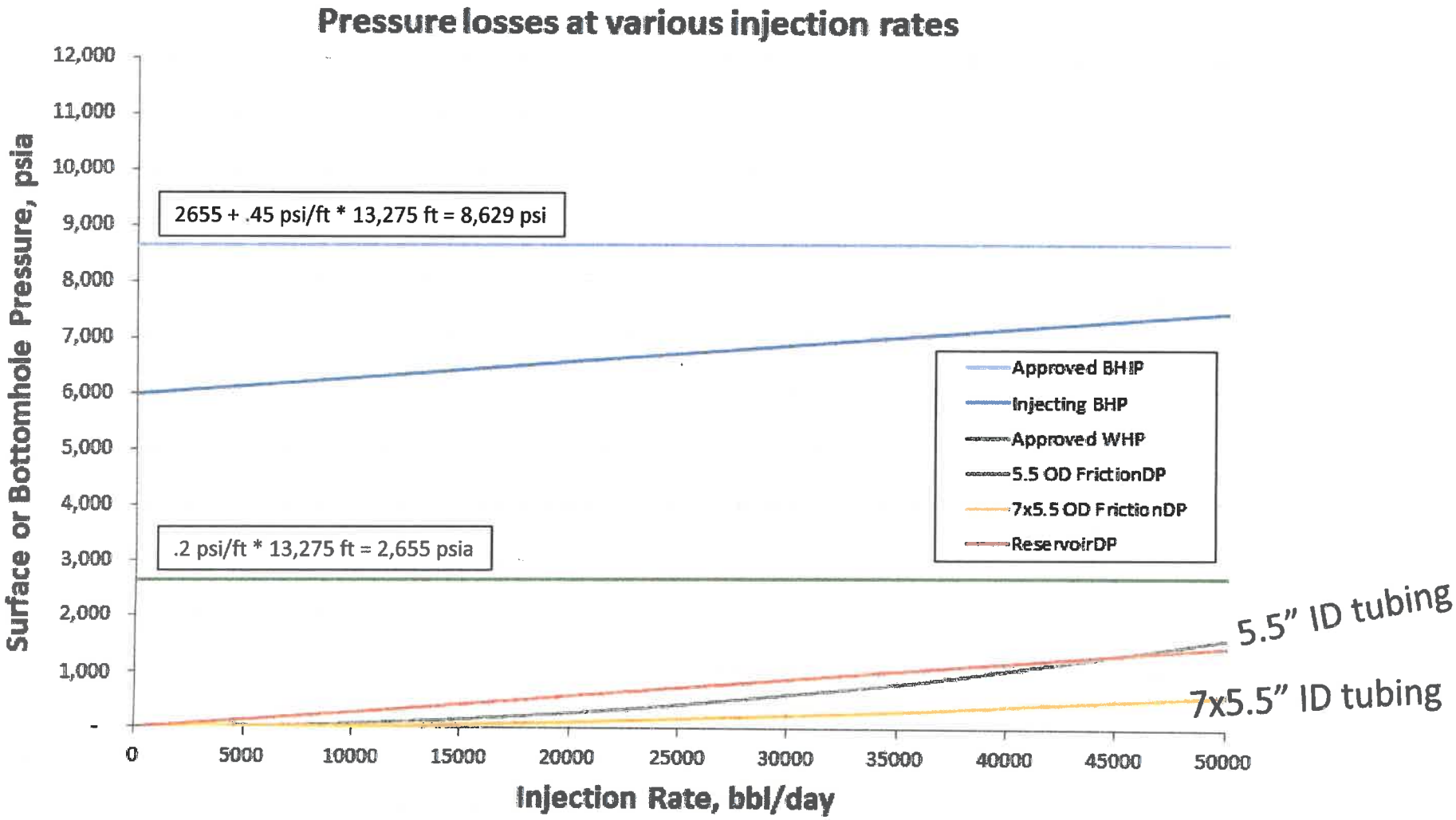


wells needed to dispose of various amounts		
Disposal BWIPD	5.5 wells	7x5.5 wells
100,000	3	2
200,000	5	4
400,000	11	8
800,000	22	17
1,600,000	43	33

NGL Water Solutions, LLC

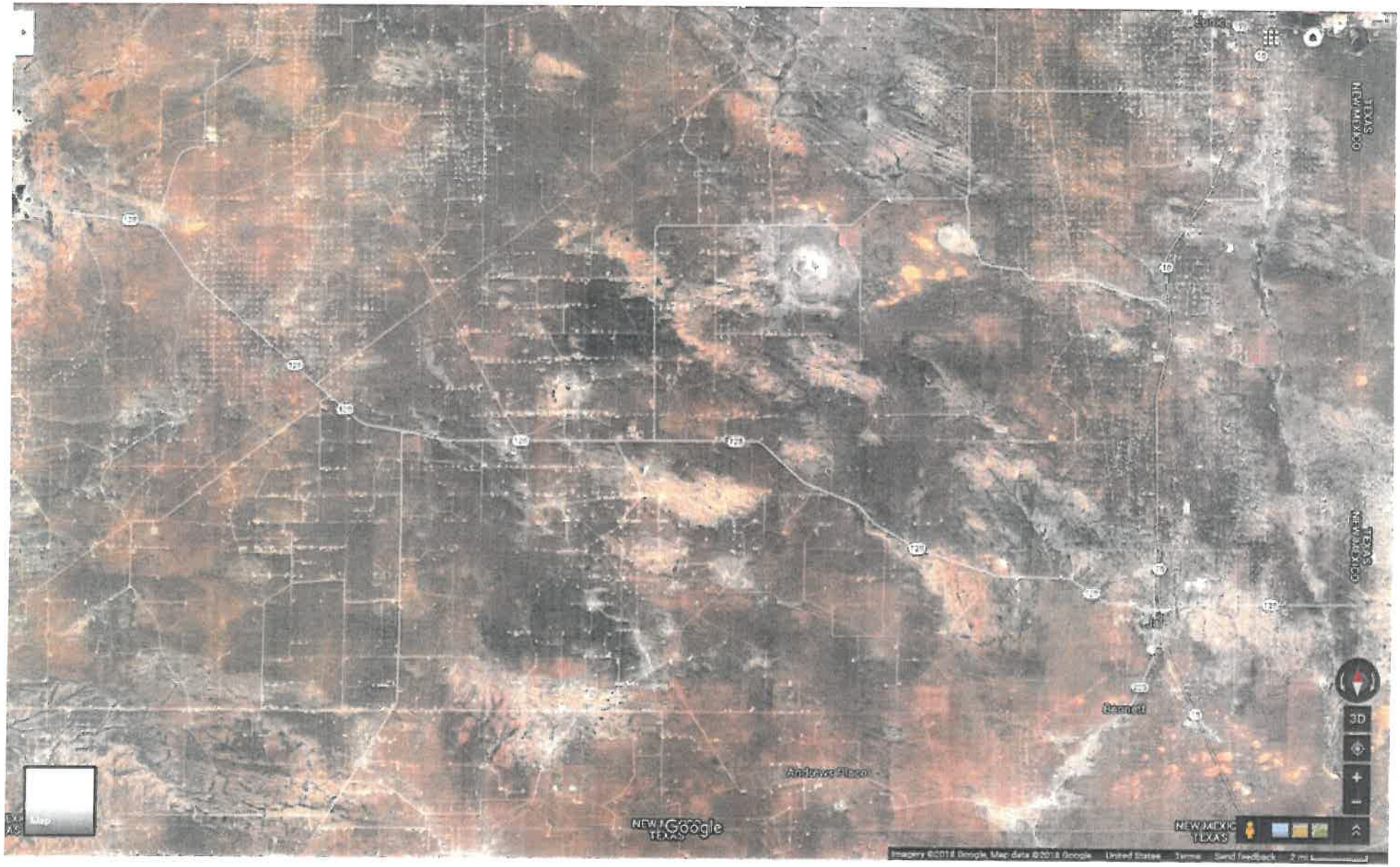
Increasing tubing size will decrease friction losses and conserve horsepower

2 example tubing sizes and their impact on friction losses



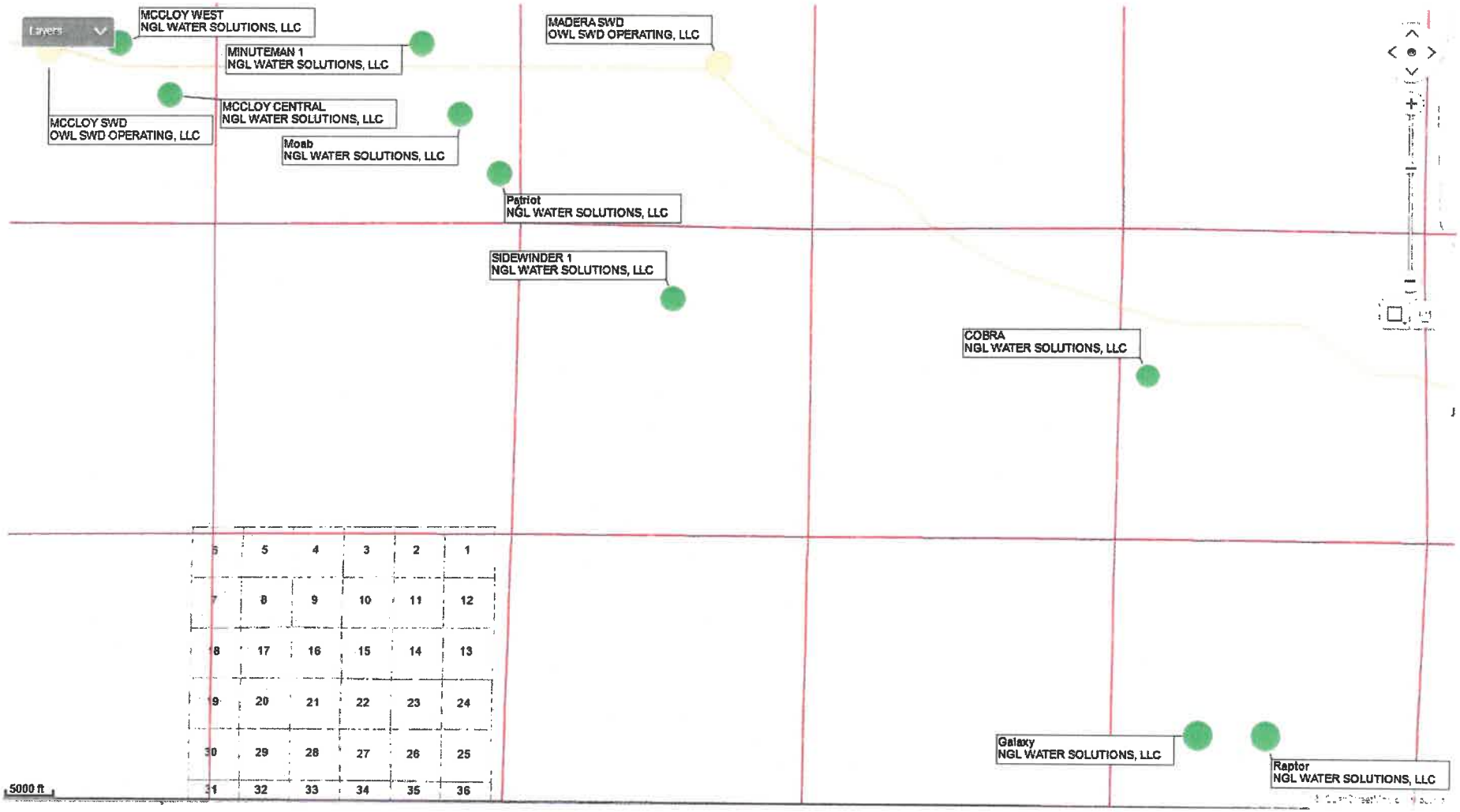
NGL Water Solutions, LLC

Terrain is level and infrastructure is plentiful.



NGL Water Solutions, LLC

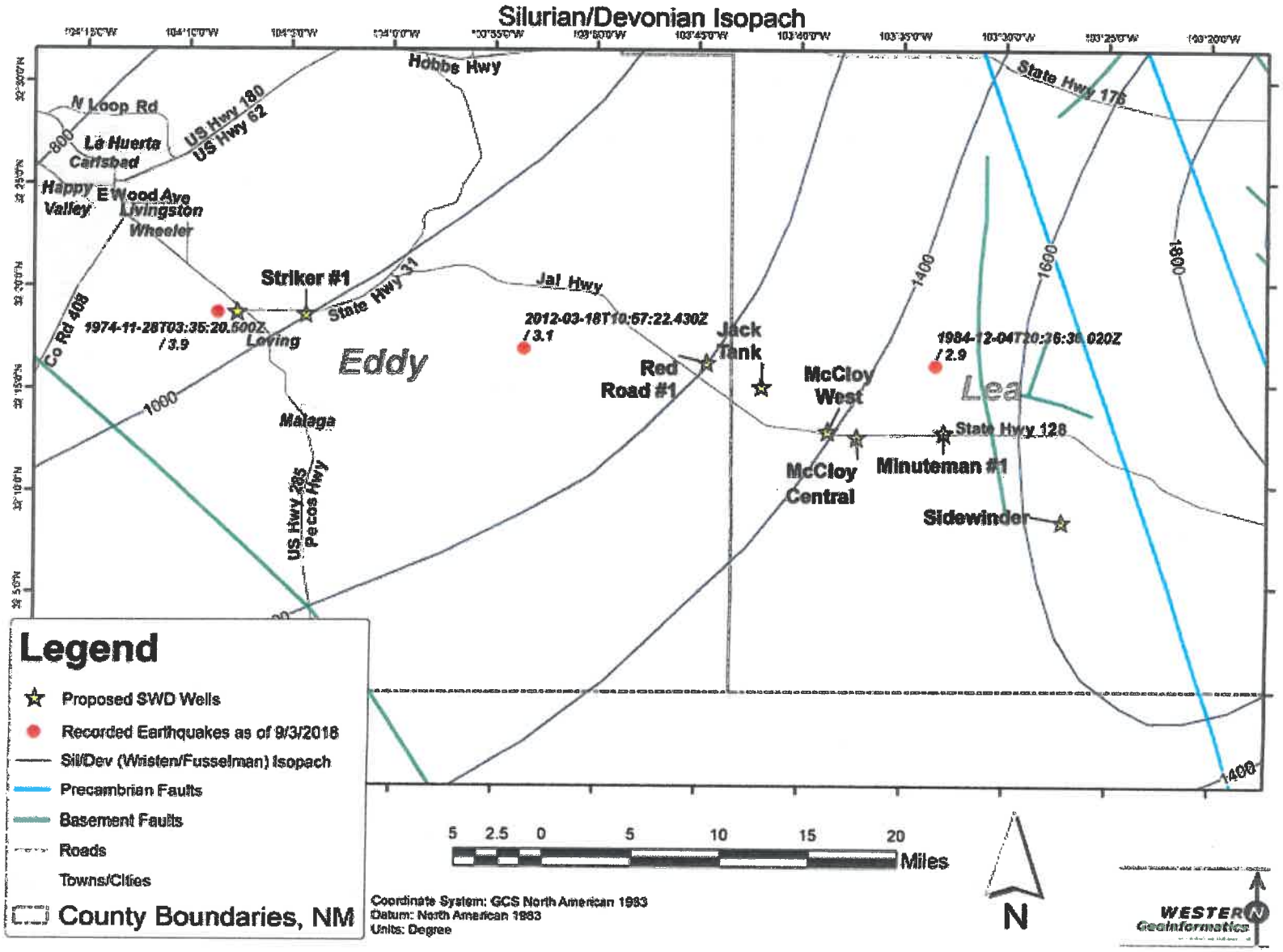
Wells injecting water into the Devonian formation in the area.
Area is roughly 30 miles (E-W) by 20 miles (N-S)



Existing well data source: DI Desktop

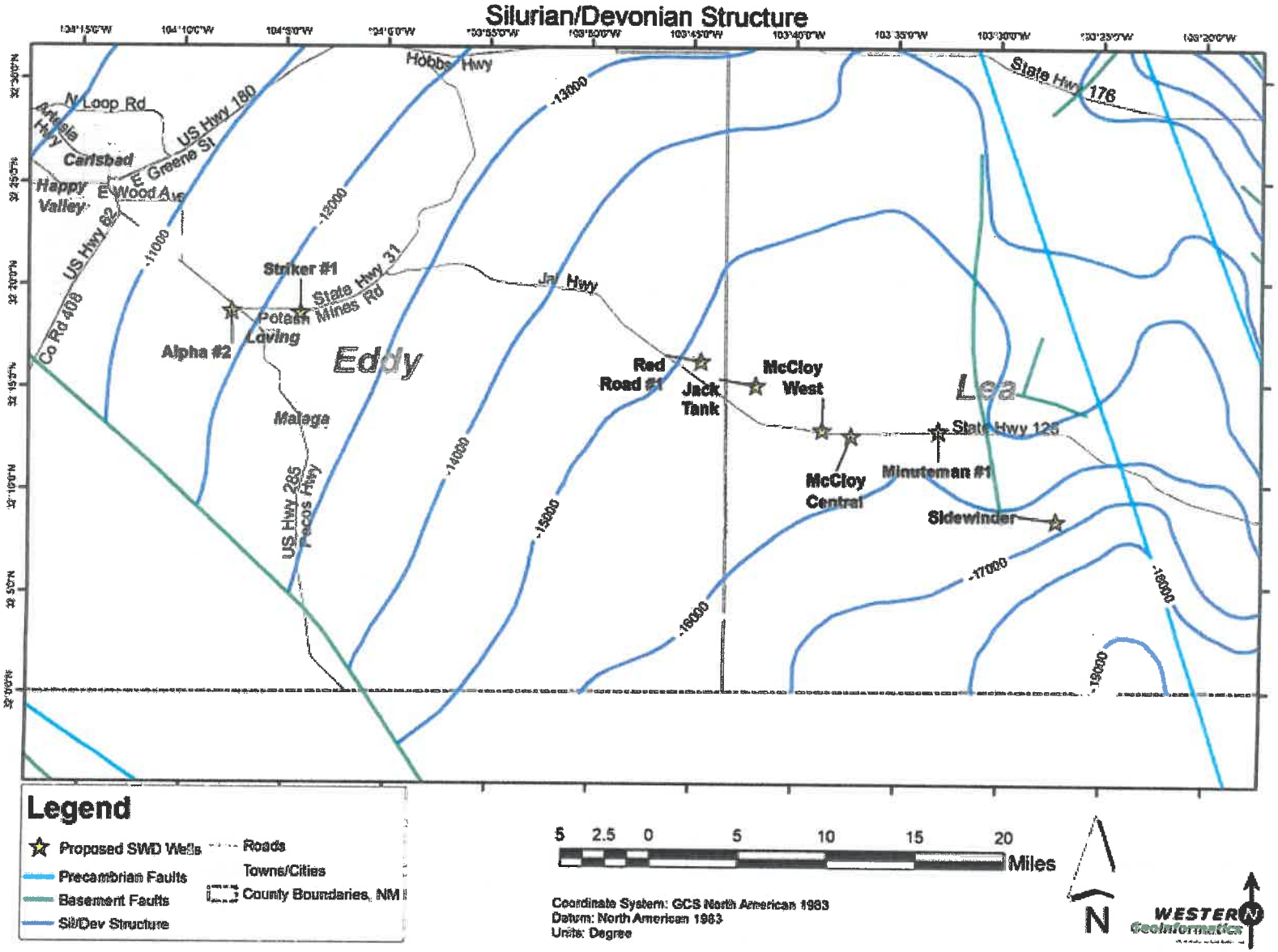
NGL Water Solutions, LLC

Sil/Dev Thickness increases from NW to E-SE



NGL Water Solutions, LLC

Sil/Dev structure dips from NW to SE

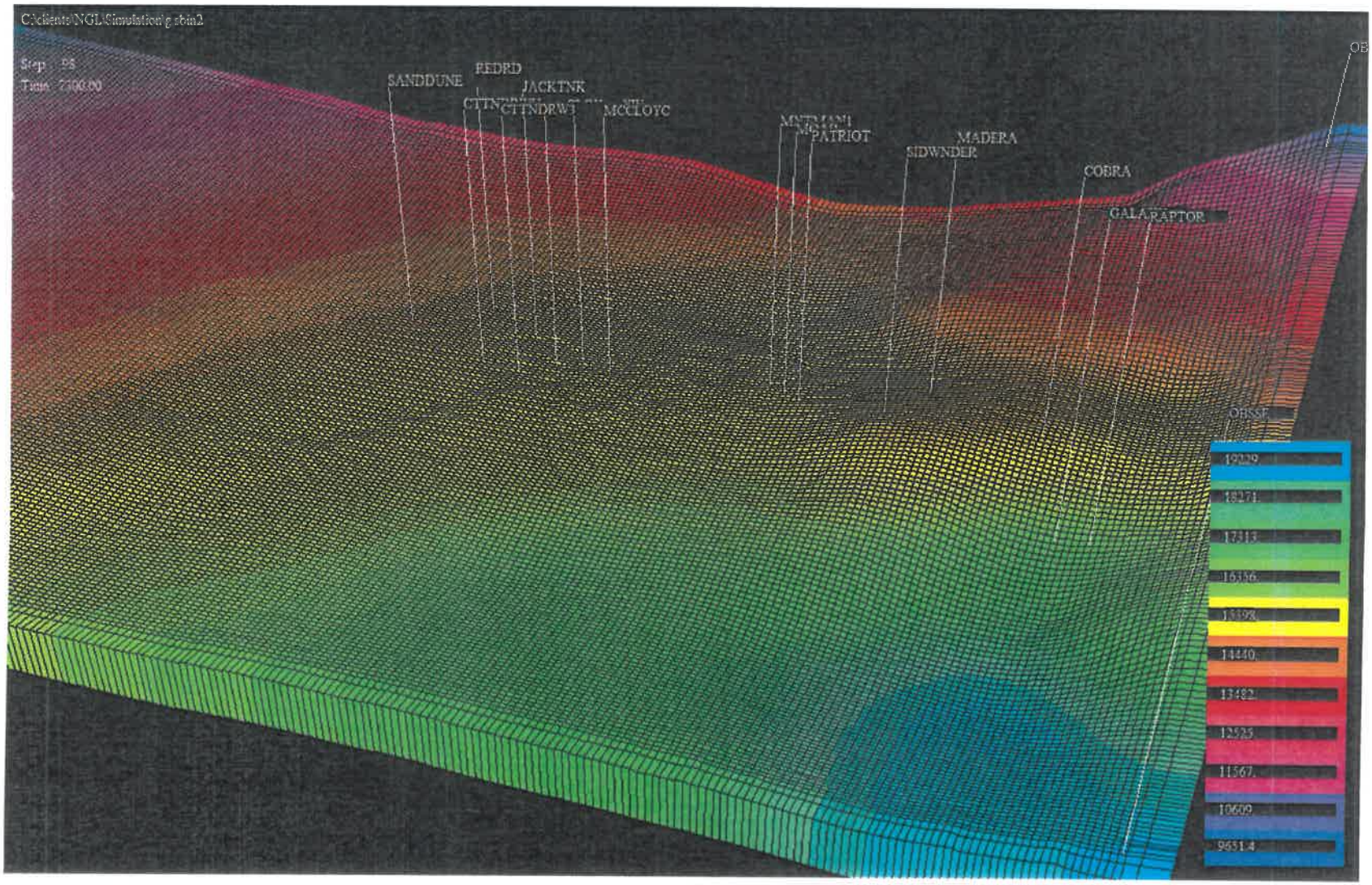


NGL Water Solutions, LLC

Simulation Grid matches Structure and Thickness

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

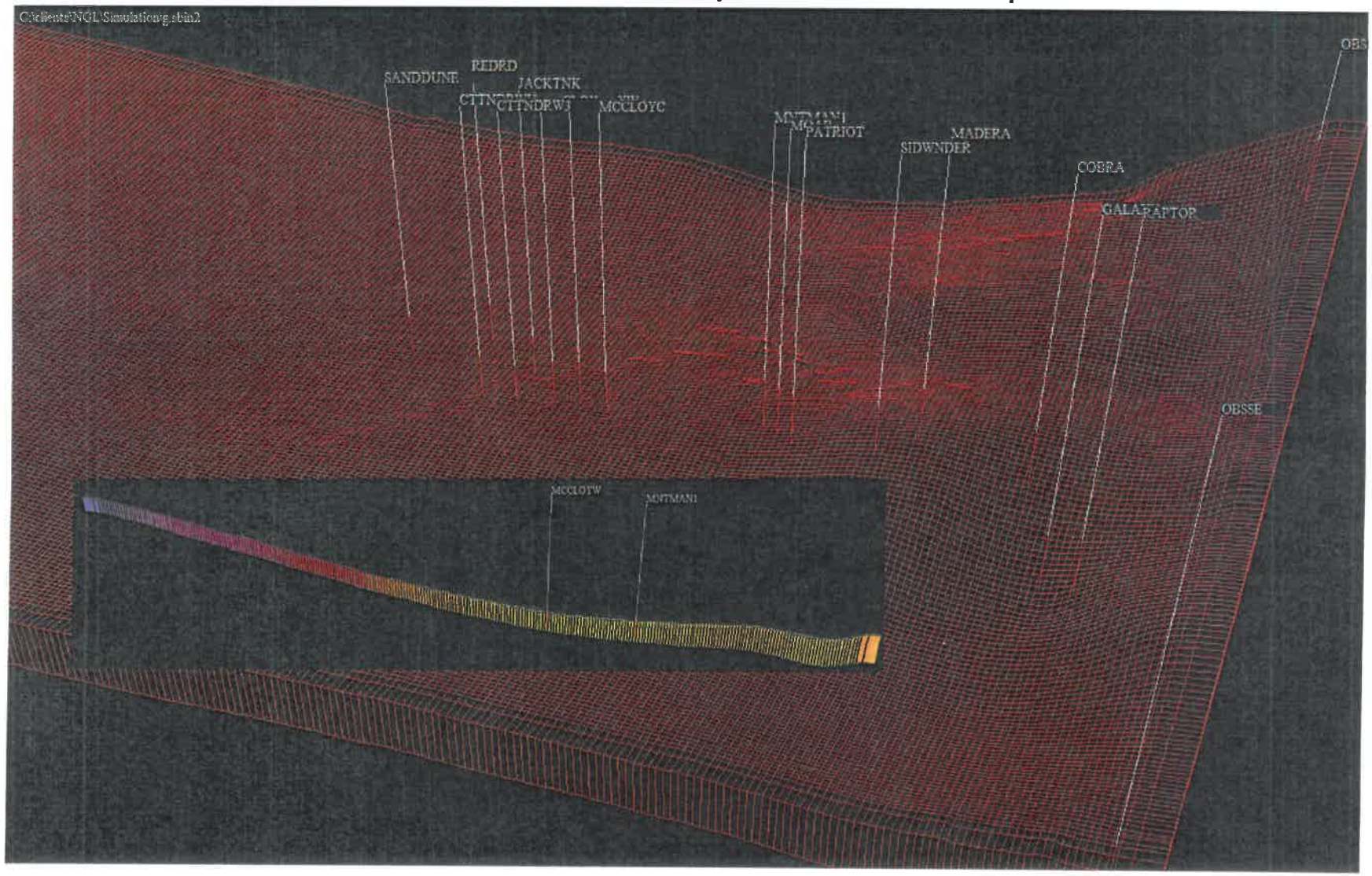
Observation wells are placed in grid corners to monitor the large scale pressure distribution.



NGL Water Solutions, LLC

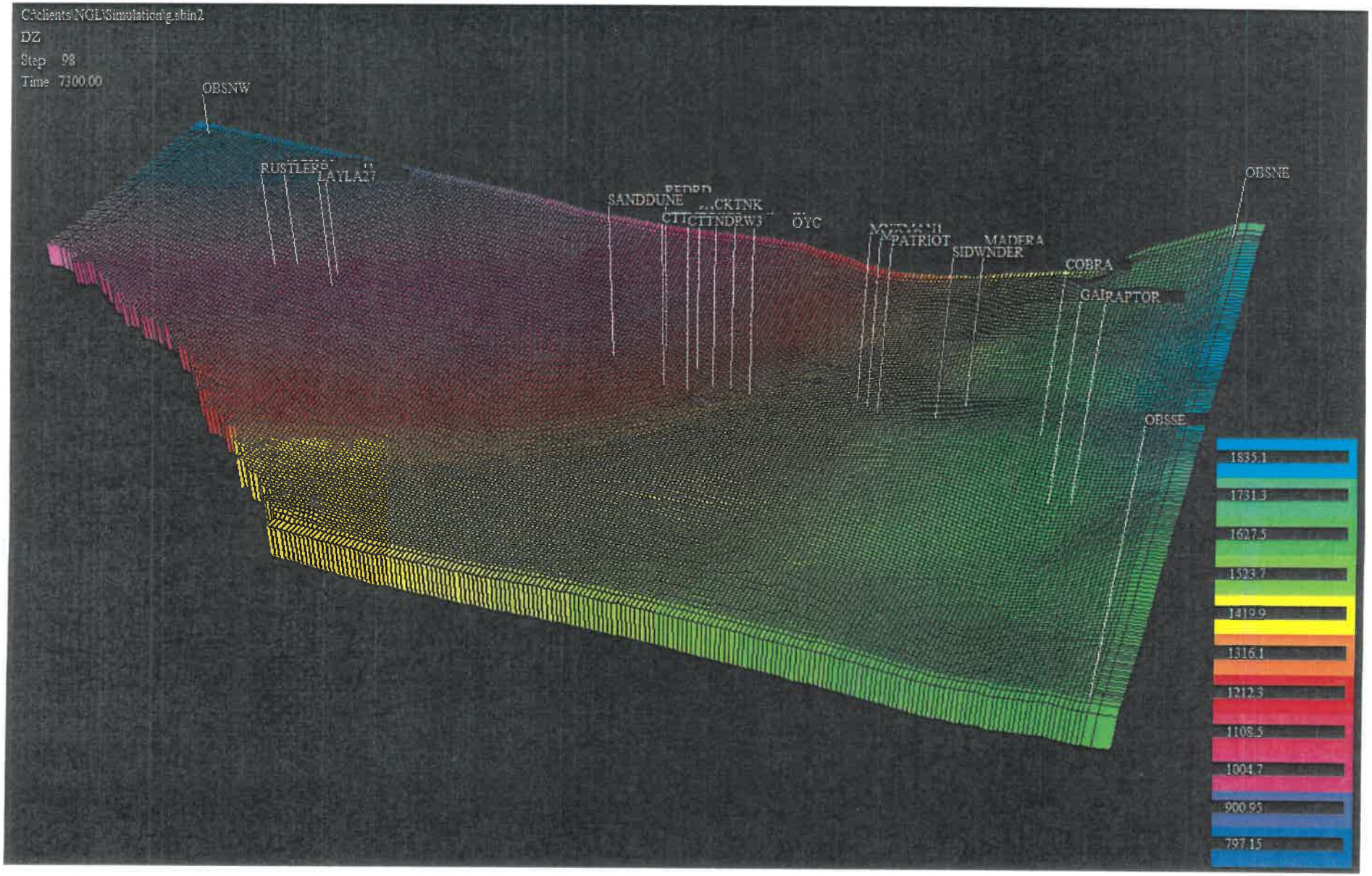
3D view of grid shows Structural Relief.

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



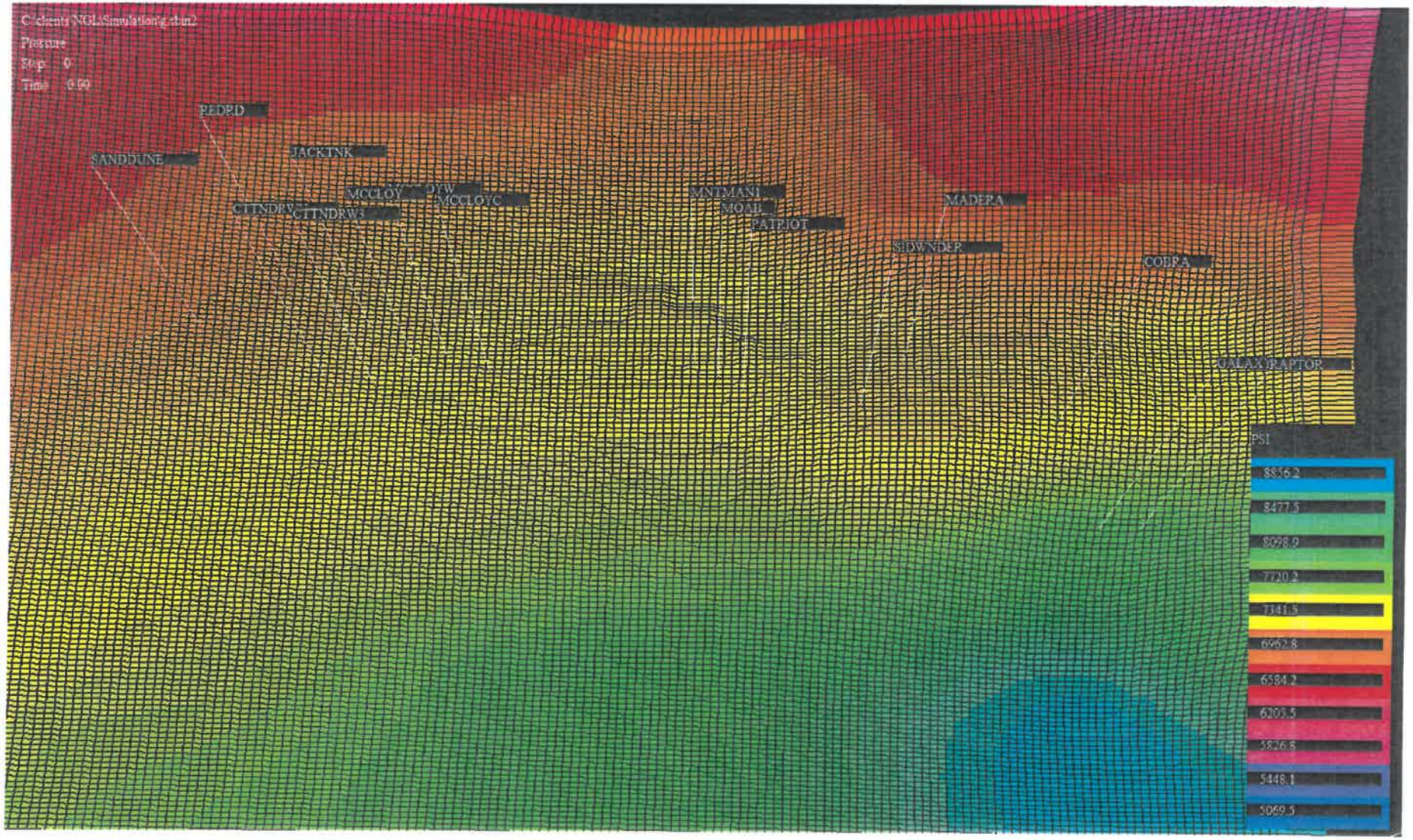
NGL Water Solutions, LLC

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



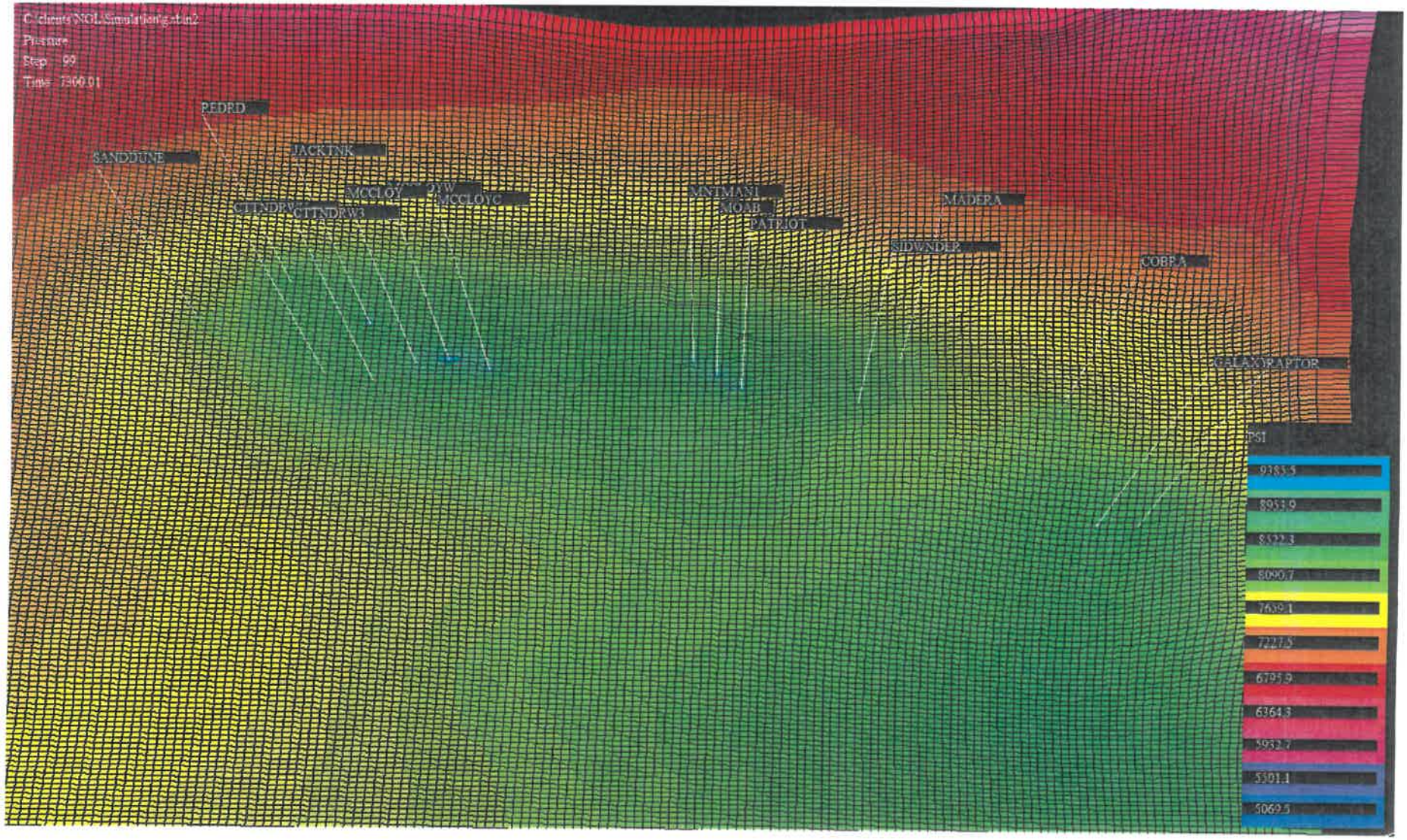
NGL Water Solutions, LLC

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



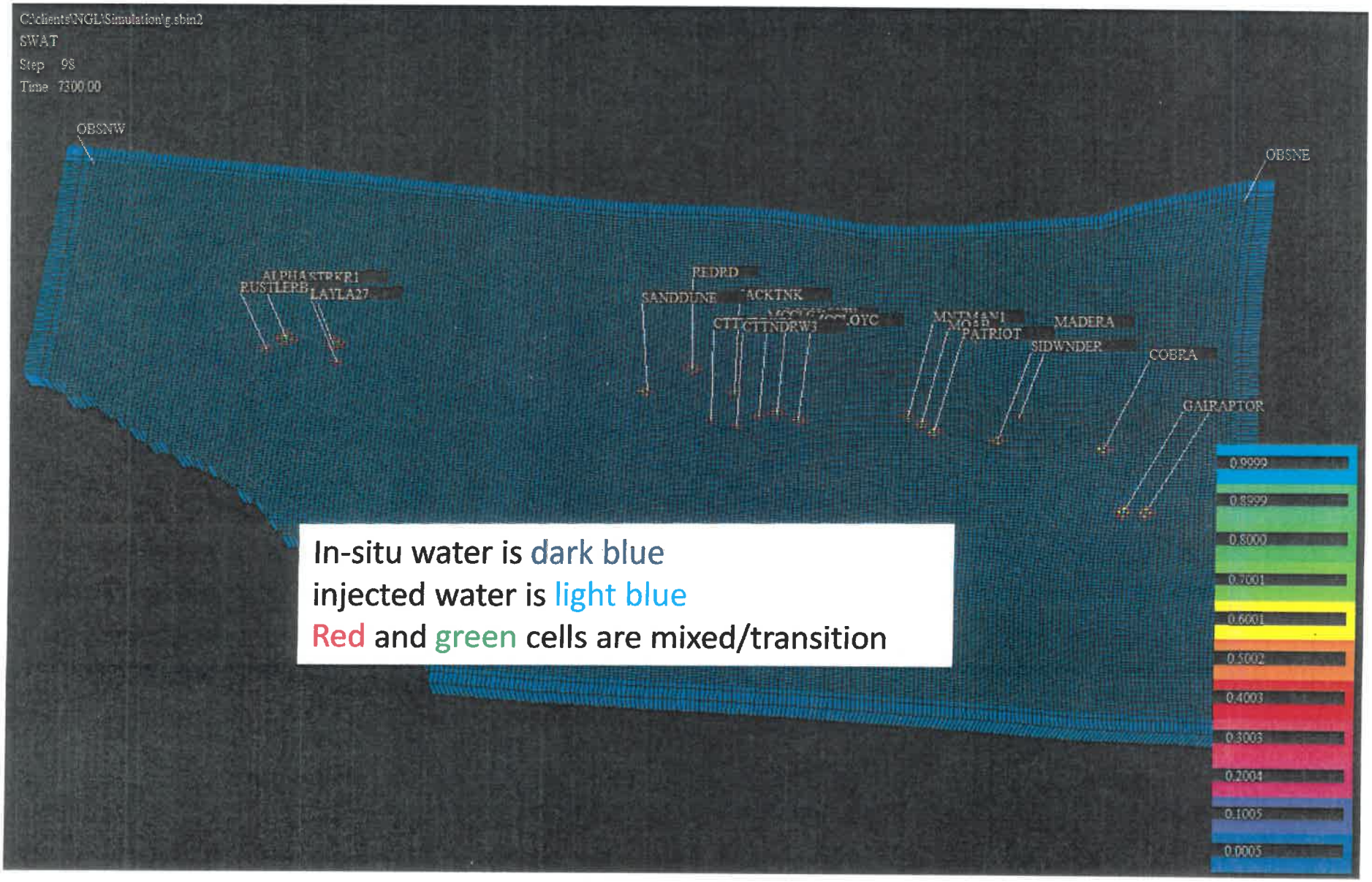
NGL Water Solutions, LLC

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



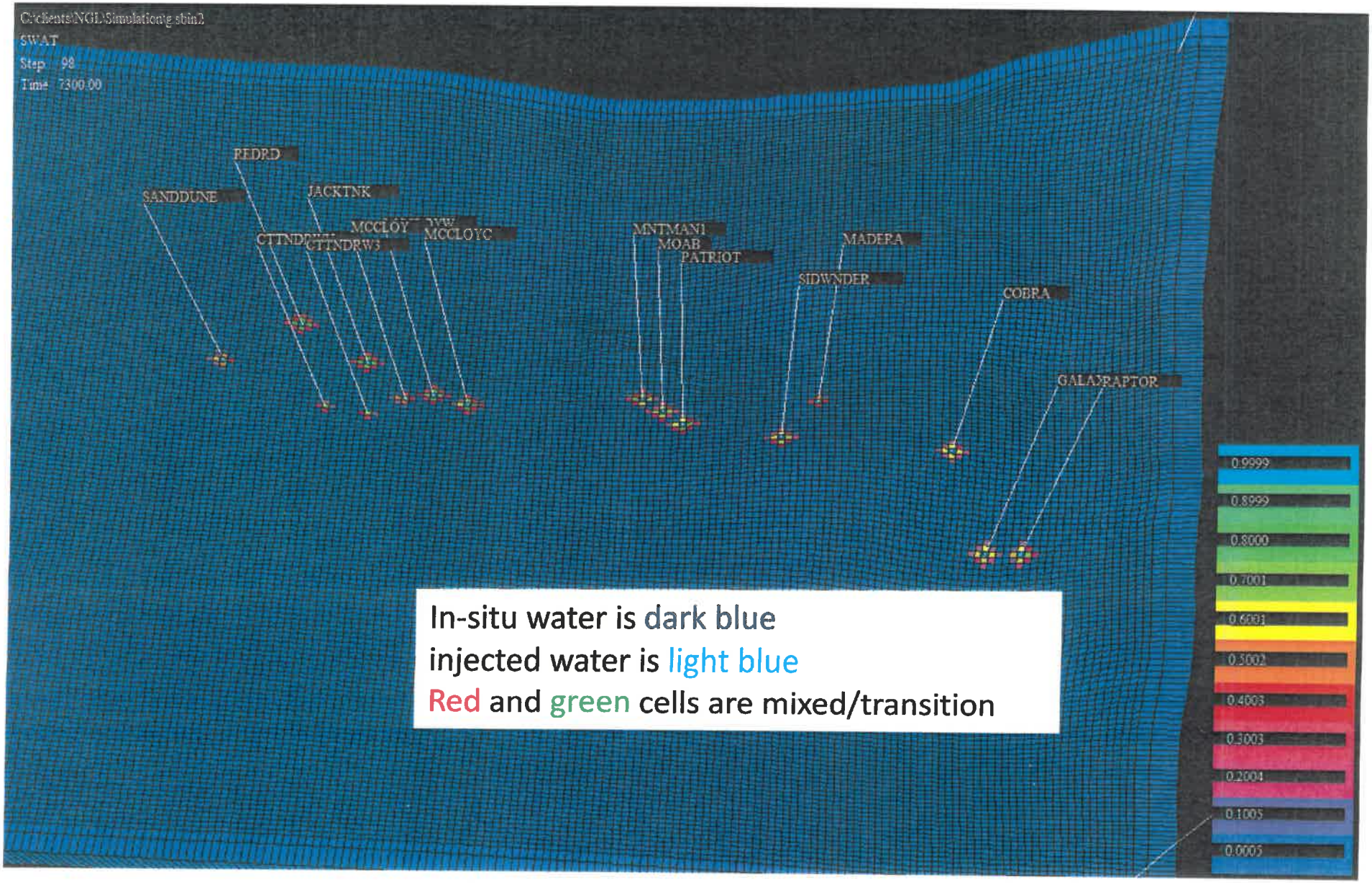
NGL Water Solutions, LLC

Large scale saturation profiles after 20 years of injection.



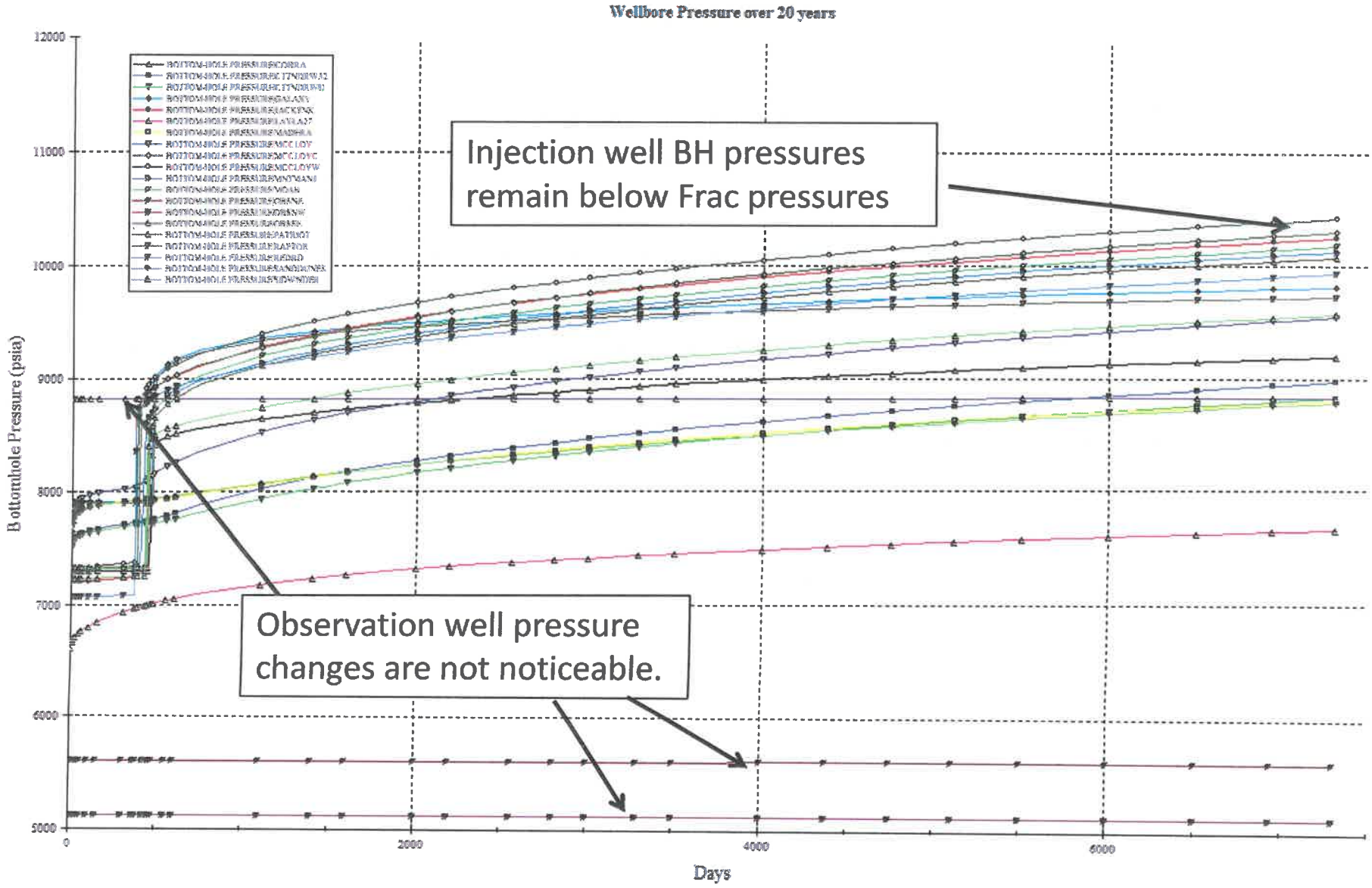
NGL Water Solutions, LLC

Detailed saturation profiles after 20 years of injection.



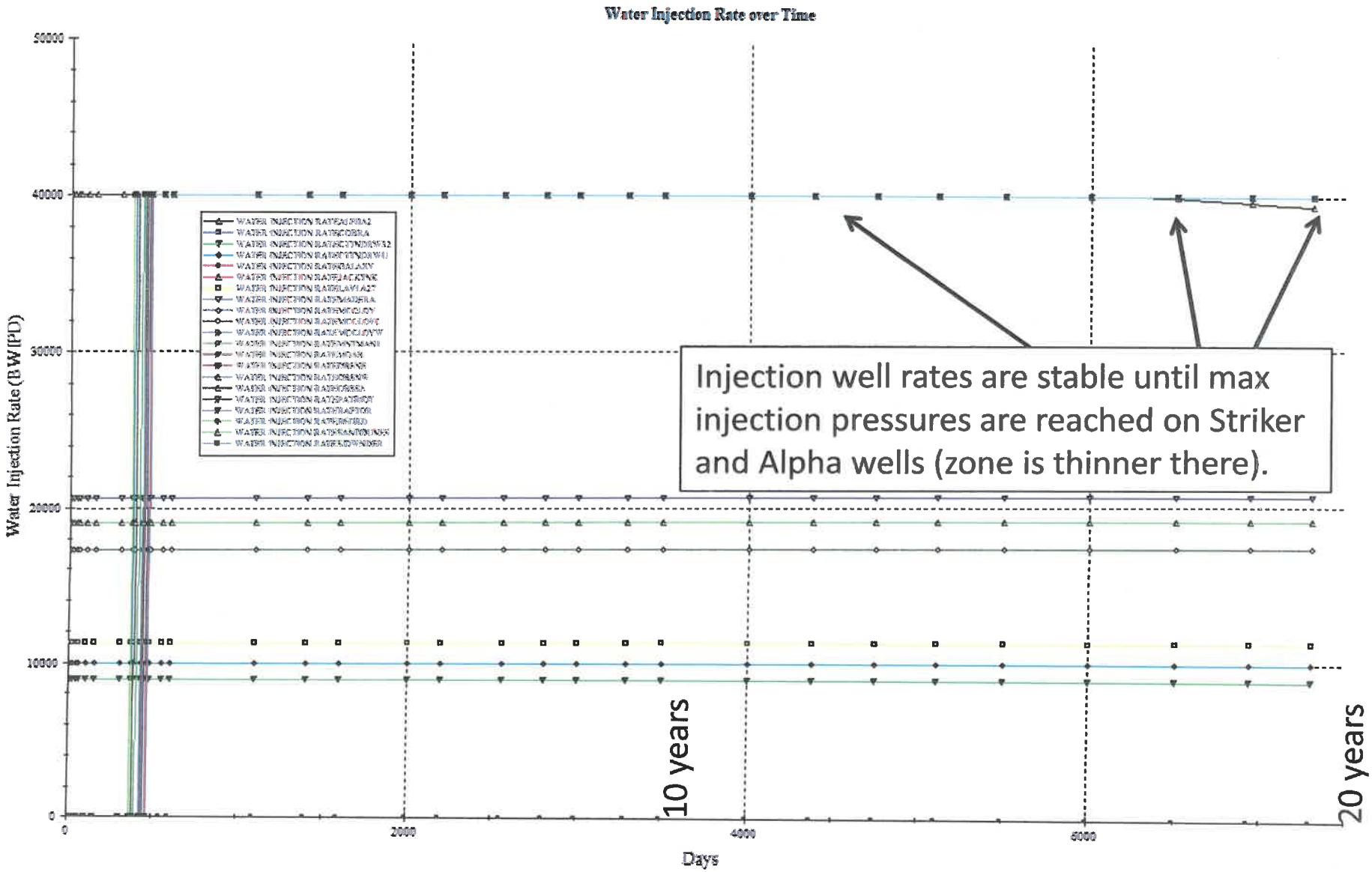
NGL Water Solutions, LLC

Simulation predictions for individual wells over time



NGL Water Solutions, LLC

Simulation predictions for individual wells over time



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. 16505

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

CASE NO. 16509

AFFIDAVIT OF KATE ZEIGLER

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

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

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

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

3. I have obtained a bachelor's degree in geology from Rice University, a master's degree in paleontology from the University of New Mexico, and a Ph.D. in stratigraphy and paleomagnetism from the University of New Mexico. Additionally, I have completed several surface geologic maps for the New Mexico Bureau of Geology and Mineral Resource's Geologic Mapping Program as well as for independent operators who are exploring prospects within the

western Permian Basin. I have also conducted a prior geologic study concerning what is commonly referred to as the Devonian and Silurian formations in Southeastern New Mexico to help determine whether the approval of 7" by 5 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 application that NGL Water Solutions Permian, LLC ("NGL") has filed in this matter, and I have conducted a geologic study of the lands which are the subject matter of that application. A copy of my geologic study, including cross sections, a structure map and isopach are is included in Attachment A to this affidavit.

5. The applicant, NGL (OGRID No. 372338), seeks an order approving the Galaxy SWD #1 and Raptor SWD #1 salt water disposal wells.

6. I have been informed that the injection intervals for the wells will be isolated to the Devonian and Silurian formations (also referred to as the Wristen Group and Fusselman Formation) and the wells will have four strings of casing protecting the fresh water aquifer, the salt-bearing interval, and 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 wells will be spaced out and not located closer than approximately 1 mile from other disposal wells that have been approved for injection into the Devonian and Silurian formations.

8. The injection zone for the wells is located below the Woodford Shale. The Woodford Shale is an Upper Devonian unit which has low porosity and permeability and consists predominantly of shale and mudstone with some carbonate beds. The Woodford Shale acts as a permeability boundary to prevent fluids from moving upward out of the underlying formations.

The Woodford Shale formation in the areas where the wells are located is between 80 feet to 140 feet thick.

9. Below the injection zone for the wells 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 wells are located, the Ordovician formation is between 300' and 500' feet thick and, as a result, there is a significant thickness in this lower shale. Below the Ordovician is the Ellenburger Formation, which is up to 1,000 feet thick.

10. Based on my geologic study of the area, it is my opinion that the approved injection zone for the wells is located below the base of the Woodford Shale formation and above the Simpson Group formation, both of which consist of significant shale deposits. Evidence indicates that shale formations located above and below the approved injection zones will likely restrict fluids from migrating beyond the approved injection zones for the wells.

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

12. 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.

13. I have also studied the location of known fault lines within the area where the wells are proposed to be drilled and the closest known fault line to the wells is located approximately 5 miles away from where the wells are proposed to be drilled.

14. 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.

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

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

Kate Zeigler 10.30.18

Kate Zeigler

SUBSCRIBED AND SWORN to before me this 30 th day of October, 2018 by Kate Zeigler.

Notary Public

My commission expires: 4/20/21

OFFICIAL SEAL
EMELI R. FERRERO
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 4/20/22

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)

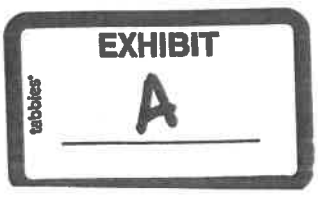
The Thirtyone Formation is part of a wedge of sedimentary rocks that thins to the north and the west where the wedge ends up truncated beneath the base of the overlying Woodford Shale. The Thirtyone Formation is only present in southeastern Lea County and consists of an upper coarsely crystalline dolostone 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.



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.

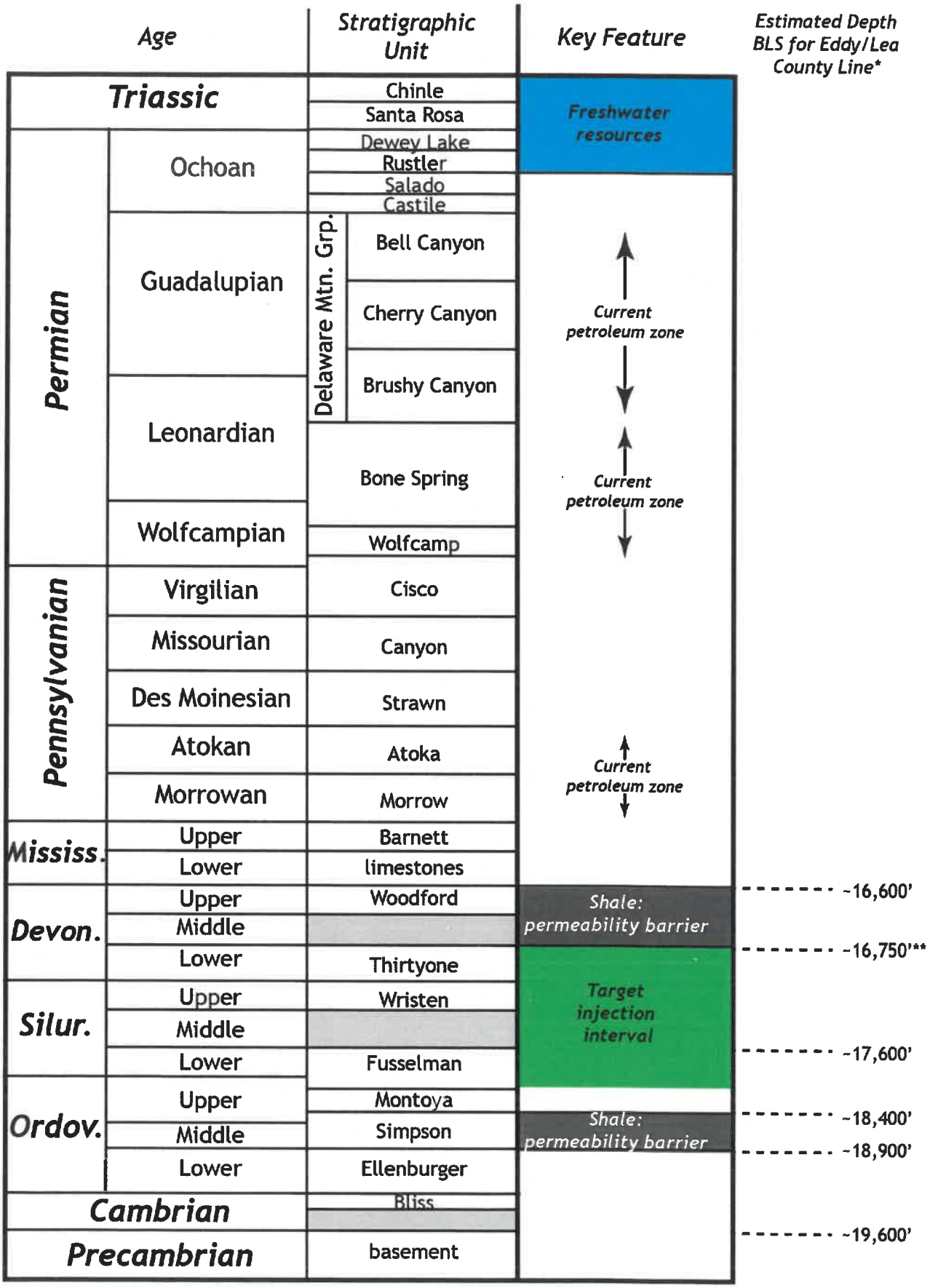
References

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.

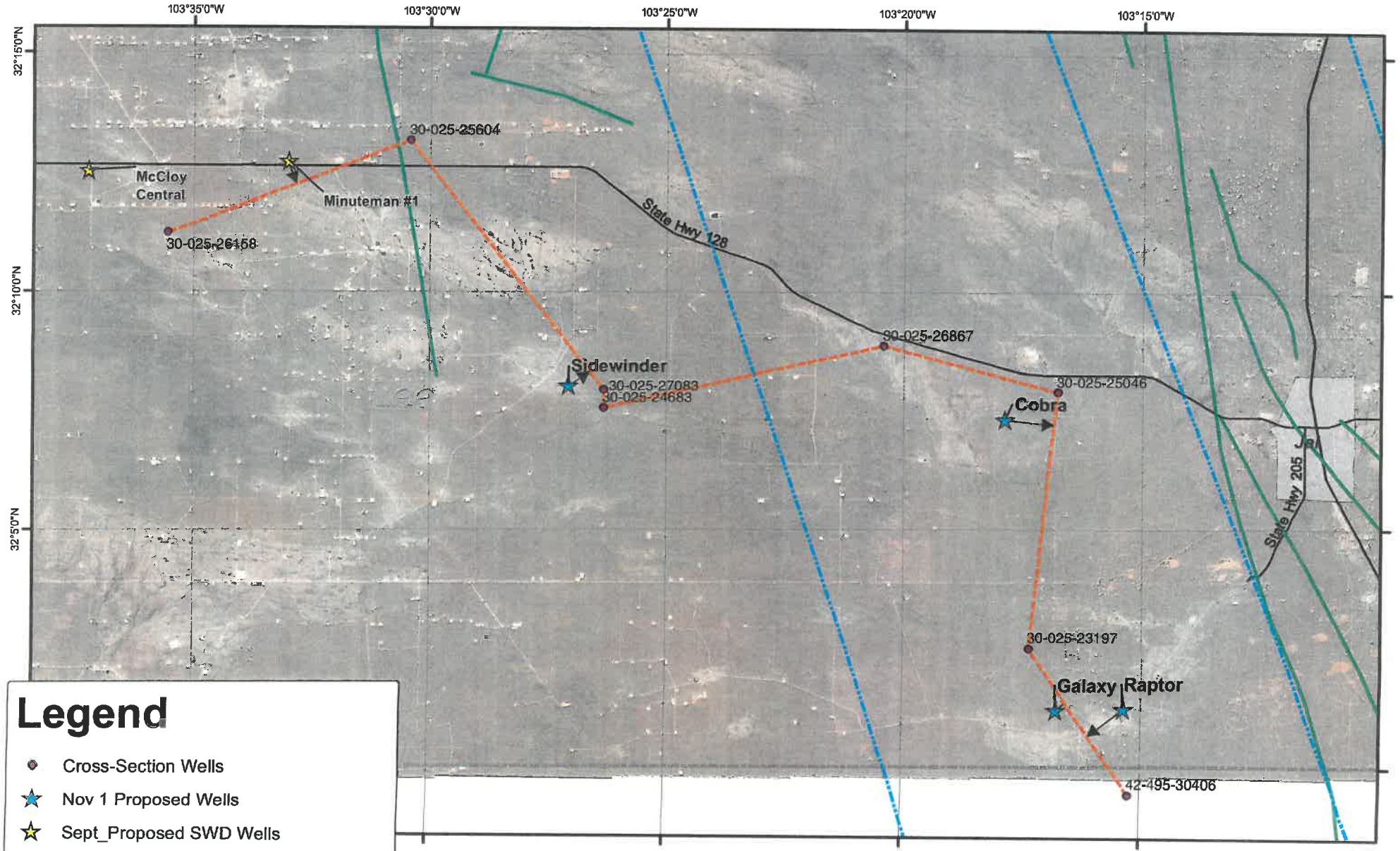
Hemmesch, N.T., Harris, N.B., Mnich, C.A. and Selby, D., 2014, A sequence-stratigraphic framework for the Upper Devonian Woodford Shale, Permian Basin, west Texas: American Association of Petroleum Geologists Bulletin, v. 98, no. 1, p. 23-47, doi:10.1306/05221312077

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 30-015-44416 Striker 2 SWD #1 (23-24S-31E).
**Note the Thirtyone Formation is not present in the project area.

Nov 1 Cross Section Wells/Lines



Legend

- Cross-Section Wells
- Nov 1 Proposed Wells
- Sept_Proposed SWD Wells
- Tie Lines
- Cross Section Line
- Precambrian Faults
- Basement Faults
- County Boundaries, NM

3 1.5 0 3 6 9 12 Miles

Coordinate System: GCS North American 1983
Datum: North American 1983
Units: Degree

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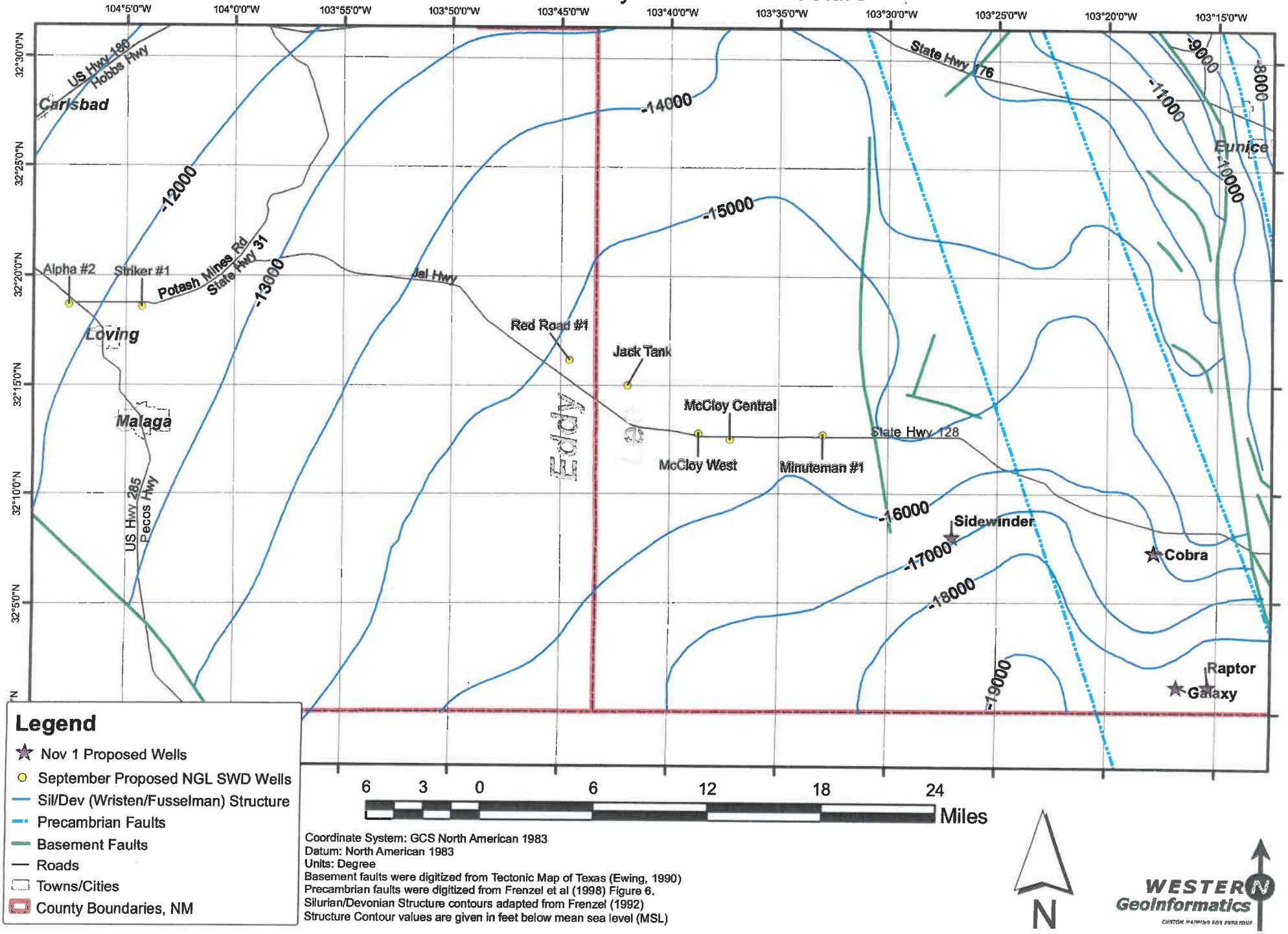
WESTERN GeoInformatics

Silurian/Early Devonian Structure



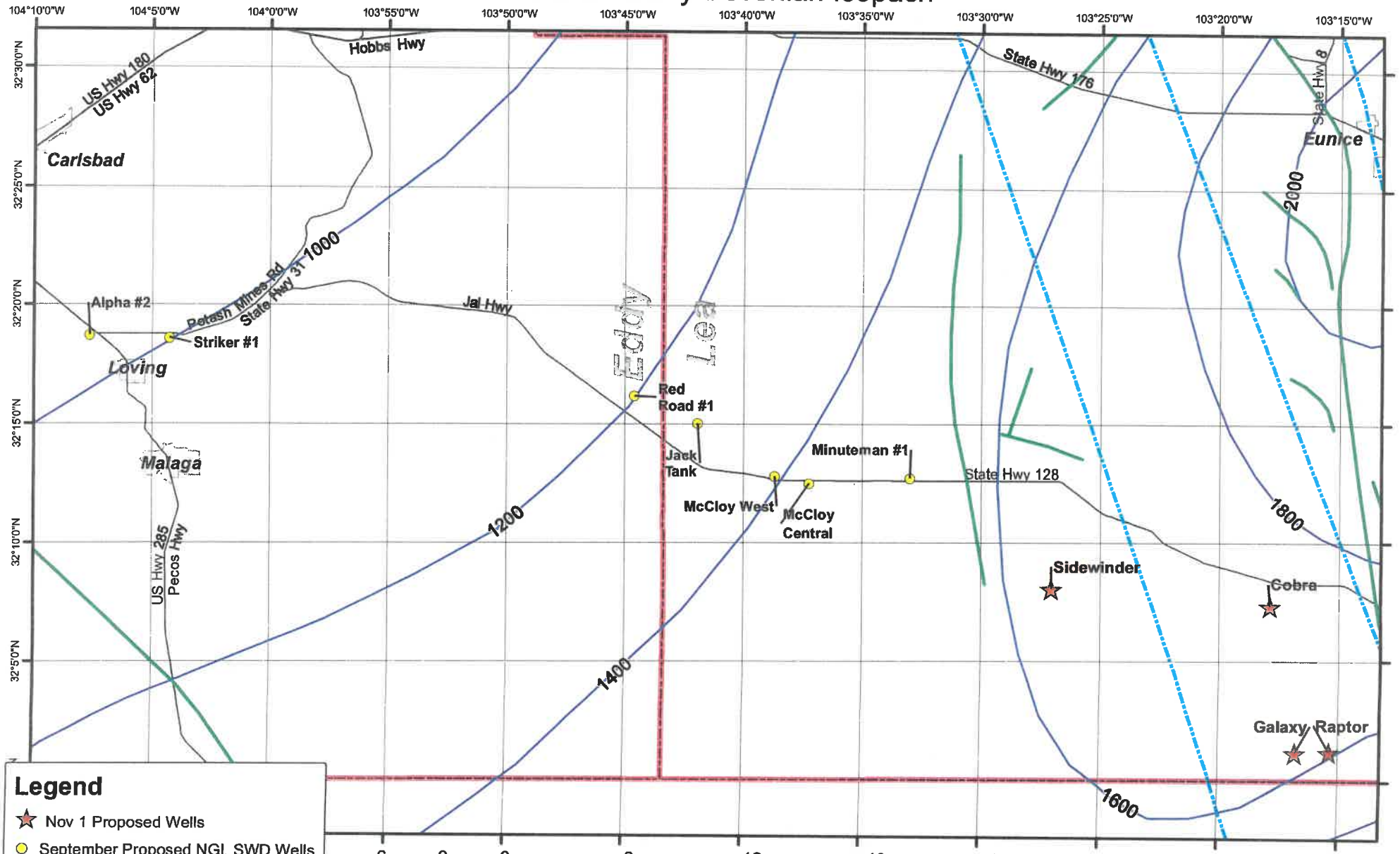
Legend

- Nov 1 Proposed Wells
- September Proposed NGL SWD Wells
- Sil/Dev (Wristen/Fusselman) Structure
- Precambrian Faults
- Basement Faults
- Roads
- Towns/Cities
- County Boundaries, NM

Coordinate System: GCS North American 1983
Datum: North American 1983
Units: Degree
Basement faults were digitized from Tectonic Map of Texas (Ewing, 1990)
Precambrian faults were digitized from Frenzel et al (1998) Figure 6.
Silurian/Devonian Structure contours adapted from Frenzel (1992)
Structure Contour values are given in feet below mean sea level (MSL)

WESTERN Geoinformatics

Silurian/Early Devonian Isopach

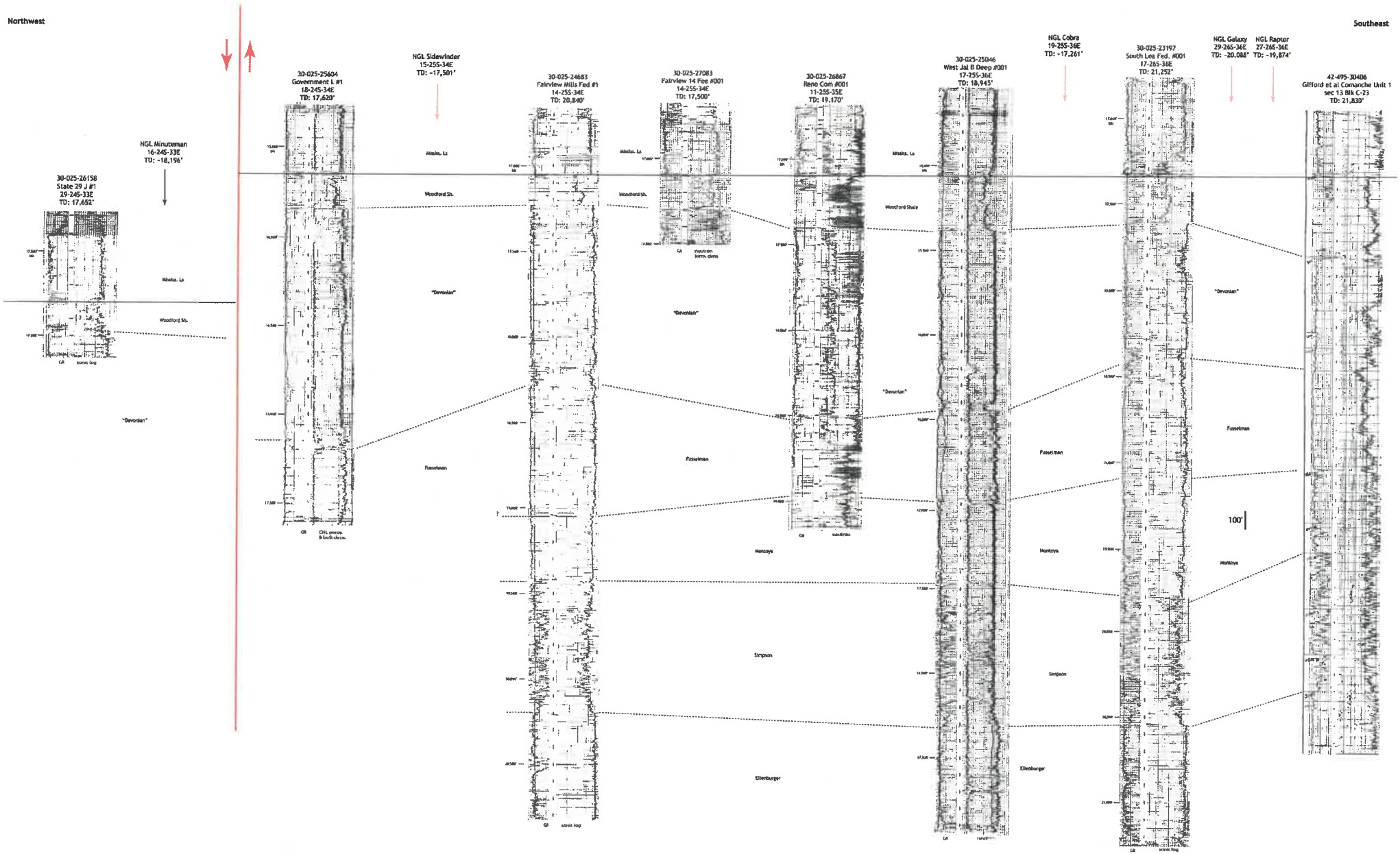


Legend

- Nov 1 Proposed Wells
- September Proposed NGL SWD Wells
- Sil/Dev (Wristen/Fusselman) Isopach
- Precambrian Faults
- Basement Faults
- Roads
- Towns/Cities
- County Boundaries, NM

Coordinate System: GCS North American 1983
Datum: North American 1983
Units: Degree
Basement faults were digitized from Tectonic Map of Texas (Ewing, 1990)
Precambrian faults were digitized from Frenzel et al (1998) Figure 6.
Silurian/Early Devonian Isopach contours adapted from Frenzel et al (1992)

WESTERN Geoinformatics


Northwest
Southeast
30-025-26158
State 29 J #1
29-24S-33E
TD: 17,652'
NGL Minuteman
16-24S-33E
TD: ~18,196'
30-025-25604
Government L #1
18-24S-34E
TD: 17,620'
NGL Sidewinder
15-25S-34E
TD: ~17,501'
30-025-24683
Fairview Mills Fed #1
14-25S-34E
TD: 20,840'
30-025-27083
Fairview 14 Fee #001
14-25S-34E
TD: 17,500'
30-025-26867
Reno Com #001
11-25S-35E
TD: 19,170'
30-025-25046
West Jal B Deep #001
17-25S-36E
TD: 18,945'
NGL Cobra
19-25S-36E
TD: ~17,261'
30-025-23197
South Lea Fed. #001
17-26S-36E
TD: 21,252'
NGL Galaxy
29-26S-36E
TD: ~20,088'
NGL Raptor
27-26S-36E
TD: ~19,874'
42-495-30406
Gifford et al Comanche Unit 1
sec 13 Blk C-23
TD: 21,830'
Mississ. Ls
Woodford Sh.
"Devonian"
Fusselman
Montoya
Simpson
Ellenburger
100'

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. 16505

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

CASE NO. 16509

AFFIDAVIT OF STEVEN TAYLOR

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

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

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

2. I have worked at the Los Alamos National Labs from 1991 to 2006. I currently am the secretary of GeoEnergy Monitoring Systems, Inc., a company that builds and conducts seismic monitoring.

3. I have obtained a Bachelor of Science degree in geology at Ohio University (1975) and a Ph.D. in Geophysics at the Massachusetts Institute of Technology (1980).

4. I am familiar with the applications that NGL Water Solutions Permian, LLC ("NGL") has filed in this matter and I have conducted a study related to the areas which is the subject matter of those applications.

5. The applicant, NGL (OGRID No. 372338), seeks an order approving Galaxy SWD #1 and Raptor SWD #1 salt water disposal wells.

6. In its applications, NGL requests approval to use larger diameter tubing in both wells which is 7" by 5 ½".

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

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

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

10. The closest known fault line is located approximately 2 to 20 miles away from where the wells are located.

11. 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. We have detected and located 4 small events since

Attached as Exhibit A is a copy of my study. My study concludes that there is very little seismic activity in the areas where the wells are located.

12. I have also reviewed information provided by FTI Platt Sparks involving several different fault slip probability analysis conducted, using a tool created by Stanford University. These fault slip potential models showed low probability of slip or earthquakes to known mapped faults located closest to the wells. A copy of the studies are attached hereto as Exhibit B.

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

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

Steven Taylor

SUBSCRIBED AND SWORN to before me this 29th day of October, 2018 by Steven Taylor.

Valeria Williams
Notary Public

My commission expires: 4-6-20

OFFICIAL SEAL
VALERIA WILLIAMS
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 4-6-20

Seismic Catalog Analysis Within 50 km of Galaxy SWD and Raptor SWD

Prepared for NGL-Permian
by
GeoEnergy Monitoring Systems
October 29, 2018

Analysis is based on NMT seismic catalogs, unpublished catalogs and USGS catalogs for the time period 2010-2017 selecting events within 50 km of one of the Striker 2 SWD well. Additionally, seismic monitoring through October 15, 2018 from the three NGL seismic stations installed at Striker 2, Striker 3 and Striker 6 SWD wells on September 6, 2018.

Striker Two, Sand Dunes well, Lat/Long: 32.2072820/-103.7557370
Striker Three, Gossett well, Lat/Long: 32.2551110/-104.0868610
Striker Six, Madera well, Lat/Long: 32.2091150/-103.5359570

Figure 1 shows seismic station locations for three wells (blue pushpins) with estimated detection levels for M 1.0 (green circles) and M 1.5 (red circles) along with NGL-Permian stations (yellow pushpins). **Figure 2** shows seismicity listed in Table 1 shown as red circles and additional regional stations from TexNet and NMT (green pushpins). These regional stations will be used along with the 3 Striker SWD seismic stations for regional monitoring.

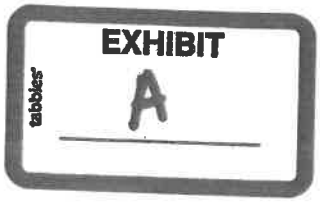
Striker Two, Sand Dunes well, Lat/Long: 32.2072820/-103.7557370
Striker Three, Gossett well, Lat/Long: 32.2551110/-104.0868610
Striker Six, Madera well, Lat/Long: 32.2091150/-103.5359570

The USGS reports only two events in the vicinity since 2010. New Mexico Tech runs a seismic network (SC) north of the wells for the DOE Waste Isolation Plant (only short-period vertical components). There are a total of seven seismic events in this time period ranging in magnitude from 1.0 to 3.1.

Since the seismic deployment, we had four single-station detections at the STR6 station and made preliminary locations using available regional data (**Figure 3**). The waveform similarity between events suggests that they were closely spaced. Due to the small magnitudes, the signal-to-noise levels at other stations were very poor so the locations have large uncertainty and there is little constraint on depth. It is doubtful that the events were reported by any other network such as that operated by New Mexico Tech.

Table 1: Seismicity Within 50 km of Striker SWD Wells 2010-2017

Date	Origin Time GMT	Latitude	Longitude	Depth (km)	Magnitude
20111227	23:10:37	32.37	-103.95	NaN	1.6
20120318	10:57:22	32.281	-103.892	5.0	3.1



20170211	14:34:27	32.29	-103.92	NaN	1.5
20170302	11:38:53	32.37	-103.88	NaN	1.7
20170325	22:46:01	32.13	-103.77	NaN	1
20170503	17:47:21	32.082	-103.023	5.0	2.6
20170814	01:09:56	32.39	-103.56	NaN	1.2

Table 2. New Mexico Area Reporting Period Seismicity (km units)

Date	Origin Time (GMT)	Lat	Long	Depth	Loc Error	M	(+/-)
09/10/18	23:35:43.942	32.1793	-103.5283	1	5.58	1.25	0.23
09/14/18	06:57:47.614	32.1540	-103.5030	1	5.58	1.11	0.41
09/15/18	16:48:21.041	32.1630	-103.5211	1	5.37	1.50	NaN
10/13/18	22:07:22.259	32.0998	-103.456	6	5.64	1.6	0.119

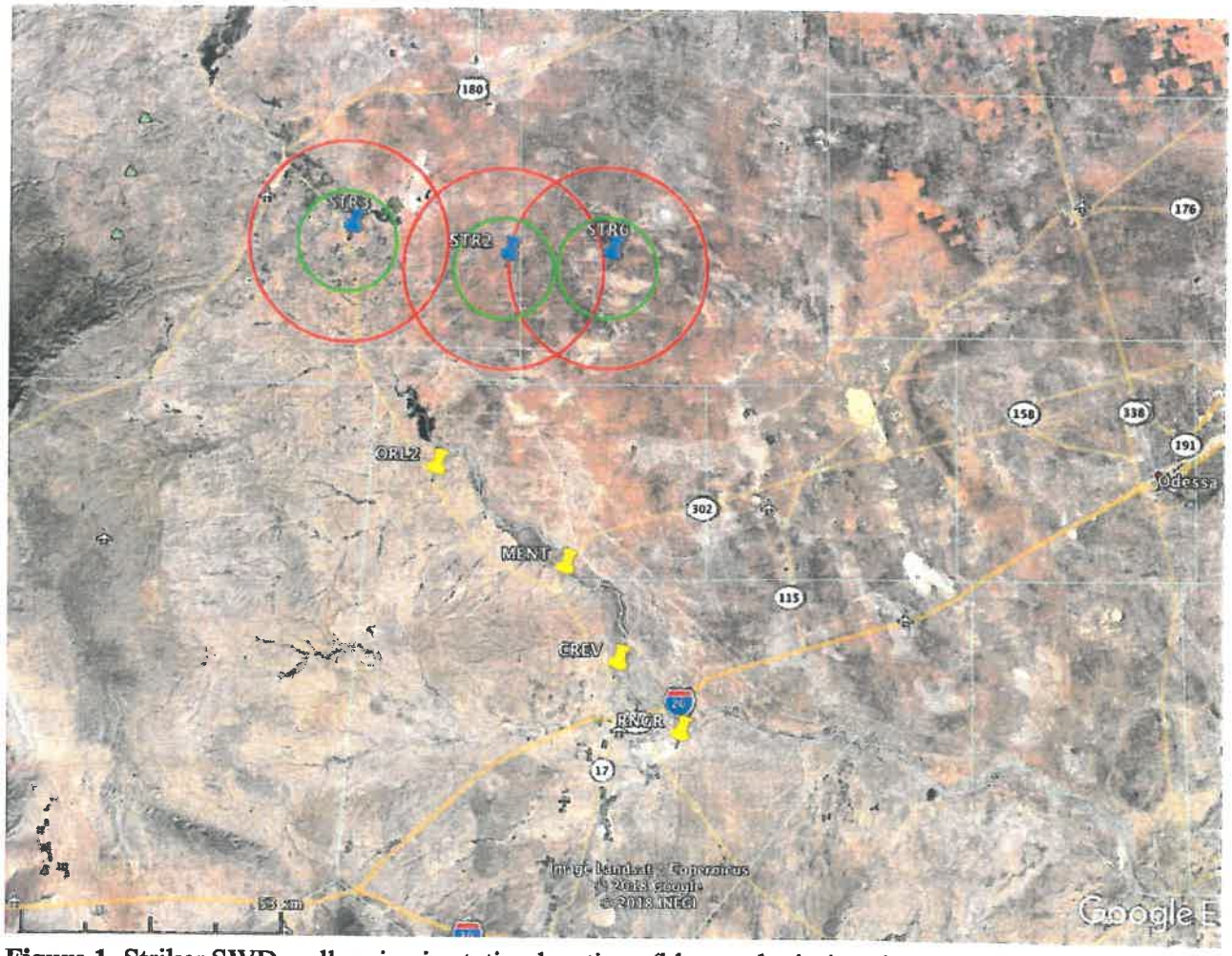


Figure 1. Striker SWD wells seismic station locations (blue push pins) and existing NGL-Permian seismic stations (yellow pushpins). Green and red circles around stations show approximate detection levels for ML 1.0 and 1.5, respectively.

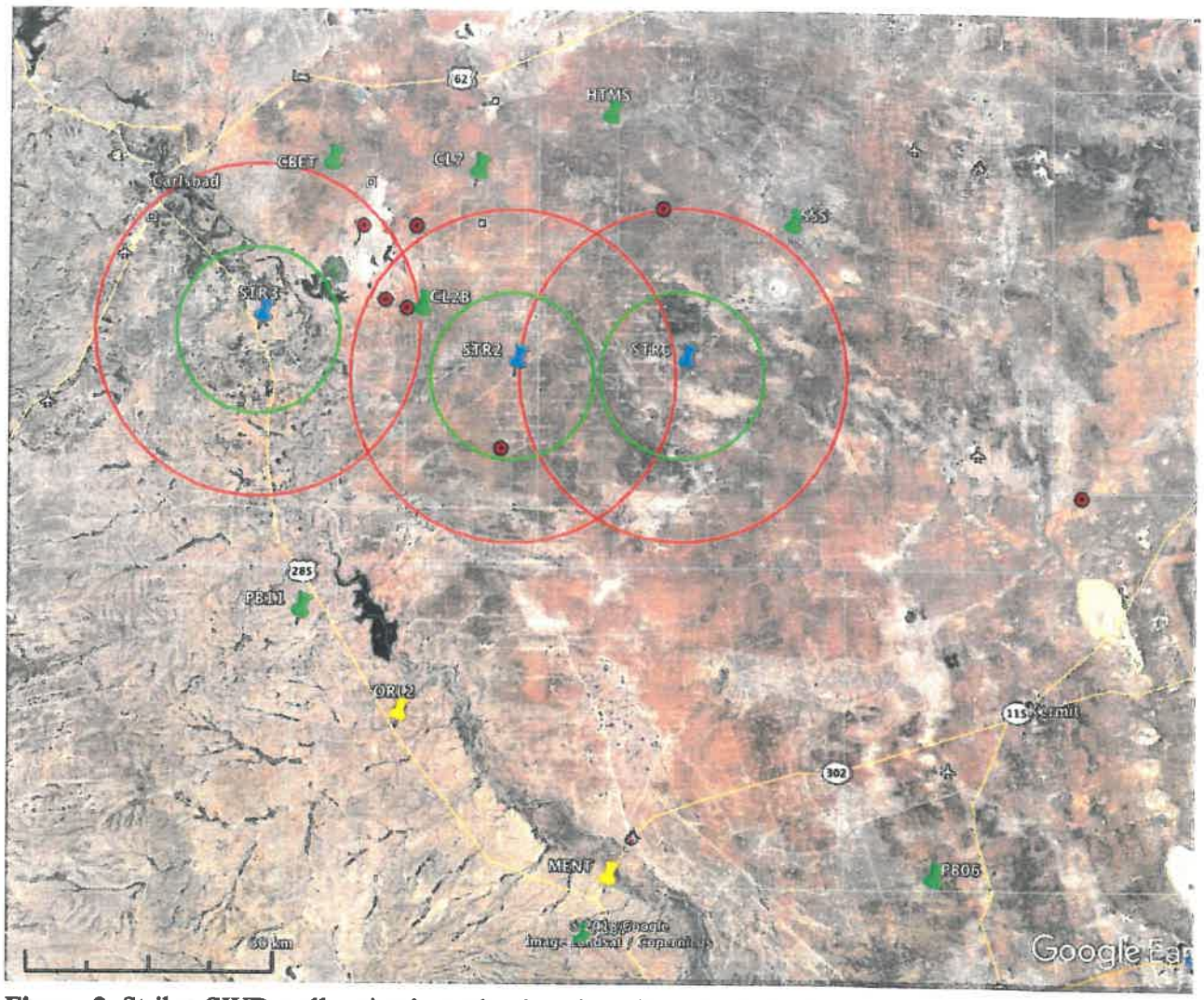


Figure 2. Striker SWD wells seismic station locations (blue push pins) and existing NGL-Permian seismic stations (yellow pushpins). Green and red circles around stations show approximate detection levels for ML 1.0 and 1.5, respectively. Other regional seismic stations run by TexNet and New Mexico Tech are shown as green pushpins. Seismicity listed in Table 1 shown as red circles.

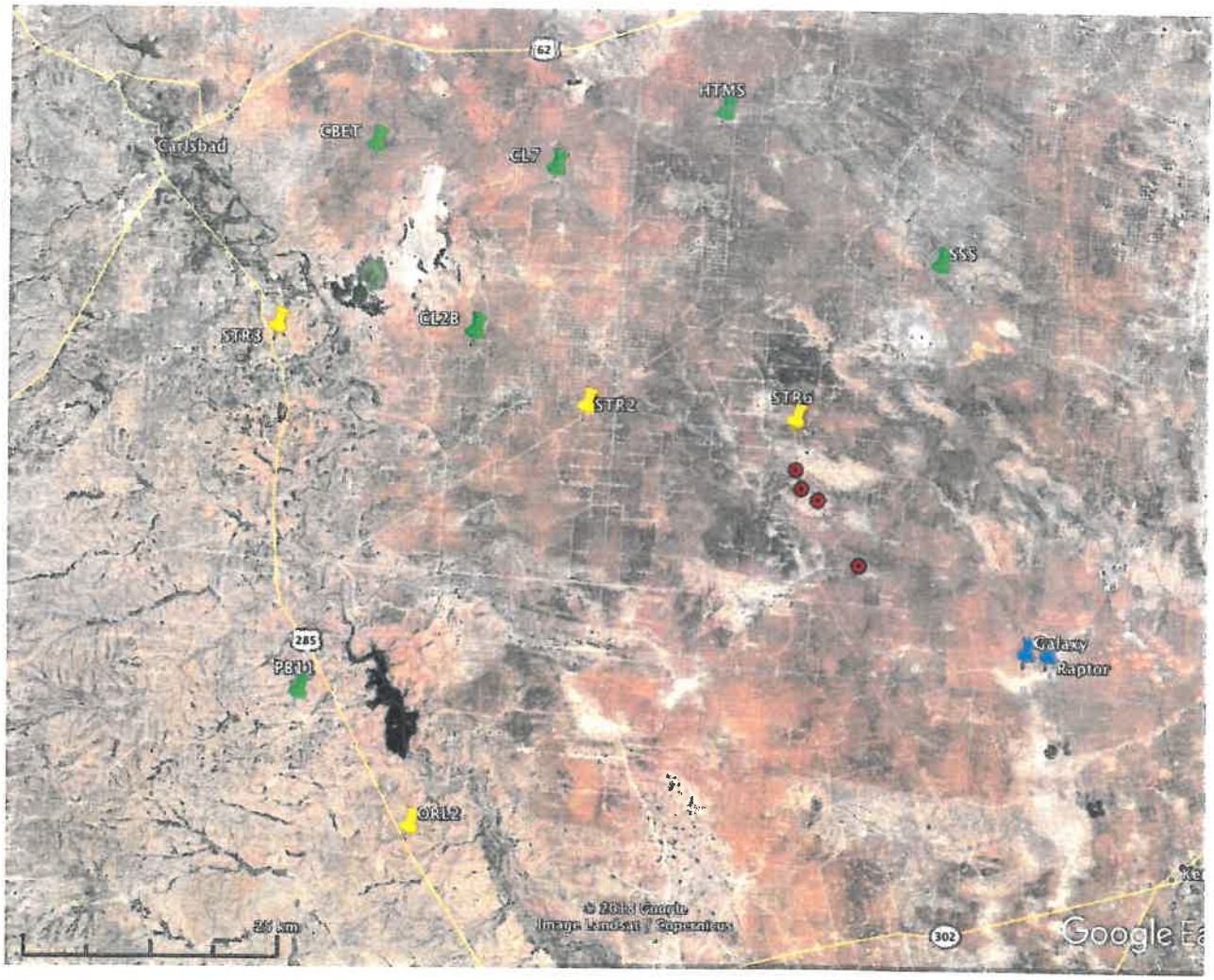


Figure 3. Seismic events in between September 6 and October 13, 2018 as red circles (Table 2). SWD wells shown as blue pushpins. Seismic stations as yellow (NGL) or green (NMT and TexNet) pushpins.

FTI™
PLATT SPARKS
Texas Registered Engineering Firm No F - 16381

October 30, 2018

RE: FSP Analysis Multiple NGL SWD well locations
Cobra SWD, Galaxy SWD and Raptor SWD
Lea County, New Mexico

FSP Analysis

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.

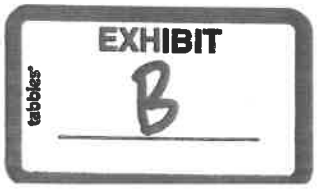
I have reviewed the geology, seismic activity, injection history and future proposed injection in the Subject Area and I would conclude that the Proposed SWD wells do not pose a substantial risk of increasing seismicity in the area. The primary risk reduction factor is that the faults are not optimally oriented to slip, and significant pressure increases would be needed to initiate slip on the faults analyzed.

Fault slip potential (FSP) was analyzed in the area of review shown on **Exhibit No. 1.** 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.

Exhibit No. 2 shows the FSP input parameters for the local stress, average reservoir depth, pressure gradients and reservoir characteristics. Depths and reservoir characteristics were derived from nearby well logs and stress values were derived from the Lund Snee and Zoback (2018) paper related to Stress in the Permian Basin.

Exhibit No. 3 shows the location of existing wells and locations of the Proposed SWD wells relative to the faults documented in this area. The faults are sourced from the Texas Bureau of Economic Geology and these are also the faults shown in the referenced Snee/Zoback paper (Figure 3 in the paper)

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



and shown as **Exhibit No. 4** in my report. The Snee/Zoback paper only considers fault orientation relative to the stress orientation in determination of fault slip potential. Based on their limited analysis of the area they concluded the faults have low slip potential based on orientation/azimuth. My analysis further incorporates the injection history and future injection projections and the injection reservoir characteristics to fully assess the potential for slip along these faults. Existing wells were incorporated into the analysis using their injection volume histories and holding them constant into the future at their last reported monthly injection volume. The proposed wells were all modelled at 40,000 bbls/day and held constant for the life of the analysis (+30 years).

The proposed wells are denoted in the model as follows: **(Exhibit No. 3)**

C - Cobra SWD

G – Galaxy SWD

R – Raptor SWD

Exhibit No. 5 illustrates the geomechanical properties of the fault segments in the area of review. It should be noted that the FSP software only calculates a single pressure change along a fault (at the fault mid-point) so it is critical that faults are broken in to multiple segments to get a true evaluation of the pressure increases associated with injection. **Exhibit No. 5 also** shows the direction of max hor. stress as denoted by the grey arrows outside the circle on the stereonet in the lower right portion of this exhibit. Faults that align parallel or closer to this orientation will have the highest potential for slip or lowest Delta PP to slip. All of the faults have very low potential for slip since they are oriented perpendicular to max hor. Stress.

Exhibit No. 6 shows that the input stress and fault values were varied by +/-10% to allow for uncertainty in the input parameters. Even considering the variability of the inputs the model results show very low probability for slip on the faults in the area of review. An increase of 2,500 psi at the faults only results in a 10% probability of fault slip.

Exhibits No. 7 – No. 15 shows the sensitivity analysis for each fault segment and shows that without any variability of inputs the ΔP needed to slip is very high ranging from 5,950 to 6,700 psi. Even with the variability of inputs the ΔP needed to slip is still very high ranging from 3.650 to 5,050 psi. The

fault with the lowest ΔP needed to slip is segment F8 which will be analyzed further on the following heat maps.

Exhibit No. 16 illustrates the ΔP pressure in a "heat map" and shows ΔP pressure increases at the faults as of 1/1/2020. This map indicates ΔP pressure increases of 0 psi at F8.

Exhibit No. 17 illustrates the ΔP pressure in a "heat map" and shows ΔP pressure increases at the faults as of 1/1/2025. This map indicates ΔP pressure increases of 2 psi at F8.

Exhibit No. 18 illustrates the ΔP pressure in a "heat map" and shows ΔP pressure increases at the faults as of 1/1/2030. This map indicates ΔP pressure increases of 14 psi at F8.

Exhibit No. 19 illustrates the ΔP pressure in a "heat map" and shows ΔP pressure increases at the faults as of 1/1/2035. This map indicates ΔP pressure increases of 39 psi at F8.

Exhibit No. 20 illustrates the ΔP pressure in a "heat map" and shows ΔP pressure increases at the faults as of 1/1/2040. This map indicates ΔP pressure increases of 71 psi at F8.

Exhibit No. 21 illustrates the ΔP pressure in a "heat map" and shows ΔP pressure increases at the faults as of 1/1/2045. This map indicates ΔP pressure increases of 107 psi at F8.

Exhibit No. 22 illustrates the ΔP pressure in a "heat map" and shows ΔP pressure increases at the faults as of 1/1/2049. This map indicates ΔP pressure increases of 138 psi at F8.

The pressure analysis over time shows that pressure is expected to increase along the faults however pressures remain far below critical levels. The table below shows the ΔP pressure increases needed to imitate fault slip along each fault segment and the corresponding ΔP pressure increases as of 2049:

Fault Segment	ΔP to slip (fixed inputs)	ΔP to slip (10% varied inputs)	ΔP at 2049
F1	6,300	4,100	132
F2	6,300	4,050	188
F3	6,650	4,925	192
F4	6,700	5,050	191
F5	6,600	4,550	232
F6	6,650	4,925	157
F7	6,150	3,850	83
F8	5,950	3,650	138
F9	6,100	3,900	112

This analysis demonstrates that there is a very low likelihood of injection induced seismicity in the Subject Area.

Conclusion

The 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 +3,650 psi) based on the input parameters and the ΔP increase at the most vulnerable fault only reaches 138 psi by 2049. This model assumes constant injection rates over the next +30 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 model represents, then the risk for fault slip is lowered also.

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
Senior Director, Economics/FTI Platt Sparks

Todd W. Reynolds

FTI Platt Sparks
512.327.6930 office

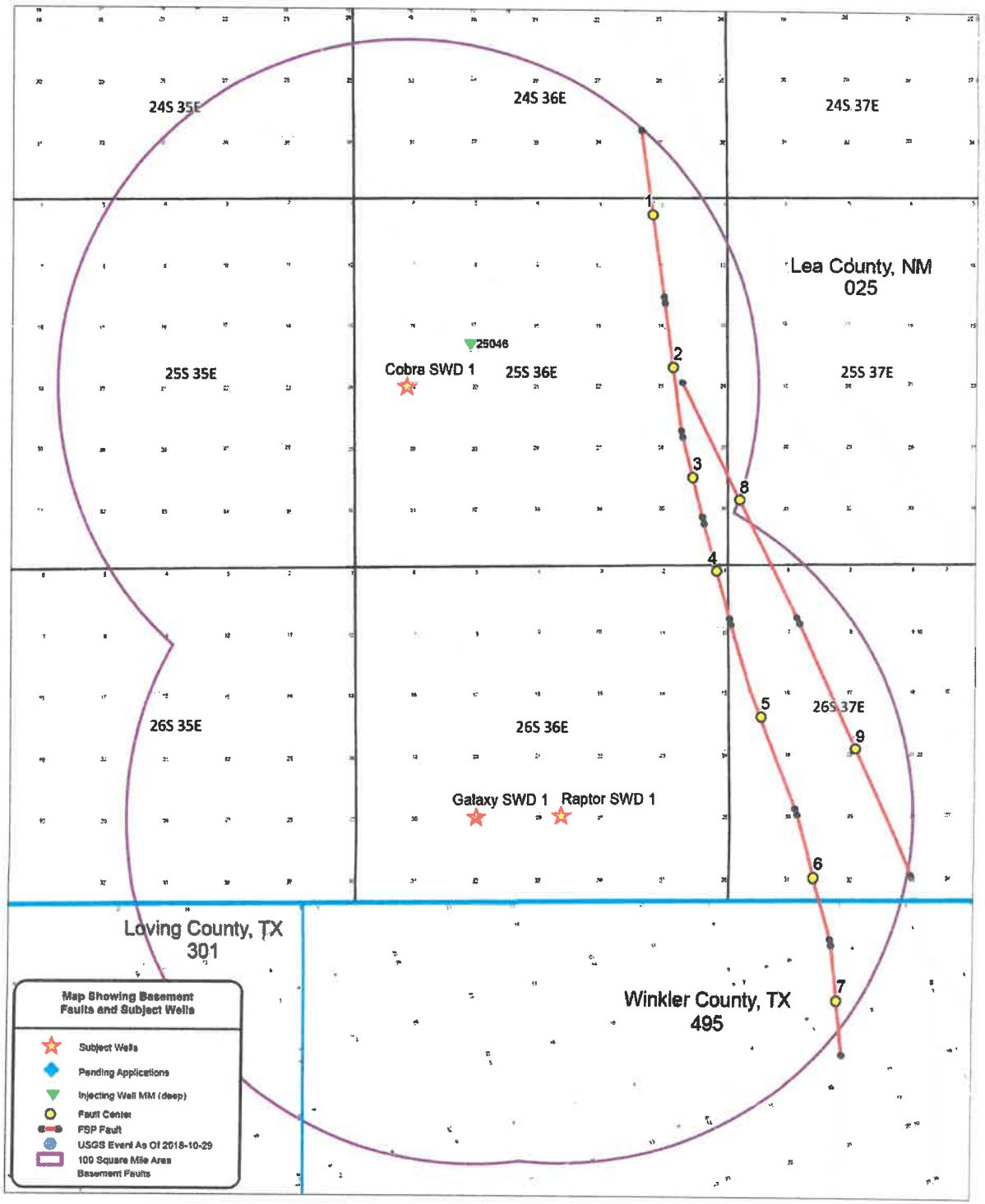
FTI™
PLATT SPARKS

Exh. No. 1

Area of review – Purple outlined area around the Subject wells represents the 100 sq. mile area around each well.

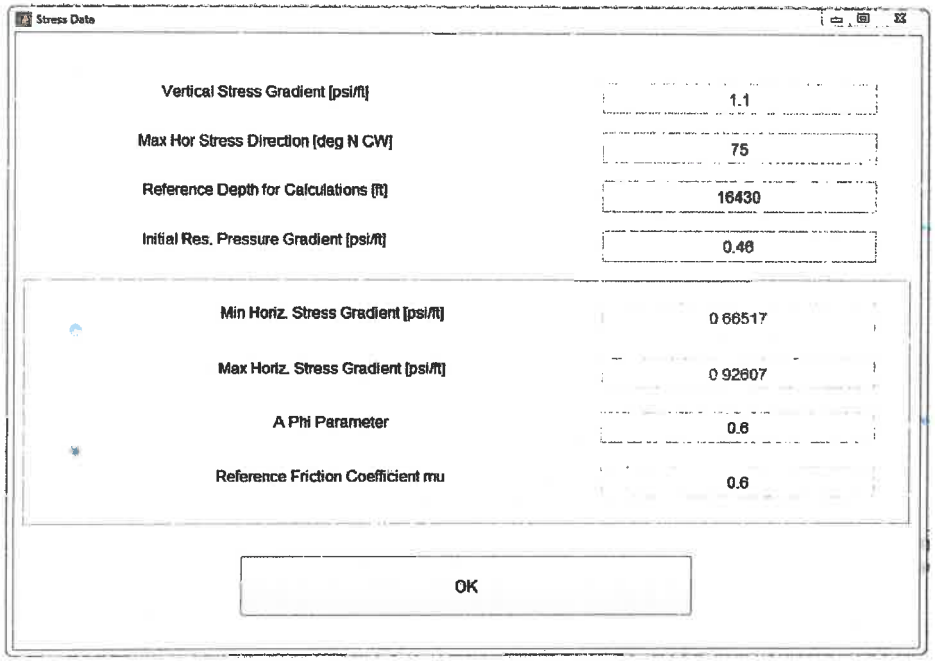
Subject wells are denoted by the "Star" symbol and active injection into the deep interval (Devonian/Silurian) is denoted by "Inverted Triangle" symbols.

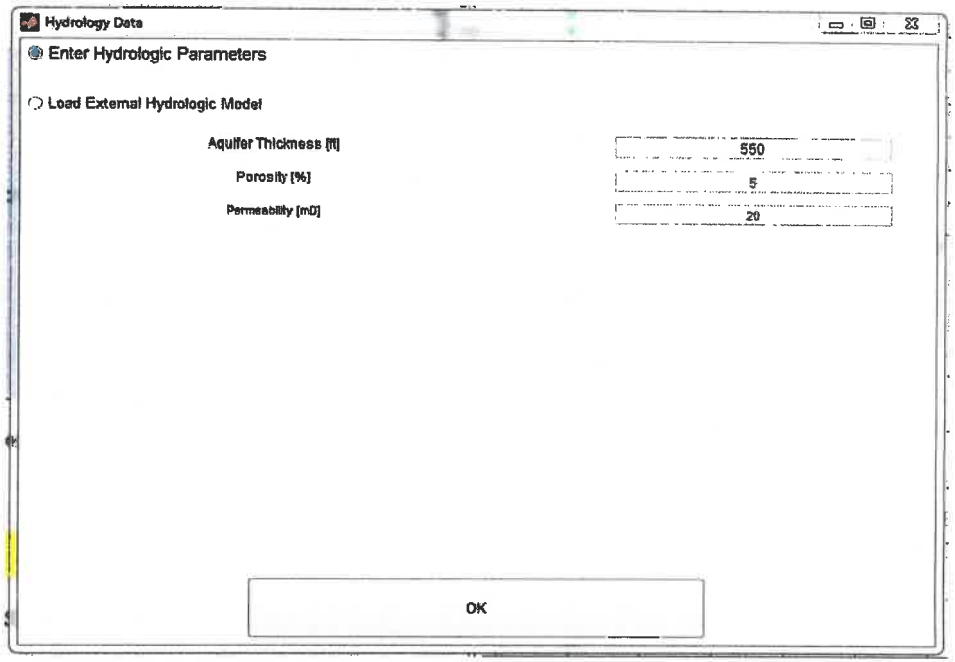
The FSP model uses the injection history of existing wells and the proposed rates of the Subject wells.

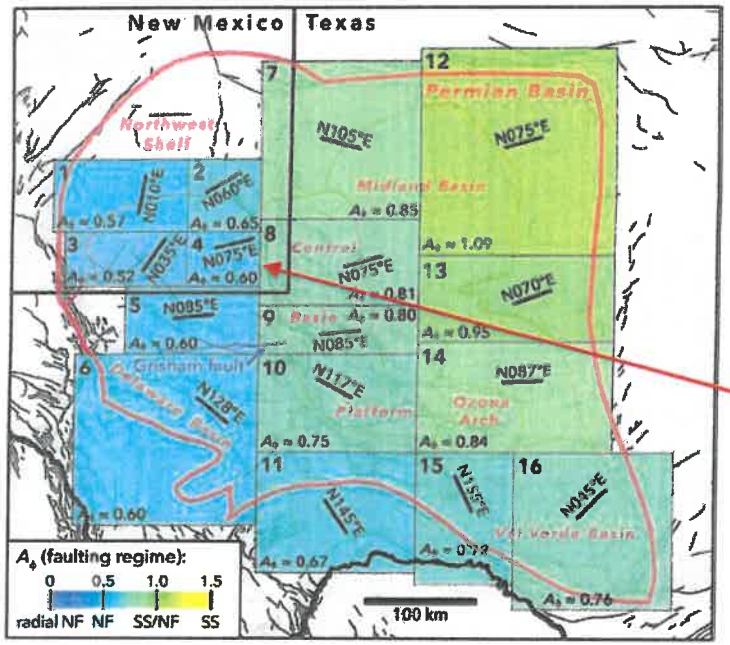


Exh. No. 2

FSP INPUT PARAMETERS







Input Parameter Comments

Hydrologic Parameters – Derived from Striker 6 SWD #2 logs

Stress Gradients – Derived from A Phi parameter from Snee/Zoback paper (.60)

Max Hor. Stress Direction - Derived from Snee/Zoback paper (N75E)

Exh. No. 3

Fault Slip Potential

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

Fault Selector:

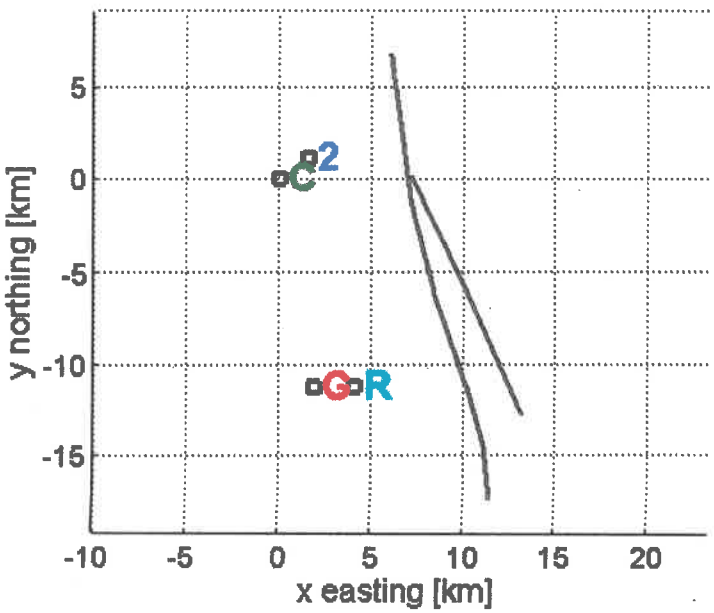
- All Faults
- Fault #1
- Fault #2
- Fault #3
- Fault #4
- Fault #5
- Fault #6
- Fault #7
- Fault #8
- Fault #9

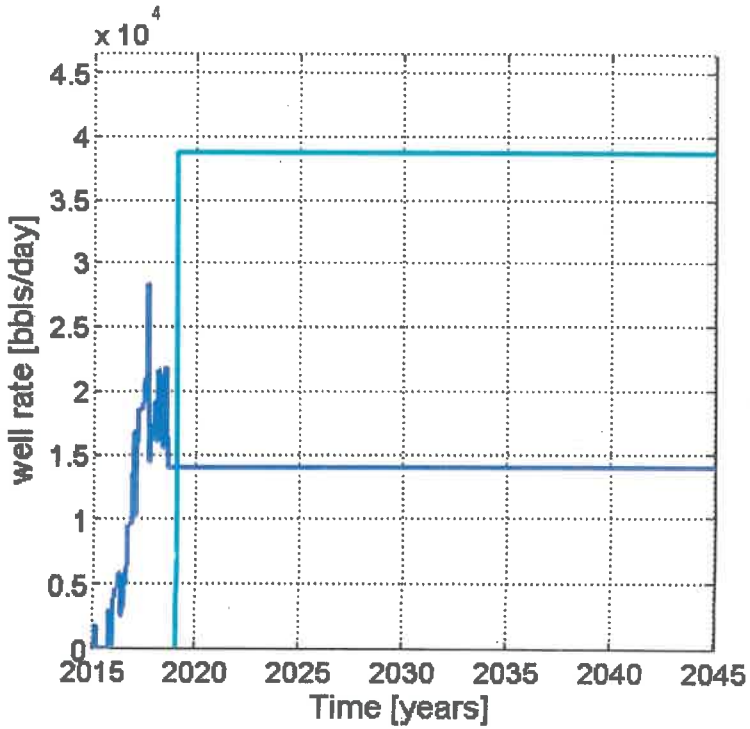
Calculate

Stress Regime: Normal Faulting

Select Well: All

FSP INPUT Fault and well locations





FSP INPUT Injection history and projected future injection

Exh. No. 4

Area of Review

Low slip potential based on fault orientation (green faults)

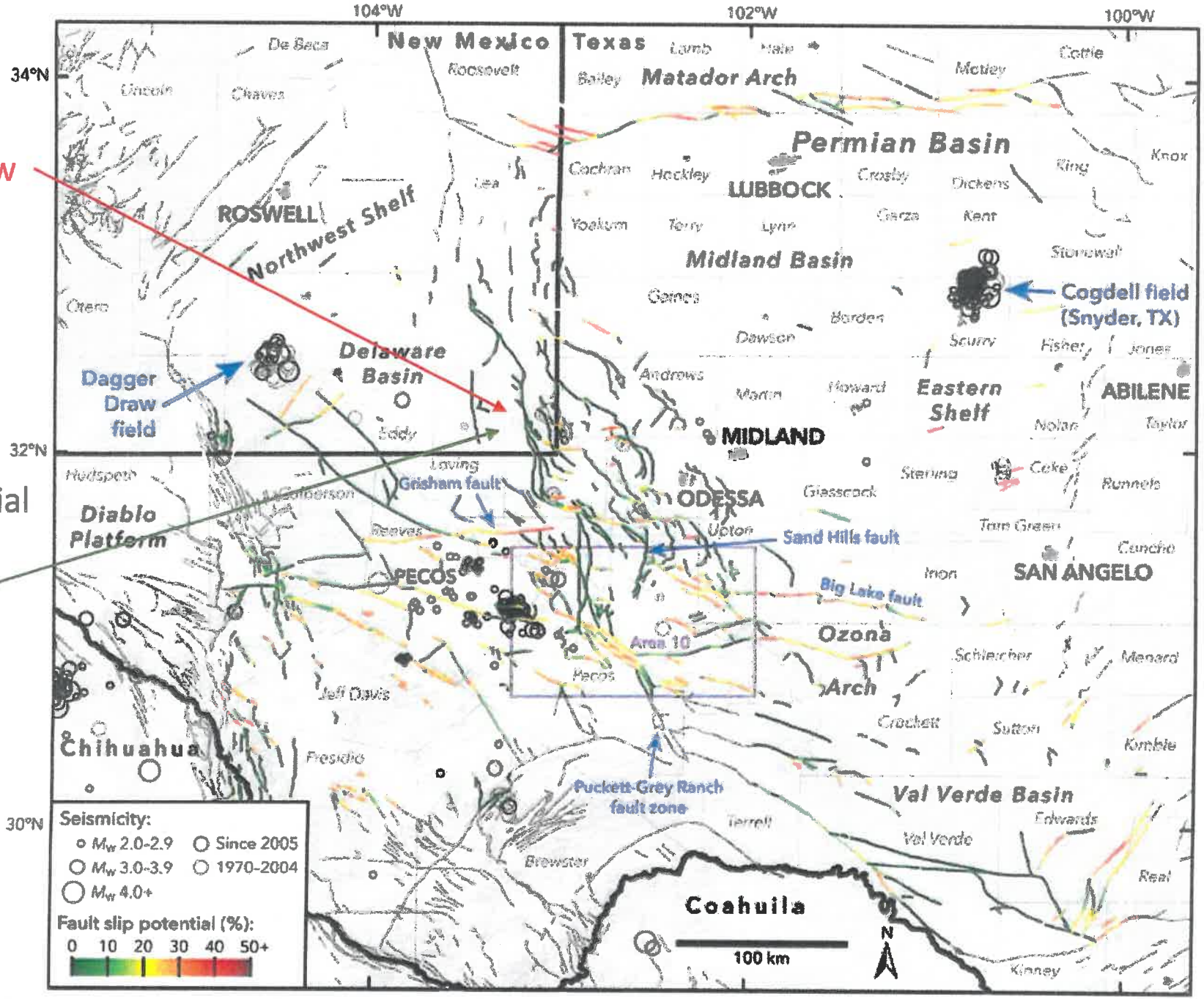


Figure 3. Results of our probabilistic FSP analysis across the Permian Basin. Data sources are as in Figures 1 and 2.

From Lund Snee and Zoback (2018)

Exh. No. 5

Fil Zoom

Fault Slip Potential

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

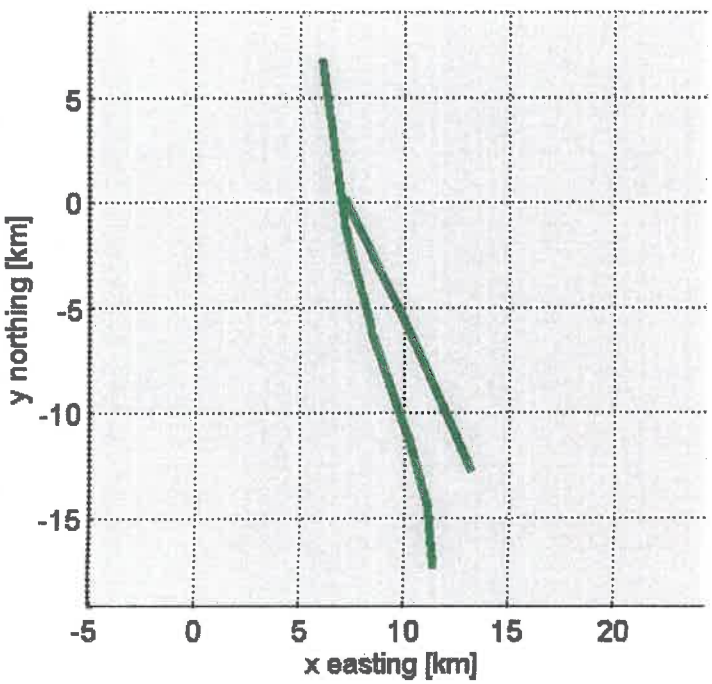
Fault Selector:

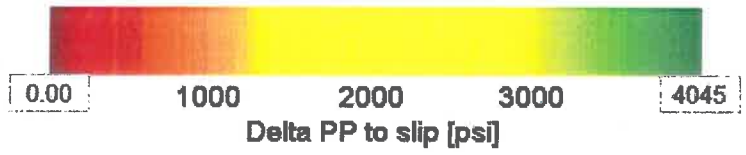
All Faults
Fault #1
Fault #2
Fault #3
Fault #4
Fault #5
Fault #6
Fault #7
Fault #8
Fault #9

Calculate

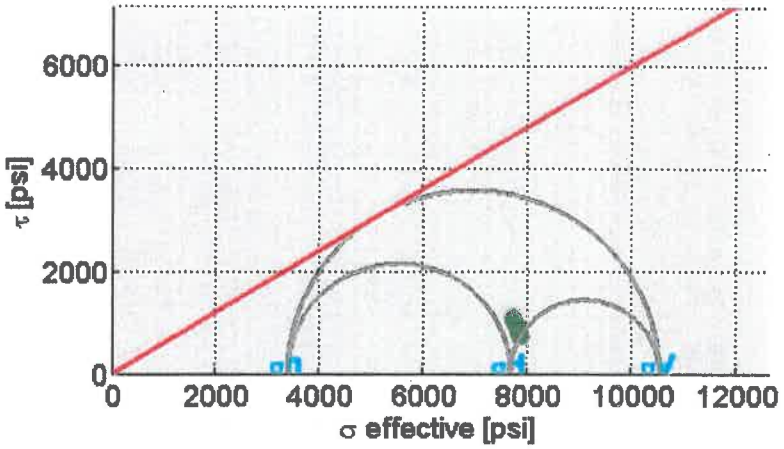
Choose Plot Labels

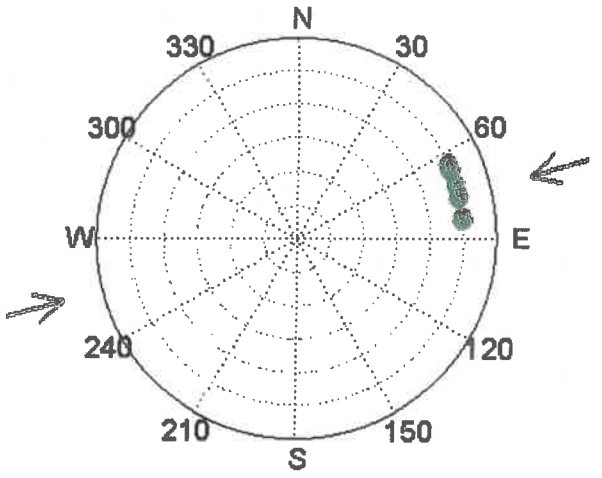
Help





Stress Regime: Normal Faulting





Stereonet Show: Fault Normals

Exh. No. 6

Fault Slip Potential

File Zoom

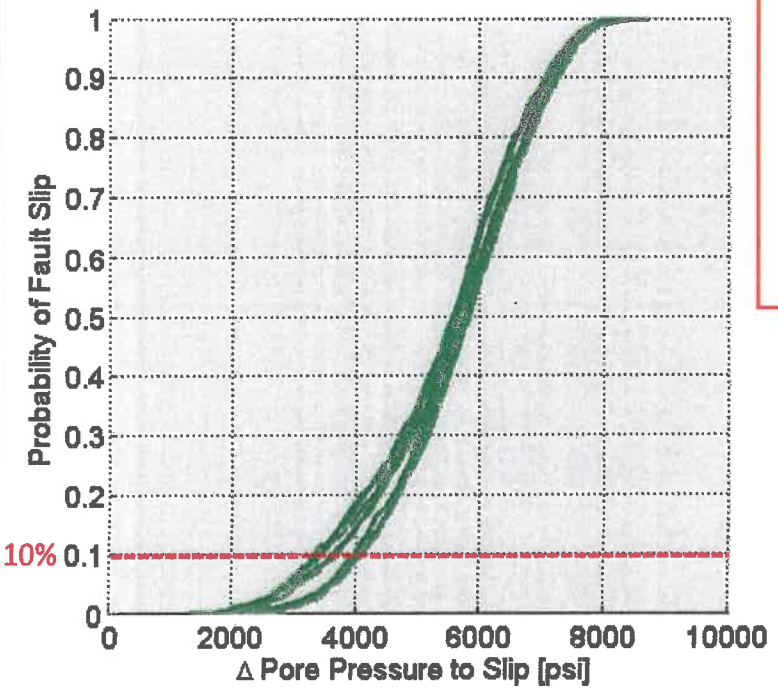
MODEL INPUTS | GEOMECHANICS | PROB. GEOM... | HYDROLOGY | PROB. HYDRO | INTEGRATED

Fault Selector:

All Faults
Fault #1
Fault #2
Fault #3
Fault #4
Fault #5
Fault #6
Fault #7
Fault #8
Fault #9

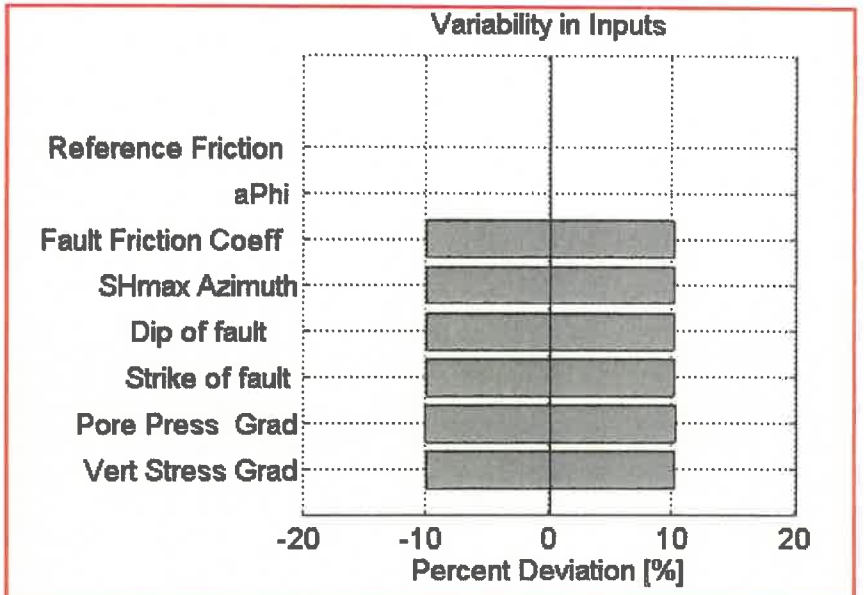
Calculate

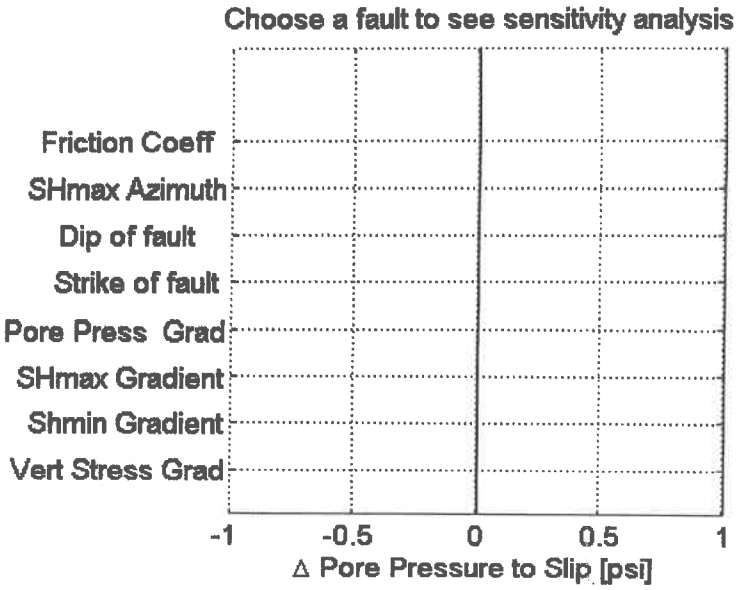
Load Distributions | Run Analysis



Max Delta PP [psi]: 10000

Export CDF data | Show Input Distributions





Exh. No. 7

File Zoom

Fault Slip Potential

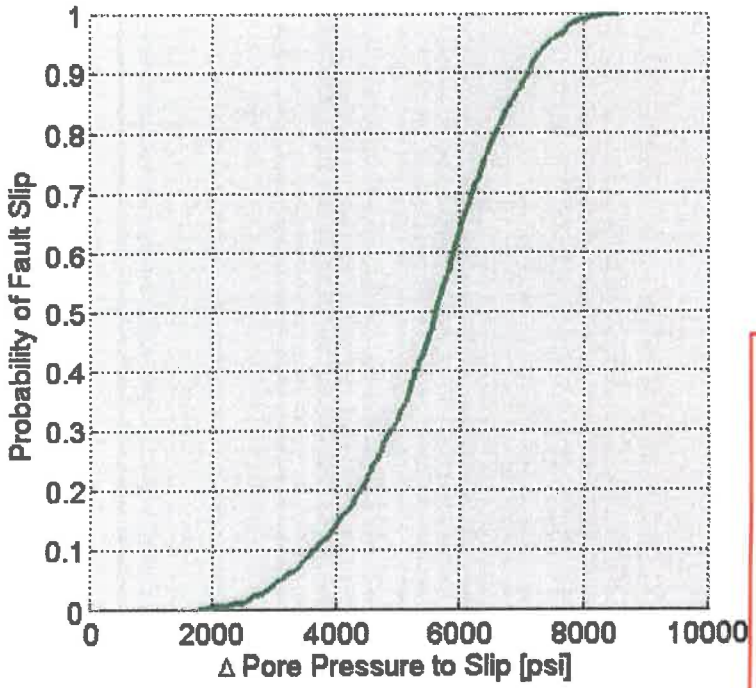
MODEL INPUTS | GEOMECHANICS | PROB. GEOM... | HYDROLOGY | PROB. HYDRO | INTEGRATED

Fault Selector:

All Faults
Fault #1
Fault #2
Fault #3
Fault #4
Fault #5
Fault #6
Fault #7
Fault #8
Fault #9

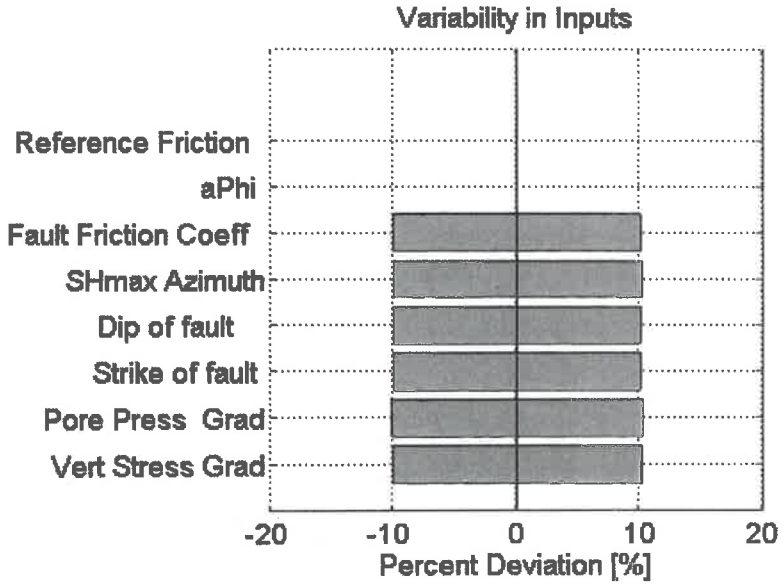
Calculate

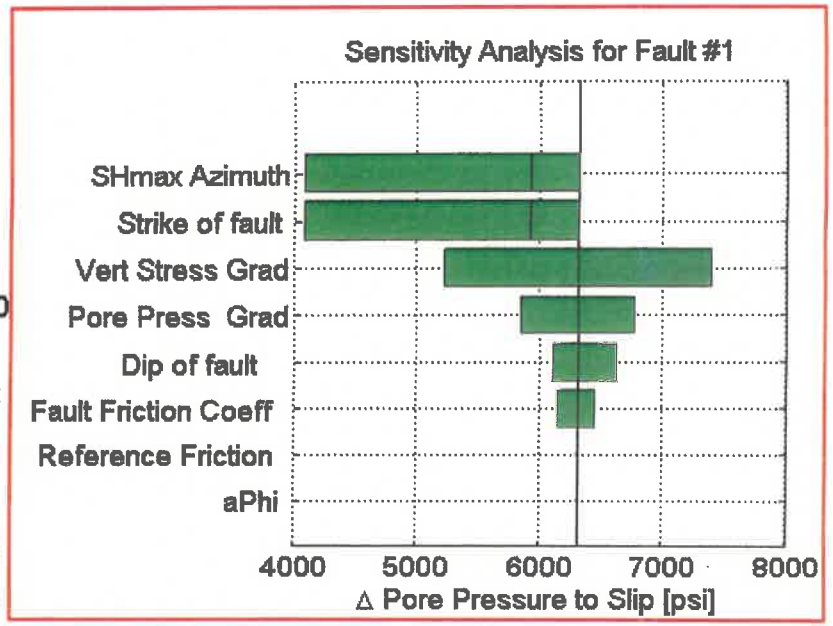
Load Distributions | Run Analysis



Max Delta PP [psi]: 10000

Export CDF data | Show Input Distributions





Exh. No. 8

Zoom

Fault Slip Potential

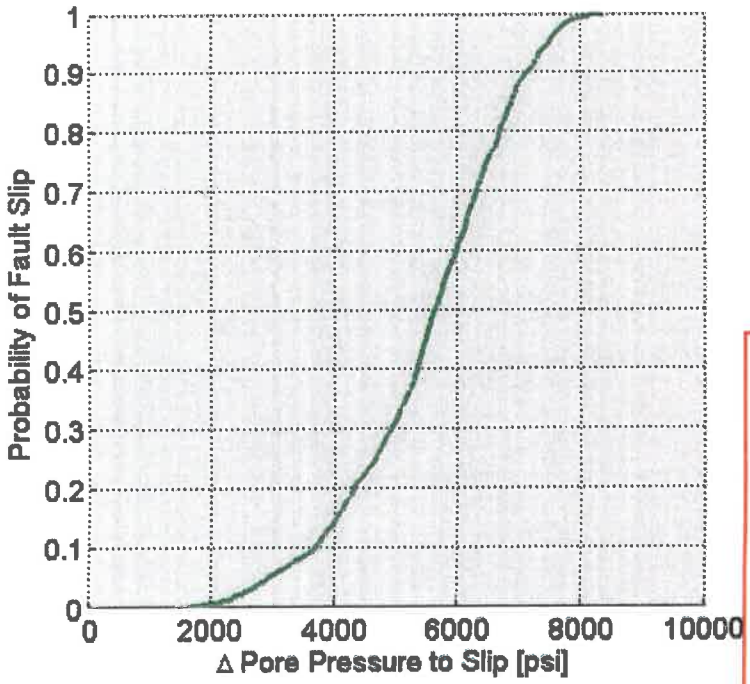
MODEL INPUTS | GEOMECHANICS | PROB. GEOM... | HYDROLOGY | PROB. HYDRO | INTEGRATED

Fault Selector:

All Faults
Fault #1
Fault #2
Fault #3
Fault #4
Fault #5
Fault #6
Fault #7
Fault #8
Fault #9

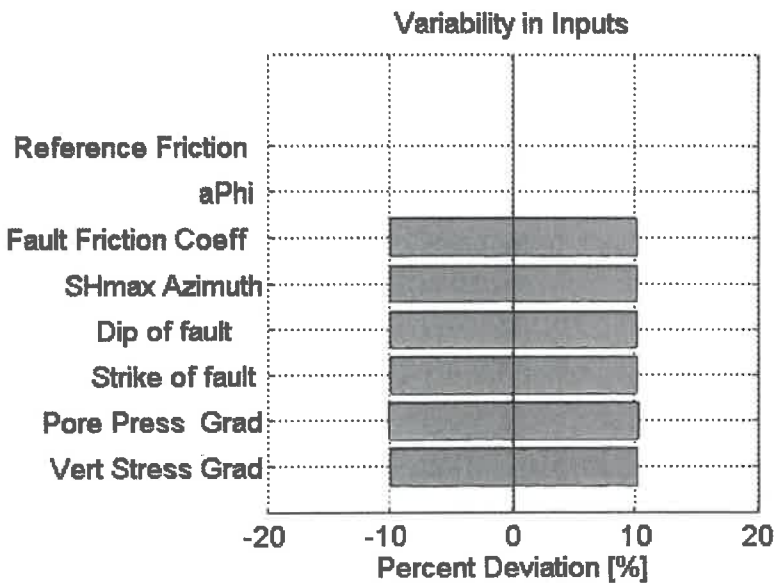
Calculate

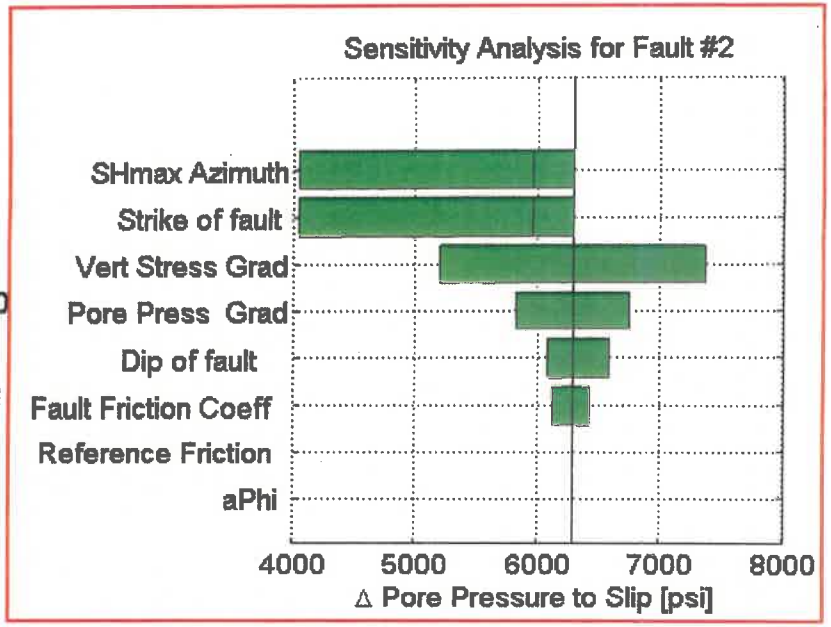
Load Distributions | Run Analysis



Max Delta PP [psi]: 10000

Export CDF data | Show Input Distributions





Exh. No. 9

Fil Zoom

Fault Slip Potential

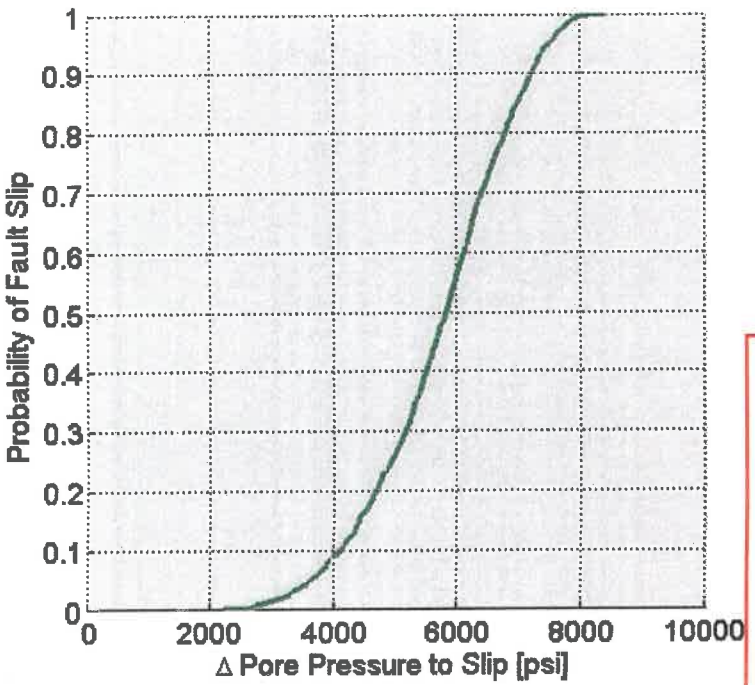
MODEL INPUTS | GEOMECHANICS | PROB. GEOM... | HYDROLOGY | PROB. HYDRO | INTEGRATED

Fault Selector:

All Faults
Fault #1
Fault #2
Fault #3
Fault #4
Fault #5
Fault #6
Fault #7
Fault #8
Fault #9

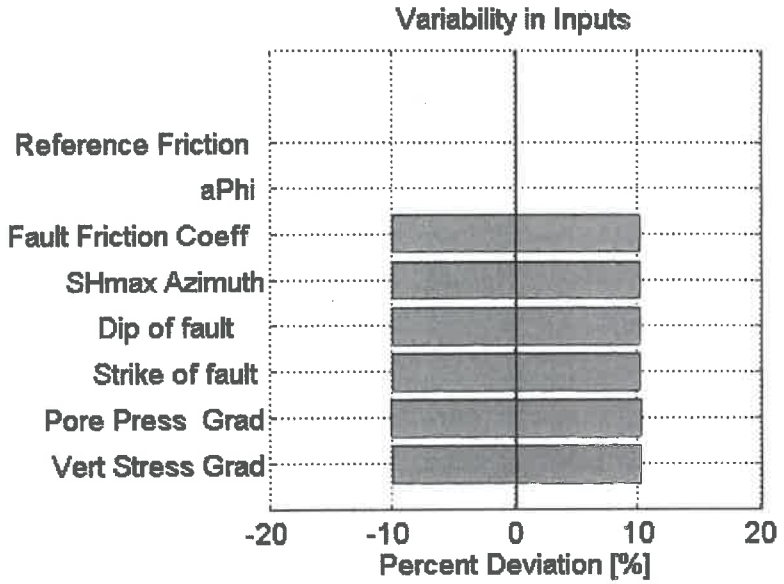
Calculate

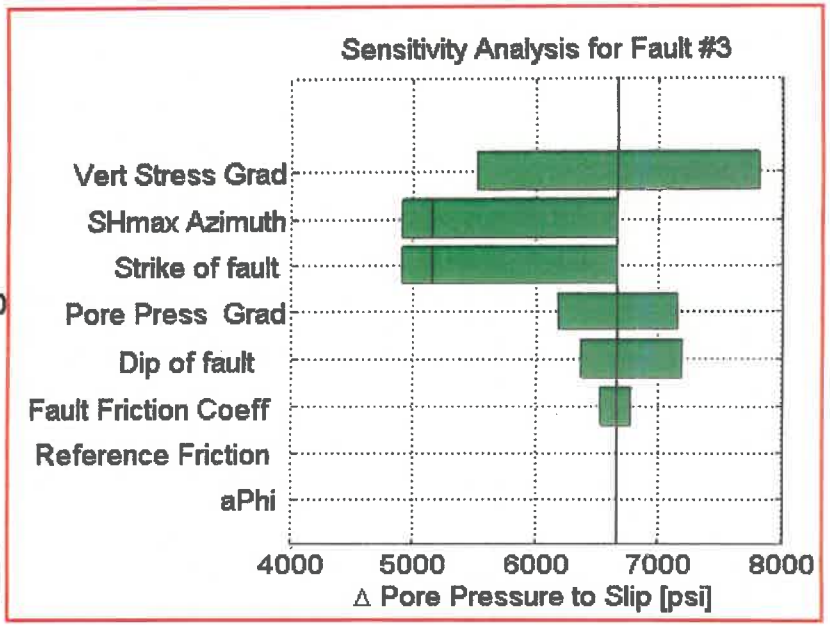
Load Distributions | Run Analysis



Max Delta PP [psi]: 10000

Export CDF data | Show Input Distributions





Exh. No. 10

Fault Slip Potential

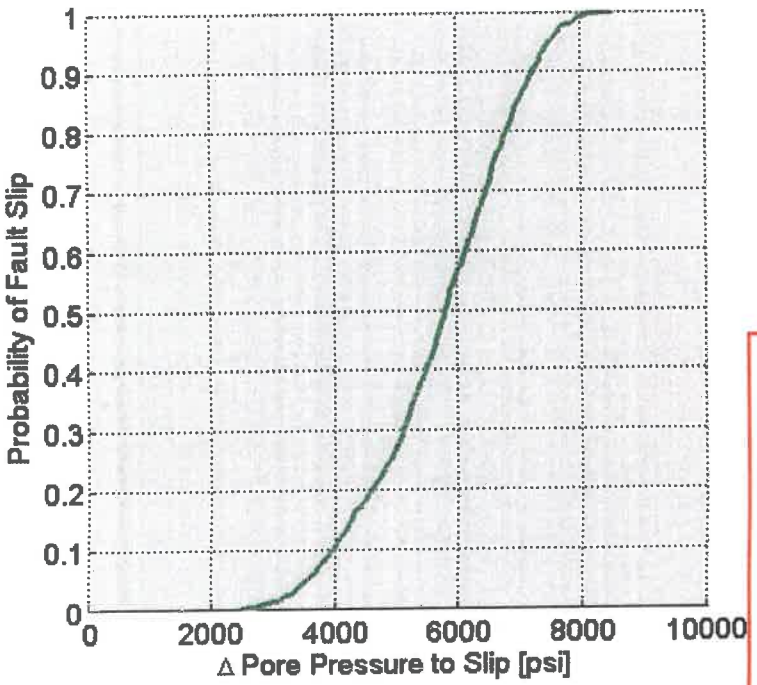
MODEL INPUTS | GEOMECHANICS | PROB. GEOM... | HYDROLOGY | PROB. HYDRO | INTEGRATED

Fault Selector:

All Faults
Fault #1
Fault #2
Fault #3
Fault #4
Fault #5
Fault #6
Fault #7
Fault #8
Fault #9

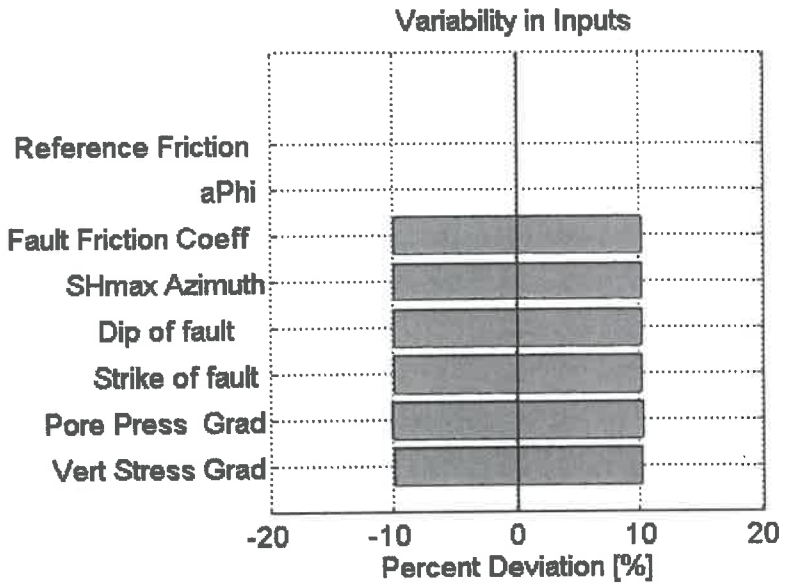
Calculate

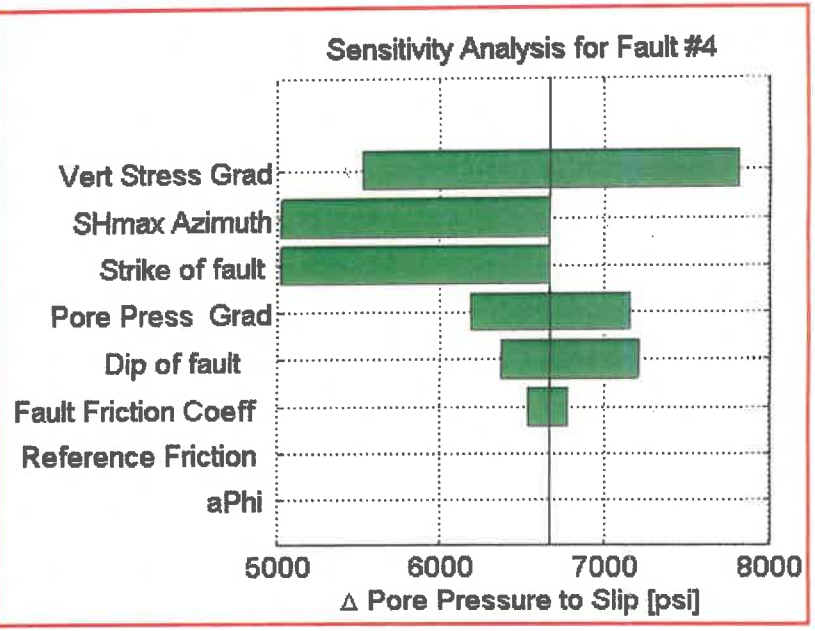
Load Distributions | Run Analysis



Max Delta PP [psi]: 10000

Export CDF data | Show Input Distributions





Exh. No. 11

Fault Slip Potential

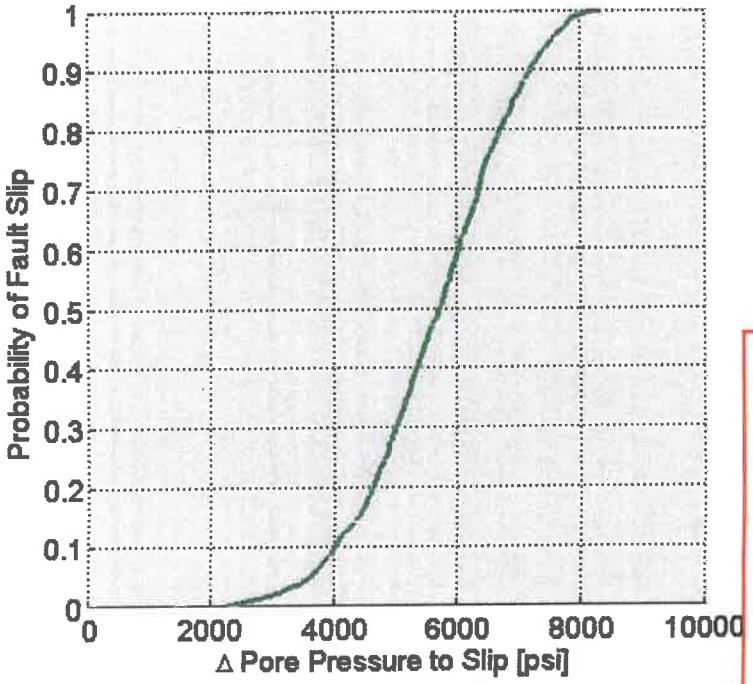
MODEL INPUTS | GEOMECHANICS | PROB. GEOM... | HYDROLOGY | PROB. HYDRO | INTEGRATED

Fault Selector:

All Faults
Fault #1
Fault #2
Fault #3
Fault #4
Fault #5
Fault #6
Fault #7
Fault #8
Fault #9

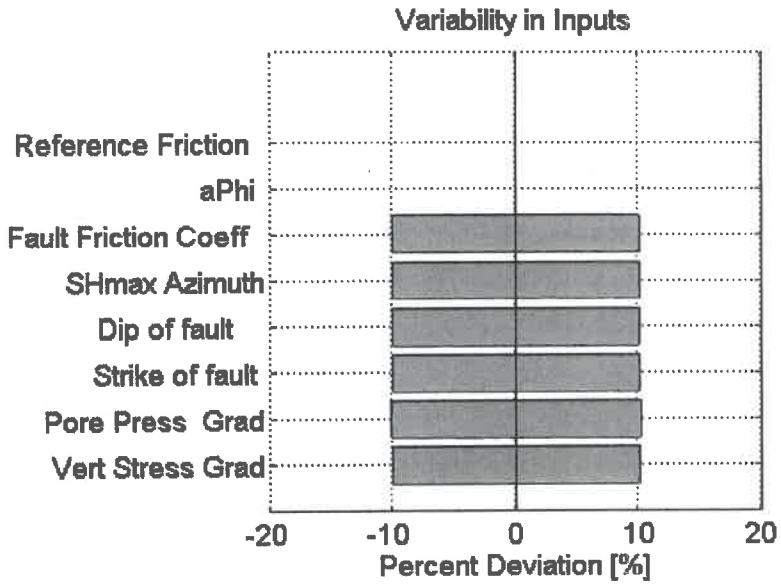
Calculate

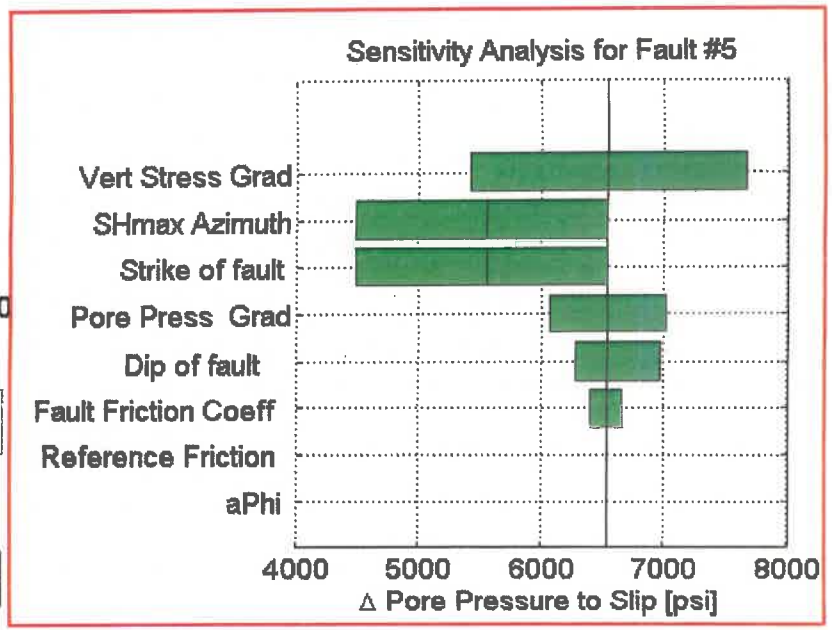
Load Distributions | Run Analysis



Max Delta PP [psi]: 10000

Export CDF data | Show Input Distributions





Exh. No. 12

Fault Slip Potential

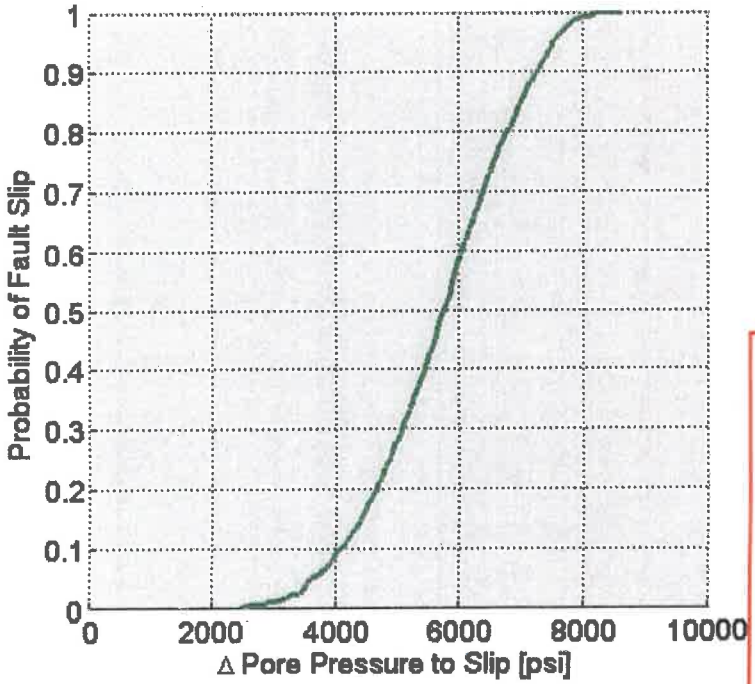
MODEL INPUTS | GEOMECHANICS | PROB. GEOM... | HYDROLOGY | PROB. HYDRO | INTEGRATED

Fault Selector:

All Faults
Fault #1
Fault #2
Fault #3
Fault #4
Fault #5
Fault #6
Fault #7
Fault #8
Fault #9

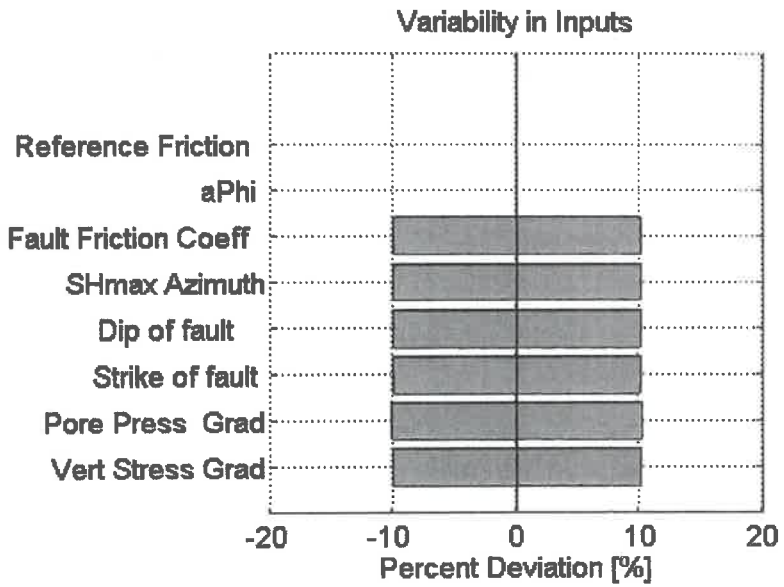
Calculate

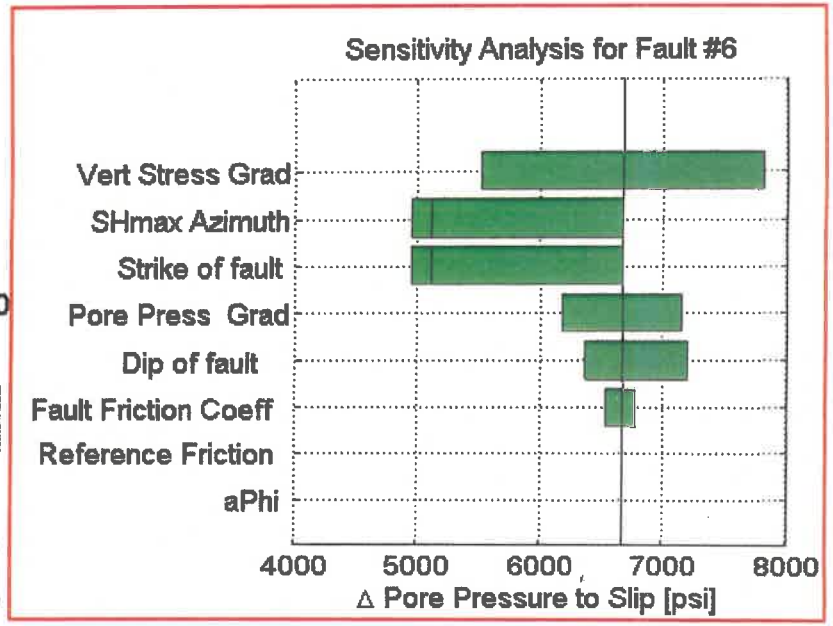
Load Distributions | Run Analysis



Max Delta PP [psi]: 10000

Export CDF data | Show Input Distributions





Exh. No. 13

Fault Slip Potential

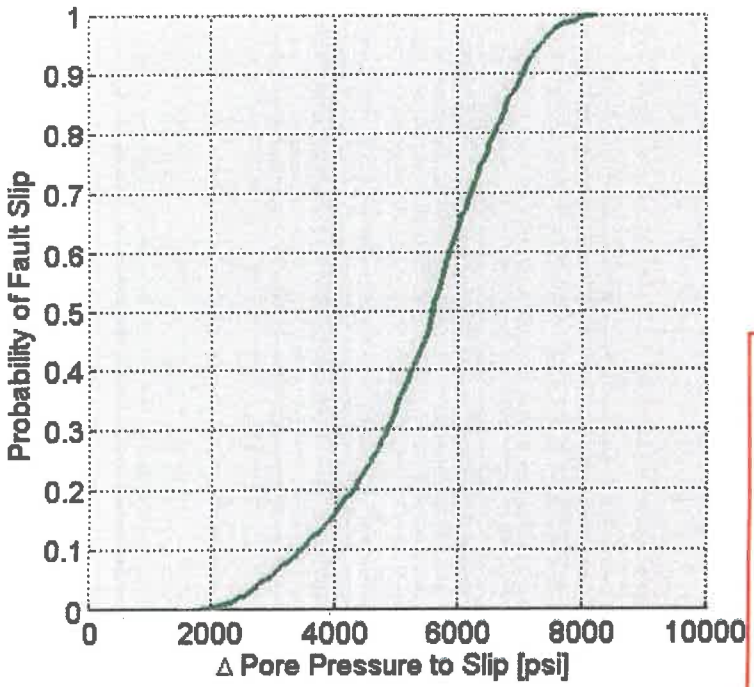
MODEL INPUTS | GEOMECHANICS | PROB. GEOM... | HYDROLOGY | PROB. HYDRO | INTEGRATED

Fault Selector:

All Faults
Fault #1
Fault #2
Fault #3
Fault #4
Fault #5
Fault #6
Fault #7
Fault #8
Fault #9

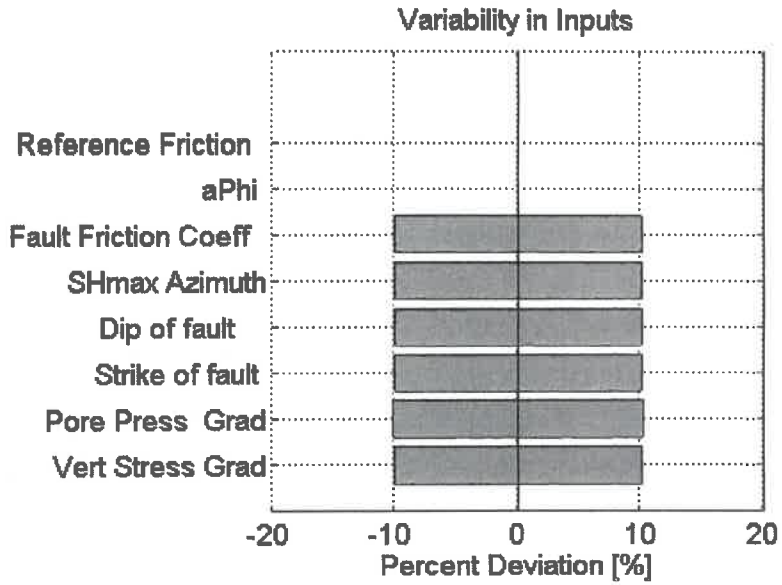
Calculate

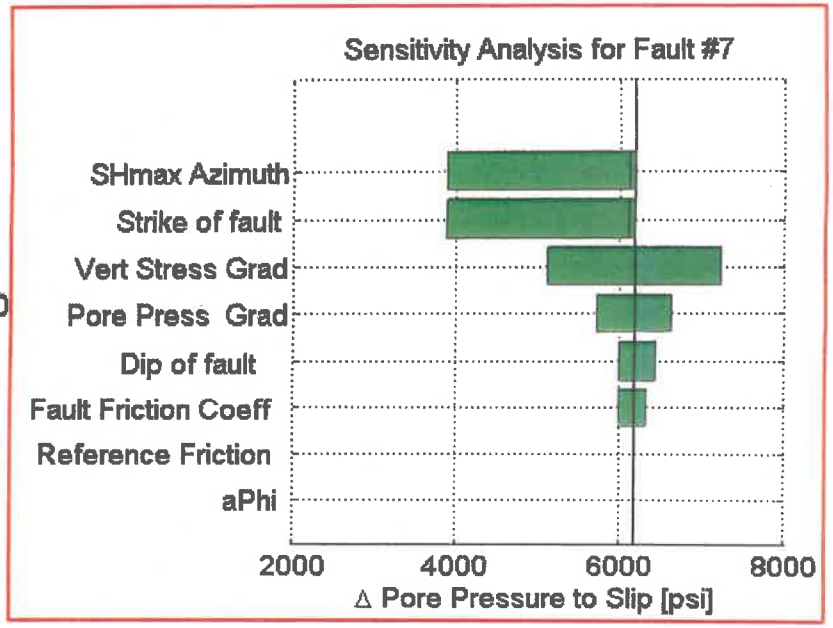
Load Distributions | Run Analysis



Max Delta PP [psi]: 10000

Export CDF data | Show Input Distributions





Exh. No. 14

Fault Slip Potential

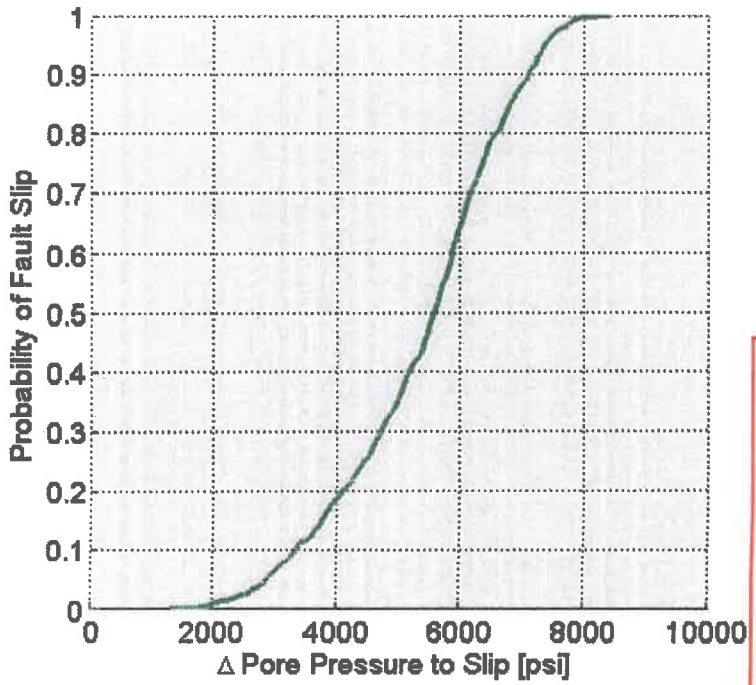
MODEL INPUTS | GEOMECHANICS | PROB. GEOM... | HYDROLOGY | PROB. HYDRO | INTEGRATED

Fault Selector:

All Faults
Fault #1
Fault #2
Fault #3
Fault #4
Fault #5
Fault #6
Fault #7
Fault #8
Fault #9

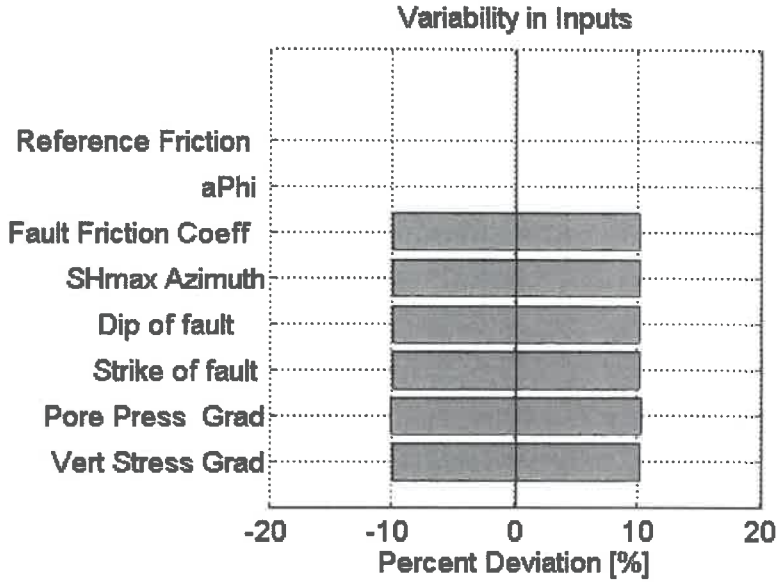
Calculate

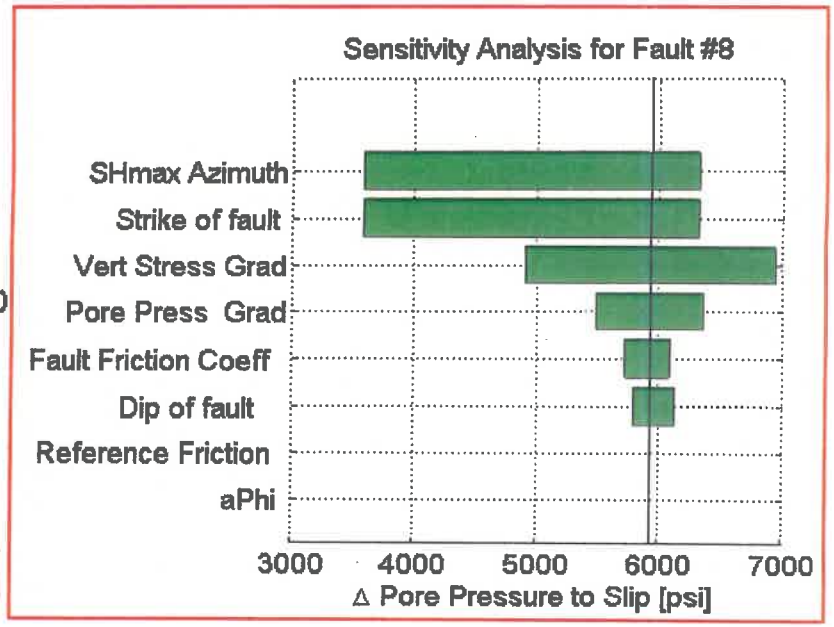
Load Distributions | Run Analysis



Max Delta PP [psi]: 10000

Export CDF data | Show Input Distributions





Exh. No. 15

Fault Slip Potential

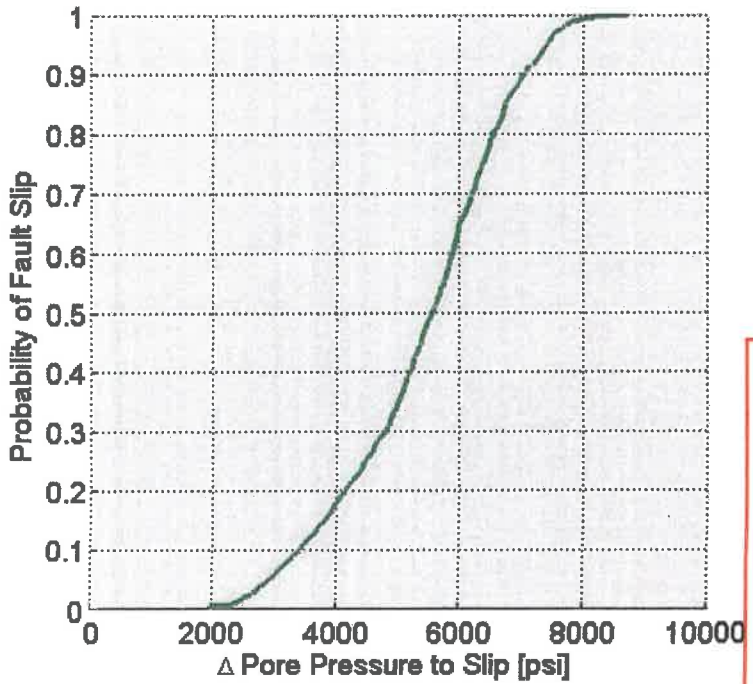
MODEL INPUTS | GEOMECHANICS | PROB. GEOM... | HYDROLOGY | PROB. HYDRO | INTEGRATED

Fault Selector:

All Faults
Fault #1
Fault #2
Fault #3
Fault #4
Fault #5
Fault #6
Fault #7
Fault #8
Fault #9

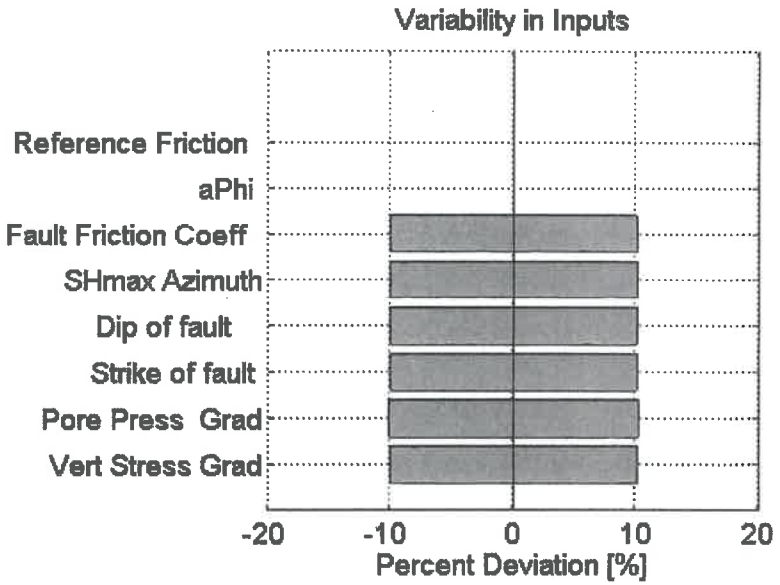
Calculate

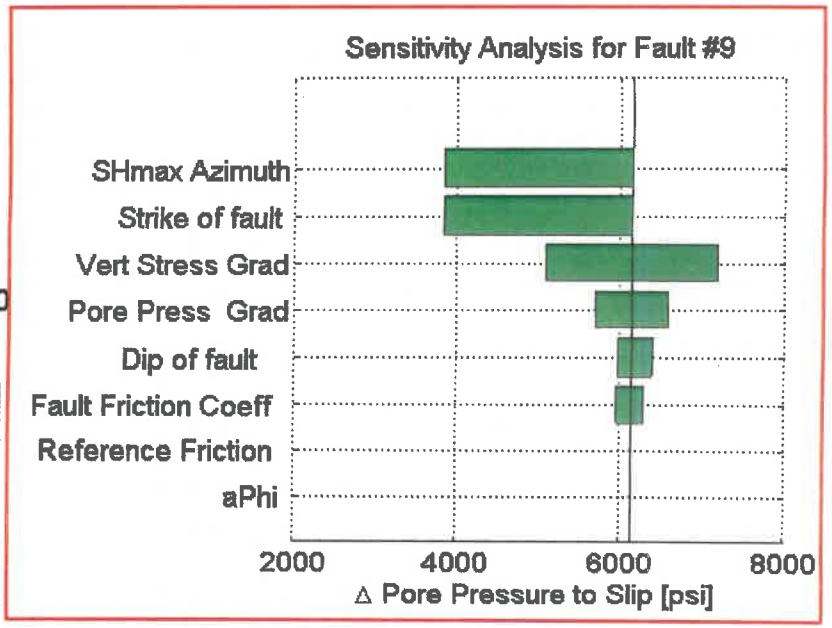
Load Distributions | Run Analysis



Max Delta PP [psi]: 10000

Export CDF data | Show Input Distributions





Exh. No. 16

Fault Slip Potential

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

Export

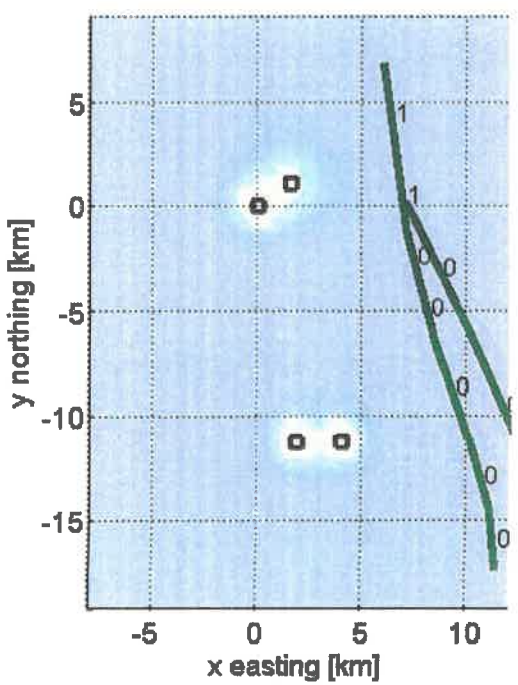
Fault Selector:

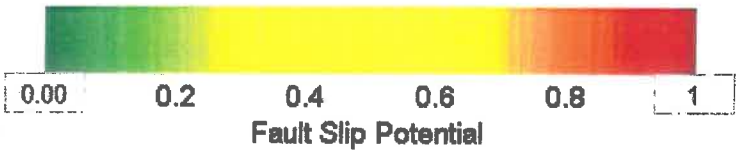
All Faults
Fault #1, 0.00 FSP
Fault #2, 0.00 FSP
Fault #3, 0.00 FSP
Fault #4, 0.00 FSP
Fault #5, 0.00 FSP
Fault #6, 0.00 FSP
Fault #7, 0.00 FSP
Fault #8, 0.00 FSP
Fault #9, 0.00 FSP

Calculate

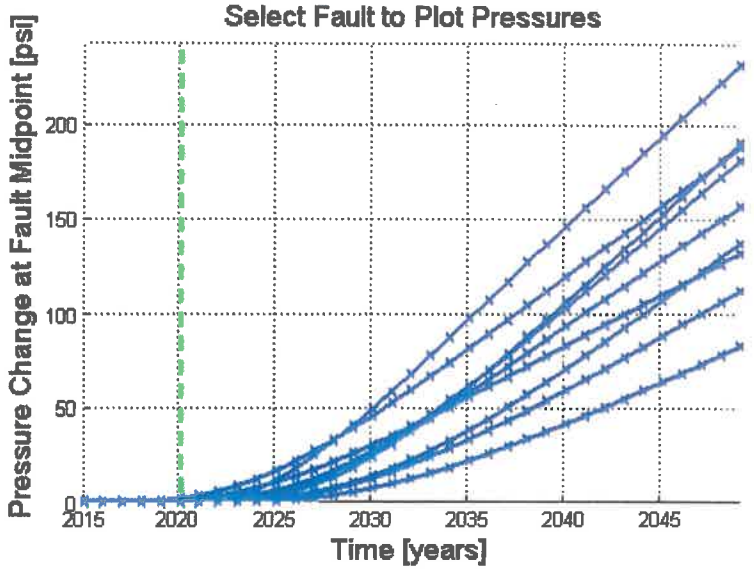
b) PP Change at fault [psi]

Summary Plots

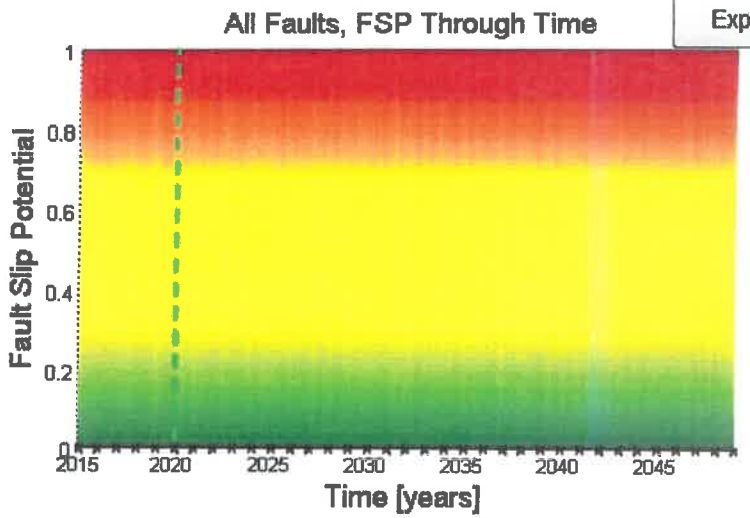




Year: 2020



Export



Exh. No. 17

Fault Slip Potential

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

Fault Selector:

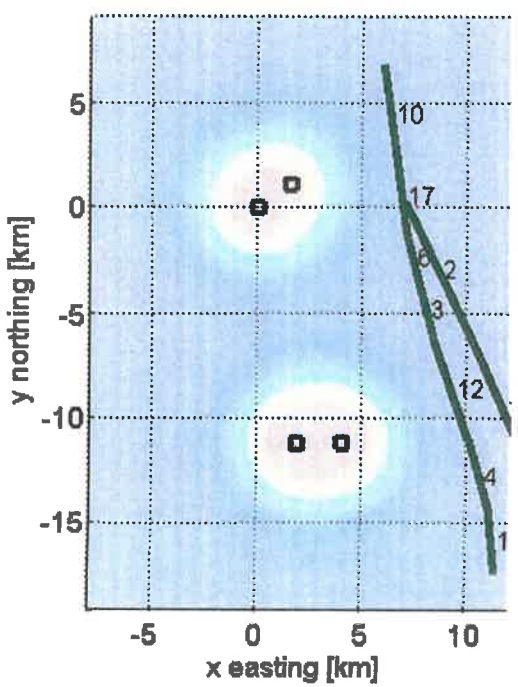
All Faults
Fault #1, 0.00 FSP
Fault #2, 0.00 FSP
Fault #3, 0.00 FSP
Fault #4, 0.00 FSP
Fault #5, 0.00 FSP
Fault #6, 0.00 FSP
Fault #7, 0.00 FSP
Fault #8, 0.00 FSP
Fault #9, 0.00 FSP

Calculate

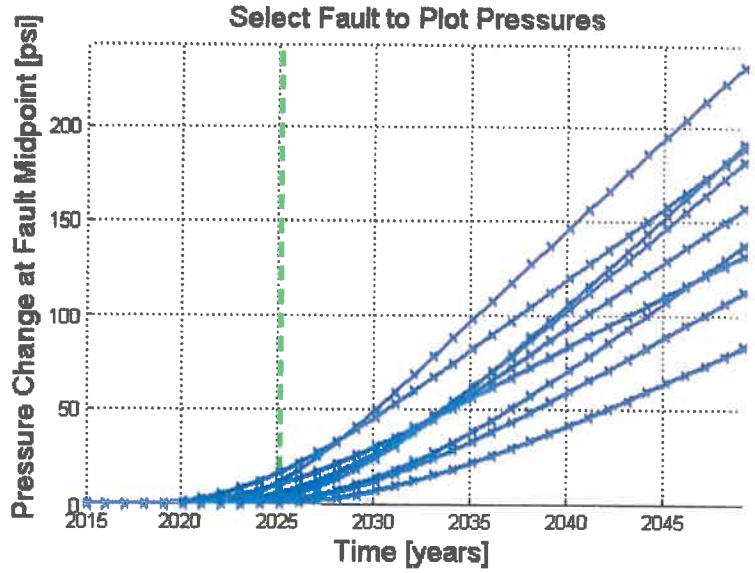
b) PP Change at fault [psi]

Summary Plots

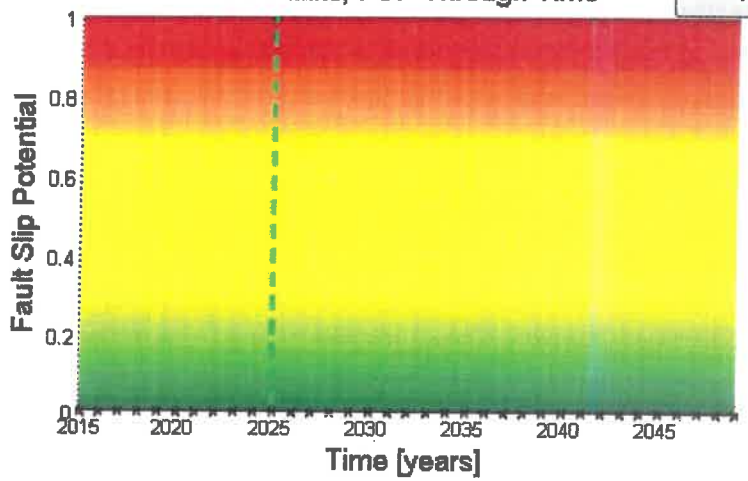
Export



Year: 2025



Export



Exh. No. 18

Fault Slip Potential

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

Fault Selector:

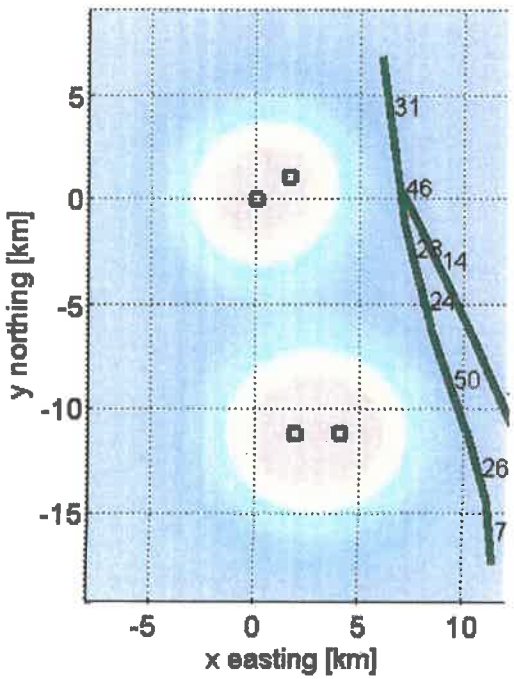
All Faults
Fault #1, 0.00 FSP
Fault #2, 0.00 FSP
Fault #3, 0.00 FSP
Fault #4, 0.00 FSP
Fault #5, 0.00 FSP
Fault #6, 0.00 FSP
Fault #7, 0.00 FSP
Fault #8, 0.00 FSP
Fault #9, 0.00 FSP

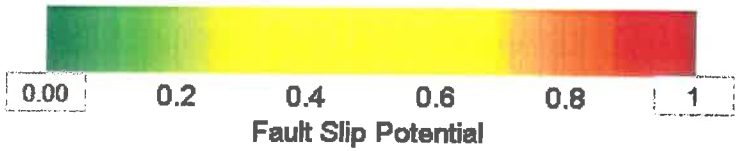
Calculate

Export

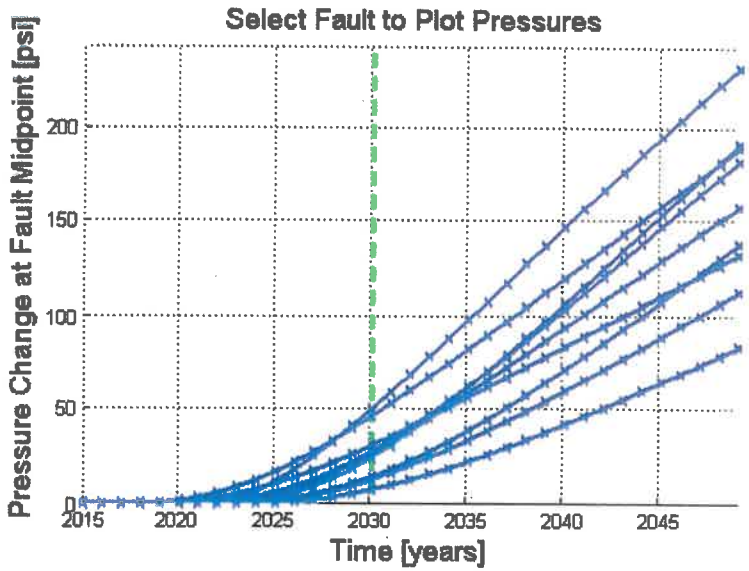
b) PP Change at fault [psi]

Summary Plots





Year: 2030



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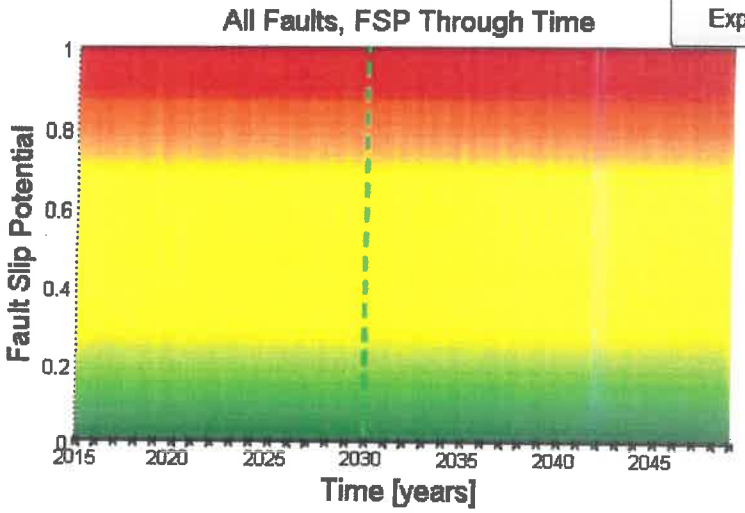


Exh. No. 19

Fault Slip Potential

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

Export

Fault Selector:

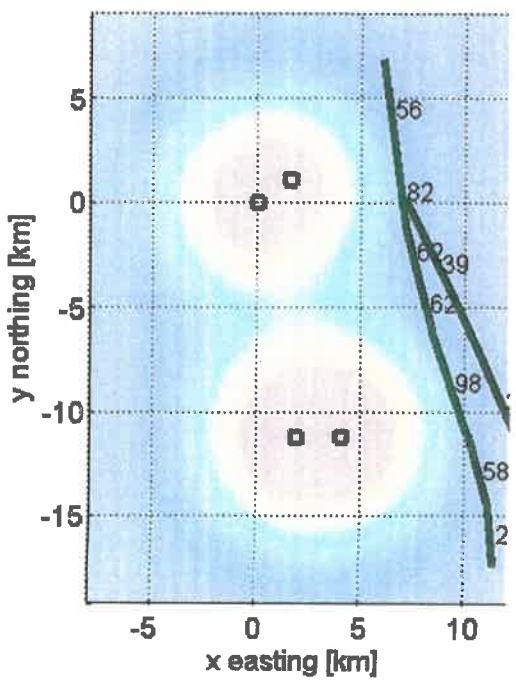
All Faults

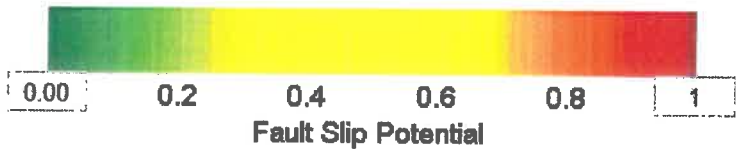
Fault #1, 0.00 FSP
Fault #2, 0.00 FSP
Fault #3, 0.00 FSP
Fault #4, 0.00 FSP
Fault #5, 0.00 FSP
Fault #6, 0.00 FSP
Fault #7, 0.00 FSP
Fault #8, 0.00 FSP
Fault #9, 0.00 FSP

Calculate

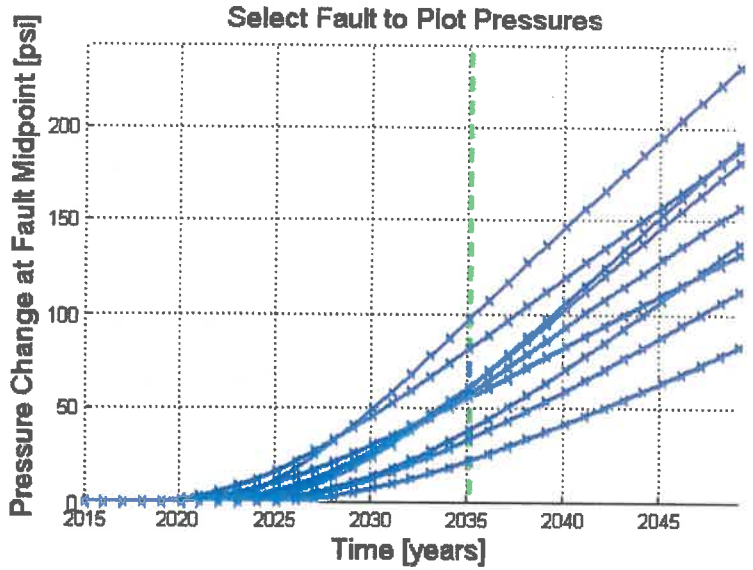
b) PP Change at fault [psi]

Summary Plots





Year: 2035



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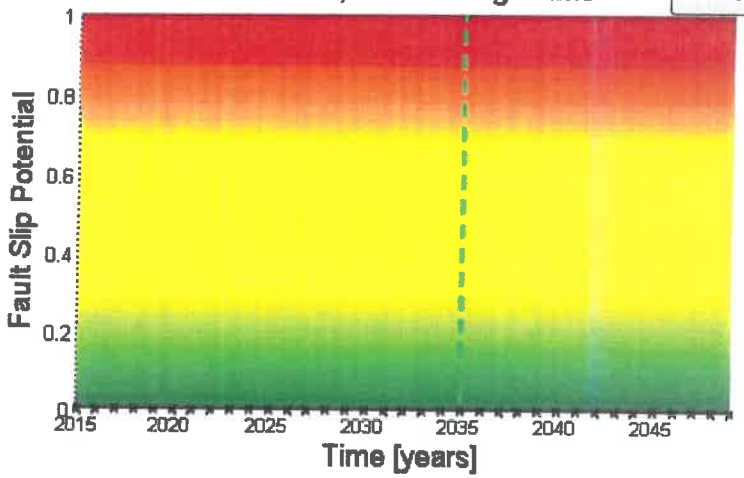


Exh. No. 20

Fault Slip Potential

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

Fault Selector:

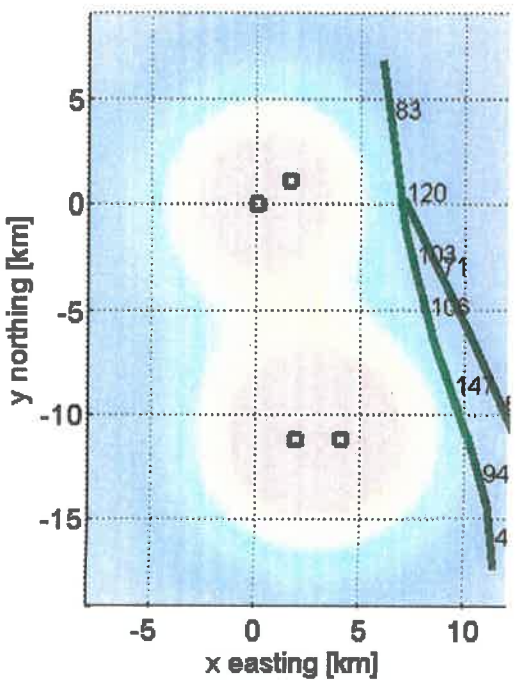
All Faults
Fault #1 0.00 FSP
Fault #2 0.00 FSP
Fault #3 0.00 FSP
Fault #4 0.00 FSP
Fault #5 0.00 FSP
Fault #6 0.00 FSP
Fault #7 0.00 FSP
Fault #8 0.00 FSP
Fault #9 0.00 FSP

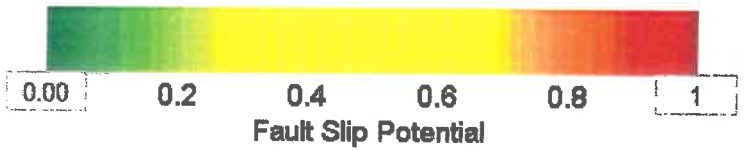
Calculate

Export

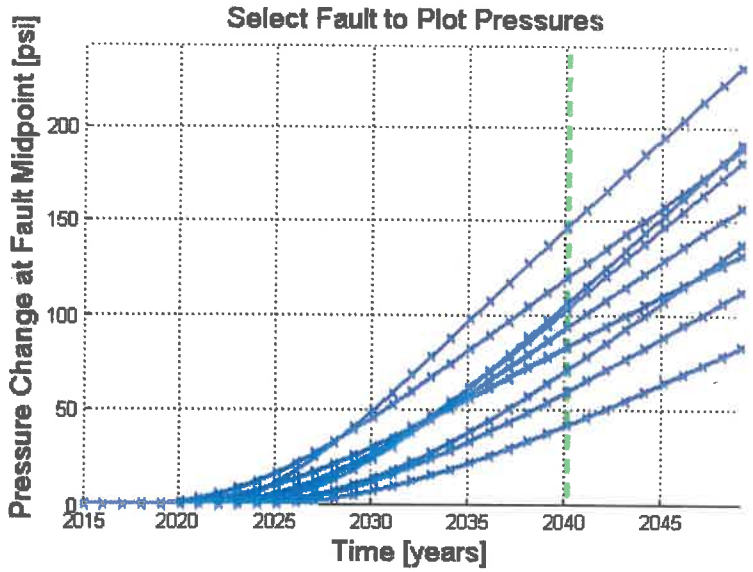
b) PP Change at fault [psi]

Summary Plots





Year: 2040



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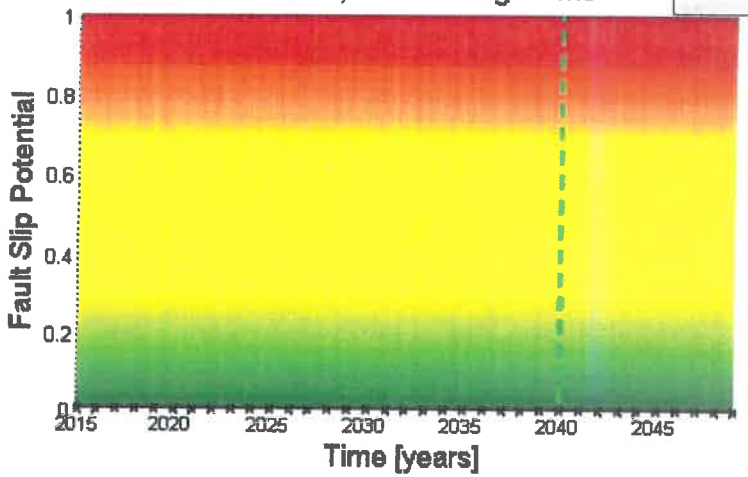


Exh. No. 21

Fault Slip Potential

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

Export

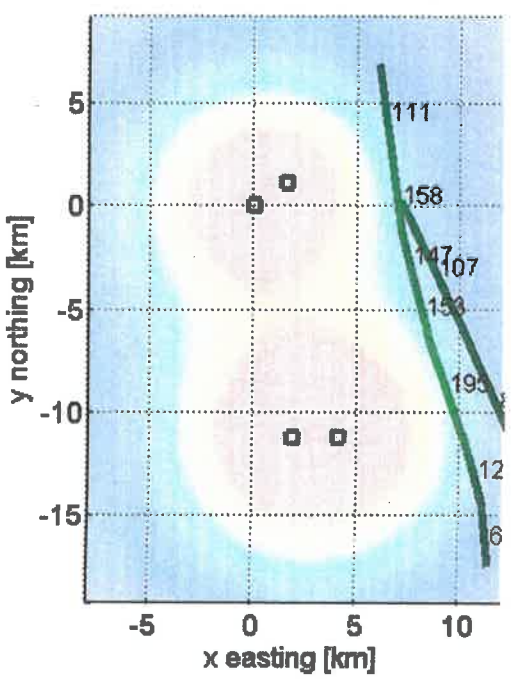
Fault Selector:

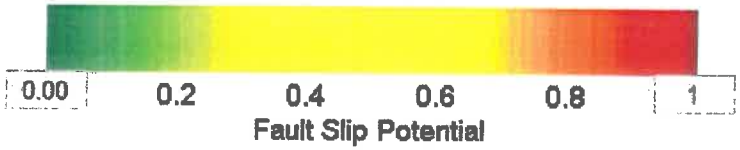
All Faults
Fault #1, 0.00 FSP
Fault #2, 0.00 FSP
Fault #3, 0.00 FSP
Fault #4, 0.00 FSP
Fault #5, 0.00 FSP
Fault #6, 0.00 FSP
Fault #7, 0.00 FSP
Fault #8, 0.00 FSP
Fault #9, 0.00 FSP

Calculate

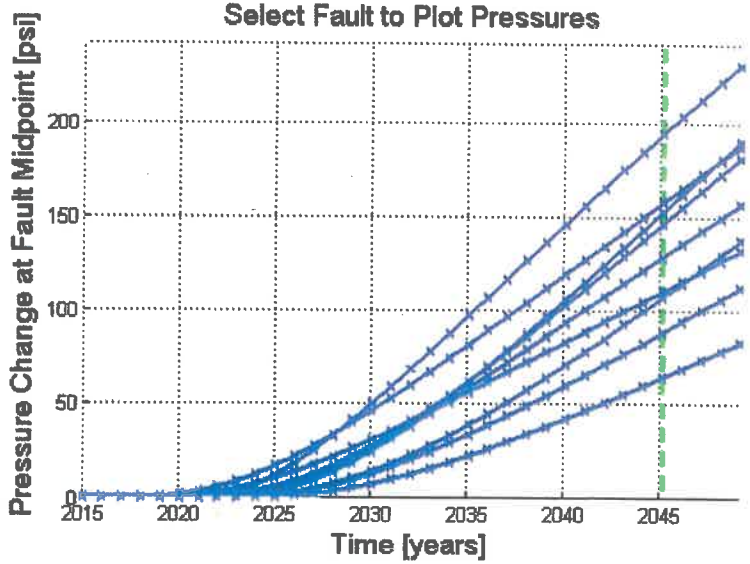
b) PP Change at fault [psi]

Summary Plots





Year: 2045



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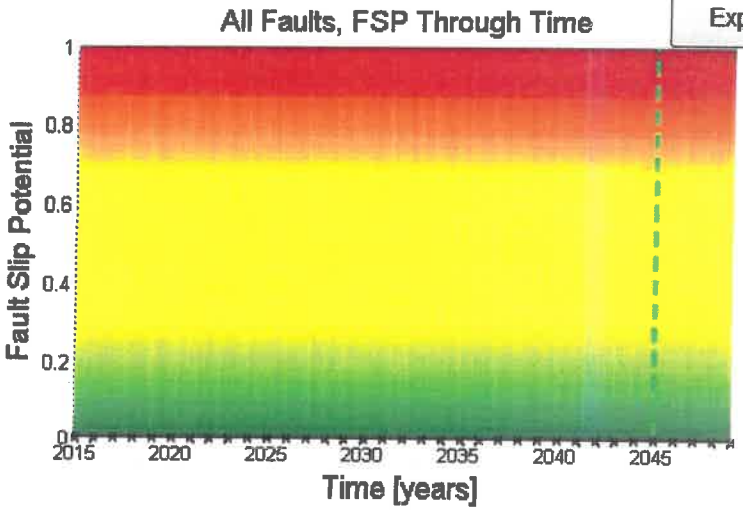


Exh. No. 22

Fault Slip Potential

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

Export

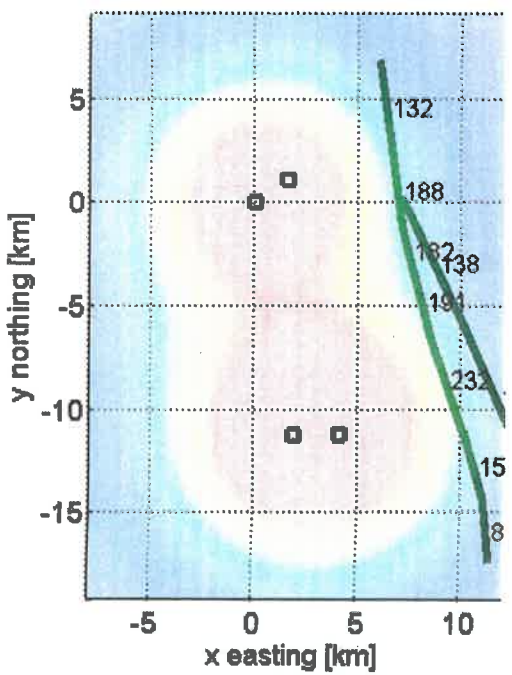
Fault Selector:

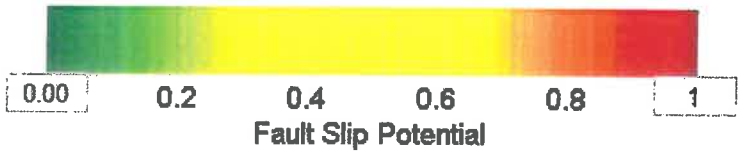
All Faults
Fault #1, 0.00 FSP
Fault #2, 0.00 FSP
Fault #3, 0.00 FSP
Fault #4, 0.00 FSP
Fault #5, 0.00 FSP
Fault #6, 0.00 FSP
Fault #7, 0.00 FSP
Fault #8, 0.00 FSP
Fault #9, 0.00 FSP

Calculate

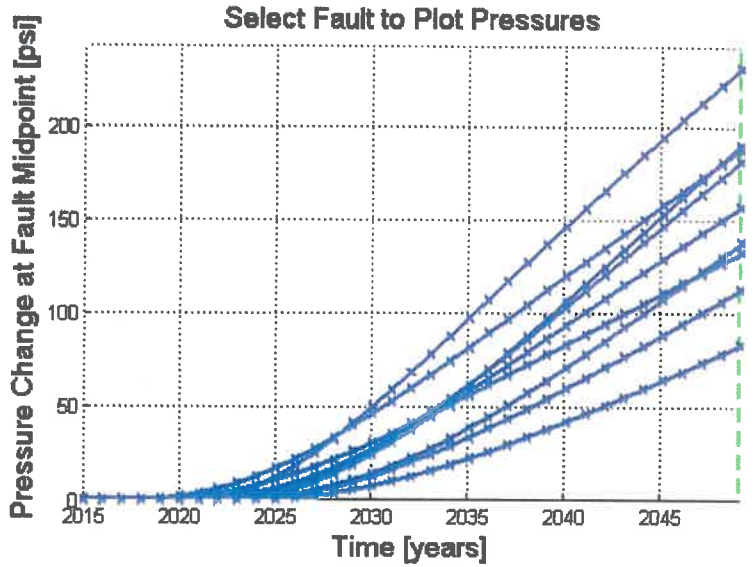
b) PP Change at fault [psi]

Summary Plots





Year: 2049



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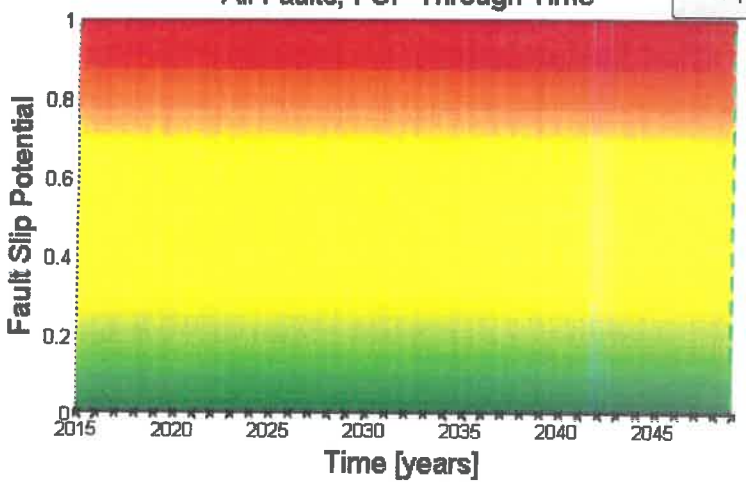

DECLARATION OF STEVEN NAVE

I, Steven Nave, declare under penalty of perjury under the law of New Mexico that the following is true and correct to the best of my knowledge and belief.

1. I am over eighteen (18) years of age and am otherwise competent to make this declaration.

2. I am the president of Nave Oil and Gas, which is a fishing tool company that performs fishing operations in several areas, including the area of Southeastern, New Mexico.

3. I worked as a fisherman for Star Tool Company, a fishing tool company, from 1980 until 2001. I later became a partner in Star Tool Company until that company was sold. I then later started my own company, Nave Oil and Gas, which also performs fishing operations. Over the years, I have developed expertise in fishing operations and I have performed fishing operations on Devonian salt water disposal wells located within Southeastern, New Mexico.

4. I am familiar with tubing and casing design requested by NGL Water Solutions Permian, LLC which consists of using tapered string tubing that is 7" x 5 1/2".

5. I have been informed that NGL's wells will be isolated to the Devonian and Silurian formations and will have four strings of casing protecting the fresh water, the salt interval, the Permian aged rocks through the Wolfcamp formation, and the depths to the top of the Devonian. There is a liner, and the deepest casing is 7 5/8", which will be cemented and cement will be circulated.

6. Based on my experience as a fisherman, it is my opinion that there is sufficient clearance between the 7 5/8" 39 pounds per foot or less casing and the proposed 5 ½" tubing to

perform fishing operations. My company regularly performs fishing operations in situations involving similar dimensions and clearances.

7. Fishing can be performed through different methods when 7 5/8" 39 pounds per foot or less casing and the proposed 5 ½" tubing is utilized; such as through the use of overshot tools, spear fishing tools, and (if needed) cutting tools.

8. The use of 7 5/8" 39 pounds per foot or less casing and the proposed 5 ½" tubing will actually allow for the use of a wider variety of fishing tools that cannot typically be used within salt water disposal wells equipped with smaller tubing and casing sizes. This is because there is more room to run tools through the inside of the tubing. Additionally, it is my opinion that it is easier to perform fishing operations when 5 ½" tubing is used.

9. Recently, I supervised a fishing job which involved a horizontal Wolfcamp well which was equipped with casing with a diameter of 7 5/8" 39 pounds per foot or less and casing with a diameter of 5 ½". In that situation, my company was able to mill off the collar and use overshot tools to latch on to the piping that needed to be fished out of the well.

10. In my opinion, fishing operations could be successfully performed even at deeper depths for Devonian disposal wells provided that a sufficient rig is obtained for the operation.

[Signature Page Follows.]

Steven Nave

Stephan Nave

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. 16505

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

CASE NO. 16509

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 Applications were provided under a notice letter and that proof of receipt is attached hereto.

Deana M. Bennett

SUBSCRIBED AND SWORN to before me this 31 day of October, 2018 by Deana M. Bennett.

OFFICIAL SEAL
Karlene Schuman
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires: 02/27/2021

Notary Public

My commission expires: _____

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

PS Form 3877

Type of Mailing: CERTIFIED
10/11/2018

Galaxy

Firm Mailing Book ID: 153271

Line	Article Number	Name, Street & P.O. Address	Postage	Fee	R.R.Fee	Reference	Rest.Del.Fee Contents
1	9314 8699 0430 0051 6578 75	Oil Conservation Division District IV 1220 South St. Francis Drive Santa Fe NM 87505	$1.63	$3.45	$1.50	87806-0003	$0.00 Notice
2	9314 8699 0430 0051 6578 82	Oil Conservation Division District I - Hobbs 1625 N. French Drive Hobbs NM 88240	$1.63	$3.45	$1.50	87806-0003	$0.00 Notice
3	9314 8699 0430 0051 6578 99	NGL WATER SOLUTIONS PERMIAN, LLC 1509 W Wall St., Ste. 306 Midland TX 79701	$1.63	$3.45	$1.50	87806-0003	$0.00 Notice
4	9314 8699 0430 0051 6579 05	New Mexico State Land Office P.O. Box 1148 Santa Fe NM 87504	$1.63	$3.45	$1.50	87806-0003	$0.00 Notice
5	9314 8699 0430 0051 6579 12	BUREAU OF LAND MGMT 301 Dinosaur Trail Santa Fe NM 87508	$1.63	$3.45	$1.50	87806-0003	$0.00 Notice
6	9314 8699 0430 0051 6579 29	IMPETRO OPERATING LLC 300 E. Sonterra Blvd. Suite 1220 San Antonio TX 78258	$1.63	$3.45	$1.50	87806-0003	$0.00 Notice
7	9314 8699 0430 0051 6579 36	CHANCE PROPERTIES COMPANY 1008 West Broadway Hobbs NM 88240	$1.63	$3.45	$1.50	87806-0003	$0.00 Notice
8	9314 8699 0430 0051 6579 43	FULFER OIL & CATTLE LLC P.O. Box 1224 Jal NM 88252	$1.63	$3.45	$1.50	87806-0003	$0.00 Notice
9	9314 8699 0430 0051 6579 50	AMEREDEV OPERATING, LLC 5707 Southwest Parkway, Bld 1, Suite 275 Austin TX 78735	$1.63	$3.45	$1.50	87806-0003	$0.00 Notice
10	9314 8699 0430 0051 6579 67	EOG RESOURCES INC 333 Clay St. #4200 Houston TX 77002	$1.63	$3.45	$1.50	87806-0003	$0.00 Notice
11	9314 8699 0430 0051 6579 74	ONEENERGY PARTNERS OPERATING, LLC 2929 Allen Parkway, Suite 200 Houston TX 77019	$1.63	$3.45	$1.50	87806-0003	$0.00 Notice
		Totals:	**$17.93**	**$37.95**	**$16.50**		**$0.00**
						Grand Total:	**$72.38**

List Number of Pieces Listed by Sender	Total Number of Pieces Received at Post Office	Postmaster: Name of receiving employee	Dated:
11			

Transaction Report Details - CertifiedPro.net
Firm Mail Book ID= 153271
Generated: 10/30/2018 10:24:20 AM

Certified Mail Article Number	Date Created	Name 1	Address	City	State	Zip	Certified Mailing Status	Service Options	Mail Delivery Date
9314869904300051657974	2018-10-11 1:21 PM	ONEENERGY PARTNERS OPERATING, LLC	2929 Allen Parkway, Suite 200	Houston	TX	77019	Delivered	Return Receipt - Electronic	10-16-2018
9314869904300051657967	2018-10-11 1:21 PM	EOG RESOURCES INC	333 Clay St. #4200	Houston	TX	77002	Delivered	Return Receipt - Electronic	10-16-2018
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9314869904300051657943	2018-10-11 1:21 PM	FULFER OIL & CATTLE LLC	P.O. Box 1224	Jal	NM	88252	Delivered	Return Receipt - Electronic	10-16-2018
9314869904300051657936	2018-10-11 1:21 PM	CHANCE PROPERTIES COMPANY	1008 West Broadway	Hobbs	NM	88240	Delivered	Return Receipt - Electronic	10-15-2018
9314869904300051657929	2018-10-11 1:21 PM	IMPETRO OPERATING LLC	300 E. Sonterra Blvd. Suite 1220	San Antonio	TX	78258	Delivered	Return Receipt - Electronic	10-17-2018
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9314869904300051657905	2018-10-11 1:21 PM	New Mexico State Land Office	P.O. Box 1148	Santa Fe	NM	87504	Delivered	Return Receipt - Electronic	10-15-2018
9314869904300051657899	2018-10-11 1:21 PM	NGL WATER SOLUTIONS PERMIAN, LLC	1509 W Wall St., Ste. 306	Midland	TX	79701	Delivered	Return Receipt - Electronic	10-15-2018
9314869904300051657882	2018-10-11 1:21 PM	Oil Conservation Division District I - Hobbs	1625 N. French Drive	Hobbs	NM	88240	Delivered	Return Receipt - Electronic	10-15-2018
9314869904300051657875	2018-10-11 1:21 PM	Oil Conservation Division District IV	1220 South St. Francis Drive	Santa Fe	NM	87505	Delivered	Return Receipt - Electronic	10-15-2018

Transaction Details

Recipient:
AMEREDEV OPERATING, LLC
5707 Southwest Parkway, Bld 1, Suite 275
Austin, TX 78735

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

Transaction created by: Karlenes
User ID: 20660
Firm Mailing Book ID: 153271
Batch ID: 147364

Certified Mail Article Number:	9314699043000051857950
Return Receipt Article Number:	
Service Options:	Return Receipt - Electronic
Mail Service:	Certified
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Fees:	$4.95
Status:	Undelivered
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Custom Field 2:	87306-0003
Custom Field 3:	87306-0003

Transaction History

Event Description	Event Date	Details
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USPS® Certified Mail	10-11-2018 05:12 PM	[USPS] - PRESHIPMENT INFO SENT. USPS AWAITS ITEM at TEMECULA,CA
USPS® Certified Mail	10-11-2018 10:12 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at ALBUQUERQUE,NM
USPS® Certified Mail	10-12-2018 07:38 AM	[USPS] - DEPART USPS FACILITY at ALBUQUERQUE,NM
USPS® Certified Mail	10-13-2018 05:48 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at AUSTIN,TX
USPS® Certified Mail	10-14-2018 04:01 AM	[USPS] - PROCESSED THROUGH USPS FACILITY at AUSTIN,TX

Transaction Details

Recipient:
BUREAU OF LAND MGMT
301 Dinosaur Trail
Santa Fe, NM 87508

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

Transaction created by: Karlenes
User ID: 20660
Firm Mailing Book ID: 153271
Batch ID: 147364

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Return Receipt Article Number:

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Mail Service: Certified
Reference #: 87606-0003
Postage: $1.63
Fees: $4.95
Status: Undelivered
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Custom Field 2: 87606-0003
Custom Field 3: 87606-0003

Transaction History

Event Description	Event Date	Details
Mailbook Generated	10-11-2018 01:27 PM	[WALZ] - Firm Mailing Book 153271 generated by Karlenes
USPS® Certified Mail	10-11-2018 05:12 PM	[USPS] - PRESHIPMENT INFO SENT. USPS AWAITS ITEM AT ALBUQUERQUE,NM
USPS® Certified Mail	10-11-2018 10:12 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at ALBUQUERQUE,NM
USPS® Certified Mail	10-12-2018 07:38 AM	[USPS] - DEPART USPS FACILITY at ALBUQUERQUE,NM
USPS® Certified Mail	10-12-2018 09:40 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at ALBUQUERQUE,NM

Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

I, Todd Bailey, Editor 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
October 19, 2018
and ending with the issue dated
October 19, 2018.

Editor

Sworn and subscribed to before me this
19th day of October 2018.

Business Manager

My commission expires
January 29, 2019
(Seal)

OFFICIAL SEAL
GUSSIE BLACK
Notary Public
State of New Mexico
My Commission Expires 1-29-19

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 NOTICE
OCTOBER 19, 2018

Case No. 18505: Notice to all affected parties, as well as the heirs and devisees of NEW MEXICO STATE LAND OFFICE; BUREAU OF LAND MGMT; IMPETRO OPERATING LLC; CHANCE PROPERTIES COMPANY; FULFER OIL & CATTLE LLC; AMEREDEV OPERATING, LLC; EOG RESOURCES INC; AND ONEENERGY PARTNERS OPERATING, LLC: NGL Water Solutions Permian, LLC, 1509 W. Wall Street, Suite 306, Midland, Texas 79701 is filing an 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 November 1, 2018, to consider this application. In this application, NGL seeks an order approving disposal into the Silurian-Devonian formation through the Galaxy SWD #1 well at a surface location 345 feet from the North line and 336 feet from the East line of Section 29, Township 26 South, Range 36 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 18,743' – 20,088'. 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 area is located approximately 5 miles southwest of Bennett, NM.
#33345

01104570 00219567

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

Raptor

Zina Crum
Modrall Sperling
500 4th Street NW
Suite 1000
Albuquerque NM 87102

PS Form 3877

Type of Mailing: CERTIFIED
10/12/2018

Firm Mailing Book ID: 153330

Line	Article Number	Name, Street & P.O. Address	Postage	Fee	R.R.Fee	Reference	Rest.Del.Fee Contents
1	9314 8699 0430 0051 6881 69	NEW MEXICO STATE LAND OFFICE P.O. Box 1148 Santa Fe NM 87504	$1.63	$3.45	$1.50	87806-0003	$0.00 Notice
2	9314 8699 0430 0051 6881 76	BUREAU OF LAND MGMT 301 Dinosaur Trail Santa Fe NM 87508	$1.63	$3.45	$1.50	87806-0003	$0.00 Notice
3	9314 8699 0430 0051 6881 83	NEW MEXICO STATE LAND OFFICE P.O. Box 1148 Santa Fe NM 87504	$1.63	$3.45	$1.50	87806-0003	$0.00 Notice
4	9314 8699 0430 0051 6881 90	BUREAU OF LAND MGMT 301 Dinosaur Trail Santa Fe NM 87508	$1.63	$3.45	$1.50	87806-0003	$0.00 Notice
5	9314 8699 0430 0051 6882 06	Amerdev Operating, LLC 5707 Southwest Pkwy, Bldg 1, #275 Austin TX 78735	$1.63	$3.45	$1.50	87806-0003	$0.00 Notice
6	9314 8699 0430 0051 6882 13	Fulfer Oil & Cattle, LLC P.O. Box 1224 Jal NM 88252	$1.63	$3.45	$1.50	87806-0003	$0.00 Notice
7	9314 8699 0430 0051 6882 20	Impetro Operating, LLC 300 E. Sonterra Blvd. #1220 San Antonio TX 78258	$1.63	$3.45	$1.50	87806-0003	$0.00 Notice
		Totals:	**$11.41**	**$24.15**	**$10.50**		**$0.00**
						Grand Total:	**$46.06**

List Number of Pieces Listed by Sender	Total Number of Pieces Received at Post Office	Postmaster: Name of receiving employee	Dated:
7			

Transaction Report Details - CertifiedPro.net
Firm Mail Book ID= 153330
Generated: 10/30/2018 10:11:52 AM

Certified Mail Article Number	Date Created	Name 1	Address	City	State	Zip	Certified Mailing Status	S
93148699043000516882220	2018-10-12 8:54 AM	Impetro Operating, LLC	300 E. Sonterra Blvd. #1220	San Antonio	TX	78258	Delivered	Return F
93148699043000516882213	2018-10-12 8:54 AM	Fulfer Oil & Cattle, LLC	P.O. Box 1224	Jal	NM	88252	Delivered	Return F
93148699043000516882206	2018-10-12 8:54 AM	Amerdev Operating, LLC	5707 Southwest Pkwy, Bldg 1, #275	Austin	TX	78735	Undelivered	Return F
93148699043000516882190	2018-10-12 8:54 AM	BUREAU OF LAND MGMT	301 Dinosaur Trail	Santa Fe	NM	87508	Undelivered	Return R
93148699043000516882183	2018-10-12 8:54 AM	NEW MEXICO STATE LAND OFFICE	P.O. Box 1148	Santa Fe	NM	87504	Delivered	Return R
93148699043000516882176	2018-10-12 8:54 AM	BUREAU OF LAND MGMT	301 Dinosaur Trail	Santa Fe	NM	87508	Undelivered	Return R
93148699043000516882169	2018-10-12 8:54 AM	NEW MEXICO STATE LAND OFFICE	P.O. Box 1148	Santa Fe	NM	87504	Delivered	Return R

Transaction Details

Recipient:
Amerdev Operating, LLC
5707 Southwest Pkwy, Bldg 1, #275
Austin, TX 78735

Sender:
Zina Crum
Modrall Sperling
500 4th Street NW
Suite 1000
Albuquerque, NM 87102

Transaction created by: zinacrum
User ID: 20112
Firm Mailing Book ID: 153330
Batch ID: 147461

Certified Mail Article Number:	93148699043000516882O6
Return Receipt Article Number:	
Service Options:	Return Receipt - Electronic
Mail Service:	Certified
Reference #:	87806-0003
Postage:	$1.63
Fees:	$4.95
Status:	Undelivered
Custom Field 1:	87806-0003
Custom Field 2:	87806-0003
Custom Field 3:	Raptor

Transaction History

Event Description	Event Date	Details
Mailbook Generated	10-12-2018 08:55 AM	[WALZ] - Firm Mailing Book 153330 generated by zinacrum
USPS® Certified Mail	10-12-2018 01:13 PM	[USPS] - PRESHIPMENT INFO SENT USPS AWAITS ITEM at TEMECULA,CA
USPS® Certified Mail	10-12-2018 11:41 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at ALBUQUERQUE,NM
USPS® Certified Mail	10-13-2018 03:06 AM	[USPS] - DEPART USPS FACILITY at ALBUQUERQUE,NM
USPS® Certified Mail	10-14-2018 02:24 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at AUSTIN,TX
USPS® Certified Mail	10-15-2018 12:40 AM	[USPS] - PROCESSED THROUGH USPS FACILITY at AUSTIN,TX
USPS® Certified Mail	10-15-2018 08:42 PM	[USPS] - DEPART USPS FACILITY at AUSTIN,TX

Transaction Details

Recipient:
BUREAU OF LAND MGMT
301 Dinosaur Trail
Santa Fe, NM 87508

Sender:
Zina Crum
Modrall Sperling
500 4th Street NW
Suite 1000
Albuquerque, NM 87102

Transaction created by: zinacrum
User ID: 20112
Firm Mailing Book ID: 153330
Batch ID: 147461

Certified Mail Article Number:	93148699043000516881 90
Return Receipt Article Number:	
Service Options:	Return Receipt - Electronic
Mail Service:	Certified
Reference #:	87806-0003
Postage:	$1.63
Fees:	$4.95
Status:	Undelivered
Custom Field 1:	87806-0003
Custom Field 2:	87806-0003
Custom Field 3:	Raptor

Transaction History

Event Description	Event Date	Details
Mailbook Generated	10-12-2018 08:55 AM	[WALZ] - Firm Mailing Book 153330 generated by zinacrum
USPS® Certified Mail	10-12-2018 01:13 PM	[USPS] - PRESHIPMENT INFO SENT USPS AWAITS ITEM at TEMECULA,CA
USPS® Certified Mail	10-12-2018 11:41 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at ALBUQUERQUE,NM
USPS® Certified Mail	10-13-2018 03:06 AM	[USPS] - DEPART USPS FACILITY at ALBUQUERQUE,NM
USPS® Certified Mail	10-13-2018 06:49 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at ALBUQUERQUE,NM

Transaction Details

Recipient:
BUREAU OF LAND MGMT
301 Dinosaur Trail
Santa Fe, NM 87508

Sender:
Zina Crum
Modrall Sperling
500 4th Street NW
Suite 1000
Albuquerque, NM 87102

Transaction created by: zinacrum
User ID: 20112
Firm Mailing Book ID: 153330
Batch ID: 147461

Certified Mail Article Number:	93148699043000516881 76
Return Receipt Article Number:	
Service Options:	Return Receipt - Electronic
Mail Service:	Certified
Reference #:	87806-0003
Postage:	$1.63
Fees:	$4.95
Status:	Undelivered
Custom Field 1:	87806-0003
Custom Field 2:	87806-0003
Custom Field 3:	JackTank

Transaction History

Event Description	Event Date	Details
Mailbook Generated	10-12-2018 08:55 AM	[WALZ] - Firm Mailing Book 153330 generated by zinacrum
USPS® Certified Mail	10-12-2018 01:13 PM	[USPS] - PRESHIPMENT INFO SENT USPS AWAITS ITEM at TEMECULA,CA
USPS® Certified Mail	10-12-2018 11:41 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at ALBUQUERQUE,NM
USPS® Certified Mail	10-13-2018 03:06 AM	[USPS] - DEPART USPS FACILITY at ALBUQUERQUE,NM
USPS® Certified Mail	10-13-2018 06:49 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at ALBUQUERQUE,NM

Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

I, Todd Bailey, Editor 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
October 19, 2018
and ending with the issue dated
October 19, 2018.

Editor

Sworn and subscribed to before me this
19th day of October 2018.

Business Manager

My commission expires
January 29, 2019
(Seal)

OFFICIAL SEAL
GUSSIE BLACK
Notary Public
State of New Mexico
My Commission Expires 1-29-19

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 NOTICE
OCTOBER 19, 2018

Case No. 16509: Notice to all affected parties, including AMEREDEV OPERATING, LLC; FULFER OIL & CATTLE LLC; IMPETRO OPERATING LLC; AMEREDEV NEW MEXICO, LLC; THE NEW MEXICO STATE LAND OFFICE; and the BUREAU OF LAND MGMT. NGL Water Solutions Permian, LLC 1509 W. Wall Street, Suite 306, Midland, Texas 79701 is filing an 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 November 1, 2018 to consider this application. In this application, Applicant seeks an order approving disposal into the Silurian and Devonian formations through the Raptor SWD #1 well at a surface location 295 feet from the North line and 1,580 feet from the West line of Section 27, Township 26 South, Range 36 East, NMPM, Lea County, New Mexico, for the purpose of operating a salt water disposal well. The target injection interval is the Silurian and Devonian formations at a depth of 18,529 – 19,874. 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 area is located approximately 4 miles southwest of Jal, New Mexico.
#33351

01104570 00219573

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