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

APPLICATION OF MESQUITE SWD, INC.
TO APPROVE PRODUCED WATER DISPOSAL
WELL IN EDDY COUNTY, NEW MEXICO

CASE NO. 20313

APPLICATION OF MESQUITE SWD, INC.
TO APPROVE PRODUCED WATER DISPOSAL
WELL IN EDDY COUNTY, NEW MEXICO

CASE NO. 20314

APPLICATION OF MESQUITE SWD, INC.
TO APPROVE PRODUCED WATER DISPOSAL
WELL IN EDDY COUNTY, NEW MEXICO

CASE NO. 20472

Revised (6/27/19)

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Exhibits of Riley Neatherlin
On Behalf of Mesquite SWD Inc.

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

APPLICATION OF MESQUITE SWD, INC.
TO APPROVE PRODUCED WATER DISPOSAL
WELL IN EDDY COUNTY, NEW MEXICO.

CASE NO. _____

APPLICATION

Mesquite SWD, Inc. ("Mesquite"), OGRID No. 161968, through its undersigned attorneys, hereby makes this application to the Oil Conservation Division pursuant to the provisions Rule No. 19.15.4.8 for an order approving drilling of a produced water disposal well in Eddy County, New Mexico. In support of this application, Mesquite states as follows:

(1) Mesquite proposes to drill the Laguna Salada 13 SWD #1 well at a surface location 685 feet from the South line and 50 feet from the East line (Unit P) of Section 13, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico for the purpose of operating a produced water disposal well.

(2) Mesquite seeks authority to inject produced water into the Siluro-Devonian formation through the open-hole interval from approximately 14,500' to 15,700'.

(3) Mesquite 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 40,000 bbls per day.

(4) Mesquite anticipates a maximum injection pressure of 2,900 psi, or as controlled by depth.

(5) On or about July 25, 2018, Mesquite filed with the Division, an administrative application for approval of the subject well for produced water disposal.

(6) On December 13, 2018, Mesquite was notified by the Division that the subject application was denied for administrative approval, and that the option to set the matter for hearing before a Division Examiner remained an option.

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

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

WHEREFORE, Mesquite requests that this application be set for hearing before an Examiner of the Oil Conservation Division on March 7, 2019; and that after notice and hearing, the Division enter its order approving this application.

Respectfully submitted,

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

By: Deana M Bennett

Deana Bennett
Post Office Box 2168
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 Mesquite SWD, Inc., for approval of produced water disposal well in Eddy County, New Mexico. Applicant seeks an order approving disposal into the Silurian-Devonian formation through the Laguna Salada 13 SWD #1 well at a surface location 685 feet from the South line and 50 feet from the East line (Unit P) of Section 13, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico for the purpose of operating a produced water disposal well. Mesquite seeks authority to inject produced water into the Silurian-Devonian formation at a depth of approximately 14,500' to 15,700. Mesquite 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 40,000 bbls per day. Said area is located approximately 3.5 miles Northeast of Loving, 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: Mesquite SWD, Inc. **OGRID Number:** 161968
Well Name: Laguna Salada 13 SWD #1 **API:** Not Yet Assigned
Pool: SWD;Devonian **Pool Code:** 96101

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

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

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

FOR OCD ONLY
☐ Notice Complete
☐ Application Content Complete

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

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

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

07/25/2018
Date

Melanie J. Wilson
Print or Type Name

575-914-1461
Phone Number

Melanie J. Wilson
Signature

mjp1692@gmail.com
e-mail Address

EXHIBIT
tabbies
A

4

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? ____ Yes ____ No

II. OPERATOR: Mesquite SWD, Inc.

ADDRESS: PO Box 1479, Carlsbad, NM 88221-1479

CONTACT PARTY: Melanie Wilson PHONE: 575-914-1461

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: Melanie Wilson TITLE: Regulatory Analyst

SIGNATURE: Melanie Wilson DATE: 7/25/2018

E-MAIL ADDRESS: mjp1692@gmail.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.

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 RD., AZTEC, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-	96101	SWD; DEVONIAN

Property Code	Property Name	Well Number
	LAGUNA SALADA 13 SWD	1

OGRID No.	Operator Name	Elevation
161968	MESQUITE SWD	2972.8'

Surface Location

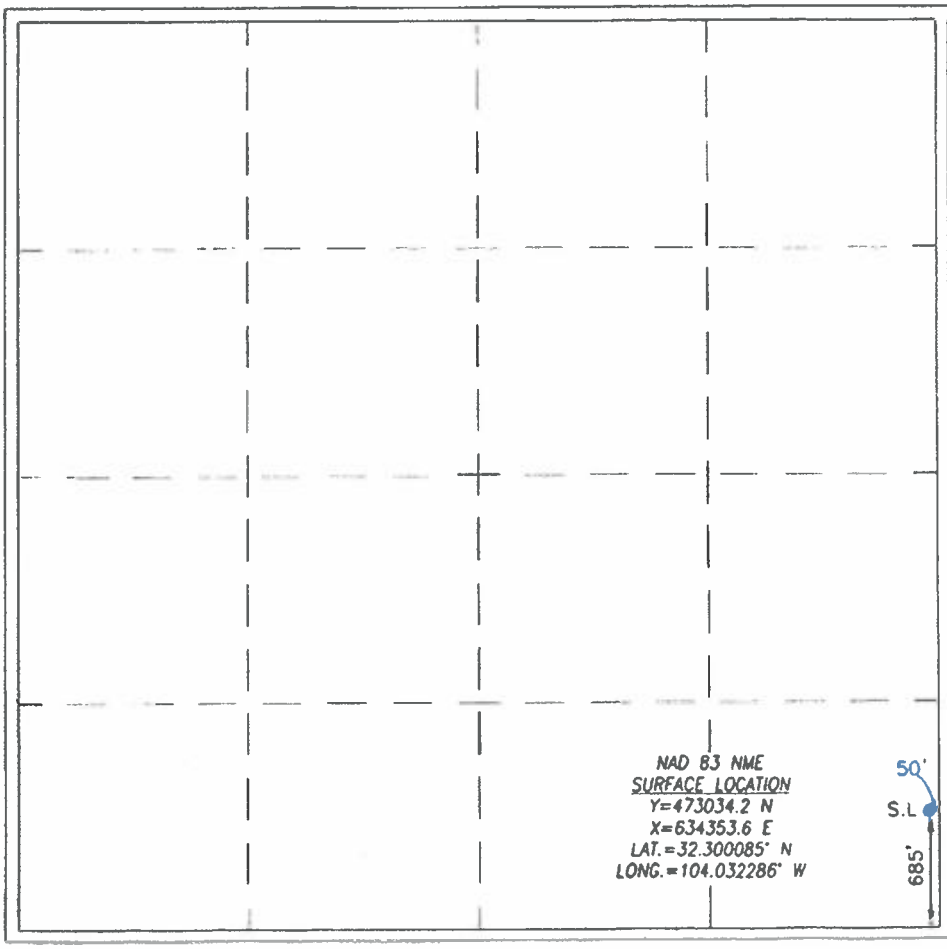
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	13	23-S	28-E		685	SOUTH	50	EAST	EDDY

Bottom Hole Location If Different From Surface

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

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



OPERATOR CERTIFICATION

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

Melanie J. Wilson 5/29/2018
Signature Date

Melanie J. Wilson
Printed Name

mjp1692@gmail.com
E-mail Address

SURVEYOR CERTIFICATION

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

MARCH 5, 2018
Date of Survey

Signature & Seal of Professional Surveyor

CHAD L HARCROW
NEW MEXICO
17777
LICENSED PROFESSIONAL SURVEYOR

3/27/18
Certificate No. CHAD HARCROW 17777

W.O. # 18-156 DRAWN BY: SP

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INJECTION WELL DATA SHEET

OPERATOR: Mesquite SWD, Inc.

WELL NAME & NUMBER: Laguna Salada 13 SWD #1

WELL LOCATION: 685' FSL & 50' FEL (FOOTAGE LOCATION) | P (UNIT LETTER) | 13 (SECTION) | 23S (TOWNSHIP) | 28E (RANGE)

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 26" Casing Size: 20" 94# J55 BTC

Cemented with: 400 sx or ____ ft³

Top of Cement: Surface Method Determined: Circulate

1st Intermediate Casing

Hole Size: 17.5" Casing Size: 13.375" 54.5# NE80 BTC

Cemented with: 1450 sx or ____ ft³

Top of Cement: Surface Method Determined: Circulate

2nd Intermediate Casing

Hole Size: 12.25" Casing Size: 9.625" 53.5# P110 BTU

Cemented with: 2200 sx or ____ ft³

Top of Cement: Surface Method Determined: Circulate

Liner

Hole Size: 8.5" Casing Size: 7.625" 39# ECP-110 J-2/STL FJ

Cemented with: 200 sx or ____ ft³

Top of Cement: 9400' Method Determined: Opr

Total Depth: Approx. 15,700'

Injection Interval

Approximately 14500' To 15700'

(Perforated or Open Hole; indicate which) Open Hole

Tubing Size: Tapered string 7" 26# P110 / 5.5" 20# P110 JFE Bear Lining Material: Fiberglass coated

Type of Packer: Lok-Set or equivalent

Packer Setting Depth: Approximately 14,500'

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? _____

2. Name of the Injection Formation: Siluro-Devonian
3. Name of Field or Pool (if applicable): SWD; 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: New drill
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: Delaware & Bone Spring horizons all above approximately 9770'

   For what purpose was the well originally drilled? _____

Mesquite SWD, Inc.
Laguna Salada 13 SWD #1
API #30-015-
685' FSL & 50' FEL
Section 13, T23S, R28E, Eddy County, NM

Proposed Well Bore Diagram

KB: 2994'
GL: 2973'

Surface Casing
Size: 20" 94# J-55 BTC
Set @: 350'
Sx Cmt: 400
TOC: Surf
Hole Size: 26"

1st Intermediate Casing
Size: 13 3/8" 54.5# NE80 BTC
Set @: 2650'
Sx Cmt: 1450
TOC: Surf
Hole Size: 17 1/2"

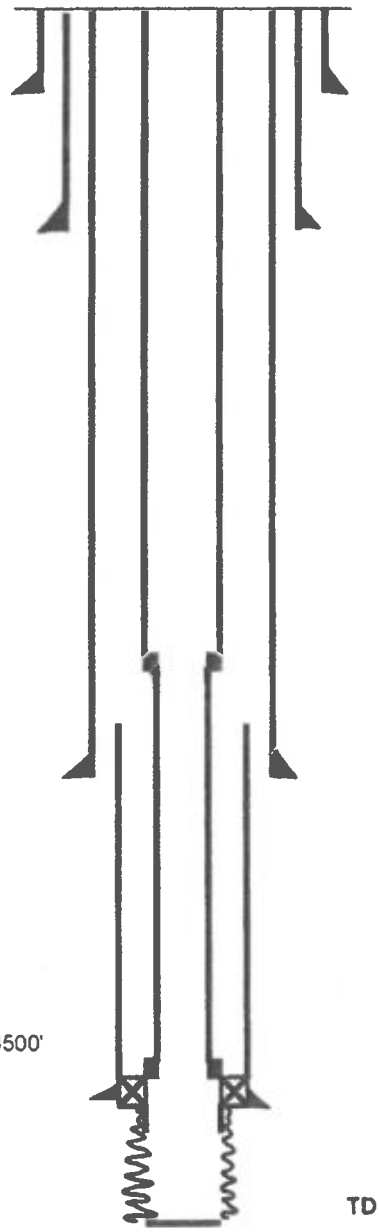
2nd Intermediate Casing
Size: 9 5/8" 53.5# P-110 BTU
Set @: 9900'
Sx Cmt: 2200
TOC: Surf
Hole Size: 12 1/4"

Liner
Size: 7 5/8" 39# ECP-110 J-2/STL FJ
Top: 9400'
Set @: 14500'
Sx Cmt: 200
TOC: 9400'
Hole Size: 8 1/2"

Open Hole
Interval: 14500'-15700'
Hole Size: 6 1/2"

Tubing
7" 26# P-110 Tbg @ 9105'
7" x 5 1/2" X-Over @ 9200'
5 1/2" 20# JFE Bear Tbg @ 14495'
7 5/8" x 5 1/2" Dual Bore Permapak Packer @ 14500'

Open hole acid if required
Tubing annulus w/corrosion inhibitor
Complete surface head for disposal

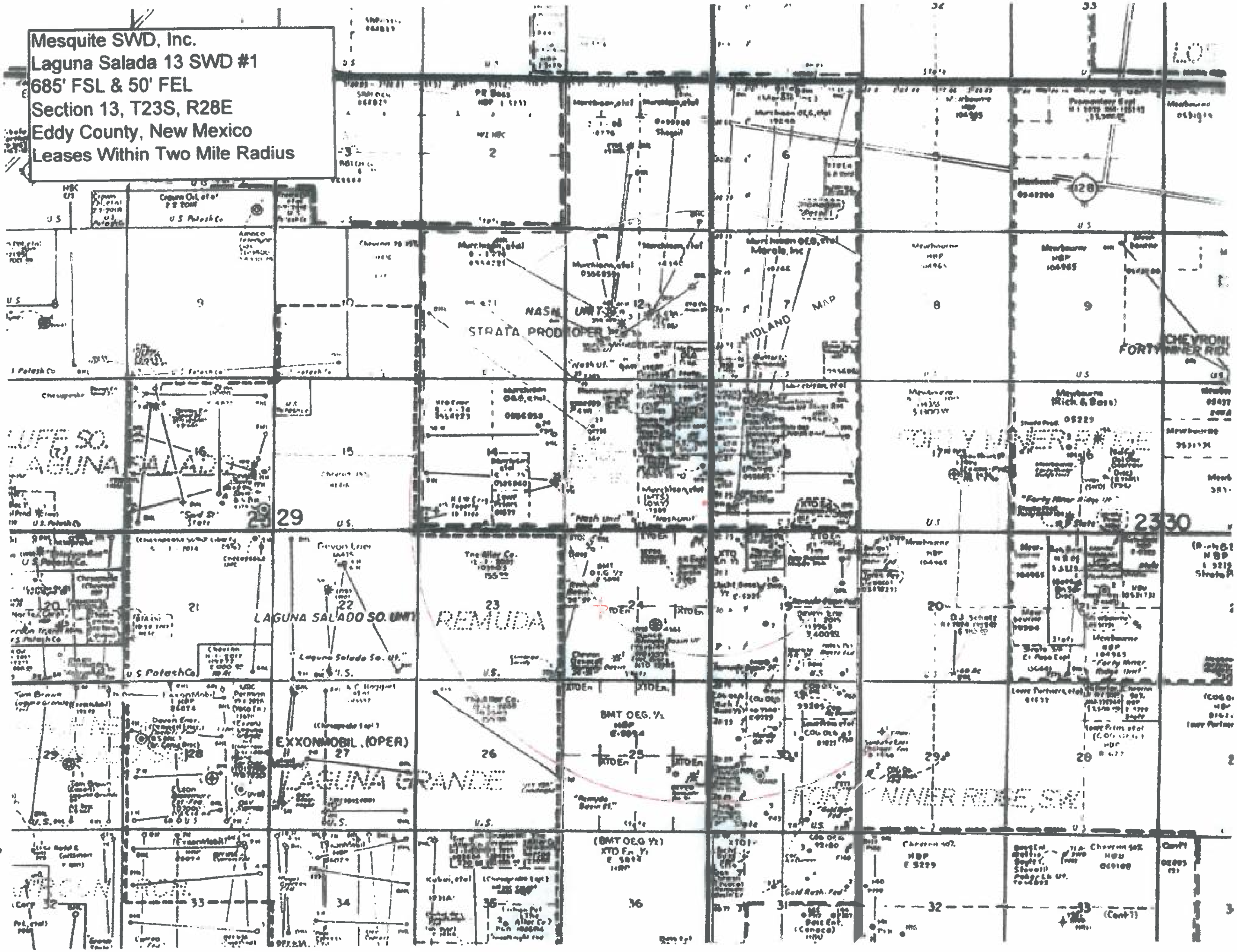


Not to Scale

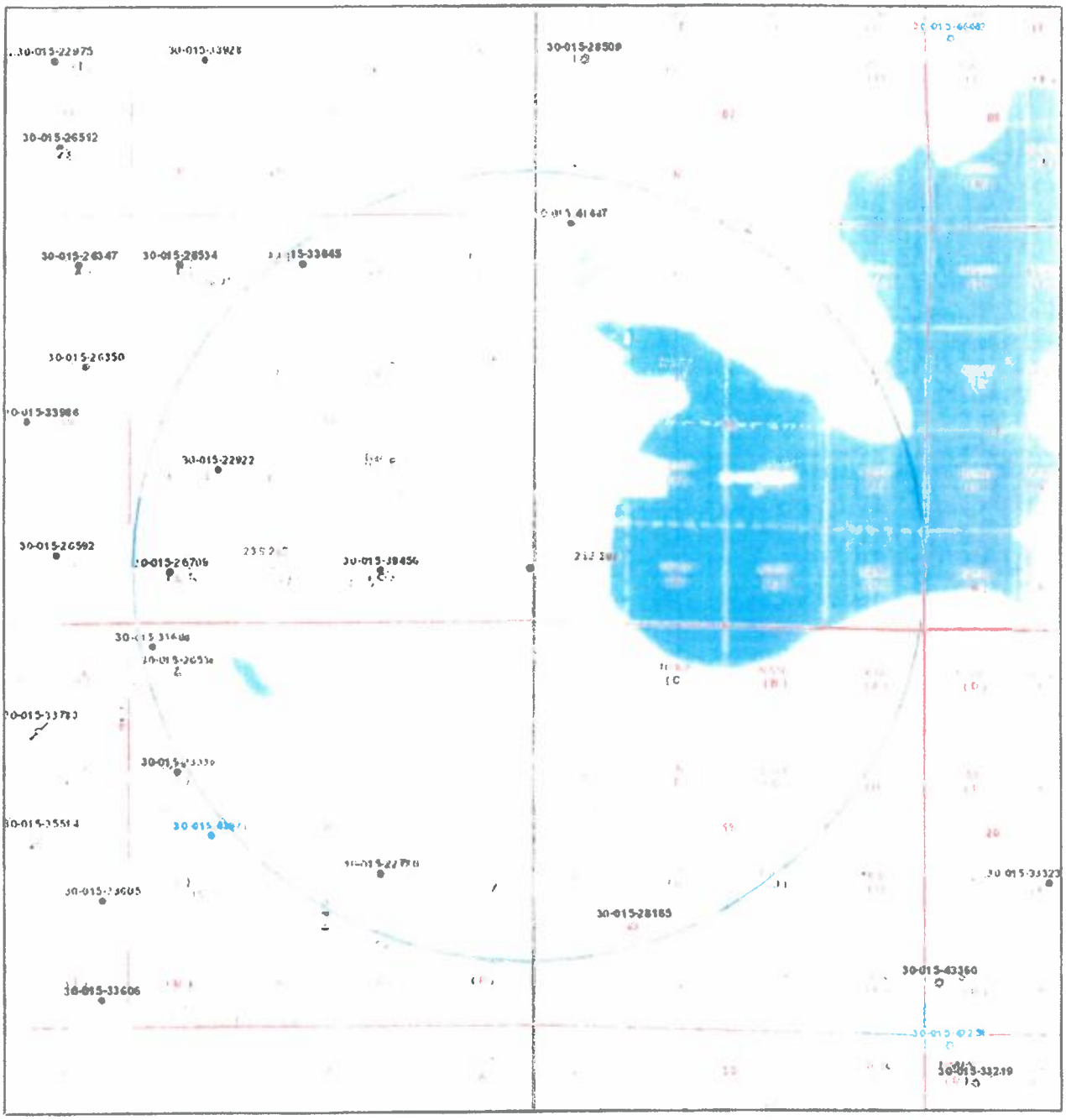
350' Top of Salt est 620'
Base of Salt est 2532'
2650' DVT @ approx 2600'
Delaware Mtn group est 2724'
Bone Spring est 6500'
9400' Wolfcamp est 9770'
9900' Strawn est 10900'
Atoka est 11880'
Morrow est 12200'
Mississippi Lime est 13700'
14500' Top Siluro-Devonian est 14500'
TD 15700' Montoya est 15700'

Melanie Wilson
5/24/2018

Mesquite SWD, Inc.
Laguna Salada 13 SWD #1
685' FSL & 50' FEL
Section 13, T23S, R28E
Eddy County, New Mexico
Leases Within Two Mile Radius



Laguna Salada 13 SWD #1 - Wells in Area of Review



May 29, 2018

1:15,277

0 0.17 0.35 0.7 mi

0 0.28 0.55 1.1 km

Override 1

Well Locations - Small Scale
- Active
- New
- Plugged
- Canceled
- Temporarily Abandoned

Well Locations - Large Scale
- Miscellaneous
- CO2 Active
- CO2 Canceled
- CO2 New
- CO2, Plugged
- CO2 Temporarily Abandoned
- Gas Active
- Gas, Cancelled Never Drilled
- Gas, New
- Gas, Plugged
- Gas, Temporarily Abandoned
- Injection, Active
- Injection, Canceled
- Injection, New
- Injection, Plugged
- Injection Temporarily Abandoned
- Oil Active
- Oil Cancelled
- Oil New
- Oil Plugged
- Oil Temporarily Abandoned
- Salt Water Injection, Active
- Salt Water Injection, Cancelled
- Salt Water Injection, New
- Salt Water Injection, Plugged
- Salt Water InjectionTemporarily Abandoned
- Water Active
- Water, Cancelled
- Water New
- Water Pluggec
- Water, Temporarily Abandoned
- OCD Districts

Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA, OCD, BLM

New Mexico Oil Conservation Division

NM OCD Oil and Gas Map: http://nm-emnrd.maps.arcgis.com/apps/webappviewer/, New Mexico Oil Conservation Division

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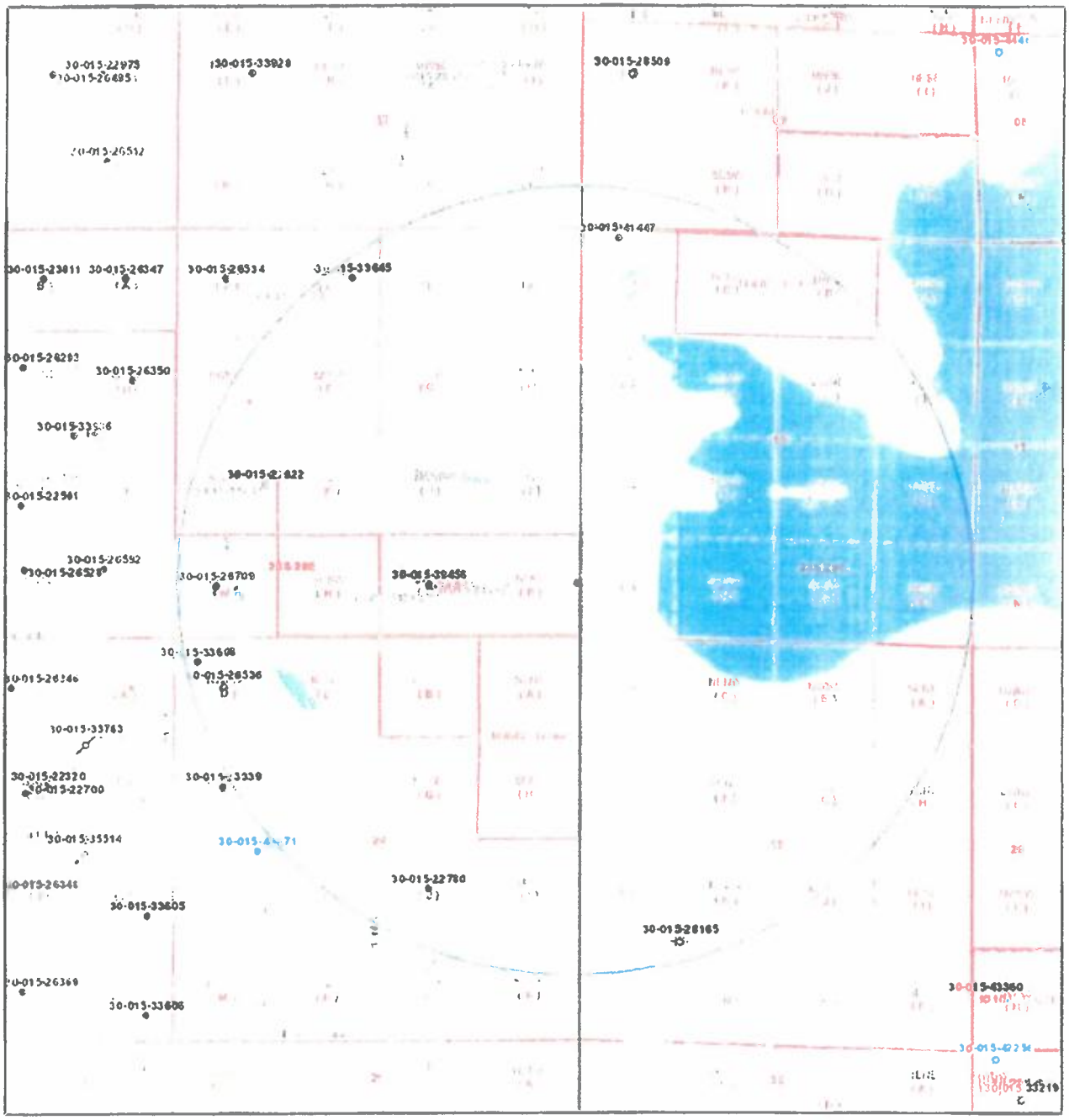
Laguna Salada 13 SWD #1 - Leases in Area of Review



May 29, 2018

1:18,056

0 0.17 0.35 0.7 mi

0 0.28 0.55 1.1 km

Override 1

Well Locations - Small Scale

- Active
- New
- Plugged
- Canceled
- Temporarily Abandoned

Well Locations - Large Scale

- Miscellaneous
- CO2 Active
- CO2 Canceled
- CO2 New
- CO2 Plugged
- CO2 Temporarily Abandoned
- Gas Active
- Gas, Canceled Never Drilled
- Gas, New
- Gas, Plugged
- Gas, Temporarily Abandoned
- Injection, Active
- Injection, Canceled
- Injection, New
- Injection, Plugged
- Injection, Temporarily Abandoned
- Oil Active
- Oil Canceled
- Oil New

Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, USGS, VITI/NASA, EPA, USDA, OCD, BLM

New Mexico Oil Conservation Division

NM OCD Oil and Gas Map http://nm-emnrd.maps.arcgis.com/apps/webappviewer/ New Mexico Oil Conservation Division

Mesquite SWD, Inc.
Laguna Salada 13 SWD #1
Wells In Area of Review

VI.

API	Operator	Well Name	Well Number	Type	Vertical/ Horizontal	Mineral Owner	Status	Unit Letter	Section	Township	Range	Footages	Formation	MD	TVD
30-015-39456	OXY USA INC	BANK 13 FEDERAL COM	#001H	Oil	Horizontal	Federal	Active	O	13	23S	28E	660 FSL, 1980 FEL	Brushy Canyon	9940	6030
							BHL	B	13	23S	28E	880 FNL, 1686 FEL			
30-015-26709	ROCKCLIFF OPERATING NEW MEXICO LLC	CANDIE	#001	Oil	Vertical	Private	Active	M	13	23S	28E	660 FSL, 560 FWL	Brushy Canyon	6300	6300
30-015-33777	ROCKCLIFF OPERATING NEW MEXICO LLC	SCB 13 FEDERAL	#006	Oil	Vertical	Federal	TA	E	13	23S	28E	2235 FNL, 990 FWL	Delaware	6424	6424
30-015-33645	ROCKCLIFF OPERATING NEW MEXICO LLC	SCB 13 FEDERAL	#008	Oil	Vertical	Federal	Active	C	13	23S	28E	660 FNL 2310 FWL	Brushy Canyon	6484	6484
30-015-22922	ROCKCLIFF OPERATING NEW MEXICO LLC	SOUTH CULEBRA BLUFF UNIT	#005	Oil	Vertical	Federal	Active	L	13	23S	28E	1980 FSL, 1190 FWL	Brushy Canyon	13171	13171
30-015-22780	PENROC OIL CORP	BRANTLEY B OIL COM	#001	Oil	Vertical	Private	Active	J	24	23S	28E	1980 FSL, 1980 FEL	Delaware	13240	13240
30-015-26536	ROCKCLIFF OPERATING NEW MEXICO LLC	CANDELARIO	#001	SWD	Vertical	Private	Active	D	24	23S	28E	660 FNL, 660 FWL	Brushy Canyon	6310	6310
30-015-33608	ROCKCLIFF OPERATING NEW MEXICO LLC	CANDELARIO 24	#002	Oil	Vertical	Private	Active	D	24	23S	28E	330 FNL, 330 FWL	Brushy Canyon	6400	6400
30-015-22650	CHEVRON U S A INC	TELEDYNE 18	#001	Gas	Vertical	Private	TA	J	18	23S	29E	1800 FSL, 2180 FEL	Atoka/Morrow	13324	13324
30-015-41447	OXY USA INC	BANK 18 FEDERAL COM	#001H	Oil	Horizontal	Federal	Active	1	18	23S	29E	133 FNL, 485 FWL	Bone Spring	12681	8541
							BHL	A	18	23S	29E	190 FNL, 446 FEL			
30-015-28165	DEVON ENERGY PRODUCTION COMPANY, LP	HARROUN TRUST 19	#001	Gas	Vertical	Private	Active	N	19	23S	29E	1316 FSL, 1320 FWL	Atoka	12200	12200

No wells within the one-mile Area of Review penetrate the proposed injection interval.

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Mesquite SWD, Inc.
Laguna Salada 13 SWD #1
685' FSL & 50' FEL
Section 13, T23S, R28E
Eddy County, New Mexico

API Not Issued

Item VII:

1. The maximum injected volume anticipated is 40,000 BWPD. Average anticipated is 30,000 BWPD.

2. Injection will be through a closed system.

3. Maximum injection pressure is expected to be 2,900 psi, or as controlled by depth.

4. Disposal sources will be produced waters that, based upon regional experience, are compatible with known waters in the disposal zone. Attached are water analysis of water produced from the Bone Spring and Wolfcamp formations.

5. An analysis of water produced from the Devonian formation is attached. Analysis obtained from Go-Tech website.

C-108 Iten VII.5 - Produced Water Data
Laguna Salada 13 SWD #1

Water Analysis from Injection Zone

Well Name	BELL LAKE UNIT #006	FtgN/S	660S
API	3002508483	FtgE/W	1980E
Lat	32.3282585	County	LEA
Long	-103.507103	State	NM
Section	6	Field	BELL LAKE NORTH
T	23S	Formation	DEVONIAN
R	34E		
Unit	O		

Depth			
LabNo.			
Sample No.			
Sample Source	HEATER TREATER		
Water Type			
Sample Date			
Analysis Date			

ph	7	barium_mgL	
ph temp F		magnesium_mgL	
Specific Gravity		potassium_mgL	
SG Temp F		strontium_mgL	
TDS mgL	71078	manganese_mgL	
TDS mgL 180C		chloride_mgL	42200
alkalinity_as_caco3_mgL		carbonate_mgL	
hardness_as_caco3_mgL		bicarbonate_mgL	500
hardness_mgL		sulfate_mgL	1000
resistivity_ohm_cm		hydroxide_mgL	
resistivity_ohm_cm_temp_F		h2s_mgL	
conductivity		co2_mgL	
conductivity_temp_F		o2_mgL	
sodium_mgL		anionremarks	
calcium_mgL		generalinforemarks	
iron_mgL		CorrectFlag	TRUE

Water analysis from Go-Tech Produced Water Database

Mesquite SWD, Inc.
Laguna Salada 13 SWD #1

API Not Issued

Item VII(a):

Water samples from the regional area.

Wolfcamp

BAKER HUGHES

Water Analysis

Date: 23-Aug-11

2708 West County Road, Hobbs NM 88240
Phone (575) 393-5556 Fax (575) 393-7307

Analyzed For Brushy Draw 14 #1

Company	Well Name	County	State
	80	~~Lea~~ Eddy	New Mexico

1-26S-29E

Sample Source	Swab Sample	**Sample #**	1
Formation		**Depth**	

Specific Gravity	1.170	SG @ 60 °F	1.172
pH	6.30	Sulfides	Absent
Temperature (°F)	70	Reducing Agents	

Cations

Sodium (Calc)	In Mg/L	77,962	In PPM	66,520
Calcium	In Mg/L	4,000	In PPM	3,413
Magnesium	In Mg/L	1,200	In PPM	1,024
Soluable Iron (FE2)	In Mg/L	10.0	In PPM	9

Anions

Chlorides	In Mg/L	130,000	In PPM	110,922
Sulfates	In Mg/L	250	In PPM	213
Bicarbonates	In Mg/L	127	In PPM	108
Total Hardness (as CaCO3)	In Mg/L	15,000	In PPM	12,799
Total Dissolved Solids (Calc)	In Mg/L	213,549	In PPM	182,209
Equivalent NaCl Concentration	In Mg/L	182,868	In PPM	156,031

Scaling Tendencies

Calcium Carbonate Index: 507,520
Below 500,000 Remote / 500,000 - 1,000,000 Possible / Above 1,000,000 Probable

Calcium Sulfate (Gyp) Index: 1,000,000
Below 500,000 Remote / 500,000 - 10,000,00 Possible / Above 10,000,000 Probable

This Calculation is only an approximation and is only valid before treatment of a well or several weeks after treatment

Remarks RW=.048@70F

Mesquite SWD, Inc.
Laguna Salada 13 SWD #1

API Not Issued

Item VII(b) continued):

Sec 22, T25S, R28E

North Permian Basin Region
P.O. Box 740
Sundown, TX 79372-0740
(806) 229-8121
Lab Team Leader - Sheila Hernandez
(432) 495-7240

Bone Spring

Water Analysis Report by Baker Petrolite

Company:		Sales RDT:	33514.1
Region:	PERMIAN BASIN	Account Manager:	TONY HERNANDEZ (575) 910-7135
Area:	ARTESIA, NM	Sample #:	534685
Lease/Platform:	PINOCHLE 'BPN' STATE COM	Analysis ID #:	109765
Entity (or well #):	2 H	Analysis Cost:	$90.00
Formation:	UNKNOWN		
Sample Point:	WELLHEAD		

Summary	
Sampling Date:	03/10/11
Analysis Date:	03/12/11
Analyst:	SANDRA GOMEZ
TDS (mg/l or g/m3):	184911.1
Density (g/cm3, tonne/m3):	1.113
Anion/Cation Ratio:	1
Carbon Dioxide:	0.60 PPM
Oxygen:	
Comments:	

Analysis of Sample 534685 @ 75 °F

Anions	mg/l	meq/l
Chloride:	109818.0	3091.82
Bicarbonate:	1133.0	36.89
Carbonate:	0.0	0.
Sulfate:	747.0	15.55
Phosphate:		
Borate:		
Silicate:		
Hydrogen Sulfide:		0 PPM
pH at time of sampling:		7
pH at time of analysis:		
pH used in Calculation:		7

Cations	mg/l	meq/l
Sodium:	70975.7	3086.83
Magnesium:	193.0	15.84
Calcium:	844.0	42.12
Strontium:	220.0	0.02
Barium:	0.0	0.01
Iron:	6.5	0.23
Potassium:	869.0	22.22
Aluminum:		
Chromium:		
Copper:		
Lead:		
Manganese:	0.100	0.
Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$		CO_2 Press
°F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	1.06	186.52	-1.29	0.00	-1.18	0.00	-0.11	0.00	0.50	0.29	1.72
100	0	1.10	208.06	-1.29	0.00	-1.20	0.00	-0.15	0.00	0.35	0.29	2.35
120	0	1.12	224.17	-1.38	0.00	-1.19	0.00	-0.17	0.00	0.15	0.00	3.17
140	0	1.13	243.17	-1.42	0.00	-1.18	0.00	-0.18	0.00	0.00	0.00	4.21

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the Ons scales.
Note 3: The reported CO2 pressure is actually the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.

Mesquite SWD, Inc.
Laguna Salada 13 SWD #1
685' FSL & 50' FEL
Section 13, T23S, R28E
Eddy County, New Mexico

API Not Issued

Item VIII:

Geologic Formation:	Devonian/Silurian
Estimated Top:	14,500'
Tickness:	1,200'
Lithology:	Limestone w/Interbedded Dolomites

According to the New Mexico Office of the State Engineer's website, there is one fresh water well within a one-half mile radius of the proposed SWD and ten fresh water wells within a one-mile radius of the proposed SWD. Average depth to fresh water is 47'.

An analysis of water obtained from POD number C 00500 is attached.

The surface geology of the greater area, including the two-mile radius as shown in Item V above, is Quaternary eolian and piedmont deposits of Holocene to middle Pleistocene age and Permian Castile formation. These are underlain by Permian formation and evaporites.

Item IX:

Formation chemical stimulation may be applied after completion. No other stimulation is currently planned.

Item X:

Logs will be filed with the OCD upon completion of the well. Density-Neutron is planned from surface to TD.

Item XI:

According to the website of the NM Office of the State Engineer, there are eleven water wells within one mile of the proposed Laguna Salada 13 SWD #1 well. Please note Item VIII discussion above. A water analysis from water well C-00500 in NW/4 Section 24, T23S, R28E is attached.

Item XII:

Affirmative statement is attached.

Item XIII:

Proof of Notice is attached.

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
C 02704		C	ED			1	19	23S	29E	591531	3573493*	747	174		
C 01215		CUB	ED	4	2	3	13	23S	28E	590210	3574397*	943	104	15	89
C 01967		C	ED		2	3	13	23S	28E	590111	3574498*	1070	264	200	64
C 02702		C	ED			2	13	23S	28E	590715	3575108*	1072	38	20	18
C 01214		CUB	ED	1	2	3	13	23S	28E	590010	3574597*	1201	70	20	50
C 02706		C	ED			4	18	23S	29E	592302	3574291*	1206	17	10	7
C 03965 POD5		CUB	ED	4	1	1	24	23S	28E	589864	3573534	1370	35	31	4
C 03965 POD4		CUB	ED		1	4	24	23S	28E	589918	3573381	1395	40	31	9
C 01217		CUB	ED	1	1	3	13	23S	28E	589606	3574593*	1578	87	50	37
C 00500		CUB	ED	4	3	1	24	23S	28E	589811	3573176*	1598	130		
C 00868		CUB	ED	4	3	1	24	23S	28E	589811	3573176*	1598	190		

Average Depth to Water: 47 feet
Minimum Depth: 10 feet
Maximum Depth: 200 feet

Record Count: 11

UTMNAD83 Radius Search (in meters):

591108 69 3574109 85 1610

*UTM location was derived from PLSS - see Help

Mesquite SWD, Inc.
Laguna Salada 13 SWD #1

Water Analysis from Water Well C-00500
Section 24, T23S, R28E, Eddy County, NM

Analytical Report
Lab Order 1705094
Date Reported: 5/10/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Whitenton Group Inc
Project: Oxy/Centurion
Lab ID: 1705094-002 **Matrix:** AQUEOUS

Client Sample ID: Mosaic Carrasco Well
Collection Date: 5/1/2017 4:20:00 PM
Received Date: 5/2/2017 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Fluoride	0.88	0.50		mg/L	5	5/3/2017 1:54:17 AM	A42488
Chloride	510	25	*	mg/L	50	5/3/2017 11:04:13 PM	R42532
Nitrogen, Nitrite (As N)	ND	2.0		mg/L	20	5/3/2017 2:06:42 AM	A42488
Nitrogen, Nitrate (As N)	10	0.50	*	mg/L	5	5/3/2017 1:54:17 AM	A42488
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	5/3/2017 2:06:42 AM	A42488
Sulfate	520	25	*	mg/L	50	5/3/2017 11:04:13 PM	R42532
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	8100	1.0		µmhos/cm	1	5/4/2017 2:49:37 PM	R42568
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	208.2	20.00		mg/L CaCO3	1	5/4/2017 2:49:37 PM	R42568
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	5/4/2017 2:49:37 PM	R42568
Total Alkalinity (as CaCO3)	208.2	20.00		mg/L CaCO3	1	5/4/2017 2:49:37 PM	R42568
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**KS**
Total Dissolved Solids	6570	20.0	*	mg/L	1	5/5/2017 5:44:00 PM	31567
SM4500-H+B: PH						Analyst:	**JRR**
pH	7.31		H	pH units	1	5/4/2017 2:49:37 PM	R42568
EPA METHOD 6010B: DISSOLVED METALS						Analyst:	**MED**
Calcium	760	10		mg/L	10	5/4/2017 9:20:14 AM	A42530
Magnesium	250	10		mg/L	10	5/4/2017 9:20:14 AM	A42530
Potassium	7.0	1.0		mg/L	1	5/4/2017 9:13:56 AM	A42530
Sodium	1000	50		mg/L	50	5/8/2017 12:05:01 PM	A42604

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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Form C-108
Affirmative Statement
Mesquite SWD, Inc.
Laguna Salada 13 SWD #1
Section 13, T23S, R28E, NMPM
Eddy County, New Mexico

Available geologic and engineering data has been examined and no evidence of open faults or hydrological connection between the injection zone and any underground sources of drinking water has been found.

Riley Neatherlin
Operations Manager
Mesquite SWD, Inc.

7/21/18
Date

Mesquite SWD, Inc. API Not Issued
Laguna Salada 13 SWD #1
685' FSL & 50' FEL
Section 13, T23S, R28E
Eddy County, New Mexico

Item XIII: Proof of Notice

Surface Owner:		**FedEx Tracking No.**
Mosaic Potash Carlsbad NM 1361 Potash Mines Road Carlsbad, NM 88220		7724 0353 8381

Offset Operators:

Chevron USA, Inc. 6301 Deauville Blvd. Midland, TX 79706	Section 18, T23S, R29E	7723 9957 9455
Devon Energy Production Company, LP 333 W Sheridan Ave. Oklahoma City, OK 73102	Section 19, T23S, R29E	7723 9955 7895
OXY USA, Inc. 5 Greenway Plaza Houston, TX 77046	Section 18, T23S, R29E	7723 9960 4850
Rockcliff Operating New Mexico LLC 1301 McKinney, Suite 1300 Houston, TX 77010	Section 13, T23S, R28E	7724 0346 9962
Penroc Oil Corporation 1515 W Calle Sur St Hobbs, NM 88240	Unit J, Section 24, T23S, R28E	7724 0348 6303

Affidavit of Publication

No. 24685

State of New Mexico

County of Eddy:

Danny Scott

being duly sworn sayes that she is the

of the Artesia Daily Press, a daily newspaper of General circulation, published in English at Artesia, said county and state, and that the hereto attached

Legal Ad

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for

1 Consecutive weeks/day on the same day as follows:

First Publication	May 27, 2018
Second Publication	
Third Publication	
Fourth Publication	
Fifth Publication	
Sixth Publication	
Seventh Publication	

Subscribed and sworn before me this 29th day of May 2018

OFFICIAL SEAL
Latisha Romine
NOTARY PUBLIC-STATE OF NEW MEXICO
My commission expires: 5/12/2019

Latisha Romine

Latisha Romine
Notary Public, Eddy County, New Mexico

Copy of Publication:

Legal Notice

Mesquite SWD, Inc., c/o Riley Neatherlin, PO Box 1479, Carlsbad, NM 88221-1479, 575-887-0980, is seeking administrative approval from the New Mexico Oil Conservation Division to drill the Laguna Salada 13 SWD #1, API not issued, located 685' FSL & 50' FEL, Section 13, T23S, R28E, Eddy County, NM, approximately 3 miles northeast of Loving, NM, for commercial produced water disposal. The proposed disposal interval is the Siluro-Devonian formation in open-hole interval approximately 14,500' to 15,700', at a maximum pressure of 3000 psi and a maximum rate of 40,000 BWPD. Parties with questions regarding this proposal may contact Riley Neatherlin at the address or phone number above. Parties must file objections or requests for hearing within 15 days of this publication to the New Mexico Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, NM 87505.

Published in the Artesia Daily Press, Artesia, N.M., May 27, 2018 Legal No. 24685.

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

APPLICATION OF MESQUITE SWD, INC.
TO APPROVE PRODUCED WATER DISPOSAL
WELL IN EDDY COUNTY, NEW MEXICO.

CASE NO. _____

APPLICATION

Mesquite SWD, Inc. ("Mesquite"), OGRID No. 161968, through its undersigned attorneys, hereby makes this application to the Oil Conservation Division pursuant to the provisions Rule No. 19.15.4.8 for an order approving drilling of a produced water disposal well in Eddy County, New Mexico. In support of this application, Mesquite states as follows:

(1) Mesquite proposes to drill the Laguna Salada 19 SWD #1 well at a surface location 1752 feet from the South line and 1727 feet from the East line (Unit J) of Section 19, Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico for the purpose of operating a produced water disposal well.

(2) Mesquite seeks authority to inject produced water into the Siluro-Devonian formation through the open-hole interval from approximately 14,500' to 15,700'.

(3) Mesquite 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 40,000 bbls per day.

(4) Mesquite anticipates a maximum injection pressure of 2,900 psi, or as controlled by depth.

(5) On or about July 25, 2018 Mesquite SWD, Inc., filed with the Division, an administrative application for approval of the subject well for produced water disposal.

(6) On December 13, 2018, Mesquite was notified by the Division that the subject application was denied for administrative approval, and that the option to set the matter for hearing before a Division Examiner remained an option.

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

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

WHEREFORE, Mesquite requests that this application be set for hearing before an Examiner of the Oil Conservation Division on March 7, 2019; and that after notice and hearing, the Division enter its order approving this application.

Respectfully submitted,

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

By: Deana M Bennett

Deana Bennett
Post Office Box 2168
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 Mesquite SWD, Inc., for approval of produced water disposal well in Eddy County, New Mexico. Applicant seeks an order approving disposal into the Silurian-Devonian formation through the Laguna Salada 19 SWD #1 well at a surface location 1752 feet from the South line and 1727 feet from the East line (Unit J) of Section 19, Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico for the purpose of operating a produced water disposal well. Mesquite seeks authority to inject produced water into the Silurian-Devonian formation at a depth of approximately 14,500' to 15,700. Mesquite 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 40,000 bbls per day. Said area is located approximately 4.5 miles East of Loving, 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: Mesquite SWD, Inc. **OGRID Number:** 161968
Well Name: Laguna Salada 19 SWD #1 **API:** Not Yet Assigned
Pool: SWD;Devonian **Pool Code:** 96101

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

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

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

FOR OCD ONLY
☐ Notice Complete
☐ Application Content Complete

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

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

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

07/25/2018
Date

Melanie J. Wilson
Print or Type Name

575-914-1461
Phone Number

Melanie J. Wilson
Signature

mjp1692@gmail.com
mail Address

EXHIBIT
tabbies
A

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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? _____ Yes _____ No

II. OPERATOR: Mesquite SWD, Inc.

ADDRESS: PO Box 1479, Carlsbad, NM 88221-1479

CONTACT PARTY: Melanie Wilson PHONE: 575-914-1461

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: Melanie Wilson TITLE: Regulatory Analyst

SIGNATURE: Melanie Wilson DATE: 7/25/2018

E-MAIL ADDRESS: mjp1692@gmail.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.

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 RD., AZTEC, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-	96101	SWD; DEVONIAN

Property Code	Property Name	Well Number
	LAGUNA SALADA 19 SWD	1

OGRID No.	Operator Name	Elevation
161968	MESQUITE SWD	2961.1'

Surface Location

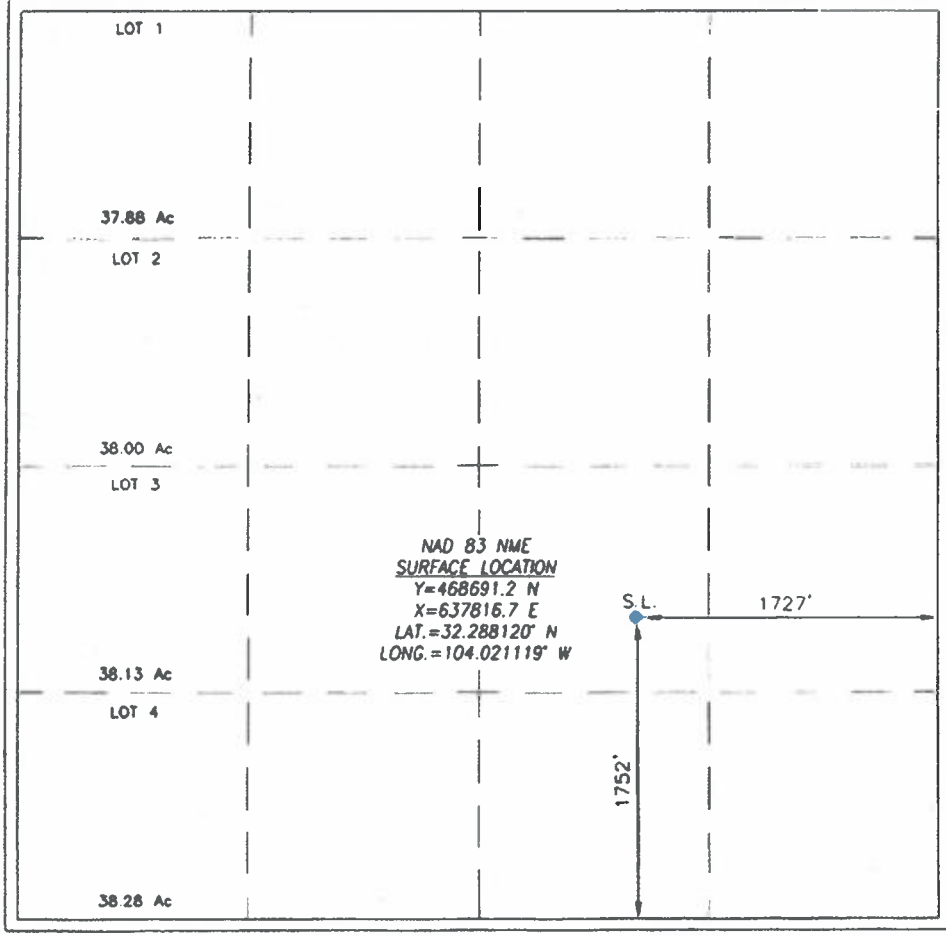
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	19	23-S	29-E		1752	SOUTH	1727	EAST	EDDY

Bottom Hole Location If Different From Surface

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

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



OPERATOR CERTIFICATION

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

Melanie J. Wilson 05/29/2018
Signature Date

Melanie J Wilson
Printed Name

mjp1692@gmail.com
E-mail Address

SURVEYOR CERTIFICATION

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

MARCH 5, 2018
Date of Survey

Signature & Seal of Professional Surveyor

CHAD L HARCROW NEW MEXICO 17777 LICENSED PROFESSIONAL SURVEYOR

3/27/18

Certificate No. CHAD HARCROW 17777

W.O. # 18-157 DRAWN BY: SP

31

INJECTION WELL DATA SHEET

OPERATOR: Mesquite SWD, Inc.

WELL NAME & NUMBER: Laguna Salada 19 SWD #1

WELL LOCATION:	1752' FSL & 1727' FEL	J	19	23S	29E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 26" Casing Size: 20" 94# J55 BTC

Cemented with: 400 sx or ft^3

Top of Cement: Surface Method Determined: Circulate

1st Intermediate Casing

Hole Size: 17.5" Casing Size: 13.375" 54.5# NE80 BTC

Cemented with: 1450 sx or ft^3

Top of Cement: Surface Method Determined: Circulate

2nd Intermediate Casing

Hole Size: 12.25" Casing Size: 9.625" 53.5# P110 BTU

Cemented with: 2200 sx or ft^3

Top of Cement: Surface Method Determined: Circulate

Liner

Hole Size: 8.5" Casing Size: 7.625" 39# ECP-110 J-2/STL FJ

Cemented with: 200 sx or ft^3

Top of Cement: 9400' Method Determined: Opr

Total Depth: Approx. 15,700'

Injection Interval

Approximately 14500' To 15700'

(Perforated or Open Hole; indicate which) Open Hole

Tubing Size: Tapered string 7" 26# P110 / 5.5" 20# P110 JFE Bear Lining Material: Fiberglass coated

Type of Packer: Lok-Set or equivalent

Packer Setting Depth: Approximately 14,500'

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? _____

2. Name of the Injection Formation: Siluro-Devonian
3. Name of Field or Pool (if applicable): SWD; 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 New drill
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: Delaware & Bone Spring horizons all above approximately 9770'

   For what purpose was the well originally drilled? _____

Mesquite SWD, Inc.
Laguna Salada 19 SWD #1
API #30-015-
1752' FSL & 1727' FEL
Section 19, T23S, R29E, Eddy County, NM

Proposed Well Bore Diagram

KB: 2986'
GL: 2961'

Surface Casing
Size: 20" 94# J-55 BTC
Set @: 350'
Sx Cmt: 400
TOC: Surf
Hole Size: 26"

1st Intermediate Casing
Size: 13 3/8" 54.5# NE80 BTC
Set @: 2650'
Sx Cmt: 1450
TOC: Surf
Hole Size: 17 1/2"

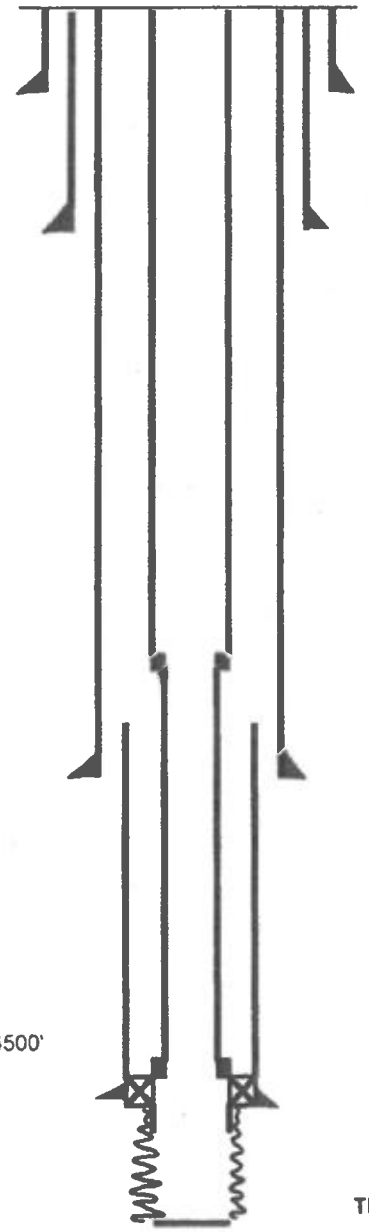
2nd Intermediate Casing
Size: 9 5/8" 53.5# P-110 BTU
Set @: 9900'
Sx Cmt: 2200
TOC: Surf
Hole Size: 12 1/4"

Liner
Size: 7 5/8" 39# ECP-110 J-2/STL FJ
Top: 9400'
Set @: 14500'
Sx Cmt: 200
TOC: 9400'
Hole Size: 8 1/2"

Open Hole
Interval: 14500'-15700'
Hole Size: 6 1/2"

Tubing
7" 26# P-110 Tbg @ 9105'
7" x 5 1/2" X-Over @ 9200'
5 1/2" 20# JFE Bear Tbg @ 14495'
7 5/8" x 5 1/2" Dual Bore Permapak Packer @ 14500'

Open hole acid if required
Tubing annulus w/corrosion inhibitor
Complete surface head for disposal

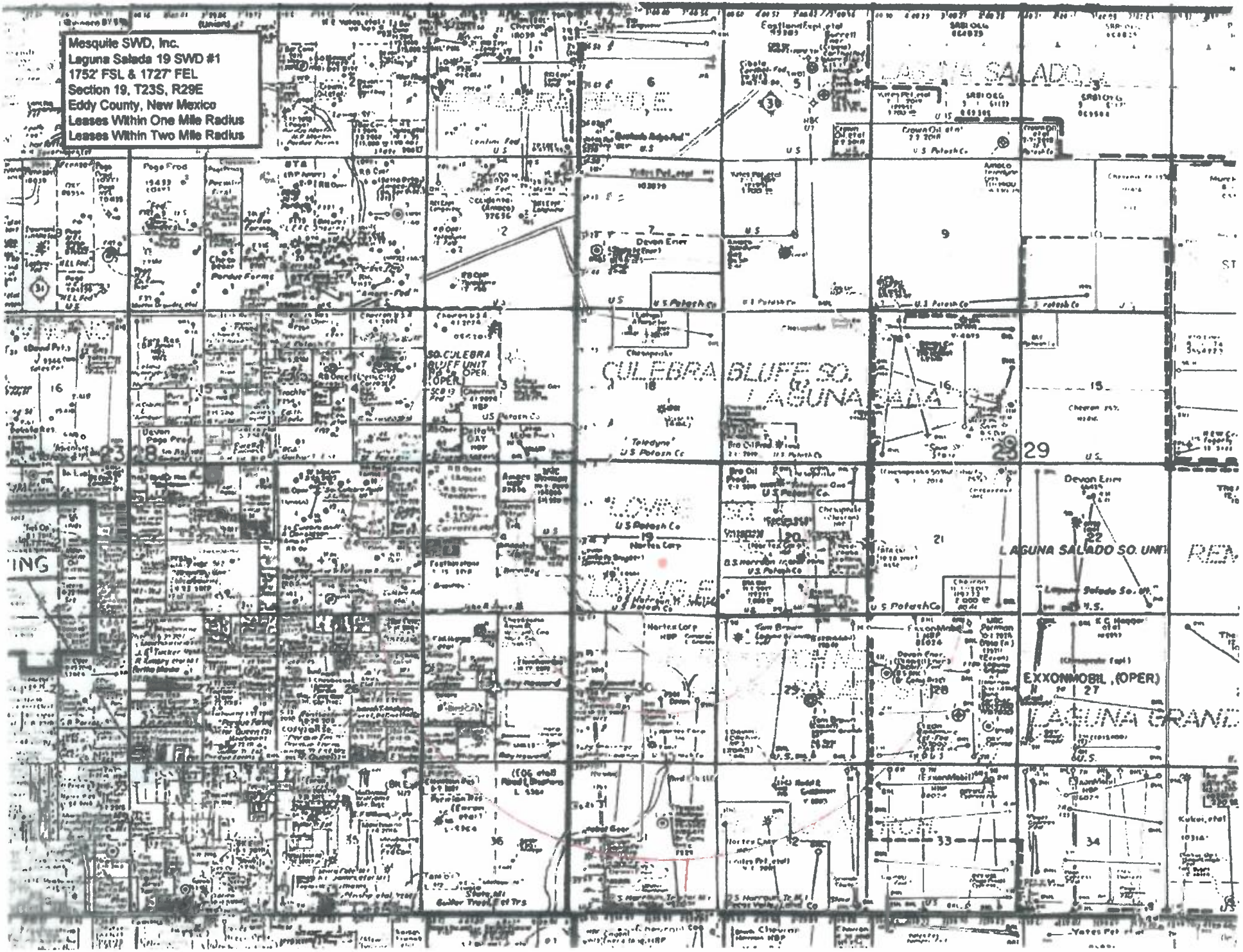


350'
2650'
9400'
9900'
14500'
TD 15700'

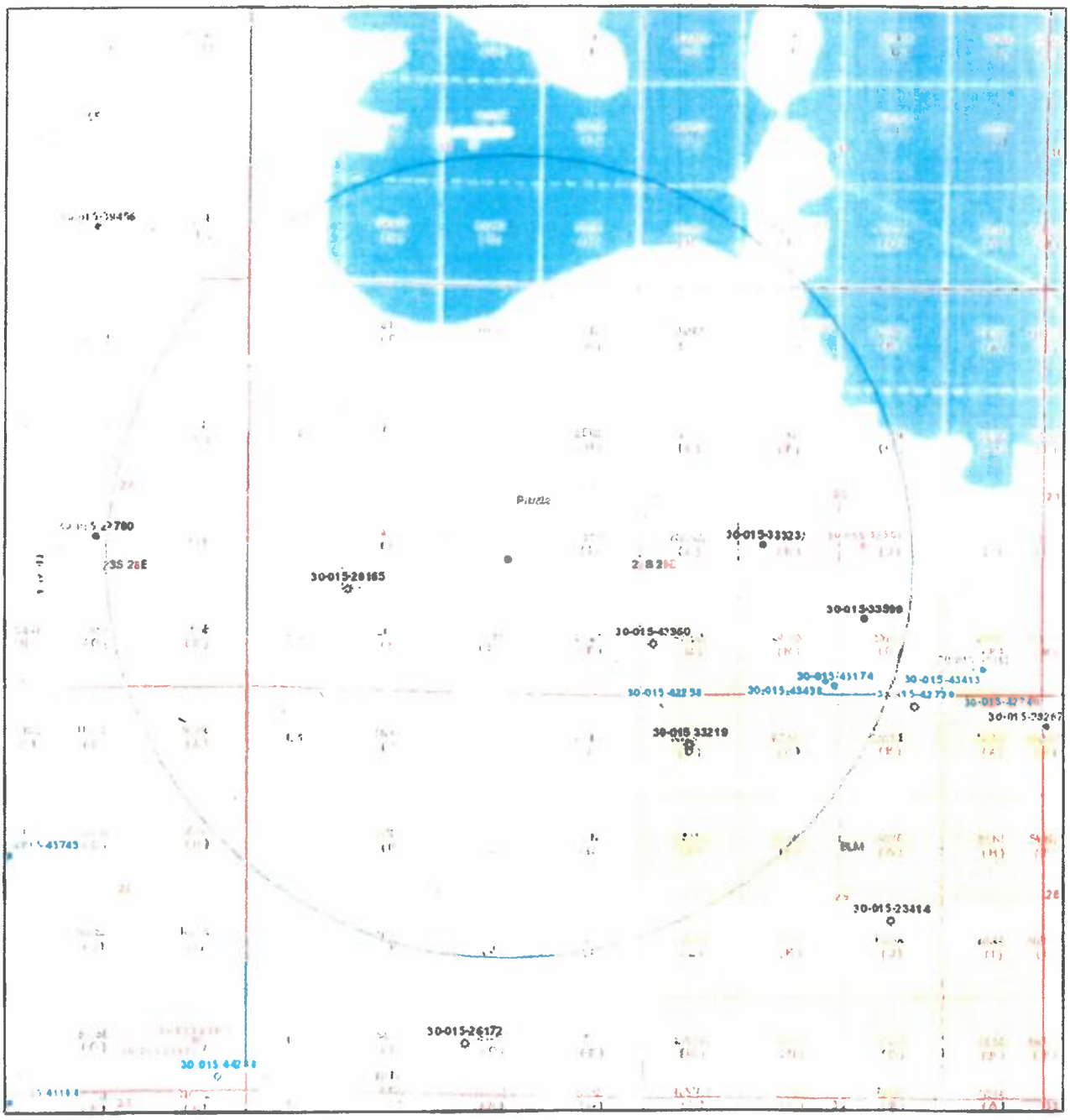
Top of Salt est 620'
Base of Salt est 2532'
DVT @ approx 2600'
Delaware Mtn group est 2724'
Bone Spring est 6500'
Wolfcamp est 9770'
Strawn est 10900'
Atoka est 11880'
Morrow est 12200'
Mississippi Lime est 13700'
Top Siluro-Devonian est 14500'
Montoya est 15700'

Not to Scale

Melanie Wilson
5/21/2018


Mesquite SWD, Inc.
Laguna Salada 19 SWD #1
1752' FSL & 1727' FEL
Section 19, T23S, R29E
Eddy County, New Mexico
Leases Within One Mile Radius
Leases Within Two Mile Radius
LAGUNA SALADO
CULEBRA BLUFF SO.
LAGUNA SALADO SO. UNIT
EXXONMOBIL, (OPER)
LAGUNA GRANDE

Laguna Salada 19 SWD #1 - Wells in Area of Review



May 29, 2018

1:18,056

0 0.17 0.35 0.7 mi

0 0.28 0.55 1.1 km

Override 1

Well Locations - Small Scale
- Active
- New
- Plugged
- Cancelled
- Temporarily Abandoned

Well Locations - Large Scale
- Miscellaneous
- CO2 Active
- CO2 Cancelled
- CO2 New
- CO2 Plugged
- CO2 Temporarily Abandoned
- Gas Active
- Gas Cancelled Never Drilled
- Gas New
- Gas Plugged
- Gas Temporarily Abandoned
- Injection, Active
- Injection, Cancelled
- Injection, New
- Injection, Plugged
- Injection, Temporarily Abandoned
- Oil Active
- Oil Cancelled
- Oil New

U S BLM Texas Parks & Wildlife Esri HERE Garmin INCREMENT P USGS METI/NASA EPA USDA OCD BLM

NM OCD Oil and Gas Map http://nm-emnrd.maps.arcgis.com/apps/webappviewer New Mexico Oil Conservation Division New Mexico Oil Conservation Division

Mesquite SWD, Inc.
Laguna Salado 19 SWD #1
Wells in One Mile Area of Review

API	Operator	Well Name	Well Number	Type	Vertical/ Horizontal	Status	Unit Letter	S	T	R	Footages	Formation	MD	TVD
30-015-28165	DEVON ENERGY PRODUCTION COMPANY,	HARROUN TRUST 19	#001	Gas	Vertical	Active	N	19	23S	29E	1316 FSL, 1320 FWL	Atoka	12200	12200
30-015-22703	CHEVRON U S A INC	TELEDYNE 20 GAS COM	#001	Gas	Vertical	P&A	C	20	23S	29E	660 FNL, 2080 FWL	Delaware	13370	13370
30-015-32987	CHEVRON U S A INC	TELEDYNE 20	#002	Oil	Vertical	TA	F	20	23S	29E	1650 FNL, 1980 FWL	Delaware	6599	6599
30-015-33504	CHEVRON U S A INC	USA TELEDYNE 20	#005	Oil	Vertical	P&A	J	20	23S	29E	1980 FSL, 2310 FEL	Delaware	6850	6850
30-015-33323	BTA OIL PRODUCERS, LLC	TELEDYNE 20	#004	Oil	Vertical	Active	K	20	23S	29E	1980 FSL, 1650 FWL	Delaware	6758	6758
30-015-43360	BTA OIL PRODUCERS, LLC	HARROUN RANCH FEDERAL COM 20702	#002H	Gas	Horizontal	Active	M	20	23S	29E	680 FSL, 180 FWL	Wolfcamp	21090	10839
						BHL	D	17	23S	29E	29 FNL, 363 FWL			
30-015-43174	CIMAREX ENERGY CO. OF COLORADO	LAGUNA GRANDE 29 FEDERAL	#006	Oil	Horizontal	New	N	20	23S	29E	98 FSL, 2562 FWL	Bone Spring	13731	NYD
						BHL	N	29	23S	29E	330 FSL, 1980 FWL			
30-015-43438	BTA OIL PRODUCERS, LLC	HARROUN RANCH FEDERAL COM 20702	#003H	Oil	Horizontal	New	N	20	23S	29E	170 FSL, 2465 FWL	Wolfcamp	13431	NYD
						BHL	C	20	23S	29E	210 FNL, 1900 FWL			
30-015-33599	BTA OIL PRODUCERS, LLC	HARROUN RANCH FEDERAL 20702	#001	Oil	Vertical	P&A	O	20	23S	29E	990 FSL, 2310 FEL	Delaware	13000	13000
30-015-43414	BTA OIL PRODUCERS, LLC	HARROUN RANCH FEDERAL COM 20702	#004H	Oil	Horizontal	New	O	20	23S	29E	160 FSL, 2493 FWL	Wolfcamp	13208	NYD
						BHL	B	17	23S	29E	50 FNL, 1980 FEL			
30-015-42258	CIMAREX ENERGY CO. OF COLORADO	LAGUNA GRANDE 29 FEDERAL	#005H	Gas	Horizontal	New	D	29	23S	29E	140 FNL, 330 FWL	Wolfcamp	13212	NYD
						BHL	M	29	23S	29E	660 FSL, 660 FWL			
30-015-33219	CIMAREX ENERGY CO. OF COLORADO	LAGUNA GRANDE FEDERAL	#004	Gas	Vertical	Active	D	29	23S	29E	660 FNL, 660 FWL	Wolfcamp	12333	12333

No wells within the one-mile Area of Review penetrate the proposed injection interval.

Mesquite SWD, Inc.
Laguna Salada 19 SWD #1
1752' FSL & 1727' FEL
Section 19, T23S, R29E
Eddy County, New Mexico

API Not Issued

Item VII:

1. The maximum injected volume anticipated is 40,000 BWPD. Average anticipated is 30,000 BWPD.
2. Injection will be through a closed system.
3. Maximum injection pressure is expected to be 2,900 psi, or as controlled by depth.
4. Disposal sources will be produced waters that, based upon regional experience, are compatible with known waters in the disposal zone.
5. An analysis of water produced from the Devonian formation is attached. Analysis obtained from Go-Tech website.

C-108 Iten VII.5 - Produced Water Data
Laguna Salada 19 SWD #1

Water Analysis from Injection Zone

Well Name	BELL LAKE UNIT #006	FtgN/S	660S
API	3002508483	FtgE/W	1980E
Lat	32.3282585	County	LEA
Long	-103.507103	State	NM
Section	6	Field	BELL LAKE NORTH
T	23S	Formation	DEVONIAN
R	34E		
Unit	O		

Depth			
LabNo.			
Sample No.			
Sample Source	HEATER TREATER		
Water Type			
Sample Date			
Analysis Date			

ph	7	barium_mgL	
ph temp F		magnesium_mgL	
Specific Gravity		potassium_mgL	
SG Temp F		strontium_mgL	
TDS mgL	71078	manganese_mgL	
TDS mgL 180C		chloride_mgL	42200
alkalinity_as_caco3_mgL		carbonate_mgL	
hardness_as_caco3_mgL		bicarbonate_mgL	500
hardness_mgL		sulfate_mgL	1000
resistivity_ohm_cm		hydroxide_mgL	
resistivity_ohm_cm_temp_F		h2s_mgL	
conductivity		co2_mgL	
conductivity_temp_F		o2_mgL	
sodium_mgL		anionremarks	
calcium_mgL		generalinforemarks	
iron_mgL		CorrectFlag	TRUE

Water analysis from Go-Tech Produced Water Database

Mesquite SWD, Inc.
Laguna Salada 19 SWD #1

API Not Issued

Item VII(a):

Water samples from the regionally area.

Wolfcamp

BAKER HUGHES

Water Analysis

Date: 23-Aug-11

2708 West County Road, Hobbs NM 88240
Phone (575) 392-5556 Fax (575) 392-7307

Analyzed For Brushy Draw 1st 1

Company	Well Name	County	State
	BD	~~Lea~~ Eddy	New Mexico

Sample Source Swab Sample **Sample #** 1

Formation **Depth** 1-265-29c

Specific Gravity	1.170	SG @ 60 °F	1.172
pH	6.30	Sulfides	Absent
Temperature (°F)	70	Reducing Agents	

Cations

Sodium (Calc)	In Mg/L	77,982	In PPM	66,520
Calcium	In Mg/L	4,000	In PPM	3,413
Magnesium	In Mg/L	1,200	In PPM	1,024
Soluable Iron (FE2)	In Mg/L	10.0	In PPM	9

Anions

Chlorides	In Mg/L	130,000	In PPM	110,922
Sulfates	In Mg/L	250	In PPM	213
Bicarbonates	In Mg/L	127	In PPM	108
Total Hardness (as CaCO3)	In Mg/L	15,000	In PPM	12,799
Total Dissolved Solids (Calc)	In Mg/L	213,549	In PPM	182,209
Equivalent NaCl Concentration	In Mg/L	182,868	In PPM	156,031

Scaling Tendencies

Calcium Carbonate Index 507,520
Below 500,000 Remote / 500,000 - 1,000,000 Possible / Above 1,000,000 Probable

Calcium Sulfate (Gyp) Index 1,000,000
Below 500,000 Remote / 500,000 - 10,000,00 Possible / Above 10,000,000 Probable

This Calculation is only an approximation and is only valid before treatment of a well or several weeks after treatment.

Remarks RW= 048@70F

40

Mesquite SWD, Inc. API Not Issued

Laguna Salada 19 SWD #1

Item VII(b) continued):

Sec 22, T25S, R28E

North Permian Basin Region
P.O. Box 740
Sundown, TX 79372-0740
(806) 229-8121
Lab Team Leader - Sheila Hernandez
(432) 495-7240

Bone Spring

Water Analysis Report by Baker Petrolite

Company:		Sales RDT:	33514.1
Region:	PERMIAN BASIN	Account Manager:	TONY HERNANDEZ (575) 910-7135
Area:	ARTESIA, NM	Sample #:	534665
Lease/Platform:	PINOCHLE 'BPN' STATE COM	Analysis ID #:	108785
Entity (or well #):	2 H	Analysis Cost:	$90.00
Formation:	UNKNOWN		
Sample Point:	WELLHEAD		

Summary		Analysis of Sample 534665 @ 75 °F					
Sampling Date:	03/10/11	Anions	mg/l	meq/l	Cations	mg/l	meq/l
Analysis Date:	03/15/11	Chloride:	101816.0	3081.92	Sodium:	70275.7	3056.83
Analyst:	SANDRA GOMEZ	Bicarbonate:	2133.0	34.96	Magnesium:	195.0	16.04
		Carbonate:	0.0	0.	Calcium:	844.0	42.12
TDS (mg/l or g/m3):	184911.1	Sulfate:	747.0	15.56	Strontium:	220.0	5.02
Density (g/cm3, tonne/m3):	1.115	Phosphate:			Barium:	0.8	0.01
Anion/Cation Ratio:	1	Borate:			Iron:	6.5	0.23
		Silicate:			Potassium:	869.0	22.22
					Aluminum:		
Carbon Dioxide:	0.50 PPM	Hydrogen Sulfide:		0 PPM	Chromium:		
Oxygen:		pH at time of sampling:		7	Copper:		
Comments:		pH at time of analysis:			Lead:		
					Manganese:	0.100	0.
		pH used in Calculation:		7	Nickel:		

Conditions		Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl										
Temp	Gauge Press.	Calcite $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		Anhydrite $CaSO_4$		Celestite $SrSO_4$		Barite $BaSO_4$		CO_2 Press
°F	psi	Index	Amount	Index	Amount	Index	Amount	Index	Amount	Index	Amount	psi
80	0	1.06	188.52	-1.20	0.00	-1.18	0.00	-0.11	0.00	0.56	0.29	1.72
100	0	1.10	208.05	-1.29	0.00	-1.20	0.00	-0.15	0.00	0.35	0.28	2.35
120	0	1.12	224.17	-1.38	0.00	-1.19	0.00	-0.17	0.00	0.15	0.20	3.17
140	0	1.13	243.17	-1.42	0.00	-1.18	0.00	-0.16	0.00	0.00	0.00	4.21

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.
Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.
Note 3: The reported CO2 pressure is actually the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.

Mesquite SWD, Inc.
Laguna Salada 19 SWD #1
1752' FSL & 1727' FEL
Section 19, T23S, R29E
Eddy County, New Mexico

API Not Issued

Item VIII:

Geologic Formation:	Devonian/Silurian
Estimated Top:	14,500'
Tickness:	1,200'
Lithology:	Limestone w/Interbedded Dolomites

According to the New Mexico Office of the State Engineer's website, there are three fresh water wells within one-mile radius of the proposed SWD. Average depth to fresh water is 13'. Mesquite SWD, Inc. was unable to obtain an analysis of water from this well. An analysis of water from water well C-00500 is attached.

The surface geology of the greater area, including the two-mile radius as shown in Item V above, is Quaternary eolian and piedmont deposits of Holocene to middle Pleistocene age and Permian Castile formation. These are underlain by Permian formation and evaporites.

Item IX:

Formation chemical stimulation may be applied after completion. No other stimulation is currently planned.

Item X:

Logs will be filed with the OCD upon completion of the well. Density-Neutron is planned from surface to TD.

Item XI:

According to the website of the NM Office of the State Engineer, there are three water wells within one mile of the proposed Laguna Salada 19 SWD #1 well. Please note Item VIII discussion above. A water analysis from water well C-00500 in NW/4 Section 24, T23S, R28E is attached, which is not within the Area of Review.

Item XII:

Affirmative statement is attached.

Item XIII:

Proof of Notice is attached.

Mesquite SWD, Inc.
Laguna Salada 19 SWD #1
1752' FSL & 1727' FEL
Section 19-T23S-R29E
Eddy County, NM

New Mexico Office of the State Engineer

Wells with Well Log Information

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

(R=POD has been replaced & no longer serves a water right. The file number is shown.)

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

POD Number	Code	POD Subbasin	County	Source	q q q 64 16 4	Sec	Tws	Rng	X	Y	Distance	Start Date	Finish Date	Log File Date	Depth Well	Depth Water	Driller	License Number
		CUB	ED	Shallow	1 2 4	19	23S	29E	592313	3572876	95	04/11/2013	04/12/2013	04/17/2013	75	15	TAYLOR CLINTON (TD)	1348
	C	ED	Shallow		19	23S	29E	591531	3574091	949	05/18/2000	05/19/2000	05/22/2000	175			1348
	C	ED	Shallow	4	18	23S	29E	592302	3574291	1503	05/23/2000	05/24/2000	05/28/2000	17			1348

Record Count: 3

Basin/County Search:

Eddy

UTMNAD83 Radius Search (in meters):

592372.25 3572792.97 1610

*UTM location was derived from PLSS - see Help

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

6/22/18 3:26 PM WELLS WITH WELL LOG INFORMATION

Mesquite SWD, Inc.
Laguna Salada 19 SWD #1

Water Analysis from Water Well C-00500
Section 24, T23S, R28E, Eddy County, NM

Analytical Report
Lab Order 1705094

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 5/10/2017

CLIENT: Whitenton Group Inc
Project: Oxy/Centurion
Lab ID: 1705094-002 **Matrix:** AQUEOUS

Client Sample ID: Mosaic Carrasco Well
Collection Date: 5/1/2017 4:20:00 PM
Received Date: 5/2/2017 9:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**MRA**
Fluoride	0.88	0.50		mg/L	5	5/3/2017 1:54:17 AM	A42488
Chloride	510	25	*	mg/L	50	5/3/2017 11:04:13 PM	R42532
Nitrogen, Nitrite (As N)	ND	2.0		mg/L	20	5/3/2017 2:06:42 AM	A42488
Nitrogen, Nitrate (As N)	10	0.50	*	mg/L	5	5/3/2017 1:54:17 AM	A42488
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	5/3/2017 2:06:42 AM	A42488
Sulfate	520	25	*	mg/L	50	5/3/2017 11:04:13 PM	R42532
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	8100	1.0		µmhos/cm	1	5/4/2017 2:49:37 PM	R42568
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	208.2	20.00		mg/L CaCO3	1	5/4/2017 2:49:37 PM	R42568
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	5/4/2017 2:49:37 PM	R42568
Total Alkalinity (as CaCO3)	208.2	20.00		mg/L CaCO3	1	5/4/2017 2:49:37 PM	R42568
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**KS**
Total Dissolved Solids	6570	20.0	*	mg/L	1	5/5/2017 5:44:00 PM	31567
SM4500-H+B: PH						Analyst:	**JRR**
pH	7.31		H	pH units	1	5/4/2017 2:49:37 PM	R42568
EPA METHOD 6010B: DISSOLVED METALS						Analyst:	**MED**
Calcium	760	10		mg/L	10	5/4/2017 9:20:14 AM	A42530
Magnesium	250	10		mg/L	10	5/4/2017 9:20:14 AM	A42530
Potassium	7.0	1.0		mg/L	1	5/4/2017 9:13:56 AM	A42530
Sodium	1000	50		mg/L	50	5/8/2017 12:05:01 PM	A42604

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Form C-108
Affirmative Statement
Mesquite SWD, Inc.
Laguna Salada 19 SWD #1
Section 19, T23S, R29E, NMPM
Eddy County, New Mexico

Available geologic and engineering data has been examined and no evidence of open faults or hydrological connection between the injection zone and any underground sources of drinking water has been found.

Riley Neatherlin
Operations Manager
Mesquite SWD, Inc.

7/24/18
Date

Mesquite SWD, Inc. API Not Issued
Laguna Salada 19 SWD #1
1752' FSL & 1727' FEL
Section 19, T23S, R29E
Eddy County, New Mexico

Item XIII: Proof of Notice

Surface Owner:		**FedEx Tracking No.**
Mosaic Potash Carlsbad NM 1361 Potash Mines Road Carlsbad, NM 88220		7724 0353 8381

Offset Operators:

Chevron USA, Inc 6301 Deauville Blvd. Midland, TX 79706	Sections 17, 18 and 20, T23S, R29E	7723 9957 9455
Devon Energy Production Company, LP 333 W Sheridan Ave. Oklahoma City, OK 73102	Sections 19 and 30, T23S, R29E	7723 9955 7895
BTA Oil Producers, LLC 104 South Pecos Midland, TX 79701	Section 20, T23S, R29E	7724 0355 5178
Cimarex Energy Co. of Colorado 202 S Cheyenne Ave., Suite 1000 Tulsa, OK 74102	Section 20 and 29, T23S, R29E	7724 0357 1244
MPC Permian Co. 5400 LBJ Freeway, Suite 1500 Dallas, TX 75240-1017	Section 24, T23S, R28E	7724 0358 4737
Mewbourne Oil Company 4801 Business Park Blvd. Hobbs, NM 88240	Section 25, T23S, R28E	7724 0359 9567
OXY USA, Inc. 5 Greenway Plaza Houston, TX 77046	Section 13, T23S, R28E	7728 2094 0467
Echo Production, Inc. 616 5th Street Graham, TX 76450	Section 13, T23S, R28E	7728 2093 7438

Affidavit of Publication

No 24687

State of New Mexico

County of Eddy:

Danny Scott

being duly sworn sayes that she is the

of the Artesia Daily Press, a daily newspaper of General circulation, published in English at Artesia, said county and state, and that the hereto attached

Legal Ad

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for

1 Consecutive weeks/day on the same day as follows:

First Publication	May 27, 2018
Second Publication	
Third Publication	
Fourth Publication	
Fifth Publication	
Sixth Publication	
Seventh Publication	

Subscribed and sworn before me this 29th day of May 2018

OFFICIAL SEAL
Latisha Romine
NOTARY PUBLIC-STATE OF NEW MEXICO
My commission expires: 5/12/2019

Latisha Romine

Latisha Romine
Notary Public, Eddy County, New Mexico

Copy of Publication:

Legal Notice

Mesquite SWD, Inc., c/o Riley Neatherlin, PO Box 1479, Carlsbad, NM 88221-1479, 575-887-0980, is seeking administrative approval from the New Mexico Oil Conservation Division to drill the Laguna Salada 19 SWD #1, API not issued, located 1752' FSL & 1727' FEL, Section 19, T23S, R29E, Eddy County, NM, approximately 4 miles east of Loving, NM, for commercial produced water disposal. The proposed disposal interval is the Siluro-Devonian formation in open-hole interval approximately 14,563' to 15,700', at a maximum pressure of 3000 psi and a maximum rate of 40,000 BWPD. Parties with questions regarding this proposal may contact Riley Neatherlin at the address or phone number above. Parties must file objections or requests for hearing within 15 days of this publication to the New Mexico Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, NM 87505.

Published in the Artesia Daily Press, Artesia, N.M., May 27, 2018 Legal No. 24687.

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

APPLICATION OF MESQUITE SWD, INC.
TO APPROVE PRODUCED WATER DISPOSAL
WELL IN EDDY COUNTY, NEW MEXICO.

CASE NO. 20472

APPLICATION

Mesquite SWD, Inc. ("Mesquite"), OGRID No. 161968, through its undersigned attorneys, hereby makes this application to the Oil Conservation Division pursuant to the provisions Rule No. 19.15.4.8 for an order approving drilling of a produced water disposal well in Eddy County, New Mexico. In support of this application, Mesquite states as follows:

(1) Mesquite proposes to drill the Baker SWD Well No. 1 well at a surface location 330 feet from the South line and 309 feet from the West line (Unit M) of Section 1, Township 26 South, Range 31 East, NMPM, Eddy County, New Mexico for the purpose of operating a produced water disposal well.

(2) Mesquite seeks authority to inject produced water into the Siluro-Devonian formation through the open-hole interval from approximately 17,300' to 18,500'.

(3) Mesquite 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 40,000 bbls per day.

(4) Mesquite anticipates a maximum injection pressure of 3,460 psi, or as controlled by depth.

(5) On or about September 27, 2018 Mesquite SWD, Inc., filed with the Division, an administrative application for approval of the subject well for produced water disposal.

(6) Mesquite has determined to request that this matter be set for hearing before a Division Examiner.

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

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

WHEREFORE, Mesquite requests that this application be set for hearing before an Examiner of the Oil Conservation Division on May 4, 2019; and that after notice and hearing, the Division enter its order approving this application.

Respectfully submitted,

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

By: Deana M Bennett

Deana Bennett
Post Office Box 2168
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 Mesquite SWD, Inc., for approval of produced water disposal well in Eddy County, New Mexico. Applicant seeks an order approving disposal into the Silurian-Devonian formation through the Baker SWD Well No. 1 well at a surface location 330 feet from the South line and 309 feet from the West line (Unit M) of Section 1, Township 26 South, Range 31 East, NMPM, Eddy County, New Mexico for the purpose of operating a produced water disposal well. Mesquite seeks authority to inject produced water into the Silurian-Devonian formation at a depth of approximately 17,300' to 18,500'. Mesquite 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 40,000 bbls per day. Said area is located approximately 22 miles Southwest of Malaga, New Mexico.

50

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: Mesquite SWD, Inc. **OGRID Number:** 161968
Well Name: Baker SWD Well No. 1 **API:** Not Yet Assigned
Pool: SWD; Devonian **Pool Code:** N/A

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

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

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

FOR OCD ONLY
☐ Notice Complete
☐ Application Content Complete

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

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

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

Melanie Wilson
Print or Type Name

Signature

9/27/2018
Date

(575) 914-1461
Phone Number

mjp1692@gmail.com
e-mail Address

September 27, 2018

Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Attention: Ms. Heather Riley
Division Director

Re: Form C-108
Baker SWD Well No. 1
API No. (Not Yet Assigned)
330' FSL & 309' FWL, Unit M
Section 1, T-26S, R-31E, NMPM,
Eddy County, New Mexico

Dear Ms. Riley,

Enclosed please find a Division Form C-108 (Application for Authorization to Inject) for the Mesquite SWD, Inc. Baker SWD Well No. 1. Mesquite SWD, Inc. proposes to drill and utilize this well as a produced water disposal well, injection to occur into the Siluro-Devonian formation through the open-hole interval from approximately 17,300 feet to 18,500 feet. Produced water from the Bone Spring, Wolfcamp and other formations originating from wells in this area will be injected into the well.

I believe that all the information necessary to approve the application is enclosed. If additional information is needed, please contact me at (575) 914-1461.

Sincerely,

Melanie Wilson-Regulatory Analyst
Mesquite SWD, Inc.
P.O. Box 1479
Carlsbad, New Mexico 88221-1479

Xc: OCD-Artesia

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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? _____ Yes _____ No

II. OPERATOR: Mesquite SWD, Inc.

ADDRESS: P.O. Box 1479, Carlsbad, New Mexico 88221-1479

CONTACT PARTY: Melanie Wilson PHONE: 575-914-1461

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: Melanie Wilson TITLE: Regulatory Analyst

SIGNATURE: _____ DATE: 9/27/18

E-MAIL ADDRESS: mjp1692@gmail.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.

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 RD., AZTEC, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name

Property Code	Property Name	Well Number
	BAKER SWD	1

OGRID No.	Operator Name	Elevation
	MESQUITE SWD	3280.0'

Surface Location

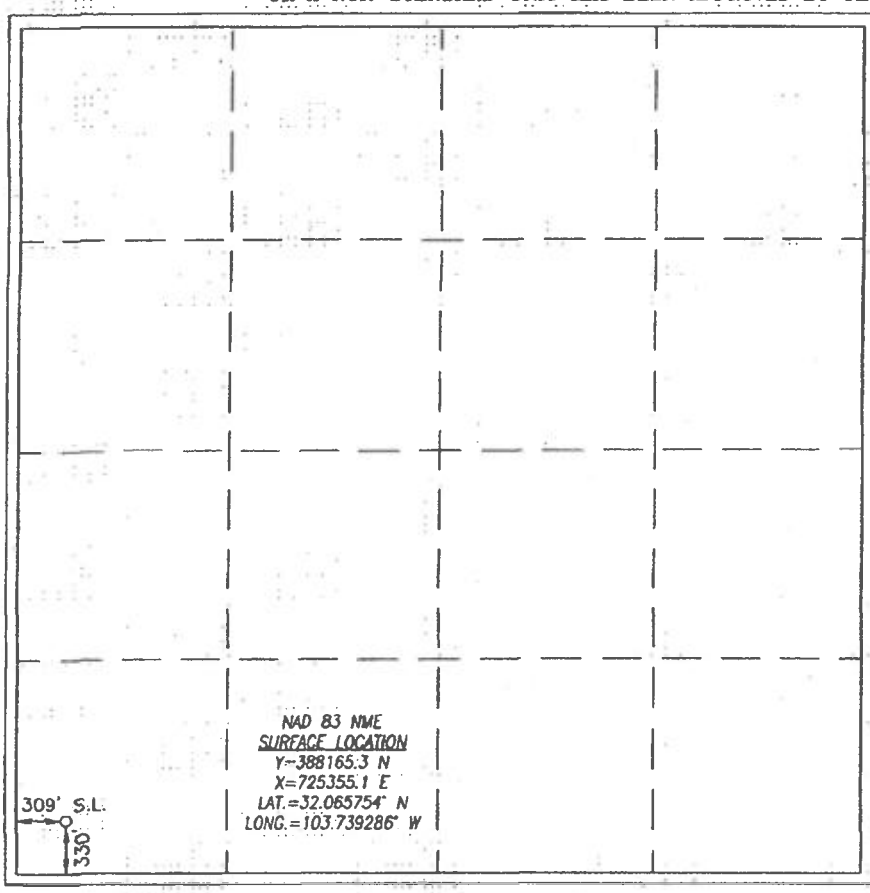
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	1	26-S	31-E		330	SOUTH	309	WEST	EDDY

Bottom Hole Location If Different From Surface

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

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



OPERATOR CERTIFICATION

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

Signature Date

Printed Name

E-mail Address

SURVEYOR CERTIFICATION

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

JULY 20, 2018

Date of Survey

Signature & Seal of Professional Surveyor

07/31/18

Certificate No. CHAD HARCROW 17777

W.O. # 18-819 DRAWN BY: SP

LEGEND

- WELL
- WELLPAD
- PROPOSED ROAD
- EXISTING ROAD

BAKER SWD #1

SEC: 1	TWP: 26 S.	RGE: 31 E.	ELEV: 3206.8'
STATE: NEW MEXICO	COUNTY: EDDY	330' FSL & 309' FWL	
W.O. # 18-819	LEASE: BAKER SWD	SURVEY: N.M.P.M	

0 2,500 FEET

0 0.05 0.1 0.2 Miles

1 IN = 1,000 FT

LOCATION OVERVIEW IMAGERY 7/25/2018 S.P.

MESQUITE SWD

HARCROW SURVEYING, LLC.
2134 W. MAIN ST, ARTESIA, NM 88210
PH: (575) 746-2158 FAX: (575) 746-2159
TEXAS FIRM NO. 10194089
t.harcrow@harcrowsurveying.com

INJECTION WELL DATA SHEET

OPERATOR: Mesquite SWD, Inc.

WELL NAME & NUMBER: Baker SWD Well No. 1

WELL LOCATION: 330' FSL & 309' FWL M 1 26S 31E
FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGE

WELLBORE SCHEMATIC
(SEE ATTACHED)

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 26" Casing Size: 20" 94# J-55 BTC
Cemented with: 1700 sx. or ft³
Top of Cement: Surface Method Determined: Circulate

1st Intermediate Casing

Hole Size: 17.5" Casing Size: 13.375" 68# P-110
Cemented with: 2500 sx. or ft³
Top of Cement: Surface Method Determined: Circulate

2nd Intermediate Casing

Hole Size: 12.5" Casing Size: 9.625" 53.5# P-110 BTC
Cemented with: 2,800 sx. Staged; DV Tools @ 8,200' & 4,500'
Top of Cement: Surface Method Determined: Circulate

Liner

Hole Size: 8.5" Casing Size: 7.625" 39# P-110 UFJ Liner
Cemented with: 400 sx. or ft³
Top of Cement: 11,400' (Liner Top) Method Determined: Circulate

Total Depth: Approximately 18,500'

Injection Interval

Approximately 17,300' To 18,500'
(Perforated or Open Hole; indicate which) Open Hole

Tubing Size: Tapered String 7" 26# P-110/5 ½" 17# P-110 Lining Material: Fiberglass Coated
Type of Packer: Lok-Set or Equivalent
Packer Setting Depth: Approximately 17,250'
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? _____
   _____

2. Name of Injection Formation: Siluro-Devonian

3. Name of Field or Pool (if applicable): SWD; 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: None
   _____

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: According to OCD pool records, the only pool existing in Section 1 is the Purple Sage-Wolfcamp (Gas) Pool (Depth 12,000'). Within the area surrounding Section 1 are the following pools: Southeast Big Sinks-Delaware & Big Sinks-Delaware Pools (Depth: 4,172'); Jennings-Bone Spring Upper Shale Pool; (Depths: 8,700'-9,100');

   (Note: See attached OCD Pool Maps)

Mesquite SWD, Inc.
Baker SWD No. 1: Proposed Wellbore Schematic
330' FSL & 309' FWL (Unit M)
Section 1, T-26S, R-31E, NMPM, Eddy County, NM

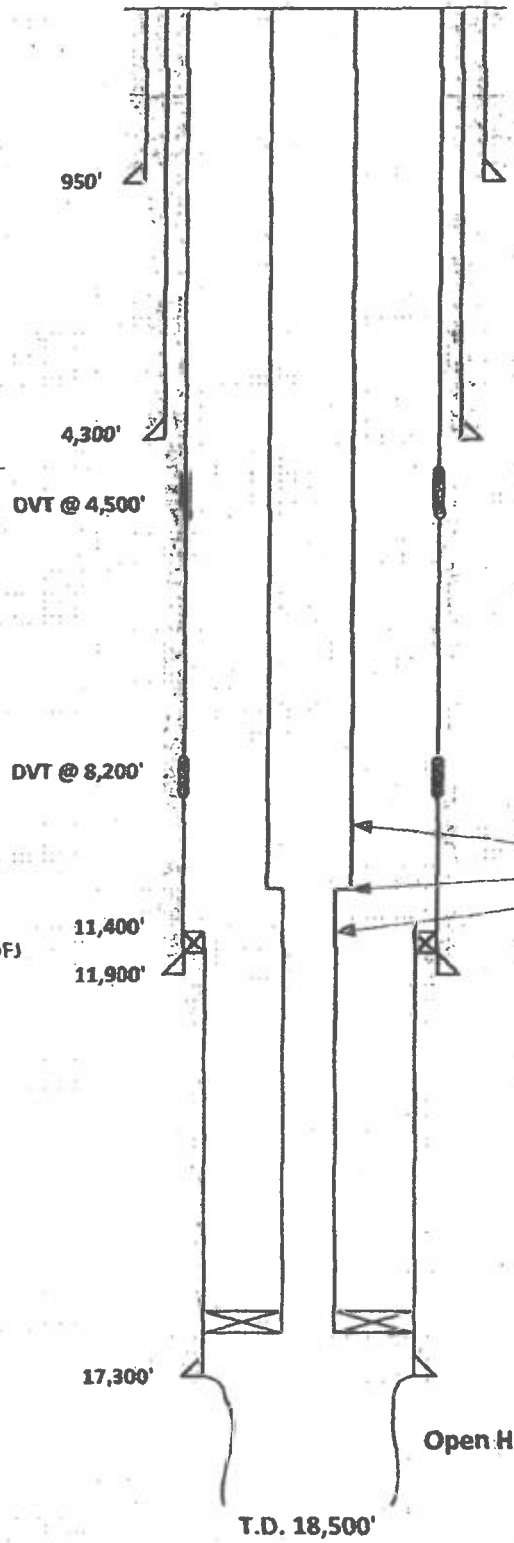
Surface Casing:
Hole Size: 26"
Size: 20" 94# J-55
Set @: 950'
Sx. Cmt: 1700
TOC: Surface

1st Intermediate Casing:
Hole Size: 17.5"
Size: 13.375" 68# P-110
Set @: 4,300'
Sx. Cmt: 2,500
TOC: Surface

2nd Intermediate Casing
Hole Size: 12.5"
Size: 9.625 53.5# P-110
Set @: 11,900'
Stage Cemented
DV Tools @ 8,200' & 4,500'
All Stages Circulate
TOC: Surface

Liner
Hole Size: 8.5"
Size: 7.625" 39# P-110 UFJ
Set @: 11,400'-17,300'
Sx. Cmt: 400
TOC: 11,400' (Liner Top)

Open Hole Injection Interval
Hole Size: 6 ½"
Interval: 17,300'- 18,500'



Injection Tubing
7" 26# P-110 Tbg: Surface-11,200'
7" x 5 ½" X-Over @ 11,200'
5 ½" 17# P-110 Tbg. 11,200'-17,250'
7 5/8" x 5 ½"" Dual Bore Permapak Packer @ 17,250'

Open Hole Injection Interval: 17,300'-18,500'

Formation Tops:	
Rustler:	925'
Top of Salt:	1,275'
Base of Salt:	4195'
Bone Spring:	9,416'
Wolfcamp:	11,852'
Strawn:	14,056'
Atoka:	14,191'
Morrow:	14,956'
Mississippian:	16,860'
Top Siluro-Devonian:	17,302'
Montoya:	18,854'

(Note: Formation tops based on offset Paduca 6 SWD No. 1Y located in Section 6, T-26S, R-32E)

C-108 Application
Mesquite SWD, Inc.
Baker SWD No. 1
330' FSL & 309' FWL (Unit M)
Section 1, T-26S, R-31E, NMPM
Eddy County, New Mexico

I. The purpose of the application is to request approval to utilize the proposed Baker SWD No. 1 as a produced water disposal well. This is a new well to be drilled for injection.

II. Mesquite SWD, Inc.
P.O. Box 1479
Carlsbad, New Mexico 88221-1479
Contact Party: Melanie Wilson (575) 914-1461

III. Injection well data sheet and wellbore schematic diagram showing the proposed wellbore configuration is attached.

IV. This is not an expansion of an existing project.

V. Attached are maps that identify all wells/leases within a 2-mile and 1-mile radius of the proposed water disposal well and a map that identifies the 1-mile "Area of Review" ("AOR").

VI. A listing of all wells within the AOR, including API No., operator, well name & number, well type and status, surface and bottomhole well locations, MD and TVD and completed formation is attached. An examination of the AOR well listing shows that none of the 31 active or proposed wells within the AOR penetrate, or will penetrate the proposed injection interval. In addition, none of the four PA'd wells within the AOR penetrate the proposed injection interval.

VII. 1. The average injection rate is anticipated to be approximately 30,000 BWPD. The maximum rate will be approximately 40,000 BWPD. If the average or maximum rates increase in the future, the Division will be notified.

2. This will be a closed system.

3. Mesquite SWD, Inc. will initially inject water into the subject well at or below a surface injection pressure in compliance with the Division's limit of *0.2 psi/ft., or approximately 3,460 psi. If a surface injection* pressure above 3,460 psi is necessary, Mesquite SWD, Inc. will conduct a step rate injection test to determine the fracture pressure of the Siluro-Devonian formation in this area.

4. Produced water from the Bone Spring, Wolfcamp, Delaware and other producing formations originating from wells in this area will be injected into the subject well. Attached are produced water analysis from various producing wells in Township 26 South, Range 31 East that produce from the Delaware, Bone Spring and Wolfcamp formations. These produced water analyses were obtained from the GO Tech website.

5. An examination of Division records indicate that the Siluro-Devonian formation is not productive within one mile of the Baker SWD No. 1. A produced water analysis from the Devonian formation within the Remuda Basin Unit Well No. 1, located in Section 24, Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico, was obtained from the Go Tech website, and is attached to this application. This produced water analysis shows a TDS of 56,922 Mg/L.

VIII. Geologic Formation: Devonian/Silurian
Estimated Top: 17,302'
Thickness: 1,552'
Lithology: Limestone w/Interbedded Dolomites

(Note: The top of the Devonian interval cited above was determined by examination of the well file for the offset Paduca 6 SWD No. 1Y, located in Unit E of Section 6, Township 26 South, Range 32 East, NMPM. This well is located approximately 1.25 miles Northeast of the proposed Baker SWD No. 1, and was permitted for injection into the Devonian interval by Order No. SWD-1607-A issued on August 17, 2016. Division records also indicate that this well is active, is currently injecting approximately 17,656 BWPD into the Devonian interval, and has cumulatively injected 6,666,203 barrels of water).

(Note: An examination of OCD well records indicate that there are no additional produced water disposal wells located within the nine-section area surrounding Section 1, T-26S, R-31E, NMPM.)

USDW's: According to data obtained from the New Mexico State Engineer, there are four fresh water wells located within one mile of the Baker SWD No. 1 (See Attached). These wells range in depth from 350 feet to 700 feet, and the depth to water averages 335 feet. Mesquite SWD, Inc. will attempt to obtain a water sample from one of these wells and forward a fresh water analysis to the Division when obtained.

6d

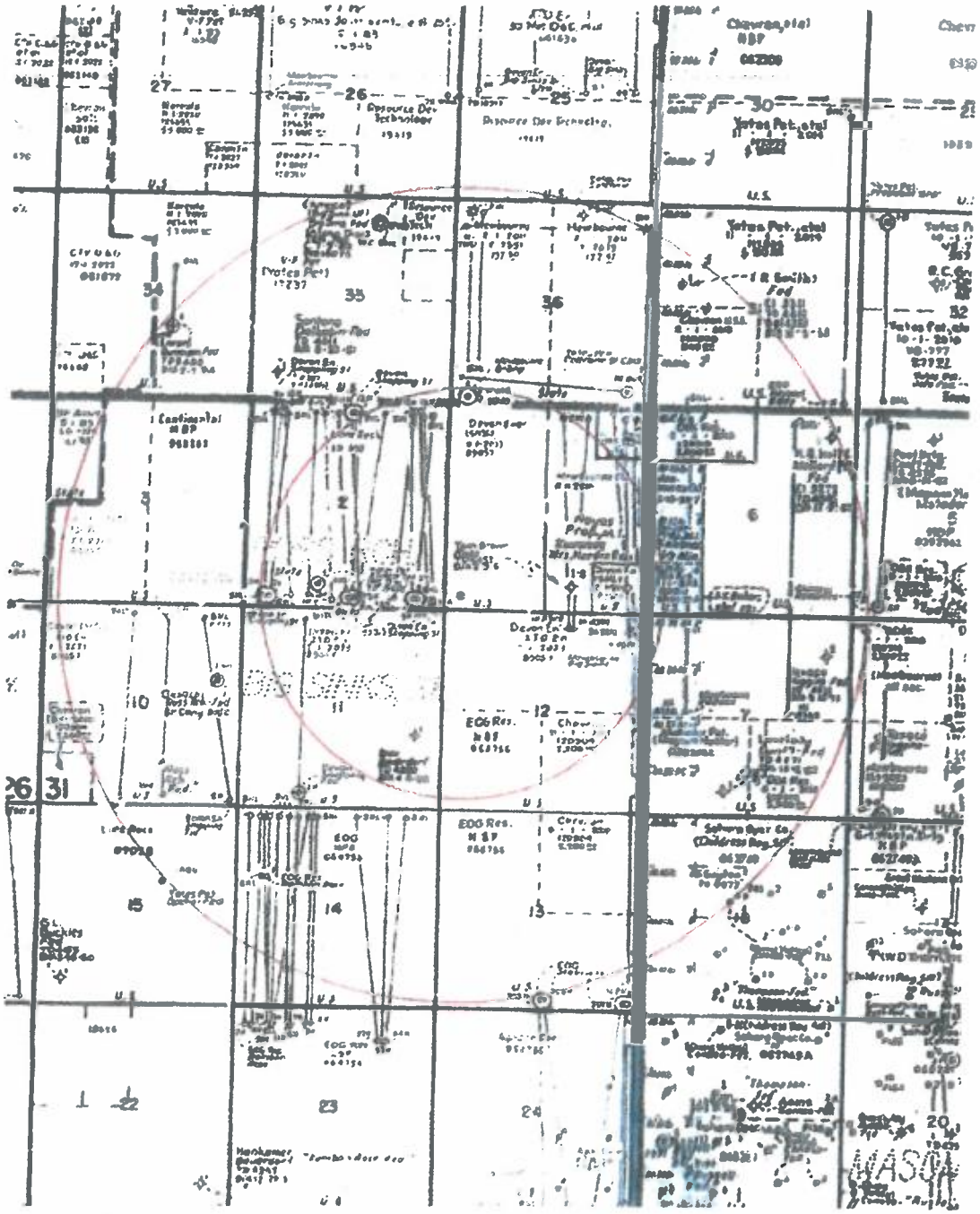
IX. Formation chemical stimulation may be applied after completion. No other stimulation is currently planned.

X. Logs will be filed subsequent to the completion of drilling operations. Density-Neutron is planned to be run from surface to TD.

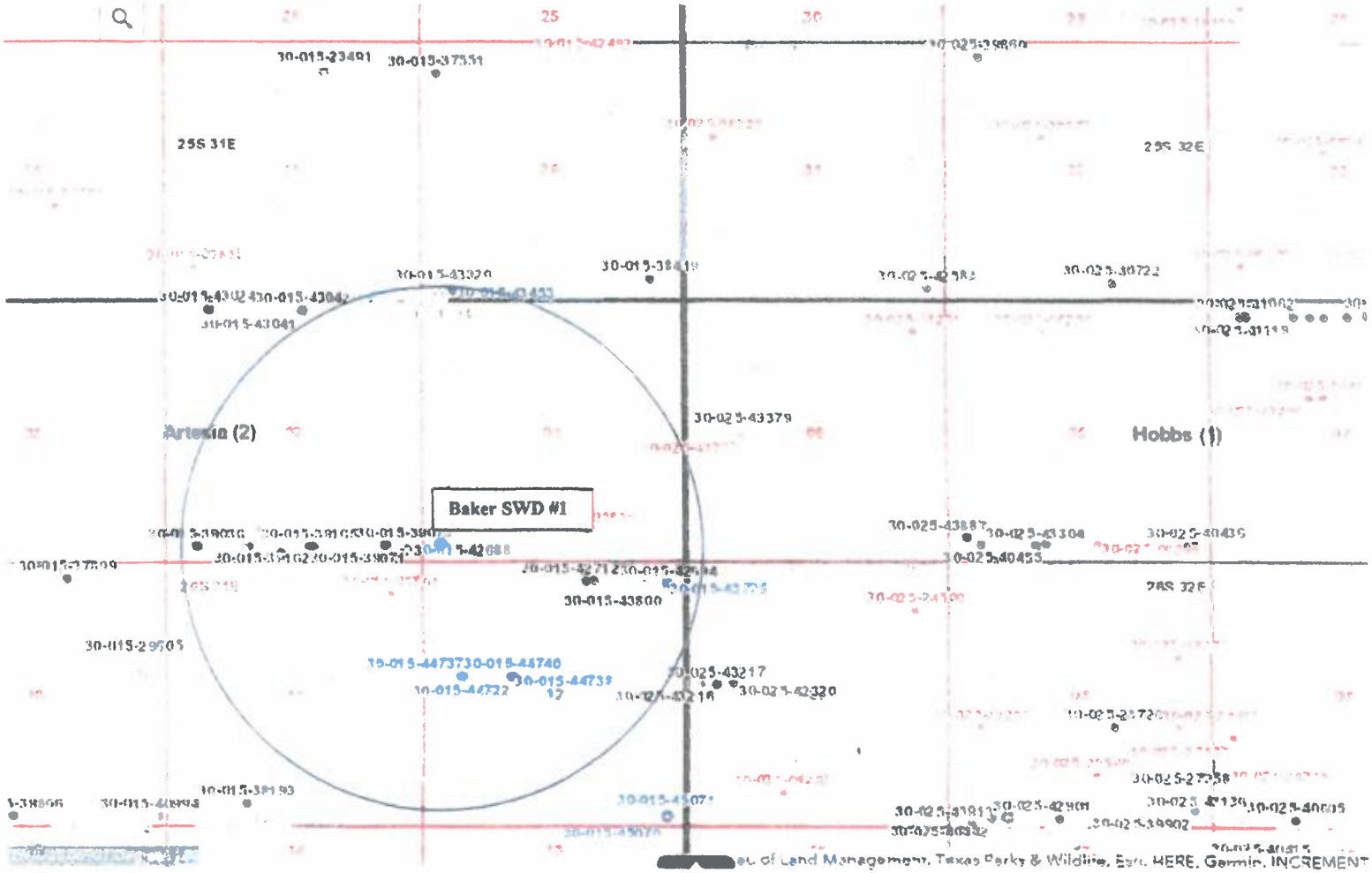
XI. There are four fresh water wells located within a one-mile radius of the Baker SWD No. 1. (See attached report from the OSE).

XII. Affirmative statement is enclosed.

XIII. Proof of Notice is enclosed.



Mesquite SWD, Inc.
Form C-108; Baker SWD No. 1
1-Mile & 2-Mile Lease Map



Mesquite SWD, Inc.
Form C-108: Baker SWD No. 1
1-Mile Area of Review Map

MESQUITE SWD, INC.
BAKER SWD WELL NO. 1
ONE-MILE AREA OF REVIEW WELL LIST

API NUMBER	OPERATOR	LEASE NAME	WELL NO.	WELL TYPE	STATUS	FTG N/S	N/S	FTG E/W	E/W	UNIT	SEC	TSHP	RNG	TVD	MD	COMPLETIONS
30-015-44737	Devon Energy Prod. Co. LP	Snapping 12 1 Fed	521H	Oil	NYD	2325'	N	810'	W	E	12	26S	31E	8,713' *	15,794' *	Bone Spring
					BHL	330'	N	550'	W	D	1	26S	31E			
30-015-44738	Devon Energy Prod. Co. LP	Snapping 12 1 Fed	522H	Oil	NYD	2325'	N	1790'	W	F	12	26S	31E	8,753' *	16,170' *	Bone Spring
					BHL	330'	N	1430'	W	C	1	26S	31E			
30-015-44758	Devon Energy Prod. Co. LP	Snapping 12 1 Fed	523H	Oil	NYD	2325'	N	1880'	W	F	12	26S	31E	8,773' *	16,198' *	Bone Spring
					BHL	330'	N	2310'	W	C	1	26S	31E			
30-015-44721	Devon Energy Prod. Co. LP	Snapping 12 1 Fed	531H	Oil	NYD	2325'	N	780'	W	E	12	26S	31E	8,983' *	16,064' *	Bone Spring
					BHL	330'	N	500'	W	D	1	26S	31E			
30-015-44739	Devon Energy Prod. Co. LP	Snapping 12 1 Fed	532H	Oil	NYD	2325'	N	840'	W	E	12	26S	31E	8,973' *	16,084' *	Bone Spring
					BHL	330'	N	1320'	W	D	1	26S	31E			
30-015-44722	Devon Energy Prod. Co. LP	Snapping 12 1 Fed	533H	Oil	NYD	2325'	N	1850'	W	F	12	26S	31E	9,013' *	16,379' *	Bone Spring
					BHL	330'	N	2140'	W	C	1	26S	31E			
30-015-44740	Devon Energy Prod. Co. LP	Snapping 12 1 Fed	623H	Oil	NYD	2325'	N	1820'	W	F	12	26S	31E	11,541' *	18,958' *	Wolfcamp
					BHL	330'	N	2090'	W	C	1	26S	31E			
30-015-42694	Mewbourne Oil Company	Big Sinks 1 A2 PA Fed Com	1H	Oil	Active	485'	N	460'	E	A	12	26S	31E	8,838'	13,965'	Bone Spring
					BHL	354'	N	482'	W	A	1	26S	31E			
30-015-43318	Mewbourne Oil Company	Big Sinks 1 A2OB Fee	1H	Oil	NYD	410'	N	1850'	E	B	12	26S	31E	9,097' *	13,938' *	Bone Spring
					BHL	330'	N	1650'	E	B	1	26S	31E			
30-015-42712	Mewbourne Oil Company	Big Sinks 1 A30B Fee	2H	Oil	Active	410'	N	1980'	E	B	12	26S	31E	9,131'	14,295'	Bone Spring
					BHL	337'	N	2275'	E	B	1	26S	31E			
30-015-43725	Mewbourne Oil Company	Big Sinks 1 B2 PA Fed Com	3H	Oil	NYD	485'	N	395'	E	A	12	26S	31E	10,317' *	15,827' *	Bone Spring
					BHL	330'	N	660'	E	A	1	26S	31E			
30-015-43800	Mewbourne Oil Company	Big Sinks 1 W1PA Fed Com	2H	Gas	Active	485'	N	330'	E	A	12	26S	31E	12,071'	17,430'	Wolfcamp
					BHL	330'	N	330'	E	A	1	26S	31E			
30-015-43453	Mewbourne Oil Company	BEBOP 36 B2MD State	1H	Oil	NYD	185'	S	660'	W	M	36	25S	31E	9,000' *	14,880' *	Bone Spring
					BHL	330'	N	660'	W	D	36	26S	31E			

MESQUITE SWD, INC.
BAKER SWD WELL NO. 1
ONE-MILE AREA OF REVIEW WELL LIST

API NUMBER	OPERATOR	LEASE NAME	WELL NO.	WELL TYPE	STATUS	FTG N/S	N/S	FTG E/W	E/W	UNIT	SEC	TSHP	RNG	TVD	MD	COMPLETION
30-015-43320	Mewbourne Oil Company	BEBOP 36 W1MD State	2H	Gas	Active	185'	S	450'	W	M	36	25S	31E	12,036'	16,550'	Wolfcamp
					BHL	338'	N	532'	W	D	36	26S	31E			
30-015-39104	Devon Energy Prod. Co. LP	Snapping 2 State	1Y	Oil	Active	330'	S	1710'	W	N	2	26S	31E	8,574'	13,007'	Bone Spring
					BHL	343'	N	1660'	W	C	2	26S	31E			
30-015-39035	Devon Energy Prod. Co. LP	Snapping 2 State	2H	Oil	Active	330'	S	680'	W	M	2	26S	31E	8,968'	13,600'	Bone Spring
					BHL	330'	N	990'	W	D	2	26S	31E			
30-015-39036	Devon Energy Prod. Co. LP	Snapping 2 State	3H	Oil	Active	330'	S	630'	W	M	2	26S	31E	8,560'	13,136'	Bone Spring
					BHL	356'	N	390'	W	D	2	26S	31E			
30-015-39071	Devon Energy Prod. Co. LP	Snapping 2 State	4H	Oil	Active	330'	S	735'	E	P	2	26S	31E	9,054'	13,539'	Bone Spring
					BHL	342'	N	413'	E	A	2	26S	31E			
30-015-39073	Devon Energy Prod. Co. LP	Snapping 2 State	5H	Oil	Active	330'	S	785'	E	P	2	26S	31E	8,607'	13,122'	Bone Spring
					BHL	346'	N	1037'	E	A	2	26S	31E			
30-015-39162	Devon Energy Prod. Co. LP	Snapping 2 State	6H	Oil	Active	330'	S	2260'	E	O	2	26S	31E	9,004'	13,798'	Bone Spring
					BHL	350'	N	1712'	E	B	2	26S	31E			
30-015-39163	Devon Energy Prod. Co. LP	Snapping 2 State	7H	Oil	Active	330'	S	2310'	E	O	2	26S	31E	8,550'	13,102'	Bone Spring
					BHL	353'	N	2308'	E	B	2	26S	31E			
30-015-39165	Devon Energy Prod. Co. LP	Snapping 2 State	8H	Oil	Active	330'	S	2360'	E	O	2	26S	31E	8,981'	13,654'	Bone Spring
					BHL	400'	N	2337'	W	C	2	26S	31E			
30-015-43023	Devon Energy Prod. Co. LP	Snapping 2 State	9H	Oil	Active	200'	N	880'	W	D	2	26S	31E	10,214'	14,825'	Bone Spring
					BHL	348'	S	410'	W	M	2	26S	31E			
30-015-43024	Devon Energy Prod. Co. LP	Snapping 2 State	10H	Oil	Active	200'	N	930'	W	D	2	26S	31E	10,204'	14,766'	Bone Spring
					BHL	350'	S	410'	W	M	2	26S	31E			
30-015-43041	Devon Energy Prod. Co. LP	Snapping 2 State	11H	Oil	Active	220'	N	2490'	E	B	2	26S	31E	10,242'	14,811'	Bone Spring
					BHL	340'	S	2183'	W	N	2	26S	31E			
30-015-43042	Devon Energy Prod. Co. LP	Snapping 2 State	12H	Oil	Active	229'	N	2440'	E	B	2	26S	31E	10,239'	14,790'	Bone Spring
					BHL	342'	S	2215'	E	O	2	26S	31E			

MESQUITE SWD, INC.
BAKER SWD WELL NO. 1
ONE-MILE AREA OF REVIEW WELL LIST

API NUMBER	OPERATOR	LEASE NAME	WELL NO.	WELL TYPE	STATUS	FTG N/S	N/S	FTG E/W	E/W	UNIT	SEC	TSHP	RNG	TVD	MD	COMPLETION
30-015-42113	Devon Energy Prod. Co. LP	Snapping 2 State	13H	Oil	Active	200'	S	2375'	W	N	2	26S	31E	11,430'	15,990'	Bone Spring
					BHL	327'	N	1967'	W	C	2	26S	31E			
30-015-42688	Devon Energy Prod. Co. LP	Snapping 2 State	14H	Gas	Active	250'	S	330'	E	P	2	26S	31E	12,022'	16,548'	Wolfcamp
					BHL	325'	N	670'	E	A	2	26S	31E			
30-015-38193	Devon Energy Prod. Co. LP	Snapping 11 Federal	1H	Oil	Active	430'	S	1650'	W	N	11	26S	31E	8,529'	12,985'	Bone Spring
					BHL	330'	N	1655'	W	C	11	26S	31E			
30-015-45070	Mewbourne Oil Company	Sumideros 12 W1PA Fed Com	1H	Gas	NYD	185'	S	330'	E	P	12	26S	31E	12,021' *	16,765' *	Wolfcamp
					BHL	330'	N	330'	E	A	12	26S	31E			
30-015-45071	Mewbourne Oil Company	Sumideros 12 W1PA Fed Com	2H	Gas	NYD	185'	S	380'	E	P	12	26S	31E	11,708' *	16,489' *	Wolfcamp
					BHL	330'	N	990'	E	A	12	26S	31E			
PA'd Wells Within the AOR. No Wells Penetrate the Siluro-Devonian Interval																
30-015-05859	Tom Brown Drilling Co.	Ross	1	Dry	PA	660'	S	1980'	E	O	1	26S	31E	4,452'	PA 3/61	Delaware
30-015-24277	Devon Energy Prod. Co. LP	Almost Texas Unit	1	Gas	PA	660'	S	1980'	W	N	2	26S	31E	16,900'	PA 8/17	Wolfcamp/Morrow
30-015-38982	Devon Energy Prod. Co. LP	Snapping 2 State	1	N/A	PA	330'	S	1660'	W	N	2	26S	31E	150'	PA 6/11	Stuck Pipe
30-015-05861	The Ibex Company	Bauerdorf	1	Dry	PA	660'	N	660'	E	A	11	26S	31E	4,282'	PA 5/55	Delaware

*** TVD & MD Estimates Obtained from APD**

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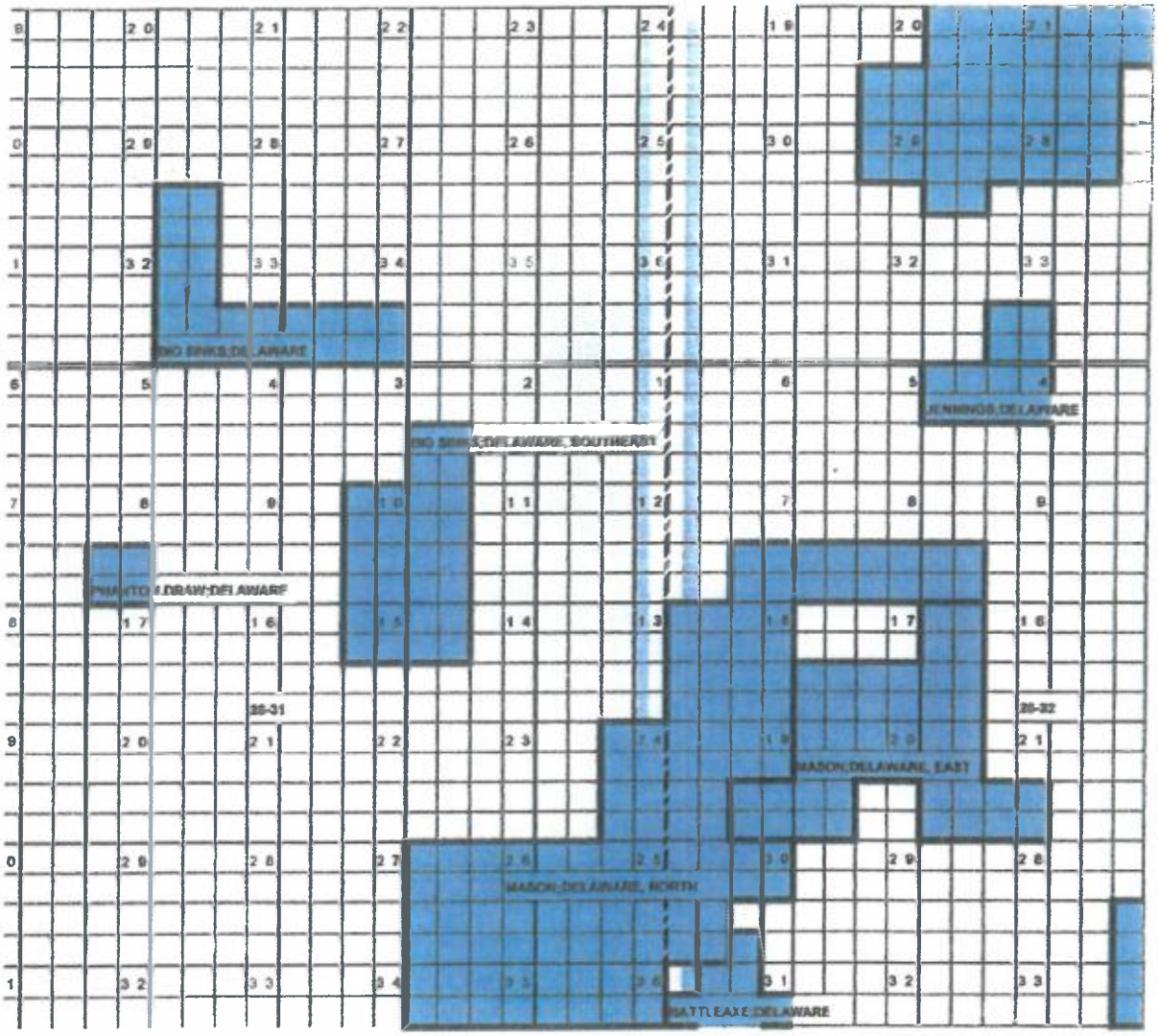
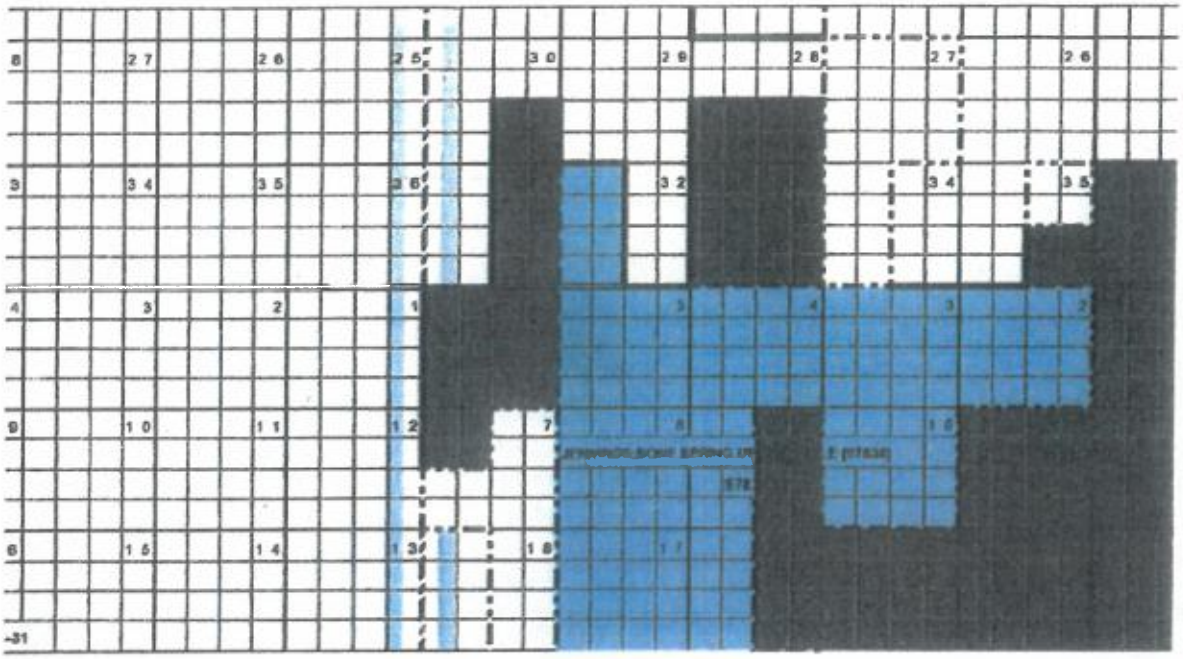
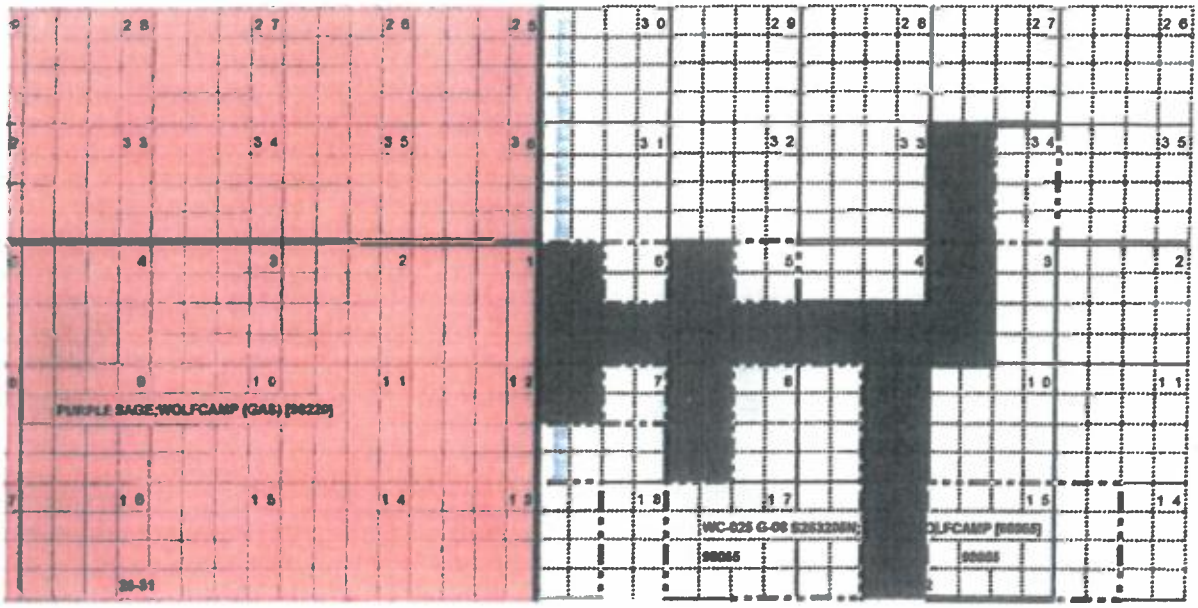


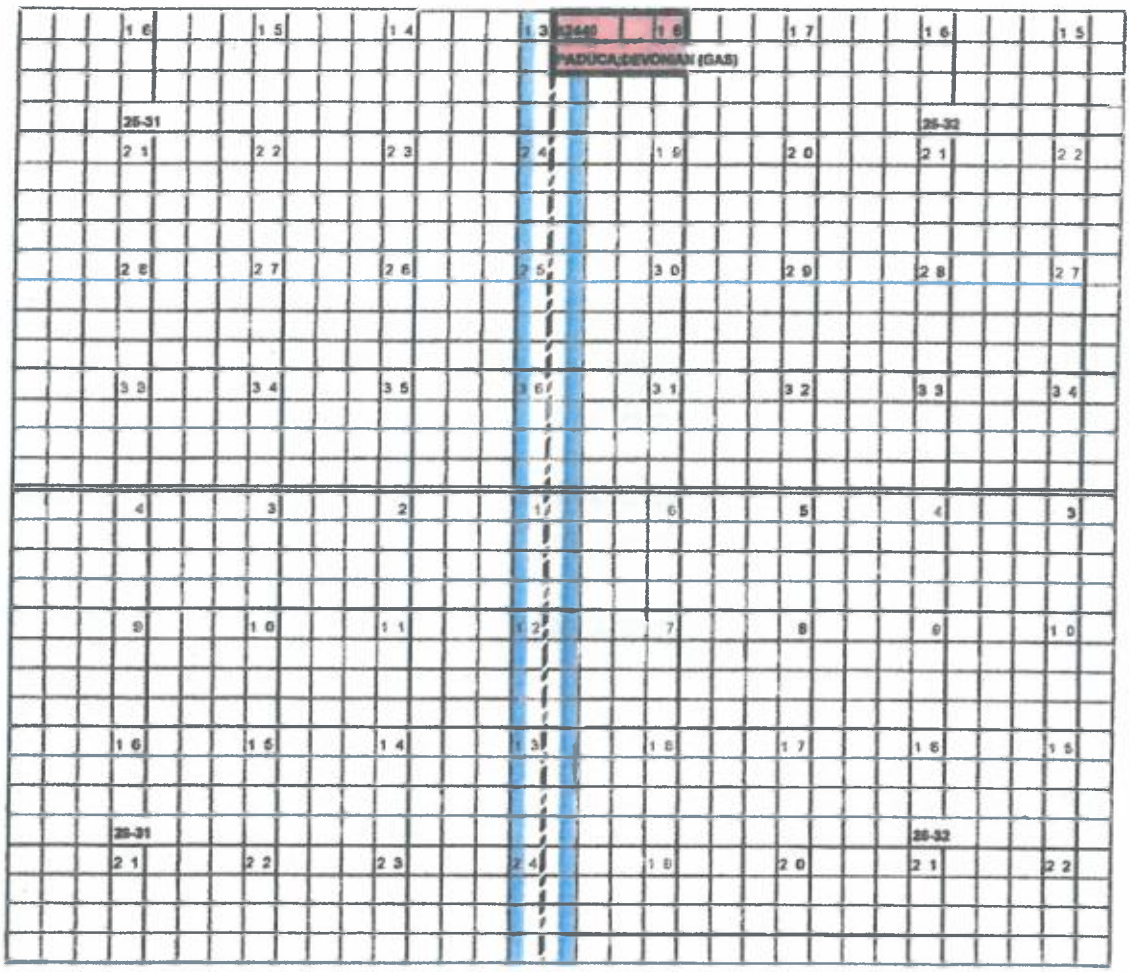
Mesquite SWD, Inc.
Form C-108; Baker SWD No. 1
OCD Designated Delaware Pools



Mesquite SWD, Inc.
Form C-108; Baker SWD No. 1
OCD Designated Bone Spring Pools



Mesquite SWD, Inc.
Form C-108; Baker SWD No. 1
OCD Designated Wolfcamp Pools



Mesquite SWD, Inc.
Form C-108; Baker SWD No. 1
OCD Designated Devonian Pools

Well Name	Section	Township	Range	Unit	Formation	Ph	TDS/Mg/l	Sodium Mg/l	Calcium Mg/l	Iron Mg/l	Magnesium Mg/l	Manganese Mg/l	Chloride Mg/l	Bicarbonate Mg/l	Sulfate Mg/l	CO2 Mg/l
SNAPPING 2 STATE #013H	2	26S	31E	N	BONE SPRING 3RD SAND	6.5	94965.6	31352.7	3578.6	31.7	483.6	0.83	57489.5	244	0	200
SNAPPING 2 STATE #013H	2	26S	31E	N	BONE SPRING 3RD SAND	7	94518.2	30031.5	3402.8	19.9	438.9		58782.2		355.2	200
SNAPPING 2 STATE #013H	2	26S	31E	N	BONE SPRING 3RD SAND	7.2	94863.9	30224.8	3424	14.8	444		59015.2		365	200
SNAPPING 2 STATE #014H	2	26S	31E	P	WOLFCAMP	7.3	81366.4	26319.4	2687.4	26.1	326.7		50281.2		399.7	100
SNAPPING 2 STATE #013H	2	26S	31E	N	BONE SPRING 3RD SAND	6.8	91289.1	28721.3	3440.7	16.3	437.4		56957.4		327.9	150
ROSS RANCH 10 FEDERAL #001	10	26S	31E	H		6.3	111430.5	35922.4	3647.3	76.8	487.9	1.05	66173.2	366	0	300
ROSS RANCH 10 FEDERAL #001	10	26S	31E	H		7	54116.9	46100	5224	349.6	719.3	3.73	0	73.2	0	570
SNAPPING 10 FEDERAL #005H	10	26S	31E	P	BONE SPRING 2ND SAND	6.6	138161.9	44458.5	6280.8	29.7	781.3	0	84470	122	0	20
SNAPPING 10 FEDERAL #005H	10	26S	31E	P	BONE SPRING 2ND SAND	6.8	138376	44458.5	6280.8	29.7	781.3	0	84470	122	618	70
SNAPPING 10 FEDERAL #001H	10	26S	31E	B	AVALON UPPER	6.5	199638.8	68948.2	7580.4	111.2	1522.8	2.19	118195	732	0	500
SNAPPING 11 FEDERAL #001H	11	26S	31E	N	AVALON UPPER	6.1	225189.8	77010.7	8743.8	636.1	1649.2	6.75	134075	366	0	300
SNAPPING 2 STATE #003H	2	26S	31E	M	AVALON UPPER	6.1	223019	78001.7	10437.8	209.9	1922.4	4.5	131072	366	632	1100
SNAPPING 2 STATE #006H	2	26S	31E	O	AVALON UPPER	6.5	179788.5	71575.7	617.4	21.8	109.6	0	101374	3660	0	500
SNAPPING 2 STATE #006H	2	26S	31E	O	AVALON UPPER	6.5	179938	71575.7	617.4	21.8	109.6	0	101374	3660	844	500
SNAPPING 10 FEDERAL #003H	10	26S	31E	N	BONE SPRING 2ND SAND	6.5	152439.2	48495.7	6731.3	29.1	801.4	1.06	94055	244	0	100
E O WHITE FEDERAL NCT 1 #003	26	26S	31E	O	DELAWARE		212112						132100	195	425	
SNAPPING 10 FEDERAL #001H	10	26S	31E	B	AVALON UPPER	7.1	209352.4	70089.5	7327	203	1557	2.5	127230	146.4	600	600
SNAPPING 11 FEDERAL #001H	11	26S	31E	N	AVALON UPPER	7	196576.7	68797.3	5059	12	1086	0.9	118943	122	872	380
SNAPPING 11 FEDERAL #001H	11	26S	31E	N	AVALON UPPER	7	203078.9	72261.4	4407	112	904	1.5	122172	1098	658	80
SNAPPING 2 STATE #001Y	2	26S	31E	N	AVALON UPPER	7	162560.1	57137	3885	42	776	0.6	97161	1403	756	70

Mesquite SWD, Inc.
Form C-108; Baker SWD No. 1
Source Water Analysis

Well Name	Section	Township	Range	Unit	Field	Formation	Sample Source	TDS Mg/l	Chloride Mg/l	Bicarbonate Mg/l	Sulfate Mg/l
REMUDA BASIN UNIT #001	24	23S	29E	J	REMUDA	DEVONIAN	SWAB	56922	29000	1740	4980

Mesquite SWD, Inc.
Form C-108; Baker SWD No. 1
Devonian Water Analysis

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

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

(R=POD has been replaced, O=orphaned, C=the file is closed) (quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Twp	Rng	X	Y	Depth Well	Depth Water	Water Column
C-02090	C		ED	4	4		01	26S	31E	620329	3548533*	350	335	15
C-03554 POD1	CUB		ED	2	1	4	01	26S	31E	620547	3549148	630	300	330
C-03639 POD1	CUB		ED	3	4	2	01	26S	31E	620168	3549279	700	365	335
C-04256 POD1	CUB		ED	4	4	2	01	26S	31E	620384	3549257	666	340	326

Average Depth to Water: 335 feet

Minimum Depth: 300 feet

Maximum Depth: 365 feet

Record Count: 4

PLSS Search:

Section(s): 1, 2, 11, 12 Township: 26S Range: 31E

Mesquite SWD, Inc.
Form C-108; Baker SWD No. 1
Office of the State Engineer
Fresh Water Well Data

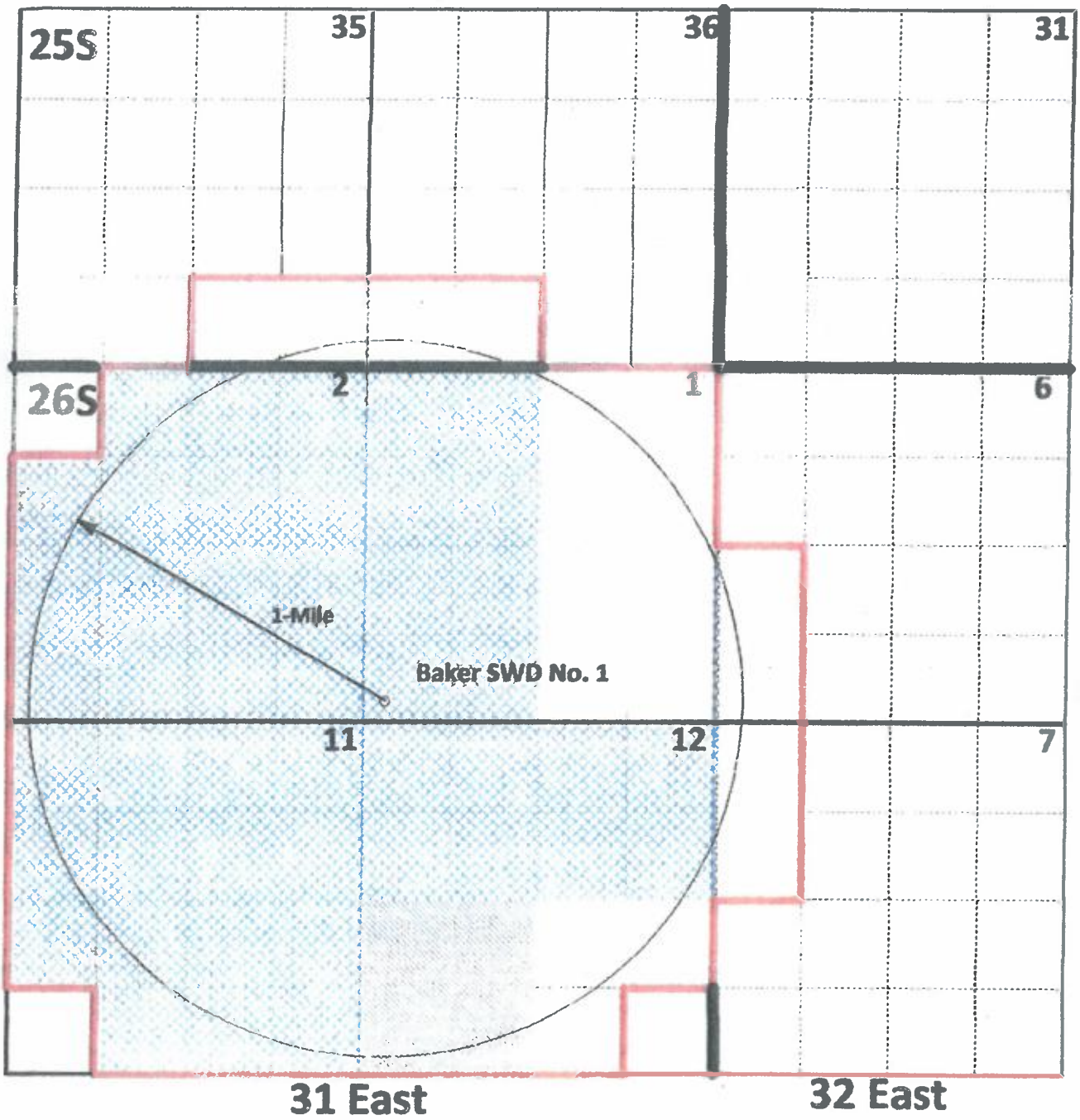
*UTM location was derived from PLSS - see Help

Form C-108
Affirmative Statement
Mesquite SWD, Inc.
Baker SWD No. 1
Section 1, T-26 South, R-31 East, NMPM,
Eddy County, New Mexico

Available geologic and engineering data has been examined and no evidence of open faults or hydrological connection between the injection zone and any underground sources of drinking water has been found.

Riley Neatherlin
Operations Manager – Mesquite SWD, Inc.

9/27/18
Date



C-108 Application
Mesquite SWD, Inc.
Baker SWD Well No. 1
1-Mile Notice Area

1-Mile Notice Area
Tract 1
Tract 2
Tract 3

Form C-108 Application
Mesquite SWD, Inc.
Baker SWD No. 1
Section 1, T-26 South, R-31 East, NMPM
Notice List

Tract 1:

Section 2: E/2, E/2 W/2, SW/4 NW/4 & W/2 SW/4	Devon Energy Production Co., LP 20 North Broadway Oklahoma City, OK 73102
Section 11: E/2 W/2:	Devon Energy Production Co., LP
Section 11: E/2, W/2 NW/4 & NW/4 SW/4	Devon Energy Production Co., LP XTO Holdings, LLC 810 Houston Street Fort Worth, Texas 76102
Section 12: N/2:	Devon Energy Production Co., LP XTO Holdings, LLC
Section 1: W/2:	Devon Energy Production Co., LP XTO Holdings, LLC

Tract 2:

Section 36: S/2 SW/4:	Mewbourne Oil Company P.O. Box 5270 Hobbs, New Mexico 88241
Section 35: S/2 SE/4:	Mewbourne Oil Company
Section 12: N/2 SE/4 & SW/4 SE/4:	Mewbourne Oil Company
Section 7: NW/4 NW/4 & SW/4 NW/4: (Lots 1 & 2)	Mewbourne Oil Company
Section 6: NW/4 SW/4: (Lot 3)	Mewbourne Oil Company Chevron USA, Inc. 6301 Deauville Blvd. Midland, Texas 79706

Form C-108 Application
Mesquite SWD, Inc.
Baker SWD No. 1
Section 1, T-26 South, R-31 East, NMPM
Notice List (Page 2)

Section 6: NW/4 SW/4: (Lot 3) (Cont.)	RBP Land Company Trust Robert B. Porter Jr., Trustee P.O. Box 10392 Midland, Texas 79702
	Hayes Land, LP P.O. Box 51510 Midland, Texas 79710-1510
	Hayes Land & Production, LP P.O. Box 51407 Midland, Texas 79710
Section 6: SW/4 SW/4: (Lot 4)	Mewbourne Oil Company
Section 1: NE/4 NE/4:	Mewbourne Oil Company
Section 1: W/2 E/2, NE/4 SE/4 &: SE/4 NE/4	Mewborne Oil Company
	Chevron USA, Inc.
	RBP Land Company Trust
	Hayes Land, LP
	Hayes Land & Production, LP
Section 1: SE/4 SE/4:	Mewbourne Oil Company

Tract 3:

Section 12: SW/4:	EOG Resources, Inc. P.O. Box 2267 Midland, Texas 79706
	ConocoPhillips Company 600 N. Dairy Ashford Rd. Office EC3-10-W285 Houston, Texas 77079

Form C-108 Application
Mesquite SWD, Inc.
Baker SWD No. 1
Section 1, T-26 South, R-31 East, NMPM
Notice List (Page 3)

Additional Notice:

Bureau of Land Management
620 E. Greene Street
Carlsbad, New Mexico 88220-6292

(Surface Owner):

Jessie T. & Susan Ann Baker
P.O. Box 24
Silver City, New Mexico 88062

September 27, 2018

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

TO: **See Attached Notice List**

Re: Mesquite SWD, Inc.
Form C-108 (Application for Authorization to Inject)
Baker SWD Well No. 1
API No. (Not Yet Assigned)
330' FSL & 309' FWL, *Unit M, Section 1, T-26S, R-31E*, NMPM,
Eddy County. New Mexico

Ladies & Gentlemen:

Enclosed please find a copy of Oil Conservation Division Form C-108 (Application for Authorization to Inject) for the Mesquite SWD, Inc. Baker SWD No. 1. You are being provided a copy of the application as an offset operator/leaseholder or as the owner of the surface where the proposed well is located. Mesquite SWD, Inc. *proposes to drill the Baker SWD No. 1 and utilize the well as a produced water disposal* well, injection to occur into the Siluro-Devonian formation through the open-hole interval from approximately 17,300 feet to 18,500 feet.

Objections must be filed with the Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico 87505, within 15 days.

If you should have any questions, please contact me at (575) 914-1461.

Sincerely,

Melanie Wilson-Regulatory Analyst
Mesquite SWD, Inc.
P.O. Box 1479
Carlsbad, New Mexico 88221-1479

Enclosure

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Form C-108
Mesquite SWD, Inc.
Baker SWD No. 1
Section 1, T-26 South, R-31 East, NMPM,
Eddy County, New Mexico

The following-described legal advertisement will be published in the:

Artesia Daily Press
503 W. Main Street
Artesia, New Mexico 88210-2067

The Affidavit of Publication will be forwarded to the Division upon receipt by Mesquite SWD, Inc.

LEGAL NOTICE

Mesquite SWD, Inc., P.O. Box 1479, Carlsbad, New Mexico 88221-1479, has filed a Form C-108 (Application for Authorization to Inject) with the Oil Conservation Division ("Division") seeking administrative approval to utilize its proposed Baker SWD No. 1 (API No. N/A) to be drilled 330 feet from the South line and 309 feet from the West line (Unit M) of Section 1, Township 26 South, Range 31 East, NMPM, *Eddy County, New Mexico and complete the well as a produced water* disposal well in the Siluro-Devonian formation. Injection is to occur through the open-hole interval from approximately 17,300 feet to 18,500 feet.

Produced water from the Bone Spring, Wolfcamp and other formations originating from wells in this area will be injected into the Baker SWD No. 1 at average and maximum rates of 30,000 and 40,000 barrels of water per day, respectively. The initial surface injection pressure for the well is anticipated to be at or below 3,460 psi., which is in compliance with Division regulations. The maximum surface *injection pressure will be determined by step rate injection test.*

Interested parties must file objections with the New Mexico Oil Conservation Division, 1220 S. St Francis Drive, Santa Fe, New Mexico 87505, within 15 days of the date of this publication.

Additional information can be obtained by contacting Ms. Melanie Wilson-Regulatory Analyst-Mesquite SWD, Inc. at (575) 914-1461.

From: "Goetze, Phillip, EMNRD" <Phillip.Goetze@state.nm.us>
Date: December 13, 2018 at 1:11:44 PM MST
To: Melanie Wilson <mjp1692@gmail.com>
Cc: "Jones, William V, EMNRD" <WilliamV.Jones@state.nm.us>, "McMillan, Michael, EMNRD" <Michael.McMillan@state.nm.us>, "Murphy, Kathleen A, EMNRD" <KathleenA.Murphy@state.nm.us>, "Lowe, Leonard, EMNRD" <Leonard.Lowe@state.nm.us>, Todd Carpenter <todd.carpenter@solarismidstream.com>
Subject: Denial of Applications to Inject: Laguna Salada 13 SWD No. 1 and Laguna Salada 19 SWD No. 1

RE: Mesquite SWD Inc.
Applications to Inject: Laguna Salada 13 SWD No. 1 (API 30-015-Pending) UL P, Sec 13, T23S, R28E, NMPM, Eddy County; Appl. No. pMAM1821132420
Laguna Salada 19 SWD No. 1 (API 30-015-Pending) UL J, Sec 19, T23S, R29E, NMPM, Eddy County; Appl. No. pMAM1821131871

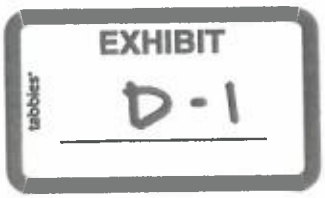
Ms. Wilson

The applications submitted on behalf of Mesquite SWD Inc. for approval of the Laguna Salada 13 SWD No. 1 and Laguna Salada 19 SWD No. 1 are being denied. These denials are based on the proximity of the proposed wells with existing Devonian SWD wells (approved or active) in this area (see attachment). For each specific application:

1. Laguna Salada 13 SWD No. 1 location respective to the Intrepid SWD No. 1 (approximately 1.08 miles)
2. Laguna Salada 19 SWD No. 1 location respective to the Lakeside 20702 SWD No. 1 (approximately 1.06 miles)

The Division has sought to maintain a distance of 1.5 miles (a ¾-mile radius from the well location) between injection sources that are Devonian wells designed for large-capacity disposal. This distance is an effort to reduce interference between wells, extend operational life, reduce the potential for induced-seismic event associated with disposal and effectively manage the UIC program to support production while preventing waste and protecting correlative rights as directed under the New Mexico Oil and Gas Act. Therefore, these applications are being denied for approval through administrative review, but remain available for hearing. However, should the applicant seek approval of these applications through hearing, the Division will appear oppose the approval of these applications based on the reasons previously provided supported by the evidence and testimony offered in similar cases before Division and Commission.

If you have any questions regarding the content of this correspondence, please contact me (via phone or e-mail) at your convenience. PRG



Phillip Goetze, PG
Engineering Bureau, Oil Conservation Division
New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive, Santa Fe, NM 87505
Direct: 505.476.3466
E-mail: phillip.goetze@state.nm.us

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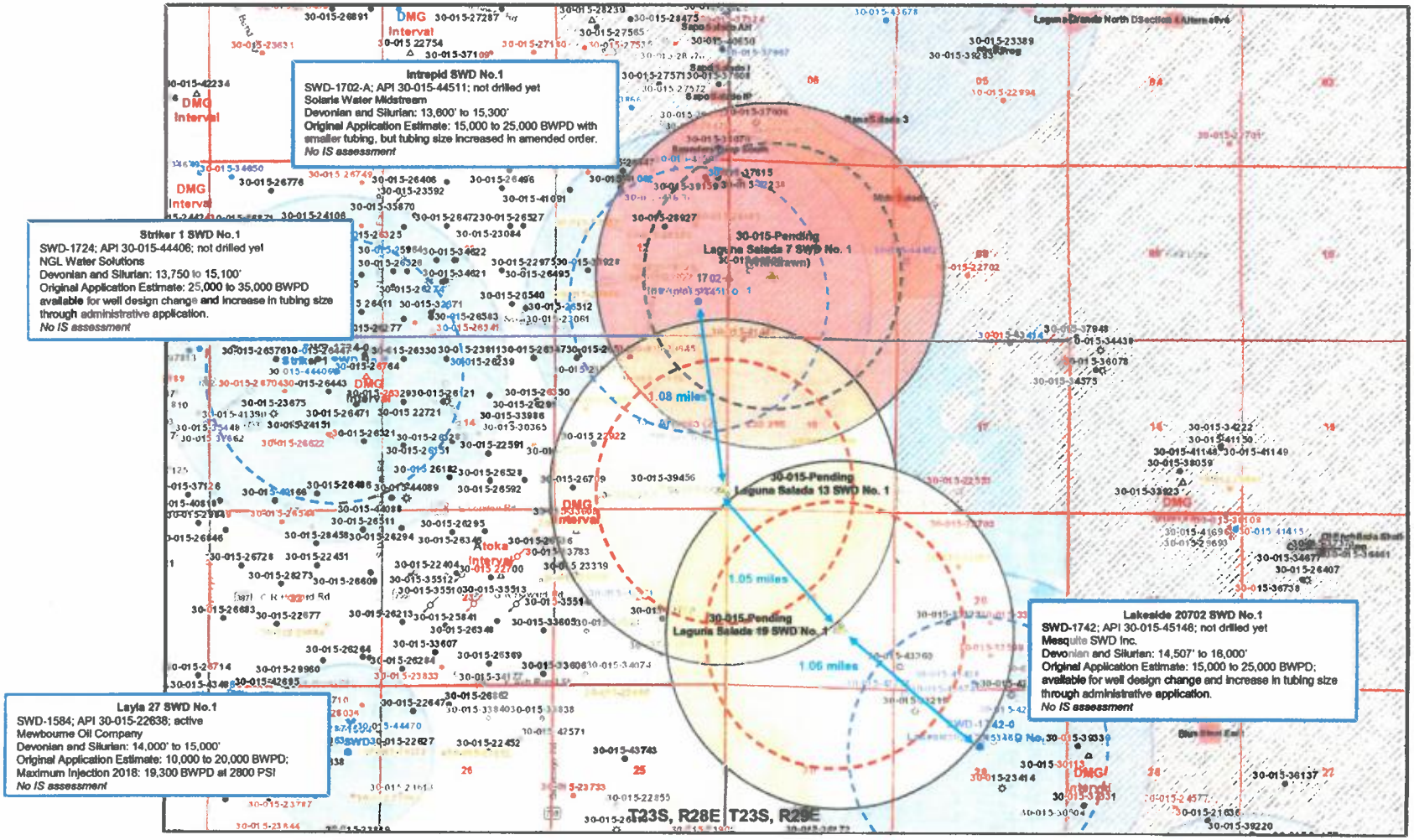
Pending Application for High-Volume Devonian Disposal Well
C-108 Applications for Laguna Salada Wells (T23S, R28-29E) – Mesquite SWD, Inc.



Laguna Salada 7 SWD No. 1; Mesquite SWD, Inc.
API 30-015-Pending; Application No. pMAM1821132239; application withdrawn.
Laguna Salada 13 SWD No. 1; Mesquite SWD, Inc.
API 30-015-Pending; Application No. pMAM1821132420; protested; protest withdrawn; being processed; 685' FSL – 50' FEL; Sec. 13, T23S, R28E, NMPM
Laguna Salada 19 SWD No. 1; Mesquite SWD, Inc.
API 30-015-Pending; Application No. pMAM1821131871; protested; 1752' FSL – 1727' FEL; Sec. 19, T23S, R29E, NMPM

EXHIBIT
tabbies D-2

Deana M. Bennett

From: Brooks, David K, EMNRD <DavidK.Brooks@state.nm.us>
Sent: Monday, February 18, 2019 3:52 PM
To: Deana M. Bennett; jamesbruc@aol.com
Cc: Goetze, Phillip, EMNRD; Warnell, Terry G, EMNRD
Subject: Case 20114; Application of Solares Water Midstream etc.; Case 16443; Application of BGK Water Solutions Permian, etc.

***

The motions of each parties to dismiss the other's protests are denied. The final order will so state, allowing each party its remedies by appeal.

Since the 1.5 mile distance is not a rule provision, it does not control unless the propriety of its application in a particular case is shown. The Division has power to issue rules *or orders* to regulate disposal of wastes to protect the environment. If either party were to demonstrate by technical evidence that both wells now proposed cannot be operated consistently with environmental protection, the Division should enter an appropriate order.

For guidance of the parties going forward, we note that OCD has no jurisdiction over title issues. Thus, if a title issue (including title to pore space trespass) is the only issue presented at the hearing in support of a protest, that protest cannot be sustained on that ground alone. However, any presumption regarding a permit application because it was filed prior to another application is also not provided in any rule.

See you on Thursday!

David K. Brooks
Counsel for the hearing examiner

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

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION DIVISION
FOR THE PURPOSE OF CONSIDERING:

CASE NO. 20313

APPLICATION OF MESQUITE SWD INC. FOR APPROVAL OF A PRODUCED WATER DISPOSAL WELL IN EDDY COUNTY, NEW MEXICO.

OIL CONSERVATION DIVISION'S ENTRY OF APPEARANCE AND PRE-HEARING STATEMENT

The New Mexico Oil Conservation Division ("the Division") enters it appearance in this case. The Division hereby submits its Pre-Hearing Statement for the hearing scheduled on Thursday, March 7, 2019.

PARTIES	ATTORNEYS
Applicant:	
Mesquite SWD Inc.	Deana Bennett Modrall Sperling P. O. Box 2168 Albuquerque, NM 87103 (505) 848-1800 Email: dmb@modrall.com
Other Parties:	
THE NEW MEXICO OIL CONSERVATION DIVISION	David K. Brooks Energy, Minerals and Natural Resources Department 1220 S. St. Francis Drive Santa Fe, NM 87505 (505) 476-3215 Email: davidk.brooks@state.nm.us

STATEMENT OF THE CASE

Applicant seeks an order to inject up to 40,000 barrels of produced water per day (BWPD) into the Silurian-Devonian formations at a depth interval from approximately 14,500 feet to 15,700 feet below surface through its Laguna Salada 13 SWD Well No. 1 (the "proposed well") to be drilled at a surface location 685 feet from the South line and 50 feet from the East line (Unit P) of Section 13, Township 23 South, Range 28 East, NMPM, in Eddy County, New Mexico. Applicant further seeks approval of the use of a tapered tubing set with 7-inch diameter tubing inside the surface and intermediate casings and 5½-inch diameter tubing inside the liner. Applicant proposes the well as a commercial operation for the purpose of disposal of produced water from multiple sources.

The Division opposes issuance of an order for authority to inject for the proposed well at the location proposed in the administrative application and as later amended. The Division has sought to maintain a distance of 1.5 miles between injection sources (based on a ¾-mile radius from the well surface location or 7,920 feet between the Devonian SWD wells) that are Devonian wells designed for large-volume disposal in an effort:

1. to lessen the potential for induced-seismic events associated with disposal as recommended by the United States Environment Protection Agency's National Underground Injection Control (UIC) Technical Workgroup,
2. to minimize interference between wells in support of the effort to reduce the potential for induced-seismic events and to optimize the operational life of these wells (as a best management practice),
3. to protect correlative rights as directed under the New Mexico Oil and Gas Act, and

4. to maintain and improve the state's UIC program to support production while preventing waste as directed by the New Mexico Oil Conservation Commission in Commission Order No. R-14392-A.

The proposed well is located approximately 5,690 feet (1.08 miles) to the southeast of an approved Devonian disposal well which is available for commercial injection with rates exceeding 20,000 BWPD. This disposal well is the Intrepid SWD No. 1 (API No. 30-015-44511) and is to be operated by Solaris Water Midstream LLC. The approved well is located 1030 feet from the South line and 910 feet from the East line (Unit P) in Section 12, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico. The original administrative order was amended to increase tubing diameter to a current tapered set utilizing 5-inch diameter and 5½-inch diameter tubing.

Additionally, the proposed well is located approximately 5,544 feet (1.05 miles) to the northwest of another Devonian disposal well which was proposed for commercial injection with rates exceeding 20,000 BWPD, but whose application was administratively denied by the Division. This disposal well is the proposed Laguna Salada 19 SWD No. 1 (API No. 30-015-Pending) to be located at 1752 feet from the South line and 1727 feet from the East line (Unit J) in Section 19, Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico. This disposal well is the subject of Case No. 20314.

It is the Division's position that the approval of the proposed well as located in the application does not conform to the Division's effort to appropriately manage the UIC program for its mission in support oil and gas production while being protective of the environment.

WITNESSES TO BE CALLED BY THE DIVISION

Name	Employer	Position	Field(s) of Expertise
Phillip Goetze, PG	NMEMNRD	Geoscientist and Hearing Examiner	Geology, UIC program, hydrology, Division permitting procedure

Time for Presentation: 1.5 hours

PROCEDURAL MATTERS

The Division requests the consolidation of Cases No. 20312, No. 20313, and No. 20314 at hearing based on the similarities of subjects for each case.

Respectfully submitted,

David K. Brooks

David K. Brooks
Assistant General Counsel
Energy, Minerals and Natural Resources Department
1220 S. St, Francis Drive
Santa Fe, NM 87505
(505) 476-3215
Email: davidk.brooks@state.nm.us

CERTFICATE OF SERVICE

I hereby certify that a copy of the foregoing pleading was served upon the following party by email on February 28, 2019.

ATTORNEY FOR MESQUITE SWD, INC.

Deana Bennett
Modrall Sperling
P. O. Box 2168
Albuquerque, NM 87103-2168
(505)-848-1845
dmb@modrall.com

David K. Brooks

David K. Brooks
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Email: davidk.brooks@state.nm.us
Attorney for the Oil Conservation Division

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

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION DIVISION
FOR THE PURPOSE OF CONSIDERING:

CASE NO. 20314

APPLICATION OF MESQUITE SWD INC. FOR APPROVAL OF A PRODUCED WATER DISPOSAL WELL IN EDDY COUNTY, NEW MEXICO.

OIL CONSERVATION DIVISION'S ENTRY OF APPEARANCE AND PRE-HEARING STATEMENT

The New Mexico Oil Conservation Division ("the Division") enters it appearance in this case. The Division hereby submits its Pre-Hearing Statement for the hearing scheduled on Thursday, March 7, 2019.

PARTIES	ATTORNEYS
Applicant:	
Mesquite SWD Inc.	Deana Bennett Modrall Sperling P. O. Box 2168 Albuquerque, NM 87103 (505) 848-1800 Email: dmb@modrall.com
Other Parties:	
THE NEW MEXICO OIL CONSERVATION DIVISION	David K. Brooks Energy, Minerals and Natural Resources Department 1220 S. St. Francis Drive Santa Fe, NM 87505 (505) 476-3215 Email: davidk.brooks@state.nm.us

STATEMENT OF THE CASE

Applicant seeks an order to inject up to 40,000 barrels of produced water per day (BWPD) into the Silurian-Devonian formations at a depth interval from approximately 14,500 feet to 15,700 feet below surface through its Laguna Salada 19 SWD Well No. 1 (the "proposed well") to be drilled at a surface location 1752 feet from the South line and 1727 feet from the East line (Unit J) in Section 19, Township 23 South, Range 29 East, NMPM, in Eddy County, New Mexico. Applicant further seeks approval of the use of a tapered tubing set with 7-inch diameter tubing inside the surface and intermediate casings and 5½-inch diameter tubing inside the liner. Applicant proposes the well as a commercial operation for the purpose of disposal of produced water from multiple sources.

The Division opposes issuance of an order for authority to inject for the proposed well at the location proposed in the administrative application and as later amended. The Division has sought to maintain a distance of 1.5 miles between injection sources (based on a ¾-mile radius from the well surface location or 7,920 feet between the Devonian SWD wells) that are Devonian wells designed for large-volume disposal in an effort:

1. to lessen the potential for induced-seismic events associated with disposal as recommended by the United States Environment Protection Agency's National Underground Injection Control (UIC) Technical Workgroup,
2. to minimize interference between wells in support of the effort to reduce the potential for induced-seismic events and to optimize the operational life of these wells (as a best management practice),
3. to protect correlative rights as directed under the New Mexico Oil and Gas Act, and

4. to maintain and improve the state's UIC program to support production while preventing waste as directed by the New Mexico Oil Conservation Commission in Commission Order No. R-14392-A.

The proposed well is located approximately 5,606 feet (1.06 miles) to the northwest of an approved Devonian disposal well which is available for commercial injection with rates exceeding 20,000 BWPD. This disposal well is the Lakeside 20702 SWD No. 1 (API No. 30-015-45146) to be operated by the Applicant. This approved well is located 1750 feet from the North line and 2630 feet from the East line (Unit G) in Section 29, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico. The original administrative order approved the use of 4½-inch diameter tubing, but based on recent trends among operators, the Division assumes an application to amend the order to increase tubing diameter to a tapered set utilizing 7-inch diameter and 5½-inch diameter tubing.

Additionally, the proposed well is located approximately 5,544 feet (1.05 miles) to the southeast of another Devonian disposal well which was proposed for commercial injection with rates exceeding 20,000 BWPD, but whose application was administratively denied by the Division. This disposal well is the Laguna Salada 19 SWD No. 1 (API No. 30-015-Pending) to be located at 685 feet from the South line and 50 feet from the East line (Unit P) of Section 13, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico. This disposal well is the subject of Case No. 20313.

It is the Division's position that the approval of the proposed well as located in the application does not conform to the Division's effort to appropriately manage the UIC program for its mission in support oil and gas production while being protective of the environment.

WITNESSES TO BE CALLED BY THE DIVISION

Name	Employer	Position	Field(s) of Expertise
Phillip Goetze, PG	NMEMNRD	Geoscientist and Hearing Examiner	Geology, UIC program, hydrology, Division permitting procedure

Time for Presentation: 1.5 hours

PROCEDURAL MATTERS

The Division requests the consolidation of Cases No. 20312, No. 20313, and No. 20314 at hearing based on the similarities of subjects for each case.

Respectfully submitted,

David K. Brooks

David K. Brooks
Assistant General Counsel
Energy, Minerals and Natural Resources Department
1220 S. St, Francis Drive
Santa Fe, NM 87505
(505) 476-3215
Email: davidk.brooks@state.nm.us

CERTFICATE OF SERVICE

I hereby certify that a copy of the foregoing pleading was served upon the following party by email on February 28, 2019.

ATTORNEY FOR MESQUITE SWD, INC.

Deana Bennett
Modrall Sperling
P. O. Box 2168
Albuquerque, NM 87103-2168
(505)-848-1845
dmb@modrall.com

David K. Brooks
Assistant General Counsel
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Attorney for the Oil Conservation Division

APR 25 2019 PM04:03

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

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION DIVISION
FOR THE PURPOSE OF CONSIDERING:

CASE NO. 20472

APPLICATION OF MESQUITE SWD INC. FOR APPROVAL OF A PRODUCED WATER DISPOSAL WELL IN EDDY COUNTY, NEW MEXICO.

OIL CONSERVATION DIVISION'S ENTRY OF APPEARANCE AND PRE-HEARING STATEMENT

The New Mexico Oil Conservation Division ("the Division") enters it appearance in this case. The Division hereby submits its Pre-Hearing Statement for the hearing scheduled on Thursday, May 2, 2019.

PARTIES	ATTORNEYS
Applicant:	
Mesquite SWD Inc.	Deana Bennett Modrall Sperling P. O. Box 2168 Albuquerque, NM 87103 (505) 848-1800 Email: dmb@modrall.com
Other Parties:	
THE NEW MEXICO OIL CONSERVATION DIVISION	David K. Brooks Energy, Minerals and Natural Resources Department 1220 S. St. Francis Drive Santa Fe, NM 87505 (505) 476-3215 Email: davidk.brooks@state.nm.us

EXHIBIT
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STATEMENT OF THE CASE

Applicant seeks an order to inject up to 40,000 barrels of produced water per day (BWPD) into the Silurian-Devonian formations at a depth interval from approximately 17,300 feet to 18,500 feet below surface through its Baker SWD Well No. 1 (the "proposed well") to be drilled at a surface location 330 feet from the South line and 309 feet from the West line (Unit M) in Section 1, Township 26 South, Range 31 East, NMPM, in Eddy County, New Mexico. Applicant further seeks approval of the use of a tapered tubing set with 7-inch diameter tubing inside the surface and intermediate casings and 5½-inch diameter tubing inside the liner. Applicant proposes the well as a commercial operation for the purpose of disposal of produced water from multiple sources.

The Division opposes issuance of an order for authority to inject for the proposed well at the location proposed in the administrative application and as later amended. The Division has sought to maintain a distance of 1.5 miles between injection sources (based on a ¾-mile radius from the well surface location or 7,920 feet between the Devonian SWD wells) that are Devonian wells designed for large-volume disposal in an effort:

1. to lessen the potential for induced-seismic events associated with disposal as recommended by the United States Environment Protection Agency's National Underground Injection Control (UIC) Technical Workgroup,
2. to minimize interference between wells in support of the effort to reduce the potential for induced-seismic events and to optimize the operational life of these wells (as a best management practice),
3. to protect correlative rights as directed under the New Mexico Oil and Gas Act, and

4. to maintain and improve the state's UIC program to support production while preventing waste as directed by the New Mexico Oil Conservation Commission in Commission Order No. R-14392-A.

The proposed well is located approximately 6569 feet (1.24 miles) to the southwest of a commercial Devonian disposal well which is injecting with reported rates for 2019 ranging from 27,110 BWPD to 29,280 BWPD. This disposal well is the Paduca 6 SWD No. 1Y (SWD-1607-A; API No. 30-025-43379) operated by the Applicant. This approved well is located 2650 feet from the South line and 1175 feet from the West line (Lot 2) in Section 6, Township 26 South, Range 32 East, NMPM, Lea County, New Mexico. The well is currently configured with a tapered tubing set of 4½-inch diameter tubing in the 7⅝-inch liner and 5½-inch diameter tubing above the liner.

A second Devonian disposal well is proposed by the Applicant to the west of the Baker SWD No. 1. This well, identified as the Red Bellied Cooter SWD No. 1 (Administrative application no. pLEL1832554216), has a surface location of 375 feet from the South line and 381 feet from the East line (Unit P) Section 3, Township 26 South, Range 31 East, NMPM, Eddy County, New Mexico. This well is approximately 1.17 miles from the surface location of the Baker SWD No. 1.

It is the Division's position that the approval of the proposed well as located in the application does not conform to the Division's effort to appropriately manage the UIC program for its mission in support oil and gas production while being protective of the environment. The Division is not opposed to the proposed location of the Red Bellied Cooter SWD No. 1, but objects to the approval of the Baker SWD No. 1 in combination with the Red Bellied Cooter SWD No. 1.

WITNESSES TO BE CALLED BY THE DIVISION

Name	Employer	Position	Field(s) of Expertise
Phillip Goetze, PG	NMEMNRD	Geoscientist and Hearing Examiner	Geology, UIC program, hydrology, Division permitting procedure

Time for Presentation: 1.5 hours

PROCEDURAL MATTERS

The Division requests the consolidation of this case with Cases No. 20313 and No. 20314 set for Division hearing docket for May 30, 2019, based on the similarities of subjects for each case.

Respectfully submitted,

David K. Brooks
Assistant General Counsel
Energy, Minerals and Natural
Resources Department
1220 S. St, Francis Drive
Santa Fe, NM 87505
(505) 476-3215
davidk.brooks@state.nm.us

CERTFICATE OF SERVICE

I hereby certify that a copy of the foregoing pleading was served upon the following party by email on April 25, 2019.

Deana M. Bennett
Modrall, Sperling, Roehl, Harris & Sisk
P.O. Box 2168
500 Fourth Street NW, Suite 1000
Albuquerque, NM 87103-2168
505.848.1800
dmb@modrall.com

For Mesquite SWD Inc.

David K. Brooks

David K. Brooks
Assistant General Counsel
Energy, Minerals and Natural
Resources Department
1220 S. St, Francis Drive
Santa Fe, NM 87505
(505) 476-3215
Email: davidk.brooks@state.nm.us
Attorney for the Oil Conservation Division

Exhibits of Dr. Kate Zeigler
On Behalf of Mesquite SWD Inc.

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)

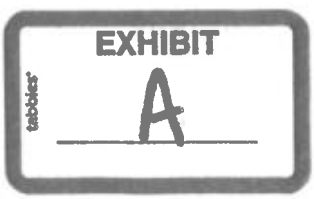
The Thirtyone Formation is part of a wedge of sedimentary rocks that thins to the north and the west where the wedge ends up truncated beneath the base of the overlying Woodford Shale. The Thirtyone Formation is only present in southeastern Lea County and consists of an upper coarsely crystalline dolostone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

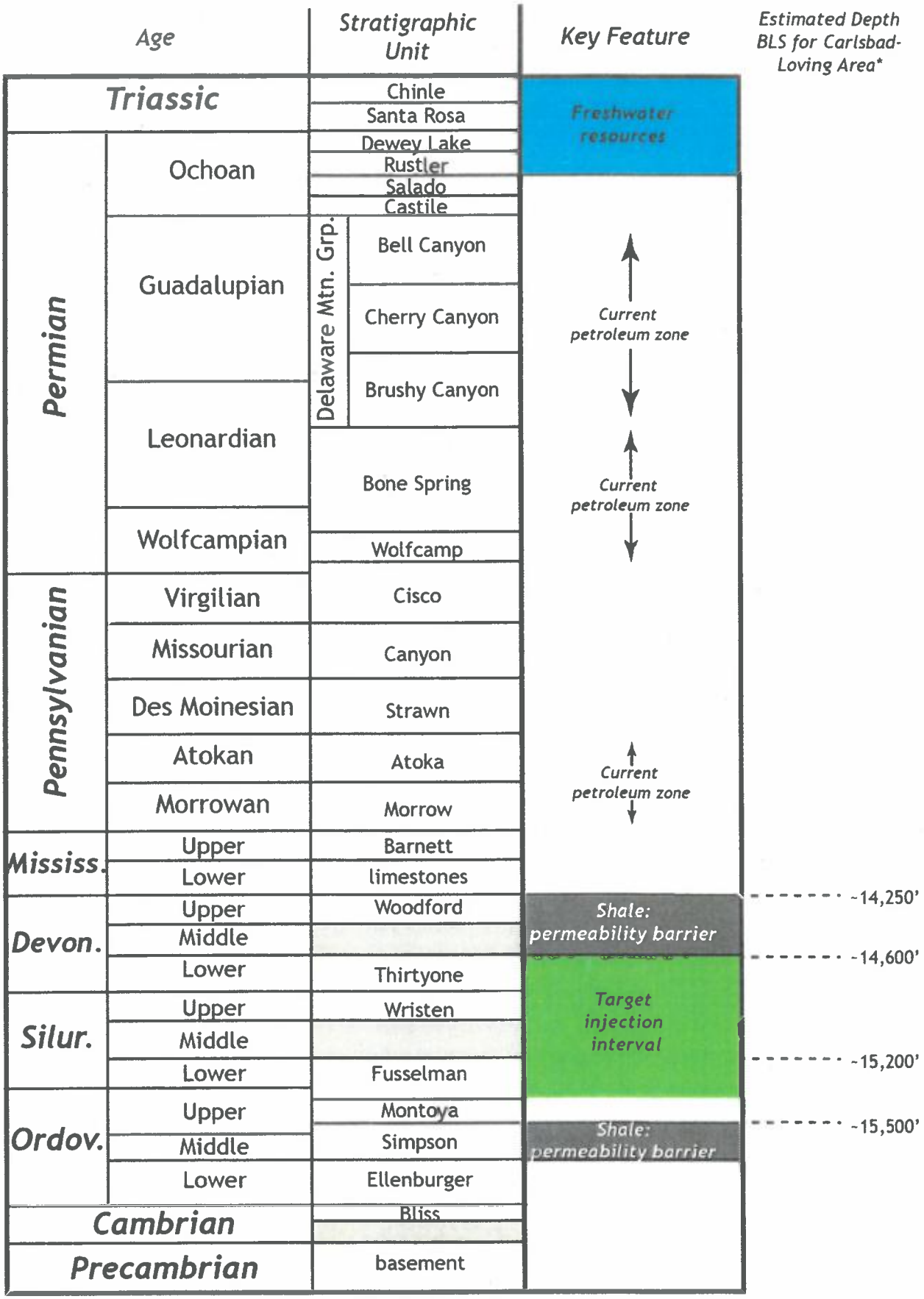
References

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.

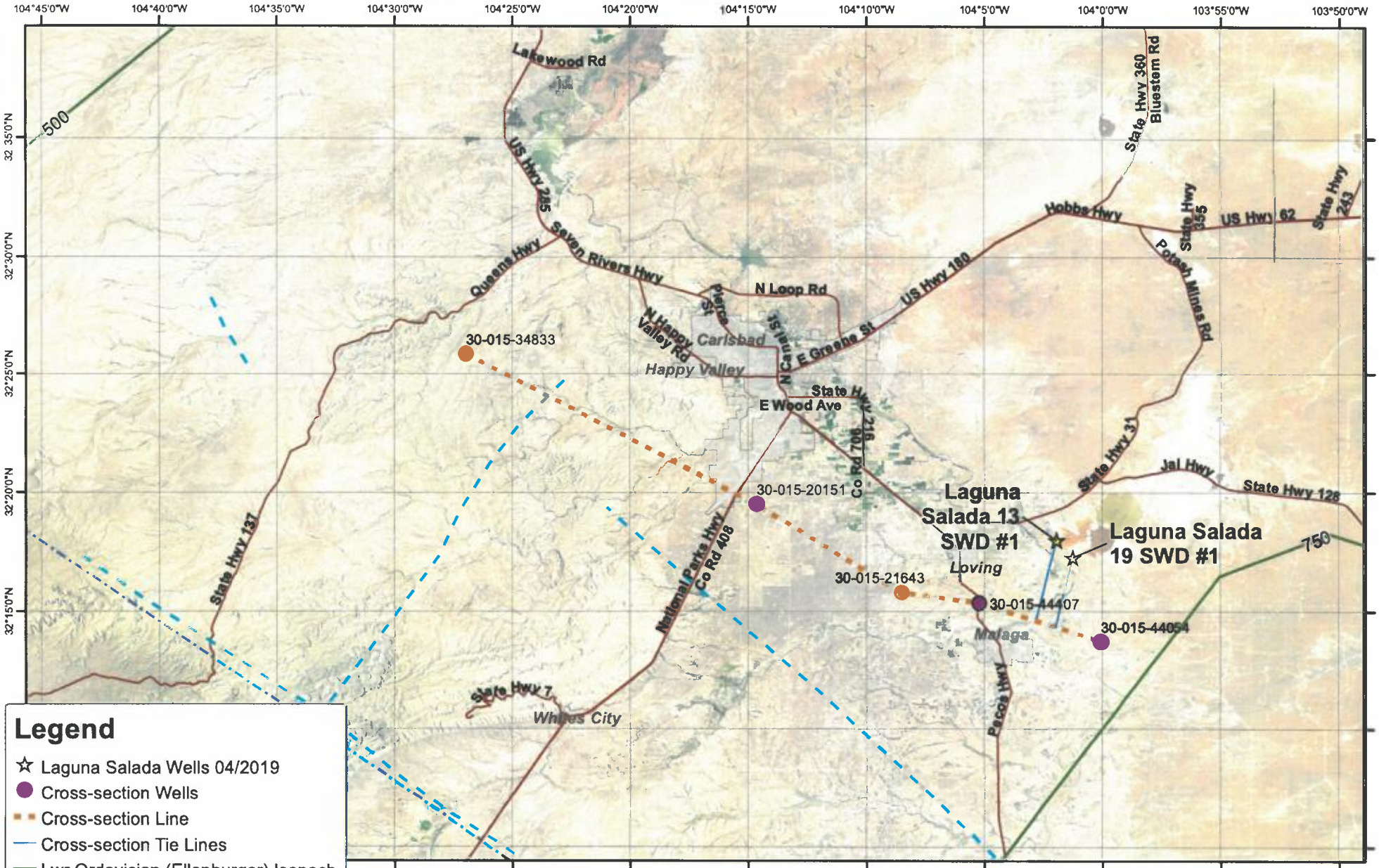
Hemmesch, N.T., Harris, N.B., Mnich, C.A. and Selby, D., 2014, A sequence-stratigraphic framework for the Upper Devonian Woodford Shale, Permian Basin, west Texas: American Association of Petroleum Geologists Bulletin, v. 98, no. 1, p. 23-47, doi:10.1306/05221312077

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 30-015-44407 Striker 3 SWD #1 (33-23S-28E) and 30-015-44054 Cedar Canyon SWD #001 (08-24S-29E).

Ellenburger Isopach, Faults and Well Locations



Legend

- ☆ Laguna Salada Wells 04/2019
- ● Cross-section Wells
- Cross-section Line
- Cross-section Tie Lines
- Lwr Ordovician (Ellenburger) Isopach
- Precambrian Faults
- Basement Faults
- Roads
- Towns/Cities
- County Boundaries, NM

7 3.5 0 7 14 21 28 Miles

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

105

N

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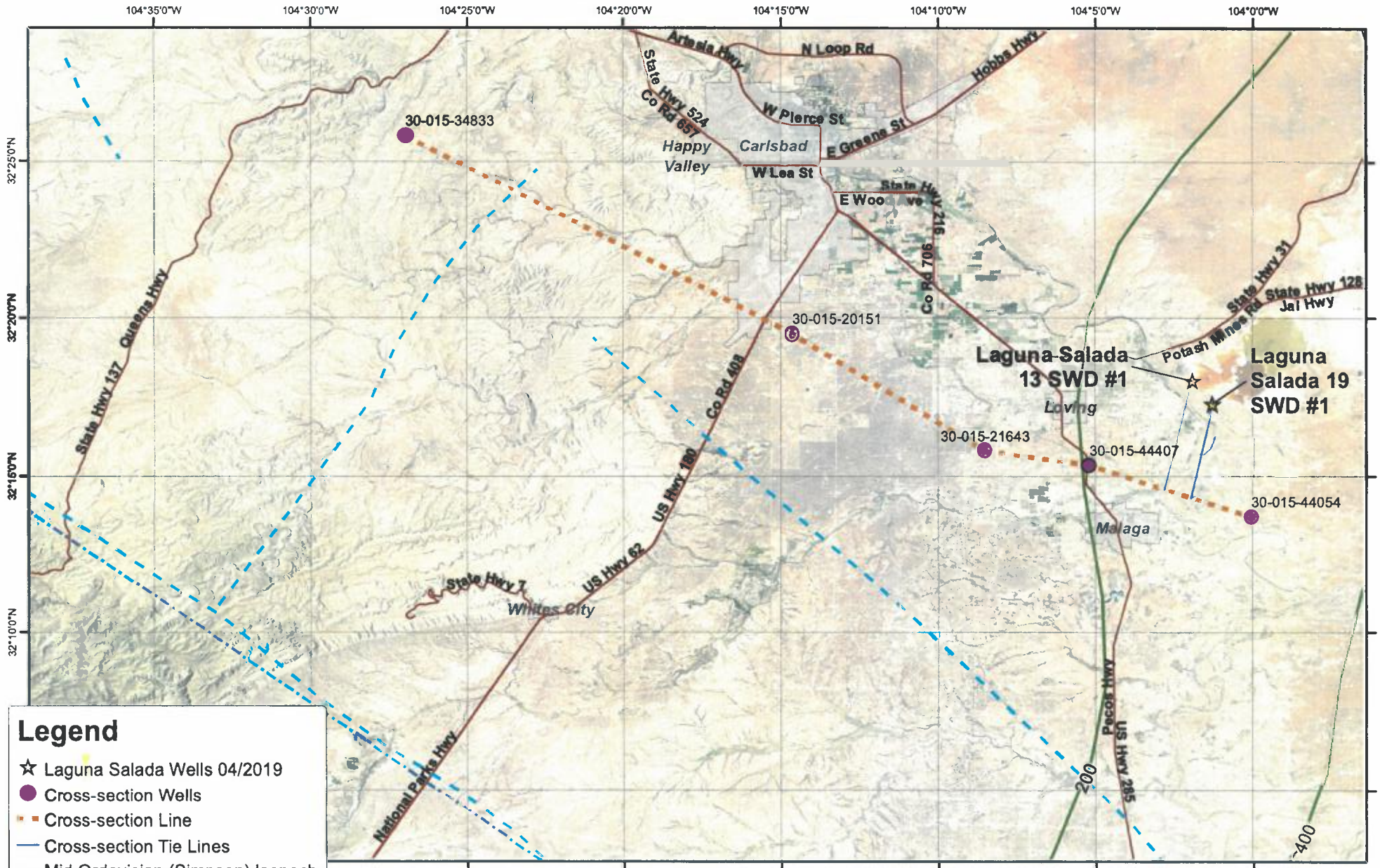
Simpson Isopach, Faults and Well Locations



Legend

- ☆ Laguna Salada Wells 04/2019
- ● Cross-section Wells
- Cross-section Line
- Cross-section Tie Lines
- Mid Ordovician (Simpson) Isopach
- Precambrian Faults
- Basement Faults
- Roads
- Towns/Cities
- County Boundaries, NM

5 2.5 0 5 10 15 20 Miles

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

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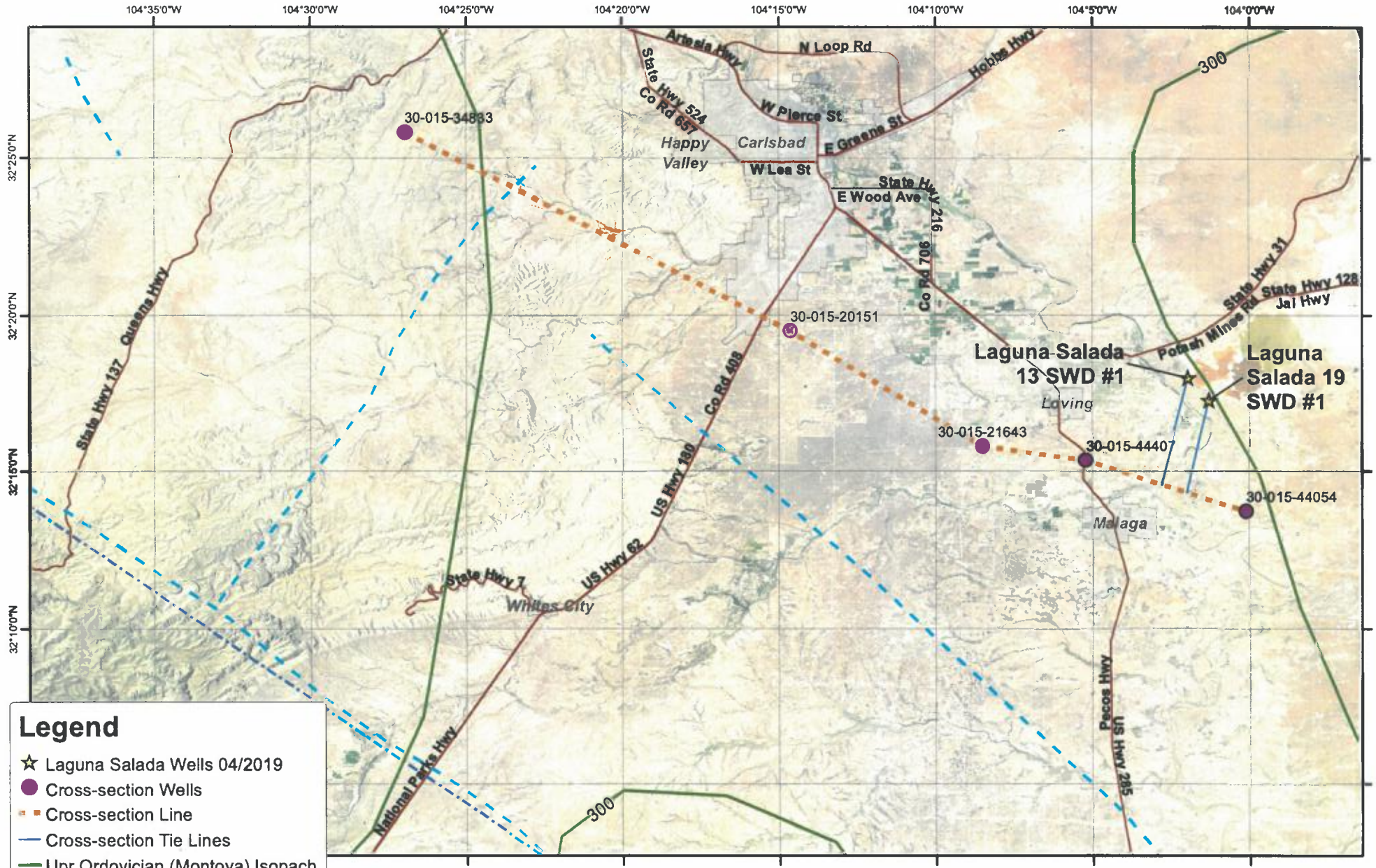
Montoya Isopach, Faults and Well Locations



Legend

- Laguna Salada Wells 04/2019
- Cross-section Wells
- Cross-section Line
- Cross-section Tie Lines
- Upr Ordovician (Montoya) Isopach
- Precambrian Faults
- Basement Faults
- Roads
- Towns/Cities
- County Boundaries, NM

5 2.5 0 5 10 15 20 Miles

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

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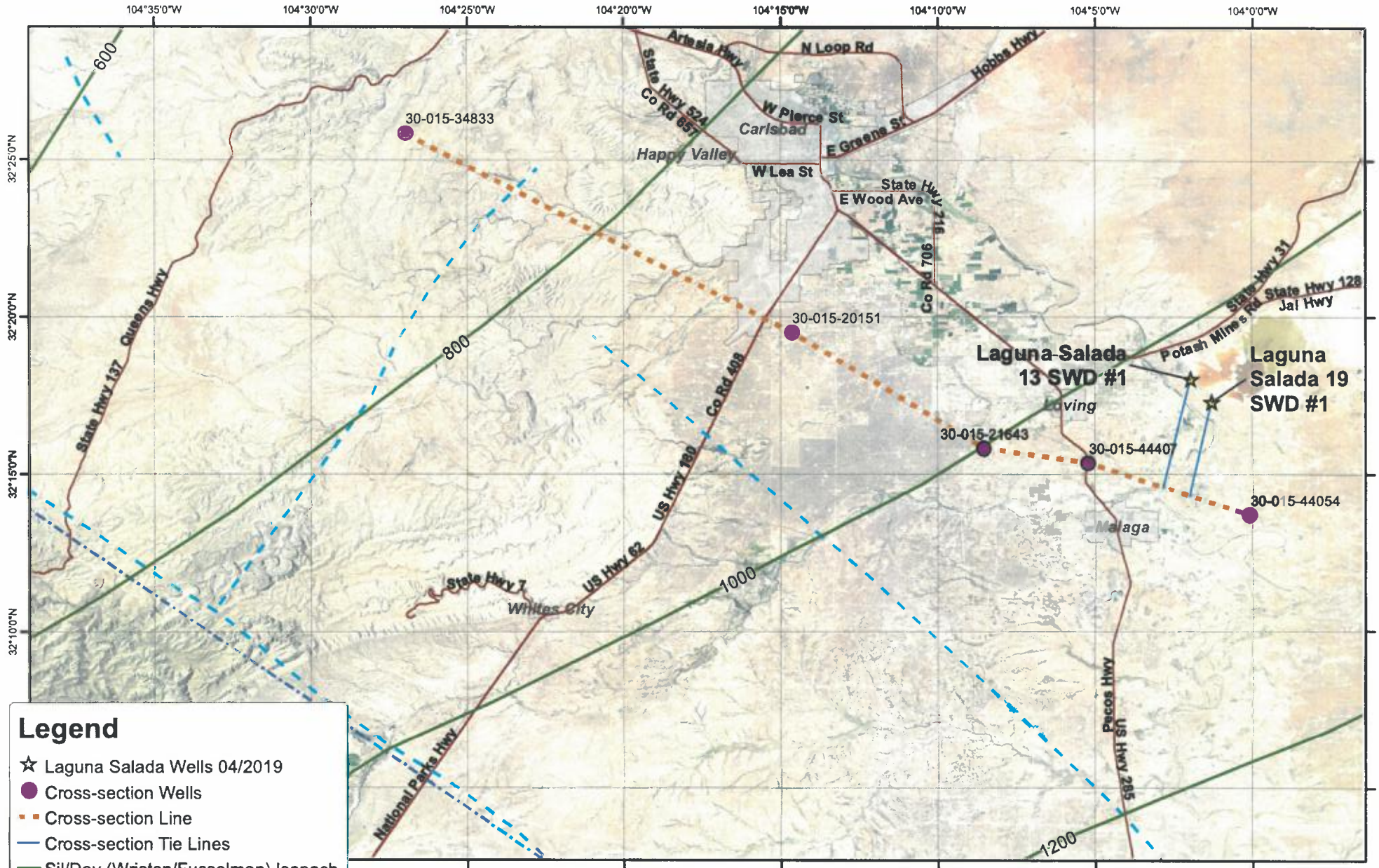
Wristen/Fusselman Isopach, Faults and Well Locations



Legend

- ☆ Laguna Salada Wells 04/2019
- ● Cross-section Wells
- Cross-section Line
- Cross-section Tie Lines
- Sil/Dev (Wristen/Fusselman) Isopach
- Precambrian Faults
- Basement Faults
- Roads
- Towns/Cities
- County Boundaries, NM

5 2.5 0 5 10 15 20 Miles

Coordinate System: GCS North American 1983
Datum: North American 1983
Units: Degree
Basement Faults (if shown) were digitized from Tectonic Map of Texas (Eqing, 1990)
Precambrian faults were digitized from Frenzel et al (1988) Figure 6

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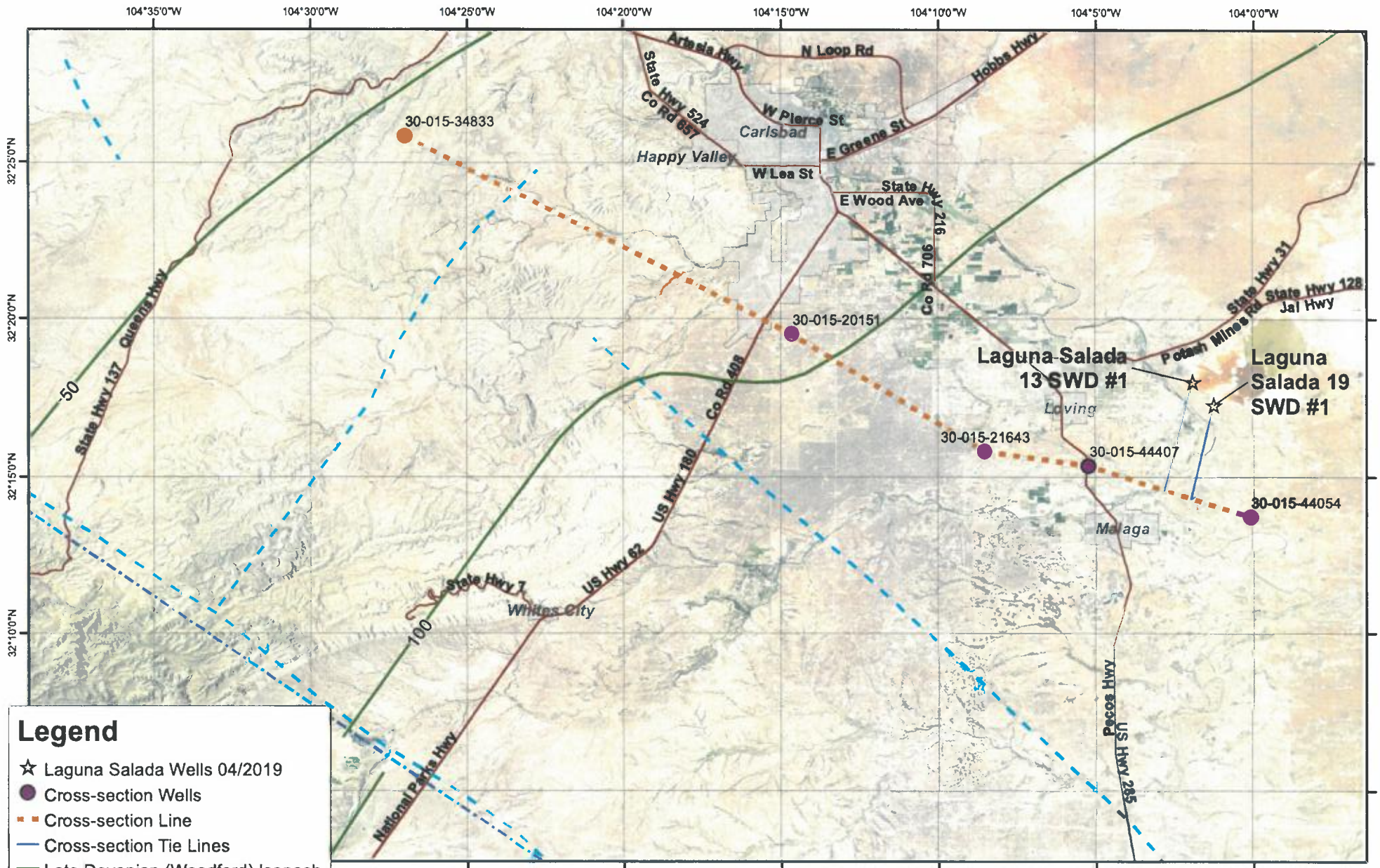
Woodford Isopach, Faults and Well Locations



Legend

- Laguna Salada Wells 04/2019
- Cross-section Wells
- Cross-section Line
- Cross-section Tie Lines
- Late Devonian (Woodford) Isopach
- Precambrian Faults
- Basement Faults
- Roads
- Towns/Cities
- County Boundaries, NM

5 2.5 0 5 10 15 20 Miles

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

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WESTERN GeoInformatics

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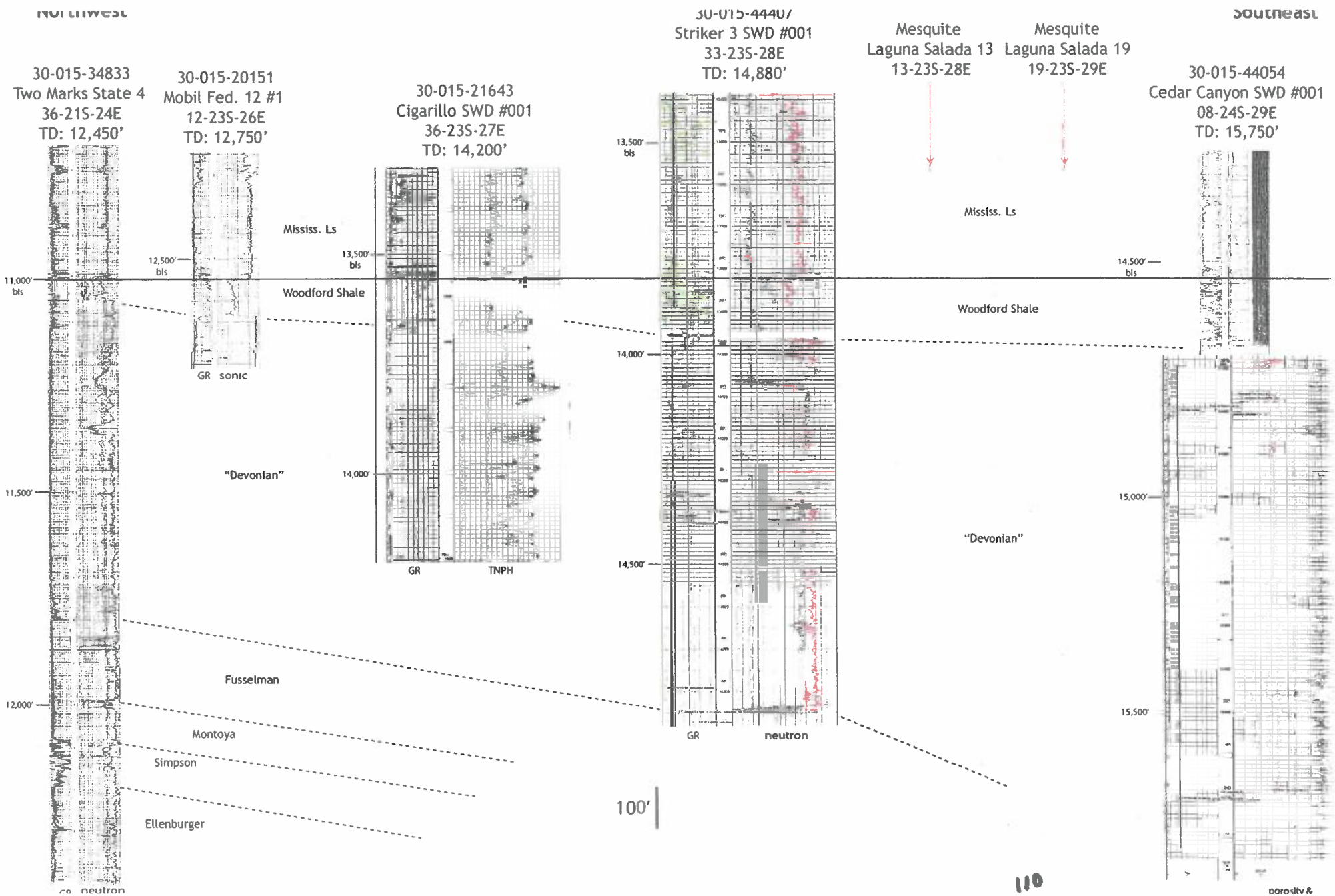

Northwest
Southeast
30-015-34833
Two Marks State 4
36-21S-24E
TD: 12,450'
30-015-20151
Mobil Fed. 12 #1
12-23S-26E
TD: 12,750'
30-015-21643
Cigarillo SWD #001
36-23S-27E
TD: 14,200'
30-015-44407
Striker 3 SWD #001
33-23S-28E
TD: 14,880'
Mesquite
Laguna Salada 13
13-23S-28E
Mesquite
Laguna Salada 19
19-23S-29E
30-015-44054
Cedar Canyon SWD #001
08-24S-29E
TD: 15,750'
11,000' bls
12,500' bls
13,500' bls
14,000'
14,500'
11,500'
12,000'
15,000'
15,500'
Mississ. Ls
Woodford Shale
"Devonian"
Fusselman
Montoya
Simpson
Ellenburger
GR sonic
GR TNPH
GR neutron
100'
porosity &

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)

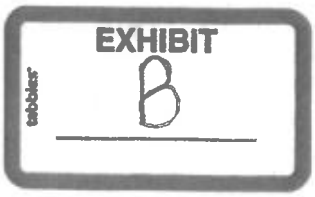
The Thirtyone Formation is part of a wedge of sedimentary rocks that thins to the north and the west where the wedge ends up truncated beneath the base of the overlying Woodford Shale. The Thirtyone Formation is only present in southeastern Lea County and consists of an upper coarsely crystalline dolostone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

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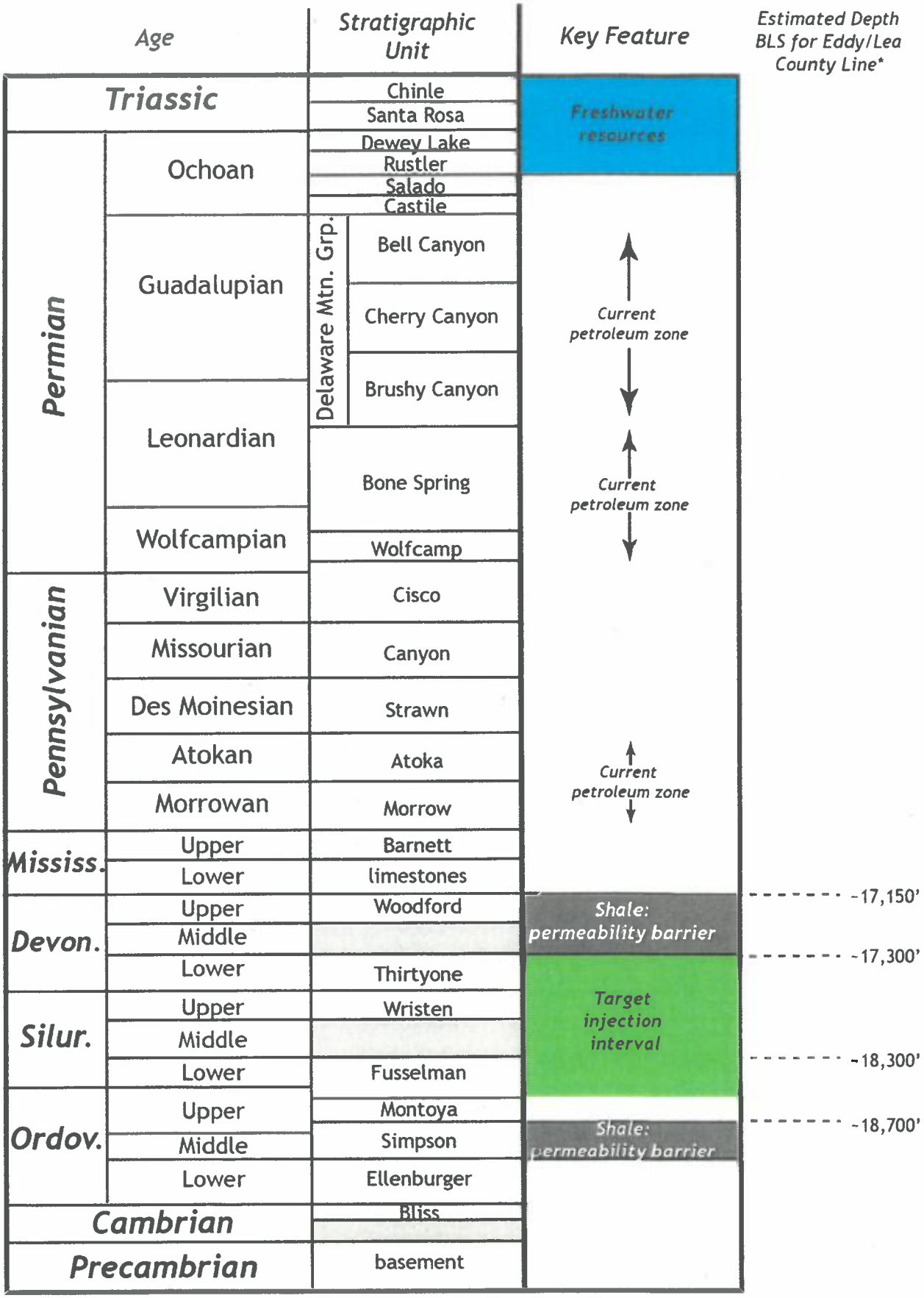
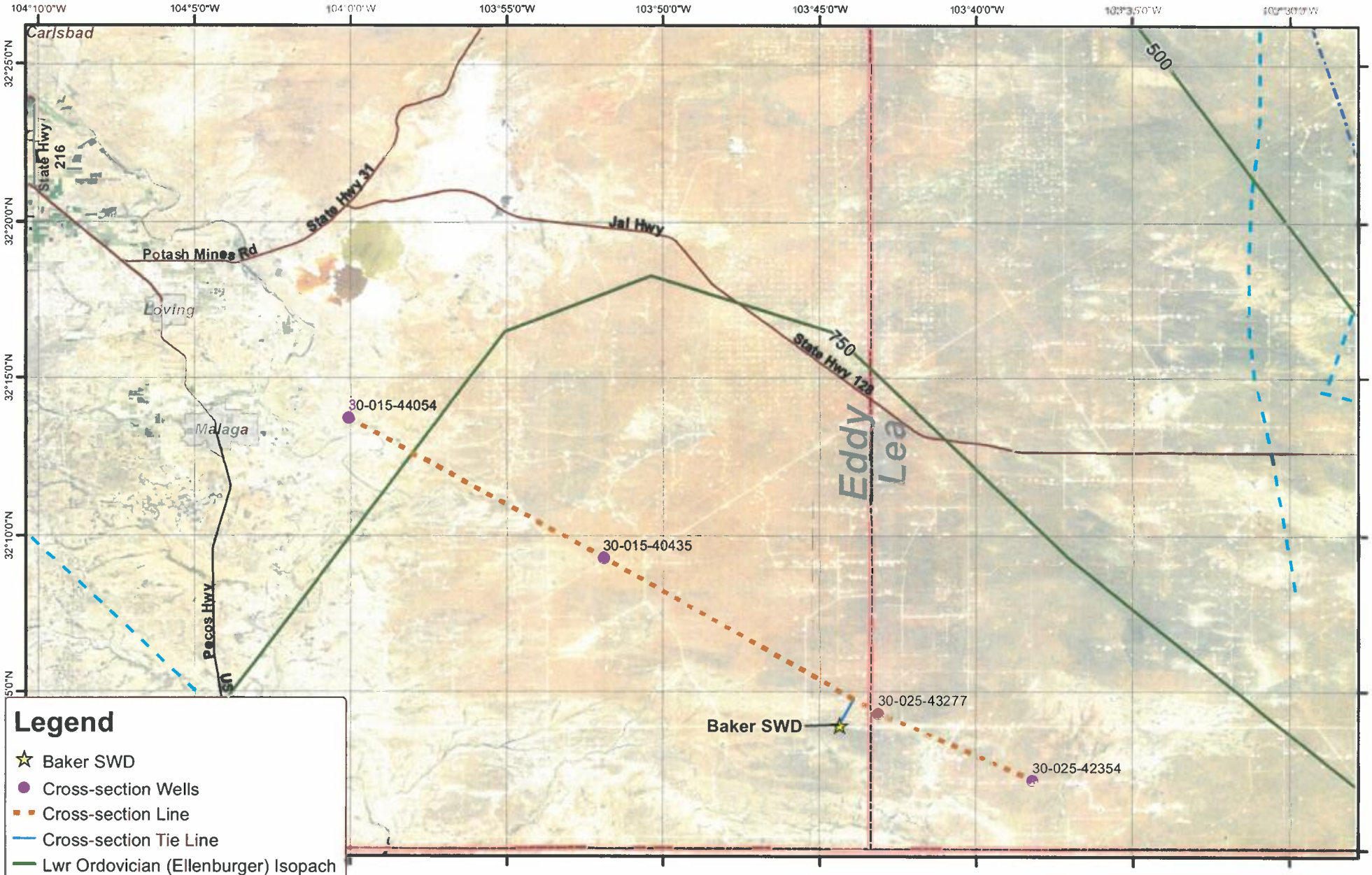


Stratigraphic chart for the Delaware Basin from Broadhead (2017).
* Based on data from 30-025-43277 Paduca 6 SWD #001 (06-26S-32E).

Ellenburger Isopach, Faults and Well Locations



Legend

- Baker SWD
- Cross-section Wells
- Cross-section Line
- Cross-section Tie Line
- Lwr Ordovician (Ellenburger) Isopach
- Precambrian Faults
- Basement Faults
- Roads
- Towns/Cities
- County Boundaries, NM

5 2.5 0 5 10 15 20 Miles

N

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

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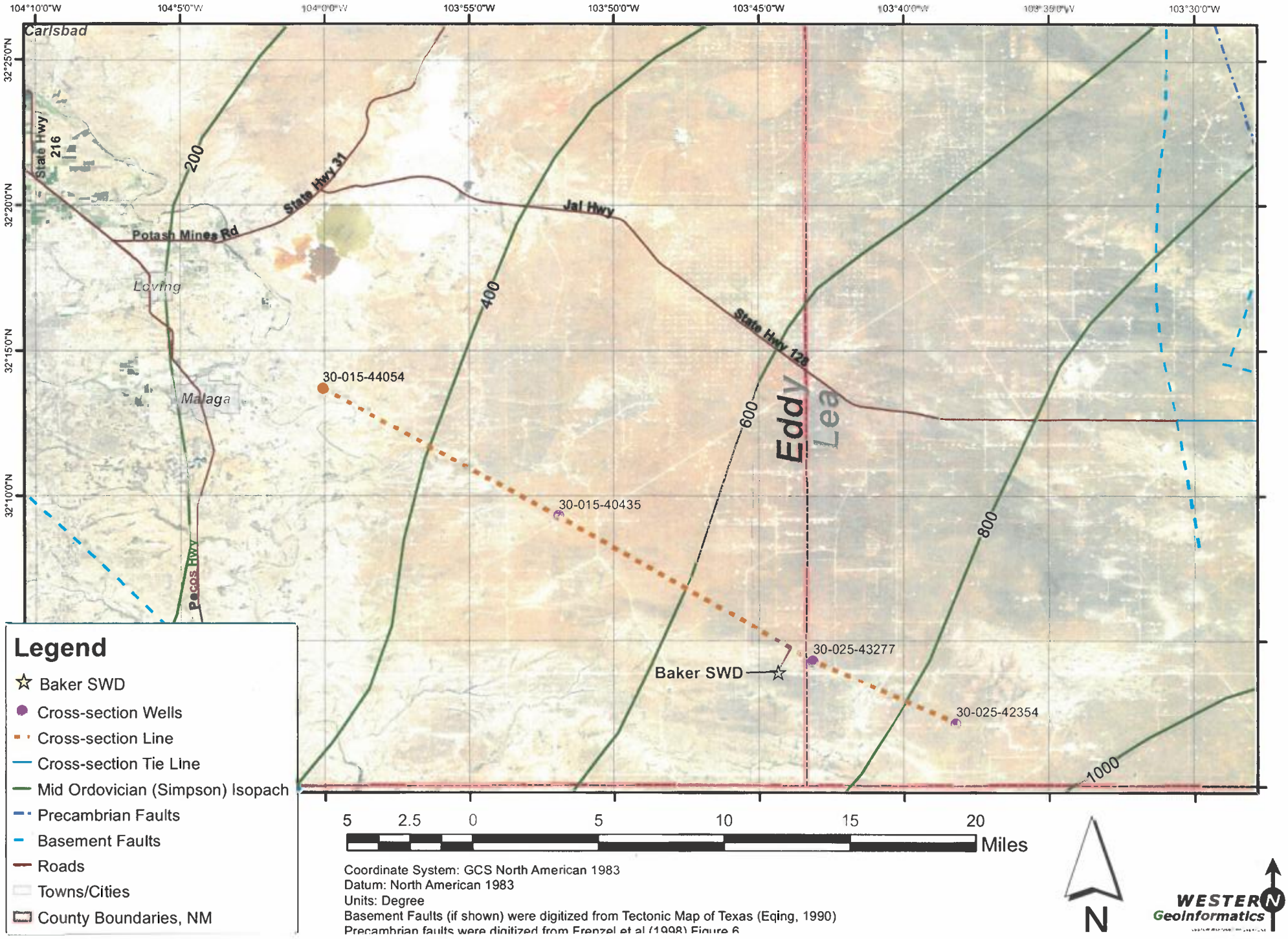
Simpson Isopach, Faults and Well Locations



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Units: Degree
Basement Faults (if shown) were digitized from Tectonic Map of Texas (Eqing, 1990)
Precambrian faults were digitized from Frenzel et al (1998) Figure 6

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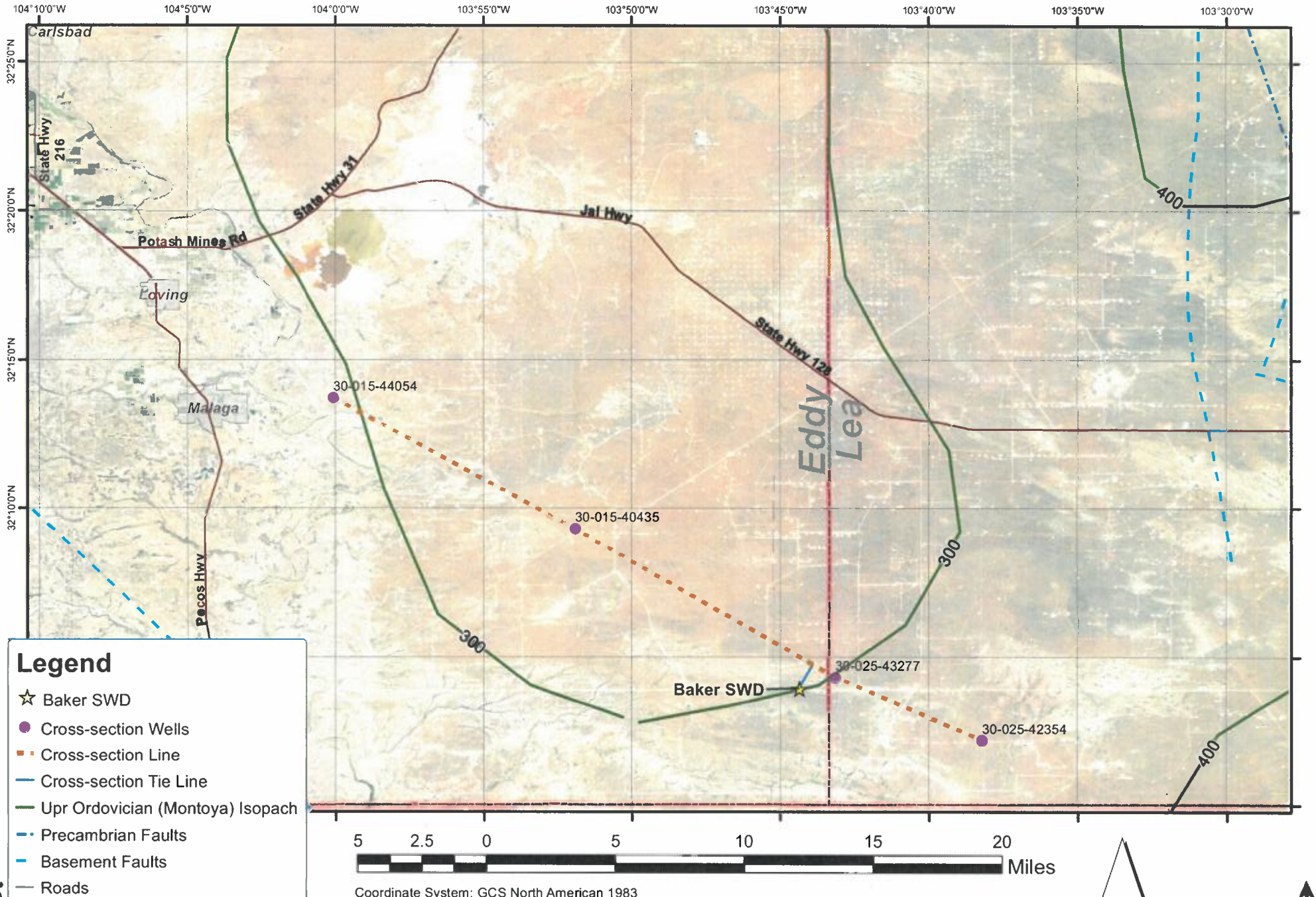
Montoya Isopach, Faults and Well Locations



Legend

- Baker SWD
- Cross-section Wells
- Cross-section Line
- Cross-section Tie Line
- Upr Ordovician (Montoya) 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 (if shown) were digitized from Tectonic Map of Texas (Eqing, 1990)
Precambrian faults were digitized from Frenzel et al (1998) Figure 6

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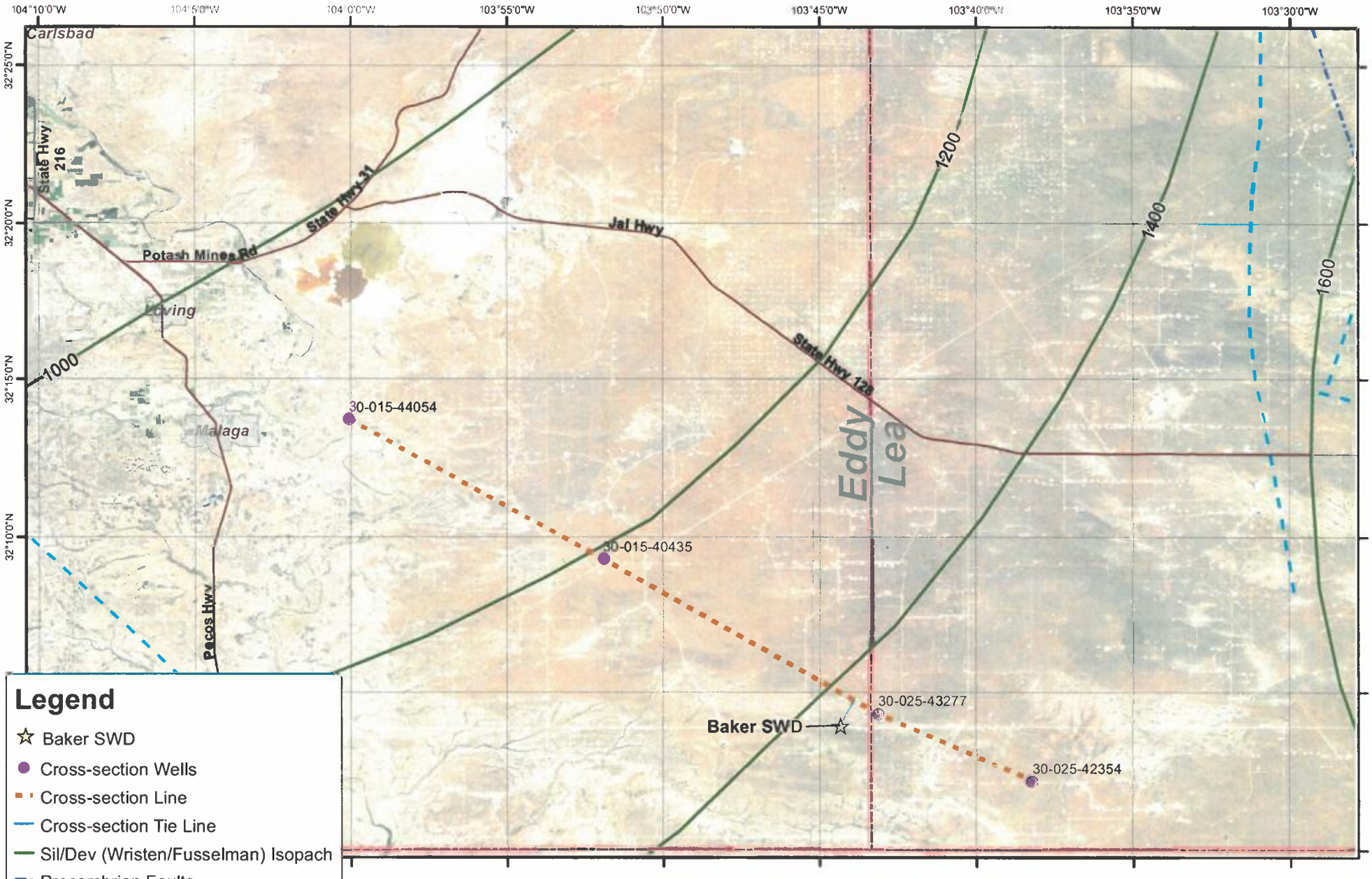
Wristen/Fusselman Isopach, Faults and Well Locations



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

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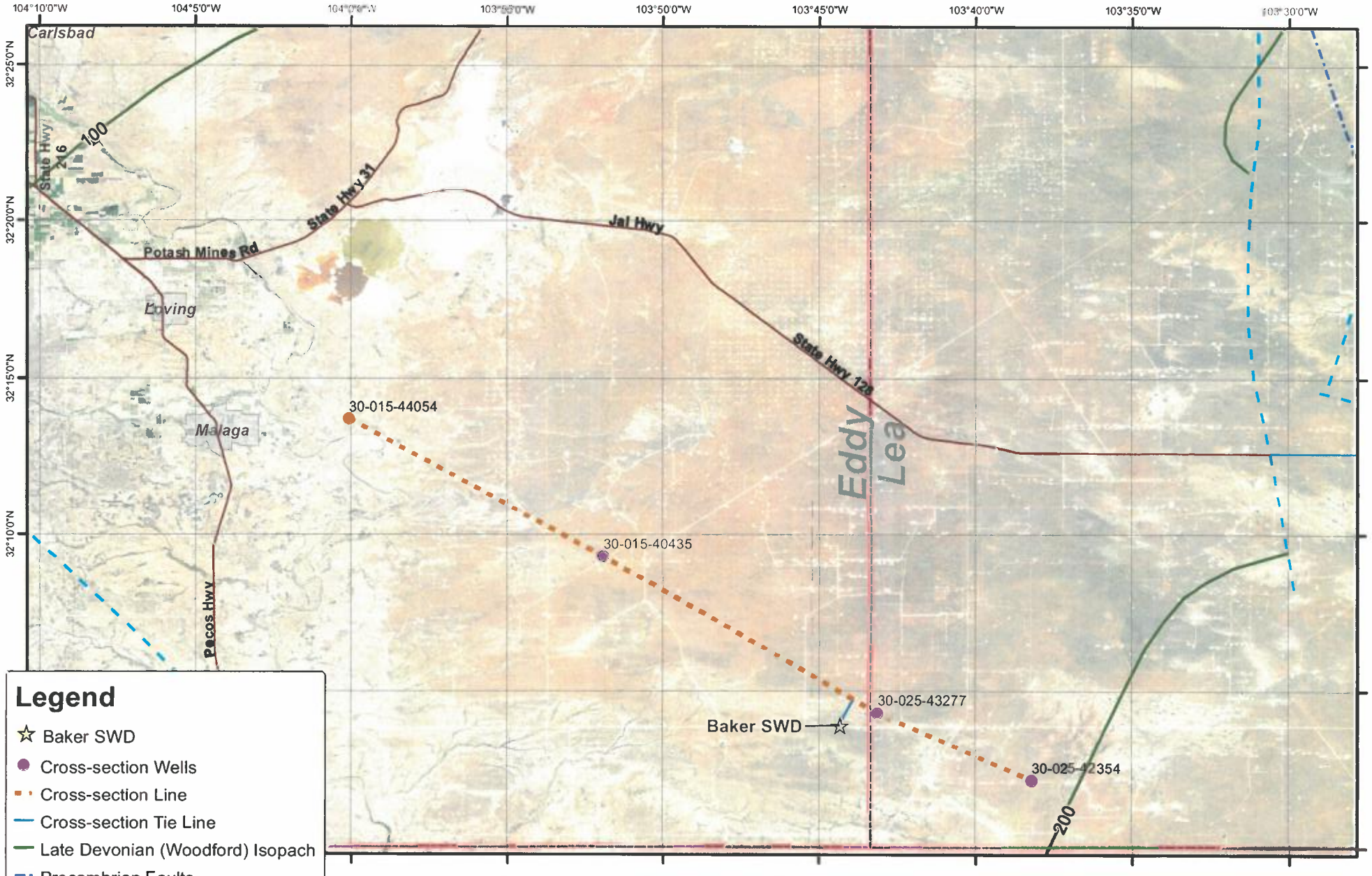
Woodford Isopach, Faults and Well Locations



Legend

- Baker SWD
- Cross-section Wells
- Cross-section Line
- Cross-section Tie Line
- Late Devonian (Woodford) Isopach
- Precambrian Faults
- Basement Faults
- Roads
- Towns/Cities
- County Boundaries, NM

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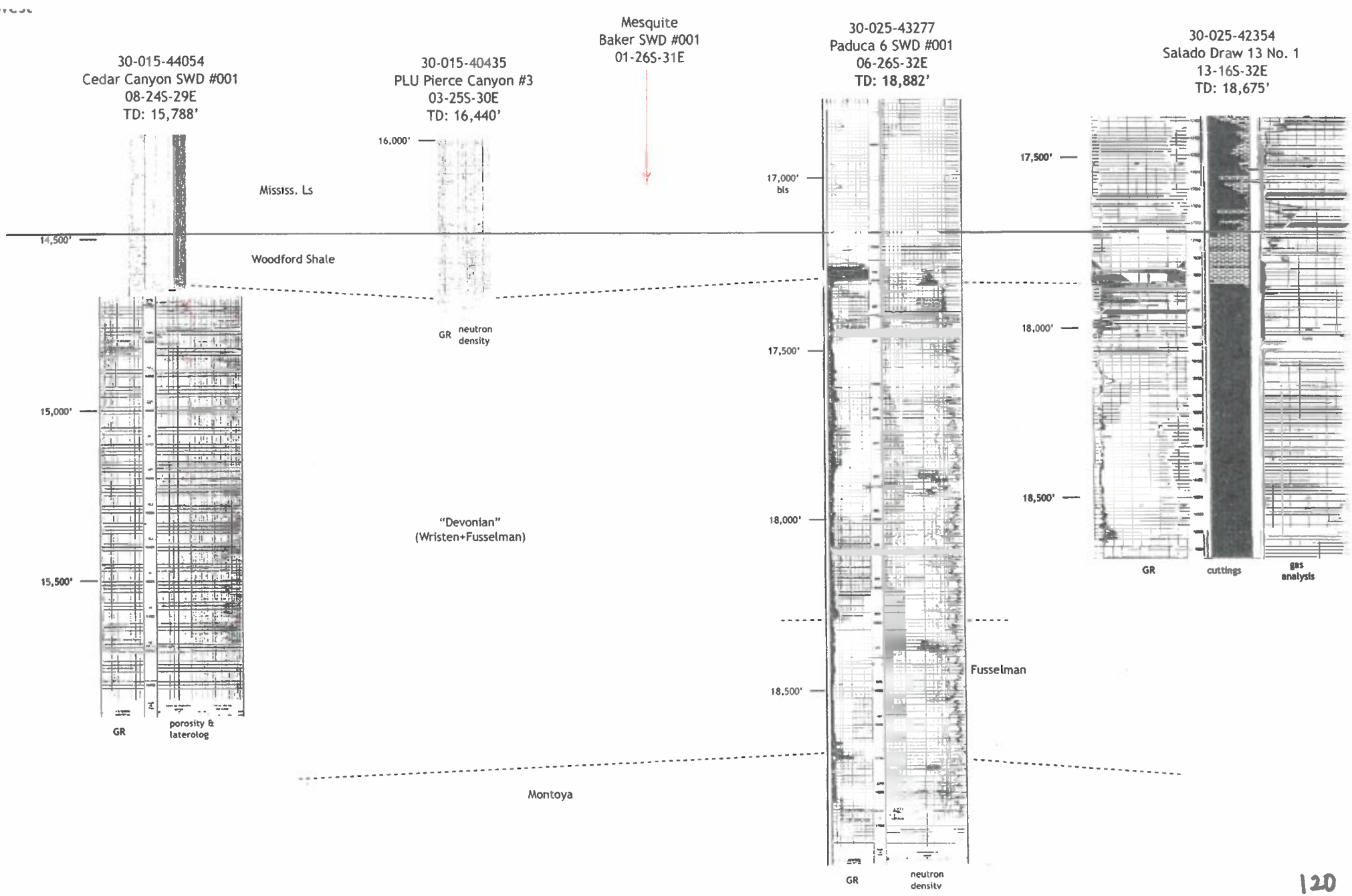
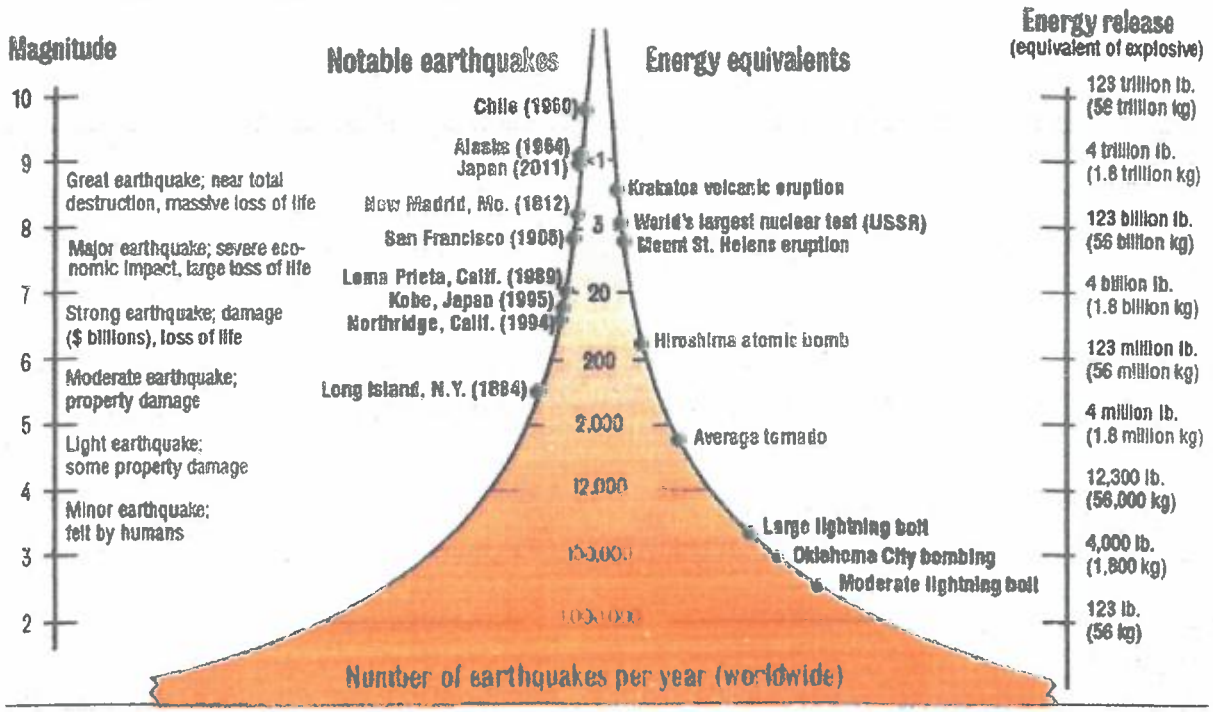

West
30-015-44054
Cedar Canyon SWD #001
08-24S-29E
TD: 15,788'
30-015-40435
PLU Pierce Canyon #3
03-25S-30E
TD: 16,440'
Mesquite
Baker SWD #001
01-26S-31E
30-025-43277
Paduca 6 SWD #001
06-26S-32E
TD: 18,882'
30-025-42354
Salado Draw 13 No. 1
13-16S-32E
TD: 18,675'
16,000'
17,000'
bls
17,500'
18,000'
18,500'
14,500'
15,000'
15,500'
Mississ. Ls
Woodford Shale
"Devonian"
(Wristen+Fusselman)
Fusselman
Montoya
GR
neutron
density
GR
porosity &
laterolog
GR
neutron
density
GR
cuttings
gas
analysis

Exhibits of Todd Reynolds
On Behalf of Mesquite SWD Inc.

Earthquake frequency and destructive power

The left side of the chart shows the magnitude of the earthquake and the right side represents the amount of high explosive required to produce the energy released by the earthquake. The middle of the chart shows the relative frequencies.



Source: U.S. Geological Survey

MCT

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EXHIBIT
tabbies
A-1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D.C. 20460

FEB - 6 2015

MEMORANDUM

SUBJECT: Distribution of Final Work Product from the National Underground Injection Control (UIC) Technical Workgroup - *Minimizing and Managing Potential Impacts of Injection-Induced Seismicity from Class II Disposal Wells: Practical Approaches*

FROM: Ronald Bergman, Acting Director
Drinking Water Protection Division (4606M)
Office of Ground Water and Drinking Water

TO: UIC Program Managers
EPA Regions I-X

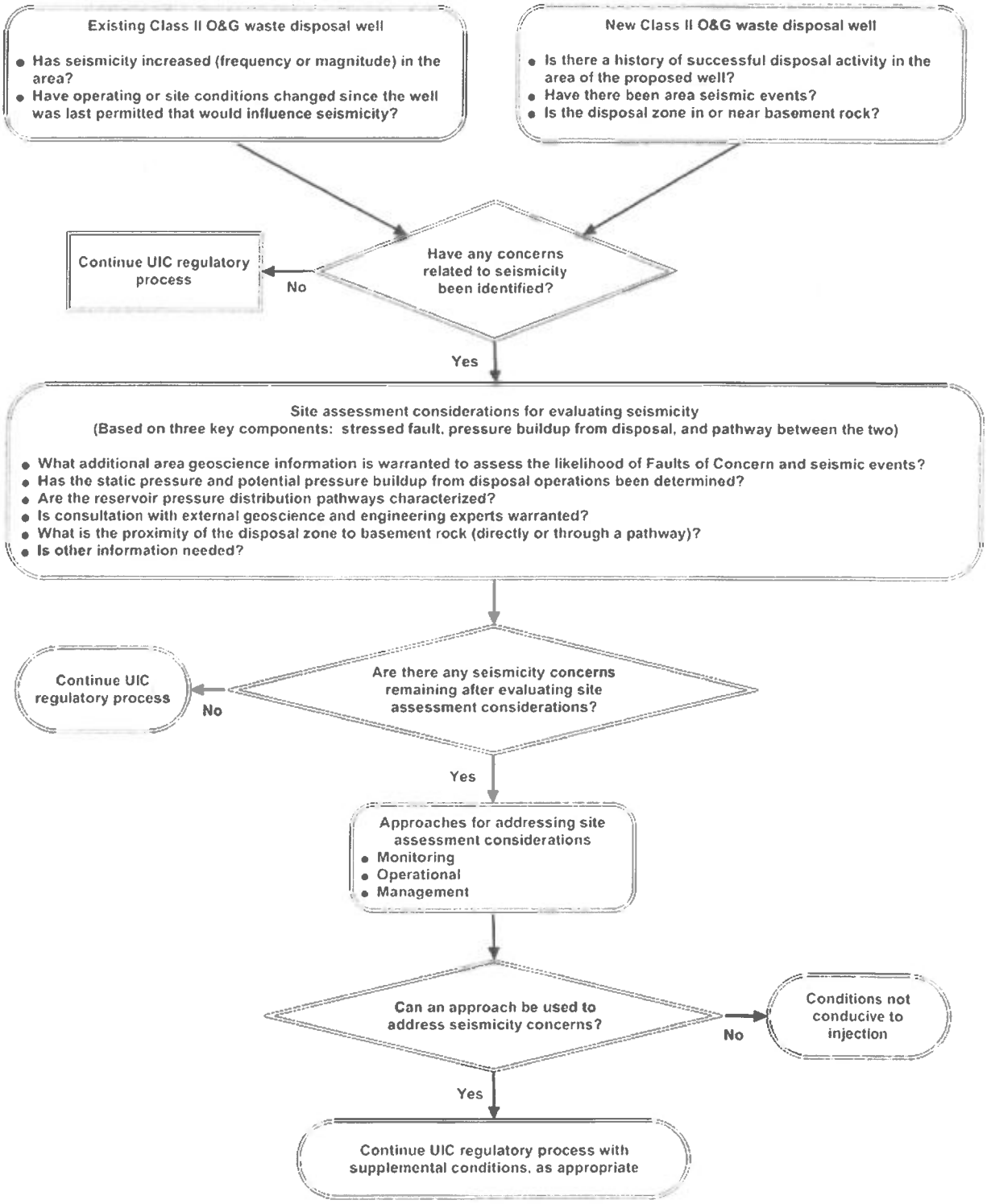
The Office of Ground Water and Drinking Water is pleased to provide the final product of the UIC National Technical Workgroup (NTW) entitled, *Minimizing and Managing Potential Impacts of Injection-Induced Seismicity from Class II Disposal Wells: Practical Approaches*. The report will be a valuable tool for UIC program managers addressing induced seismicity.

Within the past few years, many small to moderate magnitude earthquakes have been recorded in areas with Class II waste disposal injection wells (II-D) related to unconventional oil and gas production. To address the growing public concern that induced seismicity could endanger drinking water sources, EPA's Drinking Water Protection Division requested that the NTW develop a report with practical management tools to help federal and state UIC regulators address potential injection-induced seismicity.

The NTW was formed in 1995 to discuss technical issues related to the UIC Program and is comprised of staff from each EPA Regional Office, OGWDW, and select states authorized to implement the UIC program. The NTW provides a forum whereby technical issues relating specifically to the UIC Program can be discussed, reviewed and resolved by UIC program experts. The NTW provides an avenue for open dialogue, communication, and coordination between EPA and State representatives concerning technical matters related to underground injection as defined in the Safe Drinking Water Act (42 USC 6A, Part C). States with extensive programmatic experience in addressing induced seismicity participated in the development of this report, including Ohio, Colorado, Oklahoma, Texas, West Virginia, and Arkansas. A number of these states have developed state regulations or guidelines addressing induced seismicity and each of the states contributed valuable experience and expertise to this effort.

The NTW was tasked with summarizing the available information on induced seismicity and providing specific suggestions for managing induced seismicity within the context of the Class II UIC program.

FIGURE B-1: INJECTION-INDUCED SEISMICITY DECISION MODEL FOR UIC DIRECTORS



[4] Decision model is founded on Director discretionary authority

Seismic Catalog Analysis Within 50 km of Mesquite Laguna Salada SWD 13 Well #1

Prepared for NGL-Permian
by
GeoEnergy Monitoring Systems
May 26, 2019

Analysis is based on NMT seismic catalogs, unpublished catalogs and USGS catalogs for the time period 2010-2017 selecting events within 50 km of the Laguna Salada 13 SWD well. Additionally, seismic monitoring from September 6, 2018 to date from the three NGL seismic stations installed at Striker 2, Striker 3 and Striker 6 SWD wells. NGL/GeoEMS installed a seismic monitor at the Salty Dog SWD well (SDOG) in Texas just across New Mexico border on March 28, 2019 that will help constrain locations in southeastern NM.

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

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

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

No historic or recent events have been located in the vicinity of Laguna Salida SWD #13.

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	0.00
10/13/18	22:07:22.259	32.0998	-103.4560	6	5.64	1.60	0.12
11/18/18	09:04:52.707	32.2526	-103.7853	5	3.77	1.75	0.20
12/09/18	18:51:00.805	32.3634	-103.8510	1	2.09	1.44	0.08
01/03/19	09:15:48.809	32.2761	-103.6732	6	5.64	1.63	0.00
01/03/19	23:05:33.122	32.2599	-103.7654	4	5.51	1.60	0.25
01/04/19	09:45:38.943	32.2346	-103.7798	4	4.34	1.98	0.38
01/09/19	10:18:54.389	32.2255	-103.7166	5	2.80	1.47	0.41
01/27/19	07:33:47.127	32.2219	-103.7220	5	3.53	1.72	0.31
02/19/19	09:35:15.109	32.2443	-103.6898	1	4.17	1.20	0.00
05/23/19	06:33:40.530	32.2617	-103.7581	4	2.28	1.53	0.27

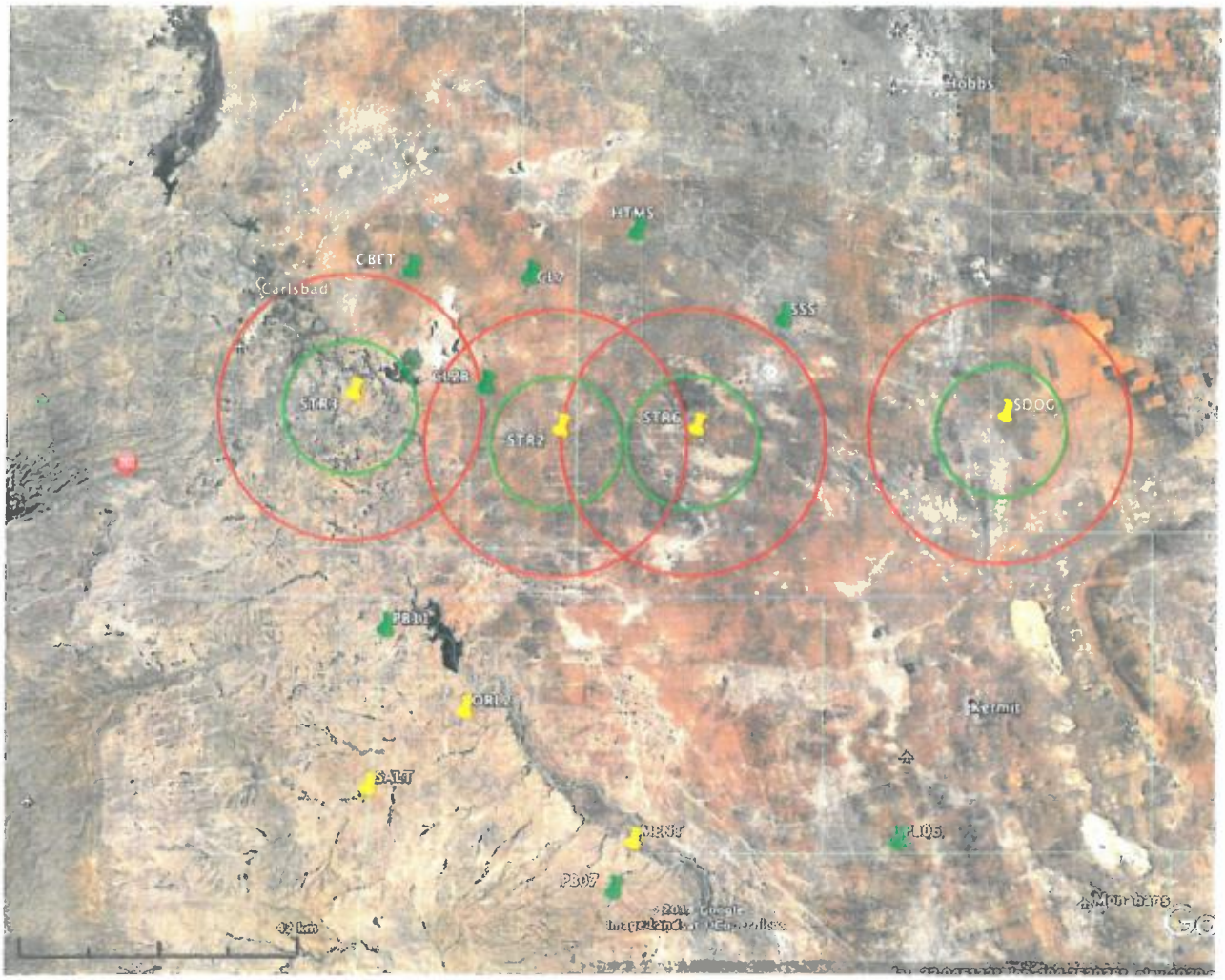


Figure 1. Striker SWD wells seismic station locations and existing NGL-Permian seismic stations (yellow pushpins). Green and red circles around stations show approximate detection levels for ML 1.0 and 1.5, respectively.

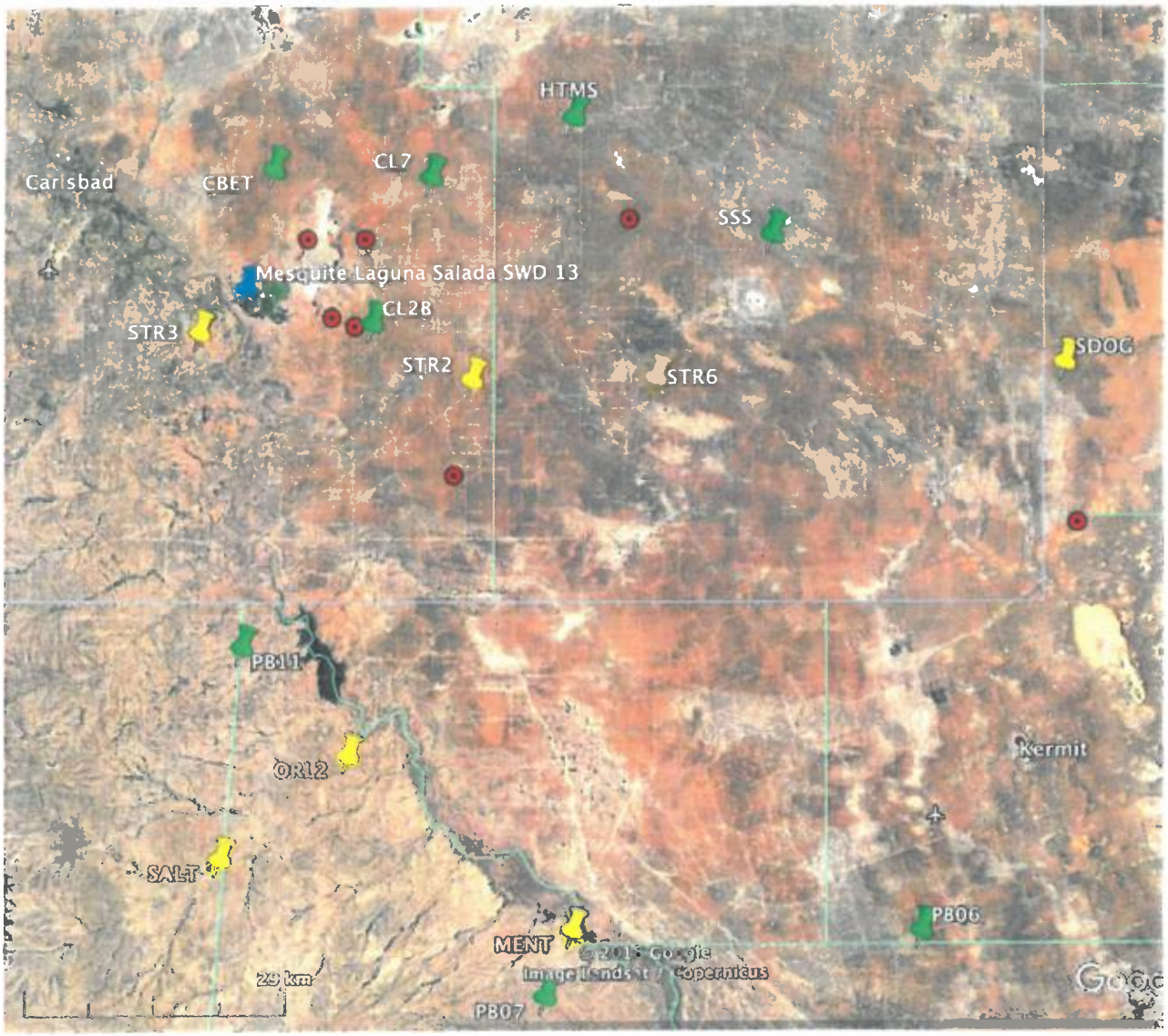


Figure 2. Striker SWD wells seismic station locations (yellow push pins) and existing NGL-Permian seismic stations (yellow pushpins). Other regional seismic stations run by TexNet and New Mexico Tech are shown as green pushpins. Historic seismicity listed in Table 1 shown as red circles. Laguna Salida #13 SWD well shown as blue pushpin.

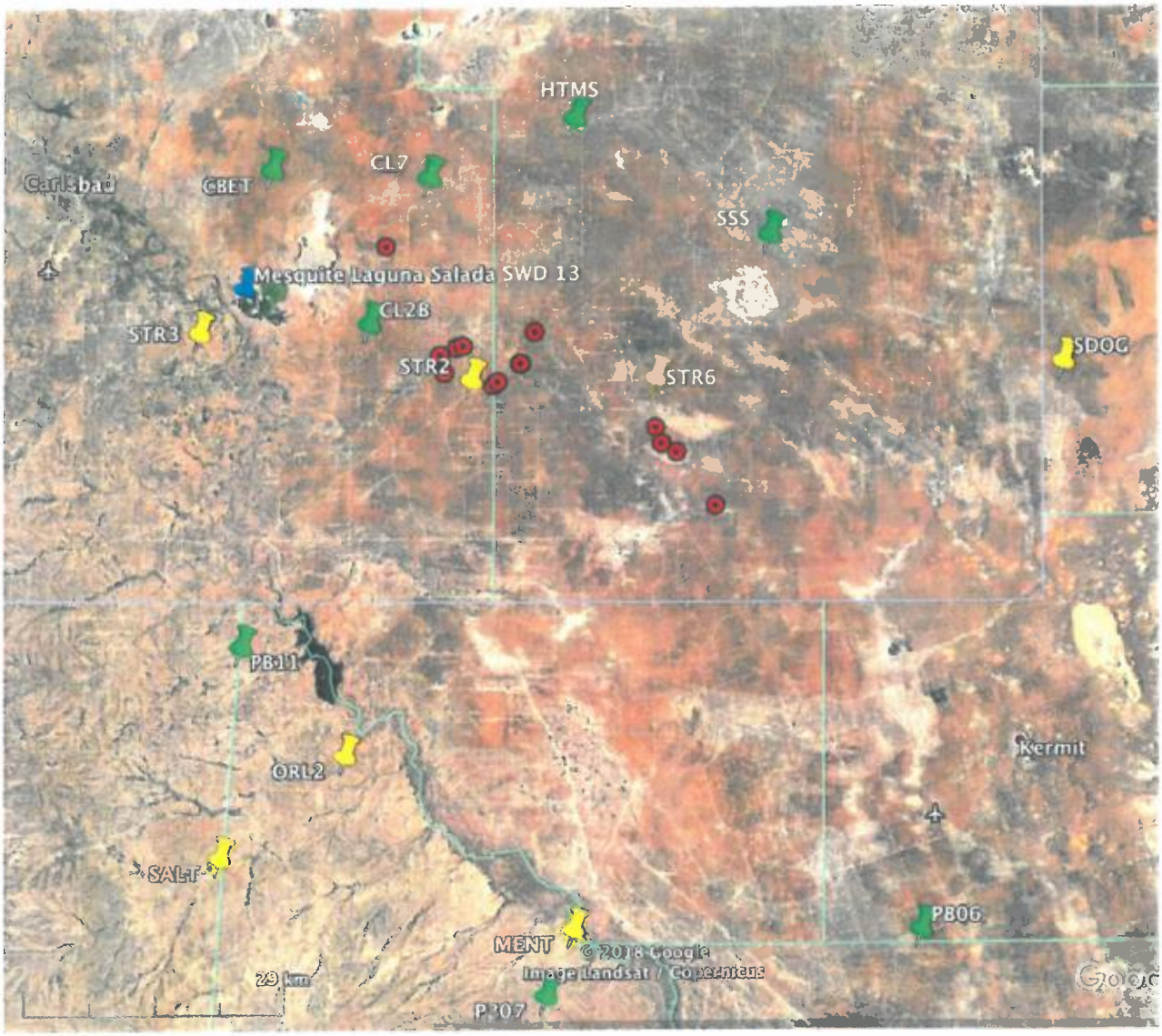


Figure 3. Seismic events in between September 6, 2018 to date as red circles (Table 2). Seismic stations as yellow (NGL) or green (NMT and TexNet) pushpins. Laguna Salida #13 well shown as blue pushpin.

Seismic Catalog Analysis Within 50 km of Mesquite Laguna Salada SWD 19 Well #1

Prepared for NGL-Permian
by
GeoEnergy Monitoring Systems
May 26, 2019

Analysis is based on NMT seismic catalogs, unpublished catalogs and USGS catalogs for the time period 2010-2017 selecting events within 50 km of the Laguna Salada 19 SWD well. Additionally, seismic monitoring from September 6, 2018 to date from the three NGL seismic stations installed at Striker 2, Striker 3 and Striker 6 SWD wells. NGL/GeoEMS installed a seismic monitor at the Salty Dog SWD well (SDOG) in Texas just across New Mexico border on March 28, 2019 that will help constrain locations in southeastern NM.

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

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

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

No historic or recent events have been located in the vicinity of Laguna Salida SWD #19.

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	0.00
10/13/18	22:07:22.259	32.0998	-103.4560	6	5.64	1.60	0.12
11/18/18	09:04:52.707	32.2526	-103.7853	5	3.77	1.75	0.20
12/09/18	18:51:00.805	32.3634	-103.8510	1	2.09	1.44	0.08
01/03/19	09:15:48.809	32.2761	-103.6732	6	5.64	1.63	0.00
01/03/19	23:05:33.122	32.2599	-103.7654	4	5.51	1.60	0.25
01/04/19	09:45:38.943	32.2346	-103.7798	4	4.34	1.98	0.38
01/09/19	10:18:54.389	32.2255	-103.7166	5	2.80	1.47	0.41
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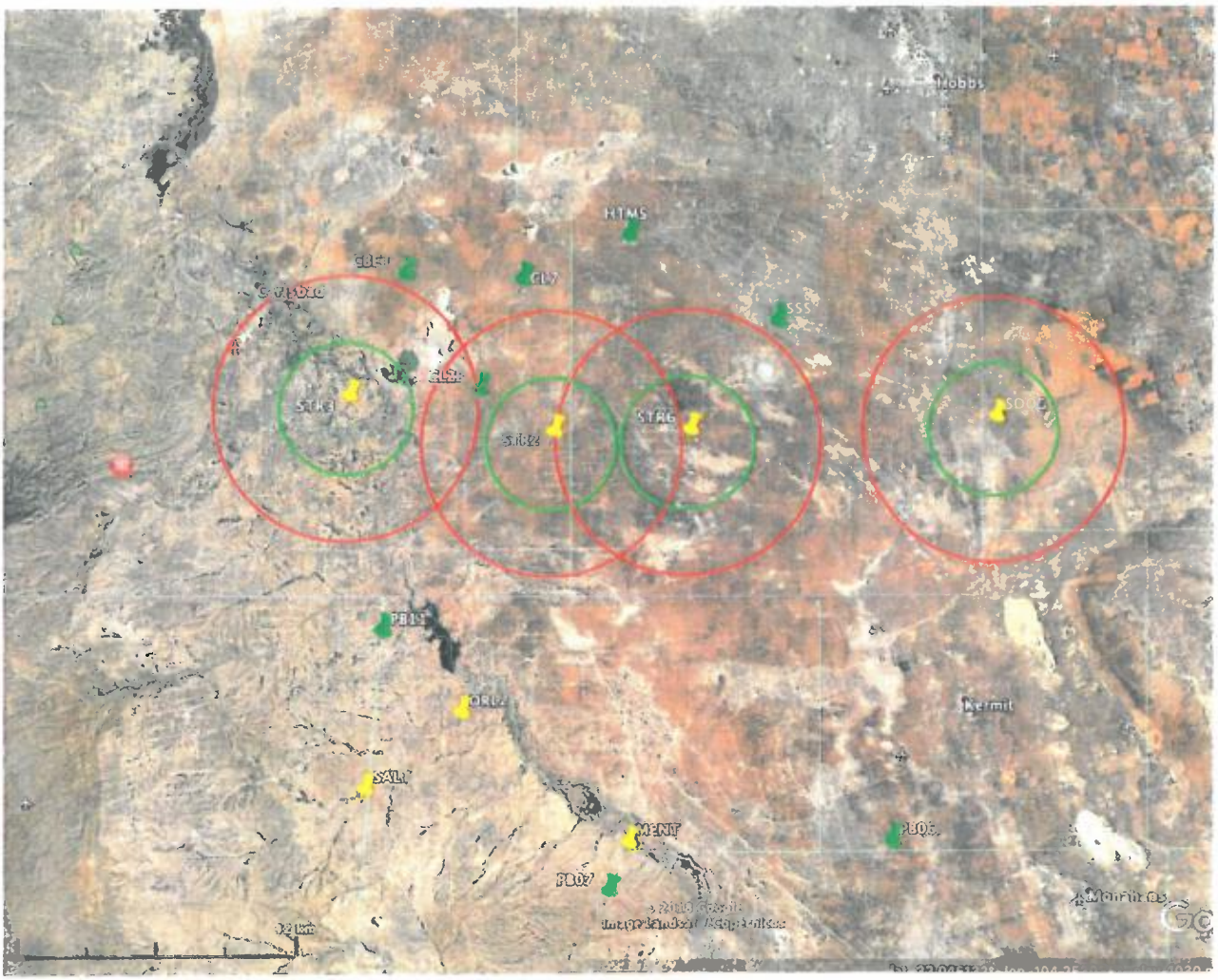

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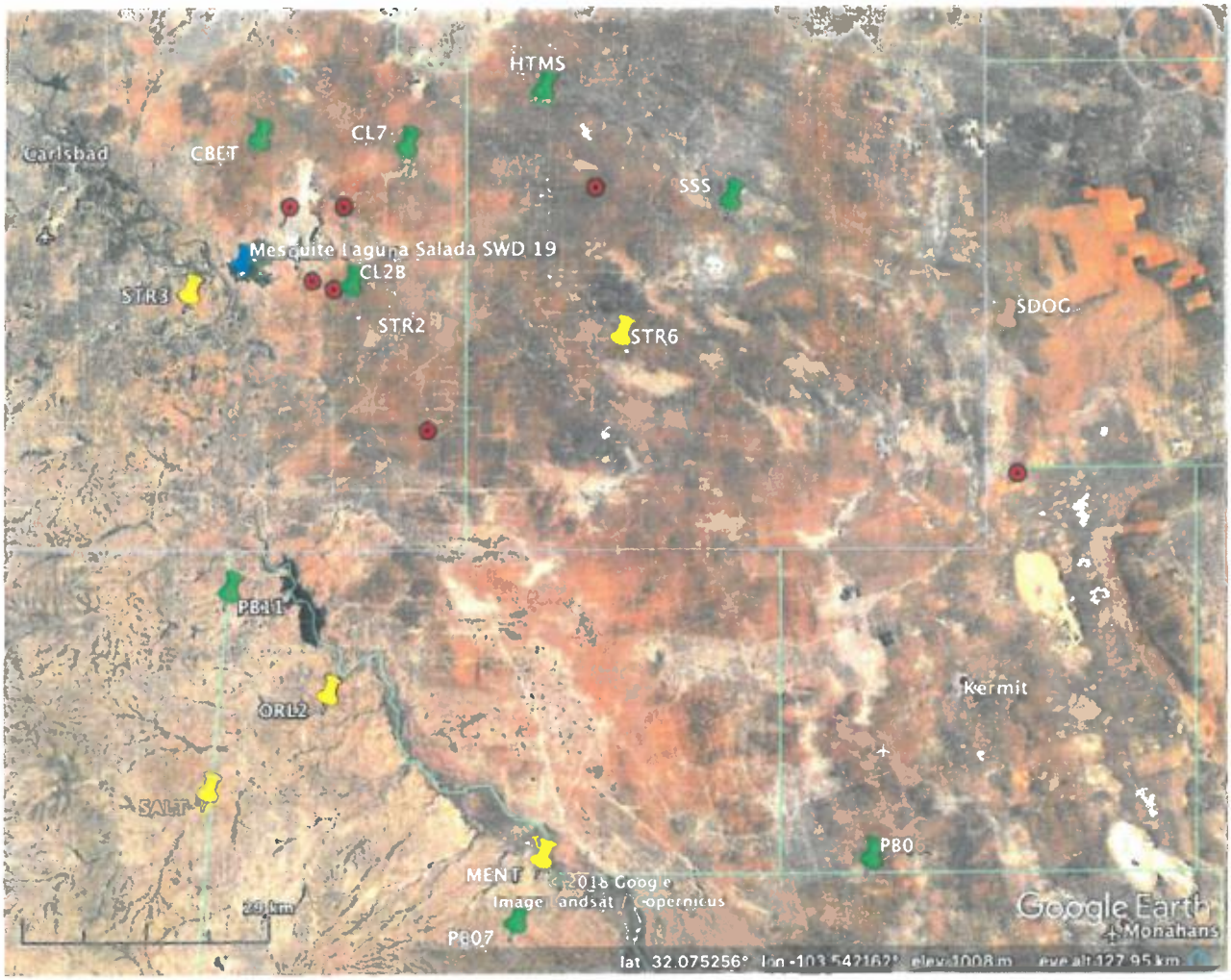

Figure 2. Striker SWD wells seismic station locations (yellow push pins) and existing NGL-Permian seismic stations (yellow pushpins). Other regional seismic stations run by TexNet and New Mexico Tech are shown as green pushpins. Historic seismicity listed in Table 1 shown as red circles. Laguna Salida #19 SWD well shown as blue pushpin.

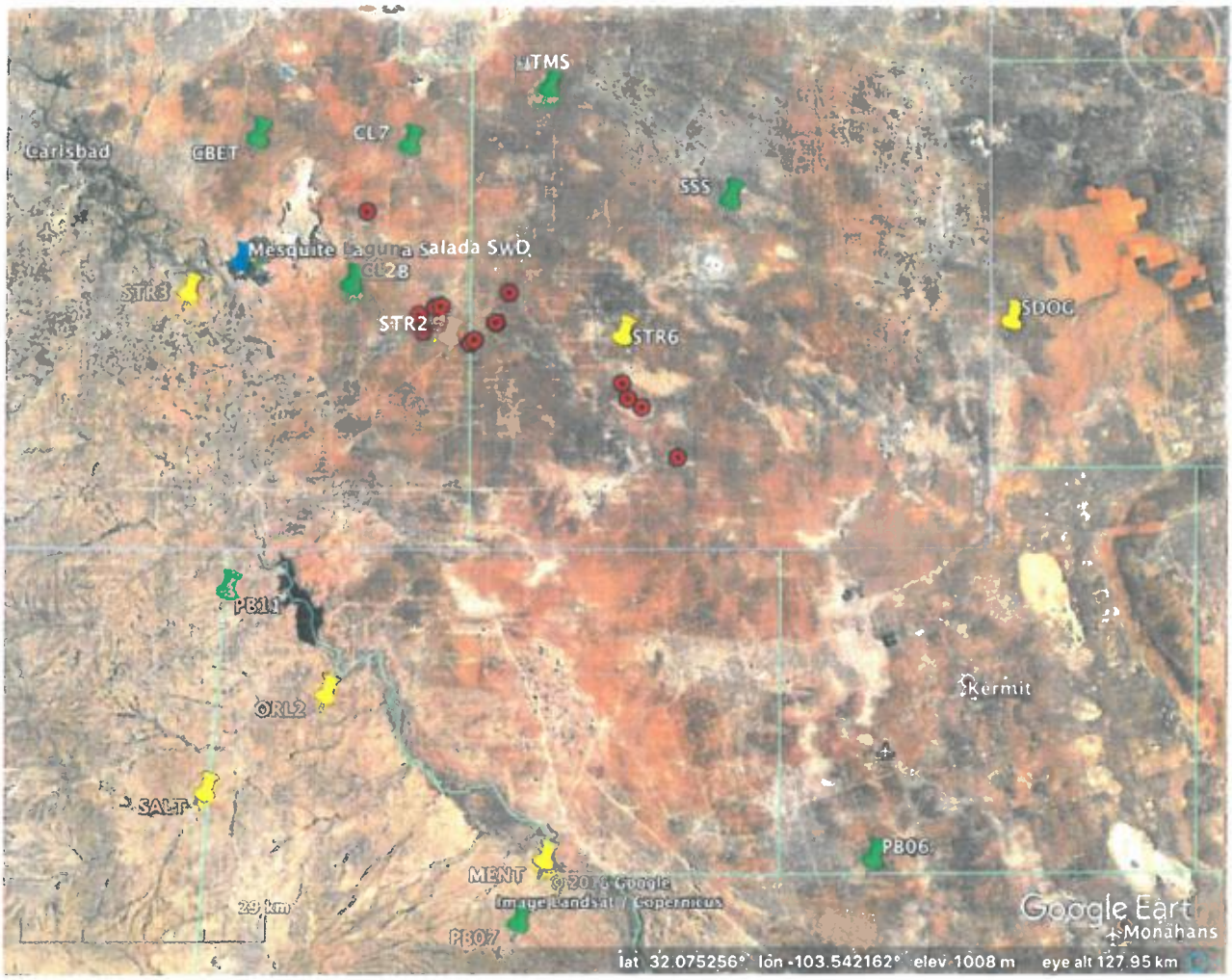

Figure 3. Seismic events in between September 6, 2018 to date as red circles (Table 2). Seismic stations as yellow (NGL) or green (NMT and TexNet) pushpins. Laguna Salida #19 well shown as blue pushpin.

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Texas Registered Engineering Firm No F - 16381

May 28, 2019

RE: Application for Fluid Injection or Disposal Permit
Mesquite SWD Inc.
Laguna Salada SWD #13 & #19
Eddy County, New Mexico

FSP Analysis (Fault slip potential)

I have reviewed the geology and seismic activity near the Laguna Salada SWD #13 and #19 and I would conclude that these wells do not pose a risk related to seismicity in this area. The Area of review (AOR) and subject wells are shown on **(FSP Exh. 2)** in relation to the historical earthquake events in the area. (USGS) (None within the AOR circle).

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

FSP Methodology

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

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512.327.6930 telephone | 512.327.7069 fax | ftiplattsparks.com

EXHIBIT tabbies A·4

- The wells input into the FSP model and the potential faults in the area are shown on **FSP Exh. 5.** (No mapped faults in the Area of Review)
    - Existing injection wells are projected into the future at the last reported injection volume and then held constant.
    - The subject well is tested at the proposed maximum injection rate and held constant for 20 years. If the ΔP at the well exceeds the allowed injection pressure, then the modelled injection rates are decreased over time to stay within the allowed maximum injection pressure. This analysis is important because the model should represent realistic injection values over the life of the model and arbitrarily using the permitted rate over the life of the well does not reflect the reality that as the reservoir pressure increases the well's ability to inject fluid may be reduced.
    - The Subject wells are denoted in the model as follows:
        - 65 – Laguna Salada SWD #19
        - 66 - Laguna Salada SWD #13
    - Also included in the model are existing SWD injection wells as follows:

ID	API10
7	3001522638
42	3001539400
48	3001542797
49	3001543807
50	3001543867
51	3001544054
52	3001544262
53	3001544406
54	3001544407
55	3001544514
56	3001544530
57	3001544571
58	3001544602
59	3001545034
60	3001545072
61	3001544406
62	3001544407
63	3001544530
64	3001545034
67	3001543596
68	3001544388
69	3001544422
70	3001544511
71	3001545131
72	3001545146
73	3001545357
74	3001545367

- **FSP Exh.6** shows the geomechanical properties of the possible faults. (No mapped faults in the Area of Review)
- **FSP Exh.7** shows the pressure to slip, ΔP, at each possible fault segment. (No mapped faults in the Area of Review)
- **FSP Exh.8** shows the probability of fault slip for each fault segment. (No mapped faults in the Area of Review)
- **FSP Exh.9 - FSP Exh.11** show the calculated pressures at the possible fault segments as of 1/1/2025, 1/1/2035, and 1/1/2045. (No mapped faults in the Area of Review). A

hypothetical fault located 5.0 km west of the well shows a calculated ΔP increase of 326 psi at 1/1/25, 814 psi at 1/1/35 and 1133 psi at 1/1/45

FSP Analysis (Findings and Conclusions)

There are no mapped faults in the 100 sq. mi Area of Review.

There are no historical earthquake events the 100 sq. mi Area of Review.

This area presents a low risk for induced seismicity related to SWD injection.

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

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

Should you have any questions, please do not hesitate to call me at (512) 327-6930 or email me at todd.reynolds@ftiplattsparks.com.

Regards,

Todd W. Reynolds – Geologist/Geophysicist
Managing Director, Economics/FTI Platt Sparks

Todd W. Reynolds

FTI Platt Sparks
512.327.6930 office

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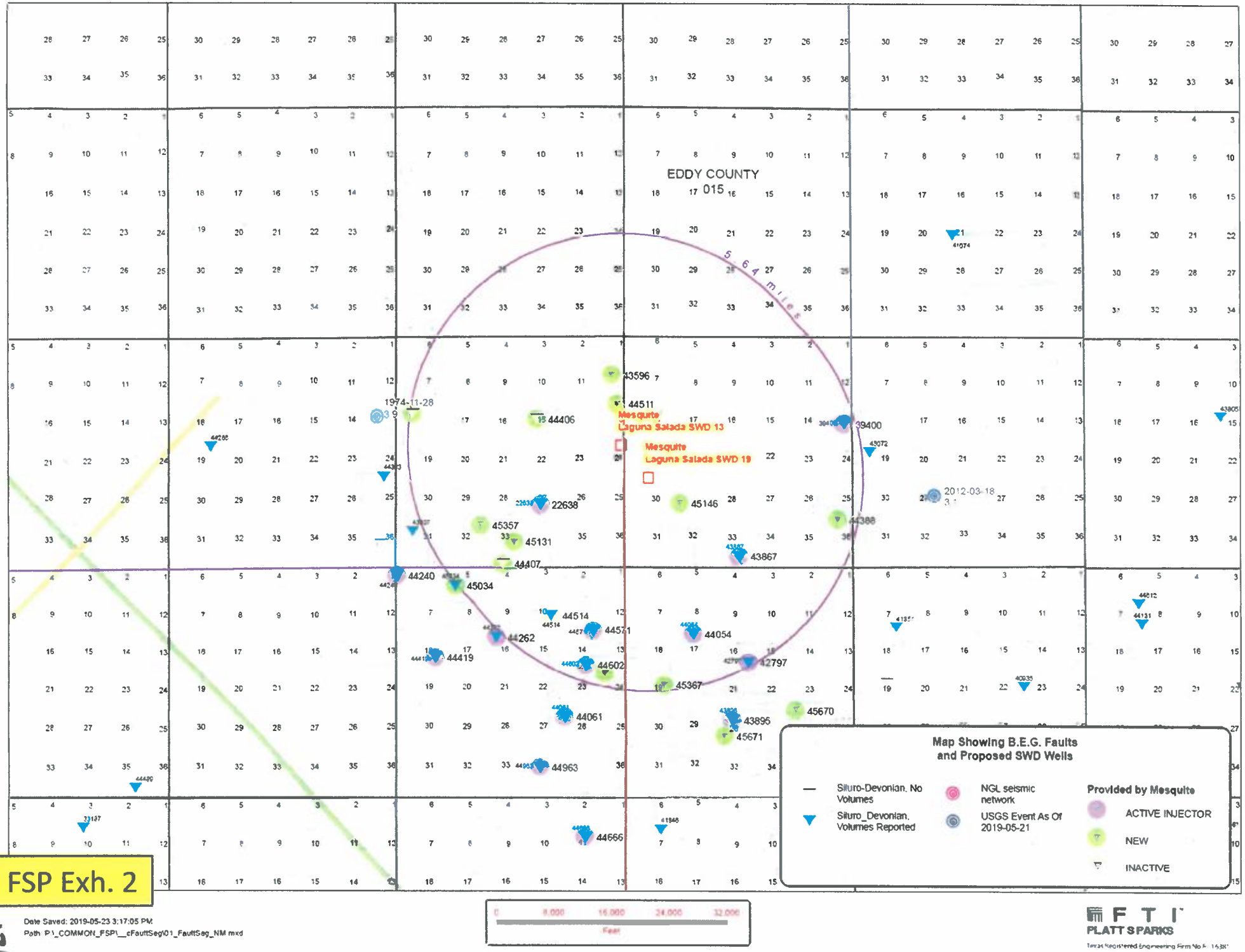
FSP DATA WORKSHEET (General information and Input data)

		Comments	Variance (+/-)
Well	Laguna Salada SWD #13 & #19		
Operator	Mesquite SWD Inc		
API			
Top Injection Depth (ft)	14500		
Base Injection Depth(ft)	15700		
Mid Injection Depth(ft)	15100		
Mid Injection Depth(m)	4602		
Injection Formation(s)	Siluro-Devonian, Fusselman		
Est Water Resistivity (@75 F)	0.1	*SPE 1982 (W. Texas & SE New Mexico)*	
Est Formation Temp (F)	194	*Temp graphs (UTPB 2006)*	
Est Formation Temp (C)	90	*Temp graphs (UTPB 2006)*	
Est Formation Salinity (ppt)	25	*Log charts (Schlumberger)*	
Density (kg/m3)	1000	*Calculated*	40
Viscosity (Pa.s)	0.00034	*Calculated*	0.00005
Compressibility-Formation (1/Pa)	8.70E-10	*Estimated*	
Compressibility-Fluid (1/Pa)	4.57E-10	*Estimated*	
Aquifer thickness (ft)	600		50
Porosity (%)	5		2
Perm (mD)	20		4
Vertical stress grad. (psi/ft)	1.1	*Calculated from density log*	0.05
Min. Horiz. Stress grad. (psi/ft)	0.67	*Determined from A Phi parameter (0.6)*	0.02
Max. Horiz. Stress grad. (psi/ft)	0.92	*Determined from A Phi parameter (0.6)*	0.02
Initial Pore Pressure grad. (psi/ft)	0.46	*Normal saltwater pore pressure gradient*	0.01
Azimuth of Max Horiz Stress (deg)	45	*From Snee/Zoback*	5
Fault Orientation (deg)	Dependent on Fault		5
Fault Dip (deg)	85		5
Friction of Coefficient	0.6	*typical for pre-existing fault/facture*	0.02
Max Injection pressure @ 0.20 psi/ft	2900		
Max Injection rate (bbls/day)	40000		

FSP Exh. 1



FSP Exh. 2

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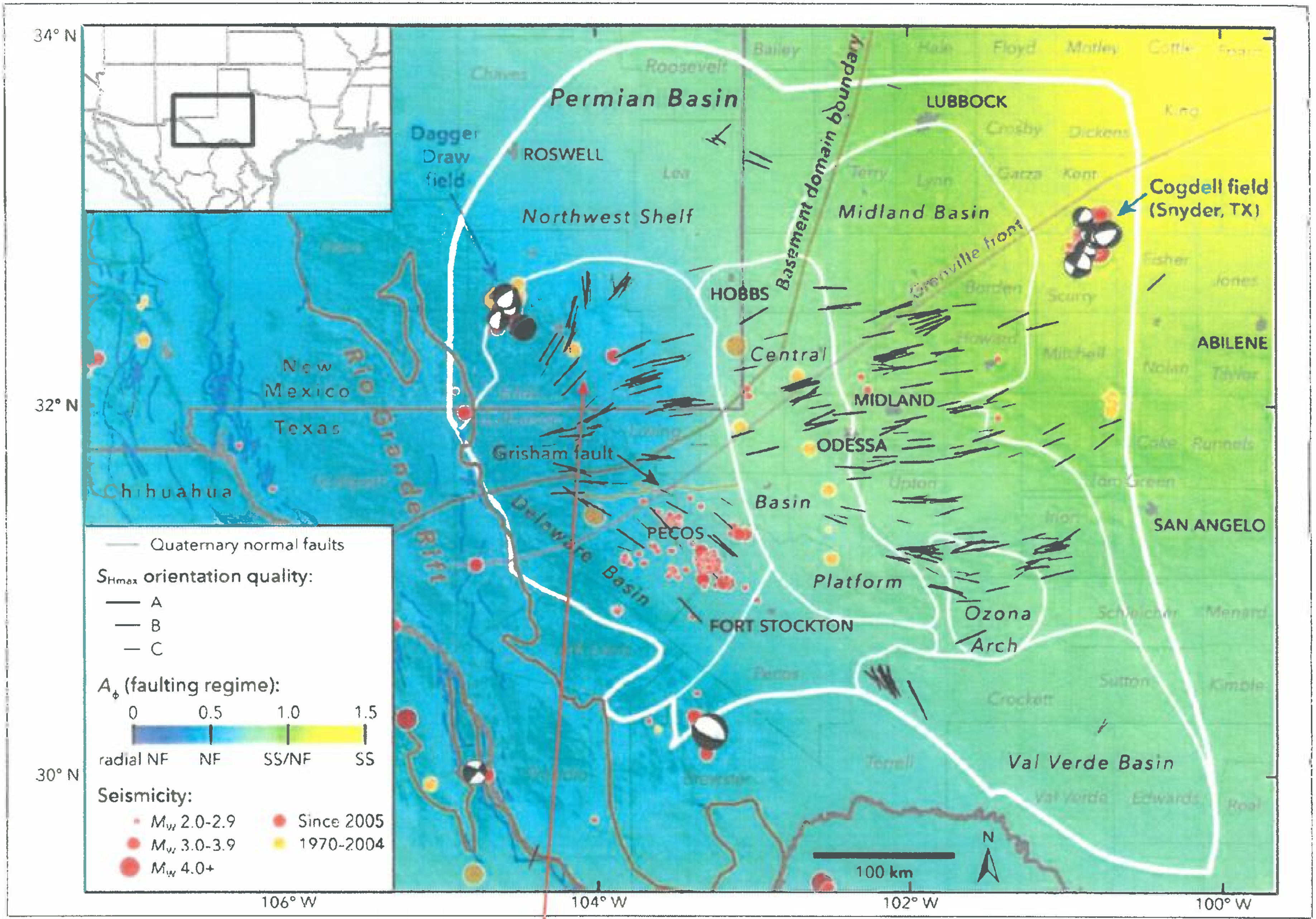
Texas Registered Engineering Firm No. F-14381



FSP Exh. 3

Stress Data Inputs

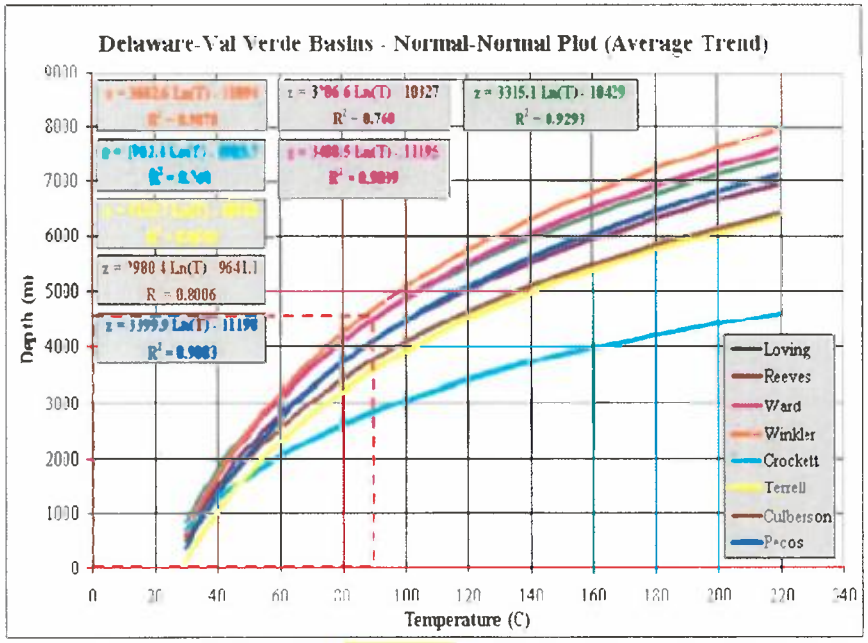
45

Azimuth Shmax

Subject Area

140

Determination of Density and Viscosity



A

90 (C)

SEAWATER DENSITY & VISCOSITY CALCULATOR

Please enter the values of salinity and temperature of the effluent or ambient water (p=1atm):

Salinity:	Sal =	25.00	ppt	for ρ: 0 ≤ Sal ≤ 160 ppt for μ: 0 ≤ Sal ≤ 130 ppt
Temperature:	T =	90.00	°C	10 ≤ T ≤ 180 °C

Density:	ρ =	983.692	kg/m³
Dynamic Viscosity:	μ =	0.335	*10⁻³ kg/m s
Kinematic Viscosity:	ν =	0.340	*10⁻⁶ m²/s

source:
El-Dessouky, Ettouney (2002) Fundamentals of Sea Water Desalination (Appendix A: Thermodynamic Properties)

Resistivity Nomograph for NaCl Solutions

This nomograph may be used to estimate the resistivity of a water sample at a given temperature when the salinity (NaCl concentration) is known, or to estimate the salinity when resistivity and temperature are known. It may also be used to convert resistivity from one temperature to another temperature.

EXAMPLE: Resistivity of a water sample is 0.3 Ω·m at 25°C; what is its resistivity at 85°C?

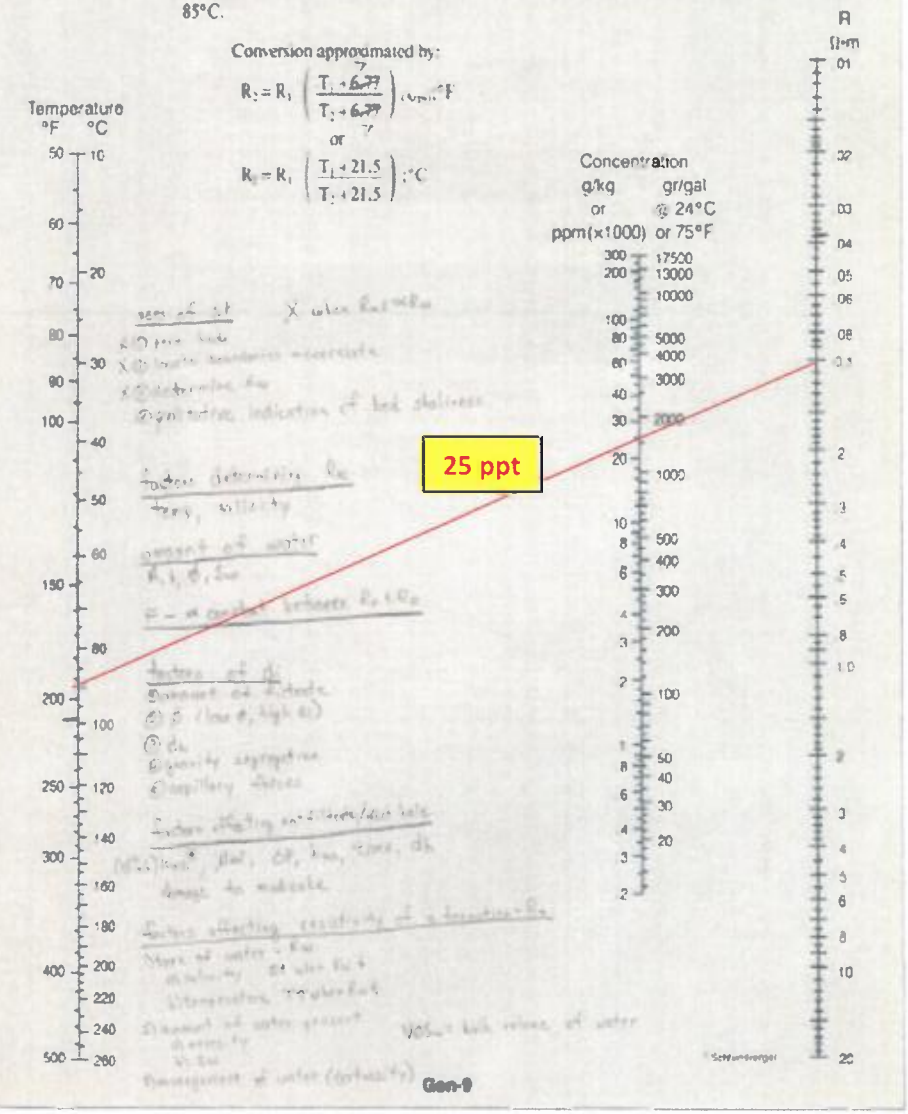
Draw a line connecting the 25°C point with the 0.3 Ω·m R point. This indicates a salinity of 20,000 ppm. Pivoting about this salinity point yields a water sample resistivity of 0.13 Ω·m at 85°C.

Conversion approximated by:

$$R_2 = R_1 \left(\frac{T_1 + 6.77}{T_2 + 6.77} \right)^{1.07} \text{ °F}$$

or

$$R_2 = R_1 \left(\frac{T_1 + 21.5}{T_2 + 21.5} \right) \text{ °C}$$



FSP Exh. 4

Fault Slip Potential v1.07

File Data Inputs Export Image Zoom

Fault Slip Potential

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

Fault Selector:

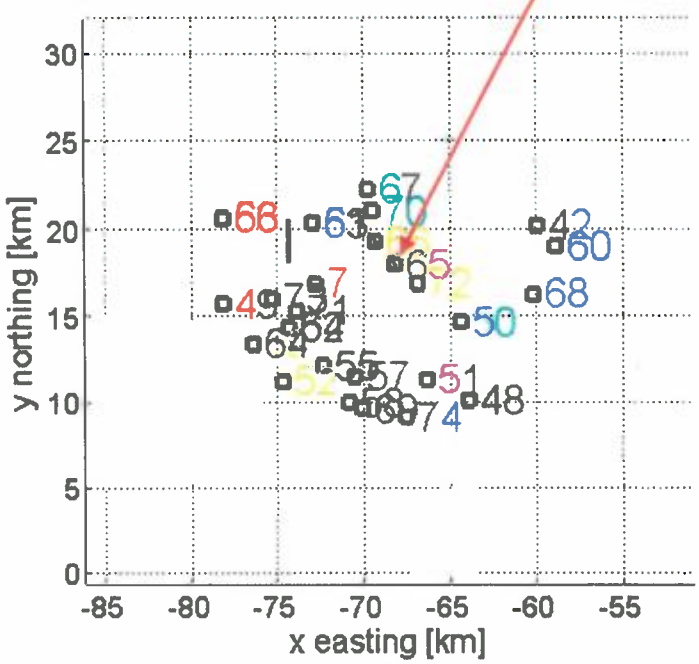
- All Faults
- Fault #1
- Fault #2
- Fault #3

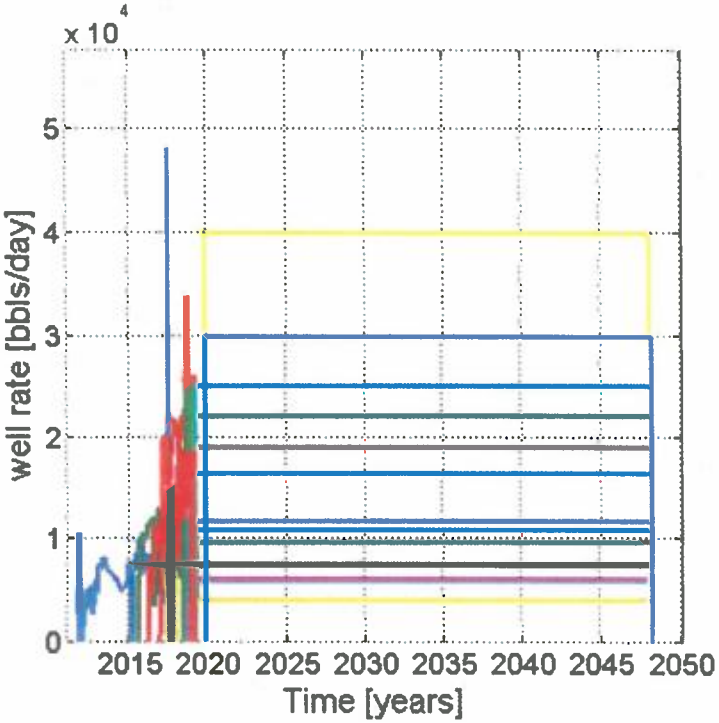
Calculate

Stress Regime: Normal Faulting

Select Well: All

Subject wells: Laguna Salada





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

FSP Exh. 5

No faults mapped in the 100 sq. mi area of review

FSP Exh. 6

Calculated Pore Pressure to Slip

ΔP

At each fault segment

No faults mapped in the 100 sq. mi area of review

FSP Exh 7

No faults mapped in the 100 sq. mi area of review

FSP Exh. 8

Fault Slip Potential v1.07

File Data Inputs Export Image Zoom

Fault Slip Potential

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

Fault Selector:

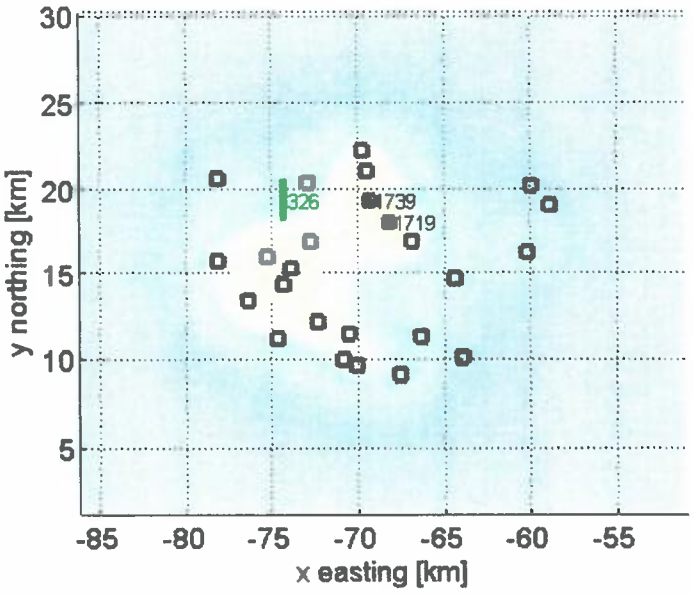
All Faults
Fault #1, 0.00 FSP
Fault #2, 0.00 FSP
Fault #3, 0.00 FSP

Calculate

b) PP Change at fault [psi]

Summary Plots

Export



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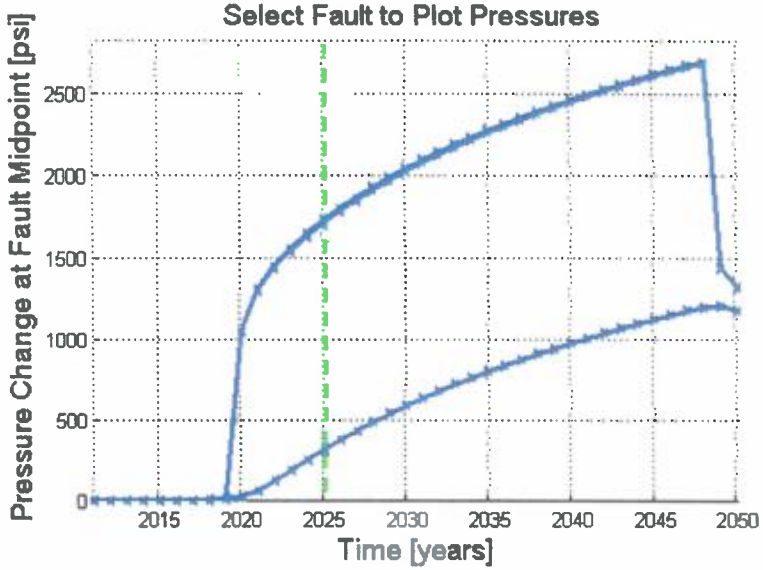

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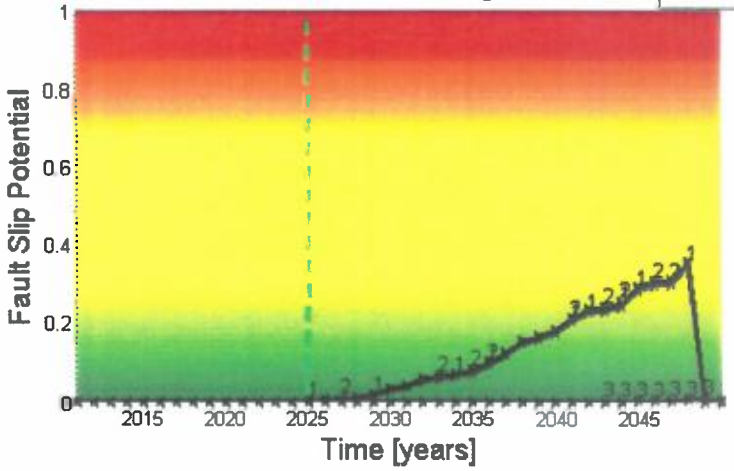


FSP Exh. 9

Fault Slip Potential v1.07

File Data Inputs Export Image Zoom

Fault Slip Potential

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

Fault Selector:

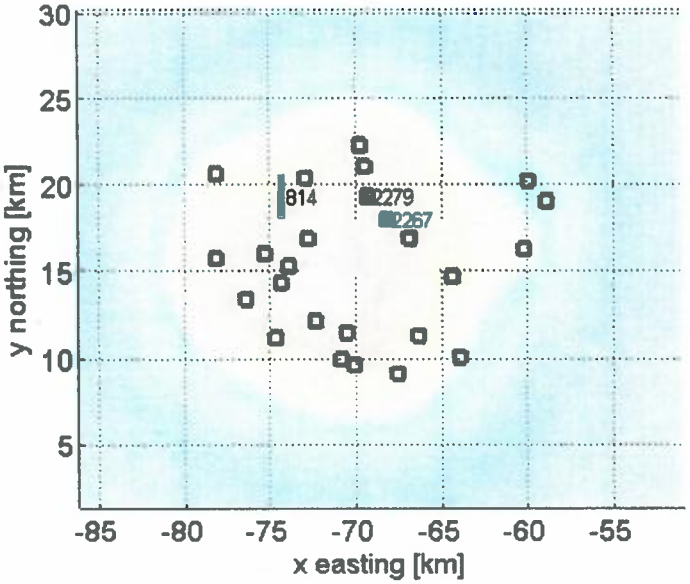
All Faults
Fault #1, 0.09 FSP
Fault #2, 0.10 FSP
Fault #3, 0.00 FSP

Calculate

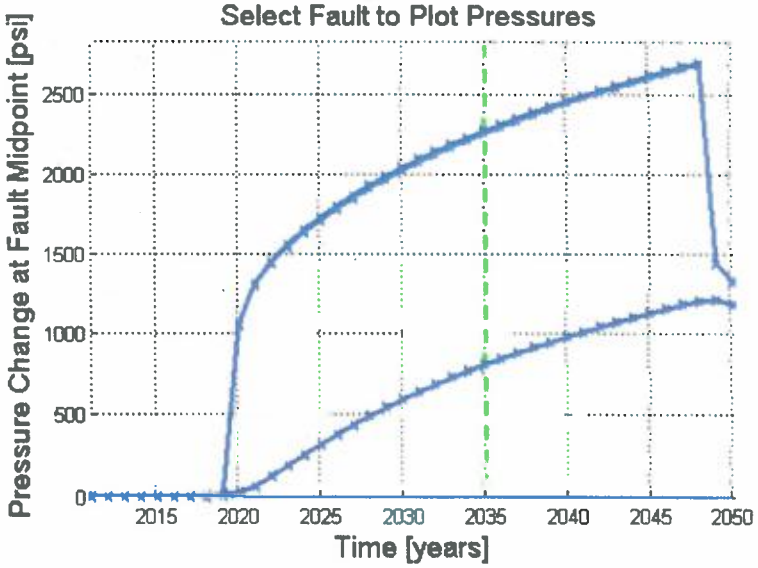
b) PP Change at fault [psi]

Summary Plots

Export



Year: 2035



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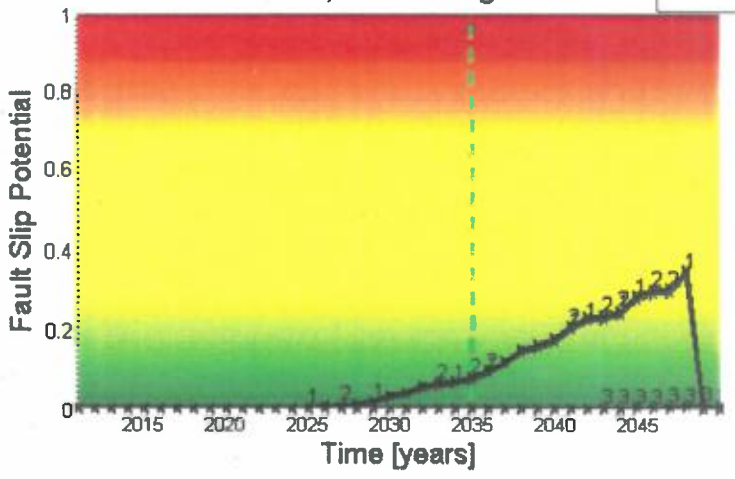


FSP Exh. 10

Fault Slip Potential v1.07

File Data Inputs Export Image Zoom

Fault Slip Potential

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

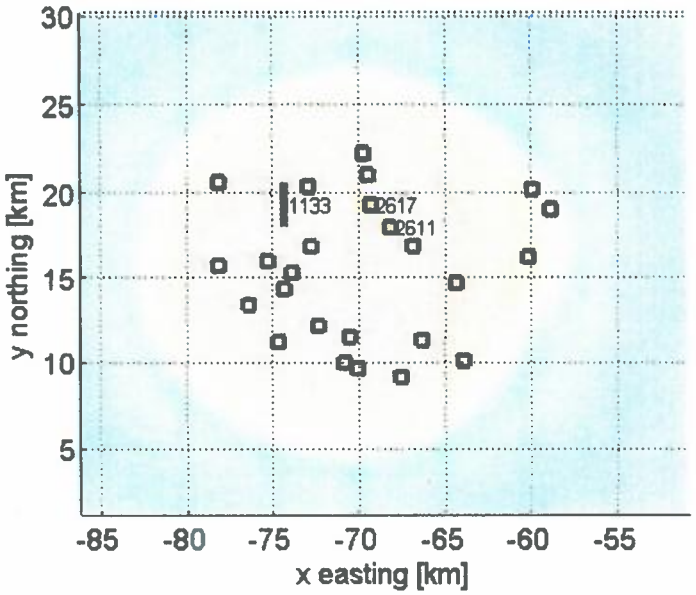
Fault Selector:

All Faults
Fault #1, 0.27 FSP
Fault #2, 0.28 FSP
Fault #3, 0.00 FSP

Calculate

b) PP Change at fault [psi]

Summary Plots



Year: 2045

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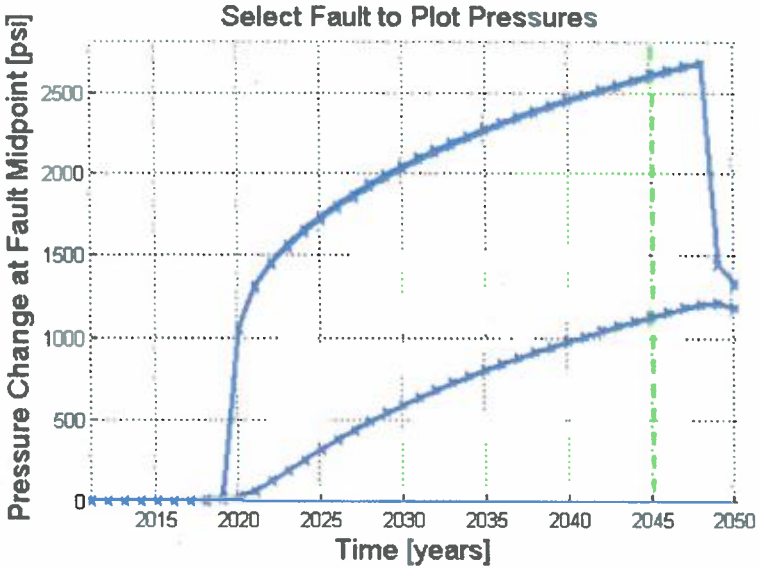

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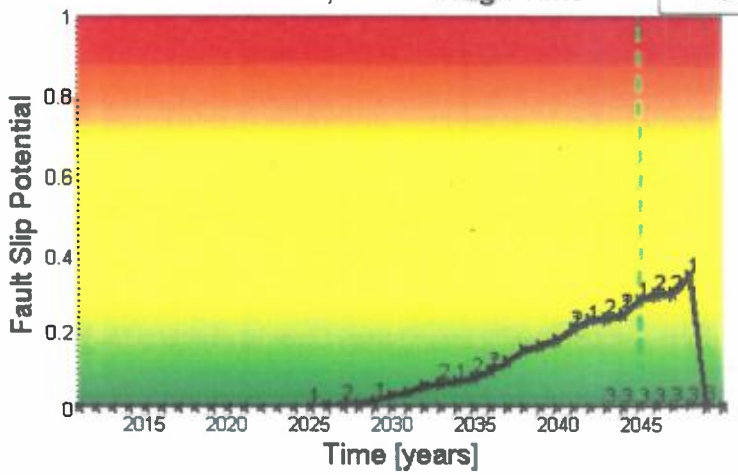

FSP Exh. 11

Seismic Catalog Analysis Within 50 km of Mesquite Baker SWD Well #1

Prepared for NGL-Permian
by
GeoEnergy Monitoring Systems
May 26, 2019

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

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

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

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

The small Magnitude 1 20170325 historic event was located approximately 8 km from Baker SWD. No recent events listed in Table 2 are in the vicinity of Baker SWD.

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	0.00
10/13/18	22:07:22.259	32.0998	-103.4560	6	5.64	1.60	0.12
11/18/18	09:04:52.707	32.2526	-103.7853	5	3.77	1.75	0.20
12/09/18	18:51:00.805	32.3634	-103.8510	1	2.09	1.44	0.08
01/03/19	09:15:48.809	32.2761	-103.6732	6	5.64	1.63	0.00
01/03/19	23:05:33.122	32.2599	-103.7654	4	5.51	1.60	0.25
01/04/19	09:45:38.943	32.2346	-103.7798	4	4.34	1.98	0.38
01/09/19	10:18:54.389	32.2255	-103.7166	5	2.80	1.47	0.41
01/27/19	07:33:47.127	32.2219	-103.7220	5	3.53	1.72	0.31
02/19/19	09:35:15.109	32.2443	-103.6898	1	4.17	1.20	0.00
05/23/19	06:33:40.530	32.2617	-103.7581	4	2.28	1.53	0.27

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

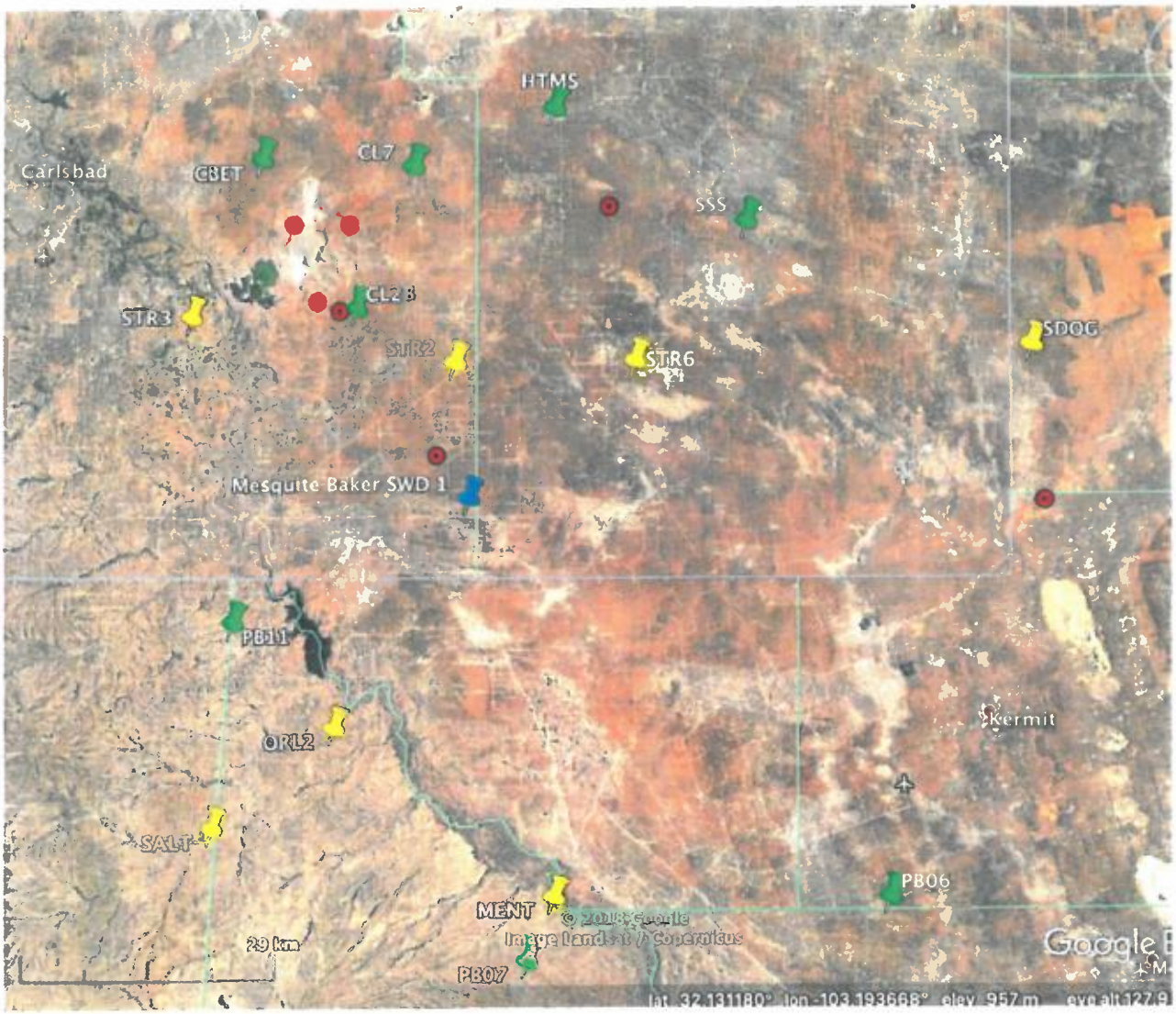

Figure 2. Striker SWD wells seismic station locations (yellow push pins) and existing NGL-Permian seismic stations (yellow pushpins). Other regional seismic stations run by TexNet and New Mexico Tech are shown as green pushpins. Historic seismicity listed in Table 1 shown as red circles. Baker SWD well shown as blue pushpin.

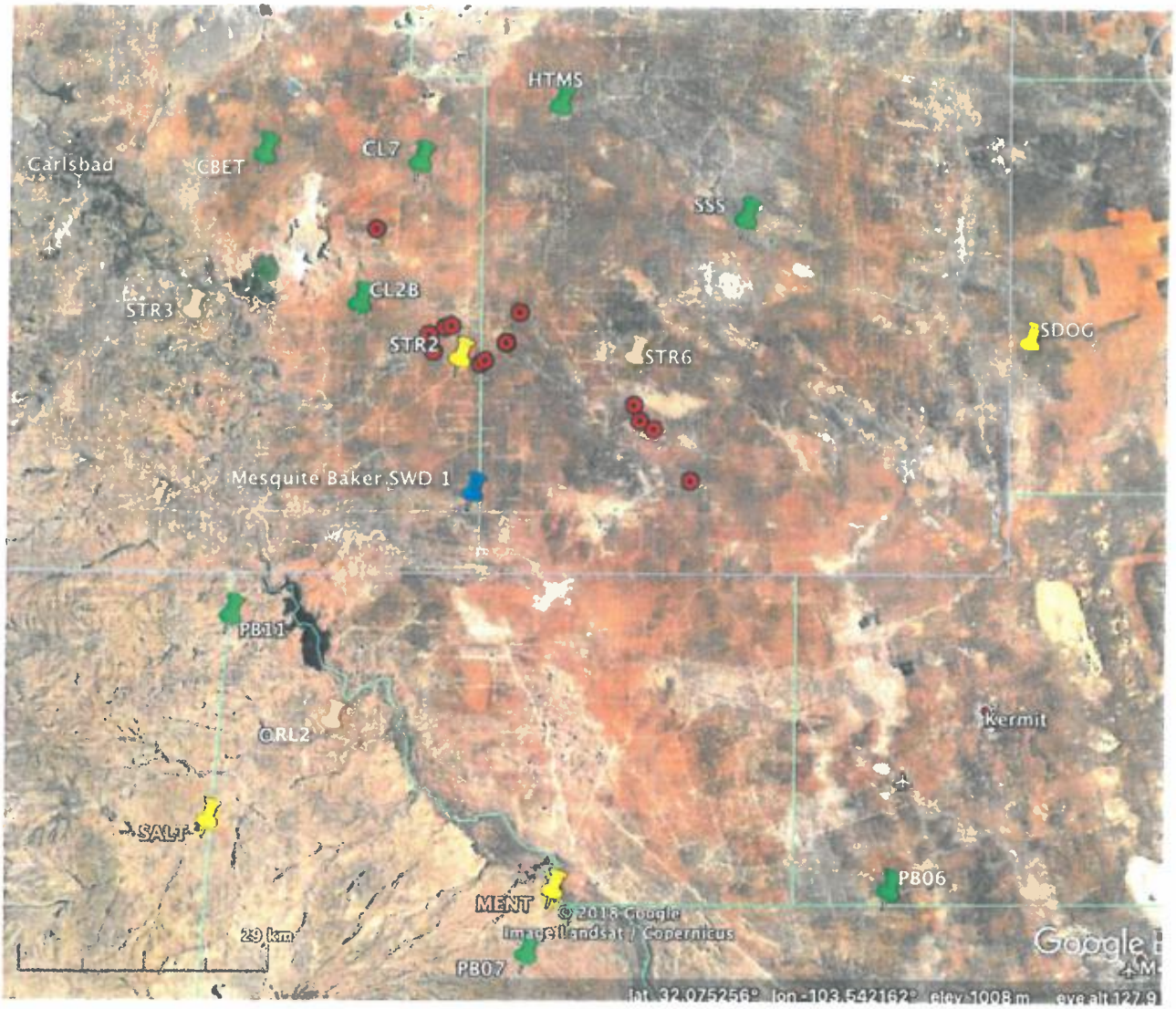

Figure 3. Seismic events in between September 6, 2018 to date as red circles (Table 2). Seismic stations as yellow (NGL) or green (NMT and TexNet) pushpins. Baker SWD well shown as blue pushpin.

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Texas Registered Engineering Firm No F - 16381

May 28, 2019

RE: Application for Fluid Injection or Disposal Permit
Mesquite SWD Inc.
Baker SWD #1
Eddy County, New Mexico

FSP Analysis (Fault slip potential)

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

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

FSP Methodology

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

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

EXHIBIT tabbies B-2

- The wells input into the FSP model and the potential faults in the area are shown on **FSP Exh. 5.** (No mapped faults in the Area of Review)
    - Existing injection wells are projected into the future at the last reported injection volume and then held constant.
    - The subject well is tested at the proposed maximum injection rate and held constant for 20 years. If the ΔP at the well exceeds the allowed injection pressure, then the modelled injection rates are decreased over time to stay within the allowed maximum injection pressure. This analysis is important because the model should represent realistic injection values over the life of the model and arbitrarily using the permitted rate over the life of the well does not reflect the reality that as the reservoir pressure increases the well's ability to inject fluid may be reduced.
    - The Subject well is denoted in the model as follows:
        - Ba - Baker SWD
    - Also included in the model are existing SWD injection wells as follows:
        - 7 - 3001531381
        - 36- 3002543379
- **FSP Exh.6** shows the geomechanical properties of the possible faults. (No mapped faults in the Area of Review)
- **FSP Exh.7** shows the pressure to slip, ΔP, at each possible fault segment. (No mapped faults in the Area of Review)
- **FSP Exh.8** shows the probability of fault slip for each fault segment. (No mapped faults in the Area of Review)
- **FSP Exh.9 - FSP Exh.11** show the calculated pressures at the possible fault segments as of 1/1/2025, 1/1/2035, and 1/1/2045. (No mapped faults in the Area of Review). A hypothetical fault located 5.0 km west of the well shows a calculated ΔP increase of 16 psi at 1/1/25, 106 psi at 1/1/35 and 184 psi at 1/1/45

FSP Analysis (Findings and Conclusions)

There are no mapped faults in the 100 sq. mi Area of Review.

There are no historical earthquake events the 100 sq. mi Area of Review.

There is currently only one deep injection well in the AOR and one other just outside the AOR.

This area presents a low risk for induced seismicity related to SWD injection.

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

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

Should you have any questions, please do not hesitate to call me at (512) 327-6930 or email me at todd.reynolds@ftiplattsparks.com.

Regards,

Todd W. Reynolds – Geologist/Geophysicist
Managing Director, Economics/FTI Platt Sparks


Todd W. Reynolds

FTI Platt Sparks
512.327.6930 office

FSP DATA WORKSHEET (General information and Input data)

		Comments	Variance (+/-)
Well	Baker SWD #1		
Operator	Mesquite SWD Inc		
API			
Top Injection Depth (ft)	17300		
Base Injection Depth(ft)	18500		
Mid Injection Depth(ft)	17900		
Mid Injection Depth(m)	5456		
Injection Formation(s)	Siluro-Devonian, Fusselman		
Est Water Resistivity (@75 F)	0.1	*SPE 1982 (W. Texas & SE New Mexico)*	
Est Formation Temp (F)	244	*Temp graphs (UTPB 2006)*	
Est Formation Temp (C)	118	*Temp graphs (UTPB 2006)*	
Est Formation Salinity (ppt)	25	*Log charts (Schlumberger)*	
Density (kg/m3)	1000	*Calculated*	40
Viscosity (Pa.s)	0.00025	*Calculated*	0.00005
Compressibility-Formation (1/Pa)	8.70E-10	*Estimated*	
Compressibility-Fluid (1/Pa)	4.57E-10	*Estimated*	
Aquifer thickness (ft)	600		50
Porosity (%)	5		2
Perm (mD)	20		4
Vertical stress grad. (psi/ft)	1.1	*Calculated from density log*	0.05
Min. Horiz. Stress grad. (psi/ft)	0.67	*Determined from A Phi parameter (0.55)*	0.02
Max. Horiz. Stress grad. (psi/ft)	0.90	*Determined from A Phi parameter (0.55)*	0.02
Initial Pore Pressure grad. (psi/ft)	0.46	*Normal saltwater pore pressure gradient*	0.01
Azimuth of Max Horiz Stress (deg)	55	*From Snee/Zoback*	5
Fault Orientation (deg)	Dependent on Fault		5
Fault Dip (deg)	85		5
Friction of Coefficient	0.6	*typical for pre-existing fault/facture*	0.02
Max Injection pressure @ 0.20 psi/ft	3460		
Max Injection rate (bbls/day)	40000		

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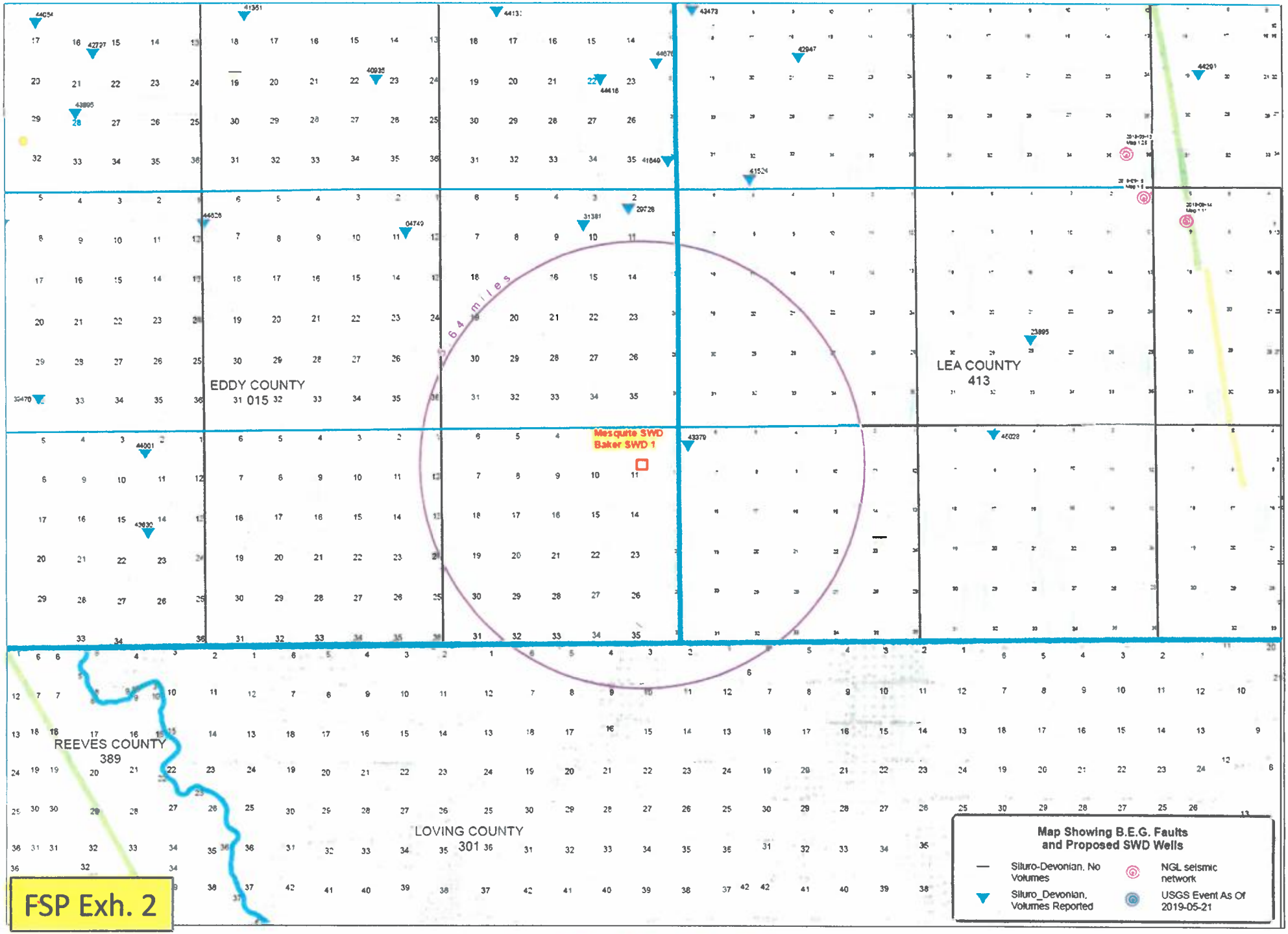
FSP Exh. 1



FSP Exh. 2

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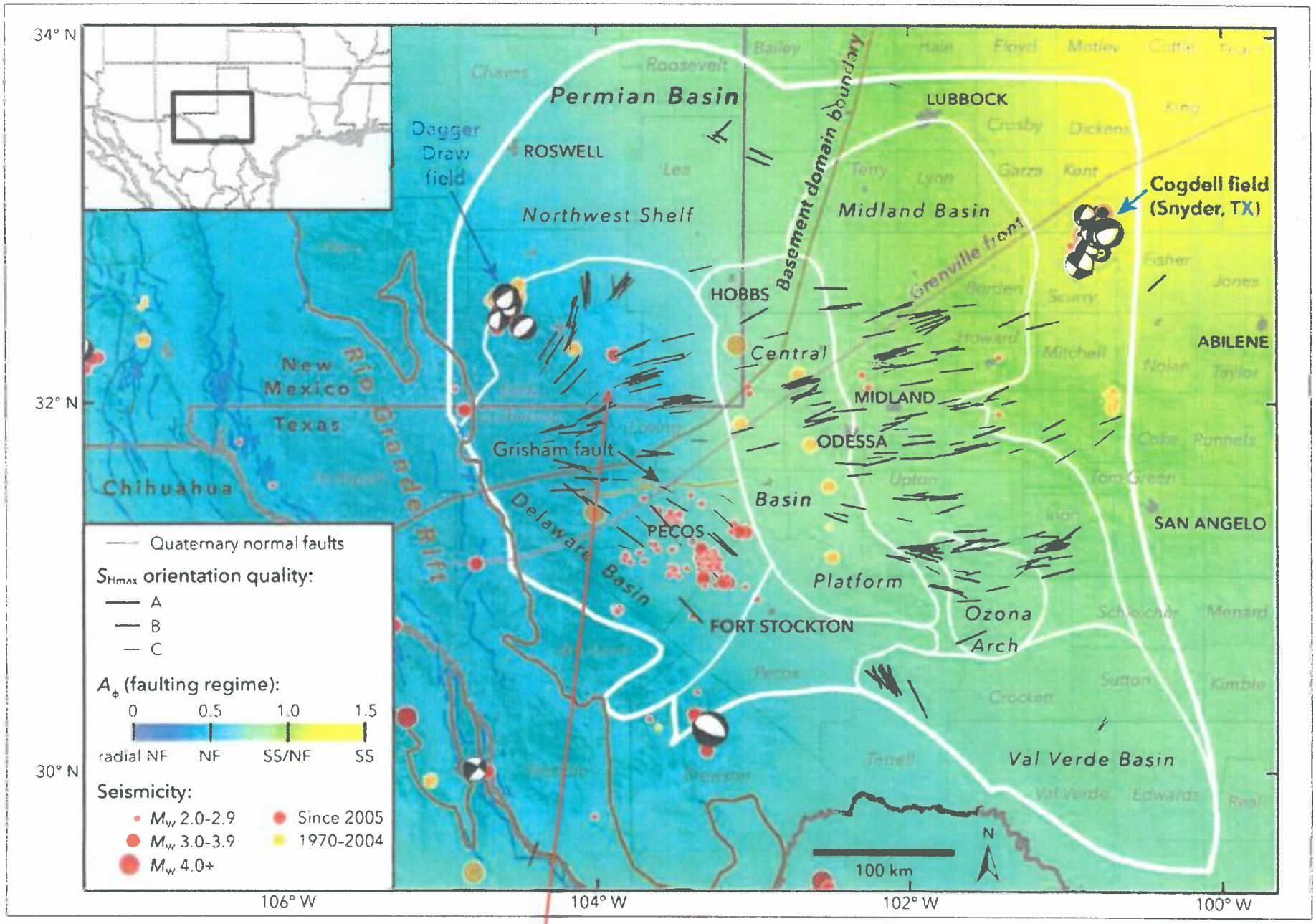
PLATT S PARKS



151

FSP Exh. 3

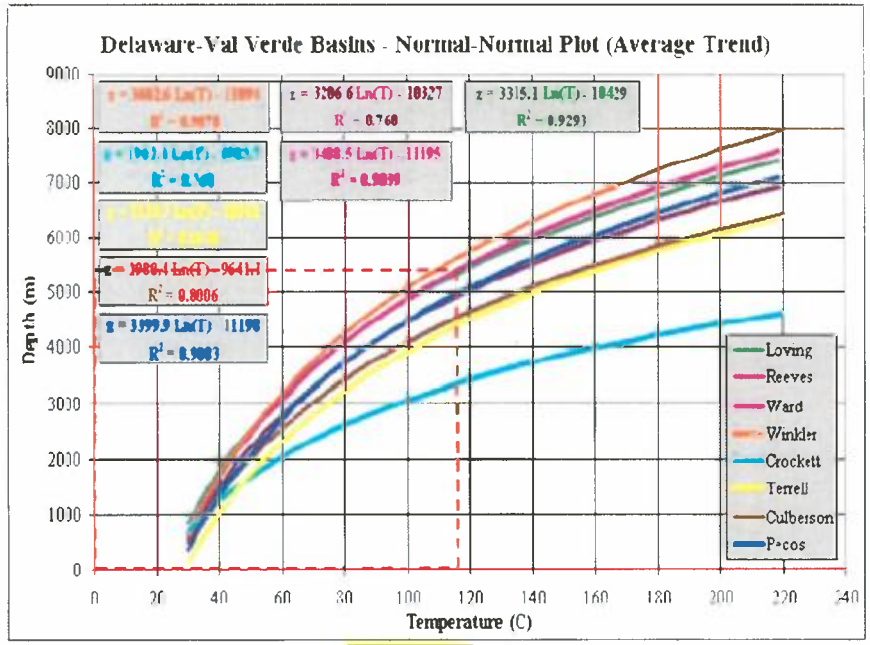
Stress Data Inputs

55

Azimuth Shmax

Subject Area

Determination of Density and Viscosity



A

118 (C)

SEAWATER DENSITY & VISCOSITY CALCULATOR

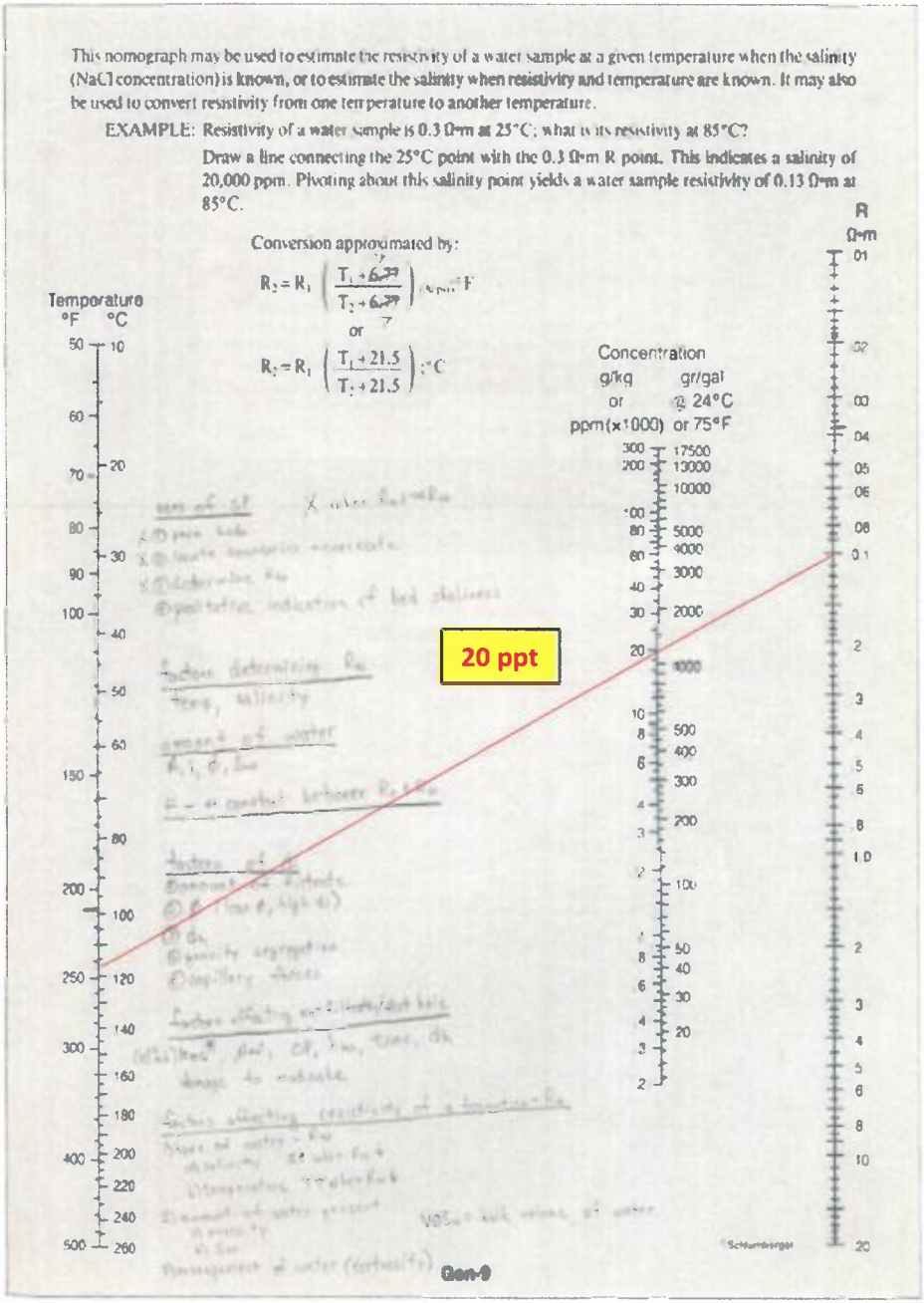
Please enter the values of salinity and temperature of the effluent or ambient water (p=1atm):

Salinity:	Sal =	20.00	ppt	for ρ: 0 ≤ Sal ≤ 160 ppt for μ: 0 ≤ Sal ≤ 130 ppt
Temperature:	T =	118.00	°C	10 ≤ T ≤ 180 °C

Density:	ρ =	959.742	kg/m³
Dynamic Viscosity:	μ =	0.249	*10⁻³ kg/m s
Kinematic Viscosity:	ν =	0.259	*10⁻⁶ m²/s

Source:
El-Dessouky, Ettouny (2002): Fundamentals of Sea Water Desalination (Appendix A: Themodynamic Properties)

Resistivity Nomograph for NaCl Solutions



160

FSP Exh. 4

Fault Slip Potential v1.07

File Data Inputs Export Image Zoom

Fault Slip Potential

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

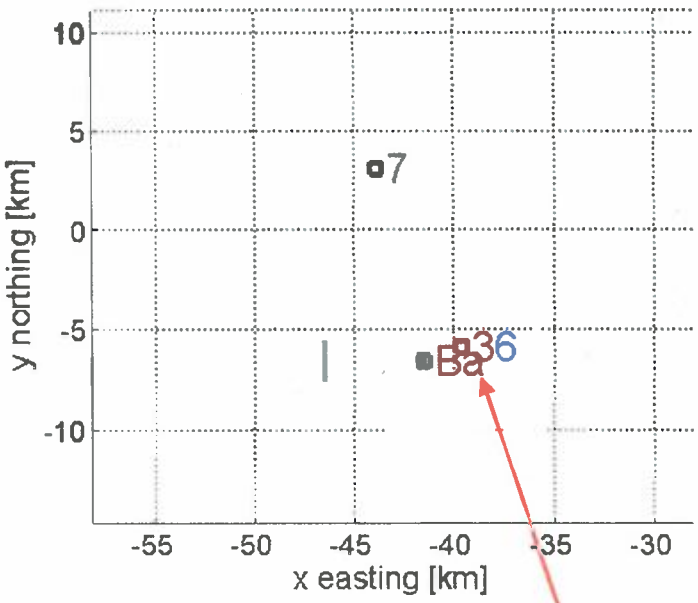
Fault Selector:

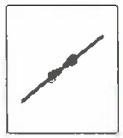
- All Faults
- Fault #1
- Fault #2

Calculate

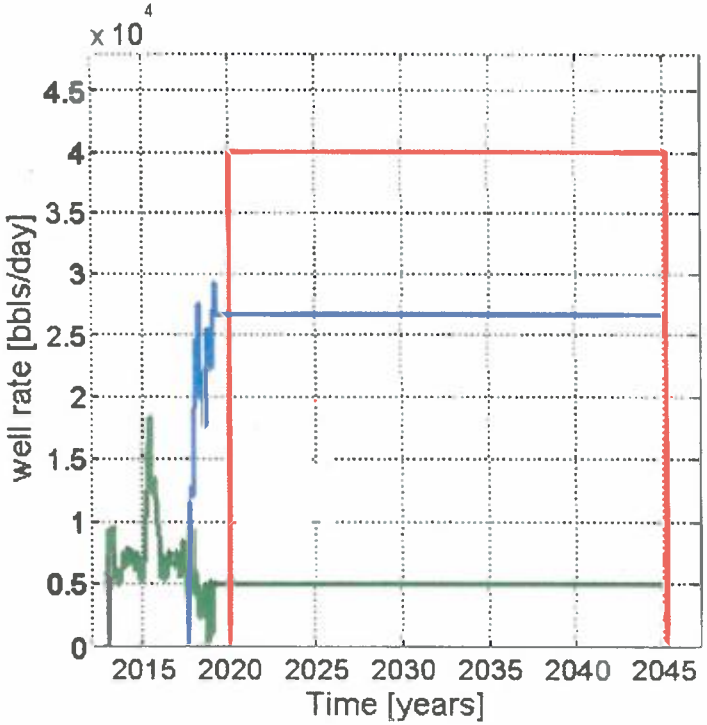
Stress Regime: Normal Faulting

Select Well: All





Subject well: Baker #1



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

FSP Exh. 5

No faults mapped in the 100 sq. mi area of review

FSP Exh. 6

Calculated Pore Pressure to Slip

ΔP

At each fault segment

No faults mapped in the 100 sq. mi area of review

FSP Exh 7

No faults mapped in the 100 sq. mi area of review

FSP Exh. 8

154

Fault Slip Potential v1.07

File Data Inputs Export Image Zoom

Fault Slip Potential

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

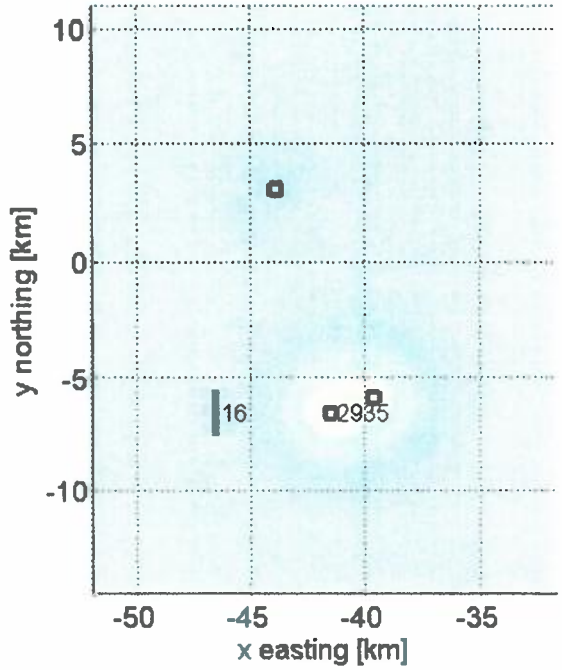
Fault Selector:

All Faults
Fault #1, 0.23 FSP
Fault #2, 0.00 FSP

Calculate

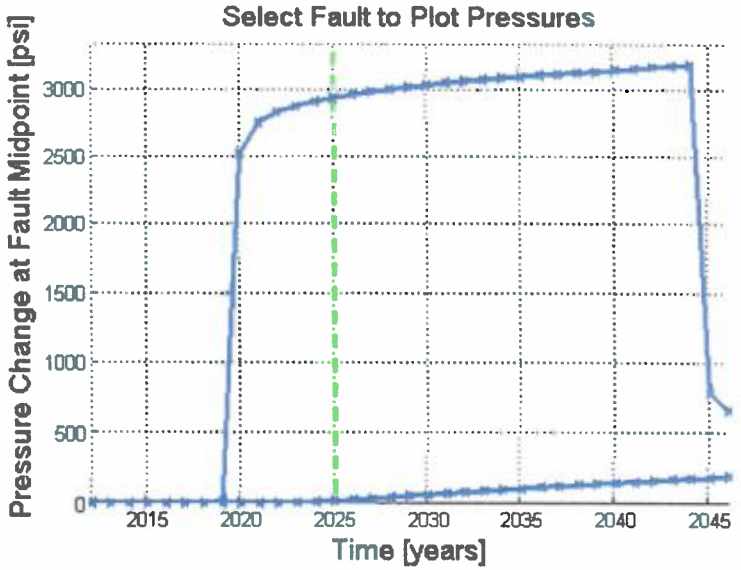
b) PP Change at fault [psi]

Summary Plots



Year: 2025

Export



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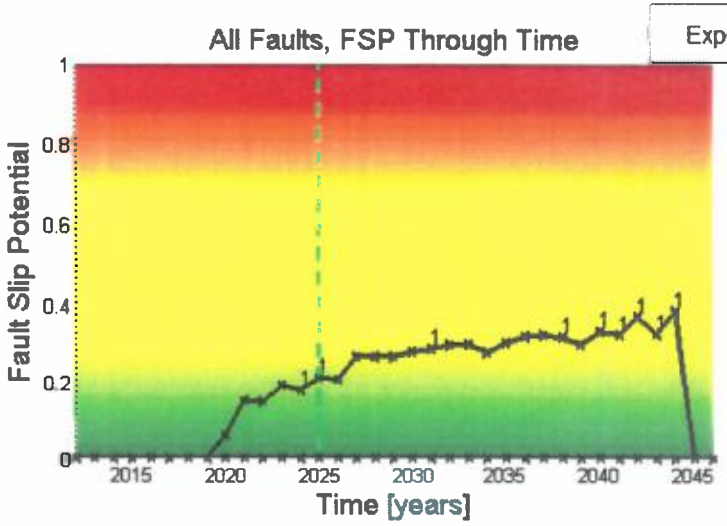


FSP Exh. 9

Fault Slip Potential v1.07

File Data Inputs Export Image Zoom

Fault Slip Potential

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

Fault Selector:

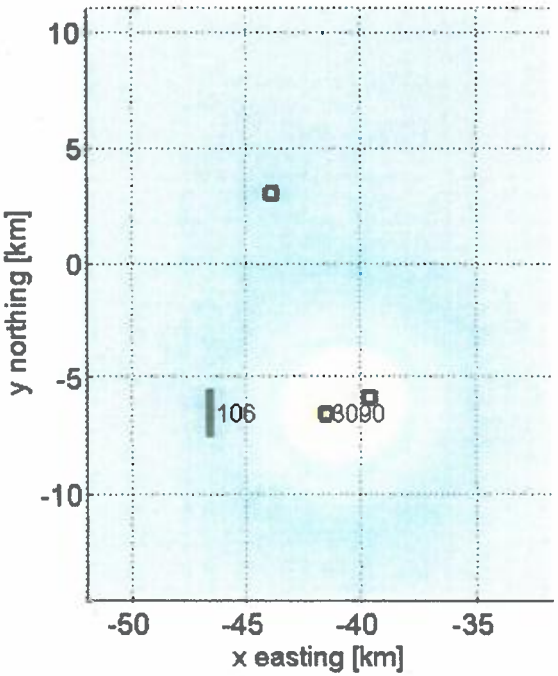
All Faults
Fault #1, 0.30 FSP
Fault #2, 0.00 FSP

Calculate

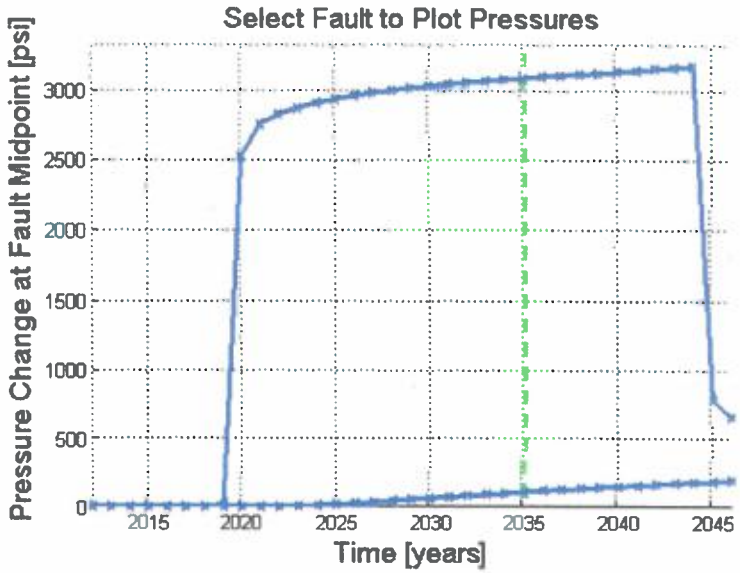
b) PP Change at fault [psi]

Summary Plots

Export



Year: 2035



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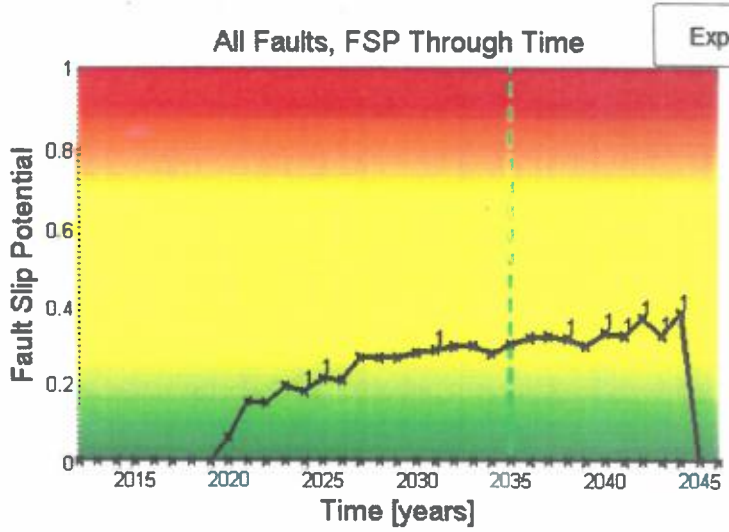


FSP Exh. 10

Fault Slip Potential v1.07

File Data Inputs Export Image Zoom

Fault Slip Potential

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

Fault Selector:

All Faults
Fault #1, 0.00 FSP
Fault #2, 0.00 FSP

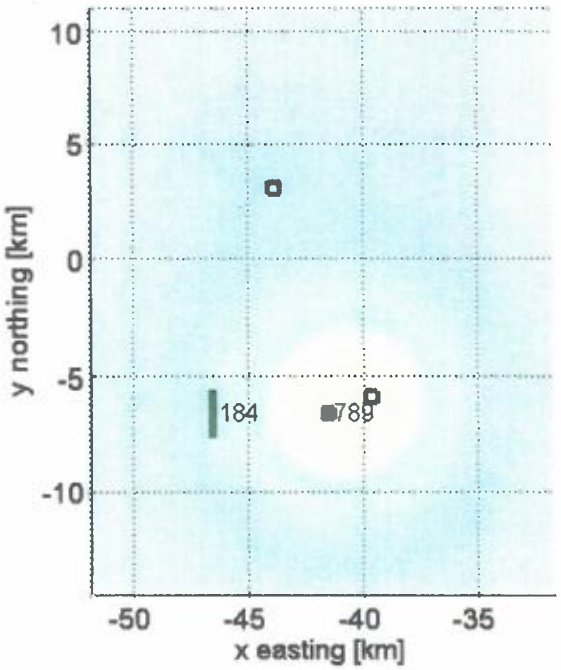
Calculate

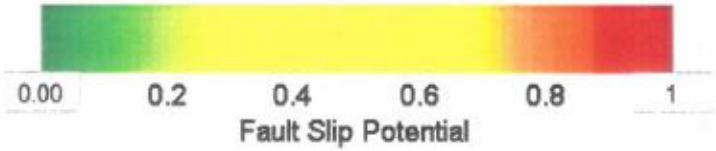
FSP Exh. 11

b) PP Change at fault [psi]

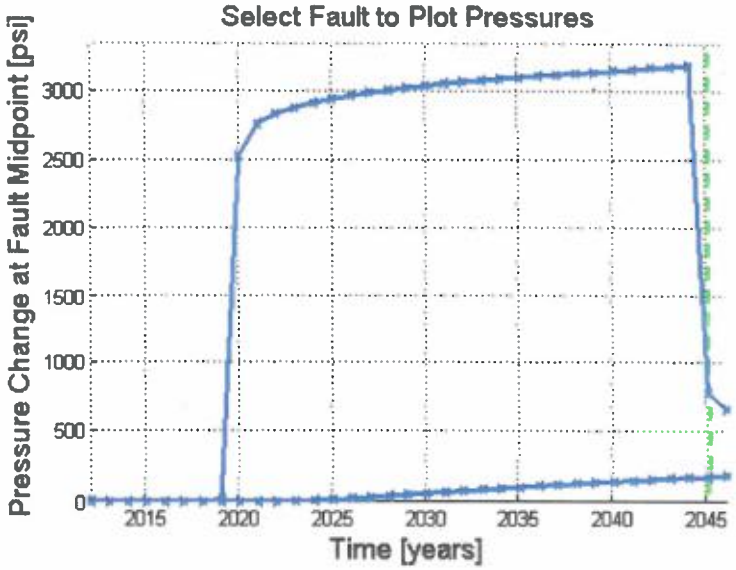
Summary Plots

Export





Year: 2045



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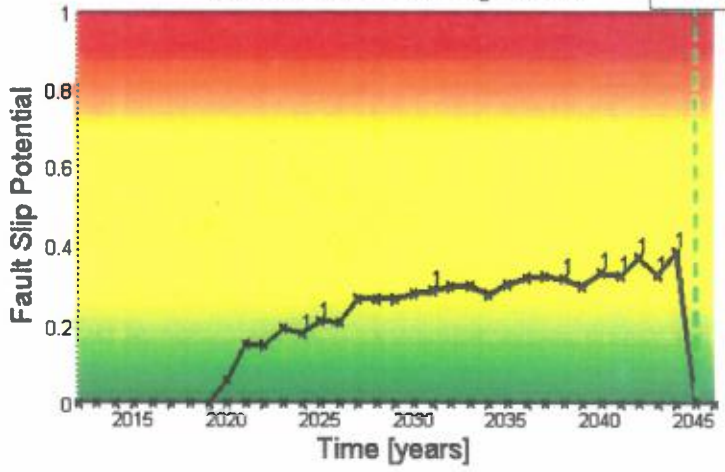
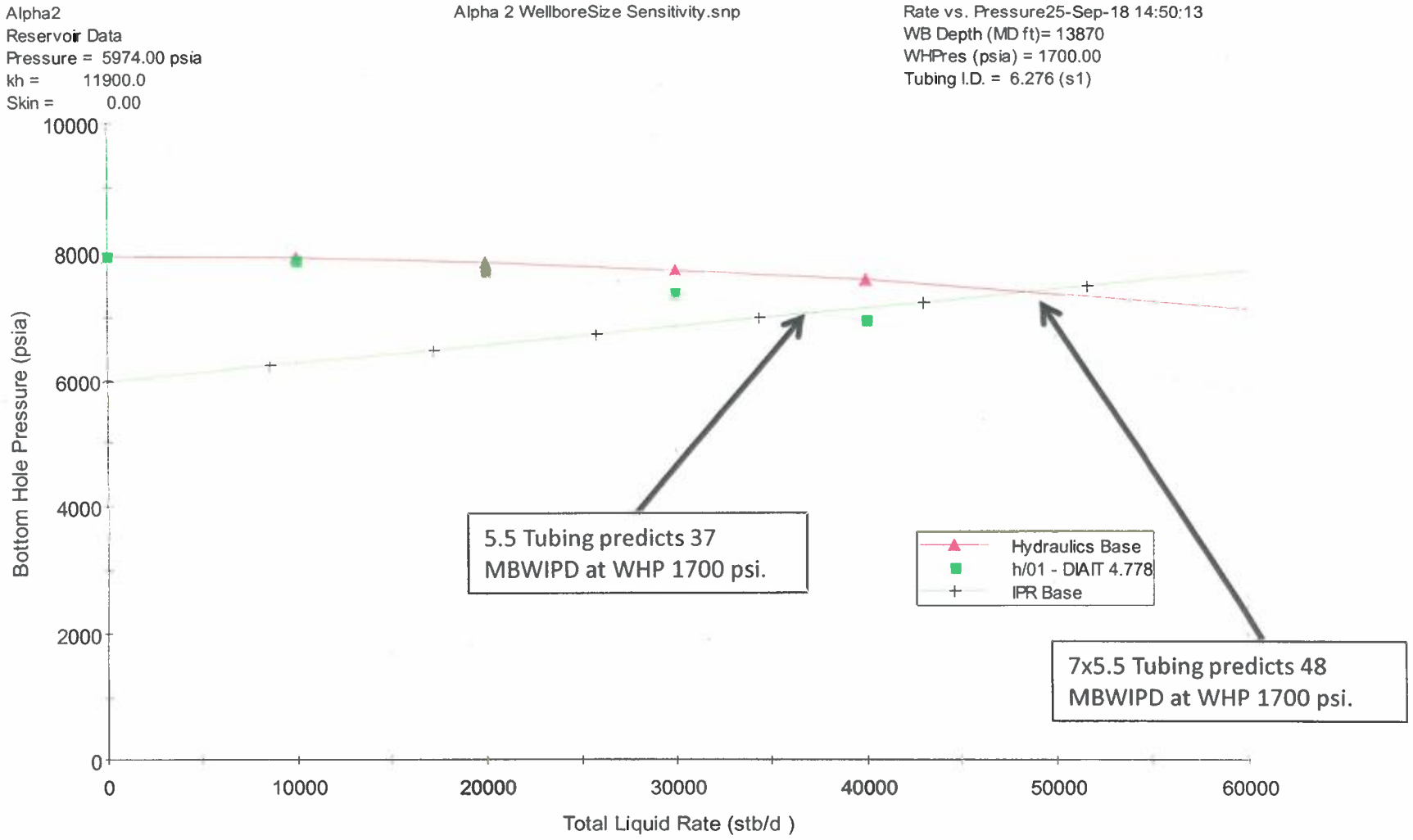


Exhibits of Scott Wilson
On Behalf of Mesquite SWD Inc.

Exh. A1

Mesquite SWD, Inc.

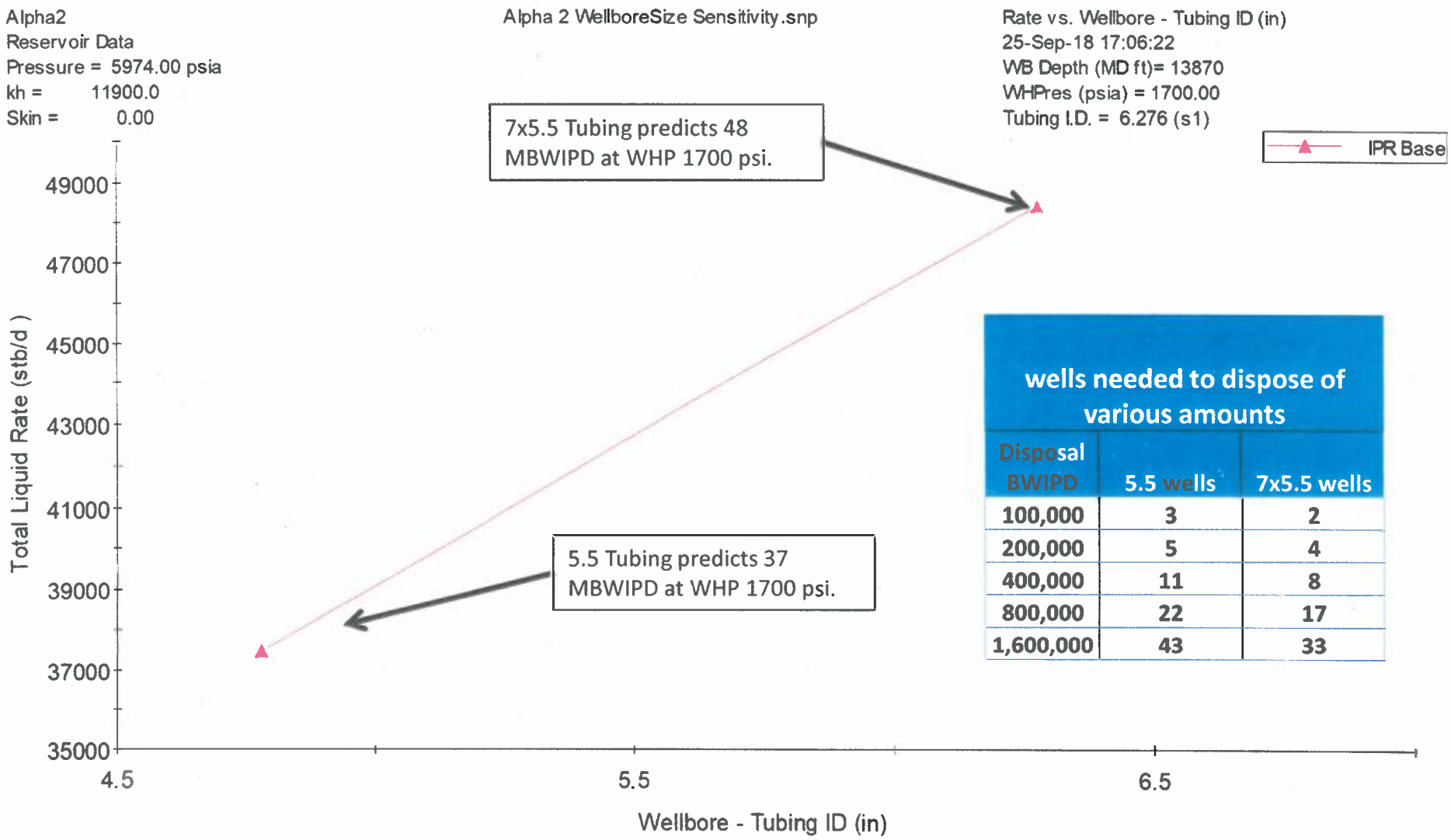
Typical Wellbore Hydraulics Models predict a 30% increase in maximum injection rate between 5.5 tubing and 7x5.5 tubing.



Exh. A2

Mesquite SWD, Inc.

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

5/28/2019

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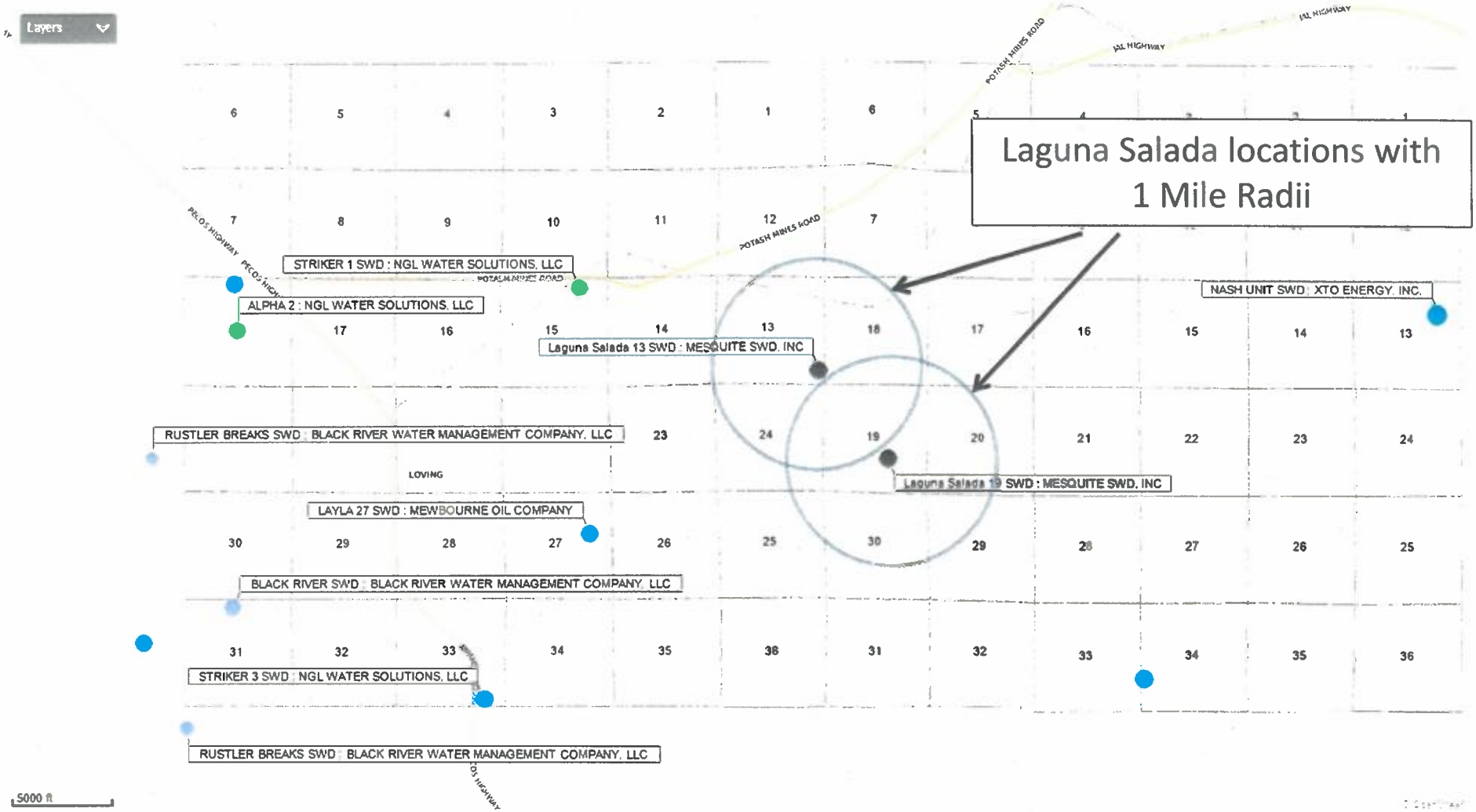
Mesquite SWD, Inc.

Exh. A4

Wells injecting water into the Devonian formation in the area.
Area is roughly15 miles (E-W) by 10 miles (N-S)

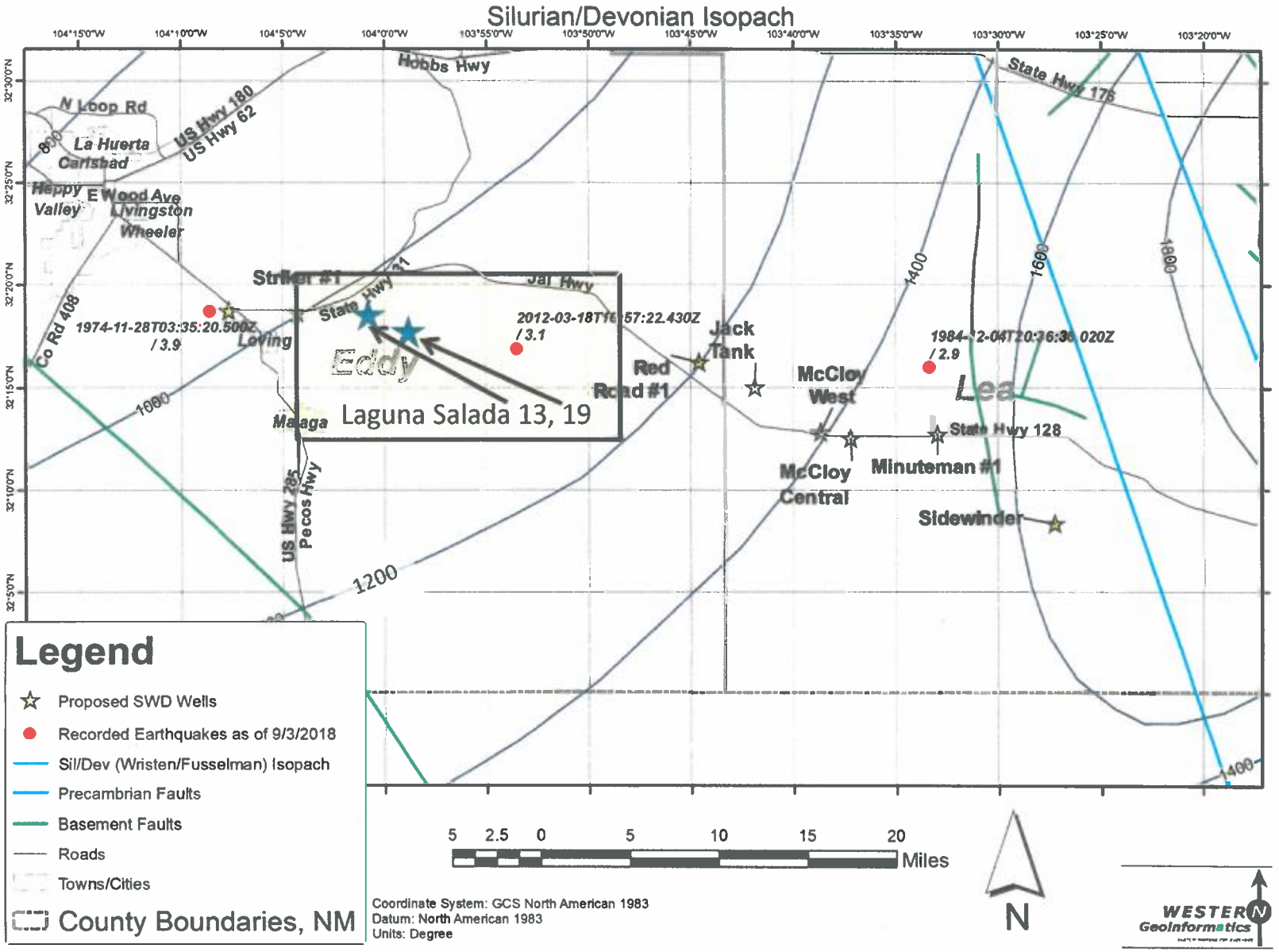


141

Mesquite SWD, Inc.

Exh. A5

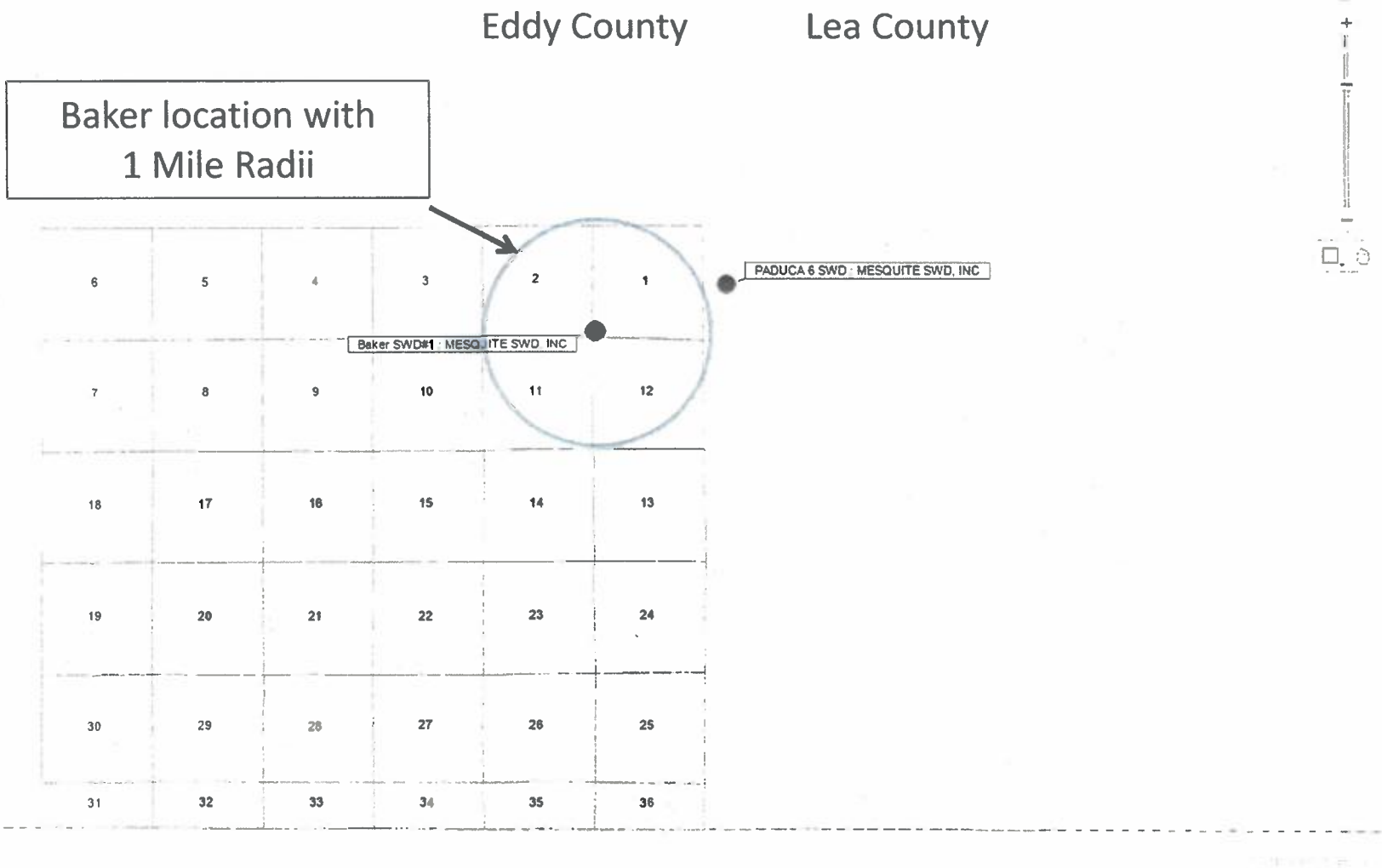
Sil/Dev Thickness at Laguna Salada 13, 19 is 1000 feet



Mesquite SWD, Inc.

Exh. A6

Wells injecting water into the Devonian formation in the area.
Area is roughly 15 miles (E-W) by 10 miles (N-S)

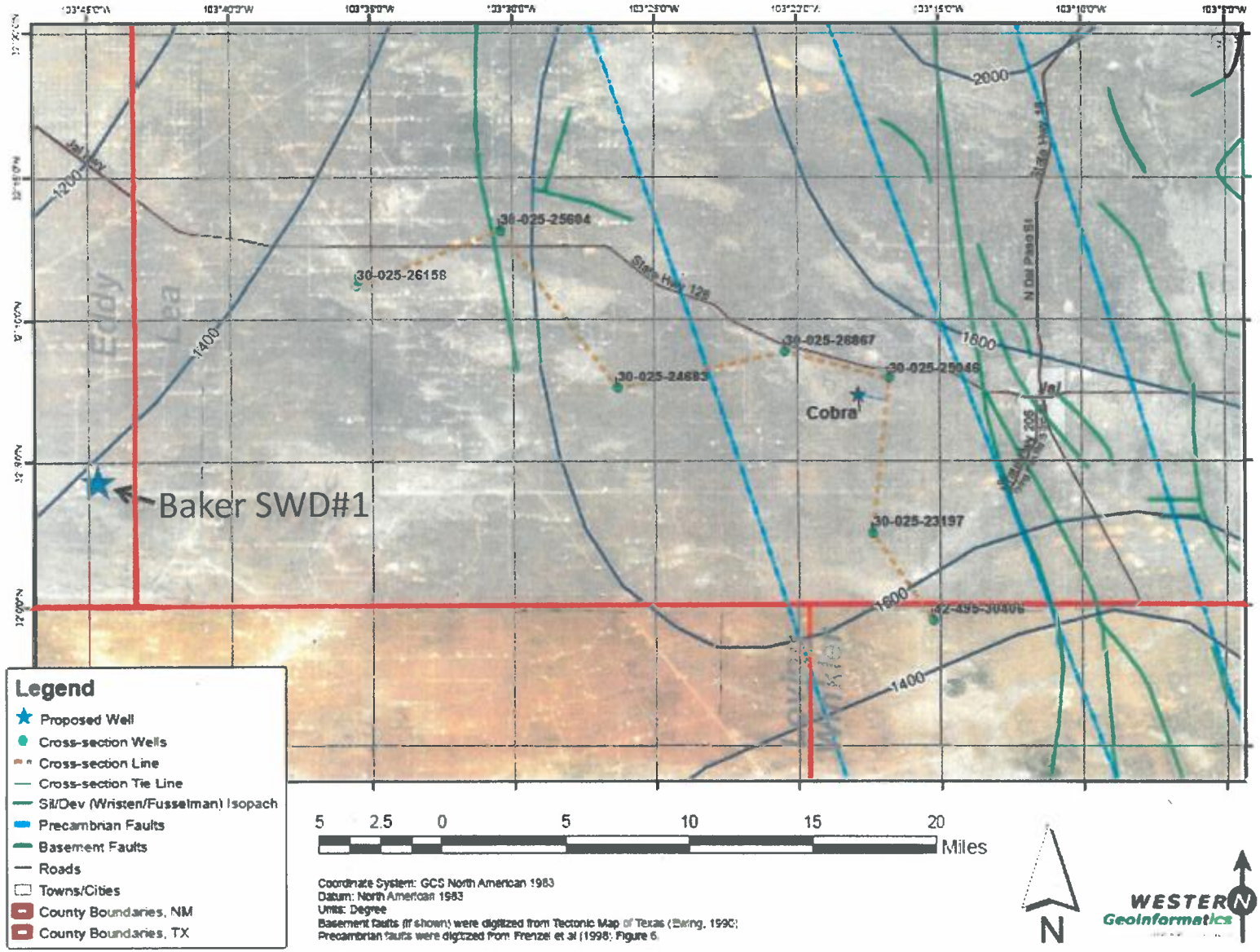


Exh. A7

Mesquite SWD, Inc.

Sil/Dev Thickness at Baker is 1400 feet

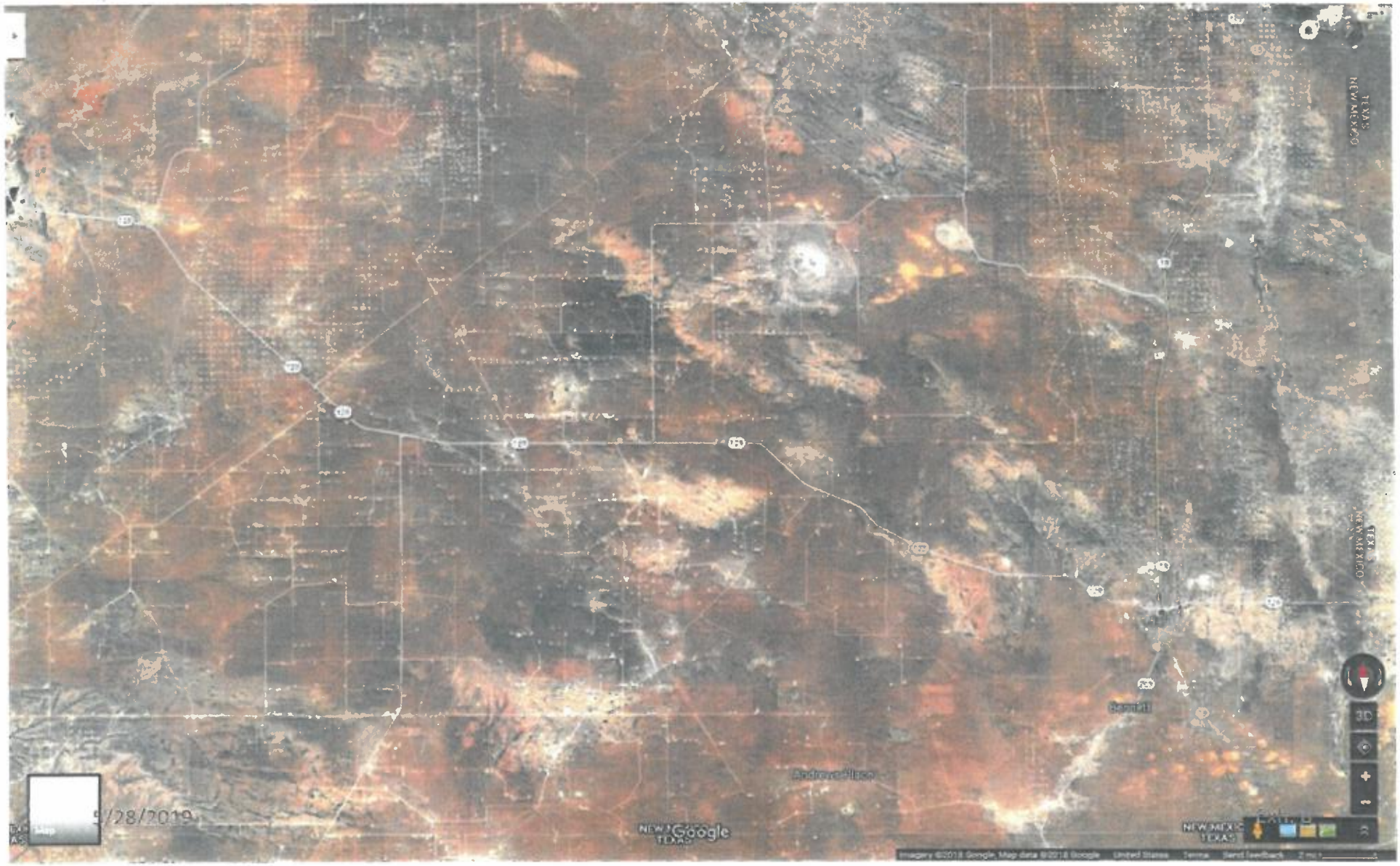
Isopach, Faults, and Well Location



Exh. A8

Mesquite SWD, Inc.

Terrain is level and infrastructure is plentiful.

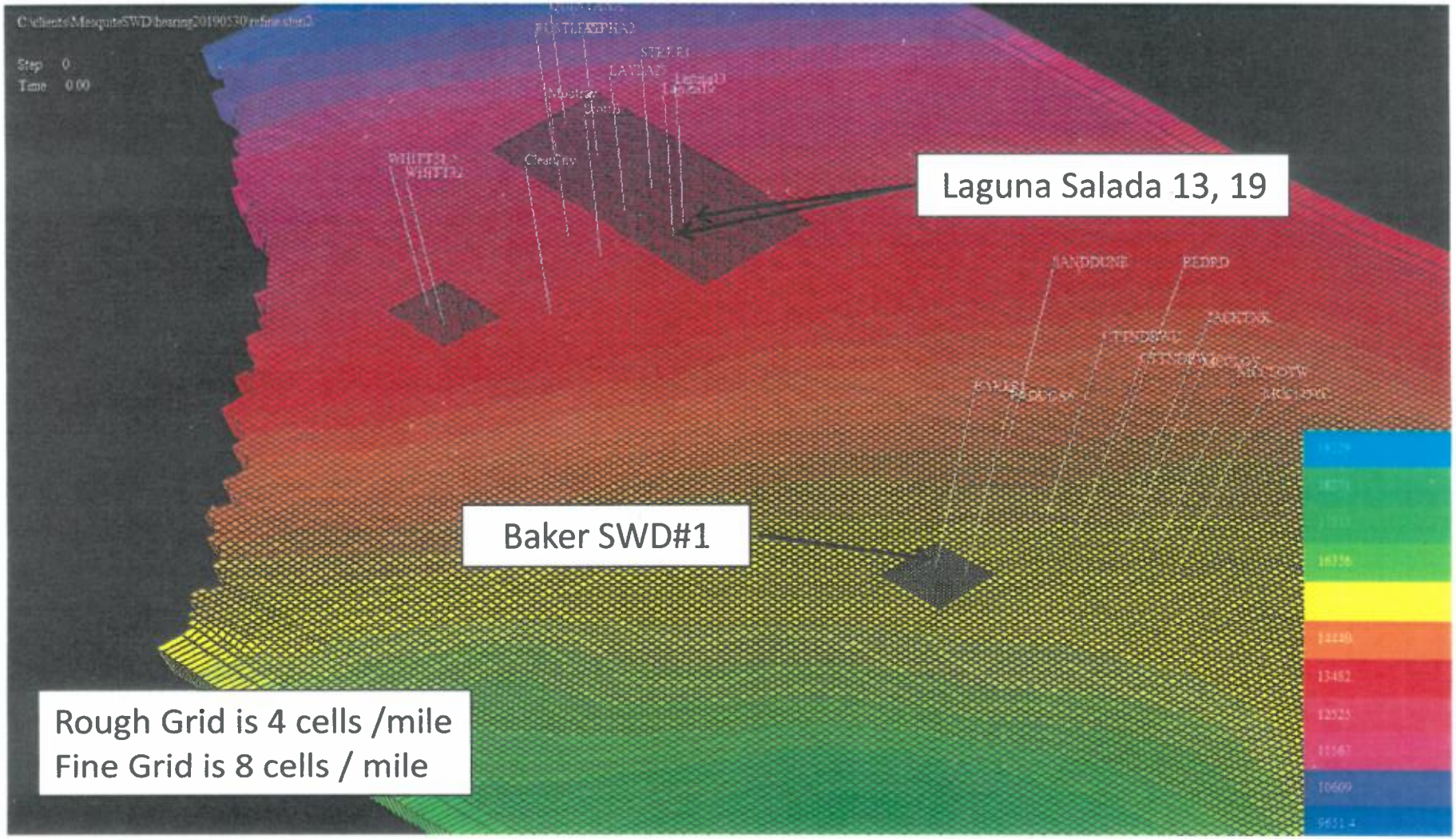


Mesquite SWD, Inc.

Simulation Grid matches Structure and Thickness

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

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

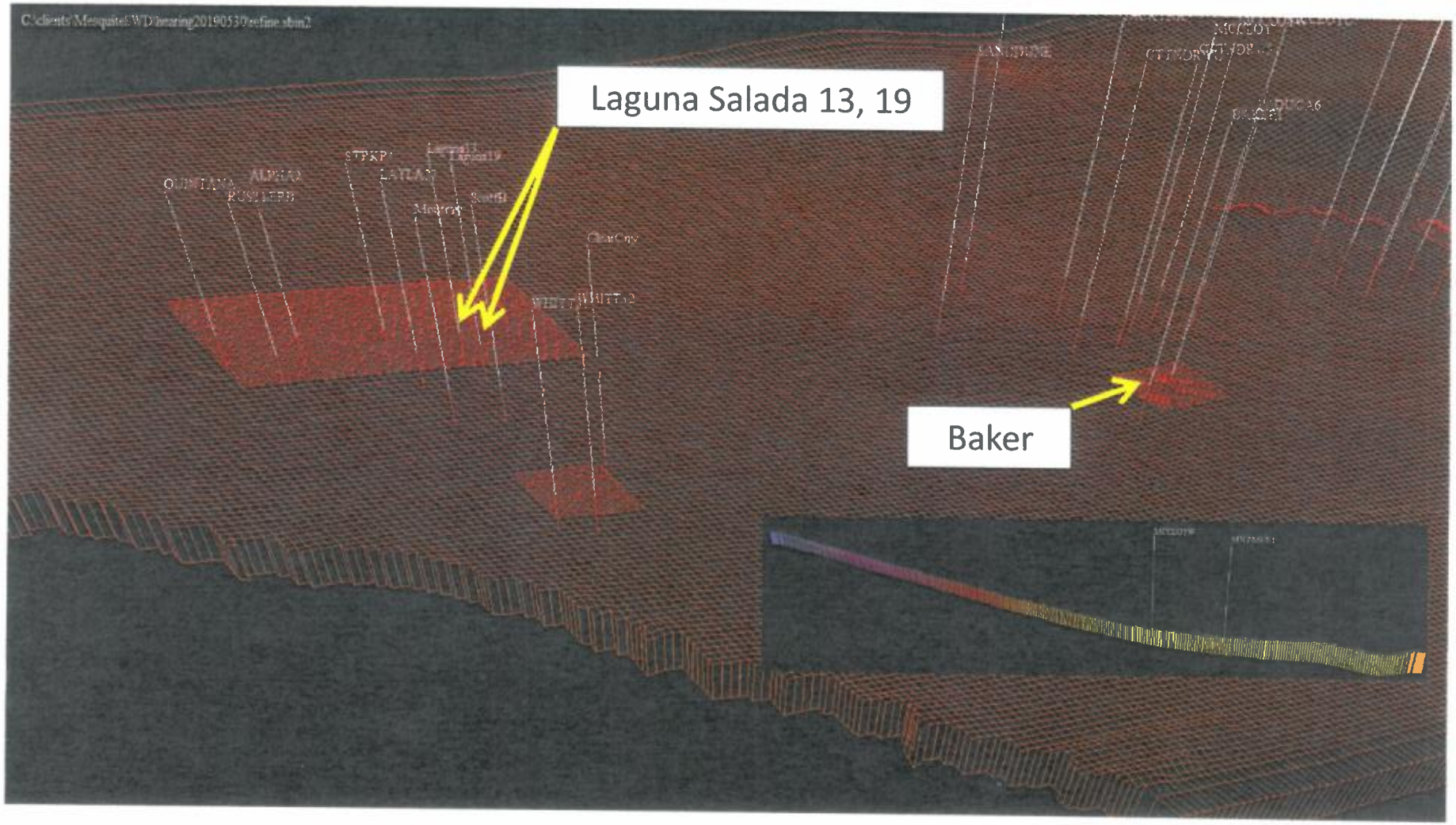


Exh. A10

Mesquite SWD, Inc.

3D view of grid shows Structural Relief.

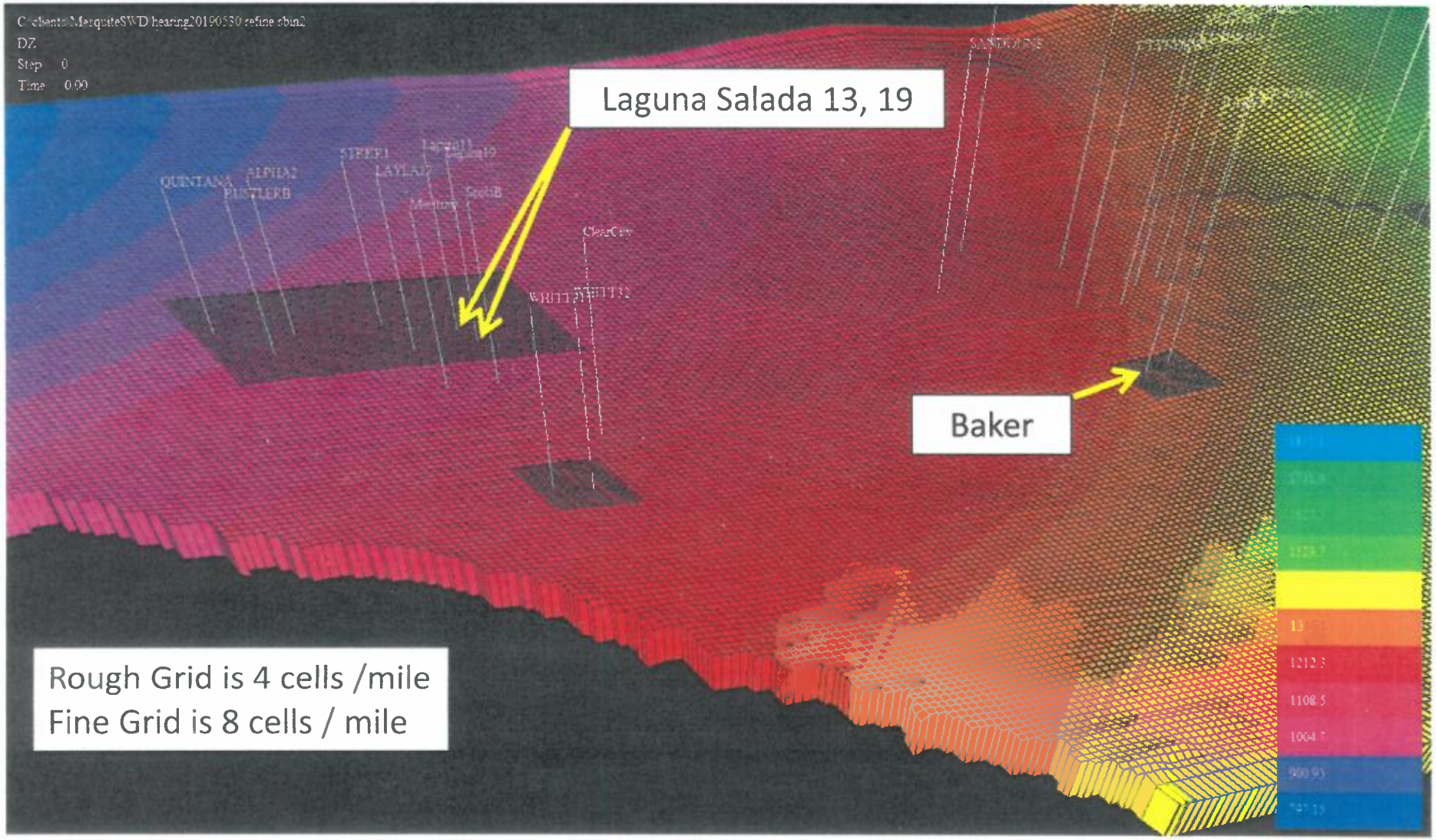
Thickness is accurate, with Baker well in thicker section than Laguna Salada wells.



Exh. A11

Mesquite SWD, Inc.

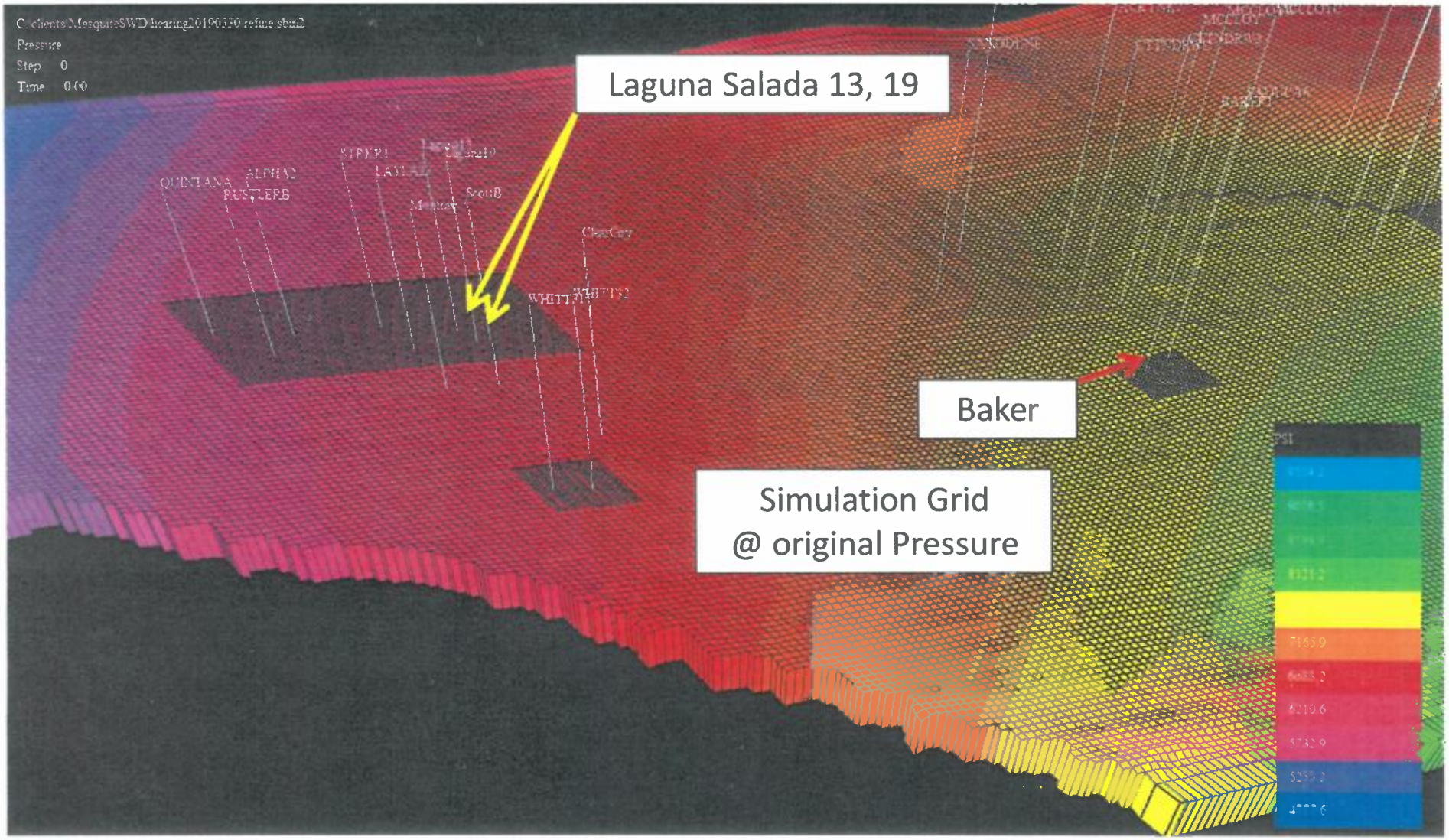
Dark Blue color to the North West represents the thinnest Sil/Dev.



Mesquite SWD, Inc.

Exh. A12

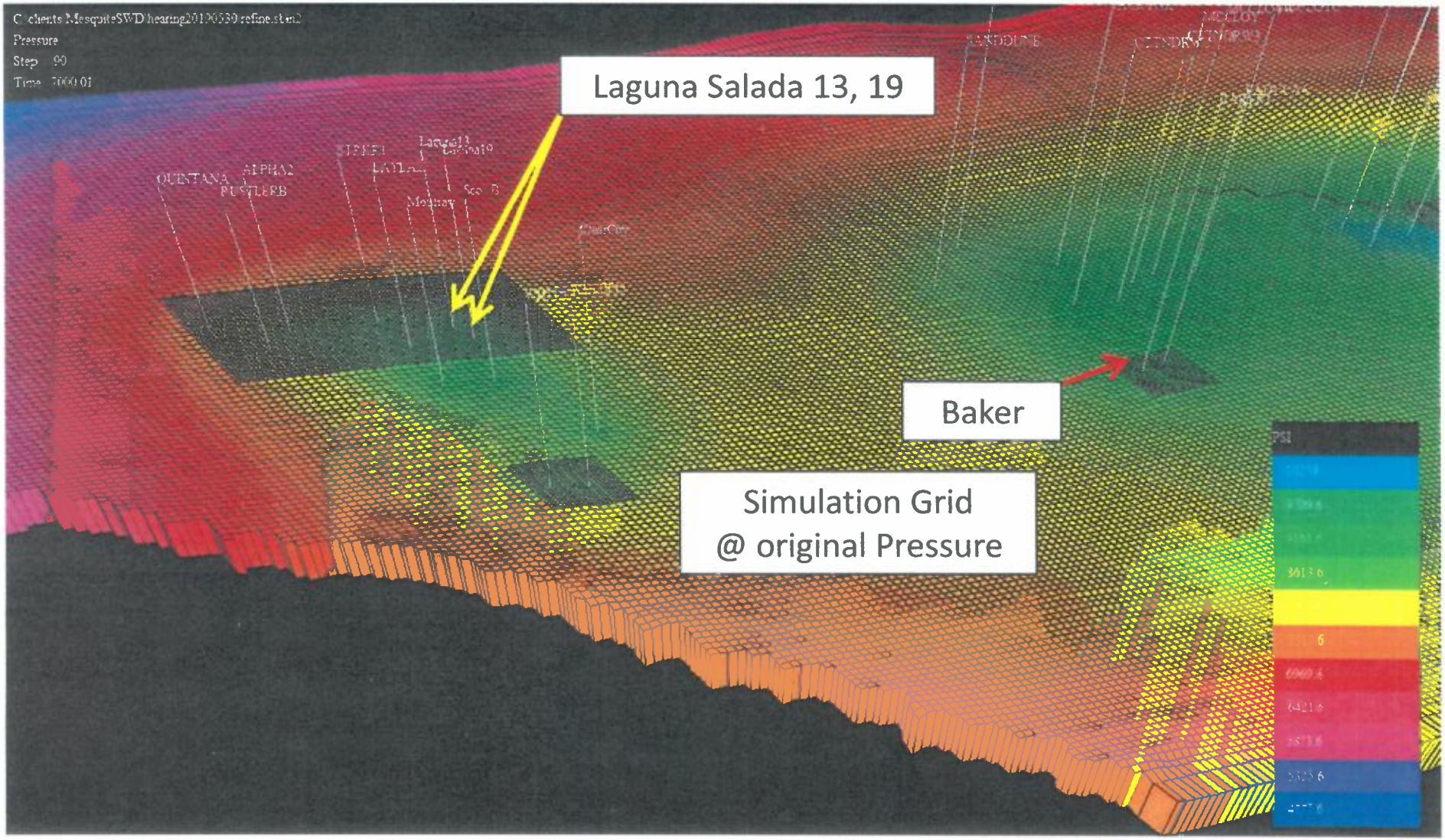
Initial pressure is equilibrated by the model based on grid cell depth, fluids(water) and capillary pressure.



Mesquite SWD, Inc.

Exh. A13

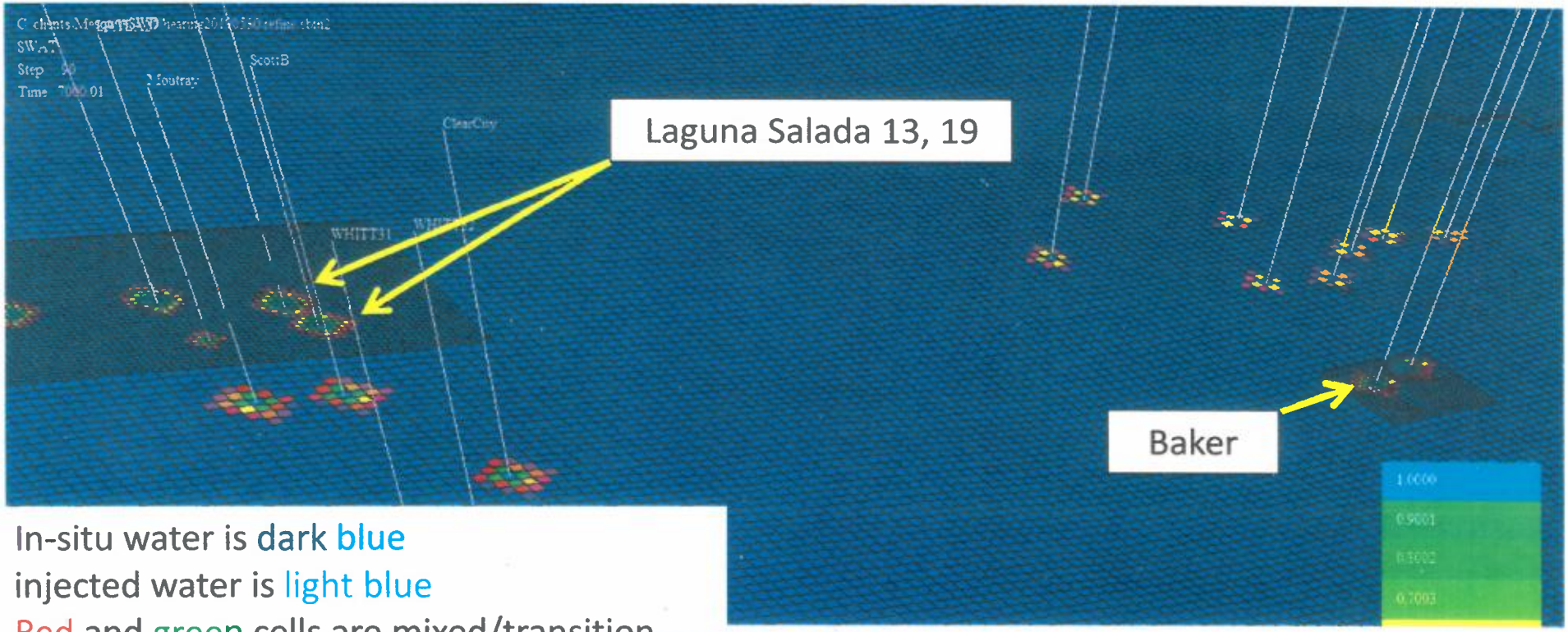
Pressure at 20 years is affected by original pressure, injected volumes, and the ability of the reservoir to dissipate pressure.



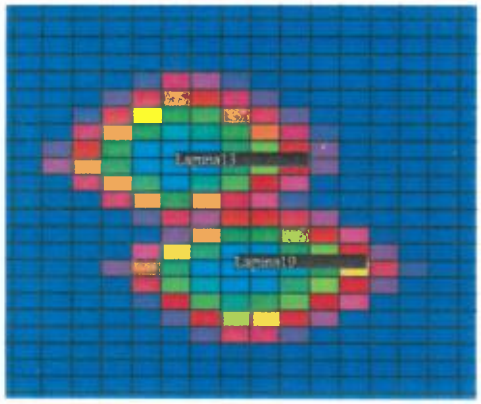
Exh. A14

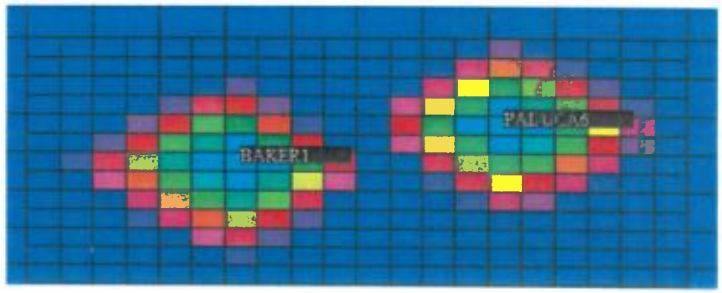
Mesquite SWD, Inc.

Large scale saturation profiles after 20 years of injection.



In-situ water is dark blue
injected water is light blue
Red and green cells are mixed/transition
Rough Grid is 4 cells /mile
Fine Grid is 8 cells / mile

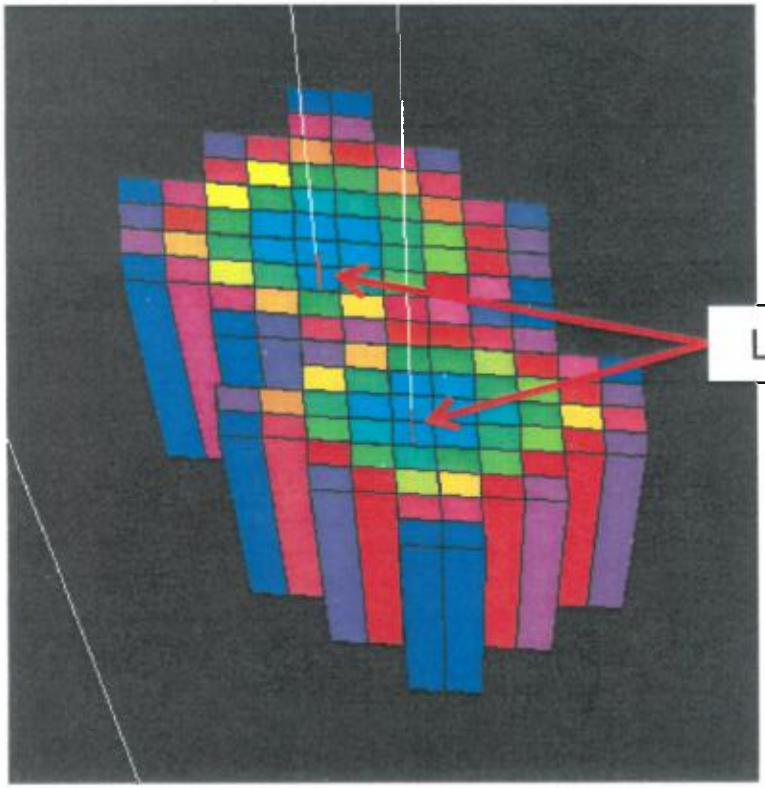




Exh. A15

Mesquite SWD, Inc.

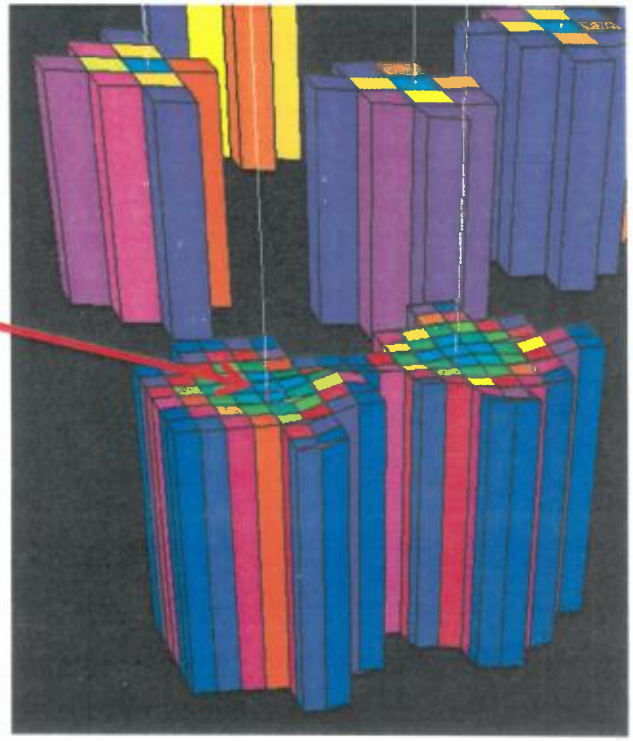
Detailed saturation profiles after 20 years of injection.



Laguna Salada 13, 19

Rough Grid is 4 cells /mile
Fine Grid is 8 cells / mile

Baker

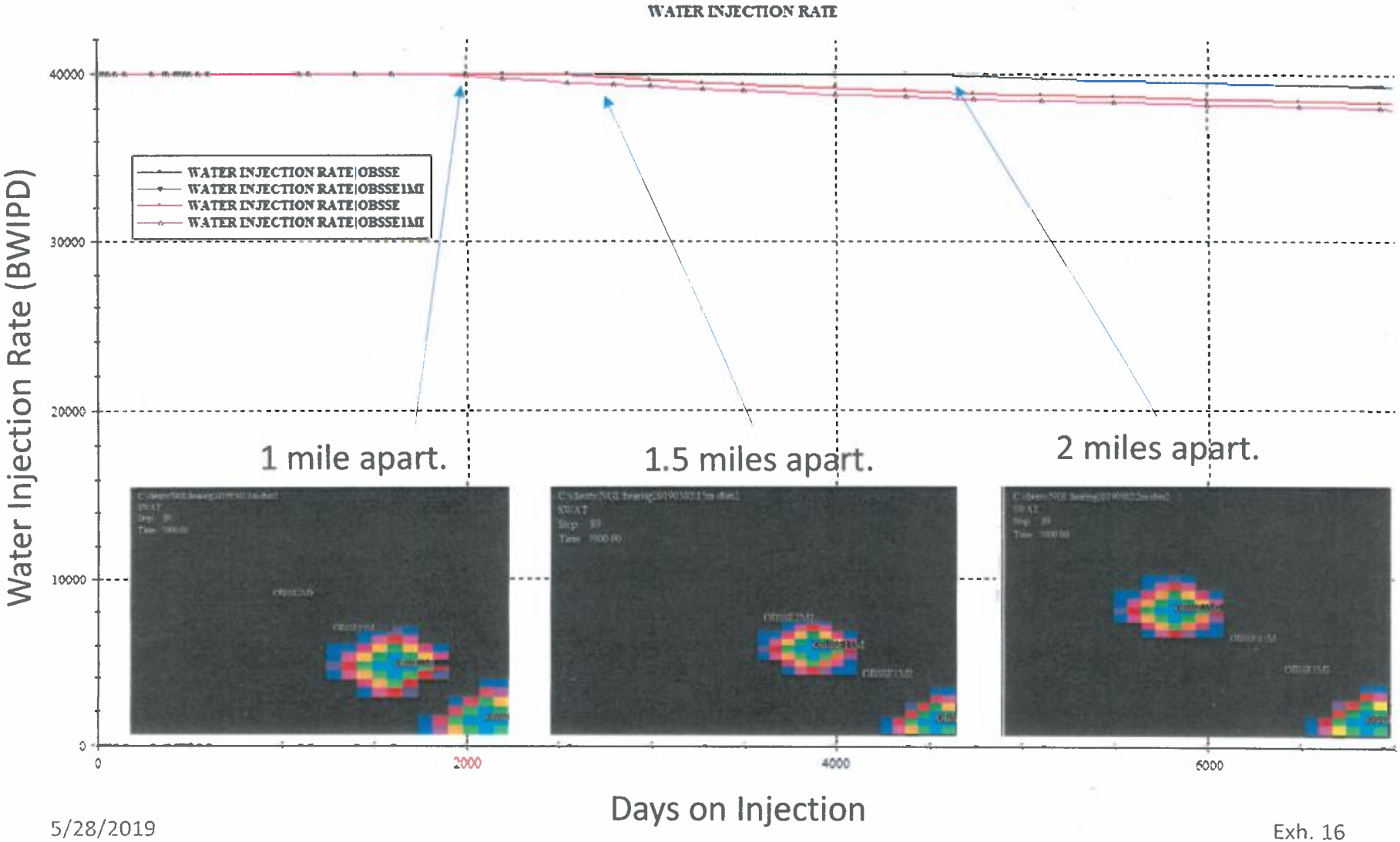


In-situ water is transparent
injected water is light blue
Red and green cells are mixed/transition

Mesquite SWD, Inc.

Exh. A16

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



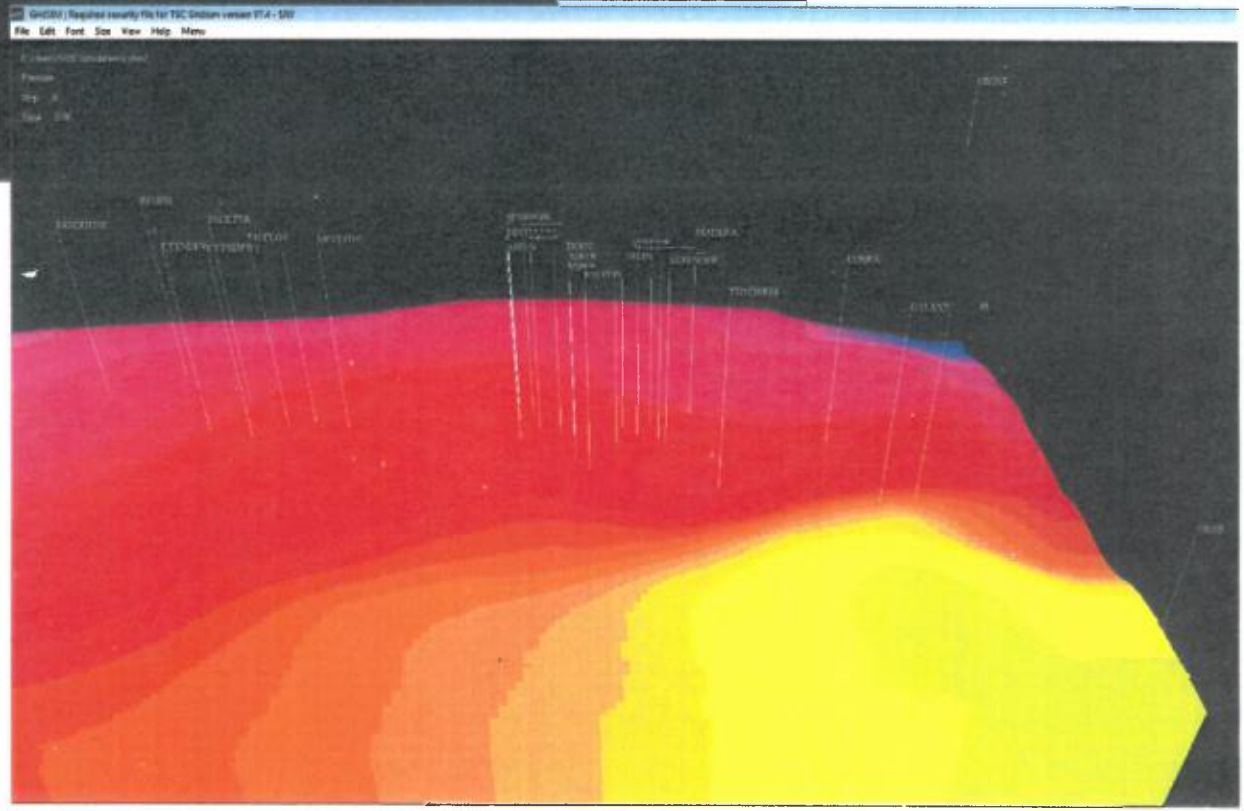
5/28/2019

Exh. 16

GSI

Exh. A17

2019
(0 years)

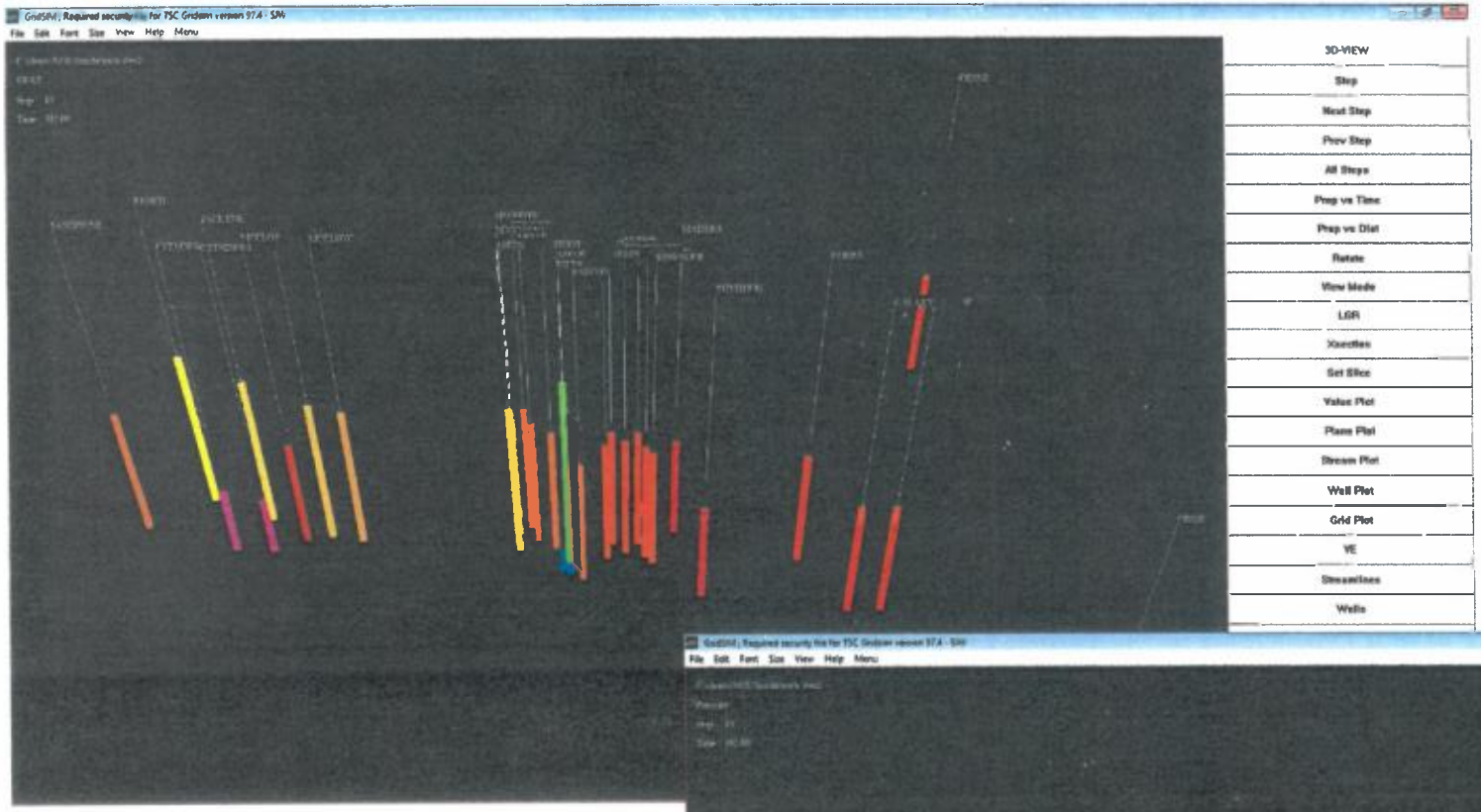


Water movement & Pressure

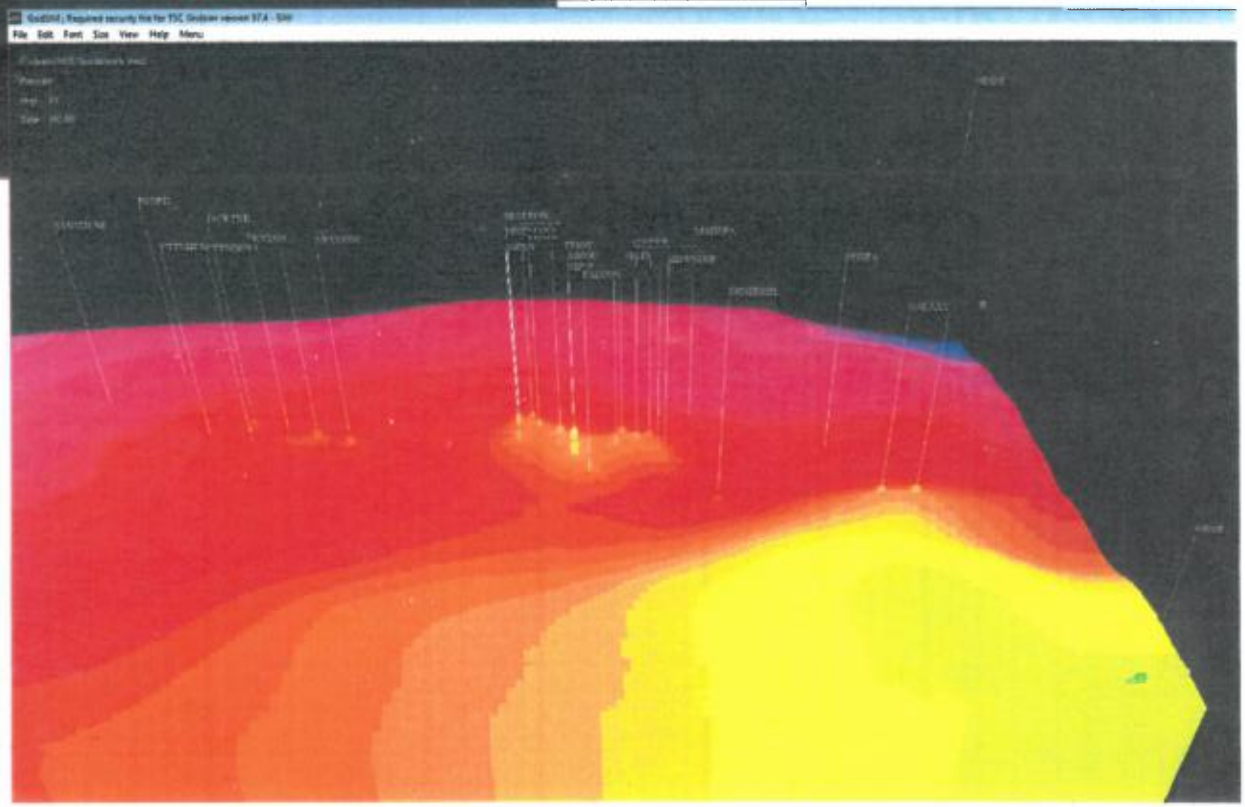
5/28/2019

194

Exh. A18



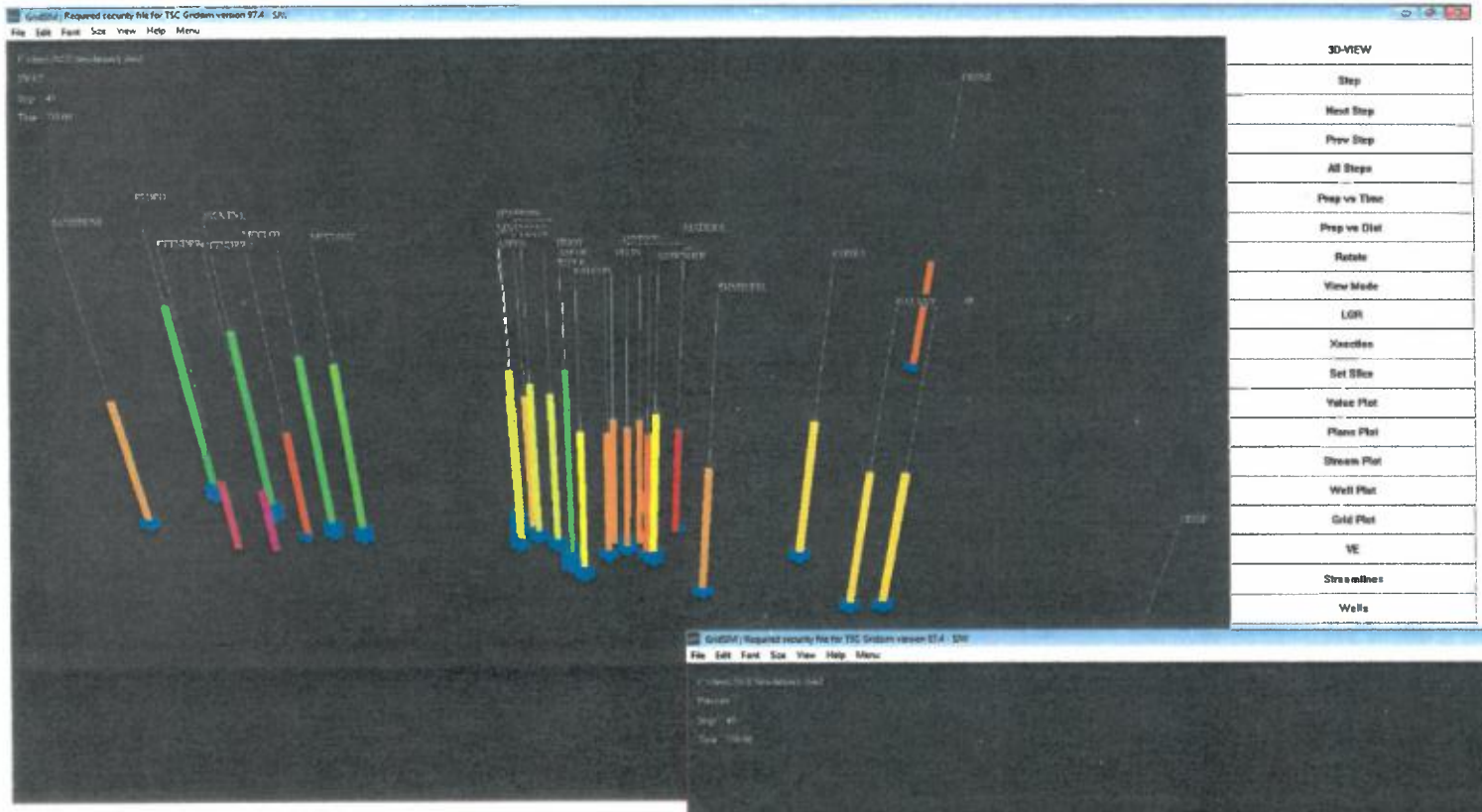
2020
(1 year)



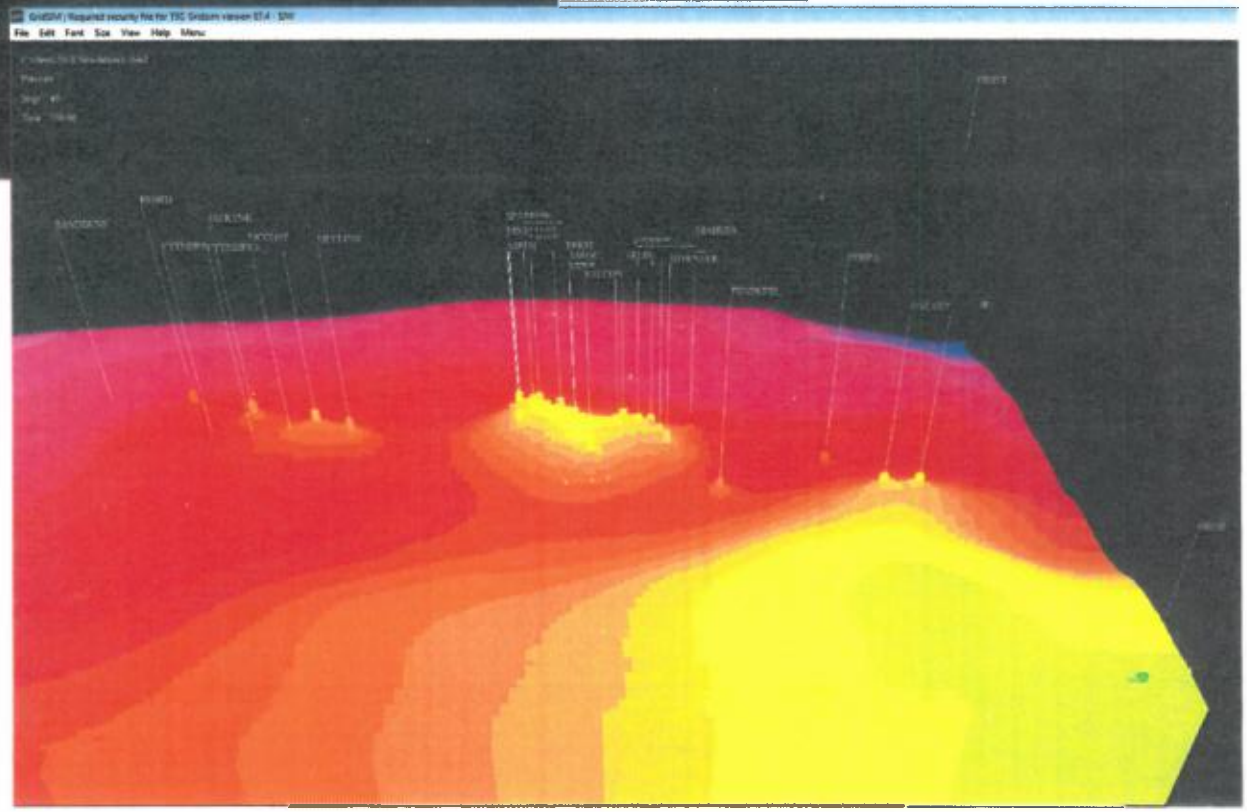
Water movement & Pressure

5/28/2019

Exh. A19



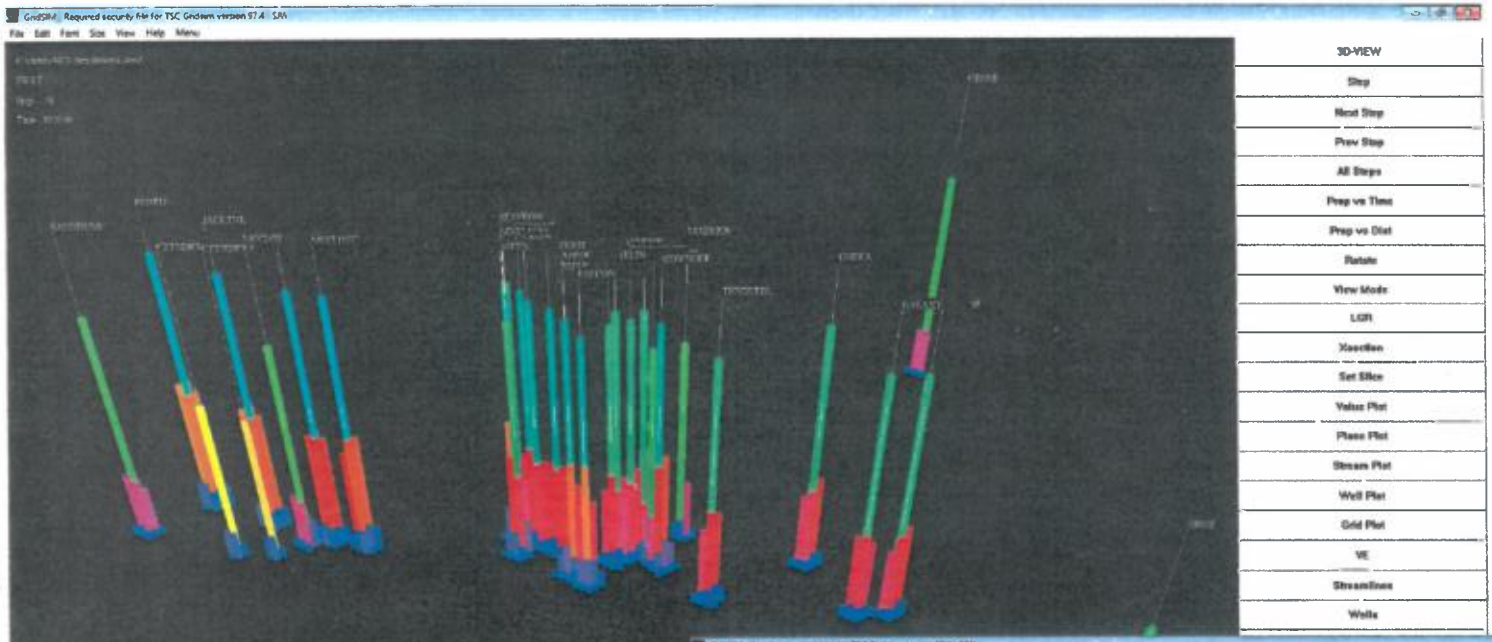
2021
(2 years)

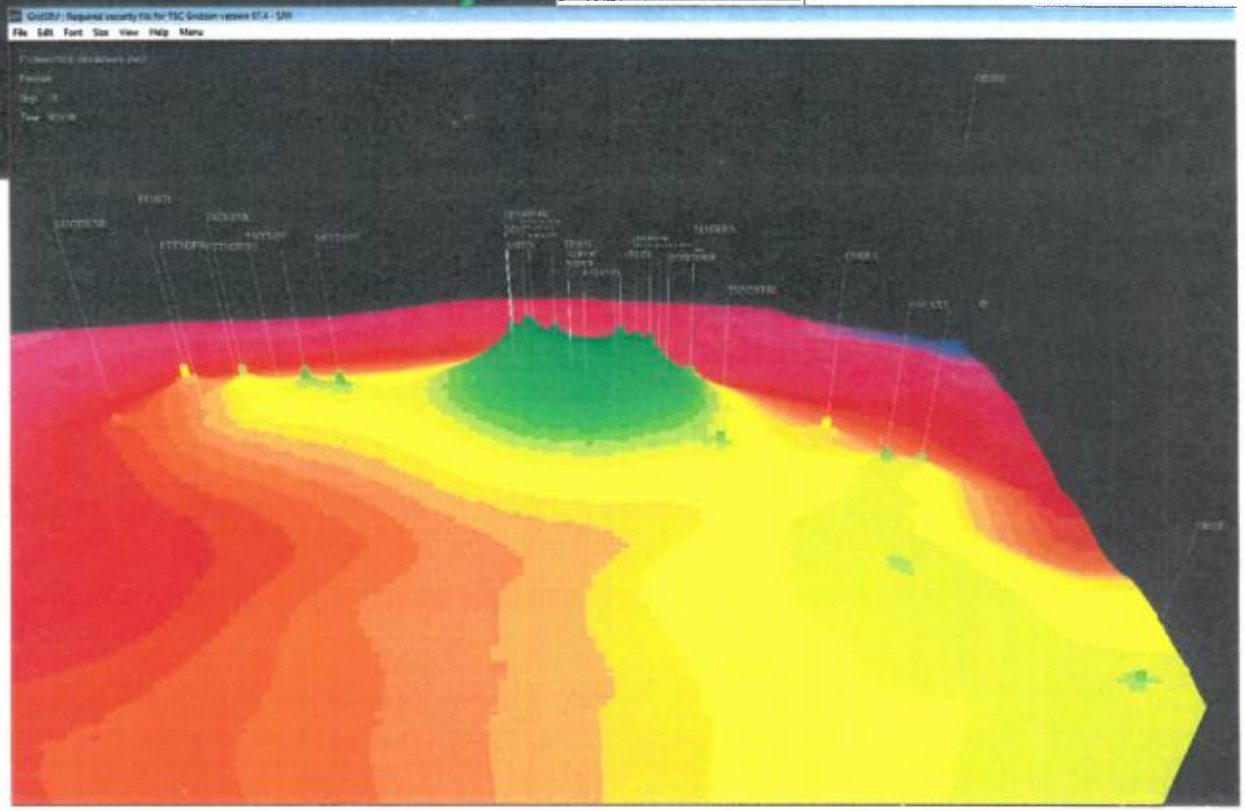


Water movement & Pressure

5/28/2019

Exh. A20





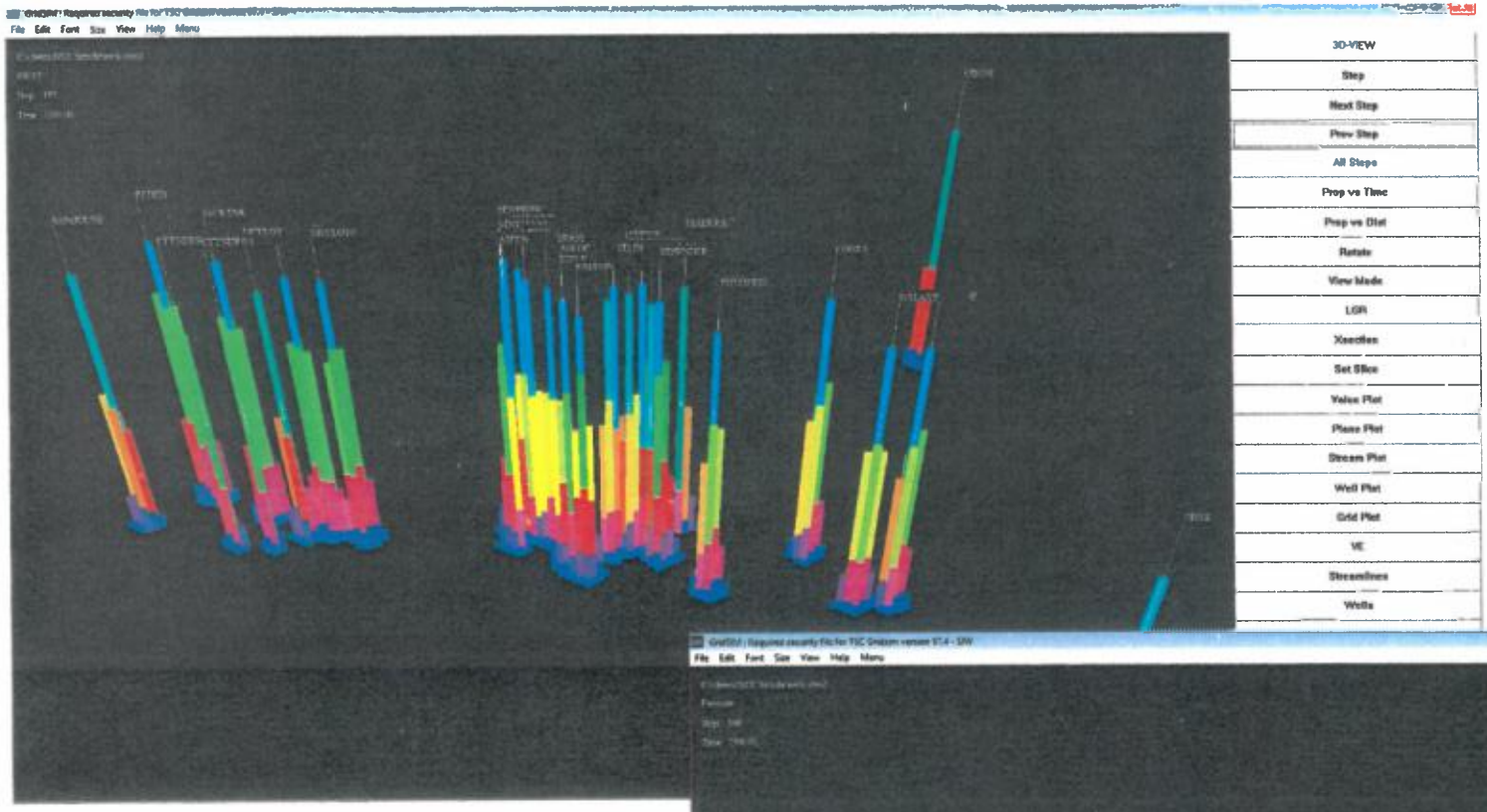
2029 (10 years)

Water movement & Pressure

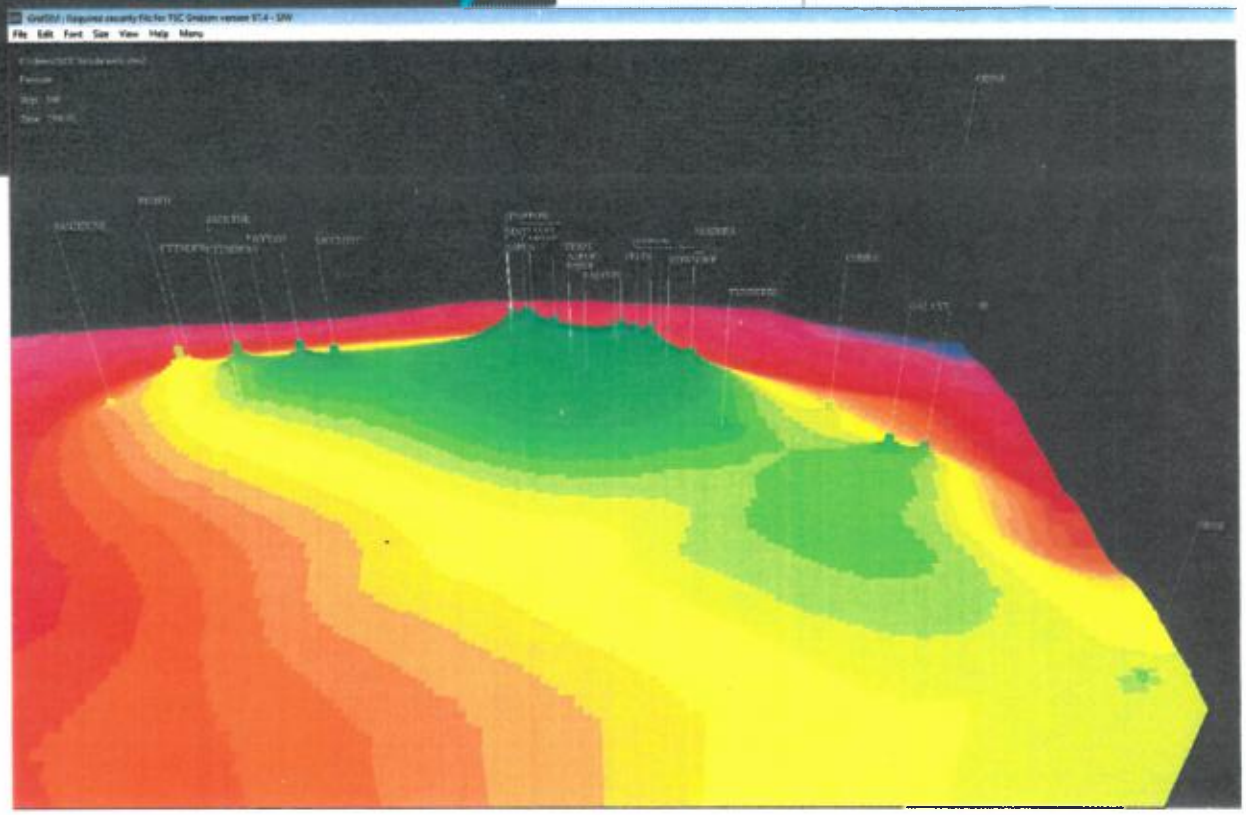
5/28/2019

187

Exh. A21



2039
(20 years)

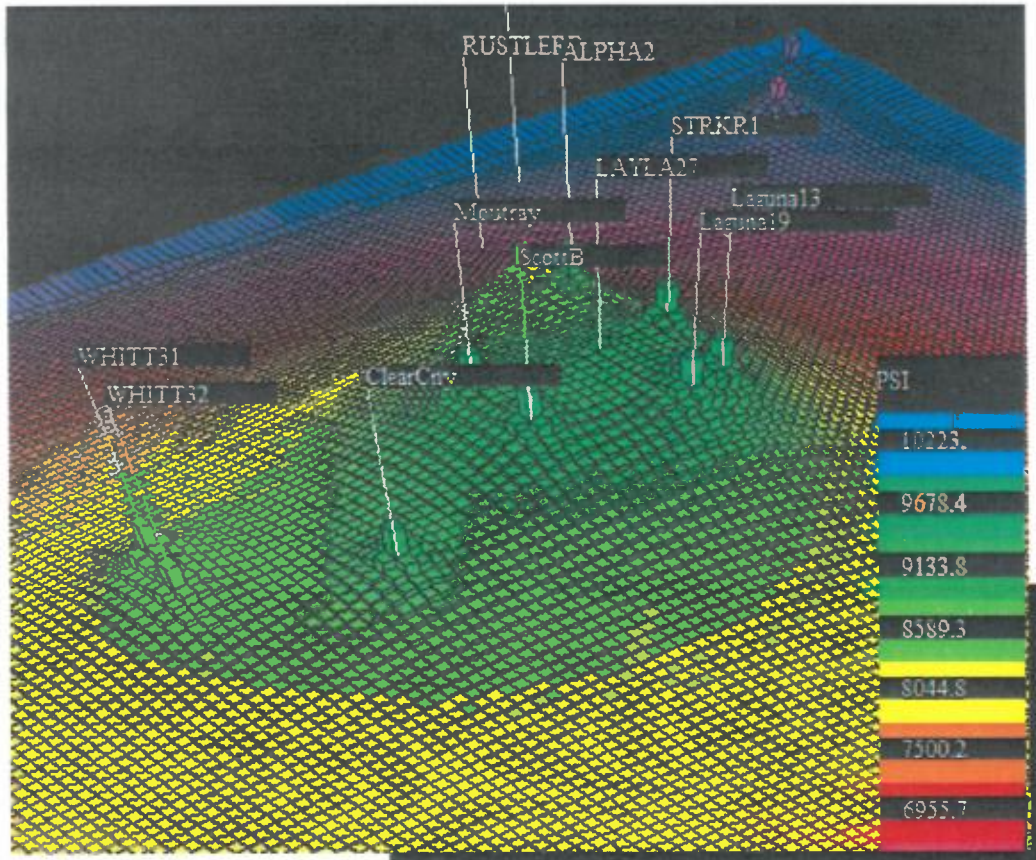


Water movement & Pressure

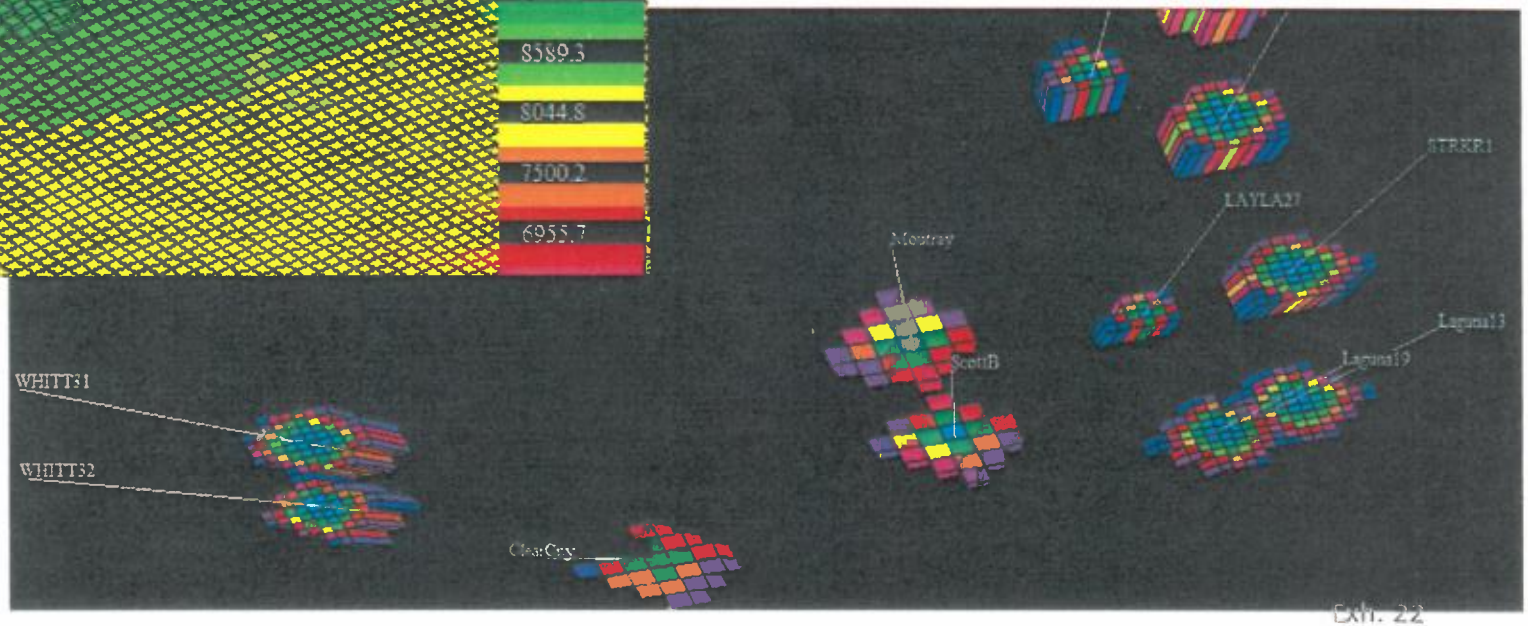
5/28/2019

Pressure and Saturation detail @2039 (20 years)

Exh. A22



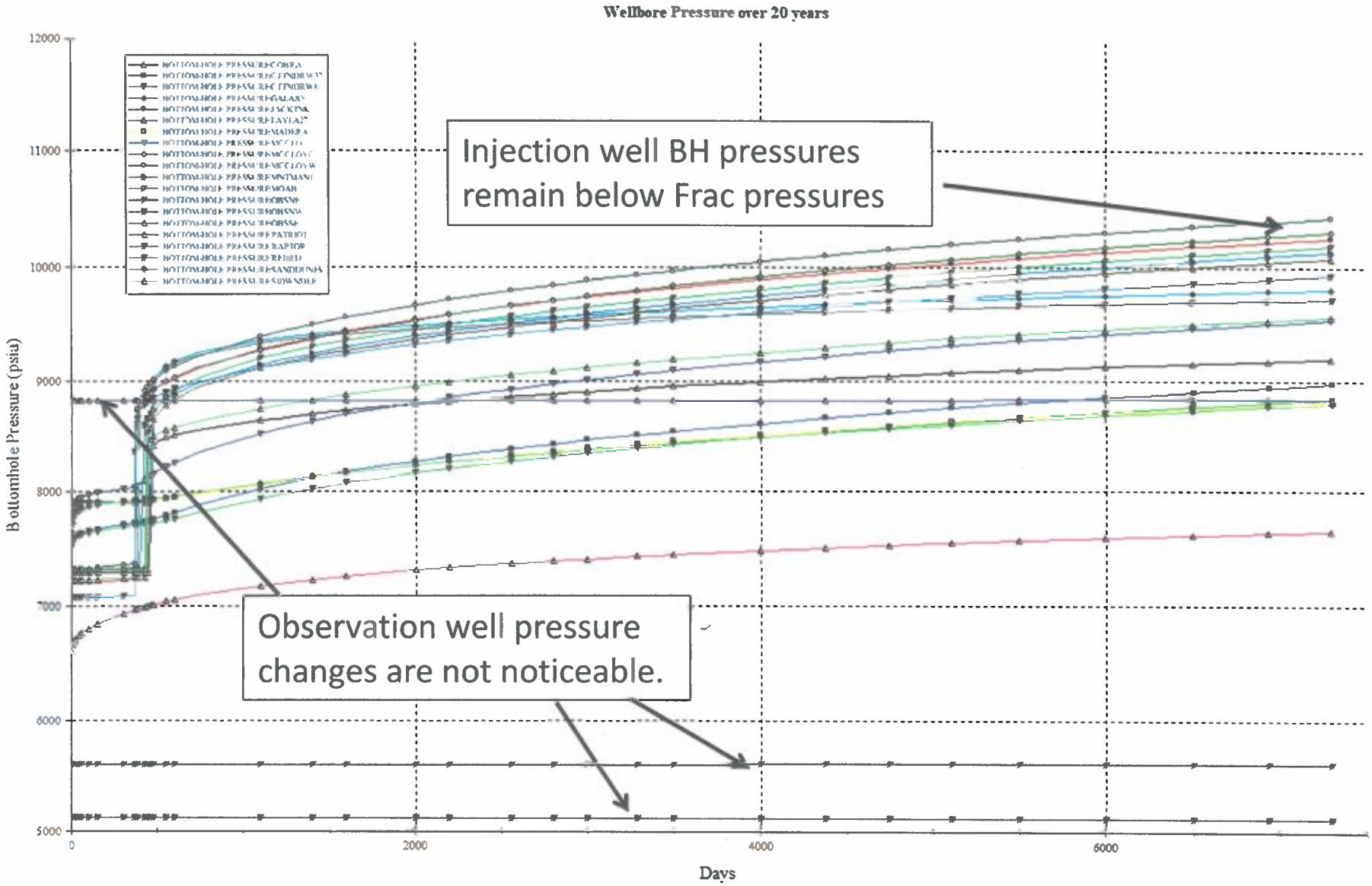
Water movement & Pressure Detail Laguna Salada 13 & 19



Mesquite SWD, Inc.

Exh. A23

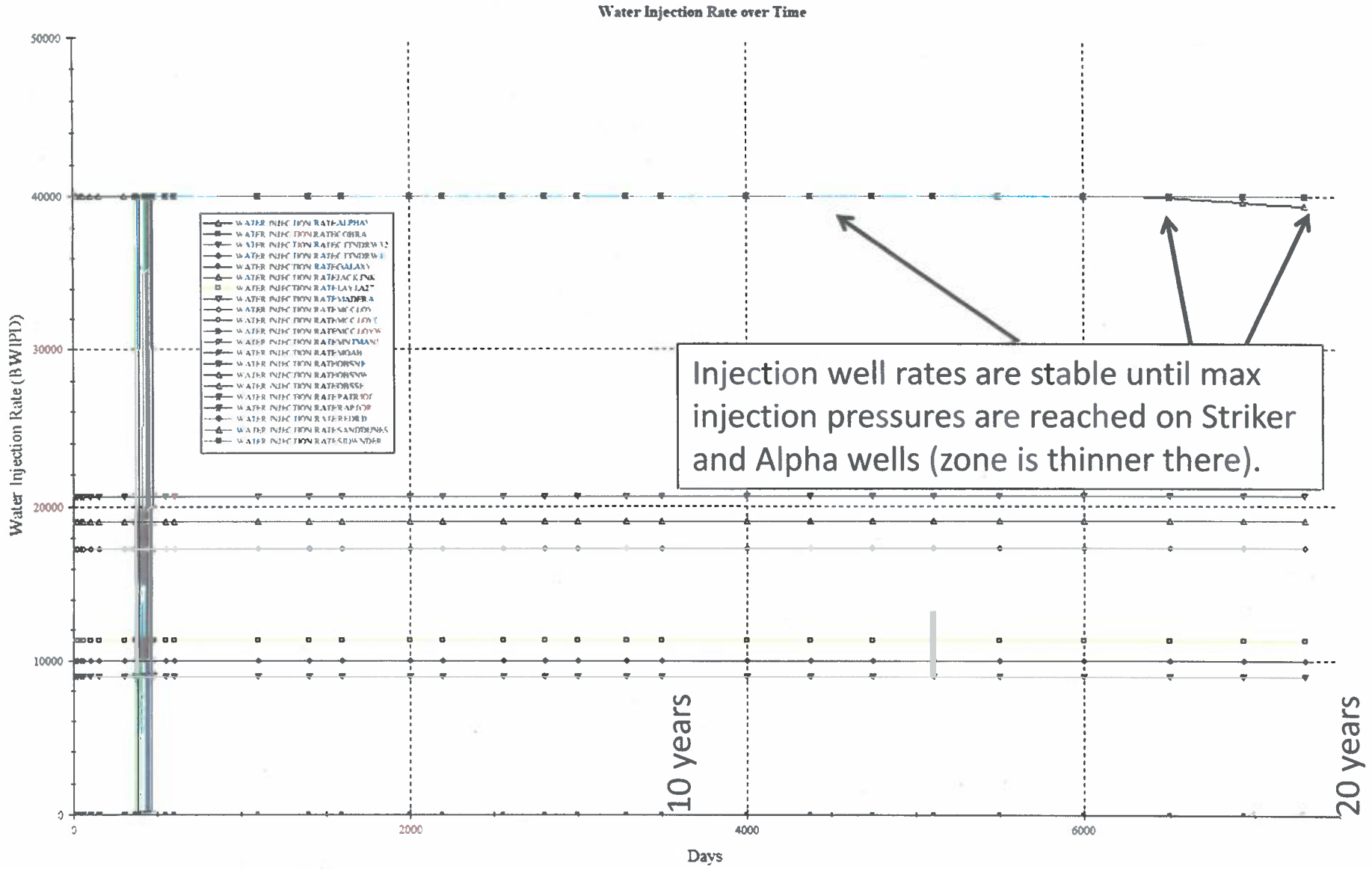
Simulation predictions for individual wells over time



Mesquite SWD, Inc.

Exh. A24

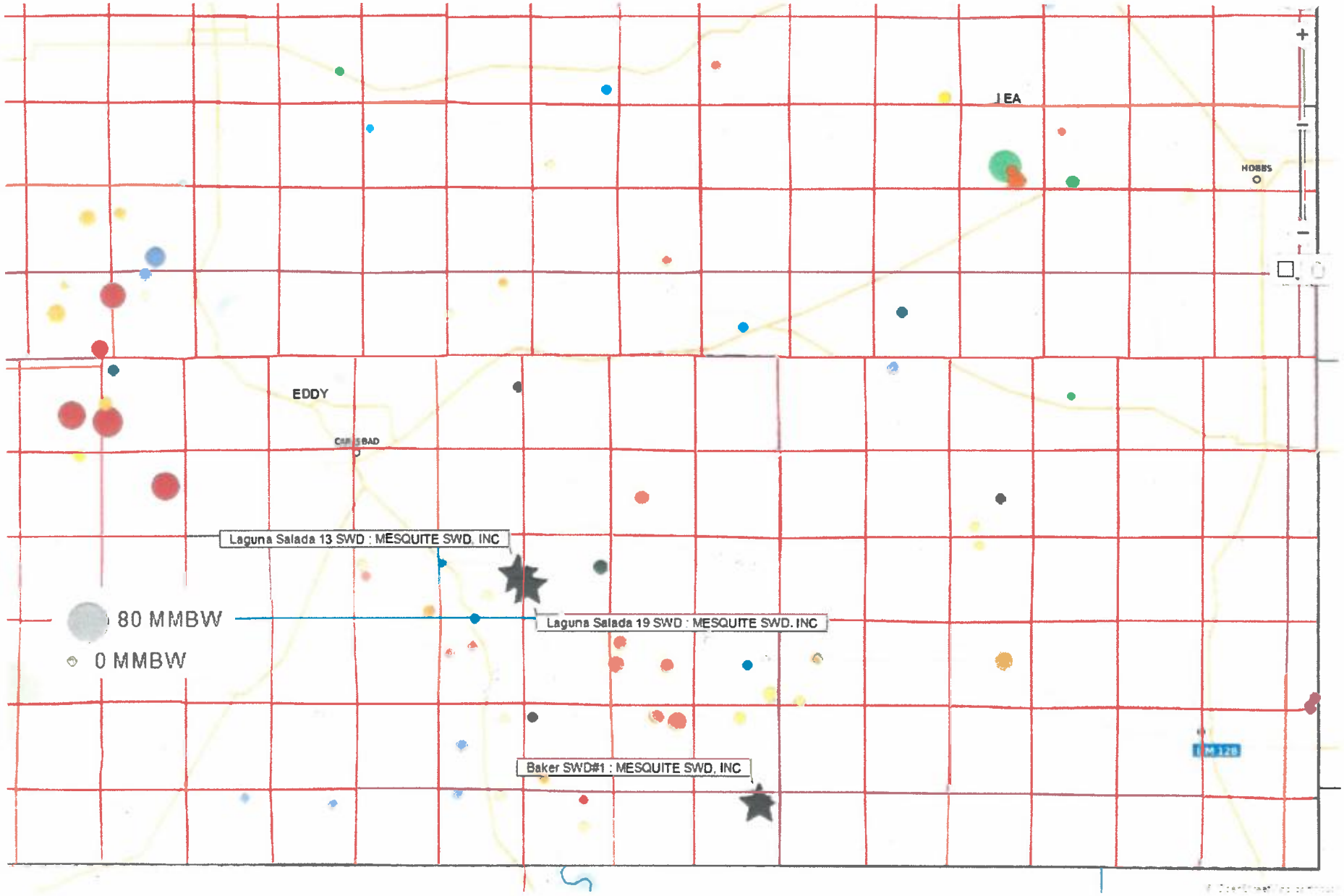
Simulation predictions for individual wells over time



Mesquite SWD, Inc.

Exh. A25

Existing well cumulative injection as of 2019.



Notice Affidavit

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

**APPLICATION OF MESQUITE SWD, INC.
TO APPROVE PRODUCED WATER DISPOSAL
WELL IN EDDY COUNTY, NEW MEXICO**

CASE NO. 20472

AFFIDAVIT

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

Deana M. Bennett, attorney in fact and authorized representative of Mesquite SWD Inc. ("Mesquite"), the Applicant herein, being first duly sworn, upon oath, states that the above-referenced Application was provided under a notice letter and that proof of receipt is attached hereto.

Deana M. Bennett

SUBSCRIBED AND SWORN to before me this 28th day of May, 2019 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 MAIL
04/12/2019

Firm Mailing Book ID: 165113

Line	USPS Article Number	Name, Street, City, State, Zip	Postage	Service Fee	RR Fee	Rest.Del.Fee	Reference Contents
1	9314 8699 0430 0058 0423 84	Devon Energy Production Co., LP 20 North Broadway Oklahoma City OK 73102	$1.60	$3.50	$1.60	$0.00	87366-002 Baker Notice
2	9314 8699 0430 0058 0423 91	XTO Holdings, LLC 810 Houston Street Fort Worth TX 76102	$1.60	$3.50	$1.60	$0.00	87366-002 Baker Notice
3	9314 8699 0430 0058 0424 07	Mewbourne Oil Company P.O. Box 5270 Hobbs NM 88241	$1.60	$3.50	$1.60	$0.00	87366-002 Baker Notice
4	9314 8699 0430 0058 0424 14	Chevron USA, Inc. 6301 Deauville Blvd Midland TX 79706	$1.60	$3.50	$1.60	$0.00	87366-002 Baker Notice
5	9314 8699 0430 0058 0424 21	RBP Land Company Trust Robert B. Porter Jr., Trustee P.O. Box 10392 Midland TX 79702	$1.60	$3.50	$1.60	$0.00	87366-002 Baker Notice
6	9314 8699 0430 0058 0424 38	Hayes Land, LP P.O. Box 51510 Midland TX 79710	$1.60	$3.50	$1.60	$0.00	87366-002 Baker Notice
7	9314 8699 0430 0058 0424 45	Hayes Land & Production, LP P.O. Box 51407 Midland TX 79710	$1.60	$3.50	$1.60	$0.00	87366-002 Baker Notice
8	9314 8699 0430 0058 0424 52	EOG Resources, Inc. P.O. Box 2267 Midland TX 79706	$1.60	$3.50	$1.60	$0.00	87366-002 Baker Notice
9	9314 8699 0430 0058 0424 69	ConocoPhillips Company 600 N. Dairy Ashford Rd. Office EC3-10-W285 Houston TX 77079	$1.60	$3.50	$1.60	$0.00	87366-002 Baker Notice
10	9314 8699 0430 0058 0424 76	Bureau of Land Management 620 E. Greene Street Carlsbad NM 88220	$1.60	$3.50	$1.60	$0.00	87366-002 Baker Notice
11	9314 8699 0430 0058 0424 83	Jessie T. & Susan Ann Baker P.O. Box 24 Silver City NM 88062	$1.60	$3.50	$1.60	$0.00	87366-002 Baker Notice
		Totals:	$17.60	$38.50	$17.60	$0.00	
					Grand Total:	$73.70	

List Number of Pieces Listed by Sender: 11

Total Number of Pieces Received at Post Office

Postmaster: Name of receiving employee

Dated:

194

Transaction Report Details - CertifiedPro.net
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9314869904300058042476	2019-04-12 9:28 AM	Bureau of Land Management		620 E. Greene Street	Carlsbad	NM	88220	Delivered	Return Receipt - Electronic, Certified Mail	04-15-2019
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9314869904300058042384	2019-04-12 9:28 AM	Devon Energy Production Co., LP		20 North Broadway	Oklahoma Cit	OK	73102	Delivered	Return Receipt - Electronic, Certified Mail	04-15-2019

Transaction Details

Recipient:
ConocoPhillips Company
600 N. Dairy Ashford Rd.
Office EC3-10-W285
Houston, TX 77079

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: 165113
Batch ID: 161357

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Return Receipt Article Number:	Not Applicable
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Mail Service:	Certified
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Postage:	$1.60
Fees:	$5.10
Status:	Lost
Custom Field 1:	Mesquite Baker
Custom Field 2:	87366-0002
Custom Field 3:	87366-0002

Transaction History

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USPS® Certified Mail	04-14-2019 02:24 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at NORTH HOUSTON,TX

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

APPLICATION OF MESQUITE SWD, INC.
TO APPROVE PRODUCED WATER DISPOSAL
WELL IN EDDY COUNTY, NEW MEXICO

CASE NO. 20313

APPLICATION OF MESQUITE SWD, INC.
TO APPROVE PRODUCED WATER DISPOSAL
WELL IN EDDY COUNTY, NEW MEXICO

CASE NO. 20314

AFFIDAVIT

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

Deana M. Bennett, attorney in fact and authorized representative of Mesquite SWD Inc. ("Mesquite"), the Applicant herein, being first duly sworn, upon oath, states that the above-referenced Application was provided under a notice letter and that proof of receipt is attached hereto.

Deana M. Bennett

SUBSCRIBED AND SWORN to before me this 28th day of May, 2019 by Deana M. Bennett.

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

Notary Public

My commission expires: _____

197

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

PS Form 3877

Type of Mailing: CERTIFIED
02/14/2019

Laguna Salada

Firm Mailing Book ID: 160926

Line	Article Number	Name, Street & P.O. Address	Postage	Fee	R.R.Fee	Reference	Rest.Del.Fee Contents
1	9314 8699 0430 0055 8274 41	Mosaic Potash Carlsbad NM 1361 Potash Mines Road Carlsbad NM 88220	$1.15	$3.50	$1.60	87366-001	$0.00 Notice
2	9314 8699 0430 0055 8274 58	Chevron USA, Inc. 6301 Deauville Blvd Midland TX 79706	$1.15	$3.50	$1.60	87366-001	$0.00 Notice
3	9314 8699 0430 0055 8274 65	Devon Energy Production Company LP 333 W. Sheridan Ave. Oklahoma City OK 73102	$1.15	$3.50	$1.60	87366-001	$0.00 Notice
4	9314 8699 0430 0055 8274 72	OXY USA, Inc. 5 Greenway Plaza Houston TX 77046	$1.15	$3.50	$1.60	87366-001	$0.00 Notice
5	9314 8699 0430 0055 8274 89	Rockcliff Operating New Mexico LLC 1301 McKinney, Suite 1300 Houston TX 77010	$1.15	$3.50	$1.60	87366-001	$0.00 Notice
6	9314 8699 0430 0055 8274 96	Penroc Oil Corporation 1515 W. Calle Sur St. Hobbs NM 88240	$1.15	$3.50	$1.60	87366-001	$0.00 Notice
7	9314 8699 0430 0055 8275 02	BTA Oil Producers, LLC 104 South Pecos Midland TX 79701	$1.15	$3.50	$1.60	87366-001	$0.00 Notice
8	9314 8699 0430 0055 8275 19	Cimarex Energy Co. of Colorado 202 S. Cheyenne Ave., Suite 1000 Tulsa OK 74102	$1.15	$3.50	$1.60	87366-001	$0.00 Notice
9	9314 8699 0430 0055 8275 26	MPC Permian Co. 5400 LBJ Freeway, Suite 1500 Dallas TX 75240	$1.15	$3.50	$1.60	87366-001	$0.00 Notice
10	9314 8699 0430 0055 8275 33	Mewbourne Oil Company 4801 Business Park Blvd Hobbs NM 88240	$1.15	$3.50	$1.60	87366-001	$0.00 Notice
11	9314 8699 0430 0055 8275 40	Echo Production, Inc. 616 5th Street Graham TX 76450	$1.15	$3.50	$1.60	87366-001	$0.00 Notice
12	9314 8699 0430 0055 8275 57	XTO Energy, Inc. 6401 Holiday Hill Road, Bldg 5 Midland TX 79707	$1.75	$3.50	$1.60	87366-001	$0.00 Notice
13	9314 8699 0430 0055 8275 64	Kaiser-Francis Oil Company P.O. Box 21468 Tulsa OK 74121	$1.75	$3.50	$1.60	87366-001	$0.00 Notice
14	9314 8699 0430 0055 8275 71	Solaris Water Midstream, LLC 907 Tradewinds Blvd., Suite B Midland TX 79706	$1.45	$3.50	$1.60	87366-001	$0.00 Notice
15	9314 8699 0430 0055 8275 88	Penroc Oil Corp P.O. Box 2769 Hobbs NM 88241	$1.45	$3.50	$1.60	87366-001	$0.00 Notice

ALBUQUERQUE NM 87101 FEB 14 2019

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

PS Form 3877

Type of Mailing: CERTIFIED
02/14/2019

Firm Mailing Book ID: 160926

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						Grand Total:	$95.55

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9314869904300055827519	2019-02-14 10:39 AM	Cimarex Energy Co. of Colorado		202 S. Cheyenne Ave., Suite 1000	Tulsa	OK	74102	Delivered	Return Receipt - Electronic	02-20-2019
9314869904300055827502	2019-02-14 10:39 AM	BTA Oil Producers, LLC		104 South Pecos	Midland	TX	79701	To be Returned	Return Receipt - Electronic	
9314869904300055827496	2019-02-14 10:39 AM	Penroc Oil Corporation		1515 W. Calle Sur St	Hobbs	NM	88240	Delivered	Return Receipt - Electronic	02-19-2019
9314869904300055827489	2019-02-14 10:39 AM	Rockcliff Operating New Mexico LLC		1301 McKinney, Suite 1300	Houston	TX	77010	Delivered	Return Receipt - Electronic	02-19-2019
9314869904300055827472	2019-02-14 10:39 AM	OXY USA, Inc.		5 Greenway Plaza	Houston	TX	77046	Lost	Return Receipt - Electronic	
9314869904300055827465	2019-02-14 10:39 AM	Devon Energy Production Company LP		333 W. Sheridan Ave.	Oklahoma City	OK	73102	Delivered	Return Receipt - Electronic	02-19-2019
9314869904300055827458	2019-02-14 10:39 AM	Chevron USA, Inc.		6301 Deauville Blvd	Midland	TX	79706	Delivered	Return Receipt - Electronic	02-20-2019
9314869904300055827441	2019-02-14 10:39 AM	Mosaic Potash Carlsbad NM		1361 Potash Mines Road	Carlsbad	NM	88220	Delivered	Return Receipt - Electronic	02-19-2019

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

PS Form 3877

Type of Mailing: CERTIFIED
02/14/2019

Laguna Salada Add'l name

Firm Mailing Book ID: 160951

Line	Article Number	Name, Street & P.O. Address	Postage	Fee	R.R.Fee	Reference	Rest.Del.Fee Contents
1	9314 8699 0430 0055 8363 37	Nortex Corporation 3009 Post Oak Blvd., Suite 1212 Houston TX 77056	$1.75	$3.50	$1.60	87366-0001 Laguna Salada	$0.00
		Totals:	$1.75	$3.50	$1.60		$0.00
						Grand Total:	$6.85

List Number of Pieces Listed by Sender	Total Number of Pieces Received at Post Office	Postmaster: Name of receiving employee	Dated:
1			

ALBUQUERQUE NM 87101
FEB 14 2019
USPS

102

Transaction Details

Recipient:
Nortex Corporation
3009 Post Oak Blvd., Suite 1212
Houston, TX 77056

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: 160951
Batch ID:

Certified Mail Article Number: 93148699043000558363337
Return Receipt Article Number:

Service Options: Return Receipt - Electronic
Mail Service: Certified
Reference #: 87366-0001 Laguna Salada
Postage: $1.75
Fees: $5.10
Status: Delivered

Transaction History

Event Description	Event Date	Details
Mailbook Generated	02-14-2019 12:13 PM	[WALZ] - Firm Mailing Book 160951 generated by Karlenes
USPS® Certified Mail	02-14-2019 05:09 PM	[USPS] - PRESHIPMENT INFO SENT USPS AWAITS ITEM at TEMECULA,CA
USPS® Certified Mail	02-14-2019 10:34 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at ALBUQUERQUE,NM
USPS® Certified Mail	02-15-2019 08:02 AM	[USPS] - DEPART USPS FACILITY at ALBUQUERQUE,NM
USPS® Certified Mail	02-16-2019 11:52 AM	[USPS] - PROCESSED THROUGH USPS FACILITY at NORTH HOUSTON,TX
USPS® Certified Mail	02-17-2019 06:02 AM	[USPS] - PROCESSED THROUGH USPS FACILITY at NORTH HOUSTON,TX
USPS® Certified Mail	02-18-2019 01:42 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at NORTH HOUSTON,TX
USPS® Certified Mail	02-19-2019 11:20 AM	[USPS] - CERTIFIED MAIL DELIVERED LEFT WITH INDIVIDUAL at HOUSTON,TX

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

PS Form 3877

Type of Mailing: CERTIFIED
02/14/2019

Firm Mailing Book ID: 160984

Line	Article Number	Name, Street & P.O. Address	Postage	Fee	R.R.Fee	Reference	Rest.Del.Fee Contents
1	9314 8699 0430 0055 8507 15	Echo Production, Inc. P.O. Box 1210 Graham TX 76450	$1.75	$3.50	$1.60	87366-0001 Laguna 13 & 19	$0.00
2	9314 8699 0430 0055 8507 22	Regeneration Energy Corp. P.O. Box 210 Artesia NM 88210	$1.75	$3.50	$1.60	87366-0001 Laguna 13 & 19	$0.00
		Totals:	**$3.50**	**$7.00**	**$3.20**		**$0.00**
						Grand Total:	**$13.70**

List Number of Pieces Listed by Sender	Total Number of Pieces Received at Post Office	Postmaster: Name of receiving employee	Dated:
2			

ALBUQUERQUE NM 87101 FEB 14 2019 USPS

203

Transaction Details

Recipient:
Regeneration Energy Corp.
P.O. Box 210
Artesia, NM 88210

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: 160984
Batch ID:

Certified Mail Article Number:	93148699043000558507 22
Return Receipt Article Number:	
Service Options:	Return Receipt - Electronic
Mail Service:	Certified
Reference #:	87366-0001 Laguna 13 & 19
Postage:	$1.75
Fees:	$5.10
Status:	Delivered

Transaction History

Event Description	Event Date	Details
Mailbook Generated	02-14-2019 03:16 PM	[WALZ] - Firm Mailing Book 160984 generated by Karlenes
USPS® Certified Mail	02-14-2019 07:09 PM	[USPS] - PRESHIPMENT INFO SENT USPS AWAITS ITEM at TEMECULA,CA
USPS® Certified Mail	02-14-2019 10:33 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at ALBUQUERQUE,NM
USPS® Certified Mail	02-15-2019 08:02 AM	[USPS] - DEPART USPS FACILITY at ALBUQUERQUE,NM
USPS® Certified Mail	02-16-2019 06:27 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at LUBBOCK,TX
USPS® Certified Mail	02-16-2019 07:37 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at LUBBOCK,TX
USPS® Certified Mail	02-16-2019 11:41 PM	[USPS] - DEPART USPS FACILITY at LUBBOCK,TX
USPS® Certified Mail	02-19-2019 08:48 AM	[USPS] - AVAILABLE FOR PICKUP at ARTESIA,NM
USPS® Certified Mail	02-19-2019 10:48 AM	[USPS] - CERTIFIED MAIL DELIVERED at ARTESIA,NM

Transaction Details

Recipient:
Echo Production, Inc.
P.O. Box 1210
Graham, TX 76450

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: 160984
Batch ID:

Certified Mail Article Number:	93148699043000558507 15
Return Receipt Article Number:	
Service Options:	Return Receipt - Electronic
Mail Service:	Certified
Reference #:	87366-0001 Laguna 13 & 19
Postage:	$1.75
Fees:	$5.10
Status:	Delivered

Transaction History

Event Description	Event Date	Details
Mailbook Generated	02-14-2019 03:16 PM	[WALZ] - Firm Mailing Book 160984 generated by Karlenes
USPS® Certified Mail	02-14-2019 07:09 PM	[USPS] - PRESHIPMENT INFO SENT USPS AWAITS ITEM at TEMECULA,CA
USPS® Certified Mail	02-14-2019 10:33 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at ALBUQUERQUE,NM
USPS® Certified Mail	02-15-2019 08:02 AM	[USPS] - DEPART USPS FACILITY at ALBUQUERQUE,NM
USPS® Certified Mail	02-16-2019 12:30 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at FORT WORTH,TX
USPS® Certified Mail	02-19-2019 08:12 AM	[USPS] - ARRIVAL AT UNIT at GRAHAM,TX
USPS® Certified Mail	02-19-2019 08:29 AM	[USPS] - SORTINGPROCESSING COMPLETE at GRAHAM,TX
USPS® Certified Mail	02-19-2019 09:28 AM	[USPS] - AVAILABLE FOR PICKUP at GRAHAM,TX
USPS® Certified Mail	02-20-2019 04:21 PM	[USPS] - CERTIFIED MAIL DELIVERED at GRAHAM,TX

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

PS Form 3877

Type of Mailing: CERTIFIED
02/14/2019

Mesquite Laguna Salada 19 add'l names

Firm Mailing Book ID: 160983

Line	Article Number	Name, Street & P.O. Address	Postage	Fee	R.R.Fee	Reference	Rest.Del.Fee Contents
1	9314 8699 0430 0055 8503 19	Cottonwood Partnership LLP PO Box 21470 Tulsa OK 74121	$1.45	$3.50	$1.60	87366-0001	$0.00
2	9314 8699 0430 0055 8503 33	Willischild Oil & Gas Corp 621 E Street Snyder OK 73566	$1.45	$3.50	$1.60	87366-0001	$0.00
		Totals:	$2.90	$7.00	$3.20		$0.00
						Grand Total:	$13.10

List Number of Pieces Listed by Sender	Total Number of Pieces Received at Post Office	Postmaster: Name of receiving employee	Dated:
2			

ALBUQUERQUE NM 87101 FEB 14 2019 USPS

206

Transaction Details

Recipient:
Cottonwood Partnership LLP
PO Box 21470
Tulsa, OK 74121

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: 160983
Batch ID:

Certified Mail Article Number:	93148699043000558503 19
Return Receipt Article Number:	
Service Options:	Return Receipt - Electronic
Mail Service:	Certified
Reference #:	
Postage:	$1.45
Fees:	$5.10
Status:	Delivered

Transaction History

Event Description	Event Date	Details
Mailbook Generated	02-14-2019 02:53 PM	[WALZ] - Firm Mailing Book 160983 generated by Karlenes
USPS® Certified Mail	02-14-2019 07:09 PM	[USPS] - PRESHIPMENT INFO SENT USPS AWAITS ITEM at TEMECULA,CA
USPS® Certified Mail	02-14-2019 10:33 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at ALBUQUERQUE,NM
USPS® Certified Mail	02-15-2019 08:02 AM	[USPS] - DEPART USPS FACILITY at ALBUQUERQUE,NM
USPS® Certified Mail	02-16-2019 03:24 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at TULSA,OK
USPS® Certified Mail	02-16-2019 08:59 PM	[USPS] - DEPART USPS FACILITY at TULSA,OK
USPS® Certified Mail	02-19-2019 04:21 AM	[USPS] - PROCESSED THROUGH USPS FACILITY at TULSA,OK
USPS® Certified Mail	02-20-2019 09:04 AM	[USPS] - CERTIFIED MAIL DELIVERED at TULSA,OK

Transaction Details

Recipient:
Willischild Oil & Gas Corp
621 E Street
Snyder, OK 73566

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: 160983
Batch ID:

Certified Mail Article Number: 93148699043000558503333
Return Receipt Article Number:

Service Options: Return Receipt - Electronic
Mail Service: Certified
Reference #:
Postage: $1.45
Fees: $5.10
Status: Delivered

Transaction History

Event Description	Event Date	Details
Mailbook Generated	02-14-2019 02:53 PM	[WALZ] - Firm Mailing Book 160983 generated by Karlenes
USPS® Certified Mail	02-14-2019 07:09 PM	[USPS] - PRESHIPMENT INFO SENT USPS AWAITS ITEM at TEMECULA,CA
USPS® Certified Mail	02-14-2019 10:33 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at ALBUQUERQUE,NM
USPS® Certified Mail	02-15-2019 08:02 AM	[USPS] - DEPART USPS FACILITY at ALBUQUERQUE,NM
USPS® Certified Mail	02-16-2019 02:45 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at OKLAHOMA CITY,OK
USPS® Certified Mail	02-19-2019 07:55 AM	[USPS] - ARRIVAL AT UNIT at SNYDER,OK
USPS® Certified Mail	02-19-2019 08:04 AM	[USPS] - SORTINGPROCESSING COMPLETE at SNYDER,OK
USPS® Certified Mail	02-19-2019 08:14 AM	[USPS] - OUT FOR DELIVERY at SNYDER,OK
USPS® Certified Mail	02-19-2019 08:36 AM	[USPS] - CERTIFIED MAIL DELIVERED at SNYDER,OK

Mesquite Laguna add'l names 2/15/19

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

PS Form 3877

Type of Mailing: CERTIFIED
02/15/2019

Firm Mailing Book ID: 161020

Line	Article Number	Name, Street & P.O. Address	Postage	Fee	R.R.Fee	Reference	Rest.Del.Fee Contents
1	9314 8699 0430 0055 8761 11	Westall Oil & Gas LLC P.O. BOX 4 Loco Hills NM 88255	$1.45	$3.50	$1.60	87366-0001 Laguna 13	$0.00
2	9314 8699 0430 0055 8762 10	Tap Rock Resources LLC 602 Park Point Drive Ste 200 Golden CO 80401	$1.45	$3.50	$1.60	87366-0001 Laguna 13	$0.00
		Totals:	$2.90	$7.00	$3.20		$0.00
						Grand Total:	$13.10

List Number of Pieces Listed by Sender	Total Number of Pieces Received at Post Office	Postmaster: Name of receiving employee	Dated:
2			

NEW MEXICO 87101 FEB 15 2019 USPS

209

Transaction Details

Recipient:
Tap Rock Resources LLC
602 Park Point Drive Ste 200
Golden, CO 80401

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: 161020
Batch ID:

Certified Mail Article Number:	93148699043000558762 10
Return Receipt Article Number:	
Service Options:	Return Receipt - Electronic
Mail Service:	Certified
Reference #:	87366-0001 Laguna 13
Postage:	$1.45
Fees:	$5.10
Status:	Delivered

Transaction History

Event Description	Event Date	Details
Mailbook Generated	02-15-2019 09:23 AM	[WALZ] - Firm Mailing Book 161020 generated by Karlenes
USPS® Certified Mail	02-15-2019 01:10 PM	[USPS] - PRESHIPMENT INFO SENT USPS AWAITS ITEM at TEMECULA,CA
USPS® Certified Mail	02-17-2019 03:26 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at AUSTIN,TX
USPS® Certified Mail	02-18-2019 09:06 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at AUSTIN,TX
USPS® Certified Mail	02-19-2019 08:03 AM	[USPS] - DEPART USPS FACILITY at AUSTIN,TX
USPS® Certified Mail	02-20-2019 06:57 AM	[USPS] - PROCESSED THROUGH USPS FACILITY at DENVER,CO
USPS® Certified Mail	02-20-2019 12:16 PM	[USPS] - DEPART USPS FACILITY at DENVER,CO
USPS® Certified Mail	02-21-2019 04:15 PM	[USPS] - CERTIFIED MAIL DELIVERED LEFT WITH INDIVIDUAL at GOLDEN,CO

Transaction Details

Recipient:
Westall Oil & Gas LLC
P.O. BOX 4
Loco Hills, NM 88255

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: 161020
Batch ID:

Certified Mail Article Number: 93148699043000558761 11
Return Receipt Article Number:

Service Options: Return Receipt - Electronic
Mail Service: Certified
Reference #: 87366-0001 Laguna 13
Postage: $1.45
Fees: $5.10
Status: Delivered

Transaction History

Event Description	Event Date	Details
Mailbook Generated	02-15-2019 09:23 AM	[WALZ] - Firm Mailing Book 161020 generated by Karlenes
USPS® Certified Mail	02-15-2019 01:10 PM	[USPS] - PRESHIPMENT INFO SENT USPS AWAITS ITEM at TEMECULA,CA
USPS® Certified Mail	02-15-2019 10:36 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at ALBUQUERQUE,NM
USPS® Certified Mail	02-16-2019 02:50 AM	[USPS] - DEPART USPS FACILITY at ALBUQUERQUE,NM
USPS® Certified Mail	02-17-2019 05:49 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at LUBBOCK,TX
USPS® Certified Mail	02-17-2019 08:58 PM	[USPS] - PROCESSED THROUGH USPS FACILITY at LUBBOCK,TX
USPS® Certified Mail	02-18-2019 04:35 AM	[USPS] - DEPART USPS FACILITY at LUBBOCK,TX
USPS® Certified Mail	02-19-2019 10:08 AM	[USPS] - ARRIVAL AT UNIT at LOCO HILLS,NM
USPS® Certified Mail	02-19-2019 10:42 AM	[USPS] - AVAILABLE FOR PICKUP at LOCO HILLS,NM
USPS® Certified Mail	02-21-2019 10:55 AM	[USPS] - CERTIFIED MAIL DELIVERED INDIVIDUAL PICKED UP AT PO at LOCO HILLS,NM

CARLSBAD
CURRENT-ARGUS

AFFIDAVIT OF PUBLICATION

Ad No.
0001277787

MODRALL SPERLING ROEHL HARRIS & SISK
500 4TH ST NW STE 1000

ALBUQUERQUE NM 87102

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

02/20/19

Legal Clerk

Subscribed and sworn before me this
20th of February 2019.

State of WI, County of Brown
NOTARY PUBLIC

4-19-21
My Commission Expires

VICKY FELTY
NOTARY PUBLIC
STATE OF WISCONSIN

Ad#:0001277787
P O : Case # 20314, etc.
# of Affidavits :0.00

212

CASE NO. 20314: Notice to all affected parties, as well as the heirs and devisees of MOSAIC POTASH CARLSBAD NM; CHEVRON USA, INC.; DEVON ENERGY PRODUCTION COMPANY LP; OXY USA, INC.; ROCKCLIFF OPERATING NEW MEXICO LLLC; PENROC OIL CORPORATION; BTA OIL PRODUCERS, LLC; CIMAREX ENERGY CO. OF COLORADO; MPC PERMIAN CO.; MEWBOURNE OIL COMPANY; ECHO PRODUCTION, INC.; XTO ENERGY, INC.; KAISER-FRANCIS OIL COMPANY; PENROC OIL CORP; NORTEX CORPORATION; COTTONWOOD PARTNERSHIP LLP; WILLISCHILD OIL & GAS CORP; ECHO PRODUCTION, INC.; REGENERATION ENERGY CORP of Mesquite SWD, Inc.'s (c/o Riley Neatherlin, PO Box 1479, Carlsbad, NM 88221-1479) filing of 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 Eddy 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 March 7 2019, to consider this application. In this application, Mesquite seeks an order approving disposal into the Siluro-Devonian formation through the Laguna Salada 19 SWD #1 well at a surface location 1752 feet from the South line and 1727 feet from the East line (Unit J) of Section 19, Township 23 South, Range 29 East, NMPM, Eddy County, New Mexico for the purpose of operating a produced water disposal well. Mesquite seeks authority to inject produced water into the Siluro-Devonian formation at a depth of approximately 14,500' to 15,700'. Mesquite 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 40,000 bbls per day. Said area is located approximately 4.5 miles East of Loving, New Mexico

CASE NO. 20313: Notice to all affected parties, as well as the heirs and devisees of MOSAIC POTASH CARLSBAD NM; CHEVRON USA, INC.; DEVON ENERGY PRODUCTION COMPANY LP; OXY USA, INC.; ROCKCLIFF OPERATING NEW MEXICO LLLC; PENROC OIL CORPORATION; CIMAREX ENERGY CO. OF COLORADO; MPC PERMIAN CO.; MEWBOURNE OIL COMPANY; ECHO PRODUCTION, INC.; XTO ENERGY, INC.; KAISER-FRANCIS OIL COMPANY; SOLARIS WATER MIDSTREAM, LLC; NORTEX CORPORATION; TAP ROCK RESOURCES LLC; ECHO PRODUCTION, INC.; REGENERATION ENERGY CORP of Mesquite SWD, Inc.'s (c/o Riley Neatherlin, PO Box 1479, Carlsbad, NM 88221-1479) filing of 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 Eddy 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 March 7 2019, to consider this application. In this application, Mesquite seeks an order approving disposal into the Siluro-Devonian formation through the Laguna Salada 13 SWD #1 well at a surface location 685 feet from the South line and 50 feet from the East line (Unit P) of Section 13, Township 23 South,

Range 28 East, NMPM, Eddy County, New Mexico for the purpose of operating a produced water disposal well. Mesquite seeks authority to inject produced water into the Siluro-Devonian formation at a depth of approximately 14,500' to 15,700'. Mesquite 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 40,000 bbls per day. Said area is located approximately 3.5 miles Northeast of Loving, New Mexico.

CASE NO. 20312: Notice to all affected parties, as well as the heirs and devisees of CHEVRON USA, INC.; COG OPERATING LLC; MR. DAVID FRITSCHY of Mesquite SWD, Inc.'s (c/o Riley Neatherlin, PO Box 1479, Carlsbad, NM 88221-1479) filing of 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 Eddy 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 March 7 2019, to consider this application. In this application, Mesquite seeks an order approving disposal into the Siluro-Devonian formation through the Fontus SWD #1 well at a surface location 613 feet from the North line and 2490 feet from the West line (Unit C) of Section 32, Township 25 South, Range 28 East, NMPM, Eddy County, New Mexico for the purpose of operating a produced water disposal well. Mesquite seeks authority to inject produced water into the Siluro-Devonian formation at a depth of approximately 14,500' to 15,700'. Mesquite 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 40,000 bbls per day. Said area is located approximately 10.5 miles South of Malaga, New Mexico.

February 20, 2019