SWD

Initial

Application

Received: 09/25/19

RECEIVED: 9/25/19	REVIEWER:	TYPE: SWD	APP NO: pDM1926961333

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: Permian Oilfield Partners, LLC. **OGRID Number:** 328259
Well Name: Tornado Federal SWD #1 **API:** 30-025-Pending
Pool: SWD; Devonian-Silurian **Pool Code:** 97869

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

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

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

FOR OCD ONLY
☐ 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.

9-25-2019
Date

Gary E. Fisher
Print or Type Name

817-606-7630
Phone Number

Gary E Fisher
Signature

gfisher@popmidstream.com
e-mail Address

PERMIAN OILFIELD PARTNERS

Mr. Phillip Goetze
New Mexico Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

Re: C-108 Application for Authorization to Inject
Permian Oilfield Partners, LLC
Tornado Federal SWD #1
1332' FSL & 270' FWL
Sec 7, T25S, R36E
Lea County, NM

Mr. Goetze,
Attached is a C-108 application for administrative approval of Permian Oilfield Partners LLC's proposed Tornado Federal SWD #1 located in Sec 7, Twp 25S, Rge 36E, Lea County, New Mexico. This well will be completed open hole in the Devonian-Silurian formation and will be operated as a commercial salt water disposal well.

Similar application exhibits were sent to all Affected Persons. The distribution list and proof of mailing, as well as affidavit of publication are enclosed. A copy of this application has also been sent to NM OCD District 1 in Hobbs.

If you have any questions, please contact us at (817)606-7630.

Sincerely,

Sean Puryear
Permian Oilfield Partners, LLC
spuryear@popmidstream.com

Date: 9-25-2019

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: **Disposal**
Application qualifies for administrative approval? **Yes**

II. OPERATOR: **Permian Oilfield Partners, LLC.**

ADDRESS: **P.O. Box 3329, Hobbs, NM 88241**

CONTACT PARTY: **Sean Puryear** PHONE: **(817) 600-8772**

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? **No**

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-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: **Sean Puryear** TITLE: **Manager**

SIGNATURE:  DATE: 9-24-2019

E-MAIL ADDRESS: **spuryear@popmidstream.com**

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted.

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

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.

Additional Data

1. **Is this a new well drilled for injection?**
   Yes

2. **Name of the Injection Formation:**
   Devonian: Open Hole Completion

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

4. **Has the well ever been perforated in any other zone(s)?**
   No: New Drill for Injection of Produced Water

5. **Give the name and depths of any oil or gas zones underlying or overlying the proposed Injection zone in this area:**

   Overlying Potentially Productive Zones:
   Delaware, Bone Spring, Wolfcamp, Strawn, Atoka & Morrow Tops all above 14,183'

   Underlying Potentially Productive Zones:
   None

WELL CONSTRUCTION DATA

Permian Oilfield Partners, LLC.
Tornado Federal SWD #1
1332' FSL, 270' FWL
Sec. 7, T25S, R36E, Lea Co. NM
Lat 32.1413417° N, Lon 103.3118417° W
GL 3159', RKB 3189'

Surface - (Conventional)

Hole Size: 26" **Casing:** 20" - 94# H-40 STC Casing
Depth Top: Surface
Depth Btm: 825'
Cement: 518 sks - Class C + Additives
Cement Top: Surface - (Circulate)

Intermediate #1 - (Conventional)

Hole Size: 18.5" **Casing:** 16" - 75# J-55 & 84# J-55 BTC Casing
Depth Top: Surface
Depth Btm: 3600'
Cement: 828 sks - Lite Class C (50:50:10) + Additives
Cement Top: Surface - (Circulate)

Intermediate #2 - (Conventional)

Hole Size: 14.75" **Casing:** 13.375" - 54.5# J-55 & 61# J-55 FJ Casing
Depth Top: Surface
Depth Btm: 5080' **ECP/DV Tool:** 3700'
Cement: 839 sks - Lite Class C (60:40:0) + Additives
Cement Top: Surface - (Circulate)

Intermediate #3 - (Conventional)

Hole Size: 12.25" **Casing:** 9.625" - 40# L-80 & 40# HCL-80 BTC Casing
Depth Top: Surface
Depth Btm: 11700' **ECP/DV Tool:** 5180'
Cement: 1968 sks - Lite Class C (60:40:0) + Additives
Cement Top: Surface - (Circulate)

Intermediate #4 - (Liner)

Hole Size: 8.5" **Casing:** 7.625" - 39# P-110 FJ Casing
Depth Top: 11500'
Depth Btm: 16142'
Cement: 238 sks - Lite Class C (60:40:0) + Additives
Cement Top: 11500' - Volumetric

Intermediate #5 - (Open Hole)

Hole Size: 6.5" **Depth:** 18084'
Inj. Interval: 16142' - 18084' (Open-Hole Completion)

WELLBORE SCHEMATIC

Permian Oilfield Partners, LLC.
Tornado Federal SWD #1
1332' FSL, 270' FWL
Sec. 7, T25S, R36E, Lea Co. NM
Lat 32.1413417° N, Lon 103.3118417° W
GL 3159', RKB 3189'

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Depth Top: Surface
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Intermediate #1 - (Conventional)
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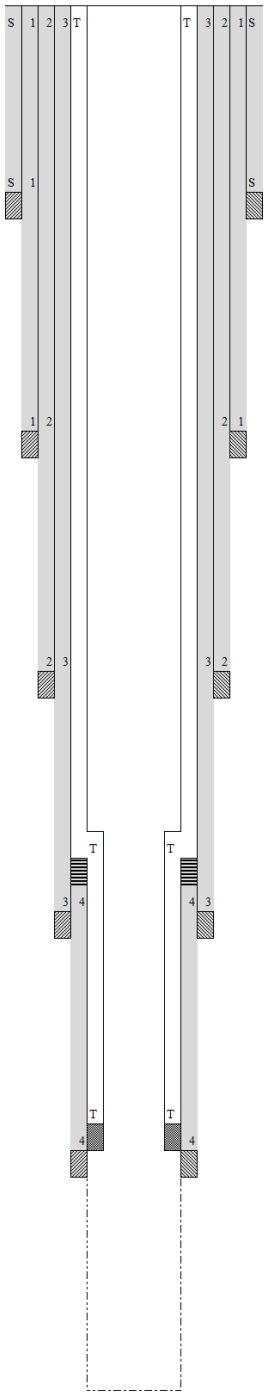
Depth Top: Surface
Depth Btm: 3600'
Cement: 828 sks - Lite Class C (50:50:10) + Additives
Cement Top: Surface - (Circulate)

Intermediate #2 - (Conventional)
Hole Size: 14.75"
Casing: 13.375" - 54.5# J-55 & 61# J-55 FJ Casing
Depth Top: Surface
Depth Btm: 5080'
Cement: 839 sks - Lite Class C (60:40:0) + Additives
Cement Top: Surface - (Circulate)
ECP/DV Tool: 3700'

Intermediate #3 - (Conventional)
Hole Size: 12.25"
Casing: 9.625" - 40# L-80 & 40# HCL-80 BTC Casing
Depth Top: Surface
Depth Btm: 11700'
Cement: 1968 sks - Lite Class C (60:40:0) + Additives
Cement Top: Surface - (Circulate)
ECP/DV Tool: 5180'

Intermediate #4 - (Liner)
Hole Size: 8.5"
Casing: 7.625" - 39# P-110 FJ Casing
Depth Top: 11500'
Depth Btm: 16142'
Cement: 238 sks - Lite Class C (60:40:0) + Additives
Cement Top: 11500' - Volumetric

Intermediate #5 - (Open Hole)
Hole Size: 6.5"
Depth: 18084'
Inj. Interval: 16142' - 18084' (Open-Hole Completion)



Tubing - (Tapered)
Tubing Depth: 16097'
Tubing: 7" - 26# HCP-110 FJ Casing & 5.5" 17# HCL-80 FJ Casing (Fiberglass Lined)
X/O Depth: 11500'
X/O: 7" 26# HCP-110 FJ Casing - X - 5.5" 17# HCL-80 FJ Casing (Fiberglass Lined)
Packer Depth: 16107'
Packer: 5.5" - Perma-Pak or Equivalent (Inconel)

VI: There are no wells within the proposed well's area of review that penetrate the Devonian Formation.

VII:

1. The average injected volume anticipated is 40,000 BWPD
   The maximum injected volume anticipated is 50,000 BWPD

2. Injection will be through a closed system

3. The average injection pressure anticipated is 2,000 psi
   The proposed maximum injection pressure is 3,228 psi

4. Disposal Sources will be produced waters from surrounding wells in the Delaware, Avalon, Bone Spring and Wolfcamp formations. These formation waters are known to be compatible with Devonian formation water. Representative area produced water analyses were sourced from Go-Tech's website and are listed below.

WELL NAME	FIGHTING OKRA 18 FEDERAL COM #001H	SALADO DRAW 6 FEDERAL #001H	RATTLESNAKE 13 12 FEDERAL COM #001H	SNAPPING 2 STATE #014H
API	3002540382	3002541293	3002540912	3001542688
Latitude	32.0435333	32.0657196	32.0369568	32.06555986
Longitude	-103.5164566	-103.5146942	-103.416214	-103.7413815
Section	18	6	13	2
Township	26S	26S	26S	26S
Range	34E	34E	34E	31E
Unit	E	M	P	P
Ftg NS	2590N	200S	330S	250S
Ftg EW	330W	875W	330E	330E
County	Lea	Lea	Lea	EDDY
State	NM	NM	NM	NM
Formation	AVALON UPPER	BONE SPRING 3RD SAND	DELAWARE-BRUSHY CANYON	WOLFCAMP
Sample Date	42046	41850	41850	42284
PH	8	6.6	6.2	7.3
TDS mgL	201455.9	99401.9	243517.1	81366.4
Resistivity Ohm-cm	0.032	0.064	0.026	0.1004
Sodium_mgL	66908.6	34493.3	73409.8	26319.4
Calcium_mgL	9313	3295	15800	2687.4
Iron_mgL	10	0.4	18.8	26.1
Magnesium_mgL	1603	396.8	2869	326.7
Manganese_mgL	1.6	0.37	3.12	
Chloride_mgL	121072.7	59986.5	149966.2	50281.2
Bicarbonate_mgL	1024.8	109.8	48.8	
Sulfate_mgL	940	710	560	399.7
CO2_mgL	1950	70	200	100

5. Devonian water analysis from the area of review is unavailable. Representative area water analyses were sourced from Go-Tech's website and are listed below.

WELL NAME	ANTELOPE RIDGE UNIT #003	BELL LAKE UNIT #006
API	3002521082	3002508483
Latitude	32.2593155	32.3282585
Longitude	-103.4610748	-103.507103
Sec	34	6
Township	23S	23S
Range	34E	34E
Unit	K	O
Ftg NS	1980S	660S
Ftg EW	1650W	1980E
County	LEA	LEA
State	NM	NM
Field	ANTELOPE RIDGE	BELL LAKE NORTH
Formation	DEVONIAN	DEVONIAN
Sample Source	UNKNOWN	HEATER TREATER
PH	6.9	7
TDS_mgL	80187	71078
Chloride_mgL	42200	47900
Bicarbonate_mgL	500	476
Sulfate_mgL	1000	900

VIII: Injection Zone Geology

Fluid injection will take place in the Devonian-Silurian formations. This sequence is bounded above by the Upper Devonian Woodford shale. Underlying the Woodford is the first injection formation, the Devonian, consisting of dolomitic carbonates & chert, followed by the Upper Silurian dolomites, and the Lower Silurian Fusselman dolomite. The lower bound of the injection interval is the limestone of the Upper Ordovician Montoya. This proposed well will TD above the top of the Montoya, and will not inject fluids into the Montoya itself, in order to provide a sufficient barrier to preclude fluid injection into the Middle Ordovician Simpson, the Lower Ordovician Ellenburger, the Cambrian, and the PreCambrian below.

Injection zone porosities are expected to range from 0% to a high of 8%, with the higher ranges being secondary porosity in the form of vugs & fractures due to weathering effects, with occasional interbedded shaly intervals. Permeabilities in the 2-3% porosity grainstone intervals are estimated to be in the 10-15 mD range, with the higher porosity intervals conservatively estimated to be in the 40-50 mD range. It is these intervals of high secondary porosity and associated high permeability that are expected to take the majority of the injected water.

The Devonian-Silurian sequence is well suited for SWD purposes, with a low permeability shale barrier overlying the injection interval to prevent upward fluid migrations to USDW's, sufficient permeabilities and porosities in zone, and multiple formations available over a large depth range. This large injection depth range means there is a large injection surface area available, allowing for low injection pressures at high injection rates.

Permian Oilfield Partners, LLC.
Tornado Federal SWD #1
1332' FSL, 270' FWL
Sec. 7, T25S, R36E, Lea Co. NM
Lat 32.1413417° N, Lon 103.3118417° W
GL 3159', RKB 3189'

GEOLOGY PROGNOSIS			
FORMATION	TOP KB TVD (ft)	BOTTOM KB TVD (ft)	THICKNESS (ft)
Salt	1,065	3,500	2,435
Capitan Reef	3,744	5,055	1,311
Delaware	5,055	8,655	3,600
Bone Spring	8,655	11,650	2,995
Wolfcamp	11,650	12,145	495
Lwr. Mississippian	15,406	15,853	447
Woodford	15,853	16,107	254
Devonian	16,107	17,214	1,107
Fusselman (Silurian)	17,214	18,109	895
Montoya (U. Ordovician)	18,109	18,649	540
Simpson (M. Ordovician)	18,649	19,530	881

2. According to the New Mexico Office of the State Engineer, there are NO fresh water wells drilled within the proposed well's one-mile area of review. Regionally, shallow fresh water is known to exist at depths less than 510'. There are no underground sources of fresh water present below the injection interval.

IX: Formation chemical stimulation with 40,000 gals of 15% Hydrochloric Acid is planned after well completion.

X: A compensated neutron/gamma ray log will be run from surface to TD upon well completion. All logs will be submitted to the NMOCD upon completion.

XI: According to the New Mexico Office of the State Engineer, there are NO fresh water wells drilled within the proposed well's one-mile area of review. No samples were obtained.

XII: Hydrologic affirmative statement attached.

XIII: Proof of notice and proof of publication attached.

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-025-	97869	SWD; DEVONIAN-SILURIAN

4 Property Code	5 Property Name	6 Well Number
	TORNADO FEDERAL SWD	1

7 OGRID NO.	8 Operator Name	9 Elevation
328259	PERMIAN OILFIELD PARTNERS, LLC	3159'

10 Surface Location

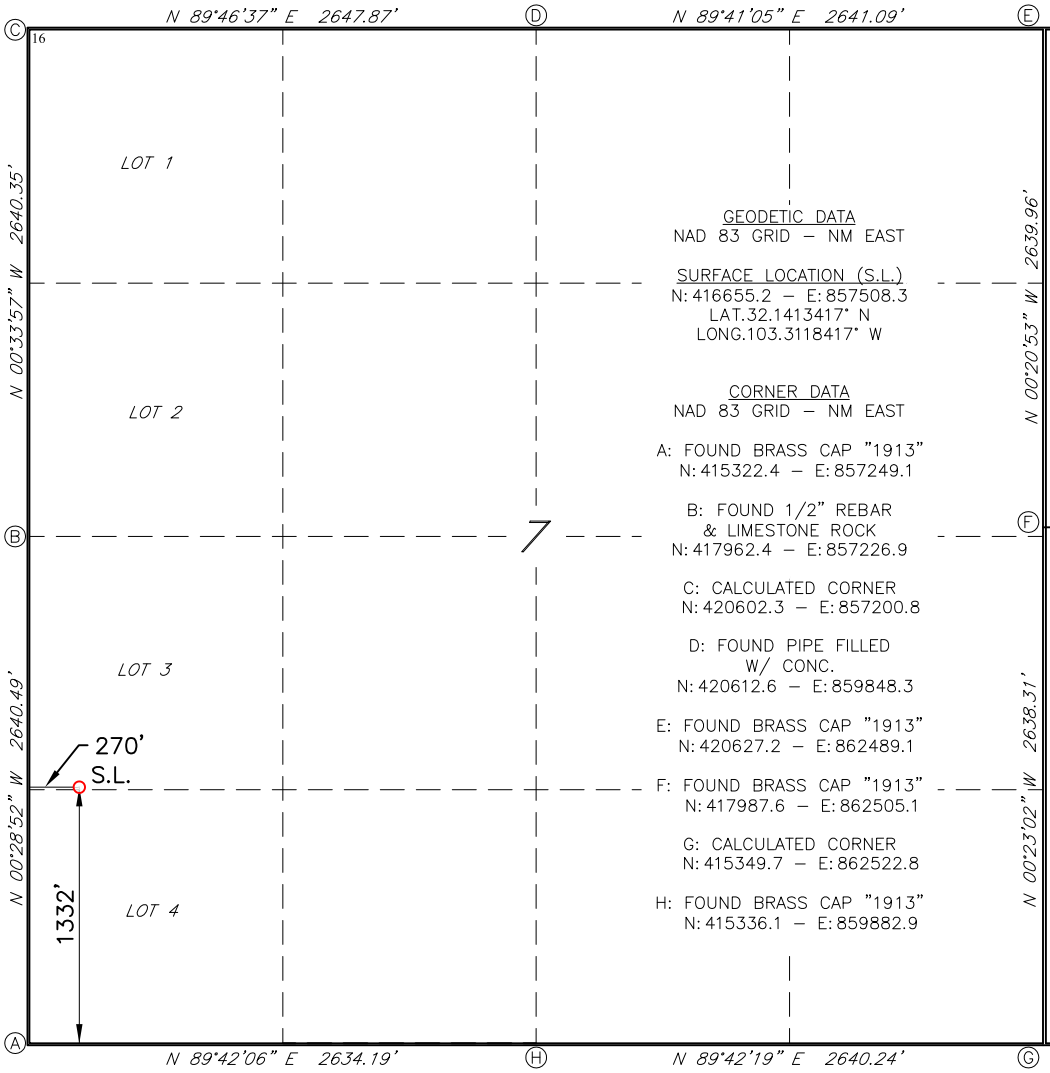
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
3	7	25S	36E		1332	SOUTH	270	WEST	LEA

11 Bottom Hole Location If Different From Surface

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

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

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



17 OPERATOR CERTIFICATION

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

Signature 8-2-2019 Date

Gary E Fisher
Printed Name

gfisher@popmidstream.com
E-mail Address

18 SURVEYOR CERTIFICATION

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

5-22-19
Date of Survey

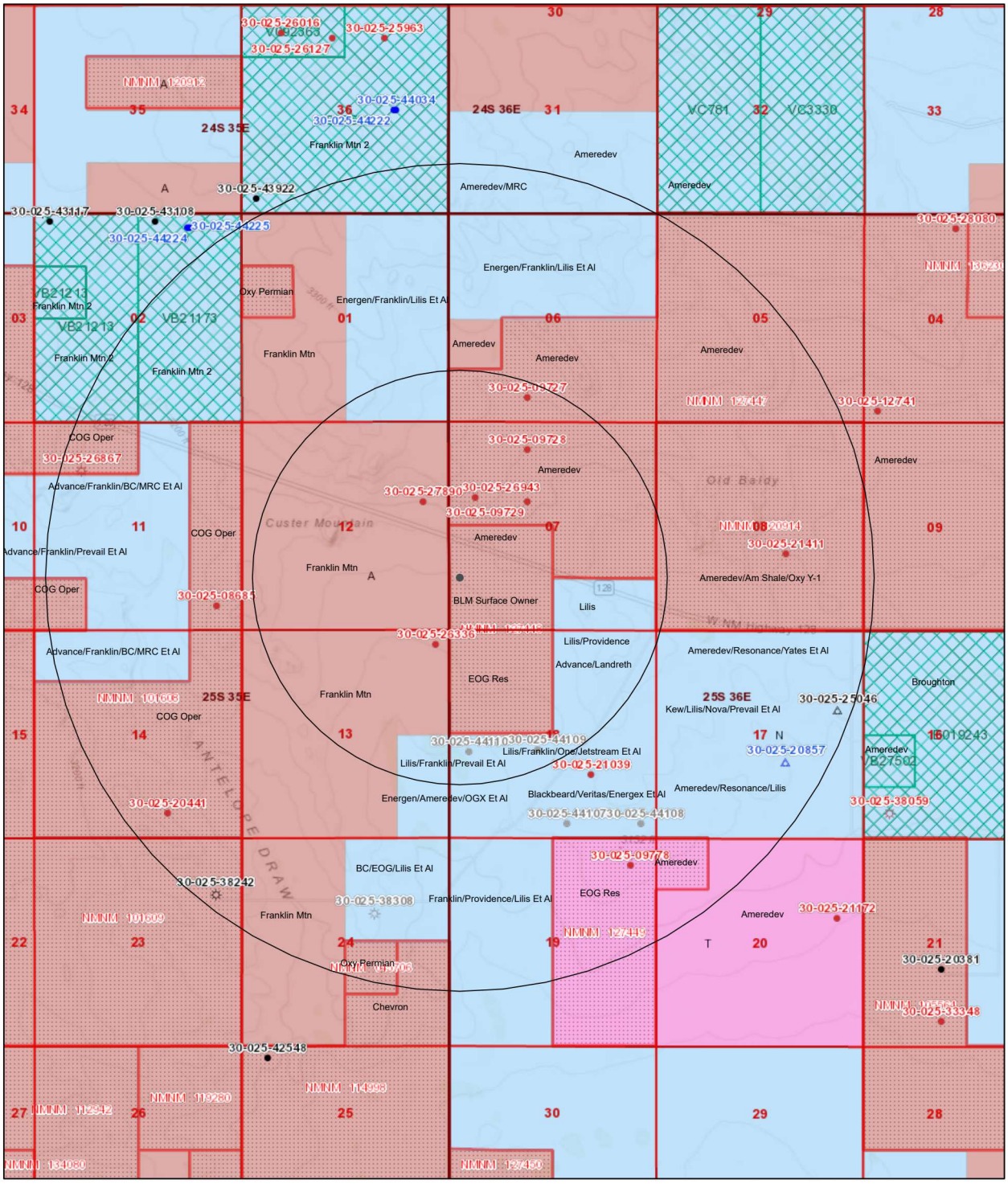
Signature and Seal of Professional Surveyor:

JEFFREY L. FANSLER
NEW MEXICO
10034
PROFESSIONAL SURVEYOR

10034
Certificate Number

Job No.: LS19030282

Tornado Federal SWD #1, 1 & 2 Mi AOR



9/20/2019, 5:35:45 PM

1:36,112

0 0.35 0.7 1.4 mi

0 0.5 1 2 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, Temporaily 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
- Oil, Plugged
- Oil, Temporarily Abondoned
- 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, Plugged
- Water, Temporarily Abandoned
- PLSS First Division

U.S. BLM
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c)

New Mexico Oil Conservation Division

Tornado Federal SWD #1 - Wells within 1 Mile Area of Review

API Number	Current Operator	Well Name	Well Number	Well Type	Well Direction	Well Status	Section	Township	Range	OCD Unit Letter	Surface Location	Bottomhole Location	Formation	MD	TVD
30-025-09727	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL	#001	Oil	Vertical	Plugged, Site Released	06	T25S	R36E	N	N-06-25S-36E 660 FSL 1992 FWL	N-06-25S-36E 660 FSL 1992 FWL	TANSILL	3750	3750
30-025-09728	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL	#001	Oil	Vertical	Plugged, Site Released	07	T25S	R36E	C	C-07-25S-36E 660 FNL 1990 FWL	C-07-25S-36E 660 FNL 1990 FWL	TANSILL	4055	4055
30-025-09729	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL	#002	Oil	Vertical	Plugged, Site Released	07	T25S	R36E	F	F-07-25S-36E 1980 FNL 1992 FWL	F-07-25S-36E 1980 FNL 1992 FWL	TANSILL	3540	3540
30-025-26336	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL	#001	Oil	Vertical	Plugged, Site Released	13	T25S	R35E	A	A-13-25S-35E 330 FNL 330 FEL	A-13-25S-35E 330 FNL 330 FEL	TANSILL	3686	3686
30-025-26943	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL	#001	Oil	Vertical	Plugged, Site Released	07	T25S	R36E	E	E-07-25S-36E Lot: 2 1880 FNL 660 FWL	E-07-25S-36E Lot: 2 1880 FNL 660 FWL	TANSILL	3555	3555
30-025-27890	PRE-ONGARD WELL OPERATOR	PRE-ONGARD WELL	#001	Oil	Vertical	Plugged, Site Released	12	T25S	R35E	H	H-12-25S-35E 1980 FNL 660 FEL	H-12-25S-35E 1980 FNL 660 FEL	TANSILL	3701	3701
30-025-44109	ONEENERGY PARTNERS OPERATING, LLC	CONVERT FEE WCB	#001C	Oil	Horizontal	Cancelled Apd	18	T25S	R36E	K	K-18-25S-36E 2260 FSL 2260 FWL	F-30-25S-36E 2260 FNL 2260 FWL	WOLFCAMP	21156	n/a
30-025-44110	ONEENERGY PARTNERS OPERATING, LLC	PINCH FEE WCB	#001C	Oil	Horizontal	Cancelled Apd	18	T25S	R36E	L	L-18-25S-36E Lot: 3 2260 FSL 380 FWL	E-30-25S-36E Lot: 2 2260 FNL 380 FWL	WOLFCAMP	21272	n/a

PERMIAN OILFIELD PARTNERS

Statement of Notifications

Re: C-108 Application for Authorization to Inject
Permian Oilfield Partners, LLC
Tornado Federal SWD #1
1332' FSL & 270' FWL
Sec 7, T25S, R36E
Lea County, NM

Permian Oilfield Partners, LLC has mailed notifications to Affected Persons as per the following list:

Tornado Federal SWD #1 - Affected Persons within 1 Mile Area of Review						
Notified Name	Notifed Address	Notified City, State, ZIP Code	Lease Location	Shipper	Tracking No.	Mailing Date
Bureau Of Land Management	620 E Greene St.	Carlsbad, NM 88220		USPS	9414811899561538158002	9/25/2019
New Mexico State Land Office	310 Old Santa Fe Trail	Santa Fe, NM 87501		USPS	9414811899561538157913	9/25/2019
Franklin Mountain Energy LLC	123 W. Mills, Suite 600	El Paso, TX 79901	Sec 1, 12, 13-25S-35E	USPS	9414811899561538158583	9/25/2019
Franklin Mountain Energy 2 LLC	2401 E. 2nd Ave, Suite 300	Denver, Colorado 80206	Sec 1, 13-25S-35E, Sec 18-25S-35E	USPS	9414811899561538158590	9/25/2019
Ameredev New Mexico LLC	5707 Southwest Parkway, Building 1, Suite 275	Austin, TX 78735	Sec 6, 7, 8, 17, 18-25S-36E, Sec 13-25S-35E	USPS	9414811899561538158354	9/25/2019
American Shale Energy LLC	2929 Buffalo Speedway Unit 210	Houston, TX 77098	Sec 8-25S-36E	USPS	9414811899561538158316	9/25/2019
Oxy Y-1 Company	P.O. Box 4294	Houston, TX 77210	Sec 8, 17-25S-36E	USPS	9414811899561538157326	9/25/2019
EOG Resources Inc	PO Box 2267	Midland, TX 79702	Sec 18-25S-36E	USPS	9414811899561538158477	9/25/2019
Robert Landreth	110 W. Louisiana St., Suite 404	Midland, TX 79701	Sec 18-25S-36E	USPS	9414811899561538157517	9/25/2019
OGX Acreage Fund LP	PO Box 2064	Midland, TX 79702	Sec 13-25S-35E & Sec 18-25S-36E	USPS	9414811899561538157678	9/25/2019
Advance Energy Partners LLC	11490 Westheimer Rd, Suite 950	Houston, TX 77077	Sec 18-25S-36E	USPS	9414811899561538158194	9/25/2019
Providence Energy Ltd.	16400 North Dallas Parkway, Suite 400	Dallas, TX 75248	Sec 18-25S-36E	USPS	9414811899561538157081	9/25/2019
KEW Drilling	4925 Greenville Ave, Suite 500	Dallas, TX 75206	Sec 1-25S-35E & Sec 17-25S-36E	USPS	9414811899561538157272	9/25/2019
Blackbeard Resources LLC	201 West Wall St.	Midland, TX 79701	Sec 17, 18-25S-36E	USPS	9414811899561538158392	9/25/2019
One Energy Partners LLC	2929 Allen Parkway, Suite 200	Houston, TX 77019	Sec 18-25S-36E	USPS	9414811899561538157180	9/25/2019
Jetstream New Mexico LLC	P.O. Box 471396	Fort Worth, TX 76147	Sec 17, 18-25S-36E	USPS	9414811899561538157227	9/25/2019
Energex LLC	P.O. Box 1973	Las Cruces, NM 88004	Sec 18-25S-36E	USPS	9414811899561538158491	9/25/2019
Veritas Permian Resources LLC	PO Box 10850	Fort Worth, TX 76114	Sec 18-25S-36E	USPS	9414811899561538156268	9/25/2019
Nova Materials LLC	715 Vista Verde Way	Bakersfield, CA 93309	Sec 17-25S-36E	USPS	9414811899561538157616	9/25/2019
Yates Petroleum Corp	105 South 4th Street	Artesia, NM 88210	Sec 17-25S-36E	USPS	9414811899561538156893	9/25/2019
Myco Industries Inc	104 South 4th Street	Artesia, NM 88210	Sec 17-25S-36E	USPS	9414811899561538157746	9/25/2019
ABO Petroleum Corp	411 W. Main Street	Artesia, NM 88210	Sec 17-25S-36E	USPS	9414811899561538158644	9/25/2019
Yates Drilling	101 South 4th Street	Artesia, NM 88210	Sec 17-25S-36E	USPS	9414811899561538156275	9/25/2019
Prevail Energy LLC	521 Dexter St.	Denver, CO 80220	Sec 13-25S-35E & Sec 17, 18-25S-36E	USPS	9414811899561538157371	9/25/2019
Rheiner Holdings LLC	PO Box 980552	Houston, TX 77098	Sec 13-25S-35E & Sec 17, 18-25S-36E	USPS	9414811899561538157494	9/25/2019
Encanto Minerals LLC	2929 Allen Pkwy., Suite 200	Houston, TX 77019	Sec 13-25S-35E & Sec 17, 18-25S-36E	USPS	9414811899561538158453	9/25/2019
Tierra Royalties LLC	2929 Allen Pkwy., Suite 200	Houston, TX 77019	Sec 13-25S-35E & Sec 17, 18-25S-36E	USPS	9414811899561538157593	9/25/2019
Monticello Minerals LLC	5528 Vickery Blvd.	Dallas, TX 75206	Sec 13-25S-35E & Sec 17, 18-25S-36E	USPS	9414811899561538157876	9/25/2019
Lilis Energy Inc.	1800 Bering Dr., Suite 510	Houston, TX 77057	Sec 1, 13-25S-35E & Sec 7, 17, 18-25S-36E	USPS	9414811899561538157869	9/25/2019
Energen Resources Corporation	605 Richard Arrington Jr. Blvd	Birmingham, AL 35203	Sec 1, 13-25S-35E & Sec 18-25S-36E	USPS	9414811899561538449490	9/25/2019
Resonance Resources LLC	9337B Katy Freeway, Suite 315	Houston, TX 77024	Sec 17-25S-36E	USPS	9414811899561538157418	9/25/2019

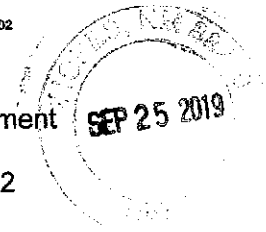
Sean Puryear
Permian Oilfield Partners, LLC
spuryear@popmidstream.com
Date: 9/25/2019

U.S. Postal Service **Certified Mail Receipt**

ARTICLE NUMBER: 9414 8118 9956 1538 1580 02

ARTICLE ADDRESSED TO:

Bureau of Land Management
620 E Greene St
Carlsbad NM 88220-6292



FEES

Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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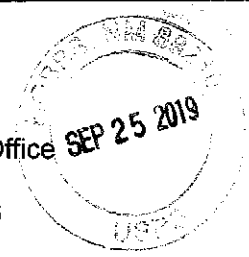
ARTICLE NUMBER: 9414 8118 9956 1538 1579 13

ARTICLE ADDRESSED TO:

New Mexico State Land Office
310 Old Santa Fe Trail
Santa Fe NM 87501-2708



FEES

Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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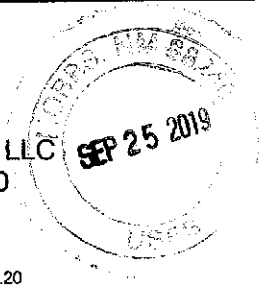
ARTICLE NUMBER: 9414 8118 9956 1538 1585 83

ARTICLE ADDRESSED TO:

Franklin Mountain Energy LLC
123 W. Mills Ave Suite 600
El Paso TX 79901-1577



FEES

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Total Postage & Fees:	6.70

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ARTICLE NUMBER: 9414 8118 9956 1538 1585 90

ARTICLE ADDRESSED TO:

Franklin Mountain Energy 2 LLC
2401 E. 2nd Ave, Suite 300
Denver CO 80206-4761

FEES

Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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ARTICLE NUMBER: 9414 8118 9956 1538 1583 54

ARTICLE ADDRESSED TO:

Ameridev New Mexico LLC
5707 SW SW Parkway Building 1 Suite 275
Austin TX 78735

FEES

Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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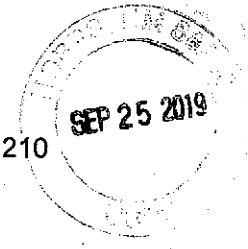
ARTICLE NUMBER: 9414 8118 9956 1538 1583 16

ARTICLE ADDRESSED TO:

American Shale Energy LLC
2929 Buffalo Speedway, Unit 210
Houston TX 77098-1719



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Certified Fee	3.50
Total Postage & Fees:	6.70

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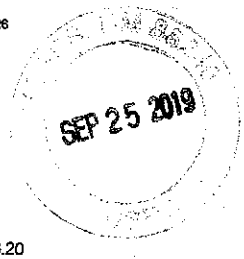
ARTICLE ADDRESSED TO:

Oxy Y-1 Company
PO BOX 4294
Houston TX 77210-4294



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Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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ARTICLE NUMBER: 9414 8118 9956 1538 1584 77

ARTICLE ADDRESSED TO:

EOG Resources, Inc.
PO Box 2267
Midland TX 79702-2267

FEES

Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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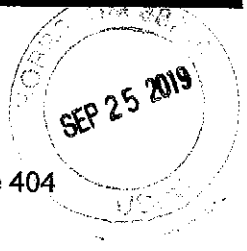
ARTICLE NUMBER: 9414 8118 9956 1538 1575 17

ARTICLE ADDRESSED TO:

Robert Landreth
110 W. Louisiana Ave Suite 404
Midland TX 79701-3486



FEES

Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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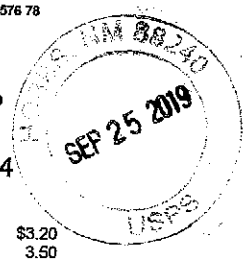
ARTICLE NUMBER: 9414 8118 9956 1538 1576 78

ARTICLE ADDRESSED TO:

OGX Acreage Fund LP
PO Box 2064
Midland TX 79702-2064



FEES

Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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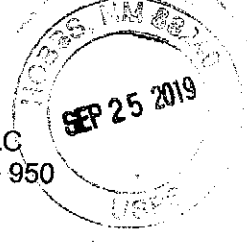
ARTICLE NUMBER: 9414 8118 9956 1538 1581 94

ARTICLE ADDRESSED TO:

Advance Energy Partners LLC
11490 Westheimer Rd, Suite 950
Houston TX 77077-6841



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Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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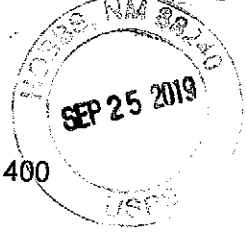
ARTICLE NUMBER: 9414 8118 9956 1538 1570 81

ARTICLE ADDRESSED TO:

Providence Energy Ltd.
16400 Dallas Parkway, Suite 400
Dallas TX 75248-2643



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Total Postage & Fees:	6.70

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ARTICLE NUMBER: 9414 8118 9956 1538 1572 72

ARTICLE ADDRESSED TO:

KEW Drilling
4925 Greenville Ave, Suite 500
Dallas TX 75206-4031

FEES	
Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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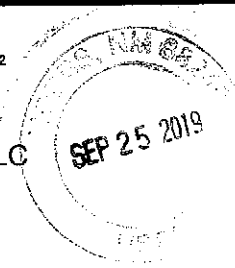
ARTICLE NUMBER: 9414 8118 9956 1538 1583 92

ARTICLE ADDRESSED TO:

Blackbeard Resources LLC
201 West Wall St.
Midland TX 79701-4529



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Certified Fee	3.50
Total Postage & Fees:	6.70

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ARTICLE NUMBER: 9414 8118 9956 1538 1571 80

ARTICLE ADDRESSED TO:

One Energy Partners LLC
2929 Allen Parkway, Suite 200
Houston TX 77019-7123

FEES	
Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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ARTICLE NUMBER: 9414 8118 9956 1538 1572 27

ARTICLE ADDRESSED TO:

Jetstream New Mexico LLC
PO BOX 471396
Fort Worth TX 76147-1396

FEES	
Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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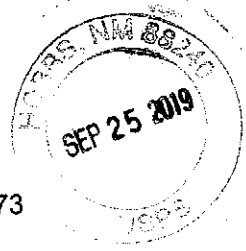
ARTICLE NUMBER: 9414 8118 9956 1538 1584 91

ARTICLE ADDRESSED TO:

Energex LLC
PO BOX 1973
Las Cruces NM 88004-1973



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Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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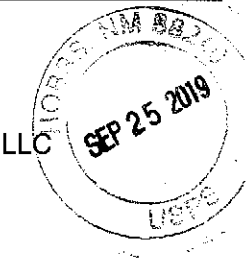
ARTICLE NUMBER: 9414 8118 9956 1538 1562 68

ARTICLE ADDRESSED TO:

Veritas Permian Resources LLC
PO BOX 10850
Fort Worth TX 76114-0850



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Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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ARTICLE NUMBER: 9414 8118 9956 1538 1576 16

ARTICLE ADDRESSED TO:

Nova Materials LLC
715 Vista Verde Way
Bakersfield CA 93309

FEES	
Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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ARTICLE NUMBER: 9414 8118 9956 1538 1568 93

ARTICLE ADDRESSED TO:

Yates Petroleum Corp
105 South 4th Street
Artesia NM 88210-2177

FEES	
Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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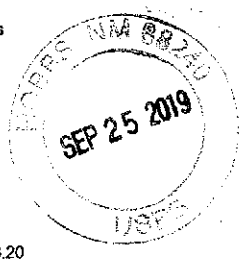
ARTICLE NUMBER: 9414 8118 9956 1538 1577 46

ARTICLE ADDRESSED TO:

Myco Industries LLC
104 South 4th Street
Artesia NM 88210-2123



FEES	
Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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ARTICLE NUMBER: 9414 8118 9956 1538 1586 44

ARTICLE ADDRESSED TO:

ABO Petroleum Corp
411 W. Main Street
Artesia NM 88210-2030

FEES	
Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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ARTICLE NUMBER: 9414 8118 9956 1538 1562 75

ARTICLE ADDRESSED TO:

Yates Drilling
101 South 4th Street
Artesia NM 88210-2177

FEES	
Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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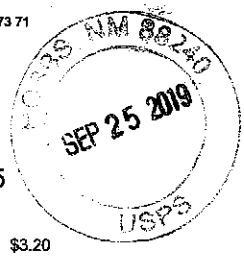
ARTICLE NUMBER: 9414 8118 9956 1538 1573 71

ARTICLE ADDRESSED TO:

Prevail Energy LLC
521 Dexter St.
Denver CO 80220-5035



FEES	
Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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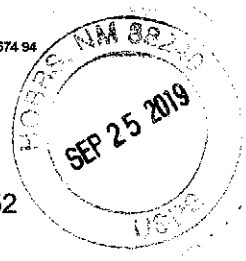
U.S. Postal Service **Certified Mail Receipt**

ARTICLE NUMBER: 9414 8118 9956 1538 1574 94

ARTICLE ADDRESSED TO:

Rheiner Holdings LLC
PO BOX 980552
Houston TX 77098-0552



FEES

Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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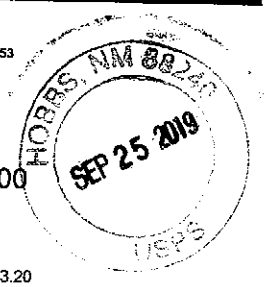
U.S. Postal Service **Certified Mail Receipt**

ARTICLE NUMBER: 9414 8118 9956 1538 1584 53

ARTICLE ADDRESSED TO:

Encanto Minerals LLC
2929 Allen Pkwy, Suite 200
Houston TX 77019-7123



FEES

Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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U.S. Postal Service **Certified Mail Receipt**

ARTICLE NUMBER: 9414 8118 9956 1538 1575 93

ARTICLE ADDRESSED TO:

Tierra Royalties LLC
2929 Allen Pkwy, Suite 200
Houston TX 77019-7123

FEES

Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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U.S. Postal Service **Certified Mail Receipt**

ARTICLE NUMBER: 9414 8118 9956 1538 1578 76

ARTICLE ADDRESSED TO:

Monticello Minerals LLC
5528 Vickery Blvd
Dallas TX 75206-6233

FEES

Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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U.S. Postal Service **Certified Mail Receipt**

ARTICLE NUMBER: 9414 8118 9956 1538 1578 69

ARTICLE ADDRESSED TO:

Lilis Energy Inc.
1800 Bering Dr. Suite 510
Houston TX 77057-3158

FEES

Postage Per Piece	$3.20
Certified Fee	3.50
Total Postage & Fees:	6.70

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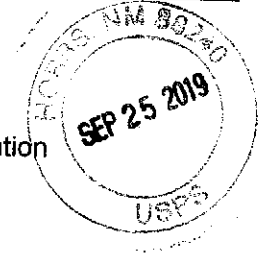
U.S. Postal Service **Certified Mail Receipt**

ARTICLE NUMBER: 9414 8118 9956 1538 4494 90

ARTICLE ADDRESSED TO:

Energen Resources Corporation
605 Arrington Blvd N
Birmingham AL 35203-2707



FEES

Postage Per Piece	$3.35
Certified Fee	3.50
Total Postage & Fees:	6.85

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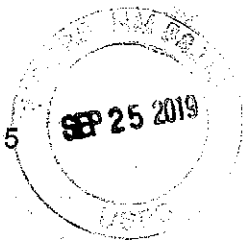
U.S. Postal Service **Certified Mail Receipt**

ARTICLE NUMBER: 9414 8118 9956 1538 1574 18

ARTICLE ADDRESSED TO:

Resonance Resources LLC
9337B Katy Freeway, Suite 315
Houston TX 77024-1515



FEES

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Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

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

Beginning with the issue dated
August 07, 2019
and ending with the issue dated
August 07, 2019.

Publisher

Sworn and subscribed to before me this
7th day of August 2019.

Business Manager

My commission expires
January 29, 2023
(Seal)

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

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

LEGAL NOTICE
AUGUST 7, 2019

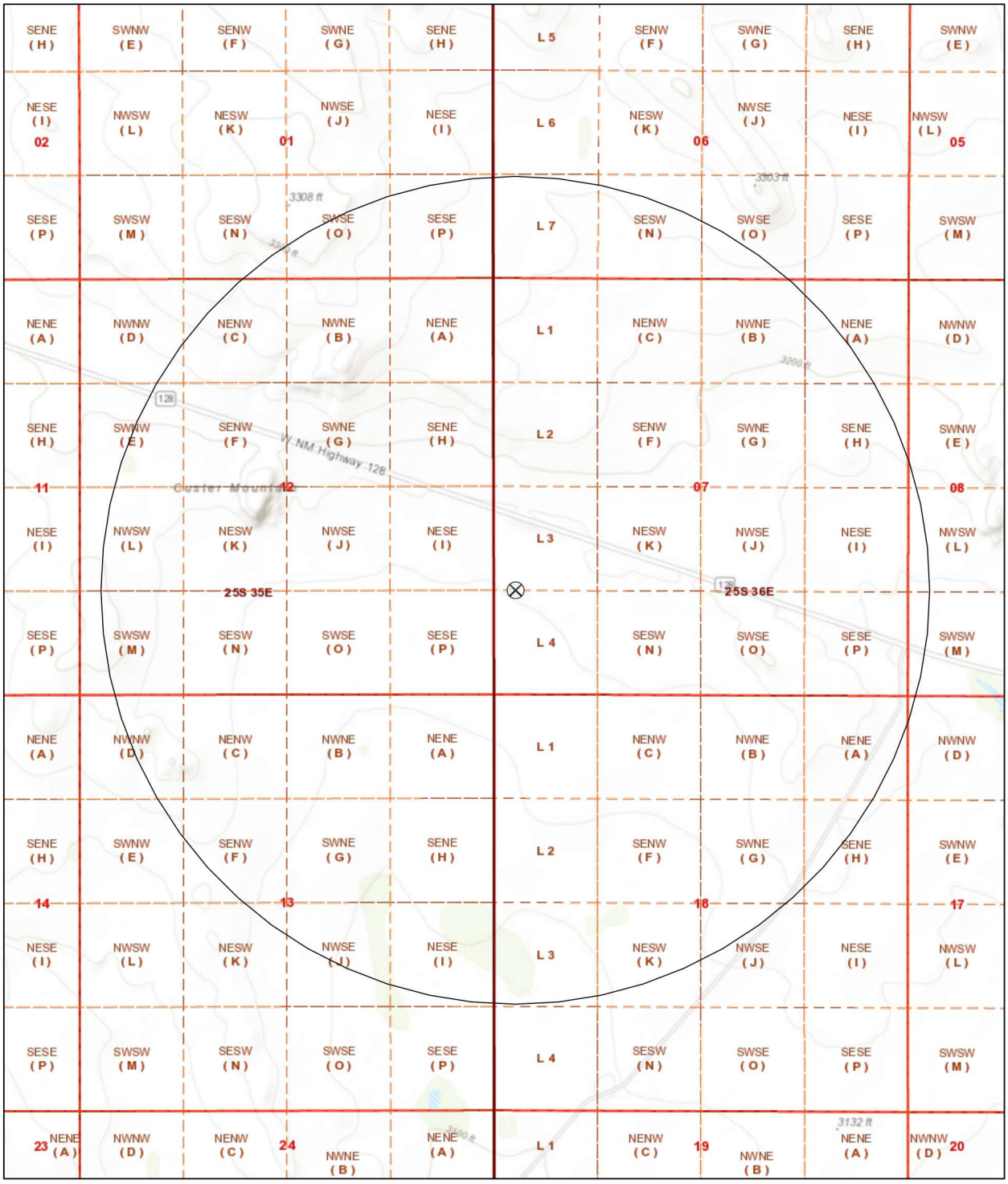
Permian Oilfield Partners, LLC, PO Box 3329, Hobbs, NM 88241, phone (817)606-7630, attention Gary Fisher, has filed form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division seeking approval to drill a commercial salt water disposal well in Lea County, New Mexico. The well name is the Tornado Federal SWD #1, and is located 1332' FSL & 270' FWL, Lot Number 3, Section 7, Township 25 South, Range 36 East, NMPM. The well will dispose of water produced from nearby oil and gas wells into the Devonian formation from a depth of 16,142 feet to 18,084 feet. The maximum expected injection rate is 50,000 BWPD at a maximum surface injection pressure of 3,228 psi.

Interested parties must file objections or requests for hearing with the New Mexico Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico, 87505 within 15 days.
#34540

67115647 00231820

GARY FISHER
PERMIAN OILFIELD PARTNERS, LLC
PO BOX 1220
STEPHENVILLE , TX 76401

Tornado Federal SWD #1, Water Wells Within 1 Mile



8/20/2019, 7:12:27 PM

Override 1

Override 1

PLSS First Division

PLSS Second Division

PLSS Townships

1:18,056

0 0.17 0.35 0.7 mi

0 0.28 0.55 1.1 km

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

New Mexico Oil Conservation Division

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	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 01170 POD5		CP	LE	2	2	2	19	25S	36E	660687	3555164	2632	505	270	235
CP 00624		CP	LE	4	1	1	11	25S	35E	656206	3558197*	3131	510		

Average Depth to Water: **270 feet**

Minimum Depth: **270 feet**

Maximum Depth: **270 feet**

Record Count: 2

UTMNAD83 Radius Search (in meters):

Easting (X): 659220.552 **Northing (Y):** 3557350.649 **Radius:** 4828

***UTM location was derived from PLSS - see Help**

8/20/19 6:07 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Item XII. Affirmative Statement

Re: C-108 Application for Authorization to Inject
Permian Oilfield Partners, LLC
Tornado Federal SWD #1
1332' FSL & 270' FWL
Sec 7, T25S, R36E
Lea County, NM

Permian Oilfield Partners, LLC. has 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.

Gary Fisher
Manager
Permian Oilfield Partners, LLC.

Date: 8/2/2019

Plugging Risk Assessment

Permian Oilfield Partners, LLC.
Tornado Federal SWD #1
1332' FSL & 270' FWL
Sec 7, T25S, R36E
Lea County, NM

WELLBORE SCHEMATIC

Permian Oilfield Partners, LLC.
Tornado Federal SWD #1
1332' FSL, 270' FWL
Sec. 7, T25S, R36E, Lea Co. NM
Lat 32.1413417° N, Lon 103.3118417° W
GL 3159', RKB 3189'

Surface - (Conventional)
Hole Size: 26"
Casing: 20" - 94# H-40 STC Casing
Depth Top: Surface
Depth Btm: 825'
Cement: 518 sks - Class C + Additives
Cement Top: Surface - (Circulate)

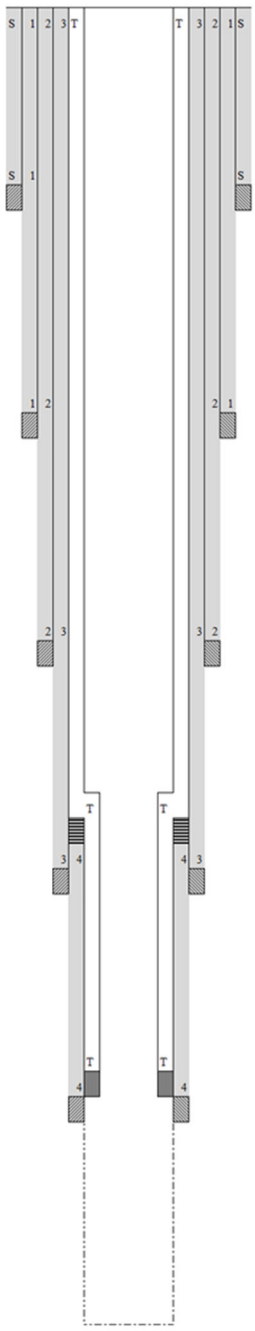
Intermediate #1 - (Conventional)
Hole Size: 18.5"
Casing: 16" - 75# J-55 & 84# J-55 BTC Casing
Depth Top: Surface
Depth Btm: 3600'
Cement: 828 sks - Lite Class C (50:50:10) + Additives
Cement Top: Surface - (Circulate)

Intermediate #2 - (Conventional)
Hole Size: 14.75"
Casing: 13.375" - 54.5# J-55 & 61# J-55 FJ Casing
Depth Top: Surface
Depth Btm: 5080'
Cement: 839 sks - Lite Class C (60:40:0) + Additives
Cement Top: Surface - (Circulate)
ECP/DV Tool: 3700'

Intermediate #3 - (Conventional)
Hole Size: 12.25"
Casing: 9.625" - 40# L-80 & 40# HCL-80 BTC Casing
Depth Top: Surface
Depth Btm: 11700'
Cement: 1968 sks - Lite Class C (60:40:0) + Additives
Cement Top: Surface - (Circulate)
ECP/DV Tool: 5180'

Intermediate #4 - (Liner)
Hole Size: 8.5"
Casing: 7.625" - 39# P-110 FJ Casing
Depth Top: 11500'
Depth Btm: 16142'
Cement: 238 sks - Lite Class C (60:40:0) + Additives
Cement Top: 11500' - Volumetric

Intermediate #5 - (Open Hole)
Hole Size: 6.5"
Depth: 18084'
Inj. Interval: 16142' - 18084' (Open-Hole Completion)



Tubing - (Tapered)
Tubing Depth: 16097'
Tubing: 7" - 26# HCP-110 FJ Casing & 5.5" 17# HCL-80 FJ Casing (Fiberglass Lined)
X/O Depth: 11500'
X/O: 7" 26# HCP-110 FJ Casing - X - 5.5" 17# HCL-80 FJ Casing (Fiberglass Lined)
Packer Depth: 16107'
Packer: 5.5" - Perma-Pak or Equivalent (Inconel)

7" UFJ Tubing Inside of 9 ⅝" 40# Casing

Bowen Series 150 Releasing and Circulation Overshots

Maximum Catch Size 6⅝" to 7¼" Inclusive

Maximum Catch Size (Spiral)		6⅝	6¼	7	7¼
Maximum Catch Size (Basket)		5⅞	6⅛	6⅜	6⅝
Overshot O.D.		8¼	7⅞	8⅛	8⅜
Type		F.S.	S.H.	S.H.	S.H.
Complete Assembly	Part No.	C-3032	C-5222	9217	C-5354
(Dressed Spiral Parts)	Weight	280	243	251	260
Replacement Parts					
Top Sub	Part No.	A-3033	A-5223	9218	A-5355
Bowl	Part No.	B-3034	B-5224	9219	B-5356
Packer	Part No.	A-1814	B-5225	9224	B-5357
Spiral Grapple	Part No.	N-84	B-5227	9222	B-5359
Spiral Grapple Control	Part No.	M-89	A-5228	9223	B-5360
Standard Guide	Part No.	A-1818	A-5229	9226	A-5361
Basket Parts					
Basket Grapple	Part No.	N-84	B-5227	9222	B-5359
Basket Grapple Control	Part No.	M-89	A-5228	9223	B-5360
Mill Control Packer	Part No.	A-1814-R	B-5225-R	9224-R	B-5357-R

A 8.125" O.D. Bowen Series 150 Overshot will be used to perform this overshot operation. Details on the overshot are listed above. Casing to tubing clearance dimensions are listed below.

7" 26# FJ Casing Inside 9.625" 40# BTC Casing

Clearance (in)	Pipe Size (in)	Weight lb/ft	Grade	Conn.	Type	Body O.D. (in)	Coupling O.D. (in)	I.D. (in)	Drift (in)	Lined Wt. lb/ft	Lined I.D. (in)	Flare I.D. (in)	Lined Drift (in)
0.840	9 5/8	40.0	L-80	BTC	Casing	9.625	10.625	8.835	8.679	-	-	-	-
	7	26.0	HCP-110	FJ	Casing	7.000	7.000	6.276	6.151	28.500	6.080	5.940	5.815

*Red Indicates Tubing

Fishing Procedure

Overshot Fishing Procedure

In the Event of a Connection Break

- **If fishing neck is clean**

1. Trip in hole with overshot and engage fish.
2. Pick up 2 points over neutral weight.
3. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
4. Once released from packer, trip out of hole with fish.

   A skirted mill may be substituted for a standard mill to ensure pipe stabilization and the casing is not damaged while milling

- **If dressing fishing neck is required**

1. Trip in hole with mill and dress fishing neck to allow for overshot to engage tubing.
2. Trip out of hole with mill.
3. Trip in hole with overshot and engage fish.
4. Pick up 2 points over neutral weight.
5. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
6. Once released from packer, trip out of hole with fish.

   A skirted mill may be substituted for a standard mill to ensure pipe stabilization and the casing is not damaged while milling

In the Event of a Body Break

- **If fishing neck is clean**

1. Trip in hole with overshot and engage fish.
2. Pick up 2 points over neutral weight.
3. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
4. Once released from packer, trip out of hole with fish.

- **If dressing fishing neck is required**

1. Trip in hole with mill and dress fishing neck to allow for overshot to engage tubing.
2. Trip out of hole with mill.
3. Trip in hole with overshot and engage fish.
4. Pick up 2 points over neutral weight.

5. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
6. Once released from packer, trip out of hole with fish.

A skirted mill may be substituted for a standard mill to ensure pipe stabilization and the casing is not damaged while milling

Spear Fishing Procedure

If an overshot cannot be used to retrieve the fish, a spear may be used.

- Due to the use of insert lined tubing, the composite liner must be removed from the tubing before engaging the fish with a spear.

1. Trip in hole with spear sized to engage the I.D. of the insert liner.
2. Engage the insert liner inside the tubing with spear.
3. Pull the insert liner out of the tubing.
4. Trip out of hole with insert liner.
5. Trip in hole with spear sized to engage the I.D. of the tubing.
6. Engage the tubing with spear.
7. Pick up 2 points over neutral weight.
8. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
9. Once released from packer, trip out of hole with fish.

Inside Diameter Cutting Tool Fishing Procedure

If an overshot is required but a mill cannot be used to dress off a fishing neck, an inside diameter cutting tool may be used.

- Due to the use of insert lined tubing, the composite liner must be removed from the tubing before engaging the fish with a spear.

1. Trip in hole with spear sized to engage the I.D. of the insert liner.
2. Engage the insert liner inside the tubing with spear.
3. Pull the insert liner out of the tubing.
4. Trip out of hole with insert liner.
5. Trip in hole with inside diameter cutting tool and cut the tubing below the damaged fishing neck.
6. Trip out hole with cutting tool.
7. Trip in hole with spear sized to engage the I.D. of the tubing.
8. Engage the previously cut tubing segment with spear.
9. Trip out hole with cut tubing segment and spear.
10. Trip in hole with overshot and engage fish.
11. Pick up 2 points over neutral weight.
12. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
13. Once released from packer, trip out of hole with fish.

5 ½" UFJ Tubing Inside of 7 ⅝" 39# Casing

Series 150 Overshots

Tools are listed in order of maximum catch size.

The following table shows only a partial listing of available NOV Dowhole Bowen® overshots.

NOTE: Nitralloy Grapples are available upon request.

Bowen Series 150 Releasing and Circulation Overshots

Maximum Catch Size 4¼" to 5½" Inclusive

Maximum Catch Size (Spiral)		4¼	4⅝	4¾	4¾	5	5	5½
Maximum Catch Size (Basket)		3¹⁵⁄₁₆	4⅛	4¼	4¼	4¼	4¼	4⅞
Overshot O.D.		5⅜	5⅜	5⅜	5¾	5⅞	6⅜	6⅜
Type		F.S.	S.H.	S.H.	S.F.S.	S.H.	F.S.	S.H.
Complete Assembly	Part No.	5896	5698	C-5168	8975	C-5171	C-4825	8825
(Dressed Spiral Parts)	Weight	130	130	133	138	140	192	185
Replacement Parts								
Top Sub	Part No.	5897	5699	A-5169	8976	A-5172	B-4826	8826
Bowl	Part No.	5898	5700	B-5170	8977	B-5173	B-4827	8817
Packer	Part No.	169	1140	B-2199	6114	L-5950	L-4505	8818
Spiral Grapple	Part No.	165	1135	B-2201	6112	B-4369	M-1071	8819
Spiral Grapple Control	Part No.	186	1137	B-2202	6113	B-4370	M-1072	8820
Standard Guide	Part No.	187	1143	B-2203	6121	B-4371	L-1074	8821
Basket Parts								
Basket Grapple	Part No.	165	1135	B-2201	6112	B-4369	M-1071	8819
Basket Grapple Control	Part No.	186	1137	B-2202	6113	B-4370	M-1072	8820
Mill Control Packer	Part No.	169-R	1140-R	B-2199-R	6114-R	L-5950-R	M-4505	L-8818-R

A (6.625" turned down to **6.500"** O.D.) Bowen Series 150 Overshot will be used to perform this overshot operation. Details on the overshot are listed above. Casing to tubing clearance dimensions are listed below.

5.5" 17# FJ Casing Inside 7.625" 39# FJ Casing

Clearance (in)	Pipe Size (in)	Weight lb/ft	Grade	Conn.	Type	Body O.D. (in)	Coupling O.D. (in)	I.D. (in)	Drift (in)	Lined Wt. lb/ft	Lined I.D. (in)	Flare I.D. (in)	Lined Drift (in)
0.500	7 5/8	39.0	HCL-80	FJ	Casing	7.625	7.625	6.625	6.500	-	-	-	-
	5 1/2	17.0	HCL-80	FJ	Casing	5.500	5.500	4.892	4.767	18.500	4.520	4.400	4.275

*Red Indicates Tubing

Fishing Procedure

Overshot Fishing Procedure

In the Event of a Connection Break

- **If fishing neck is clean**

1. Trip in hole with overshot and engage fish.
2. Pick up 2 points over neutral weight.
3. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
4. Once released from packer, trip out of hole with fish.

   A skirted mill may be substituted for a standard mill to ensure pipe stabilization and the casing is not damaged while milling

- **If dressing fishing neck is required**

1. Trip in hole with mill and dress fishing neck to allow for overshot to engage tubing.
2. Trip out of hole with mill.
3. Trip in hole with overshot and engage fish.
4. Pick up 2 points over neutral weight.
5. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
6. Once released from packer, trip out of hole with fish.

   A skirted mill may be substituted for a standard mill to ensure pipe stabilization and the casing is not damaged while milling

In the Event of a Body Break

- **If fishing neck is clean**

1. Trip in hole with overshot and engage fish.
2. Pick up 2 points over neutral weight.
3. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
4. Once released from packer, trip out of hole with fish.

- **If dressing fishing neck is required**

1. Trip in hole with mill and dress fishing neck to allow for overshot to engage tubing.
2. Trip out of hole with mill.
3. Trip in hole with overshot and engage fish.
4. Pick up 2 points over neutral weight.

5. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
6. Once released from packer, trip out of hole with fish.

A skirted mill may be substituted for a standard mill to ensure pipe stabilization and the casing is not damaged while milling

Spear Fishing Procedure

If an overshot cannot be used to retrieve the fish, a spear may be used.

- Due to the use of insert lined tubing, the composite liner must be removed from the tubing before engaging the fish with a spear.

1. Trip in hole with spear sized to engage the I.D. of the insert liner.
2. Engage the insert liner inside the tubing with spear.
3. Pull the insert liner out of the tubing.
4. Trip out of hole with insert liner.
5. Trip in hole with spear sized to engage the I.D. of the tubing.
6. Engage the tubing with spear.
7. Pick up 2 points over neutral weight.
8. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
9. Once released from packer, trip out of hole with fish.

Inside Diameter Cutting Tool Fishing Procedure

If an overshot is required but a mill cannot be used to dress off a fishing neck, an inside diameter cutting tool may be used.

- Due to the use of insert lined tubing, the composite liner must be removed from the tubing before engaging the fish with a spear.

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2. Engage the insert liner inside the tubing with spear.
3. Pull the insert liner out of the tubing.
4. Trip out of hole with insert liner.
5. Trip in hole with inside diameter cutting tool and cut the tubing below the damaged fishing neck.
6. Trip out hole with cutting tool.
7. Trip in hole with spear sized to engage the I.D. of the tubing.
8. Engage the previously cut tubing segment with spear.
9. Trip out hole with cut tubing segment and spear.
10. Trip in hole with overshot and engage fish.
11. Pick up 2 points over neutral weight.
12. Turn pipe 10-15 turns to the right to release the seal assembly from the packer.
13. Once released from packer, trip out of hole with fish.

Abandonment Procedure

If the tubing cannot be recovered and the well is to be abandoned.

- The operator will ensure that all geologic formations are properly isolated.

1. Confirm the I.D. of the injection tubing is free from obstructions.
2. Run in hole with wireline set profile plug.
3. Set plug inside of packer assembly.
   (Plug will allow cement to fill the I.D. of the injection tubing and the tubing to casing annulus)
4. Run in hole with wireline conveyed perforating guns and perforate the tubing immediately above the packer.
5. Trip in hole with an overshot, spear, cement retainer or isolation tool that will provide a work string-to- injection tubing seal.
6. Engage the fish with sealing tool.
7. Confirm circulation down the tubing and up the tubing-to-casing annulus.
8. Cement the work string, injection tubing, injection tubing-to-casing annulus and work string-to-casing annulus to surface.
9. Confirm the entirety of the wellbore is cemented to surface and all zones are isolated.
10. ND wellhead and install permanent capping flange.

Attachment to C-108 Application for Authorization to Inject
Permian Oilfield Partners, LLC
Tornado Federal SWD #1
1332' FSL & 270' FWL
Sec 7, T25S, R36E
Lea County, NM

August 2, 2019

STATEMENT REGARDING SEISMICITY

Examination of the USGS and TexNet seismic activity databases has shown minimal historic seismic activity in the area (< 30 miles) of our proposed above referenced SWD well as follows:

Magnitude	Date	Lat	Lon	Distance (mi.)	Bearing (°)
M2.9 USGS	12/4/1984	32.266	-103.556	16.71	301.00
M4.6 USGS	1/2/1992	32.336	-103.101	18.27	42.63
M3.3 USGS	6/2/2001	32.334	-103.141	16.65	37.00
M2.6 USGS	5/3/2017	32.082	-103.023	17.43	166.41
M2.6 TexNet	5/3/2017	32.1066	-103.028	16.81	171.80

Permian Oilfield Partners does not own any 2D or 3D seismic data in the area of this proposed SWD well. Our fault interpretations are based on well to well correlations and publicly available data and software as follows:

1. USGS Quaternary Fault & Fold database shows no quaternary faults in the nearby area.
2. Based on offset well log data, we have not interpreted any faults in the immediate area.
3. Basement PreCambrian faults are documented in the Snee & Zoback paper, “State of stress in the Permian Basin, Texas and New Mexico: Implications for induced seismicity”, published in the February 2018 issue of the SEG journal, The Leading Edge, along with a method for determining the probability of fault slip in the area.
4. Fault data was also correlated to the publicly available USGS GIS geologic units & structural features database, to Ewing’s 1990 Tectonic map of Texas (via Ruppel’s 2005 Preparation of Maps Depicting Geothermal Gradient and PreCambrian Structure in the Permian Basin), and to fault maps as published in the New Mexico Geological Society Special Publication 13A, “Energy and Mineral Resources of New Mexico: Petroleum Geology,” by R. F. Broadhead, 2017.

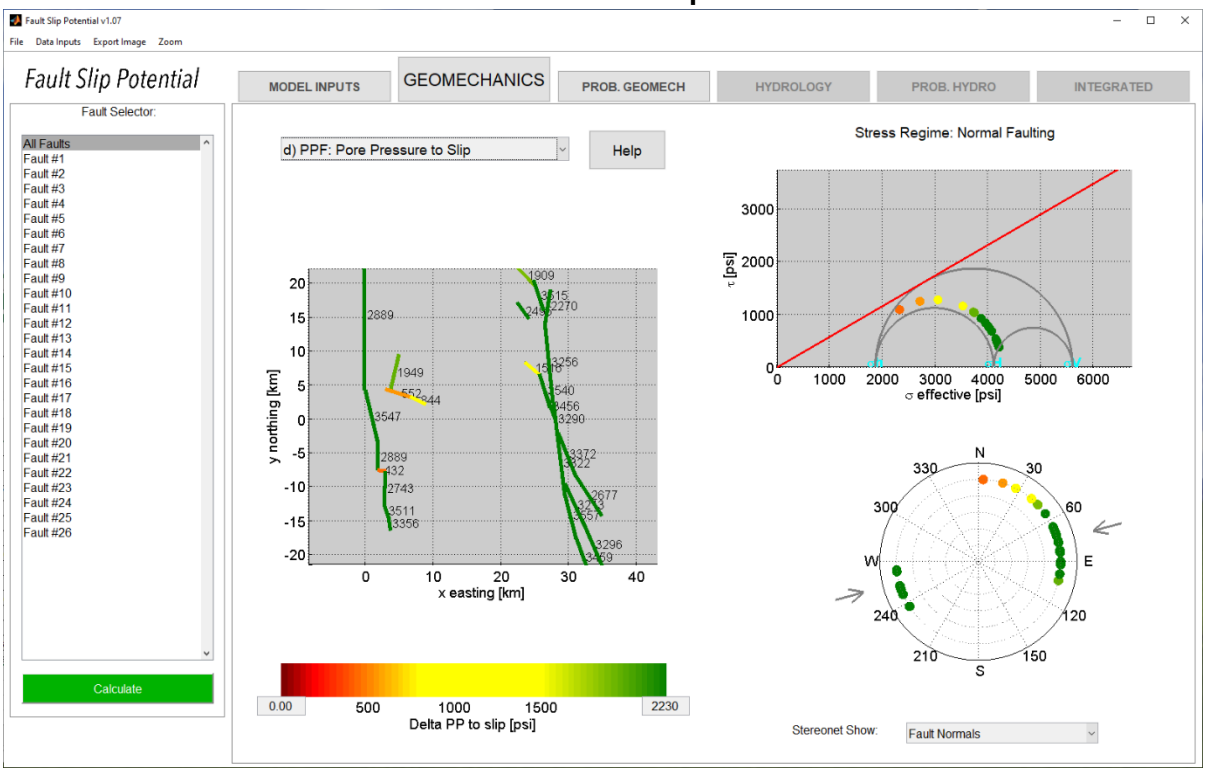
5. Software as discussed in #3 from the Stanford Center for Induced and Triggered Seismicity, “FSP 1.0: A program for probabilistic estimation of fault slip potential resulting from fluid injection”, was used to calculate the probability of a fault being stressed so as to create an induced seismic event, assuming full proposed capacity of 50,000 BBL/day for 30 years.
6. Two FSP scenarios were run:
    a. The first FSP scenario assumes PreCambrian faults as per the available data described above, with an improbable catastrophic well failure that would allow full rate injected water to penetrate the Montoya and Simpson permeability barriers, the Ellenburger, and the Cambrian to access the PreCambrian faults.
    b. Because there is evidence that the PreCambrian faults extend into the Devonian in areas to the North and East, we ran a second FSP scenario with Devonian depth & lithology assumptions.
7. The distance from the proposed injection well to the nearest fault is approximately 8 km. The probability of an induced seismic event in the PreCambrian is calculated to be 0% after 5, 10, 20, & 30 years as per the FSP results screenshots below. The probability of an induced seismic event in the Devonian is also calculated to be 0% after 5, 10, 20, & 30 years.
8. As per NM OCD requirements (injection well to injection well spacing minimum of 1.5 miles), this proposed above referenced SWD well is located 3.29 miles away from the nearest active or permitted Devonian disposal well (Solaris Screech State SWD #1, in Sec 16-25S-35E).

Part 6 a: PreCambrian Fault Scenario

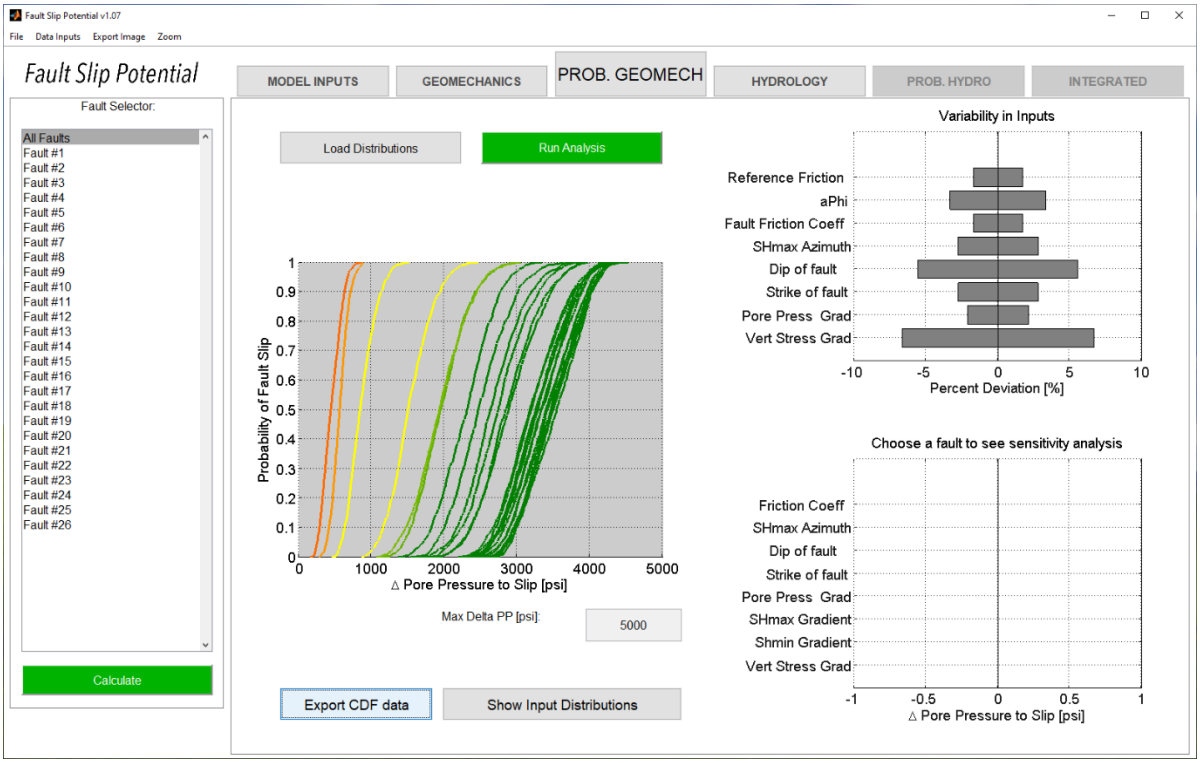
PreCambrian input assumptions:

Rate (BBL/day)	50000
Interval height (ft)	1500
Average Porosity (%)	3
Vert stress gradient (psi/ft)	0.75
Hor stress direction (deg N)	75
Fault dip (deg)	75
Ref depth (ft)	20000
Initial res press gradient (psi/ft)	0.47
A phi	0.6
Friction coefficient	0.58
Weighted average perm (mD)	12.5
Fluid density (kg/m3)	1100
Dynamic viscosity (Pa-s)	0.0003
Fluid compressibility (/Pa)	4 e-10
Rock compressibility (/Pa)	1.08 e-09

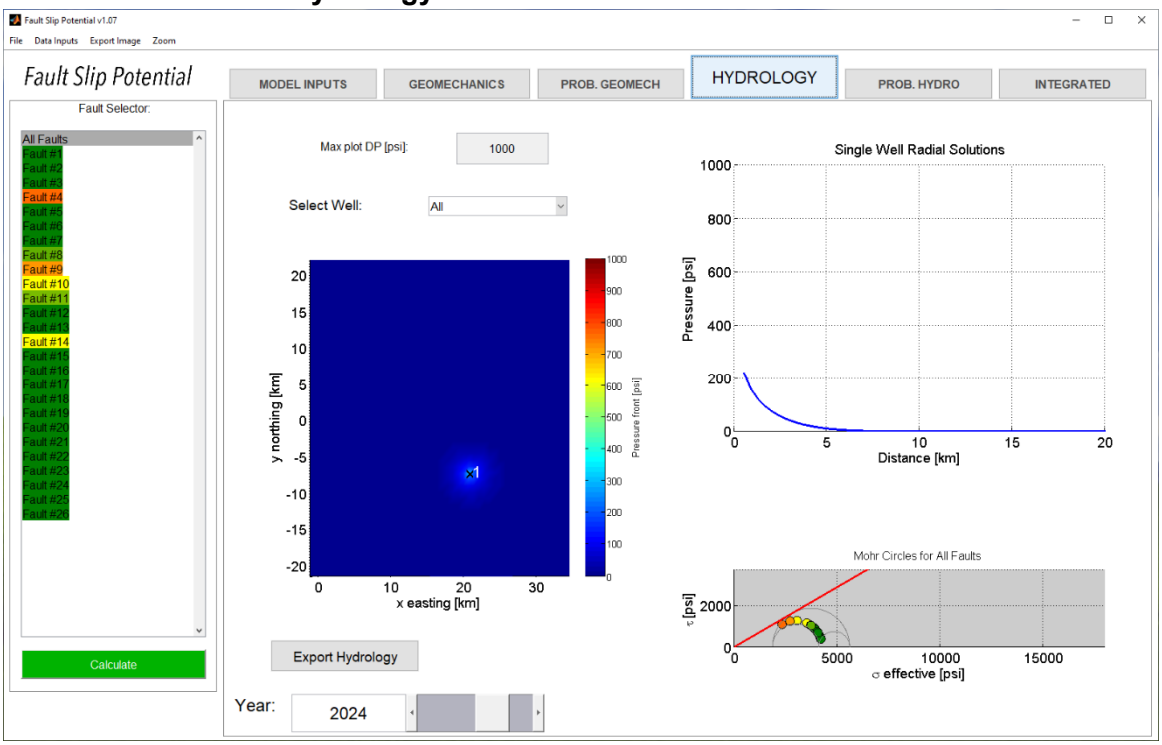
PreCambrian Geomechanics Pore Pressure to Slip



PreCambrian GeoMechanics Variability

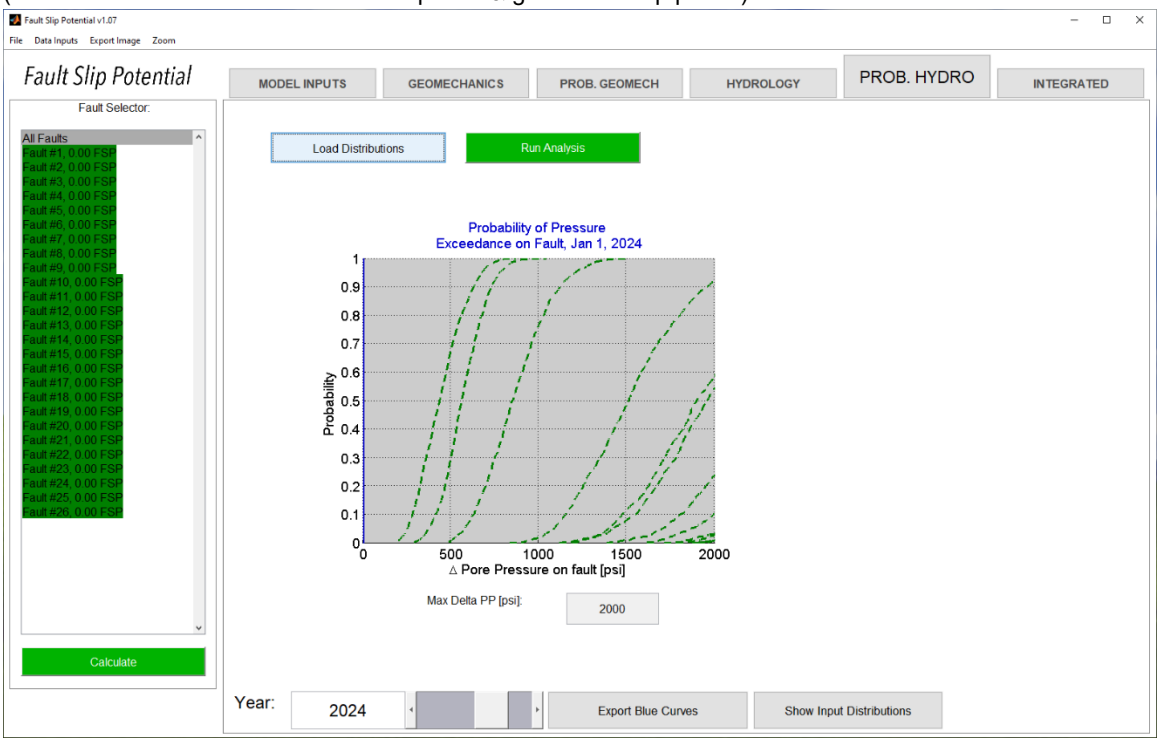


PreCambrian Year 5 Hydrology



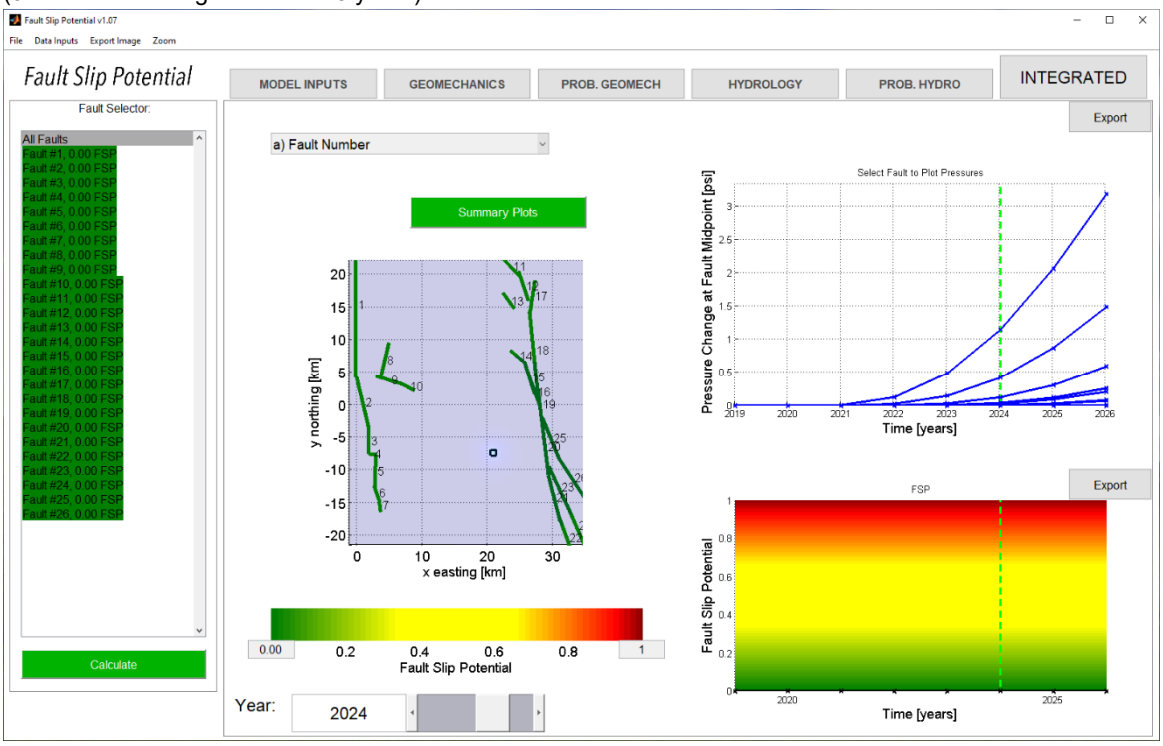
PreCambrian Year 5 Probabilistic Hydrology

(note no crossover between blue delta-press. & green fault slip press.)

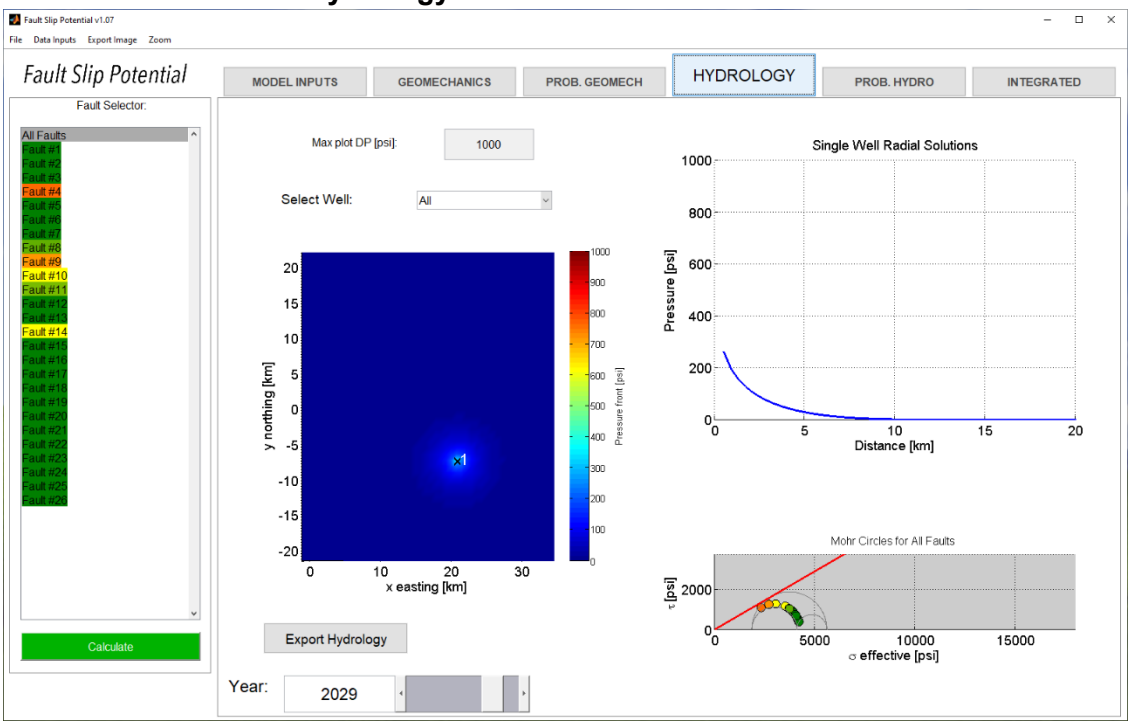


PreCambrian Year 5 Fault Slip Probability

(0% for all fault segments after 5 years)

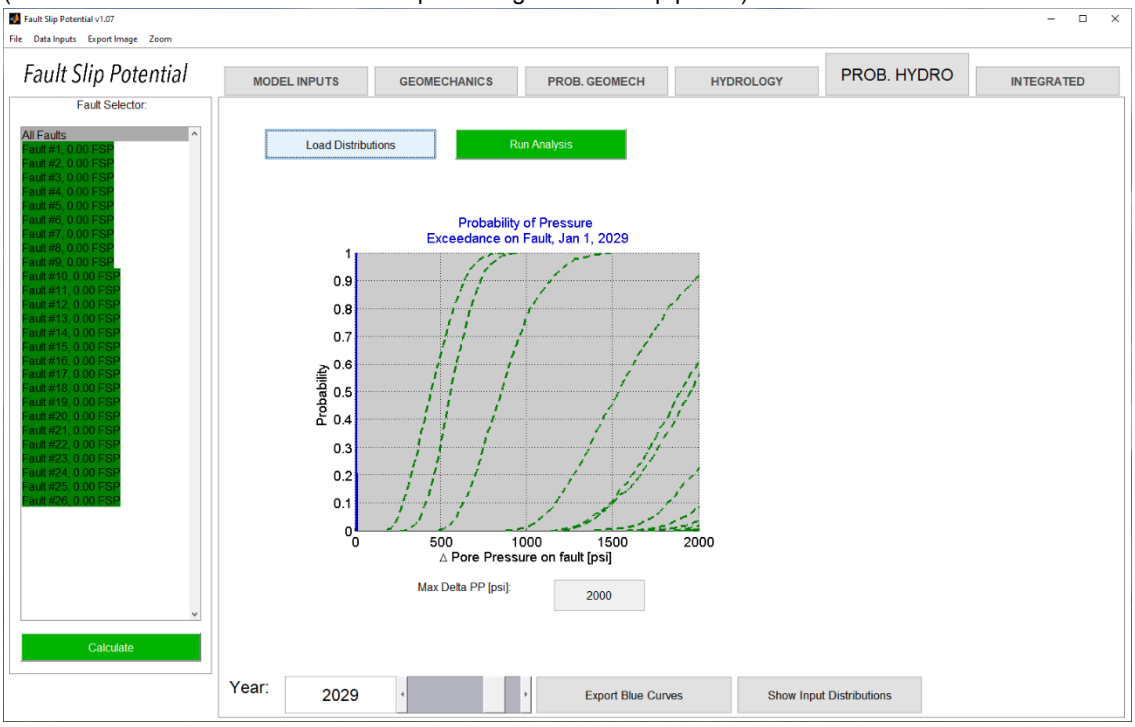


PreCambrian Year 10 Hydrology



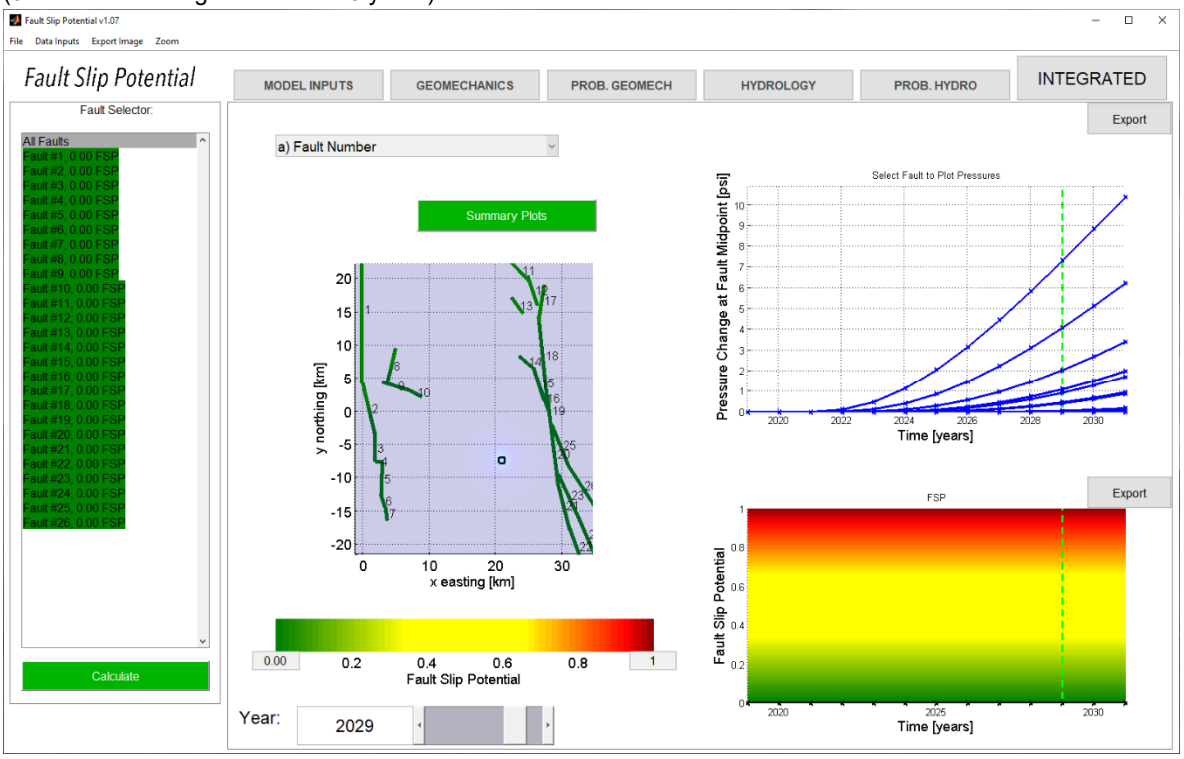
PreCambrian Year 10 Probabilistic Hydrology

(note no crossover between blue delta-press. & green fault slip press.)

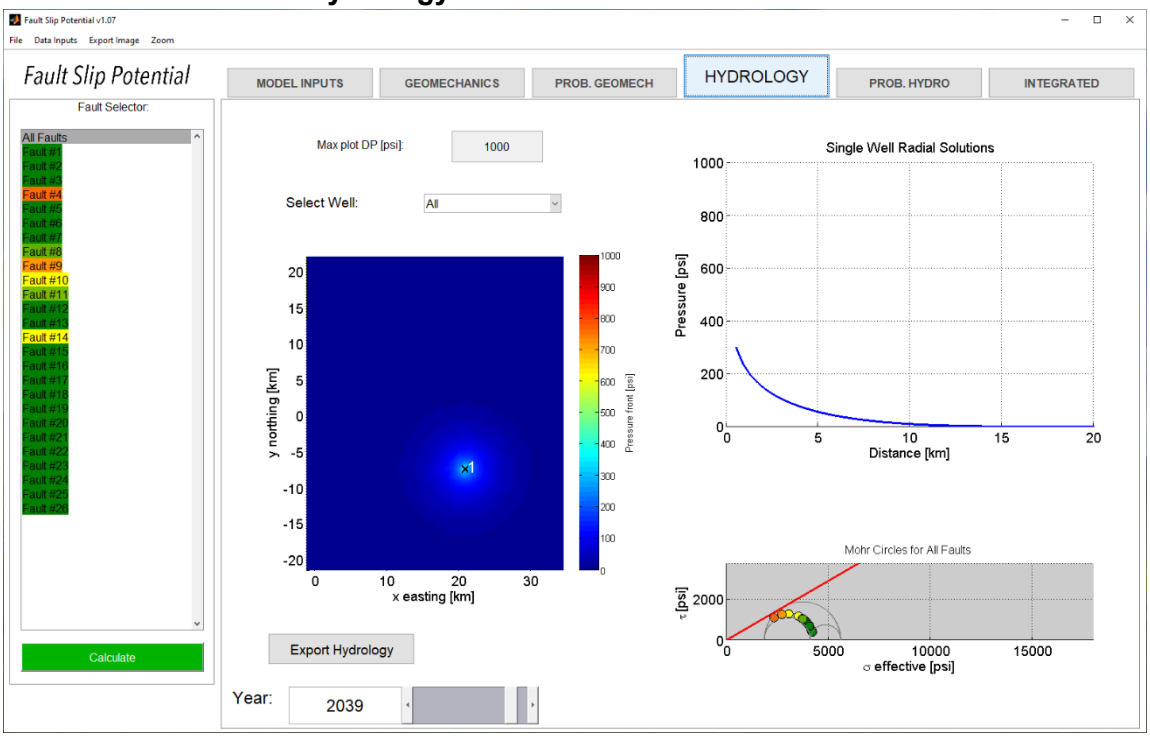


PreCambrian Year 10 Fault Slip Probability

(0% for all fault segments after 10 years)

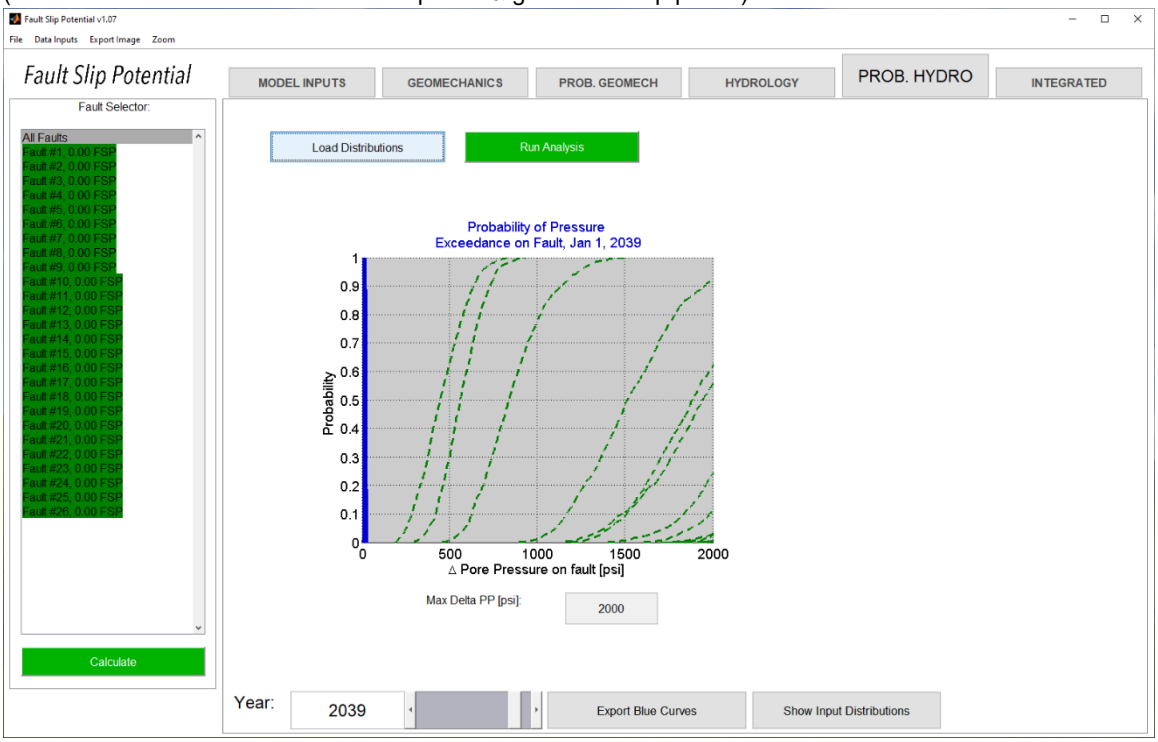


PreCambrian Year 20 Hydrology



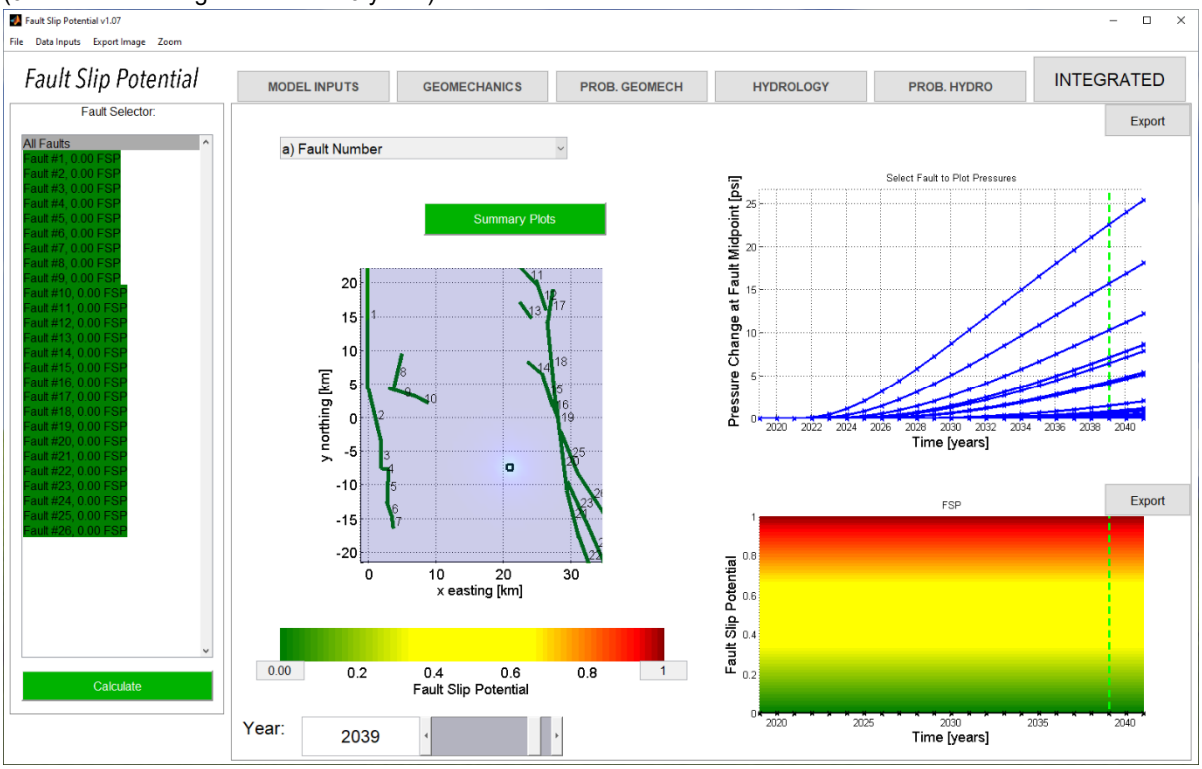
PreCambrian Year 20 Probabilistic Hydrology

(note no crossover between blue delta-press. & green fault slip press.)

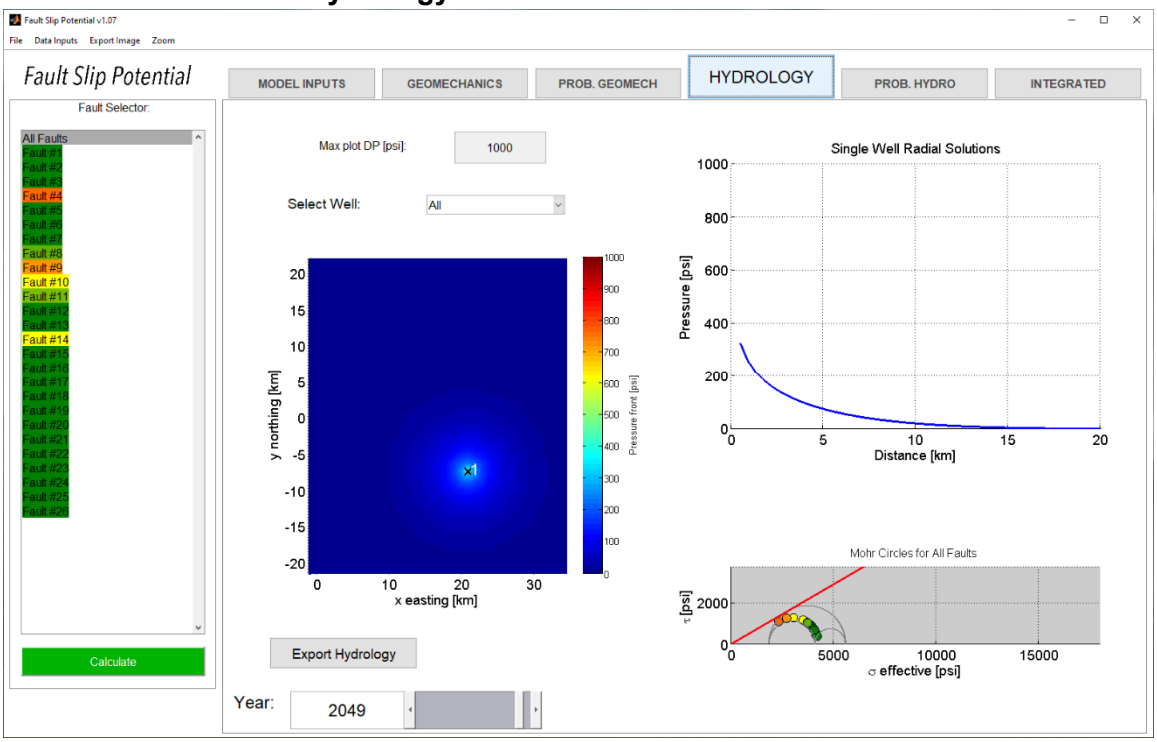


PreCambrian Year 20 Fault Slip Probability

(0% for all fault segments after 20 years)

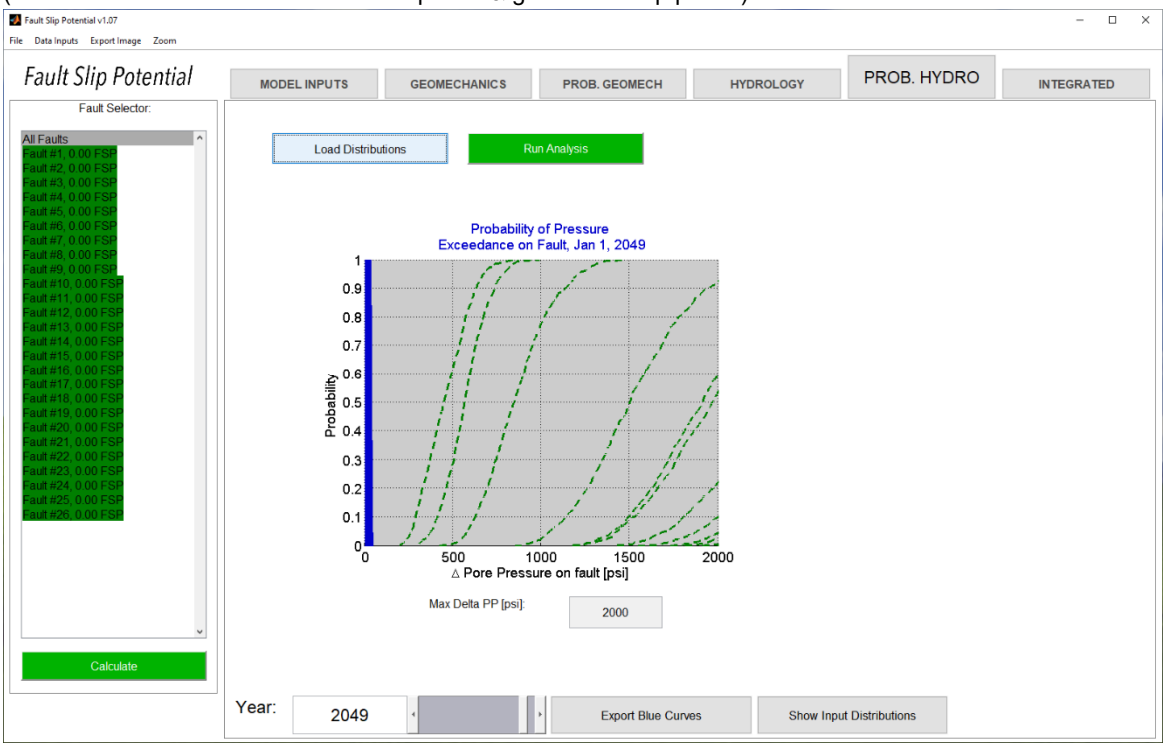


PreCambrian Year 30 Hydrology



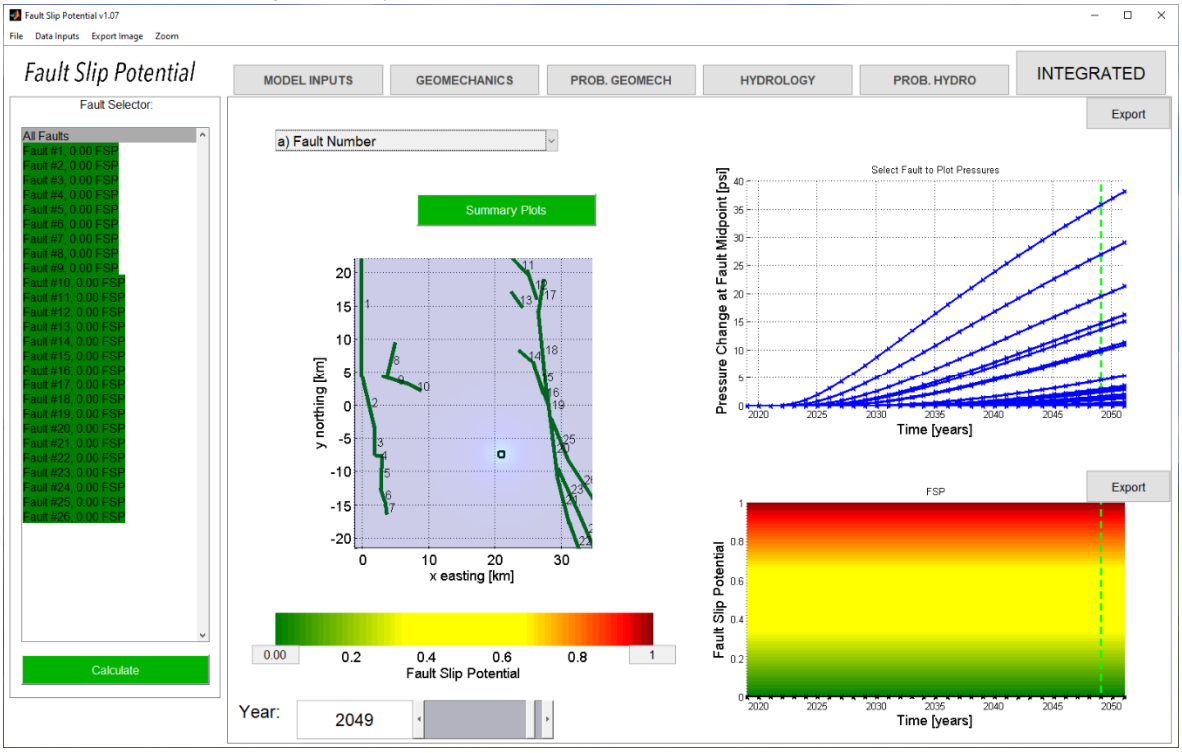
PreCambrian Year 30 Probabilistic Hydrology

(note no crossover between blue delta-press. & green fault slip press.)



PreCambrian Year 30 Fault Slip Probability

(0% for all fault segments after 30 years. 36 psi fault delta pressure is much less than the 3322 psi required for fault slip in the closest fault segment #20)

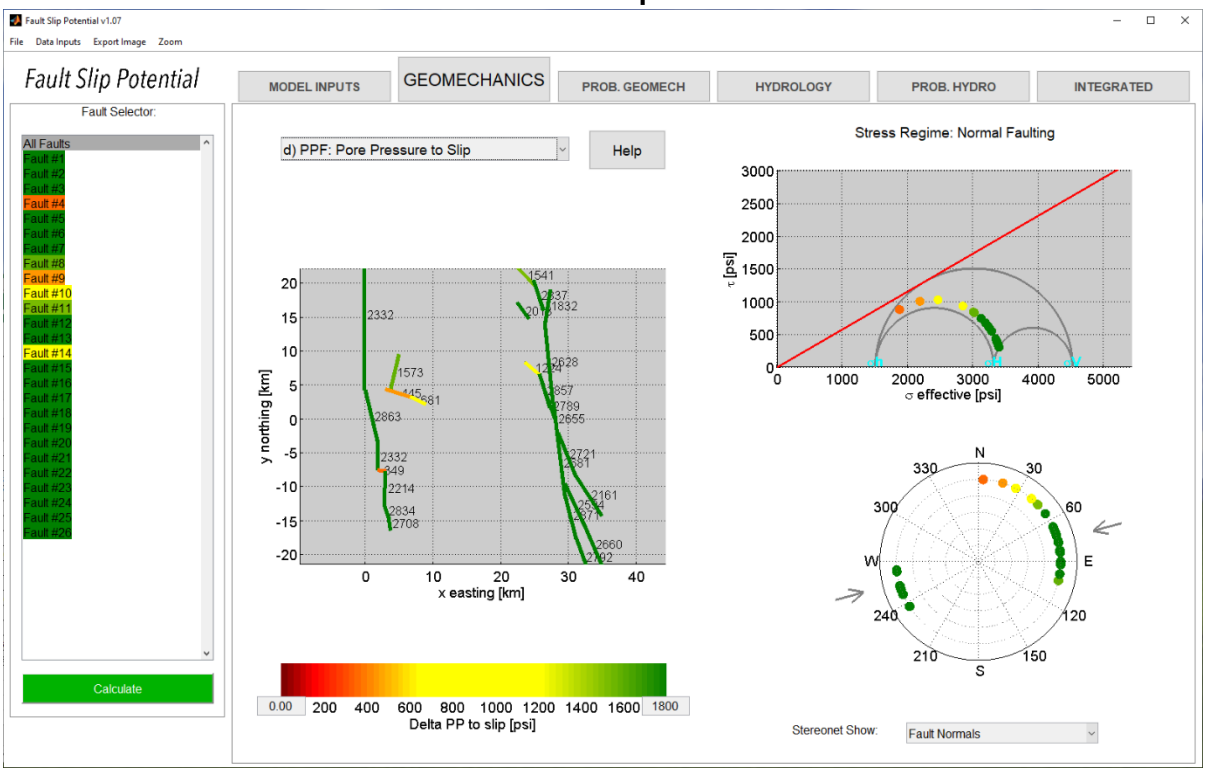


Part 6 b: Devonian Fault Scenario

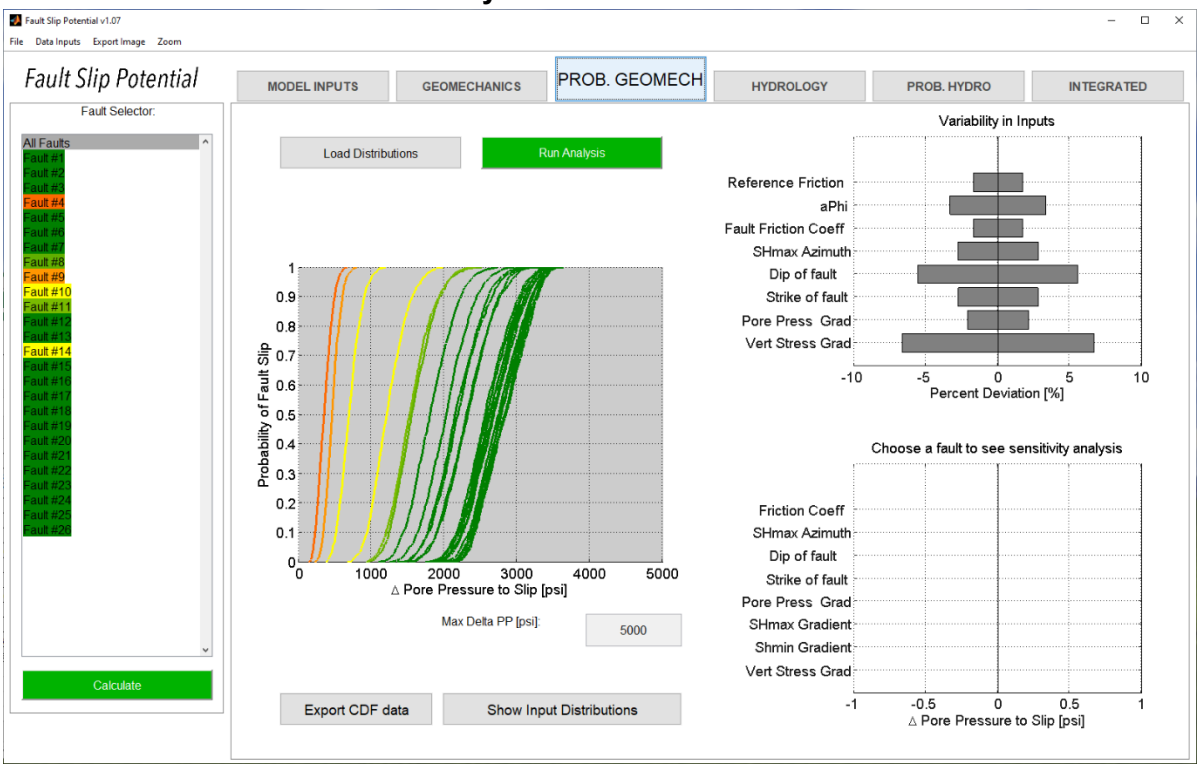
Devonian input assumptions:

Rate (BBL/day)	50000
Interval height (ft)	1942
Weighted Average Porosity (%)	3.3
Vert stress gradient (psi/ft)	0.75
Hor stress direction (deg N)	75
Fault dip (deg)	75
Ref depth (ft)	16142
Initial res press gradient (psi/ft)	0.47
A phi	0.6
Friction coefficient	0.58
Weighted average perm (mD)	19
Fluid density (kg/m3)	1100
Dynamic viscosity (Pa-s)	0.0003
Fluid compressibility (/Pa)	4 e-10
Rock compressibility (/Pa)	1.08 e-09

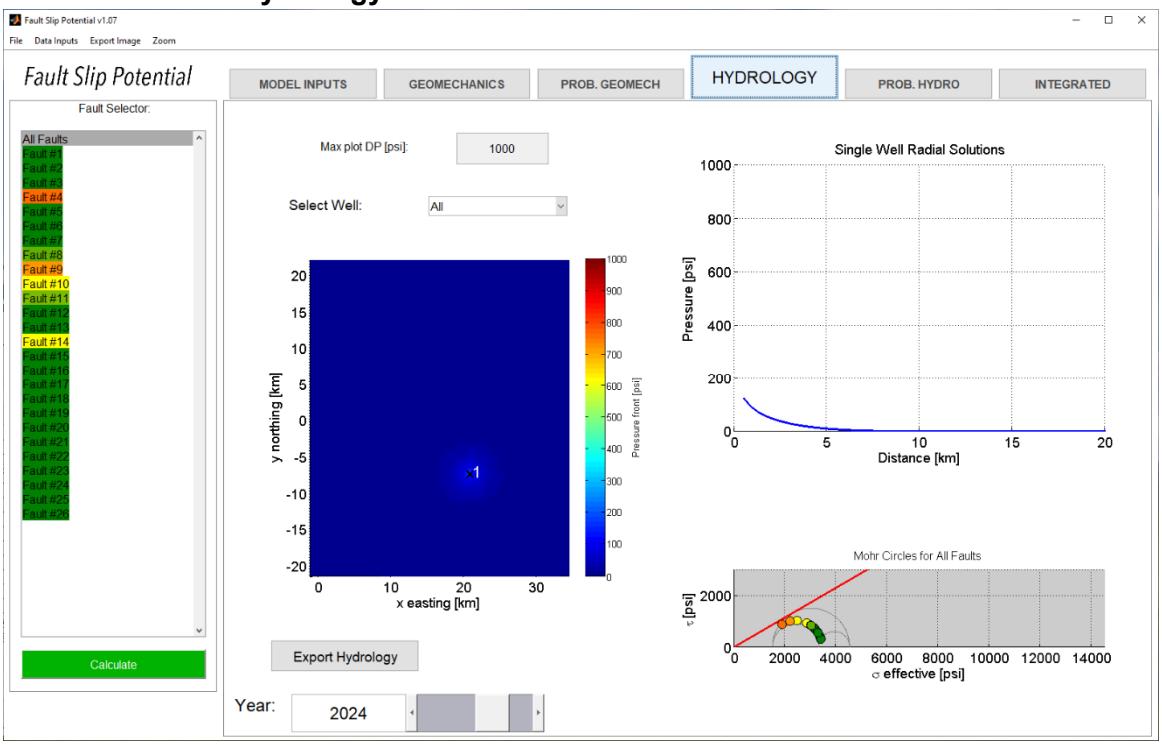
Devonian Geomechanics Pore Pressure to Slip



Devonian GeoMechanics Variability

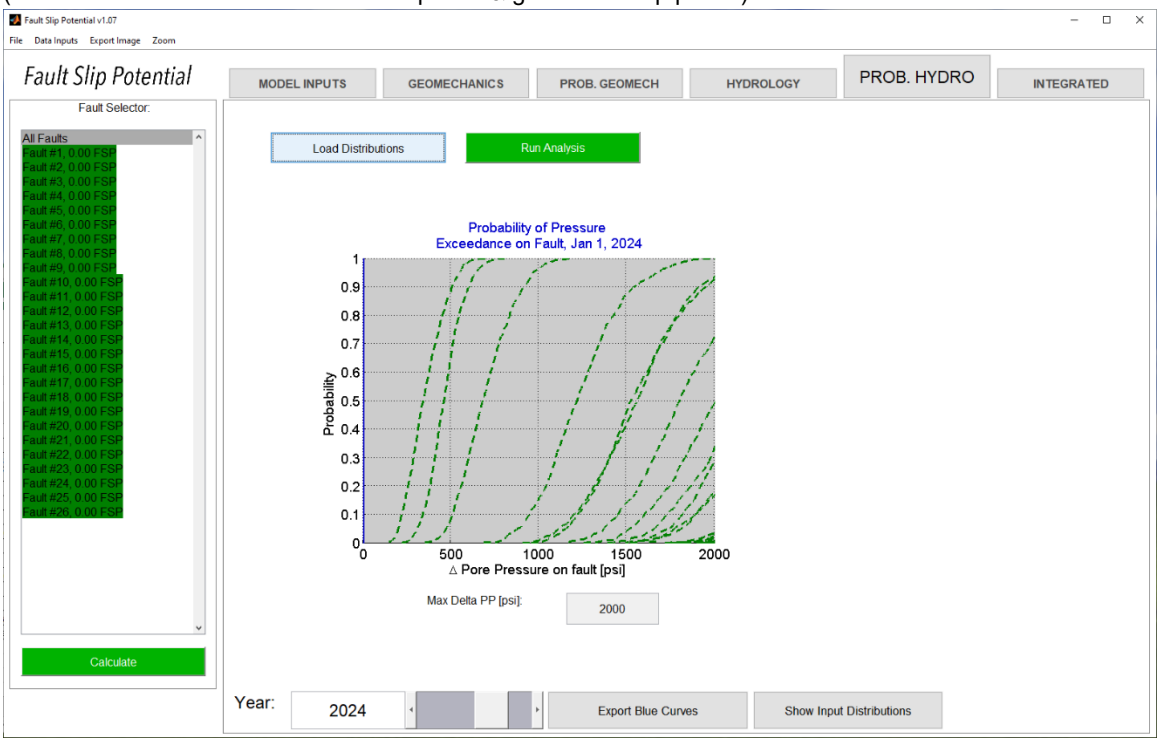


Devonian Year 5 Hydrology



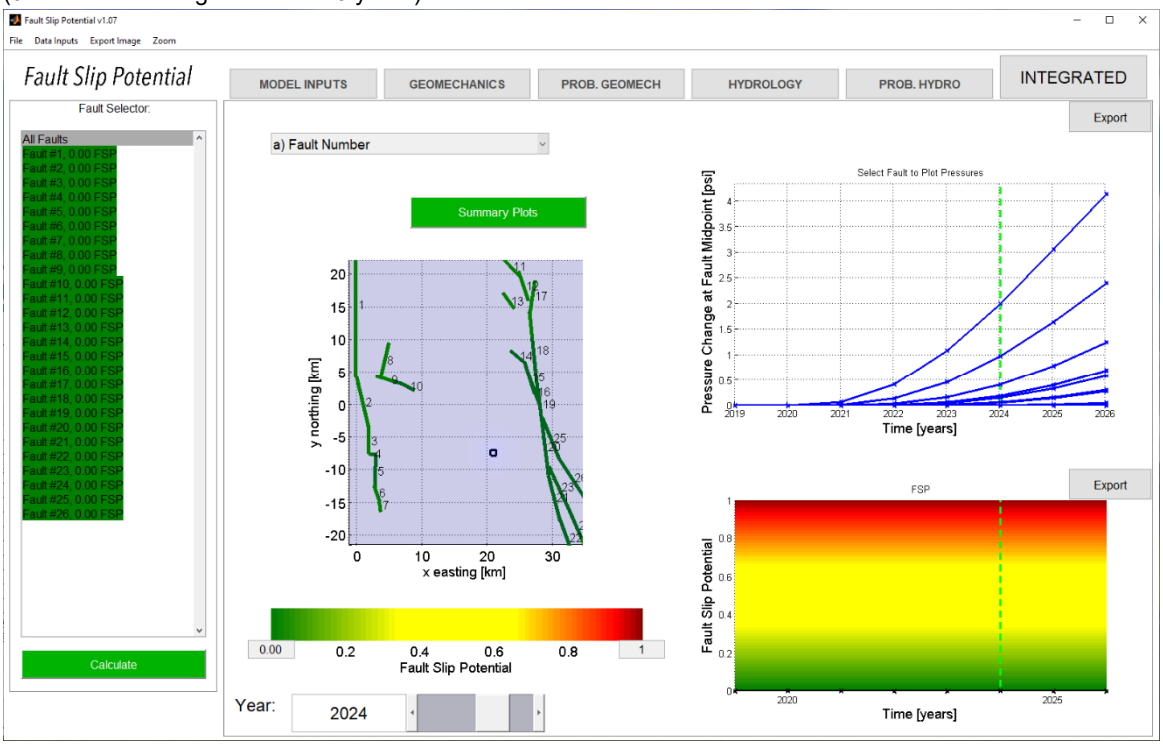
Devonian Year 5 Probabilistic Hydrology

(note no crossover between blue delta-press. & green fault slip press.)

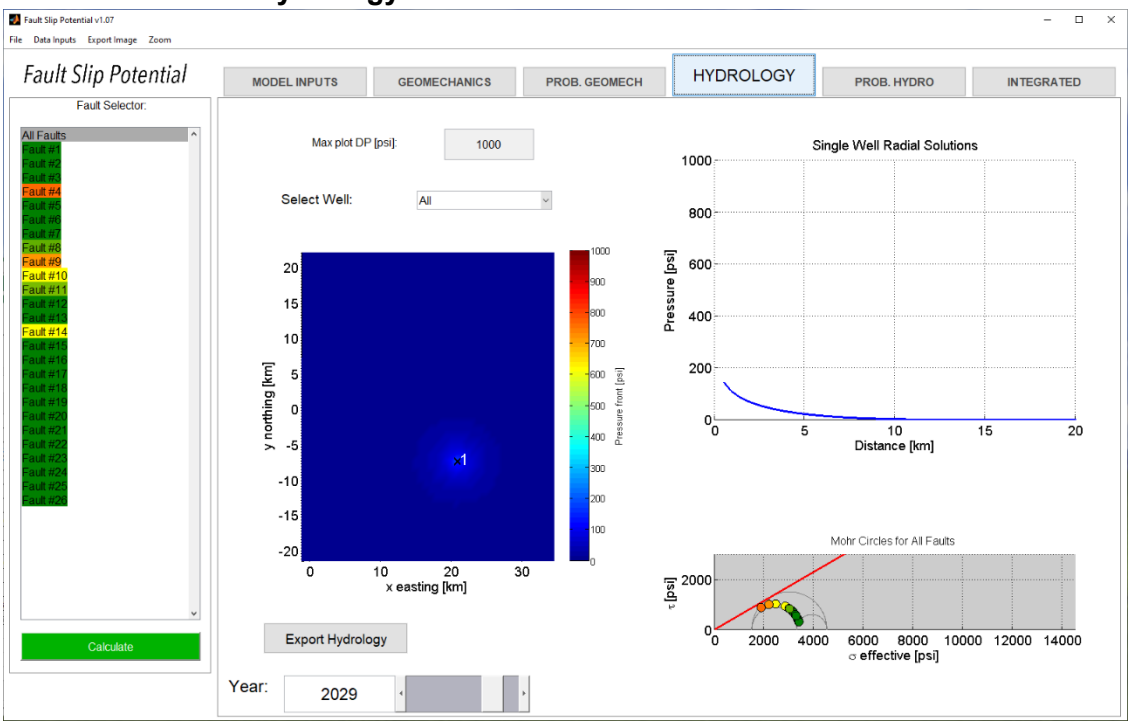


Devonian Year 5 Fault Slip Probability

(0% for all fault segments after 5 years)

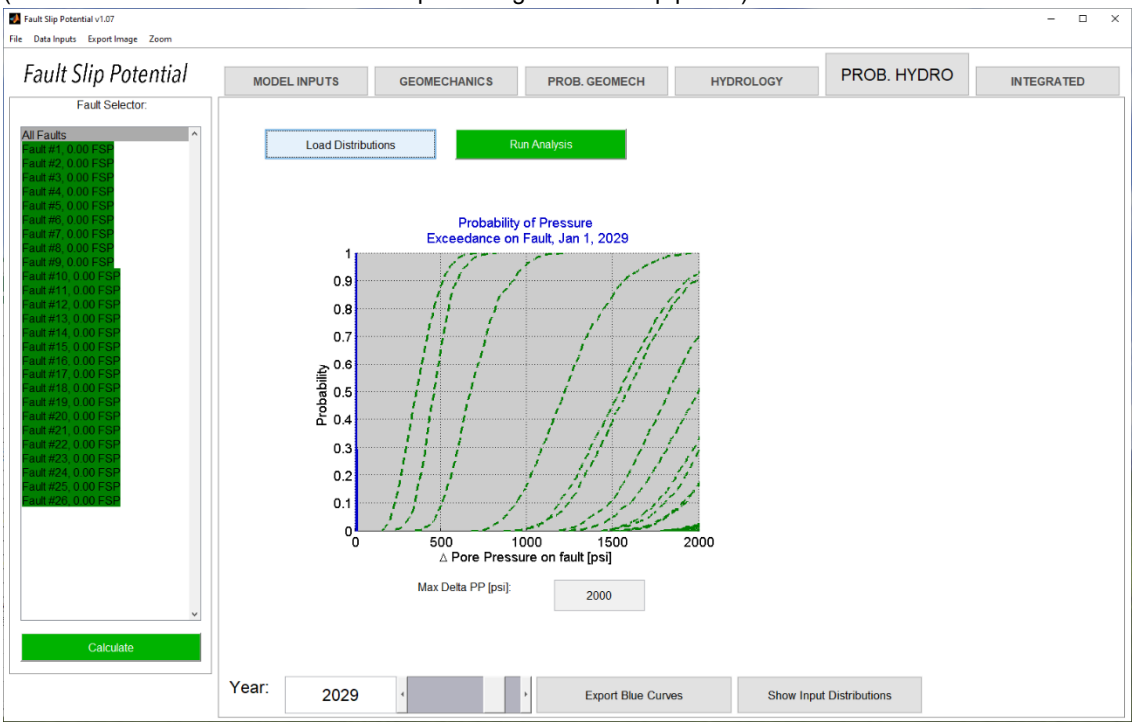


Devonian Year 10 Hydrology



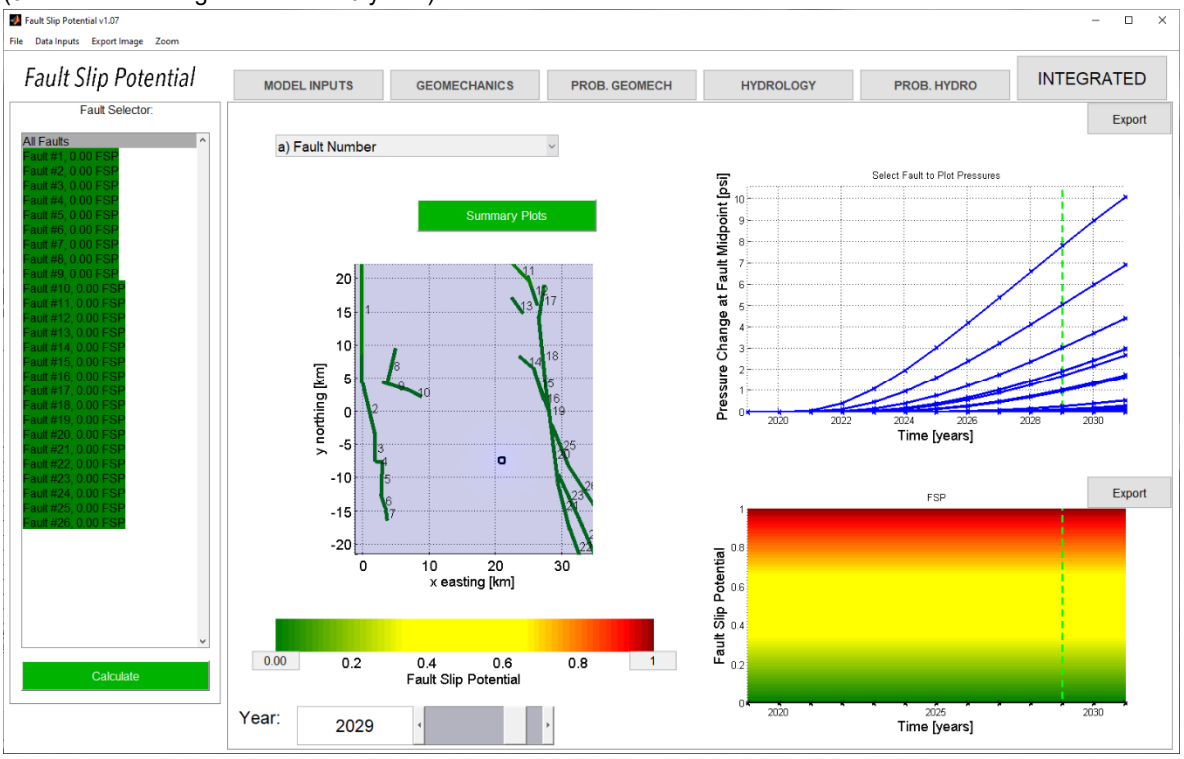
Devonian Year 10 Probabilistic Hydrology

(note no crossover between blue delta-press. & green fault slip press.)

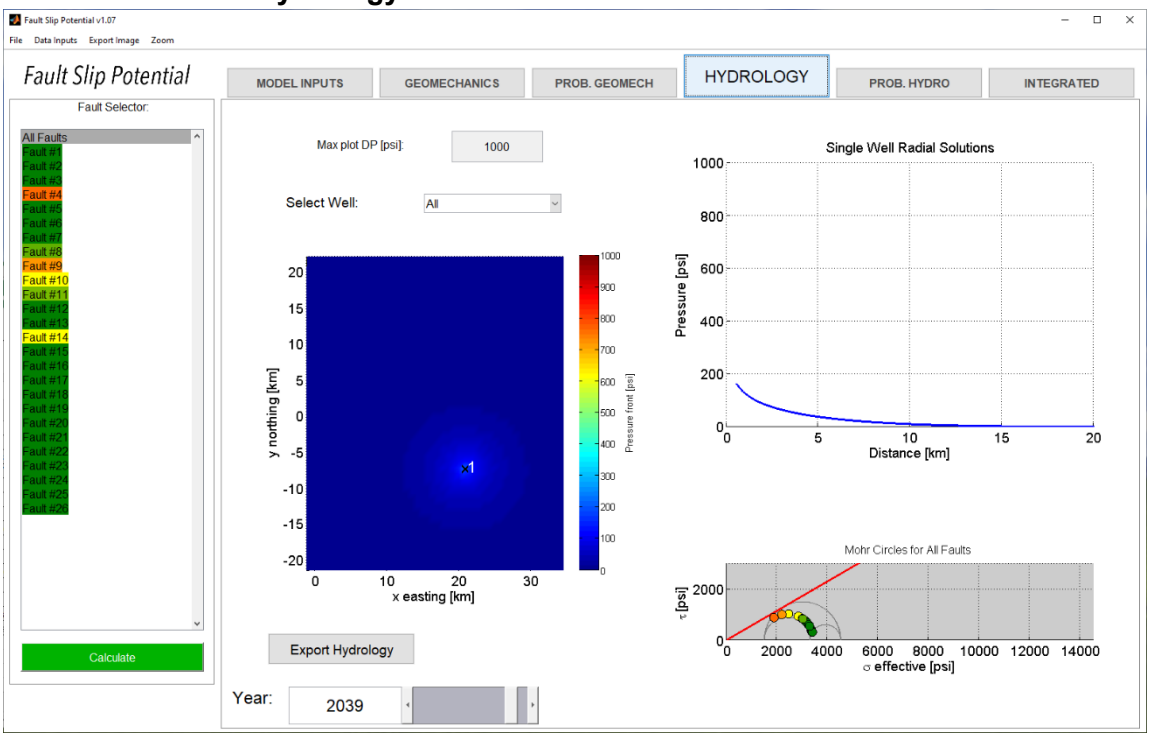


Devonian Year 10 Fault Slip Probability

(0% for all fault segments after 10 years)

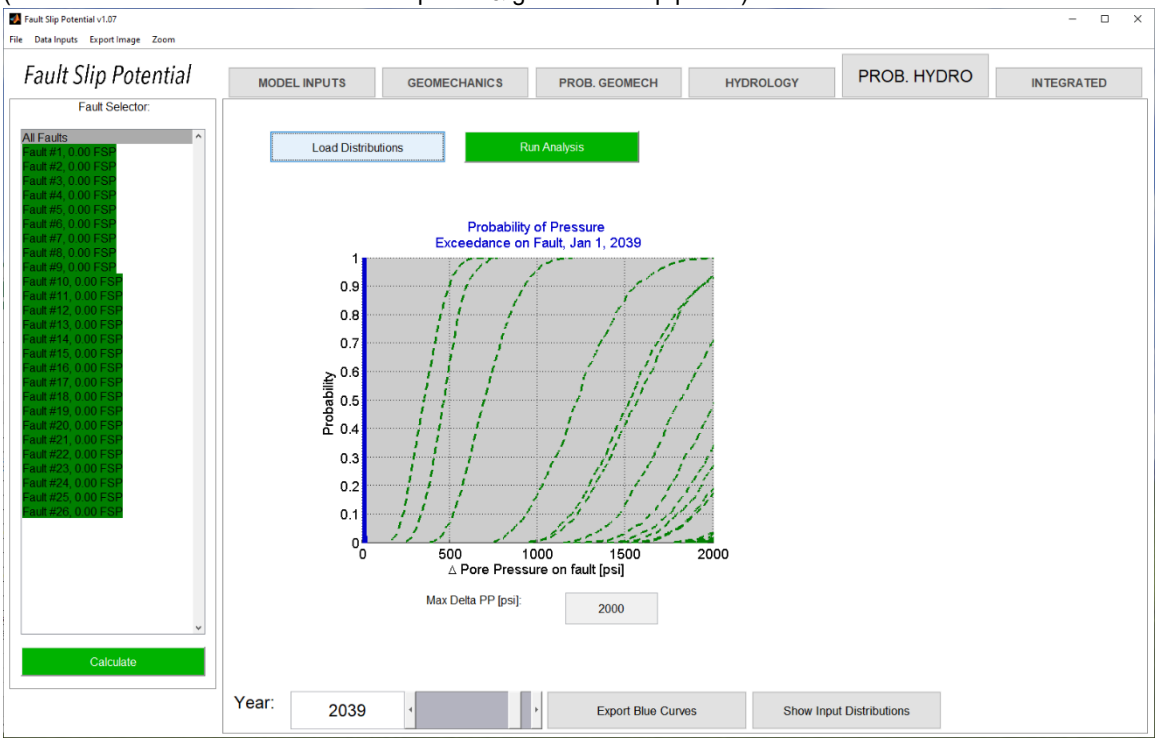


Devonian Year 20 Hydrology



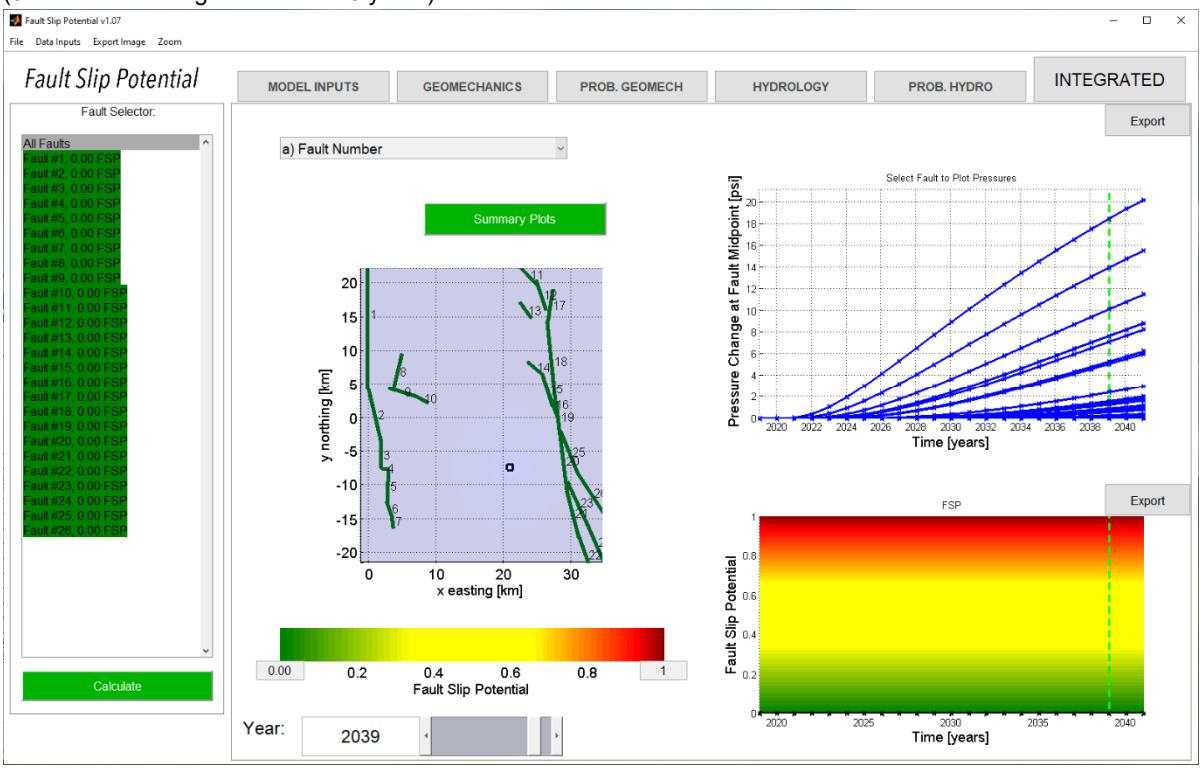
Devonian Year 20 Probabilistic Hydrology

(note no crossover between blue delta-press. & green fault slip press.)

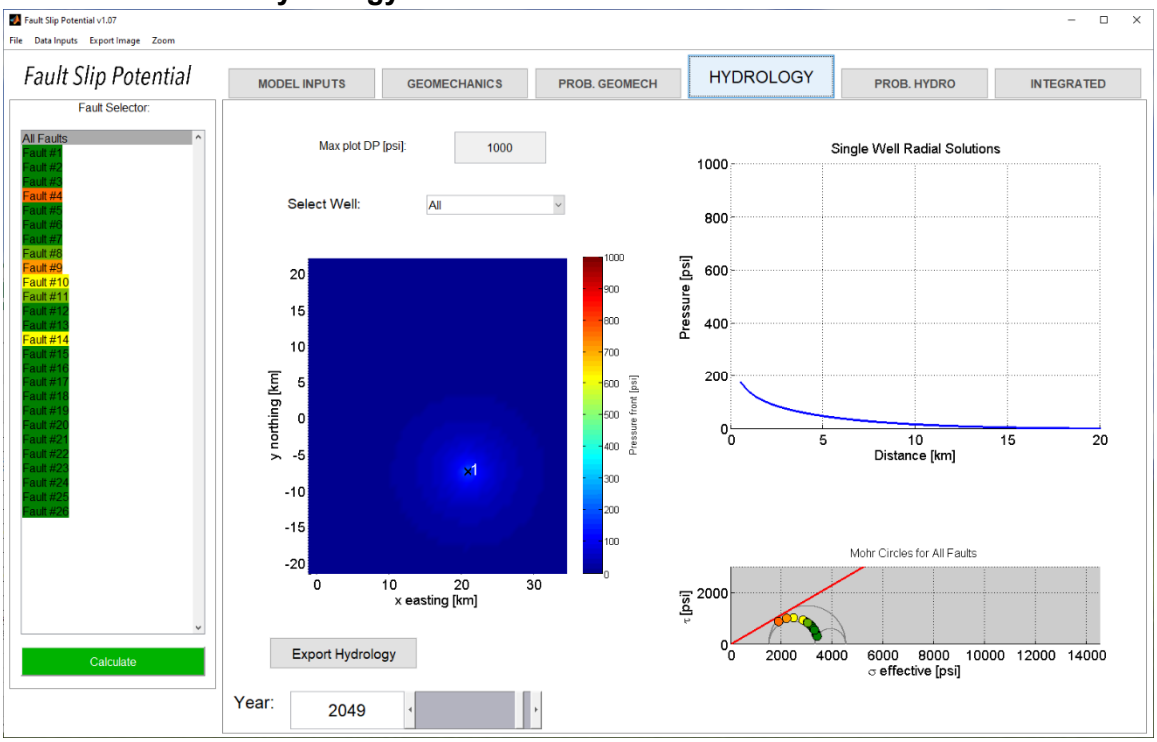


Devonian Year 20 Fault Slip Probability

(0% for all fault segments after 20 years)

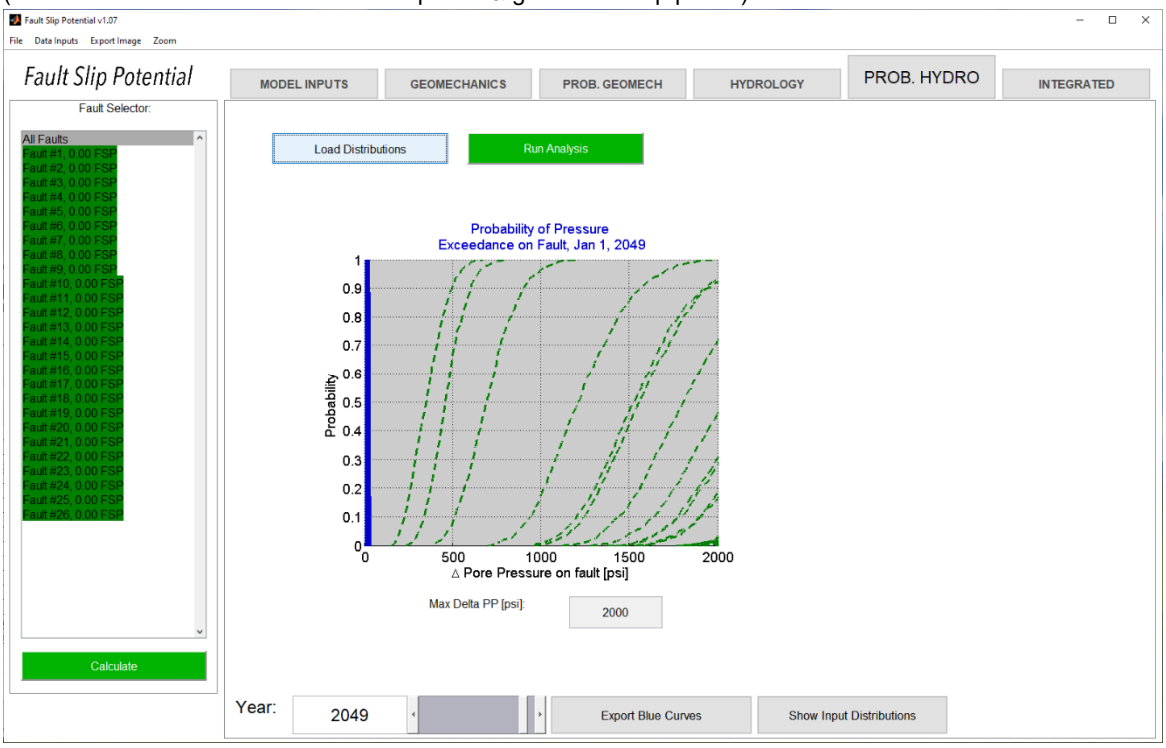


Devonian Year 30 Hydrology



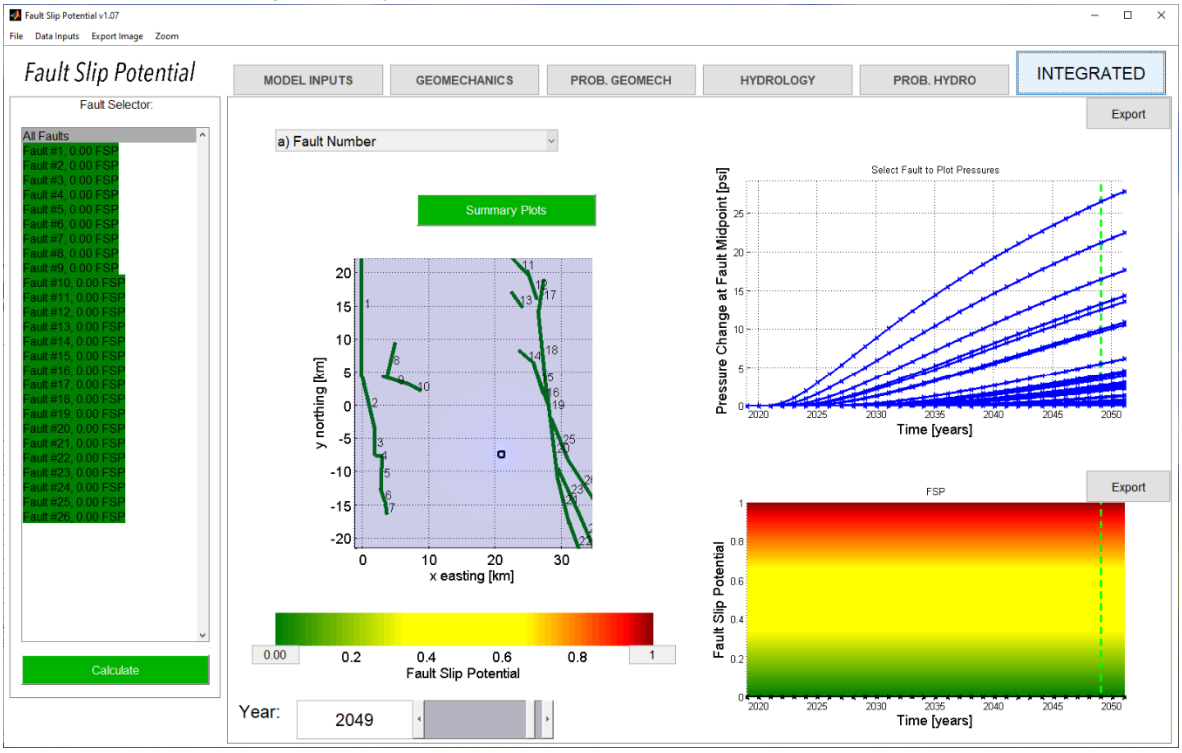
Devonian Year 30 Probabilistic Hydrology

(note no crossover between blue delta-press. & green fault slip press.)



Devonian Year 30 Fault Slip Probability

(0% for all fault segments after 30 years. 27 psi fault delta pressure is much less than the 2681 psi required for fault slip in the closest fault segment #20)



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