MODRALL SPERLING

LAWYERS

January 11, 2018

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VIA E-MAIL & U.S. MAIL

Mr. Matthias Sayer
Oil Conservation Division
New Mexico Department of Energy,
Minerals and Natural Resources
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

Re: Application of Mesquite SWD, Inc. to amend to the approved tubing size in Administrative Order SWD-1681-A.

Dear Acting Director Sayer:

Mesquite SWD, Inc. ("Mesquite"), OGRID No. 161968, requests to amend the tubing size approved for the Deep Purple SWD Well No. 1 (the "Well") in Administrative Order SWD-1681-A (the "Order"). A copy of the order is attached hereto as **Exhibit A**. In the Order, the Division approved the use of a tapered string of tubing which consists of internally-coated, 5 ½-inch or smaller tubing inside the surface and intermediate casings, and a 4 ½-inch or smaller tubing inside the liner. Exhibit A, p. 2. Mesquite asks that the Division issue an amended order which allows for the use of 5 ½ tubing for the entire well. No other amendments to the Order are being requested.

On November 9, 2017, the New Mexico Oil Conservation Commission (the "Commission") heard an application in Case No. 15654 involving a similar request for wells within the same geographic area where the Well is located. The Commission approved Mesquite's request to change the tubing sizes for those wells in Order No. R-14392-A. The Commission found in that case that tubing sizes could be increased to 5 ½-inch tubing if there was adequate evidence presented by a geologist, engineer, seismologist, and fishing expert that 5 ½-inch tubing is acceptable within the area where the well will be drilled. Attached to this application (as **Exhibits B, C, D, and E**) are declarations from the exact same experts who testified in Case No. 15654. These experts confirm that they have looked at the plans for the Deep Purple SWD Well, and that the use of 5 ½-inch tubing is appropriate.

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Mesquite believes that this request should be approved administratively and should not require a hearing. The former Director, David Catanach, stated on the record in Case No. 15654 that future applications to increase tubing sizes could be approved administratively by the Division. An excerpt from that hearing is attached hereto as **Exhibit F**. In addition, the Division's Underground Injection Control Program Manual provides that changes in tubing size may be applied for by a letter to the Division that details the proposed change and includes supporting data. An excerpt from this manual is attached hereto as **Exhibit G**.

Mesquite has notified affected parties within a mile radius of the Well of this request, along with both the Bureau of Land Management and the New Mexico State Land Office (which both own surface interests within a mile or just beyond a mile where the well is located). These notices were sent on December 28, 2017 and Mesquite has not been contacted with any concerns or objections to this request. Proof that such notices were delivered is attached as **Exhibit H**. Additionally, attached to this application is a C-103 filed by Mesquite, requesting this change as **Exhibit I**.

Please let me know if you will need any additional information to approve this request.

Sincerely,

Jennifer L. Bradfute

APPLICATION OF MESQUITE SWD, INC.,
TO AMEND APPROVALS FOR
TUBING SIZE IN ADMINISTRATIVE ORDER SWD-1681-A

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January 11, 2018

State of New Mexico
Energy, Minerals and Natural Resources Department

Administrative Order SWD-1681-A
November 9, 2017

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Pursuant to the provisions of Division Rule 19.15.26.8B. NMAC, Mesquite SWD, Inc. (the "operator") seeks an administrative order for its Deep Purple SWD Well No. 1 ("proposed well") with a location of 270 feet from the South line and 380 from the West line, Lot 4 (SW/4 SW/4 equivalent) of Section 30, Township 22 South, Range 32 East, NMPM, Lea County, New Mexico, for the purpose of commercial disposal of produced water.

This amended administrative order addresses the new surface location of the proposed well due to surface restrictions. This order supersedes the original administrative order, SWD-1681 dated August 8, 2017, and order SWD-1681 is void.

THE DIVISION DIRECTOR FINDS THAT:

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

The supplemental application for the amendment verified that the final location of the Deep Purple SWD Well No. 1 and did not change the list of penetrating wells in the Area of Review provided in the original application. This amendment is considered a minor modification and does *not change any requirements or conditions of the original order.*

IT IS THEREFORE ORDERED THAT:

The applicant, Mesquite SWD, Inc. (OGRID 161968), is hereby authorized to utilize its Deep Purple SWD Well No. 1 (API 30-025-44106) with a location of 270 feet from the South line and 380 from the West line, Lot 4 (SW/4 SW/4 equivalent) of Section 30, Township 22 South, *Range 32 East, NMPM, Lea County, for disposal of oil field produced water (UIC Class II only)* through an open hole interval consisting of the Devonian and Silurian formations from approximately 16975 feet to approximately 18135 feet.

EXHIBIT
tabbies
A

Injection will occur through either an internally-coated, 5½-inch or smaller tubing inside the surface and intermediate casings, and a 4½-inch or smaller tubing inside the liner. Further, a packer shall be set within 100 feet of the top of the open-hole interval.

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

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

IT IS FURTHER ORDERED THAT:

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

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

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

If significant hydrocarbon shows occur while drilling, the operator shall notify the Division's District I and the operator shall be required to receive written permission prior to commencing disposal.

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

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

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

completion and packer setting depths in this well.

The wellhead injection pressure on the well shall be limited to **no more than 3395 psi,** but may be modified by the Division Director following the completion of the initial Step-Rate Test. In addition, the disposal well or system shall be equipped with a pressure limiting device in workable condition which shall, at all times, limit surface tubing pressure to the maximum allowable pressure for this well.

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

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

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

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

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

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

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

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

David R. Catanach

DAVID R. CATANACH
Director

DRC/prg

cc: Oil Conservation Division – Hobbs District Office
Bureau of Land Management – Carlsbad Field Office
Well File 30-025-44106

DECLARATION OF KATE ZIGLER

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

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

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

3. I have obtained a bachelor's degree in geology from Rice University, a master's degree in paleontology from the University of New Mexico, and a Ph.D. in stratigraphy and paleomagnetism from the University of New Mexico. Additionally, I have completed several surface geologic maps for the New Mexico Bureau of Geology and Mineral Resource's Geologic Mapping Program as well as for independent operators who are exploring prospects within the western Permian Basin. I have also conducted a prior geologic study concerning what is commonly referred to as the Devonian and Silurian formations in Southeastern New Mexico to help determine whether the approval of 5 ½" tubing is appropriate in Devonian and Silurian salt water disposal wells, approved by the New Mexico Oil Conservation Division.

4. I am familiar with the application that Mesquite SWD, Inc. has filed in this matter, and I have conducted a geologic study of the lands which are the subject matter of that application.

5. The applicant, Mesquite SWD, Inc. (Mesquite) (OGRID 161968), seeks an order amending administrative order SWD-1681-A approving the Deep Purple SWD No. 1(API 30-025-44106) in order to allow an increase in the size of disposal tubing from a tapered string, using 5 ½" or smaller tubing inside of the surface and intermediate casings, and a 4 ½" or smaller tubing inside the liner to the use of 5 ½" tubing for the entire well.

6. The Deep Purple SWD No. 1 well is located 270 feet from the South line and 380 feet from the West line, Lot 4 (SW/4 SW/4 equivalent) of Section 30, Township 22S, Range 32 East, N.M.P.M., Lea County, New Mexico and has been approved for disposal of oil field produced water (UIC Class II only) through an open hole interval consisting of the Devonian and Silurian formations from approximately 16975 feet to approximately 18135 feet.

7. I have been informed that the injection interval will be isolated to a single formation and the well will have four strings of casing protecting the fresh water aquifer, the salt-bearing interval, the Permian aged rocks through the Wolfcamp Formation, and the depths to the top of the Devonian. The deepest casing 7 5/8", which is cemented and cement is circulated to the surface.

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

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

10. Below the injection zone for the well is the Simpson Group, which contains sequences of shale that make up approximately 55% of the total thickness of the formation in any given place and can likewise act as a permeability boundary which prevents fluids from migrating downwards into deeper formations and the basement rock. In the areas where the well is located, the Simpson Group is between 450 and 550 feet thick and, as a result, there is a significant thickness in this lower shale. Below the Simpson Group is the Ellenburger Formation, which is up to 1,000 feet thick.

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

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

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

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

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

I declare under penalty of perjury that the foregoing is true and correct.

/Kate Zeigler

Kate Zeigler

January 3, 2018

DATE

DECLARATION OF SUSAN BILEK

I, Dr. Susan Bilek, make the following declaration based upon my own personal knowledge.

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

2. I have worked as a professor at New Mexico Tech in Socorro, New Mexico since 2003 and teach courses in the areas of seismology and geophysics.

3. I have obtained a Bachelor of Science degree in geosciences at Penn State University and a master's degree and Ph.D. in earth sciences with a specialty in seismology at the University of California, Santa Cruz. I then completed a post-doctorate fellowship at the University of Michigan, also dealing with seismology research.

4. I am familiar with the application that Mesquite SWD, Inc. has filed in this matter, and I have conducted a study related to the area which is the subject matter of that application.

5. The applicant, Mesquite SWD, Inc. (Mesquite) (OGRID 161968), seeks an order amending administrative order SWD-1681-A approving the Deep Purple SWD No. 1(API 30-025-44106) in order to allow an increase in the size of disposal tubing from a tapered string, using 5 ½" or smaller tubing inside of the surface and intermediate casings, and a 4 ½" or smaller tubing inside the liner to the use of 5 ½" tubing for the entire well.

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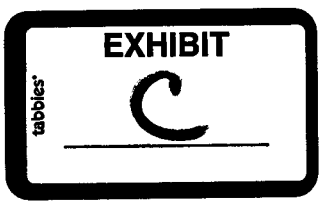


Silurian formations from approximately 16975 feet to approximately 18135 feet. The wellhead injection pressure on the well has been limited to no more than 3395 psi.

7. I have been informed that the well will be isolated to a single formation and will have four strings of casing protecting the fresh water, the salt interval, the Permian aged rocks through the Wolfcamp formation, and the depths to the top of the Devonian. The deepest casing is 7 5/8", which will be cemented and cement is circulated to the surface.

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

9. The injection zone for the well is located below the Woodford Shale. The Woodford Shale is an Upper Devonian unit which has low porosity and permeability and consists predominantly of mudstone with some carbonate bed. The Woodford Shale formation in the area where the well is located is between 80 feet to 140 feet thick.

10. Below the injection zone for the well is the Simpson Group, which is between 200 and 800 feet thick and, as a result, there is a significant thickness in this lower shale. Below the Simpson Group is the Ellenburger Formation, which is up to 1,000 feet thick.

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

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

of limestone and dolostone which has significant primary and secondary porosity and permeability that is collectively between 1,500 to 3,000 feet thick.

13. The closest known fault line is located approximately 16 miles away from where the wells are located.

14. New Mexico Tech University has gathered seismic monitoring data in areas near where the wells are located for several decades. This seismic data, along with data compiled from other sources, shows there has not been significant seismic activity within the area where the well is located.

15. I have also completed several different fault slip probability analysis, using a tool created by Stanford University. These fault slip potential models showed low probability of slip or earthquakes to known mapped faults located closest to the well. A copy of the studies are attached hereto as Exhibit A.

I declare under penalty of perjury that the foregoing is true and correct.

Susan L Bilek

Dr. Susan Bilek

January 5, 2018
DATE

Seismic Catalog Analysis within 25 km of **Deep Purple Well**:

Analysis based on NMT seismicity analysis using data from seismic network station within the SE New Mexico region.

Published catalogs span 1962-2009 (Sanford et al., 2002, Sanford et al., 2006, Stankova-Pursley et al., 2013) and unpublished catalogs from 2009 – September 2017.

Total of 8 events within 25 km of this well (between 1962-September 2017)

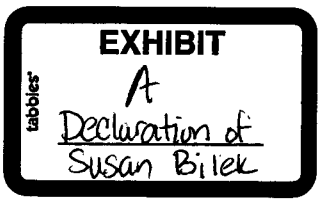
Catalog from 1962-2004: minimum magnitude 2.0, maximum magnitude 3.2
Closest event to well location: 20.8 km (magnitude 3.2 event)

Catalog from 2005-2017: minimum magnitude 0.5, maximum magnitude 2.4
Closest event to well location: 15.8 km (1.66 magnitude event)

Yearly summary of earthquakes within 25 km of Deep Purple Well:
1962_1998: 3 (3 earthquakes with magnitude greater than 2)
1998_2004:0
2005-2014: 3 (1 earthquake with magnitude greater than 2)
2015: 0
2016: 0 (0 > M2)
2017: 2 (0 > M2)

YYYYMMDD	HH:MM:SS.S	LATITUDE	LONGITUDE	MAGNITUDE
19741128	03:35:22.2	32.575	-103.944	4.0
19780119	03:42:36.5	32.561	-103.711	2.1
19971019	11:12:09.7	32.334	-103.936	3.2
20081020	00:24:17	32.57	-103.600	0.6
20111227	23:10:37.0	32.367	-103.950	1.6
20120318	10:57:22.0	32.300	-103.867	2.4
20170302	11:38:53.4	32.374	-103.881	1.66
20170211	14:34:27.4	32.291	-103.920	1.46

Earthquake depths are unconstrained.

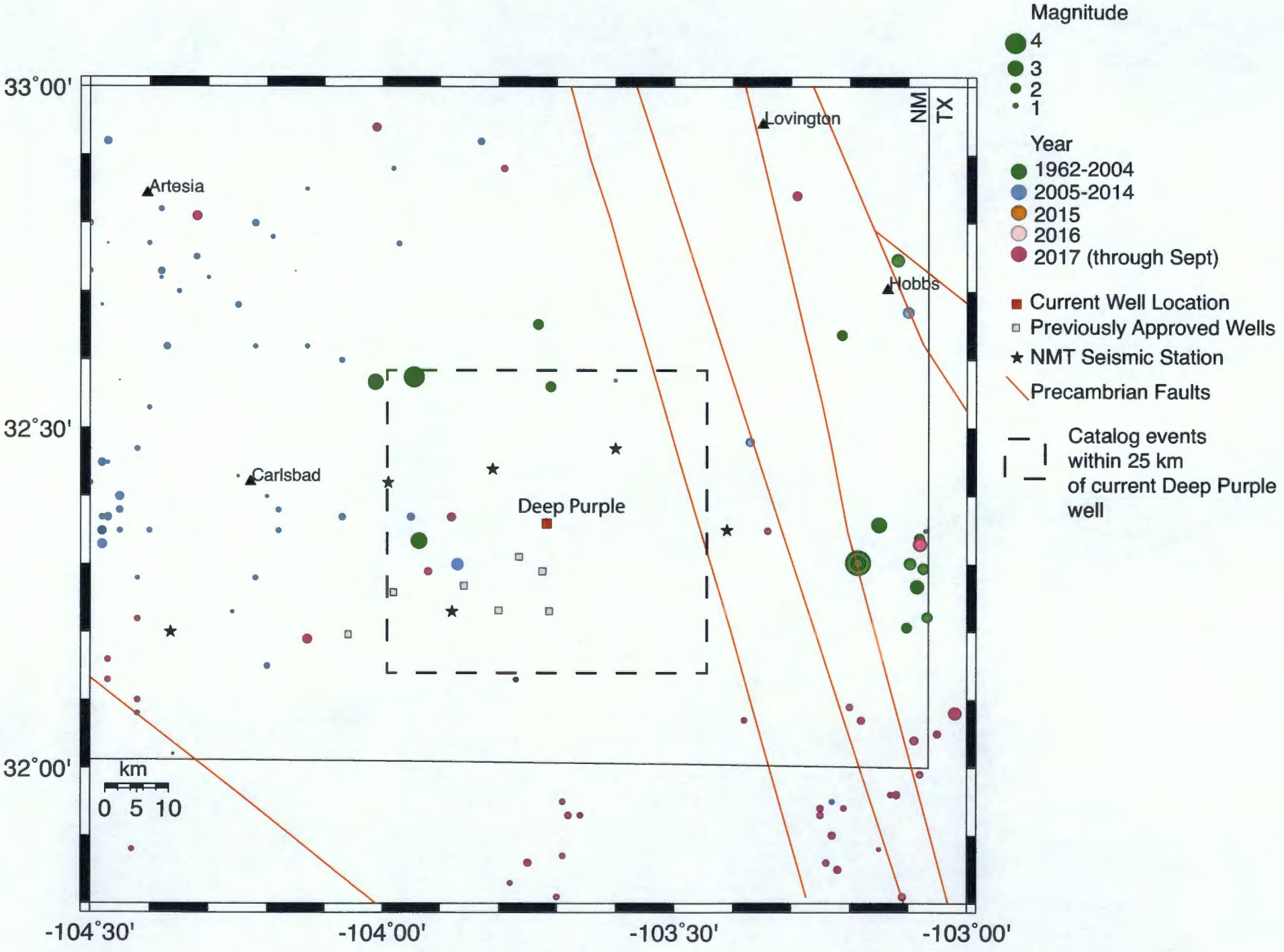


References:

Sanford, A. R., Lin, K-w., Tsai, I., and Jaksha, L. H., 2002, Earthquake catalogs for New Mexico and bordering areas: 1869–1998: New Mexico Bureau of Geology and Mineral Resources, Circular 210, 104 pp.

Sanford, A. R., Mayeau, T. M., Schlue, J. W., Aster, R. C., and Jaksha, L. H., 2006, Earthquake catalogs for New Mexico and bordering areas II: 1999–2004: New Mexico Geology, v. 28, no. 4, pp. 99–109.

Pursley, J., Bilek, S.L., and Ruhl, C.J., 2013, Earthquake catalogs for New Mexico and bordering areas: 2005–2009, New Mexico Geology, v. 35, no. 1, pp. 3–12;


Magnitude
4
3
2
1
Year
1962-2004
2005-2014
2015
2016
2017 (through Sept)
Current Well Location
Previously Approved Wells
NMT Seismic Station
Precambrian Faults
Catalog events within 25 km of current Deep Purple well
Artesia
Carlsbad
Deep Purple
Lovington
Hobbs
NM
TX
33°00'
32°30'
32°00'
-104°30'
-104°00'
-103°30'
-103°00'
km
0 5 10

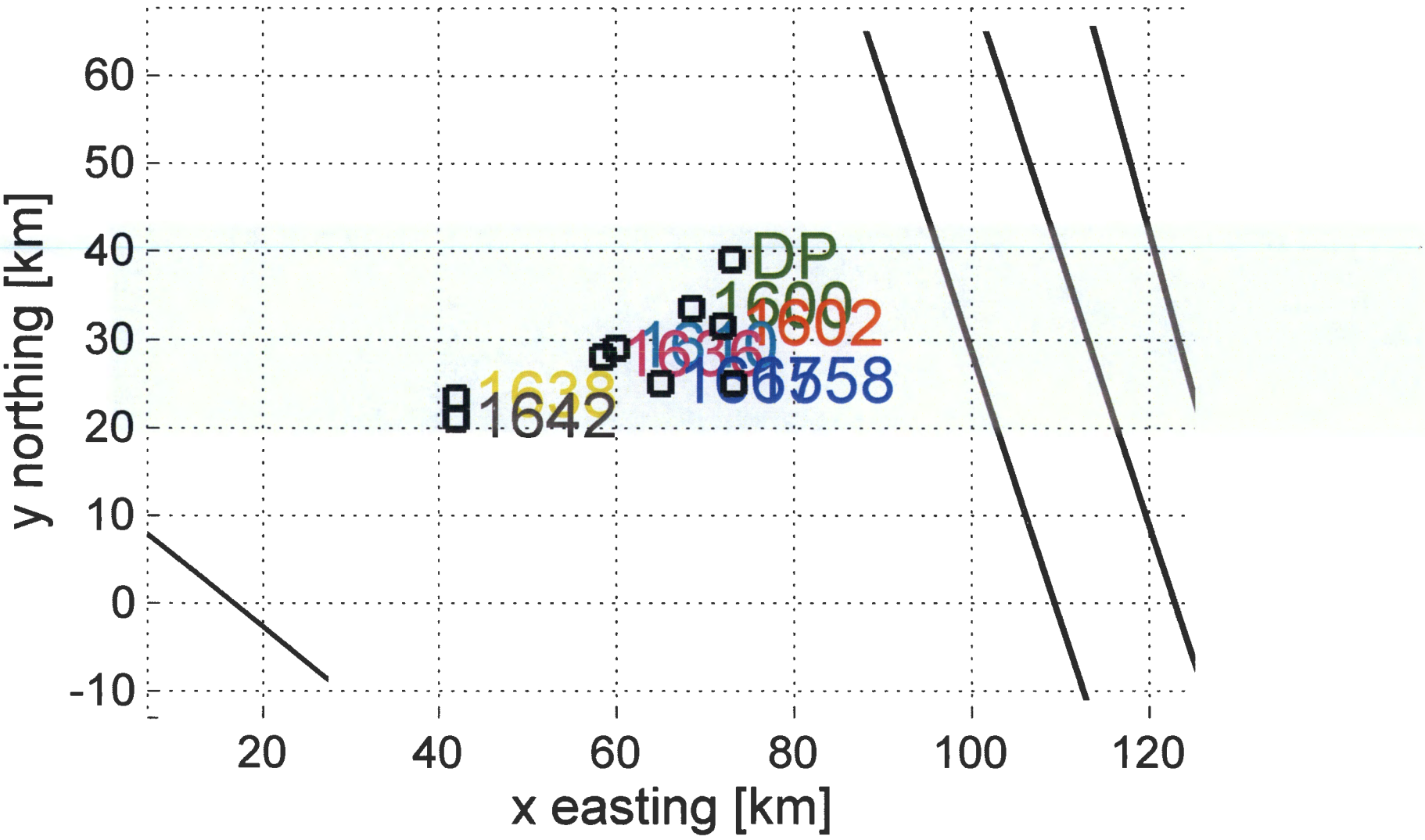
Analysis of Fault Slip Potential, using FSP 1.0 software from Stanford Center for Induced and Triggered Seismicity: Mesquite Well Deep Purple

Key Parameters	Range Tested	
SH_max	60,70,80,90	based on ranges from World Stress Map in SE NM, west TX
APhi	0.2,0.5.0.7	based on data from Hurd and Zoback, 2012
Injection thickness	1500 ft	
%porosity	**10**	
permeability (mD)	**15**,50	
fault dip	40,50,60,70,80	
fault friction	0.4,0.58	0.4-0.6 commonly used for rocks expected in region of interest

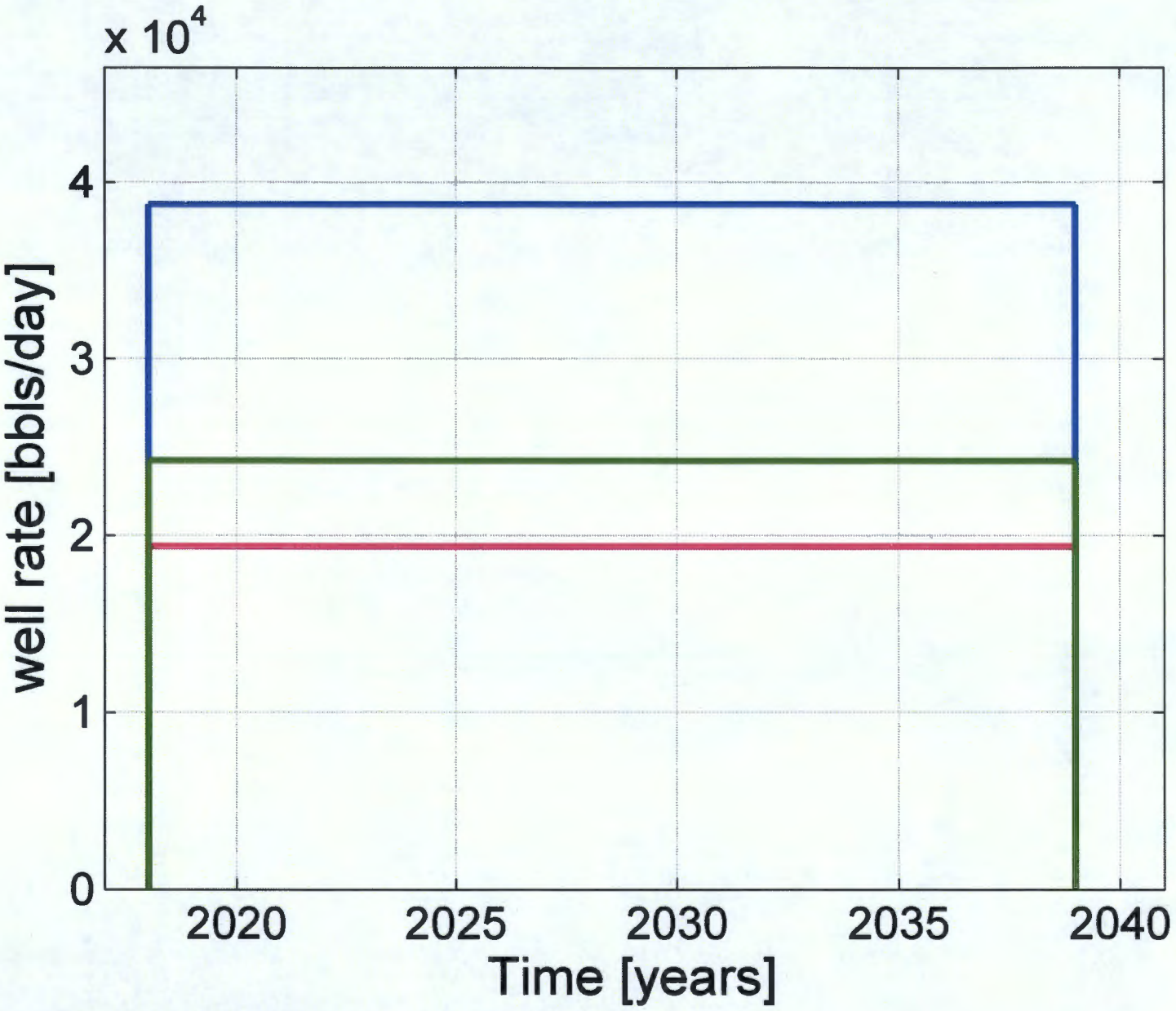
Majority of models tested led to 0% fault slip potential (FSP) on the mapped faults included in model

Results panels included here show range of fault slip potential from 0-16%, using parameters consistent with regional geology, stress conditions, and hydrologic parameters. Reducing fault friction to very low values could increase FSP, depending on fault and stress geometry. Similarly, the 16% fault slip potential resulted on the southwestern fault when using SH_max values of 90°, at the maximum range of values possible from data in the World Stress Map in the region.

Other tests of permeability and porosity ranges increased the pressure change on fault, but did not significantly change FSP.



Model domain containing faults (black lines) and well locations. DP (square) is the Deep Purple well, the other wells (squares) are previously approved Mesquite wells.



Injection rates for each of the wells shown in well map (previous page). This includes Deep Purple well injection rates from application, as well as previously approved Mesquite SWD wells in the region.

Sample Results - This case using parameters:
SH_max: 80°
APhi: 0.5
Fault dip: 40°
Fault friction: 0.4 (results at 0.58 are same)

Fault slip potential (FSP) on all 4 mapped faults is 0. This results is similar to most other parameter sets, with the exception of SH_Max=90°. In those cases, the FSP on the southwestern fault rises to 16%.

DECLARATION OF SCOTT J. WILSON

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

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

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

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

4. I am familiar with the application that Mesquite SWD, Inc. has filed in this matter, and I have conducted a nodal analysis and reservoir study related to the area which is the subject matter of that application.

5. The applicant, Mesquite SWD, Inc. (Mesquite) (OGRID 161968), seeks an order amending administrative order SWD-1681-A approving the Deep Purple SWD No. 1(API 30-025-44106) in order to allow an increase in the size of disposal tubing from a tapered string, using 5 ½" or smaller tubing inside of the surface and intermediate casings, and a 4 ½" or smaller tubing inside the liner to the use of 5 ½" tubing for the entire well.

6. The Deep Purple SWD No. 1 well is located 270 feet from the South line and 380 feet from the West line, Lot 4 (SW/4 SW/4 equivalent) of Section 30, Township 22S, Range 32 East, N.M.P.M., Lea County, New Mexico and has been approved for disposal of oil field produced water (UIC Class II only) through an open hole interval consisting of the Devonian and

Silurian formations from approximately 16975 feet to approximately 18135 feet. The wellhead injection pressure on the well has been limited to no more than 3395 psi.

7. I have been informed that the well will be isolated to a single formation and will have four strings of casing protecting the fresh water, the salt interval, the Permian aged rocks through the Wolfcamp formation, and the depths to the top of the Devonian. The deepest casing is 7 5/8", which will be cemented and cement is circulated to the surface.

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

9. The injection zone for the well is located below the Woodford Shale. The Woodford Shale is an Upper Devonian unit which has low porosity and permeability and consists predominantly of mudstone with some carbonate bed. The Woodford Shale formation in the area where the well is located is between 80 feet to 140 feet thick.

10. Below the injection zone for the well is the Simpson Group, which is between 200 and 800 feet thick and, as a result, there is a significant thickness in this lower shale. Below the Simpson Group is the Ellenburger Formation, which is up to 1,000 feet thick.

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

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

of limestone and dolostone which has significant primary and secondary porosity and permeability that is collectively between 1,500 to 3,000 feet thick.

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

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

15. I have reviewed step rate tests for similar disposal wells drilled within the area and conducted a nodal analysis. A copy of these studies are attached hereto as Exhibit A. It is my opinion that a large percentage of surface pressure it was encountering using 4 ½ inch tubing was a result of friction pressure. In Case No. 15720 evidence had been presented to the Division showing that up to 85% of this surface pressure was due to friction. Increasing the tubing size from 4 ½ inches to 5 ½ inches would reduce friction and would conserve pump horse power.

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

17. It is my opinion that increasing the tubing size will not cause fractures in the formation. Wellhead pressures are set at a maximum that is below the formation fracture pressure and, as a result, it is impossible to get above the formation fracture pressure.

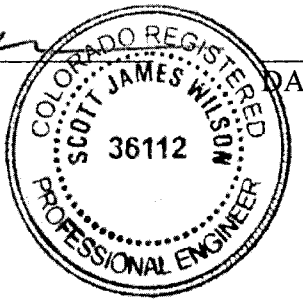
Consequently, it is highly unlikely that increasing the tubing size in the wells would result in fractures being created in the formation.

18. I have also studied the potential impact on pore pressures and put together a simulation of the radial influence that the well would have if 5 ½" tubing is used for a period of 20 years. A copy of this study is attached hereto as Exhibit B. This study shows that when 5 ½" tubing is used for a period of 20 years, it is anticipated that there will be a very minimal impact on reservoir pressures at distances greater than 1 mile.

19. My studies further indicate that addition a second injection wells one mile away from the well, will not create any materially adverse pressures in the formation.

I declare under penalty of perjury that the foregoing is true and correct.

Scott J. Wilson 1/3/2018 DATE



Nodal Analysis Match : Mesquite Vaca Draw Step-Rate Test.

Measured bottomhole pressure data was matched against a nodal analysis model

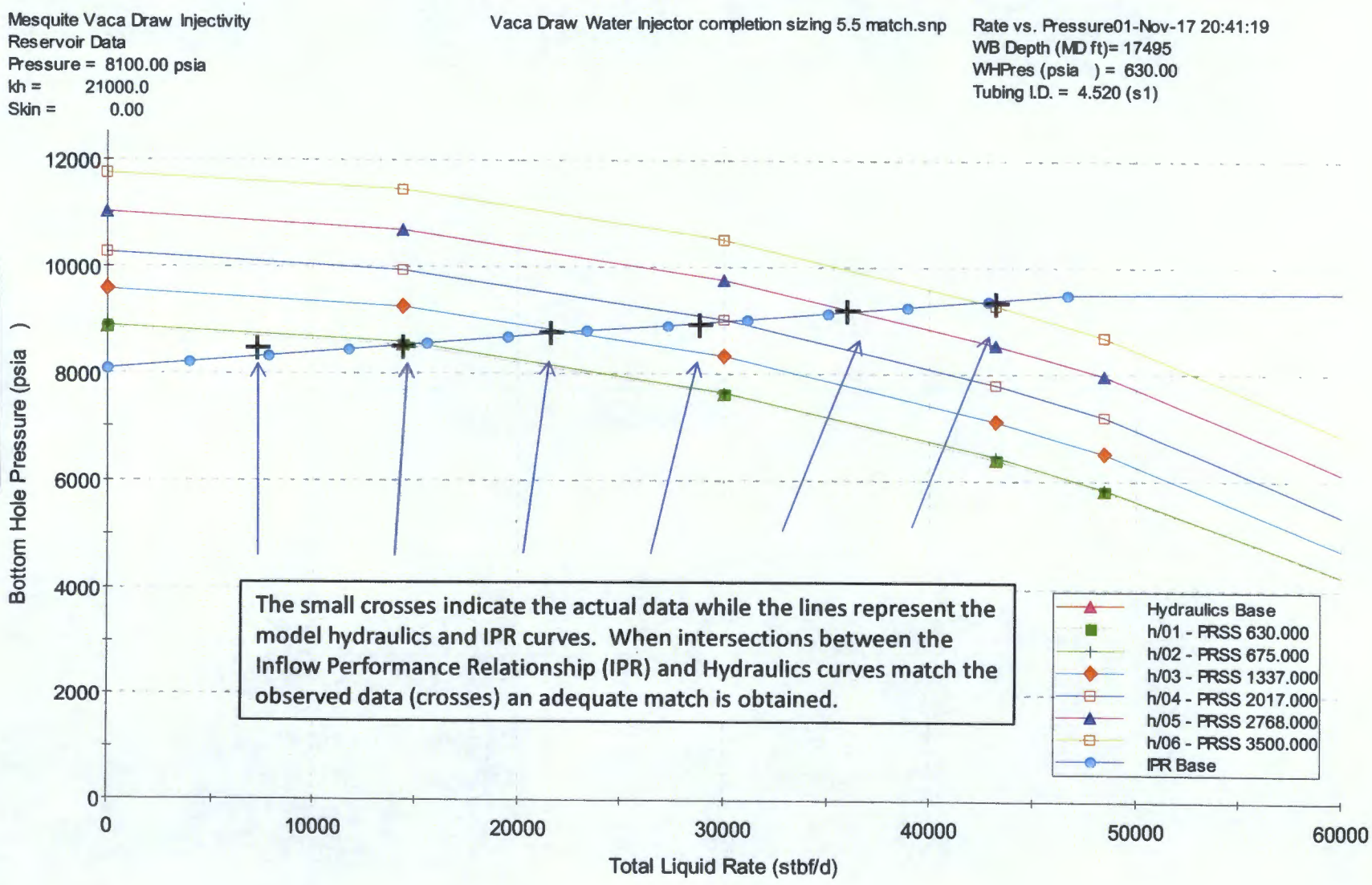


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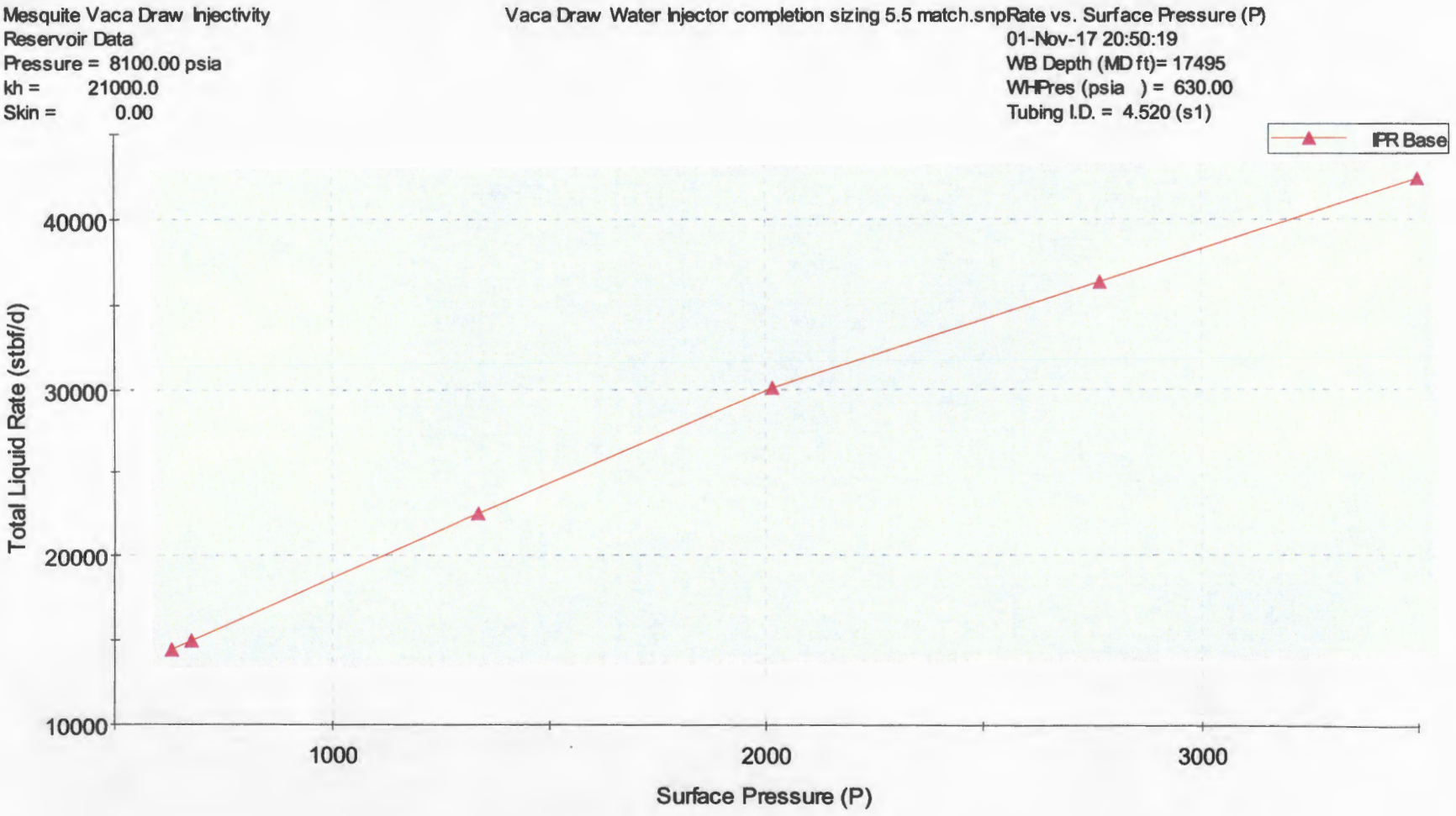
EXHIBIT A Declaration of Scott J. Wilson

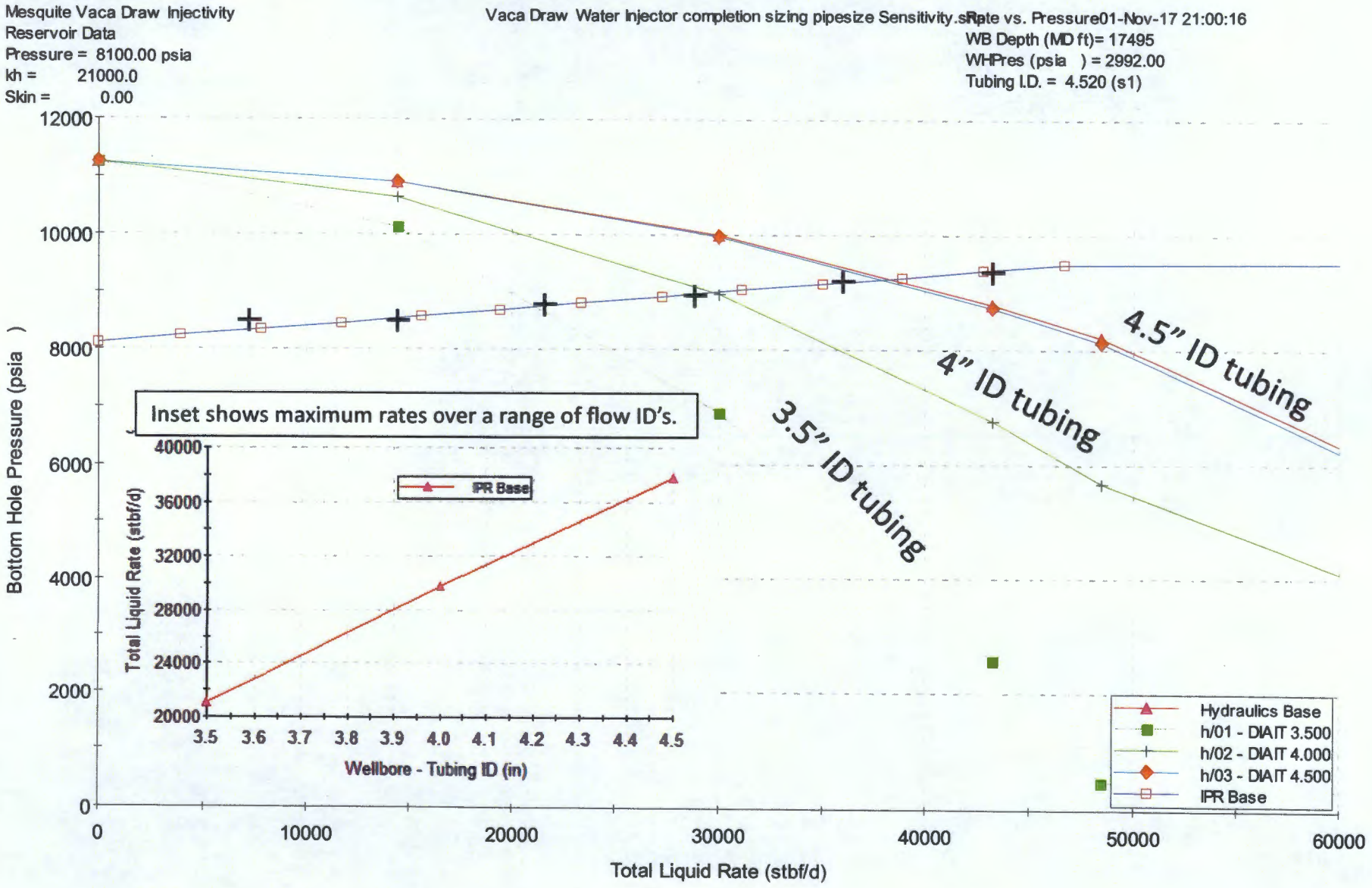
Nodal Analysis Match : Mesquite Vaca Draw Step-Rate Test.

Measured bottomhole pressure data was matched against a nodal analysis model



Increasing tubing size will decrease friction losses and conserve horsepower

3 example tubing sizes and their impact on friction losses



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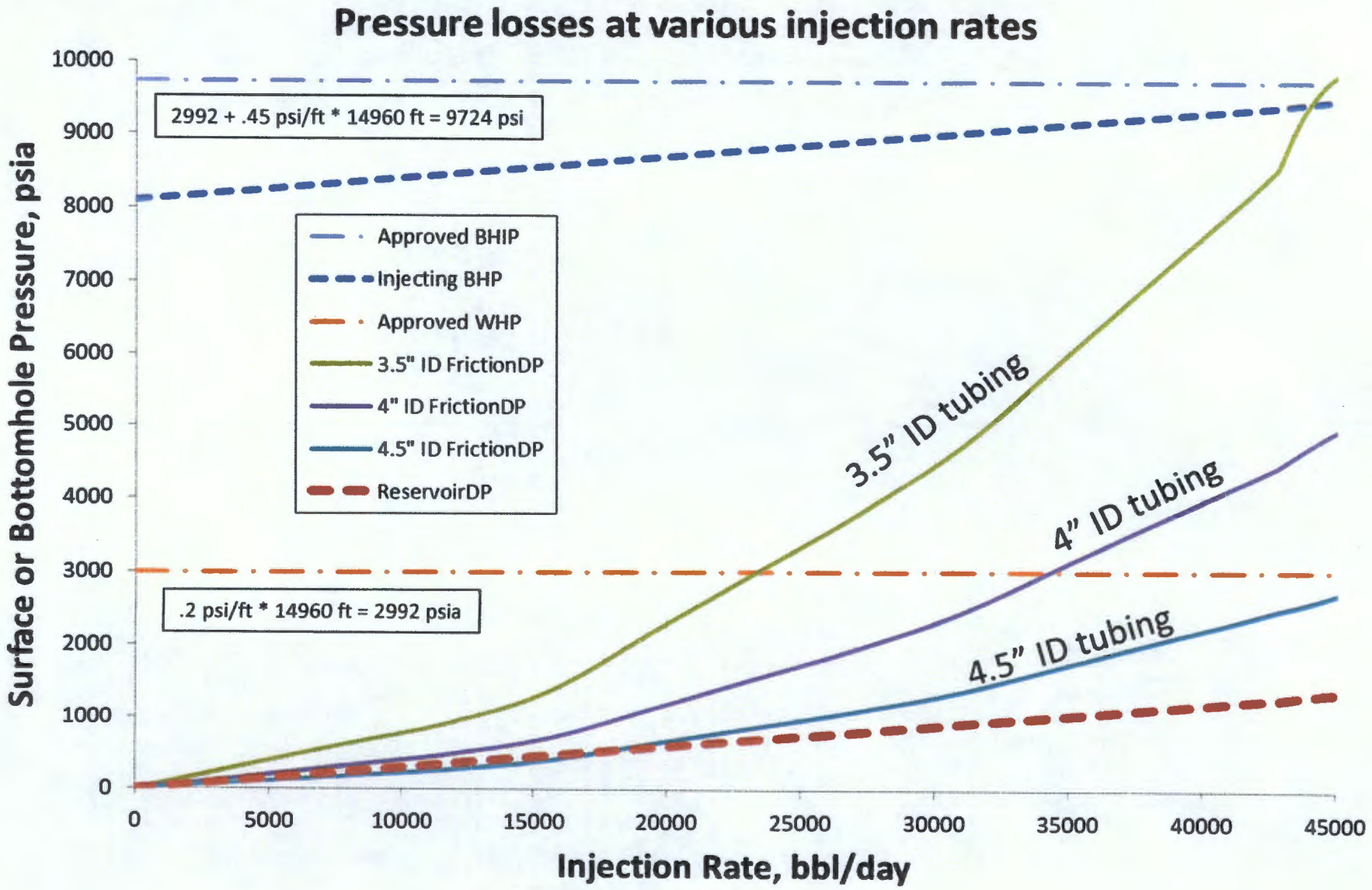
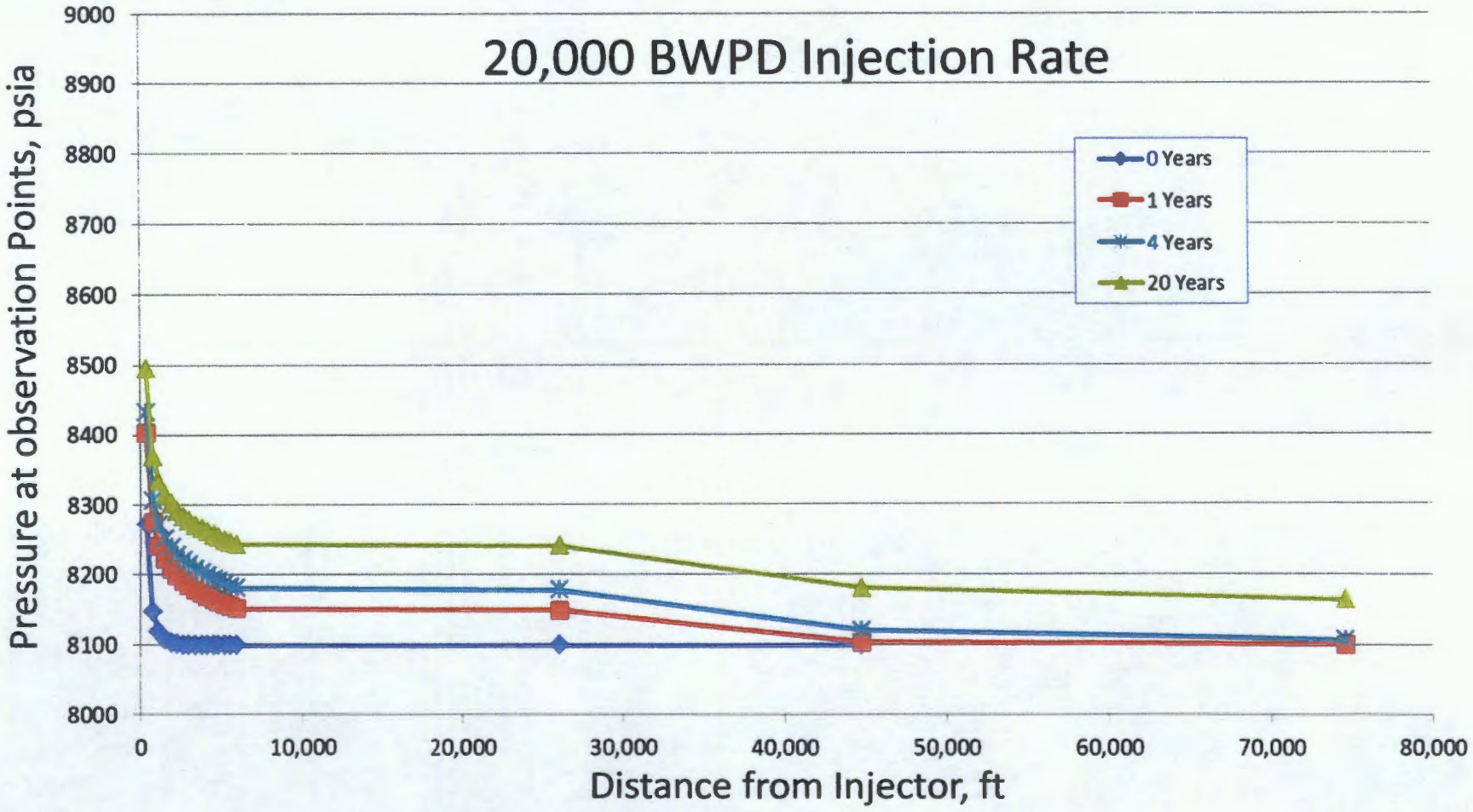


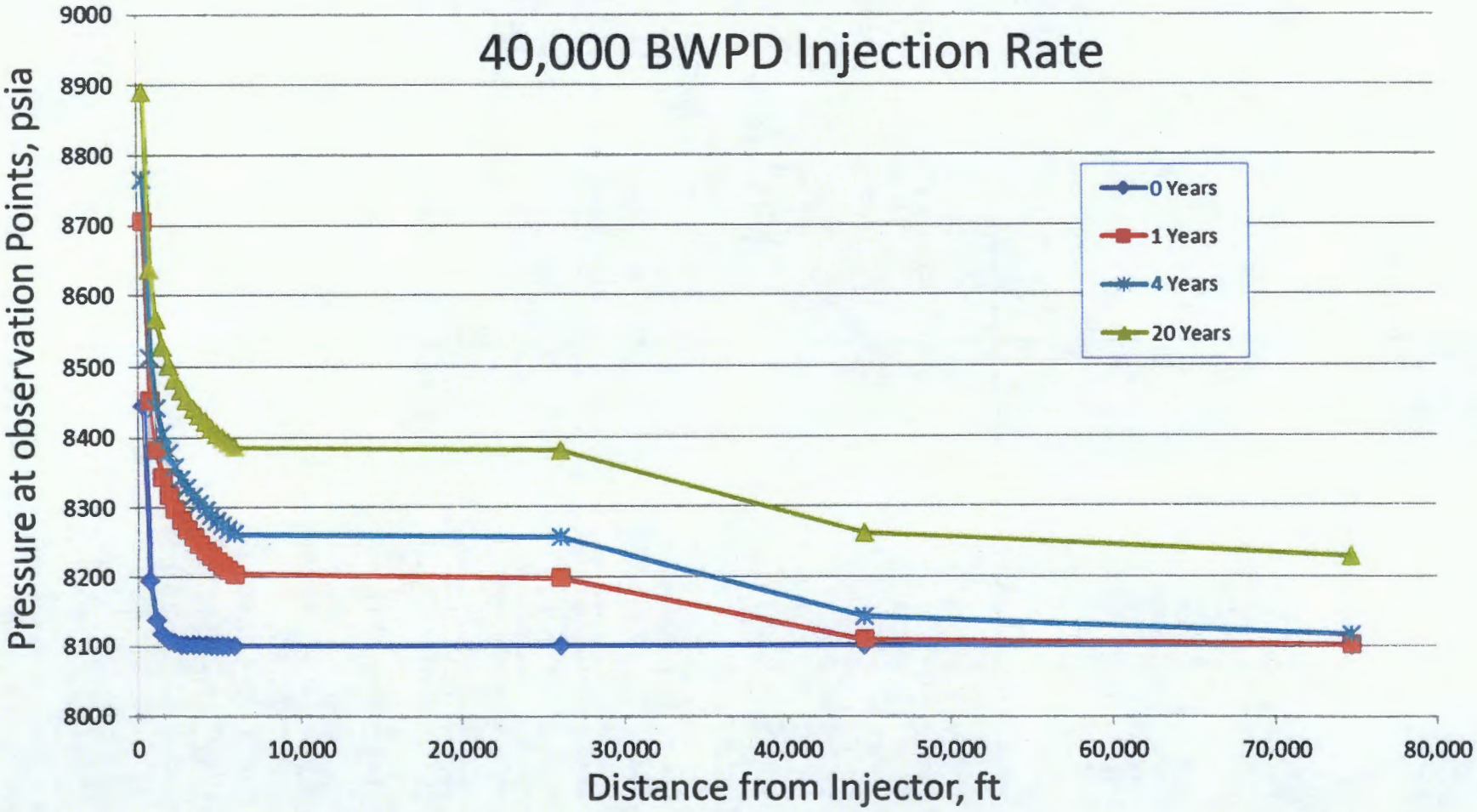
Pore Pressure Impact over 20 years

High permeability-thickness disperses injected fluids



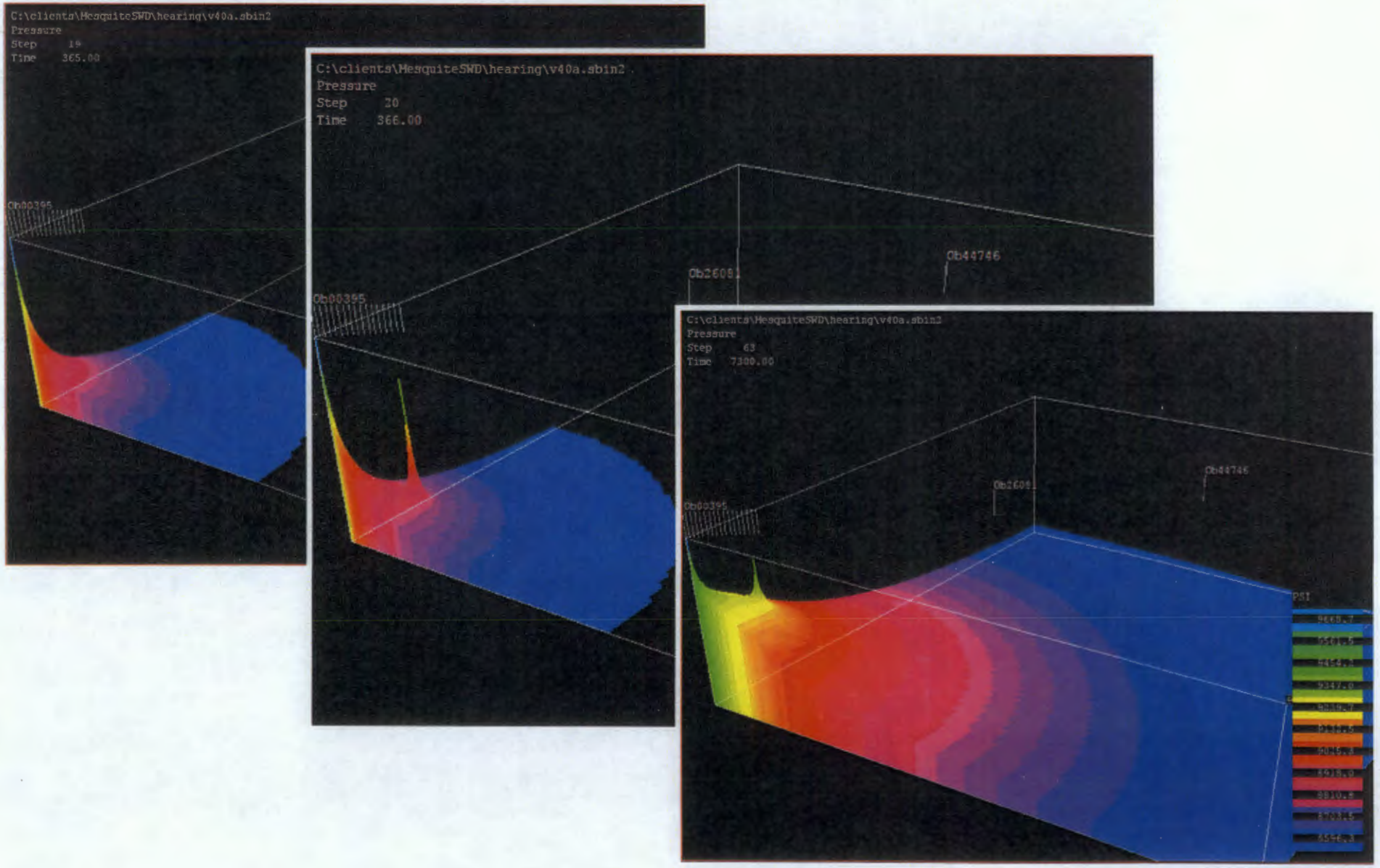
Pore Pressure Impact over 20 years

High permeability-thickness disperses injected fluids



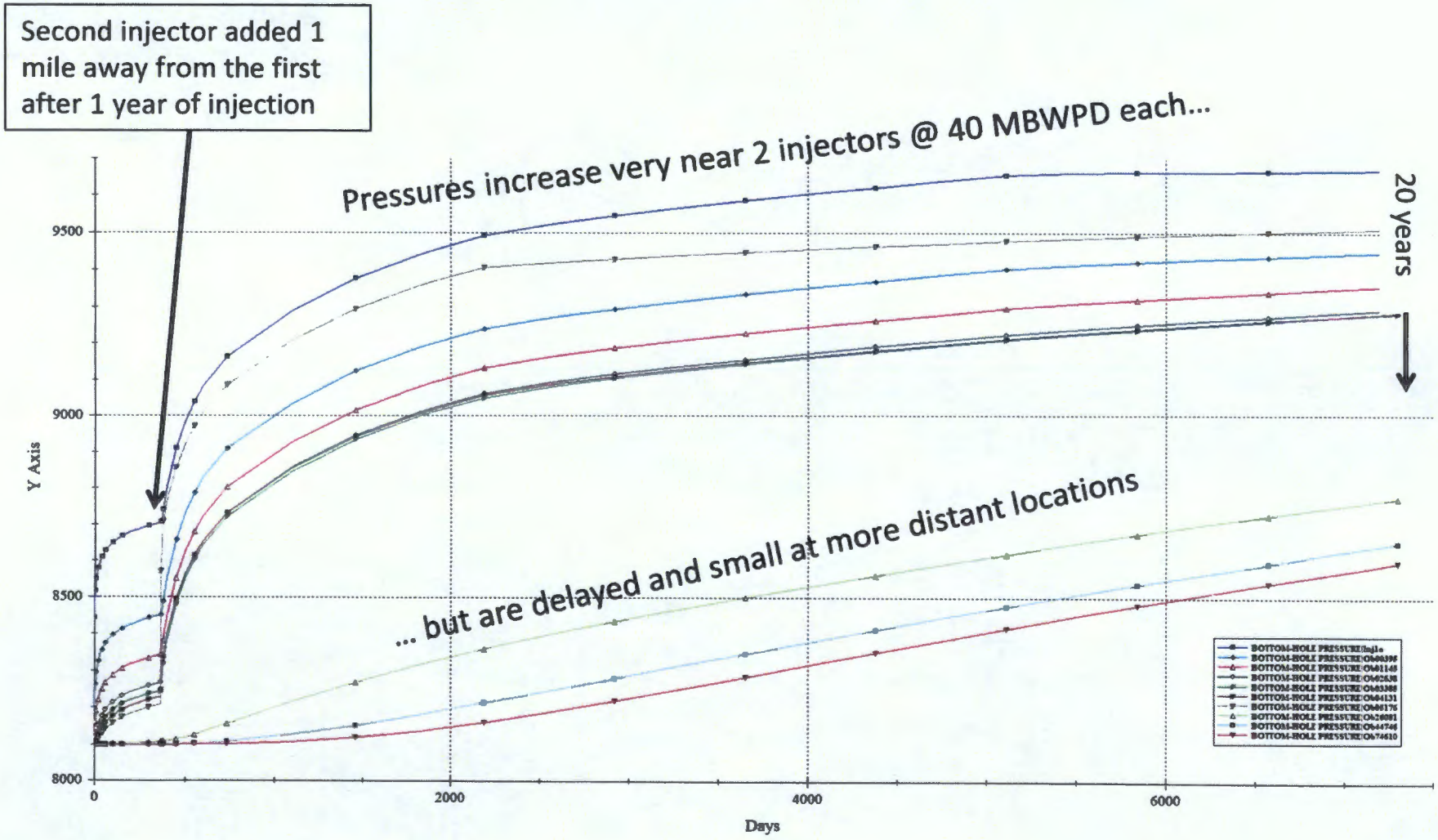
Pore Pressure Impact over 20 years

Adding a second injector 1 mile away does not materially affect pressures in the larger area.



Pore Pressure Impact over 20 years

Adding a second injector 1 mile away from the first does not materially affect pressures in the larger area.



MESQUITE SWD

Water Injection Modeling

White Paper Discussion

Ryder Scott

Contents

White Paper Discussion : Injector Performance Modelling

Scott Wilson, PE, MBA, Ryder Scott Co., May 3, 2017

Discussion and Summary Results

Ryder Scott Company, L.P. (RSC) has reviewed injectivity data from three wells operated by Mesquite SWD.

Table 1

Well	Tubing ID (in)	Tubing Depth (MD)	Open-Hole (MD Ft)
Vaca Draw	4.52	17,495	
Moutray SWD1	3.6	14,910	14,910-16,035
Paduca SWD1	4.5 to 9881 3.6 to 17284	17,284	17,310-18,870

This document describes the nodal analysis of each of the wells with the intent of evaluating different completion strategies for future deep injection wells. The scope of the evaluation was to review injectivity tests, match test data to nodal analysis models, with the primary focus of describing injection wellbore dynamics. Steady-state injection models were used for reservoir injection performance so no transient analysis or modelling was performed in this phase.

Given the depth of these wells, each injected barrel has to traverse roughly 3 miles of pipe before reaching the injection reservoir. These long wellbores create significant frictional pressure drop at high rates. The irreversible friction pressure drop represents lost pump horsepower and lower injection rates.

For producing wells, using too large of tubing can create a loading condition but for injectors, that problem does not exist, especially in single phase injection.

Vaca Draw Data

The Vaca Draw injectivity test (Table 2) was matched using standard Nodal analysis techniques that account for hydrostatic, friction and acceleration pressure drops within the wellbore, and injectivity both above and below fracture pressure while accounting for the very thick formation.

Table 2

Injection Rate (BWIPD)	WHP (PSIA)	FBHP (PSIA)	Injection Rate (BWIPM)
7200	630	8488	5
14400	675	8500	10
21600	1337	8774	15
28800	2017	8934	20
36000	2768	9205	25
43200	3500	9352	30

The following basic wellbore and reservoir parameters matched the observed data within measured data limits. The detailed input data listing is included as Appendix A.

Injection water Density	1.1 (sg) / 133000 ppm TDS / 67.7 PCF
Matched Hydraulic Model	Ansari
Wellbore	4.5" ID to 14960 ft
Average wellbore water viscosity	0.6 (cp)
Effective Roughness	5.e-5 (in)
Net Thickness	1500 tvd feet
Effective Reservoir pressure	8100 psia
Net Permeability	14 (md)

Vaca Draw Results

Figure 1 shows the match results with the small crosses indicating the actual data while the lines represent the model hydraulics and IPR curves. When intersections between the IPR and Hydraulics curves match the observed data (crosses) an adequate match is obtained.

Figure 1: Match case for Vaca Draw Injectivity Test

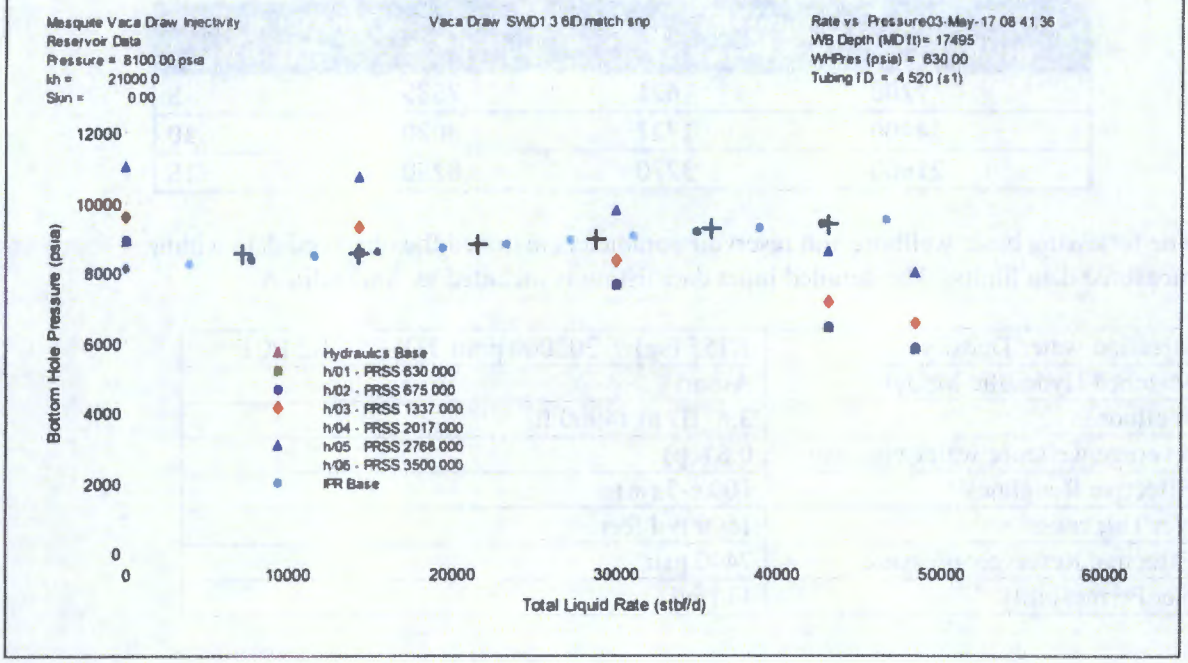
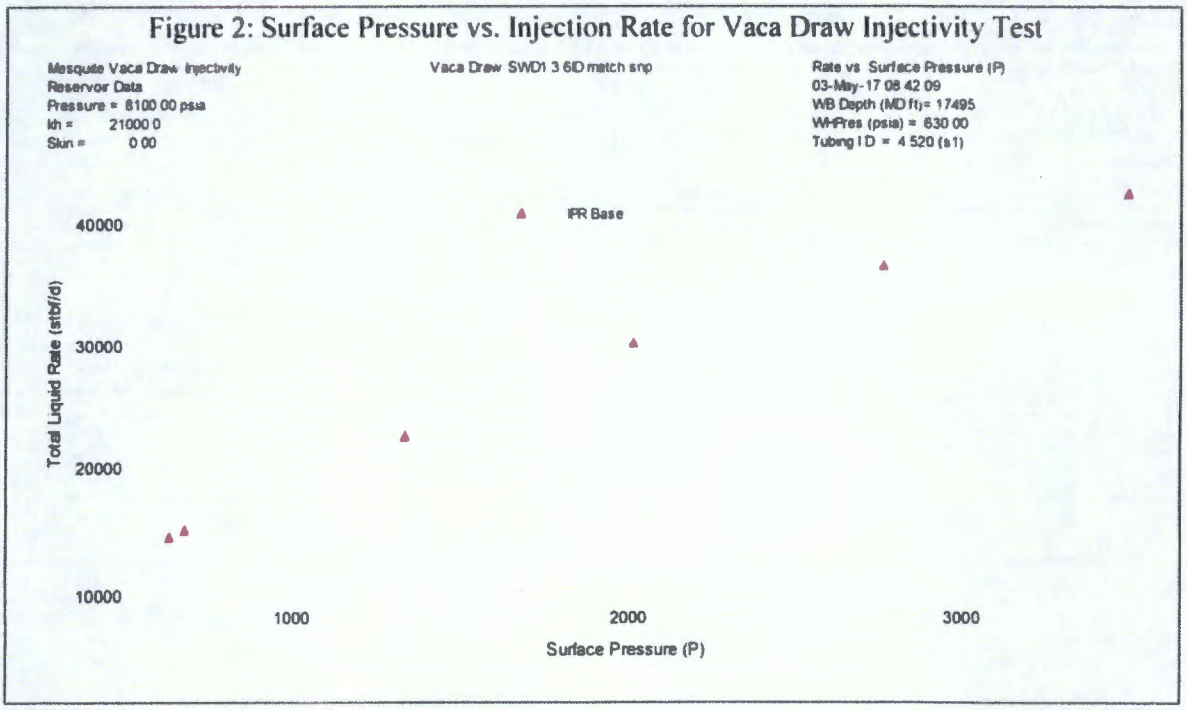


Figure 2: Surface Pressure vs. Injection Rate for Vaca Draw Injectivity Test



Moutray SWD1 Data

The Moutray SWD1 injectivity test (Table 2) was matched using standard Nodal analysis techniques that account for hydrostatic, friction and acceleration pressure drops within the wellbore, and injectivity both above and below fracture pressure while accounting for the very thick formation. .

Table 3

Injection Rate (BWIPD)	WHP (PSIA)	FBHP (PSIA)	Injection Rate (BWIPM)
7200	621	7585	5
14400	1727	8020	10
21600	3270	8250	15

The following basic wellbore and reservoir parameters matched the observed data within measured data limits. The detailed input data listing is included as Appendix A.

Injection water Density	1.155 (sg) / 202000 ppm TDS / 71.2 PCF
Matched Hydraulic Model	Ansari
Wellbore	3.6" ID to 14960 ft
Average wellbore water viscosity	0.6 (cp)
Effective Roughness	100.e-5 (in)
Net Thickness	1500 tvd feet
Effective Reservoir pressure	7400 psia
Net Permeability	11 (md)

Moutray SWD1 Results

Figure 3 shows the match results with the small crosses indicating the actual data while the lines represent the model hydraulics and IPR curves. When intersections between the IPR and Hydraulics curves match the observed data (crosses), an adequate match is obtained.

Figure 3: Match case for Moutray SWD1 Injectivity Test

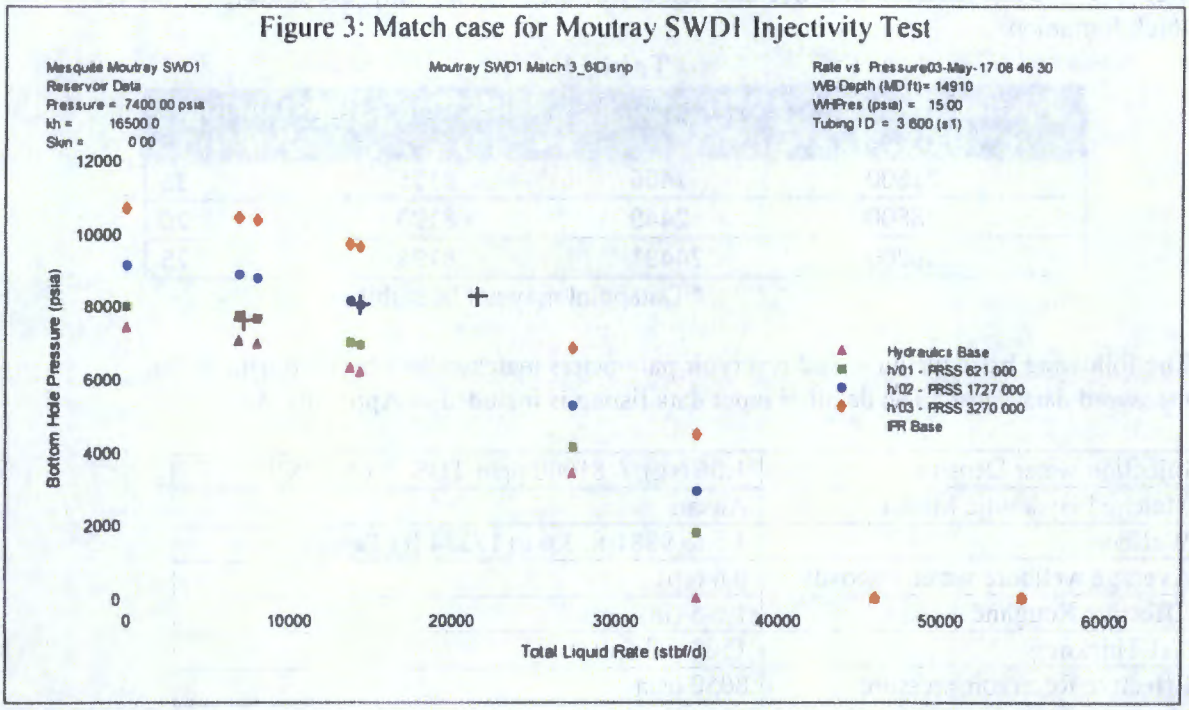
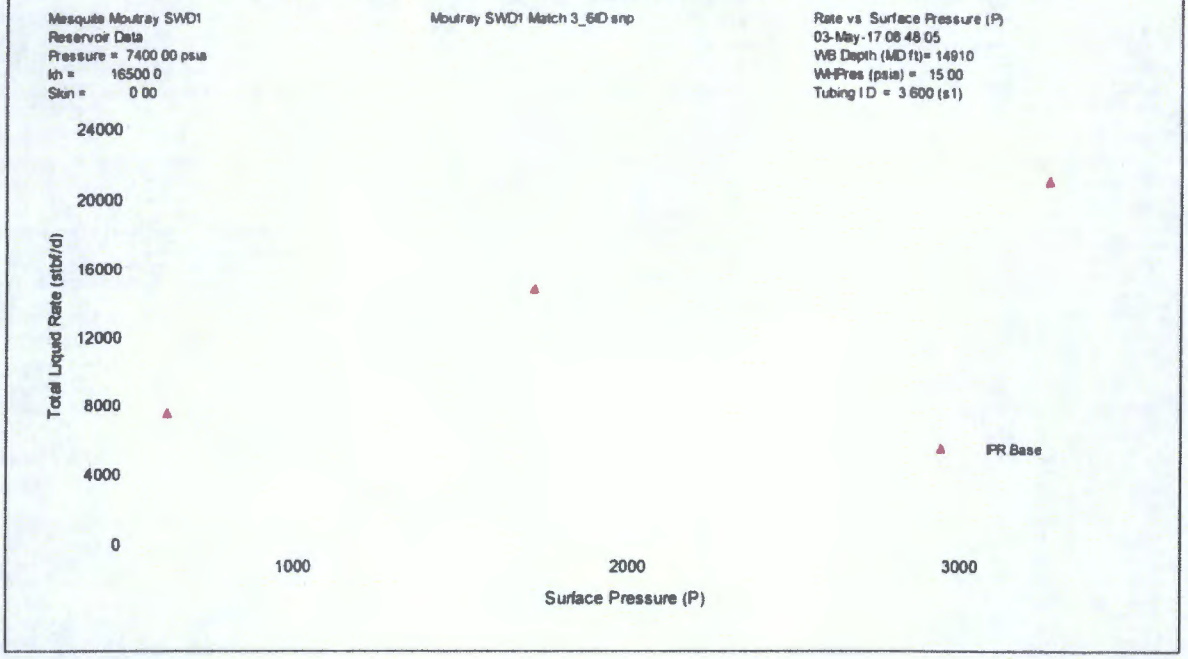


Figure 4: Surface Pressure vs. Injection Rate for Moutray SWD1 Injectivity Test



Paduca SWD1 Data

The Paduca SWD1 injectivity test (Table 2) was matched using standard Nodal analysis techniques that account for hydrostatic, friction and acceleration pressure drops within the wellbore, and injectivity both above and below fracture pressure while accounting for the very thick formation. .

Table 4

Injection Rate (BWIPD)	WHP (PSIA)	FBHP (PSIA)	Injection Rate (BWIPM)
21600	1406	8155	15
28800	2449	8190	20
36000	2449*	8194	25

* Datapoint may not be stabilized.

The following basic wellbore and reservoir parameters matched the observed data within measured data limits. The detailed input data listing is included as Appendix A.

Injection water Density	1.06 (sg) / 81000 ppm TDS / 65.7 PCF
Matched Hydraulic Model	Ansari
Wellbore	4.5 to 9881 ft, 3.6 to 17284 ft (Taper)
Average wellbore water viscosity	0.6 (cp)
Effective Roughness	1.e-5 (in)
Net Thickness	1500 tvd feet
Effective Reservoir pressure	8050 psia
Net Permeability	50 (md), -3 skin

Paduca SWD1 Results

Figure 5 shows the match results with the small crosses indicating the actual data while the lines represent the model hydraulics and IPR curves. When intersections between the IPR and Hydraulics curves match the observed data (crosses) an adequate match is obtained.

Figure 5: Match case for Paduca SWD1 Injectivity Test

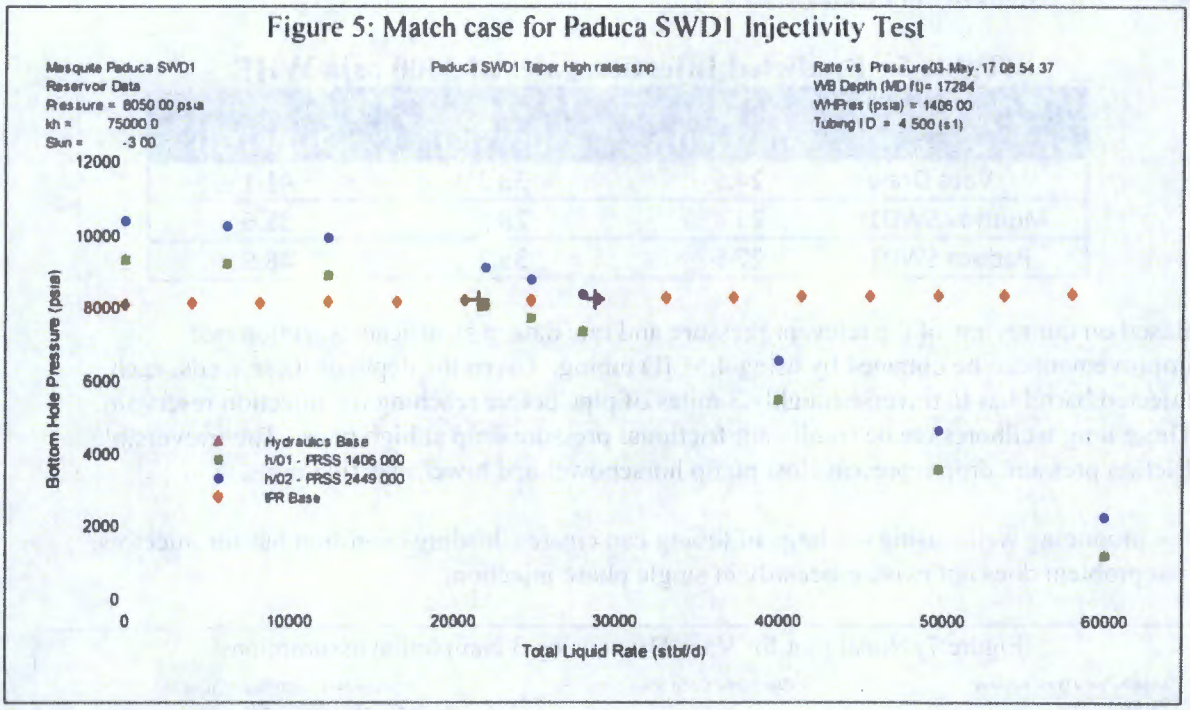
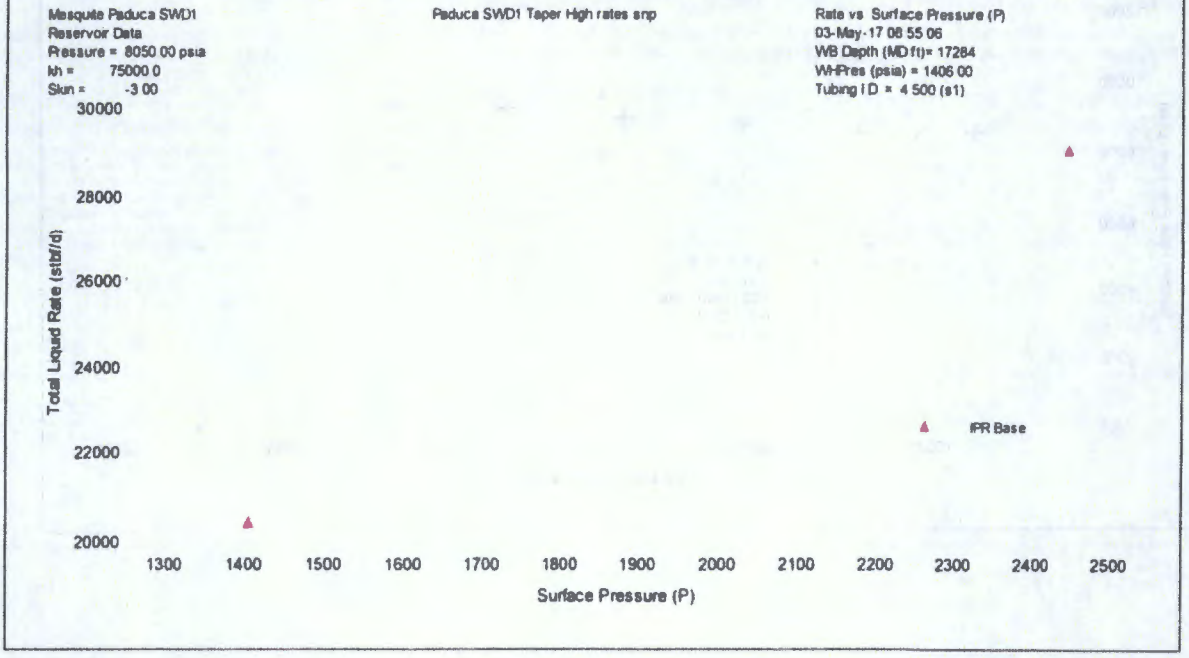


Figure 6: Surface Pressure vs. Injection Rate for Paduca SWD1 Injectivity Test



Review of Completion Options

Using the match results from injectivity tests for each well, predictions of the performance of the other 3 completion options were reviewed for each well. Table 5 shows the results of injectivity testing and estimates of performance under different completion conditions. These same results are shown graphically in Figures 7-9.

Table 5 : Predicted Injection rates at 3400 psia WHP

Well	3.6" ID (MBWIPD)	4.5 x 3.6" ID (MBWIPD)	4.5" ID (MBWIPD)
Vaca Draw	24.5	33.2	41.1
Moutray SWD1	21.4	28.8	35.6
Paduca SWD1	27.5	35.2	48.5

Based on our review of the relevant pressure and rate data, a significant injection rate improvement can be obtained by using 4.5" ID tubing. Given the depth of these wells, each injected barrel has to traverse roughly 3 miles of pipe before reaching the injection reservoir. These long wellbores create significant frictional pressure drop at high rates. The irreversible friction pressure drop represents lost pump horsepower and lower injection rates.

For producing wells, using too large of tubing can create a loading condition but for injectors, that problem does not exist, especially in single phase injection.

Figure 7: Nodal plot for Vaca Draw using 3 completion assumptions

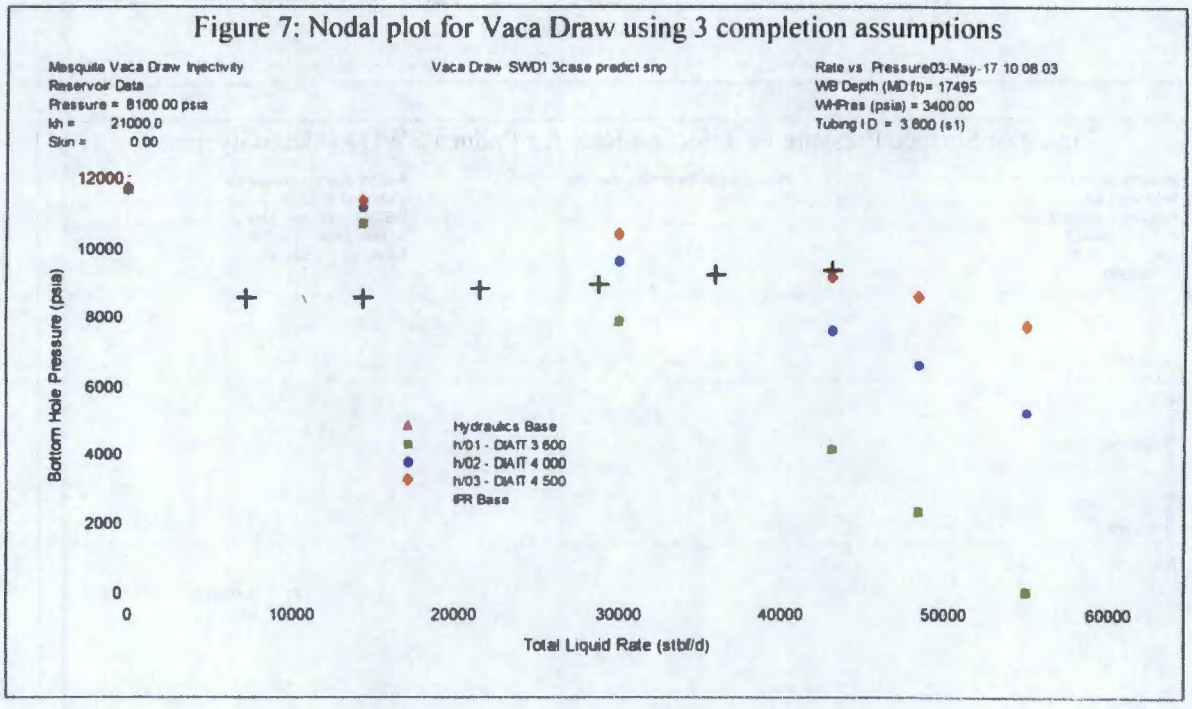


Figure 8: Nodal plot for Paduca SWD1 using 3 completion Assumptions

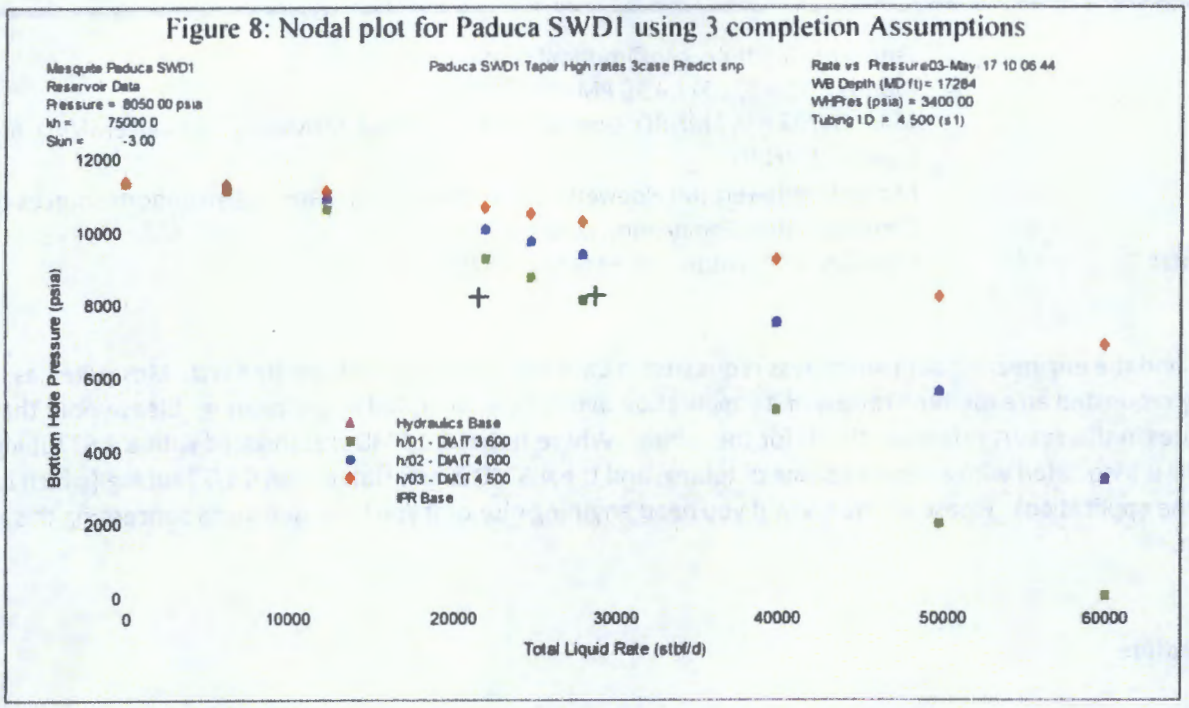
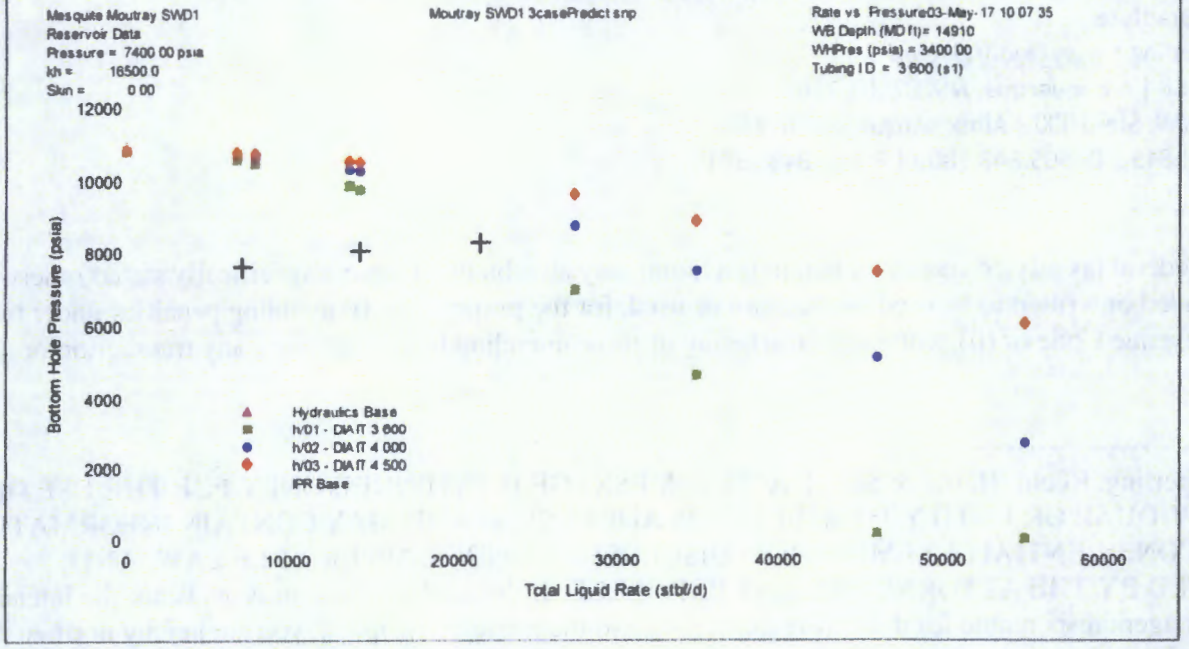


Figure 8: Nodal plot for Moutray SWD1 using 3 completion assumptions



Goetze, Phillip, EMNRD

From: Jennifer L. Bradfute <jlb@modrall.com>
Sent: Monday, May 8, 2017 4:56 PM
To: Jones, William V, EMNRD; Goetze, Phillip, EMNRD; McMillan, Michael, EMNRD; Brooks, David K, EMNRD
Cc: Michael Feldewert (MFeldewert@hollandhart.com); darnold@matadorresources.com
Subject: Case No. 15654 Engineering Data
Attachments: Mesquite SWD Nodel (W2931418x7A92D).pdf

All: Please find the engineering data which was requested in Case No. 15654 from Mesquite SWD. Mesquite has respectfully requested an expedited review of its application in this case, as stated at the hearing. Please note that several figures in this report reference the ID for the tubing. Where noted a 3.6" ID is associated with a 4.5" tubing, the 4.5 x 3.6 " ID is associated with a tapered string of tubing, and the 4.5" ID is associated with 5 1/2" tubing (which is the subject of the application). Please let me know if you need anything else or if you have questions concerning this information.

Thank you,
Jennifer Bradfute

MODRALL SPERLING
Jennifer L. Bradfute
Modrall Sperling | www.modrall.com
P.O. Box 2168 | Albuquerque, NM 87103-2168
500 4th St. NW, Ste. 1000 | Albuquerque, NM 87102
D: 505.848.1845 | O: 505.848.1800 | F: 505.848.1891

DECLARATION OF STEVEN NAVE

I, Steven Nave, make the following declaration based upon my own personal knowledge.

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

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

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

4. I am familiar with the application that Mesquite SWD, Inc. has filed in this matter, and I have conducted a study related to the area which is the subject matter of that application.

5. The applicant, Mesquite SWD, Inc. (Mesquite) (OGRID 161968), seeks an order amending administrative order SWD-1681-A, approving the Deep Purple SWD No. 1(API 30-025-44106) to allow an increase in the size of disposal tubing from a tapered string, using 5 ½" or smaller tubing inside of the surface and intermediate casings, and a 4 ½" or smaller tubing inside the liner to the use of 5 ½" tubing for the entire well.

6. The Deep Purple SWD No. 1 well is located 270 feet from the South line and 380 feet from the West line, Lot 4 (SW/4 SW/4 equivalent) of Section 30, Township 22S, Range 32 East, N.M.P.M., Lea County, New Mexico and has been approved for disposal of oil field produced water (UIC Class II only) through an open hole interval consisting of the Devonian and

Silurian formations from approximately 16975 feet to approximately 18135 feet. The wellhead injection pressure on the well has been limited to no more than 3395 psi.

7. I have been informed that the well will be isolated to a single formation and will have four strings of casing protecting the fresh water, the salt interval, the Permian aged rocks through the Wolfcamp formation, and the depths to the top of the Devonian. The deepest casing is 7 5/8", which will be cemented and cement is circulated to the surface.

8. Based on my experience as a fisherman, it is my opinion that there is sufficient clearance between the 7 5/8" casing and the proposed 5 ½" tubing to perform fishing operations. My company regularly performs fishing operations in situations involving similar dimensions and clearances.

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

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

I declare under penalty of perjury that the foregoing is true and correct.

Steven Nave

DATE 1/9/18

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

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

APPLICATION OF MESQUITE SWD, INC. TO AMEND APPROVALS FOR SALT WATER DISPOSAL WELLS IN LEA AND EDDY COUNTIES.

CASE NO. 15654
ORDER NO. R-14392

REPORTER'S TRANSCRIPT OF PROCEEDINGS

COMMISSIONER HEARING

November 9, 2017

Santa Fe, New Mexico

BEFORE: DAVID R. CATANACH, CHAIRPERSON
ED MARTIN, COMMISSIONER
DR. ROBERT S. BALCH, COMMISSIONER
BILL BRANCARD, ESQ.

This matter came on for hearing before the New Mexico Oil Conservation Commission on Thursday, November 9, 2017, at the New Mexico Energy, Minerals and Natural Resources Department, Wendell Chino Building, 1220 South St. Francis Drive, Porter Hall, Room 102, Santa Fe, New Mexico.

REPORTED BY: Mary C. Hankins, CCR, RPR
New Mexico CCR #20
Paul Baca Professional Court Reporters
500 4th Street, Northwest, Suite 105
Albuquerque, New Mexico 87102
(505) 843-9241

MS. BRADFUTE: Yeah. So kind of December 1-ish or --

MR. BRANCARD: Sure.

CHAIRMAN CATANACH: Yeah. That'll work.

MR. CLAY WILSON: Can I ask a question?

CHAIRMAN CATANACH: SURE.

MR. CLAY WILSON: On applications going forward, will we -- I know you said it will be on a case-by-case basis. So we can go ahead and fill it out with 5-1/2, and y'all will review that?

CHAIRMAN CATANACH: Well, we're not setting any kind of precedent that we have to go to hearing, but what I would recommend is maybe the same kind of evidence that you put on this case be included in any sort of administrative application.

COMMISSIONER BALCH: Until a precedent is set.

MR. CLAY WILSON: Attach it with the C-108?

CHAIRMAN CATANACH: Yes, sir. I think that would be very helpful and instrumental in getting that application produced.

MR. CLAY WILSON: Okay. Thank you.

CHAIRMAN CATANACH: That's that?

I'm sorry.

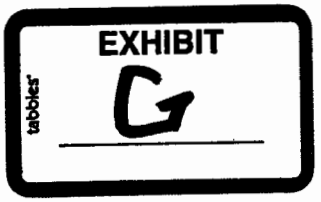
Are we done with --

NEW MEXICO OIL CONSERVATION DIVISION

UNDERGROUND INJECTION CONTROL

PROGRAM MANUAL

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



Each permit for a Class II injection well contains a provision whereby the permit expires one year from the date of issuance if the operator has not commenced injection operations into the well. The operator may apply to the Division Director for an extension based on valid reasons.

As specified in **Rule 705.C**, whenever there is a continuous one-year period of non-injection into any injection, storage, or salt water disposal well, the authority to inject shall automatically terminate; however, injection wells within an active secondary or tertiary recovery project or storage project shall not be subject to the provisions of this rule.

10. Permit Modification

On occasion, it may become necessary to amend an existing injection permit. Permit modifications may include, but are not necessarily limited to:

a. Changing the well tubulars.

b. Expanding the injection interval to include additional perforations within the permitted injection formation.

c. Expanding the injection interval to include an additional formation.

d. Changing the source and/or nature of the injection fluid. (**Form C-108** requires that the applicant identify and provide an analysis of all sources of water to be injected into the well. If fluids from additional sources are to be injected, the applicant must identify and provide an appropriate analysis of these fluids.)

e. Increasing the maximum surface injection pressure.

All permit modification applications must be submitted to the Division Director and will be processed by the Engineering Bureau.

f. Some permit modifications, such as changing the tubing, changing the source and/or nature of the injection fluid, or increasing the maximum surface injection pressure, are considered minor permit modifications. These types of permit modifications may be applied for by a letter to the Division that details the proposed changes, and includes supporting data, if necessary.

g. Some permit modifications, such as adding additional perforations within the permitted injection formation or adding additional injection formations, are considered major permit modifications. Generally, major permit modifications require that the operator file a new **Form C-108**, complete with the applicable attachments, and that the operator provide notice, both by publication and by mail, as required by **Form C-108**.

h. All permit modifications are generally approved administratively. However, upon receipt of an objection from an affected person or if the Division Director deems it necessary, the permit modification request may be set for hearing before a Division Examiner.

11. Transfer of Authority to Inject

As specified in **Rule 708**, authority to inject granted under any order of the Division is not transferable except upon approval by the Division. Approval of transfer of authority to inject may be obtained by filing **Form C-104A** in accordance with **Rule 1104.E**.

B. Permitting Class I Non-hazardous Waste Disposal Wells, and Class III Brine Extraction Wells

Regulations referenced are of the New Mexico Water Quality Control Commission.

1. Discharge Permit Required

No person may operate a Class I Non-hazardous Waste Disposal Well or a Class III Brine Extraction Well without first obtaining an approved discharge permit from the Oil Conservation Division.

2. Discharge Permit Application

To obtain approval of a discharge permit for a Class I or a Class III injection well, an operator must submit a completed application with all required attachments to the Division Director, Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, N.M. 87505.

a. An applicant for a Class I well must submit a completed **Discharge Permit Application For Class I Non-Hazardous Waste Disposal Wells**. An

Valued Customer of
Pac N Mail
910 W. Pierce St.
Carlsbad, NM 88220
(575)887-6245
Track Your Packages at
WWW.PACNMAIL.NET

Shipment----------
FedEx Priority Overnight Envelope
Ship To:
ATTN: PERMITTING TEAM
CHEVRON MID CONTINENT, LP
6301 DEAUVILLE
MIDLAND, TX 79706-2964
Package ID: 274049 32.21
Tracking #: 789131110260
Expected arrival: Thu 12/28 12:00 PM

Shipment----------
FedEx Standard Overnight Envelope
Ship To:
COG OPERATING, LLC
600 W ILLINOIS AVE
MIDLAND, TX 79701-4882
Package ID: 274050 29.79
Tracking #: 789131145633
Expected arrival: Thu 12/28 03:00 PM

Shipment----------
FedEx Standard Overnight Envelope
Ship To:
EOG-Y RESOURCES, INC
105 S 4TH ST
ARTESIA, NM 88210-2177
Package ID: 274052 27.74
Tracking #: 789131176286
Expected arrival: Thu 12/28 04:30 PM

Shipment----------
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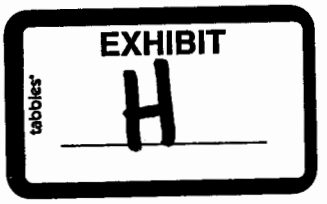
OXY USA, INC
5 GREENWAY PLZ STE 2700
HOUSTON, TX 77046-0512
Package ID: 274054 34.34
Tracking #: 789131211774
Expected arrival: Thu 12/28 03:00 PM

Shipment----------
FedEx Priority Overnight Envelope
Ship To:
RAYE MILLER
REGENERATION ENERGY CORP
808 W MAIN ST
ARTESIA, NM 88210
Package ID: 274059 31.80
Tracking #: 789131497205
Expected arrival: Thu 12/28 12:00 PM

Shipment----------
FedEx Priority Overnight Envelope
Ship To:
ECHO PRODUCTION INC



FedEx Priority Overnight Envelope
Ship To:
ECHO PRODUCTION INC
616 5TH ST
GRAHAM, TX 76450-2602
Package ID: 274060 41.22
Tracking #: 789131530219
Expected arrival: Thu 12/28 12:00 PM
Shipment----------
FedEx Priority Overnight Envelope
Ship To:
LINN ENERGY HOLDINGS, LLC
600 TRAVIS ST STE 5100
HOUSTON, TX 77002-3092
Package ID: 274061 38.48
Tracking #: 789131561620
Expected arrival: Thu 12/28 10:30 AM
Shipment----------
FedEx Priority Overnight Envelope
Ship To:
BUREAU OF LAND MANAGEMENT
600 W GREEN ST
CARLSBAD, NM 88220
Package ID: 274063 28.08
Tracking #: 789131607588
Expected arrival: Thu 12/28 04:30 PM
Shipment----------
FedEx Standard Overnight Envelope
Ship To:
COMMISSIONER OF PUBLIC LANDS
310 OLD SANTA FE TRL
SANTA FE, NM 87501-2708
Package ID: 274064 29.79
Tracking #: 789131626870
Expected arrival: Thu 12/28 03:00 PM

SUBTOTAL	293.45
TAX	0.00
TOTAL	293.45
TEND Acct - Credit	293.45

Credit account: mesquite swd3
Open balance: 364.77

Total shipments: 9
MESQUITE SWD
12/27/2017
#243269 01:30 PM
Workstation: 0 - Master Workstation

Signature _____

Values up to $100 are insured at no charge on packages shipped by UPS and FedEx. Additional value must have added insurance to cover the value declared. Purchase of insurance in no way guarantees payment of that amount. Verification of value must be presented at time of claim and must be within 15 days after delivery

FedEx

December 28,2017

Dear Customer:

The following is the proof-of-delivery for tracking number **789131607588**.

Delivery Information:

Status:	Delivered	**Delivered to:**	Receptionist/Front Desk
Signed for by:	T.NORRIS	**Delivery location:**	CARLSBAD, NM
Service type:	FedEx Priority Overnight	**Delivery date:**	Dec 28, 2017 10:30
Special Handling:	Deliver Weekday		

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

Shipping Information:

Tracking number:	789131607588	**Ship date:**	Dec 27, 2017
		Weight:	0.5 lbs/0.2 kg

Recipient:
CARLSBAD, NM US

Shipper:
CARLSBAD, NM US

Reference MESQUITE SWD
Invoice number PKG ID: 274063

Thank you for choosing FedEx.

FedEx®

December 28,2017

Dear Customer:

The following is the proof-of-delivery for tracking number **789131110260**.

Delivery Information:

Status:	Delivered	**Delivered to:**	Receptionist/Front Desk
Signed for by:	M.BROWN	**Delivery location:**	MIDLAND, TX
Service type:	FedEx Priority Overnight	**Delivery date:**	Dec 28, 2017 12:27
Special Handling:	Deliver Weekday Residential Delivery		

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

Shipping Information:

Tracking number:	789131110260	**Ship date:**	Dec 27, 2017
		Weight:	0.5 lbs/0.2 kg

Recipient:	**Shipper:**
MIDLAND, TX US	CARLSBAD, NM US
Reference	MESQUITE SWD
Invoice number	PKG ID: 274049

Thank you for choosing FedEx.

FedEx

December 28,2017

Dear Customer:

The following is the proof-of-delivery for tracking number **789131145633**.

Delivery Information:

Status:	Delivered	**Delivered to:**	Receptionist/Front Desk
Signed for by:	M.SIMMINONS	**Delivery location:**	MIDLAND, TX
Service type:	FedEx Standard Overnight	**Delivery date:**	Dec 28, 2017 10:45
Special Handling:	Deliver Weekday		

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

Shipping Information:

Tracking number:	789131145633	**Ship date:**	Dec 27, 2017
		Weight:	0.5 lbs/0.2 kg

Recipient:	**Shipper:**
MIDLAND, TX US	CARLSBAD, NM US
Reference	MESQUITE SWD
Invoice number	PKG ID: 274050

Thank you for choosing FedEx.

FedEx

December 28,2017

Dear Customer:

The following is the proof-of-delivery for tracking number **789131530219**.

Delivery Information:

Status:	Delivered	**Delivered to:**	Receptionist/Front Desk
Signed for by:	T.DOYLE	**Delivery location:**	GRAHAM, TX
Service type:	FedEx Priority Overnight	**Delivery date:**	Dec 28, 2017 11:38
Special Handling:	Deliver Weekday		

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

Shipping Information:

Tracking number:	789131530219	**Ship date:**	Dec 27, 2017
		Weight:	0.5 lbs/0.2 kg

Recipient:	**Shipper:**
GRAHAM, TX US	CARLSBAD, NM US
Reference	MESQUITE SWD
Invoice number	PKG ID: 274060

Thank you for choosing FedEx.

FedEx

December 28,2017

Dear Customer:

The following is the proof-of-delivery for tracking number **789131176286**.

Delivery Information:

Status:	Delivered	**Delivered to:**	Receptionist/Front Desk
Signed for by:	N.ANDERSON	**Delivery location:**	ARTESIA, NM
Service type:	FedEx Standard Overnight	**Delivery date:**	Dec 28, 2017 09:18
Special Handling:	Deliver Weekday		

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

Shipping Information:

Tracking number:	789131176286	**Ship date:**	Dec 27, 2017
		Weight:	0.5 lbs/0.2 kg

Recipient:	**Shipper:**
ARTESIA, NM US	CARLSBAD, NM US
Reference	MESQUITE SWD
Invoice number	PKG ID: 274052

Thank you for choosing FedEx.

FedEx

December 28,2017

Dear Customer:

The following is the proof-of-delivery for tracking number **789131561620**.

Delivery Information:

Status:	Delivered	**Delivered to:**	Mailroom
Signed for by:	J.VILLANUEVA	**Delivery location:**	HOUSTON, TX
Service type:	FedEx Priority Overnight	**Delivery date:**	Dec 28, 2017 08:48
Special Handling:	Deliver Weekday		

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

Shipping Information:

Tracking number:	789131561620	**Ship date:**	Dec 27, 2017
		Weight:	0.5 lbs/0.2 kg

Recipient:	**Shipper:**
HOUSTON, TX US	CARLSBAD, NM US
Reference	MESQUITE SWD
Invoice number	PKG ID: 274061

Thank you for choosing FedEx.

FedEx

December 28,2017

Dear Customer:

The following is the proof-of-delivery for tracking number **789131211774**.

Delivery Information:

Status:	Delivered	**Delivered to:**	Mailroom
Signed for by:	S.JACKSON	**Delivery location:**	HOUSTON, TX
Service type:	FedEx Standard Overnight	**Delivery date:**	Dec 28, 2017 10:03
Special Handling:	Deliver Weekday		

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

Shipping Information:

Tracking number:	789131211774	**Ship date:**	Dec 27, 2017
		Weight:	0.5 lbs/0.2 kg

Recipient:	**Shipper:**
HOUSTON, TX US	CARLSBAD, NM US
Reference	MESQUITE SWD
Invoice number	PKG ID: 274054

Thank you for choosing FedEx.

FedEx

December 28,2017

Dear Customer:

The following is the proof-of-delivery for tracking number **789131497205**.

Delivery Information:

Status:	Delivered	**Delivered to:**	Receptionist/Front Desk
Signed for by:	M.MILLER	**Delivery location:**	ARTESIA, NM
Service type:	FedEx Priority Overnight	**Delivery date:**	Dec 28, 2017 09:15
Special Handling:	Deliver Weekday Residential Delivery		

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

Shipping Information:

Tracking number:	789131497205	**Ship date:**	Dec 27, 2017
		Weight:	0.5 lbs/0.2 kg

Recipient:	**Shipper:**
ARTESIA, NM US	CARLSBAD, NM US
Reference	MESQUITE SWD
Invoice number	PKG ID: 274059

Thank you for choosing FedEx.

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

State of New Mexico
Energy, Minerals and Natural Resources

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

Form C-103
Revised July 18, 2013

WELL API NO. **30-025-44106**

5. Indicate Type of Lease STATE ☐ FEE ☐

6. State Oil & Gas Lease No.

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

7. Lease Name or Unit Agreement Name **DEEP PURPLE SWD**

1. Type of Well: Oil Well ☐ Gas Well ☐ Other **SWD**

8. Well Number **1**

2. Name of Operator **MESQUITE SWD, INC.**

9. OGRID Number **161968**

3. Address of Operator **PO BOX 1479 CARLSBAD NM 88220**

10. Pool name or Wildcat **[96101] SWD; DEVONIAN**

4. Well Location
Unit Letter **M** ; **270** feet from the **SOUTH** line and **380** feet from the **WEST** line
Section **30** Township **22S** Range **32E** NMPM **LEA** County

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)* **3544' GR**

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☒	COMMENCE DRILLING OPNS.	☐	P AND A	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
DOWNHOLE COMMINGLE	☐						
CLOSED-LOOP SYSTEM	☐						
OTHER: Change plans/tubing size	☒			OTHER:	☐		

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

SWD-1681-A authorizes the use of 5 1/2" or smaller tubing inside the surface and intermediate casing and 4 1/2" or small tubing inside the liner. Mesquite SWD, Inc. respectfully requests permission to run 5 1/2" tubing through all casing strings.

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

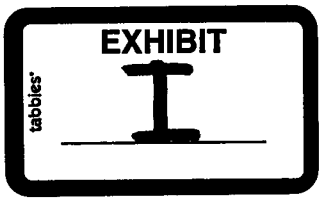
SIGNATURE *Melanie J. Wilson* TITLE **Regulatory Analyst** DATE **12/29/2017**

Type or print name **Melanie J. Wilson** E-mail address: mjp1692@gmail.com PHONE: **575-914-1461**

For State Use Only

APPROVED BY:_____ TITLE_____ DATE_____

Conditions of Approval (if any):



Goetze, Phillip, EMNRD

From: Jennifer L. Bradfute <jlb@modrall.com>
Sent: Thursday, January 11, 2018 4:31 PM
To: McMillan, Michael, EMNRD; Goetze, Phillip, EMNRD
Subject: Mesquite / Appl to Amend Approvals re Tubing Size re Order Swd-1681-A
Attachments: L to Matthias Sayer re Appl to Amend Approvals re Tubing Size re Order Swd-1681-A (W3120972x7A92D).pdf

Mike and Phil: Attached is a letter application from Mesquite SWD to amend the tubing size in one of its wells. During the Commission hearing in Case No. 15654, the Commission stated that the Division could accept administrative applications for these approvals. Please let me know if you have any questions or if you would like to discuss.

Thank you,
Jennifer

MODRALL SPERLING
Jennifer L. Bradfute
Modrall Sperling | www.modrall.com
P.O. Box 2168 | Albuquerque, NM 87103-2168
500 4th St. NW, Ste. 1000 | Albuquerque, NM 87102
D: 505.848.1845 | O: 505.848.1800 | F: 505.848.1891

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

DATE RECORD: First Rec: 02/06/2018 **Admin Complete:** 03/14/2018* **or Suspended:** — Add. Request/Reply: —

ORDER TYPE: WFX / PMX / SWD Number: 1722 Order Date: 03/30/18 Legacy Permits/Orders: —

Well No. 1 Well Name(s): Hoss 11 SWD

API : 30-0 15-44666 Spud Date: TBD New or Old (EPA): New (*UIC Class II Primacy 03/07/1982*)

Footages 200 FNL / 215 FEL Lot — or Unit A Sec 11 Tsp 25S Rge 28E County Eddy

General Location: ~5 miles south of Malaga Pool: SWD; Devonian Pool No.: 96101

BLM 100K Map: Carlsbad Operator: Mewbourne Oil Company OGRID: 14744 Contact: Tim Harrington / Mewbourne

COMPLIANCE RULE 5.9: Total Wells: 1116 Inactive: 6 **Fincl Assur:** OK Compl. Order? No **IS 5.9 OK?** Yes **Date:** 03/30/18

WELL FILE REVIEWED ✓ Current Status: APD approved

WELL DIAGRAMS: NEW: Proposed ✓ or **RE-ENTER:** Before Conv. ○ After Conv. ○ Logs in Imaging: Logging suite proposed

Planned Rehab Work to Well: NA

Well Construction Details	Sizes (in) Borehole / Pipe	Setting Depths (ft)	Stage Tool	Cement Sx or Cf	Cement Top and Determination Method
Planned ✓ or Existing — Surface	26 / 20	0 to 450			Cir to surface
Planned ✓ or Existing — Interm/Prod	17½ / 13⅜	0 to 2550	None	1220	Cir to surface
Planned ✓ or Existing — Interm/Prod	12¼ / 9⅝	0 to 9600	None	2070	Cir to surface
Planned ✓ or Existing — Prod/Liner	8½ / 7⅝	9300 to 14450	None	350	Top of liner / calc.
Planned — or Existing — Liner	—	—	—	—	—
Planned ✓ or Existing — OH / PERF	6½	14450 to 15650	Inj Length 1,100		

Injection Lithostratigraphic Units:	Depths (ft)	Injection or Confining Units	Tops*
Adjacent Unit: Litho. Struc. Por.		Mississippian	est. 14150
Confining Unit: Litho. Struc. Por.	14350 / 100'	Woodford Shale	14350
Proposed Inj Interval TOP:	14450	Devonian	14450
Proposed Inj Interval BOTTOM:			
Confining Unit: Litho. Struc. Por.	15650	Fusselman	15900
Adjacent Unit: Litho. Struc. Por.		Montoya	—

Completion/Operation Details:

Drilled TD — PBTD —

NEW TD 15650 NEW PBTD —

NEW Open Hole ✓ or NEW Perfs ○

Tubing Size 5.5/5 in. Inter Coated? Yes

Proposed Packer Depth 14400 ft

Min. Packer Depth 14350 (100-ft limit)

Proposed Max. Surface Press. 2890 psi

Admin. Inj. Press. 2890 (0.2 psi per ft)

AOR: Hydrologic and Geologic Information

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

FRESH WATER: Aquifer Alluvial; (Dockum / SR absent) Max Depth Rustler / <100' **HYDRO AFFIRM STATEMENT By Qualified Person** ✓

NMOSE Basin: Carlsbad **CAPITAN REEF:** thru adj NA ✓ **No. GW Wells in 1-Mile Radius?** 0 FW Analysis? Yes

Disposal Fluid: Formation Source(s) Wolfcamp / Bone Spring / Delaware Analysis? Yes On Lease ○ Operator Only ✓ or Commercial ○ C-1411 - at 1.5 mile

Disposal Interval: Inject Rate (Avg/Max BWPD): 20,000 / 30,000 Protectable Waters? No Source: USGS data System: Closed or Open

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

AOR Wells: 1/2-M Radius Map and Well List? Yes (extended to 1-mile) **No. Penetrating Wells:** 0 [AOR Horizontals: 0 AOR SWDs: 0]

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

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

NOTICE: Newspaper Date 01/21/2018 Mineral Owner fee (list attached) Surface Owner fee / Joy Cooksey N. Date 02/15/2018 (Second notice)

RULE 26.7(A): Identified Tracts? Yes Affected Persons: 22 parties - list attached N. Date Multiple dates Feb.

Order Conditions: **Issues:** Liner cementing; vertical migration of injection fluid; AC potential

Additonal COAs: CBL for liner; injection survey; mudlog [Expanded info paragraph]

* Date of last e-mail containing supplemental information [expanded AOR/Notice and TS info]

Pending Application for High-Volume Devonian Disposal Well
C-108 Application for Hoss 11 SWD No. 1 – Mewbourne Oil Company