

Revised March 23, 2017

RECEIVED: 09/14/2018	REVIEWER: [Signature]	TYPE: SWD	APP NO: PRG18 28536362
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ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

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



ADMINISTRATIVE APPLICATION CHECKLIST

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

Applicant: Mesquite SWD, Inc. **OGRID Number:** 161968
Well Name: Okerlund SWD No. 1 **API:** 30-025-43535
Pool: SWD, Devonian **Pool Code:** 96101

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

1) **TYPE OF APPLICATION:** Check those which apply for [A]

A. Location - Spacing Unit - Simultaneous Dedication

☐ NSL

☐ NSP (PROJECT AREA)

☐ NSP (PRORATION UNIT)

☐ SD

B. Check one only for [I] or [II]

[I] Commingling - Storage - Measurement

☐ DHC

☐ CTB

☐ PLC

☐ PC

☐ OLS

☐ OLM

[II] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery

☐ WFX

☐ PMX

☒ SWD

☐ IPI

☐ EOR

☐ PPR

2) **NOTIFICATION REQUIRED TO:** Check those which apply.

A. ☐ Offset operators or lease holders

B. ☐ Royalty, overriding royalty owners, revenue owners

C. ☐ Application requires published notice

D. ☐ Notification and/or concurrent approval by SLO

E. ☐ Notification and/or concurrent approval by BLM

F. ☐ Surface owner

G. ☐ For all of the above, proof of notification or publication is attached, and/or,

H. ☒ No notice required

FOR OCD ONLY

☐ Notice Complete

☐ Application
Content
Complete

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

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

Melanie Wilson

Print or Type Name

[Signature]

Signature

9/11/18

Date

(575) 914-1461

Phone Number

mjp1692@gmail.com

e-mail Address

September 11, 2018

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

Attention: Ms. Heather Riley
Division Director

Re: Application to Amend Order SWD-1574
Mesquite SWD, Inc.
Okerlund SWD Well No. 1
API No. 30-025-43535
1470' FSL & 1555' FEL, Unit J
Section 7, T-21S, R-32E, NMPM,
Lea County, New Mexico

Dear Ms. Riley,

By Administrative Order SWD-1574 dated August 28, 2015 the Division authorized R360 Permian Basin, LLC to utilize the Okerlund SWD No. 1 as a produced water disposal well, injection to occur into the Devonian formation through the open-hole interval from approximately 14,000 feet to 16,000 feet. The order also stipulated that injection was to occur through 4 ½" or smaller tubing in a packer set within 100 feet of the open-hole injection interval.

Mesquite SWD, Inc. ("Mesquite"), the successor operator of the Okerlund SWD No. 1 respectfully requests that Order SWD-1574 be amended to authorize the use of a 7" x 5 ½" tapered tubing string within the subject well, and to authorize minor changes in the casing program and open-hole interval hole size.

Please note that a provision within Order SWD-1574 stipulated that the injection authority granted would expire on August 28, 2017 if the operator has not commenced injection into the well. The Division has since granted a first extension of Order SWD-1574 to August 28, 2018. The subject well has not been drilled and injection not yet commenced, however, a request for second extension of Order SWD-1574 was submitted to the Division by Mesquite via E-mail dated June 19, 2018 (attached). As of yet, Mesquite has not received a response from the Division to that request.

In support of this request, Mesquite submits the following statements and/or documents:

1. Copy of Order SWD-1574 (Exhibit 1);
2. Copy of OCD Form C-145 received by the Division on May 10, 2017 showing a change of operator of the well from R360 Permian Basin, LLC to Mesquite SWD, Inc. (Exhibit 2);

3. Copy of Mesquite's letter to the Division dated June 19, 2018 requesting a second extension of Order SWD-1574 (Exhibit 3);
4. Attached is the originally proposed wellbore configuration as submitted within the C-108 application filed by R360 Permian Basin, LLC on August 3, 2015 that resulted in Order SWD-1574 (Exhibit 4). Also attached is a wellbore schematic that shows the proposed wellbore configuration (Exhibit 5). In addition to the request to amend the tubing size, Mesquite also proposes to make the following changes to the casing program. These changes are highlighted on the attached wellbore schematic and on the BLM and OCD Sundry Notices attached:

	<u>Original Casing</u>	<u>Proposed Casing</u>
2 nd Int.	9 5/8" 47# L-80 LTC @ 5,100'	9 5/8" 53.5# P-110 BTC @ 11,500'
Production: Liner	7" 29/35# HCL80/P-110 Surface-14,300'	7 5/8" 39# P-110 FJ Liner 11,000'-14,350'
Open Hole:	5 7/8" Hole 14,300'-16,000'	6 1/2" Hole 14,350'-16,000'
Tubing:	4 1/2" 11.6# L-80 Surface-14,300'	7" 26# P-110; Surface-10,800' 5 1/2" 17# P-110; 10,800'-14,300'

5. OCD GIS map (Exhibit 6) showing the location of the Okerlund SWD No. 1 and the surrounding 9-section area. An examination of Division records indicates that there are currently no additional Devonian/Silurian produced water disposal wells within this 9-section area;
6. By Order No. R-14392-A issued in Case No. 15654 on December 7, 2017 the Oil Conservation Commission approved the application of Mesquite to increase the injection tubing size in eight of its Devonian/Silurian produced water disposal wells from a maximum of 4 1/2 inches to a maximum of 5 1/2 inches for each well. In that case, the Commission finds that:
 - a. Finding No. 21: "Mesquite also presented sufficient evidence and testimony in this particular case which indicates that the increased injection rates, achieved through the use of 5 1/2" tubing, is unlikely to create fault slippage or induced seismicity. That is, in part, due to the distance between the wells at issue in Mesquite's application and the distance from the wells to known fault lines";
 - b. Finding No. 22: "The evidence presented further indicated that fishing operations could successfully be performed on the wells when 5 1/2" tubing is utilized within 7 5/8" casing";

Please note that the wells that are the subject of Case No. 15654 are located approximately 16 miles South of the Okerlund SWD No. 1.

7. By Order No. R-14796 issued in Case No. 16308 on July 30, 2018 the Oil Conservation Division approved the application of Mesquite to increase the injection tubing size from 5 ½" or smaller tubing inside the surface and intermediate casing to 7", and increase the injection tubing size from 4 ½" or smaller in the 7 5/8" liner to 5 ½" within its Mesa Verde SWD Well No. 3 located in Unit N of Section 13, Township 24 South, Range 31 East, NMPM, Eddy County, New Mexico. In that case, the Division finds that:
 - a. Finding No. 8: "The fishing specification books available to the Examiner indicate that the proposed 5 ½-inch diameter tubing cannot be fished with an off-the-shelf slim hole overshot inside 7 5/8-inch, 39-ppf casing. Therefore, the overshot tool required in this instance must be specifically milled to a smaller outside diameter, resulting in lower tensile strength rating. The evidence presented from an expert in pipe recovery indicates that the proposed tubing inside the subject well's casing can be fished (pulled out of the hole) with an internal spear type tool and can also be fished from the hole with a modified or milled overshot grapple";
 - b. Finding No. 13: "The proposed increase in tubing size in this properly cemented and cased disposal well should not pose an increased risk to potable or protectable waters and should not degrade the ability of the Division to properly administer the Class II Underground Injection Control Program";
8. Attached are the following documents presented as evidence in Case No. 16308 to support Mesquite's position that due to the proximity of the Mesa Verde SWD No. 3 to known Pre-Cambrian Faults in Southeast New Mexico, it is unlikely that any seismic activity will result from injection into the Devonian/Silurian formation in this area:
 - a. Map of known Pre-Cambrian faults in Southeast New Mexico (Exhibit 7) relative to the location of the Mesa Verde SWD No. 3. (It should be noted that the Okerlund SWD No. 1 is located approximately 20 miles North of the Mesa Verde SWD No. 3 however, both wells are located approximately the same distance away from known Pre-Cambrian Faults);
 - b. A summary of seismic events within 25 km of the Mesa Verde SWD No. 3 (Exhibit 8). This evidence shows no seismic activity within the area of the Okerlund SWD No. 1;
9. Attached is a document presented in Case No. 16308 which demonstrates that increasing the tubing size in a Devonian well in this area will result in an increase in injection rate from 29 MBWPD to 41 MBWPD (Exhibit 9). The resulting increase in

Mesquite SWD, Inc.
Application to Amend SWD-1574
Okerlund SWD No. 1

injection rate will mean that less produced water disposal wells will be necessary to accommodate the ever-increasing demand for disposal.

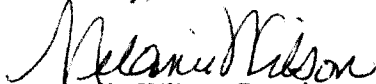
10. Attached is a copy of a C-103 Sundry Notice that will be submitted to the Hobbs District office of the Division (Exhibit 10).
11. Attached is a Form 3160-5 that has been submitted to the Bureau of Land Management requesting approval of the amended casing and tubing program (Exhibit 11).

In summary, the proposed amendment of Order SWD-1574 will not likely result in an increase in seismic activity in Southeast New Mexico, will not cause mechanical problems within the well in the event the tubing is required to be fished, will reduce the number of disposal wells necessary to accommodate produced water disposal needs in Southeast New Mexico, and will result in a more efficient use of the Okerlund SWD No. 1 for produced water disposal.

Mesquite requests that the processing of this application be expedited by the Division to the extent possible. Drilling operations on the Okerlund SWD No. 1 will commence in late 2018 or early 2019, and it will be necessary to plan ahead for equipping the well for disposal.

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

Sincerely,



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

Xc: OCD-Hobbs

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

David R. Catanach, Division Director
Oil Conservation Division



Administrative Order SWD-1574
August 28, 2015

**ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION**

Pursuant to the provisions of Division Rule 19.15.26.8B, NMAC, R360 Permian Basin, LLC (the "operator") seeks an administrative order to authorize the Okerlund SWD Well No. 1 located 1470 feet from the South line and 1555 feet from the East line, Unit letter J of Section 7, Township 21 South, Range 32 East, NMPM, Lea County, New Mexico, for the commercial disposal of produced water.

THE DIVISION DIRECTOR FINDS THAT:

The application has been duly filed under the provisions of Division Rules 19.15.26.8B, NMAC and satisfactory information has been provided that affected parties as defined in said rule have been notified and no objection was received within the required suspense 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.

IT IS THEREFORE ORDERED THAT:

The applicant, R360 Permian Basin, LLC (OGRID 289936), is hereby authorized to utilize its Okerlund SWD Well No. 1 (API 30-025-pending) located 1470 feet from the South line and 1555 feet from the East line, Unit letter J of Section 7, Township 21 South, Range 32 East, NMPM, Lea County, for commercial disposal of oil field produced water (UIC Class II only) in the Devonian formation, through open-hole from **14000 to 16000 feet**. Injection will occur through internally-coated, 4½-inch or smaller tubing and a packer set within 100 feet of the open-hole 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 as modified by this Order.

This permit is limited as advertised to only the Devonian aged rocks and to the depths listed above. It does not permit disposal into deeper formations including the Ellenburger formation (lower Ordovician) or lost circulation intervals directly on top and obviously connected to that formation.

Prior to commencing disposal, the operator shall submit 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.

The operator shall run separate casing strings through both the potash, and Capitan Reef.

Every casing string shall be cemented and circulated to the surface.

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 19.15.26.11A. 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 2800 psi**. 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 formation. 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 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.

Without limitation on the duties of the operator as provided in Division Rules 19.15.29 and 19.15.30 NMAC, or otherwise, the operator shall immediately notify the Division's District I office of any failure of the tubing, casing or packer in the well, or of any leakage or release of

water, oil or gas from around any produced or plugged and abandoned well in the area, and shall take such measures as may be timely and necessary to correct such failure or leakage.

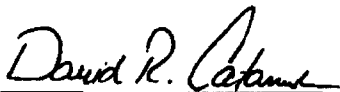
The injection authority granted under this order is not transferable except upon Division approval. The Division may require the operator to demonstrate mechanical integrity of any injection well that will be transferred prior to approving transfer of authority to inject.

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
Director

DRC/mam

cc: Oil Conservation Division – Hobbs District Office
Bureau of Land Management - Carlsbad
Application number - pMAM1522254037

District I

1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II

611 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3470 Fax: (505) 476-3462

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

Form C-145
August 1, 2011

Permit 234366

**NM OIL CONSERVATION
ARTESIA DISTRICT**

MAY 10 2017

RECEIVED

Previous Operator Information

OGRID: 289936
Name: R360 PERMIAN BASIN, LLC
Address: 4507 Carlsbad Hwy

City, State, Zip: Hobbs, NM 88240

New Operator Information

Effective Date: Effective on the date of approval by the OCD
OGRID: 161968
Name: MESQUITE SWD, INC
Address: PO BOX 1479

City, State, Zip: CARLSBAD, NM 88221

I hereby certify that the rules of the Oil Conservation Division ("OCD") have been complied with and that the information on this form and the certified list of wells is true to the best of my knowledge and belief.

Additionally, by signing below, MESQUITE SWD, INC certifies that it has read and understands the following synopsis of applicable rules.

PREVIOUS OPERATOR certifies that all below-grade tanks constructed and installed prior to June 16, 2008 associated with the selected wells being transferred are either (1) in compliance with 19.15.17 NMAC, (2) have been closed pursuant to 19.15.17.13 NMAC or (3) have been retrofitted to comply with Paragraphs 1 through 4 of 19.15.17.11(i) NMAC.

MESQUITE SWD, INC understands that the OCD's approval of this operator change:

1. constitutes approval of the transfer of the permit for any permitted pit, below-grade tank or closed-loop system associated with the selected wells; and
2. constitutes approval of the transfer of any below-grade tanks constructed and installed prior to June 16, 2008 associated with the selected wells, regardless of whether the transferor has disclosed the existence of those below-grade tanks to the transferee or to the OCD, and regardless of whether the below-grade tanks are in compliance with 19.15.17 NMAC.

Previous OperatorSignature: Printed Name: Luke BrossTitle: Manager, Business DevelopmentDate: 4/7/2017Phone: 281.873.7360**New Operator**Signature: Printed Name: Clay L. WilsonTitle: PresidentDate: 4/26/2017Phone: 575-706-1840

Permit 234366

**NM OIL CONSERVATION
ARTESIA DISTRICT****MAY 10 2017****RECEIVED****NMOCD Approval**Electronic Signature: Karen Sharp, District 2Date: May 17, 2017

MESQUITE SWD, INC.
PO Box 1479
CARLSBAD, NM 88220
575-628-0391

June 19, 2018

New Mexico Oil Conservation Division
Attention: Mr. Phillip Goetze
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Request for Permit Approval Extension
C-108 Authorization to Inject (Order SWD-1574)
Order Date: August 28, 2015
Okerlund SWD #1 (API# 30-025-43535)
Township 21 South, Range 32 East, N.M.P.M.
Section 7: 1470' FSL & 1555' FEL
Lea County, NM

Dear Mr. Goetze,

Mesquite SWD, Inc. respectfully requests administrative approval for a one-year extension of the approved C-108 authorization to inject for the above referenced well.

The drilling of this well was postponed due to rig availability and prioritized drilling in 2018. We plan to drill this well in late 2018 or 2019.

I have attached a map showing all wells within one mile. There have been no wells drilled within the area of review, nor any ownership or operator changes requiring additional notice since the order was issued.

Please contact me at 575-308-3765 if you need further information.

Thank you for your consideration of this request.

Sincerely,



Stormi Davis
Regulatory Analyst

Exhibit No. 3
Extension Letter Request
Application to Amend SWD-1574
Okerlund SWD No. 1

6. **Proposed Casing Program:**

Name	Hole (inches)	Size (inches)	Setting Depth (Feet)	Grade	Weight (lbs/ft)	Thread	Condition	Burst SF	Coll. SF	Ten. SF
Surface	26	20	1060	J55 ✓	106.4	LTC	New	1.2	1.125	1.6
1 st Intermediate	17 1/2	13 3/8	2,900 ✓	J55 ✓	68	LTC	New	1.2	1.125	1.6
2 nd Intermediate	12 1/2	9 5/8	5,100 ✓	L80 ✓	47	LTC	New	1.2	1.125	1.6
Production	8 1/2	7	0-120 ✓	HCL80 ✓	35	LTC	New	1.2	1.125	1.6
Production	8 1/2	7	120-11,000 ✓	P-110 ✓	29	LTC	New	1.2	1.125	1.6
Production	8 1/2	7	11,000-14,300 ✓	HCL80 ✓	35	LTC	New	1.2	1.125	1.6
Tubing	5 7/8	4 1/2	0-5,000 ✓	P-110 ✓	11.6	LTC	New	1.2	1.125	1.6
Tubing	5 7/8	4 1/2	5,000-14,300 ✓	L-80 ✓	11.6	LTC	New	1.2	1.125	1.6
Open Hole	5.875		14300-16000	NA	NA	NA	NA			

7. **Drilling Procedure:** Spud well and drill down each interval to total depth of that interval, staying in compliance with OCD/BLM rules and regulations and following this APD drilling plan. Casing off the Potash and Capitan with separate strings per the BLM. Each casing string will be cemented and cement will be circulated to surface. There are DV Tools in the casing strings to insure getting cement all the way to surface. Mud weights are spelled out below in paragraph 10 – Types and Characteristics of mud system. After reaching total casing depth of 14,300', OH Logs (Paragraph 12) will be run 14300-5100 GR-CNL to surf, we will cement the 7" as spelled out in this APD. We will pick up a 5 7/8" bit to drill the injection interval for the open-hole completion; OH logs (see Paragraph 12) will be run TD-14300. The depths from 14,300' to 16,000' will not have a casing string, thus an "open-hole" completion. The Devonian target zone for injecting is a depleted zone considered to be under pressured and will be drilled with cut brine 8.4-8.9 PPG. The injection tubing will be set to depth of 14,300' inside the 7". All intervals will be logged prior to running casing per BLM/OCD re

8. **Pressure Controls:**

A 10M 13-5/8" BOP system (Double Ram and Annular preventer) will be installed and tested prior to drilling out the surface casing shoe. The BOP system used to drill the intermediate hole will be test per BLM Onshore Oil and Gas Order 2.

A 10M 13-5/8" BOP system (Double Ram and Annular preventer) will be installed and tested prior to drilling out the intermediate casing shoe. The BOP system used to drill the production hole will be test per BLM Onshore Oil and Gas Order 2.

The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories, include a Kelly cock, floor safety valve, choke lines, and choke manifold rated at 5,000 psi WP.

9. **Cement Program:**

Surface: Float/Landing Collar set @ 1015'. We will circulate cement to surface

Interval	Amount (sacks)	Ft of Fill	Excess (%)	PPG	Ft ³ /sx	Volume (ft ³)	Cement Type
Lead	800	346	100	13.5	1.75	1400	Premium Plus C Cement + 0.005 lbs/sack Static Free + 2% bwoc Calcium Chloride +0.05% bwoc R-3 + 0.25 lbs/sack Cello Flake + 0.005 gps FP-6L + 4% bwoc Bentonite II
Tail	575	714	100	14.8	1.34	770	Premium Plus C Cement + 0.005 lbs/sack Static Free + 2% bwoc Calcium Chloride +0.005 gps FP-6L

Mesquite SWD, Inc.
Okerlund SWD No. 1: Proposed Wellbore Schematic
1470' FSL & 1555' FEL (Unit J)
Section 7, T-21S, R-32E, NMPM, Lea County, NM

Surface Casing:

Hole Size: 26"
 Size: 20" 106.4# J-55 LTC
 Set @: 1,060'
 Sx. Cmt: 1375
 TOC: Surface

1st Intermediate Casing:

Hole Size: 17.5"
 Size: 13.375" 68# J-55 LTC
 Set @: 2,900'
 Sx. Cmt: 1940; Staged
 Stage Tool: 1,800'
 TOC: Surface

2nd Intermediate Casing

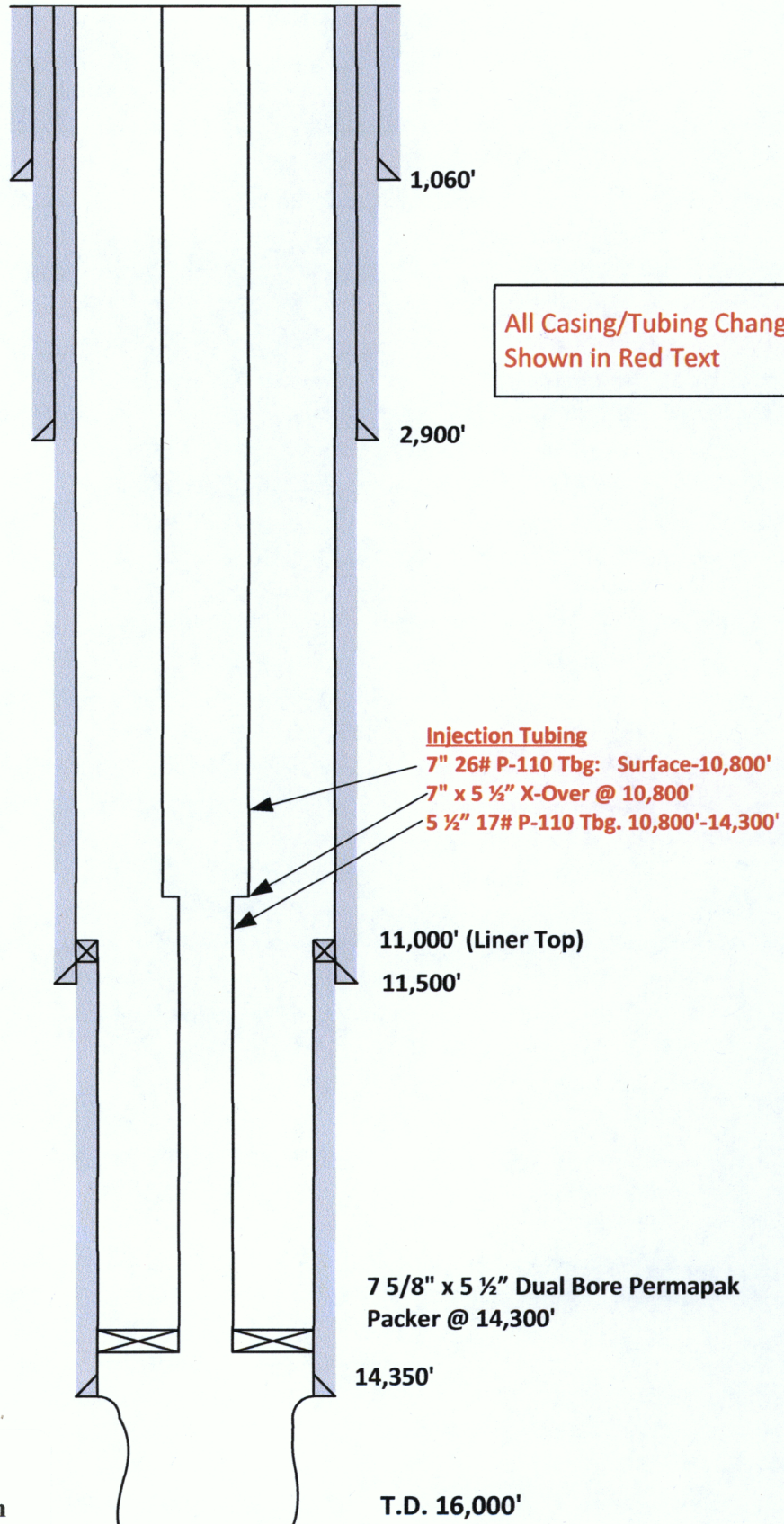
Hole Size: 12.25"
 Size: 9.625 53.5# P-110 BTC
 Set @: 11,500'
 Sx. Cmt: TBD. Sufficient to Circulate
 TOC: Surface

Liner

Hole Size: 8.5"
 Size: 7.625" 39# P-110 FJ
 Set @: 11,000'-14,350'
 Sx. Cmt: TBD. Sufficient to Circulate
 TOC: 11,000' (Liner Top)

Open-Hole Injection Interval

Hole Size: 6 1/2"
 Interval: 14,350' - 16,000'



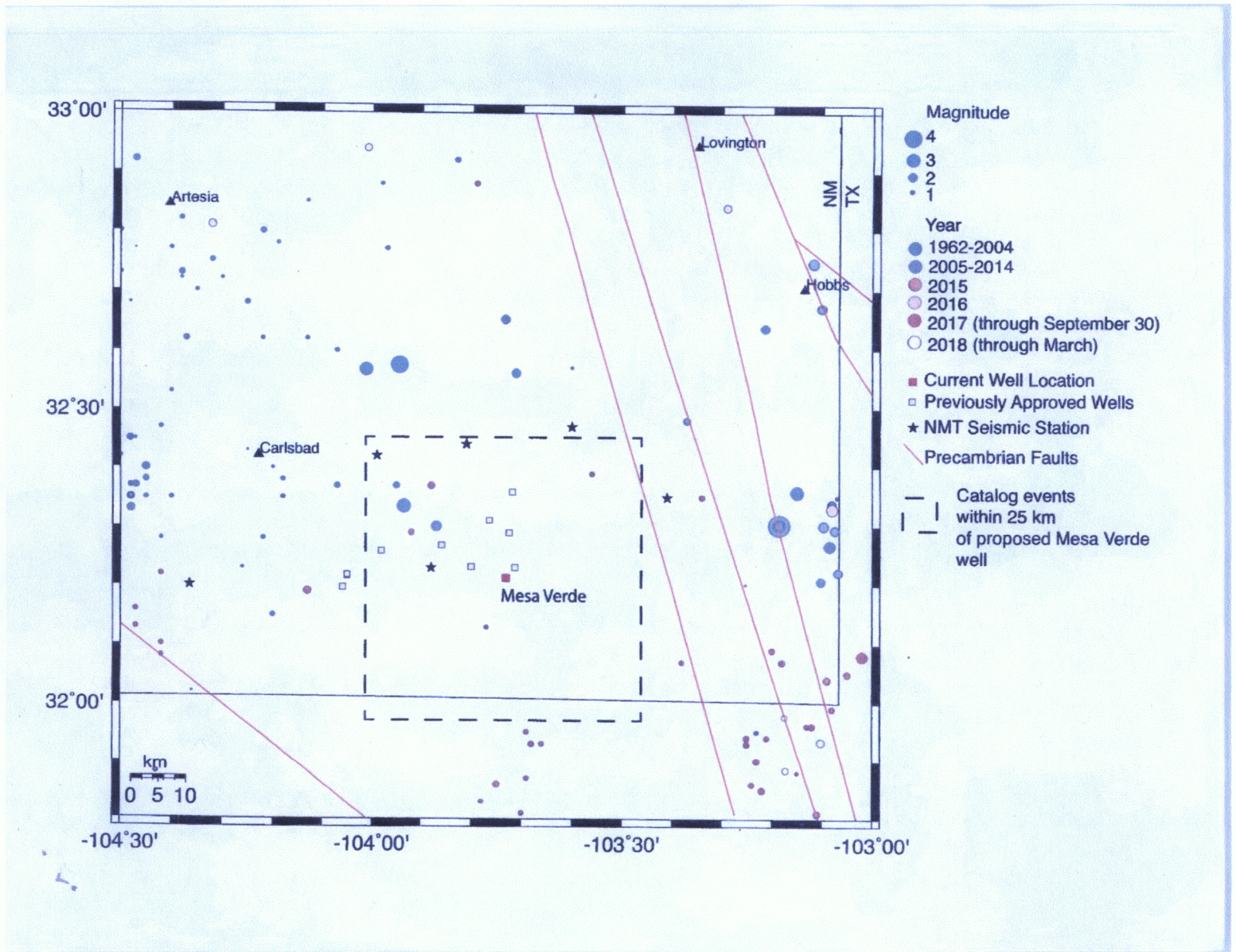


Exhibit No. 7
 Known Pre-Cambrian Faults
 Application to Amend SWD-1574
 Okerlund SWD No. 1

Seismic Catalog Analysis within 25 km of Mesa Verde #3:

Analysis based on NMT seismicity analysis using US Geological Survey earthquake catalog and data from seismic network stations within the SE New Mexico region. Published NMT catalogs span 1962-2009 (Sanford et al., 2002, Sanford et al., 2006, Stankova-Pursley et al., 2013) and unpublished catalogs from 2009 – September 2017, February-March 2018.

Total of 7 events within 25 km of this well (between 1962-March 2018)

Catalog from 1962-2004: 1 event magnitude 3.2

Closest event to well location: 23.7 km (magnitude 3.2 event)

Catalog from 2005-2018(March): minimum magnitude 1.0, maximum magnitude 2.4

Closest event to well location: 9.8 km (1.0 magnitude event)

Yearly summary of earthquakes within 25 km of Mesa Verde #3 well:

1962_1998: 1 (1 earthquake with magnitude greater than 2)

1998_2004:0

2005-2014: 2 (1 earthquake with magnitude greater than 2)

2015: 0

2016: 0

2017: 4 (0 > M2)

2018(through March): 0

YYYYMMDD	HH:MM:SS	LATITUDE	LONGITUDE	MAGNITUDE
19971019	11:12:09	32.33	-103.94	3.2
20111227	23:10:37	32.37	-103.95	1.6
20120318	10:57:22	32.30	-103.87	2.4
20170211	14:34:27	32.29	-103.92	1.5
20170302	11:38:53	32.37	-103.88	1.7
20170325	22:46:01	32.13	-103.77	1.0
20170814	01:09:56	32.39	-103.56	1.2

Earthquake depths are unconstrained.

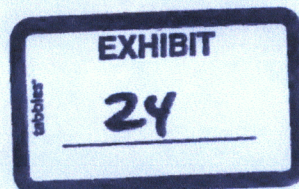
References:

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.

Exhibit No. 8
Seismic Event Summary
Application to Amend SWD-1574
Okerlund SWD No. 1



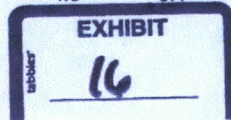
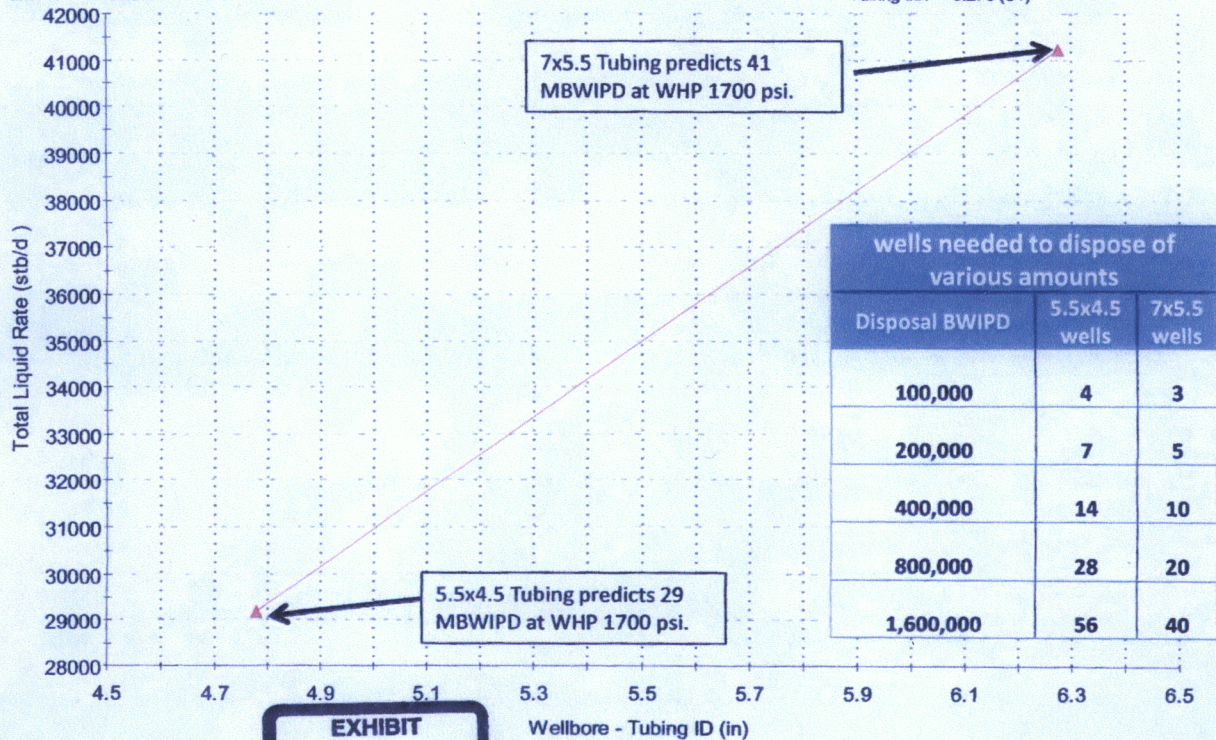
Mesquite SWD

Increased injection rate per well equates to fewer injectors.

Mesquite Sand Dunes SWD #2
Reservoir Data
Pressure = 7750.00 psia
kh = 10800.0
Skin = 0.00

SandDunes SWD WellboreSize Sensitivity.snp

Rate vs. Wellbore - Tubing ID (in)
28-Jun-18 14:11:16
WB Depth (MD ft) = 18035
WHPres (psia) = 1700.00
Tubing I.D. = 6.276 (s1)



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.

30-025-43535

5. Indicate Type of Lease

STATE ☐ FEE ☐

6. State Oil & Gas Lease No.

FEDERAL

7. Lease Name or Unit Agreement Name

OKERLUND SWD

8. Well Number **1**

9. OGRID Number **161968**

10. Pool name or Wildcat

[96101] SWD: DEVONIAN

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-104) FOR SUCH PROPOSALS.)

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

2. Name of Operator

MESQUITE SWD, INC.

3. Address of Operator **PO BOX 1479**

CARLSBAD NM 88220

4. Well Location

Unit Letter **J** : **1470** feet from the **SOUTH** line and **1555** feet from the **EAST** line

Section **7** Township **21S** Range **32E** NMPM **LEA** County

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

3644' GR

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐

TEMPORARILY ABANDON ☐ CHANGE PLANS ☒

PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐

DOWNHOLE COMMINGLE ☐

CLOSED-LOOP SYSTEM ☐

OTHER: ☐ OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐

COMMENCE DRILLING OPNS ☐ P AND A ☐

CASING/CEMENT JOB ☐

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.

Mesquite SWD, Inc. requests permission for the following changes to the well plan approved in SWD-1574:

2nd

Intermediate

Casing:

Approved: 9 5/8" 47# L80 LTC Set @ 5100'

Change to: 9 5/8" 53.5# P110 BTC, Burst SF 1.2; Collapse SF 1.125; Joint SF 3.29 Dry; Body SF 3.4 Dry
Setting Depth @ 11500'

Production

Casing:

Approved: 8 1/2" hole to 14300' - 7" 35# HCL80/29# P110 LTC casing set @ surface to 14300'

Change to: 8 1/2" hole to 14350' - 7 5/8" 39# P110 FJ liner set 11000' - 14350'. Burst SF 1.27; Collapse SF 1.23; Joint SF 4.01 Buoy; Body SF 5.35 Buoy

Open Hole:

Approved: 5 7/8" 14300' - 16000'

Change to: 6 1/2" 14350' - 16000'

Tubing:

Approved: 4 1/2"

Change to: 7" x 5 1/2" tapered string

BOP:

Approved: 10M BOP with 10M annular

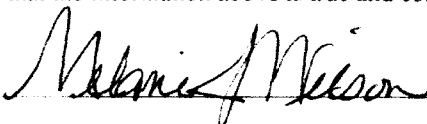
Change to: Nipple up on 20" csg w/2M BOP system. Nipple up on 13 3/8" csg with 3M BOP system.

Nipple up on 9 5/8" csg w/10M BOP system. Request variance for use of 10M BOP with 5M annular. Well Control Plan and BOP diagrams are attached.

Revised proposed well bore diagram is attached.

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

SIGNATURE



TITLE **Regulatory Analyst**

DATE **09/10/2018**

Type or print name **Melanie J. Wilson** E-mail address: **mjl692@gmail.com** PHONE: **575-914-1461**

For State Use Only

APPROVED BY:

Conditions of Approval (if any):

Exhibit No. 10

Form C-103 (Sundry Notice)
Application to Amend SWD-1574
Okerlund SWD No. 1

DATE

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.***SUBMIT IN TRIPLICATE - Other instructions on page 2**

1. Type of Well <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other: INJECTION	8. Well Name and No. OKERLUND SWD 1
2. Name of Operator MESQUITE SWD, INC. Contact: MELANIE WILSON E-Mail: mjp1692@gmail.com	9. API Well No. 30-025-43535
3a. Address PO BOX 1479 CARLSBAD, NM 88221	10. Field and Pool or Exploratory Area SWD;DEVONIAN
3b. Phone No. (include area code) Ph: 575-914-1461	
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 7 T21S R32E Mer NMP NWSE 1470FSL 1555FEL	11. County or Parish, State LEA COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Change to Original APD
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Mesquite SWD, Inc. respectfully requests the following changes to the original APD:

2nd Intermediate Casing

Approved: 9 5/8" 47# L80 LTC Set @ 5100'

Change to: 9 5/8" 53.5# P110 BTC, Burst SF1.2; Collapse SF 1.125; Joint SF 3.29 Dry; Body SF 3.4

Dry Setting Depth @ 11500'

Production Casing

Approved: 8 1/2" hole to 14300' - 7" 35# HCL80/29# P110 LTC casing set @ surface to 14300'

Change to: 8 1/2" hole to 14350' - 7 5/8" 39# P110 FJ liner set 11000' - 14350', Burst SF 1.27; Collapse SF 1.23; Joint SF 4.01 Buoy; Body SF 5.35 Buoy

14. I hereby certify that the foregoing is true and correct. Electronic Submission #434444 verified by the BLM Well Information System For MESQUITE SWD, INC., sent to the Hobbs	
Name (Printed/Typed) SHERYL BAKER	Title DRILLING SUPERINTENDENT
Signature (Electronic Submission)	Date 09/10/2018

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By _____	Title _____	Date _____
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		Office _____

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

**** OPERATOR-SUI****Exhibit No. 11****ERATOR-SUBMITTED ******Form 3160-5 (Sundry Notice)
Application to Amend SWD-1574
Okerlund SWD No. 1**

Additional data for EC transaction #434444 that would not fit on the form

32. Additional remarks, continued

Open Hole

Approved: 5 7/8" 14300' - 16000'

Change to: 6 1/2" 14350' - 16000'

Tubing

Approved: 4 1/2"

Change to: 7" x 5 1/2" tapered string

BOP

Approved: 10M BOP with 10M annular

Change to: Nipple up on 20" csg w/2M BOP system. Nipple up on 13 3/8" csg with 3M BOP system.

Nipple up on 9 5/8" csg w/10M BOP system. Request variance for use of 10M BOP with 5M annular.

Well Control Plan and BOP diagrams are attached.

[illegible]

API 30-025-43535 Application No. pPRG1828536362; increase to 5.5-inch x 7-inch tapered tubing set