

SECRETARY'S POTASH

Form 3160-3  
**NM OIL CONSERVATION**  
 ARTESIA DISTRICT

DEC 26 2017

UNITED STATES  
 DEPARTMENT OF THE INTERIOR  
 BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED  
 OMB No. 1004-0137  
 Expires October 31, 2014

5. Lease Serial No.  
 NMNM104730

6. If Indian, Allottee or Tribe Name

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.  
 SAND DUNES SWD 1 **317614**

9. API Well No.  
**30-015-44612**

1a. Type of work:  DRILL  REENTER

1b. Type of Well:  Oil Well  Gas Well  Other INJ-DIS  Single Zone  Multiple Zone

2. Name of Operator  
 MESQUITE SWD INCORPORATED **161968**

3a. Address  
 602 S Canyon Street Carlsbad NM 88221

3b. Phone No. (include area code)  
 (575)887-0980

10. Field and Pool, or Exploratory  
 SWD / DEVONIAN

4. Location of Well (Report location clearly and in accordance with any State requirements.)\*  
 At surface **SESW / 260 FSL / 2053 FWL / LAT 32.239821 / LONG -103.801743**  
 At proposed prod. zone **SESW / 260 FSL / 2053 FWL / LAT 32.239821 / LONG -103.801743**

11. Sec., T. R. M. or Blk. and Survey or Area  
 SEC 5 / T24S / R31E / NMP

14. Distance in miles and direction from nearest town or post office\*  
 17 miles

12. County or Parish  
 EDDY

13. State  
 NM

15. Distance from proposed\* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)  
 260 feet

16. No. of acres in lease  
 1202.12

17. Spacing Unit dedicated to this well  
 0

18. Distance from proposed location\* to nearest well, drilling, completed, 406 feet applied for, on this lease, ft.

19. Proposed Depth  
 18000 feet / 18000 feet

20. BLM/BIA Bond No. on file  
 FED: NMB000612

21. Elevations (Show whether DF, KDB, RT, GL, etc.)  
 3473 feet

22. Approximate date work will start\*  
 06/01/2017

23. Estimated duration  
 45 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

- 1. Well plat certified by a registered surveyor.
- 2. A Drilling Plan.
- 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
- 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- 5. Operator certification
- 6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature (Electronic Submission) Name (Printed/Typed) Date  
 (Electronic Submission) Melanie Wilson / Ph: (575)914-1461 02/22/2017

Title  
 Regulatory Analyst

Approved by (Signature) Name (Printed/Typed) Date  
 (Electronic Submission) Bobby Ballard / Ph: (575)234-2235 12/20/2017

Title  
 Natural Resource Specialist  
 Office  
 CARLSBAD

Application approval 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.  
 Conditions of approval, if any, are attached.

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.

(Continued on page 2)

\*(Instructions on page 2)

**APPROVED WITH CONDITIONS**  
 Approval Date: 12/20/2017

*Handwritten initials and date: 12-20-17*

*Handwritten initials and date: RW 12-28-17.*



Application for Permit to Drill

OCD Artesia 17-317

U.S. Department of the Interior  
Bureau of Land Management

APD Package Report

Date Printed: 12/20/2017 03:00 PM

APD ID: 10400010415	Well Status: AAPD
APD Received Date: 02/22/2017 09:02 AM	Well Name: SAND DUNES SWD
Operator: MESQUITE SWD INCORPORATED	Well Number: 1

APD Package Report Contents

- Form 3160-3
- Operator Certification Report
- Application Report
- Application Attachments
  - Well Plat: 1 file(s)
- Drilling Plan Report
- Drilling Plan Attachments
  - Blowout Prevention Choke Diagram Attachment: 1 file(s)
  - Blowout Prevention BOP Diagram Attachment: 1 file(s)
  - Casing Design Assumptions and Worksheet(s): 5 file(s)
  - Hydrogen sulfide drilling operations plan: 2 file(s)
- SUPO Report
- SUPO Attachments
  - Existing Road Map: 1 file(s)
  - New Road Map: 1 file(s)
  - Attach Well map: 1 file(s)
  - Water source and transportation map: 1 file(s)
  - Well Site Layout Diagram: 1 file(s)
  - Other SUPO Attachment: 1 file(s)
- PWD Report
- PWD Attachments
  - None
- Bond Report
- Bond Attachments
  - None

SECRETARY'S POTASH

NM OIL CONSERVATION  
ARTESIA DISTRICT  
DEC 26 2017  
RECEIVED

**PECOS DISTRICT  
DRILLING OPERATIONS  
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Mesquite SWD Inc
LEASE NO.:	NM104730
WELL NAME & NO.:	Sand Dunes SWD – 1
SURFACE HOLE FOOTAGE:	260'/S & 2053'/W
BOTTOM HOLE FOOTAGE:	260'/S & 2053'/W
LOCATION:	Sec. 5, T. 24 S, R. 31 E
COUNTY:	Eddy County

**I. DRILLING OPERATIONS REQUIREMENTS**

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

- **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

1. Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, report measured amounts and formations to the BLM.
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.
4. The record of the drilling rate along with the GR/N well log run from TD to surface shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

## II. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) for Water Basin:

After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

**Possibility of water flows in the Salado, and Castile.**

**Possibility of lost circulation in the Red Beds, Rustler, and Delaware.**

**Abnormal pressures may be encountered within the 3<sup>rd</sup> Bone Spring Sandstone and subsequent formations.**

**Surface casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.**

A. The **20** inch surface casing shall be set at approximately **800** feet (**in a competent bed below the Magenta Dolomite, which is a Member of the Rustler, and if salt is encountered, set casing at least 25 feet above the salt**) and cemented to the surface.

1. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
2. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**

3. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
4. If cement falls back, remedial cementing will be done prior to drilling out that string.

B. The minimum required fill of cement behind the 13-3/8 inch 1<sup>st</sup> intermediate casing, which shall be set at approximately 4230 feet (**Lamar Limestone or the basal anhydrite of the Castile Formation**), is:

- Cement to surface. If cement does not circulate see B.1.a, c-d above.

**Formation below the 13-3/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.**

C. The minimum required fill of cement behind the 9-5/8 inch 2<sup>nd</sup> intermediate casing is:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Excess calculates to 19% - Additional cement will be required.**

**Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.**

D. The minimum required fill of cement behind the 4-1/2 inch production Liner is:

- Cement as proposed by operator. Operator shall provide method of verification.

**E. Open hole completion from 16500 to 18000.**

F. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

### III. PRESSURE CONTROL

A. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API 53.

B. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M) psi (Operator installing 10M testing to 3,000 psi)**.

1. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.

C. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13-3/8** 1<sup>st</sup> intermediate casing shoe shall be **5000 (5M) psi (Operator installing 10M testing to 5,000 psi)**. **5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**

D. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** 2<sup>nd</sup> intermediate casing shoe shall be **10,000 (10M) psi**. **10M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**

E. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

1. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
2. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

3. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
4. The results of the test shall be reported to the appropriate BLM office.
5. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
6. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
7. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

#### **IV. DRILLING MUD**

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

#### **V. DRILL STEM TEST**

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

#### **VI. WELL COMPLETION**

**A NOI sundry with the completion procedure for this well shall be submitted and approved prior to commencing completion work. The procedure will be reviewed to verify that the completion proposal will allow the operator to:**

1. **Properly evaluate the injection zone utilizing open hole logs, swab testing and/or any other method to confirm that hydrocarbons cannot be produced in paying quantities. This evaluation shall be reviewed by the BLM prior to injection commencing.**
2. **Restrict the injection fluid to the approved formation.**

**If off-lease water will be disposed in this well, the operator shall provide proof of right-of-way approval.**

## **VII. WASTE MATERIAL AND FLUIDS**

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

**CLN 12182017**

**PECOS DISTRICT  
SURFACE USE  
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Mesquite SWD Inc
LEASE NO.:	NM104730
WELL NAME & NO.:	Sand Dunes SWD - 1
SURFACE HOLE FOOTAGE:	260'/S & 2053'/W
BOTTOM HOLE FOOTAGE	'/ & '/
LOCATION:	Section 5, T. 24 S., R. 31 E., NMPM
COUNTY:	Eddy County, New Mexico

**TABLE OF CONTENTS**

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- General Provisions**
- Permit Expiration**
- Archaeology, Paleontology, and Historical Sites**
- Noxious Weeds**
- Special Requirements**
  - Lesser Prairie-Chicken Timing Stipulations
  - Below Ground-level Abandoned Well Marker
- Construction**
  - Notification
  - Topsoil
  - Closed Loop System
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- Road Section Diagram**
- Production (Post Drilling)**
  - Well Structures & Facilities
  - Pipelines
  - Electric Lines
- Interim Reclamation**
- Final Abandonment & Reclamation**

## **I. GENERAL PROVISIONS**

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

## **II. PERMIT EXPIRATION**

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

## **III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES**

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

## **IV. NOXIOUS WEEDS**

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

## V. SPECIAL REQUIREMENT(S)

### **Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken:**

Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period.

Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted.

Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

**Below Ground-level Abandoned Well Marker to avoid raptor perching:** Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

## **VI. CONSTRUCTION**

### **A. NOTIFICATION**

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

### **B. TOPSOIL**

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

### **C. CLOSED LOOP SYSTEM**

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

### **D. FEDERAL MINERAL MATERIALS PIT**

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

### **E. WELL PAD SURFACING**

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

### **F. EXCLOSURE FENCING (CELLARS & PITS)**

**Exclosure Fencing**

The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

**G. ON LEASE ACCESS ROADS****Road Width**

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

**Surfacing**

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

**Crowning**

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

**Ditching**

Ditching shall be required on both sides of the road.

**Turnouts**

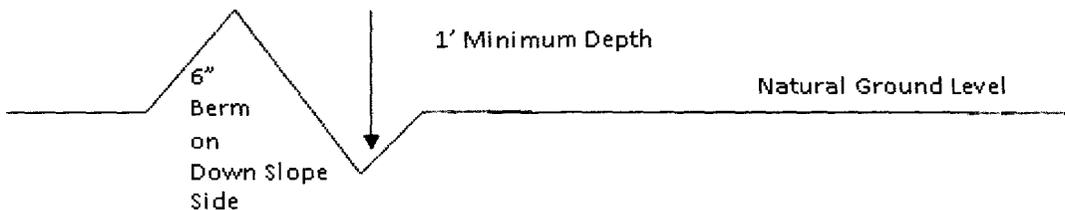
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

**Drainage**

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

### Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

### Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

### Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

### Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

### Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

**Construction Steps**

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

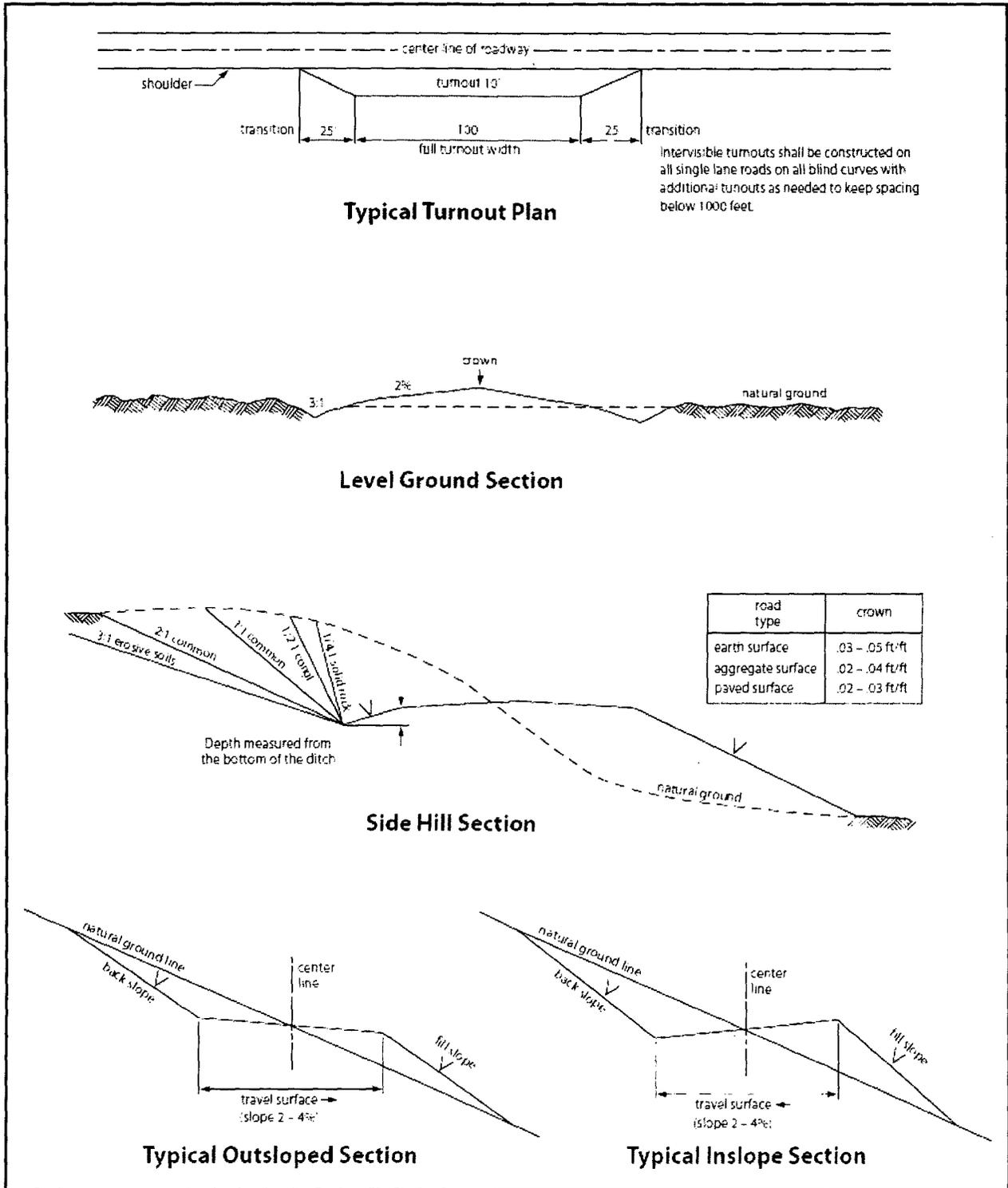


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

## **VII. PRODUCTION (POST DRILLING)**

### **A. WELL STRUCTURES & FACILITIES**

#### **Placement of Production Facilities**

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

#### **Exclosure Netting (Open-top Tanks)**

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

#### **Chemical and Fuel Secondary Containment and Exclosure Screening**

The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

#### **Open-Vent Exhaust Stack Exclosures**

The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

#### **Containment Structures**

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

**Painting Requirement**

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

**B. PIPELINES**

**BURIED PIPELINE STIPULATIONS**

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to

the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of 36 inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be 30 feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed 20 feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)
- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed 30 feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)
- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be

segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

- |  |  |
|--|--|
| <input type="checkbox"/> seed mixture 1                | <input type="checkbox"/> seed mixture 3          |
| <input type="checkbox"/> seed mixture 2                | <input type="checkbox"/> seed mixture 4          |
| <input checked="" type="checkbox"/> seed mixture 2/LPC | <input type="checkbox"/> Aplomado Falcon Mixture |

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

17. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes associated roads, pipeline corridor and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

18. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

- a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
- b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

19. Special Stipulations:

**Lesser Prairie-Chicken**

Oil and gas activities will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

**C. ELECTRIC LINES**  
**STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES**

**A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.**

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to

whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed

is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:

- For reclamation remove poles, lines, transformer, etc. and dispose of properly.
- Fill in any holes from the poles removed.

**Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken:**

Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

## **VIII. INTERIM RECLAMATION**

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

## **IX. FINAL ABANDONMENT & RECLAMATION**

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Below Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

“EXHIBIT A-1”

Seed Mixture for LPC Sand/Shinnery Sites

Holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)\* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed shall be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed shall be either certified or registered seed. The seed container shall be tagged in accordance with State law(s) and available for inspection by the Authorized Officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). Holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. Seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed\* per acre:

<u>Species</u>	<u>lb/acre</u>
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

\*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

## Operator Certification

*I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.*

**NAME:** Melanie Wilson**Signed on:** 02/22/2017**Title:** Regulatory Analyst**Street Address:** 106 W. Riverside Drive**City:** Calsbad**State:** NM**Zip:** 88220**Phone:** (575)914-1461**Email address:** mjp1692@gmail.com

## Field Representative

**Representative Name:** Riley Neatherlin**Street Address:** 602 S Canyon**City:** Carlsbad**State:** NM**Zip:** 88220**Phone:** (575)706-7288**Email address:** rgneatherlin@gmail.com

**APD ID:** 10400010415**Submission Date:** 02/22/2017Highlighted data  
reflects the most  
recent changes**Operator Name:** MESQUITE SWD INCORPORATED**Well Name:** SAND DUNES SWD**Well Number:** 1[Show Final Text](#)**Well Type:** INJECTION - DISPOSAL**Well Work Type:** Drill**Section 1 - General****APD ID:** 10400010415**Tie to previous NOS?** 10400009382**Submission Date:** 02/22/2017**BLM Office:** CARLSBAD**User:** Melanie Wilson**Title:** Regulatory Analyst**Federal/Indian APD:** FED**Is the first lease penetrated for production Federal or Indian?** FED**Lease number:** NMMN104730**Lease Acres:** 1202.12**Surface access agreement in place?****Allotted?****Reservation:****Agreement in place?** NO**Federal or Indian agreement:****Agreement number:****Agreement name:****Keep application confidential?** NO**Permitting Agent?** NO**APD Operator:** MESQUITE SWD INCORPORATED**Operator letter of designation:****Operator Info****Operator Organization Name:** MESQUITE SWD INCORPORATED**Operator Address:** 602 S Canyon Street**Zip:** 88221**Operator PO Box:** PO Box 1479**Operator City:** Carlsbad**State:** NM**Operator Phone:** (575)887-0980**Operator Internet Address:** mjp1692@gmail.com**Section 2 - Well Information****Well in Master Development Plan?** NO**Master Development Plan name:****Well in Master SUPO?** NO**Master SUPO name:****Well in Master Drilling Plan?** NO**Master Drilling Plan name:****Well Name:** SAND DUNES SWD**Well Number:** 1**Well API Number:****Field/Pool or Exploratory?** Field and Pool**Field Name:** SWD**Pool Name:** DEVONIAN**Is the proposed well in an area containing other mineral resources?** POTASH

**Operator Name:** MESQUITE SWD INCORPORATED

**Well Name:** SAND DUNES SWD

**Well Number:** 1

**Describe other minerals:**

**Is the proposed well in a Helium production area?** N    **Use Existing Well Pad?** NO    **New surface disturbance?**

**Type of Well Pad:** SINGLE WELL

**Multiple Well Pad Name:**    **Number:**

**Well Class:** VERTICAL

**Number of Legs:**

**Well Work Type:** Drill

**Well Type:** INJECTION - DISPOSAL

**Describe Well Type:**

**Well sub-Type:** INJECTION - DISPOSAL

**Describe sub-type:**

**Distance to town:** 17 Miles

**Distance to nearest well:** 406 FT

**Distance to lease line:** 260 FT

**Reservoir well spacing assigned acres Measurement:** 0 Acres

**Well plat:** Sand Dunes SWD 1 C102\_01-21-2017.pdf

**Well work start Date:** 06/01/2017

**Duration:** 45 DAYS

### Section 3 - Well Location Table

**Survey Type:** RECTANGULAR

**Describe Survey Type:**

**Datum:** NAD83

**Vertical Datum:** NAVD88

**Survey number:**

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	260	FSL	205 3	FWL	24S	31E	5	Aliquot SESW 1	32.23982	- 103.8017 43	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 104730	347 3	0	0
BHL Leg #1	260	FSL	205 3	FWL	24S	31E	5	Aliquot SESW 1	32.23982	- 103.8017 43	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 104730	- 145 27	180 00	180 00

Operator Name: MESQUITE SWD INCORPORATED

Well Name: SAND DUNES SWD

Well Number: 1

Pressure Rating (PSI): 10M

Rating Depth: 19000

**Equipment:** A 10M system will be installed according to Onshore Order #2 consisting of an Annular Preventer, BOP with two rams and a blind ram. BOP will be equipped with 2 side outlets (choke side shall be a minimum 3" line, and kill side will be a minimum 2" line). Kill line will be installed with (2) valves and a check valve (2" min) of proper pressure rating for the system. Remote kill line (2" min) will be installed and ran to the outer edge of the substructure and be unobstructed. A manual and hydraulic valve (3" min) will be installed on the choke line, 3 chokes will be used with one being remotely controlled. Fill up line will be installed above the uppermost preventer. Pressure gauge of proper pressure rating will be installed on choke manifold. Upper and lower kelly cocks will be utilized with handles readily available in plain sight. A float sub will be available at all times. All connections subject to well pressure will be flanged, welded, or clamped.

**Requesting Variance? YES**

**Variance request:** Flex hose variance

**Testing Procedure:** BOP and BOPE shall be installed, used, maintained, and tested in a manner necessary to assure well control and shall be in place and operational prior to drilling the surface casing shoe, unless otherwise stated by APD. The Annular shall be functionally operated at least weekly, and, pipe and blind rams shall be activated each trip. • The surface (20") BOP/BOPE pressure test will be made to hold 250 psi low, and 3000 psi high, • The first intermediate (13 3/8") BOP/BOPE pressure tests will be made to hold 250 psi low, and 5000 psi high, before drilling out the 1st intermediate shoe. • The second intermediate (9 5/8") BOP/BOPE pressure tests will be made to hold 250 psi low, and 10,000 psi high, before drilling out the 2nd intermediate shoe.

**Choke Diagram Attachment:**

Sand Dunes SWD 1 Flex Hose Data\_01-23-2017.pdf

**BOP Diagram Attachment:**

Sand Dunes SWD 1 BOP\_01-23-2017.pdf

### Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	26	20.0	NEW	API	N	0	800	0	800	-	-	800	K-55	133	BUTT	4.3	1.42	DRY	19.95	DRY	19.97
2	INTERMEDIATE	17.5	13.375	NEW	API	N	0	4230	0	4230	-	-	4230	HCP-110	68	BUTT	1.32	1.24	DRY	7.23	DRY	7.44
3	PRODUCTION	12.25	9.625	NEW	API	N	0	11900	0	11900	-	-	11900	P-110	53.5	BUTT	1.28	1.18	DRY	3.29	DRY	3.4
4	LINER	8.5	7.625	NEW	API	N	11400	16500	11400	16500	-	-	5100	OTHER	39	FJ	1.19	1.41	DRY	7.3	DRY	2.2

**Operator Name:** MESQUITE SWD INCORPORATED

**Well Name:** SAND DUNES SWD

**Well Number:** 1

**Casing Attachments**

---

**Casing ID:** 1      **String Type:** SURFACE

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Sand Dunes SWD 1 Csg Assumptions\_01-23-2017.pdf

---

**Casing ID:** 2      **String Type:** INTERMEDIATE

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Sand Dunes SWD 1 Csg Assumptions\_01-23-2017.pdf

---

**Casing ID:** 3      **String Type:** PRODUCTION

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Sand Dunes SWD 1 Csg Assumptions\_01-23-2017.pdf

Sand\_Dunes\_SWD\_1\_Casing\_Spec\_Sheets\_06-06-2017.pdf

---

Operator Name: MESQUITE SWD INCORPORATED

Well Name: SAND DUNES SWD

Well Number: 1

Casing Attachments

Casing ID: 4 String Type:LINER

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Sand Dunes SWD 1 Csg Assumptions\_01-23-2017.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	800	1125	1.91	12.9	2149	100	Class C	35/65 Poz/C + 5% (BWOW) PF44 Salt + 6% PF20 Bentonite + 3 pps PF42 Kol-Seal + .4 pps PF45 Defoamer + .125 pps PF29 Cellophane
SURFACE	Tail		0	800	200	1.34	14.8	268	100	Class C	2% PF1 Calcium
INTERMEDIATE	Lead		0	4230	2115	1.91	12.9	4040	50	Class C	35/65 Poz/C + 5% (BWOW) PF44 Salt + 6% PF20 Bentonite + .3% PF13 Retarder + 3 pps PF42 Kol-Seal + .4 pps PF45 Defoamer + .125 pps PF29 Cellophane
INTERMEDIATE	Tail		0	4230	200	1.33	14.8	266	50	Class C	.3% PF13 Retarder
PRODUCTION	Lead		0	1190 0	1650	2.47	11.9	4076	30	Class H	50/50 Poz/H + 5% (BWOW) PF44 Salt + 10% PF20 Bentonite + .4% PF153 Antisettling Agent + .2% PF813 Retarder + 3 pps PF42 Kol-Seal + .4 pps PF45

Operator Name: MESQUITE SWD INCORPORATED

Well Name: SAND DUNES SWD

Well Number: 1

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
											Defoamer
PRODUCTION	Tail		0	1190 0	400	1.19	15.6	476	30	Class H	.3% PF13 Retarder + .3% PF606 Fluid Loss + .4 pps PF45 Defoamer
LINER	Lead		1160 0	1629 5	380	1.33	14.2	505	30	Class H	50/50 Poz/H + 3% PF44 (BWOW) (Salt) + 2% PF20 Bentonite + 1.2% PF606 Fluid Loss + .3% PF65 Dispersant + .14% PF813 Retarder + .1% PF153 Antisettling Agent + .4 pps PF45 Defoamer

### Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

Describe the mud monitoring system utilized: PVT/Pason/Visual Monitoring

### Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	800	SPUD MUD	8.4	9							

**Operator Name:** MESQUITE SWD INCORPORATED

**Well Name:** SAND DUNES SWD

**Well Number:** 1

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
800	4230	SALT SATURATED	9.8	10.2							
4230	1190 0	OTHER : CUT BRINE	9	9.4							
1190 0	1629 5	SALT SATURATED	12	13.5							
1629 5	1729 5	OTHER : FRESH WATER	8.4	9							

### Section 6 - Test, Logging, Coring

**List of production tests including testing procedures, equipment and safety measures:**

None planned

**List of open and cased hole logs run in the well:**

CBL,CNL,DIL,EL,FDC,GR,MUDLOG

**Coring operation description for the well:**

None planned

### Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 8424

**Anticipated Surface Pressure:** 4464

**Anticipated Bottom Hole Temperature(F):** 270

**Anticipated abnormal pressures, temperatures, or potential geologic hazards?** NO

**Describe:**

**Contingency Plans geohazards description:**

**Contingency Plans geohazards attachment:**

**Hydrogen Sulfide drilling operations plan required?** YES

**Hydrogen sulfide drilling operations plan:**

Sand Dunes SWD 1 H2S Plan\_01-23-2017.pdf

Sand Dunes SWD 1 H2S Plan Rig Layout\_01-23-2017.pdf

**Operator Name:** MESQUITE SWD INCORPORATED

**Well Name:** SAND DUNES SWD

**Well Number:** 1

### **Section 8 - Other Information**

**Proposed horizontal/directional/multi-lateral plan submission:**

**Other proposed operations facets description:**

**Other proposed operations facets attachment:**

**Other Variance attachment:**

Mesquite SWD, Inc.  
 Sand Dunes SWD #1  
 Flex Hose Data



Midwest Hose  
 & Specialty, Inc.

**Internal Hydrostatic Test Certificate**

General Information		Hose Specifications	
Customer	PRECISION DRILLING	Hose Assembly Type	Choke & Kill
MWH Sales Representative	TYLER HILL	Certification	API 7K
Date Assembled	8/19/2014	Hose Grade	MUD
Location Assembled	OKC	Hose Working Pressure	10000
Sales Order #	268122	Hose Lot # and Date Code	7448-07/11
Customer Purchase Order #	245230	Hose I.D. (Inches)	3"
Assembly Serial # (Pick Ticket #)	268122-2	Hose O.D. (Inches)	5.36"
Hose Assembly Length	36'	Armor (yes/no)	YES
Fittings			
End A		End B	
Stem (Part and Revision #)	R3.0X64WB	Stem (Part and Revision #)	R3.0X64WB
Stem (Heat #)	MM141420	Stem (Heat #)	MM141420
Ferrule (Part and Revision #)	RF3.0	Ferrule (Part and Revision #)	RF3.0
Ferrule (Heat #)	J0965	Ferrule (Heat #)	J0965
Connection (Part #)	4 1/16 10K	Connection (Part #)	4 1/16 10K
Connection (Heat #)		Connection (Heat #)	
Dies Used	5.37"	Dies Used	5.45"
Hydrostatic Test Requirements			
Test Pressure (psi)	15,000	Hose assembly was tested with ambient water temperature.	
Test Pressure Hold Time (minutes)	15 1/2		
Date Tested	8/19/2014	Tested By	Approved By
		<i>Charles Ash</i>	<i>Jan Adams</i>



Midwest Hose & Specialty, Inc.

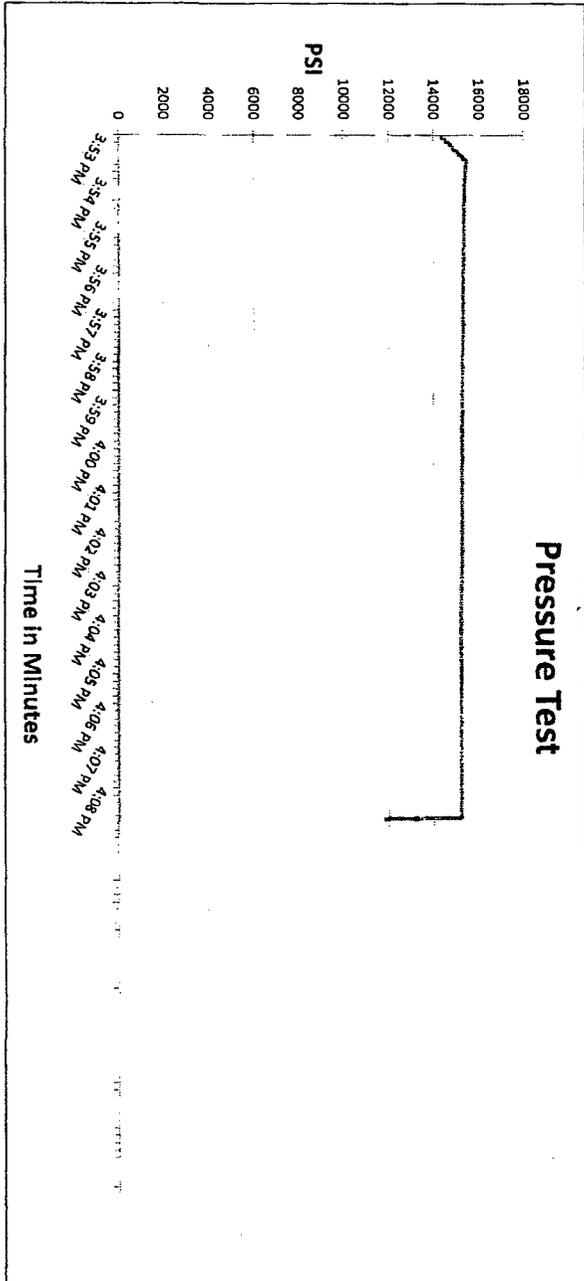
# Internal Hydrostatic Test Graph

August 19, 2014

Customer: Precision Drilling

Pick Ticket #: 268122

Hose Specifications		Verification	
Hose Type	CK	Length	36'
I.D.	3"	Type of Fitting	4 1/16 10K
Working Pressure	10000 PSI	Die Size	5.37"
		Hose Serial #	7448
		Burst Pressure	Standard Safety Multiplier Applies
		Coupling Method	Swage
		Final O.D.	5.36"
		Hose Assembly Serial #	268122-2



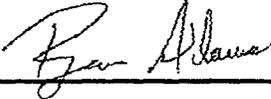
Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: Charles Ash

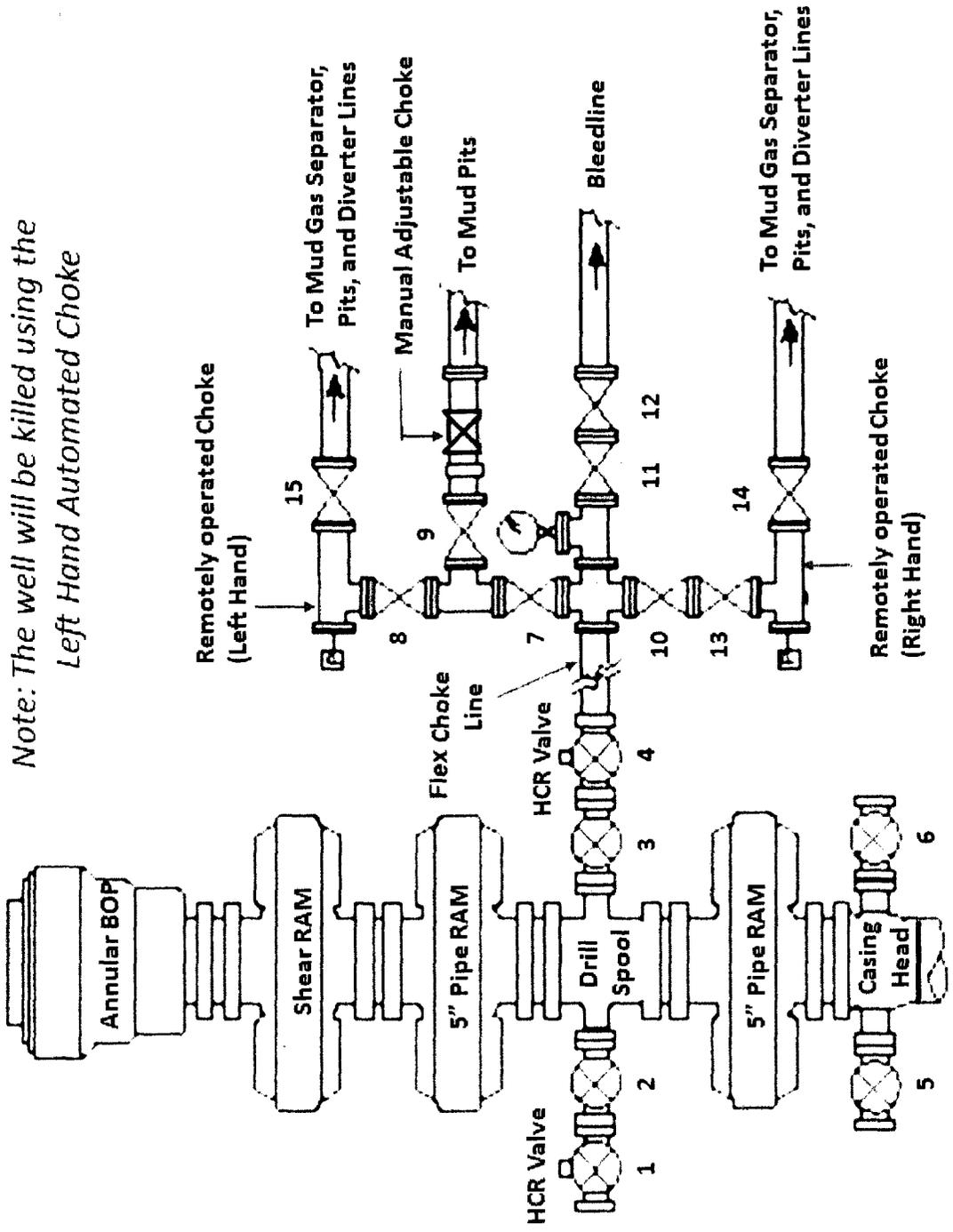
Approved By: Ryan Adams



Midwest Hose  
& Specialty, Inc.

Certificate of Conformity	
Customer: <b>PRECISION DRILLING</b>	Customer P.O.# <b>245230</b>
Sales Order # <b>268122</b>	Date Assembled: <b>8/19/2014</b>
Specifications	
Hose Assembly Type: <b>Choke &amp; Kill</b>	
Assembly Serial # <b>268122-2</b>	Hose Lot # and Date Code <b>7448-07/11</b>
Hose Working Pressure (psi) <b>10000</b>	Test Pressure (psi) <b>15000</b>
<p>We hereby certify that the above material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards.</p>	
Supplier: <b>Midwest Hose &amp; Specialty, Inc.</b> <b>3312 S I-35 Service Rd</b> <b>Oklahoma City, OK 73129</b>	
Comments:	
Approved By 	Date <b>8/20/2014</b>

10M BOP/BOPE/Choke Diagram



Note: The well will be killed using the  
 Left Hand Automated Choke

**P** = Positive Closing Choke

Input of Tubular Descriptions				Returned - DIMENSIONS and STRENGTH Specifications									
Tubulars	Size	Wt / Ft	Grade	Yld	Cplg #	Vlookup #	ID	Drift ID	Cplg OD	Collapse	Burst	Joint/1K	Yield/1K
Conductor	30	157.55	X	42	33	989.7004233	29	28.812	30	220	1220	1946	1946.216649
SURFACE	20	133	K	55	4	79.58561541	18.73	18.542	21	1500	3060	2123	2124.73019
INTERMEDIATE	13.375	68	HCP	110	4	51.88042678	12.415	12.29	14.375	2850	6910	2079	2138.972208
PRODUCTION	9.625	47	LS	140	4	35.51279318	8.681	8.625	10.625	7100	12010	1839	1900.130239
LINER	7.625	39	HCO	125	4	27.2883924	6.625	6.5	8.5	12060	14340	1379	1398.990479

**Evaluation of Surface Casing**

OD Cplg inches	Body (1000 lbs)	Joint (1000 lbs)	Collapse (psi)	Burst (psi)
21.00	2,125	2,123	1,500	3,060
2.50	19.97	19.95	4.3	1.42

**Evaluation of Intermediate Casing**

OD Cplg inches	Body (1000 lbs)	Joint (1000 lbs)	Collapse (psi)	Burst (psi)
14.375	2,139	2,079	2,850	6,910
1.56	7.44	7.23	1.32	1.24

**Evaluation of Production Casing**

OD Cplg inches	Body (1000 lbs)	Joint (1000 lbs)	Collapse (psi)	Burst (psi)
10.625	1,900	1,839	7,100	12,010
0.81	3.40	3.29	0.13	1.18

**Evaluation of Liner**

OD Cplg inches	Body (1000 lbs)	Joint (1000 lbs)	Collapse (psi)	Burst (psi)
8.500	1,399	1,379	12,060	14,340
0.00	2.20	7.53	1.19	1.41





768 195, Songdeok-ro 212beon-gil, Daejeon-si, Gyeonggi-do, Korea  
 Tel: +82 54 288 5560 Fax: +82 54 288 5615 E-Mail

**CASING DIMENSIONS AND MINIMUM PERFORMANCE PROPERTIES**

Size Outside Diameter in. Ø	Nominal Weight lb/ft	Grade	Wall Thickness in. t	Inside Diameter in. d	Drift Diameter in. D	Collapse Resistance psi	Pipe Body Yield 1000lb	Internal Yield Pressure psi				Joint Strength 1000lb	
								Plan Foot	STC	LTC	BYC	STC	ATC
9 1/8	43.50	P-110	0.435	8.755	8.599	4,470	1,381	8,700	8,700	8,700	8,700	1,105	1,388
9 5/8	47.00	P-110H	0.435	8.755	8.599	5,440	1,381	8,700	8,700	8,700	8,700	1,105	1,388
9 5/8	47.00	P-110	0.472	8.681	8.525	5,300	1,493	9,440	9,440	9,440	9,440	1,213	1,500
9 5/8	47.00	P-110H	0.472	8.681	8.525	6,660	1,493	9,440	9,440	9,440	9,440	1,213	1,500
9 5/8	53.50	P-110	0.545	8.535	8.379	7,950	1,710	10,900	10,900	10,900	10,900	1,472	1,718

# Hydrogen Sulfide Drilling Operations Plan

Mesquite SWD, Inc.  
**Sand Tank SWD #1**  
260 FSL & 2053' FWL  
Section 5 – T24S – R31E  
Eddy County, New Mexico

1. H2S Detection and Alarm Systems
  - A. H2S detectors and audio alarm system to be located at bell nipple, end of flow line (mud pit) and on derrick floor or doghouse.
2. Windsack and/or wind streamers
  - A. Windsack at mudpit area should be high enough to be visible.
  - B. Windsack at briefing area should be high enough to be visible.
3. Condition Flags and Signs
  - A. Warning sign on access road to location.
  - B. Flags to be displayed on sign at entrance to location. Green flag, normal safe condition. Yellow flag indicates potential pressure and danger. Red flag, danger, H2S present in dangerous concentration. Only emergency personnel admitted to location.
4. Well control equipment
  - A. See "Pressure Control Equipment"
5. Communication
  - A. While working under masks chalkboards will be used for communication.
  - B. Hand signals will be used where chalk board is inappropriate.
  - C. Two way radio will be used to communicate off location in case emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.
6. Drillstem testing is not anticipated.
7. Drilling contractor supervisor will be required to be familiar with the effects H2S has on tubular goods and other mechanical equipment.
8. If H2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H2S scavengers if necessary

Mesquite SWD, Inc.  
**Sand Tank SWD #2**  
2600 FSL & 2630' FWL  
Section 8 – T24S – R31E  
Eddy County, New Mexico

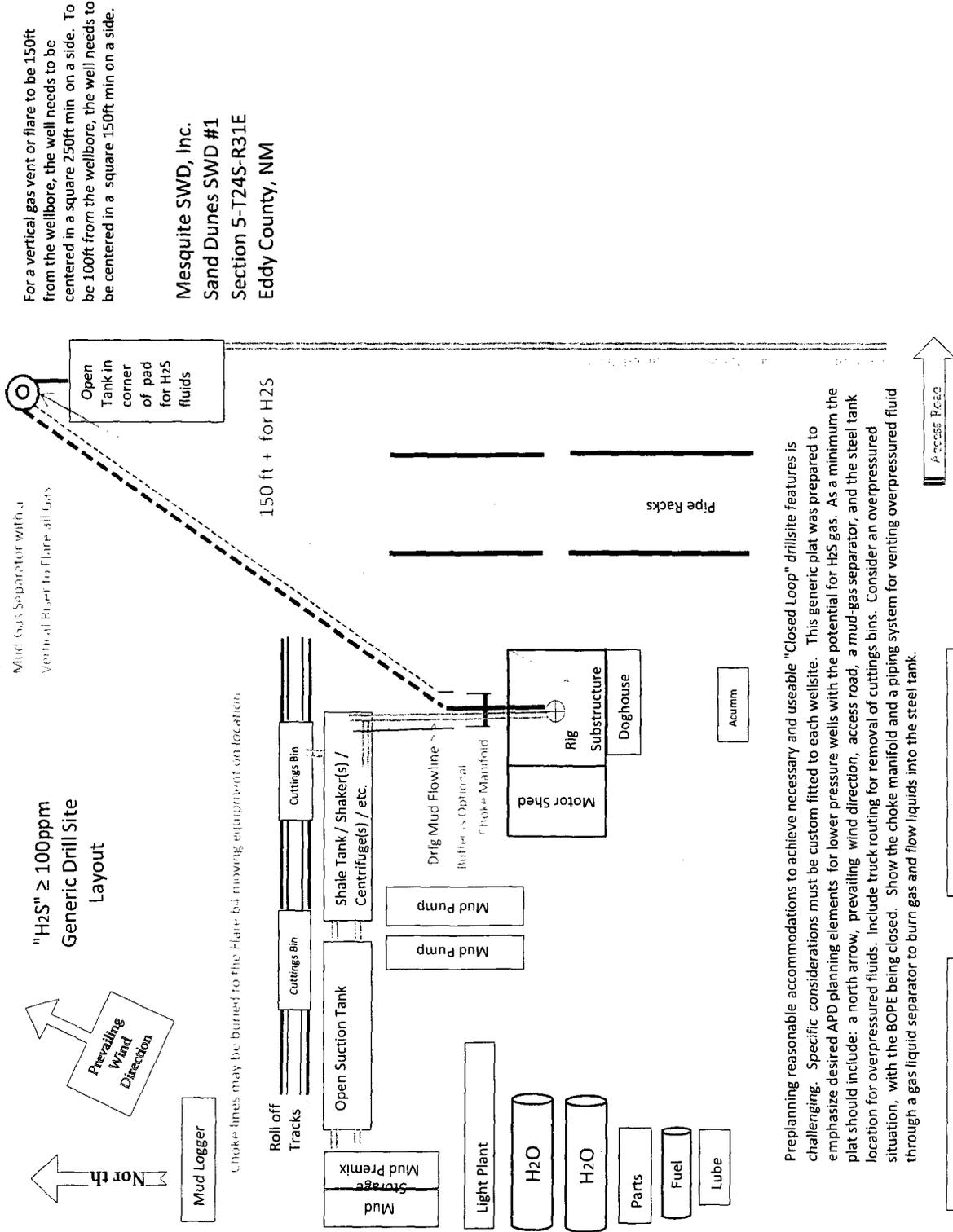
EMERGENCY CALL LIST

Mesquite SWD, Inc.	575-706-1840
Clay Wilson	575-706-1840
Riley Neatherlin	575-706-7288
Kay Havenor	575-626-4518

EMERGENCY RESPONSE NUMBERS

State Police	575-748-9718
State Police Lea Co.	575-392-5588
Eddy County Sheriff	575-746-2701
Lea County Sheriff	575-396-3611
Emergency Medical Services	911 or 575-746-2701
Artesia Fire and Ambulance	575-746-5050
Maljamar Fire and Ambulance	575-674-4100
Artesia General Hospital 702 N. 13th St. Artesia	575-748-3333
Carlsbad Medical Center 2430 West Pierce Street	575-887-4100
Lea County Emergency Response	575-396-8602
Lea County Ambulance Eunice	911 or 575-396-8602
Carlsbad Police Department	575-885-2111
Eddy County Emergency Management	575-887-9511
Carlsbad Fire Department	575-885-3125

Note: squares are to represent approximately 07 ft x 07 ft areas



For a vertical gas vent or flare to be 150ft from the wellbore, the well needs to be centered in a square 250ft min on a side. To be 100ft from the wellbore, the well needs to be centered in a square 150ft min on a side.

Mesquite SWD, Inc.  
Sand Dunes SWD #1  
Section 5-T24S-R31E  
Eddy County, NM

Preplanning reasonable accommodations to achieve necessary and useable "Closed Loop" drillsite features is challenging. Specific considerations must be custom fitted to each wellsite. This generic plat was prepared to emphasize desired APD planning elements for lower pressure wells with the potential for H2S gas. As a minimum the plat should include: a north arrow, prevailing wind direction, access road, a mud-gas separator, and the steel tank location for overpressured fluids. Include truck routing for removal of cuttings bins. Consider an overpressured situation, with the BOPE being closed. Show the choke manifold and a piping system for venting overpressured fluid through a gas liquid separator to burn gas and flow liquids into the steel tank.

Company man Housing

Tool Pusher Housing

**APD ID:** 10400010415**Submission Date:** 02/22/2017Highlighted data  
reflects the most  
recent changes**Operator Name:** MESQUITE SWD INCORPORATED**Well Name:** SAND DUNES SWD**Well Number:** 1[Show Final Text](#)**Well Type:** INJECTION - DISPOSAL**Well Work Type:** Drill

### Section 1 - Existing Roads

**Will existing roads be used?** YES**Existing Road Map:**

Sand Dunes SWD 1 Access Road Maps\_02-22-2017.pdf

**Existing Road Purpose:** ACCESS,FLUID TRANSPORT**Row(s) Exist?** NO

#### ROW ID(s)

**ID:****Do the existing roads need to be improved?** NO**Existing Road Improvement Description:****Existing Road Improvement Attachment:**

### Section 2 - New or Reconstructed Access Roads

**Will new roads be needed?** NO

### Section 3 - Location of Existing Wells

**Existing Wells Map?** YES**Attach Well map:**

Sand Dunes SWD 1 One Mile Radius\_02-22-2017.pdf

**Operator Name:** MESQUITE SWD INCORPORATED

**Well Name:** SAND DUNES SWD

**Well Number:** 1

**Existing Wells description:** A spreadsheet listing all wells within a one mile radius is attached.

## Section 4 - Location of Existing and/or Proposed Production Facilities

**Submit or defer a Proposed Production Facilities plan?** DEFER

**Estimated Production Facilities description:** Six 750 bbl fiberglass tanks, one 1000 bbl fiberglass tank, two 500 bbls steel oil tanks, and injection pumps. All produced water will be piped to facility.

## Section 5 - Location and Types of Water Supply

### Water Source Table

**Water source use type:** INTERMEDIATE/PRODUCTION CASING

**Water source type:** OTHER

**Describe type:** Brine water

**Source latitude:**

**Source longitude:**

**Source datum:**

**Water source permit type:** PRIVATE CONTRACT

**Source land ownership:** PRIVATE

**Water source transport method:** TRUCKING

**Source transportation land ownership:** PRIVATE

**Water source volume (barrels):** 50000

**Source volume (acre-feet):** 6.444655

**Source volume (gal):** 2100000

**Water source use type:** SURFACE CASING

**Water source type:** OTHER

**Describe type:** Fresh water

**Source latitude:**

**Source longitude:**

**Source datum:**

**Water source permit type:**

**Source land ownership:**

**Water source transport method:**

**Source transportation land ownership:**

**Water source volume (barrels):** 0

**Source volume (acre-feet):** 0

**Source volume (gal):** 0

**Operator Name:** MESQUITE SWD INCORPORATED

**Well Name:** SAND DUNES SWD

**Well Number:** 1

**Water source use type:** SURFACE CASING

**Water source type:** OTHER

**Describe type:** Fresh water

**Source latitude:**

**Source longitude:**

**Source datum:**

**Water source permit type:**

**Source land ownership:**

**Water source transport method:**

**Source transportation land ownership:**

**Water source volume (barrels):** 15000

**Source volume (acre-feet):** 1.9333965

**Source volume (gal):** 630000

**Water source use type:** SURFACE CASING

**Water source type:** OTHER

**Describe type:** FRESH WATER

**Source latitude:**

**Source longitude:**

**Source datum:**

**Water source permit type:** PRIVATE CONTRACT

**Source land ownership:** PRIVATE

**Water source transport method:** TRUCKING

**Source transportation land ownership:** FEDERAL

**Water source volume (barrels):** 2000

**Source volume (acre-feet):** 0.25778618

**Source volume (gal):** 84000

**Water source and transportation map:**

Sand Dunes SWD 1 Wtr Source Map\_02-22-2017.pdf

**Water source comments:**

**New water well?** NO

### **New Water Well Info**

**Well latitude:**

**Well Longitude:**

**Well datum:**

**Well target aquifer:**

**Est. depth to top of aquifer(ft):**

**Est thickness of aquifer:**

**Aquifer comments:**

**Aquifer documentation:**

**Well depth (ft):**

**Well casing type:**

**Well casing outside diameter (in.):**

**Well casing inside diameter (in.):**

**New water well casing?**

**Used casing source:**

**Operator Name:** MESQUITE SWD INCORPORATED

**Well Name:** SAND DUNES SWD

**Well Number:** 1

**Drilling method:**

**Drill material:**

**Grout material:**

**Grout depth:**

**Casing length (ft.):**

**Casing top depth (ft.):**

**Well Production type:**

**Completion Method:**

**Water well additional information:**

**State appropriation permit:**

**Additional information attachment:**

## Section 6 - Construction Materials

**Construction Materials description:** On site caliche will be used for construction if sufficient. In the event insufficient quantities of caliche are available onsite, caliche will be trucked in from BLM's caliche pit in Section 4-T24S-R31E or BLM's caliche pit in Section 24-T24S-R30E.

**Construction Materials source location attachment:**

## Section 7 - Methods for Handling Waste

**Waste type:** DRILLING

**Waste content description:** Drilling fluids and cuttings

**Amount of waste:** 3900 barrels

**Waste disposal frequency :** One Time Only

**Safe containment description:** All drilling fluids will be stored safely and disposed of properly

**Safe containmant attachment:**

**Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** PRIVATE

**Disposal type description:**

**Disposal location description:** Cuttings will be hauled to R360's facility on US 62/180 at Halfway, NM.

**Waste type:** SEWAGE

**Waste content description:** Human waste and grey water

**Amount of waste:** 1000 gallons

**Waste disposal frequency :** One Time Only

**Safe containment description:** Waste material will be stored safely and disposed of properly.

**Safe containmant attachment:**

**Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL

**Disposal type description:**

**Disposal location description:** Trucked to an approved disposal facility.

**Operator Name:** MESQUITE SWD INCORPORATED

**Well Name:** SAND DUNES SWD

**Well Number:** 1

**Waste type:** GARBAGE

**Waste content description:** Miscellaneous trash

**Amount of waste:** 500 pounds

**Waste disposal frequency :** One Time Only

**Safe containment description:** Trash produced during drilling and completion operations will be collected in a trash container and disposed of properly

**Safe containmant attachment:**

**Waste disposal type:** HAUL TO COMMERCIAL FACILITY      **Disposal location ownership:** COMMERCIAL FACILITY

**Disposal type description:**

**Disposal location description:** Trucked to an approved disposal facility.

### Reserve Pit

**Reserve Pit being used?** NO

**Temporary disposal of produced water into reserve pit?**

**Reserve pit length (ft.)**                      **Reserve pit width (ft.)**

**Reserve pit depth (ft.)**    **Reserve pit volume (cu. yd.)**

**Is at least 50% of the reserve pit in cut?**

**Reserve pit liner**

**Reserve pit liner specifications and installation description**

### Cuttings Area

**Cuttings Area being used?** NO

**Are you storing cuttings on location?** YES

**Description of cuttings location** Cuttings will be stored in roll off bins and hauled to R360 on US 62/180 near Halfway.

**Cuttings area length (ft.)**    **Cuttings area width (ft.)**

**Cuttings area depth (ft.)**    **Cuttings area volume (cu. yd.)**

**Is at least 50% of the cuttings area in cut?**

**WCuttings area liner**

**Cuttings area liner specifications and installation description**

**Operator Name:** MESQUITE SWD INCORPORATED

**Well Name:** SAND DUNES SWD

**Well Number:** 1

## Section 8 - Ancillary Facilities

**Are you requesting any Ancillary Facilities?:** NO

**Ancillary Facilities attachment:**

**Comments:**

## Section 9 - Well Site Layout

**Well Site Layout Diagram:**

Sand Dunes SWD 1 Rig Layout\_01-23-2017.pdf

**Comments:**

## Section 10 - Plans for Surface Reclamation

**Type of disturbance:** New Surface Disturbance

**Multiple Well Pad Name:**

**Multiple Well Pad Number:**

**Recontouring attachment:**

**Drainage/Erosion control construction:** During construction proper erosion control methods will be used to control erosion, runoff and siltation of the surrounding area.

**Drainage/Erosion control reclamation:** Proper erosion control methods will be used on the area to control erosion, runoff and siltation of the surrounding area.

**Wellpad long term disturbance (acres):** 3.67

**Wellpad short term disturbance (acres):** 3.67

**Access road long term disturbance (acres):** 0

**Access road short term disturbance (acres):** 0

**Pipeline long term disturbance (acres):** 0.1147842

**Pipeline short term disturbance (acres):** 0.3443526

**Other long term disturbance (acres):** 0

**Other short term disturbance (acres):** 0

**Total long term disturbance:** 3.7847843

**Total short term disturbance:** 4.014353

**Reconstruction method:** The areas planned for interim reclamation will then be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.

**Topsoil redistribution:** Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations

**Soil treatment:** To seed the area, the proper BLM seed mixture, free of noxious weeds, will be used. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

**Existing Vegetation at the well pad:** The historic climax plant community is a grassland dominated by black grama, dropseeds, and blue stems with sand sage and shinnery oak distributed evenly throughout. Current landscape displays mesquite, shinnery oak, yucca, desert sage, fourwing saltbush, snakeweed, and bunch grasses

**Existing Vegetation at the well pad attachment:**

**Operator Name:** MESQUITE SWD INCORPORATED

**Well Name:** SAND DUNES SWD

**Well Number:** 1

**Existing Vegetation Community at the road:** Refer to "Existing Vegetation at the well pad"

**Existing Vegetation Community at the road attachment:**

**Existing Vegetation Community at the pipeline:** Refer to "Existing Vegetation at the well pad"

**Existing Vegetation Community at the pipeline attachment:**

**Existing Vegetation Community at other disturbances:** Refer to "Existing Vegetation at the well pad"

**Existing Vegetation Community at other disturbances attachment:**

**Non native seed used?** NO

**Non native seed description:**

**Seedling transplant description:**

**Will seedlings be transplanted for this project?** NO

**Seedling transplant description attachment:**

**Will seed be harvested for use in site reclamation?** NO

**Seed harvest description:**

**Seed harvest description attachment:**

## Seed Management

### Seed Table

**Seed type:**

**Seed source:**

**Seed name:**

**Source name:**

**Source address:**

**Source phone:**

**Seed cultivar:**

**Seed use location:**

**PLS pounds per acre:**

**Proposed seeding season:**

### Seed Summary

**Total pounds/Acre:**

**Seed Type**

**Pounds/Acre**

**Seed reclamation attachment:**

**Operator Name:** MESQUITE SWD INCORPORATED

**Well Name:** SAND DUNES SWD

**Well Number:** 1

### **Operator Contact/Responsible Official Contact Info**

**First Name:**

**Last Name:**

**Phone:**

**Email:**

**Seedbed prep:**

**Seed BMP:**

**Seed method:**

**Existing invasive species?** NO

**Existing invasive species treatment description:**

**Existing invasive species treatment attachment:**

**Weed treatment plan description:** No invasive species present. Standard regular maintenance to maintain a clear location and road.

**Weed treatment plan attachment:**

**Monitoring plan description:** Identify areas supporting weeds prior to construction; prevent the introduction and spread of weeds from construction equipment during construction; and contain weed seeds and propagules by preventing segregated topsoil from being spread to adjacent areas. No invasive species present. Standard regular maintenance to maintain a clear location and road.

**Monitoring plan attachment:**

**Success standards:** To maintain all disturbed areas as per Gold Book standards

**Pit closure description:** N/A

**Pit closure attachment:**

### **Section 11 - Surface Ownership**

**Disturbance type:** WELL PAD

**Describe:**

**Surface Owner:** BUREAU OF LAND MANAGEMENT

**Other surface owner description:**

**BIA Local Office:**

**BOR Local Office:**

**COE Local Office:**

**DOD Local Office:**

**NPS Local Office:**

**State Local Office:**

**Military Local Office:**

**USFWS Local Office:**

**Other Local Office:**

**Operator Name:** MESQUITE SWD INCORPORATED

**Well Name:** SAND DUNES SWD

**Well Number:** 1

**USFS Region:**

**USFS Forest/Grassland:**

**USFS Ranger District:**

## Section 12 - Other Information

**Right of Way needed?** YES

**Use APD as ROW?** YES

**ROW Type(s):** 285003 ROW – POWER TRANS,288103 ROW – Salt Water Disposal Pipeline/Facility,288104 ROW – Salt Water Disposal ApIn/Fac-FLPMA

### ROW Applications

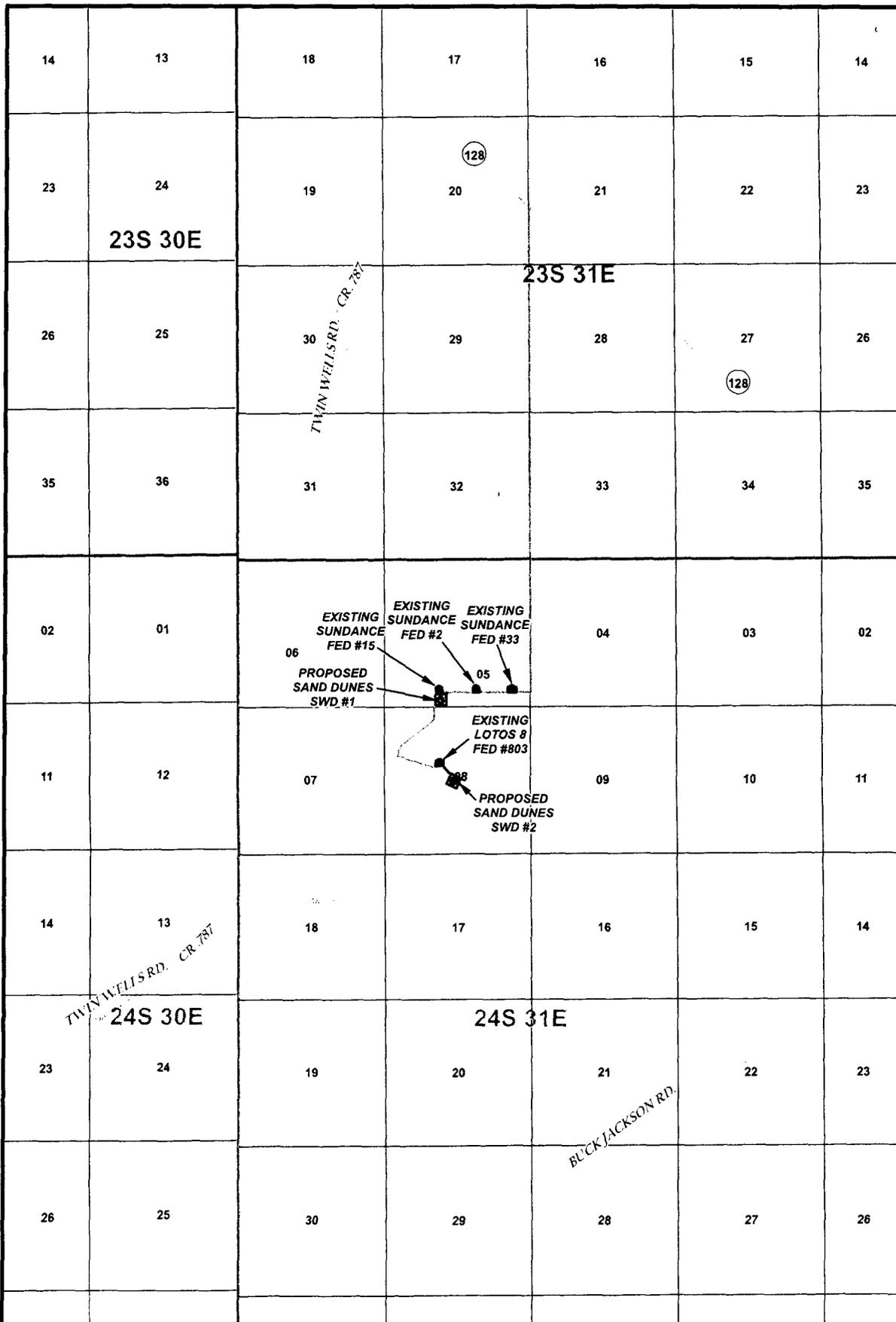
**SUPO Additional Information:** SUP with maps attached.

**Use a previously conducted onsite?** YES

**Previous Onsite information:** Onsite conducted 01/11/2017 with Jeff Robertson and Fernando Banos from BLM, Riley Neatherlin, Todd Suter and Melanie Wilson from Mesquite SWD, Inc. and Harcrow Surveying crew.

### Other SUPO Attachment

Sand Dunes SWD 1 SUP with Maps\_02-22-2017.pdf



**LEGEND**

- WELL
- WELLPAD
- PROP. ROAD
- EXIST. ROAD

**SAND DUNES SWD #2 ACCESS ROAD**

SECTION: 8      TOWNSHIP: 24 S.      RANGE: 31 E.  
 STATE: NEW MEXICO      COUNTY: EDDY      SURVEY: N.M.P.M  
 W.O. # 17-63      LEASE: SAND DUNES SWD

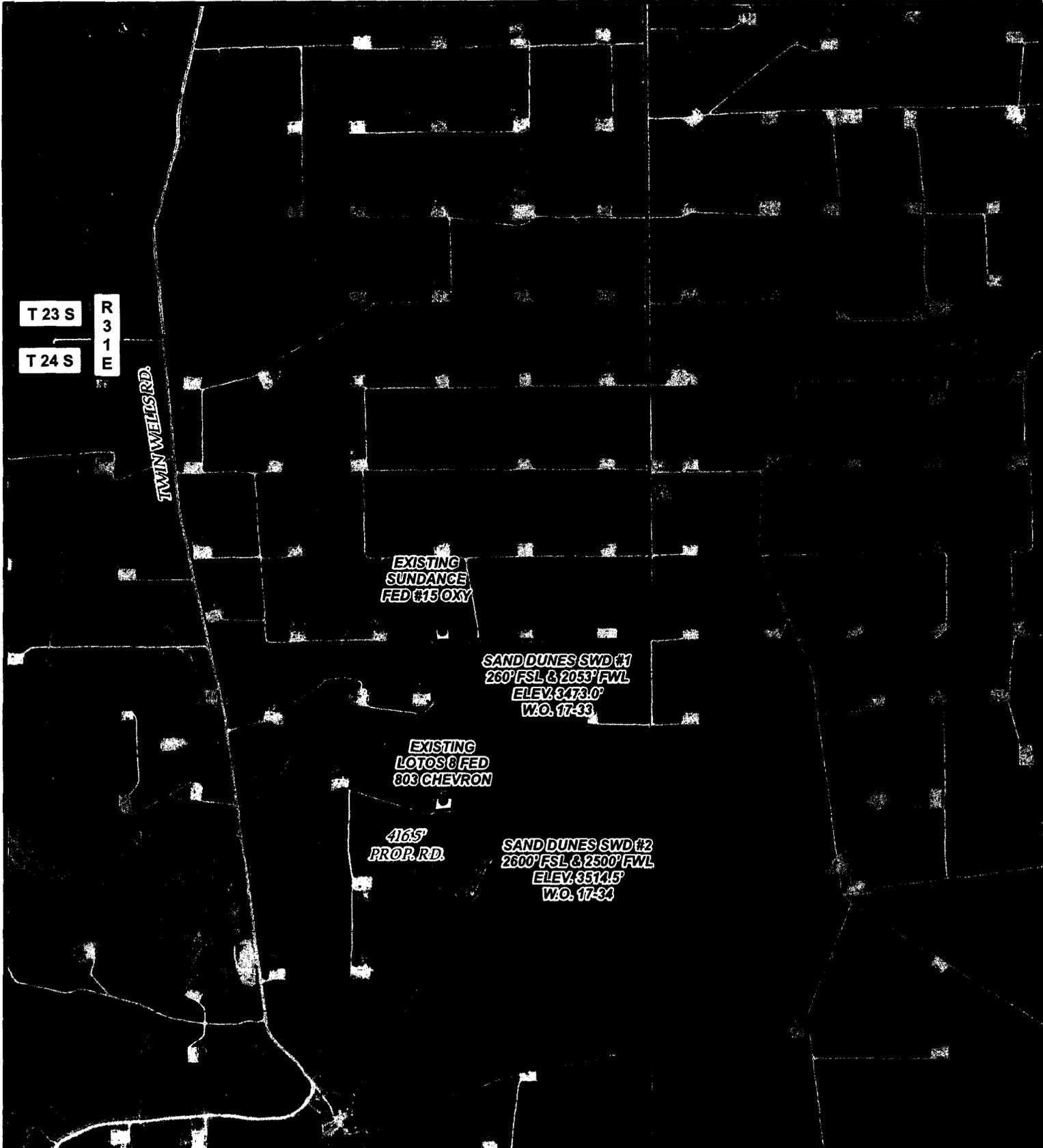
0      2,500      5,000      7,500      10,000 FEET

0      0.275      0.55      1.1 Miles      1 IN = 4,000 FT

PIPELINE OVERVIEW      VICINITY      1/17/2016      S.P.

**MESQUITE SWD**


**HARCROW SURVEYING, LLC.**  
 2314 W. MAIN ST, ARTESIA, NM 88210  
 PH: (575) 746-2158 FAX: (575) 746-2158  
 c.harcrow@harcrowsurveying.com



T 23 S  
T 24 S

R 3  
1  
E

TWIN WELLS RD.

EXISTING  
SUNDANCE  
FED #15 OXY

SAND DUNES SWD #1  
260' FSL & 2053' FWL  
ELEV. 8473.0'  
W.O. 17-33

EXISTING  
LOTOS 8 FED  
803 CHEVRON

465'  
PROP. RD.

SAND DUNES SWD #2  
2600' FSL & 2500' FWL  
ELEV. 8514.5'  
W.O. 17-34

**LEGEND**

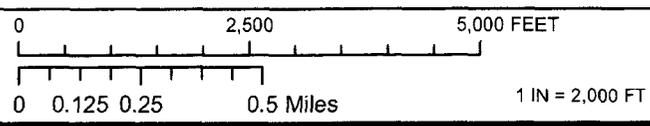
- WELL
- WELLPAD
- EXISTING ROAD
- PROPOSED ROAD

**SAND DUNES SWD #1 & #2**

SECTION: 5 & 8      TOWNSHIP: 24 S.      RANGE: 31 E.

STATE: NEW MEXICO      COUNTY: EDDY

W.O. # 17-33 & 34 LEASE: SAND DUNES SWD SURVEY: N.M.P.M

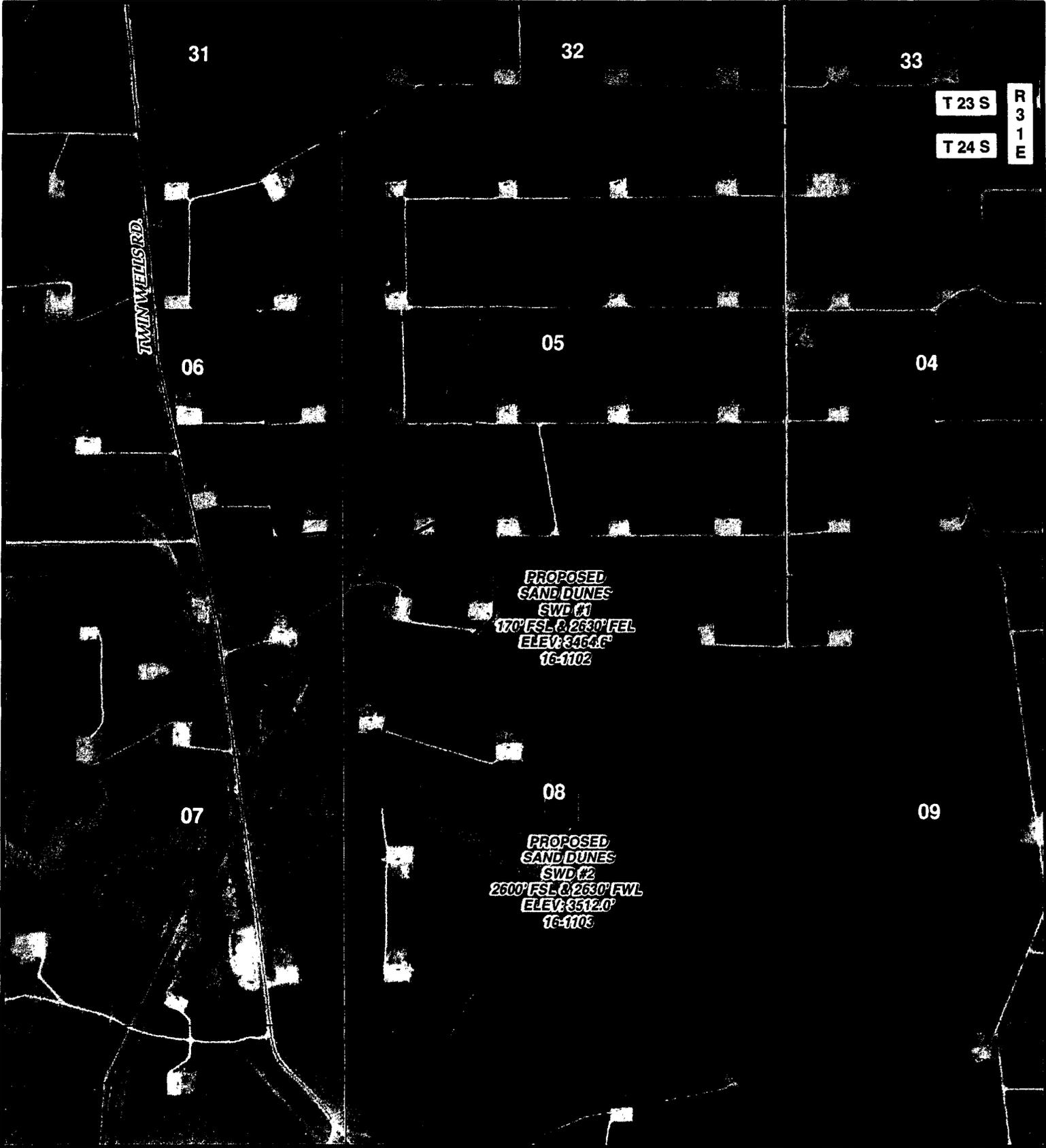


LOCATION OVERVIEW      IMAGERY      01/13/2017      J.H.

**MESQUITE SWD**



**HARCROW SURVEYING, LLC.**  
2314 W. MAIN ST, ARTESIA, NM 88210  
PH: (575) 746-2158 FAX: (575) 746-2158  
c.harcrow@harcrowsurveying.com



31

32

33

T 23 S

R 31 E

T 24 S

TWIN WELLS RD.

06

05

04

PROPOSED  
SAND DUNES  
SWD #1  
170' FSL & 2630' FWL  
ELEV: 8464.6'  
16-1102

07

08

09

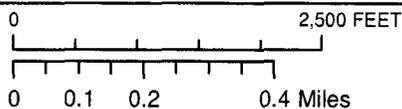
PROPOSED  
SAND DUNES  
SWD #2  
2600' FSL & 2630' FWL  
ELEV: 8512.0'  
16-1103

**LEGEND**

- WELL
- WELLPAD
- EXISTING ROAD

**SAND DUNES SWD #1/#2**

SECTION: 5	TOWNSHIP: 24 S.	RANGE: 31 E.
STATE: NEW MEXICO	COUNTY: EDDY	SURVEY: N.M.P.M
W.O. # 16-1102,1103		LEASE: SAND DUNES SWD



1 IN = 1,500 FT

LOCATION OVERVIEW

IMAGERY

12/20/2016

A.F

**MESQUITE SWD**

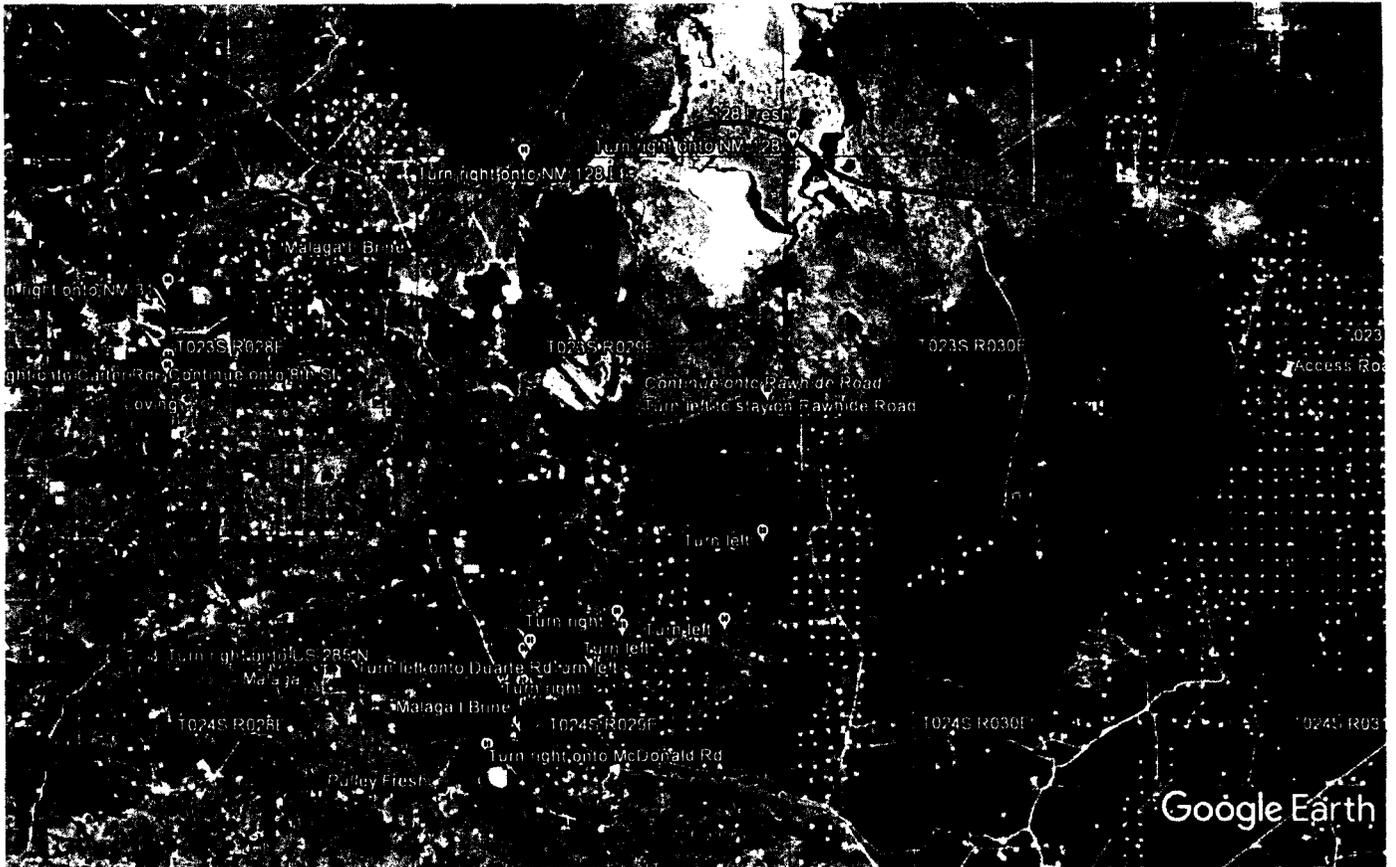


**HARCROW SURVEYING, LLC.**  
2314 W. MAIN ST, ARTESIA, NM 88210  
PH: (575) 746-2158 FAX: (575) 746-2158  
c.harcrow@harcrowsurveying.com

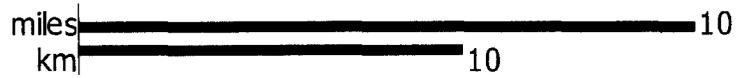


## SAND DUNES SWD #1 1 MILE DATA (17-33)

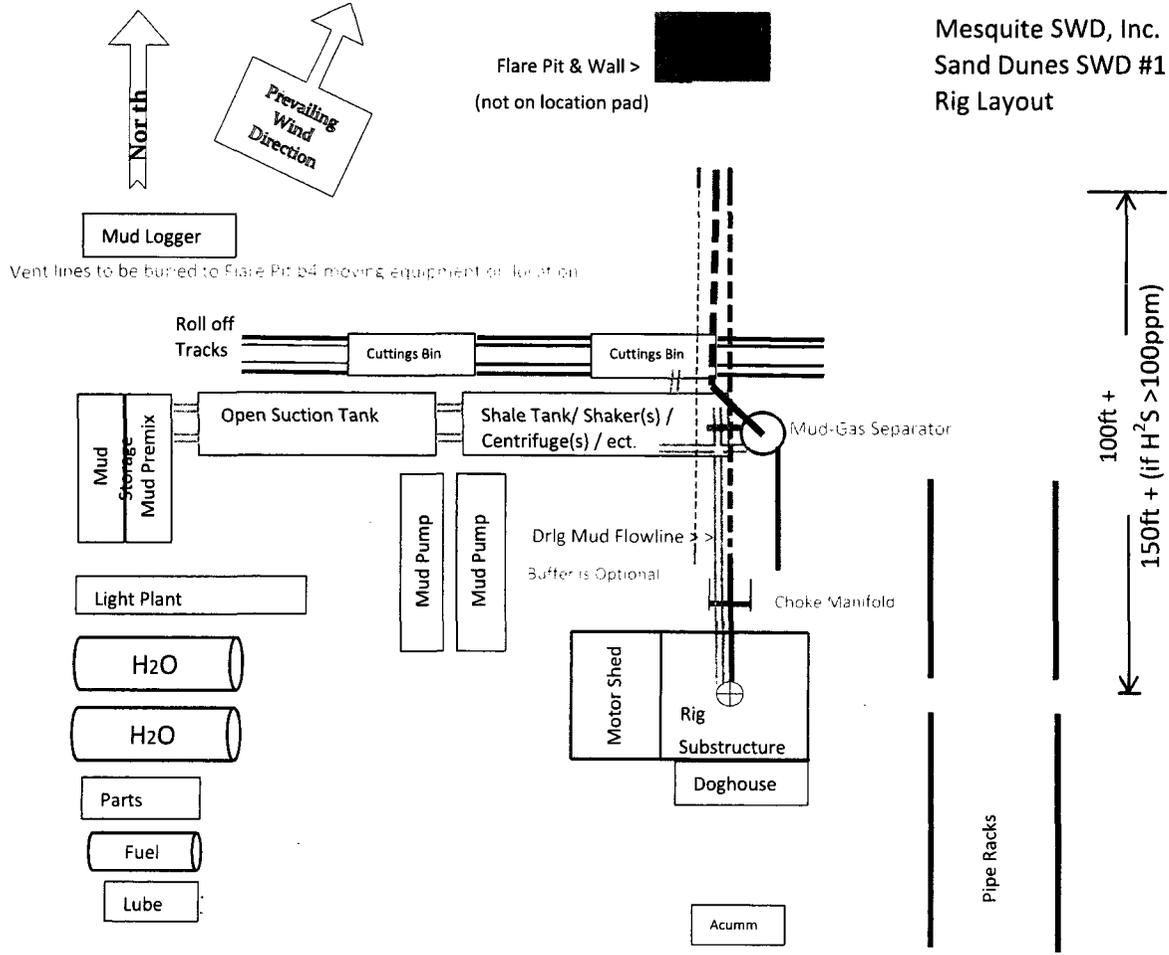
FID	OPERATOR	WELL_NAME	LATITUDE	LONGITUDE	API	SECTION	TOWNSHIP	RANGE	FTG_NS	NS_CD	FTG_EW	EW_CD	COMPL_STAT
0	OXY USA INC	SUNDANCE 8 FEDERAL 001	32.238206	-103.80302	3001527228	8	24.05	31E	330 N		1650 W		Plugged
1	OXY USA INC	SUNDANCE 8 FEDERAL 002	32.234579	-103.807304	3001527229	8	24.05	31E	1650 N		330 W		Active
2	OXY USA INC	SUNDANCE 9 FEDERAL 003	32.237295	-103.789152	3001527232	9	24.05	31E	660 N		660 W		Active
3	EOG Y RESOURCES, INC.	ADELINE ALN FEDERAL 002	32.251842	-103.810828	3001527241	6	24.05	31E	660 N		760 E		Active
4	EOG Y RESOURCES, INC.	ADELINE ALN FEDERAL 007	32.248214	-103.8148	3001527248	6	24.05	31E	1980 N		1980 E		Active
5	EOG Y RESOURCES, INC.	ADELINE ALN FEDERAL 008	32.248214	-103.81051	3001527249	6	24.05	31E	1980 N		660 E		Active
6	EOG Y RESOURCES, INC.	ADELINE ALN FEDERAL 009	32.244559	-103.809445	3001527250	6	24.05	31E	1980 S		330 E		Active
7	EOG Y RESOURCES, INC.	ADELINE ALN FEDERAL 016	32.24093	-103.809452	3001527280	6	24.05	31E	660 S		330 E		Active
8	EOG Y RESOURCES, INC.	ADELINE ALN FEDERAL 017	32.240929	-103.806235	3001527281	5	24.05	31E	660 S		660 W		Active
9	EOG Y RESOURCES, INC.	ADELINE ALN FEDERAL 015	32.241344	-103.814814	3001527328	6	24.05	31E	810 S		1980 E		Active
10	OXY USA INC	SUNDANCE FEDERAL 003	32.251839	-103.793421	3001527389	5	24.05	31E	660 N		660 E		Active
11	OXY USA INC	SUNDANCE FEDERAL 004	32.25184	-103.797711	3001527390	5	24.05	31E	660 N		1980 E		Active
12	OXY USA INC	SUNDANCE FEDERAL 005	32.251841	-103.801922	3001527395	5	24.05	31E	660 N		1980 W		Active
13	OXY USA INC	SUNDANCE FEDERAL 006	32.251841	-103.806213	3001527409	5	24.05	31E	660 N		660 W		Active
14	OXY USA INC	SUNDANCE FEDERAL 009	32.248211	-103.797718	3001527492	5	24.05	31E	1980 N		1980 E		Active
15	OXY USA INC	SUNDANCE FEDERAL 008	32.248212	-103.80193	3001527547	5	24.05	31E	1980 N		1980 W		Plugged
16	OXY USA INC	SUNDANCE FEDERAL 007	32.248213	-103.80622	3001527576	5	24.05	31E	1980 N		660 W		Active
17	OXY USA INC	SUNDANCE FEDERAL 010	32.24821	-103.793427	3001527577	5	24.05	31E	1980 N		660 E		Active
18	OXY USA INC	SUNDANCE FEDERAL 011	32.244551	-103.793434	3001527578	5	24.05	31E	1980 S		660 E		Active
19	OXY USA INC	SUNDANCE FEDERAL 012	32.244553	-103.797724	3001527579	5	24.05	31E	1980 S		1980 E		Active
20	OXY USA INC	SUNDANCE FEDERAL 013	32.244555	-103.801937	3001527580	5	24.05	31E	1980 S		1980 W		Active
21	OXY USA INC	SUNDANCE FEDERAL 014	32.244557	-103.806227	3001527581	5	24.05	31E	1980 S		660 W		Plugged
22	OXY USA INC	SUNDANCE FEDERAL 015	32.240927	-103.801944	3001527595	5	24.05	31E	660 S		1980 W		Active
23	OXY USA INC	PALLADIUM 7 FEDERAL 001	32.23744	-103.810851	3001527890	7	24.05	31E	610 N		760 E		Active
24	CHEVRON U S A INC	LOTOS FEDERAL 801	32.238207	-103.806237	3001528044	8	24.05	31E	330 N		660 W		Active
25	EOG Y RESOURCES, INC.	SQUIRES ALR 001	32.23821	-103.814069	3001528270	7	24.05	31E	330 N		1750 E		Active
26	CHEVRON U S A INC	LOTOS FEDERAL 802	32.230035	-103.806225	3001528654	8	24.05	31E	1980 S		660 W		Active
27	OXY USA INC	PALLADIUM 7 FEDERAL 002	32.23417	-103.814811	3001529145	7	24.05	31E	1800 N		1980 E		Active
28	EOG Y RESOURCES, INC.	ADELINE ALN FEDERAL 010	32.24456	-103.81432	3001531574	6	24.05	31E	1980 S		1830 E		Active
29	EOG Y RESOURCES, INC.	ADELINE ALN FEDERAL 011	32.243655	-103.818143	3001531885	6	24.05	31E	1650 S		2310 W		Active
30	CHEVRON U S A INC	LOTOS 8 FEDERAL 803	32.23367	-103.801941	3001532758	8	24.05	31E	1980 N		1980 W		Active
31	OXY USA INC	SUNDANCE 8 FEDERAL 003Q	32.226407	-103.80622	3001532775	8	24.05	31E	660 S		660 W		Active
32	OXY USA INC	PALLADIUM 7 FEDERAL 004	32.237305	-103.818141	3001532817	7	24.05	31E	660 N		2310 W		Active
33	OXY USA INC	SUNDANCE FEDERAL 023	32.24821	-103.789137	3001533384	4	24.05	31E	1980 N		660 W		Active
34	OXY USA INC	SUNDANCE FEDERAL 030	32.240926	-103.784861	3001533673	4	24.05	31E	660 S		1980 W		Active
35	OXY USA INC	SUNDANCE FEDERAL 032	32.240925	-103.797732	3001533675	5	24.05	31E	660 S		1980 E		Active
36	OXY USA INC	SUNDANCE FEDERAL 033	32.240923	-103.793441	3001533676	5	24.05	31E	660 S		660 E		Active
37	OXY USA INC	SUNDANCE FEDERAL 029	32.240923	-103.789151	3001533709	4	24.05	31E	660 S		660 W		Active
38	OXY USA INC	SUNDANCE FEDERAL 027Q	32.244552	-103.789144	3001534787	4	24.05	31E	1980 S		660 W		Active
39	OXY USA INC	SUNRISE 8 FEDERAL 003	32.237295	-103.794514	3001534900	8	24.05	31E	660 N		990 E		Active
40	OXY USA INC	SUNRISE 8 FEDERAL 002	32.233668	-103.797726	3001534902	8	24.05	31E	1980 N		1980 E		Active
41	OXY USA INC	SUNDANCE 9 FEDERAL 004	32.233666	-103.789146	3001534974	9	24.05	31E	1980 N		660 W		New (Not drilled or compl)
42	OXY USA INC	SUNDANCE 9 FEDERAL 006A	32.230032	-103.789141	3001534999	9	24.05	31E	1980 S		660 W		New (Not drilled or compl)
43	OXY USA INC	PALLADIUM 7 FEDERAL 012	32.229129	-103.810514	3001535037	7	24.05	31E	1650 S		660 E		New (Not drilled or compl)
44	OXY USA INC	SUNRISE 8 FEDERAL 004	32.233742	-103.793146	3001535081	8	24.05	31E	1980 N		660 E		New (Not drilled or compl)
45	EOG Y RESOURCES, INC.	ADELINE ALN FEDERAL 014N	32.240084	-103.817842	3001535847	6	24.05	31E	331 S		2311 W		New (Not drilled or compl)
46	OXY USA INC	PATTON 17 FEDERAL 001H	32.225702	-103.805161	3001543344	8	24.05	31E	380 S		880 W		New (Not drilled or compl)
47	OXY USA INC	PATTON 17 FEDERAL 002H	32.225716	-103.801589	3001543345	8	24.05	31E	382 S		1979 W		New (Not drilled or compl)



Google Earth

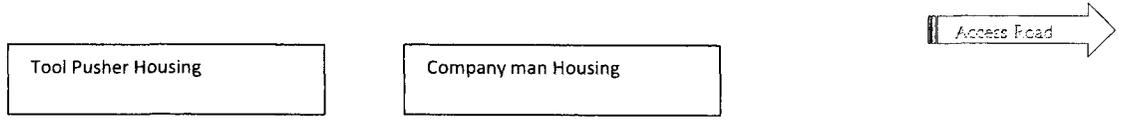


Mesquite SWD, Inc.  
Sand Dunes SWD #1  
Rig Layout



Vent lines to be buried to flare pit or moving equipment or location

Preplanning reasonable accommodations to achieve necessary and useable "Closed Loop" drillsite features is challenging. Specific considerations must be custom fitted to each well site. This generic plat was prepared to emphasize desired planning elements for some APDs. As a minimum the location plat should show: a north arrow, prevailing wind direction, access road and flare pit location. Include truck routing for removal of cuttings bins. Consider an overpressured situation, with the BOPE & mud flowline being closed. Show locations for choke manifold, mud gas separator, and a piping system to vent overpressured fluid and all gas to the flare pit.



# Surface Use & Operating Plan

## Sand Dunes SWD #1

- Surface Tenant: Richardson Cattle Company, PO Box 487, Carlsbad, NM 88221, Twin Wells Allotment No. 77042.
- New Road: No new road necessary
- Facilities: SWD facilities will be installed on well pad
  
- **Well Site Information**
  - V Door: South
  - Topsoil: South
  - Interim Reclamation: No IR planned. SWD facilities will require full pad.

### **Notes**

**Onsite:** On-site was done by Jeff Robertson and Fernando Banos (BLM); Riley Neatherlin, Todd Suter and Melanie Wilson (Mesquite SWD, Inc.) on January 11, 2017.

## **SURFACE USE AND OPERATING PLAN**

### **1. Existing & Proposed Access Roads**

- A. The well site survey and elevation plat for the proposed well is attached with this application. It was staked by Harcrow Surveying, Artesia, NM.
- B. All roads to the location are shown on the Access Road Maps attachment. The existing lease roads are illustrated in green and are adequate for travel during drilling and disposal operations. Upgrading existing roads prior to drilling the well will be done where necessary. No new access road is necessary.
- C. Directions to location: See 600 x 600 plat
- D. Based on current road maintenance performed on other roads serving existing wells, we anticipate maintaining the lease roads leading to the proposed well pad at least once a year on dry conditions and twice a year in wetter conditions.

### **2. Proposed Access Road:**

No new access road will be required for this location. If any road is required it will be constructed as follows:

The maximum width of the running surface will be 14'. The road will be crowned, ditched and constructed of 6" rolled and compacted caliche. Ditches will be at 3:1 slope and 4 feet wide. Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns.

- A. The average grade will be less than 1%.
- B. No turnouts are planned.
- C. No cattleguard, culvert, gates, low water crossings or fence cuts are necessary.
- D. Surfacing material will consist of native caliche. Caliche will be obtained from the actual well site if available. If not available onsite, caliche will be hauled from the nearest BLM approved caliche pit.

### **3. Location of Existing Well:**

The One-Mile Radius Map shows existing wells within a one-mile radius of the proposed wellbore.

### **4. Location of Existing and/or Proposed Facilities:**

- A. There are currently no water disposal facilities at this well site.

- B. Upon successfully completion of this SWD well, we plan to install a disposal facility consisting of two desanders, two gun barrels, four oil tanks and six injection tanks.
- C. We plan to bring produced water to this facility via a buried pipeline, which will be permitted under separate ROW.
- D. Any additional caliche will be obtained from the actual well site. If caliche does not exist or is not plentiful from the well site, the caliche will be hauled from the nearest BLM approved caliche pit in Section 4-T24S-R31E. Alternate source will be
- E. a BLM caliche pit in Section 24-T24S-R30E. Any additional construction materials will be purchased from contractors.
  - 1) It will be necessary to run electric power to the facility. Power will be provided by Xcel Energy and ROW for powerlines to well location is requested. The power line route is shown in the Power Line Map attached.
  - 2) If completion of the well is successful, rehabilitation plans will include the following:
    - The original topsoil from the well site will be returned to the location, and the site will be re-contoured as close as possible to the original site.

**5. Location and Type of Water Supply:**

The well will be drilled with combination brine and fresh water mud system as outlined in the drilling program. The water will be obtained from a private source. Fresh water will come from Mesquite SWD, Inc.'s 128 Fresh water well in Section 31-T22S-R30E and the alternate source is Mesquite SWD, Inc.'s Pulley Fresh water well in Section 26-T24S-R28E. Brine water will come from Mesquite SWD, Inc.'s Malaga I Brine Station in Section 12-T23S-R28E and the alternate source is Mesquite SWD, Inc.'s Malaga II Brine Station in Section 20-T24S-R29E. No water well will be drilled on the location.

**6. Source of Construction Materials and Location "Turn-Over" Procedure:**

Obtaining caliche: One primary way of obtaining caliche to build locations and roads will be by "turning over" the location. This means, caliche will be obtained from the actual well site. Amount will vary for each pad. The procedure below has been approved by BLM personnel:

- A. Equipment that is needed to construct the proposed location will be as follows: Two dozers to flip the site for caliche and to move topsoil, one blade to level the surface, one morograder to roll and compact this site, one backhoe to dig the cellar, one water truck to water location and dust abatement and two dump trucks to haul surface material. If

caliche is not available onsite and have to haul caliche from a private pit, in addition to equipment mentioned above we will have 10 belly dumps and one front end loader.

- B. The time line to complete construction will be approximately 10 days.
- C. The top 6 inches of topsoil is pushed off and stockpiled along the south side of the location. Maximum height of the topsoil stock pile will be 3'.
- D. An approximate 160' X 160' area is used within the proposed well site to remove caliche.
- E. Subsoil is removed and stockpiled within the surveyed well pad.
- F. When caliche is found, material will be stock piled within the pad site to build the location and road.
- G. Then subsoil is pushed back in the hole and caliche is spread accordingly across entire location and road.
- H. There will be no interim reclamation. Once well is drilled, the stock piled top soil will be seeded in place.
- I. Neither caliche, nor subsoil will be stock piled outside of the well pad. Topsoil will be stockpiled along the edge of the pad as depicted in the Well Site Layout or survey plat.

In the event that no caliche is found onsite, caliche will be hauled in from the BLM caliche pit in Section 4-T24S-R31E ore the BLM caliche pit in Section 24-T24S-R30E.

**7. Methods of Handling Water Disposal:**

- A. The well will be drilled utilizing a closed loop mud system. Drill cuttings will be held in roll-off style mud boxes and taken to R360's disposal site located at 4507 West Carlsbad Highway, Hobbs, NM 88240.
- B. Drilling fluids will be contained in steel mud pits and taken to R360's disposal site located at 4507 West Carlsbad Highway, Hobbs, NM 88240.
- C. Water produced from the well during completion will be held temporarily in steel tanks and then taken to an NMOCD approved commercial disposal facility. R360's disposal site located at 4507 West Carlsbad Highway, Hobbs, NM 88240.
- D. This is a commercial SWD, therefore no water will be produced from this well.

- E. Garbage and trash produced during drilling or completion operations will be collected in a trash bin and hauled to an approved landfill-Lea Landfill LLC. Located at Mile Marker 64, Highway 62-180 East, P O Box 3247, Carlsbad, NM 88221. No toxic waste or hazardous chemicals will be produced by this operation.
- F. Human waste and grey water will need to be properly contained and disposed of. Proper disposal and elimination of waste and grey water may include but are not limited to portable septic systems and/or portable waste gathering systems (i.e. portable toilets).
- G. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned up within 30 days. In the event of a dry hole only a dry hole marker will remain.

**8. Ancillary Facilities:**

No airstrip, campsite or other facilities will be built as a result of the operation on this well.

**9. Well Site Layout:**

- A. The drill pad layout, with elevations staked by Harcrow Surveying, is shown in the Elevation Plat. Dimensions of the pad and pits are shown on the Rig Layout. V door direction is south. Topsoil, if available, will be stockpiled per BLM specifications. Because the pad is almost level no major cuts will be required.
- B. The Rig Layout Closed-Loop exhibit shows the proposed orientation of closed loop system and access road. No permanent living facilities are planned, but a temporary foreman/toolpusher's trailer will be on location during the drilling operations.

**10. Plans for Restoration of the Surface:**

- A. No Interim Reclamation is planned as proposed facilities will require use of the entire well pad. Should IR be possible, it will take place within six months after the well has been completed. The pad will be downsized by reclaiming the areas not needed for disposal operations. The portions of the pad that are not needed for disposal operations will be re-contoured to its original state as much as possible. The caliche that is removed will be reused to either build another pad site or for road repairs within the lease. The stockpiled topsoil will then be spread out reclaimed area and reseeded with a BLM approved seed mixture. In the event that the well must be worked over or maintained, it may be necessary to drive, park, and/or operate machinery on reclaimed land. This area will be repaired or reclaimed after work is complete.

- B. Final Reclamation: Upon plugging and abandoning the well all caliche for well pad and lease road will be removed and surface will be recountoured to reflect its surroundings as much as possible within six months. Caliche will be recycled for road repair or reused for another well pad within the lease. If any topsoil remains, it will be spread out and the area will be re-seeded with a BLM approved mixture and re-vegetated as per BLM orders. When required by BLM, the well pad site will be restored to match pre-construction grades.

#### **11. Sedimentation and Erosion Control**

The north side of the pad may be bermed to prevent erosion.

#### **12. Surface Ownership:**

- A. The surface is owned U.S. Government and is administered by the Bureau of Land Management. The surface is multiple uses with the primary uses of the region for grazing of livestock and the production of oil and gas.
- B. The surface tenant is Richardson Cattle Co, PO Box 487, Carlsbad, NM 88221.
- C. The proposed road routes and surface location will be restored as directed by the BLM.

#### **13. Other Information:**

- A. The area around the well site is grassland and the topsoil is sandy. The vegetation is moderately sparse with native prairie grasses, some mesquite. No wildlife was observed but it is likely that mule deer, rabbits, coyotes and rodents traverse the area.
- B. There is no permanent or live water in the immediate area.
- C. There are no dwellings within 2 miles of this location.
- D. If needed, a Cultural Resources Examination is being prepared by Boone Arch Services of NM, LLC., 2030 North Canal, Carlsbad, New Mexico, 88220, phone # 575-885-1352 and the results will be forwarded to your office in the near future. Otherwise, **Mesquite SWD, Inc. will be participating in the Permian Basin MOA Program.**

#### **14. Bond Coverage:**

Bond Coverage is Statewide Bonds # NMB000612.

*Surface Use Plan  
Mesquite SWD, Inc.  
Sand Dunes SWD #1  
260' FSL & 2053' FWL  
Section 5, T24S, R31E  
Eddy County, New Mexico*

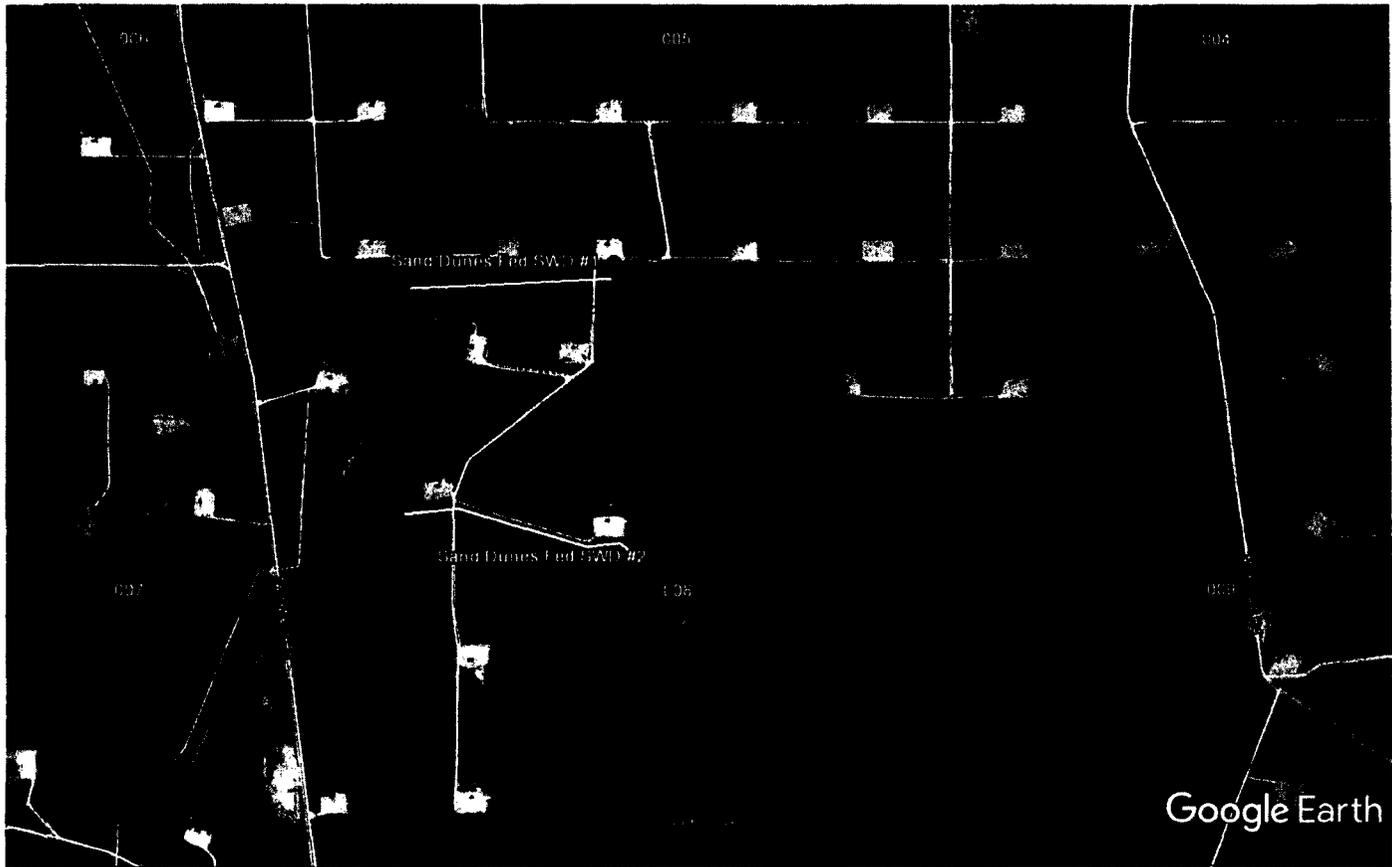
---

**15. Operator's Representative:**

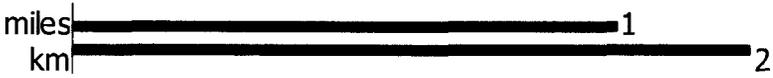
The Mesquite SWD, Inc. representative responsible for assuring compliance with the surface use plan is as follows:

Riley Neatherlin  
Production Manager  
Mesquite SWD, Inc.  
602 S Canyon Street  
Carlsbad, NM 88220  
Phone (575) 706-7288

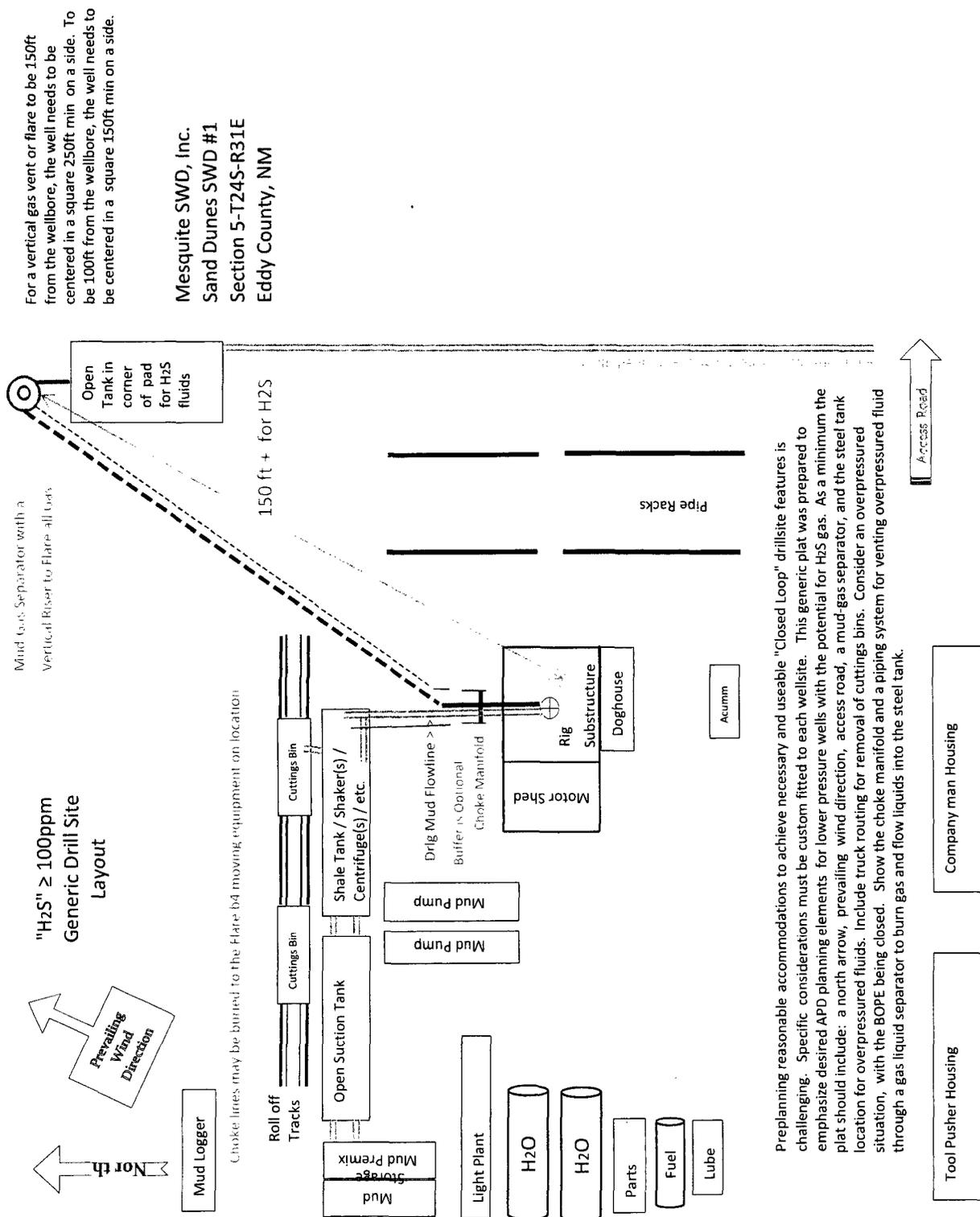
Sheryl Baker  
Drilling Manager  
Mesquite SWD, Inc.  
602 S Canyon Street  
Carlsbad, NM 88220  
Phone (575) 200-0227



Google Earth



Note: squares are to represent approximately 07 ft x 07 ft areas



For a vertical gas vent or flare to be 150ft from the wellbore, the well needs to be centered in a square 250ft min on a side. To be 100ft from the wellbore, the well needs to be centered in a square 150ft min on a side.

Mesquite SWD, Inc.  
 Sand Dunes SWD #1  
 Section 5-T24S-R31E  
 Eddy County, NM

Preplanning reasonable accommodations to achieve necessary and useable "Closed Loop" drillsite features is challenging. Specific considerations must be custom fitted to each wellsite. This generic plat was prepared to emphasize desired APD planning elements for lower pressure wells with the potential for H2S gas. As a minimum the plat should include: a north arrow, prevailing wind direction, access road, a mud-gas separator, and the steel tank location for overpressured fluids. Include truck routing for removal of cuttings bins. Consider an overpressured situation, with the BOPE being closed. Show the choke manifold and a piping system for venting overpressured fluid through a gas liquid separator to burn gas and flow liquids into the steel tank.

## Section 1 - General

Would you like to address long-term produced water disposal? NO

## Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

### **Section 3 - Unlined Pits**

**Would you like to utilize Unlined Pit PWD options? NO**

**Produced Water Disposal (PWD) Location:**

**PWD surface owner:**

**PWD disturbance (acres):**

**Unlined pit PWD on or off channel:**

**Unlined pit PWD discharge volume (bbl/day):**

**Unlined pit specifications:**

**Precipitated solids disposal:**

**Describe precipitated solids disposal:**

**Precipitated solids disposal permit:**

**Unlined pit precipitated solids disposal schedule:**

**Unlined pit precipitated solids disposal schedule attachment:**

**Unlined pit reclamation description:**

**Unlined pit reclamation attachment:**

**Unlined pit Monitor description:**

**Unlined pit Monitor attachment:**

**Do you propose to put the produced water to beneficial use?**

**Beneficial use user confirmation:**

**Estimated depth of the shallowest aquifer (feet):**

**Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?**

**TDS lab results:**

**Geologic and hydrologic evidence:**

**State authorization:**

**Unlined Produced Water Pit Estimated percolation:**

**Unlined pit: do you have a reclamation bond for the pit?**

**Is the reclamation bond a rider under the BLM bond?**

**Unlined pit bond number:**

**Unlined pit bond amount:**

**Additional bond information attachment:**

### **Section 4 - Injection**

**Would you like to utilize Injection PWD options? NO**

**Produced Water Disposal (PWD) Location:**

**PWD surface owner:**

**PWD disturbance (acres):**

**Injection PWD discharge volume (bbl/day):**

**Injection well mineral owner:**

**Injection well type:**

**Injection well number:**

**Injection well name:**

**Assigned injection well API number?**

**Injection well API number:**

**Injection well new surface disturbance (acres):**

**Minerals protection information:**

**Mineral protection attachment:**

**Underground Injection Control (UIC) Permit?**

**UIC Permit attachment:**

## **Section 5 - Surface Discharge**

**Would you like to utilize Surface Discharge PWD options? NO**

**Produced Water Disposal (PWD) Location:**

**PWD surface owner:**

**PWD disturbance (acres):**

**Surface discharge PWD discharge volume (bbl/day):**

**Surface Discharge NPDES Permit?**

**Surface Discharge NPDES Permit attachment:**

**Surface Discharge site facilities information:**

**Surface discharge site facilities map:**

## **Section 6 - Other**

**Would you like to utilize Other PWD options? NO**

**Produced Water Disposal (PWD) Location:**

**PWD surface owner:**

**PWD disturbance (acres):**

**Other PWD discharge volume (bbl/day):**

**Other PWD type description:**

**Other PWD type attachment:**

**Have other regulatory requirements been met?**

**Other regulatory requirements attachment:**

**Bond Information**

**Federal/Indian APD:** FED

**BLM Bond number:** NMB000612

**BIA Bond number:**

**Do you have a reclamation bond?** NO

**Is the reclamation bond a rider under the BLM bond?**

**Is the reclamation bond BLM or Forest Service?**

**BLM reclamation bond number:**

**Forest Service reclamation bond number:**

**Forest Service reclamation bond attachment:**

**Reclamation bond number:**

**Reclamation bond amount:**

**Reclamation bond rider amount:**

**Additional reclamation bond information attachment:**