

Form 3160-3  
(August 2007)

SEP 28 2012

EA# 12-1223

FORM APPROVED  
OMB No 1004-0137  
Expires July 31, 2010

RECEIVED  
UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		7 If Unit or CA Agreement, Name and No	
1b Type of Well <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		8 Lease Name and Well No Paduca Federal SWD #2 39498	
2 Name of Operator Mesquite SWD, Inc		9 API Well No 30-025- 40813	
3a Address P.O. Box 1479 Carlsbad, NM 88221	3b Phone No. (include area code) 161968 575-706-1840	10 Field and Pool, or Exploratory SWD; Bell Canyon & Cherry Canyon 96802	
4 Location of Well (Report location clearly and in accordance with any State requirements.)* At surface 500' FSL & 2,000' FEL At proposed prod zone		11 Sec., T. R. M. or Blk and Survey or Area Sec. 22, T25S-R32E	
14 Distance in miles and direction from nearest town or post office* 27.4 miles west of Jal, NM		12 County or Parish Lea Co.	13 State NM
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any) 500' FSL	16 No. of acres in lease NA	17 Spacing Unit dedicated to this well NA	
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease. ft 3,064 5' WSW	19 Proposed Depth 7,300'	20 BLM/BIA Bond No on file NMB000612	
21 Elevations (Show whether DF, KDB, RT, GL, etc.) 3404' GL	22 Approximate date work will start* 06/15/2012	23 Estimated duration 15 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   | 4 Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan.   | 5 Operator certification   |
| 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) | 6. Such other site specific information and/or plans as may be required by the BLM             |

25 Signature <i>Kay Havenor</i>	Name (Printed/Typed) Kay Havenor	Date 05/21/2012
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Title  
Agent

Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed) /s/ Don Peterson	Date SEP 26 2012
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Title  
FIELD MANAGER  
Office  
CARLSBAD FIELD OFFICE

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.

APPROVAL FOR TWO YEARS

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)

SWD-1324

LA 10/09/12

\*(Instructions on page 2)

Approval Subject to General Requirements & Special Stipulations Attached

Carlsbad Controlled Water Basin

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

OCT 09 2012

Mesquite SWD, Inc.  
 Paduca Federal #2  
 500' FSL & 2000' FEL  
 Sec. 22, T25S-R32E, Lea Co., NM

**2. Formation Tops and Estimated Fresh Water:**

The of geologic markers and estimated depths at which anticipated water, oil or gas formations are expected to be encountered as follows:

B/Alluvium	85'	Estimated potable water, if present, approx 80'.
Rustler	760'	
Salado	1,445'	
Top main salt	2,165'	
Base of salt	4,395'	
Lamar limestone	4,700'	
Bell Canyon	4,750'	
Cherry Canyon	5,615'	
Brushy Canyon	7,150'	Estimated
Bone Springs	8,396'	Note: This top for information only

**3. Estimated Depths of Anticipated Fresh Water, Oil or Gas.**

None of the formations above the Brushy Canyon have been found to be commercially productive of oil or gas east of the present Paduca field , or are depleted, in the disposal interval of this well. No fresh water wells are reported in the NM OCD 2-mile area of review, none would be expected beneath the Alluvium. Potential shallow sands will be protected by 9-5/8" casing set at 865' and cement circulated to the surface.

**4. Casing:**

Hole Size	Casing	Depth Set	Cement	Top Cement
20"	16" Conductor	20'	144 ft <sup>3</sup>	Circulated
12-1/4"	9-5/8" K-55 40#	865'	500 sx	Circulated
8-3/4"	7" N-80 26#	<del>4,750'</del> OK	2200 sx	Circulated

Hole Size	Interval	OD Casing	New Used	Wt	Connection	Grade	Collapse Design Factor	Burst Design Factor	Tension Design Factor
12-1/4"	0-865'	9-5/8"	New	40#	8 - R STC	K-55	1.125	1.125	2.00
8-3/4"	0 - <del>4,750'</del> OK	7"	New	26#	8 - R LTC	N-80	1.183	1.580	2.18

All casing is new and API approved.

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## 5. Cement Program:

16" Conductor pipe w/6 yds Redi-Mix

9-5/8" Surface string: 0' - 865'

Lead: 160 sx Class "C" +4% PF20, 2% PF1, +0.125#/sx PF46. Density 13.5, Yield 1.75, H<sub>2</sub>O 9.15.

Tail: 200 sx Class "C" +1% PF1. Density 14.8, Yield 1.34, H<sub>2</sub>O 6.35

Cement additives: 40# PF46 Antifoam agent, 600# PF20 Bentonite extender, 488# PF1 CaCl, 200# PF-999-Sugar, 5 gal PF47 Liquid antifoam agent, 20# PF29 Cellophane flakes.

7" Intermediate string: 0' - 4,750'

Lead: 650 sx 35/65 Pox/Class "C" +5% PF44 (BWOW), +6% PD20, +0.125@/sk PF29, +0.25% PF46, +0.2% PF13. Density 168, Yield 2.07, H<sub>2</sub>O 11.15

Tail: 200 sx Class "C" +0.3% PF13. Density 14.8, Yield 1.33, H<sub>2</sub>O 6.35

Cement additives: 2,769# PF20 Bentonite extender, 2,413# PF-044 Granulated salt, 130# PF46 Antifoam agent, 148# PF13 Retarder, 65# PF29 Cellophane flakes, 200# PF-999 Sugar, 182 sx PF132 LITPOZ

Cement volumes calculated using 100% excess over open hole volume.

## 6. Pressure Control Equipment:

BOP system, Exhibit 1 below, used to drill the intermediate hole will consist of a double ram-type (3M) preventer and annular preventer. Both units will be hydraulically operated and the ram-type will be equipped with blind rams on bottom and drill pipe rams on top. BOP will be tested in accordance with Onshore Oil & Gas order No. 2 as a **3M system** prior to drilling out the surface casing shoe.

The BOP system used to drill the production hole will consist of a double ram-type (3M) preventer and annular preventer. BOP will be tested in accordance with Onshore Oil & Gas order No. 2 as a **3M system** prior to drilling out the intermediate casing shoe.

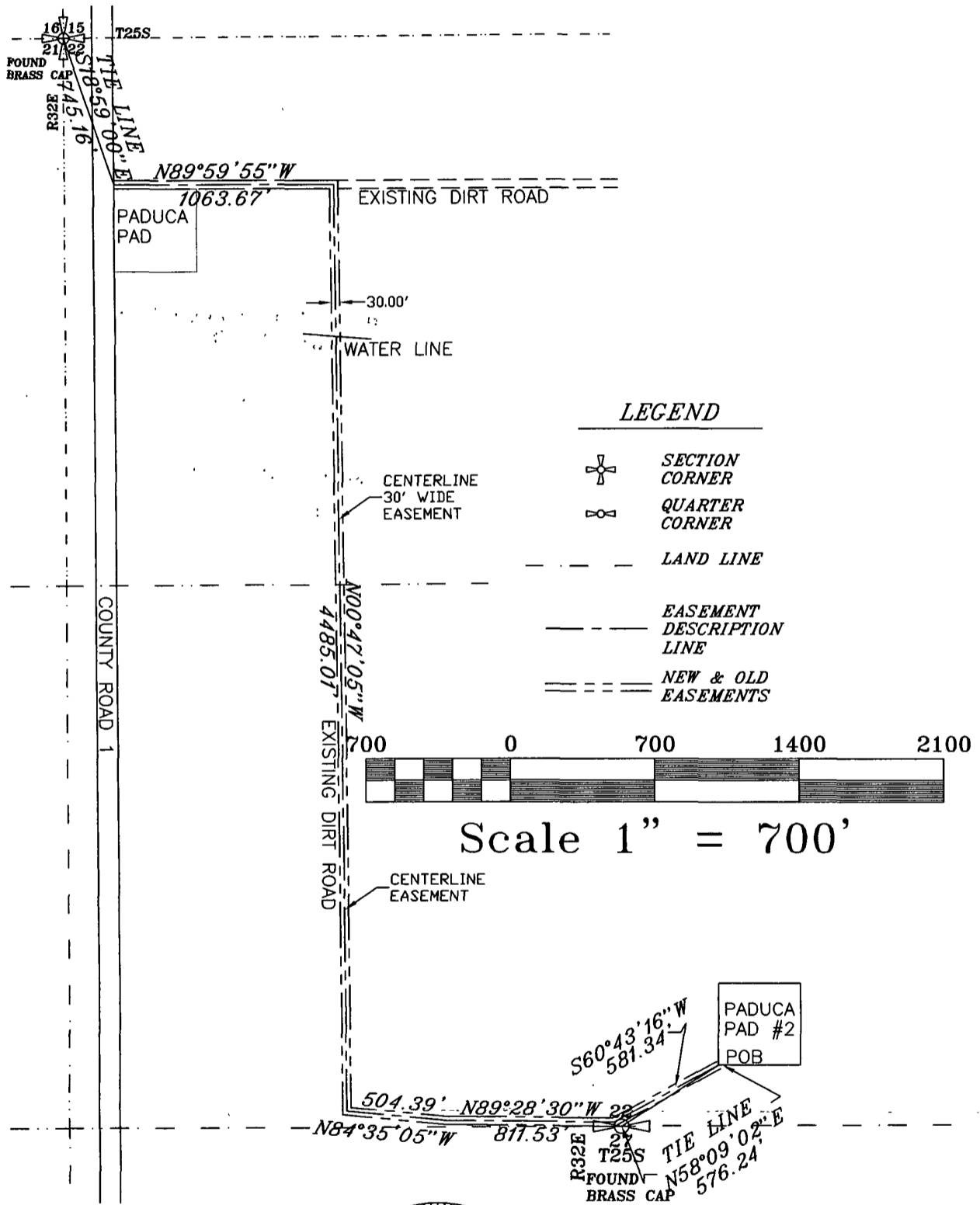
The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily drillers log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer,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

Vent line will extend to pad margin to provide sufficient distance, approximately 150' to flare boom, from any ignition source in the event natural gas should be encountered. No gas has been reported to this depth in the drilling of adjacent holes.

# EXHIBIT A

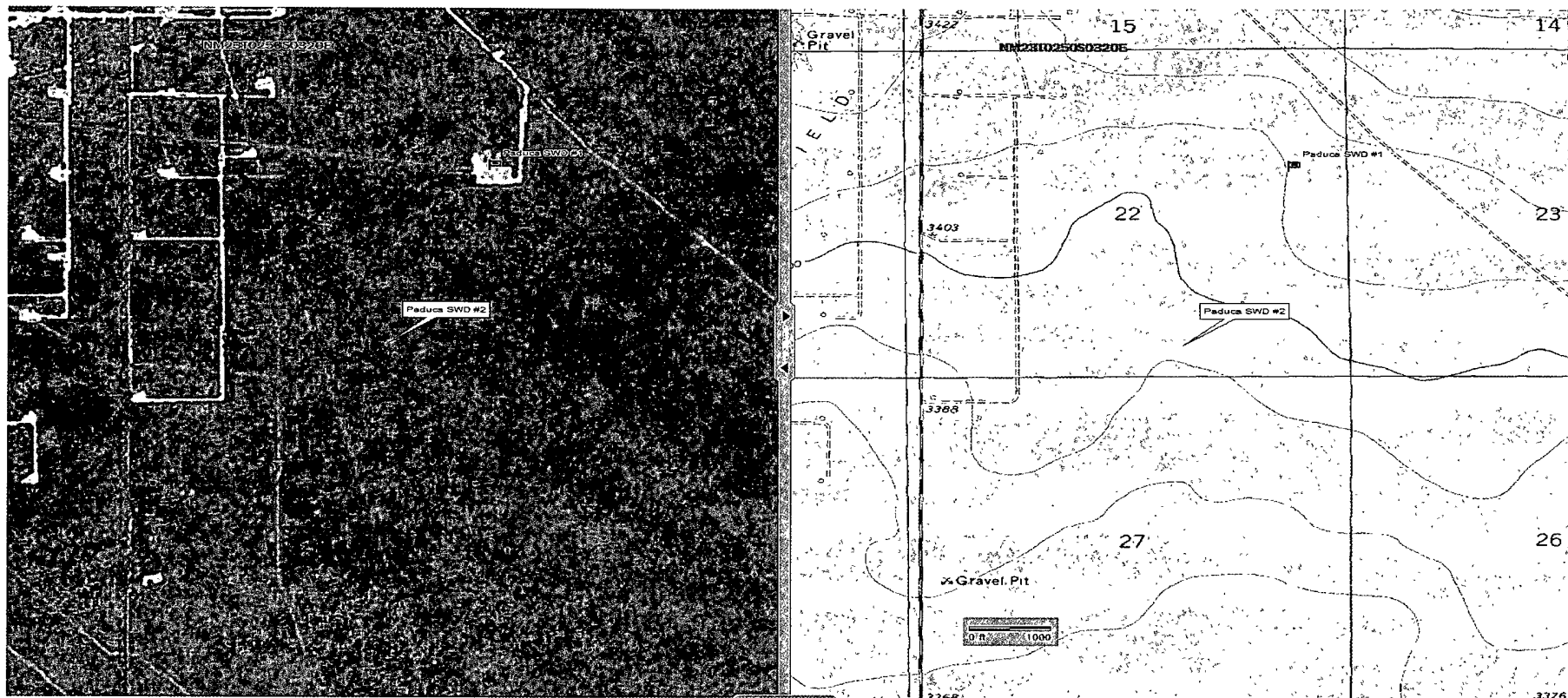
OF A 30 FOOT WIDE ROAD AND UTILITY EASEMENT FROM THE BUREAU OF LAND MANAGEMENT IN FAVOR OF MESQUITE SWD BEING DESCRIBED BY ITS CENTERLINE AS FOLLOWS:

BEGINNING AT A POINT THAT LIES N58°09'02"E FOR 576.24 FEET FROM THE S/4 COR OF SEC 22, T25S, R32E, N.M.P.M., LEA COUNTY, NEW MEXICO; THEN S60°43'16"W FOR 581.34 FEET: THEN N89°28'30"W FOR 811.53 FEET: THEN N84°35'05"W FOR 504.39 FEET: THEN N00°47'05"W FOR 4485.01 FEET: THEN N89°59'55"W FOR 1063.67 FEET TO A POINT ON THE EAST R.O.W. OF COUNTY ROAD 1: WHICH POINT LIES S18°59'00"E FOR 745.16 FEET FROM THE NW COR OF SAID SEC 22.



INDEXING INFORMATION	
SEC. 22	T 25S R 35E N.M.P.M.
CITY:	HOBBS
COUNTY:	LEA
STATE:	NEW MEXICO
DATE:	JULY 17, 2012

Mesquite SWD, Inc.  
Paduca Federal #2  
500' FSL & 2000' FEL  
Sec. 22, T25S-R32E, Lea Co., NM



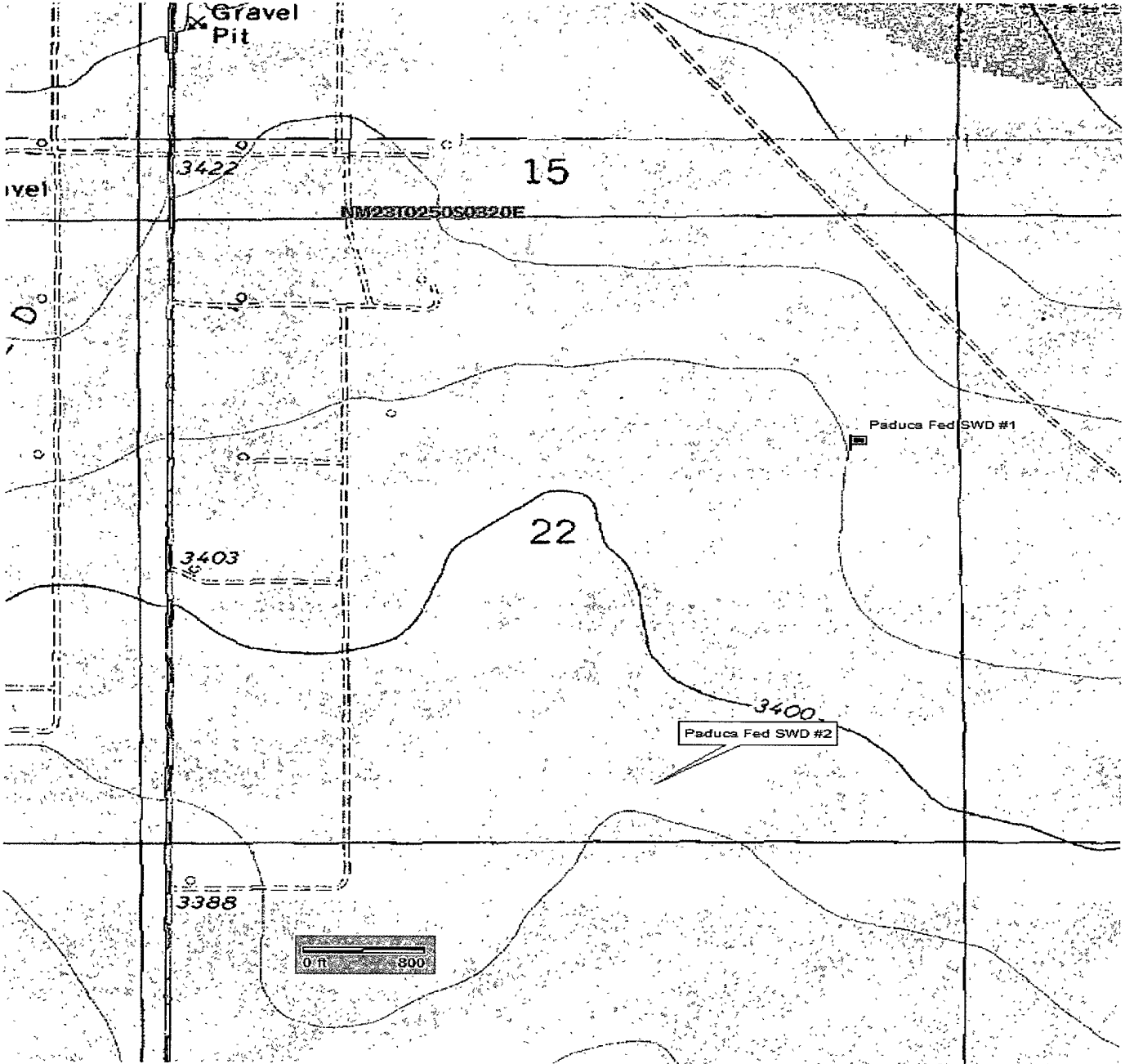
Delorme Xmap6

**Directions:**

At intersection of NM-128 and Lea County CR-1 (Orla Road) south for 7.3 miles, then east 0.6 miles.

Mesquite SWD, Inc.  
Paduca Federal #2  
500' FSL & 2000' FEL  
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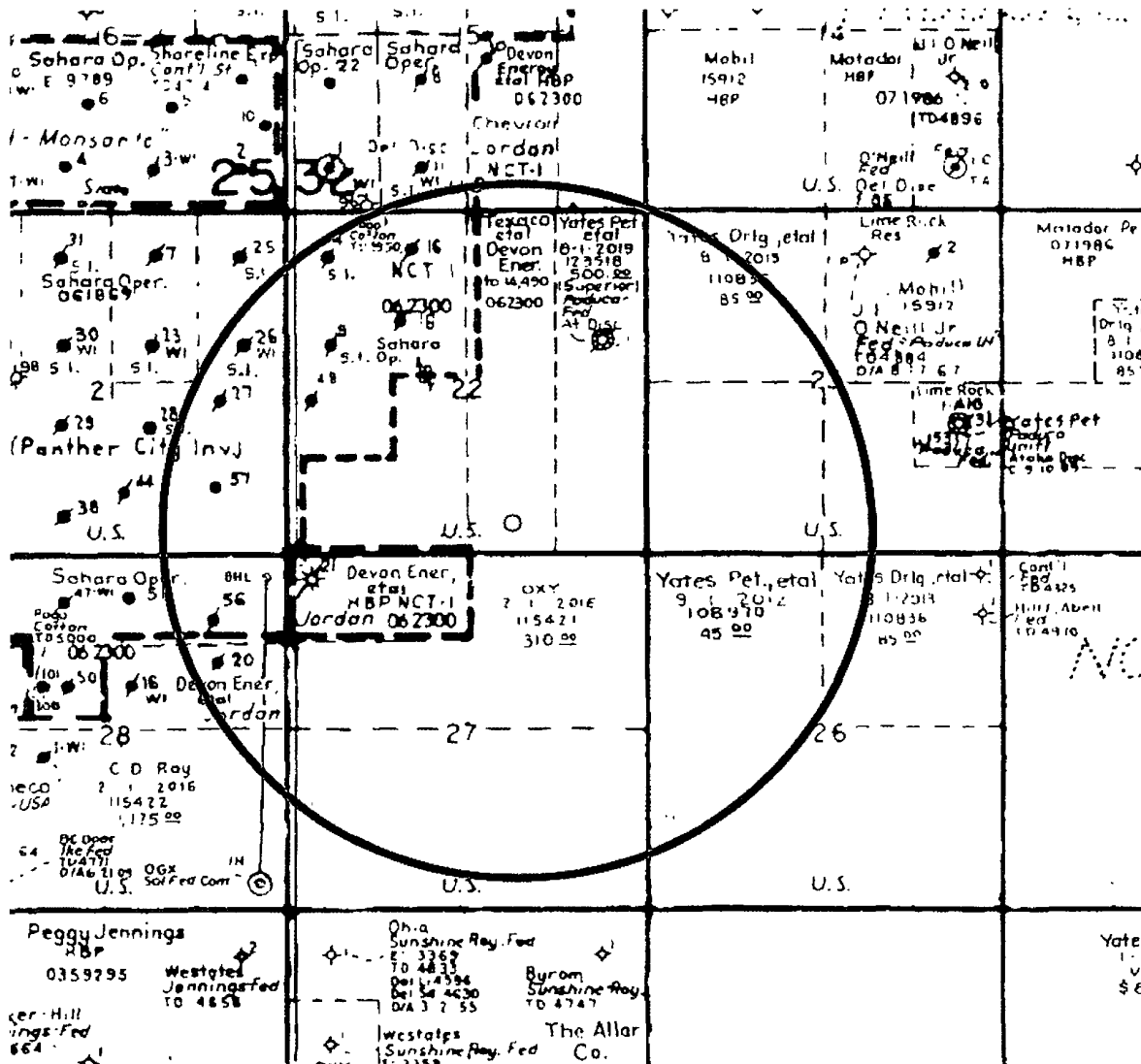
Surface Topography



Delorme Xmap6

Mesquite SWD, Inc.  
 Paduca Federal #2  
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 Sec. 22, T25S-R32E, Lea Co., NM

1-Mile AOR



Mesquite SWD, Inc.  
**DRILLING PROGRAM**

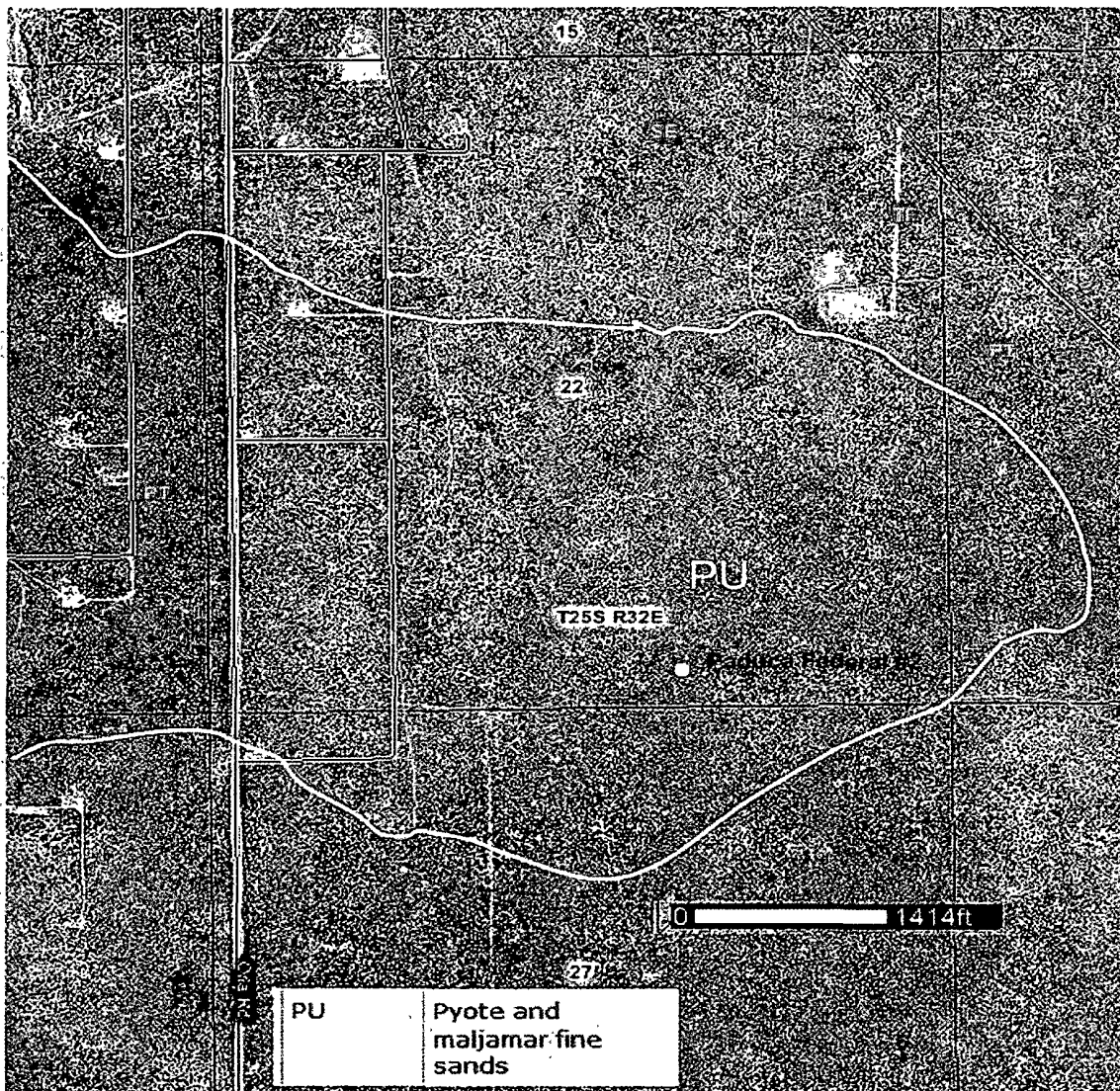
Paduca Federal #2, 500' FSL & 2000' FEL  
Sec. 22, T25S-R32E, Lea Co., NM

Supplemental to Form 3160-3, Application for Permit to drill the subject well, Mesquite SWD, Inc submits the following information as per Bureau of Land Management requirements.

**1. Geologic Name of Surface Formation**

Surface is Quaternary eolian and piedmont deposits (Qep) Holocene to middle Pleistocene. (New Mexico Bureau of Geology and Mineral Resources, 2003, Geologic Map of New Mexico, 1:500,000)

Soil map with legend. Source: <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>





Mesquite SWD, Inc.  
 Paduca Federal #2  
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**7. Proposed Mud Program and Circulation System:**

Drilling and returned circulation will be from and to a closed loop system w/surface tanks. No earthen mud or reserves pits will be constructed or used for this well. Drilling fluids and cuttings will be trucked to a certified disposal facility upon completion of re-entry operations.

Depth	Mud Wt.	Viscosity	Fluid Loss	Type Mud
0 - 865'	8.4 - 8.5	29	NC	Fresh water
865'-4,750'	9.9-10.0	29	NC	Brine
4,750'-7,300'	9.0	29	NC	Cut Brine/Fresh water

6 1/8" hole  
 - per Kay H.  
 9-25-12  
 CRW

The necessary mud products for weight addition and fluid loss control will be on location at all times.

Manifold schematic with routing to closed loop system is illustrated in Exhibit 2, below.

**8. Estimated BHP:**

At proposed TD 7,300' estimated BHP will be 2,993 psi.

**9. Potential Hazards:**

No abnormal pressures or temperatures were reported in the nearby drilling operations. H<sub>2</sub>S detection equipment will be in operation during the drilling operation. H<sub>2</sub>S is not considered a potential hazard because it was not reported in the surrounding area. See H<sub>2</sub>S schematic Exhibit 3, below.

**10. Anticipated Starting Date and Duration of Operations:**

Road and location construction will begin as soon as the BLM approves this APD. Move-in and drilling will follow as soon thereafter as rig and equipment are available.

**11. Logging, Coring, and Testing Program:**

No coring or formation testing is anticipated. A gamma-ray-neutron log will be run from TD to surface.

Mesquite SWD, Inc.  
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**Addendum: Non-productive zones**

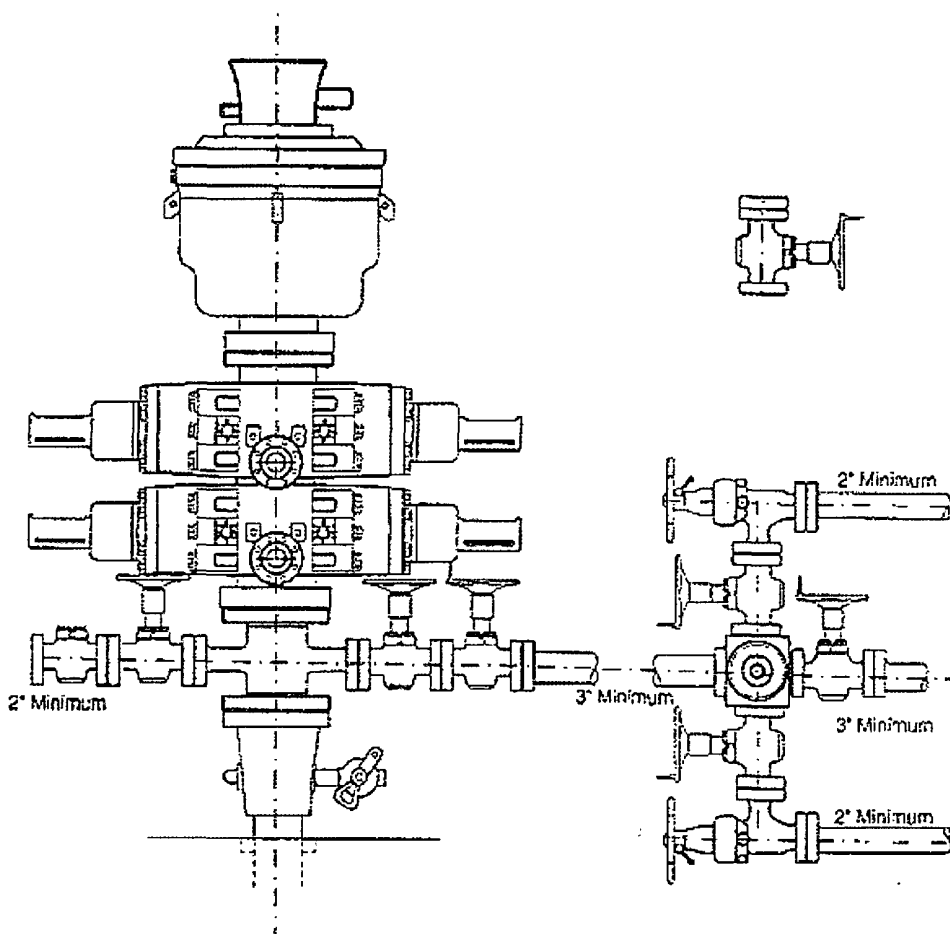
Many wells up-dip and northwest of the drill site acreage and in the surrounding area have tested, completed in and/or depleted the upper Ramsey of the Bell Canyon in the AOR,. Numerous deeper wells have drilled, evaluated and/or tested the Ramsey/Olds, underlying Bell Canyon and Cherry Canyon in the greater area and have not demonstrated production or commercial potential. This new-drill SWD will isolate the underlying Brushy Canyon Formation where some hydrocarbon potential might present an exploration target for horizontal drilling.

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Exhibit 1

# 3000 psi BOP and Manifold Schematic using Townsend 81 Series

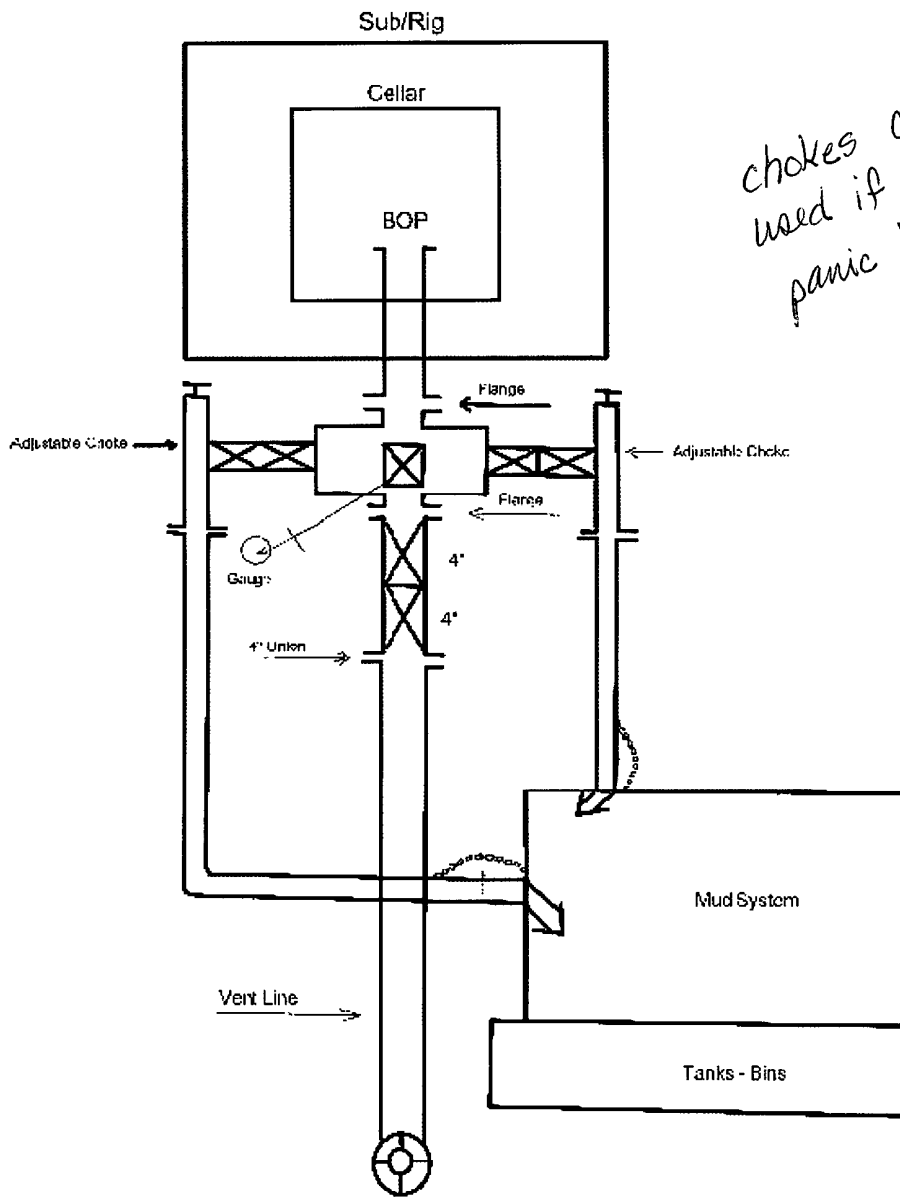
Mesquite SWD, Inc. Paduca Federal #2  
Sec. 22, T25S-R32E Lea Co. NM



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Paduca Federal #2  
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**Exhibit 2**

Mesquite SWD, Inc.  
Choke Manifold Equipment



*Chokes cannot be used if gas encountered, panic line shall be used.*

**Exhibit 3** Generalized Pad Layout for H<sub>2</sub>S Safety Layout

