

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

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

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

Form C-101
Revised July 18, 2013

AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

¹ Operator Name and Address Owl SWD Operating, LLC 8214 Westchester Dr., Ste.850, Dallas, TX 75255		² OGRID Number 308339
		³ API Number 30-025-43688
⁴ Property Code 317529	⁵ Property Name Dinwiddie SWD	⁶ Well No. 1

⁷ Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
C	11	26 S	33 E		480'	North	1900'	West	Lea

⁸ Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County

⁹ Pool Information

Pool Name SWD; Devonian	Pool Code 96101
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Additional Well Information

¹¹ Work Type N	¹² Well Type S	¹³ Cable/Rotary R	¹⁴ Lease Type P	¹⁵ Ground Level Elevation 3342'
¹⁶ Multiple N	¹⁷ Proposed Depth 18760'	¹⁸ Formation Devonian / Silurian	¹⁹ Contractor Sidewinder	²⁰ Spud Date 4/15/2017
Depth to Ground water 177'		Distance from nearest fresh water well > 1 mile'		Distance to nearest surface water unknown

We will be using a closed-loop system in lieu of lined pits

²¹ Proposed Casing and Cement Program


Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surface	24.0"	20.0"	106.5# J-55 ST&C	1000'	1379 sx 'C'	Circ. to Surf.
Intermediate	17.5"	13.375"	72.0# HPC-110 ST&C	5250'	4284 sx 'C'	Circ. to Surf.
Intermediate	12.25"	9.875"	47.0# P-110 BT&C	12100'	3656 sx 'H'	Circ. to Surf.

Casing/Cement Program: Additional Comments


Prod. Lnr.	8.5"	7.0"	35.0#	11900'-17780'	894 sx 'H'	11900' TOL
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²² Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Hydraulic Blinds/Pipe	10000 psi	10000 psi	TBD (Schaffer/Cameron Equiv.)

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief.
I further certify that I have complied with 19.15.14.9 (A) NMAC and/or 19.15.14.9 (B) NMAC , if applicable.
Signature: 

Printed name: **Ben Stone**
Title: **Agent for Owl SWD Operating, LLC**
E-mail Address: **ben@sosconsulting.us**
Date: **2/23/2017** Phone: **903-488-9850**

OIL CONSERVATION DIVISION	
Approved By: 	
Title: Petroleum Engineer	
Approved Date: 03/15/2017	Expiration Date: 03152019
Conditions of Approval Attached SEE CONDITIONS OF APPROVAL ATTACHED	

CONDITIONS OF APPROVAL

API #	Operator	Well name & Number
30-025-43688	OWL SWD Operating LLC	DINWIDDIESWD # 001

Applicable conditions of approval marked with **XXXXXX**

Administrative Orders Required

XXXXXXXX	Will require administrative order for injection or disposal prior to injection or disposal

Other wells

Drilling

XXXXXXXX	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string

Casing

XXXXXXXX	SURFACE & INTERMEDIATE(1) PRODUCTION CASING - Cement must circulate to surface -- LINER Cement must come to top of Liner
XXXXXXXX	Surface casing must be set 25' below top of Rustler Anhydrite in order to seal off protectable water

Lost Circulation

XXXXXXXX	Must notify OCD Hobbs Office if lost circulation is encountered at 575-370-3186

Water flows

XXXXXXXX	Must notify OCD Hobbs Office of any water flow in the Salado formation at 575-370-3186. Report depth and flow rate.

Stage Tool

XXXXXXXX	Must notify OCD Hobbs Office prior to running Stage Tool at 575-370-3186
XXXXXXXX	If using Stage Tool on Surface casing, Stage Tool must be greater than 350' and a minimum 200 feet above surface shoe.
XXXXXXXX	When using a Stage Tool on Intermediate or Production Casing Stage must be a minimum of 50 feet below previous casing shoe.

Pits

XXXXXXXX	If using a pit for drilling and completions, must have an approved pit form prior to spudding the well

Completion & Production

XXXXXXXX	Will require a deviational survey with the C-105
XXXXX	Must notify Hobbs OCD office prior to conducting MIT (575) 393-6161 ext. 114 <i>102</i>
XXXXX	Must conduct & pass MIT prior to any injection

XXXXX MUST COMPLY WITH ALL REQUIREMENTS OF SWD OR R ORDER

**Owl SWD Operating, LLC
Dinwiddie SWD Well No.1
Section 11, Twp 26-S, Rng 33-E
Lea County, New Mexico**

Well Program - New Drill

Objective: Drill new well for commercial salt water disposal into the Devonian. (Note: Silurian might only be accessed for logging rathole, mudlogging and e-logging to determine final depths.)

1. Geologic Information - Devonian Formation

The Devonian consists of carbonates including light colored dolomite and chert intervals interspersed with some tight limestone intervals. Several thick sections of porous dolomite capable of taking water are present within the Devonian in the area. It is reasonable to assume that a Silurian section is present between the Devonian and Ordovician (Montoya) although the top depth of Silurian and Ordovician intervals is uncertain at this time. If the base of Devonian and top of Silurian rocks come in as expected the well will only be drilled deep enough for adequate logging rathole.

Estimated Formation Tops:

B/Fresh Water	250
T/Rustler	900
T/Salado	1250
Delaware Sand	5210
Bone Spring	9450
Wolfcamp	12530
Strawn	14480
Atoka	14700
Morrow	15430
Mississippi Lime	17190
Devonian	17760
TD Silurian	18850

*Please see narrative portion of drilling/pipe specs for TD options.

2. Drilling Procedure

- a. MIRU drilling rig and associated equipment. Set up H₂S wind direction indicators; brief all personnel on Emergency Evacuation Routes.
- b. All contractors conduct safety meeting prior to current task. All equipment inspected daily. Repair / replace as required.
- c. Well spud operations commence.
- d. Mud logger monitoring returns; cuttings & waste hauled to specified facility. (Sundance, Lea County)
- e. After surface casing set/drilled; if H₂S levels >20ppm detected, implement H₂S Plan accordingly. (e.g., cease operations, shut in well, employ H₂S safety trailer & personnel safety devices, install flare line, etc. - refer to plan.)
- f. Spills contained & cleaned up immediately. Repair or otherwise correct the situation within 48 hours before resuming operations. Notify OCD within 24 hours. Remediation started ASAP if required. Operator shall comply with 19.15.29 NMAC and 19.15.30 NMAC, as appropriate.

Well Program - New Drill (cont.)

g. Sundry forms filed as needed - casing, cement, etc. - operations continue to completion.

3. Casing program - Casing designed as follows:

STRING	HOLE SZ	DEPTH	CSG SZ	COND	WT/GRD	CLLPS/BRS	TNSN
Surface	24.0"	0-1000'	20.0"	New	106.5 lb. J/K-55	1.125/1.1	1.8
Intermediate	17.5"	0-5000'	13.375"	New	72.0 lb. HPC-110	1.125/1.1	1.8
2nd Inter	12.25"	0-12,100'	9.875"	New	47.0 lb. P-110	1.125/1.1	1.8
Prod/ Liner*	8.5"	11,900'-17,780'	7.0"	New	35.0 lb. L-80 BT&C	1.125/1.1	1.8
Openhole*	5.875" hole	17,780'-18,760'	OH	n/a	n/a	n/a	n/a

Notes:

- ✓ On both Intermediate casing strings, the cement will be designed to circulate to surface. Both strings will have cement bond logs run (radial, CET or equivalent) to surface.
- ✓ While running all casing strings, the pipe will be kept a minimum of 1/3 full at all times to avoid approaching the collapse pressure of casing.
- ✓ * Based on mudlogging and e-logs, 7.0" casing shoe may be set between 17,500' and 17,900'. Similarly, TD may be from 18,500' to 18,900' as determined by logging and suitable porosity has been exposed. IN ANY EVENT, maximum openhole interval would be from 17,500' to 18,900'.

4. Cementing Program:

Surface – LEAD 546 sx (13.5#; 1.76 ft³/sk); TAIL 833 (14.8#; 1.34 ft³/sk) w/ 100 % excess; circulated to surface

1st Intermediate – LEAD 3708 sx (12.7#; 1.94 ft³/sk); TAIL 576 sx (14.8#; 1.33 ft³/sk) 100% excess; circulated to surface

2nd Intermediate – LEAD 1002 sx (11.9#; 2.45 ft³/sk); TAIL 2654 sx (14.2#; 1.27 ft³/sk) 50% excess; circulated to surface.

Prod Liner – 894 sx (14.2#; 1.27 ft³/sk) 50% excess; TOC = 11,900' calc.

5. Pressure Control - BOP diagram is attached to this application. All BOP and related equipment shall comply with well control requirements as described NMOCD Rules and Regulations and API RP 53, Section 17. Minimum working pressure of the BOP and related equipment required for the drilling shall be 5000 psi. The NMOCD Hobbs district office shall be notified a minimum of 4 hours in advance for a representative to witness BOP pressure tests. The test shall be performed by an independent service company utilizing a test plug (no cup or J-packer). The results of the test shall be recorded on a calibrated test chart submitted to the OCD district office. Test shall be conducted at:

- a. Installation;
- b. after equipment or configuration changes;
- c. at 30 days from any previous test, and;
- d. anytime operations warrant, such as well conditions

Well Program - New Drill (cont.)

6. Mud Program & Monitoring - Mud will be balanced for all operations as follows:

DEPTH	MUD TYPE	WEIGHT	FV	PV	YP	FL	Ph
0-1000'	FW Spud Mud	8.5-9.2	70-40	20	12	NC	10.0
1000'-5250'	Brine Water	9.8-10.2	28-32	NC	NC	NC	10.0
5250'-12,100'	FW/Gel	8.7-9.0	28-32	NC	NC	NC	9.5-10.5
12,100'-17,780'	XCD Brine Mud	11.0-	45-48	20	10	<5	9.5-10.5
17,780'-18,900'	FW Mud	8.4-8.6	28-30	NC	NC	NC	9.5-10.5

Mud and all cuttings monitored w/ cuttings recovered for disposal. Returns shall be visually and electronically monitored. In the event of H₂S, mud shall be adjusted appropriately by weight and H₂S scavengers.

7. Auxiliary Well Control and Monitoring – Hydraulic remote BOP operation, mudlogging to monitor returns.

8. H₂S Safety - This well and related facilities are not expected to have H₂S releases. However, there may be H₂S in the area. There are no private residences or public facilities in the area but a contingency plan has been developed. Owl SWD Operating, LLC will have a company representative available to personnel throughout all operations. If H₂S levels greater than 10ppm are detected or suspected, the H₂S Contingency Plan will be implemented at the appropriate level.

H₂S Safety - There is a low risk of H₂S in this area. The operator will comply with the provisions of Onshore Oil and Gas Order #6.

- a) Monitoring - all personnel will wear monitoring devices.
- b) Warning Sign - a highly visible H₂S warning sign will be placed for obvious viewing at the vehicular entrance point onto location.
- c) Wind Detection - two (2) wind direction socks will be placed on location.
- d) Communications - will be via cellular phones and/or radios located within reach of the driller, the rig floor and safety trailer when applicable.
- e) Alarms - will be located at the rig floor, circulating pump / reverse unit area and the flareline and will be set for visual (red flashing light) at 15 ppm and visual and audible (115 decibel siren) at 20 ppm.
- f) Mud program - If H₂S levels require, proper mud weight, safe drilling practices and H₂S scavengers will minimize potential hazards.
- g) Metallurgy - all tublars, pressure control equipment, flowlines, valves, manifolds and related equipment will be rated for H₂S service if required.

The Owl SWD Operating, LLC H₂S Contingency Plan will be implemented if levels greater than 10ppm H₂S are detected.

Well Program - New Drill (cont.)

9. Logging, Coring and Testing – Owl SWD Operating expects to run;

- a. Mud logging through the interval will ensure the target interval remains Devonian and Silurian.
- b. CBL (Radial, CET or equivalent) on both intermediate casing strings.
- c. Standard porosity log suite from TD to approximately 15,000'.
- d. No corings or drill tests will be conducted. (The well may potentially be step rate tested in the future if additional injection pressures are required.)

10. Potential Hazards - No abnormal pressures or temperatures are expected.

No loss of circulation is expected to occur with the exception of drilling into the target disposal zone. All personnel will be familiar with the safe operation of the equipment being used to drill this well.

The maximum anticipated bottom-hole pressure is 9500 psi and the maximum anticipated bottom-hole temperature is 200° F.

11. Waste Management - All drill cuttings and other wastes associated with and drilling operations will be transported to the Lea County Sundance facility (or alternate), permitted by the Environmental Bureau of the New Mexico Oil Conservation Division.

12. Anticipated Start Date - Upon approval of all permits for SWD, operations would begin within 30 days. Completion of the well operations will take six to seven weeks. Installation of the tank battery, berms, plumbing and other and associated equipment would be occurring during the same interval. In any event, it is not expected for the construction phase of the project to last more than 60 days, depending on availability of contractors and equipment. At the time of this submittal, and subject to the availability of the drilling contractor, the anticipated start date is:

April 15, 2017.

13. Configure for Salt Water Disposal – Subsequent to SWD permit approval from OCD and prior to commencing any work, an NOI sundry(ies) will be submitted to configure the well for SWD and will detail the completion workover including all work otherwise described above, any change to the procedure noted herein and to perform mechanical integrity pressure test per BLM and OCD test procedures. (Notify BLM and NMOCD 24 hours prior.) The casing/tubing annulus will be monitored for communication with injection fluid or loss of casing integrity. Anticipated daily maximum volume is 25,000 bpd and average of 15,000 bpd at a maximum surface injection pressure of 3556 psi (0.2 psi/ft to uppermost injection interval, i.e., casing shoe). If satisfactory disposals rates cannot be achieved at default pressure of .2 psi/ft, Owl Oil and Gas, LLC will conduct a step-rate test and apply for an injection pressure increase 50 psi below parting pressure.