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	2. OGRID Number
OWL SWD Operating, LLC 8214 Westchester Dr., Ste. 850 Dallas, TX 75255	308339
	3. API Number 30-025-42947

4. Property Code	5. Property Name	6. Well No.
313601	McCloy SWD	2

7. Surface Location
(To be verified by field survey)

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
L	15	24S	32E		1595	FSL	369	FWL	LEA

8. Proposed Bottom Hole Location
(To be verified by field survey)

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
L	15	24S	32E		1595	FSL	369	FWL	LEA

9. Pool Information

Pool Name	Pool Code
SWD; Devonian	96101

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
N	SWD	R	F	3599'
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
No	18,000'	Devonian	Precision Drilling	11/01/2015

Depth to Ground water	Distance from nearest fresh water well	Distance to nearest surface water
380'	3650'	n/a

☒ **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	20.0"	16.0"	75.0 lb/ft	1000'	1044	SURFACE
Intermdt	14.75"	13.625"	68.0 lb/ft	5000'	856	SURFACE
Production	12.25"	10.75"	65.7 lb/ft	13,000'	1542	SURFACE
Liner	9.0"	7.75"	46.1 lb/ft	12,800' - 16,750'	547	12,800'
Tubing	N/A	5.5"	20.0 lb/ft	16,650'	N/A	N/A

Casing/Cement Program: Additional Comments

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Hydraulic/Blinds, Pipe	5000	8000	Hydril, Cameron or Equivalent

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: Ben Stone

Printed name: Ben Stone
Title: Agent for Owl SWD Operating, LLC
E-mail Address: ben@sosconsulting.us
Date: 9/24/2015 Phone: 903-488-9850

OIL CONSERVATION DIVISION

Approved By:
Title: Petroleum Engineer
Approved Date: 11/13/15 Expiration Date: 11/13/17

E-PERMITTING - - New Well PM.
Comp_____ P&A_____ TA_____
CSNG_____ Loc Chng_____
ReComp_____ Add New Well_____
Cancl Well_____ Create Pool_____

NOV 19 2015

Owl SWD Operating, LLC
McCloy SWD Well No.2
1595' FSL & 369' FWL
Section 15, Twp 24-S, Rng 32-E
Lea County, New Mexico

Well Program - New Drill

Objective: Drill new well for commercial salt water disposal into the Devonian formation.

1. **Geologic Information** - Devonian Formation

This area of the Devonian consists of dolomites with some cherty dolomites characterized by intercrystalline and vugular porosity. Additional porosity can be found when the well bore encounters detrital carbonates interspersed throughout.

Estimated Formation Tops:

B/Fresh Water	400'
T/Rustler	1283'
T/Salado	1363'
Lamar	4,803'
Cherry Canyon	5,860'
Brushy Canyon	7,528'
Bone Spring	8,780'
Mississippian Lime	16,280'
Woodford	16,560'
Devonian	16,750'
TD	18,000'
Fusselman	18,085'

2. **Drilling Procedure**

a. MIRU drilling rig and associated equipment. Set up H_2S 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 H_2S levels >20ppm detected, implement H_2S Plan accordingly. (e.g., cease operations, shut in well, employ H_2S 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.
g. Sundry forms filed as needed - casing, cement, etc. - operations continue to completion.

Well Program - New Drill (cont.)

3. **Casing program** - Casing designed as follows:

STRING	HOLE SZ	DEPTH	CSG SZ	COND	WT/GRD	CLLPS/BR	TNSN
Surface	20.0"	0-1,000'	16.0"	New	75.0 lb. J-55 ST&C	1.125/1.1	1.8
Intermediate	14.75"	0-5,000'	13.375"	New	68 lb. HPC-110 BT&C	1.125/1.1	1.8
2nd Inter	12.25"	0-13,000'	10.75"	New	65.7 lb. P-110 BT&C	1.125/1.1	1.8
Prod/ Liner*	9.0"	12,800'-16,750'	7.75"	New	46.1lb. Q-125 BT&C	1.125/1.1	1.8
Openhole	6.0" hole	16,750'-18,000'	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, 7.75" casing shoe may be set only slightly different than shown.

4. **Cementing Program:**

Surface – LEAD 626 sx (13.5#; 1.76 ft^3/sk); TAIL 408 (14.8#; 1.34 ft^3/sk) w/ 50 % excess; circulated to surface
1st Intermediate – LEAD 731 sx (12.7#; 1.94 ft^3/sk); TAIL 125 sx (14.8#; 1.33 ft^3/sk) 50% excess; circulated to surface
2nd Intermediate – LEAD 1369 sx (11.9#; 2.45 ft^3/sk); TAIL 173 sx (14.2#; 1.27 ft^3/sk) 30% excess; circulated to surface.
Prod Liner – 496 sx (14.2#; 1.27 ft^3/sk) 30% excess; TOC = 12,800' 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 drillout shall be 5000 psi. The NMOCD Artesia 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'-5000'	Brine Water	9.8-10.2	28-32	NC	NC	NC	10.0
5000'-13,000'	FW/Gel	8.7-9.0	28-32	NC	NC	NC	9.5-10.5
13,000'-16,750'	XCD Brine Mud	11.0-	45-48	20	10	<5	9.5-10.5
16,750'-18,000'	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. **H_2S 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 pubic 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 19.15.11 NMAC.

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. CBL (Radial, CET or equivalent) on both intermediate casing strings.
   b. Standard porosity log suite from TD to approximately 16,000'.
   c. 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.

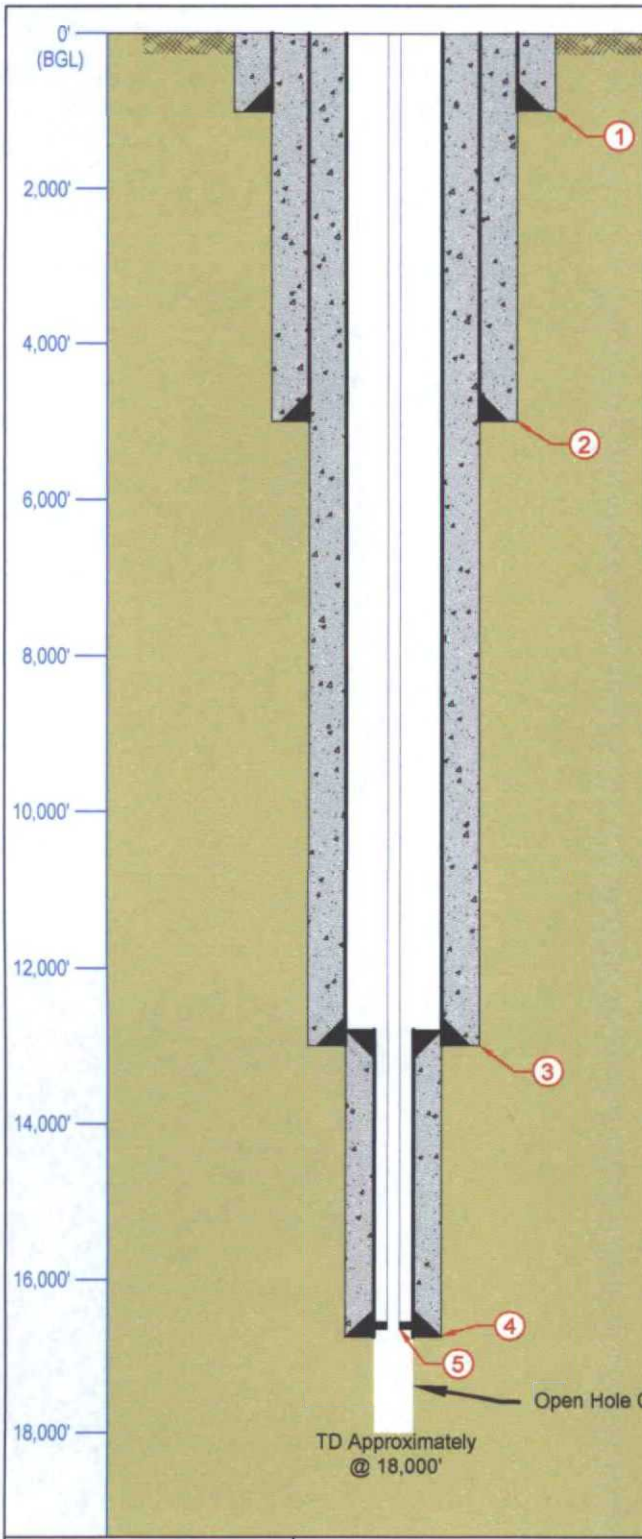
The maximum anticipated bottom-hole pressure is 9300 psi and the maximum anticipated bottom-hole temperature is 200° F.

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:

November 1, 2015.

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 20,000 bpd and average of 15,000 bpd at a maximum surface injection pressure of 3350 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.



Casing Information

Label	1	2	3	4
Type	Surface	Intermediate1	Intermediate 2	Production Liner
OD	16"	13-5/8"	10-3/4"	7-3/4"
WT	0.438"	0.605"	0.595"	0.595"
ID	15.124"	12.415"	9.560"	6.560"
Drift ID	14.936"	12.259"	9.404"	6.435"
COD	17"	14-3/8"	11-3/4"	8-1/2"
Weight	75 lb/ft	68 lb/ft	65.7 lb/ft	46.1 lb/ft
Grade	J-55, ST&C	HCP-110, BT&C	P-110, BT&C	Q-125, BT&C
Hole Size	20"	14-3/4"	12-1/4"	9"
Depth Set	1,000'	5,000'	13,000'	12,800' - 16,750'

Tubing Information

Label	5
Type	Production Tubing
OD	5-1/2"
WT	0.361"
ID	4.778"
Drift ID	4.653"
Weight	20 lb/ft
Grade	P-110, BT&C
Depth Set	16,650'

Proposed Cement Information

Label	1	2	3	4
Type	Surface	Intermediate1	Intermediate 2	Production Liner
Lead Cement	13.5 lb/gal 1.758 cf/sk	12.7 lb/gal 1.941 cf/sk	11.9 lb/gal 2.448 cf/sk	14.2 lb/gal 1.271 cf/sk
Lead Cement Volume	626 sks	731 sks	1,369 sks	496 sks
Tail Cement	14.8 lb/gal 1.341 cf/sk	14.8 lb/gal 1.332 cf/sk	14.2 lb/gal 1.267 cf/sk	None
Tail Cement Volume	418 sks	125 sks	173 sks	None
TOC	Surface	Surface	Surface	12,800'

Note: 2nd casing string to be cemented in 2 stages.
Depth of DV tool to be determined.

LONQUIST
FIELD SERVICE
AUSTIN | WICHITA
HOUSTON | CALGARY

Texas License F-8652

3345 Bee Cave Road, Suite 201
Austin, Texas 78746
Tel: 512.732.9812
Fax: 512.732.9816

OWL SWD Operating, Inc.	McCloy - Devonian SWD	
Country: USA	**State/Province:** New Mexico	**County/Parish:**
Survey/STR:	**Site:**	**Status:** To Be Drilled
API No.:	**Field:**	**Ground Elevation:**
State ID No.:	**Project No:** 1116	**Date:** 3/29/2015
Drawn: MMC	**Reviewed:** SLP	**Approved:** SLP
Rev No: 4	**Notes:**	