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

HOBBS OCD
JUL 31 2014
RECEIVED

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
Devon Energy Production Company, L.P. 333 West Sheridan Avenue Oklahoma City, OK 73102-5010	6137
	3. API Number 30-025-42054

4. Property Code	5. Property Name	6. Well No.
313509	Rattlesnake SWD	1

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
H	16	26S	34E		2260	N	150	E	LEA

Pool Name	Pool Code
SWD; Devonian-Ellenberger ~~Rattlesnake Flat; Delaware~~	98044 ~~50930~~

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
NW	SWD		STATE	3283.4
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
	21,000	Ellenburger		8/26/2014
Depth to Ground water	Distance from nearest fresh water well		Distance to nearest surface water	

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
Surf	26"	20"	94 #	750'	1730 sx	0
Int 1	17 ½"	13 3/8"	68 #	5300'	3700 sx	0
Int 2	12 ¼"	9 5/8"	47 #	12485'	1850 sx	4800'
Prod	8 ½"	7 5/8"	47.1 #	18733'	440 sx	11485'

Casing/Cement Program: Additional Comments

The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 10,000 psi WP.
OPEN HOLE – 18,733' – 21,000'
All casing is new and API approved. Casing will never be completely evacuated. The necessary mud products for weight addition and fluid loss control will be on location at all times. Visual mud monitoring equipment will be in place to detect volume changes indicating loss or gain of circulating fluid volume. If abnormal pressures are encountered, electronic/mechanical mud monitoring equipment will be installed. Cement volumes Surface 100%, 1st Intermediate 75%, 2nd Intermediate 50% and 3rd Intermediate based on at least 25% excess. Actual cement volumes will be adjusted based on fluid caliper and/or caliper log data.

OIL CONSERVATION DIVISION
CONDITION OF APPROVAL - Approval for drilling / workover **ONLY - CANNOT INJECT OR DISPOSAL** until the injection/disposal order has been approved by the OCD Santa Fe office.

AUG 19 2014

[22] **Proposed Blowout Prevention Program**

Type	Working Pressure	Test Pressure	Manufacturer
Annular	2000	2000	
Double Ram	3000	3000	
Double Ram	5000	5000	
Double Ram	10000	10000	

[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: Trina C. Couch

Printed name: Trina C. Couch

Title: Regulatory Analyst

E-mail Address: trina.couch@dvn.com

Date: 7/30/2014 | Phone: 405-228-7203

OIL CONSERVATION DIVISION

Approved By:

Title:

Approved Date: 08/19/14 | Expiration Date: 08/19/16

Conditions of Approval Attached

DRILLING PROGRAM

Devon Energy Production Company, L.P.
Rattlesnake SWD 1

1. Geologic Name of Surface Formation: Quaternary

2. Estimated Tops of Geological Markers & Depths of Anticipated FW, Oil, or Gas:

a. Fresh Water	180	FW
b. Rustler	706	Barren
c. Top of Salt	1,173	Barren
d. Castile	3,460	Barren
e. Base of Salt	5,040	Barren
f. Delaware	5,320	Oil
g. Bell Canyon	5,360	Oil
h. Cherry Canyon	6,412	Oil
i. Brushy Canyon	7,882	Oil
j. Bone Spring	9,617	Oil / Gas
k. 1st Bone Spring Sand	10,541	Oil / Gas
l. 2nd Bone Spring Lime	10,575	Oil / Gas
m. 2nd Bone Spring Sand	11,093	Oil / Gas
n. 3rd Bone Spring Lime	11,549	Oil / Gas
o. 3rd Bone Spring Sand	12,171	Oil / Gas
p. Wolfcamp	12,490	Oil / Gas
q. Pennsylvanian	14,602	Oil / Gas
r. Strawn	14,887	Oil / Gas
s. Atoka	15,391	Oil / Gas
t. Morrow	16,271	Oil / Gas
u. Barnett	16,926	Oil / Gas
v. Mississippian Lime	17,599	Oil / Gas
w. Woodford	17,884	Oil / Gas
x. Devonian	18,013	
y. Fusselman	18,899	
z. Montoya	19,396	
aa. Simpson	19,814	
ab. Ellenburger	20,356	
Total Depth	21,000	

Pressure Control Equipment:

The BOP system used to drill the 17-1/2" hole will consist of a 20" 2M Annular preventer. The BOP system will be tested as a 2M system per BLM Onshore Oil and Gas Order 2 prior to drilling out the casing shoe.

A 3M 13-5/8" BOP system (Double Ram and Annular preventer) will be installed and tested prior to drilling out the first intermediate hole section. The BOP system will be tested as a 3M system per BLM Onshore Oil and Gas Order 2 prior to drilling out the casing shoe.

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

A 10M 13-5/8" BOP system (Double Ram and Annular preventer) will be installed and tested prior to drilling out the third intermediate and open/injection hole sections. The BOP system will be tested as a 10M system per BLM Onshore Oil and Gas Order 2 prior to drilling out the 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 driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 10,000 psi WP.

Devon requests a variance to use a flexible line with flanged ends between the BOP and the choke manifold (choke line); **if an H&P rig drills this well. Otherwise no flex line is needed**. The line will be kept as straight as possible with minimal turns.

Auxiliary Well Control and Monitoring Equipment:

a. A Kelly cock will be in the drill string at all times.
b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.

3. Casing Program:

Hole Size	Hole Interval	Casing OD	Casing Interval	Weight (lb/ft)	Collar	Grade	Collapse Design Factor	Burst Design Factor	Tension Design Factor
26"	0 - 750'	20"	0 - 750'	94	BTC	J-55	1.41	5.71	20.16
17-1/2"	750-5300'	13-3/8"	0-5300'	68	BTC	HCP-110	1.09	1.25	3.16
12-1/4"	5300-12485'	9-5/8"	0-12485'	47	BTC	HCP-110	1.22	1.45	2.56
8-1/2"	12485-18733'	7-5/8"	11985-18733'	47.1	BTC	P-110	1.10	1.05	1.75
6-1/8"	18733-21000'	Open hole							

Casing Notes:

- All casing is new and API approved
- Casing will never be completely evacuated

Maximum TVD: 21000'

4. Proposed mud Circulations System:

Depth	Mud Weight	Viscosity	Fluid Loss	Type System
0 - 750'	8.3	30-34	N/C	FW
750-5300'	10.0	28-32	N/C	Brine
5300-12485'	10	28-32	N/C	FW
12485-18733'	12.2-15.5	28-32	N/C	FW
18733-21000'	8.3-8.6	28-32	N/C	FW

The necessary mud products for weight addition and fluid loss control will be on location at all times. Visual mud monitoring equipment will be in place to detect volume changes indicating loss or gain of circulating fluid volume. If abnormal pressures are encountered, electronic/mechanical mud monitoring equipment will be installed.

5. Cementing Table:

String	Number of sx	Weight lbs/gal	Water Volume gal/sx	Yield cf/sx	Stage; Lead/Tail	Slurry Description
20" Surface	1730	14.8	6.32	1.33	Tail	Class C Cement + 63.5% Fresh Water
13-3/8" 1st Intermediate	2750	12.9	9.81	1.85	Lead	(65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 71.4 % Fresh Water
	950	14.8	6.32	1.33	Tail	Class C Cement + 63.5% Fresh Water
9-5/8" 2nd Intermediate	1260	12.9	9.81	1.85	Lead	(65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake + 71.4 % Fresh Water
	590	14.4	5.75	1.24	Tail	50% Premium H / 50% PozMix + 0.2% BWOC Halad-9 + 0.2% BWOC HR-800 + 64.7% Fresh Water
7-5/8" Drilling Liner	270	12.5	10.86	1.96	Lead	(65:35) Class H Cement: Poz (Fly Ash) + 6% BWOC Bentonite + 0.25% BWOC HR-601 + 0.125 lbs/sack Poly-E-Flake + 74.1 % Fresh Water
	170	14.5	5.31	1.21	Tail	(50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.25% bwoc CFR-3 + 0.2% bwoc HR-601 + 2% bwoc Bentonite + 58.8% Fresh Water

TOC for all Strings:

Surface	@	0'
Intermediate I	@	0'
Intermediate II	@	4800'
Production	@	11485'

Notes:

- Cement volumes Surface 100%, 1st Intermediate 75%, 2nd Intermediate 50% and 3rd Intermediate based on at least 25% excess.
- Actual cement volumes will be adjusted based on fluid caliper and/or caliper log data