Form 3160-3
(June 2015)

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone

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

8. Lease Name and Well No.

[325133]

2. Name of Operator

[6137]

9. API Well No. **30-025-48538**

3a. Address

3b. Phone No. *(include area code)*

10. Field and Pool, or Exploratory **[17644]**

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface

At proposed prod. zone

11. Sec., T. R. M. or Blk. and Survey or Area

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

12. County or Parish

13. State

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

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 requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
Title		
Approved by *(Signature)*	Name *(Printed/Typed)*	Date
Title	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.

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.

GCP Rec 03/09/2021

KZ
03/10/2021

SL

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 02/28/2021

Grumpy Cat 15-22 Fed Com 522H

1. Geologic Formations

TVD of target	9400	Pilot hole depth	N/A
MD at TD:	19517	Deepest expected fresh water	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone?	Hazards*
Rustler	1208		
Salt	1548		
Base of Salt	4536		
Delaware	4830		
Bone Spring 1st	9840		
Bone Spring 2nd	10440		
Bone Spring 3rd	11715		
Wolfcamp	12100		

*H2S, water flows, loss of circulation, abnormal pressures, etc.

Grumpy Cat 15-22 Fed Com 522H

2. Casing Program

Hole Size	Csg. Size	Wt (PPF)	Grade	Conn	Casing Interval		Casing Interval	
					From (MD)	To (MD)	From (TVD)	To (TVD)
17 1/2	13 3/8	48	H40	BTC	0	1233	0	1233
12 1/4	9 5/8	40	J-55	BTC	0	4805	0	4805
8 3/4	5 1/2	17	P110	BTC	0	19517	0	9400

• All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 IILB.1.h Must have table for continengcy casing.

3. Cementing Program (3-String Primary Design)

Casing	# Sks	TOC	Wt. (lb/gal)	Yld (ft3/sack)	Slurry Description
Surface	931	Surf	13.2	1.4	Lead: Class C Cement + additives
Int 1	524	Surf	9.0	3.3	Lead: Class C Cement + additives
	154	500' above shoe	13.2	1.4	Tail: Class H / C + additives
Int 1 Intermediate Squeeze	As Needed	Surf	9.0	3.3	Squeeze Lead: Class C Cement + additives
	524	Surf	9.0	3.3	Lead: Class C Cement + additives
	154	500' above shoe	13.2	1.4	Tail: Class H / C + additives
Production	387	500' tieback	9.0	3.3	Lead: Class H /C + additives
	2060	KOP	13.2	1.4	Tail: Class H / C + additives

Casing String	% Excess
Surface	50%
Intermediate	30%
Production	10%

Grumpy Cat 15-22 Fed Com 522H

4. Pressure Control Equipment (Three String Design)

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
Int 1	13-58"	5M	Annular	X	50% of rated working pressure
			Blind Ram	X	5M
			Pipe Ram		
			Double Ram	X	
			Other*		
Production	13-5/8"	5M	Annular	X	50% of rated working pressure
			Blind Ram	X	5M
			Pipe Ram		
			Double Ram	X	
			Other*		
			Annular (5M)		
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other*		

5. Mud Program (Three String Design)

Section	Type	Weight (ppg)
Surface	FW Gel	8.5-9
Intermediate	Brine	10-10.5
Production	WBM	8.5-9

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing	
X	Will run GR/CNL from TD to surface (horizontal well - vertical portion of hole). Stated logs run will be in the Completion Report and sbumitted to the BLM.
	No logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain.
	Coring? If yes, explain.

Additional logs planned		Interval
	Resistivity	
	Density	
X	CBL	Production casing
X	Mud log	KOP to TD
	PEX	

7. Drilling Conditions

Condition	Specfiy what type and where?
BH pressure at deepest TVD	4399
Abnormal temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

Hydrogren Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered measured values and formations will be provided to the BLM.	
N	H2S is present
Y	H2S plan attached.

8. Other facets of operation

Is this a walking operation? Potentially

1 If operator elects, drilling rig will batch drill the surface holes and run/cement surface casing; walking the rig to next wells on the pad.
2 The drilling rig will then batch drill the intermediate sections and run/cement intermediate casing; the wellbore will be isolated with a blind flange and pressure gauge installed for monitoring the well before walking to the next well.
3 The drilling rig will then batch drill the production hole sections on the wells with OBM, run/cement production casing, and install TA caps or tubing heads for completions.

NOTE: During batch operations the drilling rig will be moved from well to well however, it will not be removed from the pad until all wells have production casing run/cemented.

Will be pre-setting casing? Potentially

1 Spudder rig will move in and batch drill surface hole.
    a. Rig will utilize fresh water based mud to drill surface hole to TD. Solids control will be handled entirely on a closed loop basis.
2 After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
3 The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
4 A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with a pressure gauge installed on the wellhead.
5 Spudder rig operations is expected to take 4-5 days per well on a multi-well pad.
6 The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
7 Drilling operations will be performed with drilling rig. At that time an approved BOP stack will be nippled up and tested on the wellhead before drilling operations commences on each well.
    a. The NMOCD will be contacted / notified 24 hours before the drilling rig moves back on to the pad with the pre-set surface casing.

Attachments

X Directional Plan
_____ Other, describe

Devon Energy
APD VARIANCE DATA

OPERATOR NAME: Devon Energy

1. SUMMARY OF Variance:

Devon Energy respectfully requests approval for the following additions to the drilling plan:

1. Potential utilization of a spudder rig to pre-set surface casing.

2. Description of Operations

1. A spudder rig contractor may move in their rig to drill the surface hole section and pre-set surface casing on this well.
    a. After drilling the surface hole section, the rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
    b. Rig will utilize fresh water based mud to drill surface hole to TD.
2. The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
3. A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wingvalves.
    a. A means for intervention will be maintained while the drilling rig is not over the well.
4. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
5. Drilling operation will be performed with the big rig. At that time an approved BOP stack will be nippled up and tested on the wellhead before drilling operations commences on each well.
    a. The BLM will be contacted / notified 24 hours before the big rig moves back on to the pad with the pre-set surface casing.
6. Devon Energy will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
7. Once the rig is removed, Devon Energy will secure the wellhead area by placing a guard rail around the cellar area.

WCDSC Permian NM

Lea County (NAD83 New Mexico East)
Sec 15-T23S-R32E
Grumpy Cat 15-22 Fed Com 522H

Wellbore #1

Plan: Permit Plan 1

Standard Planning Report - Geographic

25 August, 2020

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Grumpy Cat 15-22 Fed Com 522H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3724.40ft
Project:	Lea County (NAD83 New Mexico East)	**MD Reference:**	RKB @ 3724.40ft
Site:	Sec 15-T23S-R32E	**North Reference:**	Grid
Well:	Grumpy Cat 15-22 Fed Com 522H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Project Lea County (NAD83 New Mexico East)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Sec 15-T23S-R32E

Site Position:		**Northing:**	477,833.18 usft	**Latitude:**	32.311899
From:	Map	**Easting:**	745,935.72 usft	**Longitude:**	-103.671069
Position Uncertainty:	0.00 ft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.35 °

Well Grumpy Cat 15-22 Fed Com 522H

Well Position	**+N/-S**	0.00 ft	**Northing:**	477,374.78 usft	**Latitude:**	32.310608
	+E/-W	0.00 ft	**Easting:**	747,753.24 usft	**Longitude:**	-103.665195
Position Uncertainty		0.50 ft	**Wellhead Elevation:**		**Ground Level:**	3,699.40 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/25/2020	6.66	60.09	47,649.50544526

Design Permit Plan 1

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	180.55

Plan Survey Tool Program **Date** 8/25/2020

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	19,517.50	Permit Plan 1 (Wellbore #1)	MWD+HDGM OWSG MWD + HDGM	

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,618.06	6.18	329.04	5,616.86	28.56	-17.13	1.00	1.00	0.00	329.04	
8,081.27	6.18	329.04	8,065.76	255.96	-153.58	0.00	0.00	0.00	0.00	
8,493.31	0.00	0.00	8,477.00	275.00	-165.00	1.50	-1.50	0.00	180.00	
8,843.35	0.00	0.00	8,827.04	275.00	-165.00	0.00	0.00	0.00	0.00	
9,743.36	90.00	179.62	9,400.00	-297.95	-161.19	10.00	10.00	0.00	179.62	PBHL - Grumpy Cat 1
19,517.50	90.00	179.62	9,400.00	-10,071.87	-96.24	0.00	0.00	0.00	0.00	PBHL - Grumpy Cat 1

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Project:	Lea County (NAD83 New Mexico East)	**MD Reference:**	RKB @ 3724.40ft
Site:	Sec 15-T23S-R32E	**North Reference:**	Grid
Well:	Grumpy Cat 15-22 Fed Com 522H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
100.00	0.00	0.00	100.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
200.00	0.00	0.00	200.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
300.00	0.00	0.00	300.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
400.00	0.00	0.00	400.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
500.00	0.00	0.00	500.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
600.00	0.00	0.00	600.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
700.00	0.00	0.00	700.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
800.00	0.00	0.00	800.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
900.00	0.00	0.00	900.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
1,000.00	0.00	0.00	1,000.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
1,100.00	0.00	0.00	1,100.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
1,200.00	0.00	0.00	1,200.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
1,300.00	0.00	0.00	1,300.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
1,400.00	0.00	0.00	1,400.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
1,500.00	0.00	0.00	1,500.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
1,600.00	0.00	0.00	1,600.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
1,700.00	0.00	0.00	1,700.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
1,800.00	0.00	0.00	1,800.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
1,900.00	0.00	0.00	1,900.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
2,000.00	0.00	0.00	2,000.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
2,100.00	0.00	0.00	2,100.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
2,200.00	0.00	0.00	2,200.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
2,300.00	0.00	0.00	2,300.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
2,400.00	0.00	0.00	2,400.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
2,500.00	0.00	0.00	2,500.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
2,600.00	0.00	0.00	2,600.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
2,700.00	0.00	0.00	2,700.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
2,800.00	0.00	0.00	2,800.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
2,900.00	0.00	0.00	2,900.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
3,000.00	0.00	0.00	3,000.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
3,100.00	0.00	0.00	3,100.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
3,200.00	0.00	0.00	3,200.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
3,300.00	0.00	0.00	3,300.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
3,400.00	0.00	0.00	3,400.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
3,500.00	0.00	0.00	3,500.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
3,600.00	0.00	0.00	3,600.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
3,700.00	0.00	0.00	3,700.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
3,800.00	0.00	0.00	3,800.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
3,900.00	0.00	0.00	3,900.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
4,000.00	0.00	0.00	4,000.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
4,100.00	0.00	0.00	4,100.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
4,200.00	0.00	0.00	4,200.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
4,300.00	0.00	0.00	4,300.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
4,400.00	0.00	0.00	4,400.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
4,500.00	0.00	0.00	4,500.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
4,600.00	0.00	0.00	4,600.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
4,700.00	0.00	0.00	4,700.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
4,800.00	0.00	0.00	4,800.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
4,900.00	0.00	0.00	4,900.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
5,000.00	0.00	0.00	5,000.00	0.00	0.00	477,374.78	747,753.24	32.310608	-103.665195
5,100.00	1.00	329.04	5,100.00	0.75	-0.45	477,375.53	747,752.79	32.310610	-103.665196
5,200.00	2.00	329.04	5,199.96	2.99	-1.80	477,377.77	747,751.44	32.310616	-103.665201
5,300.00	3.00	329.04	5,299.86	6.73	-4.04	477,381.51	747,749.20	32.310626	-103.665208
5,400.00	4.00	329.04	5,399.68	11.97	-7.18	477,386.75	747,746.06	32.310641	-103.665218

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Grumpy Cat 15-22 Fed Com 522H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3724.40ft
Project:	Lea County (NAD83 New Mexico East)	**MD Reference:**	RKB @ 3724.40ft
Site:	Sec 15-T23S-R32E	**North Reference:**	Grid
Well:	Grumpy Cat 15-22 Fed Com 522H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,500.00	5.00	329.04	5,499.37	18.70	-11.22	477,393.48	747,742.02	32.310659	-103.665231
5,600.00	6.00	329.04	5,598.90	26.91	-16.15	477,401.69	747,737.09	32.310682	-103.665247
5,618.06	6.18	329.04	5,616.86	28.56	-17.13	477,403.34	747,736.10	32.310687	-103.665250
5,700.00	6.18	329.04	5,698.33	36.12	-21.67	477,410.90	747,731.56	32.310707	-103.665264
5,800.00	6.18	329.04	5,797.74	45.35	-27.21	477,420.13	747,726.02	32.310733	-103.665282
5,900.00	6.18	329.04	5,897.16	54.59	-32.75	477,429.37	747,720.49	32.310758	-103.665300
6,000.00	6.18	329.04	5,996.58	63.82	-38.29	477,438.60	747,714.95	32.310784	-103.665318
6,100.00	6.18	329.04	6,096.00	73.05	-43.83	477,447.83	747,709.41	32.310809	-103.665335
6,200.00	6.18	329.04	6,195.42	82.28	-49.37	477,457.06	747,703.87	32.310835	-103.665353
6,300.00	6.18	329.04	6,294.84	91.51	-54.91	477,466.29	747,698.33	32.310860	-103.665371
6,400.00	6.18	329.04	6,394.26	100.75	-60.45	477,475.53	747,692.79	32.310886	-103.665389
6,500.00	6.18	329.04	6,493.68	109.98	-65.99	477,484.76	747,687.25	32.310911	-103.665406
6,600.00	6.18	329.04	6,593.09	119.21	-71.53	477,493.99	747,681.71	32.310937	-103.665424
6,700.00	6.18	329.04	6,692.51	128.44	-77.07	477,503.22	747,676.17	32.310962	-103.665442
6,800.00	6.18	329.04	6,791.93	137.67	-82.60	477,512.45	747,670.63	32.310988	-103.665460
6,900.00	6.18	329.04	6,891.35	146.91	-88.14	477,521.69	747,665.09	32.311013	-103.665477
7,000.00	6.18	329.04	6,990.77	156.14	-93.68	477,530.92	747,659.55	32.311039	-103.665495
7,100.00	6.18	329.04	7,090.19	165.37	-99.22	477,540.15	747,654.01	32.311064	-103.665513
7,200.00	6.18	329.04	7,189.61	174.60	-104.76	477,549.38	747,648.48	32.311089	-103.665531
7,300.00	6.18	329.04	7,289.03	183.83	-110.30	477,558.61	747,642.94	32.311115	-103.665548
7,400.00	6.18	329.04	7,388.44	193.07	-115.84	477,567.85	747,637.40	32.311140	-103.665566
7,500.00	6.18	329.04	7,487.86	202.30	-121.38	477,577.08	747,631.86	32.311166	-103.665584
7,600.00	6.18	329.04	7,587.28	211.53	-126.92	477,586.31	747,626.32	32.311191	-103.665602
7,700.00	6.18	329.04	7,686.70	220.76	-132.46	477,595.54	747,620.78	32.311217	-103.665619
7,800.00	6.18	329.04	7,786.12	229.99	-138.00	477,604.77	747,615.24	32.311242	-103.665637
7,900.00	6.18	329.04	7,885.54	239.23	-143.54	477,614.01	747,609.70	32.311268	-103.665655
8,000.00	6.18	329.04	7,984.96	248.46	-149.08	477,623.24	747,604.16	32.311293	-103.665673
8,081.27	6.18	329.04	8,065.76	255.96	-153.58	477,630.74	747,599.66	32.311314	-103.665687
8,100.00	5.90	329.04	8,084.38	257.65	-154.59	477,632.43	747,598.65	32.311319	-103.665690
8,200.00	4.40	329.04	8,183.97	265.35	-159.21	477,640.13	747,594.03	32.311340	-103.665705
8,300.00	2.90	329.04	8,283.77	270.81	-162.48	477,645.59	747,590.75	32.311355	-103.665715
8,400.00	1.40	329.04	8,383.70	274.02	-164.41	477,648.80	747,588.82	32.311364	-103.665722
8,493.31	0.00	0.00	8,477.00	275.00	-165.00	477,649.78	747,588.24	32.311366	-103.665724
8,500.00	0.00	0.00	8,483.69	275.00	-165.00	477,649.78	747,588.24	32.311366	-103.665724
8,600.00	0.00	0.00	8,583.69	275.00	-165.00	477,649.78	747,588.24	32.311366	-103.665724
8,700.00	0.00	0.00	8,683.69	275.00	-165.00	477,649.78	747,588.24	32.311366	-103.665724
8,800.00	0.00	0.00	8,783.69	275.00	-165.00	477,649.78	747,588.24	32.311366	-103.665724
8,843.00	0.00	0.00	8,826.69	275.00	-165.00	477,649.78	747,588.24	32.311366	-103.665724
KOP & FTP @ 8843' MD, 200' FNL, 1650' FWL									
8,843.35	0.00	0.00	8,827.04	275.00	-165.00	477,649.78	747,588.24	32.311366	-103.665724
8,900.00	5.66	179.62	8,883.59	272.20	-164.98	477,646.98	747,588.26	32.311359	-103.665724
9,000.00	15.66	179.62	8,981.74	253.72	-164.86	477,628.50	747,588.38	32.311308	-103.665724
9,100.00	25.66	179.62	9,075.19	218.48	-164.62	477,593.26	747,588.61	32.311211	-103.665723
9,200.00	35.66	179.62	9,161.10	167.54	-164.29	477,542.32	747,588.95	32.311071	-103.665723
9,300.00	45.66	179.62	9,236.85	102.46	-163.85	477,477.24	747,589.38	32.310892	-103.665723
9,400.00	55.66	179.62	9,300.16	25.22	-163.34	477,400.00	747,589.90	32.310680	-103.665723
9,500.00	65.66	179.62	9,349.09	-61.85	-162.76	477,312.93	747,590.48	32.310441	-103.665723
9,600.00	75.66	179.62	9,382.16	-156.08	-162.14	477,218.70	747,591.10	32.310182	-103.665723
9,700.00	85.66	179.62	9,398.36	-254.63	-161.48	477,120.15	747,591.76	32.309911	-103.665723
9,743.36	90.00	179.62	9,400.00	-297.95	-161.19	477,076.83	747,592.04	32.309792	-103.665723
9,800.00	90.00	179.62	9,400.00	-354.59	-160.82	477,020.19	747,592.42	32.309636	-103.665723
9,900.00	90.00	179.62	9,400.00	-454.59	-160.15	476,920.19	747,593.09	32.309361	-103.665723
10,000.00	90.00	179.62	9,400.00	-554.58	-159.49	476,820.20	747,593.75	32.309086	-103.665722
10,100.00	90.00	179.62	9,400.00	-654.58	-158.82	476,720.20	747,594.41	32.308811	-103.665722

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Grumpy Cat 15-22 Fed Com 522H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3724.40ft
Project:	Lea County (NAD83 New Mexico East)	**MD Reference:**	RKB @ 3724.40ft
Site:	Sec 15-T23S-R32E	**North Reference:**	Grid
Well:	Grumpy Cat 15-22 Fed Com 522H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,200.00	90.00	179.62	9,400.00	-754.58	-158.16	476,620.20	747,595.08	32.308536	-103.665722
10,300.00	90.00	179.62	9,400.00	-854.58	-157.49	476,520.20	747,595.74	32.308262	-103.665722
10,400.00	90.00	179.62	9,400.00	-954.58	-156.83	476,420.21	747,596.41	32.307987	-103.665722
10,500.00	90.00	179.62	9,400.00	-1,054.57	-156.16	476,320.21	747,597.07	32.307712	-103.665722
10,600.00	90.00	179.62	9,400.00	-1,154.57	-155.50	476,220.21	747,597.74	32.307437	-103.665722
10,700.00	90.00	179.62	9,400.00	-1,254.57	-154.84	476,120.21	747,598.40	32.307162	-103.665721
10,800.00	90.00	179.62	9,400.00	-1,354.57	-154.17	476,020.22	747,599.07	32.306887	-103.665721
10,900.00	90.00	179.62	9,400.00	-1,454.56	-153.51	475,920.22	747,599.73	32.306612	-103.665721
11,000.00	90.00	179.62	9,400.00	-1,554.56	-152.84	475,820.22	747,600.40	32.306337	-103.665721
11,100.00	90.00	179.62	9,400.00	-1,654.56	-152.18	475,720.22	747,601.06	32.306063	-103.665721
11,200.00	90.00	179.62	9,400.00	-1,754.56	-151.51	475,620.23	747,601.72	32.305788	-103.665721
11,300.00	90.00	179.62	9,400.00	-1,854.56	-150.85	475,520.23	747,602.39	32.305513	-103.665721
11,400.00	90.00	179.62	9,400.00	-1,954.55	-150.18	475,420.23	747,603.05	32.305238	-103.665721
11,500.00	90.00	179.62	9,400.00	-2,054.55	-149.52	475,320.23	747,603.72	32.304963	-103.665720
11,600.00	90.00	179.62	9,400.00	-2,154.55	-148.85	475,220.24	747,604.38	32.304688	-103.665720
11,700.00	90.00	179.62	9,400.00	-2,254.55	-148.19	475,120.24	747,605.05	32.304413	-103.665720
11,800.00	90.00	179.62	9,400.00	-2,354.54	-147.53	475,020.24	747,605.71	32.304138	-103.665720
11,900.00	90.00	179.62	9,400.00	-2,454.54	-146.86	474,920.24	747,606.38	32.303864	-103.665720
12,000.00	90.00	179.62	9,400.00	-2,554.54	-146.20	474,820.25	747,607.04	32.303589	-103.665720
12,100.00	90.00	179.62	9,400.00	-2,654.54	-145.53	474,720.25	747,607.71	32.303314	-103.665720
12,200.00	90.00	179.62	9,400.00	-2,754.54	-144.87	474,620.25	747,608.37	32.303039	-103.665719
12,300.00	90.00	179.62	9,400.00	-2,854.53	-144.20	474,520.25	747,609.03	32.302764	-103.665719
12,400.00	90.00	179.62	9,400.00	-2,954.53	-143.54	474,420.25	747,609.70	32.302489	-103.665719
12,500.00	90.00	179.62	9,400.00	-3,054.53	-142.87	474,320.26	747,610.36	32.302214	-103.665719
12,600.00	90.00	179.62	9,400.00	-3,154.53	-142.21	474,220.26	747,611.03	32.301939	-103.665719
12,700.00	90.00	179.62	9,400.00	-3,254.53	-141.54	474,120.26	747,611.69	32.301665	-103.665719
12,800.00	90.00	179.62	9,400.00	-3,354.52	-140.88	474,020.26	747,612.36	32.301390	-103.665719
12,900.00	90.00	179.62	9,400.00	-3,454.52	-140.22	473,920.27	747,613.02	32.301115	-103.665719
13,000.00	90.00	179.62	9,400.00	-3,554.52	-139.55	473,820.27	747,613.69	32.300840	-103.665718
13,100.00	90.00	179.62	9,400.00	-3,654.52	-138.89	473,720.27	747,614.35	32.300565	-103.665718
13,200.00	90.00	179.62	9,400.00	-3,754.51	-138.22	473,620.27	747,615.01	32.300290	-103.665718
13,300.00	90.00	179.62	9,400.00	-3,854.51	-137.56	473,520.28	747,615.68	32.300015	-103.665718
13,400.00	90.00	179.62	9,400.00	-3,954.51	-136.89	473,420.28	747,616.34	32.299740	-103.665718
13,500.00	90.00	179.62	9,400.00	-4,054.51	-136.23	473,320.28	747,617.01	32.299466	-103.665718
13,600.00	90.00	179.62	9,400.00	-4,154.51	-135.56	473,220.28	747,617.67	32.299191	-103.665718
13,700.00	90.00	179.62	9,400.00	-4,254.50	-134.90	473,120.29	747,618.34	32.298916	-103.665717
13,800.00	90.00	179.62	9,400.00	-4,354.50	-134.23	473,020.29	747,619.00	32.298641	-103.665717
13,900.00	90.00	179.62	9,400.00	-4,454.50	-133.57	472,920.29	747,619.67	32.298366	-103.665717
14,000.00	90.00	179.62	9,400.00	-4,554.50	-132.91	472,820.29	747,620.33	32.298091	-103.665717
14,100.00	90.00	179.62	9,400.00	-4,654.49	-132.24	472,720.30	747,621.00	32.297816	-103.665717
14,200.00	90.00	179.62	9,400.00	-4,754.49	-131.58	472,620.30	747,621.66	32.297541	-103.665717
14,253.00	90.00	179.62	9,400.00	-4,807.49	-131.22	472,567.30	747,622.01	32.297396	-103.665717
Cross section @ 14253' MD, 0' FNL, 1650' FWL									
14,300.00	90.00	179.62	9,400.00	-4,854.49	-130.91	472,520.30	747,622.32	32.297267	-103.665717
14,400.00	90.00	179.62	9,400.00	-4,954.49	-130.25	472,420.30	747,622.99	32.296992	-103.665716
14,500.00	90.00	179.62	9,400.00	-5,054.49	-129.58	472,320.31	747,623.65	32.296717	-103.665716
14,600.00	90.00	179.62	9,400.00	-5,154.48	-128.92	472,220.31	747,624.32	32.296442	-103.665716
14,700.00	90.00	179.62	9,400.00	-5,254.48	-128.25	472,120.31	747,624.98	32.296167	-103.665716
14,800.00	90.00	179.62	9,400.00	-5,354.48	-127.59	472,020.31	747,625.65	32.295892	-103.665716
14,900.00	90.00	179.62	9,400.00	-5,454.48	-126.92	471,920.32	747,626.31	32.295617	-103.665716
15,000.00	90.00	179.62	9,400.00	-5,554.47	-126.26	471,820.32	747,626.98	32.295342	-103.665716
15,100.00	90.00	179.62	9,400.00	-5,654.47	-125.60	471,720.32	747,627.64	32.295068	-103.665716
15,200.00	90.00	179.62	9,400.00	-5,754.47	-124.93	471,620.32	747,628.31	32.294793	-103.665715
15,300.00	90.00	179.62	9,400.00	-5,854.47	-124.27	471,520.32	747,628.97	32.294518	-103.665715

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Grumpy Cat 15-22 Fed Com 522H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3724.40ft
Project:	Lea County (NAD83 New Mexico East)	**MD Reference:**	RKB @ 3724.40ft
Site:	Sec 15-T23S-R32E	**North Reference:**	Grid
Well:	Grumpy Cat 15-22 Fed Com 522H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,400.00	90.00	179.62	9,400.00	-5,954.47	-123.60	471,420.33	747,629.63	32.294243	-103.665715
15,500.00	90.00	179.62	9,400.00	-6,054.46	-122.94	471,320.33	747,630.30	32.293968	-103.665715
15,600.00	90.00	179.62	9,400.00	-6,154.46	-122.27	471,220.33	747,630.96	32.293693	-103.665715
15,700.00	90.00	179.62	9,400.00	-6,254.46	-121.61	471,120.33	747,631.63	32.293418	-103.665715
15,800.00	90.00	179.62	9,400.00	-6,354.46	-120.94	471,020.34	747,632.29	32.293143	-103.665715
15,900.00	90.00	179.62	9,400.00	-6,454.45	-120.28	470,920.34	747,632.96	32.292869	-103.665714
16,000.00	90.00	179.62	9,400.00	-6,554.45	-119.62	470,820.34	747,633.62	32.292594	-103.665714
16,100.00	90.00	179.62	9,400.00	-6,654.45	-118.95	470,720.34	747,634.29	32.292319	-103.665714
16,200.00	90.00	179.62	9,400.00	-6,754.45	-118.29	470,620.35	747,634.95	32.292044	-103.665714
16,300.00	90.00	179.62	9,400.00	-6,854.45	-117.62	470,520.35	747,635.62	32.291769	-103.665714
16,400.00	90.00	179.62	9,400.00	-6,954.44	-116.96	470,420.35	747,636.28	32.291494	-103.665714
16,500.00	90.00	179.62	9,400.00	-7,054.44	-116.29	470,320.35	747,636.94	32.291219	-103.665714
16,600.00	90.00	179.62	9,400.00	-7,154.44	-115.63	470,220.36	747,637.61	32.290944	-103.665713
16,700.00	90.00	179.62	9,400.00	-7,254.44	-114.96	470,120.36	747,638.27	32.290670	-103.665713
16,800.00	90.00	179.62	9,400.00	-7,354.43	-114.30	470,020.36	747,638.94	32.290395	-103.665713
16,900.00	90.00	179.62	9,400.00	-7,454.43	-113.63	469,920.36	747,639.60	32.290120	-103.665713
17,000.00	90.00	179.62	9,400.00	-7,554.43	-112.97	469,820.37	747,640.27	32.289845	-103.665713
17,100.00	90.00	179.62	9,400.00	-7,654.43	-112.31	469,720.37	747,640.93	32.289570	-103.665713
17,200.00	90.00	179.62	9,400.00	-7,754.43	-111.64	469,620.37	747,641.60	32.289295	-103.665713
17,300.00	90.00	179.62	9,400.00	-7,854.42	-110.98	469,520.37	747,642.26	32.289020	-103.665713
17,400.00	90.00	179.62	9,400.00	-7,954.42	-110.31	469,420.38	747,642.93	32.288745	-103.665712
17,500.00	90.00	179.62	9,400.00	-8,054.42	-109.65	469,320.38	747,643.59	32.288471	-103.665712
17,600.00	90.00	179.62	9,400.00	-8,154.42	-108.98	469,220.38	747,644.25	32.288196	-103.665712
17,700.00	90.00	179.62	9,400.00	-8,254.41	-108.32	469,120.38	747,644.92	32.287921	-103.665712
17,800.00	90.00	179.62	9,400.00	-8,354.41	-107.65	469,020.38	747,645.58	32.287646	-103.665712
17,900.00	90.00	179.62	9,400.00	-8,454.41	-106.99	468,920.39	747,646.25	32.287371	-103.665712
18,000.00	90.00	179.62	9,400.00	-8,554.41	-106.32	468,820.39	747,646.91	32.287096	-103.665712
18,100.00	90.00	179.62	9,400.00	-8,654.41	-105.66	468,720.39	747,647.58	32.286821	-103.665711
18,200.00	90.00	179.62	9,400.00	-8,754.40	-105.00	468,620.39	747,648.24	32.286547	-103.665711
18,300.00	90.00	179.62	9,400.00	-8,854.40	-104.33	468,520.40	747,648.91	32.286272	-103.665711
18,400.00	90.00	179.62	9,400.00	-8,954.40	-103.67	468,420.40	747,649.57	32.285997	-103.665711
18,500.00	90.00	179.62	9,400.00	-9,054.40	-103.00	468,320.40	747,650.24	32.285722	-103.665711
18,600.00	90.00	179.62	9,400.00	-9,154.39	-102.34	468,220.40	747,650.90	32.285447	-103.665711
18,700.00	90.00	179.62	9,400.00	-9,254.39	-101.67	468,120.41	747,651.56	32.285172	-103.665711
18,800.00	90.00	179.62	9,400.00	-9,354.39	-101.01	468,020.41	747,652.23	32.284897	-103.665710
18,900.00	90.00	179.62	9,400.00	-9,454.39	-100.34	467,920.41	747,652.89	32.284622	-103.665710
19,000.00	90.00	179.62	9,400.00	-9,554.39	-99.68	467,820.41	747,653.56	32.284348	-103.665710
19,100.00	90.00	179.62	9,400.00	-9,654.38	-99.01	467,720.42	747,654.22	32.284073	-103.665710
19,200.00	90.00	179.62	9,400.00	-9,754.38	-98.35	467,620.42	747,654.89	32.283798	-103.665710
19,300.00	90.00	179.62	9,400.00	-9,854.38	-97.69	467,520.42	747,655.55	32.283523	-103.665710
19,400.00	90.00	179.62	9,400.00	-9,954.38	-97.02	467,420.42	747,656.22	32.283248	-103.665710
19,437.00	90.00	179.62	9,400.00	-9,991.38	-96.78	467,383.42	747,656.46	32.283146	-103.665710
LTP @ 19437' MD, 100' FSL, 1650' FWL									
19,500.00	90.00	179.62	9,400.00	-10,054.38	-96.36	467,320.43	747,656.88	32.282973	-103.665710
19,517.49	90.00	179.62	9,400.00	-10,071.86	-96.24	467,302.94	747,657.00	32.282925	-103.665710
PBHL; 20' FSL, 1650' FWL									
19,517.50	90.00	179.62	9,400.00	-10,071.87	-96.24	467,302.93	747,657.00	32.282925	-103.665710

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Grumpy Cat 15-22 Fed Com 522H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3724.40ft
Project:	Lea County (NAD83 New Mexico East)	**MD Reference:**	RKB @ 3724.40ft
Site:	Sec 15-T23S-R32E	**North Reference:**	Grid
Well:	Grumpy Cat 15-22 Fed Com 522H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL - Grumpy Cat 15-2	0.00	0.00	0.00	-10,071.87	-96.24	467,302.93	747,657.00	32.282925	-103.665710
- plan misses target center by 9400.00ft at 19517.50ft MD (9400.00 TVD, -10071.87 N, -96.24 E)									
- Point									

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
8,843.00	8,826.69	275.00	-165.00	KOP & FTP @ 8843' MD, 200' FNL, 1650' FWL
14,253.00	9,400.00	-4,807.49	-131.22	Cross section @ 14253' MD, 0' FNL, 1650' FWL
19,437.00	9,400.00	-9,991.38	-96.78	LTP @ 19437' MD, 100' FSL, 1650' FWL
19,517.49	9,400.00	-10,071.86	-96.24	PBHL; 20' FSL, 1650' FWL

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Devon Energy Production Company LP**
LEASE NO.:	**NMNM095642**
LOCATION:	Section 15, T.23 S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	Grumpy Cat 15-22 Fed Com 121H
SURFACE HOLE FOOTAGE:	476'/N & 994'/W
BOTTOM HOLE FOOTAGE	20'/S & 660'/W

WELL NAME & NO.:	Grumpy Cat 15-22 Fed Com 122H
SURFACE HOLE FOOTAGE:	475'/N & 1845'/W
BOTTOM HOLE FOOTAGE	20'/S & 1980'/W

WELL NAME & NO.:	Grumpy Cat 15-22 Fed Com 521H
SURFACE HOLE FOOTAGE:	476'/N & 964'/W
BOTTOM HOLE FOOTAGE	20'/S & 330'/W

WELL NAME & NO.:	Grumpy Cat 15-22 Fed Com 522H
SURFACE HOLE FOOTAGE:	475'/N & 1815'/W
BOTTOM HOLE FOOTAGE	20'/S & 1650'/W

WELL NAME & NO.:	Grumpy Cat 15-22 Fed Com 531H
SURFACE HOLE FOOTAGE:	476'/N & 1024'/W
BOTTOM HOLE FOOTAGE	20'/S & 990'/W

WELL NAME & NO.:	Grumpy Cat 15-22 Fed Com 532H
SURFACE HOLE FOOTAGE:	475'/N & 1875'/W
BOTTOM HOLE FOOTAGE	20'/S & 2310'/W

COA

H2S	☉ Yes	○ No	
Potash	☉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	☉ Low	○ Medium	○ High
Cave/Karst Potential	○ Critical		
Variance	○ None	☉ Flex Hose	○ Other
Wellhead	○ Conventional	☉ Multibowl	○ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☑ Fluid Filled	☑ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit

Approval Date: 02/28/2021

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Diamondtail and Sand Dunes pools of the Delaware Mountain Group**. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1291 feet** (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. 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.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
    c. 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.
    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

    Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing shall be set at approximately **4805 feet** is:

    - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Cement excess is less than 25%, more cement might be required.**

Operator has proposed to pump down 13-3/8" X 9-5/8" annulus. Operator must run a CBL from TD of the 9-5/8" casing to surface. Submit results to BLM.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

    - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification. **Cement excess is less than 25%, more cement might be required.**

 Approval Date: 02/28/2021

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'

2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
    e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL 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

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

1. 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.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. 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 are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) 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.

Approval Date: 02/28/2021

A. CASING

1. 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.

2. Wait on cement (WOC) for Potash Areas: 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 for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. 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. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. 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.

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

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. 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.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

 Approval Date: 02/28/2021

1. 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 RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher 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.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
    e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

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

    a. 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).

b. In potash areas, 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. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

c. 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).

d. 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.

e. The results of the test shall be reported to the appropriate BLM office.

f. 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.

g. 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.

h. 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.

C. 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.

D. 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.

Devon Energy Center
333 West Sheridan Avenue
Oklahoma City, Oklahoma 73102-5015

Hydrogen Sulfide (H_2S) Contingency Plan

For

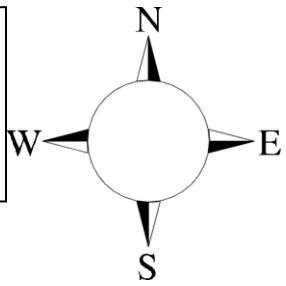
Grumpy Cat 15-22 Fed Com 522H

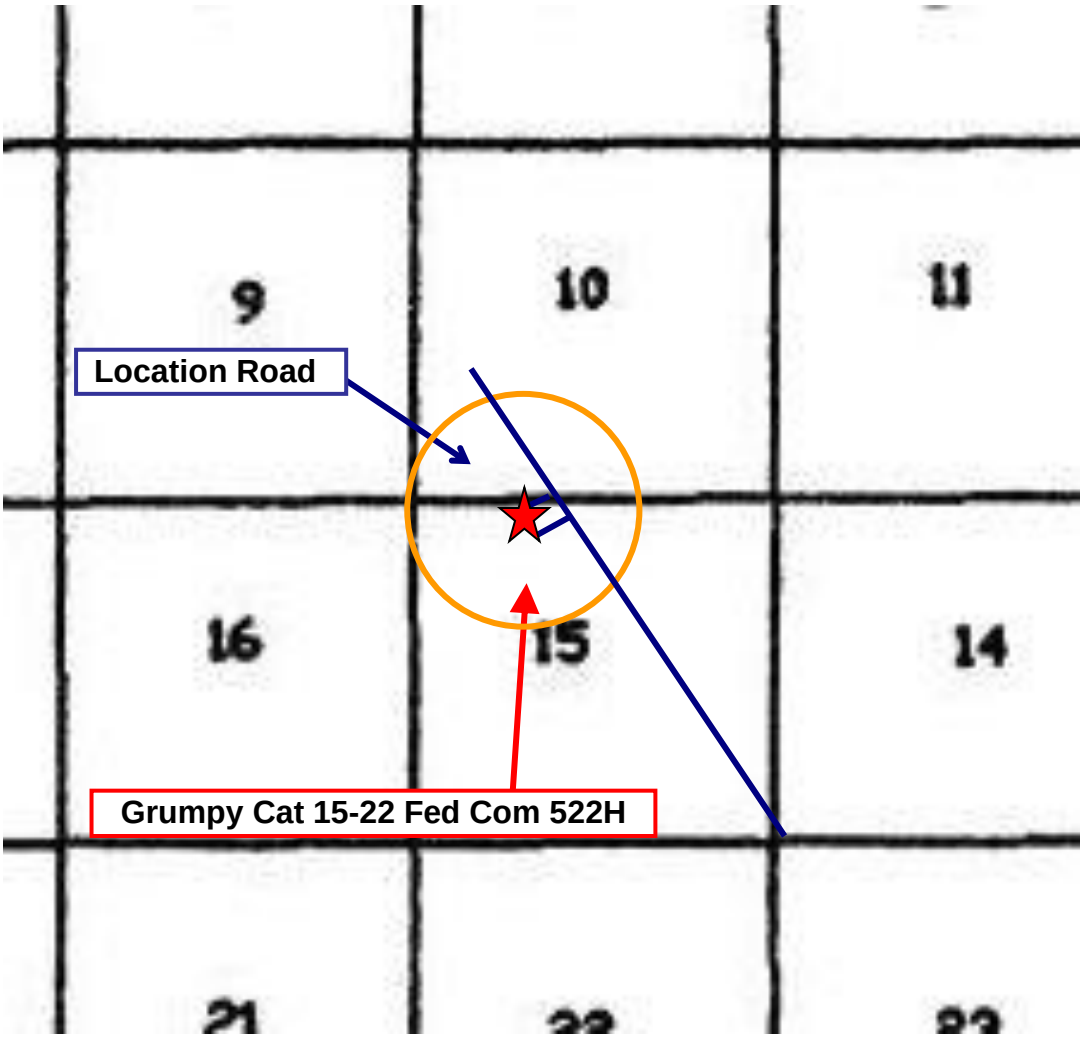
Sec-15 T-23S R-32E
475’ FNL & 1815’ FWL
LAT. = 32.3106077’ N (NAD83)
LONG = 103.6651948’ W

Lea County NM

Grumpy Cat 15-22 Fed Com 522H

This is an open drilling site. H_2S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H_2S, including warning signs, wind indicators and H_2S monitor.





Assumed 100 ppm ROE = 3000' (Radius of Exposure)
100 ppm H2S concentration shall trigger activation of this plan.

Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated from the location entrance road. Crews should then block the entrance to the location from the lease road so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the ROE. There are no homes or buildings in or near the ROE.

Assumed 100 ppm ROE = 3000'

100 ppm H_2S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H_2S, the first responder(s) must

- **Isolate the area and prevent entry by other persons into the 100 ppm ROE.**
- **Evacuate any public places encompassed by the 100 ppm ROE.**
- **Be equipped with H_2S monitors and air packs in order to control the release.**
- **Use the "buddy system" to ensure no injuries occur during the response**
- **Take precautions to avoid personal injury during this operation.**
- **Contact operator and/or local officials to aid in operation. See list of phone numbers attached.**
- **Have received training in the**
  - **Detection of H_2S, and**
  - **Measures for protection against the gas,**
  - **Equipment used for protection and emergency response.**

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO_2). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

Characteristics of H_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	2.21 Air = 1	2 ppm	N/A	1000 ppm

Contacting Authorities

Devon Energy Corp. personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. Devon Energy Corp. Company response must be in coordination with the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER)

Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE (H_2S) TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H_2S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H_2S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H_2S metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H_2S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H_2S zone (within 3 days or 500 feet) and weekly H_2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H_2S Drilling Operations Plan and the Public Protection Plan.

II. HYDROGEN SULFIDE TRAINING

Note: All H_2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H_2S.

1. **Well Control Equipment**

   A. Flare line

   B. Choke manifold – Remotely Operated

   C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit

   D. Auxiliary equipment may include if applicable: annular preventer and rotating head.

   E. Mud/Gas Separator

2. **Protective equipment for essential personnel:**

   30-minute SCBA units located at briefing areas, as indicated on well site diagram, with escape units available in the top doghouse. As it may be difficult to communicate audibly while wearing these units, hand signals shall be utilized.

3. **H_2S detection and monitoring equipment:**

   Portable H_2S monitors positioned on location for best coverage and response. These units have warning lights which activate when H_2S levels reach 10 ppm and audible sirens which activate at 15 ppm. Sensor locations:

   - **Bell nipple**
   - **Rig floor**
   - **Cellar**
   - **Possum Belly/Shale shaker**
   - **Choke manifold**

   Visual warning systems:

   A. Wind direction indicators as shown on well site diagram

   B. Caution/ Danger signs shall be posted on roads providing direct access to locations. Signs will be painted a high visibility yellow with black lettering of sufficient size to be reasonable distance from the immediate location. Bilingual signs will be used when appropriate.

4. **Mud program:**

   The mud program has been designed to minimize the volume of H_2S circulated to surface. Proper mud weight, safe drilling practices and the use of H_2S scavengers will minimize hazards when penetrating H_2S bearing zones.

5. **Metallurgy:**

   A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold lines, and valves shall be H_2S trim.

   B. All elastomers used for packing and seals shall be H_2S trim.

6. **Communication:**

   A. Company personnel have/use cellular telephones in the field.

   B. Land line (telephone) communications at Office

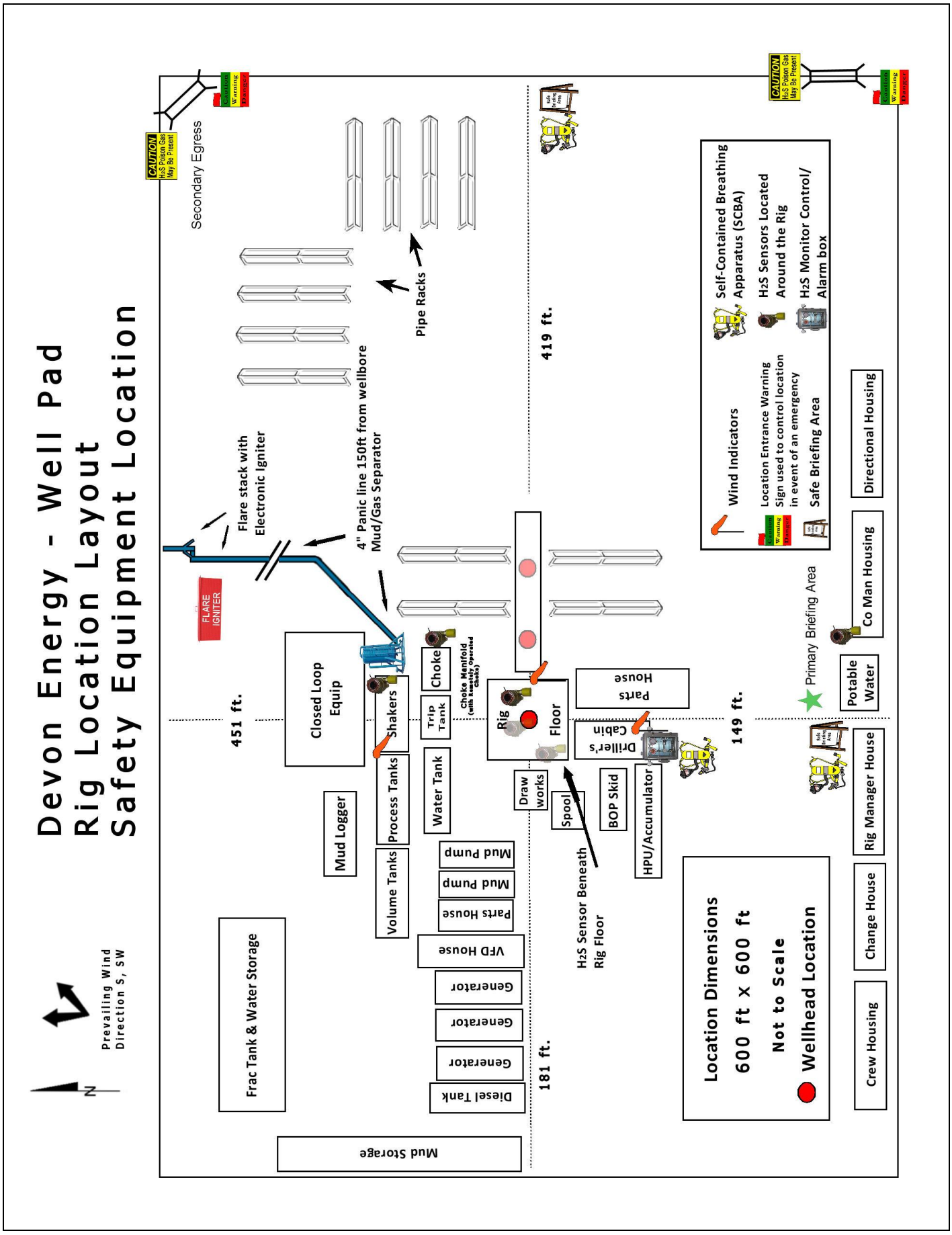
7. **Well testing:**

   A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safety and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H_2S environment will use the closed chamber method of testing.

   B. There will be no drill stem testing.

Devon Energy Corp. Company Call List			
Drilling Supervisor – Basin – Mark Kramer			405-823-4796
EHS Professional – Laura Wright			405-439-8129
Agency Call List			
Lea County (575)	**Hobbs**		
	Lea County Communication Authority		393-3981
	State Police		392-5588
	City Police		397-9265
	Sheriff's Office		393-2515
	Ambulance		**911**
	Fire Department		397-9308
	LEPC (Local Emergency Planning Committee)		393-2870
	NMOCD		393-6161
	US Bureau of Land Management		393-3612
Eddy County (575)	**Carlsbad**		
	State Police		885-3137
	City Police		885-2111
	Sheriff's Office		887-7551
	Ambulance		**911**
	Fire Department		885-3125
	LEPC (Local Emergency Planning Committee)		887-3798
	US Bureau of Land Management		887-6544
	NM Emergency Response Commission (Santa Fe)		(505) 476-9600
	24 HR		(505) 827-9126
	National Emergency Response Center		(800) 424-8802
	National Pollution Control Center: Direct		(703) 872-6000
	For Oil Spills		(800) 280-7118
	Emergency Services		
	Wild Well Control		(281) 784-4700
	Cudd Pressure Control	(915) 699-0139	(915) 563-3356
	Halliburton		(575) 746-2757
	B. J. Services		(575) 746-3569
Give GPS position:	Native Air – Emergency Helicopter – Hobbs		(575) 392-6429
	Flight For Life - Lubbock, TX		(806) 743-9911
	Aerocare - Lubbock, TX		(806) 747-8923
	Med Flight Air Amb - Albuquerque, NM		(575) 842-4433
	Lifeguard Air Med Svc. Albuquerque, NM		(800) 222-1222
	Poison Control (24/7)		(575) 272-3115
	Oil & Gas Pipeline 24 Hour Service		(800) 364-4366
	NOAA – Website - www.nhc.noaa.gov		

Prepared in conjunction with
Dave Small SHARP communications and consulting



Devon Energy Corp. Cont Plan. Page 8

devon

Commitment Runs Deep

Design Plan
Operation and Maintenance Plan
Closure Plan

SENM – Closed Loop Systems
June 2010

I. Design Plan

Devon uses MI SWACO closed loop system (CLS). The MI SWACO CLS is designed to maintain drill solids at or below 5%. The equipment is arranged to progressively remove solids from the largest to the smallest size. Drilling fluids can thus be reused and savings is realized on mud and disposal costs. Dewatering may be required with the centrifuges to insure removal of ultra fine solids.

The drilling location is constructed to allow storm water to flow to a central sump normally the cellar. This insures no contamination leaves the drilling pad in the event of a spill. Storm water is reused in the mud system or stored in a reserve fluid tank farm until it can be reused. All lubricants, oils, or chemicals are removed immediately from the ground to prevent the contamination of storm water. An oil trap is normally installed on the sump if an oil spill occurs during a storm.

A tank farm is utilized to store drilling fluids including fresh water and brine fluids. The tank farm is constructed on a 20 ml plastic lined, bermed pad to prevent the contamination of the drilling site during a spill. Fluids from other sites may be stored in these tanks for processing by the solids control equipment and reused in the mud system. At the end of the well the fluids are transported from the tank farm to an adjoining well or to the next well for the rig.

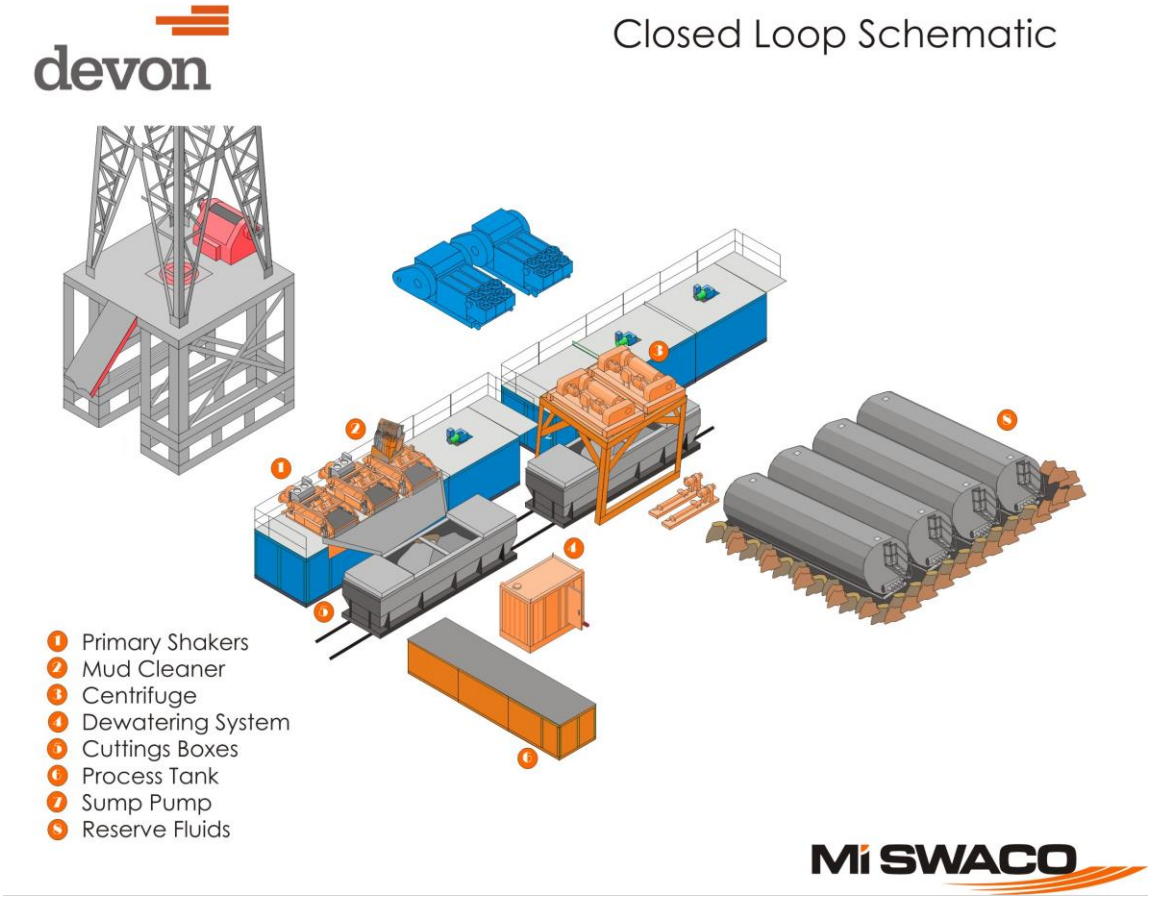
Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

Signs will be posted on the fence surrounding the closed-loop system unless the closed-loop system is located on a site where there is an existing well, that is operated by Devon.

II. Operations and Maintenance Plan

Primary Shakers: The primary shakers make the first removal of drill solids from the drilling mud as it leaves the well bore. The shakers are sized to handle maximum drilling rate at optimal screen size. The shakers normally remove solids down to 74 microns.

Mud Cleaner: The Mud Cleaner cleans the fluid after it leaves the shakers. A set of hydrocyclones are sized to handle 1.25 to 1.5 times the maximum circulating rate. This ensures all the fluid is being processed to an average cut point of 25 microns. The wet discharged is dewatered on a shaker equipped with ultra fine mesh screens and generally cut at 40 microns.



Centrifuges: The centrifuges can be one or two in number depending on the well geometry or depth of well. The centrifuges are sized to maintain low gravity solids at 5% or below. They may or may not need a dewatering system to enhance the removal rates. The centrifuges can make a cut point of 8-10 microns depending on bowl speed, feed rate, solids loading and other factors.

The centrifuge system is designed to work on the active system and be flexible to process incoming fluids from other locations. This set-up is also dependant on well factors.

Dewatering System: The dewatering system is a chemical mixing and dosing system designed to enhance the solids removal of the centrifuge. Not commonly used in shallow wells. It may contain pH adjustment, coagulant mixing and dosing, and polymer mixing and dosing. Chemical flocculation binds ultra fine solids into a mass that is within the centrifuge operating design. The

dewatering system improves the centrifuge cut point to infinity or allows for the return of clear water or brine fluid. This ability allows for the ultimate control of low gravity solids.

Cuttings Boxes: Cuttings boxes are utilized to capture drill solids that are discarded from the solids control equipment. These boxes are set upon a rail system that allows for the removal and replacement of a full box of cuttings with an empty one. They are equipped with a cover that insures no product is spilled into the environment during the transportation phase.

Process Tank: (Optional) The process tank allows for the holding and process of fluids that are being transferred into the mud system. Additionally, during times of lost circulation the process tank may hold active fluids that are removed for additional treatment. It can further be used as a mixing tank during well control conditions.

Sump and Sump Pump: The sump is used to collect storm water and the pump is used to transfer this fluid to the active system or to the tank for to hold in reserve. It can also be used to collect fluids that may escape during spills. The location contains drainage ditches that allow the location fluids to drain to the sump.

Reserve Fluids (Tank Farm): A series of frac tanks are used to replace the reserve pit. These are steel tanks that are equipped with a manifold system and a transfer pump. These tanks can contain any number of fluids used during the drilling process. These can include fresh water, cut brine, and saturated salt fluid. The fluid can be from the active well or reclaimed fluid from other locations. A 20 ml liner and berm system is employed to ensure the fluids do not migrate to the environment during a spill.

If a leak develops, the appropriate division district office will be notified within 48 hours of the discovery and the leak will be addressed. Spill prevention is accomplished by maintaining pump packing, hoses, and pipe fittings to insure no leaks are occurring. During an upset condition the source of the spill is isolated and repaired as soon as it is discovered. Free liquid is removed by a diaphragm pump and returned to the mud system. Loose topsoil may be used to stabilize the spill and the contaminated soil is excavated and placed in the cuttings boxes. After the well is finished and the rig has moved, the entire location is scrapped and testing will be performed to determine if a release has occurred.

All trash is kept in a wire mesh enclosure and removed to an approved landfill when full. All spent motor oils are kept in separate containers and they are removed and sent to an approved recycling center. Any spilled lubricants, pipe

dope, or regulated chemicals are removed from soil and sent to landfills approved for these products.

These operations are monitored by Mi Swaco service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the mud storage farm. This data is kept for end of well review to insure performance goals are met. Lessons learned are logged and used to help with continuous improvement.

A MI SWACO field supervisor manages from 3-5 wells. They are responsible for training personnel, supervising installations, and inspecting sites for compliance of MI SWACO safety and operational policy.

III. Closure Plan

A maximum 340' X 340' caliche pad is built per well. All of the trucks and steel tanks fit on this pad. All fluid cuttings go to the steel tanks to be hauled by various trucking companies to an agency approved disposal.

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District II
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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 & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-025-48538	[17644]	DIAMONDTAIL;BONE SPRING

[4] Property Code	[5] Property Name	[6] Well Number
325133	GRUMPY CAT 15-22 FED COM	522H

[7] OGRID No.	[8] Operator Name	[9] Elevation
6137	DEVON ENERGY PRODUCTION COMPANY, L.P.	3699.4

[10] Surface Location

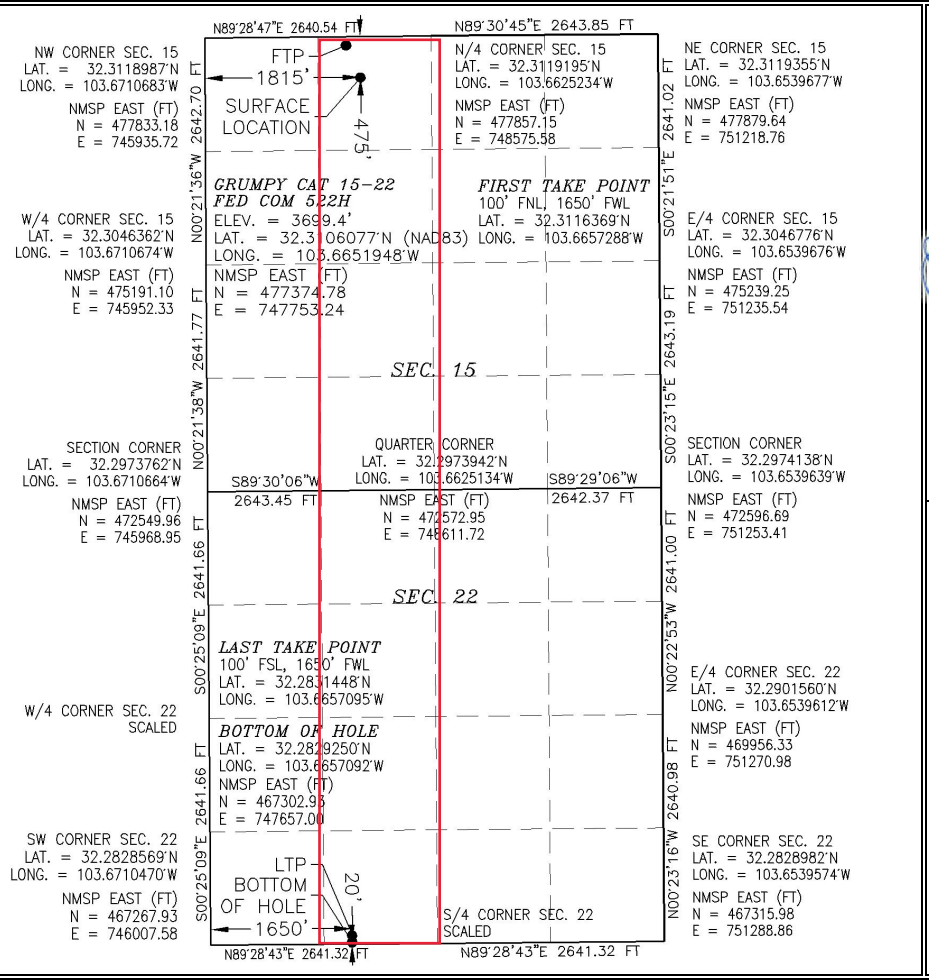
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	15	23 S	32 E		475	NORTH	1815	WEST	LEA

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	22	23 S	32 E		20	SOUTH	1650	WEST	LEA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
320			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



[17] OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Jenny Harms — 9-4-2020
Signature — Date

JENNY HARMS
Printed Name

JENNY.HARMS@DVN.COM
E-mail Address

[18] SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

JULY 21, 2020
Date of Survey

Signature and Seal of Professional Surveyor:
FILIMON F. JARAMILLO, PLS 12797
SURVEY NO. 8332

Certificate Number:

Intent [X] As Drilled [ ]

API #
30-025-48538

Operator Name:	Property Name:	Well Number
DEVON ENERGY PRODUCTION COMPANY, L.P.	GRUMPY CAT 15-22 FED COM	522H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
	15	23S	32E		200 FNL		1650 FWL		LEA

Latitude	Longitude	NAD
32.31136600	-103.66572400	83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
C	15	23S	32E		100	NORTH	1650	WEST	LEA

Latitude	Longitude	NAD
32.3116369	103.6657288	83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
N	22	23S	32E		100	SOUTH	1650	WEST	LEA

Latitude	Longitude	NAD
32.2831448	103.6657095	83

Is this well the defining well for the Horizontal Spacing Unit? NO

Is this well an infill well? YES

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #

Operator Name:	Property Name:	Well Number

KZ 06/29/2018

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State of New Mexico
Energy, Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit Original to Appropriate District Office

GAS CAPTURE PLAN

Date: August 24, 2020

☒ Original Devon & OGRID No.: Devon Energy Production Co., L.P. 6137

☐ Amended - Reason for Amendment:_____

This Gas Capture Plan outlines actions to be taken by the Devon to reduce well/production facility flaring/venting for new completion (new drill, recomplete to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	SHL FOOTAGES					Expected MCF/D	Flared or Vented	CTB
GRUMPY CAT 15-22 FED COM 521H		15-23S-32E	964	FWL	476	FNL			GRUMPY CAT 15 CTB 2
GRUMPY CAT 15-22 FED COM 121H		15-23S-32E	994	FWL	476	FNL			GRUMPY CAT 15 CTB 2
GRUMPY CAT 15-22 FED COM 531H		15-23S-32E	1024	FWL	476	FNL			GRUMPY CAT 15 CTB 2
GRUMPY CAT 15-22 FED COM 611H		15-23S-32E	1144	FWL	176	FNL			GRUMPY CAT 15 CTB 2
GRUMPY CAT 15-22 FED COM 711H		15-23S-32E	1174	FWL	176	FNL			GRUMPY CAT 15 CTB 2
GRUMPY CAT 15-22 FED COM 331H		15-23S-32E	1204	FWL	176	FNL			GRUMPY CAT 15 CTB 2
GRUMPY CAT 15-22 FED COM 522H	**30-025-48538**	15-23S-32E	1815	FWL	475	FNL			GRUMPY CAT 15 CTB 2
GRUMPY CAT 15-22 FED COM 122H		15-23S-32E	1845	FWL	475	FNL			GRUMPY CAT 15 CTB 2
GRUMPY CAT 15-22 FED COM 532H		15-23S-32E	1875	FWL	475	FNL			GRUMPY CAT 15 CTB 2
GRUMPY CAT 15-22 FED COM 612H		15-23S-32E	1995	FWL	175	FNL			GRUMPY CAT 15 CTB 2
GRUMPY CAT 15-22 FED COM 712H		15-23S-32E	2025	FWL	175	FNL			GRUMPY CAT 15 CTB 2
GRUMPY CAT 15-22 FED COM 332H		15-23S-32E	2055	FWL	175	FNL			GRUMPY CAT 15 CTB 2

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if DCP system is in place. The gas produced from production facility is dedicated to DCP and will be connected to DCP low/high pressure gathering system located in Lea County, New Mexico. It will require 0' of pipeline to connect the facility to low/high pressure gathering system. Devon provides (periodically) to DCP a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Devon and DCP have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at DCP Processing Plant located in the reference table. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on DCP system at that time. Based on current information, it is Devon's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

Reference Table:

DCP Plant locations
Artesia Sec. 7, T18S, R28E,
Eunice Sec. 5, T21S, R36E
Linam Sec. 6, T19S, R37E
Zia II Sec. 19, T19S, R32E

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Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 20236

CONDITIONS OF APPROVAL

Operator:			OGRID:	Action Number:	Action Type:
DEVON ENERGY PRODUCTION COMPAN	333 West Sheridan Ave.	Oklahoma City, OK73102	6137	20236	FORM 3160-3

OCD Reviewer	Condition
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104
pkautz	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