API NUMBER: 011 24078

Oil & Gas

Horizontal Hole

## **OKLAHOMA CORPORATION COMMISSION OIL & GAS CONSERVATION DIVISION** P.O. BOX 52000 **OKLAHOMA CITY, OK 73152-2000** (Rule 165:10-3-1)

Approval Date: 08/27/2018 02/27/2019 Expiration Date:

20751 0

Well will be 1000 feet from nearest unit or lease boundary.

OTC/OCC Number:

## PERMIT TO DRILL

WELL LOCATION	: Sec: 36 Twp: 16N F	Rge: 10W County: B	BLAINE	
SPOT LOCATION	: NW NW SE	SE FEET FROM QUARTER: FRO	M SOUTH FROM	EAST
		SECTION LINES:	1000	1230
Lease Name:	MORNING THUNDER 36-16N-1	10W Well No	o: 2H	
Operator Name:	DEVON ENERGY PRODUC	TION CO LP	Telephone:	4052353611; 4052353

DEVON ENERGY PRODUCTION CO LP 333 W SHERIDAN AVE

OKLAHOMA CITY. OK 73102-5015 COMMISSIONERS OF THE LAND OFFICE 204 N. ROBINSON, SUITE 900

OKLAHOMA CITY OK 73102

Formation(s) (Permit Valid for Listed Formations Only):

	Name	Depth	Name	Depti	h
1	MISSISSIPPI SOLID	9759	6		
2			7		
3			8		
4			9		
5			10		
Spacing Orders:	635274	Location Exception Orders:		Increased Density Orders:	681805

Pending CD Numbers: 201804942 Special Orders:

Total Depth: 14204 Depth to base of Treatable Water-Bearing FM: 40 Ground Elevation: 1240 Surface Casing: 1999

Under Federal Jurisdiction: No Fresh Water Supply Well Drilled: No Surface Water used to Drill: Yes

Approved Method for disposal of Drilling Fluids: PIT 1 INFORMATION

Type of Pit System: CLOSED Closed System Means Steel Pits

Type of Mud System: WATER BASED D. One time land application -- (REQUIRES PERMIT) PERMIT NO: 18-34904 H. SEE MEMO Chlorides Max: 8000 Average: 5000

Is depth to top of ground water greater than 10ft below base of pit? Y

Within 1 mile of municipal water well? N Wellhead Protection Area?

Pit is not located in a Hydrologically Sensitive Area.

Category of Pit: C

Liner not required for Category: C

Pit Location is NON HSA

Pit Location Formation: FLOWERPOT

## PIT 2 INFORMATION

Type of Pit System: CLOSED Closed System Means Steel Pits

Type of Mud System: OIL BASED
Chlorides Max: 300000 Average: 200000

Is depth to top of ground water greater than 10ft below base of pit? Y

Within 1 mile of municipal water well? N
Wellhead Protection Area? N

Pit is not located in a Hydrologically Sensitive Area.

Category of Pit: C

Liner not required for Category: C
Pit Location is NON HSA

Pit Location Formation: FLOWERPOT

## HORIZONTAL HOLE 1

Sec 36 Twp 16N Rge 10W County **BLAINE** Spot Location of End Point: ΝE NE NF NW Feet From: NORTH 1/4 Section Line: 50 Feet From: WEST 1/4 Section Line: 2537

Depth of Deviation: 9441
Radius of Turn: 477
Direction: 341
Total Length: 4014

Measured Total Depth: 14204
True Vertical Depth: 9919
End Point Location from Lease,
Unit, or Property Line: 50

Notes:

Category Description

DEEP SURFACE CASING 8/9/2018 - G71 - APPROVED; NOTIFY OCC FIELD INSPECTOR IMMEDIATELY FOR ANY LOSS OF

CIRCULATION OR FAILURE TO CIRCULATE CEMENT TO SURFACE ON CONDUCTOR OR

SURFACE CASING

HYDRAULIC FRACTURING 8/9/2018 - G71 - OCC 165:10-3-10 REQUIRES:

1) PRIOR TO COMMENCEMENT OF HYDRAULIC FRACTURING OPERATIONS FOR HORIZONTAL WELLS, NOTICE GIVEN FIVE BUSINESS DAYS IN ADVANCE TO OFFSET OPERATORS WITH WELLS COMPLETED IN THE SAME COMMON SOURCE OF SUPPLY WITHIN 1/2 MILE;

2) WITH NOTICE ALSO GIVEN 48 HOURS IN ADVANCE OF HYDRAULIC FRACTURING ALL WELLS TO BOTH THE OCC CENTRAL OFFICE AND LOCAL DISTRICT OFFICES, USING THE

"FRAC NOTICE FORM" FOUND AT THE FOLLOWING LINK:

OCCEWEB.COM/OG/OGFORMS.HTML; AND,

3) THE CHEMICAL DISCLOSURE OF HYDRAULIC FRACTURING INGREDIENTS FOR ALL WELLS TO BE REPORTED TO FRACFOCUS WITHIN 60 DAYS AFTER THE CONCLUSION THE HYDRAULIC FRACTURING OPERATIONS, USING THE FOLLOWING LINK: FRACFOCUS.ORG

INCREASED DENSITY - 681805 8/24/2018 - G75 - 36-16N-10W

X635274 MSSSD

4 WFI I S

DEVON ENERGY PROD. CO., L.P.

8-21-2018

INTERMEDIATE CASING 8/9/2018 - G71 - DUE TO THE KNOWN POTENTIAL RISK OF ENCOUNTERING AN OVER-

PRESSURED ZONE IN THE MORROW SERIES IN THIS AREA, THE TECHNICAL MANAGER RECOMMENDS SETTING AN INTERMEDIATE STRING OF CASING IMMEDIATELY ABOVE THE

**MORROW SERIES** 

Category Description

MEMO 8/9/2018 - G71 - PIT 1 & 2 - CLOSED SYSTEM=STEEL PITS PER OPERATOR REQUEST; PIT 2 -

OBM TO VENDOR, OBM CUTTINGS PER DISTRICT

PENDING CD - 201804942 8/24/2018 - G75 - (I.O.) 36-16N-10W

X635274 MSSSD

X165:10-3-28(C)(2)(B) MAY BE CLOSER THAN 600' TO EXISTING/PROPOSED WELL

COMPL. INT. NCT 165' FSL, NCT 165' FNL, NCT 660' FWL

NO OP. NAMED

REC 7-17-2018 (MILLER)

SPACING - 635274 8/24/2018 - G75 - (640)(HOR) 36-16N-10W

8/24/2018 - G75 - (640)(HOR) 36-16N-10W VAC 168134/169097 MSSSD, OTHER SW4

EST MSSSD, OTHERS

POE TO BHL NCT 660' FB

(COEXIST SP. ORDER # 168134/169097 MSSSD N2 & SE4)

Yukon, OK 73099 LEASE NAME: MORNING THUNDER 36-16N-10W **DISTANCE & DIRECTION FROM HWY JCT OR TOWN:** 405.787.6270 † 405.787.6276 f AT THE JCT. OF HWY 281 & HWY 3 GO EAST ON HWY 33 WELL NO. 2H www.craftontull.com 12 MILES, SOUTH 1.7 MILES ON N2690 RD TO LEASE RD GOOD DRILL SITE: YES Crafton Tull COUNTY, STATE:OK **BLAINE** PLEASE NOTE THAT THIS LOCATION WAS STAKED ON THE GROUND UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL LAND SURVEYOR, BUT ACCURACY OF THIS EXHIBIT IS NOT GUARANTEED. PLEASE CONTACT CRAFTON TULL PROMPTLY IF ANY INCONSISTENCY IS DETERMINED, GPS DATA IS OBSERVED FROM RTK-GPS.

NOTEX AND Y DATA SHOWN HEREON FOR SECTION CORNERS MAY NOT HAVE BEEN SURVEYED OF **GROUND ELEVATION:**1239.69' GR. AT STAKE SURFACE HOLE FOOTAGE: 1230' FEL - 1000' FSL OBSERVED FROM RIK-GPS.

NOTE:X AND Y DATA SHOWN HEREON FOR SECTION CORNERS MAY NOT HAVE BEEN SURVEYED ON THE GROUND, AND FURTHER, <u>DOES NOT</u> REPRESENT A TRUE BOUNDARY SURVEY.

QUARTER SECTION DISTANCES MAY BE ASSUMED FROM A GOVERNMENT SURVEY PLAT OR ASSUMED AT A PROPORTIONATE DISTANCE FROM OPPOSING SECTION CORNERS, OR OCCUPATION THEREOF, AND MAY NOT HAVE BEEN MEASURED ON THE GROUND, AND FURTHER, <u>DOES NOT</u> REPRESENT A TRUE BOUNDARY SURVEY. SECTION: 36 TOWNSHIP: T16N RANGE: R10W BOTTOM HOLE: 36-T16N-R10W, I.M. ACCESSIBILITY TO LOCATION: FROM EAST LINE TOPOGRAPHY & VEGETATION: N LOCATION FELL IN A FIELD API 011-24078 COUNTY, OKLAHOMA **BLAINE OKLAHOMA - NORTH ZONE** 1230' FEL - 1000' FSL SECTION 36 TOWNSHIP 16N RANGE 10W I.M. GRID NORTH (NAD NW COR. 50, NE COR X=1933481 SEC. 36 SEC. 36 Y=300946 X=1936117 Y=300935 X=1938754 2537 BOTTOM HOLE 2537' FWL - 50' FNL 35° 49' 35.03" NORTH 98° 12' 56.97' WEST LAST PERFORATION POINT 2537' FWL - 165' FNL X:1936017.4 Y:300885.3 35.82639594 **SURFACE HOLE DATA STATE PLANE COORDINATES:** LAT: 35.82639594 LONG:-98.21582571 **ZONE:** OK-NORTH NAD27 **X:** 1937513.4 Y: 296652.4 GPS DATUM: NAD27 **LAT:** 35.81477634 LONG: <u>-98.21074868</u> STATE PLANE COORDINATES: **ZONE: OK-NORTH NAI** X=1938747 Y=298302 Y=298286 GPS DATUM: NAD83 36 LONG: -98.21108968 MORNING THUNDER 36-16N-10W 2H 1230' FFL - 1000' FSL 35° 48' 53.19" NORTH 98° 12' 38.70" WEST X:1937513.4 **BOTTOM HOLE DATA** STATE PLANE COORDINATES: ZONE: OK-NORTH NAD27 Y:296652.4 LAT: 35.81477634 LONG:-98.21074868 ELEV:1239.69 X: 1936017.4 Y: 300885.3 **GPS DATUM: NAD27 LAT:** 35.82639594 1230' LONG: <u>-98.21582571</u> STATE PLANE COORDINATES: **ZONE: OK-NORTH NAD83** X: 1904417.7 1000, Y: 300909.0 FIRST PERFORATION P 2537' FWL- 165' FSL GPS DATUM: NAD83 X=1938741 X=1933467 Y=295649 ΙΔΤ· Y=295658 **LONG:** -98.21616734 **BOTTOM HOLE** X=1936103 SE COR. SW COR. Y=295656 INFORMATION PROVIDED SEC. 36 SEC. 36 BY OPERATOR LISTED. 2018.08.02.08:46:52-05'00' ESSIONAL **DENVER** MINCHESTER 1952 GRAPHIC SCALE IN FEET OKLAHOMP 1000 500 0 1000 **REVISION** "MORNING THUNDER 36-16N-10W 2H" PART OF THE SE/4 OF SECTION 36, T-16-N, R-10-W devon PROPOSED DRILL SITE BLAINE COUNTY, OKLAHOMA SCALE: 1" = 1000' PLOT DATE: 08-01-2018 | DRAWN BY: JJ SHEET NO.: 1 OF 6

OPERATOR: DEVON ENERGY PRODUCTION COMPANY, L.P.

300 Pointe Parkway Blvd.