

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

API NUMBER: 011 23876 A

Approval Date: 11/08/2017
Expiration Date: 05/08/2018

Horizontal Hole Oil & Gas

Amend reason: SIDETRACK FOR LATERAL MERAMEC TARGET.

AMEND PERMIT TO DRILL

WELL LOCATION: Sec: 20 Twp: 15N Rge: 10W

County: BLAINE

SPOT LOCATION: ☐ SE ☐ SW ☐ SE ☐ SW

FEET FROM QUARTER: FROM SOUTH FROM WEST

SECTION LINES: 245 1906

Lease Name: HAMMERHEAD 20-15N-10W

Well No: 1H

Well will be 245 feet from nearest unit or lease boundary.

Operator Name: PALOMA OPERATING CO INC

Telephone: 7136508509

OTC/OCC Number: 23932 0

PALOMA OPERATING CO INC
1100 LOUISIANA ST STE 5100
HOUSTON, TX 77002-5220

KENNETH KENNEDY
23918 E960 RD
WEATHERFORD OK 73096

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

| | Name | Depth | Name | Depth |
|---|---------------|-------|------|-------|
| 1 | MISSISSIPPIAN | 11137 | 6 | |
| 2 | | | 7 | |
| 3 | | | 8 | |
| 4 | | | 9 | |
| 5 | | | 10 | |

Spacing Orders: 648300
660911

Location Exception Orders: 669735

Increased Density Orders:

Pending CD Numbers:

Special Orders:

Total Depth: 16217

Ground Elevation: 1516

Surface Casing: 1500

Depth to base of Treatable Water-Bearing FM: 120

Under Federal Jurisdiction: No

Fresh Water Supply Well Drilled: No

Surface Water used to Drill: No

PIT 1 INFORMATION

Approved Method for disposal of Drilling Fluids:

Type of Pit System: CLOSED Closed System Means Steel Pits

Type of Mud System: WATER BASED

Chlorides Max: 9000 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? N

Pit is located in a Hydrologically Sensitive Area.

Category of Pit: C

Liner not required for Category: C

Pit Location is AP/TE DEPOSIT

Pit Location Formation: TERRACE

D. One time land application -- (REQUIRES PERMIT)

PERMIT NO: 17-33190

H. SEE MEMO

This permit does not address the right of entry or settlement of surface damages.

The duration of this permit is SIX MONTHS, except as otherwise provided by Rule 165: 10-3-1.

Rule 165: 10-3-4 (c) (7) (e) - The Operator shall give 24 Hours notice by telephone to the appropriate District Office of the Conservation Division as to when Surface Casing will be run.

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 located in a Hydrologically Sensitive Area.

Category of Pit: C

Liner not required for Category: C

Pit Location is AP/TE DEPOSIT

Pit Location Formation: TERRACE

HORIZONTAL HOLE 1

Sec 20 Twp 15N Rge 10W County BLAINE

Spot Location of End Point: NW NW NE NW

Feet From: NORTH 1/4 Section Line: 65

Feet From: WEST 1/4 Section Line: 1520

Depth of Deviation: 10660

Radius of Turn: 556

Direction: 358

Total Length: 4684

Measured Total Depth: 16217

True Vertical Depth: 11137

End Point Location from Lease,
Unit, or Property Line: 65

Notes:

Category

Description

DEEP SURFACE CASING

12/1/2017 - G58 - APPROVED; NOTIFY OCC FIELD INSPECTOR IMMEDIATELY OF ANY LOSS OF CIRCULATION OR FAILURE TO CIRCULATE CEMENT TO SURFACE ON ANY CONDUCTOR OR SURFACE CASING

HYDRAULIC FRACTURING

11/30/2017 - 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

INTERMEDIATE CASING

11/30/2017 - 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

LOCATION EXCEPTION - 669735

12/1/2017 - G58 - (I.O.) 20-15N-10W
X648300 MSSP**
COMPL. INT. NCT 165' FSL, NCT 165' FNL, NCT 330' FWL
PALOMA OPERATING CO., INC.
11/3/2017

**S/B 648300/660911 MSSP; TO BE CORRECTED AT FINAL HEARING PER OPERATOR

This permit does not address the right of entry or settlement of surface damages.

011 23876 HAMMERHEAD 20-15N-10W 1H

The duration of this permit is SIX MONTHS, except as otherwise provided by Rule 165: 10-3-1.

Rule 165: 10-3-4 (c) (7) (e) - The Operator shall give 24 Hours notice by telephone to the appropriate District Office of the Conservation Division as to when Surface Casing will be run.

| Category | Description |
|------------------|---|
| MEMO | 11/30/2017 - G71 - PITS 1 & 2 - CLOSED SYSTEM=STEEL PITS PER OPERATOR REQUEST, PIT 2 - OBM RETURNED TO VENDOR, CUTTINGS PERMITTED PER DISTRICT |
| SPACING - 648300 | 12/1/2017 - G58 - (640) 20-15N-10W EST MSSP EXT OTHERS |
| SPACING - 660911 | 12/1/2017 - G58 - (640) 20-15N-10W NPT 648300 TO CORRECT SCRIVNER'S ERROR IN PARAGRAPH F AND EXHIBIT A AS VERTICAL SPACING |