API NUMBER: 045 23343

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: 04/25/2013
Expiration Date: 10/25/2013

PERMIT TO DRILL

WELL LOCATION: Sec: 12 Twp: 16N Rge: 23W County: ELLIS FEET FROM QUARTER: SPOT LOCATION: SE lsw FROM SOUTH FROM WEST Isw lsw SECTION LINES: 200 760

Lease Name: WPS 12-16-23 Well No: 1H Well will be 200 feet from nearest unit or lease boundary.

Operator CHESAPEAKE OPERATING INC Telephone: 4059358143 OTC/OCC Number: 17441 0

CHESAPEAKE OPERATING INC

PO BOX 18496

OKLAHOMA CITY, OK 73154-0496

OKLAHOMA DEPT OF WILDLIFE CONSERVATION

P.O. BOX 53465

OKC OK 73152

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

Depth Name Depth DOUGLAS (LS TONKAWA) 1 8000 6 2 TONKAWA 8245 7 3 8 4 9 10 584453 Spacing Orders: Location Exception Orders: 609586 Increased Density Orders: 609025

Pending CD Numbers: Special Orders:

Total Depth: 13500 Ground Elevation: 2141 Surface Casing: 730 Depth to base of Treatable Water-Bearing FM: 480

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

PIT 1 INFORMATION

Type of Pit System: ON SITE

Type of Mud System: WATER BASED

Chlorides Max: 25000 Average: 5000

Is depth to top of ground water greater than 10ft below base of pit?  $\quad \mbox{Y}$ 

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

Pit is located in a Hydrologically Sensitive Area.

Category of Pit: 1B

Liner required for Category: 1B
Pit Location is BED AQUIFER
Pit Location Formation: OGALLALA

Approved Method for disposal of Drilling Fluids:

A. Evaporation/dewater and backfilling of reserve pit.

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

PERMIT NO: 13-23148

H. SEE MEMO

PIT 2 INFORMATION

Type of Pit System: ON SITE

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: 3

Liner required for Category: 3
Pit Location is BED AQUIFER
Pit Location Formation: OGALLALA

## **HORIZONTAL HOLE 1**

Sec 12 Twp 16N Rge 23W County **ELLIS** NW Spot Location of End Point: N2 N2 NW Feet From: NORTH 1/4 Section Line: 250 Feet From: WEST 1/4 Section Line: 660

Depth of Deviation: 7570
Radius of Turn: 780
Direction: 360
Total Length: 4420

Measured Total Depth: 13500

True Vertical Depth: 8350

End Point Location from Lease,

Unit, or Property Line: 250

Notes:

Category Description

INCREASED DENSITY - 609025 4/25/2013 - G30 - 12-16N-23W

X584453 TNKW

3 WFLLS

CHESAPEAKE OPERATING, INC.

3/14/13

LOCATION EXCEPTION - 609586 4/25/2013 - G30 - (I.O.) 12-16N-23W

X584453 TNKW, DGLTK

COMP. INT. NCT 330 FNL, NCT 330 FSL, NCT 560 FWL

CHESAPEAKE OPERATING, INC.

3/27/13

MEMO 4/22/2013 - G71 - PITS 1 & 2 - CONCRETE LINED PIT PER OPERATOR REQUEST, PIT 2 - OBM

RETURNED TO VENDOR, CUTTINGS PERMITTED PER DISTRICT

SPACING - 584453 4/25/2013 - G30 - (640 HOR) 12-16N-23W

EST DGLTK, TNKW POE TO BHL: NCT 660' FB

(COEXIST WITH PRODUCING NON-HORIZONTAL SPACING UNITS; SUPERCEDE EXISTING NON

-DEVELOPED NON-HORIZONTAL SPACING UNITS)