

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

API NUMBER: 129 23887

Approval Date: 10/30/2013  
Expiration Date: 04/30/2014

Horizontal Hole Oil & Gas

PERMIT TO DRILL

WELL LOCATION: Sec: 22 Twp: 17N Rge: 25W County: ROGER MILLS  
SPOT LOCATION:  NW  NE  NE  NE FEET FROM QUARTER: FROM NORTH FROM EAST  
SECTION LINES: 290 600  
Lease Name: CALVERT Well No: 2-22H Well will be 290 feet from nearest unit or lease boundary.  
Operator Name: APACHE CORPORATION Telephone: 9184914900 OTC/OCC Number: 6778 0

APACHE CORPORATION  
6120 S YALE AVE STE 1500  
TULSA, OK 74136-4224

FRANKLIN E. CALVERT  
17650 E 740 ROAD  
CRAWFORD OK 73638

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

Name	Depth	Name	Depth
1 TONKAWA	8002	6	
2		7	
3		8	
4		9	
5		10	

Spacing Orders: 51093 Location Exception Orders: 617241 Increased Density Orders: 617242

Pending CD Numbers: Special Orders:

Total Depth: 12500 Ground Elevation: 2260 **Surface Casing: 500** Depth to base of Treatable Water-Bearing FM: 450

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: 90000 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: 1B**

**Liner required for Category: 1B**

Pit Location is BED AQUIFER  
Pit Location Formation: CLOUD CHIEF

**Approved Method for disposal of Drilling Fluids:**

- A. Evaporation/dewater and backfilling of reserve pit.
- D. One time land application -- (REQUIRES PERMIT) PERMIT NO: 13-24752
- 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: 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: CLOUD CHIEF

HORIZONTAL HOLE 1

Sec 22 Twp 17N Rge 25W County ROGER MILLS

Spot Location of End Point: W2 SE SE SE

Feet From: SOUTH 1/4 Section Line: 330

Feet From: EAST 1/4 Section Line: 600

Depth of Deviation: 7582

Radius of Turn: 573

Direction: 181

Total Length: 4629

Measured Total Depth: 12500

True Vertical Depth: 8104

End Point Location from Lease,  
Unit, or Property Line: 330

Notes:

Category	Description
INCREASED DENSITY - 617242	10/30/2013 - G30 - 22-17N-25W X51093 TNKW 1 WELL APACHE CORPORATION 10/21/13
LOCATION EXCEPTION - 617241	10/30/2013 - G30 - (I.O.) 22-17N-25W X51093 TNKW SHL NCT 100 FNL, NCT 500 FEL 1ST PERF NCT 330 FNL, NCT 560 FEL LAST PERF NCT 330 FSL, NCT 560 FEL APACHE CORPORATION 10/21/13
MEMO	10/25/2013 - G71 - PITS 1 & 2 - CONCRETE LINED PIT PER OPERATOR REQUEST, PIT 2 - OBM RETURNED TO VENDOR, CUTTINGS PERMITTED PER DISTRICT
SPACING - 51093	10/30/2013 - G30 - (640) 22-17N-25W EST TNKW