

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

API NUMBER: 129 23869

Approval Date: 09/09/2013
Expiration Date: 03/09/2014

Horizontal Hole Oil & Gas

PERMIT TO DRILL

WELL LOCATION: Sec: 28 Twp: 16N Rge: 25W County: ROGER MILLS
SPOT LOCATION: SW SE SE SE FEET FROM QUARTER: FROM SOUTH FROM EAST
SECTION LINES: 250 600

Lease Name: CALVERT Well No: 2-28H Well will be 250 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

RANDALL E. CALVERT LIVING TRUST, RANDALL E.
CALVERT, TRUSTEE/ JUHREE CALVERT LIVING TRUST,
TRUSTEE
RT 1 BOX 49
DURHAM OK 73642

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

Name	Depth	Name	Depth
1 TONKAWA	8607	6	
2		7	
3		8	
4		9	
5		10	

Spacing Orders: 67526 Location Exception Orders: 613924 Increased Density Orders: 613755

Pending CD Numbers:

Special Orders:

Total Depth: 13500 Ground Elevation: 2403 **Surface Casing: 750** Depth to base of Treatable Water-Bearing FM: 700

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

PIT 1 INFORMATION

Type of Pit System: CLOSED Closed System Means Steel Pits

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: C

Liner not required for Category: C

Pit Location is BED AQUIFER

Pit Location Formation: OGALLALA

Approved Method for disposal of Drilling Fluids:

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

PERMIT NO: 12-24050

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 BED AQUIFER

Pit Location Formation: OGALLALA

HORIZONTAL HOLE 1

Sec 28 Twp 16N Rge 25W County ROGER MILLS

Spot Location of End Point: W2 NE NE NE

Feet From: NORTH 1/4 Section Line: 330

Feet From: EAST 1/4 Section Line: 600

Depth of Deviation: 8134

Radius of Turn: 573

Direction: 1

Total Length: 4683

Measured Total Depth: 13500

True Vertical Depth: 8607

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

Notes:

Category	Description
INCREASED DENSITY - 613755	9/9/2013 - G30 - 28-16N-25W X67526/598333 TNKW 2 WELLS APACHE CORPORATION 7/12/13
LOCATION EXCEPTION - 613924	9/9/2013 - G30 - (I.O.) 28-16N-25W X67526/598333 TNKW SHL NCT 10 FSL, NCT 10 FEL 1ST PERF NCT 330 FSL, NCT 560 FEL LAST PERF NCT 330 FNL, NCT 560 FEL APACHE CORPORATION 7/17/13
MEMO	9/9/2013 - G30 - PIT 1 & 2 - CLOSED SYSTEM=STEEL PITS (PER OPERATOR OPTION); PIT 2 - OBM RETURNED TO VENDOR, CUTTINGS PERMITTED PER DISTRICT
SPACING - 67526	9/9/2013 - G30 - (640) 28-16N-25W EXT 60492/64766 TNKW