

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

API NUMBER: 119 24059

Approval Date: 04/17/2013  
Expiration Date: 10/17/2013

Horizontal Hole Oil & Gas

PERMIT TO DRILL

WELL LOCATION: Sec: 29 Twp: 19N Rge: 4E County: PAYNE  
SPOT LOCATION:  NW  NW  NW  NW FEET FROM QUARTER: FROM NORTH FROM WEST  
SECTION LINES: 190 200

Lease Name: PICKERING Well No: 20-2MH Well will be 190 feet from nearest unit or lease boundary.  
Operator Name: CALYX ENERGY LLC Telephone: 9189494224 OTC/OCC Number: 22299 0

CALYX ENERGY LLC  
10820 E 45TH ST STE 208  
TULSA, OK 74146-3807

JOHN W. PICKERING  
10817 E. 19TH ST.  
STILLWATER OK 74074

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

Name	Depth	Name	Depth
1 MISSISSIPPIAN	4019	6	
2		7	
3		8	
4		9	
5		10	

Spacing Orders: 597615

Location Exception Orders:

Increased Density Orders:

Pending CD Numbers: 201302288  
201302094

Special Orders:

Total Depth: 8930

Ground Elevation: 855

**Surface Casing: 300**

Depth to base of Treatable Water-Bearing FM: 250

Under Federal Jurisdiction: No

Fresh Water Supply Well Drilled: No

Surface Water used to Drill: Yes

PIT 1 INFORMATION

Type of Pit System: CLOSED Closed System Means Steel Pits

Type of Mud System: WATER BASED

Chlorides Max: 5000 Average: 3000

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: OSCAR

Approved Method for disposal of Drilling Fluids:

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

PERMIT NO: 13-22902

H. CLOSED SYSTEM=STEEL PITS PER OPERATOR REQUEST

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.

HORIZONTAL HOLE 1

Sec 20 Twp 19N Rge 4E County PAYNE

Spot Location of End Point: NE NW NW NW

Feet From: NORTH 1/4 Section Line: 165

Feet From: WEST 1/4 Section Line: 450

Depth of Deviation: 3356

Radius of Turn: 663

Direction: 5

Total Length: 4532

Measured Total Depth: 8930

True Vertical Depth: 4019

End Point Location from Lease,  
Unit, or Property Line: 165

Notes:

Category	Description
PENDING CD - 201302094	4/17/2013 - G75 - 20-19N-4E X597615 MSSP 1 WELL NO OP. NAMED REC 4-9-2013 (NORRIS)
PENDING CD - 201302288	4/17/2013 - G75 - (I.O.) 20-19N-4E X597615 MSSP COMPL. INT. NCT 165 FSL, NCT 165 FNL, NCT 330 FWL NO OP. NAMED REC 4-15-2013 (DECKER)
SPACING - 597615	4/17/2013 - G75 - (640)(HOR) 20-19N-4E VAC 377666 MSSLM EST MSSP, OTHERS POE TO BHL NCT 660' FB (SUPERSEDE NON-DEVELOPED NON-HORIZONTAL SPACING UNITS)