

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

API NUMBER: 125 23811

Approval Date: 05/15/2013

Expiration Date: 11/15/2013

Straight Hole Oil & Gas

PERMIT TO DRILL

WELL LOCATION: Sec: 16 Twp: 7N Rge: 4E

County: POTTAWATOMIE

SPOT LOCATION:  E2  SE  SW  NE

FEET FROM QUARTER: FROM SOUTH FROM WEST

SECTION LINES: 330 1150

Lease Name: BURKE STATE

Well No: 22

Well will be 330 feet from nearest unit or lease boundary.

Operator Name: ARROWHEAD OPERATING INC

Telephone: 4326839700

OTC/OCC Number: 22963 0

ARROWHEAD OPERATING INC  
10 DESTA DR STE 550E  
MIDLAND, TX 79705-4534

ARROWHEAD OPERATING INC.  
10 DESTA DRIVE, SUITE. 550 E  
MIDLAND TX 79705

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

Name	Depth	Name	Depth
1 CALVIN	3300	6 SYLVAN	4000
2 SENORA	3400	7 VIOLA	4100
3 EARLSBORO	3600	8 SIMPSON	4220
4 WOODFORD	3700	9	
5 HUNTON	3750	10	

Spacing Orders: No Spacing

Location Exception Orders:

Increased Density Orders:

Pending CD Numbers:

Special Orders:

Total Depth: 4400

Ground Elevation: 944

**Surface Casing: 130**

Depth to base of Treatable Water-Bearing FM: 40

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: 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: 1B

Liner required for Category: 1B

Pit Location is BED AQUIFER

Pit Location Formation: OSCAR

Approved Method for disposal of Drilling Fluids:

A. Evaporation/dewater and backfilling of reserve pit.

H. SOIL COMPACTED PIT, NOTIFY DISTRICT PRIOR TO TESTING SOIL PIT LINER

Notes:

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.

Category

Description

SPACING

5/14/2013 - G30 - FORMATIONS UNSPACED, 160 ACRE LEASE (NE4)

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.

125 23811 BURKE STATE 22

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