

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

API NUMBER: 083 24375

Approval Date: 02/10/2015

Expiration Date: 08/10/2015

Straight Hole Oil & Gas

PERMIT TO DRILL

WELL LOCATION: Sec: 19 Twp: 17N Rge: 4W

County: LOGAN

SPOT LOCATION:

FEET FROM QUARTER: FROM SOUTH FROM WEST

SECTION LINES: 660 330

Lease Name: NORWOOD

Well No: 1-19

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

Operator Name: ARROWHEAD ENERGY INC

Telephone: 4058485777

OTC/OCC Number: 10239 0

ARROWHEAD ENERGY INC
2934 NW 156TH ST
EDMOND, OK 73013-2102

IRVING NORWOOD
112 ESCADA LANE
LAS VEGAS NV 73013

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

Name	Depth	Name	Depth
1 HOOVER	4400	6 SKINNER	6200
2 TONKAWA	4700	7 RED FORK	6300
3 LAYTON	5300	8 MISSISSIPPI LIME	6400
4 OSWEGO	5950	9 WOODFORD	6900
5 PRUE	6150	10 HUNTON	7000

Spacing Orders: 59564
63977
61637

Location Exception Orders:

Increased Density Orders:

Pending CD Numbers: 201409435
201409436

Special Orders:

Total Depth: 7250

Ground Elevation: 1079

Surface Casing: 500

Depth to base of Treatable Water-Bearing FM: 300

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: 4500 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 AP/TE DEPOSIT

Pit Location Formation: TERRACE

Approved Method for disposal of Drilling Fluids:

A. Evaporation/dewater and backfilling of reserve pit.

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

PERMIT NO: 15-29566

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
FRAC FOCUS	2/9/2015 - G71 - THE REQUIREMENT FOR CHEMICAL DISCLOSURE OF HYDRAULIC FRACTURING INGREDIENTS WILL BE EXTENDED TO INCLUDE ALL NON-HORIZONTAL WELLS FOR HYDRAULIC FRACTURING OPERATIONS BEGINNING JANUARY 1, 2014. REFER TO OCC RULE 165:10-3-10 FOR COMPLIANCE REQUIREMENTS. PLEASE REPORT DIRECTLY TO FRACFOCUS USING THE FOLLOWING LINK HTTP://FRACFOCUS.ORG/ OR FOR OCC ASSISTANCE CONTACT DENNIS NISKERN AT 405-522-2977 OR D.NISKERN@OCCEMAIL.COM
PENDING CD - 201409435	2/10/2015 - G75 - NW4 19-17N-4W X59564/61637 MSSLM X63977 HOVR, TNKW, LYTN, PRUE 330 FWL, 660 FSL NO OP. NAMED REC 1-27-2015 (LEAVITT)
PENDING CD - 201409436	2/10/2015 - G75 - NW4 19-17N-4W X59564/61637 MSSLM 1 WELL NO OP. NAMED REC 1-27-2015 (LEAVITT)
SPACING	2/10/2015 - G75 - OSWEGO, SKINNER, RED FORK, WOODFORD, HUNTON UNSPACED; 160-ACRE LEASE (NW4)
SPACING - 59564	2/10/2015 - G75 - (160) 19-17N-4W VAC 44223/VAR MSMR EST MSSLM
SPACING - 61637	2/10/2015 - G75 - MOD/CLARIFY 59564/VAR FOR UNIT SIZE & FLARING
SPACING - 63977	2/10/2015 - G75 - (160) 19-17N-4W EST HOVR, TNKW, LYTN, PRUE, OTHERS
SURFACE CASING	2/9/2015 - G71 - MIN. 500' PER ORDER # 59052/66227