

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

API NUMBER: 083 24389

Approval Date: 06/02/2016

Expiration Date: 12/02/2016

Straight Hole

Oil & Gas

PERMIT TO DRILL

WELL LOCATION: Sec: 16 Twp: 17N Rge: 4W

County: LOGAN

SPOT LOCATION: C

S2

SW

SE

FEET FROM QUARTER: FROM

SOUTH

FROM

WEST

SECTION LINES:

330

660

Lease Name: JONES

Well No: 1-16

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

GARY LEE JONES

15828 WEST COUNTY ROAD 74

CRESCENT OK 73028

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

	Name	Depth		Name	Depth
1	LAYTON MID	5050	6	MISSISSIPPI LIME	6050
2	OSWEGO	5700	7	WOODFORD	6200
3	PRUE	5850	8	HUNTON	6300
4	SKINNER	5925	9	VIOLA	6430
5	RED FORK	6000	10		

Spacing Orders: 16499
57766
62015
62761

Location Exception Orders:

Increased Density Orders:

Pending CD Numbers:

Special Orders:

Total Depth: 6600

Ground Elevation: 0

Surface Casing: 500

Depth to base of Treatable Water-Bearing FM: 380

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? Y

Wellhead Protection Area? Y

Pit is located in a Hydrologically Sensitive Area.

Category of Pit: 1A

Liner required for Category: 1A

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: 16-31294

H. 20-MIL PIT LINER REQUIRED

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
HYDRAULIC FRACTURING	5/9/2016 - G71 - OCC 165:10-3-10 REQUIRES: 1) THE CHEMICAL DISCLOSURE OF HYDRAULIC FRACTURING INGREDIENTS FOR ALL WELLS BE REPORTED TO FRACFOCUS USING THE FOLLOWING LINK HTTP://FRACFOCUS.ORG/ WITH NOTICE GIVEN 48 HOURS IN ADVANCE OF FRACTURING TO THE LOCAL OCC DISTRICT OFFICE; AND, 2) PRIOR TO COMMENCEMENT OF FRACTURING OPERATIONS FOR HORIZONTAL WELLS, NOTICE ALSO GIVEN FIVE BUSINESS DAYS IN ADVANCE TO OFFSET OPERATORS WITH WELLS COMPLETED IN THE SAME COMMON SOURCE OF SUPPLY WITHIN 1/2 MILE.
PUBLIC WATER SUPPLY WELLS	5/9/2016 - G71 - CRESCENT, 2 PWS/WPA, NE4 20 & SW4 21-17N-4W
SPACING	6/1/2016 - G64 - FORMATIONS UNSPACED EXCEPT MIDDLE LAYTON, MISSISSIPPI LIME & HUNTON; 40-ACRE LEASE (SW4 SE4)
SPACING - 16499	6/1/2016 - G64 - (40) E2 16-17N-4W EXT 14134 LYTNM, OTHERS
SPACING - 57766	6/1/2016 - G64 - (80) 16-17N-4W SU SLOT (1965) NE/SW (1971) EXT 44223/56945 MSMR (AMD BY 62761 TO MSSLM)
SPACING - 62015	6/1/2016 - G64 - (80) 16-17N-4W LD SLOT (1966) NE/SW (1971) EST HNTN
SPACING - 62761	6/1/2016 - G64 - (80) 16-17N-4W AMD 44223/56945/57766 CHANGING MSMR TO MSSLM
SURFACE CASING	5/9/2016 - G71 - MIN. 500' PER ORDER # 59052/66227
SURFACE LOCATION	6/1/2016 - G64 - 330' FSL, 660' FWL SE4 16-17N-4W PER STAKING PLAT

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083 24389 JONES 1-16