

Must be approved by the K.C.C. five (5) days prior to commencing well

Expected Spud Date May 22, 1990 NE SW NE Sec 20 Twp 9 S, Rg 22 X East
 month day year

OPERATOR: License # 5533
 Name: ARROWHEAD PETROLEUM, INC.
 Address: P. O. Box 8287 - Munger Station
 City/State/Zip: Wichita, Kansas 67208
 Contact Person: Todd Seymour
 Phone: 316/681-3921

CONTRACTOR: License #: 5929
 Name: DUKE DRILLING CO., INC.

Well Drilled For: Well Class: Type Equipment:
 Oil Inj Infield Mud Rotary
 Gas Storage Pool Ext. Air Rotary
 OAWO Disposal Wildcat Cable
 Seismic; # of Holes

If OAWO: old well information as follows:
 Operator:
 Well Name:
 Comp. Date: Old Total Depth

Directional, Deviated or Horizontal wellbore? yes X no
 If yes, total depth locations:

3630 feet from South line of Section
 1650 feet from East line of Section
 (Note: Locate well on Section Plat Below)

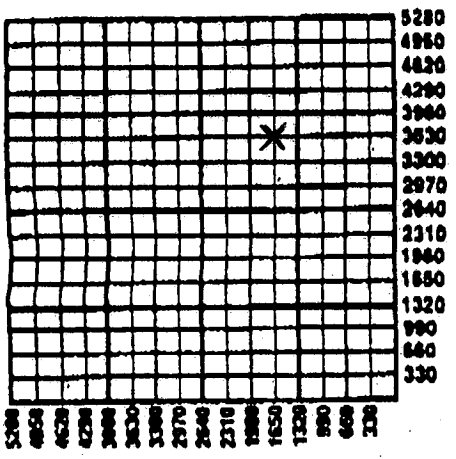
County: Graham
 Lease Name: Penning Well #: 1
 Field Name: Redline NW
 Is this a Prorated Field? yes X no
 Target Formation(s): Lans, B-KC
 Nearest lease or unit boundary: 1650'
 Ground Surface Elevation: Unknown feet MSL
 Domestic well within 330 feet: yes X no
 Municipal well within one mile: yes X no
 Depth to bottom of fresh water: 100'
 Depth to bottom of usable water: 1100'
 Surface Pipe by Alternate: 1 X 2
 Length of Surface Pipe Planned to be set: 200'
 Length of Conductor pipe required: N/A
 Projected Total Depth: 3900'
 Formation at Total Depth: B-Kansas City
 Water Source for Drilling Operations:
 well farm pond X other
 OWR Permit #:
 Will Cores Be Taken? yes X no
 If yes, proposed zone:

AFFIDAVIT

The undersigned hereby affirms that the drilling, completion and eventual plugging of this well will comply with K.S.A. 55-101, et. seq.

- It is agreed that the following minimum requirements will be met:
1. The appropriate district office shall be notified before setting surface pipe;
 2. The minimum amount of surface pipe as specified above shall be set by circulating cement to the top; in all cases surface pipe shall be set through all unconsolidated materials plus a minimum of 20 feet into the underlying formation;
 3. If the well is dry, a plugging proposal shall be submitted to the district office. An agreement between the operator and the district office on plug length and placement is necessary prior to plugging;
 4. The appropriate district office will be notified before well is either plugged or production casing is cemented in;
 5. If an Alternate II completion, production pipe shall be cemented from below any usable water to surface within 120 days of spud date. In all cases, notify district office prior to any cementing.
- I hereby certify that the statements made herein are true and to the best of my knowledge and belief.

Date: 5/21/90 Signature of Operator or Agent: Sally R. Byers Title: Agent



RECEIVED
 STATE COOPERATION COMMISSION
 MAY 21 1990

FOR KCC USE:
 API # 15- 065-22,578-00-00
 Conductor pipe required NONE feet
 Minimum surface pipe required 200 feet per Alt. X ②
 Approved by DR 5-21-90
 EFFECTIVE DATE: 5-26-90
 This authorization expires: 11-21-90
 (This authorization void if drilling not started within 6 months of effective date.)
 Spud date: _____ Agent: _____

- REMEMBER TO:
- File Drill Pit Application (form CDP-1) with Intent to Drill;
 - File Completion Form ACO-1 within 120 days of spud date;
 - File acreage attribution plat according to field proration orders;
 - Notify appropriate district office 48 hours prior to workover or re-entry;
 - Submit plugging report (CP-4) after plugging is completed;
 - Obtain written approval before disposing or injecting salt water.