

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

API NUMBER: 129 23884

Approval Date: 10/17/2013
Expiration Date: 04/17/2014

Horizontal Hole Oil & Gas

PERMIT TO DRILL

WELL LOCATION: Sec: 34 Twp: 16N Rge: 23W County: ROGER MILLS
SPOT LOCATION: NW SW SE SW FEET FROM QUARTER: FROM SOUTH FROM WEST
SECTION LINES: 390 1450

Lease Name: SOPHIA 34-16-23 Well No: 1H Well will be 390 feet from nearest unit or lease boundary.
Operator Name: APACHE CORPORATION Telephone: 9184914900 OTC/OCC Number: 6778 0

APACHE CORPORATION
6120 S YALE AVE STE 1500
TULSA, OK 74136-4224

GARY LEDDY
8247 N. 1920 RD.
LEEDEY OK 73654

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

Name	Depth	Name	Depth
1 TONKAWA	8490	6	
2		7	
3		8	
4		9	
5		10	

Spacing Orders: 208270 Location Exception Orders: Increased Density Orders: 614288

Pending CD Numbers: 201306122 Special Orders:

Total Depth: 12983 Ground Elevation: 2139 Surface Casing: 600 Depth to base of Treatable Water-Bearing FM: 520

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: 8000 Average: 5000

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: CLOUD CHIEF

Approved Method for disposal of Drilling Fluids:

A. Evaporation/dewater and backfilling of reserve pit.

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

H. SEE MEMO

PERMIT NO: 13-24660

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.

PIT 2 INFORMATION

Type of Pit System: ON SITE
Type of Mud System: OIL BASED
Chlorides Max: 300000 Average: 200000
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: 3
Liner required for Category: 3
Pit Location is BED AQUIFER
Pit Location Formation: CLOUD CHIEF

HORIZONTAL HOLE 1

Sec 34 Twp 16N Rge 23W County ROGER MILLS
Spot Location of End Point: W2 NE NE NW
Feet From: NORTH 1/4 Section Line: 330
Feet From: WEST 1/4 Section Line: 2070
Depth of Deviation: 7813
Radius of Turn: 665
Direction: 5
Total Length: 4125
Measured Total Depth: 12983
True Vertical Depth: 8505
End Point Location from Lease,
Unit, or Property Line: 330

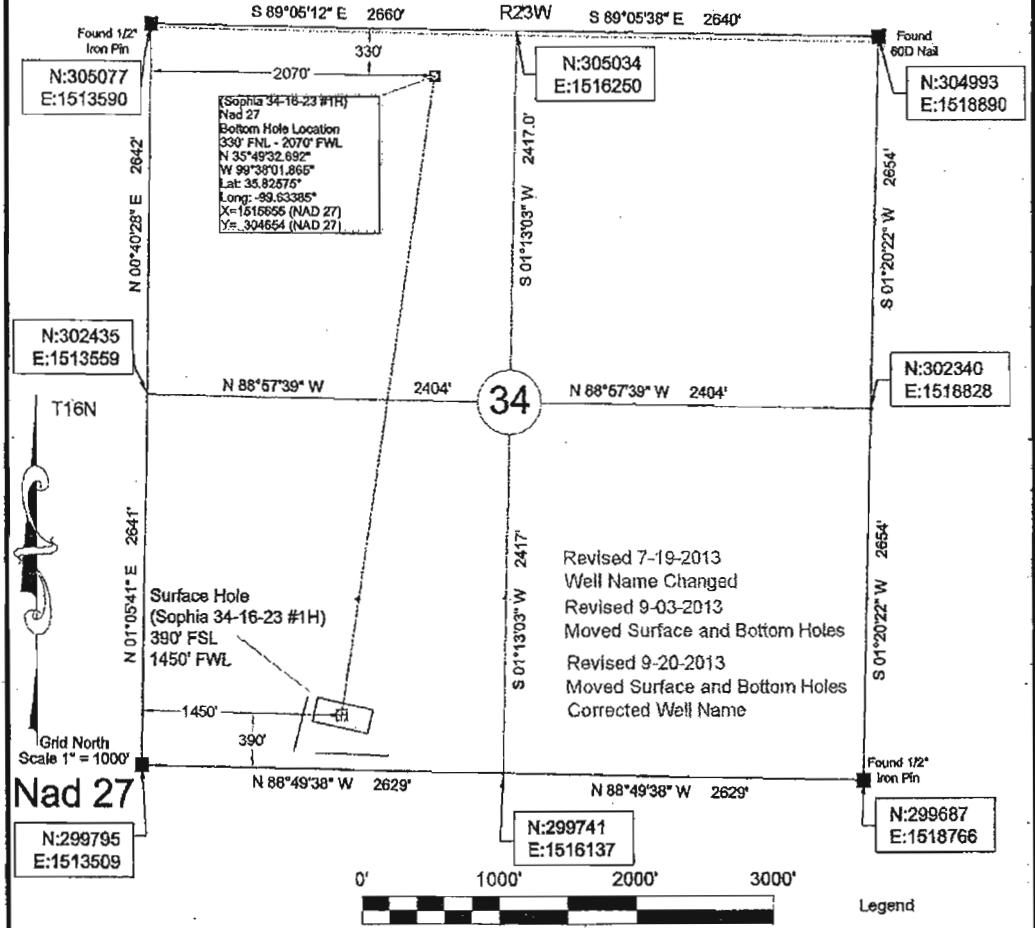
Notes:

Table with 2 columns: Category, Description. Contains notes about INCREASED DENSITY, MEMO, PENDING CD, and SPACING.

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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.

API 129-23884

Roger Mills County, Oklahoma.
 BHL 330' FNL -2070' FWL, Section 34, T 16 N, R 23 W.I.M.



BOTTOM HOLE INFORMATION PROVIDED BY OPERATOR LISTED, NOT SURVEYED.
 CORNER COORDINATES ARE TAKEN FROM POINTS SURVEYED IN THE FIELD.

OPERATOR: Apache Corporation WELL NO.: 1H
 LEASE NAME: Sophia 34-16-23

ELEVATION:
 2139' Gr. at stake

TOPOGRAPHY & VEGETATION: Level to slope grass pasture.

GOOD DRILL SITE: Yes REFERENCE STAKES OR ALTERNATE LOCATION STAKES SET: None

BEST ACCESSIBILITY TO LOCATION: From the northeast
 DISTANCE & DIRECTION
 FROM HWY JCT OR TOWN: Beginning at the intersection of Hwy 33 and Hwy 47 E, east on Hwy 47 E for 5.0 mi. to CR N1890 Rd, north on said CR N1890 Rd for 1.0 mi. to CR E0840 Rd, continue on CR E0840 Rd 0.3 mi. to CR N1890 Rd, north on CR 1890 Rd for 0.5 mi. to CR E0825 Rd, east on CR E0825 Rd 0.2 mi. to CR N1890 Rd, north on CR N1890 Rd to lease road on west side, southwesterly on lease road 0.8 mi., south 430 feet to location stake.

REVISION: September 20, 2013 DATE OF DRAWING: September 20, 2013
 INVOICE #: 18111 DATE STAKED: August 28, 2013

STAKED SURFACE HOLE We do hereby certify that this survey was done in accordance to records, maps and other information as provided to us by the client herein named and that great care was taken in the actual staking of this well and the determination of any obstacles thereupon. However, the accuracy of this survey is not guaranteed and if there appears to be any discrepancy, please notify us immediately.

DATUM: NAD 27
 N: 35°48'48.088"
 W: 99°38'09.317"
 LAT: 35.81336°
 LONG: -99.63592°
 STATE PLANE
 COORDINATES: (US FEET)
 ZONE: OK NORTH
 X: 1614886
 Y: 300156

48 HOURS BEFORE YOU DRILL.
 CALL ONE
 1-800-622-6543

Drilled offices are not necessarily shown. It is the contractor's responsibility to locate and preserve all utility services. Contractor is responsible for contacting all utility companies prior to construction.

09-20-13

 Survey is valid only if print has original seal and signature of surveyor present

JVIDENS LAND SURVEY CO., INC. 1210 18TH STREET / P.O. BOX 943 WOODWARD, OKLAHOMA 73802 Phone 580-255-7174 - Fax 580-268-3424 roger@jvidenslandsurvey.com mike@jvidenslandsurvey.com	Survey For: Apache Corporation 6120 South Yale Avenue, Ste. 1500 Tulsa, Oklahoma 74136	JOB 384-13	DATE OF PLAT 07-17-2013	SCALE 1"=1000'	SHEET 1 OF 4
	DRAWN BY D.W.K.	OKLA. CA #2064, EXP. 08/30/2015 KANSAS CA #143, EXP. 12/31/2014			