

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

API NUMBER: 011 23724

Approval Date: 01/12/2017
Expiration Date: 07/12/2017

Horizontal Hole Oil & Gas

PERMIT TO DRILL

WELL LOCATION: Sec: 20 Twp: 15N Rge: 11W County: BLAINE
SPOT LOCATION: SW SW SW SE FEET FROM QUARTER: FROM SOUTH FROM EAST
SECTION LINES: 225 2410

Lease Name: CALMUS BIA Well No: 1H-2017X Well will be 225 feet from nearest unit or lease boundary.
Operator Name: CIMAREX ENERGY CO Telephone: 9185851100 OTC/OCC Number: 21194 0

CIMAREX ENERGY CO
202 S CHEYENNE AVE STE 1000
TULSA, OK 74103-3001

MARK STRACK
128 N. CHEYENNE
GEARY OK 73040

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

Name	Depth	Name	Depth
1 MISSISSIPPIAN	10500	6	
2 MISSISSIPPI	11500	7	
3		8	
4		9	
5		10	

Spacing Orders: 650970
579155

Location Exception Orders:

Increased Density Orders:

Pending CD Numbers: 201600298
201600299

Special Orders:

Total Depth: 21633

Ground Elevation: 1459

Surface Casing: 1500

Depth to base of Treatable Water-Bearing FM: 40

Under Federal Jurisdiction: Yes

Fresh Water Supply Well Drilled: No

Surface Water used to Drill: No

PIT 1 INFORMATION

Type of Pit System: CLOSED Closed System Means Steel Pits

Type of Mud System: WATER BASED

Chlorides Max: 10000 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: C

Liner not required for Category: C

Pit Location is ALLUVIAL

Pit Location Formation: ALLUVIUM

Approved Method for disposal of Drilling Fluids:

D. One time land application -- (REQUIRES PERMIT) PERMIT NO: 17-31992
H. CLOSED SYSTEM=STEEL PITS PER OPERATOR REQUEST

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.

HORIZONTAL HOLE 1

Sec 17 Twp 15N Rge 11W County BLAINE

Spot Location of End Point: NW NW NW NE

Feet From: NORTH 1/4 Section Line: 1

Feet From: EAST 1/4 Section Line: 2560

Depth of Deviation: 11147

Radius of Turn: 477

Direction: 359

Total Length: 9737

Measured Total Depth: 21633

True Vertical Depth: 12250

End Point Location from Lease,
Unit, or Property Line: 1

Notes:

Category	Description
DEEP SURFACE CASING	1/11/2017 - G71 - APPROVED; NOTIFY OCC FIELD INSPECTOR IMMEDIATELY FOR ANY LOSS OF CIRCULATION OR FAILURE TO CIRCULATE CEMENT TO SURFACE ON CONDUCTOR OR SURFACE CASING
HYDRAULIC FRACTURING	1/11/2017 - 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
INTERMEDIATE CASING	1/11/2017 - G71 - DUE TO THE KNOWN POTENTIAL RISK OF ENCOUNTERING AN OVER-PRESSURED ZONE IN THE MORROW SERIES IN THIS AREA, THE TECHNICAL MANAGER RECOMMENDS SETTING AN INTERMEDIATE STRING OF CASING IMMEDIATELY ABOVE THE MORROW SERIES
PENDING CD - 201600298	1/12/2017 - G75 - (E.O.) 20 & 17-15N-11W EST MULTIUNIT HORIZONTAL WELL XOTHER X650970 MSSP 20-15N-11W X579155 MISS, OTHER 17-15N-11W 50% 20-15N-11W 50% 17-15N-11W CIMAREX ENERGY CO. REC 1-10-2017 (MCKEOWN)
PENDING CD - 201600299	1/12/2017 - G75 - (E.O.) 20 & 17-15N-11W XOTHER X650970 MSSP 20-15N-11W X579155 MISS, OTHER 17-15N-11W COMPL. INT. (20-15N-11W) NCT 150' FSL, NCT 0' FNL, NCT 2300' FEL COMPL. INT. (17-15N-11W) NCT 0' FSL, NCT 150' FNL, NCT 2300' FEL CIMAREX ENERGY CO. REC 1-10-2017 (MCKEOWN)
SPACING - 579155	1/12/2017 - G75 - (640) 17-15N-11W EXT OTHER EST MISS, OTHER
SPACING - 650970	1/12/2017 - G75 - (640)(HOR) 20-15N-11W EXT 648713 MSSP, OTHERS EST OTHER COMPL. INT. NLT 660' FB (COEXIST SP. ORDER # 578939 MISS)

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.



Well Location Plat

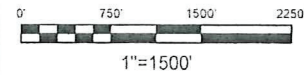
S.H.L. Sec. 20-15N-11W I.M.
B.H.L. Sec. 17-15N-11W I.M.

Operator : CIMAREX ENERGY COMPANY
Lease Name and No. : CALMUS BIA 1H-2017X
Footage : 225' FSL - 2410' FEL GR. ELEVATION : 1459' Good Site? YES
Section : 20 Township : 15N Range : 11W I.M.
County : Blaine State of Oklahoma

API 011-23724

Terrain at Loc. : Location fell in a wheat field, ±335' Northeast of NW-SE Railroad, and ±210' North of E-W County Rd.
Accessibility : From the North.

Directions : From the junction of State Hwy 33/3 & U.S. Hwy 270/281 in Watonga, OK, go 6.4 miles South on U.S. Hwy 270/281 to the South Line of Section 20-15N-11W, and go ±550' East on "EW 87 Rd." Location will be to the North.



GPS DATUM
NAD 83
OK NORTH ZONE
NAD 27
OK NORTH ZONE

Surface Hole Loc. :
Lat : 35.75476790
Lon : -98.39236274
X : 1852080
Y : 274984

Surface Hole Loc. :
Lat : 35.75472116
Lon : -98.39201667
X : 1883680
Y : 274960

Landing Point.
Lat : 35.75616652
Lon : -98.39286585
X : 1851933
Y : 275494

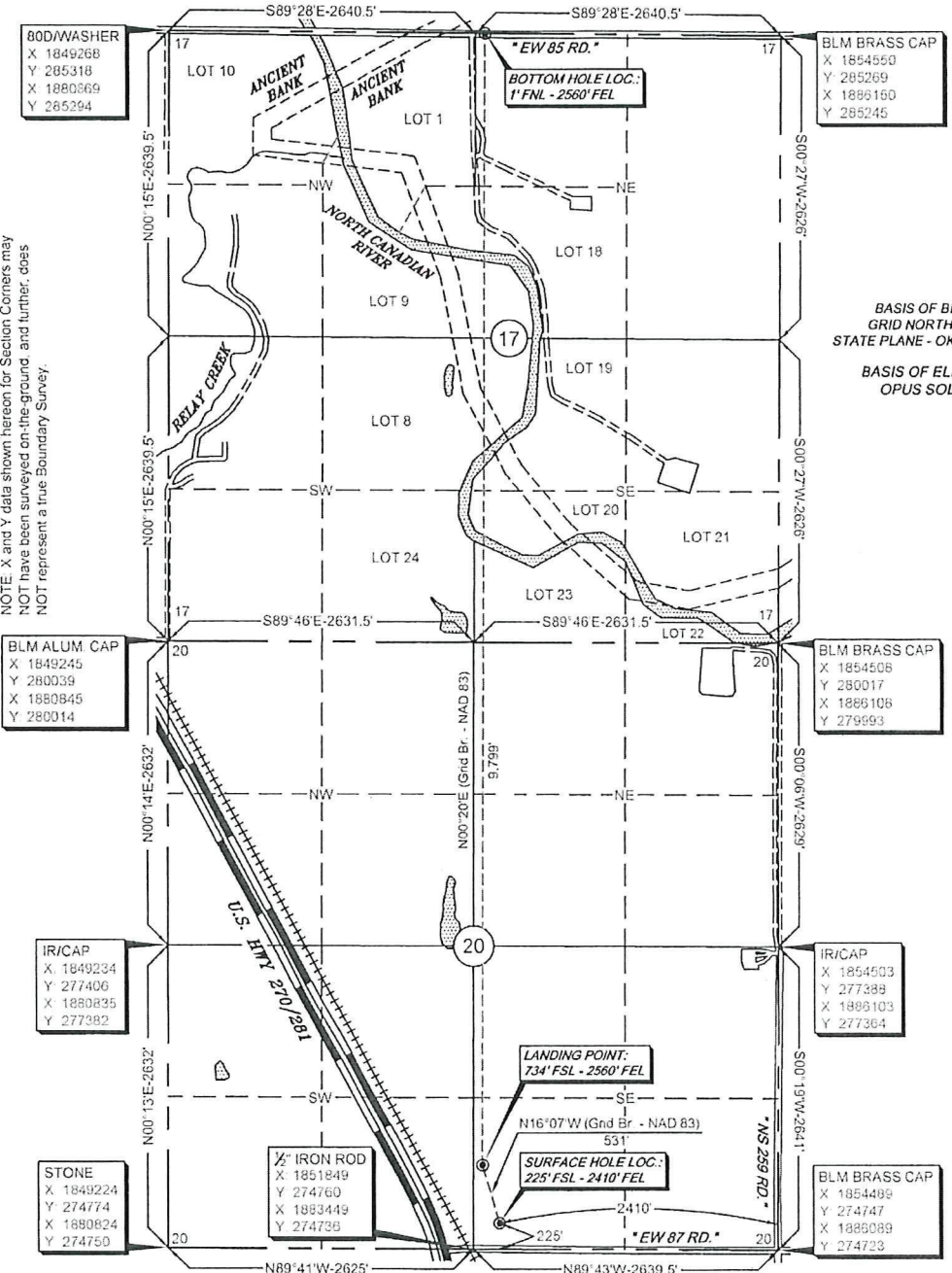
Landing Point.
Lat : 35.75612120
Lon : -98.39251939
X : 1883533
Y : 275469

Bottom Hole Loc
Lat : 35.78308465
Lon : -98.39280650
X : 1851990
Y : 285292

Bottom Hole Loc.
Lat : 35.78304137
Lon : -98.39245767
X : 1883590
Y : 285268

Please note that this location was staked on the ground under the supervision of a Licensed Professional Land Surveyor, but the accuracy of this survey is not guaranteed. Please contact Arkoma Surveying and Mapping promptly if any inconsistency is determined. GPS data is observed from RTK - GPS.

Quarter: Section distances may be assumed from a Government Survey Plat or assumed at a proportionate distance from opposing section corners, or occupation thereof, and may not have been measured on-the-ground, and further, does not represent a true boundary survey.
NOTE: X and Y data shown hereon for Section Corners may NOT have been surveyed on-the-ground, and further, does NOT represent a true Boundary Survey.



survey and plat by:
Arkoma Surveying and Mapping, PLLC
P.O. Box 238 Wilburton, OK 74578
Ph. 918-465-5711 Fax 918-465-5030
Certificate of Authorization No. 5348
Expires June 30, 2016

Invoice #6023
Date Staked : 12/10/15 By : J.W.
Date Drawn : 12/14/15 By : K.M.
Added LP/ Rev. Lse. Name : 12/22/15 By : J.H.
Changed Lots/Ancient Banks : 02/18/16 By : K.M.

Certification:
This is to certify that this Well Location Plat represents the results of a survey made on the ground performed under the supervision of the undersigned.

Lance G. Mathis
LANCE G. MATHIS 02/18/16
OK LPLS 1664

