

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

API NUMBER: 017 25356

Approval Date: 01/15/2019

Expiration Date: 07/15/2020

Horizontal Hole  
Multi Unit

Oil & Gas

PERMIT TO DRILL

WELL LOCATION: Sec: 19 Twp: 13N Rge: 8W

County: CANADIAN

SPOT LOCATION:

FEET FROM QUARTER: FROM SOUTH FROM EAST

SECTION LINES: 340 1690

Lease Name: LEOTA

Well No: 10H-1918X

Well will be 340 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

LEOTA HARMAN REV. TRUST C/O DAVID HARMAN  
5600 NORTH BRANDLEY ROAD  
CALUMET OK 73014

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

|   | Name     | Depth | Name | Depth |
|---|----------|-------|------|-------|
| 1 | WOODFORD | 11500 | 6    |       |
| 2 |          |       | 7    |       |
| 3 |          |       | 8    |       |
| 4 |          |       | 9    |       |
| 5 |          |       | 10   |       |

Spacing Orders: 183538  
210676  
188458  
686875

Location Exception Orders: 686876  
686879

Increased Density Orders: 686386  
686385

Pending CD Numbers:

Special Orders:

Total Depth: 21432

Ground Elevation: 1376

**Surface Casing: 1500**

Depth to base of Treatable Water-Bearing FM: 300

Under Federal Jurisdiction: No

Fresh Water Supply Well Drilled: No

Surface Water used to Drill: Yes

**PIT 1 INFORMATION**

Approved Method for disposal of Drilling Fluids:

Type of Pit System: CLOSED Closed System Means Steel Pits

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? N

Wellhead Protection Area? N

Pit is not located in a Hydrologically Sensitive Area.

Category of Pit: C

Liner not required for Category: C

Pit Location is NON HSA

Pit Location Formation: DOG CREEK

D. One time land application -- (REQUIRES PERMIT) PERMIT NO: 18-35553  
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 18 Twp 13N Rge 8W County CANADIAN

Spot Location of End Point: NW NW NE NE

Feet From: NORTH 1/4 Section Line: 150

Feet From: EAST 1/4 Section Line: 1100

Depth of Deviation: 11091

Radius of Turn: 477

Direction: 5

Total Length: 9592

Measured Total Depth: 21432

True Vertical Depth: 11510

End Point Location from Lease,  
Unit, or Property Line: 150

## Notes:

### Category

### Description

DEEP SURFACE CASING

11/17/2018 - G71 - APPROVED; NOTIFY OCC FIELD INSPECTOR IMMEDIATELY FOR ANY LOSS OF CIRCULATION OR FAILURE TO CIRCULATE CEMENT TO SURFACE ON CONDUCTOR OR SURFACE CASING

EXCEPTION TO RULE - 686879

1/11/2019 - G75 - (I.O.) 19 & 18-13N-8W  
X165:10-3-28(C)(2)(B) WDFD (LEOTA 10H-1918X)  
MAY BE CLOSER THAN 600' TO EXISTING/PROPOSED WELL  
CIMAREX ENERGY CO.  
11-19-2018

HYDRAULIC FRACTURING

11/17/2018 - G71 - OCC 165:10-3-10 REQUIRES:

1) PRIOR TO COMMENCEMENT OF HYDRAULIC FRACTURING OPERATIONS FOR HORIZONTAL WELLS, NOTICE GIVEN FIVE BUSINESS DAYS IN ADVANCE TO OFFSET OPERATORS WITH WELLS COMPLETED IN THE SAME COMMON SOURCE OF SUPPLY WITHIN 1/2 MILE;

2) WITH NOTICE ALSO GIVEN 48 HOURS IN ADVANCE OF HYDRAULIC FRACTURING ALL WELLS TO BOTH THE OCC CENTRAL OFFICE AND LOCAL DISTRICT OFFICES, USING THE "FRAC NOTICE FORM" FOUND AT THE FOLLOWING LINK: [OCCEWEB.COM/OG/OGFORMS.HTML](http://OCCEWEB.COM/OG/OGFORMS.HTML); AND,

3) THE CHEMICAL DISCLOSURE OF HYDRAULIC FRACTURING INGREDIENTS FOR ALL WELLS TO BE REPORTED TO FRACFOCUS WITHIN 60 DAYS AFTER THE CONCLUSION THE HYDRAULIC FRACTURING OPERATIONS, USING THE FOLLOWING LINK: [FRACFOCUS.ORG](http://FRACFOCUS.ORG)

INCREASED DENSITY - 686385

1/11/2019 - G75 - 18-13N-8W  
X210676 WDFD \*\*  
11 WELLS  
CIMAREX ENERGY CO.  
11-8-2018

\*\* S/B X183538/210676 WDFD; NUNC PRO TUNC HAS BEEN PREPARED BY ATTORNEY FOR OPERATOR AND A COPY REVIEWED BY OCC

INCREASED DENSITY - 686386

1/11/2019 - G75 - 19-13N-8W  
X188458 WDFD  
11 WELLS  
CIMAREX ENERGY CO.  
11-8-2018

LOCATION EXCEPTION - 686876

1/11/2019 - G75 - (I.O.) 19 & 18-13N-8W  
X188458 WDFD 19-13N-8W  
X210676 WDFD 18-13N-8W \*\*  
COMPL. INT. (19-13N-8W) NCT 150' FSL, NCT 0' FNL, NCT 1020' FEL  
COMPL. INT. (18-13N-8W) NCT 0' FSL, NCT 150' FNL, NCT 1020' FEL  
CIMAREX ENERGY CO.  
11-19-2018

\*\* S/B X183538/210676 WDFD 18-13N-8W; TO BE CORRECTED AT HEARING FOR FINAL ORDER PER ATTORNEY FOR OPERATOR

This permit does not address the right of entry or settlement of surface damages.

017 25356 LEOTA 10H-1918X

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  |
|------------------|--|
| SPACING - 183538 | 1/11/2019 - G75 - (640) 18-13N-8W<br>EXT OTHERS<br>EST WDFD, OTHERS  |
| SPACING - 188458 | 1/11/2019 - G75 - (640) 19-13N-8W<br>EXT 183538 WDFD, OTHER<br>EXT OTHERS<br>EST OTHER   |
| SPACING - 210676 | 1/11/2019 - G75 - NPT 183538 TO ADD VIOL & SMPS 20-13N-8W  |
| SPACING - 686875 | 1/11/2019 - G75 - (I.O.) 19 & 18-13N-8W<br>EST MULTIUNIT HORIZONTAL WELL<br>X188458 WDFD 19-13N-8W<br>X210676 WDFD 18-13N-8W **<br>50% 19-13N-8W<br>50% 18-13N-8W<br>CIMAREX ENERGY CO.<br>11-19-2018<br><br>** S/B X183538/210676 WDFD 18-13N-8W; TO BE CORRECTED AT HEARING FOR FINAL ORDER<br>PER ATTORNEY FOR OPERATOR |

# TOPOGRAPHIC LAND SURVEYORS OF OKLAHOMA

13800 WIRELESS WAY, OKLA. CITY, OKLA. 73134 \* LOCAL (405) 843-4847 \* OUT OF STATE (800) 654-3219  
Certificate of Authorization No. 1293 LS

API 017-25356

CANADIAN

County, Oklahoma

340'FSL-1690'FEL Section 19 Township 13N Range 8W I.M.

X= 1972622  
Y= 221841

X= 1975262  
Y= 221851

X= 1970045  
Y= 221833

BOTTOM HOLE  
150'FNL-1100'FEL  
NAD-27 (US Feet)  
35°36'32.4"N  
98°05'12.9"W  
35.609008488°N  
98.086917163°W  
X= 1974163  
Y= 221697

EXISTING WELL

EXISTING WELL

X= 1975280  
Y= 219203

EXISTING WELL

EXISTING WELL

X= 1975298  
Y= 216555

X= 1972668  
Y= 216538

X= 1970101  
Y= 216522

LOT 1

LOT 2

X= 1970093  
Y= 213881

LOT 3

LOT 4

LANDING POINT  
150'FSL-1100'FEL  
NAD-27 (US Feet)  
35°34'50.7"N  
98°05'12.2"W  
35.580737370°N  
98.086725708°W  
X= 1974210  
Y= 211406

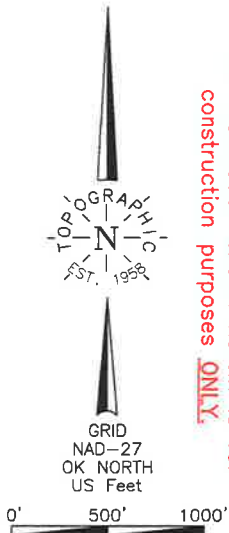
X= 1975306  
Y= 213906

X= 1975311  
Y= 211262

X= 1972667  
Y= 211248

LANDING POINT

**NOTE:**  
The information shown herein is for  
construction purposes ONLY.



Operator: CIMAREX ENERGY CO.  
Lease Name: LEOTA  
Topography & Vegetation: Loc. fell in farm land.  
Good Drill Site? Yes  
Reference Stakes or Alternate Location: Stakes Set None  
Best Accessibility to Location: From South off county road.  
Distance & Direction: From Columnet. OK, go South on US Hwy. 270 ±1.3 miles, then go East ±2 mile to the SE Cor. of Sec. 19-T13N-R8W.

**ELEVATION:**  
1376' Gr. at Stake NGVD29

X= 1970085  
Y= 211240

LANDING POINT, BOTTOM HOLE, AND DRILL PATH INFORMATION PROVIDED BY OPERATOR LISTED, NOT SURVEYED.

Date of Drawing: Aug. 23, 2018

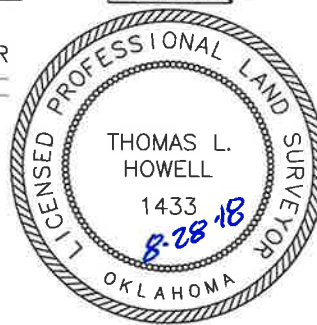
Invoice # 300586C Date Staked: Aug. 16, 2018

TR

## CERTIFICATE:

I, Thomas L. Howell, an Oklahoma Licensed Land Surveyor and an authorized agent of Topographic Land Surveyors of Oklahoma, do hereby certify to the information shown herein

Oklahoma Lic. No. 1433



DATUM: NAD-27  
LAT: 35°34'52.5"N  
LONG: 98°05'19.4"W  
LAT: 35.581249666°N  
LONG: 98.088710567°W  
STATE PLANE  
COORDINATES: (US Feet)  
ZONE: OK NORTH  
X: 1973620  
Y: 211593

This information was gathered with a GPS receiver with 1 foot horizontal accuracy.