

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

API NUMBER: 017 25355

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: ☐ SW ☐ SE ☐ SW ☐ SE

FEET FROM QUARTER: FROM SOUTH FROM EAST

SECTION LINES: 300 1940

Lease Name: LEOTA

Well No: 8H-1918X

Well will be 300 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
686871

Location Exception Orders: 686872
686879

Increased Density Orders: 686386
686385

Pending CD Numbers:

Special Orders:

Total Depth: 21473

Ground Elevation: 1378

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: 18-35551
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: N2 N2 NW NE

Feet From: NORTH 1/4 Section Line: 150

Feet From: EAST 1/4 Section Line: 1980

Depth of Deviation: 11092

Radius of Turn: 477

Direction: 359

Total Length: 9632

Measured Total Depth: 21473

True Vertical Depth: 11528

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	1/10/2019 - G75 - (I.O.) 19 & 18-13N-8W X165:10-3-28(C)(2)(B) WDFD (LEOTA 8H-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 ; 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
INCREASED DENSITY - 686385	1/10/2019 - 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	1/10/2019 - G75 - 19-13N-8W X188458 WDFD 11 WELLS CIMAREX ENERGY CO. 11-8-2018
LOCATION EXCEPTION - 686872	1/10/2019 - 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 1900' FEL COMPL. INT. (18-13N-8W) NCT 0' FSL, NCT 150' FNL, NCT 1900' 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

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017 25355 LEOTA 8H-1918X

Category	Description
SPACING - 183538	1/10/2019 - G75 - (640) 18-13N-8W EXT OTHERS EST WDFD, OTHERS
SPACING - 188458	1/10/2019 - G75 - (640) 19-13N-8W EXT 183538 WDFD, OTHER EXT OTHERS EST OTHER
SPACING - 210676	1/10/2019 - G75 - NPT 183538 TO ADD VIOL & SMPS 20-13N-8W
SPACING - 686871	1/10/2019 - G75 - (I.O.) 19 & 18-13N-8W EST MULTIUNIT HORIZONTAL WELL X188458 WDFD 19-13N-8W X210676 WDFD 18-13N-8W ** 50% 19-13N-8W 50% 18-13N-8W 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

TOPOGRAPHIC LAND SURVEYORS OF OKLAHOMA

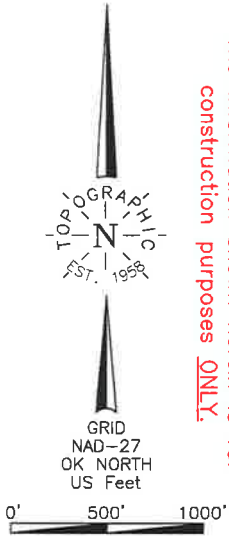
13800 WIRELESS WAY, OKLA. CITY, OKLA. 73134 * LOCAL (405) 843-4847 * OUT OF STATE (800) 654-3219
Certificate of Authorization No. 1293 LS

API 017-25355

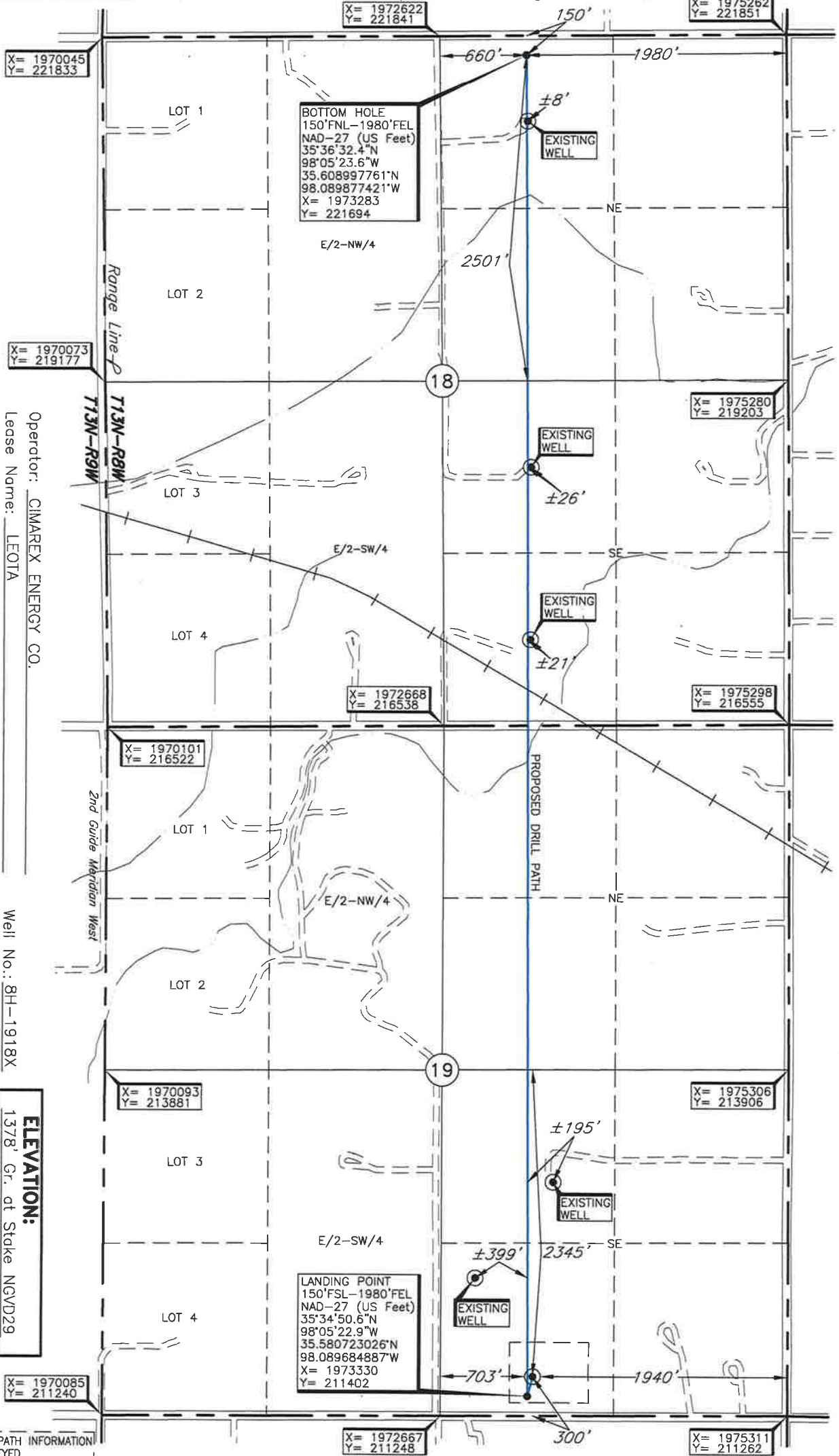
CANADIAN

County, Oklahoma

300'FSL-1940'FEL Section 19 Township 13N Range 8W I.M.



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 Hwy Jct or Town: 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: 1378' Gr. at Stake NGVD29

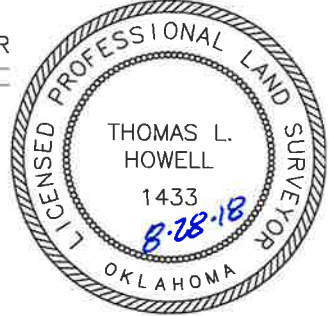
LANDING POINT, BOTTOM HOLE, AND DRILL PATH INFORMATION PROVIDED BY OPERATOR LISTED, NOT SURVEYED.

Date of Drawing: Aug. 23, 2018
Invoice # 300586A 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

Thomas L. Howell
Oklahoma Lic. No. 1433



DATUM: NAD-27
LAT: 35°34'52.1"N
LONG: 98°05'22.4"W
LAT: 35.581135783°N
LONG: 98.089551194°W
STATE PLANE
COORDINATES: (US Feet)
ZONE: OK NORTH
X: 1973370
Y: 211552