

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

API NUMBER: 011 23637

Approval Date: 08/17/2016  
Expiration Date: 02/17/2017

Horizontal Hole Oil & Gas

PERMIT TO DRILL

WELL LOCATION: Sec: 04 Twp: 15N Rge: 12W County: BLAINE  
SPOT LOCATION:  SW  SW  SW  SE FEET FROM QUARTER: FROM SOUTH FROM EAST  
SECTION LINES: 137 2325

Lease Name: HOLIEWAY Well No: 1H-0433X Well will be 137 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

TROY COWAN  
255606 EAST 880TH ROAD  
WATONGA OK 73772

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

	Name	Depth	Name	Depth
1	MISSISSIPPIAN	9810	6	
2	WOODFORD	11950	7	
3	HUNTON	12030	8	
4			9	
5			10	

Spacing Orders: 651956  
652585

Location Exception Orders: 652869

Increased Density Orders:

Pending CD Numbers:

Special Orders:

Total Depth: 21690

Ground Elevation: 1550

**Surface Casing: 1500**

Depth to base of Treatable Water-Bearing FM: 240

Under Federal Jurisdiction: No

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: 100000 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 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

Approved Method for disposal of Drilling Fluids:

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

PERMIT NO: 16-31514

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 33 Twp 16N Rge 12W County BLAINE

Spot Location of End Point: NW NW NW NE

Feet From: NORTH 1/4 Section Line: 150

Feet From: EAST 1/4 Section Line: 2560

Depth of Deviation: 11102

Radius of Turn: 504

Direction: 359

Total Length: 9797

Measured Total Depth: 21690

True Vertical Depth: 12030

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

Notes:

Category	Description
DEEP SURFACE CASING	8/17/2016 - G71 - APPROVED; NOTIFY OCC FIELD INSPECTOR IMMEDIATELY OF ANY LOSS OF CIRCULATION OR FAILURE TO CIRCULATE CEMENT TO SURFACE ON ANY CONDUCTOR OR SURFACE CASING
HYDRAULIC FRACTURING	8/17/2016 - 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 <a href="http://fracfocus.org/">HTTP://FRACFOCUS.ORG/</a> 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	8/17/2016 - 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
LOCATION EXCEPTION - 652869	8/17/2016 - G64 - (I.O.) 4-15N-12W & 33-16N-12W X651956 MSSP, WDFD, HNTN SHL (4-15N-12W) 137' FSL, 2325' FEL COMPL. INT. (4-15N-12W) NCT 150' FSL, NCT 0' FNL, NCT 2250' FEL COMPL. INT. (33-16N-12W) NCT 0' FSL, NCT 150' FNL, NCT 2250' FEL CIMAREX ENERGY CO. 5-23-2016
SPACING - 651956	8/17/2016 - G64 - (640)(HOR) 4-15N-12W & 33-16N-12W EXT 649982 MSSP, WDFD, HNTN EST OTHERS COMPL. INT. (MSSP, HNTN, OTHERS) NCT 660' FB COMPL. INT. (WDFD) NCT 165' FNL & FSL, NCT 330' FEL & FWL (COEXIST SP. ORDER #579578 MSSP, WDFD, HNTN; ORDER #232492 MISS, CSTR; ORDER #583715 KDRK, HNTN, WDFD; OTHERS)
SPACING - 652585	8/17/2016 - G64 - (I.O.) 4-15N-12W & 33-16N-12W EST MULTIUNIT HORIZONTAL WELL X651956 MSSP, WDFD, HNTN (MSSP, HNTN ASSOCIATED COMMON SOURCES OF SUPPLY TO WDFD) 50% 4-15N-12W 50% 33-16N-12W CIMAREX ENERGY CO. 5-12-2016

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BLAINE County, Oklahoma

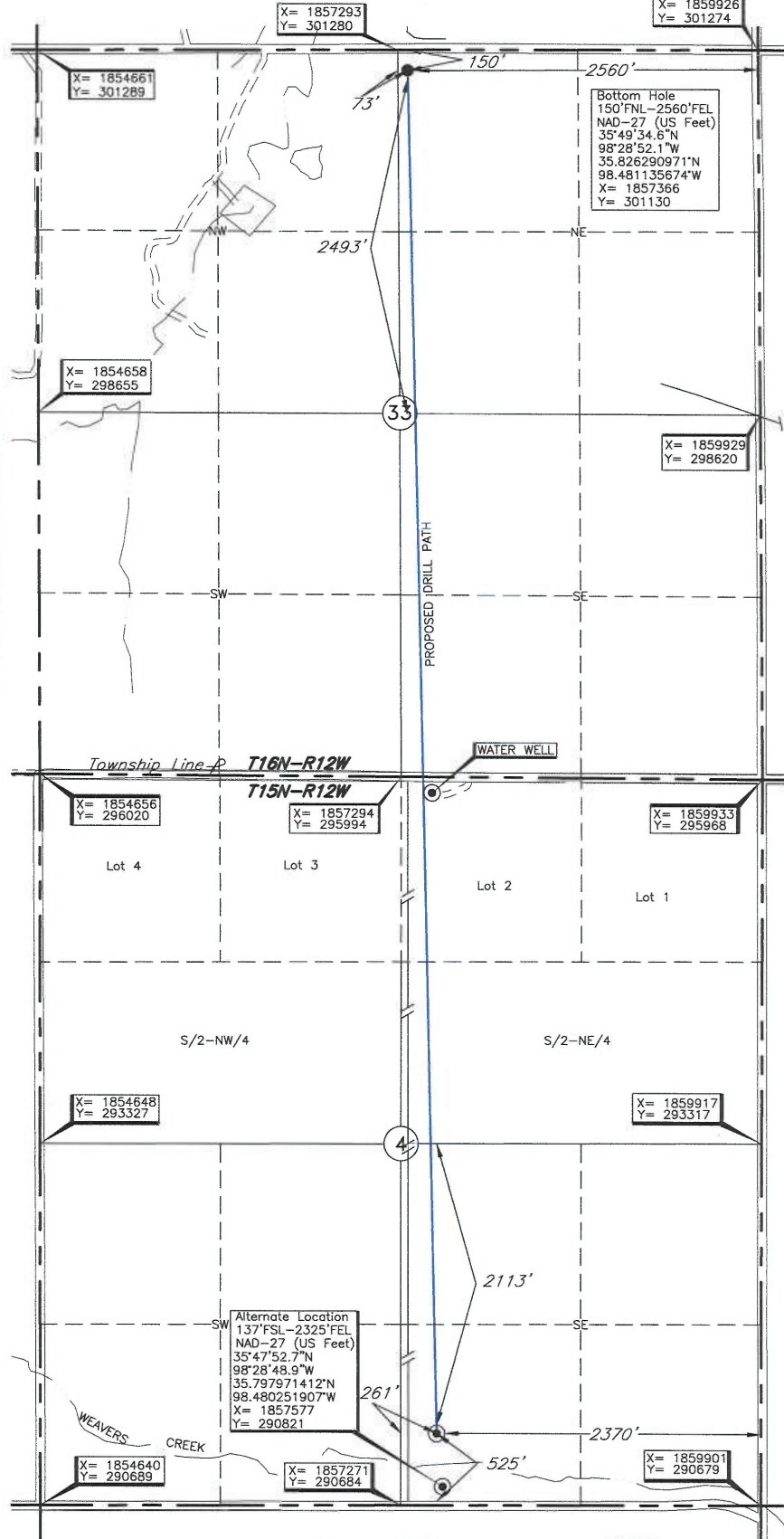
525'FSL-2370'FEL Section 4 Township 15N Range 12W I.M.



GRID  
 NAD-27  
 OK NORTH  
 US Feet  
 Scale:  
 1" = 1000'

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

Bottom Hole and Drill Path information provided by operator listed, NOT Surveyed.



Operator: CIMAREX ENERGY CO.  
 Lease Name: HOLLEWAY  
 Topography & Vegetation: Loc. fell n sloping pasture, ±150' North of creek bank  
 Alt: fell in level pasture, ±120' South of creek bank, ±100' North of right-of-way fence  
 Good Drill Site? Yes Alt: Fair  
 Reference Stakes or Alternate Location  
 Stakes Set Alt: 137'FSL-2325'FEL Elev: 1550' Gr. at Stake  
 Best Accessibility to Location: From South off county road  
 Distance & Direction: From the Jct. of St. Hwy. 33 & St. Hwy. 270 at Watonga, Ok, go  
 ±3 miles West on St. Hwy. 33, then ±3 miles South to the Southeast Cor. of Sec. 4-T15N-R12W

**ELEVATION:**  
 Well No.: 1H-0433X  
 1550' Gr. at Stake

DATUM: NAD-27  
 LAT: 35°47'56.5"N  
 LONG: 98°28'49.4"W  
 LAT: 35.799036936° N  
 LONG: 98.480402318° W  
 STATE PLANE  
 COORDINATES: (US Feet)  
 ZONE: OK NORTH  
 X: 1857534  
 Y: 291209

Date of Drawing: Feb. 10, 2016  
 Invoice # 256761 Date Staked: Feb. 9, 2016 LC

**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

