

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

API NUMBER: 017 24946

Approval Date: 11/18/2016

Expiration Date: 05/18/2017

Horizontal Hole Oil & Gas

PERMIT TO DRILL

WELL LOCATION: Sec: 23 Twp: 14N Rge: 8W

County: CANADIAN

SPOT LOCATION: ☐ NW ☐ NE ☐ NW ☐ SW

FEET FROM QUARTER: FROM SOUTH FROM WEST

SECTION LINES: 2460 770

Lease Name: TED

Well No: 1H-2314X

Well will be 770 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

ROBERT BOMHOFF
P.O. BOX 442
OKARCHE OK 73762

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

	Name	Depth	Name	Depth
1	MISSISSIPPIAN	8800	6	
2	WOODFORD	9930	7	
3			8	
4			9	
5			10	

Spacing Orders: 654064
654031

Location Exception Orders:

Increased Density Orders:

Pending CD Numbers: 201604598
201604597

Special Orders:

Total Depth: 17052

Ground Elevation: 1222

Surface Casing: 1500

Depth to base of Treatable Water-Bearing FM: 290

Under Federal Jurisdiction: No

Fresh Water Supply Well Drilled: No

Surface Water used to Drill: No

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: FLOWERPOT

D. One time land application -- (REQUIRES PERMIT) PERMIT NO: 16-31769
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 14 Twp 14N Rge 8W County CANADIAN

Spot Location of End Point: NE NW NW NW

Feet From: NORTH 1/4 Section Line: 150

Feet From: WEST 1/4 Section Line: 450

Depth of Deviation: 9204

Radius of Turn: 521

Direction: 355

Total Length: 7030

Measured Total Depth: 17052

True Vertical Depth: 9930

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

Notes:

Category	Description
DEEP SURFACE CASING	11/17/2016 - 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	11/17/2016 - 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 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	11/17/2016 - 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
PENDING CD - 201604597	11/18/2016 - G75 - (I.O.) 14 & 23-14N-8W EST MULTIUNIT HORIZONTAL WELL X654031 MSSP, WDFD 14-14N-8W X654064 MSSP, WDFD 23-14N-8W (WDFD ASSOCIATED COMMON SOURCE OF SUPPLY TO MSSP) 64.15% 14-14N-8W 35.85% 23-14N-8W CIMAREX ENERGY CO. REC 11-1-2016 (DUNN)
PENDING CD - 201604598	11/18/2016 - G75 - (I.O.) 14 & 23-14N-8W X654031 MSSP, WDFD 14-14N-8W X654064 MSSP, WDFD 23-14N-8W COMPL. INT. (23-14N-8W) NCT 1320' FSL, NCT 0' FNL, NCT 370' FWL COMPL. INT. (14-14N-8W) NCT 0' FSL, NCT 150' FNL, NCT 370' FWL CIMAREX ENERGY CO. REC 11-1-2016 (DUNN)
SPACING - 654031	11/18/2016 - G75 - (640)(HOR) 14-14N-8W VAC 141089 MCSTR, MISS S2, NW4 EXT 650324 MSSP, WDFD COMPL. INT. (MSSP) NLT 660' FB COMPL. INT. (WDFD) NLT 165' FNL & FSL, NLT 330' FEL & FWL (COEXIST SP. ORDER # 141089 MCSTR, MISS NE4)
SPACING - 654064	11/18/2016 - G75 - (640)(HOR) 23-14N-8W VAC 141089 MCSTR, MISS EST MSSP EXT 630012 WDFD COMPL. INT. (MSSP) NLT 660' FB COMPL. INT. (WDFD) NLT 165' FNL & FSL, NLT 330' FEL & FWL

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

017 24946 TED 1H-2314X

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.

TOPOGRAPHIC LAND SURVEYORS OF OKLAHOMA

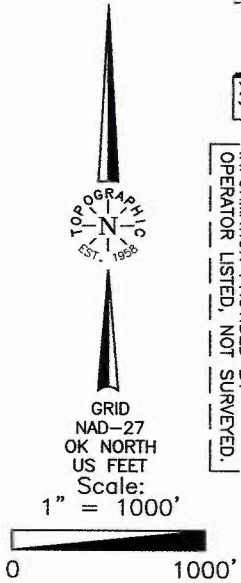
6709 NORTH CLASSEN BLVD., OKLA. CITY, OKLA. 73116 * LOCAL (405) 843-4847 * OUT OF STATE (800) 654-3219
Certificate of Authorization No. 1293 LS

CANADIAN

County, Oklahoma

API 017-24946

2460' FSL-770' FWL Section 23 Township 14N Range 8W I.M.



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

X 1991006
Y 253554

PROPOSED
BOTTOM HOLE
150' FNL-450' FWL
35°41'46.1" N
98°01'43.6" W
35.696141749" N
98.028773620" W
X: 1991456
Y: 253403

X 1993663
Y 253549

X 1996334
Y 253550

X 1996339
Y 250902

X 1991014
Y 250914

PROPOSED DRILL PATH

X 1991021
Y 248274

X 1993682
Y 248258

X 1996343
Y 248255

PROPOSED
LANDING POINT
2300' FNL-450' FWL
35°40'32.6" N
98°01'43.2" W
35.675723699" N
98.028679236" W
X: 1991482
Y: 245971

X 1991034
Y 245619

X 1996351
Y 245616

770'

194'

1891'

2460'

X 1991047
Y 242964

X 1993707
Y 242965

X 1996361
Y 242967

Operator: CIMAREX ENERGY CO.
Lease Name: TED

Well No.: 1H-2314X

ELEVATION:
1222' Gr. at Stake

Topography & Vegetation Loc. fell in level pasture

Good Drill Site? Yes

Reference Stakes or Alternate Location
Stakes Set None

Best Accessibility to Location From West off county road

Distance & Direction from Hwy Jct or Town From Okarche, Oklahoma, go ± 3 miles West on paved road, then ± 3 miles South to the Northwest Corner of Sec. 23, T14N-R8W.

THE INFORMATION SHOWN HEREIN IS
FOR CONSTRUCTION PURPOSES ONLY

Revision ☒ B

Date of Drawing: Oct. 20, 2016

Invoice # 266654

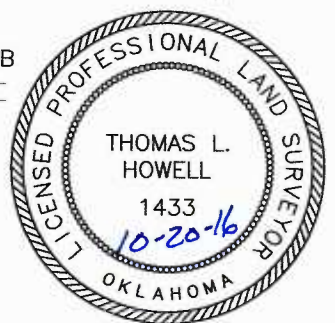
Date Staked: Oct. 12, 2016

NMB

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°40'27.2" N
LONG: 98°01'39.3" W
LAT: 35.674220695" N
LONG: 98.027592997" W
STATE PLANE
COORDINATES (US FEET):
ZONE: OK NORTH
X: 1991805
Y: 245424