API NUMBER: 093 25196

Horizontal Hole Oil & Gas

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

Approval Date: 01/28/2019
Expiration Date: 07/28/2020

PERMIT TO DRILL

WELL LOCATION: Sec: 29 Twp: 20N Rge: 15W County: MAJOR

SPOT LOCATION: NW NE NW NW FEET FROM QUARTER: FROM **NORTH** FROM **WEST**
SECTION LINES: **220** **810**

Lease Name: STEWART **Well No: 29-20-1H** **Well will be 220 feet from nearest unit or lease boundary.**

Operator Name: **COMANCHE EXPLORATION CO LLC** Telephone: 4057555900 OTC/OCC Number: 20631 0

COMANCHE EXPLORATION CO LLC
6520 N WESTERN AVE STE 300
OKLAHOMA CITY, OK 73116-7334

THELMA WOODRING TRUST
101 E. ASH
P.O. BOX 349
FAIRVIEW OK 73737

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

	Name	Depth		Name	Depth
1	MERAMEC	9292	6		
2			7		
3			8		
4			9		
5			10		

Spacing Orders: 132765 Location Exception Orders: Increased Density Orders:

Pending CD Numbers: 201900172
201805613

Special Orders:

Total Depth: 14411 Ground Elevation: 1731 **Surface Casing: 800** Depth to base of Treatable Water-Bearing FM: 440

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: 8000 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 AP/TE DEPOSIT
Pit Location Formation: TERRACE

Approved Method for disposal of Drilling Fluids:

D. One time land application -- (REQUIRES PERMIT) PERMIT NO: 19-36106
H. SEE MEMO

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.

PIT 2 INFORMATION

Type of Pit System: CLOSED Closed System Means Steel Pits

Type of Mud System: OIL BASED

Chlorides Max: 300000 Average: 200000

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 AP/TE DEPOSIT

Pit Location Formation: TERRACE

HORIZONTAL HOLE 1

Sec 20 Twp 20N Rge 15W County MAJOR

Spot Location of End Point: N2 N2 NW NW

Feet From: NORTH 1/4 Section Line: 135

Feet From: WEST 1/4 Section Line: 660

Depth of Deviation: 8800

Radius of Turn: 484

Direction: 359

Total Length: 4850

Measured Total Depth: 14411

True Vertical Depth: 9292

End Point Location from Lease,
Unit, or Property Line: 135

Notes:

Category	Description
DEEP SURFACE CASING	1/16/2019 - 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	1/16/2019 - 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
INTERMEDIATE CASING	1/16/2019 - 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
MEMO	1/16/2019 - G71 - PITS 1 & 2 - CLOSED SYSTEM=STEEL PITS PER OPERATOR REQUEST, PIT 2 - OBM RETURNED TO VENDOR, CUTTINGS PERMITTED PER DISTRICT

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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
PENDING CD - 201805613	1/28/2019 - GB1 - (I.O.) 20-20N-15W X132765 MRMC, OTHER COMPL. INT. NCT 165' FSL, NCT 165' FNL, NCT 560' FWL NO OP. NAMED REC. 1/15/2019 (NORRIS)
PENDING CD - 201900172	1/28/2019 - GB1 - 20-20N-15W X132765 MRMC, OTHER 1 WELL COMANCHE EXPLORATION COMPANY, LLC HEARING 2/4/2019
SPACING - 132765	1/28/2019 - GB1 - (640) 20-20N-15W EST OTHER EXT OTHER EXT 128899 MRMC, OTHERS

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.