

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

API NUMBER: 027 21494

Approval Date: 08/09/2017
Expiration Date: 02/09/2018

Directional Hole Oil & Gas

PERMIT TO DRILL

WELL LOCATION: Sec: 21 Twp: 8N Rge: 1W County: CLEVELAND
SPOT LOCATION: SE SE SE SE FEET FROM QUARTER: FROM SOUTH FROM EAST
SECTION LINES: 287 195

Lease Name: THUNDERBIRD Well No: 1-28 Well will be 195 feet from nearest unit or lease boundary.
Operator Name: BARON EXPLORATION COMPANY Telephone: 4053411779 OTC/OCC Number: 17195 0

BARON EXPLORATION COMPANY
107 S BROADWAY
EDMOND, OK 73034-3843

DAVID L GLOVER & ELISSA FREER
9551 E. ETOWAH RD.
NORMAN OK 73068

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

Name	Depth	Name	Depth
1 BARTLESVILLE	6540	6 TULIP CREEK	7700
2 WOODFORD	6630	7 MCLISH	7850
3 HUNTON	6700	8 OIL CREEK	8150
4 VIOLA	7050	9 ARBUCKLE	8300
5 BROMIDE	7400	10	

Spacing Orders: 422837 Location Exception Orders: Increased Density Orders:

Pending CD Numbers: Special Orders:

Total Depth: 9012 Ground Elevation: 1209 **Surface Casing: 1200** Depth to base of Treatable Water-Bearing FM: 640

Under Federal Jurisdiction: No Fresh Water Supply Well Drilled: No Surface Water used to Drill: Yes

PIT 1 INFORMATION

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 located in a Hydrologically Sensitive Area.

Category of Pit: C

Liner not required for Category: C

Pit Location is BED AQUIFER

Pit Location Formation: GARBER

Approved Method for disposal of Drilling Fluids:

E. Haul to Commercial pit facility: Sec. 31 Twn. 12N Rng. 8W Cnty. 17 Order No: 587498

H. CLOSED SYSTEM=STEEL PITS (REQUIRED, ORDER # 83168/90123 - LAKE THUNDERBIRD)

DIRECTIONAL HOLE 1

Sec 28 Twp 8N Rge 1W County CLEVELAND

Spot Location of End Point: SW SW NE NE

Feet From: NORTH 1/4 Section Line: 1050

Feet From: EAST 1/4 Section Line: 1300

Measured Total Depth: 9012

True Vertical Depth: 8550

End Point Location from Lease,

Unit, or Property Line: 1050

Notes:

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.

Category	Description
HYDRAULIC FRACTURING	<p>7/27/2017 - G58 - OCC 165:10-3-10 REQUIRES:</p> <p>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;</p> <p>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,</p> <p>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</p>
MINIMUM SURFACE CASING	7/27/2017 - G58 - 1200' PER ORDER # 83168/90123
POINT OF ENTRY	8/9/2017 - G75 - POINT OF ENTRY FOR ALL FORMATIONS WILL BE GREATER THAN 660' FB NE4 28-8N-1W PER OPERATOR
PUBLIC WATER SUPPLY WELL	7/27/2017 - G58 - MAGUIRE STORE, 1 WELL, SE4 28-8N-1W
SPACING	8/9/2017 - G75 - WOODFORD AND ARBUCKLE UNSPACED; 160-ACRE LEASE (NE4)
SPACING - 422837	<p>8/9/2017 - G75 - (160) NE4 28-8N-1W</p> <p>VAC 80216 BRVL, HNTN, VIOL, BRMD, TPCK, MCLS, OLCK</p> <p>EST BRVL, HNTN, VIOL, BRMD, TPCK, MCLS, OLCK</p>