API NUMBER: 019 26316

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: 02/14/2019
Expiration Date: 08/14/2020

PERMIT TO DRILL

WELL LOCATION:	Sec:	36	Twp:	2S	Rge:	3W	County:	CARTER
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SPOT LOCATION: S2 SW NW SW FEET FROM QUARTER: FROM NORTH FROM WEST

SECTION LINES: 1115 330

Lease Name: BRANDON Well No: 2-36 Well will be 330 feet from nearest unit or lease boundary.

Operator THUNDER OIL & GAS LLC Telephone: 5802263800 OTC/OCC Number: 10073 0

THUNDER OIL & GAS LLC

PO BOX 1788

Straight Hole

ARDMORE, OK 73402-1788

JAMES RICHARD TITLEY 3850 GOODFELLOW DRIVE

DALLAS TX 75229

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

	Name	Depth	Name	Depth
1	DEESE	3000	6	
2	DORNICK HILLS	4200	7	
3	WOODFORD	5400	8	
4	HUNTON	5500	9	
5	VIOLA	6250	10	
Spacing Orders:	298539 269587	Location Exception Orders:		Increased Density Orders:
	203301			

Pending CD Numbers: 201810215 Special Orders:

201810216

Total Depth: 6400 Ground Elevation: 1061 Surface Casing: 750 Depth to base of Treatable Water-Bearing FM: 40

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: ON SITE A. Evaporation/dewater and backfilling of reserve pit.

Type of Mud System: WATER BASED

Chlorides Max: 3500 Average: 2500

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?

Pit is located in a Hydrologically Sensitive Area.

Category of Pit: 2

Liner not required for Category: 2
Pit Location is BED AQUIFER
Pit Location Formation: GARBER

Notes:

Category Description 2/11/2019 - G71 - APPROVED: NOTIFY OCC FIELD INSPECTOR IMMEDIATELY OF ANY LOSS OF **DEEP SURFACE CASING** CIRCULATION OR FAILURE TO CIRCULATE CEMENT TO SURFACE ON ANY CONDUCTOR OR SURFACE CASING HYDRAULIC FRACTURING 1/24/2019 - 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 PENDING CD - 201810215 2/13/2019 - GB1 - SW4 36-2S-3W X269587 WDFD, HNTN, VIOL, OTHERS X298539 DEESS, DKHL 1 WELL THUNDER OIL & GAS LLC REC. 1/22/2019 (DENTON) PENDING CD - 201810216 2/13/2019 - GB1 - (I.O.) SW4 36-2S-3W X269587 WDFD, HNTN, VIOL, OTHERS X298539 DEESS DKHL SHL 1115' FNL. 330' FWL THUNDER OIL & GAS LLC REC 1/22/2019 (DENTON) 2/13/2019 - GB1 - (160) SW4 36-2S-3W **SPACING - 269587** EXT 190157 WDFD, HNTN, VIOL, OTHERS

SPACING - 298539 2/13/2019 - GB1 - (160) SW4 36-2S-3W

EXT 190157 DEESS EXT 210617/278736 DKHL