API NUMBER: 073 26513

Oil & Gas

Horizontal Hole

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

Approval Date:	03/25/2019
Expiration Date:	09/25/2020

PERMIT TO DRILL

WELL LOCATION:	Sec:	20	Twp:	18N	Rge:	8W	County:	KINGFISHER	

SPOT LOCATION: SW NE NE NW FEET FROM QUARTER: FROM NORTH FROM WEST SECTION LINES: 620 2302

Lease Name: PHILWW 1808 Well No: 17-1MH Well will be 620 feet from nearest unit or lease boundary.

Operator GASTAR EXPLORATION LLC Telephone: 7137391800 OTC/OCC Number: 23199 0

GASTAR EXPLORATION LLC 1331 LAMAR STE 650

HOUSTON. TX 77010-3131

JANET WEHRENBERG 10175 N 2760 ROAD

LOYAL OK 73756

Special Orders:

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

201810080

	Name	Depth	Name	Depth
1	MISSISSIPPIAN	7968	6	
2	WOODFORD	8490	7	
3			8	
4			9	
5			10	
Spacing Orders:	691781	Location Exception Orders:		Increased Density Orders:

Spacing Orders: 691781 Location Exception Orders: Increased Density Orders:

Total Depth: 13735 Ground Elevation: 1141 Surface Casing: 250 Depth to base of Treatable Water-Bearing FM: 200

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

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

PE

Chlorides Max: 5000 Average: 3000

H. CLOSED SYSTEM=STEEL PITS (REQUIRED - CIMARRON RIVER)

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

Pending CD Numbers:

Liner not required for Category: C
Pit Location is BED AQUIFER

Pit Location Formation: CEDAR HILLS

PERMIT NO: 19-36346

HORIZONTAL HOLE 1

Sec 17 Twp 18N Rge 8W County KINGFISHER

Spot Location of End Point: NE NW NW NE
Feet From: NORTH 1/4 Section Line: 150
Feet From: EAST 1/4 Section Line: 2200

Depth of Deviation: 7551 Radius of Turn: 768

Direction: 5

Total Length: 4978

Measured Total Depth: 13735

True Vertical Depth: 8490

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

Notes:

Category Description

HYDRAULIC FRACTURING 3/11/2019 - 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 - 201810080 3/25/2019 - G56 - (I.O.) 17-18N-8W

X691781 MSSP, WDFD

COMPL INT NCT 150' FSL, NCT 150' FNL, NCT 660' FEL

NO OP NAMED

REC 1/8/2019 (M. PORTER)

SPACING - 691781 3/25/2019 - G56 - (640)(HOR) 17-18N-8W

EXT 653404 MSSP, WDFD, OTHERS COMPL INT (MSSP) NCT 660' FB

COMPL INT (WDFD) NCT 165' FNL OR FSL, NCT 330' FEL OR FWL (COEXIST WITH SP # 78191 MNNG, MSSSD; # 196294 CSTR, OTHERS)

