

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

API NUMBER: 073 24899 A

Approval Date: 09/09/2016  
Expiration Date: 03/09/2017

Horizontal Hole Oil & Gas

PERMIT TO DRILL

WELL LOCATION: Sec: 16 Twp: 18N Rge: 6W County: KINGFISHER  
SPOT LOCATION: SE SW SE SE FEET FROM QUARTER: FROM SOUTH FROM EAST  
SECTION LINES: 160 679

Lease Name: KATY Well No: 21-1H Well will be 160 feet from nearest unit or lease boundary.  
Operator Name: GASTAR EXPLORATION INC Telephone: 7137391800 OTC/OCC Number: 23199 0

GASTAR EXPLORATION INC  
1331 LAMAR STE 650  
HOUSTON, TX 77010-3131

SCOTT BURTON  
811 LUCINDA LANE  
KINGFISHER OK 73750

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

Name	Depth	Name	Depth
1 MISSISSIPPIAN	6950	6	
2		7	
3		8	
4		9	
5		10	

Spacing Orders: 616854 Location Exception Orders: Increased Density Orders:  
Pending CD Numbers: 201603733 Special Orders:

Total Depth: 12500 Ground Elevation: 1170 Surface Casing: 390 Depth to base of Treatable Water-Bearing FM: 150

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: 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 AP/TE DEPOSIT

Pit Location Formation: TERRACE

Approved Method for disposal of Drilling Fluids:

D. One time land application -- (REQUIRES PERMIT) PERMIT NO: 16-31580  
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 21 Twp 18N Rge 6W County KINGFISHER

Spot Location of End Point: SE SW SE SE

Feet From: SOUTH 1/4 Section Line: 165

Feet From: EAST 1/4 Section Line: 679

Depth of Deviation: 6382

Radius of Turn: 700

Direction: 180

Total Length: 5018

Measured Total Depth: 12500

True Vertical Depth: 7082

End Point Location from Lease,  
Unit, or Property Line: 165

Notes:

Category

Description

HYDRAULIC FRACTURING

9/8/2016 - 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/](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.

PENDING CD - 201603733

9/9/2016 - G60 - (E.O.) 21-18N-6W  
X616854 MSSP, OTHERS  
COMPL. INT. NCT 165' FNL, NCT 165' FSL, NCT 660' FEL OR FWL  
GASTAR EXPLORATION INC.  
REC. 9-9-16 (LEAVITT)

SHL

9/9/2016 - G60 - 679 FEL PER PLAT

SPACING - 616854

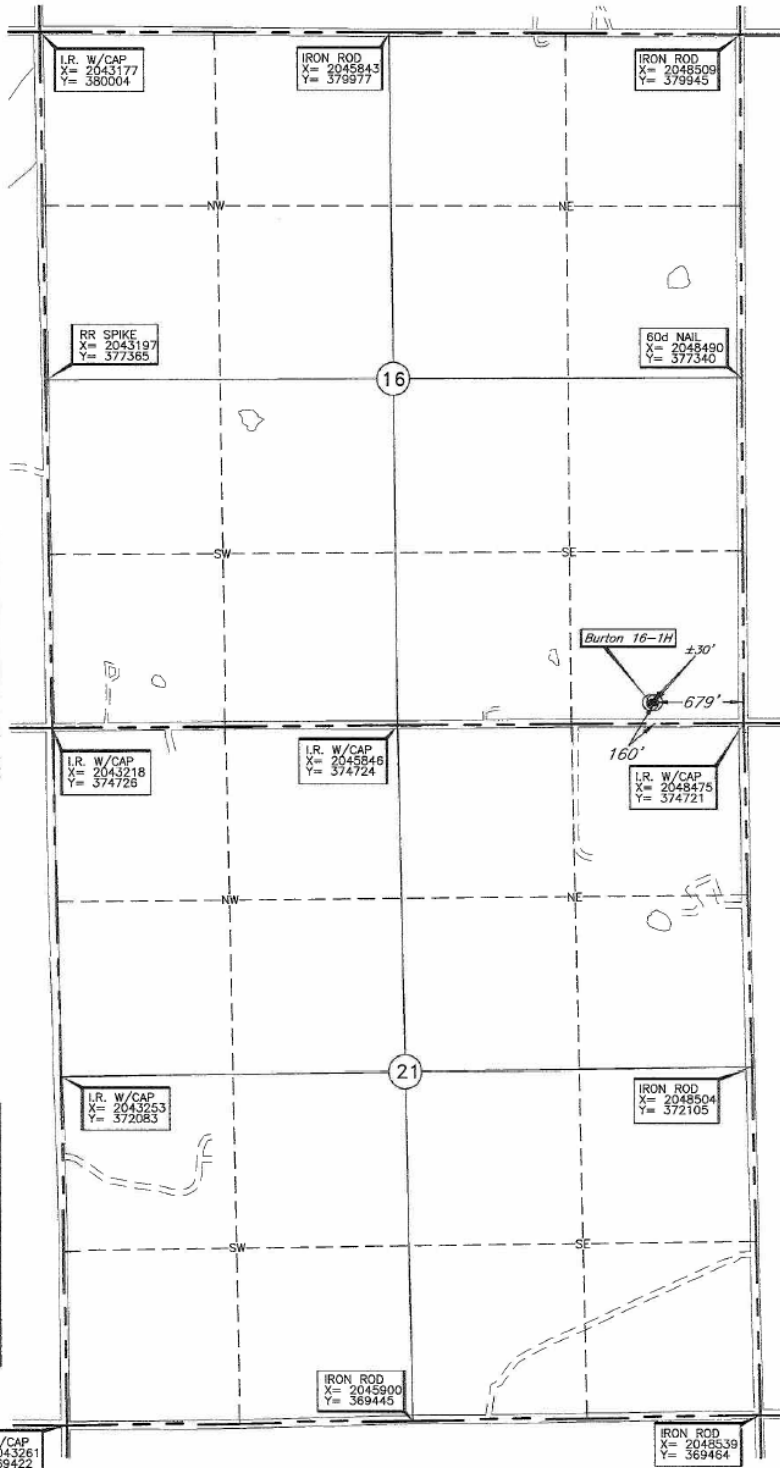
9/9/2016 - G60 - (640)(HOR) 21-18N-6W  
EST MSSP, OTHERS  
POE TO BHL NLT 660' FB  
(COEXIST WITH SP. ORDER 56410/56513/62761 MSSLM)

**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.

KINGFISHER County, Oklahoma  
 160' FSL-679' FEL Section 16 Township 18N Range 6W I.M.



Corner Coordinates are taken from [points surveyed in the field.]



Operator: CASTAR EXPLORATION USA, INC. Well No.: 21-1H  
 Lease Name: KATY ELEVATION: 1170' Gr. at Level Pad  
 Topography & Vegetation: Fall at level Pad, 30' East of Burton 16-1H Well Heed.  
 Good Drill Site? Yes Reference Stakes or Alternate Location None  
 Best Accessibility to Location From county road South of location.  
 Distance & Direction From the Jct. of St. Hwy. 51 E-W and U.S. Hwy. 81 N-S in Hennessey, Oklahoma,  
From Hwy. Jct. or Town go South on U.S. Hwy. 81 ±6.0 mi., then East ±3.5 mi. to the SE Corner of Section 16, T18N-R6W.

DATUM: NAD-27  
 LAT: 36°01'47.1"N  
 LONG: 97°50'18.1"W  
 LAT: 36.029763530° N  
 LONG: 97.838357920° W  
 STATE PLANE  
 COORDINATES: (US Feet)  
 ZONE: OK NORTH  
 X: 2047797  
 Y: 374882

Date of Drawing: Dec. 20, 2013  
 Invoice # 213156 Date Staked: Dec. 20, 2013 AD

**CERTIFICATE:**

I, Lee K. Goss a Oklahoma Licensed Land Surveyor and an authorized agent of Topographic Land Surveyors of Oklahoma, do hereby certify that the above described well location was surveyed and staked on the ground as shown herein.

Oklahoma Lic. No. 1778

