API NUMBER: 093 25175

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: 11/16/2018
Expiration Date: 05/16/2020

PERMIT TO DRILL

WELL LOCATION: Sec: 08 Twp: 20N Rge: 12W County: MAJOR

SPOT LOCATION: NW NE NE NE FEET FROM QUARTER: FROM NORTH FROM EAST SECTION LINES: 235 645

Lease Name: RUSCH 5-20-12 Well No: 3H Well will be 235 feet from nearest unit or lease boundary.

Operator CHESAPEAKE OPERATING LLC Telephone: 4059357539; 4059358 OTC/OCC Number: 17441 0

CHESAPEAKE OPERATING LLC

PO BOX 18496

OKLAHOMA CITY, OK 73154-0496

DOROTHY M. RUSCH 902 CARDINAL RD.

FAIRVIEW OK 73737

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

Name Depth Name Depth MISSISSIPPI SOLID 1 7900 6 2 HUNTON 8600 7 3 8 4 9 5 10 315479 Spacing Orders: Location Exception Orders: 683622 Increased Density Orders: 683418 68130

Pending CD Numbers: Special Orders:

Total Depth: 14000 Ground Elevation: 1385 **Surface Casing: 1500** Depth to base of Treatable Water-Bearing FM: 440

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: CLOSED Closed System Means Steel Pits

Type of Mud System: WATER BASED D. One time land application -- (REQUIRES PERMIT) PERMIT NO: 18-35675

Chlorides Max: 50000 Average: 30000 Average: 30000

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 not located in a Hydrologically Sensitive Area.

Category of Pit: C

Liner not required for Category: C

Pit Location is NON HSA

Pit Location Formation: FLOWERPOT

HORIZONTAL HOLE 1

MAJOR Sec 05 Twp 20N Rge 12W County Spot Location of End Point: NF NI\// NE NE Feet From: NORTH 1/4 Section Line: 200 Feet From: EAST 1/4 Section Line: 880

Depth of Deviation: 8263
Radius of Turn: 382
Direction: 358
Total Length: 5137

Measured Total Depth: 14000

True Vertical Depth: 8691

End Point Location from Lease,
Unit. or Property Line: 200

Notes:

Category Description

DEEP SURFACE CASING 11/5/2018 - G71 - APPROVED; NOTIFY OCC FIELD INSPECTOR IMMEDIATELY FOR ANY LOSS

OF CIRCULATION OR FAILURE TO CIRCULATE CEMENT TO SURFACE ON CONDUCTOR OR

SURFACE CASING

HYDRAULIC FRACTURING 11/5/2018 - 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

INCREASED DENSITY - 683418 11/15/2018 - G75 - 5-20N-12W

X68130 HNTN X315479 MSSSD

1 WELL

CHESAPEAKE OP., L.L.C.

9-20-2018

INTERMEDIATE CASING 11/5/2018 - 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

LOCATION EXCEPTION - 683622 11/15/2018 - G75 - (I.O.) 5-20N-12W

X68130 HNTN X315479 MSSSD

COMPL. INT. NCT 165' FSL & NCT 165' FEL. NCT 165' FNL & NCT 660' FEL

CHESAPEAKE OP., L.L.C.

9-24-2018

SPACING - 315479 11/15/2018 - G75 - (640) 5-20N-12W

EXT 118158 MSSSD, OTHERS

SPACING - 68130 11/15/2018 - G75 - (640) 5-20N-12W

EST HNTN

CHESAPEAKE Ν BEARING: TH (NAD 83) - NORTH ZONE OPERATOR: CHESAPEAKE OPERATING, LLC API 093-25175 LEASE NAME: RUSCH 5-20-12 WELL NO. 3H 9 **STAKED DATE: 9/13/18** GROUND ELEVATION: 1385.29 GR. AT STAKE SURFACE HOLE FOOTAGE: 235' FNL -645' FEL SECTION:8 TOWNSHIP:20N RANGE:12W X=1817309.7 X=1821685.7 X=1822557.4 Y=454114.7 MAJOR COUNTY, STATE: OK Y=454059.0 Y=454053.0 X=1848911.5 X=1853287.5 BOTTOM HOLE: 5-20N-12W,I.M. X=1854159.2 Y=454089.2 Y=454033.5 BOTTOM HOLE FOOTAGE: 200' FNL - 880' FEL Y=454027.4 LANDING POINT FOOTAGE: 200' FSL - 880' FEL X=1819915.5 ACCESSIBILITY TO LOCATION: FROM EAST LINE Y=454081.5 BOTTOM HOLE X=1851517.3 TOPOGRAPHY & VEGETATION: LOCATION FELL ON THE 200' FNL - 880' FEL Y=454056.0 NORTH EDGE OF A FIELD. DISTANCE & DIRECTION FROM HWY JCT OR TOWN: FROM INT OF HWY 8 & HWY 60 IN FAIRVIEW, S 3.75 TO E0540 RD, W 1 MI. TO N2530 RD, PAD IS ON THE WEST SIDE OF N2530 RD X=1822540.1 X=1817282.3 Y=451173.0 Y=451146.2 X=1854141.9 X=1848884.2 GRAPHIC SCALE IN FEET Y=451147.5 Y=451120.7 &A WELL EX. WELL DIST TO: 2000 1000 2000 DIST TO: SHL: 895 PAD DIAGRAM (NOT TO SCALE) SHL: 1964 SURFACE HOLE DATA IP: 512 LP: 1585' BHL: 4680' STATE PLANE COORDINATES: BHL: 49311 PDP: 220 295 ZONE: OK-NORTH NAD27 PDP: 1520 LANDING POINT X: 1853480.3 200' FSL - 880' FE 90 X=1819896.4 GPS DATUM: NAD27 X=1822524.2 Y=448517.3 LAT: 36.23042990 X=1817268.5 X=1851498.2 Y=448524.8 3/7 Y=448509.9 LONG: -98.49677969 135' 160 Y=448491.9 X=1854126.0 X=1848870.4 STATE PLANE COORDINATES: Y=448499.3 380 . 8 Y=448484.4 ZONE: OK-NORTH NAD83 493 x: 1821878.5 PDF SURFACE HOLE GPS DATUM: NAD83 235' FNL -645' FEL LAT: 36.23046635 FX WELL LONG: -98,49713693 EX. WELL DIST TO: **BOTTOM HOLE DATA** LANDING POINT DATA SHL: 423' STATE PLANE COORDINATES: STATE PLANE COORDINATES: **ZONE:** OK-NORTH NAD27 X: 1853247.1 LP: 887 ZONE: OK-NORTH NAD27 X=1817254.8 X=1822517.4 BHL: 5997 Y=445875.6 Y≃445886.6 Y: 453833.6 X=1848856.6 X=1854119.2 8 GPS DATUM: NAD27 GPS DATUM: NAD27 Y=445850.1 Y=445861.2 LAT: 36.23161975 LONG: -98.49757790 LAT: 36,24573104 EX. WELL LONG: -98.49756226 STATE PLANE COORDINATES: STATE PLANE COORDINATES: EX. WELL ZONE: OK-NORTH NAD83 ZONE: OK-NORTH NAD83 X: 1821676.3 X: 1821 645.3 Y: 453859.1 GPS DATUM: NAD83 GPS DATUM: NAD83 FX. WFII LAT: 36.24576726 LONG: -98.49791953 LONG: -98.49793517 X=1822511.1 PLEASE NOTE THAT THIS LOCATION WAS STAKED ON THE GROUND UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL LAND SURVEYOR, BUT ACCURACY OF THIS EXHIBIT IS NOT GUARANTEED. PLEASE CONTACT CRAFTON TULL PROMPTLY IF ANY INCONSISTENCY IS DETERMINED, GPS DATA IS OBSERVED FROM RTK-GPS. Y=443246.5 X=1854112.9 X=1817241.0 Y=443221.1 X=1819876.1 Y=443241.3 NOTE:X AND Y DATA SHOWN HEREON FOR SECTION CORNERS MAY Y=443243.9 X=1848842.9 NOT HAVE BEEN SURVEYED ON THE GROUND, AND FURTHER, DOES NOT REPRESENT A TRUE BOUNDARY SURVEY. LANDING POINT, BOTTOM HOLE, AND DRILL PATH INFORMATION X=1851477.9 Y=443215.9 Y=443218.5 PROVIDED BY OPERATOR LISTED. THIS IS TO CERTIFY THAT THIS WELL LOCATION EXHIBIT WAS COMPILED AND PREPARED UNDER MY SUPERVISION. Date: 2018.10.04 14:31:45-05'00' DEHVER WINCHESTER PLS 1952 ALLA I THE SOUNAL RUSCH 5-20-12 3H 300 Pointe Parkway Bivd Yukon, OK 73099 405.787.6270 f 405.787.6276 f REVISION DATE: **DENVER** PART OF THE NE/4 OF www.craftontull.com WINCHESTER Crafton Tull **SECTION 8, 20N, 12W** SURVEYING WELL LOCATION EXHIBIT CERTIFICATE OF AUTHORIZATION: 1952 MAJOR COUNTY, OKLAHOMA CA 973 (PE/LS) EXPIRES 6/30/2020 17601122-WELL-P SCALE: 1'' = 2000'DRAWING: OKLAHOMP A HUNIN PLOT DATE: 09-18-2018 DRAWN BY: JJI SHEET NO.: 2 OF

G:\17601122_FALKOR\ENERGY\DWG_CUF5\CHESAFEAKE-WELLDWG 9/18/2018 4:54:40 PM JJ2721