

API NUMBER: 093 25247

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

Approval Date: 03/23/2020

Expiration Date: 09/23/2021

Multi Unit

Oil & Gas

PERMIT TO DRILL

WELL LOCATION: Section: 09 Township: 20N Range: 11W County: MAJOR

SPOT LOCATION: SW SE SW SW FEET FROM QUARTER: FROM SOUTH FROM WEST
SECTION LINES: 215 915

Lease Name: SHEPHERD 9-20-11 Well No: 1HC Well will be 215 feet from nearest unit or lease boundary.

Operator Name: CHESAPEAKE OPERATING LLC Telephone: 4059357539; 4059358143; OTC/OCC Number: 17441 0

CHESAPEAKE OPERATING LLC
PO BOX 18496
OKLAHOMA CITY, OK 73154-0496

DENNIS LEON WRIGHT
12815 OAK VILLAGE DRIVE
MONTGOMERY TX 77356

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

Name	Code	Depth
1 HUNTON	269HNTN	8389

Spacing Orders: 690618 Location Exception Orders: 707448 Increased Density Orders: 701733
702748 707449
707447

Pending CD Numbers: No Pending

Special Orders: No Special Orders

Total Depth: 20000 Ground Elevation: 1294 Surface Casing: 1500 Depth to base of Treatable Water-Bearing FM: 560

Deep surface casing has been approved

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

Approved Method for disposal of Drilling Fluids:

D. One time land application -- (REQUIRES PERMIT) PERMIT NO: 20-37314
H. CLOSED SYSTEM=STEEL PITS PER OPERATOR REQUEST

PIT 1 INFORMATION

Type of Pit System: CLOSED Closed System Means Steel Pits

Type of Mud System: WATER BASED

Chlorides Max: 8000 Average: 5000

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

MULTI UNIT HOLE 1

Section: 21 Township: 20N Range: 11W Total Length: 10613

County: MAJOR Measured Total Depth: 20000

Spot Location of End Point: SW SE SW SW True Vertical Depth: 8405

Feet From: SOUTH 1/4 Section Line: 150

Feet From: WEST 1/4 Section Line: 880 End Point Location from Lease, Unit, or Property Line: 150

NOTES:

This permit does not address the right of entry or settlement of surface damages.
The duration of this permit is 18 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
DEEP SURFACE CASING	3/4/2020 - GC2 - APPROVED; NOTIFY OCC FIELD INSPECTOR IMMEDIATELY OF ANY LOSS OF CIRCULATION OR FAILURE TO CIRCULATE CEMENT TO SURFACE ON ANY CONDUCTOR OR SURFACE CASING
HYDRAULIC FRACTURING	3/4/2020 - GC2 - 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: OCCWEB.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 - 701733	3/20/2020 - GB1 - 21-20N-11W X690618 HNTN 2 WELLS CHESAPEAKE OPERATING LLC 9/4/2019
INTERMEDIATE CASING	3/4/2020 - GC2 - 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 - 707448	3/20/2020 - GB1 - (I.O.) 16-20N-11W X702748 HNTN COMPL INT NCT 0' FSL, NCT 165' FNL, NCT 660' FWL NO OP NAMED 1/13/2020
LOCATION EXCEPTION - 707449	3/20/2020 - GB1 - (I.O.) 21-20N-11W X690618 HNTN COMPL INT NCT 165' FSL, NCT 0' FNL, NCT 660' FWL NO OP NAMED 1/13/2020
SPACING - 690618	3/20/2020 - GB1 - (640)(HOR) 21-20N-11W EXT 676056 HNTN, OTHERS COMPL INT NCT 660' FB (COEXIST SP 253459 HNTN N2)
SPACING - 702748	3/20/2020 - GB1 - (640)(HOR) 16-20N-11W EST HNTN, OTHERS COMPL INT NCT 660' FB
SPACING - 707447	3/20/2020 - GB1 - (I.O.) 16 & 21-20N-11W EST MULTIUNIT HORIZONTAL WELL X702748 HNTN 16-20N-11W X690618 HNTN 21-20N-11W 50% 16-20N-11W 50% 21-20N-11W CHESAPEAKE OPERATING LLC 1/13/2020

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093 25247 SHEPHERD 9-20-11 1HC

