

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

API NUMBER: 153 23622

Approval Date: 05/29/2018

Expiration Date: 11/29/2018

Horizontal Hole Oil & Gas

PERMIT TO DRILL

WELL LOCATION: Sec: 19 Twp: 20N Rge: 17W

County: WOODWARD

SPOT LOCATION: ☐ NW ☐ NW ☐ NE ☐ NE

FEET FROM QUARTER: FROM NORTH FROM EAST

SECTION LINES: 200 1100

Lease Name: LAMM 2017

Well No: 1-19H

Well will be 200 feet from nearest unit or lease boundary.

Operator Name: SANDRIDGE EXPLORATION & PRODUCTION LLC

Telephone: 4054295610

OTC/OCC Number: 22281 0

SANDRIDGE EXPLORATION & PRODUCTION LLC
123 ROBERT S KERR AVE STE 1702
OKLAHOMA CITY, OK 73102-6406

MARK PAUL & NANCY LAMM REV TRUST
719 BANKERS COTTAGE LANE
COPPELL TX 75019

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

Name	Depth	Name	Depth
1 MISSISSIPPIAN (EX CHESTER)	9780	6	
2		7	
3		8	
4		9	
5		10	

Spacing Orders: No Spacing

Location Exception Orders:

Increased Density Orders:

Pending CD Numbers: 201707659
201707660

Special Orders:

Total Depth: 14796

Ground Elevation: 1843

Surface Casing: 1500

Depth to base of Treatable Water-Bearing FM: 120

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

Chlorides Max: 10000 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 located in a Hydrologically Sensitive Area.

Category of Pit: C

Liner not required for Category: C

Pit Location is BED AQUIFER

Pit Location Formation: RUSH SPRINGS

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

PERMIT NO: 18-34591

H. SEE MEMO

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.

PIT 2 INFORMATION

Type of Pit System: CLOSED Closed System Means Steel Pits

Type of Mud System: OIL BASED

Chlorides Max: 300000 Average: 200000

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 BED AQUIFER

Pit Location Formation: RUSH SPRINGS

HORIZONTAL HOLE 1

Sec 19 Twp 20N Rge 17W County WOODWARD

Spot Location of End Point: SW SE SE SE

Feet From: SOUTH 1/4 Section Line: 150

Feet From: EAST 1/4 Section Line: 430

Depth of Deviation: 9490

Radius of Turn: 875

Direction: 175

Total Length: 3931

Measured Total Depth: 14796

True Vertical Depth: 9915

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

Notes:

Category

Description

DEEP SURFACE CASING

5/24/2018 - G71 - 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

5/24/2018 - 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

INTERMEDIATE CASING

5/24/2018 - 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

MEMO

5/24/2018 - G71 - PITS 1 & 2 - CLOSED SYSTEM=STEEL PITS PER OPERATOR REQUEST, PIT 2 - OBM RETURNED TO VENDOR, CUTTINGS PERMITTED PER DISTRICT

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.

153 23622 LAMM 2017 1-19H

Category	Description
PENDING CD - 201707659	5/29/2018 - G57 - (I.O.) 19-20N-17W X201707660 MSNLC COMPL. INT. NCT 150' FNL, NCT 150' FSL , NCT 330' FEL NO OP. NAMED REC 5-22-2018 (FOREMAN)
PENDING CD - 201707660	5/29/2018 - G57 - (640)(HOR) 19-20N-17W VAC 129845 STGV, STLS, SPWR, OSGE EST MSNLC POE TO BHL NCT 660' FB REC 5-22-2018 (FOREMAN)



Well Location Plat

Sec. 19-20N-17W I.M.

Operator: SANDRIDGE ENERGY

API: 153 23622

Lease Name and No.: LAMM 2017 1-19H

Footage: 200' FNL - 1100' FEL Gr. Elevation: 1843'

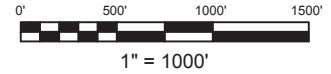
Section: 19 Township: 20N Range: 17W I.M.

County: Woodward State of Oklahoma

Terrain at Loc.: Location fell in a wheat field, fell South of an E-W barbed wire fence.



All bearings shown are grid bearings.



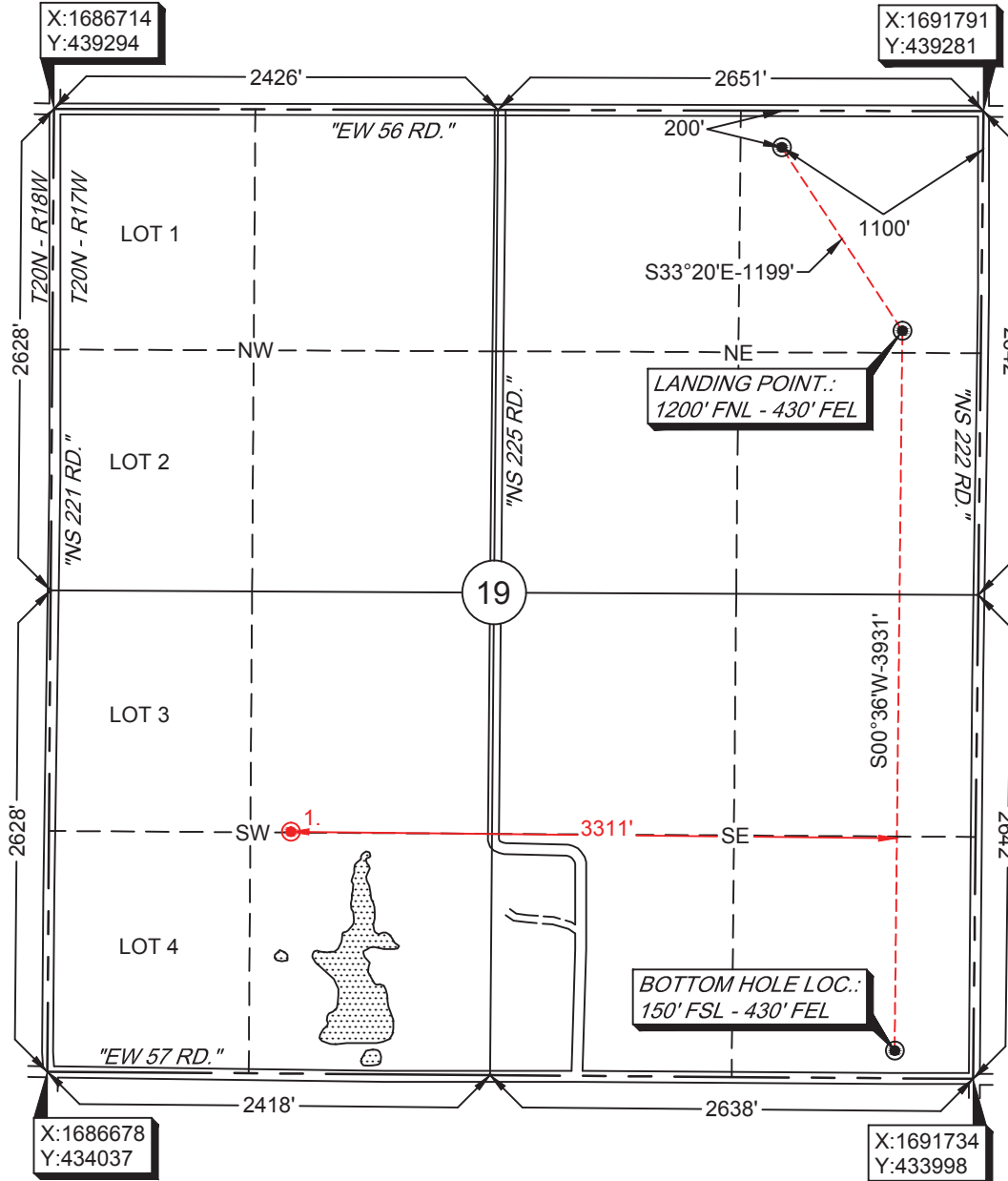
GPS DATUM
NAD 27
OK NORTH ZONE

Surface Hole Loc.:
Lat: 36.20165701
Lon: -99.04836315
X: 1690688
Y: 439084

Landing Point:
Lat: 36.19892487
Lon: -99.04609237
X: 1691348
Y: 438082

Bottom Hole Loc.:
Lat: 36.18812559
Lon: -99.04609198
X: 1691305
Y: 434151

Please note that this location was staked on the ground under the supervision of a Licensed Professional Land Surveyor, but the accuracy of this survey is not guaranteed. Please contact Arkoma Surveying and Mapping promptly if any inconsistency is determined. GPS data is observed from RTK - GPS. NOTE: X and Y data shown herein for Section Corners may NOT have been surveyed on-the-ground, and further, does NOT represent a true Boundary Survey. Quarter Section distances may be assumed from a Government Survey Plat or assumed at a proportionate distance from opposing section corners, or occupation thereof, and may not have been measured on-the-ground, and further, does not represent a true boundary survey.



1. KAISER-FRANCIS OIL COMPANY
LEACHMAN 1-19
1320' FSL - 1320' FWL (SW/4)
OCC STATUS: PA

ANTI-COLLISION DATA SHOWN HEREON:
BLUE BOX: FOUND AND SHOT ON GROUND.
RED BOX: PLACED FROM FOOTAGES ON OCC WEBSITE.

Survey and plat by:

Arkoma Surveying and Mapping, PLLC
P.O. Box 238 Wilburton, OK 74578
Ph. 918-465-5711 Fax 918-465-5030
Certificate of Authorization No. 5348
Expires June 30, 2018

Invoice #7480

Date Staked: 11/7/17 By: J.W.

Date Drawn: 11/15/17 By: K.B.

Revised Lease Name: 05/14/18 By: R.S.

Certification:

This is to certify that this Well Location Plat represents the results of a survey made on the ground performed under the supervision of the undersigned.

Lance G. Mathis
LANCE G. MATHIS

05/14/18

OK LPLS 1664

