

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

API NUMBER: 017 25416

Approval Date: 03/22/2019

Expiration Date: 09/22/2020

Horizontal Hole
Oil & Gas
Multi Unit

PERMIT TO DRILL

WELL LOCATION: Sec: 05 Twp: 10N Rge: 6W County: CANADIAN
SPOT LOCATION: ☐ NE ☐ SE ☐ SW FEET FROM QUARTER: FROM SOUTH FROM WEST
SECTION LINES: 500 2395

Lease Name: NORTHERN DANCER 8-17-10-6 Well No: 1MXH Well will be 500 feet from nearest unit or lease boundary.

Operator ROAN RESOURCES LLC
Name:

Telephone: 4058968453

OTC/OCC Number: 24127 0

ROAN RESOURCES LLC
14701 HERTZ QUAIL SPRINGS PKWY
OKLAHOMA CITY, OK 73134-2641

BORNEMANN LIVING TRUST
17455 SW 89TH ST
UNION CITY OK 73090

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

Name	Depth	Name	Depth
1 MISSISSIPPIAN	9947	6	
2		7	
3		8	
4		9	
5		10	

Spacing Orders: 266107
285956

Location Exception Orders:

Increased Density Orders:

Pending CD Numbers: 201901167
201901168
201901175
201901176

Special Orders:

Total Depth: 20507

Ground Elevation: 1247

Surface Casing: 1500

Depth to base of Treatable Water-Bearing FM: 230

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

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 ALLUVIAL

Pit Location Formation: ALLUVIUM

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

PERMIT NO: 19-36198

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 ALLUVIAL

Pit Location Formation: ALLUVIUM

HORIZONTAL HOLE 1

Sec 17 Twp 10N Rge 6W County GRADY

Spot Location of End Point: SE SW SE SW

Feet From: SOUTH 1/4 Section Line: 65

Feet From: WEST 1/4 Section Line: 1810

Depth of Deviation: 9497

Radius of Turn: 573

Direction: 175

Total Length: 10110

Measured Total Depth: 20507

True Vertical Depth: 9947

End Point Location from Lease,
Unit, or Property Line: 65

Notes:

Category

Description

DEEP SURFACE CASING

3/5/2019 - 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

3/5/2019 - 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

MEMO

3/5/2019 - G71 - PITS 1 & 2 - CLOSED SYSTEM=STEEL PITS (REQUIRED - CANADIAN RIVER), PIT 2 - OBM RETURNED TO VENDOR, CUTTINGS PERMITTED PER DISTRICT

PENDING CD - 201901167

3/21/2019 - GA8 - (E.O.) 8 & 17-10N-6W
EST MULTUNIT HORIZONTAL WELL
X266107 MSSP 8-10N-6W
X285956 MSSP 17-10N-6W
50% 8-10N-6W
50% 17-10N-6W
ROAN RESOURCES, LLC
REC. 3/4/2019 (NORRIS)

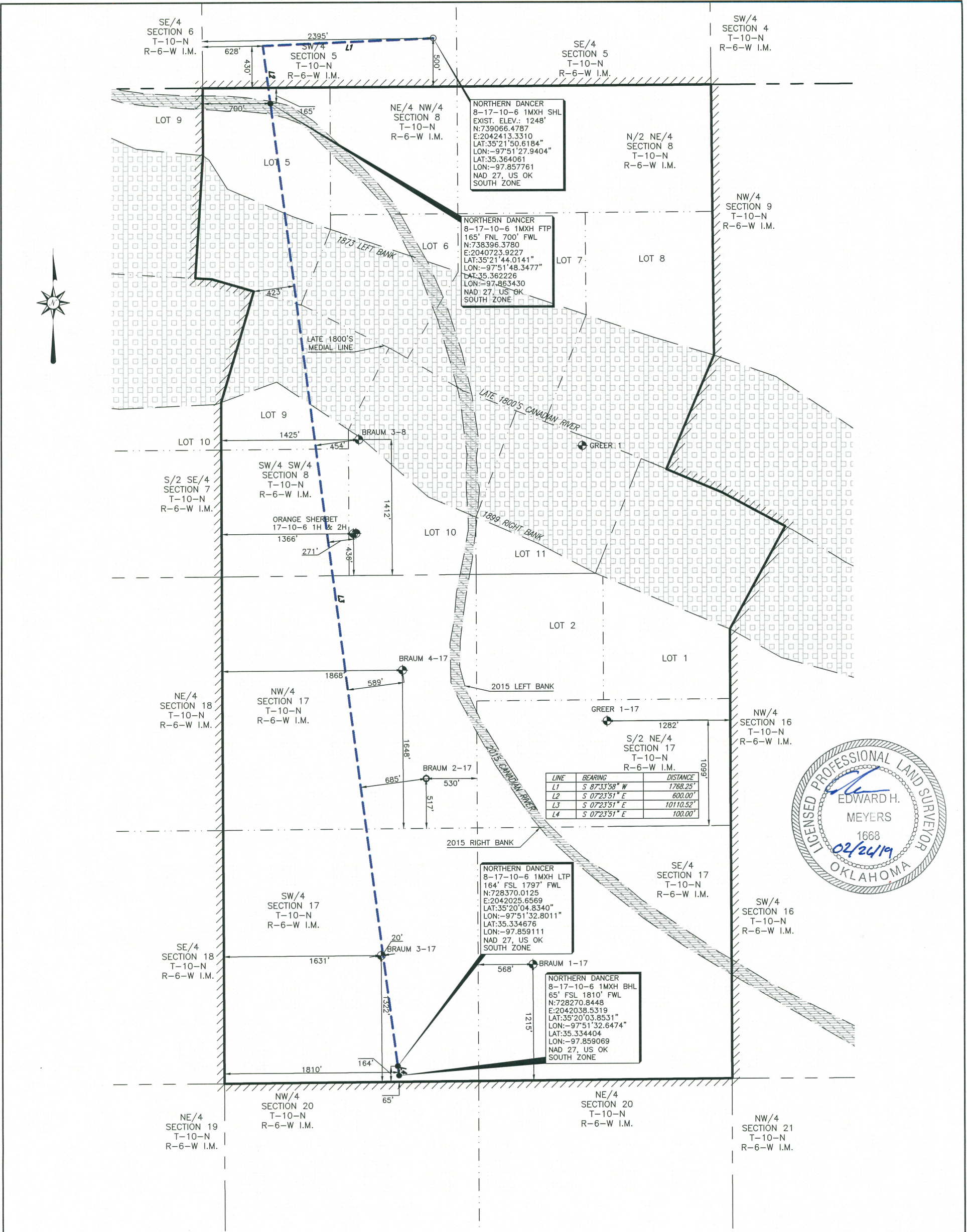
This permit does not address the right of entry or settlement of surface damages.

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.

017 25416 NORTHERN DANCER 8-17-10-6
1MXH

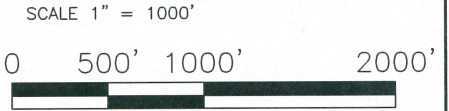
Category	Description
PENDING CD - 201901168	3/21/2019 - GA8 - (E.O.) 8 & 17-10N-6W X266107 MSSP 8-10N-6W X285956 MSSP 17-10N-6W X165:10-3-28(C)(2)(B) MAY BE CLOSER THAN 600' TO EXISTING WELLS COMPL. INT. (8-10N-6W) NCT 165' FNL, NCT 0' FSL, NCT 330' FWL COMPL. INT. (17-10N-6W) NCT 0' FNL & NCT 330' FWL , NCT 165' FSL & NCT 660' FWL ROAN RESOURCES, LLC REC. 3/4/2019 (NORRIS)
PENDING CD - 201901175	3/21/2019 - GA8 - 8-10N-6W X266107 MSSP 4 WELLS ROAN RESOURCES, LLC HEARING 3/26/2019
PENDING CD - 201901176	3/21/2019 - GA8 - 17-10N-6W X285956 MSSP 4 WELLS ROAN RESOURCES, LLC HEARING 3/26/2019
SPACING - 266107	3/21/2019 - GA8 - (640) 8-10N-6W EXT 237110 MSSP, OTHERS
SPACING - 285956	3/21/2019 - GA8 - (640) 17-10N-6W EXT 266107 MSSP, OTHERS



RIVER SURVEY NOTE:
THE SECTION BOUNDARY SHOWN HEREON REPRESENTS THE CORRELATION BETWEEN THE SECTION CORNERS FOUND OF RECORD AND THE ORIGINAL OLD SURVEYS OF 1873 & 1874 "NORTH BANK OF THE RIVER" AND 1899 "SOUTH BANK OF THE RIVER" DUE TO THE MOVEMENT OF THE CANADIAN RIVER AND THE INSTABILITY OF ITS BANKS THE EXACT BOUNDARY OF THE GOVERNMENT LOTS IS NOT REPRESENTED HEREON. THERE MAY BE RIGHTS TO TITLE THAT ARE SUBSTANTIALLY AFFECTED BY RIPARIAN LAW RELATED THE CHANGE IN THE COURSE OF THE RIVER. LEGAL COUNSEL SHOULD BE SOUGHT BEFORE RELYING ON THE INFORMATION SHOWN HEREON RELATING TO THE DIVISION OF ACTUAL PROPERTY RIGHTS. ADDITIONALLY THE ORIGINAL OLD SURVEYS STATED ABOVE NEVER CROSSED SAID RIVER.

- NOTE:
1. COMBINED SCALE FACTOR: 0.999947069
 2. SHL IS APPROXIMATELY 4.85 MILES S 66°55'59" E OF UNION CITY OKLAHOMA.

PERMIT PLAT OF
ROAN RESOURCES, LLC.
NORTHERN DANCER 8-17-10-6 1MXH
500' FSL 2395' FWL OF SECTION 5
MINCO FIELD
SECTION 8, TOWNSHIP 10 NORTH, RANGE 6 WEST I.M. &
SECTION 17, TOWNSHIP 10 NORTH, RANGE 6 WEST I.M.
LEASE LINES
SHL: 500' FNL & 2395' FWL
GRADY/CANADIAN COUNTY, OKLAHOMA



FILE: S:\OK\GRADY\PROJECTS\T10N-R06W\DWG\

LEGEND

- POINT
- EXISTING WELLHEAD
- PROPOSED WELL LOCATION SET
- SURFACE LOCATION OBTAINED FROM OCC
- AS-DRILLED LATERAL
- SUBJECT PROPOSED LATERAL
- PROPOSED LATERAL
- LEASE LINE
- SURVEY LINE

John F. Watson & Company
LAND & DEVELOPMENT SERVICES
PROFESSIONAL LAND SURVEYORS
200 N. Lorraine, Ste. 220
Midland, Texas 79701
Tel: (432) 520-2400
Fax: (432) 520-2404
jwatson@windearthwater.com

CA#5957 EXPIRATION 6-30-2019
200 N LORRAINE #220
MIDLAND, TX 79701
(432) 520-2400

ORIGINAL STAKE DATE: 01/18/19
ADDED LATERAL DATE: 01/21/19
MOVED SHL DATE: 02/22/19
REVISED LATERAL DATE: 02/25/19

REV: 1 AFE NO.: — JOB NO.: 19-0016
FIELD BOOK: SERVER VER: 1 DRAWN BY: LLF

NOTE:

1. BEARINGS, DISTANCES & ACREAGE ARE GRID, NAD 27 US OK SOUTH ZONE AND ARE OBTAINED BY NORMAL GPS TECHNIQUES.
2. ELEVATIONS ARE BASED ON NAVD 88 COMPUTED USING GEOID 12B.
3. THIS SURVEY IS FOR AN OIL & GAS SUB-SURFACE LEASE AND IS NOT A BOUNDARY SURVEY.
4. LOCATION OF ADJOINING WELLS OUTSIDE LEASE BOUNDARY ARE APPROXIMATED FROM OKLAHOMA CORPORATION COMMISSION DATA.
5. DOWNHOLE INFORMATION PROVIDED BY THE CLIENT.
6. THIS SURVEY COMPLIES WITH THE US PUBLIC LAND SURVEY SYSTEM AND MEETS THE OKLAHOMA MINIMUM STANDARDS FOR THE PRACTICE OF LAND SURVEYING AS ADOPTED BY THE OKLAHOMA STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS, EFFECTIVE JULY 25, 2013.
7. THIS IS NOT A BOUNDARY SURVEY.
8. THIS PERMIT PLAT HAS BEEN PREPARED FROM A SURVEY PLAT ON FILE IN THE OFFICE OF JOHN F. WATSON & COMPANY, MIDLAND TEXAS.

I, THE UNDERSIGNED, DO HEREBY CERTIFY THAT THE SURVEY INFORMATION FOUND ON THIS PLAT WAS DERIVED FROM ACTUAL FIELD NOTES OF ON-THE-GROUND SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

02/26/19
SHEET 1 OF 1