

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

API NUMBER: 093 25128

Approval Date: 02/07/2018

Expiration Date: 08/07/2018

Horizontal Hole Oil & Gas

PERMIT TO DRILL

WELL LOCATION: Sec: 34 Twp: 20N Rge: 15W County: MAJOR

SPOT LOCATION: ☐ NW ☐ NW ☐ NE ☐ NW FEET FROM QUARTER: FROM NORTH FROM WEST

SECTION LINES: 275 1400

Lease Name: BROMLOW 2015 Well No: 1-34H Well will be 275 feet from nearest unit or lease boundary.

Operator SANDRIDGE EXPLORATION & PRODUCTION LLC  
Name:

Telephone: 4054295610

OTC/OCC Number: 22281 0

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

QUINCY & STARLA BROMLOW  
P.O. BOX 781  
SEILING OK 73663

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

Name	Depth	Name	Depth
1 MISSISSIPPIAN	9275	6	
2		7	
3		8	
4		9	
5		10	

Spacing Orders: 634339

Location Exception Orders:

Increased Density Orders:

Pending CD Numbers: 201800297  
201800298

Special Orders:

Total Depth: 14091

Ground Elevation: 1701

**Surface Casing: 1500**

Depth to base of Treatable Water-Bearing FM: 360

Under Federal Jurisdiction: Yes

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 AP/TE DEPOSIT

Pit Location Formation: TERRACE

E. Haul to Commercial pit facility: Sec. 33 Twn. 26N Rng. 15W Cnty. 151 Order No: 627651

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 AP/TE DEPOSIT

Pit Location Formation: TERRACE

## HORIZONTAL HOLE 1

Sec 34 Twp 20N Rge 15W County DEWEY

Spot Location of End Point: S2 S2 SW SW

Feet From: SOUTH 1/4 Section Line: 150

Feet From: WEST 1/4 Section Line: 660

Depth of Deviation: 8999

Radius of Turn: 800

Direction: 185

Total Length: 3835

Measured Total Depth: 14091

True Vertical Depth: 9386

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

### Notes:

#### Category

#### Description

#### DEEP SURFACE CASING

2/6/2018 - 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

2/6/2018 - 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](http://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](http://FRACFOCUS.ORG)

#### INTERMEDIATE CASING

2/6/2018 - 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

2/6/2018 - 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.

093 25128 BROMLOW 2015 1-34H

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.

Category	Description
PENDING CD - 201800297	2/7/2018 - G57 - (I.O.) 34-20N-15W X634339 MSSP COMPL. INT. NCT 150' FNL & FSL, NCT 560' FWL NO OP. NAMED REC 2-5-2018 (NORRIS)
PENDING CD - 201800298	2/7/2018 - G57 - (I.O.) 34-20N-15W X165:10-3-28(C)(2)(B) MSSP (BROMLOW 2016 1-34H) MAY BE CLOSER THAN 600' TO THE JERRY NO. 1-34 NO OP. NAMED REC 2-5-2018 (NORRIS)
SPACING - 634339	2/7/2018 - G57 - (640)(HOR) 34-20N-15W VAC OTHERS VAC 574435/578073 MSSLM, OTHER S2 NW4 & NE4 & SE4 & SW4 VAC 132900 CSTR S2 NW4 & NE4 & SE4 & SW4 EST (REG) OTHER EXT (REG) OTHERS EST (HOR) MSSP, OTHERS POE TO BHL (MSSP) NCT 660' FB (COEXIST WITH SP. ORDER 574435/578073 MSSLM N2 NW4 & COEXIST WITH SP. ORDER 132900 CSTR N2 NW4)

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# TOPOGRAPHIC LAND SURVEYORS OF OKLAHOMA

13800 WIRELESS WAY., OKLA. CITY, OKLA. 73134 \* LOCAL (405) 843-4847 \* OUT OF STATE (800) 654-3219

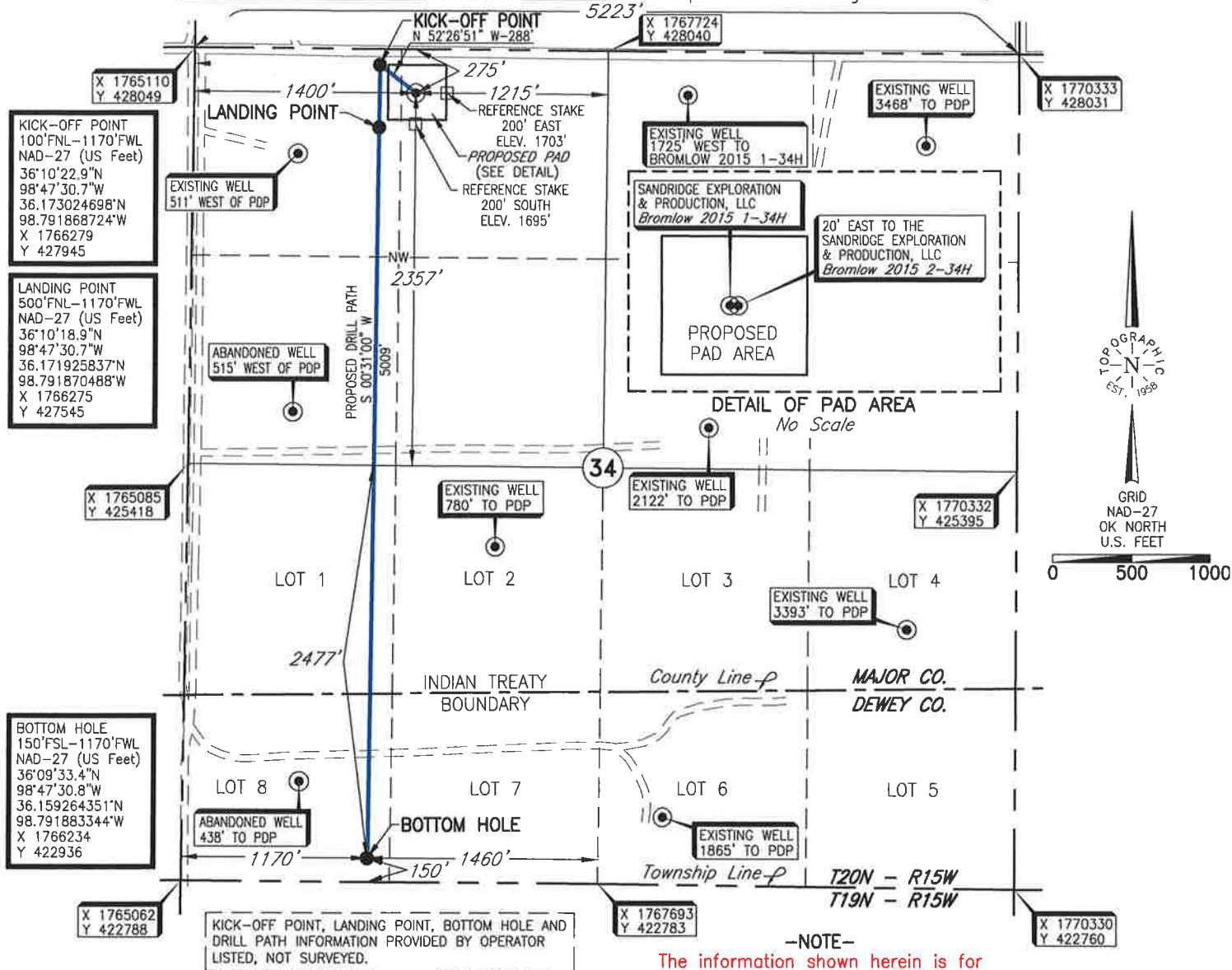
Certificate of Authorization No. 1293 LS

MAJOR

County, Oklahoma

093-25128

275'FNL - 1400'FWL Section 34 Township 20N Range 15W I.M.



Operator: SANDRIDGE EXPLORATION & PRODUCTION, LLC

Lease Name: BROMLOW 2015

Well No.: 1-34H

ELEVATION:

1701' Gr. at Stake NGVD29

Topography & Vegetation Location fell in rolling sandy pasture and heavy brush.

Good Drill Site? Yes Reference Stakes Set (1) 200' South - Elev. 1695' (2) 200' East - Elev. 1703'

Best Accessibility to Location From North off county road.

Distance & Direction

From Hwy Jct or Town From Orion, Ok., go ±3 miles South, then ±1 mile West to the NW corner of Section 34, T20N - R15W.

Revision ☒ D

Date of Drawing: November 12, 2018

Invoice # 286419

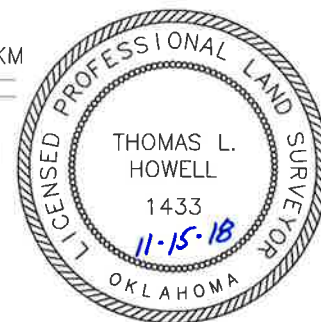
Date Staked: December 29, 2017

RKM

## CERTIFICATE:

I, Thomas L. Howell, an Oklahoma Licensed Land Surveyor and an authorized agent of Topographic Land Surveyors of Oklahoma, do hereby certify to the information shown herein

Thomas L. Howell  
Oklahoma Lic. No. 1433



This information was gathered with a GPS receiver with ±1 foot horiz./vert. accuracy.

DATUM: NAD-27  
LAT: 36°10'21.2"N  
LONG: 98°47'27.9"W  
LAT: 36.172547153°N  
LONG: 98.791089565°W  
STATE PLANE  
COORDINATES: (US Feet)  
ZONE: OK NORTH  
X: 1766507  
Y: 427769



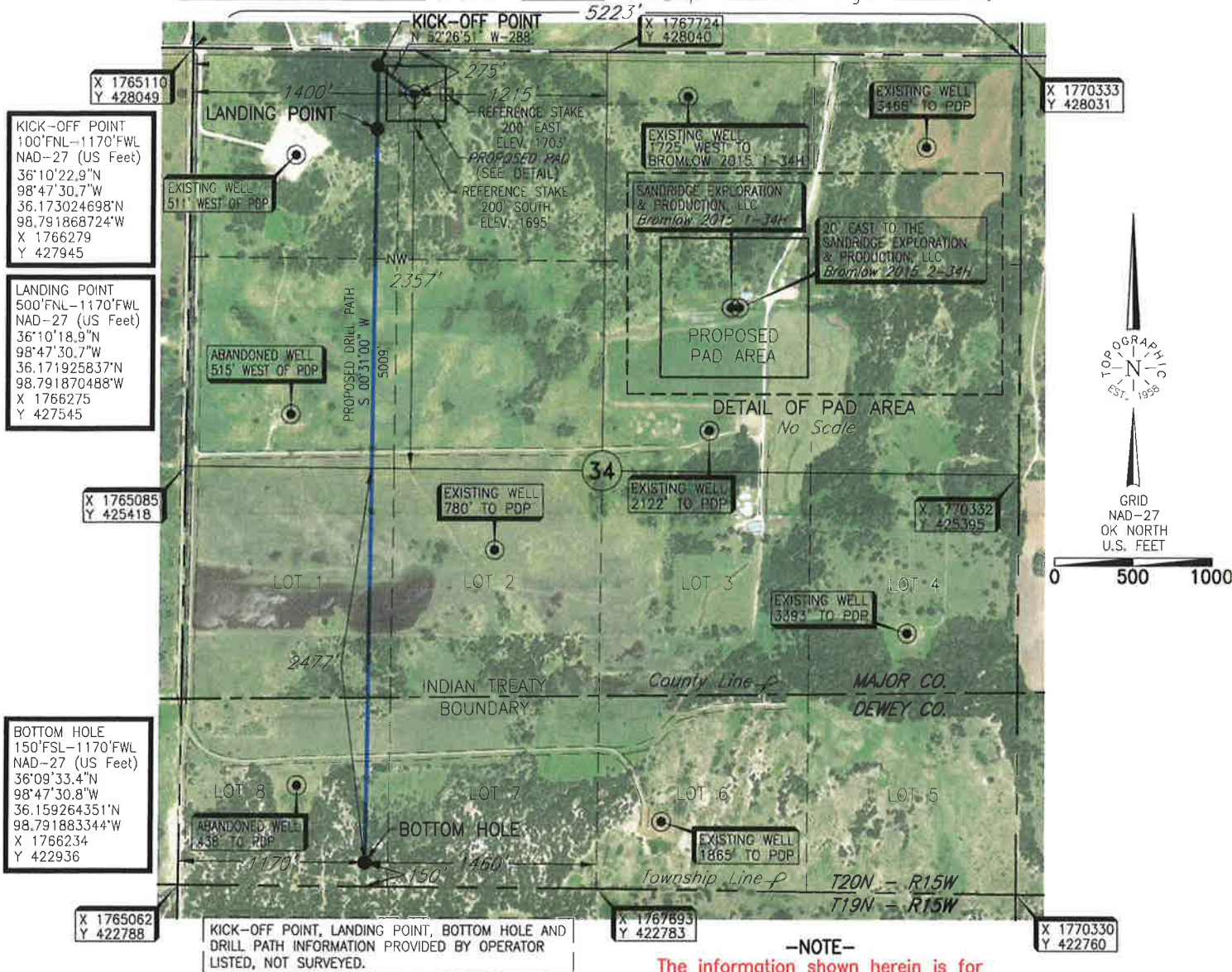
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MAJOR

County, Oklahoma

275'FNL - 1400'FWL Section 34 Township 20N Range 15W I.M.



**-NOTE-**  
The information shown herein is for construction purposes ONLY.

Operator: SANDRIDGE EXPLORATION & PRODUCTION, LLC

Lease Name: BROMLOW 2015

Well No.: 1-34H

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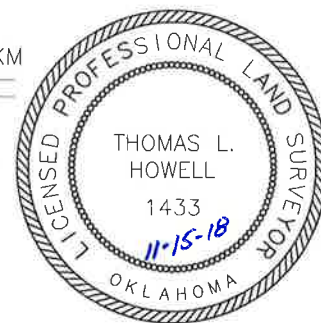
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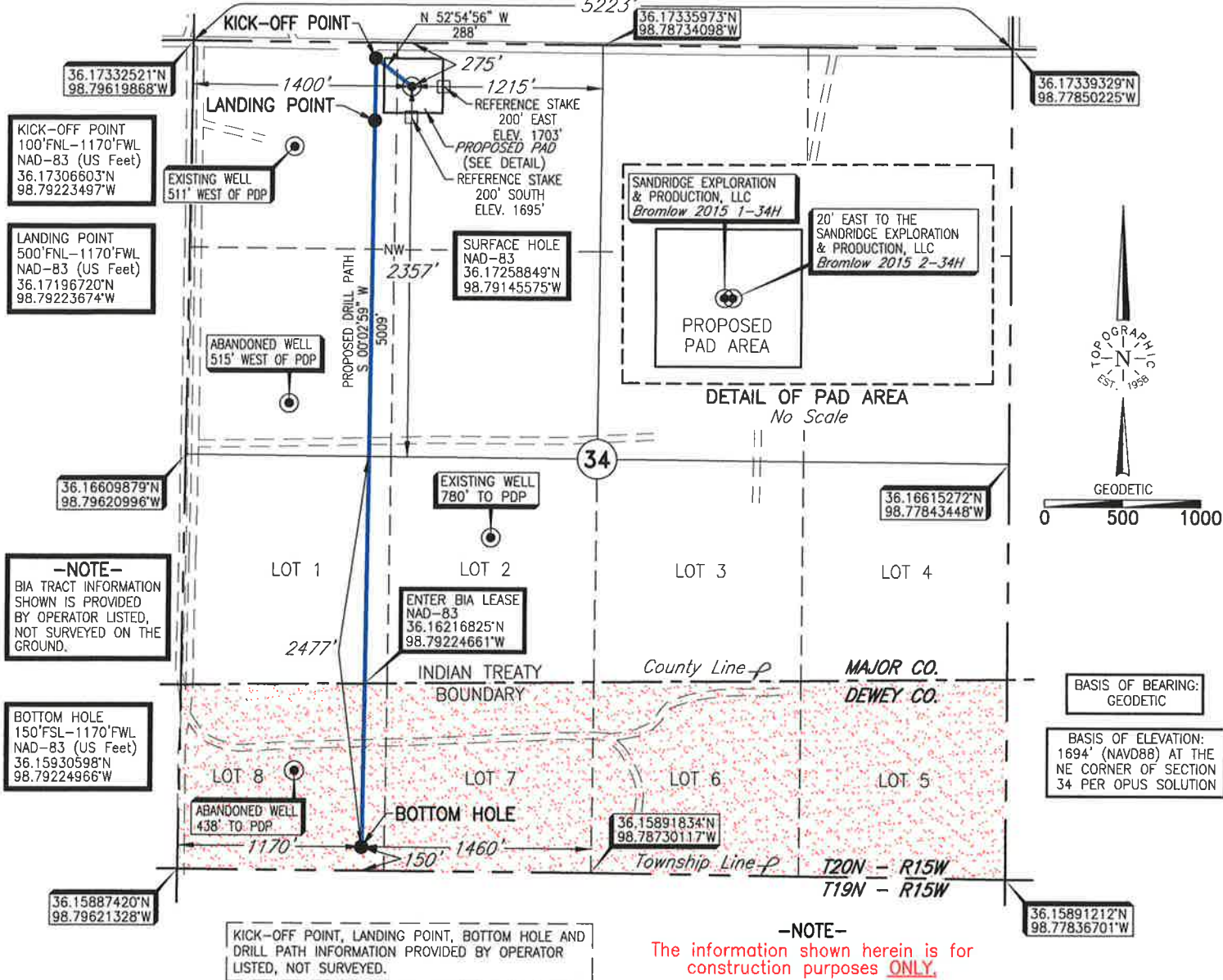
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MAJOR

County, Oklahoma

275'FNL - 1400'FWL Section 34 Township 20N Range 15W I.M.

5223'



Operator: SANDRIDGE EXPLORATION & PRODUCTION, LLC

Lease Name: BROMLOW 2015

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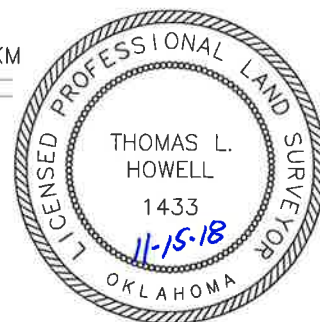
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This information was gathered with a GPS receiver with ±1 foot Horiz./Vert. accuracy.

DATUM: NAD-83  
LAT: 36.17258849°N  
LONG: 98.79145575°W



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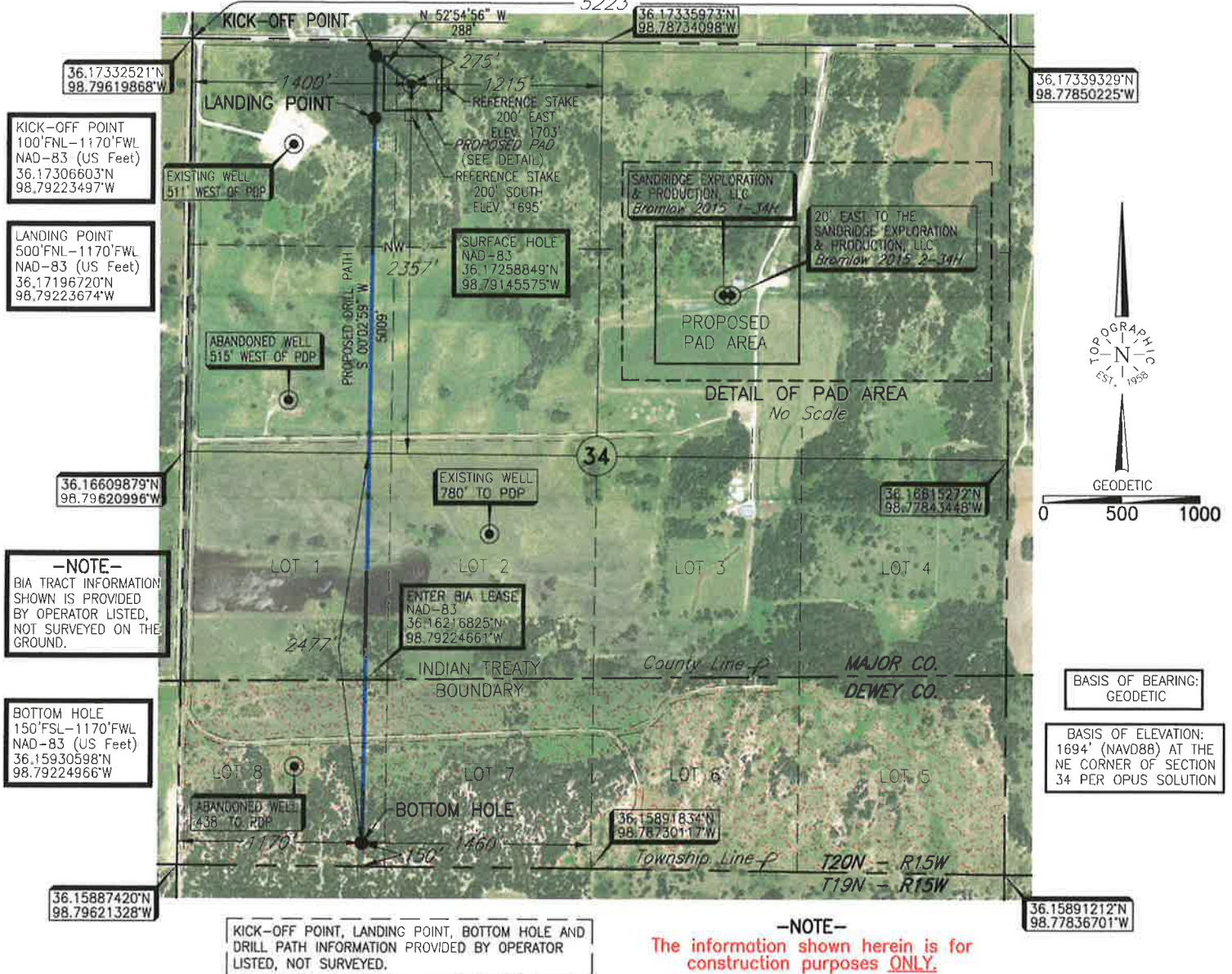
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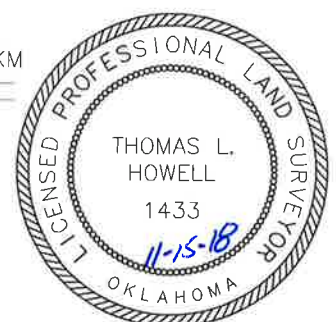
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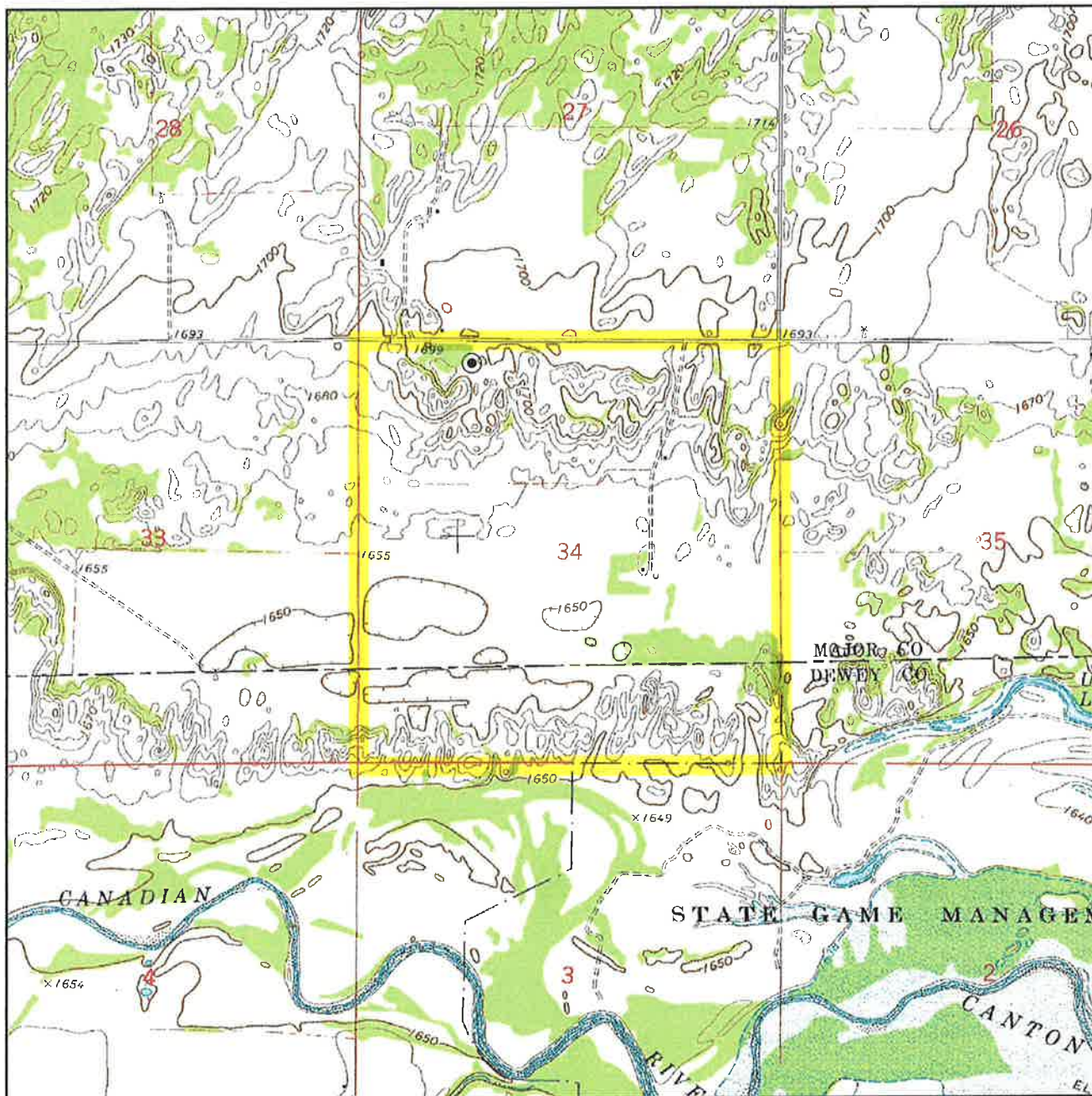
# TOPOGRAPHIC LAND SURVEYORS OF OKLAHOMA

Surveying and Mapping for the Energy Industry

6709 North Classen Blvd. Oklahoma City, OK 73116 [www.topographic.com](http://www.topographic.com)

Telephone Numbers: Local (405) 843-4847 Toll Free (800) 654-3219

## LOCATION & ELEVATION VERIFICATION MAP



Sec. 34 Twp. 20N Rng. 15W IM

County MAJOR State OK

Operator SANDRIDGE EXPLORATION & PRODUCTION, LLC

Description 275'FNL - 1400'FWL

Lease BROMLOW 2015 1-34H

Elevation 1701' Gr. at Stake NGVD29  
1701' Gr. at Stake NAVD88

Above Background Data from  
U.S.G.S. Topographic Map  
Scale: 1"=2000'

Contour Interval 10'

When elevation is shown hereon it is the ground  
elevation of the location stake.  
Review this plat and inform us immediately of  
any possible discrepancy.



**TOPOGRAPHIC**  
LOYALTY INNOVATION LEGACY

**LAND SURVEYORS OF OKLAHOMA**

December 29, 2017



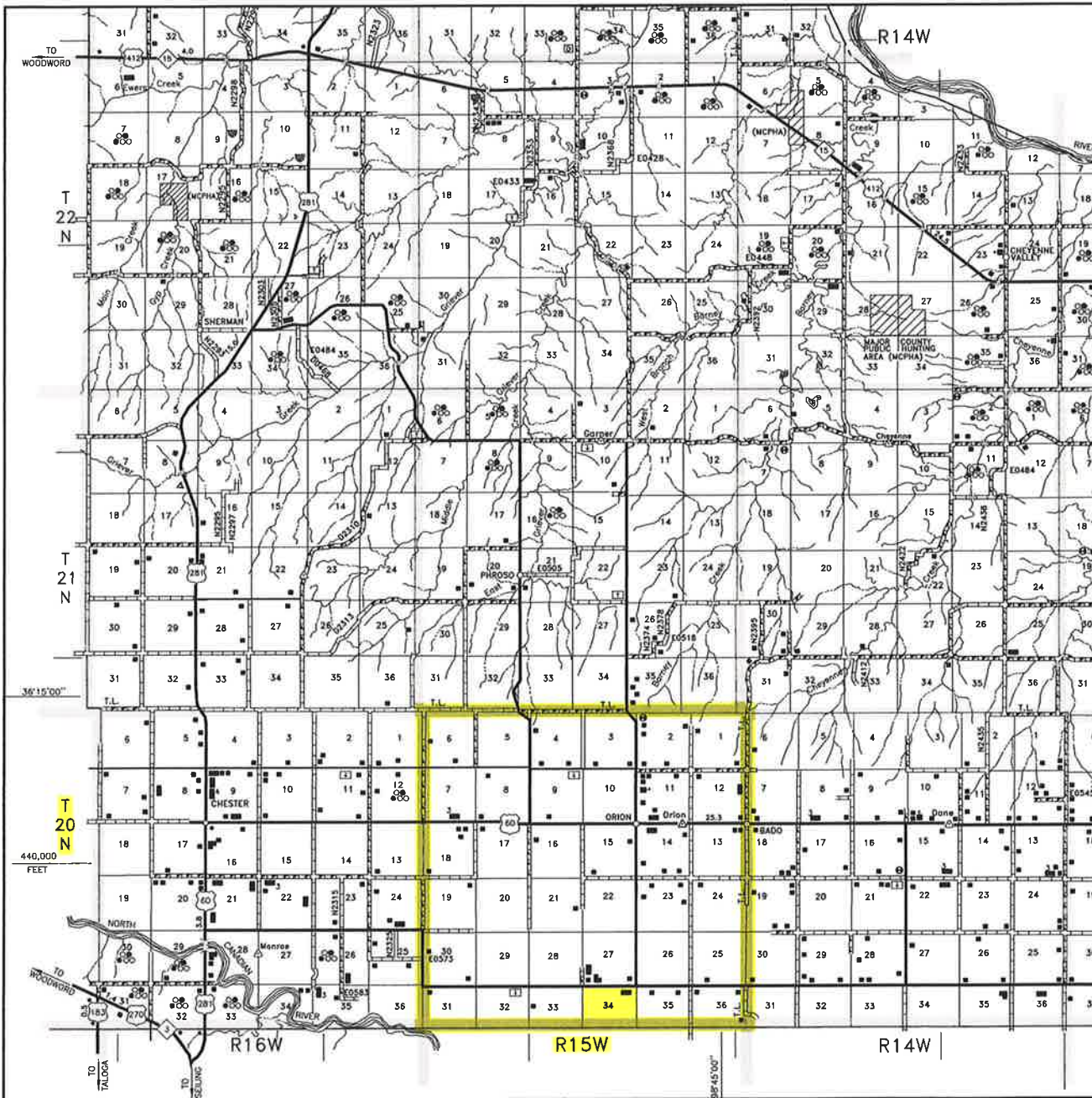
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## VICINITY MAP



Scale: 1" = 3 Miles

Sec. 34 Twp. 20N Rng. 15W IM

County MAJOR State OK

Operator SANDRIDGE EXPLORATION & PRODUCTION, LLC



**TOPOGRAPHIC**  
LOYALTY INNOVATION LEGACY

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