

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

API NUMBER: 011 24114

Approval Date: 11/05/2018

Expiration Date: 05/05/2020

Horizontal Hole

Oil & Gas

PERMIT TO DRILL

WELL LOCATION: Sec: 29 Twp: 15N Rge: 10W

County: BLAINE

SPOT LOCATION:

FEET FROM QUARTER: FROM NORTH FROM WEST

SECTION LINES: 340 450

Lease Name: HAMMERHEAD 20-15N-10W

Well No: 9MH

Well will be 340 feet from nearest unit or lease boundary.

Operator Name: PALOMA OPERATING CO INC

Telephone: 7136508509

OTC/OCC Number: 23932 0

PALOMA OPERATING CO INC
1100 LOUISIANA ST STE 5100
HOUSTON, TX 77002-5220

JOHN D. SCHULTE
P O BOX 246
OKARCHE OK 73762

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

	Name	Depth	Name	Depth
1	MISSISSIPPIAN	10032	6	
2			7	
3			8	
4			9	
5			10	

Spacing Orders: 648300

Location Exception Orders:

Increased Density Orders: 684007

Pending CD Numbers: 201805850
201806954

Special Orders:

Total Depth: 16248

Ground Elevation: 1501

Surface Casing: 1500

Depth to base of Treatable Water-Bearing FM: 130

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: 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 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

D. One time land application -- (REQUIRES PERMIT) PERMIT NO: 18-35738

G. Haul to recycling/re-use facility: Sec. 22 Twn. 16N Rng. 9W Cnty. 73 Order No: 647741

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 20 Twp 15N Rge 10W County BLAINE

Spot Location of End Point: NE NE NE NW

Feet From: NORTH 1/4 Section Line: 65

Feet From: WEST 1/4 Section Line: 2495

Depth of Deviation: 10434

Radius of Turn: 477

Direction: 15

Total Length: 5065

Measured Total Depth: 16248

True Vertical Depth: 11239

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

Notes:

Category

Description

DEEP SURFACE CASING

11/2/2018 - 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

11/2/2018 - 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 - 684007

11/5/2018 - G58 - 20-15N-10W
X648300 MSSP
6 WELLS
NO OP. NAMED
9/28/2018

INTERMEDIATE CASING

11/2/2018 - 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

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.

011 24114 HAMMERHEAD 20-15N-10W 9MH

Category	Description
MEMO	11/2/2018 - G71 - PITS 1 & 2 - CLOSED SYSTEM=STEEL PITS PER OPERATOR REQUEST, PIT 2 - OBM RETURNED TO VENDOR, CUTTINGS PERMITTED PER DISTRICT
PENDING CD - 201805850	11/5/2018 - G58 - (I.O.) 20-15N-10W X648300 MSSP COMPL. INT. NCT 165' FSL, NCT 165' FNL, NCT 1980' FWL NO OP. NAMED REC 9/17/2018 (DENTON)
PENDING CD - 201806954	11/5/2018 - G58 - (I.O.) 20-15N-10W X165:10-3-28(C)(2)(B) MSSP (HAMMERHEAD 20-15N-10W 9MH) NO CLOSER THAN 490' FROM THE HAMMERHEAD 20-15N-10W 2H WELL REC 9/17/2018 (DENTON)
SPACING - 648300	11/5/2018 - G58 - (640) 20-15N-10W EXT OTHERS EST MSSP
SPACING - 660911	11/5/2018 - G58 - (640) 20-15N-10W NPT 648300 TO CORRECT SCRIVNER'S ERROR IN PARAGRAPH F AND EXHIBIT A AS VERTICAL SPACING

TOPOGRAPHIC LAND SURVEYORS OF OKLAHOMA

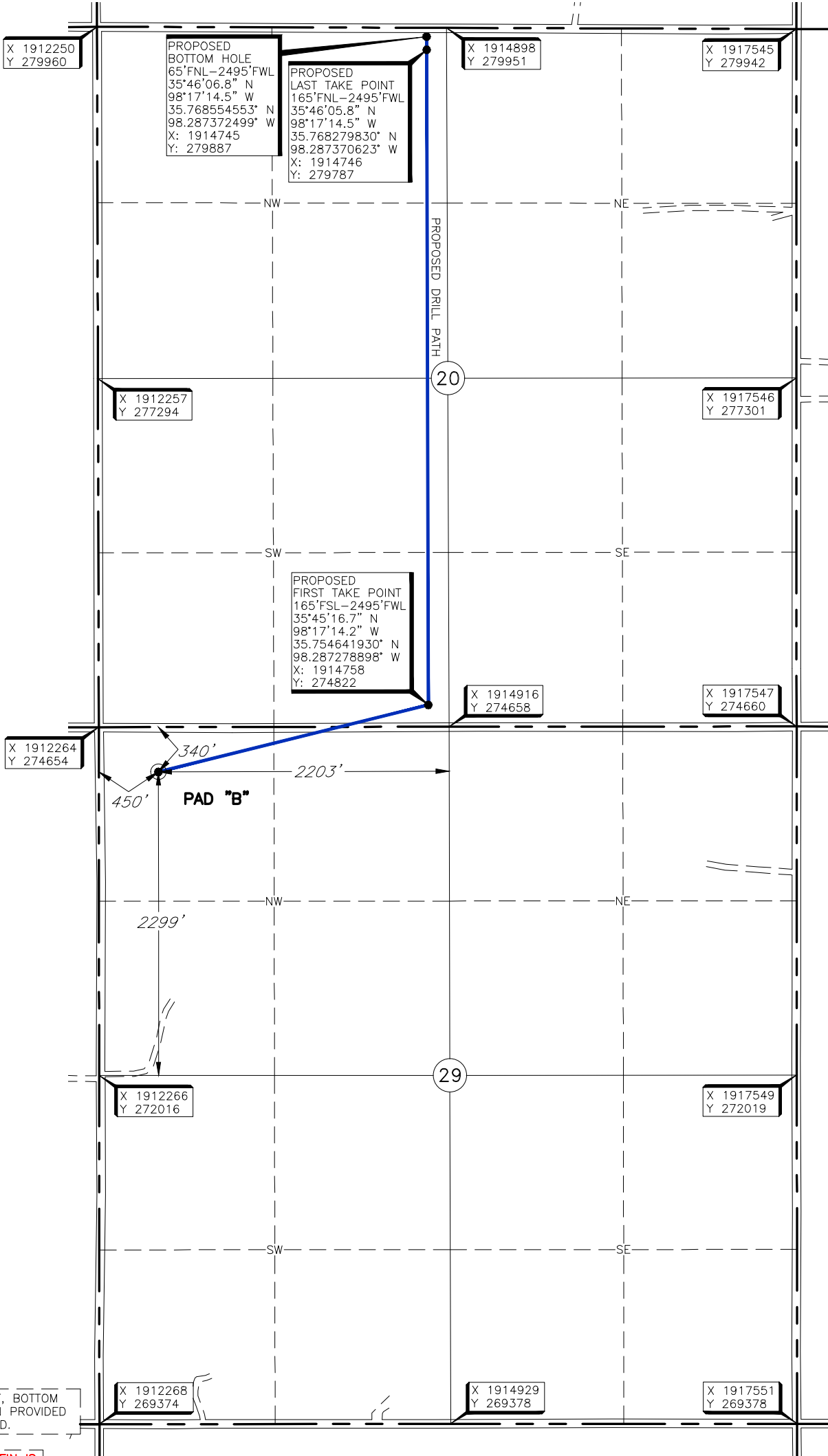
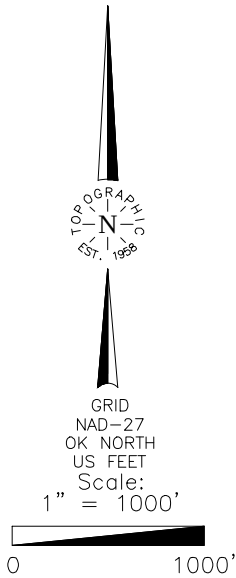
13800 WIRELESS WAY, OKLA. CITY, OKLA. 73134 * LOCAL (405) 843-4847 * OUT OF STATE (800) 654-3219
Certificate of Authorization No. 1293 LS

BLAINE

County, Oklahoma

011-24114

340'FNL-450'FWL Section 29 Township 15N Range 10W I.M.



Operator: PALOMA OPERATING COMPANY, INC.
Lease Name: HAMMERHEAD 20-15N-10W
Topography & Vegetation Location fell on existing pad
Well No.: 9MH
ELEVATION: 1501' Gr. on existing pad
Good Drill Site? Yes
Best Accessibility to Location From North off county road
Distance & Direction From US Hwy 281/St. Hwy 8 in Greenfield, Oklahoma, go $\pm$ 5.5 miles East, then $\pm$ 1 mile North to the Northwest Corner of Section 29, T15N-R10W.
Reference Stakes or Alternate Location Stakes Set None

FIRST TAKE POINT, LAST TAKE POINT, BOTTOM HOLE, AND DRILL PATH INFORMATION PROVIDED BY OPERATOR LISTED, NOT SURVEYED.

THE INFORMATION SHOWN HEREIN IS FOR CONSTRUCTION PURPOSES ONLY

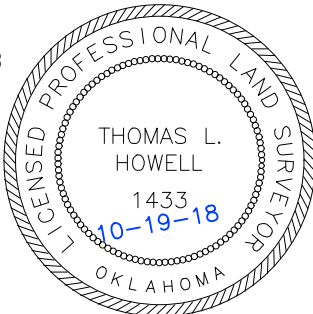
DATUM: NAD-27
LAT: 35°45'11.6" N
LONG: 98°17'39.0" W
LAT: 35.753230911° N
LONG: 98.294164104° W
STATE PLANE COORDINATES (US FEET):
ZONE: OK NORTH
X: 1912714
Y: 274315

Date of Drawing: Oct. 19, 2018
Invoice # 305368 Date Staked: Oct. 10, 2018 NB

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



TOPOGRAPHIC LAND SURVEYORS OF OKLAHOMA

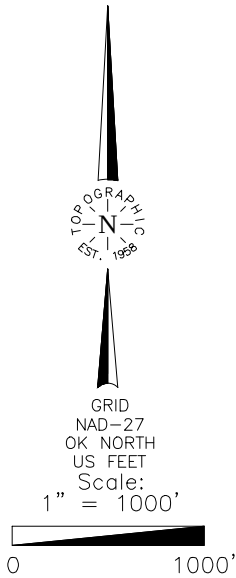
13800 WIRELESS WAY, OKLA. CITY, OKLA. 73134 * LOCAL (405) 843-4847 * OUT OF STATE (800) 654-3219

Certificate of Authorization No. 1293 LS

BLAINE

County, Oklahoma

340'FNL-450'FWL Section 29 Township 15N Range 10W I.M.



Operator: PALOMA OPERATING COMPANY, INC.
Lease Name: HAMMERHEAD 20-15N-10W
Topography & Vegetation Location fell on existing pad
Good Drill Site? Yes
Best Accessibility to Location From North off county road
Distance & Direction From US Hwy 281/St. Hwy 8 in Greenfield, Oklahoma, go ± 5.5 miles East, then ± 1 mile North to the Northwest Corner of Section 29, T15N-R10W.
Reference Stakes or Alternate Location
Stakes Set None
Well No.: 9MH
ELEVATION: 1501' Gr. on existing pad

FIRST TAKE POINT, LAST TAKE POINT, BOTTOM HOLE, AND DRILL PATH INFORMATION PROVIDED BY OPERATOR LISTED, NOT SURVEYED.

THE INFORMATION SHOWN HEREIN IS FOR CONSTRUCTION PURPOSES ONLY

DATUM: NAD-27
LAT: 35°45'11.6" N
LONG: 98°17'39.0" W
LAT: 35.753230911° N
LONG: 98.294164104° W
STATE PLANE
COORDINATES (US FEET):
ZONE: OK NORTH
X: 1912714
Y: 274315

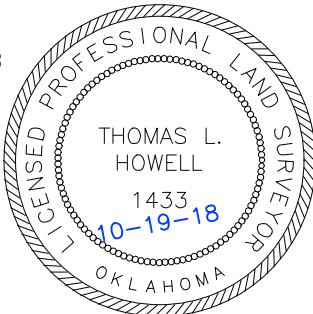
Invoice # 305368 Date of Drawing: Oct. 19, 2018
Date Staked: Oct. 10, 2018 NB

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

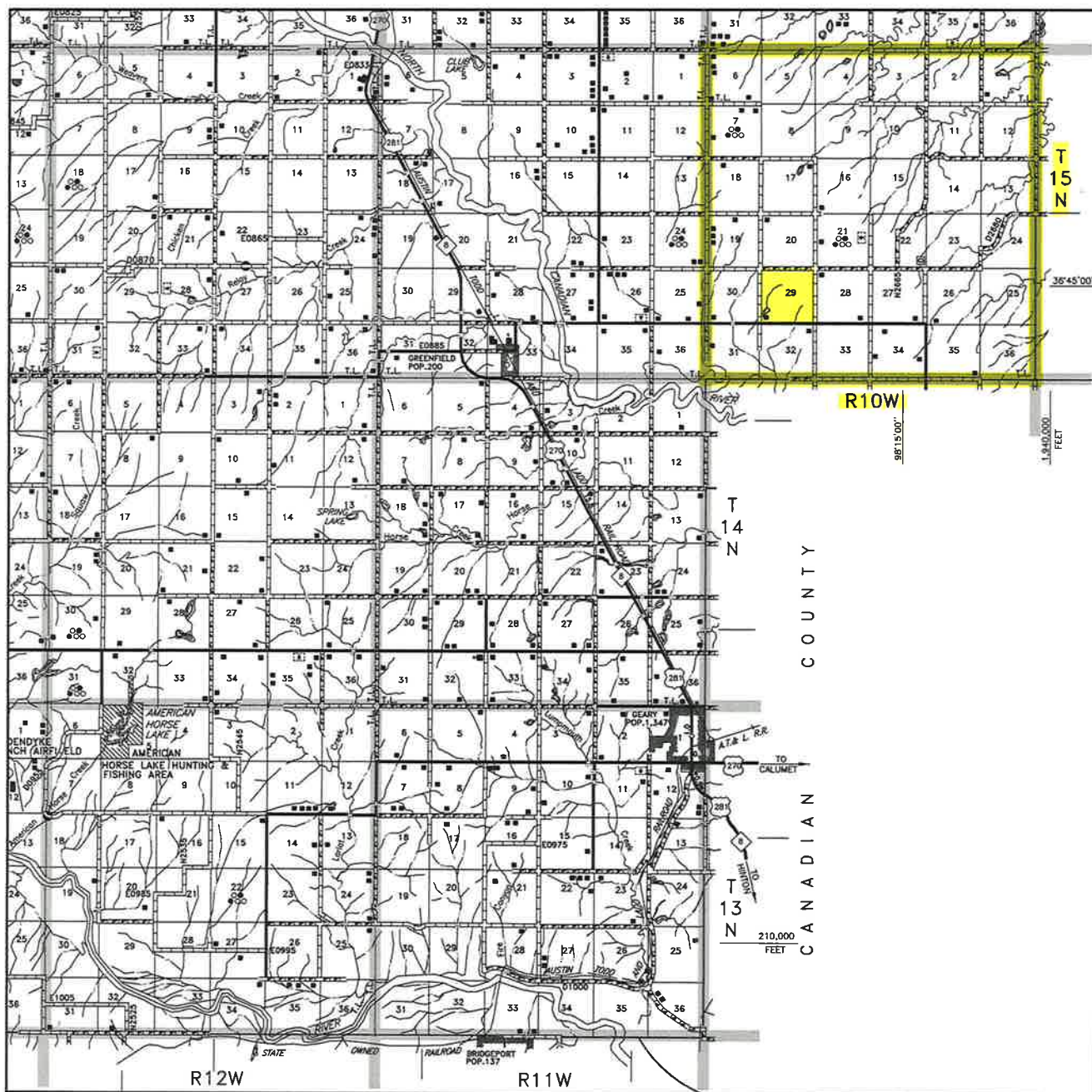
Oklahoma Lic. No. 1433



TOPOGRAPHIC LAND SURVEYORS OF OKLAHOMA

Surveying and Mapping for the Energy Industry
13800 Wireless Way Oklahoma City, OK 73134 www.topographic.com
Telephone Numbers: Local (405) 843-4847 Toll Free (800) 654-3219

VICINITY MAP



Scale: 1" = 3 Miles

Sec. 29 Twp. 15N Rng. 10W I.M.

County BLAINE State OK

Operator PALOMA OPERATING COMPANY, INC.



LAND SURVEYORS OF OKLAHOMA

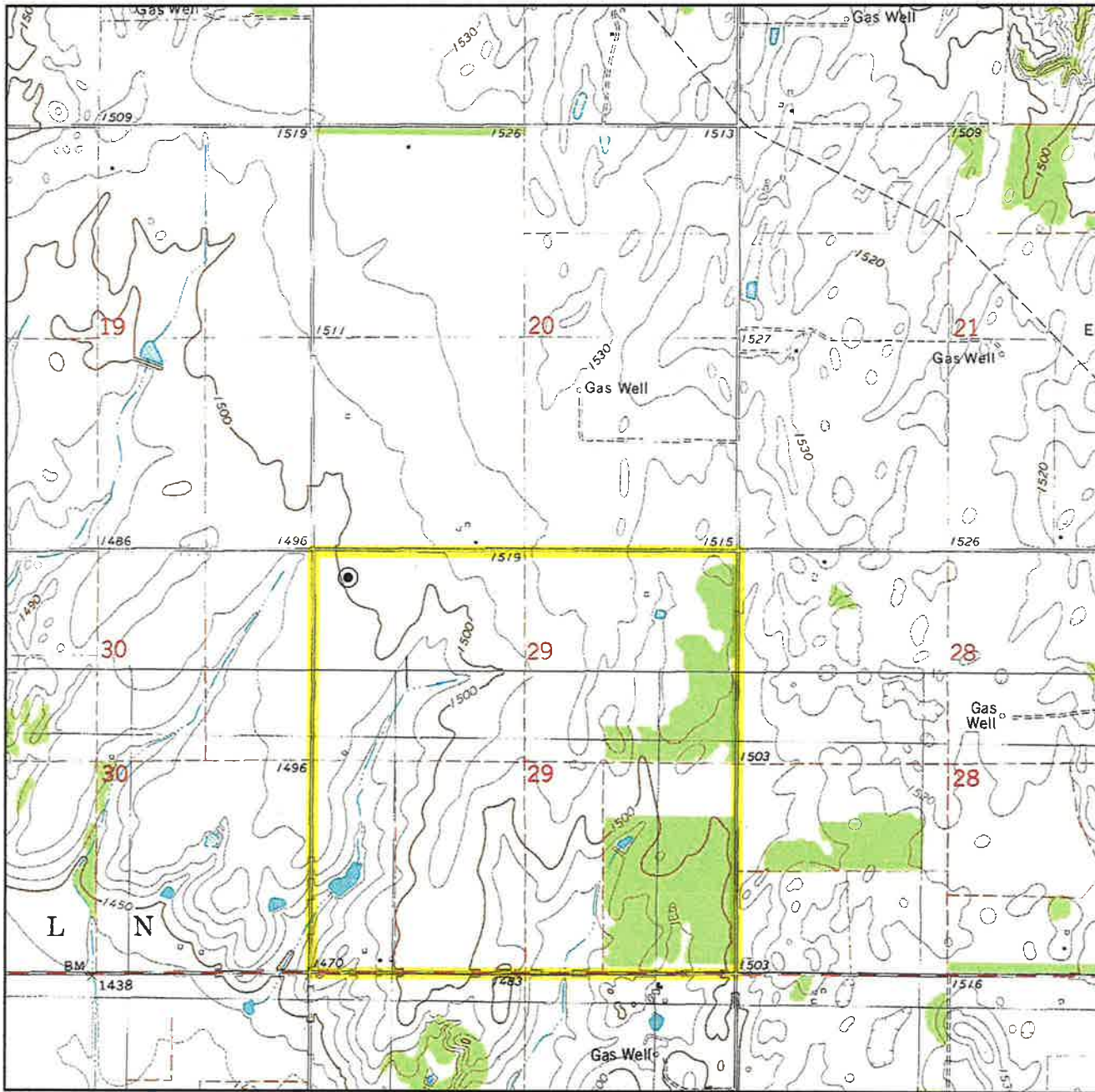
TOPOGRAPHIC LAND SURVEYORS OF OKLAHOMA

Surveying and Mapping for the Energy Industry

13800 Wireless Way Oklahoma City, OK 73134 www.topographic.com

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

LOCATION & ELEVATION VERIFICATION MAP



Sec. 29 Twp. 15N Rng. 10W I.M.

County BLAINE State OK

Operator PALOMA OPERATING COMPANY, INC.

Description 340'FNL-450'FWL

Lease HAMMERHEAD 20-15N-10W 9MH

Elevation 1501' Gr. on existing pad

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.



LAND SURVEYORS OF OKLAHOMA

Oct. 10, 2018