

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

API NUMBER: 017 25238

Approval Date: 06/27/2018

Expiration Date: 12/27/2018

Horizontal Hole Oil & Gas

PERMIT TO DRILL

WELL LOCATION: Sec: 28 Twp: 13N Rge: 7W

County: CANADIAN

SPOT LOCATION: NW NW NW NW

FEET FROM QUARTER: FROM NORTH FROM WEST

SECTION LINES: 245 321

Lease Name: SOUTHERN STAR 28-13N-7W

Well No: 2WH

Well will be 245 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

ZUM MALLEN RANCHES, LLC
P.O. BOX 186
EL RENO OK 73036

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

Name	Depth	Name	Depth
1 WOODFORD	9840	6	
2		7	
3		8	
4		9	
5		10	

Spacing Orders: 659173

Location Exception Orders:

Increased Density Orders:

Pending CD Numbers: 201804147

Special Orders:

Total Depth: 14837

Ground Elevation: 1317

Surface Casing: 1500

Depth to base of Treatable Water-Bearing FM: 280

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: 18-34431

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 28 Twp 13N Rge 7W County CANADIAN

Spot Location of End Point: SE SE SW SW

Feet From: SOUTH 1/4 Section Line: 65

Feet From: WEST 1/4 Section Line: 1060

Depth of Deviation: 9165

Radius of Turn: 382

Direction: 175

Total Length: 5072

Measured Total Depth: 14837

True Vertical Depth: 9840

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

Notes:

Category

Description

DEEP SURFACE CASING

6/14/2018 - G71 - APPROVED; NOTIFY OCC FIELD INSPECTOR IMMEDIATELY FOR ANY LOSS OF CIRCULATION OR FAILURE TO CIRCULATE CEMENT TO SURFACE ON CONDUCTOR OR SURFACE CASING

HYDRAULIC FRACTURING

6/14/2018 - 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

MEMO

6/14/2018 - G71 - PIT 1 & 2 - CLOSED SYSTEM=STEEL PITS PER OPERATOR REQUEST; PIT 2 - OBM TO VENDOR, OBM CUTTINGS PER DISTRICT

PENDING CD - 201804147

6/26/2018 - G75 - (I.O.) 28-13N-7W
X659173 WDFD
COMPL. INT. NCT 165' FNL, NCT 165' FSL, NCT 330' FWL
NO OP. NAMED
REC 6-11-2018 (MILLER)

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

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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 25238 SOUTHERN STAR 28-13N-7W
2WH

Category

Description

SPACING - 659173

6/26/2018 - G75 - (640) 28-13N-7W
EXT 142605 WDFD

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.

TOPOGRAPHIC LAND SURVEYORS OF OKLAHOMA

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

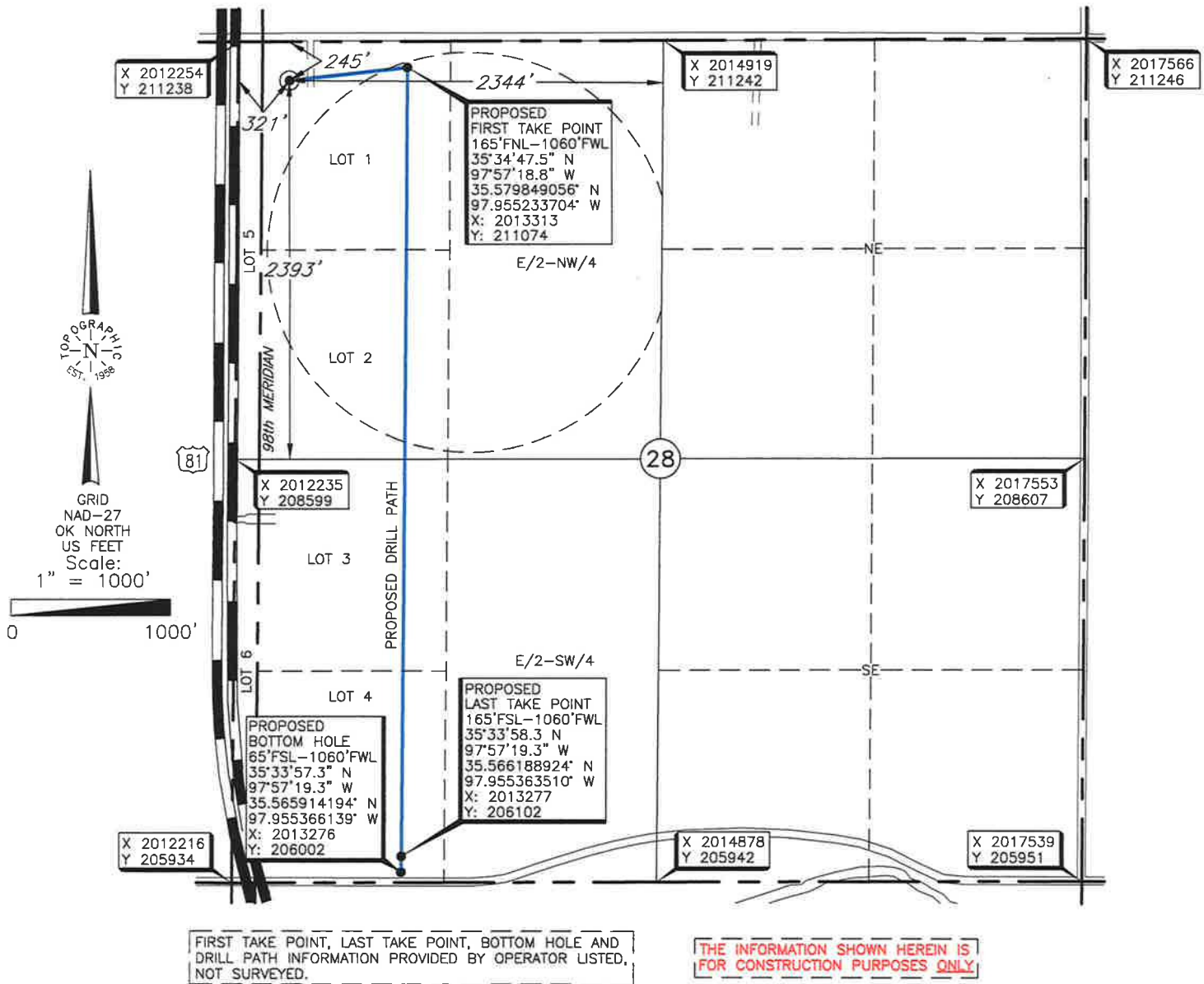
Certificate of Authorization No. 1293 LS

CANADIAN

County, Oklahoma

API 017-25238

245'FNL-321'FWL Section 28 Township 13N Range 7W I.M.



Operator: PALOMA OPERATING COMPANY, INC.

Lease Name: SOUTHERN STAR 28-13N-7W

Well No.: 2WH

ELEVATION:

1317' Gr. at Stake

Topography & Vegetation Loc. fell in sloping hay meadow

Good Drill Site? Yes

Reference Stakes or Alternate Location
Stakes Set None

Best Accessibility to Location From North off county road

Distance & Direction
from Hwy Jct or Town From the Junction of US Hwy 81 & I-40/US Hwy 270 in El Reno, Oklahoma, go
± 5.5 miles North on US Hwy 81 to the Northwest Corner of Section 28, T13N-R7W.

DATUM: NAD-27
LAT: 35°34'46.7" N
LONG: 97°57'27.8" W
LAT: 35.579626702° N
LONG: 97.957720960° W

STATE PLANE
COORDINATES (US FEET):
ZONE: OK NORTH
X: 2012574
Y: 210993

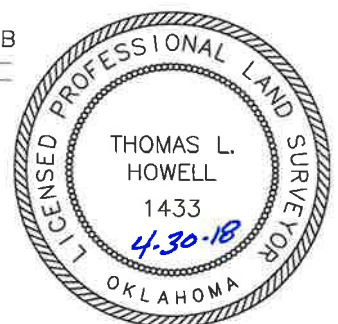
Date of Drawing: Apr. 27, 2018
Invoice # 291965 Date Staked: Apr. 27, 2018

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.

Oklahoma Reg. No. 1433



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