

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

API NUMBER: 043 23487

Approval Date: 11/21/2016
Expiration Date: 05/21/2017

Horizontal Hole Oil & Gas

PERMIT TO DRILL

WELL LOCATION: Sec: 03 Twp: 17N Rge: 19W County: DEWEY
SPOT LOCATION: SW SW SE SE FEET FROM QUARTER: FROM SOUTH FROM EAST
SECTION LINES: 205 1250

Lease Name: 4GH Well No: 1-3H Well will be 205 feet from nearest unit or lease boundary.

Operator Name: JMA ENERGY COMPANY LLC Telephone: 4059474322 OTC/OCC Number: 20475 0

JMA ENERGY COMPANY LLC
1021 NW GRAND BLVD
OKLAHOMA CITY, OK 73118-6039

4GH, LLC
P.O. BOX 100
ELK CITY OK 73648

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

	Name	Depth	Name	Depth
1	DOUGLAS	7460	6	
2	COTTAGE GROVE	8300	7	
3	CLEVELAND	8950	8	
4			9	
5			10	

Spacing Orders: 493888

Location Exception Orders: 652043

Increased Density Orders:

Pending CD Numbers:

Special Orders:

Total Depth: 13650

Ground Elevation: 2091

Surface Casing: 1500

Depth to base of Treatable Water-Bearing FM: 450

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: 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: 16-31849

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 03 Twp 17N Rge 19W County DEWEY

Spot Location of End Point: SE NW NE NE

Feet From: NORTH 1/4 Section Line: 331

Feet From: EAST 1/4 Section Line: 900

Depth of Deviation: 8050

Radius of Turn: 764

Direction: 2

Total Length: 4400

Measured Total Depth: 13650

True Vertical Depth: 9175

End Point Location from Lease,
Unit, or Property Line: 331

Notes:

Category

Description

DEEP SURFACE CASING

11/18/2016 - 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

11/18/2016 - G71 - OCC 165:10-3-10 REQUIRES: 1) THE CHEMICAL DISCLOSURE OF HYDRAULIC FRACTURING INGREDIENTS FOR ALL WELLS BE REPORTED TO FRACFOCUS USING THE FOLLOWING LINK [HTTP://FRACFOCUS.ORG/](http://fracfocus.org/) WITH NOTICE GIVEN 48 HOURS IN ADVANCE OF FRACTURING TO THE LOCAL OCC DISTRICT OFFICE; AND, 2) PRIOR TO COMMENCEMENT OF FRACTURING OPERATIONS FOR HORIZONTAL WELLS, NOTICE ALSO GIVEN FIVE BUSINESS DAYS IN ADVANCE TO OFFSET OPERATORS WITH WELLS COMPLETED IN THE SAME COMMON SOURCE OF SUPPLY WITHIN 1/2 MILE.

LOCATION EXCEPTION - 652043

11/21/2016 - G64 - (I.O.) 3-17N-19W
X493888 DGLS, CGGV, CLVD
COMPL. INT. NCT 330' FSL, NCT 330' FNL, NCT 800' FEL
JMA ENERGY COMPANY, L.L.C.
4-22-2016

MEMO

11/18/2016 - G71 - PITS 1 & 2 - CLOSED SYSTEM=STEEL PITS PER OPERATOR REQUEST, PIT 2 - OBM RETURNED TO VENDOR, CUTTINGS PERMITTED PER DISTRICT

SPACING - 493888

11/21/2016 - G64 - (640) 3-17N-19W
EXT OTHER
EXT 464426 DGLS, CGGV, CLVD, OTHERS

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TOPOGRAPHIC LAND SURVEYORS OF OKLAHOMA

6709 NORTH CLASSEN BLVD., OKLA. CITY, OKLA. 73116 * LOCAL (405) 843-4847 * OUT OF STATE (800) 654-3219

Certificate of Authorization No. 1293. LS

DEWEY

County, Oklahoma

205'FSL - 1250'FEL Section 3 Township 17N Range 19W I.M.

API: 043 23487

X 1638672
Y 361051

X 1643934
Y 360998

X 1641303
Y 361024

BOTTOM HOLE
(13831.03' MD)
331'FNL-900'FEL
35°59'05.1" N
99°12'23.7" W
35.984752804' N
99.206579932' W
X= 1643029
Y= 360676

X 1643897
Y 358355

X 1638662
Y 358473

POINT OF ENTRY
(9500' MD)
607'FSL-900'FEL
35°58'22.3" N
99°12'23.8" W
35.972856515' N
99.206601677' W
X= 1642969
Y= 356346

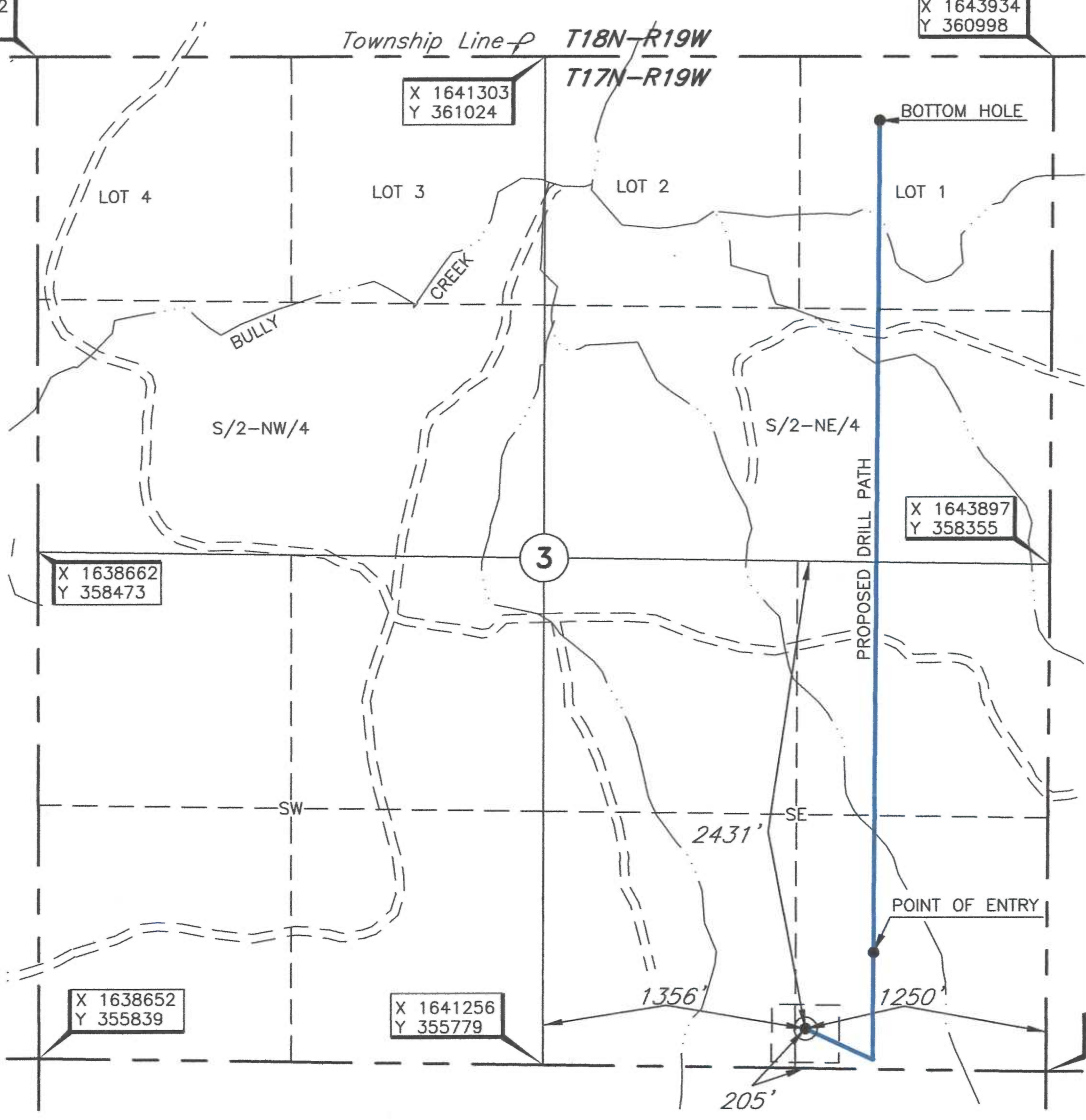
X 1638652
Y 355839

X 1641256
Y 355779

X 1643860
Y 355718



GRID
NAD-27
OK NORTH
US Feet



LANDING POINT, BOTTOM HOLE AND DRILL PATH INFORMATION PROVIDED BY OPERATOR LISTED, NOT SURVEYED.

NOTE:
The information shown herein is for construction purposes ONLY.

Operator: JMA ENERGY CO., LLC

Lease Name: 4GH

Well No.: 1-3H

ELEVATION:
2091' Gr. at Stake

Topography & Vegetation Loc. fell in rolling sloped pasture, ±200' North of E-W fence

Good Drill Site? Yes Reference Stakes or Alternate Location Stakes Set None

Best Accessibility to Location From South off county road

Distance & Direction from Hwy Jct or Town From Webb, OK, go ±2.25mi. North, then ±4.0 mi. West, then ±1.0 mi. North through Sec. 10 to the SE Cor. of Sec. 3-T17N-R19W

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

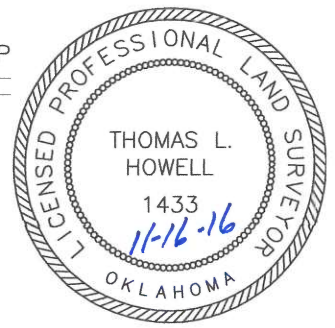
DATUM: NAD-27
LAT: 35°58'18.3"N
LONG: 99°12'28.0"W
LAT: 35.971761916° N
LONG: 99.207787261° W
STATE PLANE
COORDINATES: (US Feet)
ZONE: OK NORTH
X: 1642613
Y: 355952

Revision A Date of Drawing: Nov. 16, 2016
Invoice # 261010 Date Staked: May 24, 2016 JP

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



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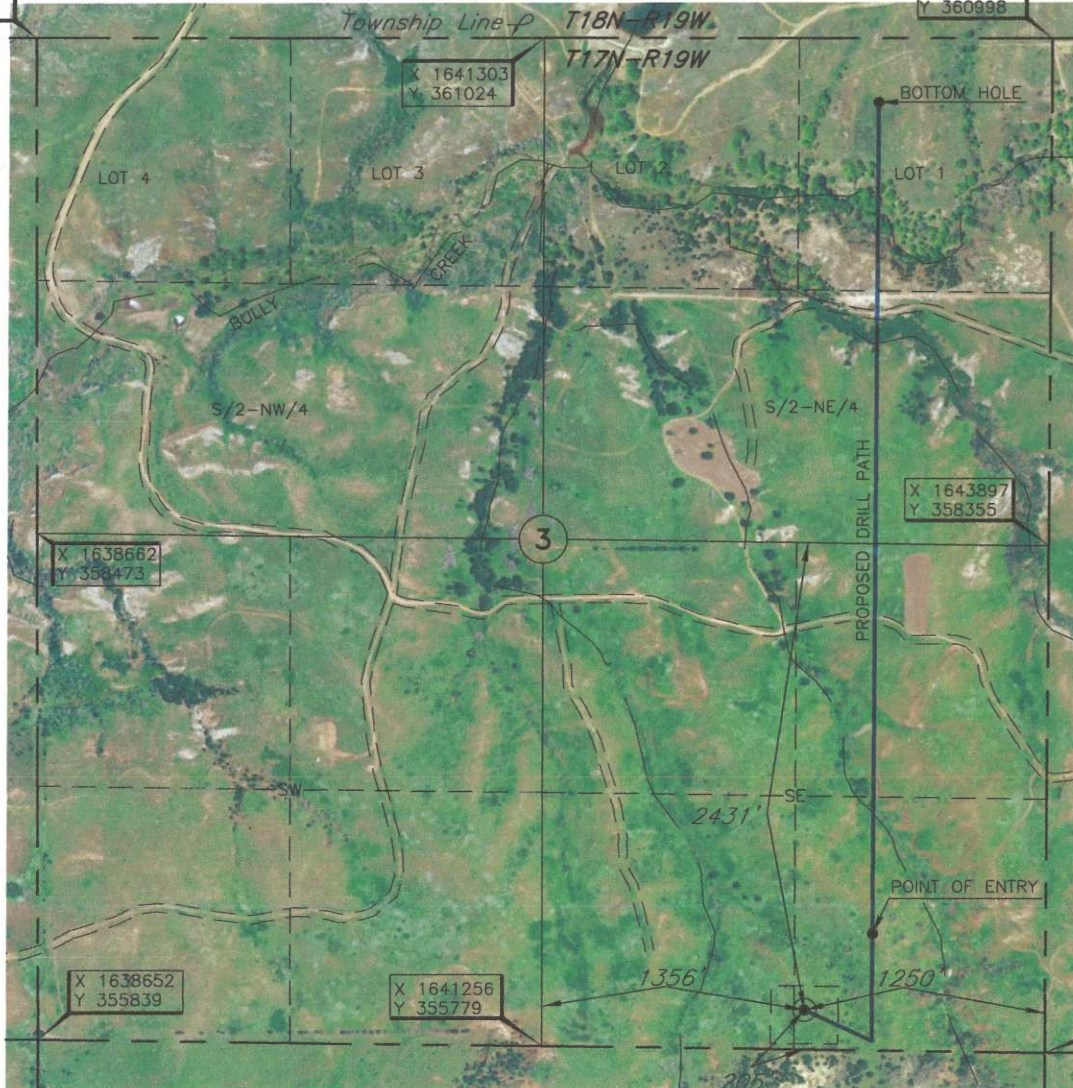
DEWEY

County, Oklahoma

205'FSL - 1250'FEL Section 3 Township 17N Range 19W I.M.

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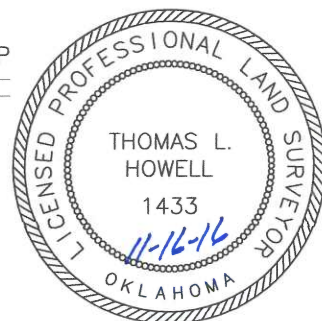
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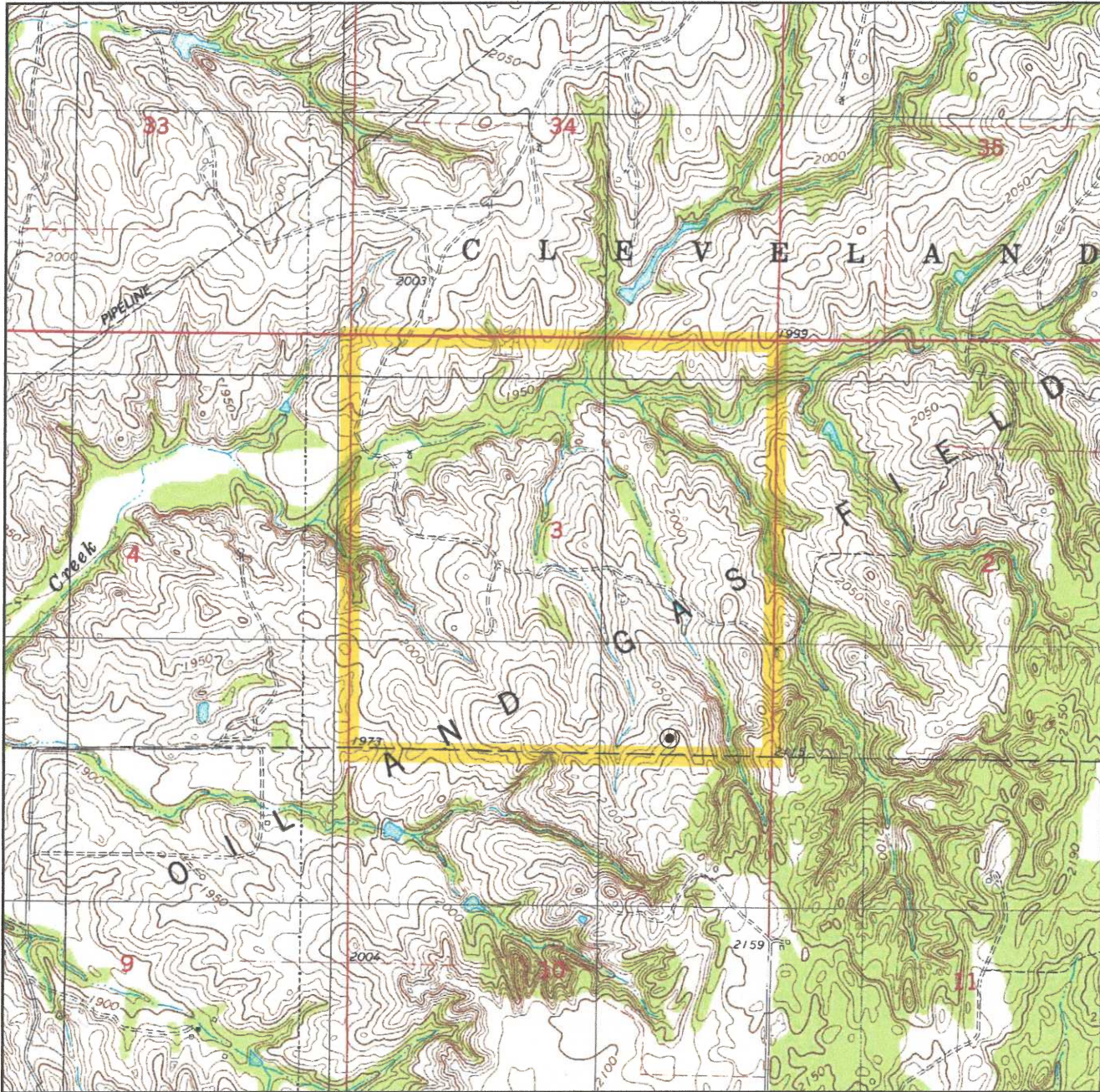
Thomas L. Howell
 Oklahoma Lic. No. 1433



TOPOGRAPHIC LAND SURVEYORS OF OKLAHOMA

Surveying and Mapping for the Energy Industry
6709 North Classen Blvd. Oklahoma City, OK 73116 www.topographic.com
Telephone Numbers: Local (405) 843-4847 Toll Free (800) 654-3219

LOCATION & ELEVATION VERIFICATION MAP



Sec. 3 Twp. 17N Rng. 19W I.M.

County DEWEY State OK

Operator JMA ENERGY CO., LLC

Description 205'FSL - 1250'FEL

Lease 4GH 1-3H

Elevation 2091' Gr. at Stake

U.S.G.S. Topographic
Quadrangle Map WEBB, OK

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.



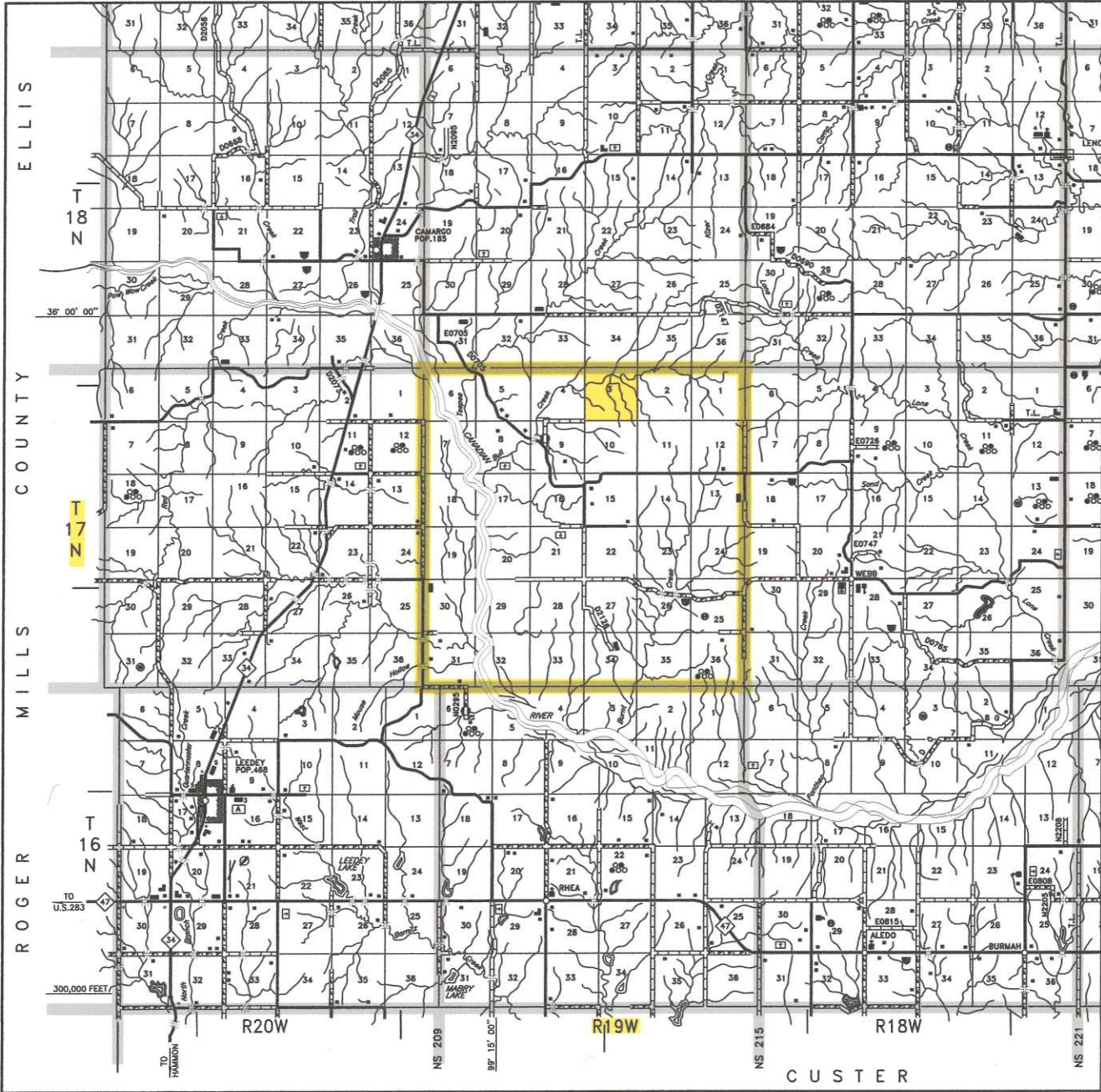
LAND SURVEYORS OF OKLAHOMA

May 24, 2016

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VICINITY MAP



Scale: 1" = 3 Miles

Sec. 3 Twp. 17N Rng. 19W I.M.

County DEWEY State OK

Operator JMA ENERGY CO., LLC



LAND SURVEYORS OF OKLAHOMA