

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

API NUMBER: 063 24799

Approval Date: 05/03/2018

Expiration Date: 11/03/2018

Horizontal Hole Oil & Gas

PERMIT TO DRILL

WELL LOCATION: Sec: 15 Twp: 4N Rge: 9E

County: HUGHES

SPOT LOCATION: ☐ NE ☐ SW ☐ NW ☐ NW

FEET FROM QUARTER: FROM NORTH FROM WEST

SECTION LINES: 698 351

Lease Name: JEWEL

Well No: 1003-2HX

Well will be 351 feet from nearest unit or lease boundary.

Operator Name: CORTERRA ENERGY OPERATING LLC

Telephone: 9186150400

OTC/OCC Number: 23995 0

CORTERRA ENERGY OPERATING LLC  
1717 S BOULDER AVE STE 900  
TULSA, OK 74119-4844

JOHN MATTHEW EVETT  
605 MANOR DRIVE NORTHEAST  
VIENNA VA 22180

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

	Name	Depth	Name	Depth
1	MISSISSIPPIAN	5476	6	
2	WOODFORD	5828	7	
3	HUNTON	6008	8	
4	SYLVAN	6148	9	
5			10	

Spacing Orders: 549649  
561104

Location Exception Orders:

Increased Density Orders:

Pending CD Numbers: 201801834  
201801945  
201803172  
201803171

Special Orders:

Total Depth: 15828

Ground Elevation: 714

**Surface Casing: 450**

Depth to base of Treatable Water-Bearing FM: 250

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: ON SITE

Type of Mud System: AIR

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

PERMIT NO: 18-34389

H. SEE MEMO

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: 4

Liner not required for Category: 4

Pit Location is BED AQUIFER

Pit Location Formation: SENORA

Mud System Change to Water-Based or Oil-Based Mud Requires an Amended Intent (Form 1000).

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: 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 BED AQUIFER

Pit Location Formation: SENORA

#### PIT 3 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 BED AQUIFER

Pit Location Formation: SENORA

#### HORIZONTAL HOLE 1

Sec 03 Twp 4N Rge 9E County HUGHES

Spot Location of End Point: NW NW NE NW

Feet From: NORTH 1/4 Section Line: 165

Feet From: WEST 1/4 Section Line: 1500

Depth of Deviation: 4832

Radius of Turn: 382

Direction: 25

Total Length: 10395

Measured Total Depth: 15828

True Vertical Depth: 6148

End Point Location from Lease,  
Unit, or Property Line: 165

Notes:

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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.

063 24799 JEWEL 1003-2HX

Category	Description
HYDRAULIC FRACTURING	<p>4/27/2018 - G71 - OCC 165:10-3-10 REQUIRES:</p> <p>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;</p> <p>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: <a href="http://OCCEWEB.COM/OG/OGFORMS.HTML">OCCEWEB.COM/OG/OGFORMS.HTML</a>; AND,</p> <p>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: <a href="http://FRACFOCUS.ORG">FRACFOCUS.ORG</a></p>
MEMO	<p>4/27/2018 - G71 - PITS 2 &amp; 3 - CLOSED SYSTEM=STEEL PITS PER OPERATOR REQUEST, PIT 3 - OBM RETURNED TO VENDOR, CUTTINGS PERMITTED PER DISTRICT</p>
PENDING CD - 201801834	<p>5/3/2018 - G57 - (640)(HOR) 3 &amp; 10-4N-9E EST MSSP, SLVN POE TO BHL (MSSP) NCT 660' FB POE TO BHL (SLVN) NCT 330' FB REC 4-27-2018 (JOHNSON)</p>
PENDING CD - 201801945	<p>5/3/2018 - G57 - 10-4N-9E X549649 WDFD 2 WELLS NO OP. NAMED REC 4-3-2018 (DUNN)</p>
PENDING CD - 201803171	<p>5/3/2018 - G57 - (E.O.) 10 &amp; 3-4N-9E X201801834 MSSP, SLVN 10 &amp; 3-4N-9E X549649 WDFD, HNTN 10-4N-9E X561104 WDFD, HNTN 3-4N-9E SHL 698' FNL, 351' FWL COMPL. INT. (10-4N-9E) NCT 150' FSL, NCT 0' FNL, NCT 330' FWL COMPL. INT. (3-4N-9E) NCT 0' FSL, NCT 150' FNL, NCT 330' FWL CORTERRA ENERGY, LLC. REC 4-27-2018 (JOHNSON)</p>
PENDING CD - 201803172	<p>5/3/2018 - G57 - (E.O.) 3 &amp; 10-4N-9E EST MULTIUNIT HORIZONTAL WELL X549649 WDFD, HNTN 10-4N-9E X561104 WDFD, HNTN 3-4N-9E X201801834 MSSP, SLVN 10 &amp; 3-4N-9E (MSSP, SLVN, HNTN ARE ADJACENT COMMON SOURCES OF SUPPLY TO THE WDFD) 50% 10-4N-9E 50% 3-4N-9E CORTERRA ENERGY, LLC. REC 4-27-2018 (JOHNSON)</p>
SPACING - 549649	<p>5/3/2018 - G57 - (640) 10-4N-9E VAC 200983 MSNRH, OTHERS N2 EXT 516493 HNTN, WDFD, OTHERS EST OTHERS</p>
SPACING - 561104	<p>5/3/2018 - G57 - (640) 3-4N-9E VAC 200983 MSNRH, OTHERS S2 EXT 549912 WDFD, HNTN EST OTHER</p>

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.

# WELL LOCATION

M & M Land Surveying, Inc.  
Phone (580) 226-0446  
520 E Street N.W.  
Ardmore, OK 73401

Company Name: CORTERRA ENERGY OPERATING, LLC.

Lease Name: JEWEL 1003 2HX

Section 15 Township 4 N Range 9 E , I.B.M., County of Hughes, State of Oklahoma

Elevation 714' GROUND Good Location? YES

Original Location: 698'FNL - 351'FWL

API: 063 24799

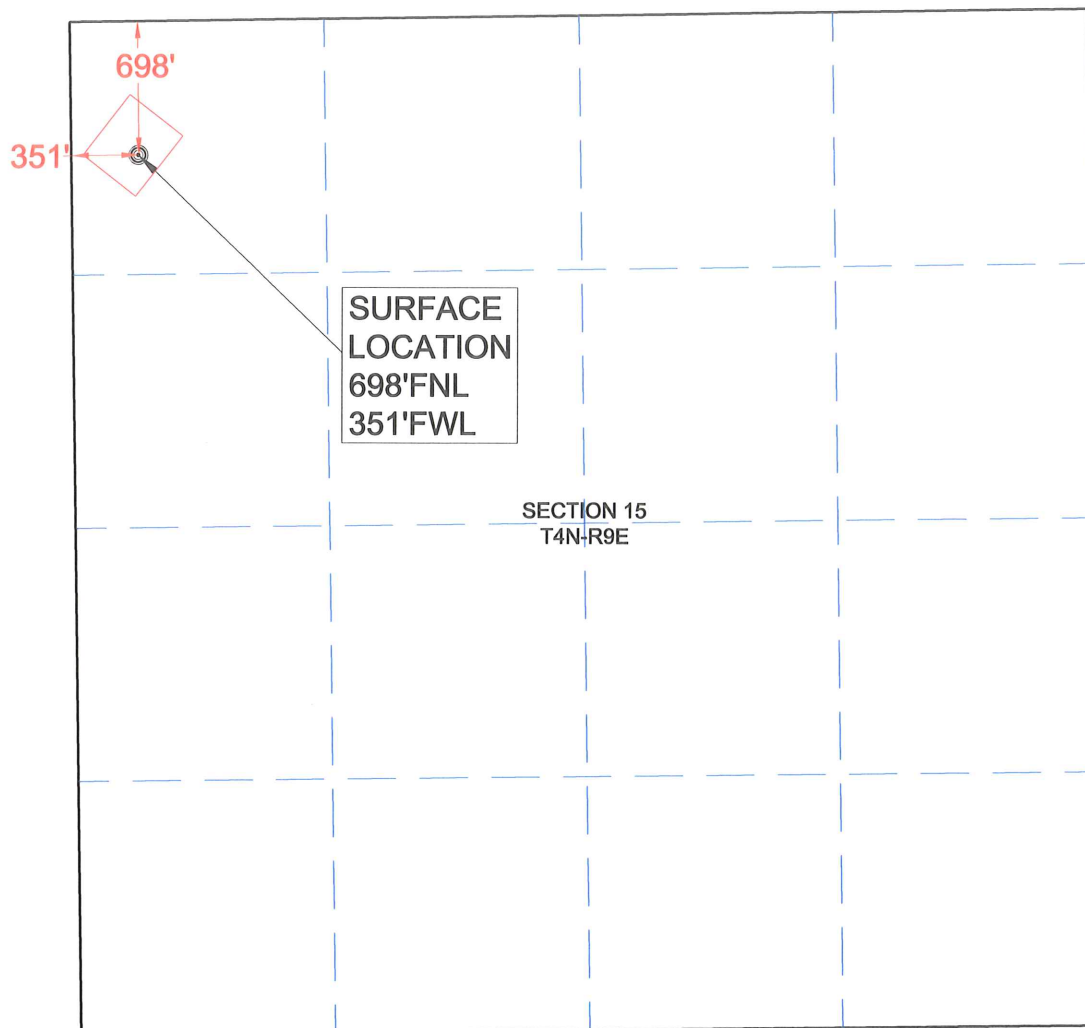
This location has been staked according to the best official survey records available to us. The metrical data shown hereon is for permitting the well location and the section location may or may not be field verified. Please review this plat and notify us immediately of any discrepancy.

Topography: PASTURE - EXISTING PAD TO THE NORTHEAST - 20' S38°W OF JEWEL 15 2H

Best Accessibility to Location: From the Northwest

Distance & Direction From Nearest Town: 5.4 miles Southeast of Allen.

From the town of Allen and the intersection of State Highway No. 1 and State Highway No. 48; Go Southerly 5.6 miles on State Highway No. 48; Then go Easterly 2.7 miles on Muddy Boggy Road (County Road E152.5 and County Road EW1525); Then go North and Northeast 2.1 miles on County Road NS3727 (County Road NS3745) to location in SECTION 15, T4N, R9E, I.B.M., Hughes County, Oklahoma.



## PAD CORNER ELEVATIONS

N/C = 713.71'

E/C = 715.41'

S/C = 712.57'

W/C = 718.04'

## NAD 27 OK SOUTH SURFACE LOCATION

LAT: 34.823100°N

LONG: 96.352943°W

N= 546178.39'

E= 2494316.91'

## NAD 83 OK SOUTH SURFACE LOCATION

LAT: 34.823190°N

LONG: 96.353227°W

N= 546225.29'

E= 2462719.96'

## CERTIFICATE:

I D. Harry McClintick a Registered Land Surveyor in the State Of Oklahoma, do hereby certify that the above described Well Location was surveyed and staked on the ground as shown and that said plat meets or exceeds the Oklahoma Minimum Technical Standards for the practice of land surveying as adopted by the Oklahoma State Board of Licensure for Professional Engineers and Land Surveyors.



*D. Harry McClintick* 4/27/18  
D. Harry McClintick  
PLS. No.1367 CFEDS

SCALE 1" = 1000'  
0' 1000'



SURVEY BY: M & M Land Surveying, Inc. ~ C.A. No. 3093 (LS)	
DRAWING BY: Bennett-Morris And Associates Land Surveying, P.C.	
© COPYRIGHT 2017 C.A. No. 5975 (LS) ~ Aaron L. Morris, RPLS	
PROJECT NUMBER: 18166	SITE VISIT: (Explanation and Date)
	STAKING DATE: 04/09/2018
SHEET: 1 OF 4	DRAWING DATE: 04/10/2018



# LOCATION AND ELEVATION VERIFICATION MAP

M & M Land Surveying, Inc.  
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Lease Name: JEWEL 1003 2HX

Section 15 Township 4 N Range 9 E , I.B.M, County of Hughes, State of Oklahoma

Elevation Good Location?

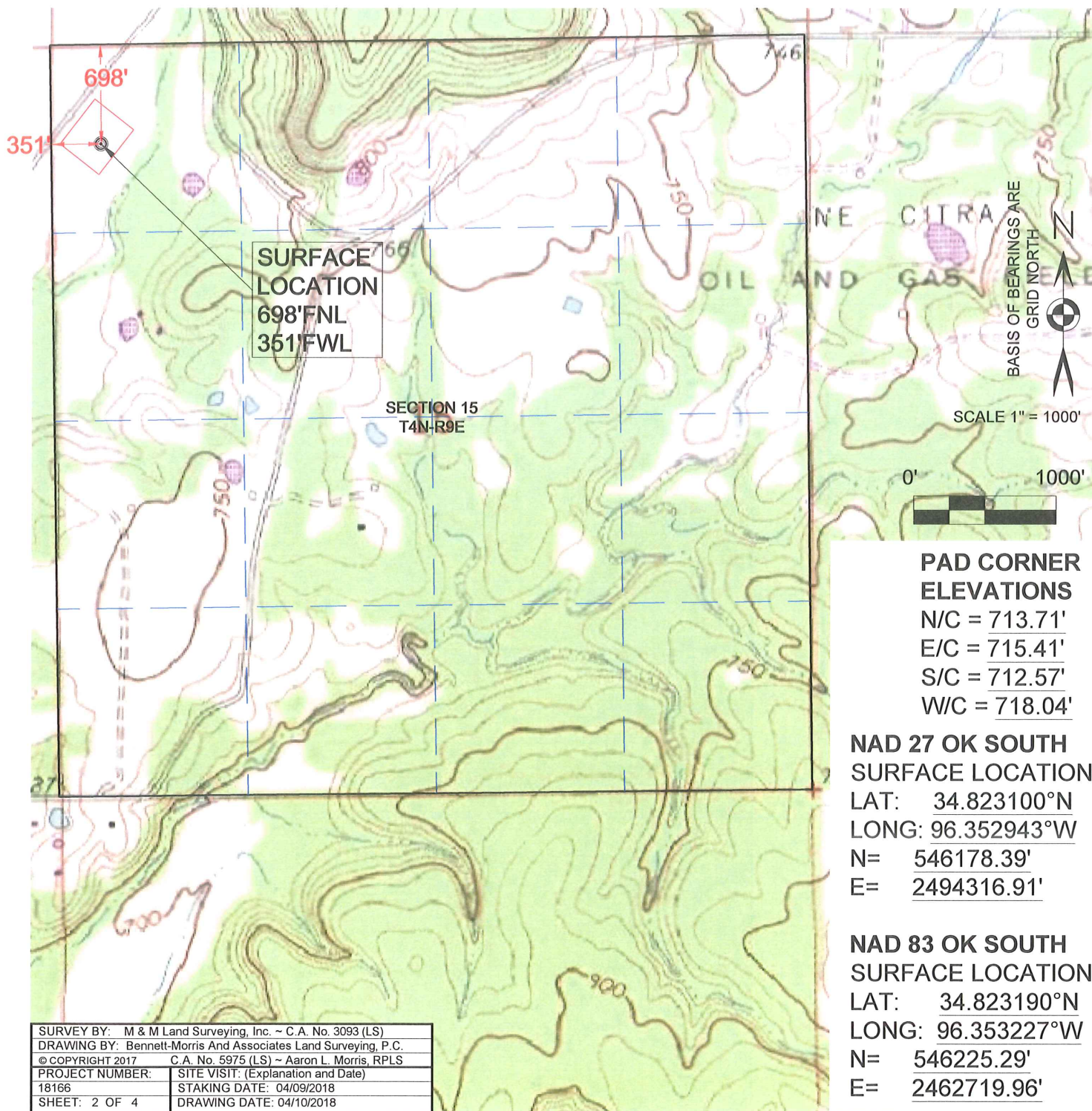
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# AERIAL PHOTO

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Section 15 Township 4 N Range 9 E , I.B.M., County of Hughes, State of Oklahoma

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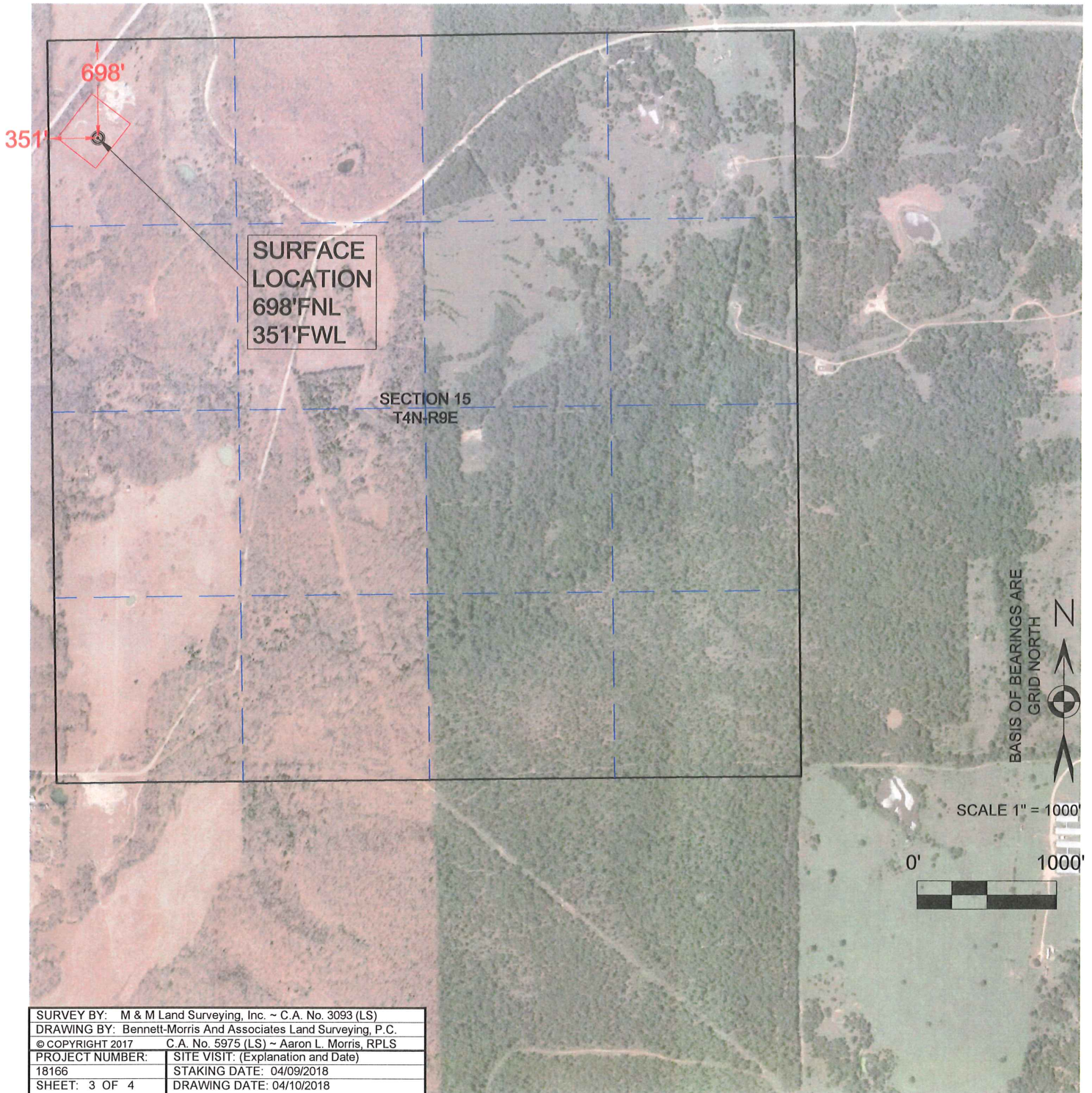
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# PERMIT PLAT

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Section 15 Township 4 N Range 9 E , I.B.M.

County of Hughes, State of Oklahoma

Original Location: 698'FNL - 351'FWL Elevation 714' GROUND

Good Location? YES

Distance & Direction From Nearest Town: 5.4 miles Southeast of Allen.

## NAD 27 OK SOUTH

### SURFACE LOCATION

LAT: 34.823100°N

LONG: 96.352943°W

N= 546178.39'

E= 2494316.91'

### LANDING POINT

N= 547057.58'

E= 2495452.77'

### BOTTOM HOLE

N= 557452.37'

E= 2495283.64'

## NAD 83 OK SOUTH

### SURFACE LOCATION

LAT: 34.823190°N

LONG: 96.353227°W

N= 546225.29'

E= 2462719.96'

### LANDING POINT

N= 547104.5'

E= 2463855.79'

### BOTTOM HOLE

N= 557499.36'

E= 2463686.55'



SCALE 1" = 1500'



## DATA DERIVED FROM

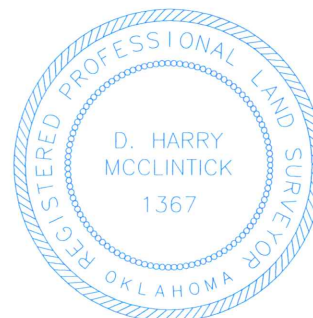
G.P.S. WITH O.P.U.S.

DATA.

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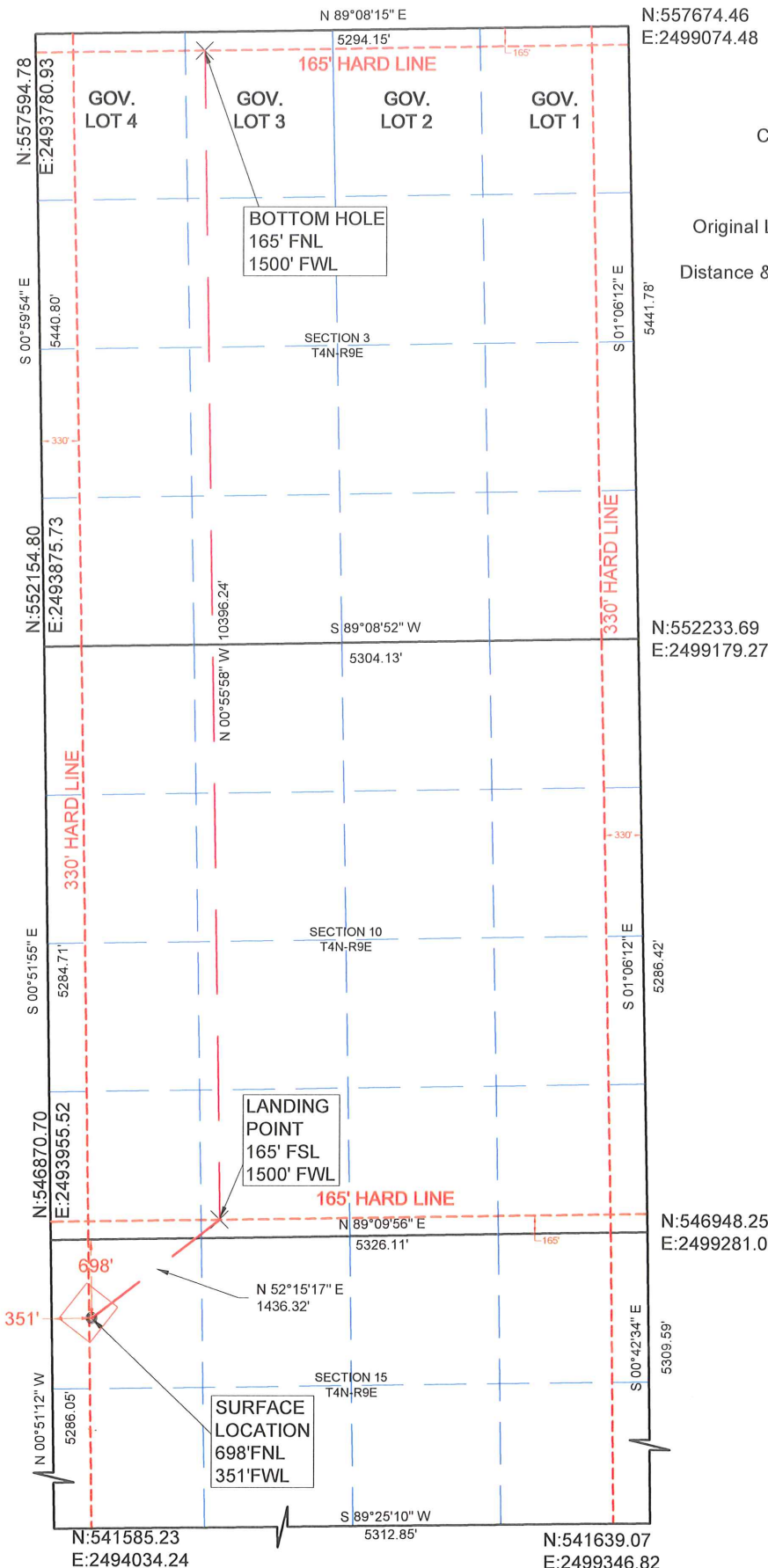
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*[Signature]* 4/27/18

D. Harry McClintick  
PLS. No.1367 CFEDS



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