API NUMBER: 043 23622

Oil & Gas

Horizontal Hole

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

Approval Date: 05/03/2018

Expiration Date: 11/03/2018

PERMIT TO DRILL

WELL LOCATION:	Sec:	04	Twp:	17N	Rge:	17W	County	DEWEY
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SPOT LOCATION: SE SW SE SE FEET FROM QUARTER: FROM SOUTH FROM EAST SECTION LINES: 260 720

Lease Name: IRWIN Well No: 2-4H Well will be 260 feet from nearest unit or lease boundary.

 Operator Name:
 UNIT PETROLEUM COMPANY
 Telephone:
 9184937700; 9184937
 OTC/OCC Number:
 16711 0

UNIT PETROLEUM COMPANY

PO BOX 702500

TULSA, OK 74170-2500

BRENDA L AND H. GRANT IRWIN 3101 CASTLE ROCK ROAD #19

OKLAHOMA CITY OK 73120

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

	Name	Depth	Name	Depth
1	MISSISSIPPIAN	11750	6	
2			7	
3			8	
4			9	
5			10	
Spacing Orders:	547504	Location Exception Orders:	674631	Increased Density Orders:
			674947	

Pending CD Numbers: 201708476 Special Orders:

Total Depth: 16800 Ground Elevation: 1779 Surface Casing: 1500 Depth to base of Treatable Water-Bearing FM: 115

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: 50000 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: RUSH SPRINGS

D. One time land application -- (REQUIRES PERMIT) PERMIT NO: 18-34104

H. SEE MEMO

#### 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 BED AQUIFER

Pit Location Formation: RUSH SPRINGS

### HORIZONTAL HOLE 1

Sec 04 Twp 17N Rge 17W County DEWEY
Spot Location of End Point: NE NW NE NE
Feet From: NORTH 1/4 Section Line: 165

1/4 Section Line:

860

Depth of Deviation: 11498
Radius of Turn: 488

EAST

Direction: 359

Feet From:

Total Length: 4536

Measured Total Depth: 16800

True Vertical Depth: 11970

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

Notes:

Category Description

DEEP SURFACE CASING 4/26/2018 - 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

EXCEPTION TO RULE - 674947 5/2/2018 - G60 - 4-17N-17W

X165:10-3-28(C)(2)(B) MSSP

MAY BE CLOSÉR THAN 600' TO THE IRWIN #1-4H

UNIT PETROLEUM CO.

3/21/18

HYDRAULIC FRACTURING 4/26/2018 - 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

INTERMEDIATE CASING 4/26/2018 - 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** 

Category Description

LOCATION EXCEPTION - 674631 5/2/2018 - G60 - (I.O.) 4-17N-17W

X547504 MSSP

COMPL. INT. NCT 165' FSL, NCT 165' FNL, NCT 665' FEL

UNIT PETROLEUM CO.

3/13/18

MEMO 4/26/2018 - G71 - PITS 1 & 2 - CLOSED SYSTEM=STEEL PITS PER OPERATOR REQUEST, PIT 2 -

OBM RETURNED TO VENDOR, CUTTINGS PERMITTED PER DISTRICT

PENDING CD - 201708476 5/2/2018 - G60 - 4-17N-17W

X547504 MSSP

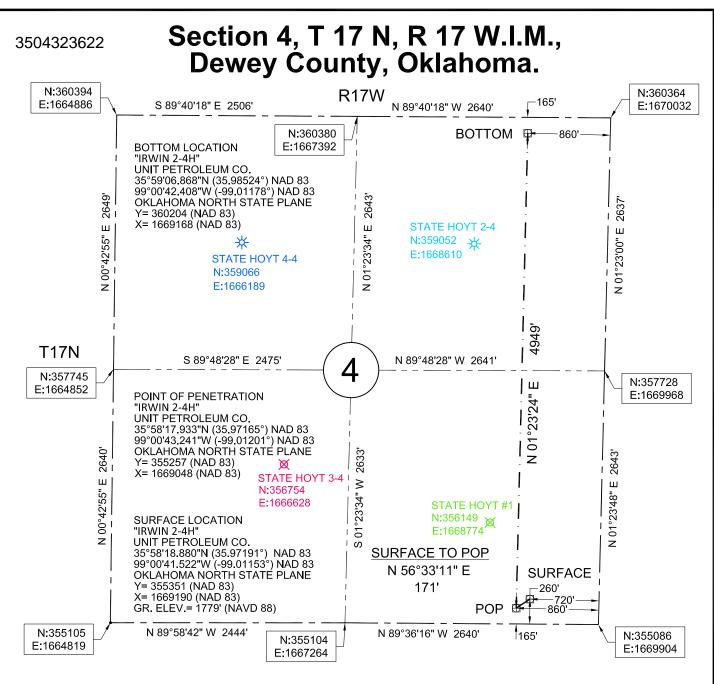
1 WELL

NO OP. NAMED REC. 2/26/18 (JOHNSON)

SPACING - 547504 5/2/2018 - G60 - (640) 4-17N-7W

EXT OTHERS

EST MSSP, OTHERS



## Surface Hole Location

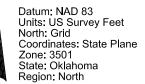
"Irwin 2-4H" situated 260 feet from the south section line and 720 feet from the east section line of Section 4, T 17 N, R 17 W.I.M., Dewey County, Oklahoma.

# Point of Penetration

"Irwin 2-4H" situated 165 feet from the south section line and 860 feet from the east section line of Section 4, T 17 N, R 17 W.I.M., Dewey County, Oklahoma.

## **Bottom Location**

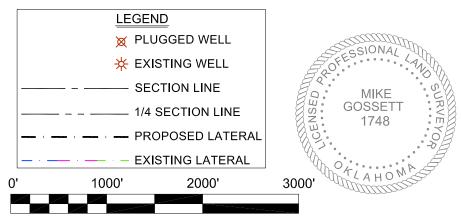
"Irwin 2-4H" situated 165 feet from the north section line and 860 feet from the east section line of Section 4, T 17 N, R 17 W.I.M., Dewey County, Oklahoma.







P.O. BOX 1093 WOODWARD, OKLAHOMA 73802 OKLA. CA #7719, EXP. 06/30/2019



1. EXISTING WELL COORDINATES ARE FROM THE OCC WEB SITE AND WERE NOT FIELD LOCATED.
2. UTILITIES SHOWN HEREON ARE FROM OBSERVED EVIDENCE IN THE FIELD.

3. THIS SURVEY IS FOR A WELL LOCATION EXHIBIT ONLY. NOT TO BE USED AS A BOUNDARY SURVEY.
4. DATE OF LAST SITE VISIT: 12-21-2017

REVISIONS:	DRAWN BY:	JOB:	DATE OF PLAT:	SCALE:	SHEET:		
	C.M.G.	205-17	02-13-2018	1"=1000'	1 OF 4		
email:mike@onnointsurveyok.com web:www.onnointlandsurveyok.com							