

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

API NUMBER: 153 23584 A

Approval Date: 12/30/2019
Expiration Date: 06/30/2021

Horizontal Hole Water Supply

PERMIT TO DEEPEN

WELL LOCATION: Sec: 13 Twp: 20N Rge: 20W County: WOODWARD
SPOT LOCATION: ☐ SE ☐ SE ☐ NW ☐ SE FEET FROM QUARTER: FROM SOUTH FROM EAST
SECTION LINES: 1323 1321

Lease Name: CRITES Well No: 2-13 Well will be 1321 feet from nearest unit or lease boundary.
Operator Name: IOCHEM CORPORATION Telephone: 4058488611 OTC/OCC Number: 16346 0

IOCHEM CORPORATION
5801 N BROADWAY EXT STE 305
OKLAHOMA CITY, OK 73118-7483

DEBRA KAY CRITES, DEBRA CRITES GRIFFITH
1201 WESTPORT ROAD
SAN MARCOS CA 92078

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

Name	Depth	Name	Depth
1 MORROW SAND	9500	6	
2		7	
3		8	
4		9	
5		10	

Spacing Orders: 643785

Location Exception Orders:

Increased Density Orders:

Pending CD Numbers:

Special Orders:

Total Depth: 11152 Ground Elevation: 2025 Surface Casing: 1521 IP Depth to base of Treatable Water-Bearing FM: 340

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: OIL BASED

Chlorides Max: 300000 Average: 200000

H. CLOSED SYSTEM=STEEL PITS PER OPERATOR REQUEST

Is depth to top of ground water greater than 10ft below base of pit? Y

G. Haul to recycling/re-use facility: Sec. 1 Twn. 15N Rng. 11W Cnty. 11 Order No: 698697

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

This permit does not address the right of entry or settlement of surface damages.
The duration of this permit is 18 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.

HORIZONTAL HOLE 1

Sec 13 Twp 20N Rge 20W County WOODWARD

Spot Location of End Point: SW NW SW NW

Feet From: NORTH 1/4 Section Line: 1978

Feet From: EAST 1/4 Section Line: 1880

Depth of Deviation: 8720

Radius of Turn: 593

Direction: 345

Total Length: 1500

Measured Total Depth: 11152

True Vertical Depth: 9500

End Point Location from Lease,

Unit, or Property Line: 0

Notes:

Category

Description

DEEP SURFACE CASING

8/18/2016 - 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

12/19/2019 - 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: OCCWEB.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

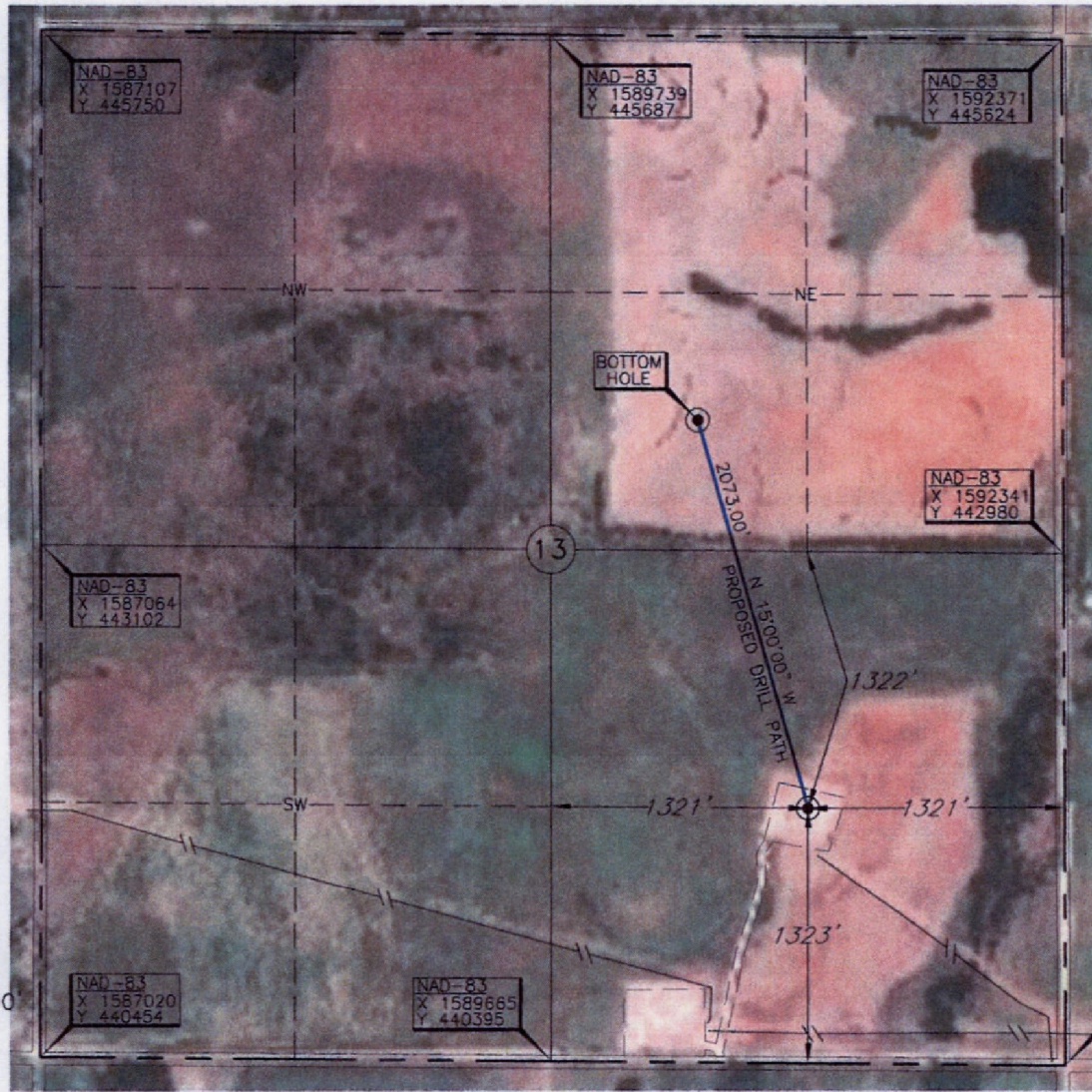
SPACING - 643785

12/30/2019 - GC2 - (UNIT) 13-20N-20W
EST IOCHEM UNIT NO. 4 FOR BRINE PRODUCTION FROM MWSD

API: 153-23584A

13800 Wireless Way, Okla. City, OK. 73134 * LOCAL (405) 843-4847 * OUT OF STATE (800) 654-3219
Certificate of Authorization No. 1293 LS

TOPOGRAPHIC LAND SURVEYORS OF OKLAHOMA
WOODWARD County, Oklahoma
1323'FSL - 1321'FEL Section 13 Township 20N Range 20W I.M.



BOTTOM HOLE
1978'FNL-1880'FEL
NAD-83
36°12'43.3" N
99°16'53.4" W
36.21201448° N
99.28149051° W
X 1590468
Y 443690



NOTES:
• THE INFORMATION SHOWN HEREIN IS FOR CONSTRUCTION PURPOSES ONLY

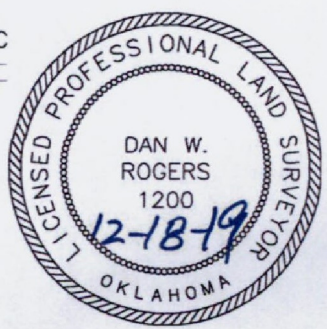
Operator: IOCHEM CORP
Lease Name: CRITES (REENTRY) Well No.: 2-13
Topography & Vegetation Existing well on level pad
Good Drill Site? Yes Reference Stakes or Alternate Location Stakes Set None
Best Accessibility to Location From South off county road
Distance & Direction From Mutual, OK, go ±6.0 mi. West, then ±2.0 mi. South to the SE Cor. of Sec. 13-T20N-R20W

ELEVATION:
2025' Gr. at level pad NAVD88

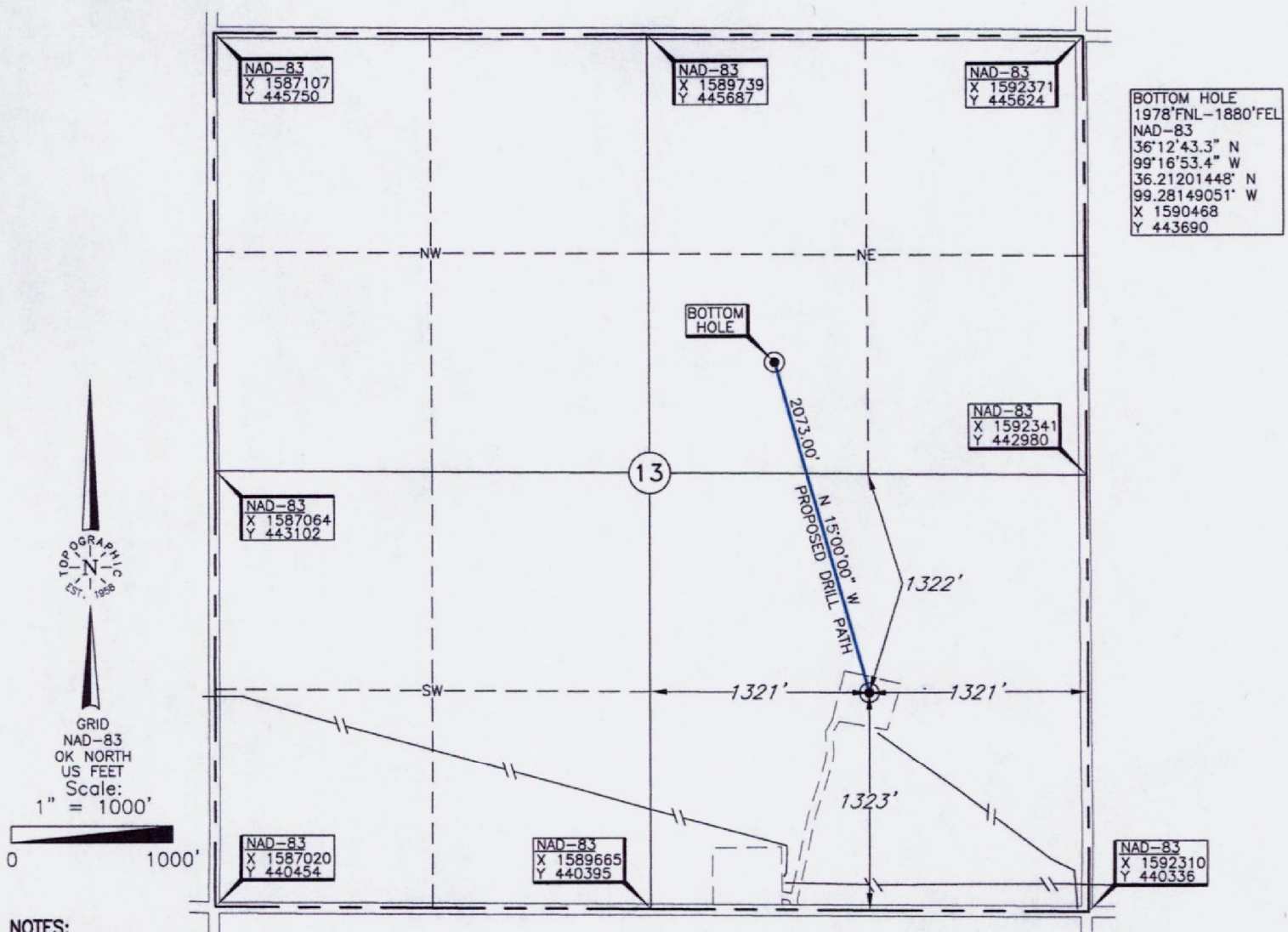
DATUM: NAD-83
LAT: 36°12'23.5"N
LONG: 99°16'46.5"W
LAT: 36.20653428° N
LONG: 99.27958379° W
STATE PLANE
COORDINATES: (US Feet)
ZONE: OK NORTH
X: 1591005
Y: 441688

Date of Drawing: Dec. 17, 2019
Project # 132140 Date Staked: Dec. 16, 2019 AC

CERTIFICATE:
I, DAN W. ROGERS an Oklahoma Licensed Land Surveyor and an authorized agent of Topographic Land Surveyors of Oklahoma, do hereby certify to the information shown herein
Dan W. Rogers
Oklahoma Lic. No. 1200



WOODWARD County, Oklahoma
1323'FSL - 1321'FEL Section 13 Township 20N Range 20W I.M.



NOTES:

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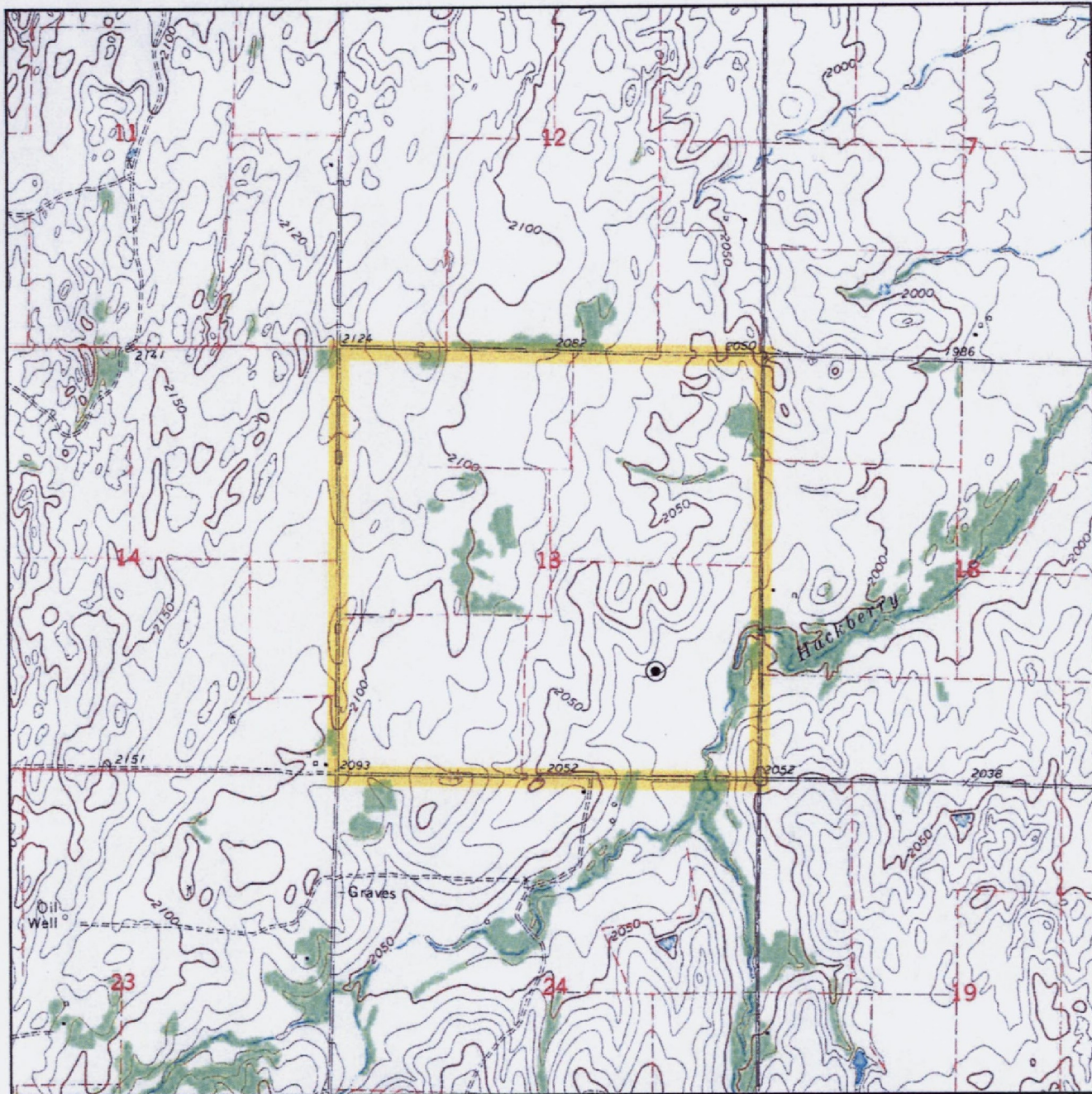
This information was gathered with a GPS receiver with ±1 foot Horiz./Vert. accuracy.

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TOPOGRAPHIC LAND SURVEYORS OF OKLAHOMA

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

LOCATION & ELEVATION VERIFICATION MAP



Sec. 13 Twp. 20N Rng. 20W IM

County WOODWARD State OK

Operator IOCHEM CORP

Description 1323'FSL - 1321'FEL

Lease CRITES (REENTRY) 2-13

Elevation 2025' Gr. at level pad NAVD88

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.



TOPOGRAPHIC
LOYALTY INNOVATION LEGACY

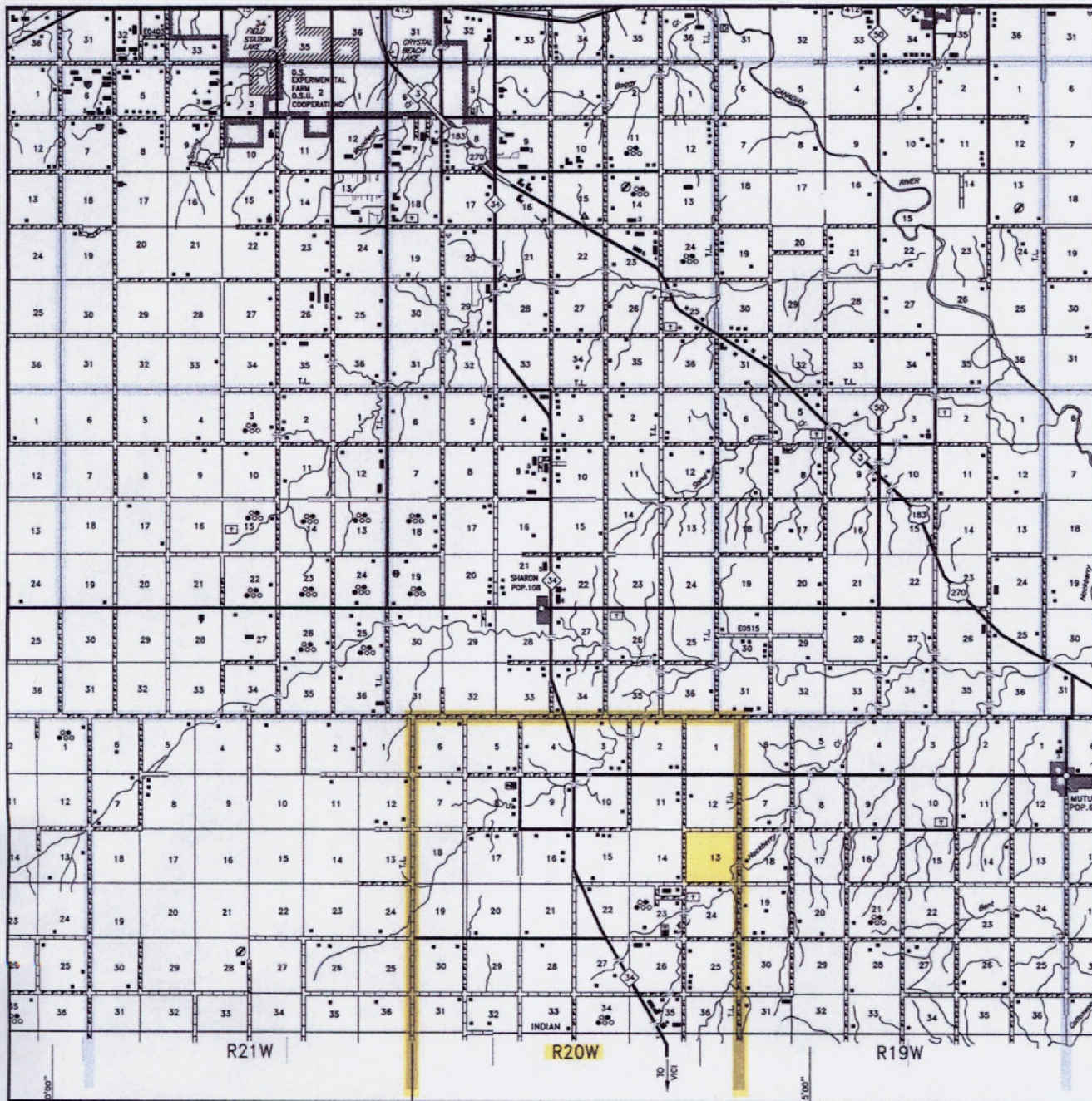
LAND SURVEYORS OF OKLAHOMA

Dec. 16, 2019

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VICINITY MAP



Scale: 1" = 3 Miles

Sec. 13 Twp. 20N Rng. 20W IM

County WOODWARD State OK

Operator IOCHEM CORP



LAND SURVEYORS OF OKLAHOMA