

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

API NUMBER: 063 24723

Approval Date: 11/08/2017

Expiration Date: 05/08/2018

Straight Hole

Disposal

PERMIT TO DRILL

WELL LOCATION: Sec: 36 Twp: 8N Rge: 10E

County: HUGHES

SPOT LOCATION: SW SW SW SW

FEET FROM QUARTER: FROM SOUTH FROM WEST

SECTION LINES: 295 313

Lease Name: KELLER

Well No: 1 SWD

Well will be 295 feet from nearest unit or lease boundary.

Operator Name: ANTIOCH OPERATING LLC

Telephone: 4052360080

OTC/OCC Number: 23947 0

ANTIOCH OPERATING LLC
PO BOX 1557
OKLAHOMA CITY, OK 73101-1557

KIMBERLY CROSSLEY
605 EAGLE TRAIL
KELLER TX 76248

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

	Name	Depth	Name	Depth
1	SIMPSON	4960	6	
2	ARBUCKLE	5710	7	
3			8	
4			9	
5			10	

Spacing Orders: No Spacing

Location Exception Orders:

Increased Density Orders:

Pending CD Numbers:

Special Orders:

Total Depth: 7000

Ground Elevation: 873

Surface Casing: 320

Depth to base of Treatable Water-Bearing FM: 270

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: 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: CALVIN

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

PERMIT NO: 17-33229

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 BED AQUIFER

Pit Location Formation: CALVIN

Notes:

Category

Description

GAS STORAGE UNIT

10/9/2017 - G71 - DRILLING IN GREASY CREEK SPRINGS GAS STORAGE FOR CHANNEL BOOCH (ORDER # 95952/96291); MUST NOTIFY GAS STORAGE OPERATOR PER OCC 165:10-3-5

HYDRAULIC FRACTURING

10/5/2017 - 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

10/9/2017 - G71 - PIT 1 & 2 - CLOSED SYSTEM=STEEL PITS PER OPERATOR REQUEST; PIT 2 - OBM TO VENDOR, OBM CUTTINGS PER DISTRICT

SPACING

10/5/2017 - G71 - N/A - DISPOSAL WELL

SURFACE LOCATION

11/8/2017 - G75 - 295' FSL, 313' FWL SW4 36-8N-10E, GROUND ELEVATION 873' PER STAKING PLAT

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

063 24723 KELLER 1 SWD

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.

APPLICATION TO DRILL, RECOMPLETE OR REENTER

FORM 1000
REV. 2014FILE ORIGINAL ONLY
PLEASE TYPE OR USE BLACK INK

1. OTC/OCC OPERATOR NUMBER

23947

2. API NUMBER

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

BATCH NUMBER (OCC USE ONLY)

3. NOTICE OF INTENT TO:

(CHECK ONLY ONE)

☒ DRILL ☐ RECOMPLETE ☐ REENTER ☐ DEEPEN ☐ AMEND - REASON

NOTE: ATTACH COPY OF 1002-A IF RECOMPLETION OR REENTRY.

4. TYPE OF DRILLING OPERATION >>>>>>>> (NOTE: If directional or horizontal, see reverse side for bottom hole location)

A. ☒ STRAIGHT HOLE ☐ DIRECTIONAL HOLE ☐ HORIZONTAL HOLEB. ☐ OIL/GAS ☐ INJECTION ☒ DISPOSAL ☐ WATER SUPPLY ☐ STRAT TEST ☐ SERVICE WELL

5. WELL LOCATION:

SECTION 36 TOWNSHIP 08N RANGE 10E COUNTY Hughes

SPOT LOCATION: SW 1/4 SW 1/4 SW 1/4 FEET FROM QUARTER from SOUTH LINE from WEST LINE
SECTION LINES: 295 313

7. Well will be 295 feet from nearest unit or property boundary.

8. LEASE NAME: Keller WELL NUMBER: 1 SWD

9. NAME OF OPERATOR: Antioch Operating, LLC. EMAIL ADDRESS: runderwood@antioch.energy

ADDRESS 12 E. California AVE PHONE (AC/NUMBER) 405-236-0080

CITY Oklahoma City STATE OK ZIP CODE 73101

10. SURFACE OWNER (ONE ONLY, ATTACH SHEET FOR ADDITIONAL OWNERS)

Kimberly Crossley

ADDRESS 605 Eagle Trail

CITY Keller STATE TX ZIP CODE 76248

14. LIST TARGET FORMATIONS AND DEPTHS OF EACH BELOW (LIMITED TO TEN)

1) Simpson 4960'

2) 92952

3) Arbuckle 5710

4)

5) 10)

15. SPACING ORDER NUMBER(S) AND SIZE UNIT(S):

spacing - NA Disposal well

16. PENDING APPLICATION C.D. NO.

17. LOCATION EXCEPTION ORDER NO.

18. INCREASED DENSITY ORDER NO.

19. TOTAL DEPTH 7000 20. GROUND ELEV. 873 21. BASE OF TREATABLE WATER 270' 22. SURFACE CASING 320' 23. ALT CASING PROG USED? Y X N

24. ALTERNATIVE CASING PROCEDURE, check box and fill in blank (AFFIDAVIT REQUIRED, see reverse side, line 31.)

A. Cement will be circulated from total depth to ground surface on the production casing string.
B. Cement will be circulated from depth to depth by use of a two stage cementing tool.

25.1. PIT INFORMATION: Using more than one pit or mud system? Y X N If yes, fill out line 25.2 on top reverse side.

A. TYPE OF MUD SYSTEM: X WATER BASED OIL BASED GAS BASED (AIR DRILL)
B. EXPECTED MUD CHLORIDE CONTENT: maximum: 8000 ppm; average: 5000 ppm.

C. TYPE OF PIT SYSTEM: on-site off-site X closed If off-site, specify location: X Y N

D. IS DEPTH TO TOP OF GROUND WATER GREATER THAN 10 FT BELOW BASE OF PIT? X Y N

E. WITHIN 1 MILE OF MUNICIPAL WATER WELL? Y X N

F. WELLHEAD PROTECTION AREA? Y X N

Off-Site Pit No.

26.1 OCC USE ONLY A. CATEGORY 1A 1B 2 3 4 C B. PIT LOCATION: Alluvial Plain Terrace Deposit X Bedrock Aquifer Other H.S.A. Non-H.S.A. Fm: Calvin
C. Special area or field rule? 92952 96291 D. DEEP SCA? Y X N E. CBL required? Y X N
F. SOIL COMPACTED LINER REQUIRED? Y X N G. 20 mil GEOMEMBRANE LINER REQUIRED? Y X N

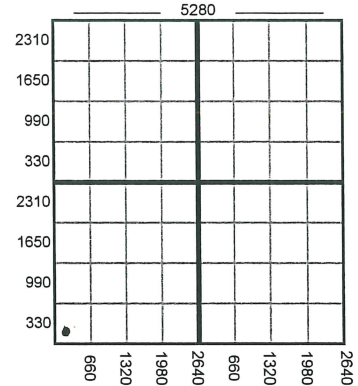
27. PROPOSED METHOD FOR DISPOSAL OF DRILLING FLUIDS (MUST BE COMPLETED)

A. Evaporation/dewater and backfilling of reserve pit.
B. Public Landfill: Location
C. Annular Injection (REQUIRES PERMIT and surface casing set 200 feet below base of treatable water-bearing T PERMIT NO
X D. One time land application (REQUIRES PERMIT) PERMIT NO. 17-33229
E. Haul to Commercial pit facility; Specify site: Order No.
F. Haul to Commercial soil farming facility; Specify site: Order No.
G. Haul to recycling/re-use facility; Specify site: Order No.
X H. Other, Specify: closed system = steel pits per operator request

I hereby certify I am authorized to submit this two page application prepared by me or under my supervision.

The facts and proposals made herein are true, correct and complete to the best of my knowledge and belief.

Signature: Robert R. Underwood NAME (Print or Type) Rob Underwood PHONE (AC/NO.) 405-236-0080 FAX (AC/NO.) DATE

NOTICE: Approval is void if operations have not commenced within six months of the date of approval. An approved permit must I
File the Form 1001A, Spud Report, within fourteen days of commencement of operations.

11. Is well located on lands under federal jurisdiction?

Y X N

12. Will a water well be drilled? Y X N
Will surface water be used? X Y N

13. Date Operation to Begin 08/31/17

SEC 36
TOWNSHIP 08N
RANGE 10E
WELL NAME Keller 1 SWD
#

SCANNED

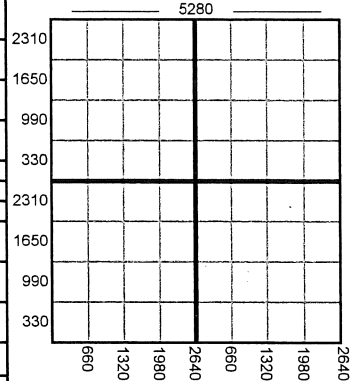
NOTIFY DISTRICT OFFICE 24 HOURS PRIOR TO CEMENTING SURFACE CASING.

25.2. PIT INFORMATION:

A. TYPE OF MUD SYSTEM: ☐ WATER BASED ☐ OIL BASED ☐ GAS BASED (AIR DRILL)
 B. EXPECTED MUD CHLORIDE CONTENT: maximum: _____ ppm; average: _____ ppm.
PIT #2 C. TYPE OF PIT SYSTEM: ☐ on-site ☐ off-site ☐ closed If off-site, specify location: _____
 D. IS DEPTH TO TOP OF GROUND WATER GREATER THAN 10 FT BELOW BASE OF PIT? ☐ Y ☐ N
 E. WITHIN 1 MILE OF MUNICIPAL WATER WELL? ☐ Y ☐ N
 F. WELLHEAD PROTECTION AREA? ☐ Y ☐ N Off-Site Pit No. _____

26.2 OCC USE ONLY		A. CATEGORY		1A	1B	2	3	4	C	Fm: _____
B. PIT LOCATION:		<input type="checkbox"/> Alluvial Plain		<input type="checkbox"/> Terrace Deposit		<input type="checkbox"/> Bedrock Aquifer		<input type="checkbox"/> Other H.S.A.		<input type="checkbox"/> Non-H.S.A.
C. Special area or field rule?		<input type="checkbox"/> Y <input type="checkbox"/> N		D. DEEP SCA?		<input type="checkbox"/> Y <input type="checkbox"/> N		E. CBL?		<input type="checkbox"/> Y <input type="checkbox"/> N
F. SOIL COMPACTED LINER REQUIRED?		<input type="checkbox"/> Y <input type="checkbox"/> N		G. 20 mil GEOMEMBRANE LINER REQUIRED		<input type="checkbox"/> Y <input type="checkbox"/> N				
29 Bottom Hole Location		SEC	TWP	RGE	COUNTY					
SPOT LOCATION:										
1/4		1/4	1/4	1/4	FEET FROM QUARTER SECTION LINES:					
Measured Total Depth		True Vertical Depth		BHL from nearest Lease, Unit, Or Property Line:						
30. Bottom Hole Location for Horizontal Hole: (LATERALS)										
LATERAL #1:		SEC	TWP	RGE	COUNTY					
SPOT LOCATION:		1/4	1/4	1/4	1/4	FEET FROM QUARTER SECTION LINES:				
Depth of Deviation		Radius of Turn		Direction		Total Length				
Measured Total Depth		True Vertical Depth		End Point location from nearest lease, unit or property line:						
LATERAL #2:		SEC	TWP	RGE	COUNTY					
SPOT LOCATION:		1/4	1/4	1/4	1/4	FEET FROM QUARTER SECTION LINES:				
Depth of Deviation		Radius of Turn		Direction		Total Length				
Measured Total Depth		True Vertical Depth		End Point location from nearest lease, unit or property line:						
LATERAL #3:		SEC	TWP	RGE	COUNTY					
SPOT LOCATION:		1/4	1/4	1/4	1/4	FEET FROM QUARTER SECTION LINES:				
Depth of Deviation		Radius of Turn		Direction		Total Length				
Measured Total Depth		True Vertical Depth		End Point location from nearest lease, unit or property line:						

28. Locate Bottom Hole



1. If more than two drainholes are proposed, attach separate sheet indicating the necessary information.
2. Direction must be stated in degrees azimuth.
3. Please note the horizontal drainhole and its end point must be located within the legal boundaries of the lease or spacing unit. Directional surveys are required for all drainholes and directional wells.

31. AFFIDAVIT FOR ALTERNATIVE CASING PROGRAM (Signature on front of this form attests to this affidavit)
 1. This well ☐ WILL ☐ WILL NOT penetrate any known lost circulation zones.
 2. During the drilling of this well, withdrawals from any water well within 1/4 mile ☐ WILL ☐ WILL NOT exceed 50 gallons per minute.
 3. The projected depth of the well ☐ IS ☐ IS NOT less than 100 feet from the top of any enhanced recovery project or gas storage facility.
 4. List the following for all water wells within 1/4 mile of this well. (Information concerning some water wells may be obtained from the OKLAHOMA WATER RESOURCES BOARD, 3800 N. Classen Blvd., Oklahoma City, OK 73118). IF NO WATER WELLS FOUND, SO STATE. (ATTACH ADDITIONAL SHEET IF NECESSARY)

Name of Owner/Operator	Address of Owner/Operator	Location (Nearest 1/4 1/4 1/4 1/4)	Depth of Well

5. A cement bond log is required to be run and submitted from not less than 100 feet below the base of the treatable water-bearing formation to the surface. **OCC USE ONLY**
 6. If casing depth is more than 250 feet deeper than base of the treatable water-bearing formation, operator must submit a letter of request listing reasons and precautions to be taken.

INTENT TO DRILL CHECKLIST
 APPROVED ☐ REJECTED ☐

OCC USE ONLY

OCC USE ONLY

1. **SURETY**
 A. NONE filed. 11/4/17
 B. EXPIRED: Date _____
 C. OUTSTANDING CONTEMPT ORDER.

4. **GEOLOGY**

DO NOT WRITE INSIDE THIS BOX

RECEIVED 10/04/2017
 OKLA CORP COMM
 Date: 10/04/2017 Time: 14:06
 Case: 000000000 Cashier: C/S
 Payer: ANTIPOCH OPERATING, LLC
 Check: 002597 \$175.00
 46 Intent to Drill

TOPOGRAPHIC LAND SURVEYORS OF OKLAHOMA

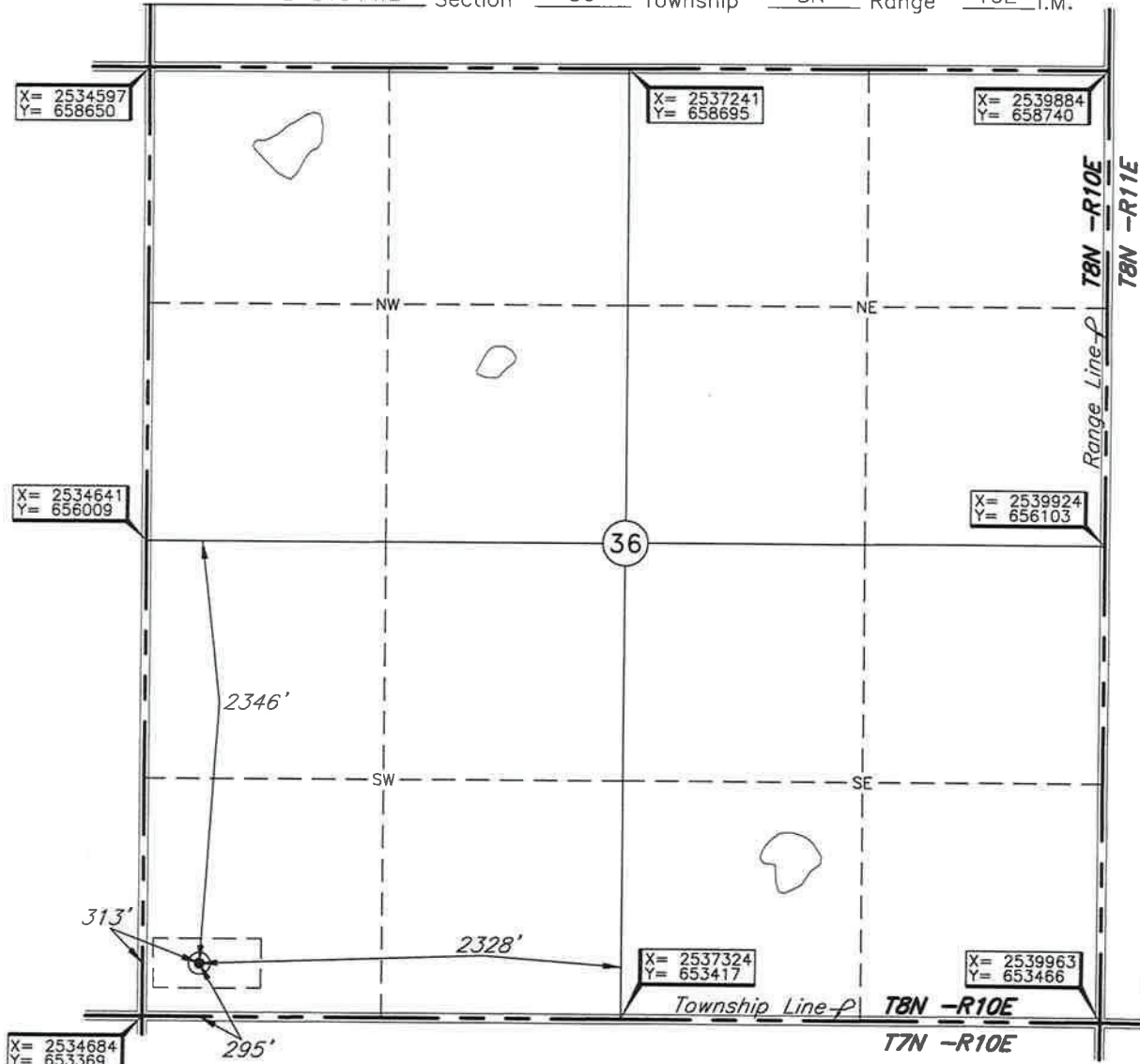
6709 NORTH CLASSEN BLVD., OKLA. CITY, OKLA. 73116 * LOCAL (405) 843-4847 * OUT OF STATE (800) 654-3219
Certificate of Authorization No. 1293 LS

HUGHES

County, Oklahoma

API 063-24723

295' FSL-313' FWL Section 36 Township 8N Range 10E I.M.



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



GRID
NAD-27
OK SOUTH
US Feet
0' 500' 1000'

Operator: ANTIOCH ENERGY

Lease Name: KELLER

Well No.: #1 SWD

ELEVATION:

873' Gr. at Stake

Topography & Vegetation Loc. fell on pad under construction

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 Horntown, OK, go North on US Hwy. 75 for ±2 miles, then East
on 1310 RD for ± 2 miles to the SW Cor. of Sec. 36-T8N-R10E.

DATUM: NAD-27
LAT: 35°06'59.4"N
LONG: 96°12'39.9"W
LAT: 35.116498232°N
LONG: 96.211093929°W
STATE PLANE
COORDINATES: (US Feet)
ZONE: OK SOUTH
X: 2534992
Y: 653669

Revision ☒ A

Date of Drawing: Oct. 24, 2017

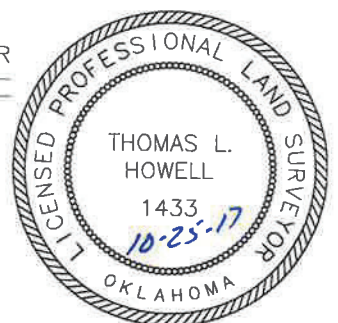
Invoice # 280875 Date Staked: Oct. 24, 2017

TR

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



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