#### API NUMBER: 063 24840 Α

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

Approval Date:	08/07/2018
Expiration Date:	02/07/2019

Horizontal Hole Oil & Gas

Amend reason: CHANGE DRILLING OPERATION TO

## AMEND DERMIT TO DRILL

LL LOCATION	: SW	13 Twp:	<u> </u>	FEET F	County: HUC ROM QUARTER: FROM ON LINES:	NORTH FROM	625			
Lease Name: Operator Name:		O ARKOMA	LLC		Well No:	2-13/24/25H Telephone:	918894	<b>Well will b</b>	OTC/OCC Numb	nearest unit or lease boundar per: 23562 0
BRAVO A 1323 E 7 TULSA,	_	_	OK	7413	36-5067			SUE E. ANDERSON 311 COUNTRY CLU		RUST
								HOLDENVILLE	OK	74848
` '	) (Pe	rmit Valid	for Listed F	- ormatio	ns Only): Depth			Name		Depth
			for Listed f	Formatio			6	Name		Depth
	Name		for Listed f	Formatio	Depth		6 7	Name		Depth
1 2 3	Name		for Listed F	Formatio	Depth		7 8	Name		Depth
1 2 3 4	Name		for Listed f	Formatio	Depth		7 8 9	Name		Depth
1 2 3	Name		for Listed f	Formation	Depth	n Orders:	7 8	Name	Increased Density Ord	
1 2 3 4 5 5 accing Orders:	Name WOODF0 668322 656675		for Listed f	Formatio	Depth 4274	n Orders:	7 8 9	Name		
1 2 3 4 5 5 acing Orders:	Name WOODF0 668322 656675 bbers: 2	DRD	for Listed F	Formatio	Depth 4274	n Orders:	7 8 9	Name	Increased Density Ord	
1 2 3 4 5	668322 656675	ORD	for Listed f	Formatio	Depth 4274	n Orders:	7 8 9	Name	Increased Density Ord	

Under Federal Jurisdiction: No Fresh Water Supply Well Drilled: No Surface Water used to Drill: Yes

551649

H. SEE MEMO

F. Haul to Commercial soil farming facility: Sec. 14 Twn. 7N Rng. 9E Cnty. 63 Order No:

Approved Method for disposal of Drilling Fluids: PIT 1 INFORMATION A. Evaporation/dewater and backfilling of reserve pit.

Type of Pit System: ON SITE Type of Mud System: AIR

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?

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)

#### 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 25 Twp 8N Rge 11E County HUGHES

Spot Location of End Point: NW NE NE NE Feet From: NORTH 1/4 Section Line: 530

Feet From: EAST 1/4 Section Line: 370

Depth of Deviation: 3973 Radius of Turn: 573

Direction: 179
Total Length: 7710

Measured Total Depth: 12583

True Vertical Depth: 4274

End Point Location from Lease,

Unit, or Property Line: 370

Notes:

Category Description

DEEP SURFACE CASING 8/3/2018 - 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

Category Description

HYDRAULIC FRACTURING 9/13/2018 - 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

MEMO 9/13/2018 - G57 - PITS 1 & 2 - CLOSED SYSTEM=STEEL PITS PER OPERATOR REQUEST, PIT 2 -

OBM RETURNED TO VENDOR, CUTTINGS PERMITTED PER DISTRICT

PENDING CD - 201805856 9/17/2018 - G57 - 13-8N-11E

X668322 WDFD

1 WELL

BRAVO ARKOMA, LLC. HEARING 9-24-2018

PENDING CD - 201807031 9/17/2018 - G57 - (E.O.) 13, 24, 25-8N-11E

EST MULTIUNIT HORIZONTAL WELL X668322 WDFD 13 & 24-8N-11E X656675 WDFD 25-8N-11E

23% 13-8N-11E 53% 24-8N-11E 24% 25-8N-11E BRAVO ARKOMA, LLC. REC 9-10-2018 (DUNN)

PENDING CD - 201807032 9/17/2018 - G57 - (E.O.) 13, 24, 25-8N-11E

X668322 WDFD 13 & 24-8N-11E X656675 WDFD 25-8N-11E

COMPL. INT. (13-8N-11E) NCT 1870' FNL, NCT 0' FSL, NCT 330' FEL COMPL. INT. (24-8N-11E) NCT 0' FNL, NCT 0' FSL, NCT 330' FEL COMPL. INT. (25-8N-11E) NCT 0' FNL, NFT 2640' FNL, NCT 330' FEL

BRAVO ARKOMA, LLC. REC 9-10-2018 (DUNN)

SPACING - 656675 8/7/2018 - G57 - (640)(HOR) 25-8N-11E

EST WDFD, OTHERS

POE TO BHL NCT 165' FNL & FSL, NCT 330' FEL & FWL

SPACING - 668322 8/7/2018 - G57 - (640)(HOR) 13 & 24-8N-11E

EXT 659541 WDFD, OTHERS

POE TO BHL NCT 165' FNL & FSL, NCT 330' FEL & FWL

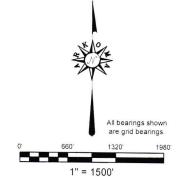
# R Well Location Plat

Operator: BRAVO NATURAL RESOURCES, LLC Lease Name and No.: JERRY 2-13/24/25H

Footage: 1870' FNL - 625' FEL Gr. Elevation: 731' Section: 13 Township: 8N Range: 11E I.M.

State of Oklahoma County: Hughes

API:063 24840 A



S.H.L. Sec. 13-8N-11E I.M. B.H.L. Sec. 25-8N-11E I.M.

### **GPS DATUM** NAD 27 OK SOUTH ZONE

Surface Hole Loc.: Lat: 35°10'07.82"N Lon: 96°05'25.56"W Lat: 35.16883914 Lon: -96.09043329 X: 2570713 Y: 673377 Landing Point:

Lat: 35°09'52.86"N Lon: 96°05'22.48"W Lat: 35.16468260 Lon: -96.08957824 X: 2570997 Y: 671869

Bottom Hole Loc.: Lat: 35°08'36.60"N Lon: 96°05'22.70"W Lat: 35.14349905 Lon: -96.08963954 X: 2571124 Y: 664160



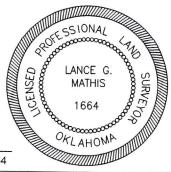
Survey and plat by:
Arkoma Surveying and Mapping, PLLC
P.O. Box 238 Wilburton, OK 74578
Ph. 918-465-5711 Fax 918-465-5030
Certificate of Authorization No. 5348
Expires June 30, 2020
Invoice #7978-A
Date Staked: 07/09/18 By: D.A.
Date Drawn: 07/11/18 By: J.K.
Added Sec. & Rev. Lse Names: 08/03/18 By: K.B.
Added LP & BHL: 08/29/18 By: J.D.
Rev. BHL: 09/10/18 By: J.K. Survey and plat by:

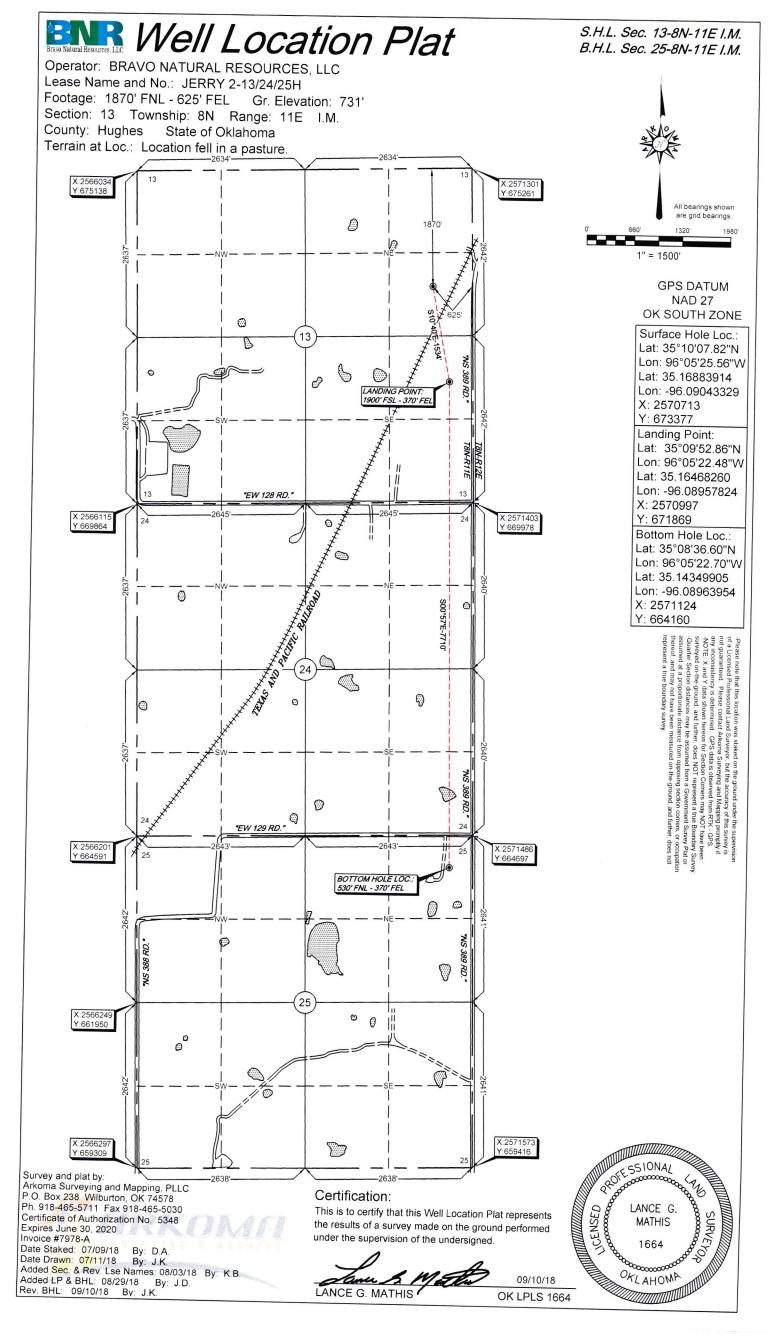
This is to certify that this Well Location Plat represents the results of a survey made on the ground performed under the supervision of the undersigned.

LANCE G. MATHIS

09/10/18

**OK LPLS 1664** 







# Topographic Vicinity Map

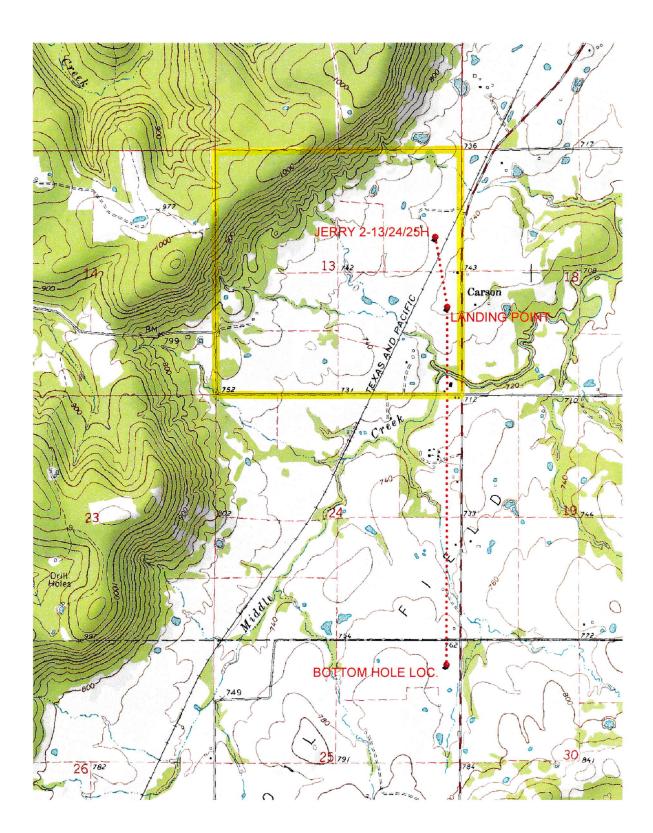
Operator: BRAVO NATURAL RESOURCES, LLC

Lease Name and No.: JERRY 2-13/24/25H Surface Hole Location: 1870' FNL - 625' FEL

Landing Point: 1900' FSL - 370' FEL Sec. 13 Twp. 8N Rng. 11E I.M. Bottom Hole Location: 530' FNL - 370' FEL Twp. 8N Rng. 11E I.M. Sec. 25 State of Oklahoma County: Hughes

Scale 1" = 2000' Contour Interval: 10'

Ground Elevation at Surface Hole Location: 731'



Provided by:

Arkoma Surveying and Mapping, PLLC P.O. Box 238 Wilburton, OK 74578

Ph. 918-465-5711 Fax 918-465-5030

Certificate of Authorization No. 5348

Expires June 30, 2020

Date Staked: 07/09/18

The purpose of this map is to verify the location and elevation as staked on the ground and to show the surrounding Topographic features. The footage shown hereon is only as SCALED onto a U.S.G.S. Topographic Map.

Please note that this location was staked carefully on the ground under the supervision of a Licensed Professional Land Surveyor, but the accuracy of this survey is not guaranteed.

Please contact Arkoma Surveying and Mapping promptly if any inconsistency is determined.

