RAILROAD COMMISSION OF TEXAS

Form W-2

1701 N. Congress
P.O. Box 12967
Austin, Texas 78701-2967

Status: Approved
Date: 07/26/2019
Tracking No.: 210879

OIL WELL POTENTIAL TEST, COMPLETION OR RECOMPLETION REPORT, AND LOG

OPERATOR INFORMATION

Operator Name: ABRAXAS PETROLEUM CORPORATION **Operator No.:** 003125
Operator Address: 18803 MEISNER DR SAN ANTONIO, TX 78258-0000

WELL INFORMATION

API No.: 42-475-37466 **County:** WARD
Well No.: U103H **RRC District No.:** 08
Lease Name: MESQUITE 37 **Field Name:** SANDBAR (BONE SPRING)
RRC Lease No.: 51804 **Field No.:** 80544500
Location: Section: 37, Block: 16, Survey: UL, Abstract: U37

Latitude: 31.491828 **Longitude:** -103.130632
This well is located 2.97 **miles in a** SW **direction from** PYOTE, **which is the nearest town in the county.**

FILING INFORMATION

Purpose of filing: Initial Potential
Type of completion: New Well
Well Type: Producing **Completion or Recompletion Date:** 10/03/2018

Type of Permit	Date	Permit No.
Permit to Drill, Plug Back, or Deepen	03/01/2018	836657
Rule 37 Exception		
Fluid Injection Permit		
O&G Waste Disposal Permit		
Other:		

COMPLETION INFORMATION

Spud date: 06/09/2018 **Date of first production after rig released:** 10/03/2018
Date plug back, deepening, recompletion, or drilling operation commenced: 06/09/2018 **Date plug back, deepening, recompletion, or drilling operation ended:** 07/26/2018
Number of producing wells on this lease in this field (reservoir) including this well: 2 **Distance to nearest well in lease & reservoir (ft.):** 639.0
Total number of acres in lease: 640.00 **Elevation (ft.):** 2594 GL
Total depth TVD (ft.): 10461 **Total depth MD (ft.):** 16047
Plug back depth TVD (ft.): **Plug back depth MD (ft.):**
Was directional survey made other than inclination (Form W-12)? Yes **Rotation time within surface casing (hours):** 137.5
Is Cementing Affidavit (Form W-15) attached? Yes
Recompletion or reclass? No **Multiple completion?** No
Type(s) of electric or other log(s) run: Gamma Ray (MWD)
Electric Log Other Description:
Location of well, relative to nearest lease boundaries of lease on which this well is located: 2625.0 **Feet from the** North **Line and** 289.0 **Feet from the** West **Line of the** MESQUITE 37 **Lease.** **Off Lease :** No

FORMER FIELD (WITH RESERVOIR) & GAS ID OR OIL LEASE NO.

Field & Reservoir	Gas ID or Oil Lease No.	Well No.	Prior Service Type

PACKET: N/A

W2: N/A

FOR NEW DRILL OR RE-ENTRY, SURFACE CASING DEPTH DETERMINED BY:

GAU Groundwater Protection Determination **Depth (ft.):** 2200.0 **Date:** 02/26/2018

SWR 13 Exception **Depth (ft.):**

INITIAL POTENTIAL TEST DATA FOR NEW COMPLETION OR RECOMPLETION

Date of test: 12/04/2018 **Production method:** Gas Lift

Number of hours tested: 24 **Choke size:** 64

Was swab used during this test? No **Oil produced prior to test:** 33584.00

PRODUCTION DURING TEST PERIOD:

Oil (BBLS): 889.00 **Gas (MCF):** 875

Gas - Oil Ratio: 984 **Flowing Tubing Pressure:** 180.00

Water (BBLS): 2012

CALCULATED 24-HOUR RATE

Oil (BBLS): 889.0 **Gas (MCF):** 875

Oil Gravity - API - 60.: 42.4 **Casing Pressure:** 980.00

Water (BBLS): 2012

CASING RECORD

Row	Type of Casing	Casing Size (in.)	Hole Size (in.)	Setting Depth (ft.)	Multi - Stage Tool Depth (ft.)	Multi - Stage Shoe Depth (ft.)	Cement Class	Cement Amount (sacks)	Slurry Volume (cu. ft.)	Top of Cement (ft.)	TOC Determined By
1	Surface	9 5/8	12 1/4	2360			C	1232	1980.0	0	Circulated to Surface
2	Intermediate	7	8 3/4	11042	4934		H	916	1614.3	0	Calculation
3	Intermediate	7	8 3/4	11042			C	673	1476.0	4434	Calculation

LINER RECORD

Row	Liner Size (in.)	Hole Size (in.)	Liner Top (ft.)	Liner Bottom (ft.)	Cement Class	Cement Amount (sacks)	Slurry Volume (cu. ft.)	Top of Cement (ft.)	TOC Determined By
1	4 1/2	6 1/8	10043	16047	H	577	686.0	10043	Calculation

TUBING RECORD

Row	Size (in.)	Depth Size (ft.)	Packer Depth (ft.)/Type
1	2 7/8	10199	10180 /

PRODUCING/INJECTION/DISPOSAL INTERVAL

Row	Open hole?	From (ft.)	To (ft.)
1	No	L1 11060	15917.0

ACID, FRACTURE, CEMENT SQUEEZE, CAST IRON BRIDGE PLUG, RETAINER, ETC.

Was hydraulic fracturing treatment performed? Yes

Is well equipped with a downhole actuation sleeve? Yes

If yes, actuation pressure (PSIG): 9200.0

Production casing test pressure (PSIG) prior to hydraulic fracturing treatment: 8500

Actual maximum pressure (PSIG) during hydraulic fracturing: 10287

Has the hydraulic fracturing fluid disclosure been reported to FracFocus disclosure registry (SWR29)? Yes

Row	Type of Operation	Amount and Kind of Material Used	Depth Interval (ft.)

1	Fracture	FRAC W/ 12,150,000 #'S PROPPANT & 366,688 BBLS FLUID	11060	15917

FORMATION RECORD

Formations	Encountered	Depth TVD (ft.)	Depth MD (ft.)	Is formation isolated?	Remarks
RUSTLER	No			No	NOT ENCOUNTERED
YATES	No			No	NOT ENCOUNTERED
SEVEN RIVERS	No			No	NOT ENCOUNTERED
QUEEN	No			No	NOT ENCOUNTERED
GLORIETA	No			No	NOT ENCOUNTERED
SAN ANDRES - HIGH FLOWS, H2S, CORROSIVE	No			No	NOT ENCOUNTERED
HOLT	No			No	NOT ENCOUNTERED
CLEARFORK	No			No	NOT ENCOUNTERED
DELAWARE	Yes	4936.0	4950.0	Yes	CEMENTED BEHIND
TUBB	No			No	NOT ENCOUNTERED
WICHITA ALBANY	No			No	NOT ENCOUNTERED
CHERRY CANYON	Yes	5746.0	5765.0	Yes	CEMENTED BEHIND
WADDELL	No			No	NOT ENCOUNTERED
BONE SPRINGS	Yes	7987.0	8020.0	Yes	CEMENTED BEHIND
WOLFCAMP	No			No	BELOW TD
MONTOYA	No			No	BELOW TD
PENNSYLVANIAN	No			No	BELOW TD
ATOKA	No			No	BELOW TD
FUSSELMAN	No			No	BELOW TD
DEVONIAN	No			No	BELOW TD
ELLENBURGER	No			No	BELOW TD

Do the producing interval of this well produce H2S with a concentration in excess of 100 ppm (SWR 36)? Yes

Is the completion being downhole commingled (SWR 10)? No

REMARKS

RRC REMARKS

PUBLIC COMMENTS:

[RRC Staff 2019-07-25 08:46:40.819] EDL=4850 feet, max acres=800, SANDBAR (BONE SPRING) oil or gas well;

take points: 11060-15917 feet

CASING RECORD :

KOP OF WELL IS 10,083'

TUBING RECORD:

2 7/8" & 2 3/8" TUBING IN WELL

PRODUCING/INJECTION/DISPOSAL INTERVAL :

ACID, FRACTURE, CEMENT SQUEEZE, CAST IRON BRIDGE PLUG, RETAINER, ETC. :

POTENTIAL TEST DATA:

OPERATOR'S CERTIFICATION

Printed Name: Scarlet Holguin **Title:** Regulatory Clerk

Telephone No.: (210) 757-9844 **Date Certified:** 06/27/2019

RAILROAD COMMISSION OF TEXAS

1701 N. Congress
P.O. Box 12967
Austin, Texas 78701-2967

Form W-15
Rev. 08/2014

CEMENTING REPORT

Cementer: Fill in shaded areas.
Operator: Fill in other items.

OPERATOR INFORMATION

Operator Name: ABRAXAS Petroleum Corp.	**Operator P-5 No.:** 003125
Cementer Name: BJ Services, LLC	**Cementer P-5 No.:** 072507

WELL INFORMATION

District No.: 08	**County:** WARD	
Well No.: U103H	**API No.:** 475-37466	**Drilling Permit No.:** 836657
Lease Name: MESQUITE 37	**Lease No.:**	
Field Name: Sandbar (Bone Spring)	**Field No.:** 80544500	

I. CASING CEMENTING DATA

Type of casing: ☐ Conductor ☑ Surface ☐ Intermediate ☐ Liner ☐ Production

Drilled hole size (in.): 12.25	**Depth of drilled hole (ft.):** 2360'	**Est. % wash-out or hole enlargement:** 20%	
Size of casing in O.D. (in.): 9.625	**Casing weight (lbs/ft) and grade:** 40# J-55	**No. of centralizers used:** 13 (4 turbolaters)	
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☑ YES ☐ NO **If no for surface casing, explain in Remarks.**	**Setting depth shoe (ft.):** 2360'	**Top of liner (ft.):**	**Setting depth liner (ft.):**
Hrs. waiting on cement before drill-out: 8	**Calculated top of cement (ft.):** SURFACE	**Cementing date:** 6/11/18	

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	922	C	SEE REMARKS	1569	5001
2	310	C	SEE REMARKS	411	1308
3					
Total	1232	C	SEE REMARKS	1980	6309

II. CASING CEMENTING DATA

Type of casing: ☐ Surface ☐ Intermediate ☐ Production ☐ Tapered production ☐ Multi-stage cement shoe ☐ Multiple parallel strings

Drilled hole size (in.):	**Depth of drilled hole (ft.):**	**Est. % wash-out or hole enlargement:**
Size of casing in O.D. (in.):	**Casing weight (lbs/ft) and grade:**	**No. of centralizers used:**
Tapered string drilled hole size (in.) Upper: Lower:	**Tapered string depth of drilled hole (ft.)** Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	**Tapered string casing weight(lbs/ft) and grade** Upper: Lower:	**Tapered string no. of centralizers used** Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ NO		**Setting depth shoe (ft.):**
Hrs. waiting on cement before drill-out:	**Calculated top of cement (ft.):**	**Cementing date:**

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total					

III. CASING CEMENTING DATA

Type of casing: ☐ Surface ☐ Intermediate ☐ Production ☐ Tapered production ☐ Multi-stage cement/DV tool ☐ Multiple parallel strings

Drilled hole size (in.):	**Depth of drilled hole (ft.):**	**Est. % wash-out or hole enlargement:**
Size of casing in O.D. (in.):	**Casing weight (lbs/ft) and grade:**	**No. of centralizers used:**
Tapered string drilled hole size (in.) Upper: Lower:	**Tapered string depth of drilled hole (ft.)** Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	**Tapered string casing weight(lbs/ft) and grade** Upper: Lower:	**Tapered string no. of centralizers used** Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ NO		**Setting depth tool (ft.):**
Hrs. waiting on cement before drill-out:	**Calculated top of cement (ft.):**	**Cementing date:**

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total					

CEMENTING TO SQUEEZE, PLUG BACK OR PLUG AND ABANDON							
	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Cementing Date							
Size of hole or pipe (in.)							
Depth to bottom of tubing or drill pipe (ft.)							
Cement retainer setting depth (ft.)							
CIBP setting depth (ft.)							
Amount of cement on top of CIBP (ft.)							
Sacks of cement used							
Slurry volume pumped (cu. ft.)							
Calculated top of plug (ft.)							
Measured top of plug, if tagged (ft.)							
Slurry weight (lbs/gal)							
Class/type of cement							
Perforate and squeeze (YES/NO)							

REMARKS

LEAD- 50:50 CLASS C + 4% BENTONITE + 0.3% SMS + .2% R3 + .005# STATIC FREE
TAIL- CLASS C + 0.05# STATIC FREE
(CIRCULATED 5 BBLS OR 16 SACKS CEMENT)

CEMENTER'S CERTIFICATE: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that the cementing of casing and/or the placing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers cementing data only.

CODY COLEMAN Field Specialist-III	BJ SERVICES, LLC	Cody Coleman	
Name and title of cementer's representative	Cementing Company	Signature	
11211 FM 2920 RD.	TOMBALL,TEXAS 77375	(281) 408-2361	6/11/18
Address	City, State, Zip Code	Tel: Area Code Number	Date: mo. day yr.

OPERATOR'S CERTIFICATE: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers all well data.

Scarlet Holguin	Regulatory Clerk	Scarlet Holguin	
Typed or printed name of operator's representative	Title	Signature	
18803 Meisner Dr. San Antonio	TX 78258	(210) 757-9844	03/25/2019
Address	City, State, Zip Code	Tel: Area Code Number	Date: mo. day yr.

Instructions for Form W-15, Cementing Report

NOTICE: The Form W-15 must be submitted as an attachment to a Form G-1 (Gas Well Back Pressure Test, Completion or Recompletion Report, and Log), Form W-2 (Oil Well Potential Test, Completion or Recompletion Report, and Log), Form W-3 (Plugging Record), or Form W-4 (Application for Multiple Completion), any time cement is pumped in a wellbore.

A. **What to file:** An operator should file an original and one copy of the completed Form W-15 for each cementing company used on a well. The cementing of different casing strings on a well by one cementing company may be reported on one form.

The Form W-15 should be filed with the Form W-3, Plugging Record, unless the Form W-3 is signed by the cementing company representative. When reporting dry holes, operators must complete Form W-15, in addition to Form W-3, to show any casing cemented in the hole.

B. **How to file:** An oil and gas completion report and Form W-15 may be filed online using the Commission's Online System (https://webapps.rrc.state.tx.us/security/login.do) or a paper copy of the form may be mailed to the Commission in Austin (P.O. Box 12967, Austin, Texas 78711-2967).

C. **Surface casing:** An operator must set and cement sufficient surface casing to protect all usable-quality water strata, as defined by the Groundwater Advisory Unit in Austin. Sufficient cement shall be used to fill the annular space outside the casing from the shoe to the ground surface or to the bottom of the cellar. Before drilling a well, an operator must obtain a letter from the Groundwater Advisory Unit stating the protection depth. Surface casing should not be set deeper than 200 feet below the specified depth without prior approval from the Commission.

To plug and abandon a well, operators must use only cementers approved by the Commission's Director of Field Operations in accordance with SWR 14 (http://info.sos.state.tx.us/pls/pub/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=16&pt=1&ch=3&rl=14). Cementing companies, service companies, or operators can qualify as approved cementers by demonstrating that they are able to mix and pump cement in compliance with Commission rules and regulations.

D. **Estimated % wash-out:** If the estimated % wash-out is less than 20% (or 30% along the Gulf Coast), provide supporting documentation such as a caliper log to show how the estimated % wash-out was obtained.

E. **Multi-stage cement:** An operator must report the multi-stage cement shoe in II. Casing Cementing Data section by selecting the type of casing **and** Multi-stage cement shoe. The operator must report the multi-stage cement tool in III. Casing Cementing Data section by selecting the type of casing and Multi-stage cement/DV tool.

F. **Multiple parallel strings:** An operator should file the Form W-15 as an attachment to the Form W-4, Application for Multiple Completion. An operator may be required to submit multiple Form W-15s to show all data for multiple parallel strings.

G. **Slurry data:** If cement job exceeds three slurries, continue the list of slurries in the Slurry table in the subsequent Casing Cementing Data box.

RAILROAD COMMISSION OF TEXAS

1701 N. Congress
P.O. Box 12967
Austin, Texas 78701-2967

Form W-15
Rev. 08/2014

CEMENTING REPORT

Cementer: Fill in shaded areas.
Operator: Fill in other items.

OPERATOR INFORMATION

Operator Name: ABRAXAS PETROLEUM Corp.	Operator P-5 No.: 003125
Cementer Name: BJ Services, LLC	Cementer P-5 No.: 072507

WELL INFORMATION

District No.: 08		County: WARD	
Well No.: 1	U103H	API No.: 475-37466	Drilling Permit No.: 836657
Lease Name:	Mesquite 37	Lease No.:	
Field Name:	Sandbar (Bone Spring)	Field No.:	80544500

I. CASING CEMENTING DATA

Type of casing: ☐ Conductor ☐ Surface ☐ Intermediate ☐ Liner ☐ Production

Drilled hole size (in.):	Depth of drilled hole (ft.):	Est. % wash-out or hole enlargement:
Size of casing in O.D. (in.):	Casing weight (lbs/ft) and grade:	No. of centralizers used:
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ NO If no for surface casing, explain in Remarks.	Setting depth shoe (ft.):	Top of liner (ft.):
		Setting depth liner (ft.):
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.):	Cementing date:

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1			SEE REMARKS		
2			SEE REMARKS		
3			SEE REMARKS		
Total			SEE REMARKS		

II. CASING CEMENTING DATA

Type of casing: ☐ Surface ☑ Intermediate ☐ Production ☐ Tapered production ☑ Multi-stage cement shoe ☐ Multiple parallel strings

Drilled hole size (in.): 8 3/4"	Depth of drilled hole (ft.): 11,042'	Est. % wash-out or hole enlargement: 15%
Size of casing in O.D. (in.): 7"	Casing weight (lbs/ft) and grade: 29# P-110	No. of centralizers used: 166 (16 turbolaters)
Tapered string drilled hole size (in.) Upper: Lower:	Tapered string depth of drilled hole (ft.) Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	Tapered string casing weight(lbs/ft) and grade Upper: Lower:	Tapered string no. of centralizers used Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☒ YES ☐ NO		Setting depth shoe (ft.): ~~XXXX~~ 4934'
Hrs. waiting on cement before drill-out: 8	Calculated top of cement (ft.): 0'	Cementing date: 07/12/2018

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	454	H	SEE REMARKS	1039.6	69815.3
2	462	H	SEE REMARKS	574.7	3643.3
3			SEE REMARKS		
Total	916		SEE REMARKS	1614.3	10558.8

III. CASING CEMENTING DATA

Type of casing: ☐ Surface ☐ Intermediate ☐ Production ☐ Tapered production ☑ Multi-stage cement/DV tool ☐ Multiple parallel strings

Drilled hole size (in.): 8 3/4"	Depth of drilled hole (ft.): 11,042'	Est. % wash-out or hole enlargement: 15%
Size of casing in O.D. (in.): 7"	Casing weight (lbs/ft) and grade: 29# P-110	No. of centralizers used: 166 (16 turbolaters)
Tapered string drilled hole size (in.) Upper: Lower:	Tapered string depth of drilled hole (ft.) Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	Tapered string casing weight(lbs/ft) and grade Upper: Lower:	Tapered string no. of centralizers used Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☑ NO		Setting depth tool (ft.): ~~XXXX~~ 4934'
Hrs. waiting on cement before drill-out: 8	Calculated top of cement (ft.): 4,434'	Cementing date: 07/12/18

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	559	C	SEE REMARKS	1324.8	8359
2	114	C	SEE REMARKS	151.3	954
3			SEE REMARKS		
Total	673		SEE REMARKS	1476	9313

CEMENTING TO SQUEEZE, PLUG BACK OR PLUG AND ABANDON							
	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Cementing Date							
Size of hole or pipe (in.)							
Depth to bottom of tubing or drill pipe (ft.)							
Cement retainer setting depth (ft.)							
CIBP setting depth (ft.)							
Amount of cement on top of CIBP (ft.)							
Sacks of cement used							
Slurry volume pumped (cu. ft.)							
Calculated top of plug (ft.)							
Measured top of plug, if tagged (ft.)							
Slurry weight (lbs/gal)							
Class/type of cement							
Perforate and squeeze (YES/NO)							

REMARKS

1 STG LEAD: 50:50:10 CLASSH + 0.15% CD32A + 0.25% R-21 + 0.005 lb/sk STATIC FREE 1 STG TAIL: 50:50:0 CLASS H + 0.50% MPA250 + 0.50% CD32A + 0.10% ASA-301 + 1.00% SALT (0.466 lb/sk) + 0.15% R-21 + 0.005 lb/sk STATIC FREE 2ND STG LEAD: 50:50:10 CLASS C + 3.00% A-10 + 3.00% SALT (3.379 lb/sk) + 0.01 lb/sk STATIC FREE 2ND STG TAIL : CLASS C + 0.30% R-3

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SERVICE SUP. / RORY CHERRY	BJ SERVICES, LLC		
Name and title of cementer's representative	Cementing Company	Signature	
11211 FM 2920 RD.	TOMBALL, TEXAS 77375	(281) 408-2361	07/12/18
Address	City, State, Zip Code	Tel: Area Code Number	Date: mo. day yr.

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Scarlet Holguin	Regulatory Clerk	Scarlet Holguin	
Typed or printed name of operator's representative	Title	Signature	
18803 Meisner Dr.	San Antonio TX 78258	(210) 757-9844	03/25/2019
Address	City, State, Zip Code	Tel: Area Code Number	Date: mo. day yr.

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D. **Estimated % wash-out:** If the estimated % wash-out is less than 20% (or 30% along the Gulf Coast), provide supporting documentation such as a caliper log to show how the estimated % wash-out was obtained.

E. **Multi-stage cement:** An operator must report the multi-stage cement shoe in II. Casing Cementing Data section by selecting the type of casing **and** Multi-stage cement shoe. The operator must report the multi-stage cement tool in III. Casing Cementing Data section by selecting the type of casing and Multi-stage cement/DV tool.

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G. **Slurry data:** If cement job exceeds three slurries, continue the list of slurries in the Slurry table in the subsequent Casing Cementing Data box.

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Form W-15
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CEMENTING REPORT

Cementer: Fill in shaded areas.
Operator: Fill in other items.

OPERATOR INFORMATION

Operator Name: ABRAXAS PETROLEUM CORP	**Operator P-5 No.:** 003125
Cementer Name: BJ Services, LLC	**Cementer P-5 No.:** 072507

WELL INFORMATION

District No.: 08	**County:** WARD	
Well No.: U103H	**API No.:** 475-	**Drilling Permit No.:** 836657
Lease Name: MESQUITE 37	**Lease No.:** 475-37466	
Field Name: Sandbar (Bone Spring)	**Field No.:** 80544500	

I. CASING CEMENTING DATA

Type of casing: ☐ Conductor ☐ Surface ☐ Intermediate ☑ Liner ☐ Production

Drilled hole size (in.): 6 1/8"	**Depth of drilled hole (ft.):** 16,047'	**Est. % wash-out or hole enlargement:** 15%
Size of casing in O.D. (in.): 4 1/2"	**Casing weight (lbs/ft) and grade:** 13.5# P-110	**No. of centralizers used:** 135 turbolaters
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☑ NO If no for surface casing, explain in Remarks.	**Setting depth shoe (ft.):** 16,047'	**Top of liner (ft.):** 10,043' / **Setting depth liner (ft.):** 16,047'
Hrs. waiting on cement before drill-out:	**Calculated top of cement (ft.):** 10,043'	**Cementing date:** 7-25-2018

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	577	H	REMARKS	686	6963
2					
3					
Total	577	H	REMARKS	686	6963

II. CASING CEMENTING DATA

Type of casing: ☐ Surface ☐ Intermediate ☐ Production ☐ Tapered production ☐ Multi-stage cement shoe ☐ Multiple parallel strings

Drilled hole size (in.):	**Depth of drilled hole (ft.):**	**Est. % wash-out or hole enlargement:**
Size of casing in O.D. (in.):	**Casing weight (lbs/ft) and grade:**	**No. of centralizers used:**
Tapered string drilled hole size (in.) Upper: Lower:	**Tapered string depth of drilled hole (ft.)** Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	**Tapered string casing weight(lbs/ft) and grade** Upper: Lower:	**Tapered string no. of centralizers used** Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ NO		**Setting depth shoe (ft.):**
Hrs. waiting on cement before drill-out:	**Calculated top of cement (ft.):**	**Cementing date:**

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total					

III. CASING CEMENTING DATA

Type of casing: ☐ Surface ☐ Intermediate ☐ Production ☐ Tapered production ☐ Multi-stage cement/DV tool ☐ Multiple parallel strings

Drilled hole size (in.):	**Depth of drilled hole (ft.):**	**Est. % wash-out or hole enlargement:**
Size of casing in O.D. (in.):	**Casing weight (lbs/ft) and grade:**	**No. of centralizers used:**
Tapered string drilled hole size (in.) Upper: Lower:	**Tapered string depth of drilled hole (ft.)** Upper: Lower:	
Tapered string size of casing in O.D. (in.) Upper: Lower:	**Tapered string casing weight(lbs/ft) and grade** Upper: Lower:	**Tapered string no. of centralizers used** Upper: Lower:
Was cement circulated to ground surface (or bottom of cellar) outside casing? ☐ YES ☐ NO		**Setting depth tool (ft.):**
Hrs. waiting on cement before drill-out:	**Calculated top of cement (ft.):**	**Cementing date:**

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total					

CEMENTING TO SQUEEZE, PLUG BACK OR PLUG AND ABANDON							
	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Cementing Date							
Size of hole or pipe (in.)							
Depth to bottom of tubing or drill pipe (ft.)							
Cement retainer setting depth (ft.)							
CIBP setting depth (ft.)							
Amount of cement on top of CIBP (ft.)							
Sacks of cement used							
Slurry volume pumped (cu. ft.)							
Calculated top of plug (ft.)							
Measured top of plug, if tagged (ft.)							
Slurry weight (lbs/gal)							
Class/type of cement							
Perforate and squeeze (YES/NO)							

REMARKS

CMT SLURRY:H:+.85%BA-10A+.85%CD32A+.15%ASA-301+.20%SMS+.20%R-21+.01LB/SKSTATIC FREE+.001GPSFP-6L
CEMENT CIRCULATED OFF LINER TOP:20 BBLS 112 CF 94 SKS

CEMENTER'S CERTIFICATE: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that the cementing of casing and/or the placing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers cementing data only.

MANUEL VILLARREAL JR - FIELD SPECIALIST | BJ Services, LLC | Manuel Villarreal Jr | 11211 FM 2920 RD TOMBALL, TX 77375 | (281)408-2361 | 7-25-2018

Name and title of cementer's representative | Cementing Company | Signature | Address | City, State, Zip Code | Tel: Area Code Number | Date: mo. day yr.

OPERATOR'S CERTIFICATE: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers all well data.

Eugene Hernandez | Drilling Consultant | Eugene Hernandez | 18803 Meisner Dr. San Antonio TX 78258 | (210)490-4788 | 7/25/18

Typed or printed name of operator's representative | Title | Signature | Address | City, State, Zip Code | Tel: Area Code Number | Date: mo. day yr.

Instructions for Form W-15, Cementing Report

NOTICE: The Form W-15 must be submitted as an attachment to a Form G-1 (Gas Well Back Pressure Test, Completion or Recompletion Report, and Log), Form W-2 (Oil Well Potential Test, Completion or Recompletion Report, and Log), Form W-3 (Plugging Record), or Form W-4 (Application for Multiple Completion), any time cement is pumped in a wellbore.

A. **What to file:** An operator should file an original and one copy of the completed Form W-15 for each cementing company used on a well. The cementing of different casing strings on a well by one cementing company may be reported on one form.

The Form W-15 should be filed with the Form W-3, Plugging Record, unless the Form W-3 is signed by the cementing company representative. When reporting dry holes, operators must complete Form W-15, in addition to Form W-3, to show any casing cemented in the hole.

B. **How to file:** An oil and gas completion report and Form W-15 may be filed online using the Commission's Online System (https://webapps.rrc.state.tx.us/security/login.do) or a paper copy of the form may be mailed to the Commission in Austin (P.O. Box 12967, Austin, Texas 78711-2967).

C. **Surface casing:** An operator must set and cement sufficient surface casing to protect all usable-quality water strata, as defined by the Groundwater Advisory Unit in Austin. Sufficient cement shall be used to fill the annular space outside the casing from the shoe to the ground surface or to the bottom of the cellar. Before drilling a well, an operator must obtain a letter from the Groundwater Advisory Unit stating the protection depth. Surface casing should not be set deeper than 200 feet below the specified depth without prior approval from the Commission.

To plug and abandon a well, operators must use only cementers approved by the Commission's Director of Field Operations in accordance with SWR 14 (http://info.sos.state.tx.us/pls/pub/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=16&pt=1&ch=3&rl=14). Cementing companies, service companies, or operators can qualify as approved cementers by demonstrating that they are able to mix and pump cement in compliance with Commission rules and regulations.

D. **Estimated % wash-out:** If the estimated % wash-out is less than 20% (or 30% along the Gulf Coast), provide supporting documentation such as a caliper log to show how the estimated % wash-out was obtained.

E. **Multi-stage cement:** An operator must report the multi-stage cement shoe in II. Casing Cementing Data section by selecting the type of casing **and** Multi-stage cement shoe. The operator must report the multi-stage cement tool in III. Casing Cementing Data section by selecting the type of casing and Multi-stage cement/DV tool.

F. **Multiple parallel strings:** An operator should file the Form W-15 as an attachment to the Form W-4, Application for Multiple Completion. An operator may be required to submit multiple Form W-15s to show all data for multiple parallel strings.

G. **Slurry data:** If cement job exceeds three slurries, continue the list of slurries in the Slurry table in the subsequent Casing Cementing Data box.

RAILROAD COMMISSION OF TEXAS
Oil and Gas Division

ELECTRIC LOG STATUS REPORT

FORM L-1

Tracking No.: 210879

This facsimile L-1 was generated electronically from data submitted to the RRC.

Instructions

When to File Form L-1:
- with Forms G-1, W-2, and GT-1 for new and deepened gas, oil, and geothermal wells
- with Form W-3 for plugged dry holes
- when sending in a log which was held under a request for confidentiality and the period for confidentiality has not yet expired.

When is Form L-1 NOT required:
- with Forms W-2, G-1, and GT-1 filed for injection wells, disposal wells, water supply wells, service wells, re-test wells, re-classifications, and plugbacks of oil, gas or geothermal wells
- with Form W-3 for plugging of other than a dry hole

Where to File Form L-1:
- with the appropriate Commission district office

Filling out Form L-1:
- Section I and the signature section must be filled out for all wells
- complete only the appropriate part of Section II

Type of log required:
- any wireline survey run for the purpose of obtaining lithology, porosity, or resistivity information
- no more than one such log is required but it must be of the subject well
- if such log is NOT run on the subject well, do NOT substitute any other type of log; just select Section II, Part A below

SECTION I. IDENTIFICATION

Operator Name: ABRAXAS PETROLEUM CORPORATION	District No. 08	Completion Date: 10/03/2018
Field Name SANDBAR (BONE SPRING)	Drilling Permit No. 836657	
Lease Name MESQUITE 37	Lease/ID No. 51804	Well No. U103H
County WARD	API No. 42- 475-37466	

SECTION II. LOG STATUS (Complete either A or B)

☐ A. BASIC ELECTRIC LOG NOT RUN

☒ B. BASIC ELECTRIC LOG RUN. (Select one)

☒ 1. Confidentiality is requested and a copy of the header for each log that has been run on the well is attached.

☐ 2. Confidentiality already granted on basic electric log covering this interval (applicable to deepened wells only).

☐ 3. Basic electric log covering this interval already on file with Commission (applicable to deepened wells only).

☐ 4. Log attached to (select one):

☐ (a) Form L-1 (this form). If the company/lease name on log is different from that shown in Section I, please enter name on log here: _____

Check here if attached log is being submitted after being held confidential. ☐

☐ (b) Form P-7, Application for Discovery Allowable and New Field Designation.

☐ (c) Form W-4, Application for Multiple Completion:

Lease or ID No(s). _____

Well No(s). _____

Scarlet Holguin Signature	Regulatory Clerk Title
 Name (print)	(210) 757-9844 Phone 03/22/2019 Date

-FOR RAILROAD COMMISSION USE ONLY-

Premier Directional Drilling
363 N. Sam Houston Parkway E. Suite 300
Houston, Texas 77060
281-673-4000

Mesquite 37 #U103H
Scale 1":100' - MD
07/22/18 1:07 PM

Oper. Company: Abraxas
Well: Mesquite 37 #U103H
Field: Wolfcamp
Rig: Patterson 228
Well ID: 42-475-37466
Job Number: M18264
State: Texas
County: Ward
Country: USA
Location: 3Miles South of Pyote
Start Date: 7/3/18
End Date: 7/22/18
Notes: LWD Real-Time, Gamma Correction Determinmed By Pipe ID, OD, Mud Weight & Bit Size

Latitude: 31° 29' 30.580 N
Longitude: 103° 07' 50.270 W
Elev GL: 2595
Elev DF: 2620
Elev KB: 2620

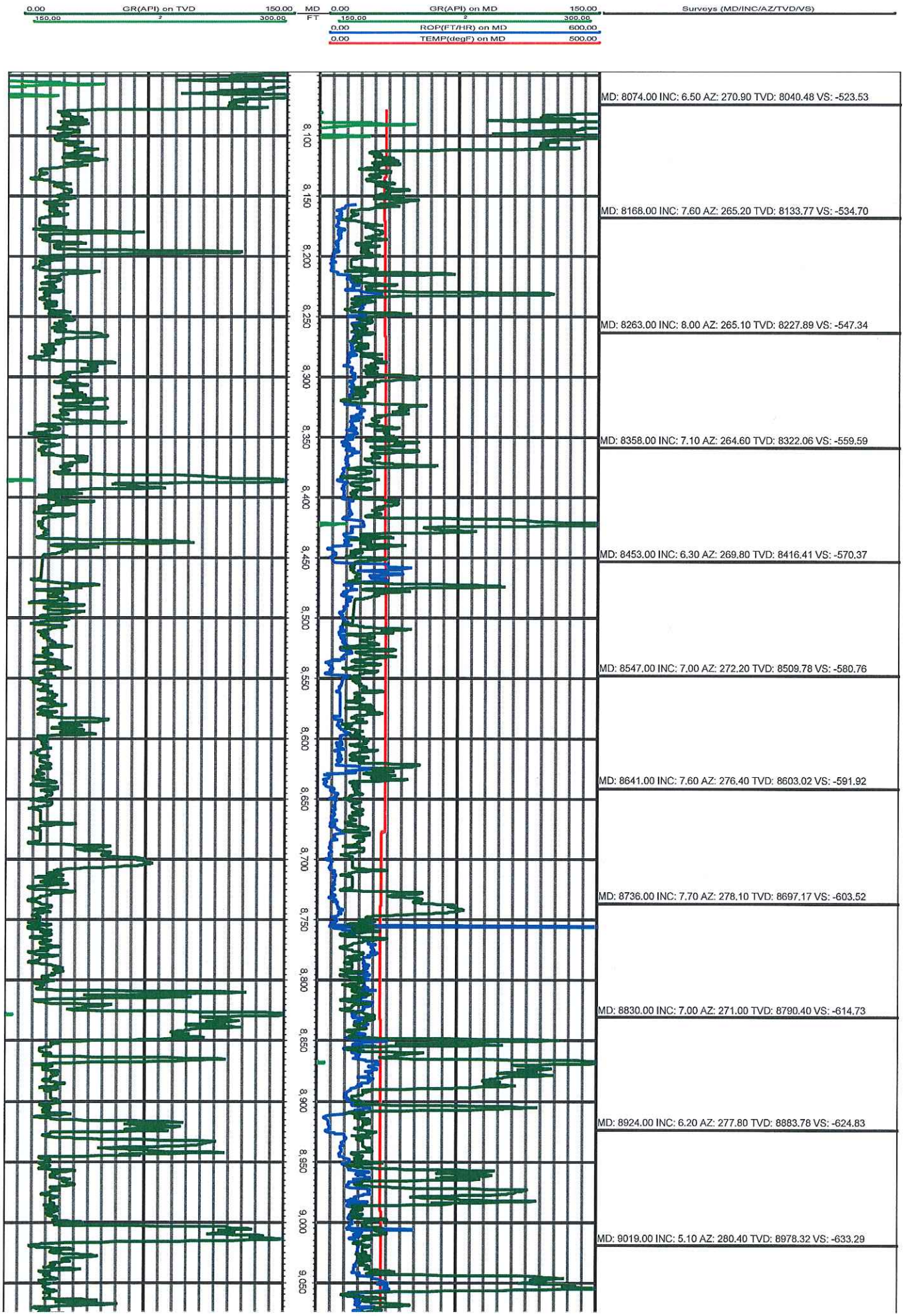
Operator 1: Matthew Walkoviak
Operator 2: Dustin Westall

Tool Run Data	Run #1	Run #2	Run #3	Run #4	Run #5
Tool S/N	G-338	G-338	G-163	G-338	G-338
Bit Size	8.750	8.75	8.75	8.75	8.75
Cal Factor	5.613	5.66014	6.29492	6.14476	6.14476
Survey Offset	78.11	78.11	77.97	73.32	73.32
Gamma Offset	76.21	76.21	76.07	71.42	71.42
Resisitivity Offset	0.00	0.00	0.00	0.00	0.00
Start Depth	8080.14	8137.09	8678.95	10013.02	10753.04
StartDate	07/03/18	07/03/18	07/05/18	07/07/18	07/09/18
StartTime	08:53	23:25	19:36	10:10	05:51
EndDepth	8135.80	8679.26	10006.79	10752.62	10970.59
EndDate	07/03/18	07/04/18	07/06/18	07/08/18	07/09/18
EndTime	10:25	13:24	13:01	07:56	14:08
Mud Type	WBM	WBM	WBM	WBM	WBM
Mud Weight	9.5	9..5	9.6	9.5	9.5

Tool Run Data	Run #6	Run #7	Run #8	Run #9	Run #10
Tool S/N	G-265	G-265	G-163		
Bit Size	6.125	6.125	6.125		
Cal Factor	2.90590	2.92171	3.21930		
Survey Offset	75.12	75.12	75.12		
Gamma Offset	73.22	73.22	73.22		
Resisitivity Offset	0.00	0.00	0.00		
Start Depth	10971.37	14300.98	14386.77		
StartDate	07/15/18	07/19/18	07/20/18		
StartTime	13:59	21:11	21:58		
EndDepth	14298.66	14372.68	15973.75		
EndDate	07/18/18	07/20/18	07/22/18		
EndTime	20:38	02:06	12:35		
Mud Type	OBM	OBM	OBM		
Mud Weight	10.2	11.3	11.3		

Hole Data			Casing Data		
Size	From	To	Size	From	To
12.250	108.00	2360.00	9.625	0.00	2360.00
8.750	2360.00	11042.00	7.00	0.00	11042.00
6.125	11042.00	16047.00	5.5	10550.00	16047.00

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not except in the case of gross or willful negligence on our part, be liable or responsible for any loss, cost damages or expenses incurred or sustained by anyone resulting from an interpretation made by any of our officers, agents, or employees.


0.00 GR(API) on TVD 150.00
150.00 300.00
MD FT
0.00 GR(API) on MD 150.00
150.00 300.00
0.00 ROP(FT/HR) on MD 600.00
0.00 TEMP(degF) on MD 500.00
Surveys (MD/INC/AZ/TVD/VS)
8,100
8,150
8,200
8,250
8,300
8,350
8,400
8,450
8,500
8,550
8,600
8,650
8,700
8,750
8,800
8,850
8,900
8,950
9,000
9,050
MD: 8074.00 INC: 6.50 AZ: 270.90 TVD: 8040.48 VS: -523.53
MD: 8168.00 INC: 7.60 AZ: 265.20 TVD: 8133.77 VS: -534.70
MD: 8263.00 INC: 8.00 AZ: 265.10 TVD: 8227.89 VS: -547.34
MD: 8358.00 INC: 7.10 AZ: 264.60 TVD: 8322.06 VS: -559.59
MD: 8453.00 INC: 6.30 AZ: 269.80 TVD: 8416.41 VS: -570.37
MD: 8547.00 INC: 7.00 AZ: 272.20 TVD: 8509.78 VS: -580.76
MD: 8641.00 INC: 7.60 AZ: 276.40 TVD: 8603.02 VS: -591.92
MD: 8736.00 INC: 7.70 AZ: 278.10 TVD: 8697.17 VS: -603.52
MD: 8830.00 INC: 7.00 AZ: 271.00 TVD: 8790.40 VS: -614.73
MD: 8924.00 INC: 6.20 AZ: 277.80 TVD: 8883.78 VS: -624.83
MD: 9019.00 INC: 5.10 AZ: 280.40 TVD: 8978.32 VS: -633.29

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION
CERTIFICATE OF COMPLIANCE STATEWIDE RULE 36

FORM H-9
12/12/77
DBC0697
FILE WITH DISTRICT OFFICE IN TRIPLICATE

1. Operator: ABRAXAS PETROLEUM CORPORATION	2. Operator Number (See Instruction 13): 003125		3. RRC Dist.: 08
4. Street or P.O. Box No.: 18803 MEISNER DR.	5. City: SAN ANTONIO	6. State: TX	7. Zip Code: 78258
8. Name of Lease, Facility or Operation: MESQUITE 37 # 102H & 103H	9. Field or Area Name: PHANTOM (WOLFCAMP) 80544500		10. County: WARD

11. General Operation Type - Circle One:

A - Oil Field Production | B - Gas Field Production | C - Pipeline or Gathering Sys. | D - Gasoline Plant | E - Drilling or Workover | F - Sweetening Unit | G - Combination (explain) | H - Other (explain)

Other Explanation:

12. RRC ID# of Operation(s) to be Covered by This Certificate	Type ID Code (See Instruction 12)	Indicate if Filing for Storage Facility Only YES	NO
475-37465	16		
475-37466	16		

13. Hydrogen Sulfide Concentration: 1200 PPM

14. Maximum Escape Volume: 800 MCF/Day

15. 100 PPM Radius of Exposure (ROE): 98.21 Ft.

16. 500 PPM Radius of Exposure (ROE): 44.88 Ft.

17. Operation is: Existing ☐ New ☒

18. Modification Resulting in Certificate Change: Yes ☐ No ☒

19. Workover or Drilling Well with 100 PPM ROE Greater than 3000 feet on Rule 36 Certified Well/Lease: Yes ☐ No ☒

20. Previous Certificate Number if Available (For Amended Certificates): _____

21. The 100 PPM ROE includes any part of a public area except a public road: Yes ☐ No ☒

22. The 500 PPM ROE includes any part of a public road: Yes ☐ No ☒

23. Injection of fluid containing Hydrogen Sulfide (See Instruction 14): Yes ☐ No ☒

24. Date (or Depth) of Compliance with all applicable provisions of Rule 36: ____/____/____ (Mo / Day / Year)

Depth of Compliance for Drilling Operation: _____ Ft. From Surface

25. Contingency Plan
Location of Plan (See Instruction 15):

Has been prepared: Yes ☐ No ☒

26. Location of data used to prepare this certificate (See Instruction 15)
18803 MEISNER DR.
SAN ANTONIO, TEXAS 78258

CERTIFICATE

I declare under penalties prescribed in section 91.143, Natural Resource Code, that I am authorized to make this report, that this report was prepared by me or under my supervision, and that I am qualified to make this certification by virtue of my training and experience, and by my analysis of the operation being certified, or by the analysis of qualified person working under my supervision, and that the data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Sarah Holgin

Representative of Company	Title	Phone No.	Date
	REGULATORY CLERK	(210) 490-4788	03/29/2019

RAILROAD COMMISSION USE ONLY

This operation and the equipment used therein is approved on the basis of the above certification and is subject to further Commission audit for compliance with the required provisions of Statewide Rule 36. This approval may be cancelled if investigation determines that the operation does not comply with the provisions of Statewide Rule 36.

APPROVED BY: _____ DATE: _____

REMARKS:

CERTIFICATION NUMBER: _____

RAILROAD COMMISSION OF TEXAS
Oil and Gas Division
PO Box 12967
Austin TX 78711-2967
www.rrc.texas.gov

CERTIFICATE OF COMPLIANCE AND TRANSPORTATION AUTHORITY

P-4

This facsimile P-4 was generated electronically from data submitted to the RRC.
A certification of the automated data is available in the RRC's Austin office.

Tracking No.: 210879

1. Field name exactly as shown on proration schedule	2. Lease name as shown on proration schedule			
SANDBAR (BONE SPRING)	MESQUITE 37			
3. Current operator name exactly as shown on P-5 Organization Report	**4. Operator P-5 no.**	**5. Oil Lse/Gas ID no**	**6. County**	**7. RRC district**
ABRAXAS PETROLEUM CORPORATION	003125	51804	WARD	08
8. Operator address including city, state, and zip code	**9. Well no(s) *(see instruction E)***			
18803 MEISNER DR SAN ANTONIO, TX 78258	U103H			
	10. Classification ☒ Oil ☐ Gas ☐ Other *(see instruction A)*		**11. Effective Date**	10/03/2018

12. Purpose of Filing. (Complete section a or b below.) *(See instructions B and G)*

a. Change of: ☐ operator ☐ oil or condensate gatherer ☐ gas gatherer ☐ gas purchaser ☐ gas purchaser system code
☐ field name from _____
☐ lease name from _____

OR

b. New RRC Number for: ☒ oil lease ☐ gas well ☐ other well (specify) _____ **Due to:** ☒ new completion or recompletion ☐ reclass oil to gas ☐ reclass gas to oil ☐ consolidation, unitization, or subdivision (oil lease only)

13. Authorized GAS WELL GAS or CASINGHEAD GAS Gatherer(s) and/or Purchaser(s). *(See instruction G).*

Gatherer	Purchaser	Name of GAS WELL GAS or CASINGHEAD GAS Gatherer(s) or Purchaser(s) As Indicated in Columns to the Left *(Attach an additional sheet in same format if more space is needed)*	Purchaser's RRC Assigned System Code	Percent of Take	Full-well stream
X		ENERGY TRANSFER COMPANY(252017)		100.0	
	X	ENERGY TRANSFER COMPANY(252017)	0001	100.0	

14. Authorized OIL or CONDENSATE Gatherer(s). *(See instruction G).*

Name of OIL or CONDENSATE Gatherer(s) - List Highest Volume Gatherer First *(Attach an additional sheet in same format if more space is needed)*	Percent of Take
GIBSON ENERGY MARKETING, LLC(302773)	100.0

RRC USE ONLY: Reviewer's initials: RRC Staff Approval date: 07/26/2019

15. PREVIOUS OPERATOR CERTIFICATION FOR CHANGE OF OPERATOR P-4 FILING. Being the PREVIOUS OPERATOR, I certify that operating responsibility for the well(s) designated in this filing, located on the subject lease has been transferred in its entirety to the above named Current Operator. I understand, as Previous Operator, that designation of the above named operator as Current Operator is not effective until this certificate is approved by the Commission.

Name of Previous Operator

Signature

Name (print)

☐ **Authorized Employee of previous operator**

☐ **Authorized agent of previous operator** *(see instruction G)*

Title

Date

Phone with area code

16. CURRENT OPERATOR CERTIFICATION. By signing this certificate as the Current Operator, I certify that all statements on this form are true and correct and I acknowledge responsibility for the regulatory compliance of the subject lease including plugging of well(s) pursuant to Rule 14. I further acknowledge that I assume responsibility for the physical operation, control, and proper plugging of each well designated in this filing. I also acknowledge that I will remain designated as the Current Operator until a new certificate designating a new Current Operator is approved by the Commission.

Name (print): Regulatory Clerk

Signature: Scarlet Holguin

Title

☒ **Authorized Employee of current operator**

☐ **Authorized agent of current operator** *(see instruction G)*

E-mail Address (optional): sholguin@abraxaspetroleum.com

Date: 03/27/2019

Phone with area code: (210) 757-9844

RAILROAD COMMISSION OF TEXAS

1701 N. Congress
P.O. Box 12967
Austin, Texas 78701-2967

Form P-16
Page 1
Rev. 01/2016

DBC0416

Acreage Designation

SECTION I. OPERATOR INFORMATION

Operator Name: ABRAXAS PETROLEUM CORPORATION | Operator P-5 No.: 003125

Operator Address: 18803 MEISNER DR. SAN ANTONIO, TX 78258

SECTION II. WELL INFORMATION

District No.: 08	County: WARD	Purpose of Filing:
Well No.: U103H	API No.: 42-475-37466	☐ Drilling Permit Application (Form W-1)
Total Lease Acres: 640	Drilling Permit No.: 836657	☒ Completion Report (Form G-1/W-2)
Lease Name: MESQUITE 37	Lease No.:	
Field Name: SANDBAR (BONE SPRING)	Field No.: 80544500	

Filer is the owner or lessee, or has been authorized by the owner or lessee, of all or an undivided portion of the mineral estate under each tract for which filer is listed as operator below. For all leases operated by other entities, the number of assigned acres shown are reflected on current Commission records or the filer has been authorized by the current operator to change the assigned acreage of that operator as shown below.

SECTION III. LISTING OF ALL WELLS IN THE APPLIED-FOR FIELD ON THE SAME ACREAGE AS THE LEASE, POOLED UNIT, OR UNITIZED TRACT DESIGNATED IN SECTION II ABOVE BY FILER

RRC ID No. or Lease No.	Well No.	H-Horizontal D-Directional V-Vertical	Lease Name	API No.	Acres Assigned	SWR 38 Except. (Y/N)	Operator Name and Operator No. (if different from filing operator)
	102H	H	MESQUITE 37	42-475-37465	80		
	U103H	H	MESQUITE 37	42-475-37466	80		

Total Well Count >	2	160	< A. Total Assigned Horiz. Acreage	160	< C. Total Assigned Acreage
		460	< Total Remaining Horiz. Acreage	460	< Total Remaining Acreage
			< B. Total Assigned Vert./Dir. Acreage		
			< Total Remaining Vert./Dir. Acreage		

SECTION IV. REMARKS / PURPOSE OF FILING (see instructions)

Attach Additional Pages As Needed. ☒ No additional pages ☐ Additional Pages: ____ (No. of additional pages)

CERTIFICATION: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that this report was prepared by me or under my supervision or direction, that I am authorized to make this report, and that the information contained in this report is true, correct, and complete to the best of my knowledge.

Scarlet Holguin — Signature

SCARLET HOLGUIN — Name and title (type or print)

Email (include email address *only* if you affirmatively consent to its public release)

18803 MEISNER DR. SAN ANTONIO, TEXAS 78258 — Address, City, State, Zip Code

(210)757-9844 — Tel: Area Code Number

03/25/2019 — Date: mo. day yr.

GROUNDWATER PROTECTION DETERMINATION

Form GW-2

Groundwater Advisory Unit

Date Issued:	26 February 2018	**GAU Number:**	190073

Attention:	ABRAXAS PETROLEUM 18803 MEISNER DR SAN ANTONIO, TX 78258	**API Number:**	
		County:	WARD
		Lease Name:	MESQUITE 37
		Lease Number:	
Operator No.:	003125	**Well Number:**	U103H
		Total Vertical Depth:	11500
		Latitude:	31.491828
		Longitude:	-103.130632
		Datum:	NAD27

Purpose: New Drill

Location: Survey-UL; Block-16; Section-37

To protect usable-quality groundwater at this location, the Groundwater Advisory Unit of the Railroad Commission of Texas recommends:

The interval from the land surface to a depth of 1400 feet, and the Rustler from 1800 to 2200 feet must be protected.

This recommendation is applicable to all wells within a radius of 200 feet of this location.

Note: Unless stated otherwise, this recommendation is intended to apply only to the subject well and not for area-wide use. This recommendation is for normal drilling, production, and plugging operations only. It does not apply to saltwater disposal operation into a nonproductive zone (RRC Form W-14).

This determination is based on information provided when the application was submitted on 02/20/2018. If the location information has changed, you must contact the Groundwater Advisory Unit, and submit a new application if necessary. If you have questions, please contact us at 512-463-2741 or gau@rrc.texas.gov.

Groundwater Advisory Unit, Oil and Gas Division

ABRAXAS PETROLEUM CORP.

LEASE NAME & WELL NO.:

UL MESQUITE 37 #U103H "AS-DRILLED"

NEAREST TOWN IN COUNTY:

±2.97 MILES SOUTHWEST FROM PYOTE, TEXAS

DESCRIPTION:

SECTION 37, BLOCK 16, UNIVERSITY LANDS SURVEY

WARD COUNTY, TEXAS

SPECIAL NOTES:

Original Document Size: 8.5"x14"
All Coordinates are in NAD 27 TX-C Zone unless otherwise noted.

CERTIFICATION:

This well location shown on this permit plat was surveyed under my direct supervision. All As-Drilled information provided by client. This plat is for Texas Railroad Commission permit purpose only and should not be considered a boundary survey.

Signature Date: 03/27/19

STATE OF TEXAS REGISTERED WILLIAM J. KEATING 5041 PROFESSIONAL LAND SURVEYOR

William J. Keating

Texas Reg. No. 5041

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
2903 NORTH BIG SPRING - MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 - FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM
Texas FIRM Registration NO. 10042500

FILE NAME: AD_UL_MESQUITE_37_U103H

Surface Hole Location:
2625' FNL & 289' FWL (SEC. 37)
SHL Ground Elevation: 2594'
X = 1128188 Y = 674755
LAT.: N 31.4918282 LONG.: W 103.1306324
NAD 83 TX-C ZONE:
X = 1424654 Y = 10517330
LAT.: N 31.4919625 LONG.: W 103.1310711

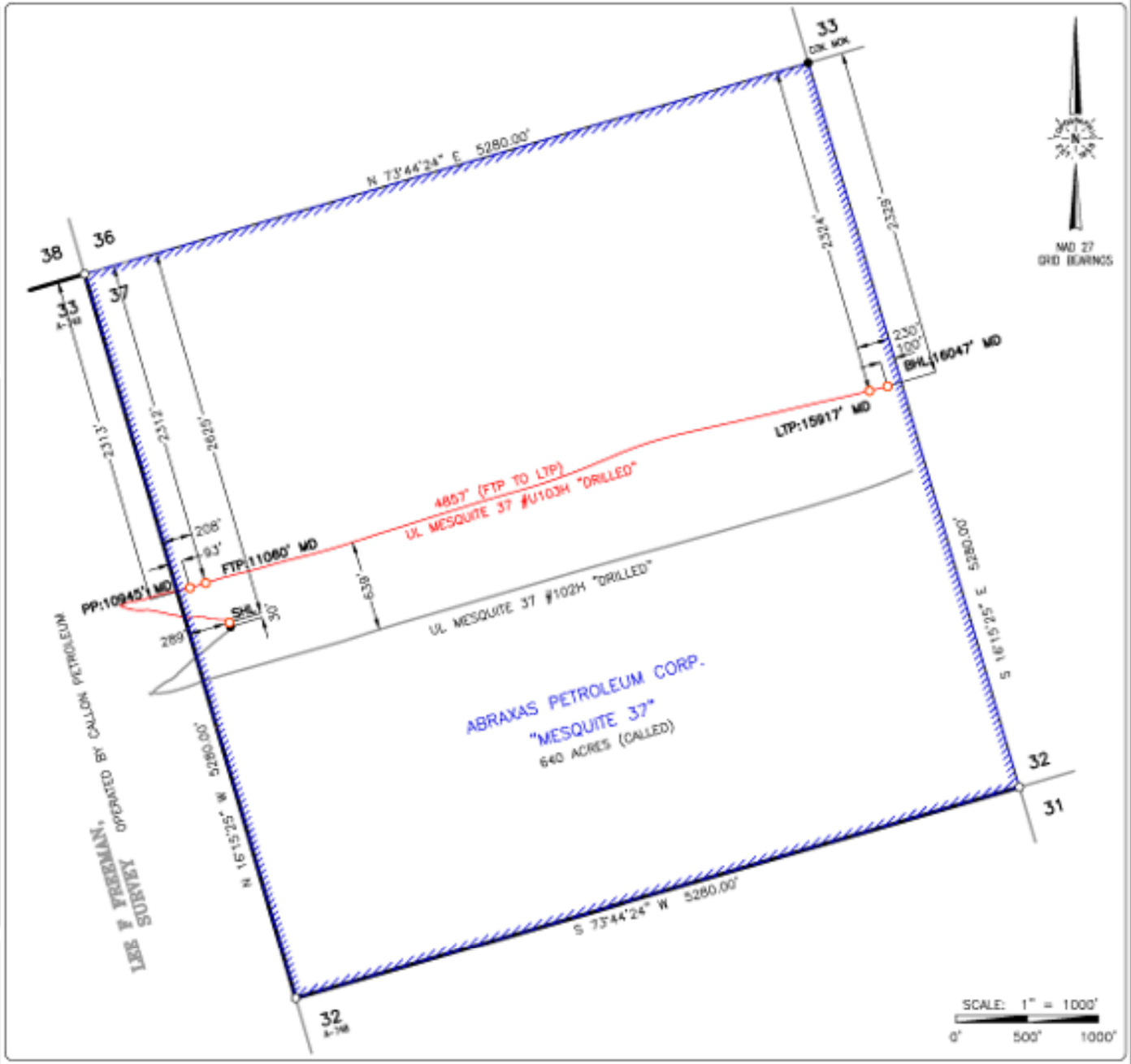
Penetration Point:
2313' FNL & 93' FWL
X = 1127912 Y = 675000
LAT.: N 31.4924810 LONG.: W 103.1315363

First Take Point:
2312' FNL & 208' FWL
X = 1128022 Y = 675032
LAT.: N 31.4925792 LONG.: W 103.1311866

Last Take Point:
2324' FNL & 230' FEL
X = 1132673 Y = 676377
LAT.: N 31.4965960 LONG.: W 103.1163765

Bottom Hole Location:
2329' FNL & 100' FEL
X = 1132799 Y = 676409
LAT.: N 31.4966915 LONG.: W 103.1159746

LEGEND
- Section Line
- Block Line
- Abstract Line
- Tract Line
- Lease Road
- County Road
- Unit/Lease Boundary
- Found Monument
- Set 1/2" Rebar w/cap
- Calculated Corner



Surveyed:	10/31/17	COGO:	575-120469	Drawn By:	MR; 03/22/2019
Scale:	1"=1000'			Revision: ( )	Date Revised: / /

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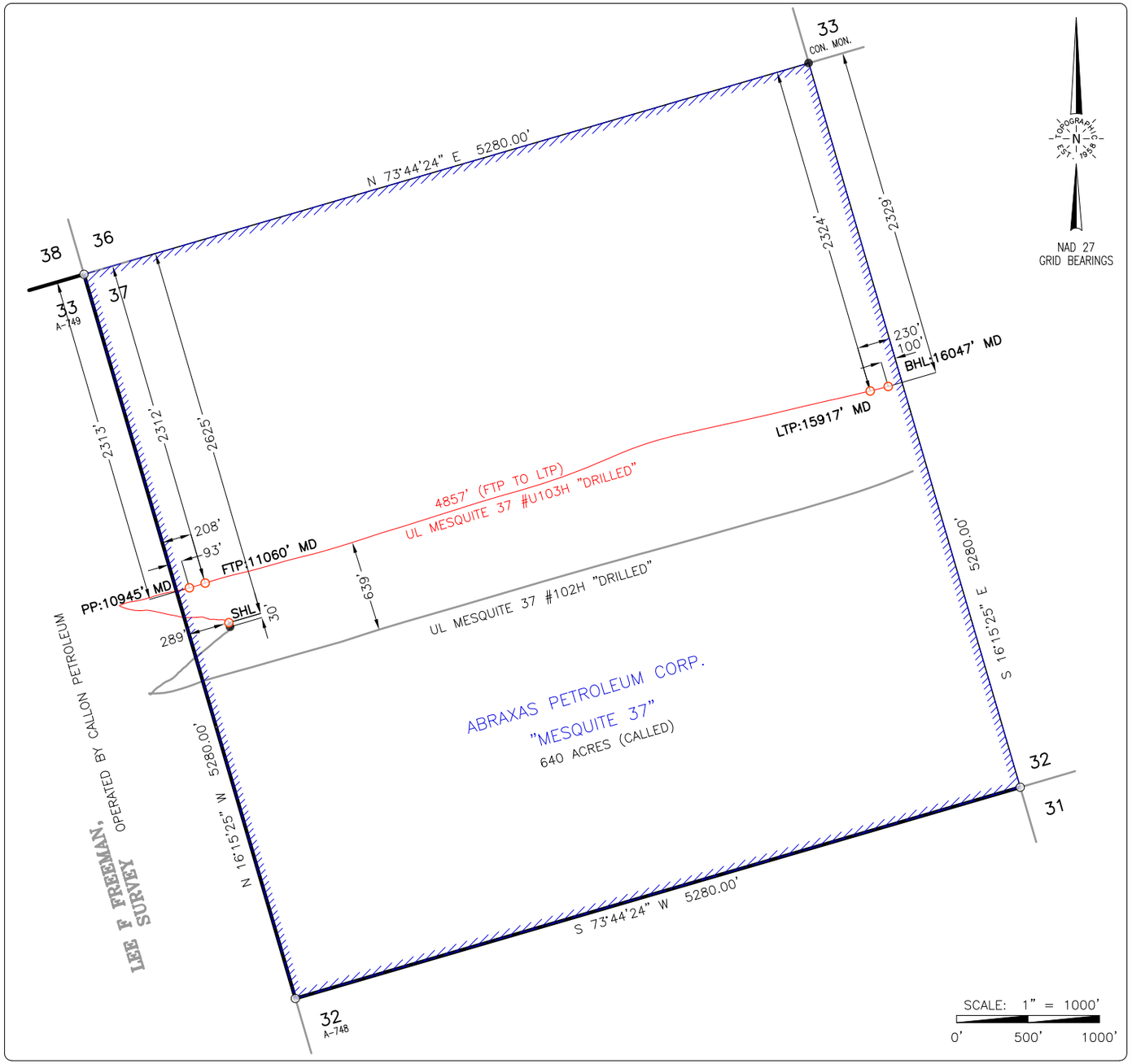

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