



RAILROAD COMMISSION OF TEXAS

Form W-2

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

Status: Approved
Date: 07/24/2019
Tracking No.: 207431

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.: 42-475-37465 County: WARD
Well No.: 102H 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: 31.491749 Longitude: -103.130603
This well is located 2.98 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: 10/02/2018
Type of Permit Date Permit No.
Permit to Drill, Plug Back, or Deepen 03/01/2018 836656
Rule 37 Exception
Fluid Injection Permit
O&G Waste Disposal Permit
Other:

COMPLETION INFORMATION

Spud date: 06/13/2018 Date of first production after rig released: 10/02/2018
Date plug back, deepening, recompletion, or drilling operation commenced: 06/13/2018 Date plug back, deepening, recompletion, or drilling operation ended: 08/06/2018
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.): 2595 GL
Total depth TVD (ft.): 10462 Total depth MD (ft.): 16217
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): 163.5
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 Off Lease : No
of lease on which this well is located: 2625.0 Feet from the South Line and
289.0 Feet from the West Line of the
MESQUITE 37 Lease.

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: 12/03/2018 **Production method:** Gas Lift
Number of hours tested: 24 **Choke size:** 48/64
Was swab used during this test? No **Oil produced prior to test:** 34240.00

PRODUCTION DURING TEST PERIOD:

Oil (BBLs): 897.00 **Gas (MCF):** 790
Gas - Oil Ratio: 880 **Flowing Tubing Pressure:** 100.00
Water (BBLs): 1560

CALCULATED 24-HOUR RATE

Oil (BBLs): 897.0 **Gas (MCF):** 790
Oil Gravity - API - 60.: 42.7 **Casing Pressure:** 900.00
Water (BBLs): 1560

CASING RECORD

Row	Type of Casing	Casing Size (in.)	Hole Size (in.)	Setting Depth (ft.)	Multi - Stage Depth (ft.)	Multi - Stage Shoe 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	1384	2239.0	0	Circulated to Surface
2	Intermediate	7	8 3/4	11220	4957	H	916	1616.0	4956	Calculation
3	Intermediate	7	8 3/4	11220	4957	C	536	1150.0	825	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	10242	16210	H	575	684.2	10242	Calculation

TUBING RECORD

Row	Size (in.)	Depth Size (ft.)	Packer Depth (ft.)/Type
1	2 7/8	10405	10386 /

PRODUCING/INJECTION/DISPOSAL INTERVAL

Row	Open hole?	From (ft.)	To (ft.)
1	No	L1 11233	16076.0

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:** 10200
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.)
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FORMATION RECORD

<u>Formations</u>	<u>Encountered</u>	<u>Depth TVD (ft.)</u>	<u>Depth MD (ft.)</u>	<u>Is formation isolated?</u>	<u>Remarks</u>
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	4941.0	4954.0	Yes	CEMENTED BEHIND
TUBB	No			No	NOT ENCOUNTERED
WICHITA ALBANY	No			No	NOT ENCOUNTERED
CHERRY CANYON	Yes	5737.0	5756.0	Yes	CEMENTED BEHIND
WADDELL	No			No	NOT ENCOUNTERED
BONE SPRINGS	Yes	7990.0	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 2019-07-11 10:17:58.508] EDL=4800 feet, max acres=800, SANDBAR (BONE SPRING) oil or gas well;

take points: 11233-16076 feet

CASING RECORD :

TUBING RECORD:

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

PRODUCING/INJECTION/DISPOSAL INTERVAL :

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

KOP OF WELL IS 10,277'
COULD NOT GET W-15'S TO UPLOAD AS ONE FILE

POTENTIAL TEST DATA:

OPERATOR'S CERTIFICATION

Printed Name: Scarlet Holguin

Title: Regulatory Clerk

Telephone No.: (210) 757-9844

Date Certified: 06/06/2019



RAILROAD COMMISSION OF TEXAS

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

Form W-15

Rev. 08/2014

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

CEMENTING REPORT

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.: 102H	API No.: 475-31465	Drilling Permit No.: 836656
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 1/4" Depth of drilled hole (ft.): 2360' Est. % wash-out or hole enlargement: 20%

Size of casing in O.D. (in.): 9 5/8" Casing weight (lbs/ft) and grade: 40# 555 No. of centralizers used: 13 (4 turbolators)

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.):

Hrs. waiting on cement before drill-out: 9 Calculated top of cement (ft.): 0 Cementing date: 6-14-2018

Setting depth liner (ft.):

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	1074	C	REMARKS	1828	5842
2	310	C	REMARKS	411	1258
Total	1384	C	REMARKS	2239	7100

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.) Tapered string depth of drilled hole (ft.)

Upper: Lower: Upper: Lower:

Tapered string size of casing in O.D. (in.) Tapered string casing weight (lbs/ft) and grade Tapered string no. of centralizers used

Upper: Lower: 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.) Tapered string depth of drilled hole (ft.)

Upper: Lower: Upper: Lower:

Tapered string size of casing in O.D. (in.) Tapered string casing weight (lbs/ft) and grade Tapered string no. of centralizers used

Upper: Lower: 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 CEMENT:50:50:4 C+.30%SMS+1.00%SALT+.20%R-3+.005LB/SK STATIC FREE+.005GPS FP-6L
 TAIL CEMENT:C+.005LB/SK STATIC FREE+.005 GPSFP-6L
 CEMENT TO SURF:266 BBLs 1493 CF 877 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

Name and title of cementer's representative: 11211 FM 2920 RD TOMBALL, TX 77375
 City, State, Zip Code
 Cementing Company: BJ Services, LLC
 Signature: (281)408-2361
 Date: 6-14-2018
 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
 Typed or printed name of operator's representative
 Title: Regulatory Clerk
 Signature: *Scarlet Holguin*
18803 Meisner Dr. San Antonio TX 78258
 City, State, Zip Code
 Tel: (210) 757-9844
 Date: 03/21/2019
 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](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.



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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.: 102H

API No.: 475-37465

Drilling Permit No.: 836656

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.): _____

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					

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.): 11,220' 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: 92 (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.): 11,220'

Hrs. waiting on cement before drill-out: 9 Calculated top of cement (ft.): 4956' Cementing date: 6-29-18

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	454	H	REMARKS	1041	6807
2	462	H	REMARKS	575	3694
3					
Total	916	H	REMARKS	1616	10501

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.): 11,220' 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: 92 (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.): 4,957'

Hrs. waiting on cement before drill-out: 9 Calculated top of cement (ft.): 825' Cementing date: 6-28-18

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	422	C	REMARKS	999	6377
2	114	C	REMARKS	151	1007
3					
Total	536	C	REMARKS	1150	7384

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

1ST STAGE LEAD=50.50.10 CLASS H+0.35%CD32A+0.45%R-21+0.005GPS FP-6L+0.005 LB/SK STATIC FREE
 1ST STAGE TAIL=50.50.0 CLASS H+0.50%MPA250+0.50%CD32A+0.10%ASA-301+1.00%SALT(0.466 LB/SKI)+0.25%R-21+0.005 LB/SK STATIC FREE+0.005 GPS FP-6L
 2ND STAGE LEAD=50.50.10 CLASS C+5.00%SALT(5.634LB/SKI)+0.05%R-3+0.01LB/SK STATIC FREE+0.01GPS FP-6L
 2ND STAGE TAIL=CLASS C+0.30%R-3+0.01 LB/SK STATIC FREE+0.01GPS FP-6L
 CIRCULATED 88 BLS OFF OF DV TOOL ON 1ST STAGE

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.

MANEL VILLARREAL JR. - FIELD SPECIALIST **BJ Services, LLC** *Manel Villarreal Jr.*
 Name and title of cementer's representative Cementing Company Signature
11211 FM 2920 RD TOMBALL, TX 77375 (281)408-2361 6-29-201`8
 Address City, State, Zip Code Tel: Area Code Number Date: mo. day yr.

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Scarlet Holquin *Regulatory Clerk* *Scarlet Holquin*
 Typed or printed name of operator's representative Title Signature
18803 Meisner Dr. San Antonio, TX 78258 (20)757-9844 03/21/2019
 Address City, State, Zip Code Tel: Area Code Number Date: mo. day yr.

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

CEMENTING REPORT

OPERATOR INFORMATION

Operator Name: Abraxas Petroleum Corp.	Operator P-5 No.: 003125
Cementer Name: BJ Services	Cementer P-5 No.: 072507

WELL INFORMATION

District No.: 08	County: Ward TX	
Well No.: 102H	API No.: 475-37465	Drilling Permit No.: 836652
Lease Name: Mesquite 37	Lease No.:	Field No.: 80544500
Field Name: Sandbar (Bone Spring)		

I. CASING CEMENTING DATA

Type of casing: Conductor Surface Intermediate Liner Production

Drilled hole size (in.): 6 1/8" Depth of drilled hole (ft.): 16,217' 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# P110 No. of centralizers used: 133 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.): 16,210' Top of liner (ft.): 10,242'

Hrs. waiting on cement before drill-out: Calculated top of cement (ft.): Setting depth liner (ft.): 16,210'

Cementing date:

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	575	Class H	See Remarks	684.25	5968
2					
3					
Total	575			684.25	5968

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.) Tapered string depth of drilled hole (ft.)

Upper: Lower: Upper: Lower:

Tapered string size of casing in O.D. (in.) Tapered string casing weight (lbs/ft) and grade Tapered string no. of centralizers used

Upper: Lower: 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	0			0	0

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.) Tapered string depth of drilled hole (ft.)

Upper: Lower: Upper: Lower:

Tapered string size of casing in O.D. (in.) Tapered string casing weight (lbs/ft) and grade Tapered string no. of centralizers used

Upper: Lower: 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	0			0	0

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

Class - H, + .85 % BA-10A , + .85 % CD32A , + .15 % ASA-301 + .20 % SMS ,+ .25 % R-21, + .01 LB/SK Static Free

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.

Orlando Fuentes FSIII

BJ Services, LLC

Orlando Fuentes

Name and title of cementer's representative

Cementing Company

Signature

11211 FM 2920 Rd

Tomball, Texas 77375

(281) 408-2361

8/04/2018

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

City, State, Zip Code

Tel: Area Code

Number

Date: mo. day yr.

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](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.

Tracking No.: 207431

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: 10/02/2018
Field Name: SANDBAR (BONE SPRING)	Drilling Permit No. 836656	
Lease Name: MESQUITE 37	Lease/ID No. 51804	Well No. 102H
County: WARD	API No. 42- 475-37465	

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). _____

_____ Signature _____ Name (print)	_____ Regulatory Clerk Title (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 102H
Scale 1":100' - MD
08/01/18 7:35 PM

Oper. Company: Abraxas

State: Texas

Well: Mesquite 37 102H

County: Ward

Field: 3rd bone springs

Country: USA

Rig: Patterson 228

Location: 3 miles South of Pyote

Well ID: 42-475-37465

Start Date: 6/19/18

Job Number: M18263

End Date: 8/1/18

Notes: LWD Real-Time Data, Gamma Correction Determined By Pipe ID, OD, Mud Weight & Bit Size

Latitude: 31° 29' 30.300 N

Elev GL: 2595

Longitude: 103° 07' 50.170 W

Elev DF: 2620

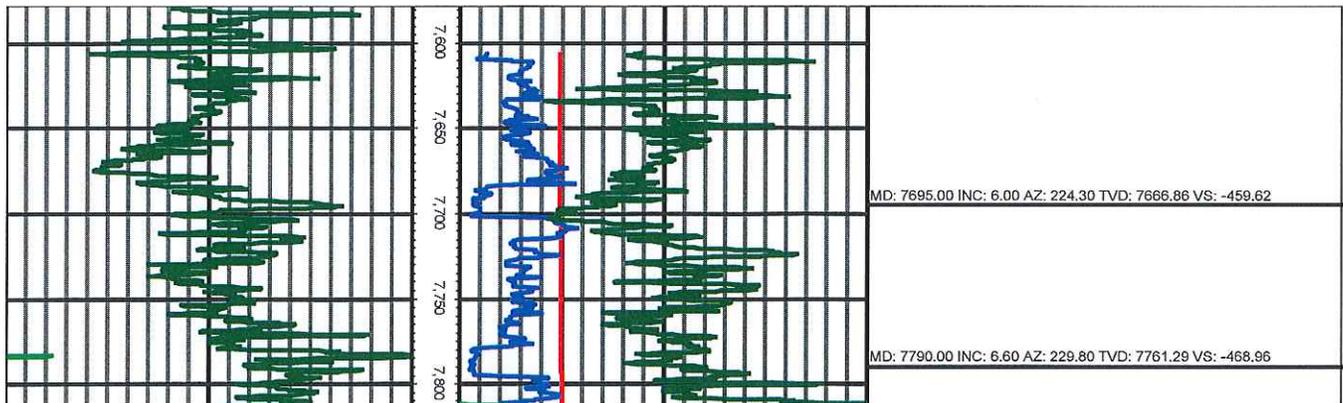
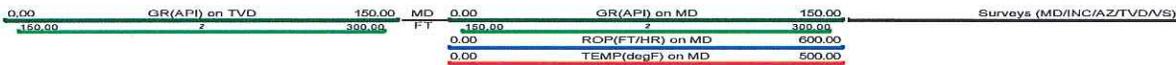
Elev KB: 2620

Operator 1: Matthew Walkoviak

Operator 2: Dustin Westall

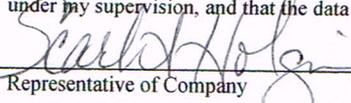
Tool Run Data	Run #1	Run #2	Run #3	Run #4	Run #5
Tool S/N	161	163	161	161	163
Bit Size	8.75	8.75	8.75	8.75	6.125
Cal Factor	6.0833	6.29492	6.60418	6.61843	3.21930
Survey Offset	78.74	78.64	71.09	71.26	75.52
Gamma Offset	76.84	76.74	69.19	69.36	73.62
Resistivity Offset	0.00	0.00	0.00	0.00	0.00
Start Depth	7605.56	8290.26	10208.01	10785.44	11149.38
StartDate	06/19/18	06/20/18	06/23/18	06/25/18	07/28/18
StartTime	01:35	08:30	08:58	10:03	19:44
EndDepth	8288.16	10200.26	10785.81	11149.64	16125.18
EndDate	06/19/18	06/22/18	06/24/18	06/26/18	08/01/18
EndTime	17:37	08:33	13:55	03:12	19:04
Mud Type	WBM	WBM	WBM	WBM	OBM
Mud Weight					11.3
Hole Data			Casing Data		
Size	From	To	Size	From	To

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.



**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 3 U103H		9. Field or Area Name PHANTOM (WOLF CAMP) 80544500									
10. County WARD		11. General Operation Type - Circle One: <table style="width:100%; border: none;"> <tr> <td style="border: 1px solid black; padding: 2px;">A - Oil Field Production</td> <td style="padding: 2px;">B - Gas Field Production</td> </tr> <tr> <td style="padding: 2px;">C - Pipeline or Gathering Sys.</td> <td style="padding: 2px;">D - Gasoline Plant</td> </tr> <tr> <td style="padding: 2px;">E - Drilling or Workover</td> <td style="padding: 2px;">F - Sweetening Unit</td> </tr> <tr> <td style="padding: 2px;">G - Combination (explain)</td> <td style="padding: 2px;">H - Other (explain)</td> </tr> </table>				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)
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)												
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									
475-37465		16		YES NO									
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 <input type="checkbox"/> New <input checked="" type="checkbox"/>		18. Modification Resulting in Certificate Change									
				Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>									
19. Workover or Drilling Well with 100 PPM ROE Greater than 3000 feet on Rule 36 Certified Well/Lease				Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>									
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 <input type="checkbox"/> <input checked="" type="checkbox"/>													
22. The 500 PPM ROE includes any part of a public road													
Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>													
23. Injection of fluid containing Hydrogen Sulfide (See Instruction 14)													
Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>													
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 <input type="checkbox"/> <input checked="" type="checkbox"/>									
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.													
 Representative of Company		REGULATORY CLERK		(210) 490-4788 03/29/2019									
		Title		Phone No. Date									

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: _____

**CERTIFICATE OF COMPLIANCE
 AND TRANSPORTATION AUTHORITY**

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.: 207431

1. Field name exactly as shown on proration schedule SANDBAR (BONE SPRING)		2. Lease name as shown on proration schedule MESQUITE 37		
3. Current operator name exactly as shown on P-5 Organization Report ABRAXAS PETROLEUM CORPORATION		4. Operator P-5 no. 003125	5. Oil Lse/Gas ID no. 51804	6. County WARD
8. Operator address including city, state, and zip code 18803 MEISNER DR SAN ANTONIO, TX 78258		9. Well no(s) (see instruction E) 102H		7. RRC district 08
		10. Classification <input checked="" type="checkbox"/> Oil <input type="checkbox"/> Gas <input type="checkbox"/> Other (see instruction A)		11. Effective Date 10/02/2018
12. Purpose of Filing. (Complete section a or b below.) (See instructions B and G)				
a. Change of: <input type="checkbox"/> operator <input type="checkbox"/> oil or condensate gatherer <input type="checkbox"/> gas gatherer <input type="checkbox"/> gas purchaser <input type="checkbox"/> gas purchaser system code <input type="checkbox"/> field name from _____ <input type="checkbox"/> lease name from _____				
- - - OR - - -				
b. New RRC Number for: <input checked="" type="checkbox"/> oil lease <input type="checkbox"/> gas well <input type="checkbox"/> other well (specify) _____ Due to: <input checked="" type="checkbox"/> new completion or recompletion <input type="checkbox"/> reclass oil to gas <input type="checkbox"/> reclass gas to oil <input type="checkbox"/> 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
X		ENERGY TRANSFER COMPANY(252017)		
	X	ENERGY TRANSFER COMPANY(252017)		0001
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: <u>RRC Staff</u> Approval date: <u>07/24/2019</u>				
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)		<input type="checkbox"/> Authorized Employee of previous operator		<input type="checkbox"/> 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)		Signature		
<u>Regulatory Clerk</u>		<input checked="" type="checkbox"/> Authorized Employee of current operator		<input type="checkbox"/> Authorized agent of current operator (see instruction G)
Title		Date		Phone with area code
<u>sholguin@abraxaspetroleum.com</u>		<u>03/27/2019</u>		<u>(210) 757-9844</u>
E-mail Address (optional)		Date		Phone with area code

GROUNDWATER PROTECTION DETERMINATION

Form GW-2



Groundwater Advisory Unit

Date Issued:	26 February 2018	GAU Number:	190072
Attention:	ABRAXAS PETROLEUM 18803 MEISNER DR SAN ANTONIO, TX 78258	API Number:	
Operator No.:	003125	County:	WARD
		Lease Name:	MESQUITE 37
		Lease Number:	
		Well Number:	102H
		Total Vertical Depth:	11500
		Latitude:	31.491749
		Longitude:	-103.130603
		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

Form GW-2 P.O. Box 12967 Austin, Texas 78771-2967 512-463-2741 Internet address: www.rrc.texas.gov
 Rev. 02/2014

