



RAILROAD COMMISSION OF TEXAS

Form W-2

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

Status: Approved
Date: 01/07/2020
Tracking No.: 219774

OIL WELL POTENTIAL TEST, COMPLETION OR RECOMPLETION REPORT,

OPERATOR INFORMATION

Table with Operator, ZARVONA ENERGY LLC, Operator 950523, and address: 1001 MCKINNEY ST SUITE 1800 HOUSTON, TX 77002-6334

WELL INFORMATION

Table with well details: API 42-003-47556, Well No.: 6H, Lease ULS 5-9 UNIT, RRC Lease 49290, Location Section: 4, Block: 5, Survey: UL, Abstract: U108, County: ANDREWS, RRC District 08, Field EMMA (MISSISSIPPIAN), Field No.: 28899581, Latitude 32, Longitud -102, This well is 16 miles in a NE direction from ANDREW, which is the nearest town in the

FILING INFORMATION

Table with filing details: Purpose of Initial Potential, Type of Other/Recompletion, Well Type: Producing, Completion or Recompletion 08/05/2019, Type of Permit, Date 06/01/2018, Permit No. 840640, Permit to Drill, Plug Back, or Rule 37 Exception, Fluid Injection, O&G Waste Disposal, Other:

COMPLETION INFORMATION

Table with completion details: Spud 06/30/2017, Date of first production after rig 08/05/2019, Date plug back, deepening, drilling operation 01/04/2019, Date plug back, deepening, recompletion, drilling operation 03/03/2019, Number of producing wells on this lease this field (reservoir) including this 1, Distance to nearest well in lease & reservoir 0.0, Total number of acres in 1280.00, Elevation 3030 GL, Total depth TVD 12191, Total depth MD 22935, Plug back depth TVD 12191, Plug back depth MD 22108, Was directional survey made other inclination (Form W- Yes, Rotation time within surface casing Is Cementing Affidavit (Form W-15) Yes, Recompletion or Yes, Multiple No, Type(s) of electric or other log(s) Gamma Ray (MWD), Electric Log Other Description:, Location of well, relative to nearest lease of lease on which this well is 467.0 Feet from the South Line and 467.0 Feet from the East Line of the ULS 5-9 UNIT Lease. Off Lease : Yes

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

Table with headers: Field & Reservoir, Gas ID or Oil Lease, 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 1725.0	Date 05/17/2017
SWR 13 Exception	Depth	

INITIAL POTENTIAL TEST DATA FOR NEW COMPLETION OR RECOMPLETION

Date of 08/19/2019	Production Flowing
Number of hours 24	Choke 48
Was swab used during this No	Oil produced prior to 2766.00
PRODUCTION DURING TEST PERIOD:	
Oil 226.00	Gas 0
Gas - Oil 0	Flowing Tubing 187.00
Water 1421	
CALCULATED 24-HOUR RATE	
Oil 226.0	Gas 0
Oil Gravity - API - 60.: 41.5	Casing 308.00
Water 1421	

CASING RECORD

<u>Ro</u>	<u>Type of Casing</u>	<u>Casing Size (in.)</u>	<u>Hole Size</u>	<u>Setting Depth</u>	<u>Multi - Stage</u>	<u>Multi - Tool Stage Shoe</u>	<u>Cement Class</u>	<u>Cement Amoun</u>	<u>Slurry Volume (cu.)</u>	<u>Top of Cement (ft.)</u>	<u>TOC Determined By</u>
1	Surface	13 3/8	17 1/2	1844			POZ & PREM C	1950	3239.0	SURFACE	Circulated to Surface
2	Intermediate	9 5/8	12 1/4	5428			C	1434	3220.0	0	Calculation
3	Conventional Production	7	8 3/4	12826			CLASS C & H	1045	1686.0	5463	Calculation
4	Conventional Production	7	8 3/4	12826	5463		CLASS C	395	856.0	0	Circulated to Surface

LINER RECORD

<u>Ro</u>	<u>Liner Size</u>	<u>Hole Size</u>	<u>Liner Top</u>	<u>Liner Bottom</u>	<u>Cement Class</u>	<u>Cement Amoun</u>	<u>Slurry Volume (cu.)</u>	<u>Top of Cement (ft.)</u>	<u>TOC Determined</u>
1	4 1/2	6 1/8	10257	22108	H	1356	1767.0	1025	Calculation
2	4 1/2	6 1/8	0	10257	H	573	706.0	2714	Calculation

TUBING RECORD

<u>Ro</u>	<u>Size (in.)</u>	<u>Depth Size (ft.)</u>	<u>Packer Depth (ft.)/Type</u>
1	2 7/8	11730	11722 / AS1 PACKER

PRODUCING/INJECTION/DISPOSAL INTERVAL

<u>Ro</u>	<u>Open hole?</u>	<u>From (ft.)</u>	<u>To (ft.)</u>
1	No	L1 12677	22053.0

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

Was hydraulic fracturing treatment		Yes	
Is well equipped with a downhole sleeve? No		If yes, actuation pressure	8160.0
Production casing test pressure (PSIG) hydraulic fracturing	10000	Actual maximum pressure (PSIG) during fracturin	9929
Has the hydraulic fracturing fluid disclosure been		Yes	
<u>Ro</u>	<u>Type of Operation</u>	<u>Amount and Kind of Material Used</u>	<u>Depth Interval (ft.)</u>
1	Fracture	SEE FRACFOCUS FOR ADDITIONAL INFORMATION	12677 22053
2	Cast Iron Bridge Plug	CIBP@12035, SEE W15 FOR DETAILS	12015 12035

FORMATION RECORD

<u>Formations</u>	<u>Encountere</u>	<u>Depth TVD</u>	<u>Depth MD</u>	<u>Is formation</u>	<u>Remarks</u>
YATES	Yes	3257.0	3260.0	Yes	
SEVEN RIVERS	Yes	3464.0	3467.0	Yes	
QUEEN	Yes	4705.0	4710.0	Yes	
GRAYBURG	Yes	4813.0	4820.0	Yes	
SAN ANDRES - CO2 FLOOD, HIGH FLOWS, H2S, CORROSIVE	Yes	4947.0	4553.0	Yes	
GLORIETA	Yes	5579.0	5585.0	Yes	
CLEARFORK	Yes	6748.0	6753.0	Yes	
SPRABERRY	Yes	8671.0	8680.0	Yes	
WOLFCAMP	Yes	9998.0	10008.0	Yes	
STRAWN	Yes	11118.0	11122.0	Yes	
MISSISSIPPIAN	Yes	11733.0	11883.0	Yes	
HOLT	No			No	PINCHED
TUBB	No			No	PINCHED
PERMIAN DETRITAL	No			No	PINCHED
LEON	No			No	PINCHED
WICHITA ALBANY	No			No	PINCHED
DEAN	No			No	PINCHED
CANYON	No			No	PINCHED
PENNSYLVANIAN	No			No	PINCHED
MCKEE	No			No	PINCHED
FUSSELMAN	No			No	PINCHED
DEVONIAN	No			No	PINCHED
SILURIAN	No			No	PINCHED
ELLENBURGER	No			No	PINCHED

Do the producing interval of this well produce H2S with a concentration in excess of 100 ppm No

Is the completion being downhole commingled No

REMARKS

RECOMPLETION FROM DIRECTIONAL TO HORIZONTAL WELL. I AM CHANGING THIS WELL FROM WELL 6 TO 6H.

RRC REMARKS

PUBLIC COMMENTS:

[RRC Staff 2019-11-13 13:03:26.116] EDL=9376 feet, max acres=240, EMMA (MISSISSIPPIAN) oil well; take points: 12677-22053 feet

CASING RECORD :

KOP 11,338

TUBING RECORD:

PRODUCING/INJECTION/DISPOSAL INTERVAL :

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

POTENTIAL TEST DATA:

OPERATOR'S CERTIFICATION

Printed	Alvaro Rosales	Title:	Regulatory Manager
Telephone	(281) 995-8659	Date	01/06/2020



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: Zarvona Energy	Operator P-5 No.: 950523
Cementer Name: B.J. Services	Cementer P 5 NO:14442

WELL INFORMATION

District No.: 8	County: Andrew
Well No.: #6	API No.: 42-003-47556
Lease Name: ULS 5-9 Unit	Lease No.:
Field Name: EMMA (Mississippi)	Field No.: 28879581

I. CASING CEMENTING DATA

Type of casing: <input type="checkbox"/> Conductor <input checked="" type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input type="checkbox"/> Liner <input type="checkbox"/> Production	Drilled hole size (in.): 17 1/2	Depth of drilled hole (ft.): 1844	Est. % wash-out or hole enlargement: 30%
Size of casing in O.D. (in.): 13 3/8	Casing weight (lbs/ft) and grade: 54.5# 7-55	No. of centralizers used: 15	
Was cement circulated to ground surface (or bottom of cellar) outside casing? <input type="checkbox"/> YES <input type="checkbox"/> NO	Setting depth shoe (ft.): 1844	Top of liner (ft.):	Setting depth liner (ft.):
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.): Surface	Cementing date: 7/2/2017	

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu.ft.)	Height (ft.)
1	1499	50POZ/50C	Remarks-1	2638.74	1020.44
2	451	Premium C	Remarks-2	599.83	863.56
3					
Total	1950			3238.57	1884

II. CASING CEMENTING DATA

Type of casing: <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input type="checkbox"/> Production <input type="checkbox"/> Tapered production <input type="checkbox"/> Multi-stage cement shoe <input type="checkbox"/> 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 drilled hole size (in.):		
Tapered string size of casing in O.D. (in.):	Tapered string casing weight (lbs/ft) and grade:	Tapered string no. of centralizers used:	
Was cement circulated to ground surface (or bottom of cellar) outside casing? <input type="checkbox"/> YES <input type="checkbox"/> NO	Setting depth shoe (ft.):		
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.):	Cementing date: 10/18/2016	

SLURRY

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

III. CASING CEMENTING DATA

Type of casing: <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input type="checkbox"/> Production <input type="checkbox"/> Tapered production <input type="checkbox"/> Multi-stage cement/DV tool <input type="checkbox"/> 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:	Upper: Lower:	
Was cement circulated to ground surface (or bottom of cellar) outside casing? <input type="checkbox"/> YES <input type="checkbox"/> NO	Setting depth tool (ft.):		
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.):	Cementing date: 10/18/2016	

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

Remarks-1 Class C 47#/sk+POZ 37#/sk+Bentonite 4%+SMS 0.2%+Static free .005#/sk+Sodium chloride 5%+ water 97%- Remarks-2 Premium Plus C 94#/sk+Static Free .005#/sk+R. 3 1%+water 56%. Circulated cement to surface 144 bbl 459 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.

Service Supervisor <u>Rene Martinez</u>	<u>B.J. Seivics</u>	
Name and title of cementer's representative	Cementing Company	Signature
<u>11211 FM 2920 RD</u>	<u>Tomball, Texas 77375</u>	<u>(281) 408-2361</u>
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.

<u>Alex Rosales</u>	<u>EHS, Rig Manager</u>	
Typed or printed name of operator's representative	Title	Signature
<u>1010 Lumar St.</u>	<u>Houston, TX 77002</u>	<u>(713) 600-5702</u>
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 representatives. 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 Commissioner'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 78711-2697).
- 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/readtacSext.TacPage?sl=R&app=9&p_dir=&p_loc=&p_loc&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 70% (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 Cement 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

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

CEMENTING REPORT

OPERATOR INFORMATION

Operator Name: ZARVONA ENERGY LLC	Operator P-5 No.: 950523
Cementer Name: BJ SERVICES, LLC	Cementer P-5 No.: 403101

WELL INFORMATION

District No.: 8	County: ANDREWS	
Well No.: 6	API No.: 42003475560000	Drilling Permit No.: 826299
Lease Name: ULS 5-9 UNIT	Lease No.:	
Field Name: Emma (Mississippian)	Field No.: 28899581	

I. CASING CEMENTING DATA

Type of casing: <input type="checkbox"/> Conductor <input type="checkbox"/> Surface <input checked="" type="checkbox"/> Intermediate <input type="checkbox"/> Liner <input type="checkbox"/> Production		
Drilled hole size (in.): 12.25	Depth of drilled hole (ft.): 5,435	Est. % wash-out or hole enlargement: 20%
Size of casing in O.D. (in.): 9.625	Casing weight (lbs/ft) and grade: 40#, J55&Hcl 85	No. of centralizers used: 43
Was cement circulated to ground surface (or bottom of cellar) outside casing? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO If no for surface casing, explain in Remarks.	Setting depth shoe (ft.): 5,428	Top of liner (ft.):
		Setting depth liner (ft.):
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.): 0	Cementing date: 07/07/2017

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	1,172	C	SEE REMARK #1	2,873	9,173
2	262	C	SEE REMARK #2	347	1,107
3					
Total	1,434			3,220	10,280

II. CASING CEMENTING DATA

Type of casing: <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input type="checkbox"/> Production <input type="checkbox"/> Tapered production <input type="checkbox"/> Multi-stage cement shoe <input type="checkbox"/> 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? <input type="checkbox"/> YES <input type="checkbox"/> 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: <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input type="checkbox"/> Production <input type="checkbox"/> Tapered production <input type="checkbox"/> Multi-stage cement/DV tool <input type="checkbox"/> 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? <input type="checkbox"/> YES <input type="checkbox"/> 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)							

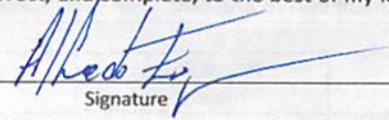
REMARKS

REMARK #1: C50/50POZ+ 10% BENTONITE+ 0.5% FL-52+ 0.1% R-3+ 0.2% SMS+ 5% SALT+ 0.005 GAL/SK FP-6L+ 0.005 LB/SK STATIC FREE. REMARK #2: C+ 0.3% R-3+ 0.005 GAL/SK FP-6L+ 0.005 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.

JESUS ALFREDO ESPARZA

BJ SERVICES, LLC



Name and title of cementer's representative

Cementing Company

Signature

11211 FM 2920 RD.

TOMBALL, TX 77375 (281) 408-2361

07/07/2017

Address

City, State, Zip Code

Tel: Area Code

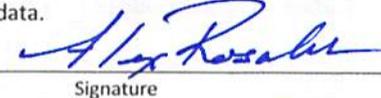
Number

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.

Alex Rosales

EHS, Rig Manager



Typed or printed name of operator's representative

Title

Signature

1010 Loman St.

Houston, TX 77002

(713) 600-5402

8-18-2017

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.



RAILROAD COMMISSION OF TEXAS

1701 N. Congress

P.O. Box 12967

Austin, Texas 78701-2967

CEMENTING REPORT

Form W-15

Rev. 08/2014

Cementor: Fill in shaded areas.

Operator: Fill in other items.

OPERATOR INFORMATION

Operator Name: <u>Zarvona Energy LLC</u>	Operator P-5 No.: <u>950523</u>
Cementor Name: <u>BJ SERVICES, LLC</u>	Cementor P-5 No.: <u>403101</u>

WELL INFORMATION

District No.: <u>08</u>	County: <u>Andrews</u>
Well No.: <u>6H</u>	API No.: <u>003-47556</u> Drilling Permit No.: <u>890640</u>
Lease Name: <u>ULS 5-9 Unit</u>	Lease No.: <u>49290</u>
Field Name: <u>Emma (Mississippi)</u>	Field No.: <u>28899581</u>

I. CASING CEMENTING DATA

Type of casing: <input type="checkbox"/> Conductor <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input type="checkbox"/> Liner <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input type="checkbox"/> 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					
2					
3					
Total					

II. CASING CEMENTING DATA

Type of casing: <input type="checkbox"/> Surface <input checked="" type="checkbox"/> Intermediate <input type="checkbox"/> Production <input type="checkbox"/> Tapered production <input checked="" type="checkbox"/> Multi-stage cement shoe <input type="checkbox"/> Multiple parallel strings
Drilled hole size (in.): <u>8.75</u> Depth of drilled hole (ft.): <u>12826</u> Est. % wash-out or hole enlargement: <u>20%</u>
Size of casing in O.D. (in.): <u>7</u> Casing weight (lbs/ft) and grade: <u>29</u> No. of centralizers used: <u>42</u>
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: _____ Upper: _____ Lower: _____
Was cement circulated to ground surface (or bottom of cellar) outside casing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Setting depth tool (ft.): <u>5463</u>
Hrs. waiting on cement before drill-out: _____ Calculated top of cement (ft.): <u>5463</u> Cementing date: <u>20-Jul-17</u>

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu.ft.)	Height (ft.)
1	<u>374</u>	<u>CLASS C</u>	<u>Remarks</u>	<u>918.5</u>	<u>6106</u>
2	<u>671</u>	<u>CLASS H</u>	<u>Remarks</u>	<u>768.3</u>	<u>5108</u>
3					
Total	<u>1045</u>			<u>1686.8</u>	<u>11214</u>

III. CASING CEMENTING DATA

Type of casing: <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input checked="" type="checkbox"/> Production <input type="checkbox"/> Tapered production <input checked="" type="checkbox"/> Multi-stage cement/DV tool <input type="checkbox"/> Multiple parallel strings
Drilled hole size (in.): <u>8.75</u> Depth of drilled hole (ft.): <u>12826</u> Est. % wash-out or hole enlargement: <u>20%</u>
Size of casing in O.D. (in.): <u>7</u> Casing weight (lbs/ft) and grade: <u>29</u> No. of centralizers used: <u>39</u>
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: _____ Upper: _____ Lower: _____
Was cement circulated to ground surface (or bottom of cellar) outside casing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Setting depth tool (ft.): <u>5463</u>
Hrs. waiting on cement before drill-out: _____ Calculated top of cement (ft.): <u>Surface</u> Cementing date: <u>20-Jul-17</u>

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu.ft.)	Height (ft.)
1	<u>295</u>	<u>CLASS C</u>	<u>Remarks</u>	<u>723.3</u>	<u>4809</u>
2	<u>100</u>	<u>CLASS C</u>	<u>Remarks</u>	<u>133.0</u>	<u>878</u>
3					
Total	<u>395</u>			<u>856.3</u>	<u>5687</u>

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

Stage 1 Lead Additives: CLASS C+.005#/SK STATIC FREE+.5%SODIUM CHLORIDE+.6%R-3+.5%FL-52+10%GEL+.2%SMS+.005GPS FP-6L
 Stage 1 Tail Additives: CLASS H+.4% CD-32+.65%FL-52+2% GEL+.15%SMS+.1%R-21+.005 GPS FP-6L
 Stage 2 Lead Additives: CLASS C+.005#/SK STATIC FREE+.5%SODIUM CHLORIDE+10%GEL+.5 SMS+.005 GPS FP-6L
 Stage 2 Tail Additives: CLASS C+.005#/SK STATIC FREE+.1%R-3+.005 GPS FP-6L

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.

ALEJANDRO CONTRERAS, FS

Name and title of cementer's representative

BJ SERVICES, LLC

Cementing Company



Signature

11211 FM 2920 RD.

Address

TOMBALL,

City,

TEXAS

State,

77375

Zip Code

(281) 408-2361

Tel: Area Code Number

July 20, 2017

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.

Alex Rosales

Typed or printed name of operator's representative

Reg Manager

Title



Signature

1001 McKinney Houston TX 77002 713-600-5402

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.

- 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.
- 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.nrc.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).
- 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 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 cements approved by the Commission's Director of Field Operations in accordance with SWR 14 (http://info.sos.state.tx.us/pls/pub/readtacSext.TacPage?sl=R&app=9&p_dir=&p_loc=&p_loc=&p_loc=&pg=1&p_tac=&tl=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.
- 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.
- 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.
- 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.
- 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

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

CEMENTING REPORT

OPERATOR INFORMATION

Operator Name: ZARVONA ENERGY LLC	Operator P-5 No.: 950523
Cementer Name: BJ SERVICES, LLC	Cementer P-5 No.: 072507

WELL INFORMATION

District No.: 08	County: ANDREWS	
Well No.: 6H	API No.: 42003475560000	Drilling Permit No.: 840640
Lease Name: ULS 5-9 UNIT	Lease No.: 49290	
Field Name: Emma (Mississippi)	Field No.: 28899581	

I. CASING CEMENTING DATA

Type of casing: <input type="checkbox"/> Conductor <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input checked="" type="checkbox"/> Liner <input type="checkbox"/> Production		
Drilled hole size (in.): 6 1/8	Depth of drilled hole (ft.): 10,143	Est. % wash-out or hole enlargement:
Size of casing in O.D. (in.): 4 1/2	Casing weight (lbs/ft) and grade: P110 #15	No. of centralizers used:
Was cement circulated to ground surface (or bottom of cellar) outside casing? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO If no for surface casing, explain in Remarks.	Setting depth shoe (ft.): 10,143	Top of liner (ft.): 8
		Setting depth liner (ft.): 10,143
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.):	Cementing date: 06/22/2019

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	573	H	SEE REMARK #1	708	7,214
2					
3					
Total	573			708	7,214

II. CASING CEMENTING DATA

Type of casing: <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input type="checkbox"/> Production <input type="checkbox"/> Tapered production <input type="checkbox"/> Multi-stage cement shoe <input type="checkbox"/> 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? <input type="checkbox"/> YES <input type="checkbox"/> 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: <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input type="checkbox"/> Production <input type="checkbox"/> Tapered production <input type="checkbox"/> Multi-stage cement/DV tool <input type="checkbox"/> 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? <input type="checkbox"/> YES <input type="checkbox"/> 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

REMARK #1: H50/50POZ+ 2% BENTONITE+ 0.6% FL-66+ 0.35% CD32A+ 0.35% R-21+ 0.35% SMS+ 0.01 GAL/SK FP-6L+ 0.005 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.

JESUS ALFREDO ESPARZA

BJ SERVICES, LLC

Jesus Alfredo Esparza
Signature

Name and title of cementer's representative

Cementing Company

11211 FM 2920 RD.

TOMBALL, TX 77375 (281) 408-2361

06/22/2019

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.

Alx Rosales

Reg Monroe

[Signature]
Signature

Typed or printed name of operator's representative

Title

1001 McKim St Houston TX 77002

713-600-5403

4-28-2019

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.

- 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.
- 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).
- 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&ri=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&ri=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.
- 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.
- 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.
- 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.
- 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

Form W-15

Rev. 08/2014

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

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

CEMENTING REPORT

OPERATOR INFORMATION

Operator Name: Zarvona Energy LLC	Operator P-5 No.: 950523
Cementer Name: BJ SERVICES LLC	Cementer P-5 No.: 403101

WELL INFORMATION

District No.: 08	County: Andrews	
Well No.: 6H	API No.: 003-47556	Drilling Permit No.: 840640
Lease Name: ULS 5-9 Unit	Lease No.: 49290	
Field Name: Emma (Mississippi)	Field No.: 28899581	

I. CASING CEMENTING DATA

Type of casing: <input type="checkbox"/> Conductor <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input checked="" type="checkbox"/> Liner <input type="checkbox"/> Production		
Drilled hole size (in.): 6 1/8	Depth of drilled hole (ft.): 20,108	Est. % wash-out or hole enlargement:
Size of casing in O.D. (in.): 4 1/2	Casing weight (lbs/ft) and grade: 7110 #151	No. of centralizers used:
Was cement circulated to ground surface (or bottom of cellar) outside casing? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO If no for surface casing, explain in Remarks.	Setting depth shoe (ft.): 20,108	Top of liner (ft.): 10,257
		Setting depth liner (ft.): 23,108
Hrs. waiting on cement before drill-out:	Calculated top of cement (ft.): 10,257	Cementing date: 01 Mar 19

SLURRY

Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)
1	1356	H	See Remarks	1766.86	15004
2					
3					
Total	1356			1766.86	15004

II. CASING CEMENTING DATA

Type of casing: <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input type="checkbox"/> Production <input type="checkbox"/> Tapered production <input type="checkbox"/> Multi-stage cement shoe <input type="checkbox"/> 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? <input type="checkbox"/> YES <input type="checkbox"/> 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: <input type="checkbox"/> Surface <input type="checkbox"/> Intermediate <input type="checkbox"/> Production <input type="checkbox"/> Tapered production <input type="checkbox"/> Multi-stage cement/DV tool <input type="checkbox"/> 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? <input type="checkbox"/> YES <input type="checkbox"/> 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

Cement-Class H+1% FL-62+.30% CD-32+.40 SMS+.15% ASA-301+.25% R-21+.005lb/sk Static Free+.005gps FP-6L

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.

Field Specialist Demetri Smack BJ Services, LLC
 Name and title of cementer's representative Cementing Company
11211 FM 2920 Rd. Tomball, Texas 77375 (281) 408-2361 03-01-2019
 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.

Alex Rosales Aug Man
 Typed or printed name of operator's representative Title
1001 McKim St Houston TX 77002 713-600-5402 8-29-2019
 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](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.

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

RAILROAD COMMISSION OF TEXAS
Oil and Gas Division

Form W-15
Cementing Report
Rev. 2/11
483-045

1. Operator's Name (As shown on Form P-5, Organization Report) Zarvona Energy LLC	2. RRC Operator No. 950523	3. RRC District No. 08	4. County of Well Site Andrews
5. Field Name (Wildcat or exactly as shown on RRC records) EMMA (Mississippi)	6. API No. 42-003-47536	7. Drilling Permit No. 826299	
8. Lease Name ULLS 5-9 Unit	9. Rule 37 Case No. —	10. Oil Lease Gas ID No. 49290	11. Well No. 6

CASING CEMENTING DATA	CONDUCTOR CASING	SURFACE CASING	INTER-MEDIATE CASING	LINER	PRODUCTION CASING			MULTI-STAGE CEMENTING PROCESS	
					Single String		Multiple Parallel Strings	Toot	Shoe
					Conventional	Tapered			
12. Cementing Date									
13. •Drilled hole size									
•Est. % wash or hole enlargement									
14. Depth of drilled hole									
15. Size of casing (in. O.D.)									
16. Top of liner (ft.)									
17. Setting depth (ft.)									
18. Number of centralizers used									
19. Hrs. waiting on cement before drill-out									
20. API cement used: No. of sacks	1st Slurry								
	Class								
	Additives								
2nd Slurry	No. of sacks								
	Class								
	Additives								
3rd Slurry	No. of sacks								
	Class								
	Additives								
21. Slurry pumped:	1st	Volume (cu. ft.)							
	Height (ft.)								
2nd	Volume (cu. ft.)								
	Height (ft.)								
3rd	Volume (cu. ft.)								
	Height (ft.)								
Total	No. of sacks								
	Volume (cu. ft.)								
	Height (ft.)								
22. Calculated top of cement									
23. Was cement circulated to ground surface (or bottom of cellar) outside casing?									
24. Remarks									

CEMENTING TO PLUG AND ABANDON	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
25. Cementing date	6-14-18						
26. Size of hole or pipe plugged (in.)							
27. Depth to bottom of tubing or drill pipe (ft.)							
28. CTB [®] setting depth							
*Amount of cement							
29. Sacks of cement used (each plug)	6						
30. Slurry volume pumped (cu ft)	7.92						
31. Calculated top of plug (ft.)	12015						
32. Measured top of plug, if tagged (ft.)	12015						
33. Slurry wt. (lbs/gal)	14.8						
34. Type of cement	HSC						
35. Perf. & circulate cement (YES/NO)							

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.

Randy Chesser Name and title of cementer's representative
RWLS DBA Renaissance Cementing Company
[Signature] Signature
1235 SE 1000 Andrews TX 79714 325 574 4514 6-14-18
 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.

Alex Rosales Typed or printed name of operator's representative
Rog Mang Title
[Signature] Signature
1001 McKinney St. Suit 1800 Houston TX 77002 713 600-5202 09-03-2019
 Address City, State, Zip Code Tel: Area Code Number Date: mo. day yr.

Instructions to Form W-15, Cementing Report

IMPORTANT: Operators and cementing companies must comply with the requirements of the Commission's Statewide Rules 8 (Water Protection), 13 (Casing, Cementing, Drilling, and Completion), and 14 (Well Plugging). For offshore operations, see the requirements of Rule 13 (c).

- 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 following:
 - An initial oil or gas completion report, Form W-2 or G-1, as required by Statewide or special field rules;
 - Form W-4, Application for Multiple Completion, if the well is multiple parallel casing completion; and
 - Form W-3, Plugging Record, unless the 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.
- How to file:** the Form W-15 must be submitted as an attachment to an oil and gas completion report, Form W-2 or G-1. An oil and gas completion report and Form W-15 may be filed online using the RRC Online System or a paper copy of both forms may be mailed to the RRC in Austin.
- 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, Austin. Before drilling a well in any field or area in which no field rules are in effect or in which surface casing requirements are not specified in the applicable rules, 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.
- Centralizers:** Surface casing must be centralized at the shoe, above and below a stage collar or diverting tool, if run, and through usable-quality water zones. In nondeviated holes, a centralizer must be placed every fourth joint from the cement shoe to the ground surface or to the bottom of the cellar. All centralizers must meet API specifications.
- Exceptions and alternative casing programs:** The District Director may grant an exception to the requirements of Statewide Rule 13. In a written application, an operator must state the reason for the requested exception and outline an alternate program for casing and cementing through the protection depth for strata containing usable-quality water. The District Director may approve, modify, or reject a proposed program. **An operator must obtain approval of any exception before beginning casing and cementing operations.**
- Intermediate and production casing:** For specific technical requirements, operators should consult Statewide Rule 13 (b) (1) and (2).
- Plugging and abandoning:** Cement plugs must be placed in the wellbore as required by Statewide Rule 14. The District Director may require additional cement plugs. For onshore or inland wells, a 10-foot cement plug must be placed in the top of the well, and the casing must be cut off three feet below the ground surface. All cement plugs, except the top plug, must have sufficient slurry volume to fill 100 feet of hole, plus ten percent for each 1,000 feet of depth from the ground surface to the bottom of the plug.

To plug and abandon a well, operators must use only cementers approved by the Director of Field Operations. 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.

Tracking No.: 219774

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: ZARVONA ENERGY LLC	District No. 08	Completion Date: 08/05/2019
Field Name EMMA (MISSISSIPPIAN)	Drilling Permit No. 840640	
Lease Name ULS 5-9 UNIT	Lease/ID No. 49290	Well No. 6H
County ANDREWS	API No. 42- 003-47556	

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). _____

Alvaro Rosales

 Signature
 ZARVONA ENERGY LLC

 Name (print)

Regulatory Manager

 Title
 (281) 995-8659

 Phone
 08/30/2019

 Date

-FOR RAILROAD COMMISSION USE ONLY-



ULS 5-9 Unit #6H

MD
1":100'

Company: Zarvona Energy Well Name: ULS 5-9 Unit #6H API: 42-003-47556 County/Parish: Andrews State: Texas Country: USA Job number: WT-18-257 Field: EMMA (MISSISSIPPIAN) Rig Id: Latshaw 7 Survey Company: Aim Directional Services, LLC Day MWD: Juan Camacho Night MWD: RTOC	Log measurements: Gamma, ROP & Temp Depth measured from: 11350 Maximum temperature: 208			
	Start: 11350 ft End: 22935 ft	Date 01/09/2019 02/23/2019		
	Casing Surface: Intermediate:	Depth 11360 ft	Casing Size 7"	Hole Size -
	Mud Type: OBM Density: 10.9 Viscosity: Rm: Rmf: Rmc:	Elevations KB: 3055 DF: 3055 GL: 3030		

Run	Tool S/N	Gamma Cal	Bit Size	Offsets			Mud Data		Depths		Dates	
				Survey	Gamma	Resis	Type	Weight	Start	End	Start	End
1	G-007	3.035	6.125"	61.00 ft	57.00 ft		OBM		11350 ft	11714 ft	01/09/2019	01/10/2019
2	G-007	3.035	6.125"	54.00 ft	50.00 ft		OBM		11714 ft	11760 ft	01/10/2019	01/11/2019
3	G-007	3.035	6.125"	63.00 ft	58.00 ft		OBM	10.9	11760 ft	12550 ft	01/11/2019	01/15/2019
4	G-059	2.794	6.125"	73.00 ft	68.00 ft		OBM	10.9	12550 ft	13584 ft	01/15/2019	01/18/2019
5	G-094	3.033	6.125"	66.00 ft	62.00 ft		OBM	10.9	13584 ft	13882 ft	01/18/2019	01/19/2019
6	G-071	2.985	6.125"	69.00 ft	65.00 ft		OBM	10.9	13882 ft	14114 ft	01/19/2019	01/22/2019
7	G-071	2.985	6.125"	69.00 ft	65.00 ft		OBM	11.1	14114 ft	14541 ft	01/22/2019	01/24/2019
8	G-065	2.313	6.125"	69.00 ft	65.00 ft		OBM	11.1	14541 ft	14910 ft	01/24/2019	01/26/2019
9	G-065	2.313	6.125"	65.00 ft	61.00 ft		OBM	11.1	14910 ft	15779 ft	01/26/2019	01/30/2019
10	G-021	2.791	6.125"	65.00 ft	61.00 ft		OBM	11.1	15779 ft	16288 ft	01/30/2019	02/01/2019
11	G-101	2.748	6.125"	54.00 ft	39.00 ft		OBM	10.9	16288 ft	16450 ft	02/02/2019	02/04/2019
12	KRG-1020	5.563	6.125"	57.00 ft	41.00 ft		OBM	10.9	16450 ft	16579 ft	02/04/2019	02/06/2019
13	KRG-1020	5.563	6.125"	55.00 ft	38.00 ft		OBM	10.9	16579 ft	17267 ft	02/06/2019	02/11/2019
14	KRG-1021	5.704	6.125"	54.00 ft	38.00 ft		OBM	10.9	17267 ft	22935 ft	02/11/2019	02/23/2019

Aim Directional Services, LLC uses its best efforts to provide its customers with accurate information and interpretations in conjunction with services performed but will not be held liable or responsible for the accuracy of such information or interpretation.

**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.: 219774

1. Field name exactly as shown on proration schedule EMMA (MISSISSIPPIAN)		2. Lease name as shown on proration schedule ULS 5-9 UNIT					
3. Current operator name exactly as shown on P-5 Organization Report ZARVONA ENERGY LLC		4. Operator P-5 no. 950523	5. Oil Lse/Gas ID no 49290	6. County ANDREWS	7. RRC district 08		
8. Operator address including city, state, and zip code 1001 MCKINNEY ST SUITE 1800 HOUSTON, TX 77002-6334		9. Well no(s) (see instruction E) 6H			11. Effective Date 08/05/2019		
10. Classification <input checked="" type="checkbox"/> Oil <input type="checkbox"/> Gas <input type="checkbox"/> Other (see instruction A)		10. Classification <input checked="" type="checkbox"/> Oil <input type="checkbox"/> Gas <input type="checkbox"/> Other (see instruction A)			11. Effective Date 08/05/2019		
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 <i>(Attach an additional sheet in same format if more space is needed)</i>			Purchaser's RRC Assigned System Code	Percent of Take	Full-well stream
X	X	DCP OPERATING COMPANY, LP(195959)			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 <i>(Attach an additional sheet in same format if more space is needed)</i>						Percent of Take	
RIO ENERGY INTERNATIONAL, INC.(712543)						100.0	
RRC USE ONLY: Reviewer's initials: _____ Approval date: _____							
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 _____ Name (print) _____ Title _____				Signature _____ <input type="checkbox"/> Authorized Employee of previous operator <input type="checkbox"/> Authorized agent of previous operator (see instruction G) _____ 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.							
ZARVONA ENERGY LLC _____ Name (print) Regulatory Manager _____ Title arosales@zarvonaenergy.com _____ E-mail Address (optional)				Alvaro Rosales _____ Signature <input checked="" type="checkbox"/> Authorized Employee of current operator <input type="checkbox"/> Authorized agent of current operator (see instruction G) _____ Date 08/30/2019 _____ Phone with area code (281) 995-8659 _____			

GROUNDWATER PROTECTION DETERMINATION

Form GW-2



Groundwater Advisory Unit

Date Issued:	17 May 2017	GAU Number:	172261
Attention:	ZARVONA ENERGY LLC 1010 LAMAR ST SUITE 500 HOUSTON, TX 77002	API Number:	00347556
Operator No.:	950523	County:	ANDREWS
		Lease Name:	ULS 5-9 UNIT
		Lease Number:	
		Well Number:	6
		Total Vertical Depth:	13500
		Latitude:	32.494184
		Longitude:	-102.366169
		Datum:	NAD27

Purpose: New Drill
Location: Survey-UL; Block-5; Section-4

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 300 feet, and the zone from 1200 to 1725 feet must be protected.

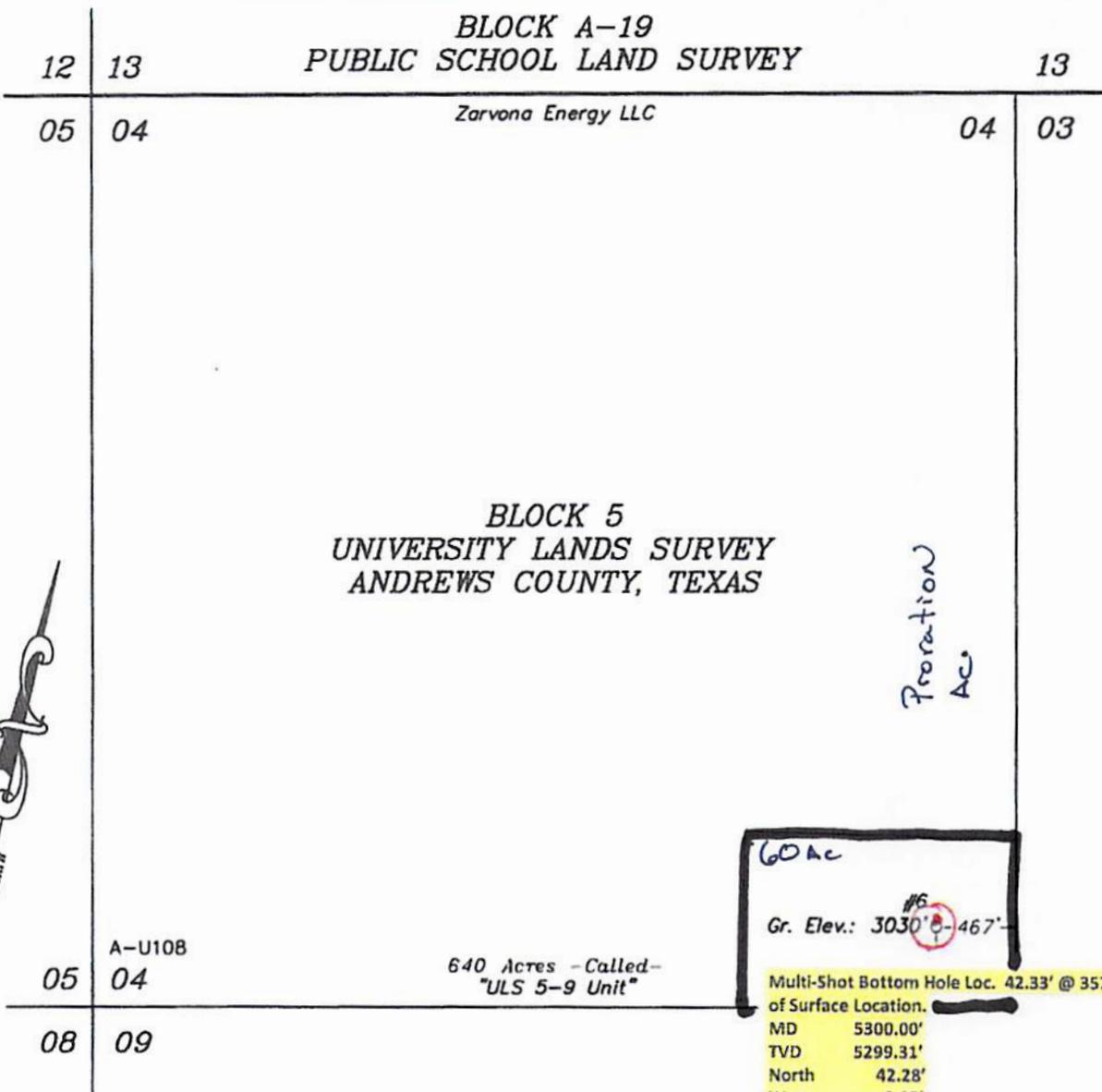
This recommendation is applicable for all wells drilled in this Section 4.

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 05/15/2017. 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



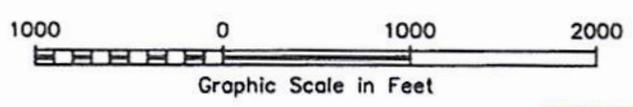
**BLOCK 5
UNIVERSITY LANDS SURVEY
ANDREWS COUNTY, TEXAS**



60 Ac
#6
Gr. Elev.: 3030'-467'
Multi-Shot Bottom Hole Loc. 42.33' @ 357.22° Azm
of Surface Location.
MD 5300.00'
TVD 5299.31'
North 42.28'
West 2.05'

	State Plane Coordinate		Geodetic (D.M.S.)		Geodetic (D.D.)	
Surface Location	X = 500,180.55	Y = 335,795.34	Lat = 32°29'39.06" N	Long = 102°21'58.21" W	Lat = 32.49418355° N	Long = 102.36616943° W

The ULS 5-9 Unit #6 is located approximately 16 miles Northeast of Andrews, Texas



- Legend**
- Denotes Proposed Well Bore
 - Denotes Unit Boundary
 - Denotes Tract Line
 - Denotes Proposed Well Location
 - Denotes Proposed Penetration/ Take Points
 - Denotes Proposed Bottom Hole Location

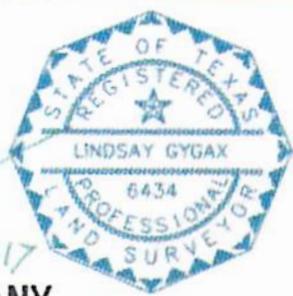
NOTE:

- 1) Plane Coordinates shown hereon are Lambert Grid and Conform to the "Texas Coordinate System", Texas North Central Zone, North American Datum of 1927, unless otherwise noted. Scale factor is 1.000217847.
- 2) Geodetic Coordinate shown hereon references the North American Datum of 1927, unless otherwise noted.
- 3) This plat is provided only for filing purposes with the Texas Railroad Commission and should not be construed as a boundary survey.

CERTIFICATION:

I hereby certify that this plat was made from notes taken in the field in a bona fide survey made under my supervision.

Lindsay Gygax Texas R.P.L.S. No. 6434



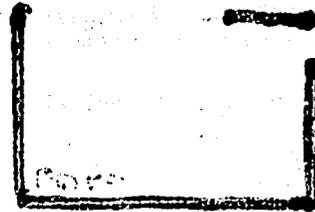
WEST COMPANY
Land Surveyors ■ Civil Engineers

110 W. Louisiana Ave., Suite 110, Midland, Texas 79701
(432) 687-0866 - FAX (432) 687-0868
FIRM Registration Number: 100882-00

ZARVONA ENERGY LLC

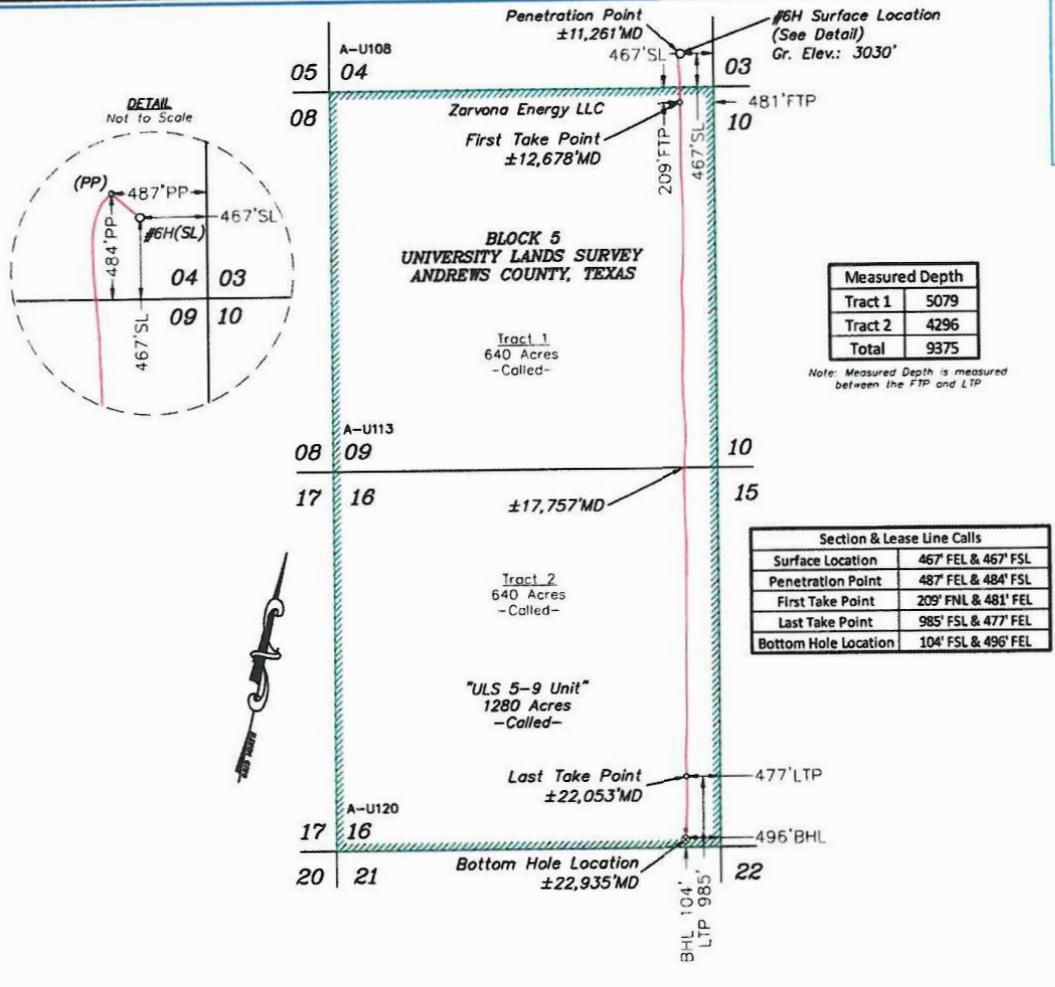
Location of the
ULS 5-9 UNIT #6
467' FSL & 467' FEL
Section 4, Block 5
University Lands Survey,
Andrews County, Texas

Scale: 1" = 1000'	W.O.: 2017-0303
Surveyed: 04/28/2017	Drawn By: SC
File: J:\2017\2017-0303\2017-0303 The ULS 5-9 Unit #6.dwg	



Customer:
•DA

W.O.: 2017-0303-2



Measured Depth	
Tract 1	5079
Tract 2	4296
Total	9375

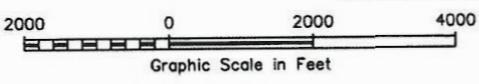
Note: Measured Depth is measured between the FTP and LTP

Section & Lease Line Calls	
Surface Location	467' FEL & 467' FSL
Penetration Point	487' FEL & 484' FEL
First Take Point	209' FNL & 481' FEL
Last Take Point	985' FSL & 477' FEL
Bottom Hole Location	104' FSL & 496' FEL

	State Plane Coordinate		Geodetic (D.M.S.)		Geodetic (D.D.)	
Surface Location	X = 500,180.55	Y = 335,795.34	Lat = 32°29'39.06" N	Long = 102°21'58.21" W	Lat = 32 49418355' N	Long = 102.36616943' W
Penetration Point	X = 500,157.54	Y = 335,807.82	Lat = 32°29'39.17" N	Long = 102°21'58.49" W	Lat = 32 49421489' N	Long = 102.36624586' W
First Take Point	X = 500,313.53	Y = 335,132.07	Lat = 32°29'32.57" N	Long = 102°21'56.30" W	Lat = 32 49237920' N	Long = 102.36563900' W
Last Take Point	X = 502,345.83	Y = 325,990.86	Lat = 32°28'03.13" N	Long = 102°21'27.66" W	Lat = 32 46753676' N	Long = 102.35768433' W
Bottom Hole Location	X = 502,517.98	Y = 325,126.26	Lat = 32°27'54.66" N	Long = 102°21'25.19" W	Lat = 32.46518452' N	Long = 102.35699718' W

The ULS 5-9 Unit #611 is located approximately 16 miles Northeast of Andrews, Texas.

*Downhole directional path based on directional survey report provided by client and dated 01/09/19-02/23/19
 **Surface location based on original survey dated 04/28/17



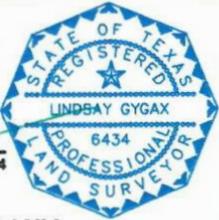
NOTE:
 1) Plane Coordinates shown hereon are Lambert Grd and Conform to the "Texas Coordinate System", Texas North Central Zone, North American Datum of 1927, unless otherwise noted. Scale factor is 1.000217847.
 2) Geodetic Coordinate shown hereon references the North American Datum of 1927, unless otherwise noted.
 3) This plat is provided only for filing purposes with the Texas Railroad Commission and should not be construed as a boundary survey.
 4) Preliminary for Office Review 05/29/18, Issued as Final 05/30/18

- Legend**
- - - - - Denotes Proposed Well Bore
 - ==== Denotes Unit Boundary
 - Denotes Tract Line
 - Denotes Proposed Well Location
 - Denotes Proposed Take Points
 - ⊗ Denotes Proposed Bottom Hole Location

CERTIFICATION:
 I hereby certify that this plat was made from notes taken in the field in a bona fide survey made under my supervision.

09-18-19

 Lindsay Gygax
 Texas R.P.L.S. No. 6434



ZARVONA ENERGY LLC

As-Drilled Plat of the
ULS 5-9 UNIT #6 H
 Section 04, 09 and 16,
 All in Block 5,
 University Lands Survey,
 Andrews County, Texas

WEST COMPANY
 Land Surveyors & Civil Engineers
 110 W. Louisiana Ave., Suite 110, Midland, Texas 79701
 (432) 667-0865 - FAX (432) 667-0868
 FIRM Registration Number: 100682-00

Scale: 1" = 2000'	W.O.: 2017-0303-2
Surveyed: 04/28/2017	Drawn By: CRH
File: J:\2019\2017-0303-2\2017-0303-2 ULS 5-9 Unit #6H As-Drilled.dwg	

