

# HALLIBURTON

iCem<sup>®</sup> Service

## **SANDRIDGE ENERGY INC-EBUS**

**For: Frank Harris**

Date: Friday, November 09, 2018

Peters 0781 10-13H12

Job Date: Friday, November 09, 2018

Sincerely,

**Nick Roles and Crew**

## Legal Notice

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### Disclaimer:

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## 1.0 Cementing Job Summary

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### 1.1 Executive Summary

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Halliburton appreciates the opportunity to perform the cementing services on the **Peters 0781 10-13H12** cement casing job. A pre-job safety meeting was held before the job where details of the job were discussed, potential safety hazards were reviewed, and environmental compliance procedures were outlined.

**Approximately 100 bbl. of cement were returned to surface.**

Halliburton maintains a continuous quality improvement process and appreciates any comments or suggestions that you may have. Halliburton again thanks you for the opportunity to perform service work on this well. We hope to be your solutions provider for future projects.

Respectfully,

**Halliburton Fort Lupton**

*The Road to Excellence Starts with Safety*

Sold To #: 305021	Ship To #: 3756426	Quote #: 0022486223	Sales Order #:
Customer: SANDRIDGE ENERGY INC-EBUS		Customer Rep: Frank Harris	
Well Name: PETERS 0781	Well #: 10-13H12	API/UWI #: 05-057-06590-00	
Field: WILDCAT	City (SAP): WALDEN	County/Parish: JACKSON	State: COLORADO
Legal Description: 18-7N-80W-369FSL-175FWL			
Contractor: CYCLONE		Rig/Platform Name/Num: CYCLONE 33	
Job BOM: 7521 7521			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HB41307		Srvc Supervisor: Nicholas Roles	

**Job**

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	2402ft		Job Depth TVD
Water Depth			Wk Ht Above Floor
Perforation Depth (MD)	From		To

**Well Data**

Description	New / Used	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
Casing		16	16				0	117		117
Casing		9.625	8.921	36	STC	J-55	0	2402	0	2402
Open Hole Section			12.25				117	2400	117	2400

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	9.625			2402	Top Plug	9.625	1	HES
Float Shoe	9.625				Bottom Plug	9.625	1	HES
Float Collar	9.625			2352	SSR plug set	9.625		HES
Insert Float	9.625				Plug Container	9.625	1	HES
Stage Tool	9.625				Centralizers	9.625		HES

**Fluid Data**

Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Fresh Water	Fresh Water	20	bbl	8.33			6		

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
2	SwiftCem	SWIFTCEM (TM) SYSTEM	550	sack	12.5	2.17		8	12.12	
12.11 Gal		<b>FRESH WATER</b>								
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
3	SwiftCem	SWIFTCEM (TM) SYSTEM	175	sack	13.5	1.75		8	8.97	
8.96 Gal		<b>FRESH WATER</b>								
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
4	Displacement Fluid	Displacement Fluid	182	bbl	8.4			6		
Cement Left In Pipe		Amount	50 ft		Reason			Shoe Joint		
Mix Water:		pH 06	Mix Water Chloride:		0 ppm		Mix Water Temperature:		60 °F °C	
Cement Temperature:		60 °F °C	Plug Displaced by:		9 lb/gal		Disp. Temperature:		## °F °C	
Plug Bumped?		Yes	Bump Pressure:		1300 psi MPa		Floats Held?		Yes	
Cement Returns:		100bbl m3	Returns Density:		## lb/gal kg/m3		Returns Temperature:		## °F °C	
<b>Comment</b> Got 100bbls cement to surface.										

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	DS Pump Press <i>(psi)</i>	Pump Stg Tot <i>(bbl)</i>	Comments
Event	1	Call Out	Call Out	11/7/2018	19:00:00	USER					Called out by Service Coordinator for O/L at 0900
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	11/7/2018	23:45:00	USER					Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	11/8/2018	00:00:00	USER					Journey Management prior to departure
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	11/8/2018	05:00:00	USER					Upon arrival met with company man to discuss job details and calculations, performed hazard hunt and site assessment.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	11/8/2018	05:30:00	USER					Discussed rigging up hazards and procedure according to HMS.
Event	6	Other	Other	11/8/2018	07:00:00	USER					Water test- PH-6, Chlor-0, Temp-55.
Event	7	Begin Standby Due to HES	Begin Standby Due to HES	11/8/2018	19:30:00	USER	0.18	0.00	-1.00	3.10	6x5 motor failed while priming up and could not get motor fixed. Called for backup pump and mechanic, rig was ready to pump job at 1930, began standby.
Event	8	Safety Meeting - Pre Job	Safety Meeting - Pre Job	11/9/2018	04:00:00	USER					Held safety meeting with all job associated personnel to discuss job procedure,

											hazards and stop work authority.
Event	9	End Standby Due to HES	End Standby Due to HES	11/9/2018	05:30:00	USER	6.88	0.00	105.00	3.50	Backup pump arrived at 0400, once spotted and rigged in, both centrifugal were frozen as well as HPVT downhole. Put heater hose on areas and began to pump, which ended our standby at 0530. Total hours OL was 23hrs: 10hrs NPT, 13hrs job/add hours. Did not charge additional hours per Chris Chavez.
Event	10	Start Job	Start Job	11/9/2018	05:40:00	COM4	7.58	0.00	145.00	3.50	TD-2400', TP-2402' 9.625" 36#, FC-2352', Cond- 16" 117', OH-12.25", MUD-9.0#
Event	11	Test Lines	Test Lines	11/9/2018	05:47:33	COM4	7.70	0.00	55.00	7.00	Pumped 3bbls to fill lines, established circulation, shutdown and closed manifold, performed 500psi k/o function test, continued with 5th gear stall at 1800psi proceeded to bring pressure to 2500psi. Held good no leaks.
Event	12	Pump Spacer 1	Pump Spacer 1	11/9/2018	05:50:37	COM4	7.79	0.00	7.00	0.00	Pumped 20bbls fresh water with 2# Red Dye at 6bpm 140psi.
Event	13	Drop Bottom Plug	Drop Bottom Plug	11/9/2018	05:55:56	COM4	8.50	4.90	210.00	12.90	Dropped by HES supervisor, witnessed by company man.
Event	14	Pump Lead Cement	Pump Lead Cement	11/9/2018	06:00:25	COM4	8.58	0.80	32.00	0.00	Pumped 550sks or 212.5bbls 12.5# 2.17y 12.12g/s Swiftcem at 8bpm
Event	15	Check Weight	Check Weight	11/9/2018	06:09:27	COM4	12.55	5.80	235.00	32.10	Weight verified with pressurized mud scales.
Event	16	Check Weight	Check Weight	11/9/2018	06:22:27	COM4	12.83	8.10	329.00	125.20	Weight verified with

Event	ID	Description	Activity	Date	Time	Code	Cost	Rate	Volume	Weight	Notes
											pressurized mud scales.
Event	17	Pump Tail Cement	Pump Tail Cement	11/9/2018	06:35:13	COM4	13.40	8.10	331.00	0.10	Pumped 175sks or 54.5bbls 13.5# 1.75y 8.97g/s Swiftcem at 8bpm
Event	18	Shutdown	Shutdown	11/9/2018	06:46:23	COM4	14.22	0.00	1.00	55.00	
Event	19	Drop Top Plug	Drop Top Plug	11/9/2018	06:46:43	COM4	14.20	0.00	1.00	55.00	Dropped by HES supervisor, witnessed by company man.
Event	20	Pump Displacement	Pump Displacement	11/9/2018	06:46:46	COM4	14.21	0.00	1.00	0.00	Pumped 182bbls of OBM at 6-8bpm with first 10bbls cement water.
Event	21	Bump Plug	Bump Plug	11/9/2018	07:43:22	COM4	8.54	1.40	1038.00	180.80	Slowed down to 3bpm at 170bbls away, final circulating pressure - 800psi, Bumped at 1300psi. Held 1300psi for 5min casing test.
Event	22	Check Floats	Check Floats	11/9/2018	07:45:28	USER	8.55	0.00	417.00	180.90	Released pressure and got 1bbl back, floats held.
Event	23	End Job	End Job	11/9/2018	07:46:10	COM4	8.49	0.00	28.00	180.90	Got 100bbls cement to surface.
Event	24	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	11/9/2018	07:50:00	USER	8.46	0.00	-3.00	180.90	All HSE present. Discussed red zone areas and trapped pressure hazards. Watch for suspended loads and rig down procedures, including hand placement, lifting techniques, and swing radius.
Event	25	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	11/9/2018	09:15:00	USER					All HSE present and fit to drive. Aware of directions and hazards.
Event	26	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	11/9/2018	09:30:00	USER					Pre journey management prior to departure.

3.0 Attachments

3.1 Peters 0781 11-13H12-Custom Results.png

