

# HALLIBURTON

iCem<sup>®</sup> Service

## **EXTRACTION OIL & GAS**

Date: Thursday, January 26, 2017

## **Matrix B-29HN Production**

Job Date: Friday, January 13, 2017

Sincerely,

**Julia Nichols**

## Legal Notice

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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 **Matrix B-29HN** cement **Production** 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 30 barrels 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 [Ft. Lupton]**

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## Cementing Job Summary

*The Road to Excellence Starts with Safety*

Sold To #: 369404	Ship To #: 3627178	Quote #:	Sales Order #: 0903775123
Customer: EXTRACTION OIL & GAS		Customer Rep: Shayne Hackford	
Well Name: MATRIX	Well #: B-29HN	API/UWI #: 05-123-40697-00	
Field: GREELEY	City (SAP): GREELEY	County/Parish: WELD	State: COLORADO
Legal Description: SE SW-29-6N-65W-435FSL-2309FWL			
Contractor: H & P DRLG		Rig/Platform Name/Num: H & P 321	
Job BOM: 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA/HX38199		Srvc Supervisor: Nicholas Roles	
Job			

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type			BHST
Job depth MD	11794ft		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		9.625	8.921	36			0	1653	0	1653
Casing		5.5	4.778	20			0	11794	0	5860
Open Hole Section			8.5				1653	11800	1653	5860

Tools and Accessories									
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	5.5					Top Plug	5.5		HES
Float Shoe	5.5			11794		Bottom Plug	5.5		HES
Float Collar	5.5					SSR plug set	5.5		HES
Insert Float	5.5					Plug Container	5.5	1	HES
Stage Tool	5.5					Centralizers	5.5		HES

Fluid Data										
Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	50	bbl	11.5	3.74		6		
	0.30 gal/bbl	MUSOL A, 330 GAL TOTE - (790828)								
	149.34 lbm/bbl	BARITE, BULK (100003681)								
	35.40 gal/bbl	FRESH WATER								
	0.30 gal/bbl	DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)								
	0.25 gal/bbl	D-AIR 3000L, 5 GAL PAIL (101007444)								

last updated on 1/12/2017 11:47:38 PM

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(v. 4.3.44)

Created: Thursday, January 26, 2017

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*Cementing Job Summary*

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	ElastiCem W/O CBL	ELASTICEM (TM) SYSTEM	150	sack	13.2	1.57		8	7.48
7.48 Gal		FRESH WATER							
0.90 %		HR-5, 50 LB SK (100005050)							
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	ElastiCem Tail	ELASTICEM (TM) SYSTEM	1400	sack	13.2	1.57		8	7.49
7.49 Gal		FRESH WATER							
0.80 %		HR-5, 50 LB SK (100005050)							
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	Displacement	260.5	bbl	8.33			12	
Cement Left In Pipe		Amount	0 ft		Reason			Wet Shoe	
Comment Got 30bbls cement to surface.									

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DH Density (ppg)	DS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	1/12/2017	12:00:00	USER				Crew call out for o/l at 1600
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	1/12/2017	14:45:00	USER				all crew aware of hazards and directions. all fit to drive.
Event	3	Arrive at Location from Service Center	Arrive at Location from Service Center	1/12/2017	15:30:00	USER				Met with company man to discuss job details and procedure. Performed hazard hunt and site assessment. Rig had 1500' casing left to run.
Event	4	Other	Other	1/12/2017	15:45:00	USER				Water Test- PH-6 Chlo-0 Temp-60 Cement-
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	1/12/2017	15:50:00	USER				All hse present. Discussed bulk and iron placement and all red zone areas. Caution taped high pressure zones.
Event	6	Standby - Other - see comments	Standby - Other - see comments	1/13/2017	17:00:00	USER				Before rig had finished running casing I made the decision to have the operator prime up and be ready. Upon arriving to location operator had turned the deck motors on and have everything oscillate. Before he could prime up noticed Driver side deck engine would not start, no power, and could not connect to fles from computer. Talked with on call coordinator and company man and decided to have another pump brought out.
Event	7	Start Job	Start Job	1/13/2017	19:37:54	COM1	0.00	6.25	-4.00	TD-11800', TP-11794' 5.5" 20#, FC-11788', TVD-6860', SURF-1653' 9.625" 36#, OH-7.875", MUD-9.5#.
Event	8	Test Lines	Test Lines	1/13/2017	19:41:33	COM1	0.00	8.30	5020.00	Pumped 3bbls fresh water to fill lines, closed manifold and performed 500psi k/o function test, proceeded to bring pressure up to 5000psi. Held well and no leaks.
Event	9	Check Weight	Check Weight	1/13/2017	19:46:03	COM1	0.00	8.06	-2.00	Weight verified by pressurized mud scales.
Event	10	Pump Spacer 1	Pump Spacer 1	1/13/2017	19:49:22	COM1	3.90	11.24	285.00	Pumped 50bbls 11.5# 3.74y 23.7g/s Tuned Spacer III with 15g Musol A, 15g Dual Spacer B, and 5g D-Air at 6bpm 400psi.
Event	11	Pump Lead Cement	Pump Lead Cement	1/13/2017	19:58:08	USER	5.90	13.20	291.00	Pumped 150sks or 42bbls of 13.2# 1.57y 7.49g/s Elasticem

W/O CBL at 8bpm 498psi.

Event	12	Pump Tail Cement	Pump Tail Cement	1/13/2017	20:05:33	USER	5.40	13.39	216.00	Pumped 1400skts or 391.4bbbs of 13.2# 1.57y 7.49g/s Elastic W/CBL at 8bpm 609psi.
Event	13	Check Weight	Check Weight	1/13/2017	20:06:14	USER	6.00	13.69	349.00	Weight verified by pressurized mud scales.
Event	14	Check Weight	Check Weight	1/13/2017	20:12:12	COM1	8.00	13.25	499.00	Weight verified by pressurized mud scales.
Event	15	Check Weight	Check Weight	1/13/2017	20:31:08	COM1	8.00	13.14	422.00	Weight verified by pressurized mud scales.
Event	16	Shutdown	Shutdown	1/13/2017	21:01:15	USER	8.00	13.20	437.00	Shutdown pumps and blew back cement from rig air line to pits, closed line to floor and pumped 5bbbs fresh water to pits to clean lines.
Event	17	Pump Displacement	Pump Displacement	1/13/2017	21:13:45	USER	0.00	8.37	-21.00	Pumped 260.5 bbls fresh water at 12bpm 2390psi.
Event	18	Bump Plug	Bump Plug	1/13/2017	21:43:13	USER	5.20	8.45	2806.00	Final circulating 2600psi, Bumped at 3000psi, held for a min. and brought up pressure.
Event	19	Pressure Up Well	Pressure Up Well	1/13/2017	21:44:43	USER	1.80	8.47	3281.00	Brought up pressure to burst disc, burst at 3700psi. Once burst followed with 5bbl wet shoe at 5bpm 2048psi.
Event	20	Check Floats	Check Floats	1/13/2017	21:49:53	USER	5.00	8.39	883.00	Released pressure and floats did not hold. Got 1.5bbbs then trickled in. Shut in release line and pressure was building. Tried bumping it again and surging the line to get it to hold but did not want to hold.
Event	21	Check Floats	Check Floats	1/13/2017	22:01:04	USER				Released pressure and floats did not hold. Got 1.5bbbs then trickled in. Shut in release line and pressure was building. Tried bumping it again and surging the line to get it to hold but did not want to hold.
Event	22	Shut In Well	Shut In Well	1/13/2017	22:26:54	USER	0.00	8.46	19.00	Floats did not hold so shut in well at cement head/manifold with 1539psi.
Event	23	End Job	End Job	1/13/2017	22:29:02	USER	0.00	8.33	38.00	Got 30bbbs cement to surface.
Event	24	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	1/13/2017	00:30:00	USER				All HSE present and fit to drive. Aware of directions and hazards.
Event	25	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	1/13/2017	00:45:00	USER				Pre journey management prior to departure.
Event	26	Safety Meeting - Pre	Safety Meeting - Pre Rig-	1/14/2017	22:45:00	USER				All HSE present. Discussed red zone areas and trapped



Rig-Down

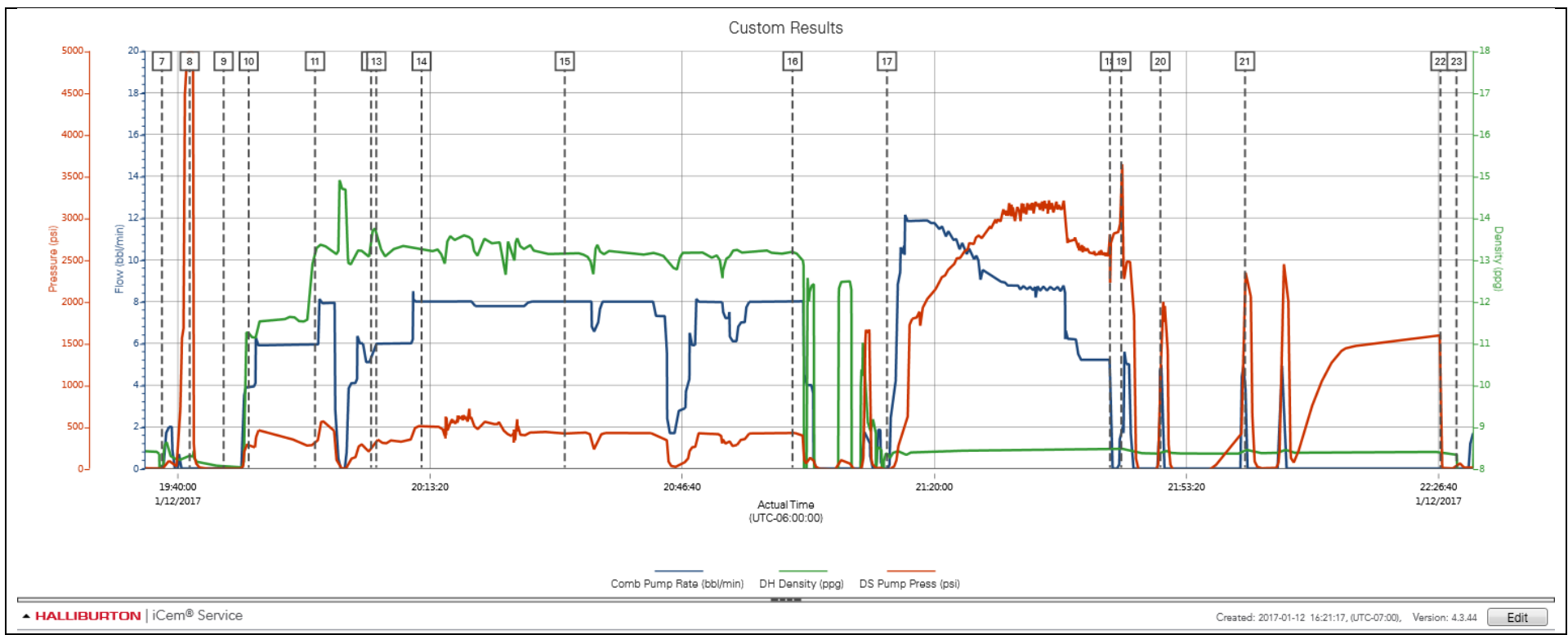
Down

pressure hazards. Watch for suspended loads and rig down procedures, including hand placement, lifting techniques, and swing radius.

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3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

