

# HALLIBURTON

iCem<sup>®</sup> Service

## **Extraction Oil & Gas**

Date: Thursday, January 12, 2017

## **Matrix S-29HC Production**

Job Date: Saturday, December 24, 2016

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 S-29HC** 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 40 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 #: 3630424	Quote #:	Sales Order #: 0903740620							
Customer: EXTRACTION OIL & GAS		Customer Rep: Shane								
Well Name: MATRIX	Well #: S-29HC	API/UWI #: 05-123-40792-00								
Field: GREELEY	City (SAP): GREELEY	County/Parish: WELD	State: COLORADO							
Legal Description: SE SW-29-6N-65W-479FSL-2374FWL										
Contractor: H & P DRLG		Rig/Platform Name/Num: H & P 321								
Job BOM: 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA/HX38199		Srvc Supervisor: Jacob Nelson								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type	BHST									
Job depth MD	12200ft	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	1570	0	1570
Casing		5.5	4.778	20			0	12200	0	6800
Open Hole Section			8.5				1570	12200	1570	6800
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make		
Guide Shoe	5.5			12200	Top Plug	5.5		HES		
Float Shoe	5.5				Bottom Plug	5.5		HES		
Float Collar	5.5				SSR plug set	5.5		HES		
Insert Float	5.5				Plug Container	5.5		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 ft3/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 (100003685)								

last updated on 12/25/2016 12:47:53 AM

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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/mi n	Total Mix Fluid Gal
2	ElastiCem W/O CBL	ELASTICEM (TM) SYSTEM	150	sack	13.2	1.57		6	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/mi n	Total Mix Fluid Gal
3	ElastiCem Tail	ELASTICEM (TM) SYSTEM	1450	sack	13.2	1.57		6	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/mi n	Total Mix Fluid Gal
4	MMCR Water	MMCR Water	0	bbl	8.33				
0.50 gal/bbl		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
5	Displacement	Displacement	288	bbl	8.33			8	
Cement Left In Pipe		Amount	5 ft			Reason			Shoe Joint
Mix Water:		pH ##	Mix Water Chloride: ## ppm			Mix Water Temperature: ## °F °C			
Cement Temperature: ## °F °C		Plug Displaced by: ## lb/gal kg/m3 XXXX				Disp. Temperature: ## °F °C			
Plug Bumped? Yes/No		Bump Pressure: ##### psi MPa				Floats Held? Yes/No			
Cement Returns: ## bbl m3		Returns Density: ## lb/gal kg/m3				Returns Temperature: ## °F °C			
Comment									

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Comments
Event	1	Start Job	Start Job	12/25/2016	20:39:50	COM5				Start recording data.
Event	2	Prime Pumps	Fill Lines	12/25/2016	20:42:37	USER				Fill lines with 5 bbls of fresh water.
Event	3	Test Lines	Test Lines	12/25/2016	20:47:46	COM5	4307.30	8.30	0.00	Pressure test lines to 4500 psi.
Event	4	Pump Spacer 1	Pump Tuned Spacer	12/25/2016	20:53:20	COM5	132.30	8.15	3.00	Pump 50 bbls of Tuned Spacer III at 11.5 ppg. Yield: 3.74. Gal/sk: 23.7. 10 gals of D-Air, 20 gals of Dual Spacer B, and 20 gals of Musol A added. Density verified with pressurized mud scale.
Event	5	Pump Lead Cement	Pump Lead Cement	12/25/2016	21:06:35	COM5	296.30	13.27	5.60	Pump 150 sks/ 42 bbls of ElastiCem w/o CBL at 13.2 ppg. Yield: 1.57, Gal/sk: 7.48. Density verified with pressurized mud scale.
Event	6	Pump Tail Cement	Pump Tail Cement	12/25/2016	21:12:41	USER	362.30	13.42	7.00	Pump 1450 sks/ 405 bbls of ElastiCem at 13.2 ppg. Yield: 1.57, Gal/sk: 7.59. Density verified with mud scale.
Event	7	Shutdown	Shutdown	12/25/2016	22:21:47	USER	38.30	13.82	0.00	Shutdown to wash up mixing head and tubs.
Event	8	Clean Lines	Clean Lines	12/25/2016	22:22:58	USER	84.30	12.74	3.00	Pump 10 bbls of clean water to flush out pumps to pit.
Event	9	Drop Top Plug	Drop Plug	12/25/2016	22:26:32	COM5	21.30	9.95	0.00	Dropped 3rd party plug. Company man witnessed plug launch.
Event	10	Pump Displacement	Pump Displacement	12/25/2016	22:30:37	COM5	68.30	7.87	3.50	Pump 268 bbls of fresh water displacement.
Event	11	Spacer Returns to Surface	Spacer Returns to Surface	12/25/2016	22:52:11	USER	2794.30	8.52	7.60	Got 50 bbls of spacer and 40 bbls of cement to surface.
Event	12	Bump Plug	Bump Plug	12/25/2016	23:04:32	USER	2689.30	8.51	5.00	Bumped plug at calculated displacement of 268 bbls at 2700 psi.
Event	13	Event	Burst Plug	12/25/2016	23:06:07	USER	2608.30	8.50	4.80	Plug burst at 4200 psi. Pumped 5 bbls for a wet shoe.
Event	14	Check Floats	Check Floats	12/25/2016	23:07:21	USER	2172.30	8.50	0.00	Floats held and got 2.0 bbls to surface.

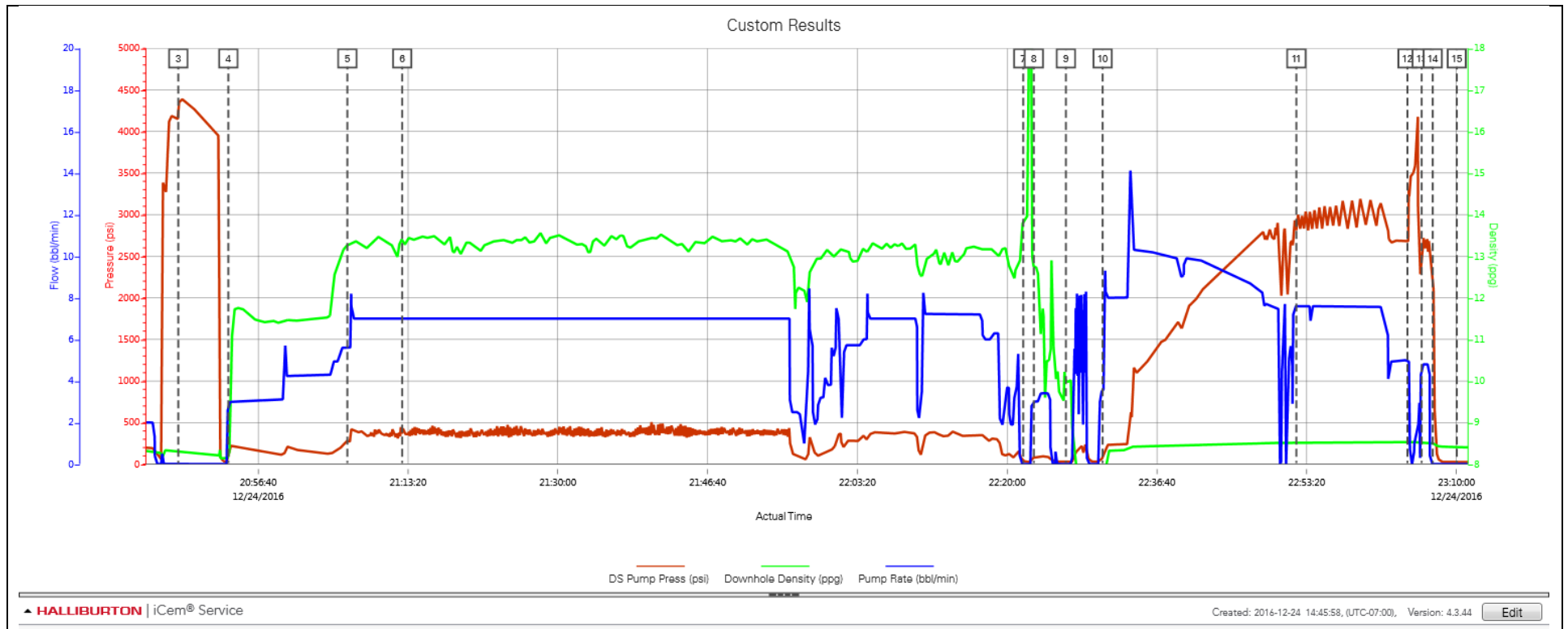
Event	15	End Job	End Job	12/25/2016	23:10:02	COM5	23.30	8.41	0.00	Thank you for choosing Halliburton cementing and the crew of Jacob Nelson.
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## 3.0 Attachments

### 3.1 Custom Results – Job Chart with Events



## 3.2 Custom Results – Job Chart without Events

