

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Date: Tuesday, August 02, 2016

Breniman #7

Production

Job Date: Friday, July 22, 2016

Sincerely,

Lauren Roberts

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Breniman #7** 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.

40 bbl. of spacer 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]

The Road to Excellence Starts with Safety

Sold To #: 369404	Ship To #: 3615653	Quote #:	Sales Order #: 0903432307
Customer: EXTRACTION OIL & GAS		Customer Rep: .	
Well Name: BRENNIMAN		Well #: 7	API/UWI #: 05-123-40419-00
Field: WATTENBERG	City (SAP): WINDSOR	County/Parish: WELD	State: COLORADO
Legal Description: NE NW-16-6N-67W-607FNL-2056FWL			
Contractor: PATTERSON-UTI ENERGY		Rig/Platform Name/Num: PATTERSON 346	
Job BOM: 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA/HX38199		Srv Supervisor: Nathaniel Moore	

Job

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	17590ft		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	1535		0
Casing		5.5	4.778	20			0	17572	0	0
Open Hole Section			7.875				1535	17590	1535	6950

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5			17572	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		
35.40 gal/bbl		FRESH WATER								
149.34 lbm/bbl		BARITE, 100 LB SK (100003680)								

0.30 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)									
0.30 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)									
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	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 W/ Super CBL	ELASTICEM (TM) SYSTEM	1950	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	389	bbl	8.33			8			
Cement Left In Pipe		Amount	ft	Reason				Shoe Joint			

40 bbl spacer to surface puts approximate top of cement at 200-300'

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Driv-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	7/21/2016	23:30:00	USER				OL time 0330. Verify equipment and materials.
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	7/22/2016	02:30:00	USER				Journey management with crew
Event	3	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	7/22/2016	03:30:00	USER				TD 17590' 7.875" open hole. TP 17572' 5.5" 20 # P-110 casing. TVD 6700'. Surface 1553' 9.625" 36# J-55. MW 8.9 ppg. Water tested PH 7 Chlorides <300 Sulfates <200 Temp 65 degrees.
Event	4	Start Job	Start Job	7/22/2016	05:39:02	COM1	25.00	8.33	0.00	
Event	5	Pre-Job Safety Meeting	Pre-Job Safety Meeting	7/22/2016	06:15:00	USER	23.00	8.33	0.00	Discuss job procedure
Event	6	Prime Pumps	Prime Pumps	7/22/2016	06:21:25	COM1	23.00	8.33	0.00	
Event	7	Other	Fill lines	7/22/2016	06:30:54	COM1	23.00	8.39	0.00	3 bbl water
Event	8	Test Lines	Test Lines	7/22/2016	06:33:10	COM1	90.00	8.37	0.00	Pressure test to 5000 psi.
Event	9	Check Weight	Check weight	7/22/2016	06:38:19	COM1	114.00	8.35	0.00	Tuned spacer. 11.5 ppg verified with pressurized mud scales.
Event	10	Pump Spacer 1	Pump Spacer 1	7/22/2016	06:42:12	COM1	144.00	8.34	1.60	Pumped 45 bbl tuned spacer with surfactants. 11.5 ppg
Event	11	Pump Lead Cement	Pump Lead Cement	7/22/2016	06:51:16	COM1	125.00	11.40	4.10	Pumped approximately 10 bbl of lead cement before losing hydraulics with another 10 bbl in the mixing tub. Potentially used 100 sks of lead.
Event	12	Shutdown	Shutdown	7/22/2016	06:53:47	USER	67.00	13.69	0.00	Blew hydraulic hose on 6x5 centrifugal pump. Shutdown auxiliary motor. Consulted with company rep and decided to roll the hole. Pumped 10 bbl water to clean out pumps and lines then rigged down plug container and manifold and turned well back over to the rig.
Event	13	Other	Waiting on materials	7/22/2016	08:00:00	USER	41.00	0.09	2.00	Called for 50 bbl spacer and new pump truck
Event	14	Other	Spacer to surface	7/22/2016	08:52:00	USER	42.00	8.06	0.00	Rig circulated spacer and cement to surface. Got approx 40

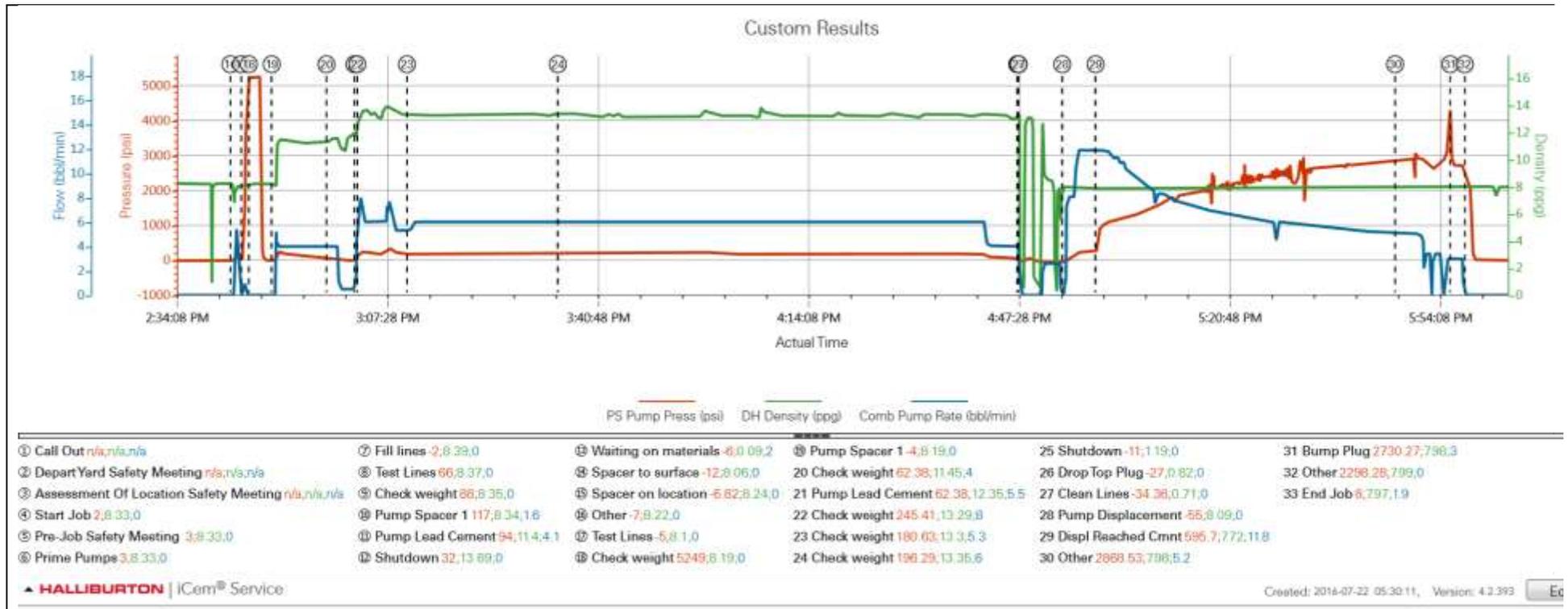
bbl spacer and 10 bbl cement back. Rig pumps were cavitating so we were unable to get an accurate stroke count for when we got spacer back.

Event	15	Other	Spacer on location	7/22/2016	12:20:00	USER				Spacer and pump truck arrived on location. Drivers forgot surfactants for spacer. Having them hot-shotted out.
Event	16	Other	Fill lines	7/22/2016	14:42:59	COM1	-3730.00	8.22	0.00	3 bbl water
Event	17	Test Lines	Test Lines	7/22/2016	14:44:42	COM1	-3730.00	8.10	0.00	Test to 5200 psi
Event	18	Check Weight	Check weight	7/22/2016	14:45:54	COM1	-3730.00	8.19	0.00	Tuned spacer: 11.5 ppg
Event	19	Pump Spacer 1	Pump Spacer 1	7/22/2016	14:49:31	COM1				Pump 50 bbl spacer at 11.5 ppg 3.74 ft3/sk 23.7 gal/sk
Event	20	Check Weight	Check weight	7/22/2016	14:58:11	COM1				Lead: 13.2 ppg
Event	21	Pump Lead Cement	Pump Lead Cement	7/22/2016	15:02:37	COM1				75 sks/20 bbl 13.2 ppg 1.57 ft3/sk 7.48 gal/sk
Event	22	Check Weight	Check weight	7/22/2016	15:03:04	COM1				Lead 13.2 ppg
Event	23	Pump Tail Cement	Pump Tail Cement	7/22/2016	15:07:00	USER	-3730.00	14.12	6.00	1950 sks 13.2 ppg 1.57 ft3/sk 7.49 gal/sk
Event	24	Check Weight	Check weight	7/22/2016	15:10:56	COM1				Tail 13.2 ppg
Event	25	Check Weight	Check weight	7/22/2016	15:34:49	COM1				Tail 13.2 ppg
Event	26	Shutdown	Shutdown	7/22/2016	16:47:34	COM1	-3730.00	1.19	0.00	Blow stand pipe down with rig air
Event	27	Drop Top Plug	Drop Top Plug	7/22/2016	16:47:41	COM1	-3730.00	0.82	0.00	KLX top plug. Witnessed by KLX and company rep
Event	28	Clean Lines	Clean Lines	7/22/2016	16:47:47	COM1				
Event	29	Pump Displacement	Pump Displacement	7/22/2016	16:54:41	COM1				388 bbl water displacement
Event	30	Displ Reached Cmnt	Displ Reached Cmnt	7/22/2016	16:59:57	COM1				
Event	31	Other	Other	7/22/2016	17:45:00	COM1	-3730.00	7.99	5.20	350 bbl into displacement. 35 bbl spacer to surface
Event	32	Bump Plug	Bump Plug	7/22/2016	17:55:00	COM1	-3730.00	7.99	1.60	2750 psi final circulating pressure. Pressured up to 3000.
Event	33	Other	Rupture disk	7/22/2016	17:56:00	USER	-3730.00	7.98	3.00	Disk blew at 4304 psi. Pumped 5 bbl wet shoe
Event	34	Other	Check floats	7/22/2016	17:58:25	COM1				3 bbl back
Event	35	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	7/22/2016	18:00:00	USER	-3730.00	7.96	0.00	Discuss rig down with crew

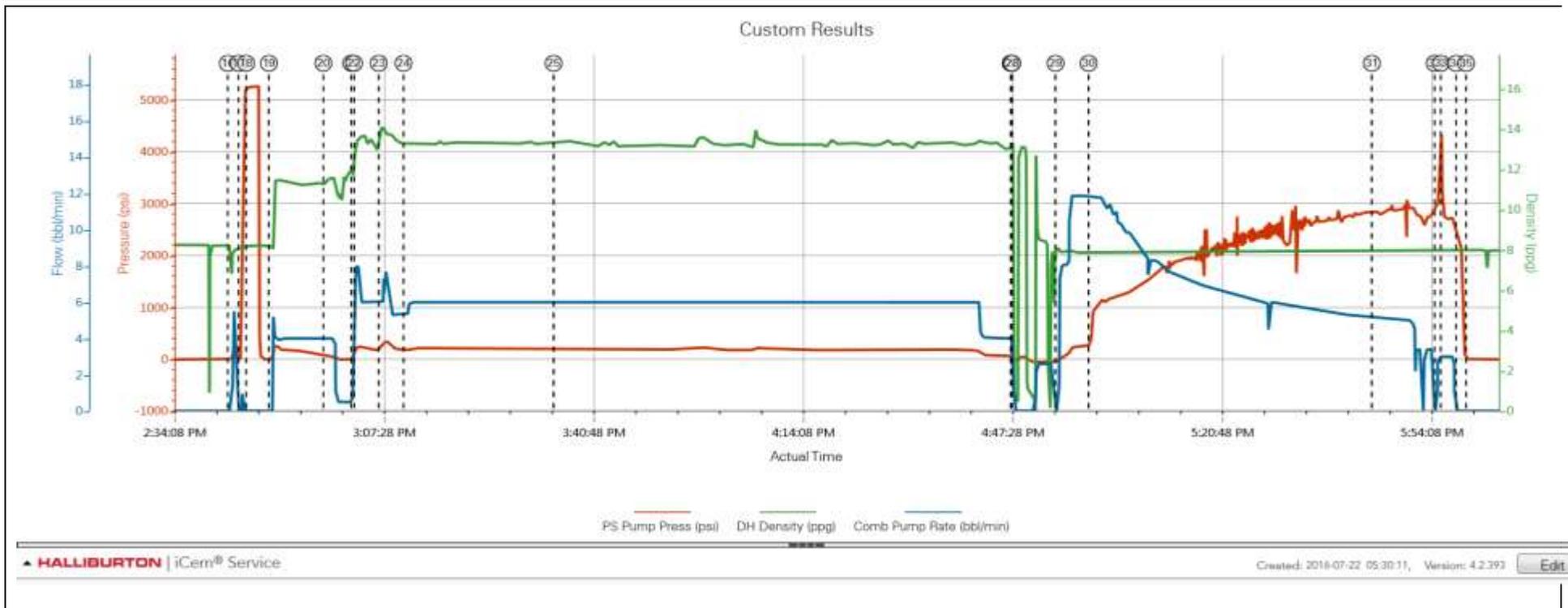
Event	36	End Job	End Job	7/22/2016	18:09:20	COM1	
Event	37	Depart Location Safety Meeting	Depart Location Safety Meeting	7/22/2016	19:30:00	USER	Journey management with crew

3.0 Attachments

3.1 Case 1-Custom Results.png



3.2 Case 1-Custom Results (1).png



3.3 Case 1-Custom Results (2).png

