

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Date: Friday, July 15, 2016

Breniman #4

Surface

Job Date: Thursday, June 30, 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 #4** 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.

45 bbl. of cement 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 #: 3615609	Quote #:	Sales Order #: 0903392711
Customer: EXTRACTION OIL & GAS		Customer Rep: Hugh McGraw	
Well Name: BRENNIMAN	Well #: 4	API/UWI #: 05-123-40423-00	
Field: WATTENBERG	City (SAP): WINDSOR	County/Parish: WELD	State: COLORADO
Legal Description: NE NW-16-6N-67W-533FNL-2099FWL			
Contractor: PATTERSON-UTI ENERGY		Rig/Platform Name/Num: PATTERSON 346	
Job BOM: 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX38199		Srcv Supervisor: Vaughn Oteri	

Job

Formation Name	
Formation Depth (MD)	Top Bottom
Form Type	BHST
Job depth MD	17439ft 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	1550		0
Casing		5.5	4.778	20			0	17432	0	0
Open Hole Section			7.875				1550	17439	1550	7030

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5				Top Plug	5.5	1	KLX
Float Shoe	5.5			17432	Bottom Plug	5.5		
Float Collar	5.5			17432	SSR plug set	5.5		
Insert Float	5.5				Plug Container	5.5	1	HES
Stage Tool	5.5				Centralizers	5.5		

Fluid Data

Stage/Plug #: 1									
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal

1	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	50	bbbl	11.5	3.74		3	
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	1.572		3	7.48
7.48 Gal		FRESH WATER							
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	2050	sack	13.2	1.57		8	7.49
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	385	bbbl	8.33			8	
Cement Left In Pipe		Amount	ft	Reason			Shoe Joint		
Comment 45BBL of cement back to surface									

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	PS Pump Rate (bbl/min)	DS Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	6/29/2016	23:00:00	USER					Call out from Arc hub
Event	2	Arrive At Loc	Arrive At Loc	6/30/2016	00:00:10	USER					Requested on location 0230 Arrived on location @0000 met with company rep to discuss job process and concerns advised that they still had a lot of casing to run but was safe for HES to rig up water and bulk
Event	3	Other	Other	6/30/2016	00:10:00	USER					TD-17439 TP-17432 FC-17432 Casing 5.5 20# Surf casing 9.65 36# @1550 Mud-8.8 OH-7.875
Event	4	Start Job	Start Job	6/30/2016	05:37:46	COM4	16.00	8.42	0.00	0.00	Held pre-job safety meeting with all hands on location to discuss job process and hazards
Event	5	Test Lines	Test Lines	6/30/2016	05:41:20	COM4	34.00	8.29	0.00	0.00	Pressure tested pumps and lines with fresh water 4861psi
Event	6	Pump Spacer 1	Pump Spacer 1	6/30/2016	05:57:34	COM4	123.00	9.32	0.90	0.00	Mixed 50bbl of 11.5ppg Tuned Spacer III at 3.0bpm 178psi
Event	7	Pump Lead Cement	Pump Lead Cement	6/30/2016	06:21:39	COM4	13.00	10.89	0.00	0.00	Mixed 150sks or 42bbl of 13.2ppg Y-1.57 g/sk-7.48 ElastiCem at 3.0bpm 136psi
Event	8	Check Weight	Check weight	6/30/2016	06:30:46	COM4	129.00	13.36	2.60	0.00	Confirm Weight of 13.2ppg on scales
Event	9	Pump Tail Cement	Pump Tail Cement	6/30/2016	06:31:33	COM4	135.00	13.44	2.60	0.00	Mixed 205sks or 573bbl of 13.2ppg Y1.57 g/sk7.49 ElastiCem at 8.0bpm 581
Event	10	Check Weight	Check weight	6/30/2016	06:46:40	COM4	579.00	13.15	5.00	3.10	Confirm Weight of 13.2ppg on scales
Event	11	Other	Other	6/30/2016	07:05:15	USER	509.00	13.11	4.50	3.50	Had problems with cement discharge
Event	12	Check Weight	Check weight	6/30/2016	07:22:24	COM4	599.00	13.24	4.50	3.50	Confirm Weight of 13.2ppg on scales
Event	13	Shutdown	Shutdown	6/30/2016	08:02:57	COM4	47.00	13.52	0.00	0.00	
Event	14	Clean Lines	Clean Lines	6/30/2016	08:04:30	USER	66.00	13.04	0.00	0.00	Washed pumps and lines with fresh water

Event	15	Drop Top Plug	Drop Top Plug	6/30/2016	08:11:09	COM4	2.00	7.72	0.00	0.00	Tool hand released dart witnessed by company rep and HES supervisor
Event	16	Pump Displacement	Pump Displacement	6/30/2016	08:11:15	COM4	2.00	7.72	0.00	0.00	Pumped 385bbl of fresh water to displace cement
Event	17	Bump Plug	Bump Plug	6/30/2016	08:59:46	COM4	3704.00	8.37	0.00	0.00	Bumped plug 500psi over final pump pressure
Event	18	Other	Other	6/30/2016	08:59:53	COM4	3705.00	8.36	0.00	0.00	Released pressure back to pump truck to check floats,3.5bbl back floats held good
Event	19	Pressure Up Well	Pressure Up Well	6/30/2016	09:02:05	COM4	29.00	8.27	0.90	0.00	Pressure up well to blow disc
Event	20	End Job	End Job	6/30/2016	09:10:17	COM4	9.00	8.26	0.00	0.00	45bbl of cement back to surface

3.0 Attachments

3.1 Case 1-Custom Results.png

