

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

For: Manuel

Date: Sunday, September 09, 2018

Case 1

Job Date: Sunday, September 09, 2018

Sincerely,

Nathaniel Moore

Legal Notice

Disclaimer:

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Rinn Valley East N17-20-5N** 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 45 bbls 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 #: 369404	Ship To #: 3892500	Quote #:	Sales Order #: 0905118082
Customer: EXTRACTION OIL & GAS		Customer Rep: Manuel	
Well Name: RINN VALLEY EAST		Well #: N17-20-5N	API/UWI #: 05-123-47313-00
Field: WATTENBERG	City (SAP): FIRESTONE	County/Parish: WELD	State: COLORADO
Legal Description: SW SE-17-2N-68W-842FSL-1772FEL			
Contractor:		Rig/Platform Name/Num: Patterson 901	
Job BOM: 7523 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	17358ft 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	0	9.625	8.921	36		J-55	0	1610	0	1610
Casing	0	5.5	4.778	20	BTC	P-110	0	17358	0	7321
Open Hole Section			8.5				1610	17358	1610	7321

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			17358	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 ft/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	3.73		6		
	149.34 lbm/bbl	BARITE, BULK (100003681)								
	35 gal/bbl	FRESH WATER								
	0.50 gal/bbl	DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)								
	0.50 gal/bbl	MUSOL(R) A, 5 GAL PAIL (100064220)								

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	ElastiCem	ELASTICEM (TM) SYSTEM	2726	sack	13.2	1.57		8	7.53
0.45 %		SCR-100 (100003749)							
7.53 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	Displacement	Displacement	384.5	bbl	8.33				
Cement Left In Pipe	Amount	5 ft			Reason			Shoe Joint	
Mix Water:	pH 7	Mix Water Chloride:	<200 ppm			Mix Water Temperature:	68 °F °C		
Cement Temperature:	75 °F °C	Plug Displaced by:	8.33 lb/gal kg/m ³			Disp. Temperature:	68 °F °C		
Plug Bumped?	Yes	Bump Pressure:	3120 psi MPa			Floats Held?	Yes		
Cement Returns:	45 bbl m ³	Returns Density:	13.2 lb/gal kg/m ³			Returns Temperature:	## °F °C		
Comment Aproximately 50 bbl spacer and 45 bbl cement returned to surface.									

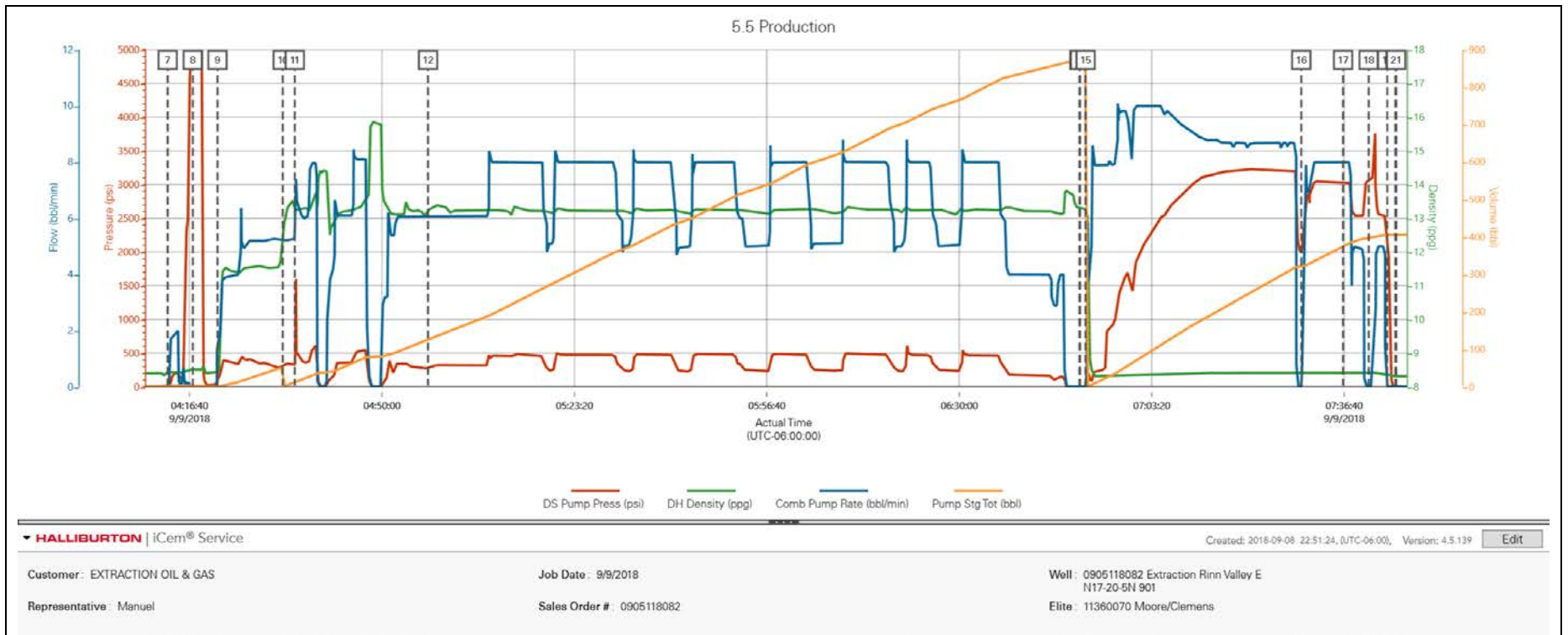
2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press <i>(psi)</i>	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	Pump Stg Tot <i>(bbl)</i>	Comments
Event	1	Other	Callout	9/8/2018	17:00:00	USER					OL time 2300. Verify equipment and materials.
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	9/8/2018	20:00:00	USER					Journey management conducted with crew.
Event	3	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	9/8/2018	21:00:00	USER					Sign in with customer. Spot in and rig up equipment.
Event	4	Other	Meet with Customer rep	9/8/2018	22:00:00	USER					TD 17358' 8.5" hole. TP 17357' 5.5" 20# casing. TVD 7321'. SJ 10'. Surface 1612' 9.625" 36#. MW 9.5 ppg OBM. Water test: PH 7 Chlorides <500 ppm Temp 70 degrees.
Event	5	Start Job	Start Job	9/9/2018	03:48:21	COM4	-4.00	8.40	0.00	0.00	
Event	6	Safety Meeting - Pre Job	Safety Meeting - Pre Job	9/9/2018	03:56:16	USER	-3.00	8.40	0.00	0.00	Discuss job procedure with HES and rig crew
Event	7	Other	Other	9/9/2018	04:12:53	COM4	8.00	8.41	0.00	0.00	Fill lines 3 bbl water
Event	8	Test Lines	Test Lines	9/9/2018	04:17:14	COM4	5037.00	8.52	0.00	3.10	500 psi kickout test and 5000 psi pressure test
Event	9	Pump Spacer 1	Pump Spacer 1	9/9/2018	04:21:31	COM4	101.00	8.41	1.60	0.00	50 bbl 11.5 ppg tuned spacer with surfactants
Event	10	Pump Cement	Pump Cement	9/9/2018	04:32:49	COM4	288.00	12.50	5.30	52.60	2726 sks/762 bbl 13.2 ppg ElastiCem 1.57 ft3/sk 7.53 gal/sk
Event	11	Check Weight	Check Weight	9/9/2018	04:34:54	COM4	338.00	13.23	5.30	10.90	13.2 ppg
Event	12	Check Weight	Check Weight	9/9/2018	04:57:59	COM4	277.00	13.28	6.10	125.80	13.2 ppg

Event	13	Shutdown	Shutdown	9/9/2018	06:50:49	COM4	-4.00	13.31	0.00	866.80	
Event	14	Drop Top Plug	Drop Top Plug	9/9/2018	06:50:56	COM4	-4.00	13.30	0.00	866.80	
Event	15	Pump Displacement	Pump Displacement	9/9/2018	06:51:53	COM4	-4.00	13.28	0.00	0.00	384 bbl water displacement
Event	16	Other	Other	9/9/2018	07:29:15	COM4	1971.00	8.39	0.00	321.20	Spacer to surface. 290 bbl into displacement
Event	17	Other	Other	9/9/2018	07:36:29	COM4	3023.00	8.41	8.00	374.90	Cement to surface. 340 bbl into displacement. 45 bbl cement back.
Event	18	Bump Plug	Bump Plug	9/9/2018	07:40:55	COM4	3064.00	8.41	0.00	397.00	2550 final circulating pressure. Pressured up to 3100 psi and shutdown. Then pressured up to 3856 psi to rupture the plug and pumped 5 bbl wet shoe.
Event	19	Other	Other	9/9/2018	07:44:08	COM4	2095.00	8.39	0.00	406.30	Check floats. 2.5 bbl back. Floats held.
Event	20	Shutdown	Shutdown	9/9/2018	07:45:33	COM4	-10.00	8.32	0.00	406.30	Wash pumps and lines
Event	21	End Job	End Job	9/9/2018	07:45:41	COM4					
Event	22	Post-Job Safety Meeting (Pre Rig-Down)	Post-Job Safety Meeting (Pre Rig-Down)	9/9/2018	08:00:24	USER	-5.00	4.28	1.70	427.40	Discuss rig down with HES and rig crew.
Event	23	Safety Meeting - Departing Location	Safety Meeting - Departing Location	9/9/2018	09:00:00	USER					Journey management with crew.

2.2 Case 1-Custom Results (1).png



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Created: 2018-09-08 22:51:24 (UTC-06:00), Version: 4.5.139

Edit

Customer: EXTRACTION OIL & GAS

Job Date: 9/9/2018

Well: 0905118082 Extraction Rinn Valley E
 N17-20-5N 901

Representative: Manual

Sales Order #: 0905118082

Elite: 11360070 Moore/Clemens