

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS-EBUS

Rinn Valley N17-20-10C Surface

Sincerely,
Meghan Jacobs

Legal Notice

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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 N17-20-10C cement Surface** 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 20bbls 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]

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Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 369404		Ship To #: 3888540		Quote #:		Sales Order #: 0904977227				
Customer: EXTRACTION OIL & GAS -				Customer Rep: Shawn McIntyre						
Well Name: RINN VALLEY EAST			Well #: N17-20-10C		API/UWI #: 05-123-47179-00					
Field: WATTENBERG		City (SAP): FIRESTONE		County/Parish: WELD		State: COLORADO				
Legal Description: SE SE-18-2N-68W-197FSL-499FEL										
Contractor: Shawn McIntyre					Rig/Platform Name/Num: Cartel 11					
Job BOM: 7521 7521										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199					Srv Supervisor: Adam Covington					
Job										
Formation Name										
Formation Depth (MD)		Top			Bottom					
Form Type										
Job depth MD		1644ft			BHST			Job Depth TVD		
Water Depth										
Perforation Depth (MD)		From			To			Wk Ht Above Floor		
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	8 RD	J-55	0	1644	0	0
Open Hole Section			13.5				0	1645	0	0
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	9.625			1644		Top Plug	9.625	1	HES	
Float Shoe	9.625					Bottom Plug	9.625		HES	
Float Collar	9.625					SSR plug set	9.625		HES	
Insert Float	9.625					Plug Container	9.625	1	HES	
Stage Tool	9.625					Centralizers	9.625		HES	
Fluid Data										
Stage/Plug #: 1										
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	
1	Red Dye Spacer	Red Dye Spacer	10	bbl	8.33			2.5		
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	SwiftCem	SWIFTCEM (TM) SYSTEM	550	sack	13.5	1.74		7.5	9.2	

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Cementing Job Summary

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	Fresh Water	Fresh Water	124	bbl	8.33			7.5	
Cement Left In Pipe		Amount	43 ft		Reason			Shoe Joint	
Mix Water:		pH 7	Mix Water Chloride:		0 ppm		Mix Water Temperature:		
Cement Temperature:		85 °F	Plug Displaced by:		8.33 lb/gal		Disp. Temperature:		
Plug Bumped?		Yes	Bump Pressure:		530 psi		Floats Held?		
Cement Returns:		20 bbl	Returns Density:		13.5# lb/gal		Returns Temperature:		
Comment TD-13.5", 1645' TP 9 5/8" 36# 1644' FC-1601' (43FT) WATER-78 DEGREES, CHLORIDE-0, SULFATE-0, PH-7. 20 BBLs OF CEMENT TO SURFACE, 1 BBL BACK TO THE TRUCK.									

2.0 Real-Time Job Summary

2.1 Job Event Log

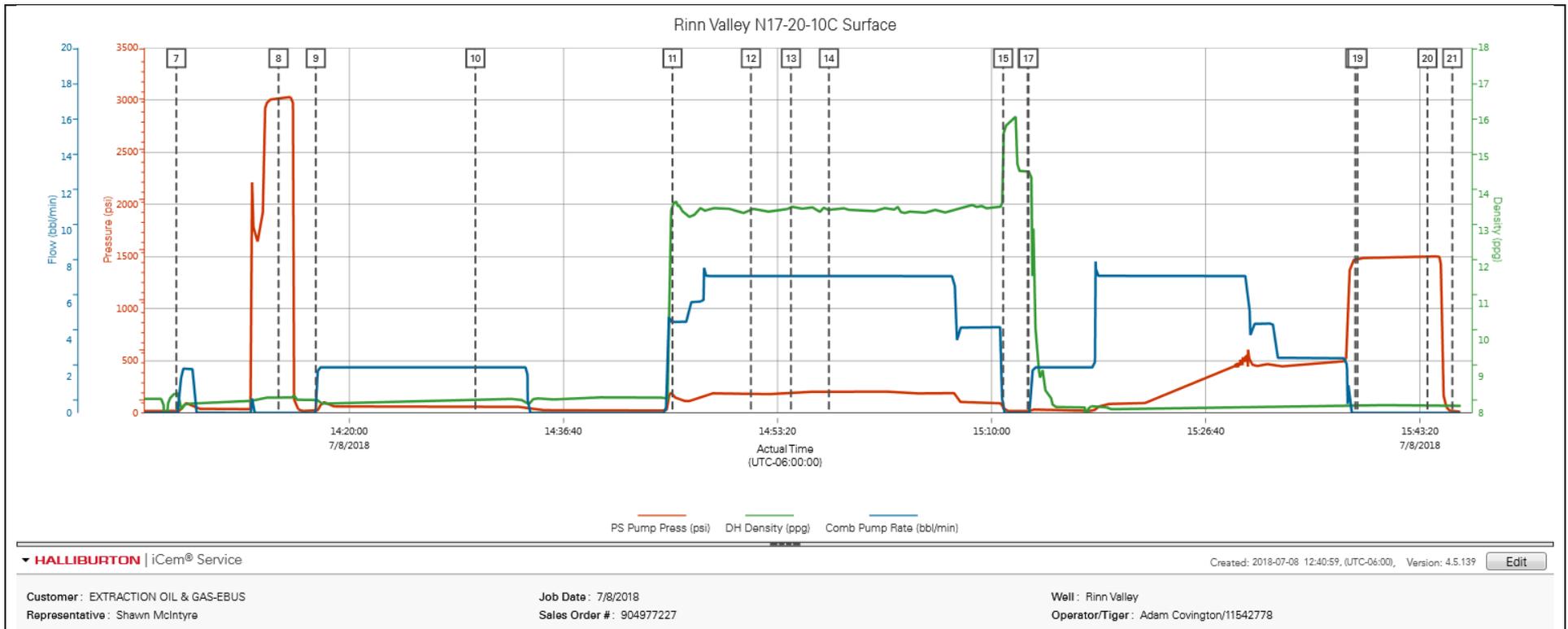
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	PS Pump Press <i>(psi)</i>	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	Comments
Event	1	Call Out	Call Out	7/8/2018	00:00:00	USER				CALLED OUT BY SERVICE COORDINATOR FOR O/L AT 0600
Event	2	Depart Shop for Location	Depart Shop for Location	7/8/2018	04:15:00	USER				HELD MEETING WITH ALL PERSONNEL IN CONVOY TO DISCUSS DIRECTIONS AND HAZARDS ASSOCIATED WITH DRIVING, ALL FIT TO DRIVE.
Event	3	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	7/8/2018	05:00:00	USER				HELD MEETING WITH ALL HES EMPLOYEES IN CONVOY TO DISCUSS DIRECTIONS AND HAZARDS ASSOCIATED WITH DRIVING, ALL FIT TO DRIVE.
Event	4	Arrive At Loc	Arrive At Loc	7/8/2018	05:15:00	USER				UPON ARRIVAL MET WITH COMPANY MAN TO DISCUSS JOB DETAILS AND CALCULATIONS, PERFORMED HAZARD HUNT AND SITE ASSESSMENT.
Event	5	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	7/8/2018	11:40:00	USER				DISCUSSED RIGGING UP HAZARDS AND PROCEDURE ACCORDING TO HMS.
Event	6	Safety Meeting - Pre Job	Safety Meeting - Pre Job	7/8/2018	13:45:00	USER	19.00	8.39	0.00	HELD SAFETY MEETING WITH ALL JOB ASSOCIATED PERSONNEL TO DISCUSS JOB PROCEDURE, HAZARDS AND STOP WORK AUTHORITY. Water test- PH-6, Chlor-0, Temp-65. Cement temp-70.
Event	7	Start Job	Start Job	7/8/2018	14:06:33	COM4	16.00	8.54	0.00	FILLED LINES WITH 3 BBLS OF FRESH WATER. 2.5 BPM, 80 PSI.
Event	8	Test Lines	Test Lines	7/8/2018	14:14:30	COM4	3020.00	8.42	0.00	PERFORMED A 500 PSI KICKOUT TEST, THEN A 5TH GEAR STALL. THEN TOOK UP TO 3,000 PSI AND HELD FOR A COUPLE MINUTES. NO LEAKS.
Event	9	Pump Spacer 1	Pump Spacer 1	7/8/2018	14:17:24	COM4	18.00	8.37	0.00	PUMPED 30 BBLS OF FRESH WATER SPACER. 2.5 BPM, 60 PSI. FULL RETURNS.
Event	10	Pump Spacer 2	Pump Spacer 2	7/8/2018	14:29:49	COM4	58.00	8.35	2.50	PUMPED 10 BBLS OF DYED WATER SPACER. 2.5 BPM 67 PSI. FULL RETURNS.
Event	11	Pump Cement	Pump Cement	7/8/2018	14:45:10	COM4	176.00	13.78	5.00	PUMPED 170.4 BBLS (550 SKS) OF 13.5#,1.74y, 9.2wr.

CEMENT AT 7 BPM, 180 PSI. FULL RETURNS.

Event	12	Check Weight	Check Weight	7/8/2018	14:51:16	COM4	192.00	13.57	7.50	USED PRESSURIZED MUD SCALES TO WEIGH UP CEMENT. CEMENT WEIGHED UP AT 13.5#
Event	13	Check Weight	Check Weight	7/8/2018	14:54:23	COM4	197.00	13.66	7.50	USED PRESSURIZED MUD SCALES TO WEIGH UP CEMENT. CEMENT WEIGHED UP AT 13.5#
Event	14	Check Weight	Check Weight	7/8/2018	14:57:20	COM4	194.00	13.56	7.50	USED PRESSURIZED MUD SCALES TO WEIGH UP CEMENT. CEMENT WEIGHED UP AT 13.5#
Event	15	Shutdown	Shutdown	7/8/2018	15:10:54	COM4	51.00	15.43	0.00	SHUTDOWN TO DROP AND WASH UP ON TOP OF PLUG.
Event	16	Drop Top Plug	Drop Top Plug	7/8/2018	15:12:48	COM4	18.00	14.58	0.00	ADAM COVINGTON DROPPED HALLIBURTON 9 5/8" PLUG. DRILLER WITNESSED.
Event	17	Pump Displacement	Pump Displacement	7/8/2018	15:12:52	COM4	18.00	14.63	0.00	PUMPED 124 BBLS OF FRESH WATER DISPLACEMENT AT 7.5 BPM, 80 PSI TO START OFF. SLOWED DOWN AT 100 BBLS AWAY TO 5 BPM, THEN DOWN TO 3 BPM AT 110 BBLS AWAY. 20 BBLS OF CEMENT BACK TO SURFACE.
Event	18	Bump Plug	Bump Plug	7/8/2018	15:38:18	COM4	1478.00	8.20	0.00	BUMPED HALLIBURTON 9 5/8" TOP PLUG. FCP-530 PSI. TOOK UP TO 1400 PSI. HELD FOR MINUTE.
Event	19	Pressure Test	Pressure Test	7/8/2018	15:38:28	USER	1483.00	8.20	0.00	PERFORMED A 5 MINUTE, 1500 PSI TEST AS PER SHAWN.
Event	20	Other	Other	7/8/2018	15:43:55	COM4	1499.00	8.22	0.00	bled off pressure to the truck. GOT 1 BBLS BACK TO THE TRUCK. FLOATS HELD.
Event	21	End Job	End Job	7/8/2018	15:45:51	COM4	15.00	8.19	0.00	TD-13.5", 1645' TP 9 5/8" 36# 1644' FC-1601' (43FT) WATER-78 DEGREES, CHLORIDE-0, SULFATE-0, PH-7. 20 BBLS OF CEMENT TO SURFACE, 1 BBL BACK TO THE TRUCK.
Event	22	Safety Meeting - Pre Rig-Down	Pre-Rig Down Safety Meeting	7/8/2018	15:55:00	USER				DISCUSSED RIGGING DOWN HAZARDS AND PROCEDURE ACCORDING TO HMS.
Event	23	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	7/8/2018	16:50:00	USER				HELD MEETING WITH ALL HES EMPLOYEES IN CONVOY TO DISCUSS DIRECTIONS AND HAZARDS ASSOCIATED WITH DRIVING, ALL FIT TO DRIVE.
Event	24	Depart Location	Depart Location	7/8/2018	17:00:00	USER				PRE JOURNEY MANAGEMENT PRIOR TO DEPARTURE.

3.0 Attachments

3.1 Rinn Valley N17-20-10C Surface – Job Chart with Events



3.2 Rinn Valley N17-20-10C Surface – Job Chart without Events

