

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS-EBUS

Rinn Valley N17-20-19N 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 N17-20-9N** 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 24bbls 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 #: 3888541		Quote #:		Sales Order #: 0904977414				
Customer: EXTRACTION OIL & GAS -				Customer Rep: Shawn McIntyre						
Well Name: RINN VALLEY EAST			Well #: N17-20-9N			API/UWI #: 05-123-47174-00				
Field: WATTENBERG		City (SAP): FIRESTONE		County/Parish: WELD		State: COLORADO				
Legal Description: SE SE-18-2N-68W-196FSL-421FEL										
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		1667ft			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	1667	0	0
Open Hole Section			13.5				0	1668	0	0
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	9.625			1667		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	50	bbl	8.33			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	0	bbl	8.33			8	
Cement Left In Pipe		Amount	44 ft		Reason			Shoe Joint	
Mix Water:		pH 7	Mix Water Chloride:		0 ppm		Mix Water Temperature:		
Cement Temperature:		79 °F °C	Plug Displaced by:		8.33 lb/gal		Disp. Temperature:		
Plug Bumped?		Yes	Bump Pressure:		483 psi		Floats Held?		
Cement Returns:		24 bbl	Returns Density:		13.5 lb/gal		Returns Temperature:		
Cement Returns:		24 bbl	Returns Density:		13.5 lb/gal		Returns Temperature:		
Comment OH 1668' 13.5" TP 1667' 9 5/8" 36#, SHOE WAS AT 1624' 24 bbls of cement to surface. 1 bbl back when checking floats.									

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)	Comb Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	7/9/2018	00:30:00	USER				CALLED OUT BY SERVICE COORDINATOR FOR O/L AT 0600
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	7/9/2018	04:00:00	USER				HELD MEETING WITH ALL HES EMPLOYEES IN CONVOY TO DISCUSS DIRECTIONS AND HAZARDS ASSOCIATED WITH DRIVING, ALL FIT TO DRIVE.
Event	3	Depart Shop for Location	Depart Shop for Location	7/9/2018	04:10:00	USER				HELD MEETING WITH ALL PERSONNEL IN CONVOY TO DISCUSS DIRECTIONS AND HAZARDS ASSOCIATED WITH DRIVING, ALL FIT TO DRIVE.
Event	4	Arrive At Loc	Arrive At Loc	7/9/2018	05:00:00	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	7/9/2018	11:30:00	USER	14.00	8.36	0.00	DISCUSSED RIGGING UP HAZARDS AND PROCEDURE ACCORDING TO HMS.
Event	6	Safety Meeting - Pre Job	Safety Meeting - Pre Job	7/9/2018	13:15:00	USER	15.00	8.35	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	7/9/2018	13:31:57	COM4	74.00	8.29	2.10	FILLED LINES WITH 3 BBLS OF FRESH WATER. 3 BPM 160 PSI.
Event	8	Test Lines	Test Lines	7/9/2018	13:34:05	COM4	18.00	8.35	0.00	PERFORMED A 500 PSI KICKOUT TEST AND A 5TH GEAR STALL TO 1800 PSI. THEN PERFORMED A 3000 PSI PRESSURE TEST. HELD FOR 3 MINUTES. NO LEAKS.
Event	9	Pump Spacer 1	Pump Spacer 1	7/9/2018	13:39:53	COM4	15.00	8.37	0.00	PUMPED 30 BBLS OF FRESH WATER SPACER AT 4 BPM 66 PSI. FULL RETURNS.
Event	10	Pump Spacer 2	Pump Spacer 2	7/9/2018	13:46:51	COM4	126.00	8.36	6.00	PUMPED 10 BBLS OF DYE WATER SPACER, AT 6 BPM 120 PSI. FULL RETURNS.

Event	11	Pump Cement	Pump Cement	7/9/2018	13:49:05	USER	108.00	13.37	6.00	PUMPED 170 BBLS (550 SKS) OF 13.5#, 1.74y, 9.2wr CEMENT AT 7.5 BPM, 200 PSI. FULL RETURNS.
Event	12	Check Weight	Check Weight	7/9/2018	14:05:21	COM4	200.00	13.53	7.50	USED PRESSURIZED MUD SCALES TO WEIGH UP CEMENT. CEMENT WEIGHED UP AT 13.5#
Event	13	Shutdown	Shutdown	7/9/2018	14:18:27	COM4	17.00	16.03	0.00	SHUTDOWN TO GET READY TO DROP PLUG AND WASH UP ON TOP OF IT.
Event	14	Drop Top Plug	Drop Top Plug	7/9/2018	14:18:40	COM4	18.00	16.03	0.00	ADAM COVINGTON DROPPED HALLIBURTON 9 5/8" TOP PLUG. DRILLER WITNESSED.
Event	15	Pump Displacement	Pump Displacement	7/9/2018	14:18:46	COM4	18.00	16.02	0.00	PUMPED 125.5 BBLS OF FRESH WATER DISPLACEMENT. STARTING PRESSURE WAS 60 PSI AND INCREASED ONCE WE REACHED THE CEMENT. GOT 24 BBLS OF CEMENT BACK TO SURFACE.
Event	16	Bump Plug	Bump Plug	7/9/2018	14:42:40	COM4	1323.00	8.33	0.00	BUMPED HALLIBURTON 9 5/8" TOP PLUG. FCP 483 PSI. TOOK TO 1400 PSI.
Event	17	Pressure Up	Pressure Up	7/9/2018	14:43:50	USER	1376.00	8.35	1.00	PRESSURED UP TO 1500 PSI, FOR A 5 MIN CASING TEST AS PER SHAWN.
Event	18	Check Floats	Other	7/9/2018	14:50:38	COM4	1303.00	8.36	0.00	bled pressure back to truck. GOT 1 BBL BACK TO THE TRUCK, INDICATING THAT THE FLOATS HELD. 24 BBLS OF CEMENT BACK TO SURFACE
Event	19	End Job	End Job	7/9/2018	14:52:31	COM4	12.00	8.37	0.00	OH 1668' 13.5" TP 1667' 9 5/8" 36#, SHOE WAS AT 1624'
Event	20	Safety Meeting - Pre Rig-Down	Pre-Rig Down Safety Meeting	7/9/2018	15:05:00	USER				DISCUSSED RIGGING DOWN HAZARDS AND PROCEDURE ACCORDING TO HMS.
Event	21	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	7/9/2018	16:20:00	USER				HELD MEETING WITH ALL HES EMPLOYEES IN CONVOY TO DISCUSS DIRECTIONS AND HAZARDS ASSOCIATED WITH DRIVING, ALL FIT TO DRIVE.
Event	22	Depart Location	Depart Location	7/9/2018	16:30:00	USER				PRE JOURNEY MANAGEMENT PRIOR TO DEPARTURE.

3.0 Attachments

3.1 Rinn Valley N17-20-9N Surface – Job Chart with Events

