

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS-EBUS

Rinn Valley N17-20-14N Surface

Sincerely,
Meghan Jacobs

Legal Notice

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Table of Contents

1.0	Cementing Job Summary	4
1.1	Executive Summary	4
2.0	Real-Time Job Summary	7
2.1	Job Event Log	7
3.0	Attachments.....	9
3.1	Rinn Valley N17-20-14N Surface – Job Chart with Events	9
3.2	Rinn Valley N17-20-14N Surface – Job Chart without Events	10

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Rinn Valley N17-20-14N** 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 16bbls 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 #: 3888635		Quote #:		Sales Order #: 0904977069				
Customer: EXTRACTION OIL & GAS -				Customer Rep:						
Well Name: RINN VALLEY EAST			Well #: N17-20-14N			API/UWI #: 05-123-47177-00				
Field: WATTENBERG		City (SAP): FIRESTONE		County/Parish: WELD		State: COLORADO				
Legal Description: SE SE-18-2N-68W-201FSL-561FEL										
Contractor: Shawn McIntyre					Rig/Platform Name/Num: Cartel 11					
Job BOM: 7521 7521										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX38199					Srvc Supervisor: Fernando Luna					
Job										
Formation Name										
Formation Depth (MD)		Top			Bottom					
Form Type										
BHST										
Job depth MD		1584ft			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	8 RD	J-55	0	1584	0	0
Open Hole Section			13.5				0	1585	0	0
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	9.625			1584		Top Plug	9.625		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		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					
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		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	120	bbl	8.33				
Cement Left In Pipe									
Amount		44 ft			Reason			Shoe Joint	
Mix Water:pH ##		Mix Water Chloride:## ppm			Mix Water Temperature:## °F °C				
Cement Temperature:## °F °C		Plug Displaced by:## lb/gal kg/m3 XXXX			Disp. Temperature:## °F °C				
Plug Bumped?Yes/No		Bump Pressure:#### psi MPa			Floats Held?Yes/No				
Cement Returns:## bbl m3		Returns Density:## lb/gal kg/m3			Returns Temperature:## °F °C				
Comment 16 bbls of cement to surface									

2.0 Real-Time Job Summary

2.1 Job Event Log

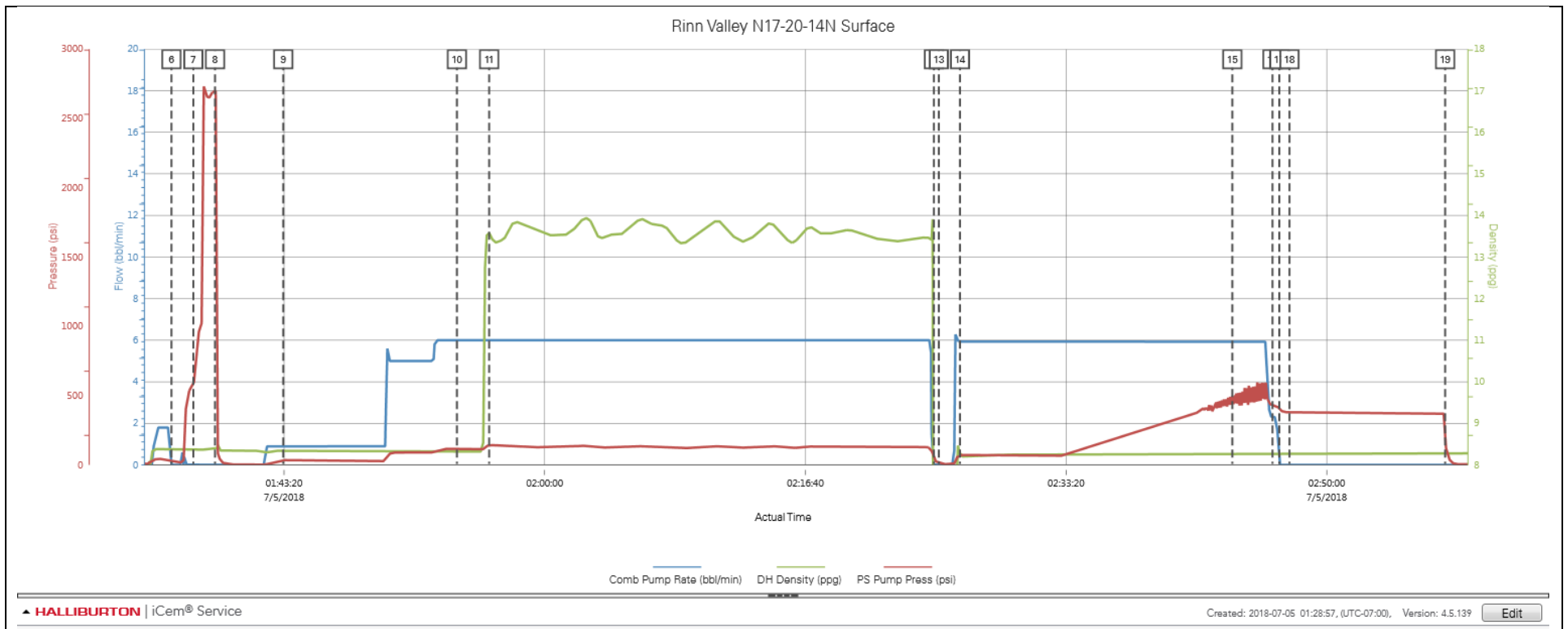
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comb Pump Rate (bbl/min)	DH Density (ppg)	PS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	7/4/2018	16:00:00	USER				Initial crew callout
Event	2	Arrive At Loc	Arrive At Location	7/4/2018	20:00:00	USER				HES crew arrives on location, signs in with rig safety captain, conducts hazard hunt, spots equipment, conducts pre-rig up safety meeting, completes jsa, and verify volumes with co-rep
Event	3	Arrive At Loc	Water Test	7/4/2018	20:01:00	USER				Water test=pH: 7, Cl: <120, temp 66 degrees, Well Fluid density: 8.4 water temp: approx.. 86, calibrate pressurized mud scales via provided fresh water source @ 8.33ppg
Event	4	Arrive At Loc	Well Info	7/4/2018	20:02:00	USER				TD: 1610' , TP : 1596' , SJ: 44' , OH: 13 1/2" , Casing: Size/Weight/: 9 5/8" 36# J-55, Previous Casing Shoe: n/a'
Event	5	Arrive At Loc	Job Info	7/4/2018	20:03:00	USER				Spacer 1: 30bbl fresh water TOS: approx.. surface' Spacer 2: 10bbls red dye water TOS: Surface Lead Cement: approx.. 170bbls/957cuft/550sks lead cement @ +/- 13.5 density/1.74 yield/9.2 water TOC: approx... surface' , Displacement: 120bbls fresh water, CMT left in Pipe: 44' Reason: shoe joint
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	7/5/2018	01:36:08	USER	0.00	8.36	31.00	Conduct safety meeting with all on location: discuss job procedure/contingency plans/hazards involved prior to pumping
Event	7	Pressure Test	Pressure Test	7/5/2018	01:37:32	USER	0.00	8.36	580.00	High pressure test surface lines @ 580psi
Event	8	Pressure Test	Pressure Test	7/5/2018	01:38:55	USER	0.00	8.40	2698.00	High pressure test surface lines @ 2698psi
Event	9	Pump Spacer 1	Pump Spacer 1	7/5/2018	01:43:17	USER	0.90	8.34	34.00	Pump 30bbls fresh water spacer
Event	10	Pump Spacer 2	Pump Spacer 2	7/5/2018	01:54:23	USER	6.00	8.32	116.00	Pump 10bbls red dye water
Event	11	Pump Cement	Pump Cement	7/5/2018	01:56:27	USER	6.00	13.60	143.00	Scale and pump approx. 170bbls/957cuft/550sks lead cement @ +/- 13.5 density/1.74 yield/9.2 water (Type I-II Cement Pre-Mix Dry 94

Poly-E-Flake Pre-Mix Dry 0.1250
 Enhancer 923, CMT Pre-Mix Dry 2
 Cal-Seal 60 Pre-Mix Dry 2
 Econolite Pre-Mix Dry 1.25
 Versaset Pre-Mix Dry 0.20)

Event	12	Shutdown	Shutdown	7/5/2018	02:24:53	USER	0.00	1.63	44.00	
Event	13	Drop Top Plug	Drop Top Plug	7/5/2018	02:25:12	USER	0.00	0.22	11.00	Hes service supervisor drops hwe top plug
Event	14	Pump Displacement	Pump Displacement	7/5/2018	02:26:33	USER	6.00	8.25	68.00	Pump 120bbbls fresh water displacement
Event	15	Cement Returns to Surface	Cement Returns to Surface	7/5/2018	02:43:58	USER	5.90	8.27	500.00	Approx. 16bbbls/90cuft/51skcs cement returns to surface
Event	16	Slow Rate	Slow Rate	7/5/2018	02:46:32	USER	2.30	8.27	434.00	Slow rate to 2bpm
Event	17	Shutdown	Shutdown	7/5/2018	02:46:58	USER	0.00	8.27	402.00	
Event	18	Pressure Test	Pressure Test	7/5/2018	02:47:37	USER	0.00	8.27	380.00	Hold shut in pressure 10min as per co-rep request
Event	19	Check Floats	Check Floats	7/5/2018	02:57:34	USER	0.00	8.29	194.00	Verify float shoe holds
Event	20	Shutdown	Depart Location	7/5/2018	05:00:00	USER				HES crew conducts pre-rig down safety meeting, signs out with rig safety captain and departs location
Event	21	Shutdown	Gratitude	7/5/2018	05:01:00	USER				Thank you for choosing Halliburton Energy Services

3.0 Attachments

3.1 Rinn Valley N17-20-14N Surface – Job Chart with Events



3.2 Rinn Valley N17-20-14N Surface – Job Chart without Events

