

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

United States of America

Date: Wednesday, July 11, 2018

Rinn Valley East N17-20-13C Surface

Job Date: Friday, July 06, 2018

Sincerely,

Bryce Hinsch

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 East N17-20-13C** 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 22 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 #: 3888512		Quote #:		Sales Order #: 0904977412					
Customer: EXTRACTION OIL & GAS -				Customer Rep:							
Well Name: RINN VALLEY EAST			Well #: N17-20-13C		API/UWI #: 05-123-47173-00						
Field: WATTENBERG		City (SAP): FIRESTONE		County/Parish: WELD		State: COLORADO					
Legal Description: SE SE-18-2N-68W-200FSL-533FEL											
Contractor: Shawn McIntyre				Rig/Platform Name/Num: Cartel 11							
Job BOM: 7521 7521											
Well Type: HORIZONTAL OIL											
Sales Person: HALAMERICA\HX38199				Srv 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 ft3/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 ft3/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
9.20 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	Fresh Water	Fresh Water	122	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									

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	7/5/2018	16:00:00	USER				Initial crew callout
Event	2	Arrive At Loc	Arrive At Location	7/5/2018	19:00:00	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	7/5/2018	19:01:00	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	Call Out	Well Info	7/5/2018	19:02:00	USER				TD: 1617', TP : 1621', SJ: 41.3', OH: 13 1/2", Casing: Size/Weight/: 9 5/8" 36# J-55, Previous Casing Shoe: n/a'
Event	5	Call Out	Job Info	7/5/2018	19:03:00	USER				Spacer 1: 30bbl fresh water TOS: approx.. surface' Spacer 2: 10bbbls red dye water TOS: Surface Lead Cement: approx.. 170bbbls/957cuft/550sks lead cement @ +/- 13.5 density/1.74 yield/9.2 waterTOC: approx... surface', Displacement: 122bbbls fresh water, CMT

										left in Pipe: 41.3' Reason: shoe joint
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	7/6/2018	00:30:00	USER				Conduct safety meeting with all on location: discuss job procedure/contingency plans/hazards involved prior to pumping
Event	7	Pressure Test	Pressure Test	7/6/2018	01:09:54	USER	0.00	8.38	472.00	Low pressure test surface lines @ 471psi
Event	8	Pressure Test	Pressure Test	7/6/2018	01:13:26	USER	0.00	8.36	8.00	High pressure test surface lines @ 2757psi
Event	9	Pump Spacer 1	Pump Spacer 1	7/6/2018	01:18:01	USER	1.60	8.38	73.00	Pump 30bbls fresh water spacer
Event	10	Pump Spacer 2	Pump Spacer 2	7/6/2018	01:25:09	USER	6.00	8.38	133.00	Pump 10bbls red dye water spacer
Event	11	Pump Cement	Pump Cement	7/6/2018	01:26:57	USER	6.00	13.18	162.00	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	Start Job	Shutdown	7/6/2018	01:56:26	USER	0.20	13.95	82.00	
Event	13	Drop Top Plug	Drop Top Plug	7/6/2018	01:56:48	USER	0.00	16.10	6.00	Hes service supervisor drops hwe top plug
Event	14	Pump Displacement	Pump Displacement	7/6/2018	01:57:50	USER	6.00	13.56	54.00	Pump 122bbls fresh water displacement

Event	15	Cement Returns to Surface	Cement Returns to Surface	7/6/2018	02:14:16	USER	6.00	8.34	422.00	Approx. 22bbls/123cuft/71sk cement returns to surface
Event	16	Slow Rate	Slow Rate	7/6/2018	02:17:21	USER	2.00	8.34	405.00	Slow rate to 2bpm
Event	17	Pressure Test Lubricator	Pressure Test	7/6/2018	02:23:00	USER	0.00	8.35	942.00	Pressure test casing 10min @ 944psi
Event	18	Bump Plug	Bump Plug	7/6/2018	02:23:00	USER	0.00	8.35	942.00	Bump hwe top plug @ 942psi
Event	19	Bleed Casing	Bleed Casing	7/6/2018	02:32:14	USER	0.00	8.33	266.00	Bleed off surface lines/casing (successful casing test)
Event	20	Depart Location	Depart Location	7/6/2018	05:00:00	USER				HES crew conducts pre-rig down safety meeting, signs out with rig safety captain and departs location
Event	21	Depart Location	Gratitude	7/6/2018	05:01:00	USER				Thank you for choosing Halliburton Energy Services

3.0 Attachments

3.1 Extraction Rinn Valley East N17-20-13C Surface Job Chart

