

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Date: Sunday, November 19, 2017

MILKSHAKE 31W-20-9N SURFACE

Job Date: Thursday, November 16, 2017

Sincerely,
Julia Nichols

Legal Notice

Disclaimer:

All information in this report is provided subject to the terms and conditions which govern the services provided by Halliburton. Halliburton personnel use their best efforts in gathering information and their best judgment in interpreting it, but any interpretation, research, analysis or recommendation furnished by Halliburton are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and empirical relationships and assumptions are not infallible, and with respect to which professionals in the industry may differ. Accordingly, HALLIBURTON IS UNABLE TO GUARANTEE THE ACCURACY OF ANY CHART INTERPRETATION, RESEARCH ANALYSIS, OR JOB RECOMMENDATION and any interpretation or recommendation is not for use of or reliance upon by any third party. The customer has full responsibility for any of its decisions which are based on the information provided in this report.

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	Custom Results – Job Chart with Events	9
3.2	Custom Results – 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 **MILKSHAKE 31W-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 30 barrels 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]

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 369404	Ship To #: 3836782	Quote #:	Sales Order #: 0904437822
Customer: EXTRACTION OIL & GAS -		Customer Rep: SEAN MACENTIRE	
Well Name: MILKSHAKE	Well #: 31W-20-9N	API/UWI #: 05-123-45819-00	
Field: WATTENBERG	City (SAP): WINDSOR	County/Parish: WELD	State: COLORADO
Legal Description: SW SW-32-6N-67W-1167FSL-225FWL			
Contractor:	Rig/Platform Name/Num: Cartel 41		
Job BOM: 7521 7521			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX38199	Srcv Supervisor: Jordan Larue		
	Job		

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	1554ft		Job Depth TVD 1554FT
Water Depth			Wk Ht Above Floor 2FT
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	NEW	9.625	8.921	36	8 RD	J-55	0	1555	0	1555
Open Hole Section	NEW		13.5				0	1555	0	1555

Tools and Accessories									
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	9.625	1	HES	1555					
Float Collar	9.625	1	HES	1513					
Insert Float	9.625	1	HES	1512					
Top Plug	9.625	1	HES	NA					
Plug Container	9.625	1	HES	NA					

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	FRESH H2O Spacer	Red Dye Spacer	10	bbl	8.33			8	420	
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	Red Dye Spacer	Red Dye Spacer	10	bbl	8.34			8	420	

HALLIBURTON

Cementing Job Summary

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	SwiftCem	SWIFTCEM (TM) SYSTEM	525	sack	13.5	1.74	9.2	8	4830
9.20 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
4	Fresh Water	Fresh Water	117	bbl	8.33		8.33	8	4914
Cement Left In Pipe	Amount	42 ft			Reason			Shoe Joint	
Mix Water:	pH 7	Mix Water Chloride:	400 ppm		Mix Water Temperature:			80 °F	
Plug Displaced By:	8.33 lb/gal	Plug Bumped?	Yes		Bump Pressure:			1500 PSI	
Floats Held?	YES	Cement Returns:	30 BBLs		Returns Density:			13.5 lb/gal	
EST. HEIGHT CMT:	1550FT	TOP OF CMT:	SURFACE 0FT		FINAL CIRC. PSI:			350 PSI	
Comment									

2.0 Real-Time Job Summary

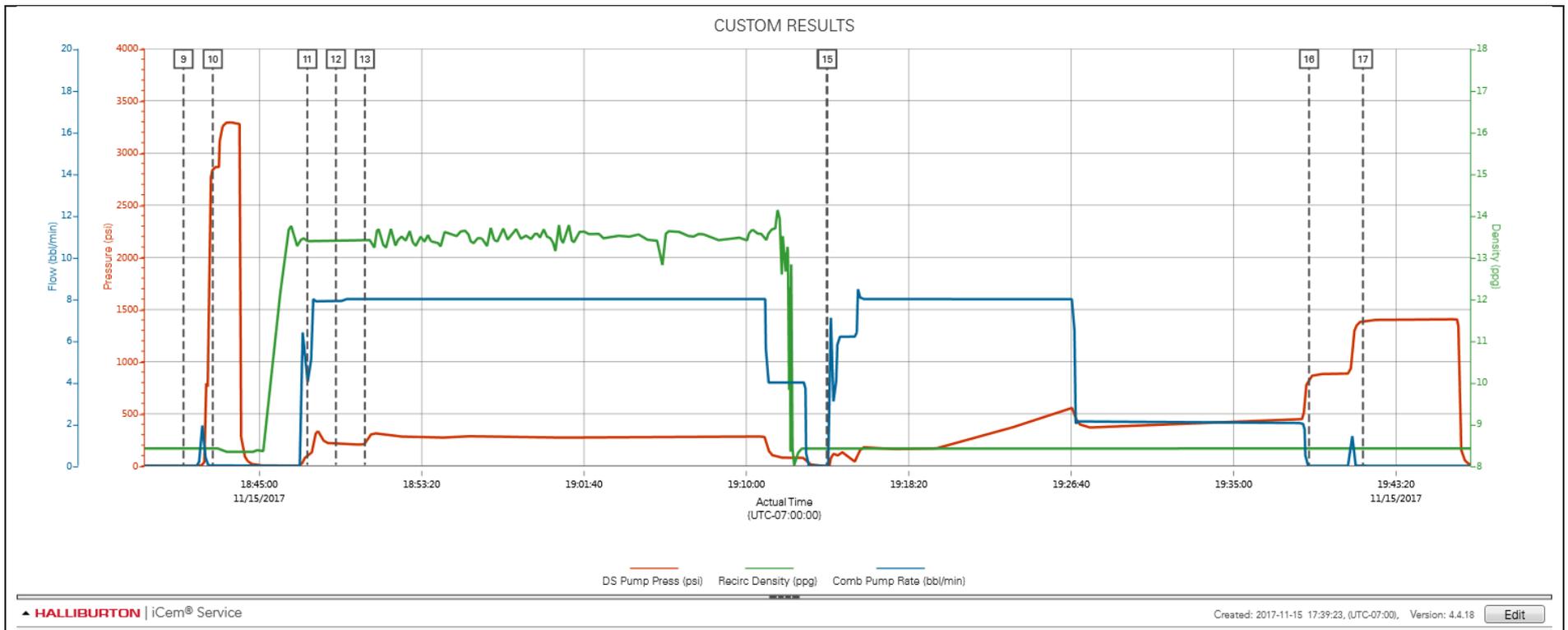
2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press <i>(psi)</i>	Recirc Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	Comments
Event	1	Call Out	Call Out	11/15/2017	10:00:00	USER				ON LOCATION TIME 1500
Event	2	Arrive At Loc	Arrive at location	11/15/2017	12:00:00	USER				BULK DRIVER ARRIVED WITH PRODUCT PUMP CREW STAGED ON LOC FROM PREVIOUS HOLE
Event	3	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	11/15/2017	12:15:00	USER				RIG DRILLING
Event	4	Other	Well Info	11/15/2017	12:20:00	USER				TD 1550, TP 1555, 9.625" 36# J55, ST 42'
Event	5	Other	Water Test	11/15/2017	12:30:00	USER				ph 7, cl <400, temp 58*F, TANN LIGG PASS
Event	6	Pre-Rig Up Safety Meeting	PRE RIG UP SAFETY MEETING	11/15/2017	15:30:00	USER				JSA COMPLETED- RIG HANDS SIGN JSA ON CEMENTING PROGRAM
Event	7	Rig-Up Equipment	RIG UP EQUIPMENT	11/15/2017	15:45:00	USER				CREW RIGGED UP IRON/NO INJURIES
Event	8	Pre-Job Safety Meeting	Pre-Job Safety Meeting	11/15/2017	18:30:00	USER	4.00	8.42	0.00	JSA COMPLETED: ALL PERSONNEL SIGNED SIGN UP SHEET. REVIEW PUMP SCHEDULE AND WASH UP.
Event	9	Start Job	Start Job	11/15/2017	18:41:07	COM10				START JOB
Event	10	Test Lines	Test Lines	11/15/2017	18:42:37	COM10	2848.00	8.42	0.00	3500 PSI TEST GOOD
Event	11	Pump Spacer 1	Pump Spacer 1	11/15/2017	18:47:28	COM10	94.00	13.39	4.00	10 BBL H2O 8BPM 250 PSI
Event	12	Pump Spacer 2	Pump Spacer 2	11/15/2017	18:48:56	COM10	227.00	13.41	7.90	10 BBL RED DYE H2O 8PM 250PSI
Event	13	Pump Lead Cement	Pump Lead Cement	11/15/2017	18:50:25	COM10	209.00	13.42	8.00	525 SACKS SCALED @ 13.5# 8BPM 350 PSI
Event	14	Drop Top Plug	Drop Top Plug	11/15/2017	19:14:07	COM10	-3.00	8.41	0.00	PLUG WENT
Event	15	Pump Displacement	Pump Displacement	11/15/2017	19:14:09	COM10	-3.00	8.41	0.00	DISPLACED FRESH WATER @ 8BPM... SPACER BACK AT 75 GONE CMT BACK AT 87 GONE 30BBLs CMT TO SURFACE... SLOWED TO 2BPM AT 90 GONE SO RIG COULD FILL CONDUCTORS,.. FINAL CIRC PSI @ 400PSI
Event	16	Bump Plug	Bump Plug	11/15/2017	19:38:52	COM10				FINAL BUMP 1000 PSI FOR 2 MIN THEN 1500 FOR 5MIN

Event	17	Other	Other	11/15/2017	19:41:38	COM10	CHECK FLOATS THEY HELD 1BBL BACK... PUMPED 5BBL TO CELLAR SO RIG COULD WASH UP MUD LINES AND PUMP...
Event	18	End Job	End Job	11/15/2017	19:50:07	COM10	END JOB
Event	19	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	11/15/2017	20:00:00	USER	REVIEW JSA
Event	20	Rig-Down Equipment	Rig-Down Equipment	11/15/2017	20:15:00	USER	NO INJURIES
Event	21	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	11/15/2017	21:00:00	USER	INFORMED BULK HANDS TO GO GET ANOTH LOAD
Event	22	Crew Leave Location	Crew Leave Location	11/15/2017	21:05:00	USER	BULK HANDS HEADED BACK TO YARD TO GET ANOTHER LOAD FOR NEXT WELL....

3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

