

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 300466	Ship To #: 3819716	Quote #: 0022380186	Sales Order #: 0904464787
Customer: ANADARKO PETROLEUM CORP-EBUS		Customer Rep: James Atkins	
Well Name: ROBIN	Well #: 9-13HZ	API/UWI #: 05-123-45251-00	
Field: WATTENBERG	City (SAP): HUDSON	County/Parish: WELD	State: COLORADO
Legal Description: SE SE-9-1N-65W-318FSL-919FEL			
Contractor: NABORS DRLG		Rig/Platform Name/Num: NABORS X22	
Job BOM: 7523 7523			
Well Type: HORIZONTAL GAS			
Sales Person: HALAMERICA\HX41066		Srv Supervisor: Ryan Stevens	

Job

Formation Name			
Formation Depth (MD)	Top	Bottom	
Form Type	BHST		
Job depth MD	18386ft	Job Depth TVD	7347
Water Depth		Wk Ht Above Floor	5
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		J-55	0	1897	0	1897
Casing	NEW	5.5	4.892	17	LTC	HCP110	0	18386	0	7347
Open Hole Section		7.875					1897	18399	1897	7347

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe					Top Plug	5.5	1	WEATH
Float Shoe	5.5	1	WEATH	18386	Bottom Plug	5.5	1	WEATH
Float Collar	5.5	1	WEATH	18385	SSR plug set			
Insert Float					Plug Container	5.5	1	HES
Stage Tool					Centralizers	5.5	266	WEATH

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	Tuned Spacer III	Tuned Spacer III	80	bbl	10.5	6.25	40.2	5	3,216	
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	ElastiCem	ELASTICEM (TM) SYSTEM	630	sack	13.2	1.57	7.53	8	4,743	
			7.54 Gal	FRESH WATER						

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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	EconoCem	ECONOCEM (TM) SYSTEM	1,330	sack	13.5	1.68	7.98	8	10,613
4	Biocide Water and MMCR	Biocide Water and MMCR	426	bbl	8.34		8.34	8	17,892
0.50 gal/bbl		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)							
5	Biocide Water	Biocide Water	20	bbl	8.34		8.34	8	
Cement Left in Pipe		Amount	ft		Reason			Shoe Joint	
Mix Water:		pH 7	Mix Water Chloride:		Mix Water Temperature:			60 F	
Cement Temperature:			Plug Displaced by:		Disp. Temperature:			60 °F	
Plug Bumped?		Yes	Bump Pressure:		Floats Held?			Yes	
Cement Returns:		0	Returns Density:		Returns Temperature:				
Comment 55 BBLs OF SPACER BACK TO SURFACE. PUMP 3 BBLs OF FRESH WATER AT THE END OF DISPLACEMENT TO CREATE A WET SHOE.									

2.0 Real-Time Job Summary

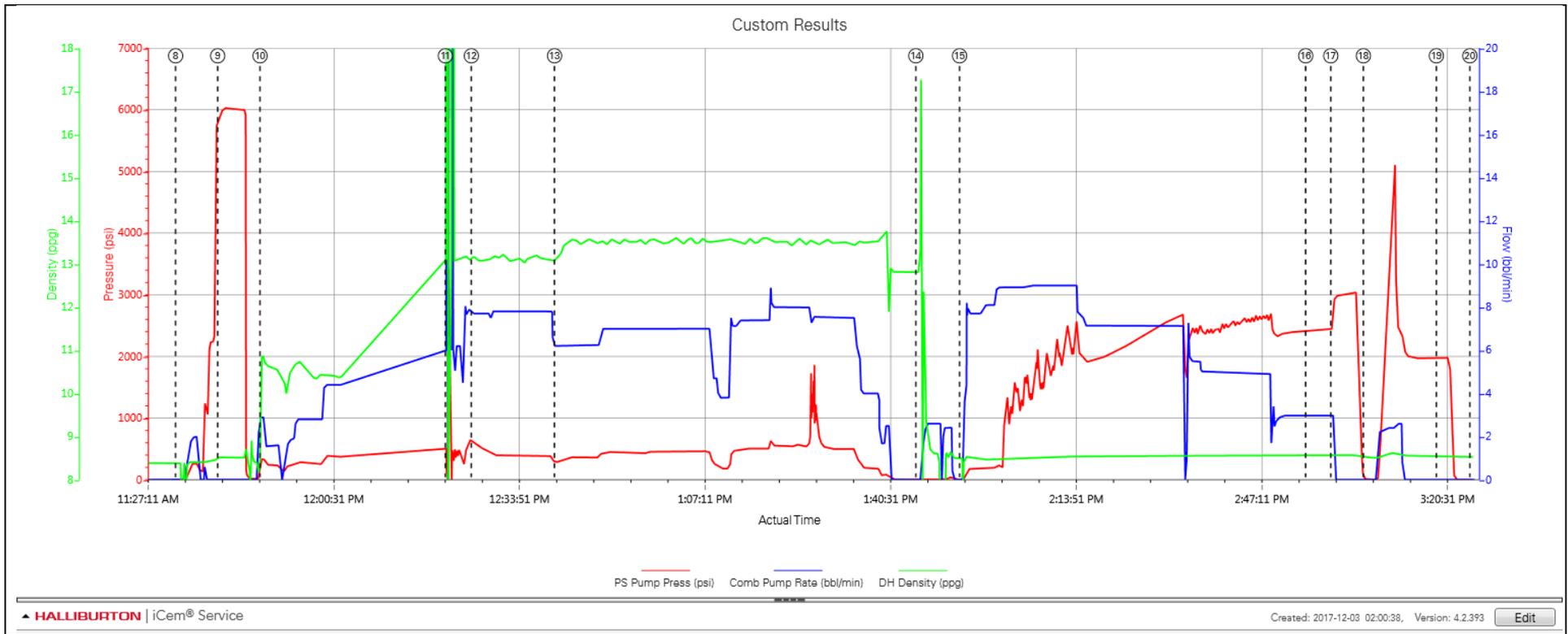
2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Pass-Side Pump Pressure (psi)	Combined Pump Rate (bbl/min)	Downhole Density (ppg)	Comments
Event	1	Call Out	Call Out	12/3/2017	00:30:00	USER				CREW CALLED OUT FOR JOB.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/3/2017	04:00:00	USER				CREW DISCUSSED ROUTE AND HAZARDS FOR TRAVEL TO LOCATION
Event	3	Crew Leave Yard	Crew Leave Yard	12/3/2017	04:30:00	USER				STARTED JOURNEY MANAGEMENT
Event	4	Arrive At Loc	Arrive At Loc	12/3/2017	04:45:00	USER				END JOURNEY MANAGEMENT. MEET WITH COPANY MA AND DISCUSS JOB PROCEDURE AND ANY SAFETY HAZARDS ON LOCATION.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	12/3/2017	04:50:00	USER				CREW DISCUSED HAZARDS FOR RIGGING UP.
Event	6	Rig-Up Equipment	Rig-Up Equipment	12/3/2017	05:00:00	USER				CREW SPOTTED EQUIPMENT AND BEGAIN RIGGING UP EQUIPMENT AND BULK EQUIPMET TO PERFORM JOB.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	12/3/2017	10:40:00	USER	-7.00	0.00	8.41	DISSCUSS HAZARDS AND JOB PROCEDURE FOR PUMPING JOB.
Event	8	Start Job	Start Job	12/3/2017	11:32:33	COM4	-1.00	0.00	8.39	START RECORDING JOB DATA
Event	9	Test Lines	Test Lines	12/3/2017	11:40:06	COM4	5861.00	0.00	8.52	PRESSURE TEST LINES 6,000 PSI. SET KICK OUTS @ 500 PUMP KICKED OUT @ 1223 BRING PRESSURE UP 6102 PSI
Event	10	Pump Spacer 1	Pump Spacer 1	12/3/2017	11:47:42	COM4	335.00	2.90	10.90	PUMP 80 BBLS OF TUNED SPACER @ 10.5. WEIGHT VERIFIED BY PRESSURIZED MUD SCALES.
Event	11	Drop Plug	Drop Plug	12/3/2017	12:21:00	USER	361.00	6.00	13.13	DROP BOTTOM PLUG
Event	12	Pump Lead Cement	Pump Lead Cement	12/3/2017	12:25:39	COM4	623.00	7.70	13.18	PUMP 630 SXS OF ELASTICEM @ 13.2 PPG. 176 BBLS. TOT CALCULATED @ 519.9'
Event	13	Pump Tail Cement	Pump Tail Cement	12/3/2017	12:40:35	COM4	291.00	6.20	13.19	PUMP 1,330 SXS OF ECONOCEM @ 13.5 PPG. 397.94 BBLS. TOT CALCULATED @ 5521
Event	14	Drop Plug	Drop Plug	12/3/2017	13:45:29	COM4	6.00	0.00	12.81	SHUT DOWN DROP PLUG CO-MAN VERIFIED

Event	15	Pump Displacement	Pump Displacement	12/3/2017	13:53:20	COM4	-4.00	0.00	8.51	START PUMPING 426 BBLS OF FRESH WATER DISPLACEMENT. 9 BPM. CAUGHT CEMENT @ 75 AWAY, SLOWED RATE TO 7 BPM @ 180 AWAY, SLOWED RATE @ 310 AWAY TO 5BPM, SLOWED RATE @ 390 AWAY TO 3 BPM TO BUMP PLUG
Event	16	Bump Plug	Bump Plug	12/3/2017	14:55:29	COM4	2411.00	3.00	8.55	BUMP PLUG @ CALCULATED DISPLACEMENT OF 426 BBLS OF FRESH WATER. FINLE LIFT PRESSURE WAS 2465, BUMP PRESSURE WAS 2989.
Event	17	Check Floats	Check Floats	12/3/2017	15:00:00	USER	2709.00	3.00	8.56	CHECK FLOATS. FLOATS HELD.
Event	18	Other	Burst Plug	12/3/2017	15:05:51	COM4	4.00	0.00	8.53	BURST TOP PLUG TO CREATE WET SHOE, PLUG BURST @ 5,149 PSI PUMPED 3 BBLS OF FRESH WATER AFTER PLUG BURST.
Event	19	Shutdown	Shutdown	12/3/2017	15:18:57	COM4	1984.00	0.00	8.56	SHUT DOWN BLEED OF PRESSURE AND CHECK FLOATS AGAIN.
Event	20	End Job	End Job	12/3/2017	15:24:58	COM4				STOP RECORDING JOB DATA
Event	21	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	12/3/2017	15:45:00	USER				CREW DISCUSSED HAZARDS WITH RIGGING DOWN.
Event	22	Rig-Down Equipment	Rig-Down Equipment	12/3/2017	16:00:00	USER				CREW RIGGED DOWN ALL EQUIPMENT AND STORED IT FOR TRAVEL.
Event	23	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/3/2017	16:00:01	USER				CREW DISSUCESD HAZARDS ALONG ROUTE OF TRAVEL
Event	24	Crew Leave Location	Crew Leave Location	12/3/2017	16:00:02	USER				CREW LEFT LOCATION, THANKS RYAN STEVENS AND CREW.

3.0 Attachments

3.1 Custom Results – Job Chart with Events



3.2 Custom Results – Job Chart without Events

