

HALLIBURTON

## Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 300466	Ship To #: 3751860	Quote #:	Sales Order #: 0904361840							
Customer: ANADARKO PETROLEUM CORP-EBUS		Customer Rep: Josh Barkell								
Well Name: WAGNER	Well #: 1N-E10HZ	API/UWI #: 05-123-43475-00								
Field: WATTENBERG	City (SAP): IONE	County/Parish: WELD	State: COLORADO							
Legal Description: SE NE-22-1N-67W-1639FNL-761FEL										
Contractor: PRECISION DRLG		Rig/Platform Name/Num: PRECISION 464								
Job BOM: 7522 7522										
Well Type: HORIZONTAL GAS										
Sales Person: HALAMERICA\HX41066		Srv Supervisor: Nicholas Peterson								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type	BHST									
Job depth MD	5,884'	Job Depth TVD	5,893'							
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		9.625	8.921	36		J-55	0	1880	0	0
Casing		7	6.276	28	LTC	HCP110	0	5884	0	0
Open Hole Section			8.5				1880	5893	0	5893
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make		
Guide Shoe	7	1	WEATH	5893	Top Plug	7	1	WEATH		
Float Shoe	7	1	WEATH	5837	Bottom Plug	7	1	WEATH		
Float Collar					SSR plug set					
Insert Float					Plug Container	7	1	HES		
Stage Tool					Centralizers	7	95			
Fluid Data										
Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
1	Tuned Spacer III	Tuned Spacer III	40	bbl	10.5	6.25		4	1,608	
0.70 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)								
88.91 lbm/bbl		BARITE, BULK (100003681)								
37.58 gal/bbl		FRESH WATER								
0.70 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)								

Last updated on 10/11/2017 11:41:10 AM

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iCem® Service

(v. 4.4.18)

Created: Monday, October 23, 2017

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Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
2	ElastiCem	ELASTICEM (TM) SYSTEM	550	sack	13.2	1.57	7.53	5	4,143	
0.20 %		HR-5, 50 LB SK (100005050)								
7.53 Gal		FRESH WATER								
0.10 %		SUPER CBL, 50 LB PAIL (100003668)								
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal	
3	Displacement Fluid	OBM	223	bbl	9.5			5		
Cement Left In Pipe		Amount	47 ft					Reason		Shoe Joint
Mix Water: pH 7.0		Mix Water Chloride:	0 ppm			Mix Water Temperature:		40 °F		
Cement Temperature: ## °F		Plug Displaced by:	9.0 lb/gal			Disp. Temperature: ## °F				
Plug Bumped? Yes		Bump Pressure:	500 psi			Floats Held? Yes				
Cement Returns: 0 bbl		Returns Density:	9.0 lb/gal			Returns Temperature: ## °F				
Comment: Pumped 40 bbls Tuned Spacer, 154 bbls cement, 223 bbls OBM displacement. No cement or spacer to surface.										

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Comments
Event	1	Call Out	Call Out	10/10/2017	22:00:00	USER				CREW CALLED OUT AT 22:00, REQUESTED ON LOCATION 04:00. CREW PICKED UP CEMENT, CHEMICALS, AND PLUG CONTAINER FROM FT. LUPTON, CO. BULK 660 10025027, 10025030, AND PUMP 11189145.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	10/11/2017	00:30:00	USER				CREW DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Arrive At Loc	Arrive At Loc	10/11/2017	01:00:00	USER				END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING- 9.625" 36 LB/FT @ 1,880', 7" CASING: 26 LB/FT TOTAL 5,883.94', 8.5" HOLE, TD 5,893', 46.97' SHOE TRAC. PUMP OBM DISPLACEMENT. CASING LANDED @ 06:00 10/11/2017. RIG CIRCULATED 1 BOTTOMS UP.
Event	4	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	10/11/2017	05:15:00	USER				HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP, AND WEATHER.
Event	5	Rig-Up Equipment	Rig-Up Equipment	10/11/2017	05:30:00	USER				CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON AND WATER HOSES TO PERFORM JOB.
Event	6	Rig-Up Completed	Rig-Up Completed	10/11/2017	06:30:00	USER	0.00	0.10	-16.00	RIG UP COMPLETE WAITED ON RIG TO FINISH CIRCULATING.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	10/11/2017	07:30:00	USER	8.38	0.80	-17.00	SAFETY MEETING WITH HALLIBURTON, AND RIG PERSONNEL. CREW COMMUNICATED POTENTIAL SAFETY HAZARDS, AND JOB DETAILS.
Event	8	Start Job	Start Job	10/11/2017	07:55:41	COM5	8.41	0.00	-22.00	BEGIN RECORDING JOB DATA.
Event	9	Test Lines	Test Lines	10/11/2017	08:01:50	COM5	8.55	0.00	2691.00	PRESSURE TESTED IRON TO 2,500 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 1,165 PSI, 5TH GEAR STALL OUT @ 2,655 PSI.
Event	10	Pump Spacer 1	Pump Spacer 1	10/11/2017	08:10:09	COM5	10.79	2.80	167.00	PUMP 40 BBLS OF TUNED SPACER @ 10.5 LB/GAL, 10 GALLONS D-AIR, 30 GALS DUAL SPACER B, 30 GALS MUSOL A. PUMP RATE 4 BBLS/MIN @ 360 PSI. DENSITY VERIFIED

BY PRESSURIZED MUD SCALES.

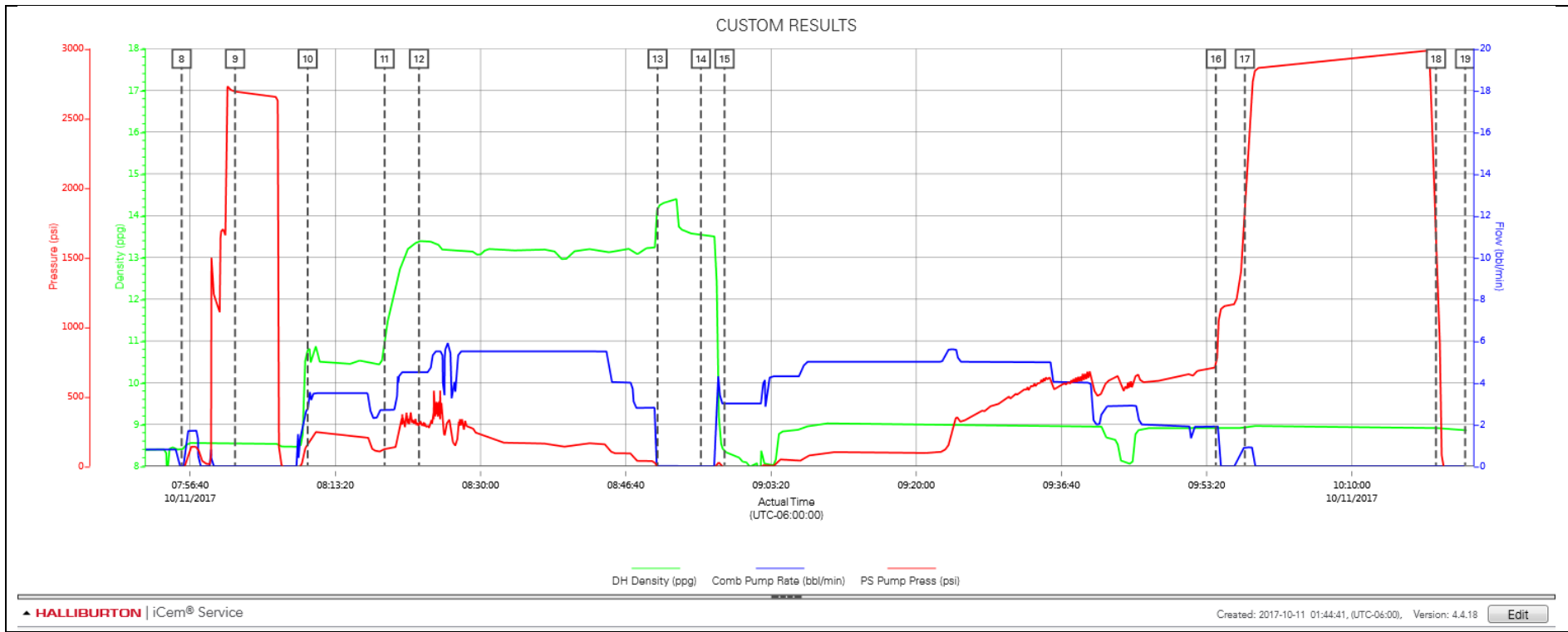
Event	11	Drop Bottom Plug	Drop Bottom Plug	10/11/2017	08:18:59	USER	10.95	2.70	119.00	PLUG LEFT CONTAINER VERIFIED BY DRILLER
Event	12	Pump Cement	Pump Cement	10/11/2017	08:22:56	COM5	13.41	4.50	308.00	PUMP 550 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.57 FT3/SK, 7.53 GAL/SK, 153.79 BBLS. HOT CALCULATED @ 5,883.94', TOT CALCULATED @ SURFACE. CALCULATED TO GET 7 BBLS CEMENT BACK TO SURFACE. PUMP RATE 5 BBLS/MIN @ 490 PSI. DENSITY VERIFIED BY PRESSURIZED MUD SCALES
Event	13	Shutdown	Shutdown	10/11/2017	08:50:19	COM5	14.21	0.00	-19.00	BREAK PLUG CONTAINER CAP TO LOAD TOP PLUG.
Event	14	Drop Top Plug	Drop Top Plug	10/11/2017	08:55:17	USER	13.54	0.00	-25.00	PLUG LEFT CONTAINER, VERIFIED BY CO. MAN.
Event	15	Pump Displacement	Pump Displacement	10/11/2017	08:58:00	COM5	8.32	3.00	-11.00	BEGIN CALCULATED DISPLACEMENT OF 223 BBLS WITH OBM. PUMPED THE FIRST 20 BBLS WITH FRESH WATER, PUMPED THE REST OF DISPLACEMENT WITH OBM. NO SPACER OR CEMENT TO SURFACE. RIG PUMPED 20 BBLS DIESEL BEFORE TURNING WELL OVER TO HALLIBURTON, NO DIESEL TO SURFACE. CAUGHT CEMENT @ 110 BBLS INTO DISPLACEMENT. SLOW RATE TO 4 BPM @ 170 BBLS INTO DISPLACEMENT PER COMPANY MAN SINCE RETURNS SLOWED DOWN.
Event	16	Bump Plug	Bump Plug	10/11/2017	09:54:23	USER	8.92	1.90	707.00	PLUG BUMPED AT CALCULATED DISPLACEMENT. 753 PSI PRESSURED 500 PSI OVER BUMP.
Event	17	Pressure Test	Pressure Test	10/11/2017	09:57:43	USER	8.94	0.90	1794.00	PRESSURED UP TO 3,000 PSI FOR 15 MIN CASING PRESSURE TEST.
Event	18	Check Floats	Check Floats	10/11/2017	10:19:39	USER	8.92	0.00	1655.00	RELEASED PRESSURE, FLOATS HELD, 2 BBLS BACK.
Event	19	End Job	End Job	10/11/2017	10:23:00	COM5	8.87	0.00	-36.00	STOP RECORDING JOB DATA.
Event	20	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	10/11/2017	10:45:00	USER				DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	21	Rig-Down Equipment	Rig-Down Equipment	10/11/2017	11:00:00	USER				RIG DOWN BULK AND MIXING EQUIPMENT.
Event	22	Rig-Down Completed	Rig-Down Completed	10/11/2017	13:30:00	USER				ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event	23	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	10/11/2017	13:45:00	USER				CREW DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.

Event	24	Crew Leave Location	Crew Leave Location	10/11/2017	14:00:00	USER
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THANK YOU FOR USING HALLIBURTON – NICK PETERSON  
AND CREW.

3.0 Attachments

3.1 CUSTOM RESULTS – JOB CHART WITH EVENTS



3.2 CUSTOM RESULTS – JOB CHART WITHOUT EVENTS

