

## HALLIBURTON

## Cementing Job Summary

*The Road to Excellence Starts with Safety*

Sold To #: 300466	Ship To #: 3816047	Quote #: 0022393071	Sales Order #: 0904565245							
Customer: ANADARKO PETROLEUM CORP-EBUS		Customer Rep: .								
Well Name: PUTTER	Well #: 27-7HZ	API/UWI #: 05-123-45128-00								
Field: WATTENBERG	City (SAP): LONGMONT	County/Parish: WELD	State: COLORADO							
Legal Description: NW NW-27-3N-68W-358FNL-1241FWL										
Contractor: Anadarko		Rig/Platform Name/Num: Precision 464								
Job BOM: 7523 7523										
Well Type: HORIZONTAL GAS										
Sales Person: HALAMERICA\HX41066		Srvc Supervisor: Kyle Langston								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type	BHST									
Job depth MD	14428ft	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		9.625	8.921	36		J-55	0	1902	0	1902
Casing		5.5	4.892	17	LTC	HCP110	0	14418	0	7131
Open Hole Section			7.875				1902	14428	1902	7131
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5	1	WTFD			Top Plug	5.5	1	WTFD	
Float Shoe	5.5					Bottom Plug	5.5	1	WTFD	
Float Collar	5.5	1	WTFD			SSR plug set	5.5		HES	
Insert Float	5.5					Plug Container	5.5	1	HES	
Stage Tool	5.5					Centralizers	5.5		HES	
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	60	bbl	10.5	6.25		6		
35.80 gal/bbl										
FRESH WATER										
0.70 gal/bbl										
DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)										
0.70 gal/bbl										
MUSOL A, 330 GAL TOTE - (790828)										
88.91 lbm/bbl										
BARITE, BULK (100003681)										

last updated on 1/30/2018 8:51:37 AM

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iCem® Service

(v. 4.2.393)

Created: Tuesday, January 30, 2018

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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	ElastiCem Lead	ELASTICEM (TM) SYSTEM	580	sack	13.2	1.57		6	7.53
0.10 %		SUPER CBL, 50 LB PAIL (100003668)							
0.45 %		SCR-100 (100003749)							
7.53 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	EconoCem Tail	ECONOCEM (TM) SYSTEM	905	sack	13.5	1.68		7.5	7.99
7.99 Gal		FRESH WATER							
0.30 %		HR-5, 50 LB SK (100005050)							
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
4	Biocide Water and MMCR	Biocide Water and MMCR	20	bbl	8.34			8	
0.50 gal/bbl		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)							
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
5	Biocide Water	Biocide Water	313	bbl	8.34			8	
Cement Left In Pipe		Amount	3 ft		Reason			Shoe Joint	
Mix Water:		pH 7	Mix Water Chloride:		0 ppm		Mix Water Temperature:		58 °F
Cement Temperature:			Plug Displaced by:		8.33 PPG		Disp. Temperature:		
Plug Bumped?		YES	Bump Pressure:		3000 psi		Floats Held?		YES
Cement Returns:			Returns Density:				Returns Temperature:		
Comment 3 BBL WET SHOE SYSTEM. 6 BBLS OF TSIII TO SURFACE									

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

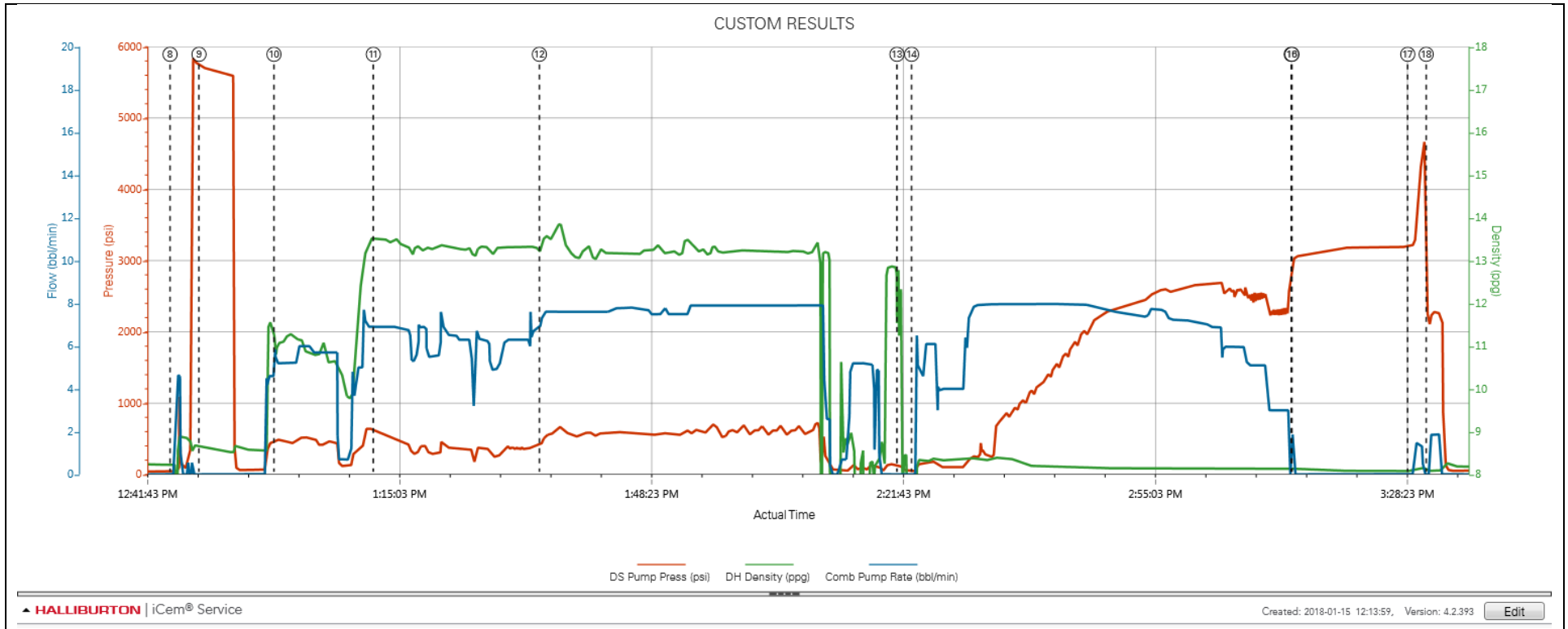
Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Driv-Side Pump Pressure (psi)	Downhole Density (ppg)	Combined Pump Rate (bbl/min)	Comments
Event	1	Call Out	Call Out	1/15/2018	04:00:00	USER				CALLED OUT TO BE ON LOCATION @ 1000
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	1/15/2018	06:00:00	USER				HELD SAFETY MEETING WITH HES PERSONNEL. DISCUSSED DESIGNATED ROUTE, POTENTIAL HAZARDS, AND SWA.
Event	3	Crew Leave Yard	Crew Leave Yard	1/15/2018	07:00:00	USER				HES DEPARTED YARD
Event	4	Arrive At Loc	Arrive At Loc	1/15/2018	09:30:00	USER				HES ARRIVED ON LOCATION. RIG RUNNING CASING. APPROX 1000 FT
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	1/15/2018	09:45:00	USER				HELD SAFETY MEETING WITH HES PERSONNEL. DISCUSSED PLAN TO RIG UP, JSA, SWA, AND INCIDENT REPORTING
Event	6	Rig-Up Equipment	Rig-Up Equipment	1/15/2018	10:00:00	USER				RIG UP ALL CEMENT EQUIPMENT
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	1/15/2018	12:00:00	USER				HELD SAFETY MEEITNG WITH ALL RIG SITE PERSONNEL. DISCUSSED JOB PROCEDURE, JSA, SWA, AND INCIDENT REPORTING
Event	8	Drop Bottom Plug	Drop Bottom Plug	1/15/2018	12:45:00	USER	45.00	8.23	0.00	DROPPED WEATHERFORD BOTTOM PLUG
Event	9	Test Lines	Test Lines	1/15/2018	12:48:49	COM5	5721.00	8.63	0.00	TEST KICKOUTS TO 500 PSI. TEST LINES TO 5000 PSI
Event	10	Pump Spacer 1	Pump Spacer 1	1/15/2018	12:58:45	COM5	490.00	10.88	5.20	PUMPED 60 BBLS OF TUNED SPACER III @ 10.5 PPG
Event	11	Pump Lead Cement	Pump Lead Cement	1/15/2018	13:11:53	COM5	610.00	13.49	6.90	PUMPED 151 BBLS OF LEAD CEMENT @ 13.2 PPG
Event	12	Pump Tail Cement	Pump Tail Cement	1/15/2018	13:33:52	COM5	454.00	13.38	7.30	PUMPED 271 BBLS OF TAIL CEMENT @

13.5 PPG

Event	13	Drop Top Plug	Drop Top Plug	1/15/2018	14:21:11	COM5	126.00	12.15	0.00	DROPPED WEATHERFORD TOP PLUG
Event	14	Pump Displacement	Pump Displacement	1/15/2018	14:23:07	COM5	46.00	0.05	0.00	PUMPED 333 BBLS OF FRESH WATER DISPLACEMENT.
Event	15	Bump Plug	Bump Plug	1/15/2018	15:13:21	COM5	3038.00	8.14	0.00	BUMPED ON CALCULATED DISPLACEMENT. BUMPED @ 3000 PSI
Event	16	Other	Other	1/15/2018	15:13:27	COM5	3050.00	8.13	0.00	15 MINUTE CASING TEST
Event	17	Pressure Up Well	Pressure Up Well	1/15/2018	15:28:46	COM5	3209.00	8.08	0.00	PRESSURED UP TO 4700 TO RUPTURE WET SHOE SUB
Event	18	Other	Other	1/15/2018	15:31:13	COM5	2105.00	8.07	0.00	PUMPED 3 BBLS FOR WET SHOE
Event	19	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	1/15/2018	16:00:00	USER				HELD SAFETY MEETING WITH HES PERSONNEL. DISCUSSED PLAN TO RIG DOWN, JSA, SWA, AND INCIDENT REPORTING
Event	20	Rig-Down Equipment	Rig-Down Equipment	1/16/2018	16:15:00	USER				RIG DOWN ALL EQUIPMENT
Event	21	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	1/16/2018	17:30:00	USER				HELD SAFETY MEETING WITH HES PERSONNEL. DISCUSSED DESIGNATED ROUTE, POTENTIAL HAZARDS, AND SWA.
Event	22	Crew Leave Location	Crew Leave Location	1/16/2018	17:45:00	USER				HES DEPARTED LOCATION THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES. KYLE LANGSTON - SERVICE SUPERVISOR I

## 3.0 Attachments

### 3.1 Custom Results – Job Chart with Events



## 3.2 Custom Results – Job Chart without Events

