

Cementing Job Summary

The Road to Excellence Starts with Safety

Sold To #: 300466		Ship To #: 3973840		Quote #: 0022641368		Sales Order #: 0906053915					
Customer: ANADARKO PETROLEUM CORP-EBUS				Customer Rep: Jackie McKinley							
Well Name: FARLEY			Well #: 23-3HZ		API/UWI #: 05-123-50189-00						
Field: WATTENBERG		City (SAP): PLATTEVILLE		County/Parish: WELD		State: COLORADO					
Legal Description: SW SW-23-3N-66W-666FSL-470FWL											
Contractor: AKITA DRLG				Rig/Platform Name/Num: AKITA 522							
Job BOM: 7523 7523											
Well Type: HORIZONTAL GAS											
Sales Person: HALAMERICA\HX41066				Srv Supervisor: Michael Loughran							
Job											
Formation Name											
Formation Depth (MD)		Top		Bottom							
Form Type				BHST							
Job depth MD		11470ft		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	1834	0	1834	
Casing		5.5	4.892	17	LTC	HCP110	0	11470	0	7260	
Open Hole Section			7.875				1834	11480	1834	7260	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	5.5					Top Plug	5.5	1	3rd		
Float Shoe	5.5			11470		Bottom Plug	5.5	1	3rd		
Float Collar	5.5					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 ft3/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Tuned Prime	TUNED PRIME CEMENT SPACER SYS			60	bbl	10.5	6.17		5	
1 lbm/bbl		FE-2, 2000 LB BAG - (1005549)									
90.94 lbm/bbl		BARITE, BULK (100003681)									
0.75 gal/bbl		MUSOL(R) A, 5 GAL PAIL (100064220)									
0.75 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)									

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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	Tuned Prime (No Surfactants)	TUNED PRIME CEMENT SPACER SYS	55	bbl	10.5	6.19		55		
1 lbm/bbl		FE-2, 2000 LB BAG - (1005549)								
90.63 lbm/bbl		BARITE, BULK (100003681)								
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	Gasstop B1	GASSTOP (TM) SYSTEM	640	sack	13.2	156		8	7.61	
0.35 %		SCR-100, 2000 LB BAG - (1005967)								
5.11 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	
4	EconoCem	ECONOCEM (TM) SYSTEM	380	sack	13.5	1.69		8	8.08	
0.10 %		SA-1015, 50 LB SACK (102077046)								
8.08 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	
5	Biocide Water and MMCR	Biocide Water and MMCR	20	bbl	8.34			10		
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	
6	Biocide Water	Biocide Water	246	bbl	8.34			8		
Cement Left In Pipe		Amount	0 ft			Reason		Wet Shoe Joint		
Mix Water:		pH 7	Mix Water Chloride:			Less 200 ppm		Mix Water Temperature:		48 °F
Cement Temperature:			Plug Displaced by:			8.33 lb/gal		Disp. Temperature:		
Plug Bumped?		Yes	Bump Pressure:			2730 psi		Floats Held?		Yes
Cement Returns:			Returns Density:					Returns Temperature:		
Comment: Approx. 21 bbl. Spacer to surface. Calculated Cement tops, TOLC=2016, TOTC=7771										

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Comments
Event	1	Call Out	Call Out	10/22/2019	00:01:00	USER	Crew called out for on location time of 0600 hrs. 7/28/2019
Event	2	Crew Leave Yard	Crew Leave Yard	10/22/2019	04:30:00	USER	Crew leaves yard
Event	3	Arrive At Loc	Arrive At Loc	10/22/2019	05:00:00	USER	Arrive at location, Rig running casing, Meet with customer, TP 11470 17# P-110, TD 11480, 7.875 Hole, WSS 11466, TVD 7260, PC 1834' 9.625 J-55 36#, WF 9.4 OBM, Top and Bottom plug provided by customer, Water 48 Deg., PH 7, Chlorides and sulfates less than 200 ppm
Event	4	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	10/22/2019	05:10:00	USER	Pre rig up safety meeting
Event	5	Rig-Up Equipment	Rig-Up Equipment	10/22/2019	05:20:00	USER	Rig up all service lines and iron to buffer zone
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	10/22/2019	08:00:00	USER	Discuss job procedures, Discuss job hazards and hazards of Halliburton Equipment.
Event	7	Start Job	Start Job	10/22/2019	08:43:27	USER	Begin recording data
Event	8	Test Lines	Test Lines	10/22/2019	08:47:00	COM4	Pressure test 6500 psi

Event	9	Pump Spacer 1	Pump Spacer 1	10/22/2019	09:04:51	COM4	60 bbl. Tuned Prime with surfactants. 10.5 ppg, 6.16 yield. 39.6 gal/sack. 45 gal Musol, 45 gal Dual Spacer B, D-Air
Event	10	Pump Spacer 2	Pump Spacer 2	10/22/2019	09:16:42	COM4	55 bbl. Tuned prime, 10.5 ppg, 6.19 yield, 41.4 gal/sack
Event	11	Drop Bottom Plug	Drop Bottom Plug	10/22/2019	09:26:24	COM4	Drop bottom plug
Event	12	Pump Lead Cement	Pump Lead Cement	10/22/2019	09:27:56	COM4	640 sacks GasStop Lead Cement, 177.82 bbl., 13.2 ppg, 1.56 yield, 7.61 gal/sack. Approx Mix water used 4700 gal
Event	13	Pump Tail Cement	Pump Tail Cement	10/22/2019	09:53:44	COM4	380 sacks EconoCem Tail, 114.38 bbl., 13.5 ppg, 1.69 yield, 8.08 gal/sack. Approx mix water used 2904 gal
Event	14	Shutdown	Shutdown	10/22/2019	10:13:15	COM4	Shutdown to wash pumps and lines.
Event	15	Drop Top Plug	Drop Top Plug	10/22/2019	10:22:30	COM4	Verified by Company Man
Event	16	Pump Displacement	Pump Displacement	10/22/2019	10:22:36	COM4	266 bbl. fresh water displacement, 10 gal Micro Matrix retarder in first 20 bbl., Customer supplied Biocide throughout
Event	17	Bump Plug	Bump Plug	10/22/2019	10:59:30	COM4	FCP 2100 psi @ 3 BPM, Bump pressure 2730 psi. See spacer at approx. 245 bbl. into displacement. Approx. 21 bbl. Spacer to surface. Calculated Cement tops, TOLC=2016, TOTC=7771

Event	18	Other	Other	10/22/2019	11:00:38	COM4	Pressure up to 3000 psi for casing test
Event	19	Other	Other	10/22/2019	11:15:42	COM4	Pressure up to 4670 psi to shift sleeve, Pump 3 bbl. wet shoe. Check floats, 2 bbl. back to pump truck, Floats hold
Event	20	End Job	End Job	10/22/2019	11:19:32	COM4	Stop recording data
Event	21	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	10/22/2019	11:20:00	USER	JSA safe Rig-Down
Event	22	Rig-Down Equipment	Rig-Down Equipment	10/22/2019	12:25:00	USER	Rig down equipment
Event	23	Crew Leave Location	Crew Leave Location	10/22/2019	12:45:00	USER	Thanks for choosing Halliburton Energy Services!

3.0 Attachments

3.1 Job Chart



