

*The Road to Excellence Starts with Safety*

Sold To #: 300466	Ship To #: 0003973767	Quote #: 0022643384	Sales Order #: 0906061812
Customer: ANADARKO PETROLEUM CORP-EBUS		Customer Rep: Steve Martinez	
Well Name: FARLEY		Well #: 23-2HZ	API/UWI #: 05-123-50191-00
Field: WATTENBERG	City (SAP): PLATTEVILLE	County/Parish: WELD	State: COLORADO
Legal Description: SW SW-23-3N-66W-656FSL-459FWL			
Contractor: AKITA DRLG		Rig/Platform Name/Num: AKITA 522	
Job BOM: 7523 7523			
Well Type: HORIZONTAL GAS			
Sales Person: HALAMERICA/HX41066		Srvc Supervisor: Michael Loughran	

**Job**

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	11697ft	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	1830	0	1830
Casing		5.5	4.892	17	LTC	HCP110	0	11697	0	7157
Open Hole Section			7.875				1830	11704	1830	7157

**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			11697	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		6		
1 lbm/bbl		<b>FE-2, 2000 LB BAG - (1005549)</b>								
90.94 lbm/bbl		<b>BARITE, BULK (100003681)</b>								

0.75 gal/bbl		<b>MUSOL(R) A, 5 GAL PAIL (100064220)</b>								
0.75 gal/bbl		<b>DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)</b>								
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		6		
1 lbm/bbl		<b>FE-2, 2000 LB BAG - (1005549)</b>								
90.63 lbm/bbl		<b>BARITE, BULK (100003681)</b>								
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	1.56		8	7.61	
0.35 %		<b>SCR-100, 2000 LB BAG - (1005967)</b>								
5.23 Gal		<b>FRESH WATER</b>								
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	400	sack	13.5	1.69		8	8.08	
0.10 %		<b>SA-1015, 50 LB SACK (102077046)</b>								
8 Gal		<b>FRESH WATER</b>								
0.30 %		<b>HR-5, 50 LB SK (100005050)</b>								
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		<b>MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)</b>								
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	252	bbl	8.34			10		
<b>Cement Left In Pipe</b>		<b>Amount</b>	0 ft			<b>Reason</b>		<b>Wet Shoe Joint</b>		

Mix Water:	pH ##	Mix Water Chloride:	## ppm	Mix Water Temperature:	## °F °C
Cement Temperature:		Plug Displaced by:	8.33 lb/gal	Disp. Temperature:	
Plug Bumped?	Yes	Bump Pressure:	2800 psi	Floats Held?	Yes
Cement Returns:		Returns Density:		Returns Temperature:	
<p><b>Comment</b> Good returns throughout job, Plug bumped, 3 bbl wet shoe, Floats hold, 2 bbl back to pump truck. See spacer approx. 252 into displacement. Approx 20 bbl spacer to surface. Calculated TOLC 2045', TOTC 7799'</p>					

## 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	10/24/2019	20:00:00	USER	Crew called out for on location time of 0230 hrs. 10/25/2019
Event	2	Crew Leave Yard	Crew Leave Yard	10/25/2019	00:30:00	USER	Crew leaves yard
Event	3	Arrive At Loc	Arrive At Loc	10/25/2019	01:20:00	USER	Arrive at location, Rig running casing, Meet with customer, TP 11697.32 17# HCP-110, TD 11704, 7.785 Hole, FC 11693.37, TVD 7157, PC 1830' 9.625 J-55 36#, WF 9.5 OBM, Top and Bottom plug provided by customer, Water 60 Deg., PH 7, Mix water Lead 4870 Tail 3232 Chlorides and sulfates less than 200 ppm
Event	4	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	10/25/2019	01:30:00	USER	Pre rig up safety meeting
Event	5	Rig-Up Equipment	Rig-Up Equipment	10/25/2019	01:40:00	USER	Rig up all service lines and iron to buffer zone
Event	6	Pre-Job Safety Meeting	Pre-Job Safety Meeting	10/25/2019	05:30:00	USER	Discuss job procedures, Discuss job hazards and hazards of Halliburton Equipment.
Event	7	Start Job	Start Job	10/25/2019	06:30:26	USER	Begin recording data
Event	8	Test Lines	Test Lines	10/25/2019	06:34:00	COM4	Test lines to 6500 psi

Event	9	Pump Spacer 1	Pump Spacer 1	10/25/2019	06:41:15	COM4	60 bbl. Tuned Prime Spacer with Surfactants, 45 gal Musol, 45 gal Dual spacer B, D-Air, 10.5 ppg, 6.17Yield, 39.6 gal/sack
Event	10	Pump Spacer 2	Pump Spacer 2	10/25/2019	06:52:53	COM4	55 bbl. Tuned Prime Spacer, 10.5 ppg, 6.17 Yield, 41.4 gal/sack
Event	11	Drop Bottom Plug	Drop Bottom Plug	10/25/2019	07:04:44	COM4	Verified by Steve
Event	12	Pump Lead Cement	Pump Lead Cement	10/25/2019	07:05:29	COM4	640 sacks GasStop Lead cement, 177.82 bbl., 13.2 ppg, 1.56 yield, 7.61 gal/sack, 1600 gal FDP-C1334-18, 4820 mix gal
Event	13	Pump Tail Cement	Pump Tail Cement	10/25/2019	07:29:57	COM4	400 sacks EconoCem Tail Cement, 13.5 ppg, 1.69 yield, 8.08 gal/sack, 3232 mix gal
Event	14	Shutdown	Shutdown	10/25/2019	07:49:00	COM4	Shutdown to wash pumps and lines
Event	15	Drop Top Plug	Drop Top Plug	10/25/2019	07:58:31	COM4	Verified by Steve
Event	16	Pump Displacement	Pump Displacement	10/25/2019	07:58:35	COM4	272 bbl. fresh water displacement. 10 gallons Micro Matrix retarder in first 20 bbl., Customer supplied Biocide throughout displace
Event	17	Bump Plug	Bump Plug	10/25/2019	08:34:33	COM4	Bump pressure 2800 psi. See spacer approx. 252 bbl. into displace. approx. 20 bbl. spacer to surface Approx. TOLC 2045', TOTC 7799'

Event	18	Other	Other	10/25/2019	08:47:44	COM4	Pressure up to 4570 psi to shift sleeve and pump 3 bbl. wet shoe.
Event	19	Other	Other	10/25/2019	08:49:32	COM4	Check floats, 2 bbl. back to pump truck, Floats hold
Event	20	End Job	End Job	10/25/2019	08:52:23	COM4	Stop recording data
Event	21	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	10/25/2019	09:00:00	USER	JSA safe Rig-Down
Event	22	Rig-Down Equipment	Rig-Down Equipment	10/25/2019	09:10:00	USER	Rig down equipment
Event	23	Crew Leave Location	Crew Leave Location	10/25/2019	11:00:00	USER	Thanks for choosing Halliburton Energy Services!

## 3.0 Attachments

### 3.1 Job Chart



