

*The Road to Excellence Starts with Safety*

Sold To #: 300466	Ship To #: 3798735	Quote #: 0022357005	Sales Order #: 0904329148
Customer: ANADARKO PETROLEUM CORP-EBUS		Customer Rep: Luke Rains & J. McKinley	
Well Name: RW	Well #: 26N-29HZ	API/UWI #: 05-123-44749-00	
Field: WATTENBERG	City (SAP): HUDSON	County/Parish: WELD	State: COLORADO
Legal Description: SW SE-29-3N-65W-371FSL-1516FEL			
Contractor: Precision		Rig/Platform Name/Num: Precision 464	
Job BOM: 7523 7523			
Well Type: HORIZONTAL GAS			
Sales Person: HALAMERICA\HX41066		Srvc Supervisor: Bryan Kraft	

**Job**

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	12676ft	Job Depth TVD	7077ft
Water Depth		Wk Ht Above Floor	4ft
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	1893	0	1893
Casing		5.5	4.778	20	LTC	HCP110	0	12676	0	7077
Open Hole Section			7.875				1893	12686	1893	7077

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe					Top Plug	5.5	1	WF
Float Shoe	5.5	1	WF	12676	Bottom Plug	5.5	1	WF
Float Collar	5.5	1	WF	12584	SSR plug set			
Insert Float					Plug Container	5.5	1	HES
Stage Tool					Centralizers			

**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	Spacer	TUNED SPACER III	60	bbl	10.5	6.25	40.2	3	2167	
0.70 gal/bbl		<b>MUSOL A, 330 GAL TOTE - (790828)</b>								
88.91 lbm/bbl		<b>BARITE, BULK (100003681)</b>								
37.58 gal/bbl		<b>FRESH WATER</b>								

0.70 gal/bbl		<b>DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)</b>							
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
2	Cap Cement	ELASTICEM (TM) SYSTEM	150	sack	13.2	1.57	7.52	6	1128
7.52 Gal		<b>FRESH WATER</b>							
0.80 %		<b>SCR-100 (100003749)</b>							
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
3	Lead Cement	ELASTICEM (TM) SYSTEM	390	sack	13.2	1.57	7.53	8	2937
0.10 %		<b>SUPER CBL, 50 LB PAIL (100003668)</b>							
0.35 %		<b>SCR-100 (100003749)</b>							
7.53 Gal		<b>FRESH WATER</b>							
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
4	Tail Cement	ECONOCEM (TM) SYSTEM	730	sack	13.5	1.68	7.98	8	5825
7.98 Gal		<b>FRESH WATER</b>							
0.40 %		<b>HR-5, 50 LB SK (100005050)</b>							
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
5	Displacement	BIOCIDE & MMCR FRESH WATER	20	bbl	8.33			9	840
0.50 gal/bbl		<b>MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)</b>							
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>	<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft3/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
6	Displacement	BIOCIDE FRESH WATER	258	bbl	8.33			9	10836
<b>Cement Left In Pipe</b>	<b>Amount</b>	92 ft			<b>Reason</b>			<b>Shoe Joint</b>	
Mix Water:	pH 7.0	Mix Water Chloride:	<100 ppm			Mix Water Temperature:	59 °F		
Cement Temperature:	N/A	Plug Displaced by:	8.3 lb/gal Fresh Water			Disp. Temperature:	59 °F		
Plug Bumped?	Yes	Bump Pressure:	2190 psi			Floats Held?	Yes		
Cement Returns:	N/A	Returns Density:	N/A			Returns Temperature:	N/A		

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DH Density <i>(ppg)</i>	Comb Pump Rate <i>(bbl/min)</i>	DS Pump Press <i>(psi)</i>	Comments
Event	1	Call Out	Call Out	9/29/2017	12:30:00	USER				CREW CALLED OUT AT 12:30 9/29/2017, REQUESTED ON LOCATION 18:30 9/29/2017. CREW PICKED UP CEMENT, CHEMICALS (45 GAL MUSOL A, 45 GAL DUAL SPACER B, 20 GAL D-AIR, 10 GAL MMCR), 200 LBS SUGAR, PLUG CONTAINER AND MANIFOLD FROM FORT LUPTON, CO. BULK 660: 10988836/11527037, BULK 660: 11699247/11689672, PUMP ELITE 11897034/11645460.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	9/29/2017	16:15:00	USER				DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW.
Event	3	Crew Leave Yard	Crew Leave Yard	9/29/2017	16:30:00	USER				STARTED JOURNEY MANAGEMENT.
Event	4	Arrive At Loc	Arrive At Loc	9/29/2017	17:30:00	USER				END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING: 9.625" 36# J-55 @ 1893', 5.5" CASING: 20# @ 12676', 92' SHOE JOINT, 7.875" OPEN HOLE, TVD @ 7077', 9.3 PPG WELL FLUID, FRESH WATER DISPLACEMENT.
Event	5	Pre-Rig Up Safety	Pre-Rig Up Safety	9/29/2017	17:45:00	USER				HAZARD HUNT. DISCUSSED

	Meeting	Meeting								POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	9/29/2017	17:50:00	USER				CREW STAGED EQUIPMENT AND RIGGED UP BULK, IRON, AND WATER HOSES TO PERFORM JOB.
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	9/29/2017	21:00:00	USER	8.62	0.00	-75.00	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
Event	8	Start Job	Start Job	9/29/2017	23:20:14	COM5	0.25	0.00	-5.00	BEGIN RECORDING JOB DATA.
Event	9	Test Lines	Test Lines	9/29/2017	23:24:09	USER	8.65	0.00	1846.00	PRESSURE TESTED IRON TO 4500 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 332 PSI, 5TH GEAR STALL OUT @ 1900 PSI.
Event	10	Pump Spacer	Pump Tuned Spacer @ 10.5 ppg	9/29/2017	23:32:11	USER	10.69	3.00	198.00	PUMP 60 BBLS OF TUNED SPACER @ 10.5 LB/GAL, ADDED 45 GAL MUSOL A, 45 GAL DUAL SPACER B, 20 GAL D-AIR, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	11	Drop Bottom Plug	Drop Bottom Plug	9/29/2017	23:45:29	USER	10.61	4.20	244.00	DROP BOTTOM PLUG, VERIFIED BY DRILLER.
Event	12	Pump Cement	Pump Cap Cement @ 13.2 ppg	9/29/2017	23:47:51	USER	13.21	4.20	215.00	PUMP 150 SKS OF ELASTICEM @ 13.2 LB/GAL, 1.57 YIELD, 7.52 GAL/SK, 42 BBLS, CALCULATED TOC @ 1166", DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	13	Pump Lead Cement	Pump Lead Cement @	9/29/2017	23:57:31	USER	13.21	8.10	420.00	PUMP 390 SKS OF

			13.2 ppg							ELASTICEM @ 13.2 LB/GAL, 1.57 YIELD, 7.53 GAL/SK, 109 BBLS, CALCULATED TOL @ 2126', DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	14	Pump Tail Cement	Pump Tail Cement @ 13.5 ppg	9/30/2017	00:10:59	USER	13.40	8.10	470.00	PUMP 730 SKS OF ECONOCEM @ 13.5 LB/GAL, 1.68 YIELD, 7.98 GAL/SK, 219 BBLS, CALCULATED TOT @ 5654', DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	15	Shutdown	Shutdown	9/30/2017	00:40:42	USER	13.72	0.00	77.00	SHUTDOWN TO WASH PUMPS/LINES AND DROP TOP PLUG.
Event	16	Drop Top Plug	Drop Top Plug	9/30/2017	00:49:16	USER	0.10	0.00	-2.00	PLUG LEFT CONTAINER, VERIFIED BY DRILLER.
Event	17	Pump Displacement	Pump Fresh Water Displacement	9/30/2017	00:49:52	USER	6.98	1.70	-1.00	BEGIN CALCULATED DISPLACEMENT OF 278 BBLS WITH FRESH WATER. MMCR & BIOCIDES ADDED TO 1ST 20 BBLS, BIOCIDES ADDED THROUGH REST OF DISPLACEMENT.
Event	18	Spacer Returns to Surface	Spacer Returns to Surface	9/30/2017	01:24:06	USER	8.44	4.20	2250.00	SPACER TO SURFACE @ 258 BBLS INTO DISPLACEMENT. 20 BBLS OF TUNED SPACER TO SURFACE.
Event	19	Bump Plug	Bump Plug	9/30/2017	01:31:08	USER	8.42	2.10	2161.00	PLUG BUMPED AT CALCULATED DISPLACEMENT. PRESSURED 260 PSI OVER FINAL CIRCULATING PRESSURE OF 2190 PSI.
Event	20	Shutdown	Shutdown	9/30/2017	01:31:25	USER	8.44	0.00	2468.00	SHUTDOWN FOR 1 MINUTE @ 2450 PSI.

Event	21	Pressure Test	Casing Pressure Test	9/30/2017	01:32:57	USER	8.45	0.00	2965.00	CASING PRESSURE TEST, 3000 PSI FOR 15 MINUTES.
Event	22	Check Floats	Check Floats	9/30/2017	01:49:58	USER	8.44	0.00	3277.00	RELEASED PRESSURE, FLOATS HELD, 3.5 BBLS BACK.
Event	23	End Job	End Job	9/30/2017	01:51:32	COM5				STOP RECORDING JOB DATA.
Event	24	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	9/30/2017	01:55:00	USER	8.44	9.80	284.00	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	25	Rig-Down Completed	Rig-Down Completed	9/30/2017	02:45:00	USER				ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL, AND LOCATION WAS CLEAN.
Event	26	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	9/30/2017	02:55:00	USER				DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	27	Crew Leave Location	Crew Leave Location	9/30/2017	03:00:00	USER				THANK YOU FOR USING HALLIBURTON - BRYAN KRAFT AND CREW.

3.0 Attachments

3.1 Anadarko RW 26N-29HZ Production Job Chart

