

The Road to Excellence Starts with Safety

Sold To #: 300466	Ship To #: 0003890036	Quote #: 0022504501	Sales Order #: 0905269982
Customer: ANADARKO PETROLEUM CORP-EBUS		Customer Rep: Josh Johnson	
Well Name: HENDU		Well #: 23-13HZ	API/UWI #: 05-123-47265-00
Field: WATTENBERG	City (SAP): IONE	County/Parish: WELD	State: COLORADO
Legal Description:			
Contractor: PRECISION DRLG		Rig/Platform Name/Num: PRECISION 464	
Job BOM: 7523 7523			
Well Type: HORIZONTAL GAS			
Sales Person: HALAMERICA\HX41066		Srvc Supervisor: Thomas Haas	

Job

Formation Name			
Formation Depth (MD)	Top	Bottom	
Form Type		BHST	
Job depth MD	13201ft	Job Depth TVD	7600
Water Depth		Wk Ht Above Floor	15
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	1837	0	1837
Casing		5.5	4.892	17	LTC	HCP110	0	132201	0	7600
Open Hole Section			7.875				1880	13212	1837	7600

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5				Top Plug	5.5	1	W.F.
Float Shoe	5.5	1	W.F.	13233	Bottom Plug	5.5	1	W.F.
Wet Shoe Tool	5.5	1	W.F.	13215	SSR plug set	5.5		
Insert Float	5.5				Plug Container	5.5		
Stage Tool	5.5				Centralizers	5.5		

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 Spacer III	Tuned Spacer III	80	bbl	10.5	6.96	44.4	6	2864	
	79.92 lbm/bbl	BARITE, BULK (100003681)								
	0.70 gal/bbl	MUSOL(R) A, 5 GAL PAIL (100064220)								
	37.58 gal/bbl	FRESH WATER								

0.70 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)							
0.25 gal/bbl		D-AIR 3000L, 5 GAL PAIL (101007444)							
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	Gasstop B1	GASSTOP (TM) SYSTEM	640	sack	13.2	1.56	7.61	5	4870
0.10 Gal		D-AIR 3000L, TOTETANK (101396181)							
0.85 %		SCR-100 (100003749)							
5.01 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	ECONOCEM (TM) SYSTEM	570	sack	13.5	1.68	7.98	6	4548
0.10 %		SA-1015, 50 LB SACK (102077046)							
7.98 Gal		FRESH WATER							
0.45 %		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				
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	286	bbl	8.34				
Cement Left In Pipe	Amount	None			Reason Wet Shoe			Shoe Joint	
Mix Water:	pH 7	Mix Water Chloride: <300 ppm			Mix Water Temperature:			67 °F	
Cement Temperature:	N/A	Plug Displaced by: 8.33 lb/gal F.W.			Disp. Temperature:			67 °F	
Plug Bumped?	Yes	Bump Pressure: 2150 psi			Floats Held?			Yes	
Cement Returns:	N/A	Returns Density: N/A			Returns Temperature:			## °F °C	
Comment Cemented through a Weaherford Rotating Cement Head, Plug bumped at calculated displacement, final circulating pressure of 2150 psi, pressured up for 15 min casing test to 3000 psi, wet shoe sub opened at 4508 psi, pumped a 3 bbl wet shoe, released pressure back to the truck, floats held, 2 bbl back, Nothing returned to surface.									

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	11/12/2018	11:00:00	USER	CREW CALLED OUT AT 11:00 11/12/2018, REQUESTED ON LOCATION 17:00 11/12/2018. CREW PICKED UP CEMENT, CHEMICALS (45 GAL MUSOL A, 45 GAL DUAL SPACER B, 74 GAL D-AIR, 10 GAL MMCR, 1600 GAL LATEX 3000), 200 LBS SUGAR, PLUG CONTAINER AND MANIFOLD FROM FORT LUPTON, CO. BULK 660: 11562570/10924982, AIR 660: 11005806/11527037 CHEMICAL TRUCK: 12498388/12051673, PUMP ELITE 11897034/11645460
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	11/12/2018	15:45:00	USER	DISCUSSED ROUTES, HAZARDS, AND COMMUNICATION WITH CREW
Event	3	Crew Leave Yard	Crew Leave Yard	11/12/2018	16:00:00	USER	STARTED JOURNEY MANAGEMENT.
Event	4	Arrive At Loc	Arrive At Loc	11/12/2018	16:30:00	USER	END JOURNEY MANAGEMENT. MEET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING: 9.625" 36# @ 1837', CASING: 5.5" 17# @ 13201', 7" SHOE JOINT, 7.875" OPEN HOLE, TVD @ 7600', 9.2 PPG WELL FLUID, FRESH WATER DISPLACEMENT. WILL BE CEMENTING THROUGH WEATHERFORD ROTATING CEMENT HEAD.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	11/12/2018	16:45:00	USER	HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
Event	6	Rig-Up Equipment	Rig-Up Equipment	11/12/2018	17:00:00	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	11/12/2018	21:00:00	USER	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.

Event	8	Start Job	Start Job	11/13/2018	02:51:54	COM4	START JOB DATA RECORDING.
Event	9	Test Lines	Test Lines	11/13/2018	02:55:23	COM4	PRESSURE TESTED IRON TO 6500 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 800 PSI, 5TH GEAR STALL OUT @ 2200 PSI.
Event	10	Pump Spacer 1	Pump Spacer 1	11/13/2018	03:03:46	COM4	PUMP 60 BBLs OF TUNED SPACER @ 10.5 LB/GAL, ADDED 45 GAL MUSOL A, 45 GAL DUAL SPACER B, 10 GAL D-AIR, .8 GAL BIOCIDES, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	11	Shutdown	Shutdown	11/13/2018	03:20:40	COM4	SHUTDOWN TO DROP BOTTOM PLUG.
Event	12	Drop Top Plug	Drop Bottom Plug	11/13/2018	03:21:06	COM4	WEATHERFORD HAND DROPPED PLUG, PLUG LEFT ROTATING CEMENT HEAD, VERIFIED BY COMPANY MAN.
Event	13	Pump Lead Cement	Pump Lead Cement	11/13/2018	03:25:05	COM4	PUMP 640 SKS OF GASSTOP @ 13.2 LB/GAL, 1.59 YIELD, 7.81 GAL/SK, 178 BBLs, CALCULATED TOL @ 1929', MIX WATER MIXED WITH 1600 GAL OF LATEX AND 64 GAL D-AIR, DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	14	Other	Cavitation	11/13/2018	04:02:38	USER	LEAK IN IRON DUE TO CAVITATION.
Event	15	Pump Tail Cement	Pump Tail Cement	11/13/2018	04:14:45	COM4	PUMP 570 SKS OF ECONOCEM @ 13.5 LB/GAL, 1.68 YIELD, 7.98 GAL/SK, 179 BBLs, CALCULATED TOT @ 7683', DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
Event	16	Shutdown	Shutdown	11/13/2018	04:17:08	USER	SHUTDOWN TO BLOW DOWN LATEX LINES.
Event	17	Shutdown	Shutdown	11/13/2018	04:49:57	COM4	SHUTDOWN TO CLEAN PUMPS/LINES AND DROP TOP PLUG.
Event	18	Drop Top Plug	Drop Top Plug	11/13/2018	04:59:41	COM4	WEATHERFORD HAND DROPPED TOP PLUG, PLUG LEFT ROTATING CEMENT HEAD, VERIFIED BY COMPANY MAN.
Event	19	Pump Displacement	Pump Displacement	11/13/2018	04:59:45	COM4	BEGIN CALCULATED DISPLACEMENT OF 306 BBLs WITH FRESH WATER. MMCR AND BIOCIDES ADDED TO 1ST 20 BBLs. BIOCIDES ADDED THROUGH REST OF DISPLACEMENT.

Event	20	Bump Plug	Bump Plug	11/13/2018	05:59:06	COM4	PLUG BUMPED AT CALCULATED DISPLACEMENT, FINAL CIRCULATING PRESSURE OF 2150 PSI. NOTHING RETURNED TO SURFCE.
Event	21	Other	Casing Test	11/13/2018	06:00:26	USER	HELD A 15 MIN CASING TEST AT 3000 PSI.
Event	22	Other	Shift Tool	11/13/2018	06:15:13	USER	PRESSURE UP TO SHIFT WET SHOE SLEEVE, SLEEVE SHIFTED AT 4508 PSI.
Event	23	Other	Wet Shoe	11/13/2018	06:17:00	USER	PUMP 3 BBL WET SHOE.
Event	24	Check Floats	Check Floats	11/13/2018	06:17:49	USER	RELEASED PRESSURE BACK TO THE TRUCK, FLOATS HELD, 2 BBL BACK.
Event	25	End Job	End Job	11/13/2018	06:18:10	USER	END JOB DATA RECORDING.
Event	26	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	11/13/2018	12:00:00	USER	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION AND RIGGING DOWN IRON AND HOSES.
Event	27	Rig-Down Completed	Rig-Down Completed	11/13/2018	12:10:00	USER	ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL.
Event	28	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	11/13/2018	12:20:00	USER	DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
Event	29	Crew Leave Location	Crew Leave Location	11/13/2018	12:30:00	USER	THANK YOU FOR USING HALLIBURTON - THOMAS HAAS AND CREW.

3.0 Attachments

3.1 Job Chart

