

The Road to Excellence Starts with Safety

Sold To #: 300466		Ship To #: 3837909		Quote #: 0022406486		Sales Order #: 0904640378					
Customer: ANADARKO PETROLEUM CORP-EBUS				Customer Rep: KEVIN CONASTER							
Well Name: HERGENREDER			Well #: 22N1-4HZ		API/UWI #: 05-123-45864-00						
Field: WATTENBERG		City (SAP): LONGMONT		County/Parish: WELD		State: COLORADO					
Legal Description: NW NW-33-3N-68W-291FNL-1002FWL											
Contractor: Xtreme				Rig/Platform Name/Num: Xtreme 24							
Job BOM: 7523 7523											
Well Type: HORIZONTAL GAS											
Sales Person: HALAMERICA\HX41066				Srv Supervisor: Bryce Muir							
Job											
Formation Name											
Formation Depth (MD)		Top		Bottom							
Form Type				BHST							
Job depth MD		13986ft		Job Depth TVD		7215 FT.					
Water Depth				Wk Ht Above Floor		3 FT					
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	2261	0	0	
Casing		5.5	4.892	17	LTC	HCP110	0	13986	0	0	
Open Hole Section			8.5				2261	13995	0	7215	
Tools and Accessories											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Guide Shoe	5.5					Top Plug	5.5	1	WF		
Float Shoe	5.5	1	WF	13986		Bottom Plug	5.5	1	WF		
Float Collar	5.5	1	WF	13973		SSR plug set	5.5				
Insert Float	5.5					Plug Container	5.5	1	HES		
Stage Tool	5.5					Centralizers	5.5	200	WF		
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			60	bbl	10.5	6.25			
35.70 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)									

87.97 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
2	ElastiCem Lead	ELASTICEM (TM) SYSTEM	700	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	1130	sack	13.5	1.68		6	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				
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	304	bbl	8.34				
Cement Left In Pipe		Amount	13 ft		Reason			Shoe Joint	

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	2/15/2018	09:00:00	USER	CREW CALLED OUT TO PERFORM PRODUCTION JOB FOR ANADARKO EXTREME 24.
Event	2	Other	Other	2/15/2018	10:00:00	USER	LOAD UP ALL REQUIRED MATERIALS NEEDED TO PERFORM JOB. DOWNLOAD ALL PAPERWORK NECESSARY FOR CUSTOMER.
Event	3	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	2/15/2018	12:45:00	USER	DISCUSS HAZARDS ASSOCIATED WITH DRIVING TRUCKS TO LOCATION. IDENTIFY SAFEST ROUTE OF TRAVEL, CONVOY ORDER, AND PLACES TO STOP IF NEEDED.
Event	4	Depart from Service Center or Other Site	Depart from Service Center or Other Site	2/15/2018	13:00:00	USER	
Event	5	Arrive at Location from Service Center	Arrive at Location from Service Center	2/15/2018	14:00:00	USER	
Event	6	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	2/15/2018	14:05:00	USER	ASSESS LOCATION TO IDENTIFY POTENTIAL HAZARDS. DISCUSS BEST WAY TO SPOT PUMPING EQUIPMENT. SPOT IN EQUIPMENT.
Event	7	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	2/15/2018	14:15:00	USER	DISCUSS HAZARDS ASSOCIATED WITH RIGGING UP AND PACKING IRON ON LOCATION. DISCUSSED LINES OF FIRES, PINCH POINTS, AND WALKING SURFACES.
Event	8	Rig-Up Equipment	Rig-Up Equipment	2/15/2018	14:30:00	USER	
Event	9	Other	Other	2/15/2018	14:50:00	USER	PRE LOAD TOP AND BOTTOM PLUGS. PLUG LOADED BY BRYCE MUIR AND WITNESSED BY COMPANY REP. RIG UP PLUG CONTAINER SO THE RIG COULD CIRCULATED THE WELL. RIG CIRCULATED AT 11 BPM @ 1000 PSI.
Event	10	Pre-Job Safety Meeting	Pre-Job Safety Meeting	2/15/2018	16:00:00	USER	DISCUSS HES SAFETY AND JOB PROCEDURES WITH RIG CREW AND COMPANY REP. DISCUSSED MUSTER AREAS, CLOSEST

HOSPITALS, AND FIRST AID LOCATIONS.
DISCUSSED PUMP SCHEDULE AND
QUANTITIES OF FLUIDS TO BE PUMPED AND
AT WHAT RATES.

Event	11	Start Job	Start Job	2/15/2018	16:15:00	USER	
Event	12	Test Lines	Test Lines	2/15/2018	16:18:00	RTD Import	CONDUCT A LOW PRESSURE TEST TO 500 PSI TO TEST RCM PRESSURE KICKOUTS. THEN WE CONDUCTED A HIGH PRESSURES TEST TO 6500 PSI. HELD PRESSURE FOR A FEW MINUTES MONITORING PRESSURE LOSS.
Event	13	Pump Spacer 1	Pump Spacer 1*	2/15/2018	16:31:00	RTD Import	PUMPED 60 BBLS OF TUNED SPACER. TUNED SPACER PUMPED AT 3 BPM @ 300 PSI. WE ADDED THE MUSOL A AND DUAL B ON THE FLY AS WE PUMPED DOWNHOLE.
Event	14	Drop Bottom Plug	Drop Bottom Plug	2/15/2018	16:47:00	RTD Import	DROPPED 5.5" BOTTOM PLUG. PLUG DROPPED BY BRYCE MUIR AND WITNESSED BY DRILLER AS PER COMPANY MAN. WE DROPPED THE BOTTOM PLUG ON THE FLY DURING THE LAST 10 BBLS OF TUNED SPACER.
Event	15	Pump Lead Cement	Pump Lead Cement*	2/15/2018	16:51:00	RTD Import	PUMPED 196 BBLS OF LEAD CEMENT. 700 SACKS @ 13.2 #/GAL 1.57 CUFT/SK 7.53 GAL/SK. WE PUMPED LEAD CEMENT AT 8 BPM @ 460 PSI. WE HAD GREAT CIRCULATION.
Event	16	Mud Cup Sample	Mud Cup Sample Pulled	2/15/2018	16:55:00	RTD Import	LEAD CEMENT VERIFIED BY PRESSURIZED MUD BALANCE.
Event	17	Mud Cup Sample	Mud Cup Sample Pulled	2/15/2018	17:05:00	RTD Import	LEAD CEMENT VERIFIED BY PRESSURIZED MUD BALANCE.
Event	18	Pump Tail Cement	Pump Tail Cement*	2/15/2018	17:27:00	RTD Import	PUMPED 338 BBLS OF TAIL CEMENT. 1130 SACKS @ 13.5 #/GAL 1.68 CUFT/SK 7.99 GAL/SK. WE PUMPED TAIL CEMENT AT 8 BPM @ 630 PSI. WE HAD GREAT CIRCULATION.
Event	19	Mud Cup Sample	Mud Cup Sample Pulled	2/15/2018	17:35:00	RTD Import	TAIL CEMENT VERIFIED BY PRESSURIZED MUD BALANCE.

Event	20	Shutdown	Shutdown	2/15/2018	18:12:00	RTD Import	
Event	21	Clean Lines	Clean Lines	2/15/2018	18:13:00	RTD Import	
Event	22	Drop Top Plug	Drop Top Plug	2/15/2018	18:20:00	RTD Import	DROP 5.5" TOP PLUG. PLUG DROPPED BY BRYCE MUIR AND WITNESSED BY THE COMPANY REP.
Event	23	Pump Displacement	Pump Displacement*	2/15/2018	18:24:00	RTD Import	PUMP 324 BBLS OF FRESH WATER DISPLACEMENT. WE ADDED MMCR TO THE FIRST 20 BBLS OF DISPLACEMENT. THE REMAINING 304 BBLS WE ADDED BIO-CIDE THROUGHOUT DISPLACEMENT.
Event	24	Displ Reached Cmnt	Displ Reached Cmnt	2/15/2018	18:30:00	USER	AT 50 BBLS PUMPED THE PLUG REACHED CEMENT. WE PUMPED DISPLACEMENT AT 10 BPM @ 900 PSI. WE MONITORED OUR RATE AND PRESSURE AS WE PUMPED. WE GOT SPACER TO SURFACE AT 300 BBLS DISPLACEMENT PUMPED. WE LANDED THE PLUG AT 315 BBLS PUMPED. WE GOT 15 BBLS OF TUNED SPACER TO SURFACE. CALCULATED TOP OF LEAD CEMENT IS AT 940 FEET AND TAIL CEMENT IS CALCULATED AT 5553 FEET FROM SURFACE.
Event	25	Bump Plug	Bump Plug	2/15/2018	19:02:00	RTD Import	WE LANDED THE PLUG AT 2365 PSI AND PRESSURED UP 500 PSI OVER FINAL CIRCULATING PRESSURE TO 2900 PSI.
Event	26	Shutdown	Shutdown	2/15/2018	19:03:00	USER	
Event	27	Pressure Up Well	Pressure Up Well	2/15/2018	19:05:00	RTD Import	WE PERFORMED A 15 MINUTE CASING TEST WITH OUR FINAL BUMP PRESSURE.
Event	28	Other	Other	2/15/2018	19:16:00	RTD Import	WE ENGAGED OUR PUMPS TO RUPTURE THE DISC AND PUMP A 3 BBL WET SHOE. THE DISC RUPTURE AT 4780 PSI AT 2 BPM. WE PUMPED 3 BBLS AT 4 BPM @ 2500 PSI.

Event	29	Shutdown	Shutdown	2/15/2018	19:18:00	RTD Import	
Event	30	Check Floats	Check Floats	2/15/2018	19:19:00	USER	FLOATS HELD. WE GOT 2 1/2 BBLS BACK TO THE RCM.
Event	31	End Job	End Job	2/15/2018	19:20:00	USER	
Event	32	Other	Other	2/15/2018	19:30:00	USER	WAIT FOR RIG CREW TO FINISH UP SOME OF THEIR DUTIES.
Event	33	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	2/15/2018	20:15:00	USER	DISCUSS HAZARDS ASSOCIATED WITH RIGGING DOWN AND PACKING IRON ON LOCATION. IDENTIFIED WEATHER CHANGE, WALKING SURFACES, LINE OF FIRES, SUSPENDED LOADS, AND PINCH POINTS.
Event	34	Rig-Down Equipment	Rig-Down Equipment	2/15/2018	20:30:00	USER	
Event	35	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	2/15/2018	21:45:00	USER	DISCUSS HAZARDS ASSOCIATED WITH DRIVING TRUCKS BACK TO THE SERVICE CENTER. IDENTIFY SAFEST ROUTE OF TRAVEL, ROAD SURFACES, CONVOY ORDER, AND PLACES TO STOP IF NEEDED.
Event	36	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	2/15/2018	22:00:00	USER	JOB WAS COMPLETED SAFELY BY BRYCE MUIR AND CREW. THANK YOU FOR USING HALLIBURTON ENERGY SERVICES. STAY SAFE OUT HERE.

4.0 Attachments

4.1 Job Chart

