

The Road to Excellence Starts with Safety

Sold To #: 300466	Ship To #: 0003837842	Quote #: 0022404316	Sales Order #: 0904631158
Customer: ANADARKO PETROLEUM CORP-EBUS		Customer Rep: Keith Conatser	
Well Name: HERGENREDER		Well #: 6N-4HZ	API/UWI #: 05-123-45863-00
Field: WATTENBERG	City (SAP): LONGMONT	County/Parish: WELD	State: COLORADO
Legal Description: NW NW-33-3N-68W-320FNL-1009FWL			
Contractor: Xtreme		Rig/Platform Name/Num: Xtreme 24	
Job BOM: 7523 7523			
Well Type: HORIZONTAL GAS			
Sales Person: HALAMERICA\HX41066		Srvc Supervisor: Steven Markovich	

Job

Formation Name	
Formation Depth (MD)	Top Bottom
Form Type	BHST
Job depth MD	13940ft 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	2287	0	0
Casing		5.5	4.892	17	LTC	HCP110	0	13940	0	0
Open Hole Section			8.5				2287	13956	0	0

Tools and Accessories

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5			13940	Top Plug	5.5		HES
Float Shoe	5.5				Bottom Plug	5.5		HES
Float Collar	5.5				SSR plug set	5.5		HES
Insert Float	5.5				Plug Container	5.5		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 Spacer III	Tuned Spacer III	60	bbl	10.5	6.25				
	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)								
	0.70 gal/bbl	MUSOL A, 330 GAL TOTE - (790828)								

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	ElastiCem	ELASTICEM (TM) SYSTEM	700	sack	13.2	1.57		6	7.53
0.45 %		SCR-100 (100003749)							
7.53 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	EconoCem	ECONOCEM (TM) SYSTEM	1150	sack	13.5	1.68		6	7.99
7.99 Gal		FRESH WATER							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /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 ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
5	Biocide Water	Biocide Water	303	bbl	8.34				
Mix Water: pH 7		Mix Water Chloride: 0 ppm			Mix Water Temperature: 64 °F				
Comment Bumped plug at 323bbls away, Spacer to surface at 308bbls away brining 15bbls to surface. Final lift pressure was 2615psi. Brought pressure up to 3000psi for 15 min casing test. After 15 mins pressure was 3319psi. Kicked in pumps to shear WSS and it didn't shear. Swapped out soft line for hard line and re pressure up and it sheered at 5388psi then pumped a 3bbl wet shoe. Estimated Top of Tail Cement 5506' Estimated Top of Lead Cement 942'									

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	2/10/2018	13:00:00	USER	Job Called out with an on location of 17:00
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	2/10/2018	16:00:00	USER	JSA with HES crew on driving safety and route to rig.
Event	3	Arrive at Location from Other Job or Site	Arrive at Location from Other Job or Site	2/10/2018	17:00:00	USER	Arrived on location, rig just landed.
Event	4	Safety Meeting - Assessment of Location	Safety Meeting - Assessment of Location	2/10/2018	17:05:00	USER	JSA and Hazard hunt with HES crew
Event	5	Rig-Up Equipment	Rig-Up Equipment	2/10/2018	17:10:00	USER	Rigged up HES lines and equipment.
Event	6	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	2/10/2018	19:30:00	USER	JSA with HES and rig crew on job procedure and safety.
Event	10	Start Job	Start Job	2/10/2018	19:50:15	USER	TD 13956' TP 13940" FC 13934.86' 5 1/2" 17# production casing, 8 1/2" open hole, 9 5/8" 36# surface casing at 2287' TVD 7212' Estimated top of Tail Cement 8433' Estimated top of Lead Cement 942'
Event	26	Test Lines	Test Lines	2/10/2018	19:57:06	RTD Import	Set kick outs to 500psi and check kick outs, then bring pressure up to 5000psi and hold.
Event	46	Pump Spacer 1	Pump Spacer 1*	2/10/2018	20:02:16	RTD Import	Pump 60bbls of 10.5ppg 6.25yield Tuned Spacer. Added 45gallons of Musol A and Dual Spacer B on the fly. Pumped at 4bbl/min 440psi.
Event	55	Mud Cup Sample	Mud Cup Sample Pulled	2/10/2018	20:07:20	RTD Import	Weight verified by pressurized scales.
Event	80	Drop Bottom Plug	Drop Bottom Plug	2/10/2018	20:21:00	USER	Plug pre loaded in HES head. Plug was loaded and dropped in front of company rep.
Event	81	Mud Cup Sample	Mud Cup Sample Pulled	2/10/2018	20:21:04	RTD Import	Weight verified by pressurized scales.

Event	82	Pump Lead Cement	Pump Lead Cement*	2/10/2018	20:22:29	RTD Import	Pump 195.73bbbls (700sk) of 13.2ppg 1.57yield Lead Cement. Pumped at 8bbbl/min 801psi
Event	86	Mud Cup Sample	Mud Cup Sample Pulled	2/10/2018	20:23:15	RTD Import	Weight verified by pressurized scales.
Event	100	Mud Cup Sample	Mud Cup Sample Pulled	2/10/2018	20:25:53	RTD Import	Weight verified by pressurized scales.
Event	130	Pump Tail Cement	Pump Tail Cement*	2/10/2018	20:45:15	RTD Import	Pump 344bbbls (1150sk) of 13.5ppg 1.Tail Cement. Pumped at 8bbbl/min 718psi
Event	138	Mud Cup Sample	Mud Cup Sample Pulled	2/10/2018	20:45:57	RTD Import	Weight verified by pressurized scales.
Event	141	Mud Cup Sample	Mud Cup Sample Pulled	2/10/2018	20:48:01	RTD Import	Weight verified by pressurized scales.
Event	215	Shutdown	Shutdown	2/10/2018	21:30:46	RTD Import	Shutdown and clean pumps and lines
Event	242	Drop Top Plug	Drop Top Plug	2/10/2018	21:42:00	RTD Import	Plug pre loaded in HES head. Plug was loaded and dropped in front of copany rep.
Event	243	Pump Displacement	Pump Displacement*	2/10/2018	21:42:06	RTD Import	Pump 323bbbls of H2O. First 20bbbls with MMCR then the rest with biocide. Pumped at 8bbbl/min and slowed down with pressure increase. Spacer to surface at 308bbbls away bringing 15 bbls of spacer to surface.
Event	250	Bump Plug	Bump Plug	2/10/2018	22:28:48	RTD Import	Bumped plug at 323bbbls away. Final lift pressure was 2615psi.
Event	260	Test Lines	Test Lines	2/10/2018	22:30:13	RTD Import	Brought pressure up to 3000psi for 15 min casing test. After 15 mins pressure was 3319psi.
Event	267	Pressure Up Well	Pressure Up Well	2/10/2018	22:44:02	RTD Import	Kicked in pumps to burst WSS. hit 5000psi and shutdown as WSS did not shear. Company rep had us check floats, after 2bbbls back floats held.

Event	284	Pressure Up Well	Pressure Up Well	2/10/2018	22:49:44	USER	Kicked in pumps again to shear WSS but it did not shear. Released pressure and rig up hard line.
Event	292	Test Lines	Test Lines	2/10/2018	23:17:58	USER	After swapping out flex hose with hard lined tested line to 6500psi.
Event	302	Other	Other	2/10/2018	23:20:40	USER	Kicked in pumps to shear WSS, WSS sheered at 5388 psi and pumed a 3bbl wet shoe.
Event	306	End Job	End Job	2/10/2018	23:25:00	USER	Thank you Steve Markovich and crew.

3.0 Attachments

3.1 Job Chart

