

*The Road to Excellence Starts with Safety*

Sold To #: 300466	Ship To #: 3863289	Quote #: 0022476442	Sales Order #: 0905057278
Customer: ANADARKO PETROLEUM CORP-EBUS		Customer Rep: Alan Madsen	
Well Name: GRACIE		Well #: 24-5HZ	API/UWI #: 05-123-46438-00
Field: WATTENBERG	City (SAP): IONE	County/Parish: WELD	State: COLORADO
Legal Description: SE SW-24-2N-66W-345FSL-1655FWL			
Contractor: PRECISION DRLG		Rig/Platform Name/Num: PRECISION 461	
Job BOM: 7523 7523			
Well Type: HORIZONTAL GAS			
Sales Person: HALAMERICA\HX41066		Srvc Supervisor: Nicholas Roles	

**Job**

Formation Name			
Formation Depth (MD)	Top		Bottom
Form Type	BHST		
Job depth MD	12576ft		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	1883	0	1883
Casing		5.5	4.892	17	LTC	HCP110	0	12576	0	7319
Open Hole Section			7.875				1883	12587	1883	7319

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5			12576	Top Plug	5.5	1	HES
Float Shoe	5.5				Bottom Plug	5.5	1	HES
Float Collar	5.5			12563	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 Spacer III	Tuned Spacer III	60	bbl	10.5	6.96		4		
	0.70 gal/bbl	<b>DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003665)</b>								
	0.50 gal/bbl	<b>D-AIR 3000L, 5 GAL PAIL (101007444)</b>								
	79.92 lbm/bbl	<b>BARITE, BULK (100003681)</b>								

0.70 gal/bbl		<b>MUSOL(R) A, 5 GAL PAIL (100064220)</b>							
37.58 gal/bbl		<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
2	Gasstop B1	GASSTOP (TM) SYSTEM	630	sack	13.2	1.59		6	7.83
0.10 Gal		<b>D-AIR 3000L, TOTETANK (101396181)</b>							
0.65 %		<b>SCR-100 (100003749)</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
3	EconoCem	ECONOCEM (TM) SYSTEM	490	sack	13.5	1.68		8	7.99
0.10 %		<b>SA-1015, 50 LB SACK (102077046)</b>							
7.99 Gal		<b>FRESH WATER</b>							
0.32 %		<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
4	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
5	Biocide Water	Biocide Water	271	bbl	8.34				
Cement Left In Pipe	Amount	ft			Reason			Wet Shoe	
Mix Water:	pH 06	Mix Water Chloride: 0ppm			Mix Water Temperature: 68 °F				
Cement Temperature:	°F °C	Plug Displaced by: 8.33 lb/gal			Disp. Temperature: 68°F				
Plug Bumped?	Yes	Bump Pressure: 2819 psi MPa			Floats Held? Yes				
Cement Returns:	0bbl m3	Returns Density: ## lb/gal kg/m3			Returns Temperature: ## °F °C				
<b>Comment</b> Got 0bbls spacer back to pits. Estimated TOT-7851', TOL-2090', TOS-756'									

## 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	8/10/2018	20:00:00	USER	Called out by Service Coordinator for O/L at 0100
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	8/10/2018	22:45:00	USER	Held meeting with all personnel in convoy to discuss directions and hazards associated with drive, all fit to drive.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	8/10/2018	23:00:00	USER	Journey Management prior to departure
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	8/11/2018	00:00:00	USER	Upon arrival met with company man to discuss job details and calculations, performed hazard hunt and site assessment.
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	8/11/2018	00:15:00	USER	Discussed rigging up hazards and procedure according to HMS.
Event	6	Other	Other	8/11/2018	01:00:00	USER	Water test- PH-6, Chlor-0, Temp-70.
Event	7	Safety Meeting - Pre Job	Safety Meeting - Pre Job	8/11/2018	03:30:00	USER	Held safety meeting with all job associated personnel to discuss job procedure, hazards and stop work authority.
Event	8	Start Job	Start Job	8/11/2018	03:52:12	COM4	TD-12587', TP-12576' 5.5" 17#, WS-12563', TVD-7319', OH-7.875", SURF-1883' 9.625" 36#, MUD-9.4#
Event	9	Test Lines	Test Lines	8/11/2018	03:58:00	COM4	Pumped 5bbls fresh water to fill lines, shutdown, closed manifold, performed 500psi k/o function test, continued with 5th gear stall at 2100psi, proceeded to bring pressure to 6500psi. Pressure stabilized and held with no leaks.
Event	10	Pump Spacer 1	Pump Spacer 1	8/11/2018	04:16:58	COM4	Pumped 60bbls of 10.5# 6.25Y 40.2g/s Tuned Spacer III with 45g Musol A, 45g Dual Spacer B, 30g D-Air at 4bpm 328psi.
Event	11	Drop Bottom Plug	Drop Bottom Plug	8/11/2018	04:31:44	COM4	Dropped by HES supervisor, witnessed by

company man.

Event	12	Shutdown	Shutdown	8/11/2018	04:33:05	COM4	
Event	13	Pump Lead Cement	Pump Lead Cement	8/11/2018	04:34:11	COM4	Pumped 630sk or 178bbbls of 13.2# 1.59y 7.83g/s Elasticem at 6bpm 285psi wth 1575g of Latex-3000 in mix water and 63g D-Air.
Event	14	Check Weight	Check Weight	8/11/2018	04:36:52	COM4	Weight verified with pressurized mud scales.
Event	15	Pump Tail Cement	Pump Tail Cement	8/11/2018	05:13:35	COM4	Pumped 490sk or 146bbbls of 13.5# 1.68Y 7.98G/S Econocem at 8bpm 645psi.
Event	16	Check Weight	Check Weight	8/11/2018	05:19:32	COM4	Weight verified with pressurized mud scales.
Event	17	Shutdown	Shutdown	8/11/2018	05:40:11	COM4	Shutdown, rig blew down iron with air, followed with 5bbbls fresh water through pumps and lines.
Event	18	Drop Top Plug	Drop Top Plug	8/11/2018	05:43:28	COM4	Dropped by HES supervisor, witnessed by company man.
Event	19	Pump Displacement	Pump Displacement	8/11/2018	05:43:32	COM4	Pumped 291bbbls fresh water with 10g MMCR in first 20bbbls, followed with 5g biocide throughout at 10bpm.
Event	20	Bump Plug	Bump Plug	8/11/2018	06:20:59	COM4	Slowed down at 275bbbls away to 2bpm, Final Circulating Pressure-2230psi, Bump Pressure-2819psi. Held for a min then pressured up well to 3000psi for 15min casing test.
Event	21	Pressure Up Well	Pressure Up Well	8/11/2018	06:37:14	USER	Pressured up with fresh water to 5000psi to shear pins and pumped 3bbbls at 3bpm 2500psi, for wet shoe.
Event	22	Check Floats	Check Floats	8/11/2018	06:38:37	USER	Released pressure and got 2bbbls back to truck.
Event	23	End Job	End Job	8/11/2018	06:39:54	COM4	Got 2bbbls spacer back to pits. Estimated TOT-7851', TOL-2090', TOS-756'
Event	24	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	8/11/2018	06:45:00	USER	All HSE present. Discussed red zone areas and trapped pressure hazards. Watch for suspended loads and rig down procedures,

including hand placement, lifting techniques, and swing radius.

Event	25	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	8/11/2018	08:45:00	USER	Pre journey managment prior to departure.
Event	26	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	8/11/2018	09:00:00	USER	All HSE present and fit to drive. Aware of directions and hazards.

3.0 Attachments

3.1 Graph

