

HALLIBURTON

## Cementing Job Summary

## The Road to Excellence Starts with Safety

Sold To #: 300488	Ship To #: 3751909	Quote #: 0022363229	Sales Order #: 0904380734							
Customer: ANADARKO PETROLEUM CORP-EBUS		Customer Rep: JOSH JOHNSON								
Well Name: WAGNER	Well #: 1N-W10HZ	API/UWI #: 05-123-43476-00								
Field: WATTENBERG	City (SAP): IONE	County/Parish: WELD	State: COLORADO							
Legal Description: SE NE-22-1N-67W-1609FNL-761FEL										
Contractor: PRECISION DRLG		Rig/Platform Name/Num: PRECISION 464								
Job BOM: 7525 7525										
Well Type: HORIZONTAL GAS										
Sales Person: HALAMERICA\HX41086		Srv Supervisor: Jason Welton								
Job										
Formation Name										
Formation Depth (MD)	Top	Bottom								
Form Type	BHST									
Job depth MD	15219ft	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
Drill Pipe		4	3.34	14			0	5689	0	5689
Casing		7	6.276	26	LTC	HCP110	0	5889	0	5889
Casing		4.5	4	11.6	LTC	HCP110	5689	15226	5689	7365
Open Hole Section			6.125				5889	15236	5889	7365
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	4.5			15219		Top Plug	4.5		HES	
Float Shoe	4.5					Bottom Plug	4.5		HES	
Float Collar	4.5					SSR plug set	4.5		HES	
Insert Float	4.5					Plug Container	4.5		HES	
Stage Tool	4.5					Centralizers	4.5		HES	
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	Tuned Spacer III	Tuned Spacer III	60	bbl	10.5	6.25				
0.70 gal/bbl		MUSOL A, 330 GAL TOTE - (790828)								
88.91 lbm/bbl		BARITE, BULK (100003681)								
37.58 gal/bbl		FRESH WATER								
0.70 gal/bbl		DUAL SPACER SURFACTANT B, 5 GAL PAIL (100003685)								

last updated on 11/8/2017 9:52:55 AM

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iCem® Service

(v. 4.4.18)

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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
2	EconoCem	ECONOCEM (TM) SYSTEM	570	sack	13.5	1.68		6	7.97
7.99 Gal		FRESH WATER							
0.45 %		HR-5, 50 LB SK (100005050)							
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
3	Displacement Fluid	Displacement Fluid	199	bbl	8.34				
Cement Left In Pipe		Amount	45 ft		Reason			Shoe Joint	
Mix Water: pH ##		Mix Water Chloride: ## ppm			Mix Water Temperature: ## °F °C				
Cement Temperature: ## °F °C		Plug Displaced by: ## lb/gal kg/m <sup>3</sup> XXXX			Disp. Temperature: ## °F °C				
Plug Bumped? Yes/No		Bump Pressure: ##### psi MPa			Floats Held? Yes/No				
Cement Returns: ## bbl m <sup>3</sup>		Returns Density: ## lb/gal kg/m <sup>3</sup>			Returns Temperature: ## °F °C				
<p>Comment JOB WENT AS PER DESIGN. ADDED 9# HR-5 TO MIX WATER FOR FIRST 31BBLs CEMENT. DISPLACED WF PLUG WITH 199BBLs FRESH/FIRST 20 TREATED WITH MMCR. PLUG SHEARED AND LANDED ON TIME WITH FULL RETURNS THROUGHOUT. CIRCULATED 60BBLs SPACER AND 9BBLs CEMENT OFF LINER TOP. TESTED LINER TO 2000PSI FOR 15MIN AFTER CLEANING HOLE.</p>									

## 2.0 Real-Time Job Summary

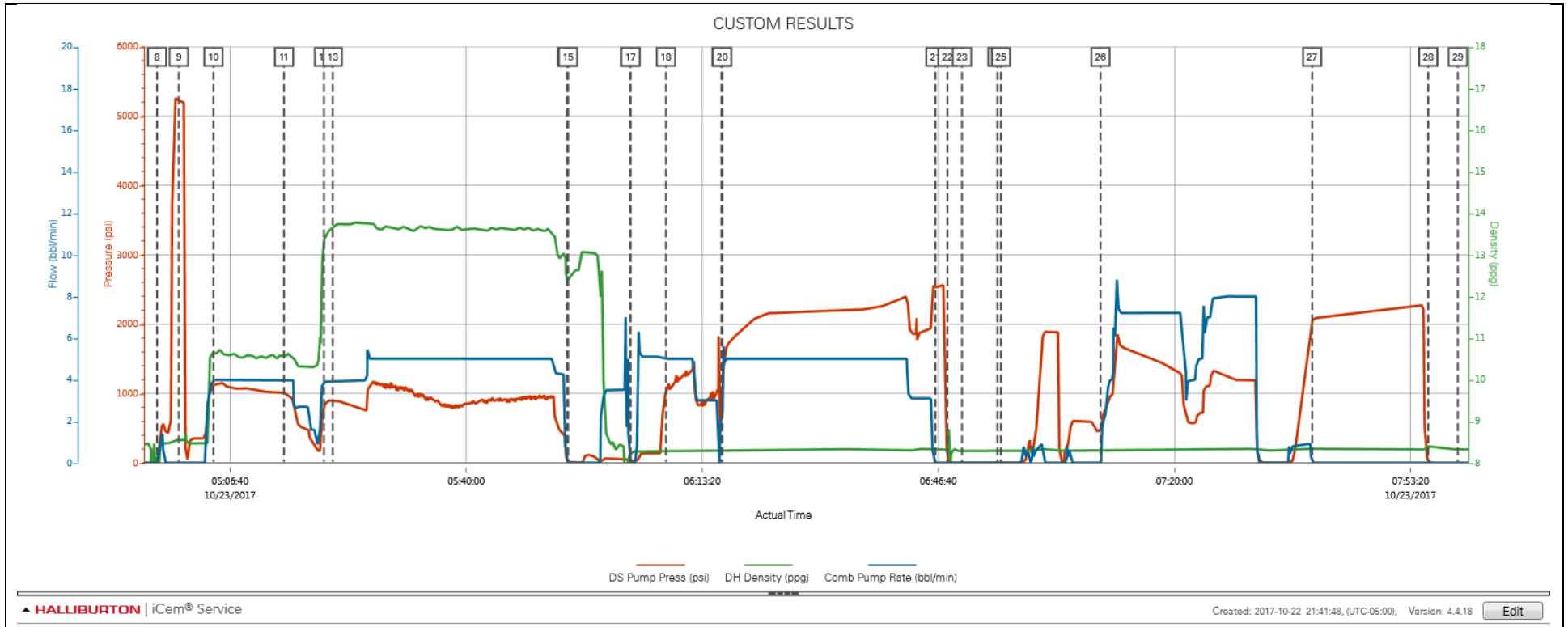
## 2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	DS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Comments
Event	1	Arrive At Loc	Arrive At Loc	10/22/2017	20:00:00	USER				CREW CALLED OUT AT 1730/REQUESTED ON LOCATION AT 2000/RIG MAKING UP HANGER
Event	2	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	10/22/2017	20:15:00	USER				TEST WATER/SPOT IN HES EQUIPMENT
Event	3	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	10/22/2017	20:20:00	USER				EYES ON TASK/EYES ON PATH
Event	4	Rig-Up Equipment	Rig-Up Equipment	10/22/2017	20:25:00	USER				
Event	5	Rig-Up Completed	Rig-Up Completed	10/22/2017	21:30:00	USER				HES READY
Event	6	Wait on Customer or Customer Sub-Contractor Equip - Start Time	Wait on Customer or Customer Sub-Contractor Equip - Start Time	10/22/2017	21:35:00	USER				RIG RIH WITH HWDP AND DP/SET LINER HANGER/CONDITION WELL
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	10/23/2017	03:00:00	USER	-3.00	8.46	0.00	REVIEW JOB AND SAFETY PROCEDURES
Event	8	Start Job	Start Job	10/23/2017	04:56:21	COM4	25.00	8.16	0.00	
Event	9	Test Lines	Test Lines	10/23/2017	04:59:26	COM4	5215.00	8.55	0.00	500PSI LOW/5000PSI HIGH/TEST GOOD
Event	10	Pump Spacer 1	Pump Spacer 1	10/23/2017	05:04:19	COM4	1126.00	10.63	4.00	60BBLS TUNED SPACER III @ 10.5PPG/4BPM/1150PSI
Event	11	Check Weight	Check weight	10/23/2017	05:14:16	COM4	1017.00	10.56	4.00	DENSITY VERIFIED WITH PRESSURIZED MUD SCALES
Event	12	Pump Cement	Pump Cement	10/23/2017	05:19:55	COM4	824.00	13.39	3.90	570SKS/170BBLS @ 13.5PPG/5BPM/865PSI
Event	13	Check Weight	Check weight	10/23/2017	05:21:10	COM4	893.00	13.65	3.90	DENSITY VERIFIED WITH PRESSURIZED MUD SCALES
Event	14	Shutdown	Shutdown	10/23/2017	05:54:15	COM4	37.00	12.36	0.00	
Event	15	Clean Lines	Clean Lines	10/23/2017	05:54:23	COM4	14.00	12.39	0.00	TO OPEN TOP
Event	16	Drop Plug	Drop Plug	10/23/2017	06:03:07	COM4	28.00	8.14	0.00	DROP WEATHERFORD DART

Event	17	Pump Displacement	Pump Displacement	10/23/2017	06:03:13	COM4	24.00	8.21	0.00	DISPLACE DRILL PIPE WITH 52BBLS FRESHWATER/FIRST 20BBLS TREATED WITH MMCR/5BPM/140PSI
Event	18	Displ Reached Cement	Displ Reached Cmnt	10/23/2017	06:08:12	COM4	1003.00	8.30	5.00	
Event	19	Other	Other	10/23/2017	06:16:03	COM4	804.00	8.30	2.40	SHEAR TOP PLUG/2600PSI
Event	20	Pump Displacement	Pump Displacement	10/23/2017	06:16:09	COM4	841.00	8.29	2.40	DISPLACE LINER WITH 147BBLS FRESHWATER/5BPM/1744PSI
Event	21	Bump Plug	Bump Plug	10/23/2017	06:46:15	COM4	2534.00	8.33	0.00	PLUG LANDED AT 200BBLS TOTAL DISPLACED/2540PSI/FULL RETURNS THROUGHOUT JOB
Event	22	Other	Other	10/23/2017	06:47:56	COM4	113.00	8.31	0.00	CHECK FLOATS/HELD-28BLS BACK
Event	23	Set Packer	Set Packer	10/23/2017	06:50:00	COM4	9.00	8.29	0.00	WEATHERFORD SETS PACKER
Event	24	Other	Other	10/23/2017	06:55:00	COM4	2.00	8.30	0.00	STING OUT OF LINER
Event	25	Test Lines	Test Liner	10/23/2017	06:55:30	COM4	2.00	8.29	0.00	2000PSI BACKSIDE TEST/VERIFIED
Event	26	Drop Ball	CIRCULATE WELL	10/23/2017	07:09:33	COM4	478.00	8.30	0.00	CIRCULATE WELL/78BPM/1700PSI/150BBLS FRESHWATER/CIRCULATED 60BBLS SPACER AND 9BBLS CEMENT OFF LINER TOP
Event	27	Test Lines	Test Liner	10/23/2017	07:39:26	COM4	2051.00	8.33	0.00	TEST LINER TO 2000PSI/15MIN/TEST GOOD
Event	28	End Job	End Job	10/23/2017	07:55:50	COM4				
Event	29	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	10/23/2017	08:00:00	USER	-10.00	8.33	0.00	
Event	30	Rig-Down Equipment	Rig-Down Equipment	10/23/2017	08:05:00	USER	-11.00	8.33	0.00	
Event	31	Rig-Down Completed	Rig-Down Completed	10/23/2017	09:00:00	USER				
Event	32	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	10/23/2017	09:15:00	USER				
Event	33	Depart Location	Depart Location	10/23/2017	09:30:00	USER				THANK YOU!

## 3.0 Attachments

### 3.1 CUSTOM RESULTS – JOB CHART WITH EVENTS



3.2 CUSTOM RESULTS – JOB CHART WITHOUT EVENTS

