Cementing Treatment

Start Date	4-25-18	**Well**	T-27-28HC G & D HANKS
End Date	4-25-18	**County**	WELD
Client	BAYSWATER EXPLORATION & PRODUCTION, LLC	**State/Province**	CO
Client Field Rep	Marsh	**API**	05-123-46279
Service Supervisor	Albert Snyder	**Type of Job**	Long String
District	Cheyenne, WY		

WELL GEOMETRY

Type	ID (in)	OD (in)	Wt. (lb/ft)	MD (ft)	TVD (ft)	Excess(%)
Previous Casing	8.92	9.63	36.00	1,553.00	1,553.00	
Open Hole	8.50			18,315.00	7,396.00	5.00
Casing	4.78	5.50	20.00	18,305.00	7,396.00	

Shoe Length (ft): 42

HARDWARE

Top Plug Used?	Yes	**Max Casing Pressure - Rated (psi)**	8610
Top Plug Provided By	3rd party	**Max Casing Pressure - Operated (psi)**	3100
Top Plug Size	5.5	**Pipe Movement**	None
Landing Collar Depth (ft)	18,278	**Job Pumped Through**	Cement head
Tool Type	Float Collar	**Top Connection Thread**	Buttress
Tool Depth (ft)	18278	**Top Connection Size**	5.5

CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	**PV Mud Out**	16
Circulation Time (min)	180	**YP Mud In**	9
Circulation Rate (bpm)	5	**YP Mud Out**	9
Circulation Volume (bbls)	900	**Solids Present at End of Circulation**	No
Lost Circulation Prior to Cement Job	No	**10 sec SGS**	7
Mud Density In (ppg)	9.6	**10 min SGS**	8
Mud Density Out (ppg)	9.6	**30 min SGS**	10
PV Mud In	16		

TEMPERATURE

Ambient Temperature (°F)	75	**Slurry Cement Temperature (°F**	70
Mix Water Temperature (°F)	70		

Cementing Treatment

BJ FLUID DETAILS

Fluid Type	Fluid Name	Density (ppg)	Yield (Cu Ft/sk)	H2O Req. (gals/sk)	Planned Top of Fluid (Ft)	Length (Ft)	Vol (sk)	Vol (Cu Ft)	Vol (bbls)
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer	11.5000			0.00				80.0000
Lead Slurry	BJCem P100.3.01C	13.2000	1.8254	9.88	0.00	6,900.00	940	1,704.0000	303.5000
Tail Slurry	BJCem P50.6.02C	13.5000	1.4777	7.45	6,900.00	11,412.00	1,870	2,751.0000	489.8000
Displacement 1	Retarded Water w/ Clay Protection & Biocide	8.3331			17,369.00			0.0000	20.0000
Displacement Final	Water w/ Clay Protection & Biocide	8.3331			0.00			0.0000	385.2000

Fluid Type	Fluid Name	Component	Concentration	UOM
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer	SAND, S-8, Silica Flour, 200 Mesh	215.0000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer	SPACER SURFACTANT, SS-267	0.7000	GPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer	Spacer Surfactant, SS-247	0.7000	GPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer	GELLANT WATER, GW-86	0.9000	PPB
Lead Slurry	BJCem P100.3.01C	Foam Preventer, FP-25	0.3000	BWOB
Lead Slurry	BJCem P100.3.01C	RETARDER, R-31	0.1700	BWOB
Lead Slurry	BJCem P100.3.01C	GELLANT WATER, GW-86	0.0500	BWOB
Lead Slurry	BJCem P100.3.01C	CEMENT, ASTM TYPE III	100.0000	PCT
Lead Slurry	BJCem P100.3.01C	FLUID LOSS, FL-66	0.5000	BWOB
Lead Slurry	BJCem P100.3.01C	BONDING AGENT, EC-2	3.0000	BWOB
Tail Slurry	BJCem P50.6.02C	Flyash (Rockies)	50.0000	PCT
Tail Slurry	BJCem P50.6.02C	Foam Preventer, FP-25	0.3000	BWOB
Tail Slurry	BJCem P50.6.02C	EXTENDER, BENTONITE	2.0000	BWOB
Tail Slurry	BJCem P50.6.02C	RETARDER, SR-20	0.1500	BWOB
Tail Slurry	BJCem P50.6.02C	CEMENT, CLASS G	50.0000	PCT
Tail Slurry	BJCem P50.6.02C	FLUID LOSS, FL-66	0.2000	BWOB
Tail Slurry	BJCem P50.6.02C	GELLANT WATER, GW-86	0.1000	BWOB
Displacement 1	Retarded Water w/ Clay Protection & Biocide	RETARDER, R-8L	0.5000	GPB
Displacement 1	Retarded Water w/ Clay Protection & Biocide	CLAY STABILIZER ResCare CS	0.0800	GPB
Displacement 1	Retarded Water w/ Clay Protection & Biocide	BIOCIDE, BIOC11139W	0.0100	GPB
Displacement Final	Water w/ Clay Protection & Biocide	BIOCIDE, BIOC11139W	0.0100	GPB
Displacement Final	Water w/ Clay Protection & Biocide	CLAY STABILIZER ResCare CS	0.0800	GPB

Cementing Treatment

TREATMENT SUMMARY

Fluid	Rate (bpm)	Fluid Vol. (bbls)
IntegraGuard EZ Spacer	5.00	80.00
BJCem P100.3.01C	6.00	303.50
BJCem P50.6.02C	6.00	489.80
Retarded Water w/ Clay Protection & Biocide	8.00	20.00
Water w/ Clay Protection & Biocide	8.00	385.20

DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ	**Amount of Cement Returned/Reversed**	30
Calculated Displacement Volume (bbls)	404	**Method Used to Verify Returns**	Visual
Actual Displacement Volume (bbls)	404	**Amount of Spacer to Surface**	80
Did Float Hold?	Yes	**Pressure Left on Casing (psi)**	0
Bump Plug	Yes	**Amount Bled Back After Job**	4.5
Bump Plug Pressure (psi)	3100	**Total Volume Pumped (bbls)**	1275
Were Returns Planned at Surface	Yes	**Top Out Cement Spotted**	No
Cement returns During Job	Yes	**Lost Circulation During Cement Job**	No

EVENT LOG

Service Line Cementing

Client BAYSWATER EXPLORATION & PRODUCTION, LLC

District Cheyenne, WY

Quotes: QUO-10293-Y1M3L4

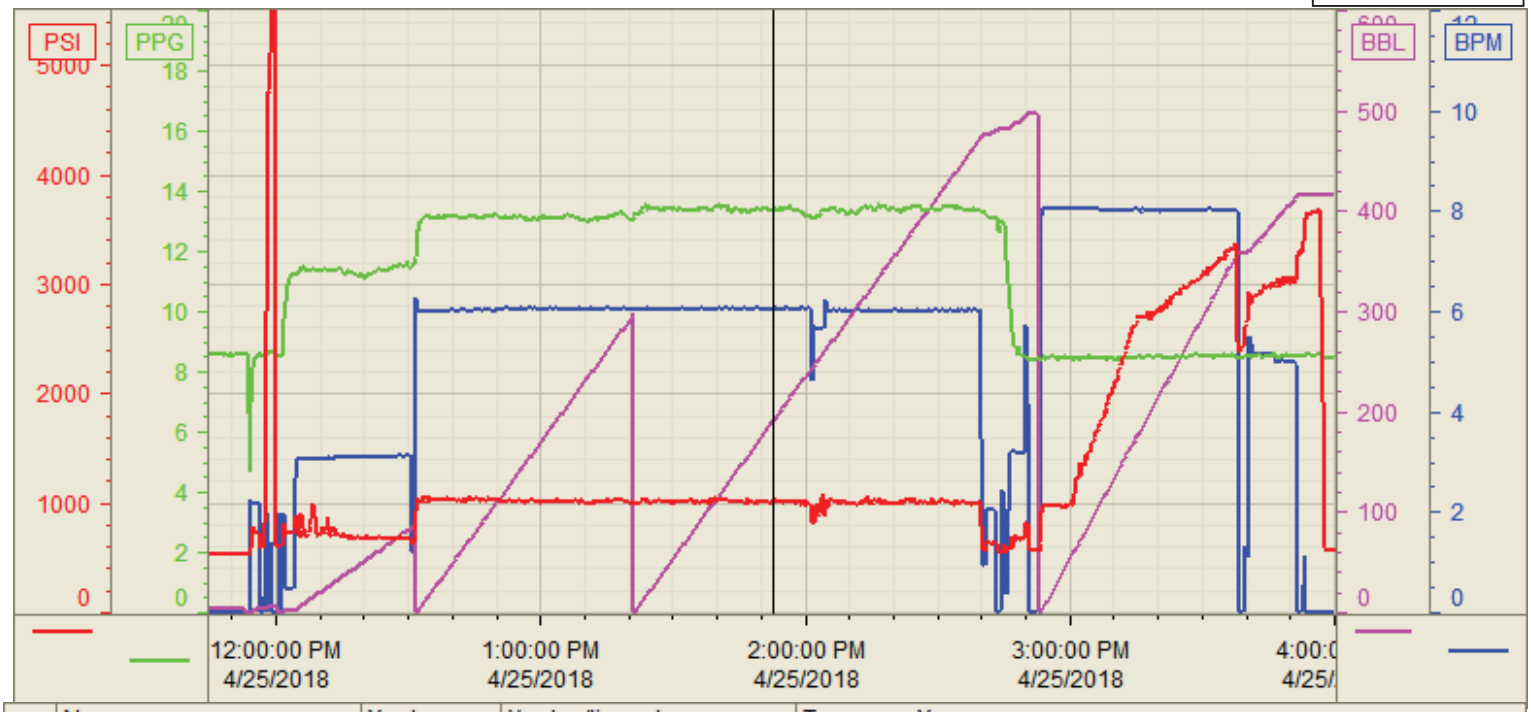
Plans: ORD-05992-D0P9K3

Executions: EXC-05992-D0P9K302

Well	Job Type	BJ Sup.	End Dt./Time	Category	Event	Density (ppg)	Pump Rate (bpm)	Pump Vol(bbls)	Pipe Pressure(psi)	Comments
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 4:00	Mobilization	Callout					Called out at 4:00 waiting on location for dot already requested on location 9:00am
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 4:30	Operational	Safety Meeting					Steacs journey out to location
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 4:45	Mobilization	Leave Location					drive together in convoy
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 7:00	Mobilization	Arrive on Location					arrived at 4:00
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 8:00	StandBy	Customer					waiting on casing to be ran off location
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 8:30	Operational	Safety Meeting					Steacs rig up briefing
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 10:00	Operational	Rig Up					rig up all iron and hoses
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 11:55	Operational	Safety Meeting					Discussued job wth rig crew
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 12:07	Operational	Other (See comment)	8.3300	3.00	5.00	350.00	Filled lines with fresh water 5 barrels
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 12:15	Operational	Pressure Test	8.3300	1.00	1.00	5,000.00	Tested lines to 5000 psi no leaks
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 12:46	Operational	Pump Spacer	11.5000	3.00	80.00	300.00	pumped ez spacer with surfactants at 11.5#
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 13:31	Operational	Pump Lead Cement	13.2000	6.00	305.00	550.00	mix and pump 940 sks od p-100 at 13.2# with 1.82 yiels and 9.88 water requirement
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 14:55	Operational	Pump Tail Cement	13.5000	6.00	489.00	400.00	Mix and pump 1870 sks of p 50 at 13.5# with 1.47 yield and 7.45 water requirement
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 14:59	Operational	Drop Top Plug					shut down washed to pit and dropped plug from tool hand
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 15:10	Operational	Pump Displacement	8.3300	8.00	20.00	900.00	20 bbls of r8l water
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 15:21	Operational	Pump Displacement	8.3300	8.00	100.00	1,000.00	100 awy of fresh water
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 15:35	Operational	Pump Displacement	8.3300	8.00	200.00	2,200.00	200 away of fresh water with biocide and asf 50
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 15:47	Operational	Pump Displacement	8.3300	8.00	294.00	2,500.00	294 awy began to get spacer back to surface
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 16:00	Operational	Pump Displacement	8.3300	5.00	374.00	2,650.00	374 away got back cement 30 bbls to the surface
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 16:03	Operational	Pump Lead Cement	8.3300	5.00	380.00	2,500.00	slowed rate in ordwer to land the plug
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 16:06	Operational	Land Plug	8.3300	5.00	404.00	3,100.00	plug landed on calculated
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 16:11	Operational	Check Floats					float is holding got back 4.5 bbls of flowback
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 17:10	Operational	Safety Meeting					Discussed rigging down
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 18:20	Operational	Rig Down					rigged down using teamwork and safety
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 20:00	Mobilization	Leave Location					depart location headed to another location
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 19:10	Operational	Other (See comment)					after action review discussed how to make job go better next time
T-27-28HC G & D HANKS	Long String	Albert Snyder	04/25/2018 19:30	Operational	Safety Meeting					Steacs Briefing journey back home
T-27-28HC G & D HANKS	Long String	Albert Snyder	4-25-2018 23:50	Mobilization	Arrive on Location					arrive back at yard by midnight

Customer: BAYSWATER
Well Number: T27-28HC
Lease Info: SDU TILLARD

Print Date/Time
4/25/2018 5:32:26 PM



	Name	Y value	X value/time stamp	Tag name Y
1	DS - Press (PSI)	1007.8	4/25/2018 1:52:40 PM	Cementer\DS_DISCHARGE_PRESS_DIAL
2	DH - Density (PPG)	13.39 i.	4/25/2018 1:52:37 PM i.	Cementer\DENSITY2_ACTUAL_RATE
3	Down Hole Total (BBLS)	191.4 i.	4/25/2018 1:52:37 PM i.	Cementer\DOWNHOLE_FLOW_TOTAL
4	Combined Rate	6.04 i.	4/25/2018 1:52:37 PM i.	Cementer\Flow_Combined
5				

Source: Control1 5:32:22 PM