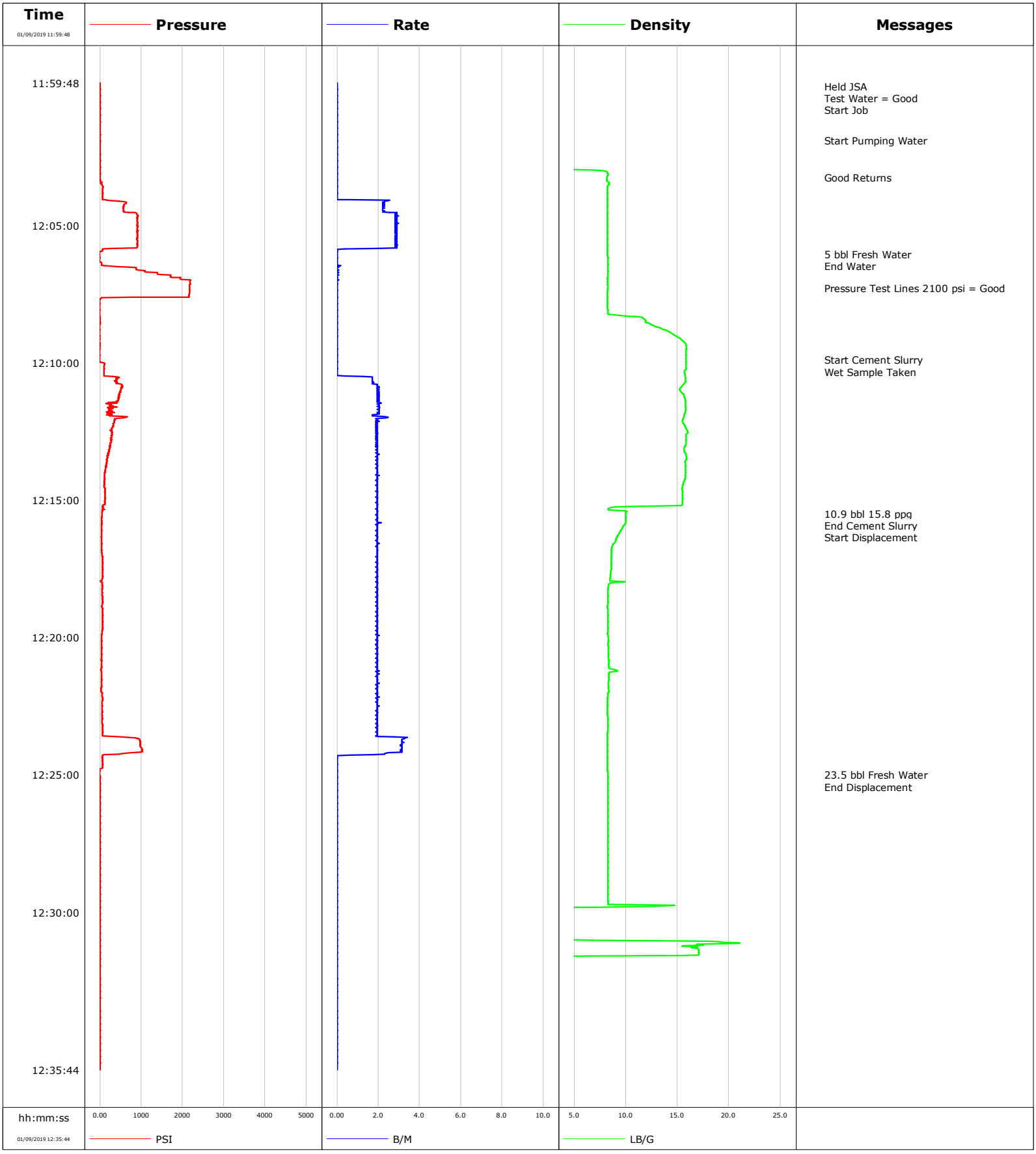
Schlumberger

Cementing Job Report

CemCAT v1.7

Well	HSR Nygren 3-19	**Client**	Anadarko
Field	DJ	**SIR No.**	E84H-00210
Engineer	Ken Sovereign	**Job Type**	Nio Plug
Country	United States	**Job Date**	01-09-2019



Schlumberger Cementing Service Report

Customer	Job Number
Anadarko	E84H-00210

Well	Location (legal)	Schlumberger Location	Job Start
HSR Nygren 3-19 3-19		Cheyenne	Jan/09/2019

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
DJ		deg	in	6843.0 ft	6843.0 ft

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
Weld	Colorado	psi	220 degF	210 degF	lb/gal

Well Master	API/UWI
0630342360	05123204530000

Rig Name	Drilled For	Service Via
Basic 1551	Oil	Land

Offshore Zone	Well Class	Well Type
	Old	Workover

Drilling Fluid Type	Max. Density	Plastic Viscosity
	lb/gal	cP

Service Line	Job Type
Cementing	Nio Plug

Max. Allowed Tub. Press	Max. Allowed Ann. Press	WH Connection
psi	psi	2 3/8" 4.7# T/S

Service Instructions

40 sks 1.53 ft3/sk 6.35 gal/sk

5 bbl Fresh Water
10.9 bbl 15.8 ppg Cement
23.5 bbl Fresh Water

Est. TOC = 6140'

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
6843.0	4.5	11.6	N80	8RD
0.0	0.0	0.0		

Tubing/Drill Pipe

T/D	Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
T	6843.0	2.4	4.7	J55	8RD
	0.0	0.0	0.0		

Perforations/Open Hole

Top, ft	Bottom, ft	shot/ft	No. of Shots	Total Interval
ft	ft			ft
ft	ft			Diameter
ft	ft			in

Treat Down	Displacement	Packer Type	Packer Depth
Tubing	23.5 bbl		ft

Tubing Vol.	Casing Vol.	Annular Vol.	Openhole Vol.
26.5 bbl	bbl	bbl	bbl

Casing/Tubing Secured	1 Hole Vol. Circulated prior to Cement
X	X

Lift Pressure	psi

Pipe Rotated	Pipe Reciprocated
☐	☐

No. Centralizers	Top Plugs	Bottom Plugs

Cement Head Type

Job Scheduled For	Arrived on Location	Leave Location
Jan/09/2019	Jan/09/2019	Jan/09/2019

Casing Tools		Squeeze Job	
Shoe Type		Squeeze Type	
Shoe Depth	ft	Tool Type	
Stage Tool Type		Tool Depth	ft
Stage Tool Depth	ft	Tail Pipe Size	in
Collar Type		Tail Pipe Depth	ft
Collar Depth	ft	Sqz. Total Vol.	bbl

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume B/M	Message
01/09/2019	11:59:48	0	0.0	0.30	0.0	Started Acquisition
01/09/2019	11:59:55	0	0.0	0.30	0.0	Held JSA
01/09/2019	11:59:58	0	0.0	0.30	0.0	Start Job
01/09/2019	12:01:54	-5	0.0	0.30	0.0	Start Pumping Water
01/09/2019	12:03:15	0	0.0	8.19	0.0	Good Returns
01/09/2019	12:06:02	-9	0.0	8.25	0.0	5 bbl Fresh Water
01/09/2019	12:07:16	2170	0.0	8.26	0.0	Pressure Test Lines 2100 psi = Good
01/09/2019	12:09:53	-5	0.0	15.82	0.0	Start Cement Slurry
01/09/2019	12:10:00	82	0.0	15.83	0.0	Wet Sample Taken
01/09/2019	12:15:29	60	2.0	9.99	0.0	10.9 bbl 15.8 ppg
01/09/2019	12:15:30	50	2.0	9.99	0.0	Start Displacement

Well	Field	Job Start	Customer	Job Number
HSR Nygren 3-19 3-19	DJ	Jan/09/2019	Anadarko	E84H-00210

Post Job Summary

Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
2.2			3.1	10.9	0.0	5.0	

Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
2193	0	314				bbl	lb/gal

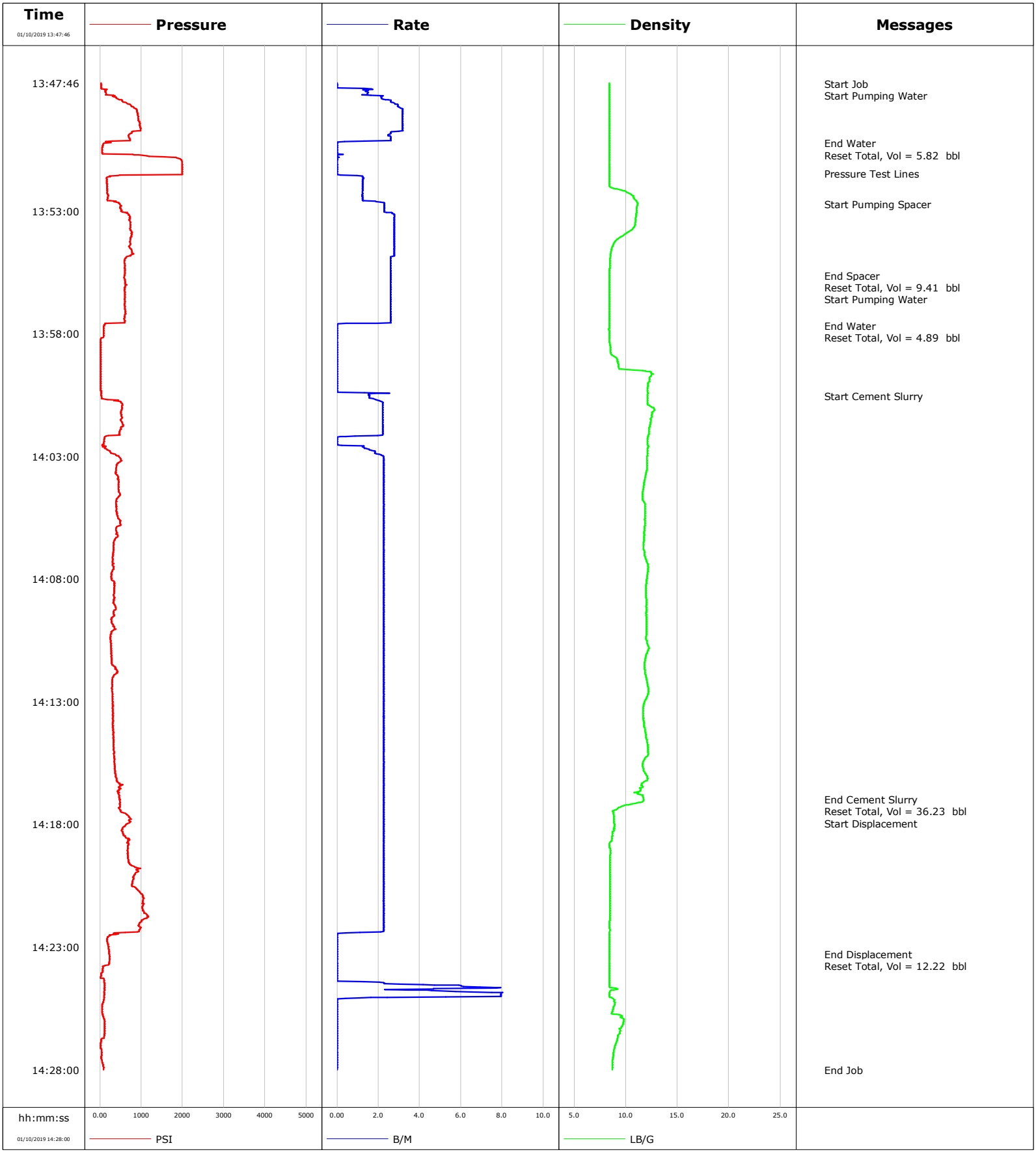
Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp	Cement Circulated to Surface?	Volume
%	0.0 bbl	23.5 bbl	52 degF	☐	bbl
				Washed Thru Perfs ☐	To ft

Customer or Authorized Representative	Schlumberger Supervisor	Circulation Lost	Job Completed
Seth Chappell	Ken Sovereign	-	- ☒

Schlumberger

Cementing Job Report

Well	HSR Nygren 3-19	**Client**	Anadarko
Field	DJ	**SIR No.**	E84H-00211
Engineer	R Pippin	**Job Type**	Sussex Sqz
Country	United States	**Job Date**	01-10-2019



Schlumberger Cementing Service Report

Customer	Job Number
Anadarko	E84H-00211

Well	Location (legal)	Schlumberger Location	Job Start
HSR Nygren 3-19		Cheyenne	Jan/10/2019

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
DJ		deg	in	4220.0 ft	4220.0 ft

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
Well Master	API/UWI	psi	degF	degF	lb/gal

Rig Name	Drilled For	Service Via
	Gas	Land

Offshore Zone	Well Class	Well Type
	Old	Workover

Drilling Fluid Type	Max. Density	Plastic Viscosity
	lb/gal	cP

Service Line	Job Type
Cementing	Sussex Sqz

Max. Allowed Tub. Press	Max. Allowed Ann. Press	WH Connection
psi	psi	2 3/8" 4.7# T/S

Service Instructions

115 sks 1.79ft3/sk 9.253 gps 36.7 bbls @ 12 ppg

5 bbls Fresh Water
10 bbls SMS
5 bbls Fresh Water
36.7 bbls CMT @ 12 ppg
12 bbls Displacement

EST TOC 3676 FT

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
4220.0	4.5	11.6	N80	BUTT
0.0	0.0	0.0		

Tubing/Drill Pipe

T/D	Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
T	3869.0	2.4	4.7	j55	EUE
	0.0	0.0	0.0		

Perforations/Open Hole

Top, ft	Bottom, ft	shot/ft	No. of Shots	Total Interval
ft	ft			ft
ft	ft			Diameter
ft	ft			in

Treat Down	Displacement	Packer Type	Packer Depth
Tubing	12.0 bbl		ft

Tubing Vol.	Casing Vol.	Annular Vol.	Openhole Vol.
15.0 bbl	bbl	bbl	bbl

Casing/Tubing Secured	1 Hole Vol. Circulated prior to Cement
X	X

Lift Pressure	psi

Pipe Rotated	Pipe Reciprocated
☐	☐

No. Centralizers	Top Plugs	Bottom Plugs

Cement Head Type

Job Scheduled For	Arrived on Location	Leave Location
Jan/10/2019	Jan/10/2019	Jan/10/2019

Casing Tools		Squeeze Job	
Shoe Type		Squeeze Type	
Shoe Depth	ft	Tool Type	
Stage Tool Type		Tool Depth	ft
Stage Tool Depth	ft	Tail Pipe Size	in
Collar Type		Tail Pipe Depth	ft
Collar Depth	ft	Sqz. Total Vol.	bbl

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
01/10/2019	13:47:46	31	0.0	8.44	0.0	Started Acquisition
01/10/2019	13:47:48	31	0.0	8.44	0.0	Start Job
01/10/2019	13:47:49	31	0.0	8.44	0.0	Start Pumping Water
01/10/2019	13:50:14	100	0.0	8.42	5.8	End Water
01/10/2019	13:50:17	77	0.0	8.42	5.8	Reset Total, Vol = 5.82 bbl
01/10/2019	13:51:28	1995	0.0	8.42	5.8	Pressure Test Lines
01/10/2019	13:52:43	489	2.3	11.15	7.4	Start Pumping Spacer
01/10/2019	13:52:47	512	2.3	11.11	7.6	
01/10/2019	13:55:37	594	2.6	8.44	15.1	End Spacer
01/10/2019	13:55:40	594	2.6	8.44	15.2	Reset Total, Vol = 9.41 bbl
01/10/2019	13:55:42	590	2.6	8.44	15.3	Start Pumping Water
01/10/2019	13:57:40	100	0.0	8.41	20.1	End Water
01/10/2019	13:57:43	95	0.0	8.41	20.1	Reset Total, Vol = 4.89 bbl
01/10/2019	13:57:48	91	0.0	8.37	20.1	
01/10/2019	14:00:32	36	1.6	12.10	20.4	Start Cement Slurry
01/10/2019	14:02:49	246	1.8	12.10	24.3	
01/10/2019	14:07:50	278	2.3	12.08	35.6	
01/10/2019	14:12:51	306	2.3	12.01	46.9	
01/10/2019	14:16:59	498	2.3	11.72	56.3	End Cement Slurry
01/10/2019	14:17:01	475	2.3	11.72	56.4	Reset Total, Vol = 36.23 bbl
01/10/2019	14:17:15	489	2.3	9.74	56.9	Start Displacement

Well	Field	Job Start	Customer	Job Number
HSR Nygren 3-19	DJ	Jan/10/2019	Anadarko	E84H-00211

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
01/10/2019	14:22:53	196	0.0	8.44	68.6	
01/10/2019	14:23:18	228	0.0	8.44	68.6	End Displacement
01/10/2019	14:23:26	228	0.0	8.44	68.6	Reset Total, Vol = 12.22 bbl
01/10/2019	14:27:54	86	0.0	8.70	72.2	

Post Job Summary

Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
2.3			8.0	36.7	0.0	20.0	

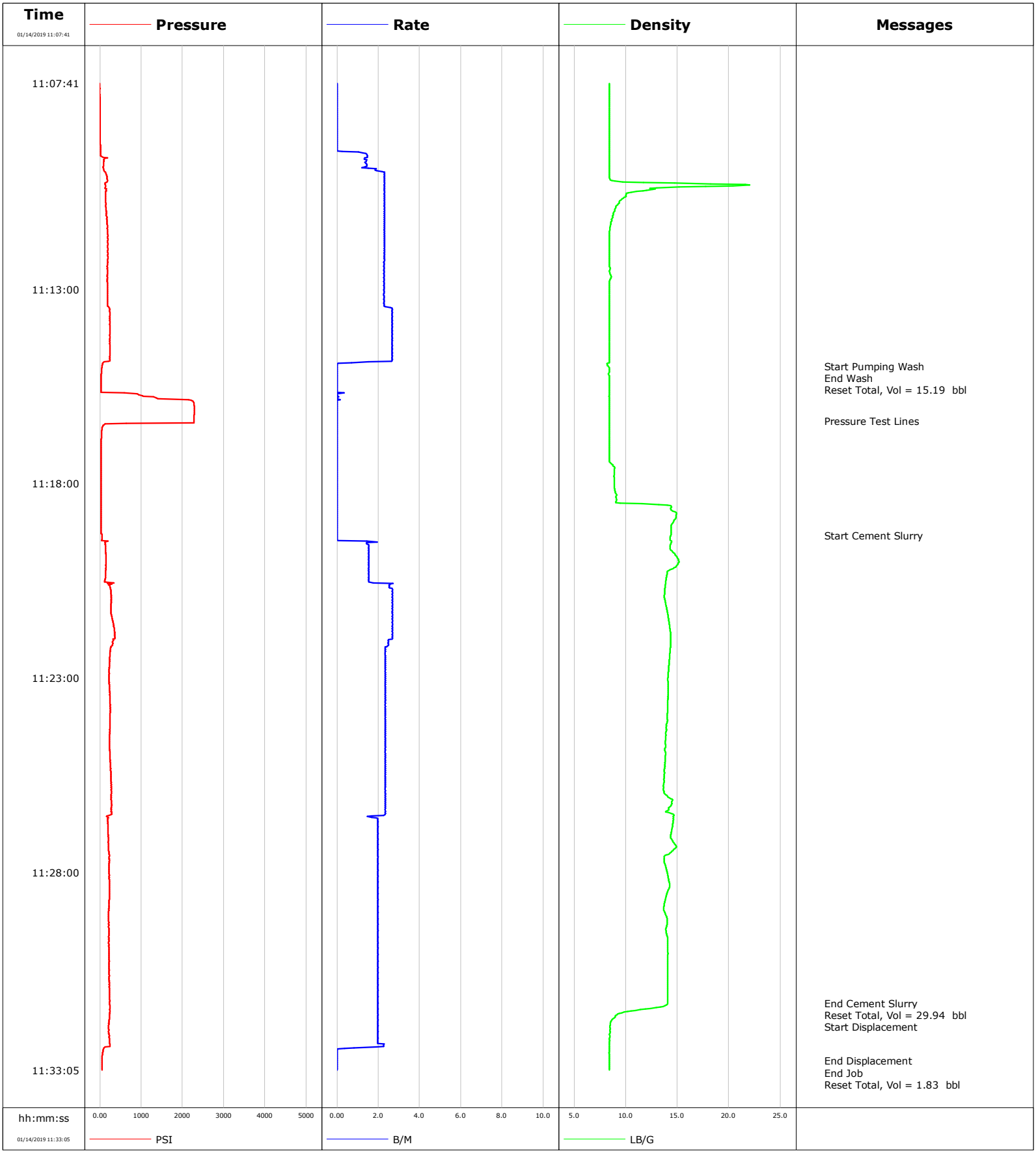
Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
1995	95	432				bbl	lb/gal

Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp		
%	36.7 bbl	12.0 bbl	54 degF	Cement Circulated to Surface? ☐	Volume bbl
				Washed Thru Perfs ☐	To ft

Customer or Authorized Representative	Schlumberger Supervisor		
Seth Chappell	R Pippin	Circulation Lost ☐	Job Completed ☒
		-	-

Schlumberger Cementing Job Report

Well	HSR Nygren 3-19	**Client**	Anadarko
Field	DJ	**SIR No.**	E84H-00212
Engineer	R Pippin	**Job Type**	Stub Plug
Country	United States	**Job Date**	01-14-2019



Schlumberger

Cementing Service Report

Customer	Job Number
Anadarko	E84H-00212

Well	Location (legal)	Schlumberger Location	Job Start
HSR Nygren 3-19		Cheyenne	Jan/14/2019

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
DJ		deg	7.9 in	916.0 ft	916.0 ft

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
Weld	Colorado	psi	degF	degF	lb/gal
Well Master	**API/UWI**				

Rig Name	Drilled For	Service Via
	Gas	Land

Offshore Zone	Well Class	Well Type
	Old	Workover

Drilling Fluid Type	Max. Density	Plastic Viscosity
	lb/gal	cP

Service Line	Job Type
Cementing	Stub Plug

Max. Allowed Tub. Press	Max. Allowed Ann. Press	WH Connection
psi	psi	2 3/8" 4.7# T/S

Service Instructions

109 sks 1.55ft3/sk 7.914 gps 30 bbls @ 14 ppg

15 bbls CW
30 bbls CMT @ 14 ppg
1.8 bbls Displacement

EST TOC 463 FT

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
719.0	8.6	24.0	j55	8rd
0.0	0.0	0.0		

Tubing/Drill Pipe

T/D	Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
T	916.0	2.4	4.7	j55	EUE
	0.0	0.0	0.0		

Perforations/Open Hole

Top, ft	Bottom, ft	shot/ft	No. of Shots	Total Interval
ft	ft			ft
ft	ft			Diameter
ft	ft			in

Treat Down	Displacement	Packer Type	Packer Depth
Tubing	1.8 bbl		ft

Tubing Vol.	Casing Vol.	Annular Vol.	Openhole Vol.
3.5 bbl	bbl	bbl	bbl

Casing/Tubing Secured	1 Hole Vol. Circulated prior to Cement
X	X

Lift Pressure	psi

Pipe Rotated	Pipe Reciprocated
☐	☐

No. Centralizers	Top Plugs	Bottom Plugs

Cement Head Type

Job Scheduled For	Arrived on Location	Leave Location
Jan/14/2019	Jan/14/2019	Jan/14/2019

Casing Tools		Squeeze Job	
Shoe Type		Squeeze Type	
Shoe Depth	ft	Tool Type	
Stage Tool Type		Tool Depth	ft
Stage Tool Depth	ft	Tail Pipe Size	in
Collar Type		Tail Pipe Depth	ft
Collar Depth	ft	Sqz. Total Vol.	bbl

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
01/14/2019	11:07:41	-1	0.0	8.41	0.0	JSA Complete
01/14/2019	11:12:42	187	2.2	8.57	7.0	
01/14/2019	11:14:59	54	0.0	8.31	12.5	Start Pumping Wash
01/14/2019	11:15:00	49	0.0	8.38	12.5	End Wash
01/14/2019	11:15:03	45	0.0	8.41	12.5	Reset Total, Vol = 15.19 bbl
01/14/2019	11:16:22	2283	0.0	8.41	12.5	Pressure Test Lines
01/14/2019	11:17:43	31	0.0	8.90	12.5	
01/14/2019	11:19:20	49	0.0	14.37	12.5	Start Cement Slurry
01/14/2019	11:22:44	223	2.4	14.17	19.8	
01/14/2019	11:27:45	228	2.0	13.75	31.0	
01/14/2019	11:31:22	237	2.0	14.08	38.1	End Cement Slurry
01/14/2019	11:31:25	242	2.0	13.93	38.2	Reset Total, Vol = 29.94 bbl
01/14/2019	11:31:29	242	2.0	12.96	38.4	Start Displacement
01/14/2019	11:32:46	59	0.0	8.42	40.4	
01/14/2019	11:32:51	54	0.0	8.42	40.4	End Displacement
01/14/2019	11:32:53	54	0.0	8.42	40.4	End Job

Well	Field	Job Start	Customer	Job Number
HSR Nygren 3-19	DJ	Jan/14/2019	Anadarko	E84H-00212

Post Job Summary

Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
2.2			2.7	30.0	0.0	15.0	

Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
2288	49	233				bbl	lb/gal

Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp	Cement Circulated to Surface?	Volume
%	30.0 bbl	1.8 bbl	43 degF	☐	bbl
				Washed Thru Perfs ☐	To ft

Customer or Authorized Representative	Schlumberger Supervisor	Circulation Lost	Job Completed
Seth Chappell	R Pippin	-	- ☒