Schlumberger

Cementing Job Report

CemCAT v1.6

Well	Heit Antone C Unit 2	**Client**	Anadarko
Field	DJ	**SIR No.**	DA6T-01282
Engineer	Matt Leiker	**Job Type**	Plug
Country	United States	**Job Date**	07-10-2017

Schlumberger

Cementing Service Report

Customer	Job Number
Anadarko	DA6T-01282

Well	Location (legal)	Schlumberger Location	Job Start
Heit Antone C Unit 2			Jul/10/2017

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

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

Well Master	API/UWI
0631725608	

Rig Name	Drilled For	Service Via
Basic 1549	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	Plug

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

Service Instructions

Rate and Density Checked
Pump 10 bbl Water
10 bbl Cement
10 bbl Water
245 sks @ 1.16 Y @ 50.6 bbl @ 15.8 ppg
Displace 4.4 bbl Water

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread

Tubing/Drill Pipe

T/D	Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
T	760.0	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	bbl		ft

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

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

Lift Pressure	Pipe Rotated	Pipe Reciprocated
psi	☐	☐

No. Centralizers	Top Plugs	Bottom Plugs

Cement Head Type

Job Scheduled For	Arrived on Location	Leave Location
Jul/10/2017	Jul/10/2017	Jul/10/2017

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 PSI	Message
07/10/2017	14:42:36	0	0.0	8.21	0	Started Acquisition
07/10/2017	14:42:37	0	0.0	8.21	0	Hold Safety Meeting
07/10/2017	14:44:09	0	0.0	8.19	0	Start Pumping Wash
07/10/2017	14:44:36	266	2.8	8.35	0	
07/10/2017	14:45:00	311	2.8	8.26	0	10 bbl Water
07/10/2017	14:46:36	549	2.7	8.23	0	
07/10/2017	14:47:47	394	0.0	8.22	0	End Wash
07/10/2017	14:48:36	348	0.0	8.23	0	
07/10/2017	14:49:06	2472	0.0	8.23	0	Pressure Test Lines
07/10/2017	14:49:08	2472	0.0	8.23	0	Test tp 2500 psi
07/10/2017	14:50:18	320	0.0	8.22	0	Start Pumping Spacer
07/10/2017	14:50:36	435	1.6	8.42	0	
07/10/2017	14:51:00	618	2.6	9.82	0	10 bbl SMS
07/10/2017	14:52:36	623	2.6	9.83	0	
07/10/2017	14:54:25	636	2.6	8.23	0	End Spacer
07/10/2017	14:54:26	636	2.6	8.23	0	Start Pumping Wash
07/10/2017	14:54:36	636	2.6	8.22	0	
07/10/2017	14:55:00	627	2.6	8.22	0	10 bbl Water
07/10/2017	14:56:36	636	2.6	8.22	0	
07/10/2017	14:58:08	449	0.0	8.22	0	End Wash
07/10/2017	14:58:36	407	0.0	8.22	0	

Well	Field	Job Start	Customer	Job Number
Heit Antone C Unit 2	DJ	Jul/10/2017	Anadarko	DA6T-01282

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume PSI	Message
07/10/2017	15:02:36	380	0.0	13.75	0	
07/10/2017	15:03:15	439	0.1	15.31	0	Start Cement Slurry
07/10/2017	15:04:00	581	2.2	16.16	0	Wet and Dry Samples
07/10/2017	15:04:36	531	2.2	15.47	0	
07/10/2017	15:05:00	549	2.5	15.51	0	245 sks @ 1.16 Y
07/10/2017	15:08:36	499	2.5	16.07	0	
07/10/2017	15:10:36	435	2.5	16.00	0	
07/10/2017	15:12:36	595	2.5	15.76	0	
07/10/2017	15:14:36	732	2.4	16.07	0	
07/10/2017	15:16:36	787	2.5	15.69	0	
07/10/2017	15:18:36	732	2.5	15.76	0	
07/10/2017	15:20:36	719	2.5	15.85	0	
07/10/2017	15:22:36	700	2.5	15.91	0	
07/10/2017	15:24:36	673	2.4	15.91	0	
07/10/2017	15:26:34	687	2.5	15.68	0	End Cement Slurry
07/10/2017	15:26:35	687	2.5	15.63	0	Start Displacement
07/10/2017	15:26:36	682	2.5	15.57	0	.5 bbl Water
07/10/2017	15:26:53	380	2.0	10.42	0	End Displacement
07/10/2017	15:28:36	69	0.0	10.13	0	
07/10/2017	15:30:36	69	0.0	10.01	0	

Post Job Summary

Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
2.5			2.9	50.6	0.0	30.0	

Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
2486	64	568				bbl	lb/gal

Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp		
%	50.6 bbl	0.5 bbl	63 degF	Cement Circulated to Surface? ☐	Volume bbl
				Washed Thru Perfs ☐	To ft

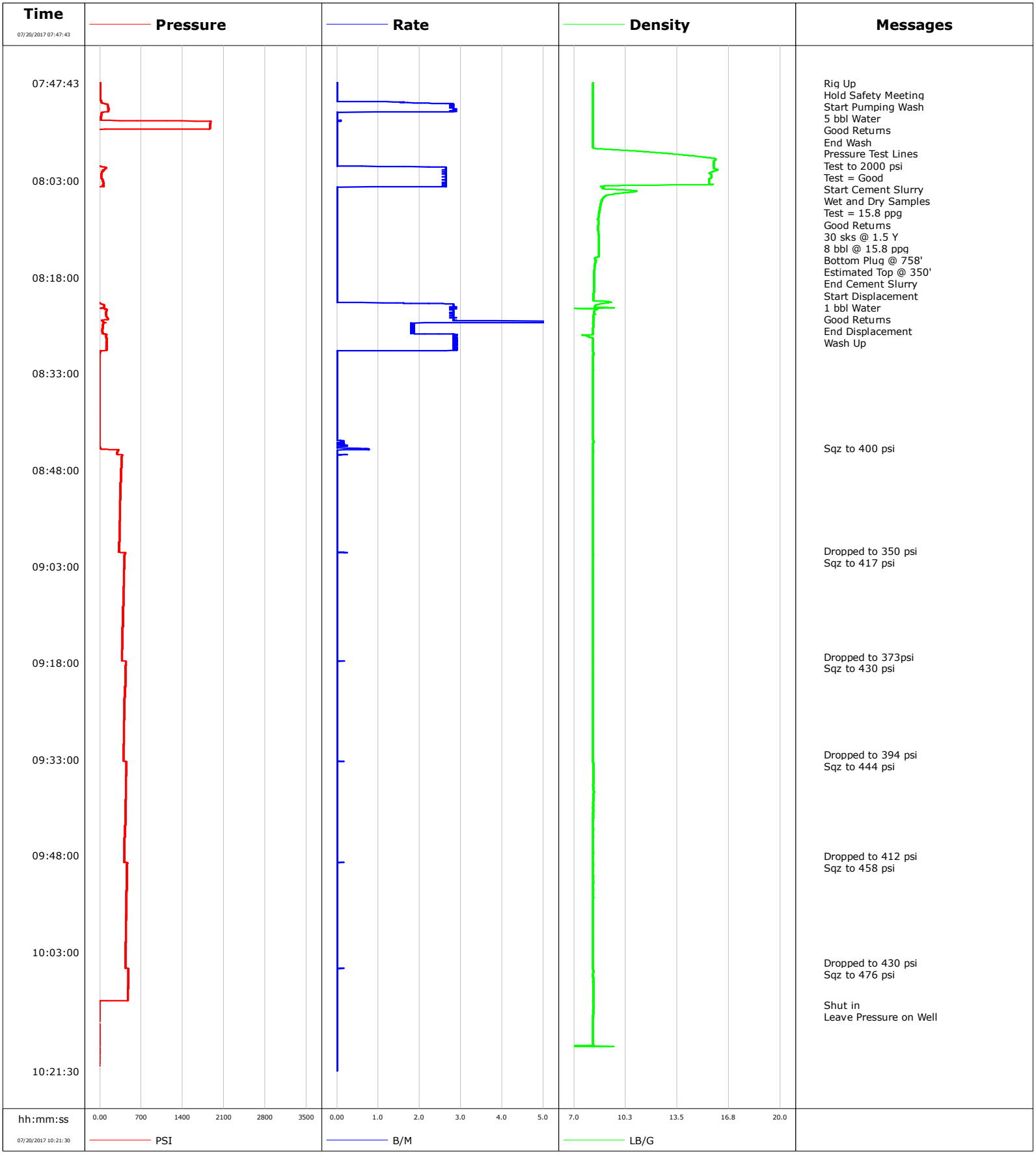
Customer or Authorized Representative	Schlumberger Supervisor	Circulation Lost	Job Completed
	Matt Leiker	-	- ☒

Schlumberger

Cementing Job Report

CemCAT v1.6

Well	Heit C Unit 2	**Client**	Anadarko
Field	DJ	**SIR No.**	CRPB-00075
Engineer	Matt Leiker	**Job Type**	Plug
Country	United States	**Job Date**	07-20-2017



Schlumberger

Cementing Service Report

Customer	Job Number
Anadarko	CRPB-00075

Well	Location (legal)	Schlumberger Location	Job Start
Heit C Unit 2			Jul/20/2017

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

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

Well Master	API/UWI
0631725608	

Rig Name	Drilled For	Service Via
Basic 1524	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	Plug

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

Service Instructions

Rate and Density Checked
Pump 5 bbl Water
8 bbl Cement 30 sks Yield=1.5
Displace 1 bbl Water
Bottom Plug @ 758'
Estimated Top @ 370'

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread

Tubing/Drill Pipe

T/D	Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
T	758.0	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	1.0 bbl		ft

Tubing Vol.	Casing Vol.	Annular Vol.	Openhole Vol.
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
Jul/20/2017	Jul/20/2017	Jul/20/2017

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 PSI	Message
07/20/2017	07:47:43	0	0.0	8.20	0	Started Acquisition
07/20/2017	07:47:47	0	0.0	8.20	0	Rig Up
07/20/2017	07:49:43	5	0.0	8.18	0	
07/20/2017	07:50:23	0	0.0	8.19	0	Start Pumping Wash
07/20/2017	07:51:00	87	2.8	8.19	0	5 bbl Water
07/20/2017	07:51:43	142	2.8	8.19	0	
07/20/2017	07:52:22	32	0.0	8.20	0	End Wash
07/20/2017	07:53:43	1863	0.1	8.20	0	
07/20/2017	07:54:14	1863	0.0	8.20	0	Pressure Test Lines
07/20/2017	07:54:16	1863	0.0	8.20	0	Test to 2000 psi
07/20/2017	07:55:43	-55	0.0	8.19	0	
07/20/2017	07:57:43	-60	0.0	8.20	0	
07/20/2017	07:59:43	-64	0.0	15.91	0	
07/20/2017	08:00:32	-60	0.0	15.78	0	Start Cement Slurry
07/20/2017	08:01:00	101	2.6	15.80	0	Wet and Dry Samples
07/20/2017	08:01:43	32	2.6	15.59	0	
07/20/2017	08:02:00	23	2.6	15.62	0	30 sks @ 1.5 Y
07/20/2017	08:03:32	50	2.6	15.76	0	End Cement Slurry
07/20/2017	08:03:43	64	2.6	10.19	0	
07/20/2017	08:03:50	64	2.6	8.74	0	1 bbl Water
07/20/2017	08:03:59	-27	0.0	8.85	0	End Displacement

Well	Field	Job Start	Customer	Job Number
Heit C Unit 2	DJ	Jul/20/2017	Anadarko	CRPB-00075

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume PSI	Message
07/20/2017	08:09:43	-50	0.0	8.53	0	
07/20/2017	08:11:43	-50	0.0	8.55	0	
07/20/2017	08:13:43	-46	0.0	8.57	0	
07/20/2017	08:15:43	-50	0.0	8.35	0	
07/20/2017	08:17:43	-50	0.0	8.25	0	
07/20/2017	08:19:43	-50	0.0	8.25	0	
07/20/2017	08:21:43	-41	0.0	8.64	0	
07/20/2017	08:21:57	-14	0.1	9.30	0	Wash Up
07/20/2017	08:23:43	96	2.8	8.27	0	
07/20/2017	08:25:43	46	1.8	8.21	0	
07/20/2017	08:27:43	110	2.9	8.20	0	
07/20/2017	08:29:43	-5	0.0	8.21	0	
07/20/2017	08:31:43	-9	0.0	8.20	0	
07/20/2017	08:33:43	-14	0.0	8.20	0	
07/20/2017	08:35:43	-9	0.0	8.20	0	
07/20/2017	08:37:43	-14	0.0	8.20	0	
07/20/2017	08:39:43	-14	0.0	8.20	0	
07/20/2017	08:41:43	-14	0.0	8.20	0	
07/20/2017	08:43:43	-14	0.0	8.22	0	
07/20/2017	08:44:33	0	0.0	8.20	0	Sqz to 400 psi
07/20/2017	08:45:43	371	0.0	8.20	0	
07/20/2017	08:47:43	362	0.0	8.20	0	
07/20/2017	08:49:43	352	0.0	8.20	0	
07/20/2017	08:51:43	343	0.0	8.20	0	
07/20/2017	08:53:43	339	0.0	8.20	0	
07/20/2017	08:55:43	334	0.0	8.20	0	
07/20/2017	08:57:43	325	0.0	8.20	0	
07/20/2017	08:59:43	320	0.0	8.20	0	
07/20/2017	09:00:35	320	0.0	8.20	0	Dropped to 350 psi
07/20/2017	09:00:58	421	0.0	8.20	0	Sqz to 417 psi
07/20/2017	09:01:43	417	0.0	8.20	0	
07/20/2017	09:03:43	407	0.0	8.20	0	
07/20/2017	09:05:43	403	0.0	8.20	0	
07/20/2017	09:07:43	394	0.0	8.20	0	
07/20/2017	09:09:43	389	0.0	8.20	0	
07/20/2017	09:11:43	385	0.0	8.20	0	
07/20/2017	09:13:43	380	0.0	8.20	0	
07/20/2017	09:15:43	375	0.0	8.20	0	
07/20/2017	09:17:03	371	0.0	8.20	0	Dropped to 373psi
07/20/2017	09:17:43	398	0.2	8.20	0	
07/20/2017	09:17:51	435	0.0	8.20	0	Sqz to 430 psi
07/20/2017	09:19:43	430	0.0	8.20	0	
07/20/2017	09:21:43	421	0.0	8.20	0	
07/20/2017	09:23:43	417	0.0	8.20	0	
07/20/2017	09:25:43	412	0.0	8.20	0	
07/20/2017	09:27:43	407	0.0	8.20	0	
07/20/2017	09:29:43	403	0.0	8.20	0	
07/20/2017	09:31:43	398	0.0	8.20	0	
07/20/2017	09:32:18	398	0.0	8.20	0	Dropped to 394 psi
07/20/2017	09:33:30	449	0.0	8.20	0	Sqz to 444 psi
07/20/2017	09:33:43	449	0.0	8.21	0	
07/20/2017	09:35:43	439	0.0	8.21	0	
07/20/2017	09:37:43	435	0.0	8.21	0	
07/20/2017	09:41:43	426	0.0	8.20	0	

Well	Field	Job Start	Customer	Job Number
Heit C Unit 2	DJ	Jul/20/2017	Anadarko	CRPB-00075

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume PSI	Message
07/20/2017	09:45:43	417	0.0	8.20	0	
07/20/2017	09:47:43	412	0.0	8.20	0	
07/20/2017	09:48:04	412	0.0	8.20	0	Dropped to 412 psi
07/20/2017	09:49:21	458	0.0	8.20	0	Sqz to 458 psi
07/20/2017	09:49:43	458	0.0	8.20	0	
07/20/2017	09:51:43	458	0.0	8.20	0	
07/20/2017	09:53:43	449	0.0	8.20	0	
07/20/2017	09:55:43	449	0.0	8.20	0	
07/20/2017	09:57:43	444	0.0	8.20	0	
07/20/2017	09:59:43	439	0.0	8.20	0	
07/20/2017	10:01:43	435	0.0	8.20	0	
07/20/2017	10:03:43	430	0.0	8.20	0	
07/20/2017	10:04:35	426	0.0	8.20	0	Dropped to 430 psi
07/20/2017	10:05:43	476	0.0	8.20	0	
07/20/2017	10:05:50	476	0.0	8.20	0	Sqz to 476 psi
07/20/2017	10:07:43	476	0.0	8.20	0	
07/20/2017	10:09:43	471	0.0	8.21	0	
07/20/2017	10:11:12	-9	0.0	8.22	0	Shut in
07/20/2017	10:11:14	-9	0.0	8.22	0	Leave Pressure on Well
07/20/2017	10:11:43	-14	0.0	8.21	0	
07/20/2017	10:13:43	-18	0.0	8.20	0	
07/20/2017	10:17:43	-18	0.0	6.25	0	

Post Job Summary

Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
2.4			5.9	8.0	0.0	5.0	

Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
1877	-18	376				bbl	lb/gal

Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp	Cement Circulated to Surface?	Volume
%	8.0 bbl	1.0 bbl	63 degF	☐	bbl
				Washed Thru Perfs ☐	To ft

Customer or Authorized Representative	Schlumberger Supervisor	Circulation Lost	Job Completed
	Matt Leiker	☐ -	☒ -