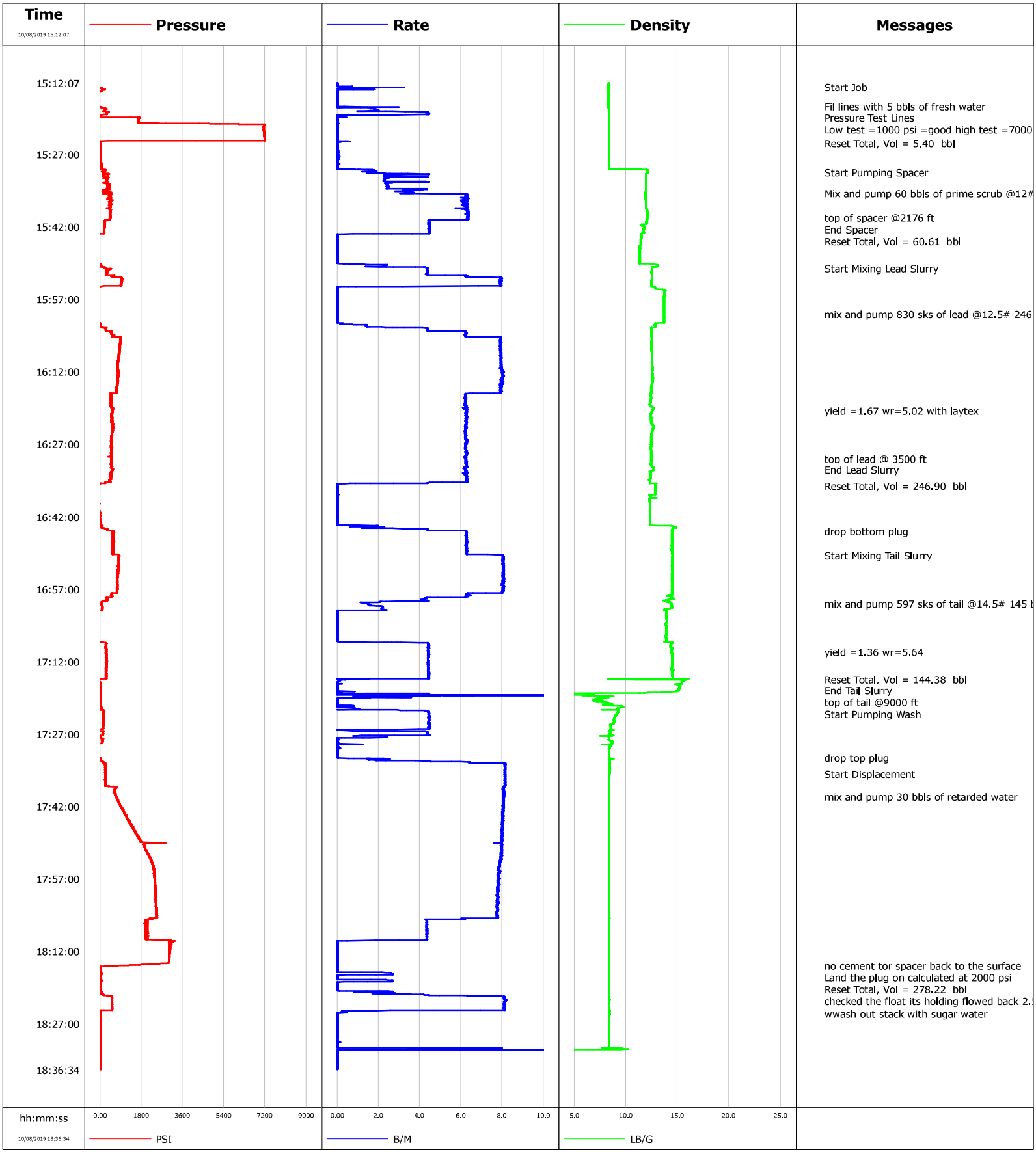
Schlumberger

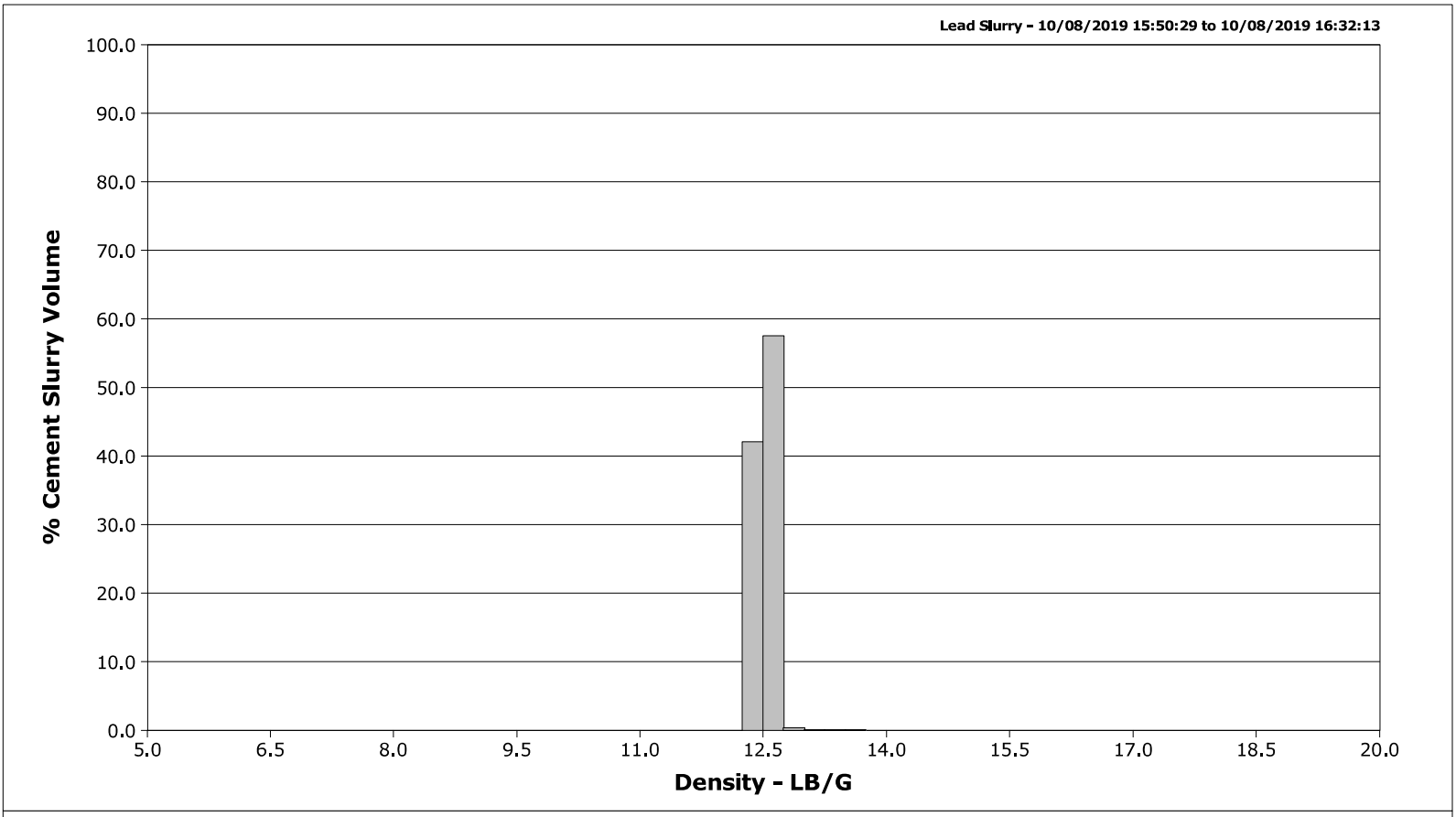
Cementing Job Report

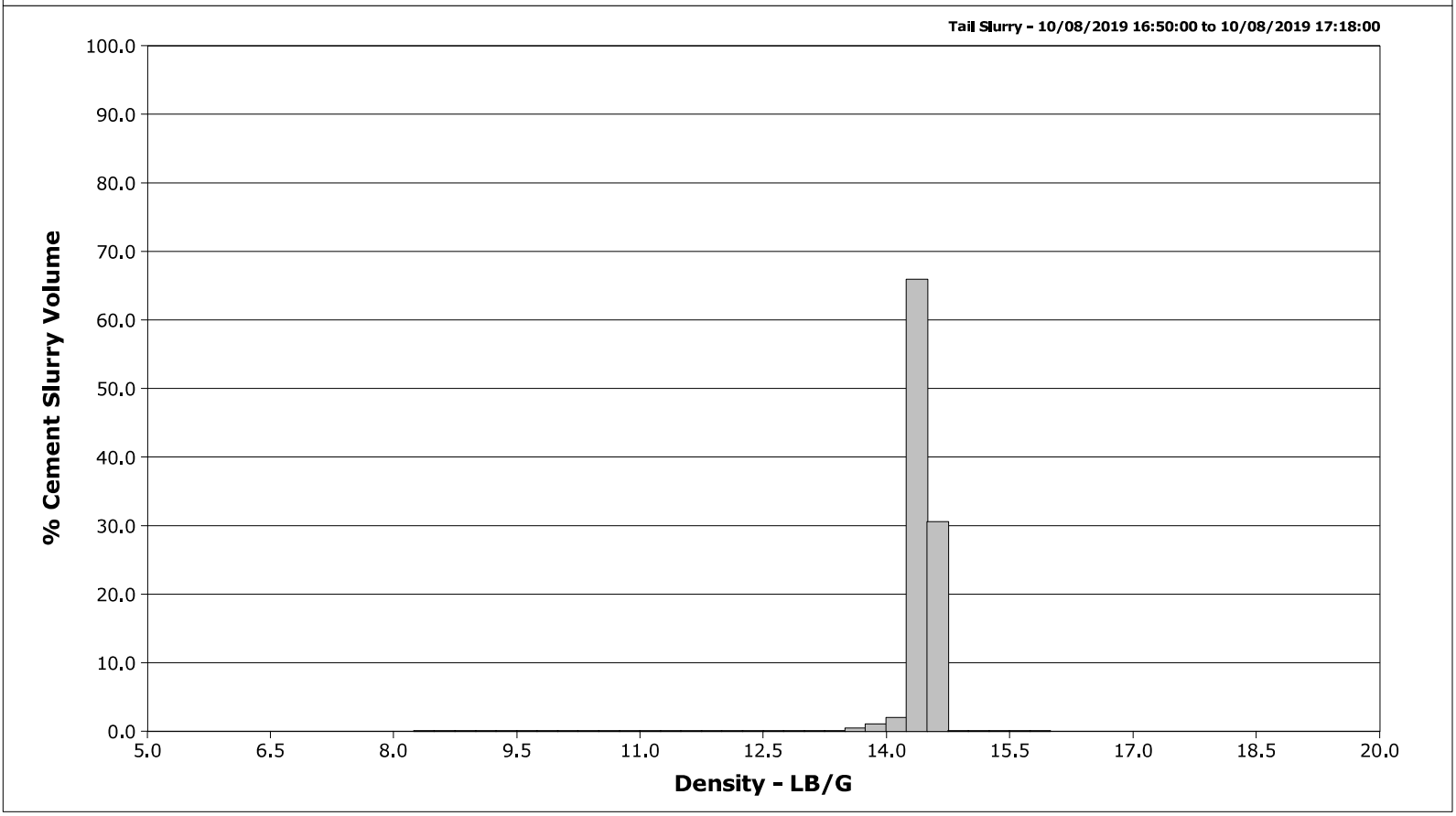
Well	HINGLEY	**Client**	CRESONE
Field		**SIR No.**	3067252
Engineer	ALBERT SNYDER	**Job Type**	PRODUCTION
Country	United States	**Job Date**	10-08-2019



Schlumberger Cementing Qa/Qc Density Report

Well	HINGLEY	**Client**	CRESONE
Field		**SIR No.**	3067252
Engineer	ALBERT SNYDER	**Job Type**	PRODUCTION
Country	United States	**Job Date**	10-08-2019





Schlumberger Cementing Service Report

Customer	Job Number
CRESONE	3067252

Well	Location (legal)	Schlumberger Location	Job Start
HINGLEY 1C-18H-A167	1C-18H-A167	CWY	Oct/08/2019

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
		deg	in	12425.0 ft	7510.0 ft

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
WELD	Colorado	psi	234 degF	213 degF	lb/gal

Well Master	API/UWI
05-123-47163	05-123-47163

Rig Name	Drilled For	Service Via
E 153	Oil & Gas	Land

Offshore Zone	Well Class	Well Type
N/A	New	Exploration

Drilling Fluid Type	Max. Density	Plastic Viscosity
LT OBM	10.70 lb/gal	cP

Service Line	Job Type
Cementing	PRODUCTION

Max. Allowed Tub. Press	Max. Allowed Ann. Press	WH Connection
psi	psi	

Service Instructions

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
2552.0	9.6	36.0	110	8RD
12418.0	5.5	20.0	110	S/L

Tubing/Drill Pipe

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

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
Casing	275.1 bbl		ft

Tubing Vol.	Casing Vol.	Annular Vol.	Openhole Vol.
bbl	275.4 bbl	467.7 bbl	200.0 bbl

Casing/Tubing Secured	1 Hole Vol. Circulated prior to Cement	Casing Tools	Squeeze Job
☐	☐		

Lift Pressure	10454 psi	Shoe Type	Guide	Squeeze Type	
Pipe Rotated	☐	Pipe Reciprocated	☐	Shoe Depth	12418.0 ft	Tool Type	

No. Centralizers	Top Plugs	Bottom Plugs	Stage Tool Type		Tool Depth	ft
			Stage Tool Depth	ft	Tail Pipe Size	in
Cement Head Type	SWEDGE		Collar Type	Float	Tail Pipe Depth	ft
			Collar Depth	12404.0 ft	Sqz. Total Vol.	bbl

Job Scheduled For	Arrived on Location	Leave Location
Oct/08/2019 11:00	Oct/08/2019 11:05	Oct/08/2019 20:10

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
10/08/2019	15:12:07	-13	0.0	8.34	0.0	Started Acquisition
10/08/2019	15:13:01	-5	0.2	8.34	0.1	Start Job
10/08/2019	15:14:07	-9	0.0	8.32	0.7	
10/08/2019	15:16:07	-11	0.0	8.32	0.7	
10/08/2019	15:17:00	-12	0.0	8.32	0.7	Fil lines with 5 bbls of fresh water
10/08/2019	15:18:07	346	3.7	8.38	2.4	
10/08/2019	15:19:20	1720	0.0	8.38	5.3	Pressure Test Lines
10/08/2019	15:20:07	1663	0.0	8.38	5.3	
10/08/2019	15:21:10	7144	0.0	8.38	5.3	Low test =1000 psi =good high test =7000 psi =good
10/08/2019	15:22:07	7148	0.0	8.38	5.3	
10/08/2019	15:24:07	6887	0.0	8.39	5.3	
10/08/2019	15:24:36	22	0.0	8.38	5.4	Reset Total, Vol = 5.40 bbl
10/08/2019	15:26:07	29	0.1	8.38	0.0	
10/08/2019	15:28:07	40	0.0	8.38	0.1	
10/08/2019	15:30:07	154	1.0	12.00	0.2	
10/08/2019	15:30:40	146	1.5	12.09	1.1	Start Pumping Spacer
10/08/2019	15:32:07	305	2.3	11.95	4.9	
10/08/2019	15:34:07	400	4.1	11.95	10.1	
10/08/2019	15:35:00	141	3.5	11.90	13.3	Mix and pump 60 bbls of prime scrub @12# with surfactant
10/08/2019	15:36:07	455	6.4	11.92	20.0	
10/08/2019	15:38:07	298	5.7	11.96	32.5	

Well	Field	Job Start	Customer	Job Number
HINGLEY 1C-18H-A167		Oct/08/2019	CRESONE	3067252

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
10/08/2019	15:40:07	410	6.3	12.07	45.1	
10/08/2019	15:41:03	210	4.4	11.98	50.0	End Spacer
10/08/2019	15:42:07	189	4.5	11.77	54.8	
10/08/2019	15:43:26	-6	0.8	11.48	60.6	Reset Total, Vol = 60.61 bbl
10/08/2019	15:44:07	-10	0.0	11.46	0.0	
10/08/2019	15:46:07	-9	0.0	11.36	0.0	
10/08/2019	15:48:07	-9	0.0	11.36	0.0	
10/08/2019	15:50:07	49	2.3	13.06	0.9	
10/08/2019	15:50:29	233	4.4	12.54	2.0	Start Mixing Lead Slurry
10/08/2019	15:52:07	562	6.2	12.55	9.4	
10/08/2019	15:54:07	909	8.0	12.49	24.7	
10/08/2019	15:56:07	-7	0.0	13.71	26.1	
10/08/2019	15:58:07	-7	0.0	13.69	26.1	
10/08/2019	16:00:00	-6	0.0	13.68	26.1	mix and pump 830 sks of lead @12.5# 246 bbls
10/08/2019	16:00:07	-6	0.0	13.68	26.1	
10/08/2019	16:02:07	1	0.2	12.83	26.1	
10/08/2019	16:04:07	497	6.2	12.50	33.8	
10/08/2019	16:06:07	895	7.9	12.50	48.5	
10/08/2019	16:08:07	822	7.9	12.52	64.2	
10/08/2019	16:10:07	773	7.9	12.55	80.2	
10/08/2019	16:12:07	783	8.1	12.56	96.1	
10/08/2019	16:14:07	756	8.0	12.59	112.1	
10/08/2019	16:16:07	728	8.0	12.47	128.0	
10/08/2019	16:18:07	493	6.2	12.40	141.0	
10/08/2019	16:20:00	524	6.3	12.57	152.8	yield =1.67 wr=5.02 with laytex
10/08/2019	16:20:07	542	6.3	12.55	153.5	
10/08/2019	16:22:07	505	6.3	12.44	166.0	
10/08/2019	16:24:07	561	6.2	12.58	178.5	
10/08/2019	16:26:07	527	6.3	12.46	190.9	
10/08/2019	16:28:07	522	6.2	12.42	203.4	
10/08/2019	16:30:00	492	6.2	12.45	215.2	top of lead @ 3500 ft
10/08/2019	16:30:07	507	6.3	12.45	215.9	
10/08/2019	16:32:07	561	6.2	12.74	228.4	
10/08/2019	16:32:13	568	6.2	12.72	229.0	End Lead Slurry
10/08/2019	16:34:07	490	6.3	12.36	240.9	
10/08/2019	16:35:36	-3	0.0	12.88	246.9	Reset Total, Vol = 246.90 bbl
10/08/2019	16:36:07	-3	0.0	12.85	0.0	
10/08/2019	16:38:07	-1	0.0	12.91	0.0	
10/08/2019	16:40:07	-1	0.0	12.35	0.0	
10/08/2019	16:42:07	0	0.0	12.36	0.0	
10/08/2019	16:44:07	100	1.9	14.67	0.5	
10/08/2019	16:45:00	605	6.2	14.47	3.6	drop bottom plug
10/08/2019	16:46:07	595	6.3	14.45	10.6	
10/08/2019	16:48:07	576	6.3	14.43	23.2	
10/08/2019	16:50:00	829	8.0	14.52	35.2	Start Mixing Tail Slurry
10/08/2019	16:50:07	841	8.1	14.53	36.1	
10/08/2019	16:52:07	774	8.1	14.47	52.2	
10/08/2019	16:54:07	769	8.0	14.46	68.3	
10/08/2019	16:56:07	761	8.0	14.49	84.4	
10/08/2019	16:58:07	508	6.3	14.50	100.1	
10/08/2019	17:00:00	57	1.4	14.38	108.1	mix and pump 597 sks of tail @14.5# 145 bbls
10/08/2019	17:00:07	63	1.5	14.34	108.2	
10/08/2019	17:02:07	-4	0.0	13.94	110.9	
10/08/2019	17:04:07	-2	0.0	13.88	110.9	

Well	Field	Job Start	Customer	Job Number
HINGLEY 1C-18H-A167		Oct/08/2019	CRESONE	3067252

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
10/08/2019	17:08:07	240	4.0	14.49	111.1	
10/08/2019	17:10:00	271	4.4	14.40	119.5	yield =1.36 wr=5.64
10/08/2019	17:10:07	273	4.4	14.39	120.0	
10/08/2019	17:12:07	280	4.4	14.50	128.8	
10/08/2019	17:14:07	266	4.4	14.48	137.7	
10/08/2019	17:15:45	-1	0.2	8.46	144.4	Reset Total, Vol = 144.38 bbl
10/08/2019	17:16:07	-1	0.1	15.49	0.1	
10/08/2019	17:18:00	3	0.0	15.06	0.1	End Tail Slurry
10/08/2019	17:18:07	3	0.0	15.10	0.1	
10/08/2019	17:20:07	3	0.0	6.97	2.9	
10/08/2019	17:21:32	45	0.6	9.71	3.0	Start Pumping Wash
10/08/2019	17:22:07	134	3.1	9.26	3.5	
10/08/2019	17:24:07	143	4.5	8.81	12.4	
10/08/2019	17:26:07	-20	1.1	8.49	21.2	
10/08/2019	17:28:07	89	0.0	8.39	26.4	
10/08/2019	17:30:07	-4	0.0	8.38	26.5	
10/08/2019	17:31:59	-1	0.0	8.38	26.5	drop top plug
10/08/2019	17:32:07	30	0.8	8.38	0.0	
10/08/2019	17:34:07	233	8.1	8.41	10.7	
10/08/2019	17:35:16	237	8.1	8.40	20.0	Start Displacement
10/08/2019	17:36:07	222	8.1	8.39	27.0	
10/08/2019	17:38:07	727	8.1	8.39	43.2	
10/08/2019	17:40:00	697	8.1	8.39	58.4	mix and pump 30 bbls of retarded water
10/08/2019	17:40:07	714	8.1	8.39	59.3	
10/08/2019	17:42:07	914	8.1	8.39	75.4	
10/08/2019	17:44:07	1120	8.0	8.39	91.5	
10/08/2019	17:46:07	1373	8.0	8.39	107.5	
10/08/2019	17:48:07	1657	8.0	8.39	123.5	
10/08/2019	17:50:07	1915	8.0	8.39	139.5	
10/08/2019	17:52:07	2121	7.9	8.39	155.4	
10/08/2019	17:54:07	2313	7.9	8.39	171.2	
10/08/2019	17:56:07	2368	7.8	8.39	186.9	
10/08/2019	17:58:07	2408	7.8	8.39	202.5	
10/08/2019	18:00:07	2429	7.8	8.39	218.1	
10/08/2019	18:02:07	2454	7.8	8.39	233.6	
10/08/2019	18:04:07	2471	7.7	8.39	249.2	
10/08/2019	18:06:07	1997	4.3	8.39	262.0	
10/08/2019	18:08:07	1996	4.4	8.39	270.7	
10/08/2019	18:10:07	3010	0.0	8.39	278.2	
10/08/2019	18:12:07	3043	0.0	8.39	278.2	
10/08/2019	18:14:07	3011	0.0	8.39	278.2	
10/08/2019	18:15:00	1027	0.0	8.39	278.2	no cement tor spacer back to the surface
10/08/2019	18:16:07	8	0.0	8.39	278.2	
10/08/2019	18:16:09	8	0.0	8.39	278.2	Land the plug on calculated at 2000 psi
10/08/2019	18:16:11	8	0.0	8.39	278.2	Reset Total, Vol = 278.22 bbl
10/08/2019	18:18:07	58	2.7	8.39	1.7	
10/08/2019	18:20:07	6	0.0	8.39	2.4	
10/08/2019	18:21:00	168	4.1	8.39	4.0	checked the float its holding flowed back 2.5 bbls
10/08/2019	18:22:07	513	8.2	8.39	12.1	
10/08/2019	18:24:07	529	8.1	8.39	28.3	
10/08/2019	18:25:00	4	0.0	8.40	30.1	wwash out stack with sugar water
10/08/2019	18:26:07	4	0.0	8.39	30.1	
10/08/2019	18:28:07	3	0.0	8.39	30.1	
10/08/2019	18:30:07	1	0.0	8.39	30.2	

Well	Field	Job Start	Customer	Job Number
HINGLEY 1C-18H-A167		Oct/08/2019	CRESONE	3067252

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
10/08/2019	18:34:07	22	0.0	0.08	34.5	

Post Job Summary

Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
7.0		6.0	8.0	391.0		60.0	

Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
3100	2000	1000	3100		FreshWater	5.0 bbl	8.34 lb/gal

Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp		
%	727.3 bbl	275.4 bbl	70 degF	Cement Circulated to Surface? ☐	Volume 0.0 bbl
				Washed Thru Perfs ☐	To ft

Customer or Authorized Representative	Schlumberger Supervisor		
RYAN BUFORD	ALBERT SNYDER	Circulation Lost ☐	Job Completed ☒
		-	-