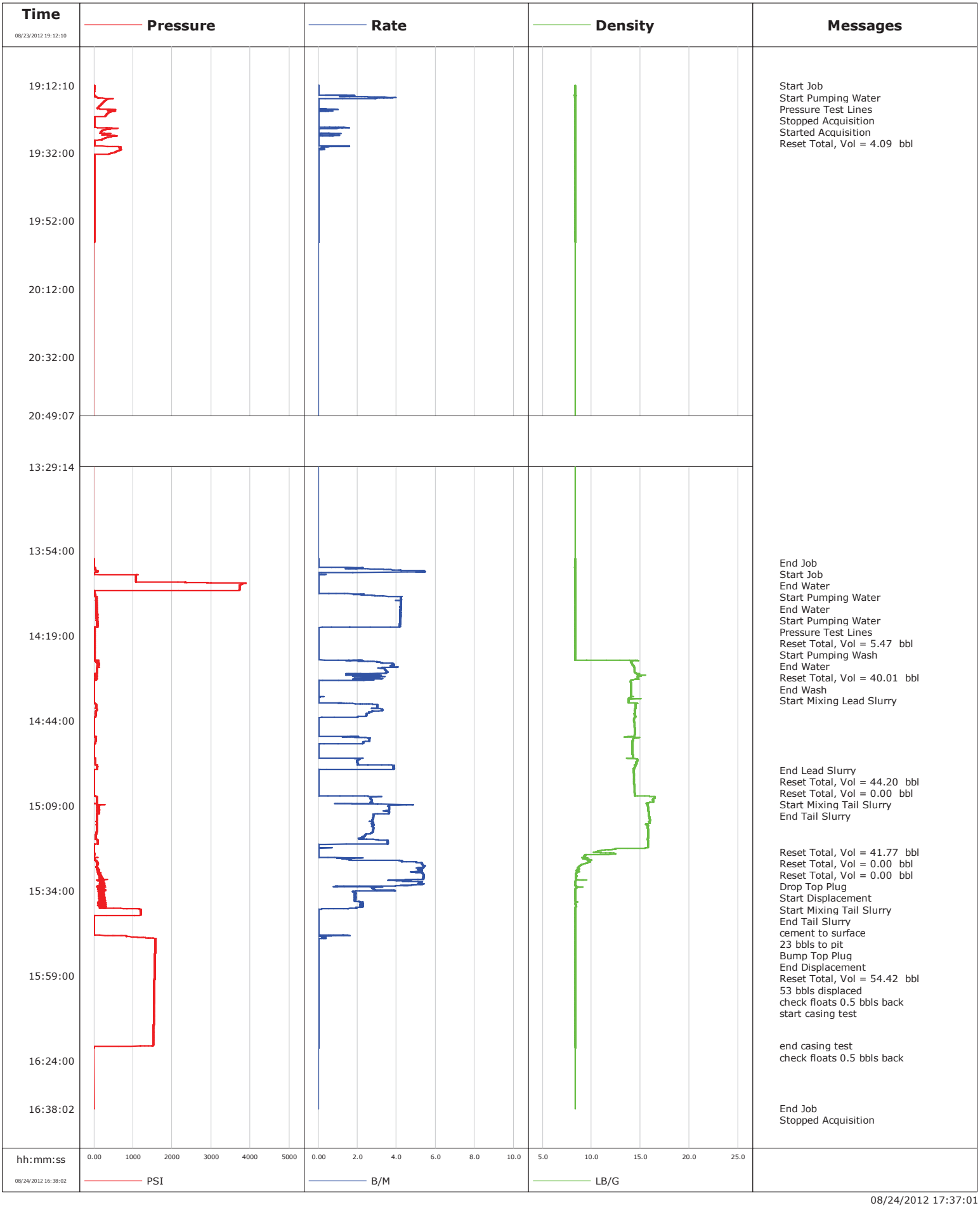
Schlumberger Cementing Job Report

CemCAT v1.3

Well	Wood gulch 1-36	**Client**	Shell
Field	WFU/Swan	**SIR No.**	C459-00395
Engineer	Kevin Boren	**Job Type**	10 3/4 Surface
Country	United States	**Job Date**	08-23-2012



Cementing Service Report

Customer	Job Number
Shell	C459-00395

Well	Location (legal)	Schlumberger Location	Job Start
Wood gulch 1-36		Rock Springs	Aug/23/2012

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
WFU/Swan	Clean-Sandstone			613.0 ft	613.0 ft

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
Moffett	Colorado		87 degF	80 degF	

Well Master	API/UWI

Rig Name	Drilled For	Service Via
N-94	Oil	Land

Offshore Zone	Well Class	Well Type
	New	Development

Drilling Fluid Type	Max. Density	Plastic Viscosity
Other	9.00 lb/gal	

Service Line	Job Type
Cementing	10 3/4 Surface

Max. Allowed Tub. Press	Max. Allowed Ann. Press	WH Connection
3500 psi		Single Cement head

Service Instructions

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
613.0	10.750	40.5	110	8RD
0.0	0.000	0.0		

Tubing/Drill Pipe

Depth,	Size,	Weight,	Grade	Thread

Perforations/Open Hole

Top,	Bottom,		No. of Shots	Total Interval
				Diameter

Treat Down	Displacement	Packer Type	Packer Depth
Casing	60.0 bbl		

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

Casing/Tubing Secured	1 Hole Vol. Circulated prior to Cement	Lift Pressure	Pipe Rotated	Pipe Reciprocated	No. Centralizers	Top Plugs	Bottom Plugs	Cement Head Type
X	X	273 psi	☐	☐	3	1		Single

Job Scheduled For	Arrived on Location	Leave Location
Aug/23/2012 05:00	Aug/23/2012 05:00	Aug/24/2012 18:00

Casing Tools		Squeeze Job	
Shoe Type	Guide	Squeeze Type	
Shoe Depth	613.0 ft	Tool Type	
Stage Tool Type		Tool Depth	
Stage Tool Depth		Tail Pipe Size	
Collar Type	Float	Tail Pipe Depth	
Collar Depth	611.0 ft	Sqz. Total Vol.	

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
08/23/2012	19:11:35					Started Acquisition
08/23/2012	19:12:10	1	0.0	8.32	0.0	
08/23/2012	19:12:11					Start Job
08/23/2012	19:12:11	1	0.0	8.32	0.0	
08/23/2012	19:12:13					Start Pumping Water
08/23/2012	19:12:13	2	0.0	8.32	0.0	
08/23/2012	19:12:15					Pressure Test Lines
08/23/2012	19:12:15	1	0.0	8.32	0.0	
08/23/2012	19:14:35	-1	0.0	8.33	0.0	
08/23/2012	19:17:35	199	0.0	8.34	2.5	
08/23/2012	19:20:35	331	0.0	8.34	2.8	
08/23/2012	19:23:35	6	0.0	8.34	2.8	
08/23/2012	19:26:35	245	0.0	8.34	3.4	
08/23/2012	19:29:35	7	0.0	8.34	3.6	
08/23/2012	19:32:35	2	0.0	8.34	4.1	
08/23/2012	19:35:35	3	0.0	8.34	4.1	
08/23/2012	19:38:35	3	0.0	8.34	4.1	
08/23/2012	19:41:35	3	0.0	8.34	4.1	
08/23/2012	19:44:35	3	0.0	8.34	4.1	
08/23/2012	19:47:35	3	0.0	8.34	4.1	
08/23/2012	19:50:35	3	0.0	8.34	4.1	

Well	Field	Job Start	Customer	Job Number
Wood gulch 1-36	WFU/Swan	Aug/23/2012	Shell	C459-00395

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
08/23/2012	19:56:35	3	0.0	8.34	4.1	
08/24/2012	13:56:35	-2	0.0	8.33	0.0	
08/24/2012	13:57:31					End Job
08/24/2012	13:57:31	-1	0.0	8.33	0.0	
08/24/2012	13:57:32					Start Job
08/24/2012	13:57:32	-1	0.0	8.33	0.0	
08/24/2012	13:57:33					End Water
08/24/2012	13:57:33					Start Pumping Water
08/24/2012	13:57:33	-1	0.0	8.33	0.0	
08/24/2012	13:57:34					End Water
08/24/2012	13:57:34					Start Pumping Water
08/24/2012	13:57:34	-1	0.0	8.33	0.0	
08/24/2012	13:57:38					Pressure Test Lines
08/24/2012	13:57:38	-1	0.0	8.33	0.0	
08/24/2012	13:59:35	23	3.5	8.33	1.5	
08/24/2012	14:02:35	1068	0.0	8.33	5.5	
08/24/2012	14:05:35	3720	0.0	8.33	5.5	
08/24/2012	14:06:32					Reset Total, Vol = 5.47 bbl
08/24/2012	14:06:32	0	0.0	8.33	5.5	
08/24/2012	14:06:33					Start Pumping Wash
08/24/2012	14:06:33	0	0.0	8.33	0.0	
08/24/2012	14:06:35					End Water
08/24/2012	14:06:35	0	0.0	8.33	0.0	
08/24/2012	14:08:35	58	4.2	8.34	6.7	
08/24/2012	14:11:35	62	4.2	8.34	19.3	
08/24/2012	14:14:35	70	4.2	8.34	31.9	
08/24/2012	14:16:33					Reset Total, Vol = 40.01 bbl
08/24/2012	14:16:33	39	1.6	8.34	40.0	
08/24/2012	14:16:37					End Wash
08/24/2012	14:16:37	15	0.0	8.35	0.1	
08/24/2012	14:16:39					Start Mixing Lead Slurry
08/24/2012	14:16:39	16	0.0	8.35	0.1	
08/24/2012	14:17:35	20	0.0	8.34	0.1	
08/24/2012	14:20:35	18	0.0	8.35	0.1	
08/24/2012	14:23:35	17	0.0	8.34	0.1	
08/24/2012	14:26:35	52	2.7	14.05	0.8	
08/24/2012	14:29:35	81	3.5	14.38	11.4	
08/24/2012	14:32:35	-2	0.0	14.01	18.5	
08/24/2012	14:35:35	-2	0.0	14.04	18.5	
08/24/2012	14:38:35	-1	0.0	13.82	18.5	
08/24/2012	14:41:35	41	2.6	14.43	26.3	
08/24/2012	14:44:35	-3	0.0	14.37	29.9	
08/24/2012	14:47:35	-3	0.0	14.42	29.9	
08/24/2012	14:50:35	33	2.3	14.20	34.4	
08/24/2012	14:53:35	-3	0.0	14.20	34.8	
08/24/2012	14:56:35	27	2.0	14.60	38.0	
08/24/2012	14:58:24					End Lead Slurry
08/24/2012	14:58:24	-9	1.7	14.31	44.2	
08/24/2012	14:58:26					Reset Total, Vol = 44.20 bbl
08/24/2012	14:58:26					Reset Total, Vol = 0.00 bbl
08/24/2012	14:58:26	-12	0.1	14.31	44.2	
08/24/2012	14:58:27					Start Mixing Tail Slurry
08/24/2012	14:58:27					End Tail Slurry
08/24/2012	14:58:27	-13	0.0	14.31	0.0	

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Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
08/24/2012	15:02:35	-5	0.0	14.36	0.0	
08/24/2012	15:05:35	-5	0.0	14.41	0.0	
08/24/2012	15:08:35	70	3.0	15.67	6.4	
08/24/2012	15:11:35	65	2.8	15.87	17.2	
08/24/2012	15:14:35	64	2.8	15.59	25.5	
08/24/2012	15:17:35	49	2.4	15.80	33.8	
08/24/2012	15:20:35	-2	0.0	15.75	41.8	
08/24/2012	15:22:35					Reset Total, Vol = 41.77 bbl
08/24/2012	15:22:35	-2	0.0	10.45	41.8	
08/24/2012	15:22:37					Reset Total, Vol = 0.00 bbl
08/24/2012	15:22:37	-1	0.0	10.41	0.0	
08/24/2012	15:22:42					Reset Total, Vol = 0.00 bbl
08/24/2012	15:22:42	-1	0.0	10.32	0.0	
08/24/2012	15:22:49					Drop Top Plug
08/24/2012	15:22:49	-1	0.0	10.95	0.0	
08/24/2012	15:22:50					Start Displacement
08/24/2012	15:22:50	-1	0.0	10.95	0.0	
08/24/2012	15:23:35	0	0.0	9.32	0.0	
08/24/2012	15:23:47					Start Mixing Tail Slurry
08/24/2012	15:23:47	-1	0.0	9.33	0.0	
08/24/2012	15:23:49					End Tail Slurry
08/24/2012	15:23:49	-1	0.0	9.34	0.0	
08/24/2012	15:26:35	92	5.4	8.84	8.7	
08/24/2012	15:29:35	184	5.4	8.44	24.5	
08/24/2012	15:32:35	158	4.0	8.37	39.6	
08/24/2012	15:35:10					cement to surface
08/24/2012	15:35:10	129	1.9	8.35	46.0	
08/24/2012	15:35:16					23 bbls to pit
08/24/2012	15:35:16	188	1.8	8.35	46.2	
08/24/2012	15:35:35	189	1.9	8.34	46.8	
08/24/2012	15:38:35	175	2.3	8.39	52.9	
08/24/2012	15:39:37					Bump Top Plug
08/24/2012	15:39:37	1194	0.0	8.34	54.4	
08/24/2012	15:39:38					End Displacement
08/24/2012	15:39:38	1198	0.0	8.34	54.4	
08/24/2012	15:39:42					Reset Total, Vol = 54.42 bbl
08/24/2012	15:39:42	1186	0.0	8.34	54.4	
08/24/2012	15:40:09					53 bbls displaced
08/24/2012	15:40:09	1194	0.0	8.35	0.0	
08/24/2012	15:41:35	-4	0.0	8.35	0.0	
08/24/2012	15:42:07					check floats 0.5 bbls back
08/24/2012	15:42:07	-3	0.0	8.35	0.0	
08/24/2012	15:44:35	-2	0.0	8.34	0.0	
08/24/2012	15:47:15					start casing test
08/24/2012	15:47:15	732	0.8	8.34	0.3	
08/24/2012	15:47:35	1005	0.4	8.35	0.3	
08/24/2012	15:50:35	1560	0.0	8.34	0.5	
08/24/2012	15:53:35	1554	0.0	8.35	0.5	
08/24/2012	15:56:35	1550	0.0	8.35	0.5	
08/24/2012	15:59:35	1545	0.0	8.35	0.5	
08/24/2012	16:02:35	1540	0.0	8.35	0.5	
08/24/2012	16:05:35	1535	0.0	8.35	0.5	
08/24/2012	16:08:35	1529	0.0	8.34	0.5	
08/24/2012	16:11:35	1524	0.0	8.34	0.5	

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08/24/2012	16:17:35	1511	0.0	8.34	0.5	
08/24/2012	16:19:32					end casing test
08/24/2012	16:19:32	1508	0.0	8.34	0.5	
08/24/2012	16:20:09					check floats 0.5 bbls back
08/24/2012	16:20:09	-1	0.0	8.34	0.5	

Post Job Summary

Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
3.0			5.0	86.0		45.0	

Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
318	318	98	1158				

Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp	Cement Circulated to Surface?	Volume
	88.0 bbl	532.0 bbl	70 degF	X	23.0 bbl
				Washed Thru Perfs ☐	To

Customer or Authorized Representative	Schlumberger Supervisor	Circulation Lost	Job Completed
Steve Whitson	Kevin Boren	☐	X
		-	-