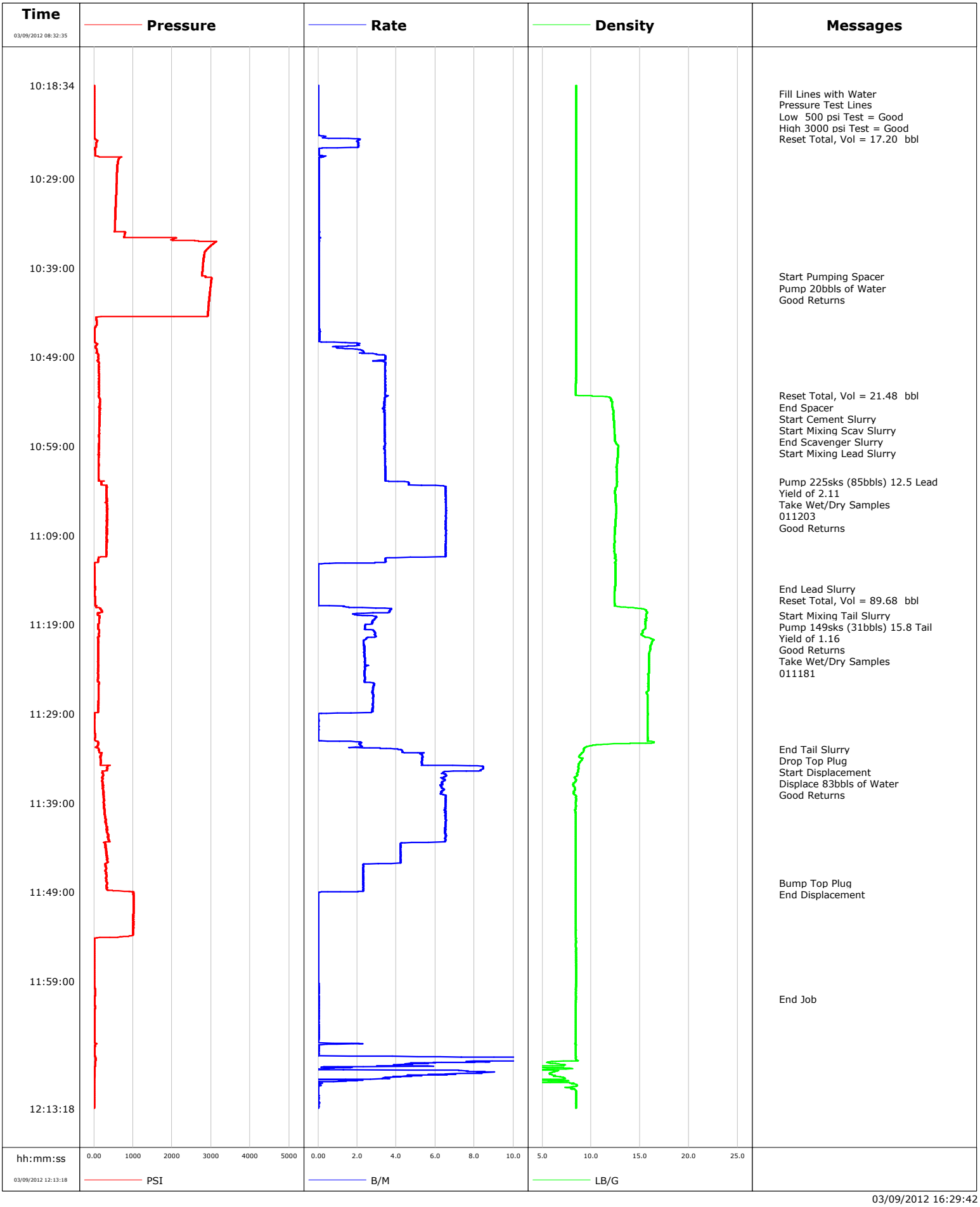
Schlumberger

Cementing Job Report

Well	COOK GARDNER 20-4BB	**Client**	ENCANA
Field	MAMM CREEK	**SIR No.**	733880
Engineer	DANT RYAN	**Job Type**	9 5/8 SURFACE CASSING
Country	United States	**Job Date**	03-09-2012

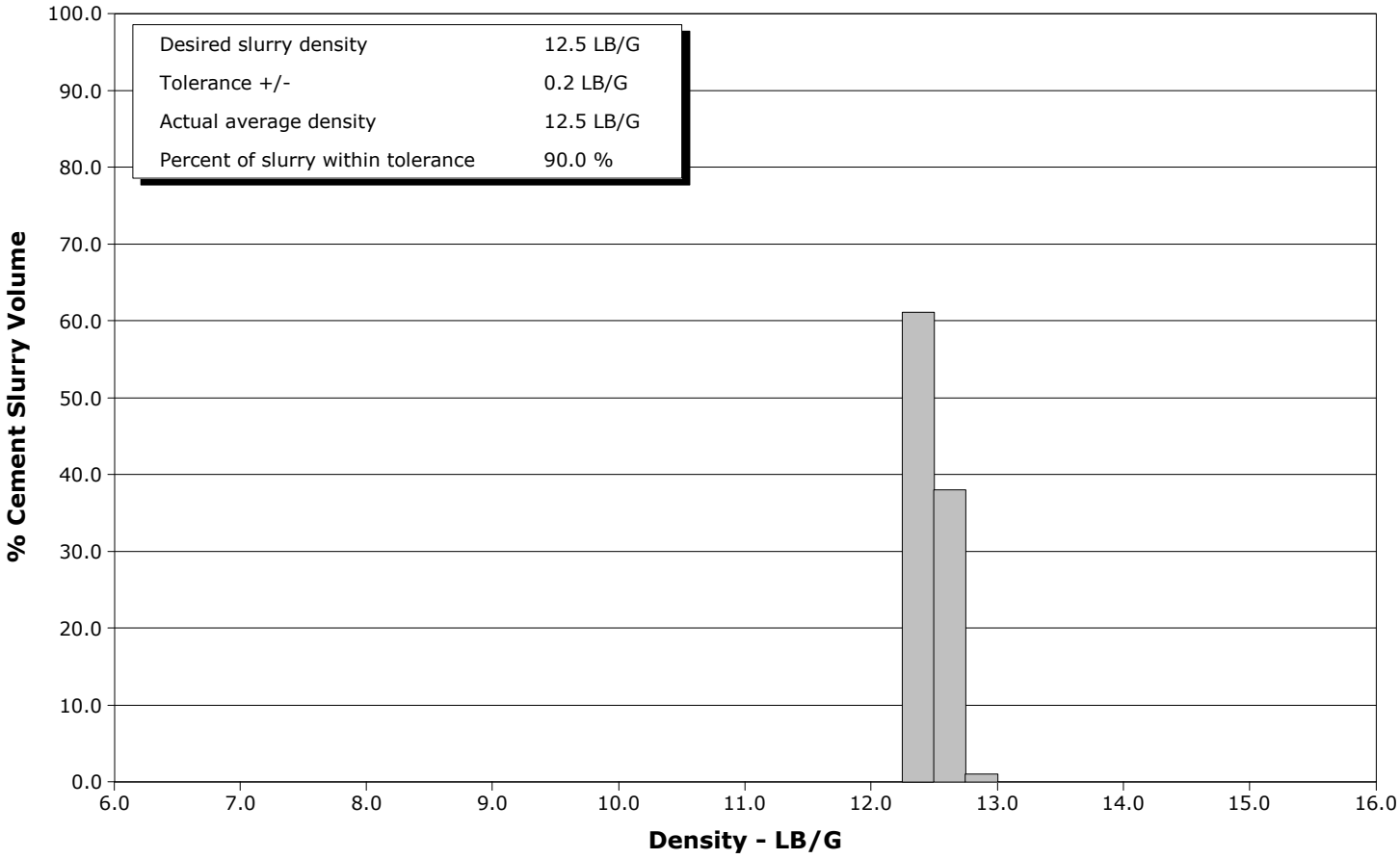


Schlumberger

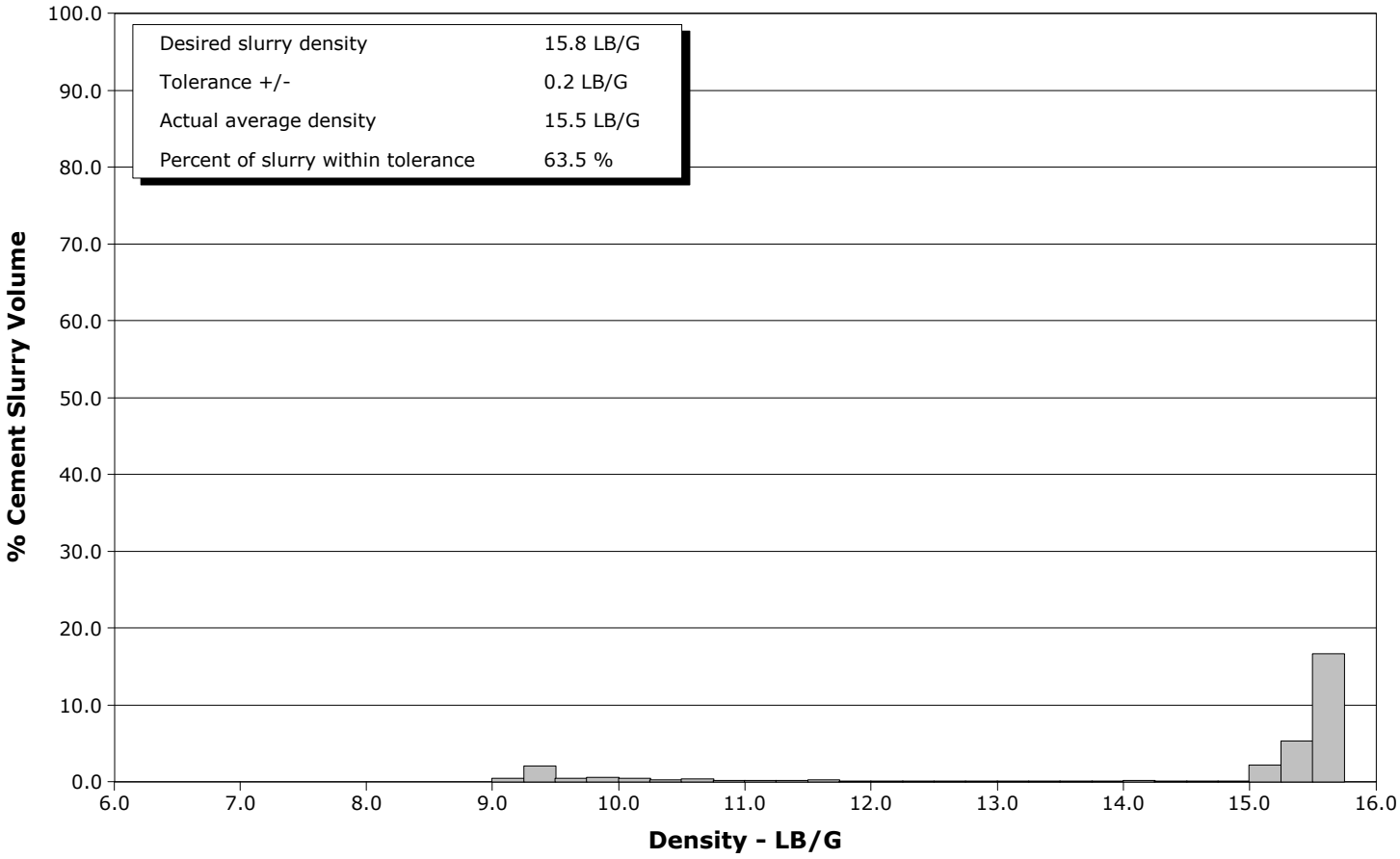
Cementing Qa/Qc Density Report

Well	COOK GARDNER 20-4BB	**Client**	ENCANA
Field	MAMM CREEK	**SIR No.**	733880
Engineer	DANT RYAN	**Job Type**	9 5/8 SURFACE CASSING
Country	United States	**Job Date**	03-09-2012

Lead Slurry - 03/09/2012 10:55:09 to 03/09/2012 11:15:00



Tail Slurry - 03/09/2012 11:18:00 to 03/09/2012 11:33:00



Schlumberger Cementing Service Report

Customer	Job Number
ENCANA	733880

Well	Location (legal)	Schlumberger Location	Job Start
COOK GARDNER 20-4BB 20-4BB	PB20		Mar/09/2012

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
MAMM CREEK	Shale	deg	12.3 in	1118.0 ft	1118.0 ft

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
GARFILD	Colorado	psi	94 degF	86 degF	lb/gal

Well Master	API/UWI
0631266795	

Rig Name	Drilled For	Service Via
NABORS M-13	Gas	Land

Offshore Zone	Well Class	Well Type
	New	Development

Drilling Fluid Type	Max. Density	Plastic Viscosity
Bentonite	9.30 lb/gal	10.000 cP

Service Line	Job Type
Cementing	9 5/8 SURFACE CASSING

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

Service Instructions

Cement 9 5/8 Surface Cassing
Pump 20bbls of Water
Pump 225sks (85bbls) 12.5 Lead Yield of 2.11
Pump 149sks (31bbls) 15.8 Tail Yield of 1.16
Displace 83bbls of Water

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
40.0	16.0	65.0	N/A	N/A
1118.0	9.6	36.0	K55	8RD

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	83.0 bbl		ft

Tubing Vol.	Casing Vol.	Annular Vol.	Openhole Vol.
bbl	87.0 bbl	66.0 bbl	155.0 bbl

Casing/Tubing Secured	1 Hole Vol. Circulated prior to Cement	Lift Pressure	Pipe Rotated	Pipe Reciprocated
X	X	553 psi	☐	☐

No. Centralizers	Top Plugs	Bottom Plugs	Cement Head Type
	1		Single

Job Scheduled For	Arrived on Location	Leave Location
Mar/09/2012 08:00	Mar/09/2012 08:00	Mar/09/2012 13:00

Casing Tools		Squeeze Job	
Shoe Type	Float	Squeeze Type	
Shoe Depth	1118.0 ft	Tool Type	
Stage Tool Type		Tool Depth	ft
Stage Tool Depth	ft	Tail Pipe Size	in
Collar Type	Float	Tail Pipe Depth	ft
Collar Depth	1075.0 ft	Sqz. Total Vol.	bbl

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
03/09/2012	08:32:35	0	0.0	8.44	0.0	Started Acquisition
03/09/2012	08:34:15	0	0.0	8.44	0.0	
03/09/2012	08:35:55	-0	0.2	8.44	0.3	
03/09/2012	08:37:35	2	0.0	8.44	2.8	
03/09/2012	08:39:15	247	0.0	8.44	2.8	
03/09/2012	08:40:55	257	0.0	8.44	2.9	
03/09/2012	08:42:35	17	1.2	8.44	7.6	
03/09/2012	08:44:15	12	0.0	8.44	10.7	
03/09/2012	08:45:55	17	0.0	8.44	10.8	
03/09/2012	08:47:35	44	2.2	8.44	12.1	
03/09/2012	08:49:15	10	0.0	8.43	15.8	
03/09/2012	08:50:55	3	0.0	8.43	15.8	
03/09/2012	08:52:35	3	0.0	8.43	15.9	
03/09/2012	08:54:15	4	0.0	8.43	15.9	
03/09/2012	08:55:55	4	0.0	8.43	15.9	
03/09/2012	08:57:35	2	0.0	8.43	15.9	
03/09/2012	08:59:15	1	0.0	8.43	16.0	
03/09/2012	09:00:55	1	0.0	8.43	16.0	
03/09/2012	09:02:35	2	0.0	8.43	16.0	
03/09/2012	09:04:15	4	0.0	8.44	16.0	
03/09/2012	09:05:55	5	0.0	8.44	16.0	

Well	Field	Job Start	Customer	Job Number
COOK GARDNER 20-4BB 20-4BB	MAMM CREEK	Mar/09/2012	ENCANA	733880

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
03/09/2012	09:09:15	6	0.0	8.44	16.1	
03/09/2012	09:10:55	5	0.0	8.44	16.1	
03/09/2012	09:12:35	6	0.0	8.44	16.1	
03/09/2012	09:14:15	7	0.0	8.44	16.2	
03/09/2012	09:15:55	7	0.0	8.44	16.2	
03/09/2012	09:17:35	7	0.0	8.44	16.2	
03/09/2012	09:19:15	8	0.0	8.44	16.2	
03/09/2012	09:20:55	8	0.0	8.44	16.2	
03/09/2012	09:22:35	9	0.0	8.44	16.3	
03/09/2012	09:24:15	8	0.0	8.44	16.3	
03/09/2012	09:25:55	8	0.0	8.44	16.3	
03/09/2012	09:27:35	9	0.0	8.44	16.3	
03/09/2012	09:29:15	9	0.0	8.44	16.4	
03/09/2012	09:30:55	9	0.0	8.44	16.4	
03/09/2012	09:32:35	9	0.0	8.44	16.4	
03/09/2012	09:34:15	9	0.0	8.44	16.4	
03/09/2012	09:35:55	9	0.0	8.44	16.4	
03/09/2012	09:37:35	8	0.0	8.44	16.5	
03/09/2012	09:39:15	8	0.0	8.44	16.5	
03/09/2012	09:40:55	8	0.0	8.44	16.5	
03/09/2012	09:42:35	9	0.0	8.44	16.5	
03/09/2012	09:44:15	8	0.0	8.44	16.6	
03/09/2012	09:45:55	8	0.0	8.44	16.6	
03/09/2012	09:47:35	8	0.0	8.44	16.6	
03/09/2012	09:49:15	8	0.0	8.44	16.6	
03/09/2012	09:50:55	8	0.0	8.44	16.6	
03/09/2012	09:52:35	9	0.0	8.44	16.7	
03/09/2012	09:54:15	9	0.0	8.44	16.7	
03/09/2012	09:55:55	9	0.0	8.44	16.7	
03/09/2012	09:57:35	9	0.0	8.44	16.7	
03/09/2012	09:59:15	8	0.0	8.44	16.8	
03/09/2012	10:00:55	9	0.0	8.44	16.8	
03/09/2012	10:02:35	9	0.0	8.44	16.8	
03/09/2012	10:04:15	9	0.0	8.44	16.8	
03/09/2012	10:05:55	9	0.0	8.44	16.9	
03/09/2012	10:07:35	9	0.0	8.44	16.9	
03/09/2012	10:09:15	9	0.0	8.44	16.9	
03/09/2012	10:10:55	9	0.0	8.44	16.9	
03/09/2012	10:12:35	10	0.0	8.44	16.9	
03/09/2012	10:14:15	10	0.0	8.44	17.0	
03/09/2012	10:15:55	9	0.0	8.44	17.0	
03/09/2012	10:17:35	10	0.0	8.44	17.0	
03/09/2012	10:18:27	8	0.0	8.44	17.0	Start Job
03/09/2012	10:19:15	7	0.0	8.44	17.0	
03/09/2012	10:19:27	8	0.0	8.44	17.0	Fill Lines with Water
03/09/2012	10:19:29	8	0.0	8.44	17.0	Pressure Test Lines
03/09/2012	10:20:00	8	0.0	8.44	17.0	Low 500 psi Test = Good
03/09/2012	10:20:02	8	0.0	8.44	17.0	High 3000 psi Test = Good
03/09/2012	10:20:55	8	0.0	8.44	17.1	
03/09/2012	10:22:35	8	0.0	8.44	17.1	
03/09/2012	10:24:15	9	0.3	8.44	17.1	
03/09/2012	10:24:30	16	0.5	8.44	17.2	Reset Total, Vol = 17.20 bbl
03/09/2012	10:25:55	25	0.0	8.44	2.2	
03/09/2012	10:27:35	597	0.0	8.44	2.3	

Well	Field	Job Start	Customer	Job Number
COOK GARDNER 20-4BB 20-4BB	MAMM CREEK	Mar/09/2012	ENCANA	733880

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
03/09/2012	10:30:55	564	0.0	8.44	2.4	
03/09/2012	10:32:35	549	0.0	8.44	2.5	
03/09/2012	10:34:15	534	0.0	8.44	2.5	
03/09/2012	10:35:55	2033	0.0	8.44	2.6	
03/09/2012	10:37:35	2817	0.0	8.44	2.7	
03/09/2012	10:39:15	2775	0.0	8.44	2.7	
03/09/2012	10:40:00	2856	0.0	8.44	2.7	Start Pumping Spacer
03/09/2012	10:40:55	2986	0.0	8.44	2.8	
03/09/2012	10:42:35	2946	0.0	8.44	2.8	
03/09/2012	10:44:15	2909	0.0	8.44	2.9	
03/09/2012	10:45:55	14	0.1	8.44	3.0	
03/09/2012	10:47:35	98	2.0	8.44	3.4	
03/09/2012	10:49:15	111	3.4	8.44	7.3	
03/09/2012	10:50:55	128	3.4	8.43	13.0	
03/09/2012	10:52:35	124	3.4	8.43	18.7	
03/09/2012	10:53:23	123	3.6	9.26	21.4	Reset Total, Vol = 21.48 bbl
03/09/2012	10:54:15	151	3.4	12.14	24.4	
03/09/2012	10:55:09	147	3.4	12.26	27.4	End Scavenger Slurry
03/09/2012	10:55:55	140	3.4	12.29	30.0	
03/09/2012	10:57:35	132	3.4	12.39	35.7	
03/09/2012	10:59:15	126	3.4	12.74	41.4	
03/09/2012	11:00:55	121	3.4	12.65	47.0	
03/09/2012	11:02:35	118	3.4	12.63	52.8	
03/09/2012	11:03:00	183	4.1	12.62	54.2	Pump 225sks (85bbls) 12.5 Lead
03/09/2012	11:04:15	323	6.5	12.44	61.5	
03/09/2012	11:05:55	323	6.5	12.56	72.4	
03/09/2012	11:06:00	348	6.5	12.56	72.9	Good Returns
03/09/2012	11:07:35	323	6.5	12.48	83.3	
03/09/2012	11:09:15	313	6.5	12.36	94.1	
03/09/2012	11:10:55	317	6.5	12.36	105.0	
03/09/2012	11:12:35	16	0.0	12.49	111.2	
03/09/2012	11:14:15	19	0.0	12.46	111.2	
03/09/2012	11:15:00	25	0.0	12.44	111.2	End Lead Slurry
03/09/2012	11:15:55	25	0.0	12.40	111.2	
03/09/2012	11:16:20	25	0.0	12.40	111.2	Reset Total, Vol = 89.68 bbl
03/09/2012	11:17:35	203	3.7	15.64	112.9	
03/09/2012	11:18:00	97	2.0	15.61	114.0	Start Mixing Tail Slurry
03/09/2012	11:19:00	103	2.7	15.54	116.8	Pump 149sks (31bbls) 15.8 Tail
03/09/2012	11:19:15	98	2.4	15.55	117.4	
03/09/2012	11:20:00	124	2.9	15.25	119.4	011181
03/09/2012	11:20:55	108	2.3	16.24	121.9	
03/09/2012	11:22:35	102	2.3	15.92	125.8	
03/09/2012	11:24:15	98	2.4	15.91	129.8	
03/09/2012	11:25:55	118	2.9	15.86	133.9	
03/09/2012	11:27:35	114	2.8	15.76	138.6	
03/09/2012	11:29:15	14	0.0	15.77	142.5	
03/09/2012	11:30:55	15	0.0	15.77	142.5	
03/09/2012	11:32:35	100	2.2	10.25	143.4	
03/09/2012	11:33:00	120	4.1	9.17	144.4	End Tail Slurry
03/09/2012	11:34:00	168	5.3	8.88	149.3	Drop Top Plug
03/09/2012	11:34:15	175	5.3	9.03	150.6	
03/09/2012	11:35:55	233	6.5	8.60	161.8	
03/09/2012	11:37:35	233	6.4	8.35	172.5	
03/09/2012	11:39:15	256	6.5	8.43	183.2	

Well	Field	Job Start	Customer	Job Number
COOK GARDNER 20-4BB 20-4BB	MAMM CREEK	Mar/09/2012	ENCANA	733880

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
03/09/2012	11:42:35	349	6.5	8.42	204.9	
03/09/2012	11:44:15	298	4.2	8.43	214.1	
03/09/2012	11:45:55	288	2.3	8.43	221.0	
03/09/2012	11:47:35	311	2.3	8.43	224.8	
03/09/2012	11:48:00	337	2.3	8.43	225.8	Bump Top Plug
03/09/2012	11:49:15	1009	0.0	8.43	228.2	
03/09/2012	11:50:55	1006	0.0	8.43	228.2	
03/09/2012	11:52:35	1005	0.0	8.43	228.2	
03/09/2012	11:54:15	12	0.0	8.43	228.3	
03/09/2012	11:55:55	11	0.0	8.43	228.3	
03/09/2012	11:57:35	11	0.0	8.43	228.3	
03/09/2012	11:59:15	10	0.0	8.43	228.3	
03/09/2012	12:00:55	24	0.0	8.43	228.4	
03/09/2012	12:01:00	23	0.0	8.43	228.4	End Job
03/09/2012	12:02:35	22	0.0	8.43	228.4	
03/09/2012	12:04:15	22	0.0	8.43	228.4	
03/09/2012	12:05:55	22	0.0	8.43	228.5	
03/09/2012	12:07:35	32	9.0	8.43	229.4	
03/09/2012	12:09:15	19	8.1	6.16	241.1	
03/09/2012	12:10:55	7	0.0	7.97	245.9	

Post Job Summary

Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
4.0			6.5	115.0	0.0	20.0	

Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
3000	0		1000			bbl	lb/gal

Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp		
%	115.0 bbl	83.0 bbl	65 degF	Cement Circulated to Surface? [X]	Volume 48.0 bbl
				Washed Thru Perfs [ ]	To ft

Customer or Authorized Representative	Schlumberger Supervisor		
VLAD KOCHETOV	DANT RYAN	Circulation Lost [ ]	Job Completed [X]
		-	-