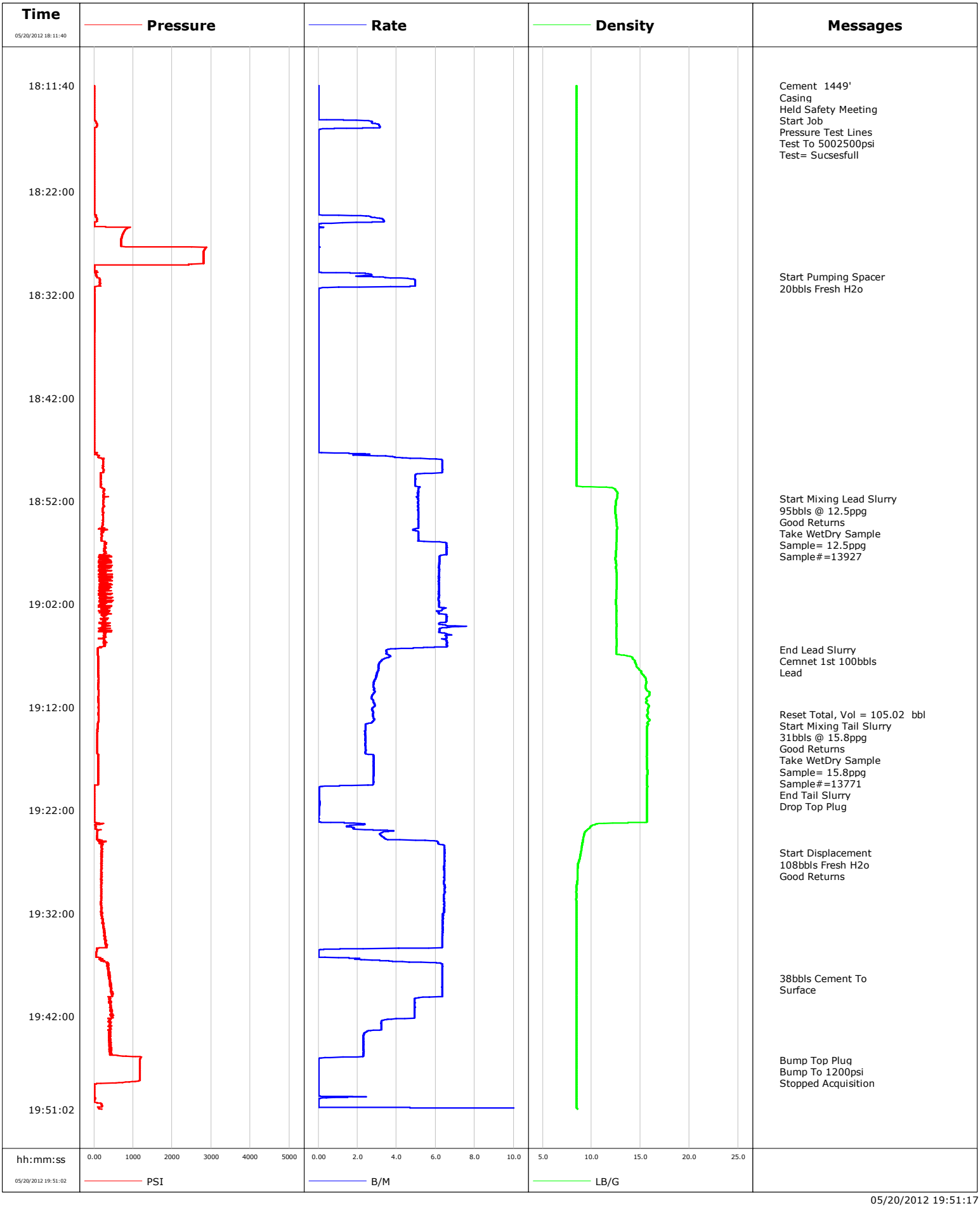
Schlumberger Cementing Job Report

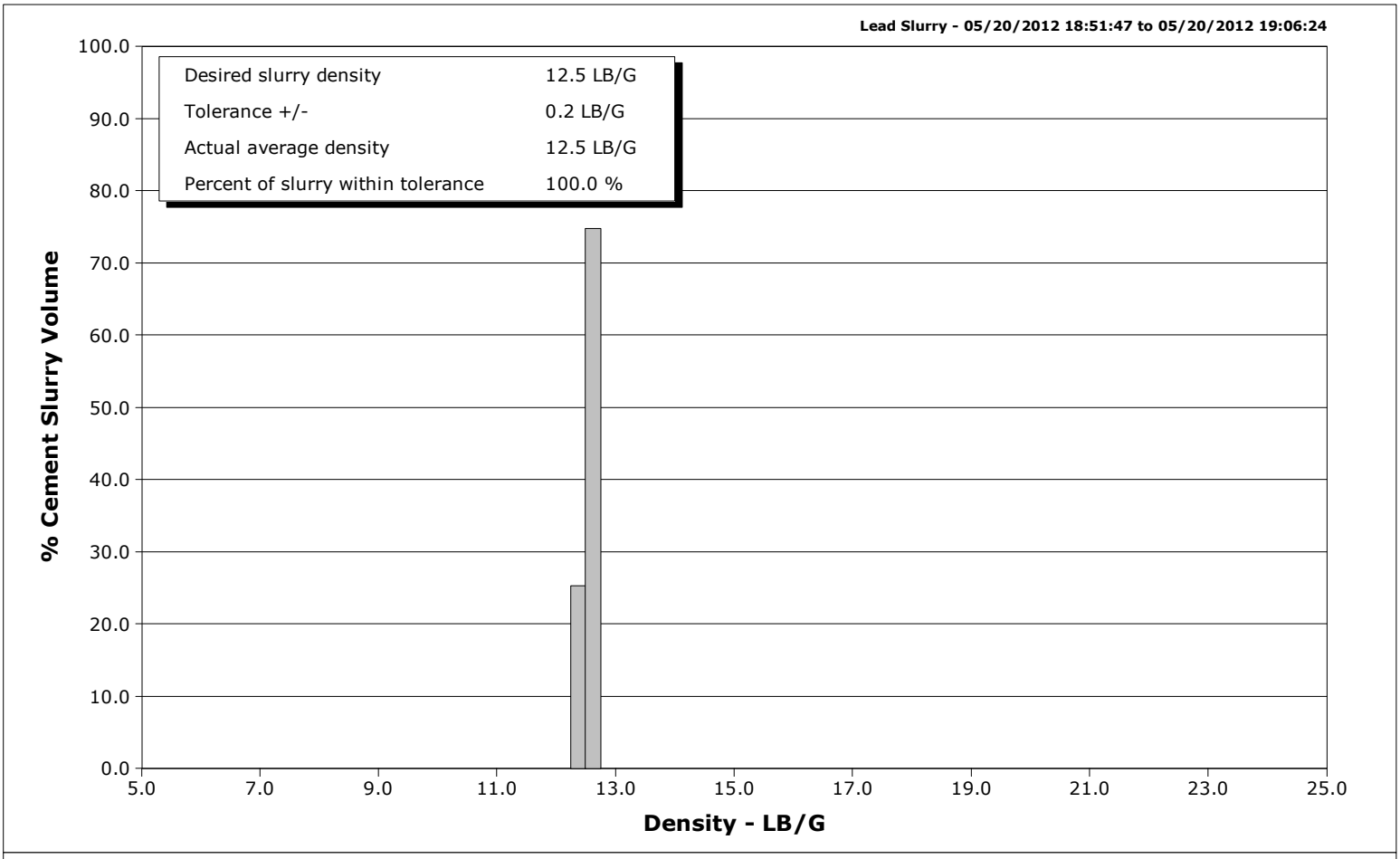
CemCAT v1.3

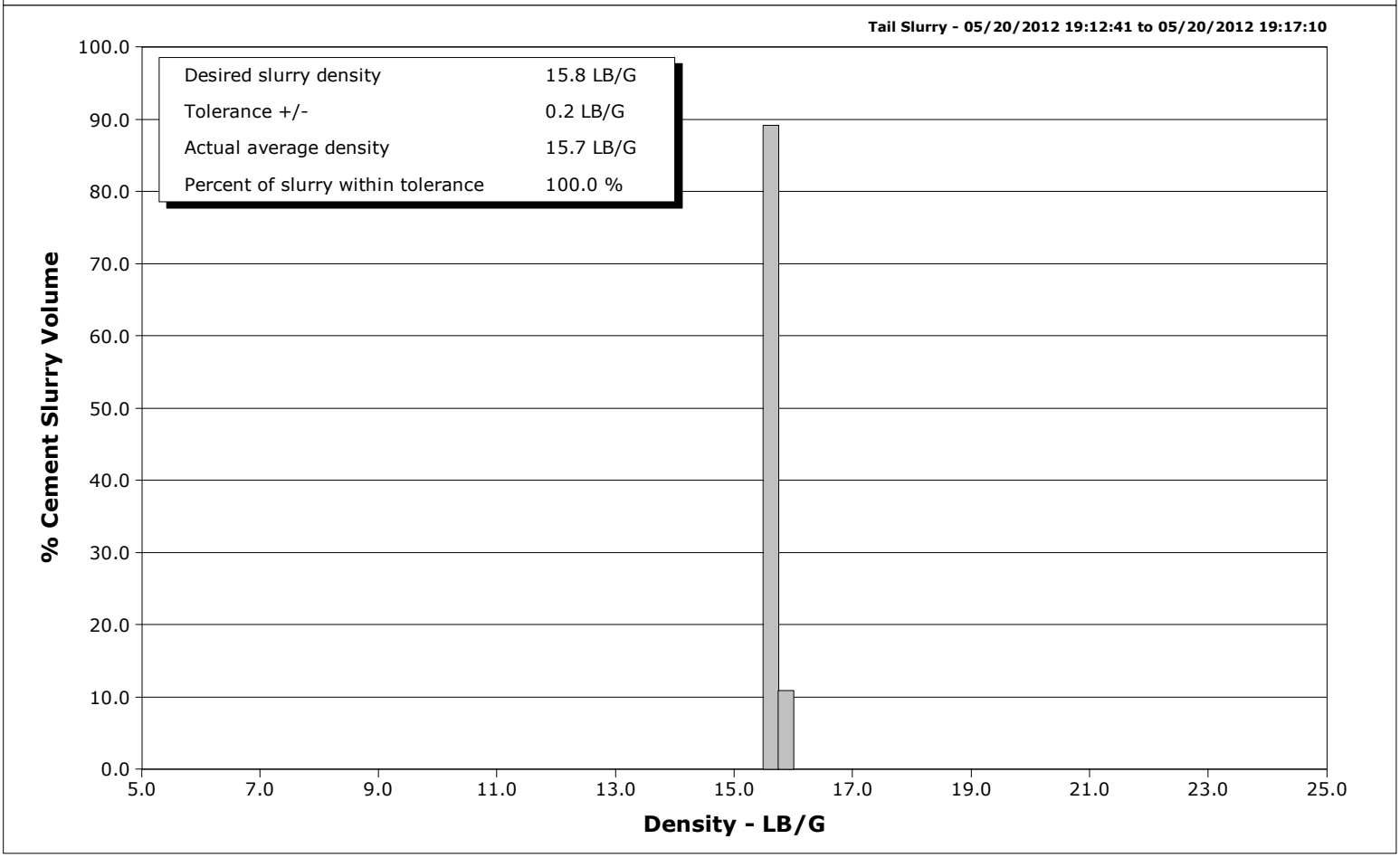
Well	MCU 22-12B	**Client**	ENCANA
Field	MAMM CREEK	**SIR No.**	C62J-00052
Engineer		**Job Type**	SURFACE
Country	United States	**Job Date**	05-20-2012



Schlumberger Cementing Qa/Qc Density Report

Well	MCU 22-12B	**Client**	ENCANA
Field	MAMM CREEK	**SIR No.**	C62J-00052
Engineer		**Job Type**	SURFACE
Country	United States	**Job Date**	05-20-2012





Cementing Service Report

Customer	Job Number
ENCANA	C62J-00052

Well	Location (legal)	Schlumberger Location	Job Start
MCU 22-12B	MAMM CREEK	GCO	May/20/2012

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
MAMM CREEK					

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
GARFIELD	Colorado				

Well Master	API/UWI
0631370431	

Rig Name	Drilled For	Service Via
NABORS M-15	Gas	Land

Offshore Zone	Well Class	Well Type
	New	Development

Drilling Fluid Type	Max. Density	Plastic Viscosity

Service Line	Job Type
Cementing	SURFACE

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

Service Instructions

253SKS 12.5
150SKS 15.8
WATER TEST= GOOD

Casing/Liner

Depth,	Size,	Weight,	Grade	Thread

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	108.0 bbl		

Tubing Vol.	Casing Vol.	Annular Vol.	Openhole Vol.
	111.0 bbl	86.0 bbl	202.0 bbl

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

Lift Pressure	717 psi	Shoe Type	Guide	Squeeze Type	
Pipe Rotated	☐	Pipe Reciprocated	☐	Shoe Depth	1449.0 ft	Tool Type	
No. Centralizers		Top Plugs	1	Bottom Plugs	Stage Tool Type		Tool Depth	
Cement Head Type	Single				Stage Tool Depth		Tail Pipe Size	
Job Scheduled For	Arrived on Location	Leave Location			Collar Type	Diff-Fill	Tail Pipe Depth	
May/20/2012	May/20/2012	May/20/2012			Collar Depth	1402.0 ft	Sqz. Total Vol.	

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
05/20/2012	17:06:28					Started Acquisition
05/20/2012	18:11:40	4	0.0	8.45	0.0	
05/20/2012	18:11:42					Cement 1449'
05/20/2012	18:11:42					Casing
05/20/2012	18:11:42					Held Safety Meeting
05/20/2012	18:11:42	5	0.0	8.45	0.0	
05/20/2012	18:11:45					Start Job
05/20/2012	18:11:45	4	0.0	8.45	0.0	
05/20/2012	18:11:47					Pressure Test Lines
05/20/2012	18:11:47	4	0.0	8.45	0.0	
05/20/2012	18:11:48					Test To 5002500psi
05/20/2012	18:11:48	4	0.0	8.45	0.0	
05/20/2012	18:11:49					Test= Sucsesfull
05/20/2012	18:11:49	4	0.0	8.45	0.0	
05/20/2012	18:12:28	4	0.0	8.45	0.0	
05/20/2012	18:14:28	1	0.0	8.45	0.0	
05/20/2012	18:16:28	9	0.0	8.46	2.4	
05/20/2012	18:18:28	11	0.0	8.46	2.4	
05/20/2012	18:20:28	11	0.0	8.47	2.4	
05/20/2012	18:22:28	11	0.0	8.47	2.4	
05/20/2012	18:24:28	46	2.7	8.46	2.8	

Well	Field	Job Start	Customer	Job Number
MCU 22-12B	MAMM CREEK	May/20/2012	ENCANA	C62J-00052

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
05/20/2012	18:28:28	2795	0.0	8.46	4.6	
05/20/2012	18:30:14					Start Pumping Spacer
05/20/2012	18:30:14	76	2.8	8.46	5.5	
05/20/2012	18:30:16					20bbls Fresh H2o
05/20/2012	18:30:16	77	3.1	8.46	5.6	
05/20/2012	18:30:28	142	4.9	8.46	6.4	
05/20/2012	18:32:28	13	0.0	8.47	10.2	
05/20/2012	18:34:28	13	0.0	8.47	10.2	
05/20/2012	18:36:28	10	0.0	8.46	10.2	
05/20/2012	18:38:28	9	0.0	8.46	10.2	
05/20/2012	18:40:28	9	0.0	8.46	10.2	
05/20/2012	18:42:28	9	0.0	8.46	10.2	
05/20/2012	18:44:28	10	0.0	8.46	10.2	
05/20/2012	18:46:28	11	0.0	8.46	10.2	
05/20/2012	18:48:28	233	6.3	8.46	15.5	
05/20/2012	18:50:28	177	4.9	8.47	26.6	
05/20/2012	18:51:47					Start Mixing Lead Slurry
05/20/2012	18:51:47	248	5.1	12.59	33.3	
05/20/2012	18:51:48					95bbls @ 12.5ppg
05/20/2012	18:51:48					Good Returns
05/20/2012	18:51:48					Take WetDry Sample
05/20/2012	18:51:48	244	5.1	12.59	33.4	
05/20/2012	18:51:49					Sample= 12.5ppg
05/20/2012	18:51:49					Sample#=13927
05/20/2012	18:51:49	253	5.1	12.59	33.5	
05/20/2012	18:52:28	257	5.1	12.45	36.8	
05/20/2012	18:54:28	208	5.1	12.59	47.0	
05/20/2012	18:56:28	282	6.6	12.52	57.9	
05/20/2012	18:58:28	429	6.2	12.49	70.6	
05/20/2012	19:00:28	192	6.2	12.56	82.9	
05/20/2012	19:02:28	346	6.4	12.54	95.3	
05/20/2012	19:04:28	250	6.2	12.53	108.1	
05/20/2012	19:06:24					End Lead Slurry
05/20/2012	19:06:24	91	3.6	12.52	120.3	
05/20/2012	19:06:26					Cemnet 1st 100bbls
05/20/2012	19:06:26	91	3.5	12.52	120.4	
05/20/2012	19:06:28	89	3.5	12.53	120.5	
05/20/2012	19:06:44					Lead
05/20/2012	19:06:44	90	3.5	12.52	121.5	
05/20/2012	19:08:28	107	3.1	14.98	127.1	
05/20/2012	19:10:28	113	2.9	15.73	132.9	
05/20/2012	19:12:28	112	2.8	15.75	138.5	
05/20/2012	19:12:40					Reset Total, Vol = 105.02 bbl
05/20/2012	19:12:40	111	2.8	15.74	139.1	
05/20/2012	19:12:41					Start Mixing Tail Slurry
05/20/2012	19:12:41	111	2.8	15.73	139.1	
05/20/2012	19:12:42					31bbls @ 15.8ppg
05/20/2012	19:12:42					Good Returns
05/20/2012	19:12:42	109	2.8	15.72	139.2	
05/20/2012	19:12:43					Take WetDry Sample
05/20/2012	19:12:43					Sample= 15.8ppg
05/20/2012	19:12:43					Sample#=13771
05/20/2012	19:12:43	111	2.8	15.72	139.2	
05/20/2012	19:14:28	85	2.4	15.66	143.8	

Well	Field	Job Start	Customer	Job Number
MCU 22-12B	MAMM CREEK	May/20/2012	ENCANA	C62J-00052

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
05/20/2012	19:17:10					End Tail Slurry
05/20/2012	19:17:10	107	2.8	15.67	150.5	
05/20/2012	19:17:13					Drop Top Plug
05/20/2012	19:17:13	107	2.8	15.67	150.7	
05/20/2012	19:18:28	106	2.8	15.69	154.2	
05/20/2012	19:20:28	5	0.0	15.68	157.5	
05/20/2012	19:22:28	11	0.0	15.67	157.6	
05/20/2012	19:24:28	75	3.2	9.21	160.7	
05/20/2012	19:26:08					Start Displacement
05/20/2012	19:26:08	206	6.4	8.90	169.9	
05/20/2012	19:26:09					108bbls Fresh H2o
05/20/2012	19:26:09	206	6.5	8.90	170.0	
05/20/2012	19:26:10					Good Returns
05/20/2012	19:26:10	183	6.5	8.89	170.1	
05/20/2012	19:26:28	197	6.5	8.83	172.1	
05/20/2012	19:28:28	203	6.4	8.55	184.9	
05/20/2012	19:30:28	190	6.4	8.43	197.8	
05/20/2012	19:32:28	216	6.4	8.47	210.6	
05/20/2012	19:34:28	265	6.3	8.46	223.4	
05/20/2012	19:36:28	183	1.9	8.46	229.8	
05/20/2012	19:38:19					38bbls Cement To
05/20/2012	19:38:19					Surface
05/20/2012	19:38:19	389	6.3	8.46	240.5	
05/20/2012	19:38:28	408	6.3	8.46	241.5	
05/20/2012	19:40:28	412	4.9	8.46	253.8	
05/20/2012	19:42:28	419	3.2	8.46	263.3	
05/20/2012	19:44:28	421	2.3	8.46	268.8	
05/20/2012	19:46:17					Bump Top Plug
05/20/2012	19:46:17	1176	0.0	8.46	272.3	
05/20/2012	19:46:19					Bump To 1200psi
05/20/2012	19:46:19	1174	0.0	8.46	272.3	
05/20/2012	19:46:28	1173	0.0	8.46	272.3	
05/20/2012	19:48:28	645	0.0	8.46	272.3	
05/20/2012	19:50:28	161	0.0	8.46	272.5	

Post Job Summary

Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
4.4		0.0	7.6	272.5	0.0	33.3	

Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
2875	1	224	1200				

Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp	Cement Circulated to Surface?	Volume
	126.0 bbl	121.7 bbl	61 degF	X	38.0 bbl
				Washed Thru Perfs ☐	To

Customer or Authorized Representative	Schlumberger Supervisor	Circulation Lost	Job Completed
TERRY DUNN	JASON CRICK	☐ -	X -