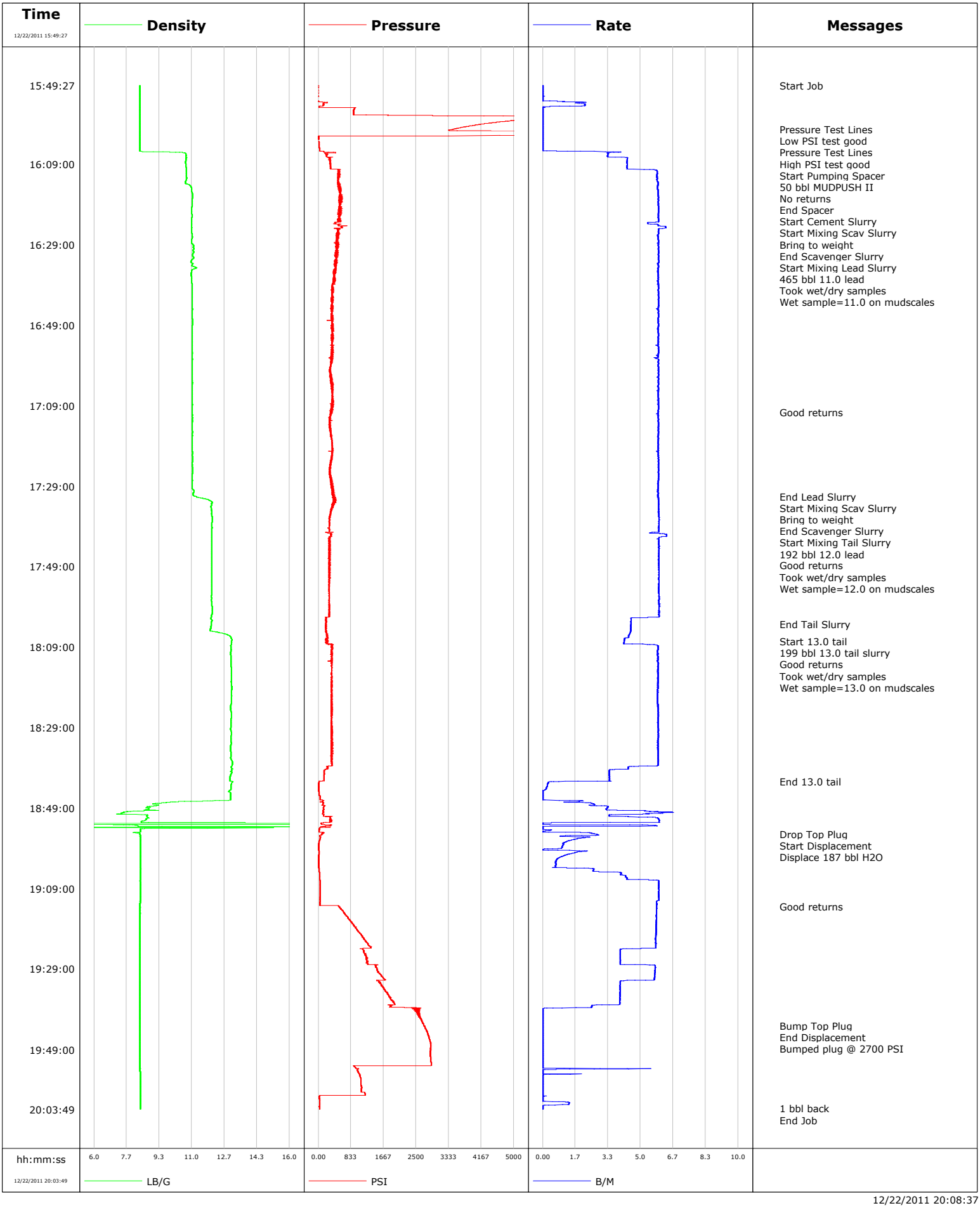
Schlumberger

Cementing Job Report

CemCAT v1.4

Well	SGU 8508C-21	**Client**	Encana
Field	Story Gulch	**SIR No.**	BUNM-00630
Engineer	Matt Fair/Charles Peavey	**Job Type**	4 1/2" Production
Country	United States	**Job Date**	12-22-2011

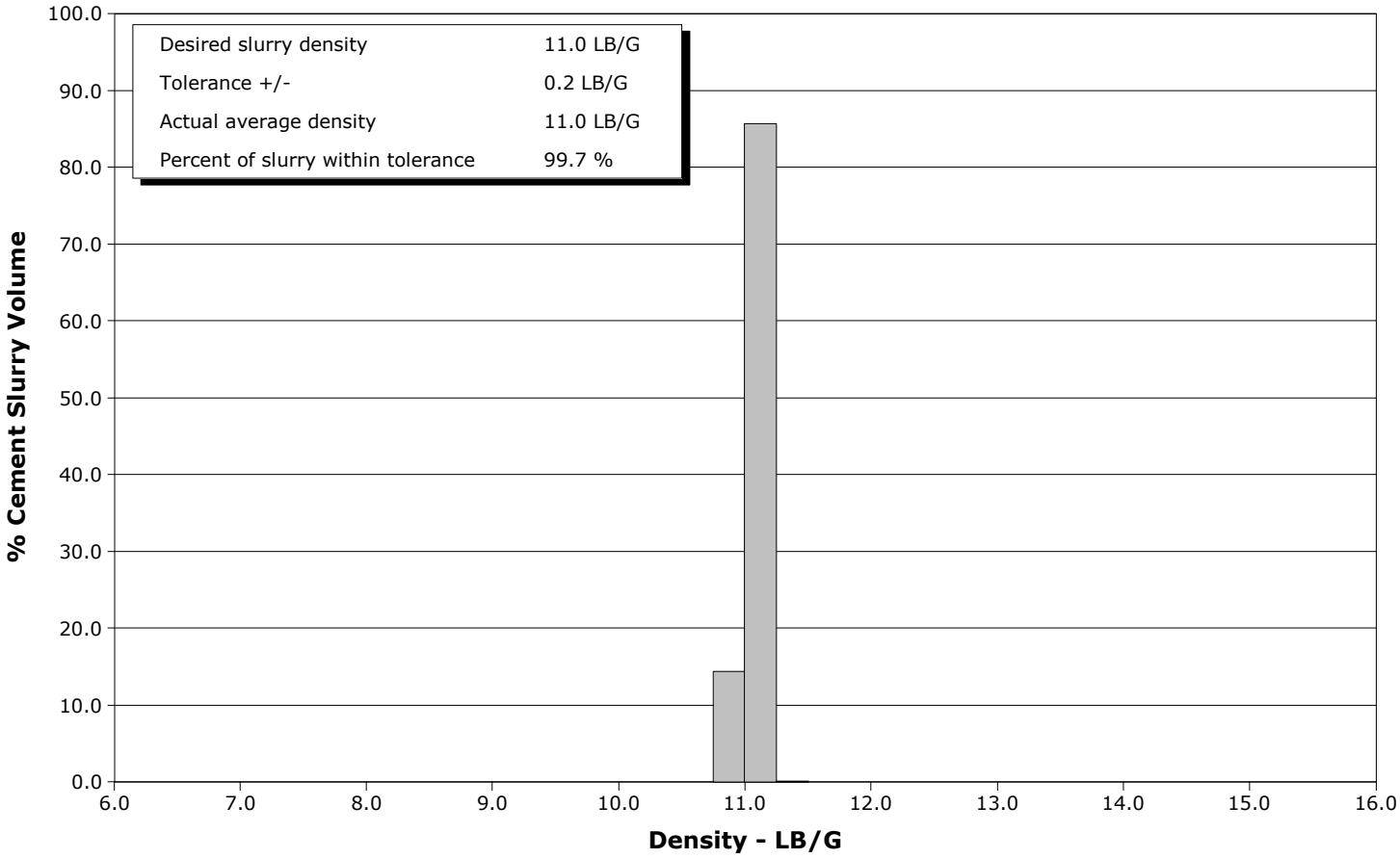


Schlumberger

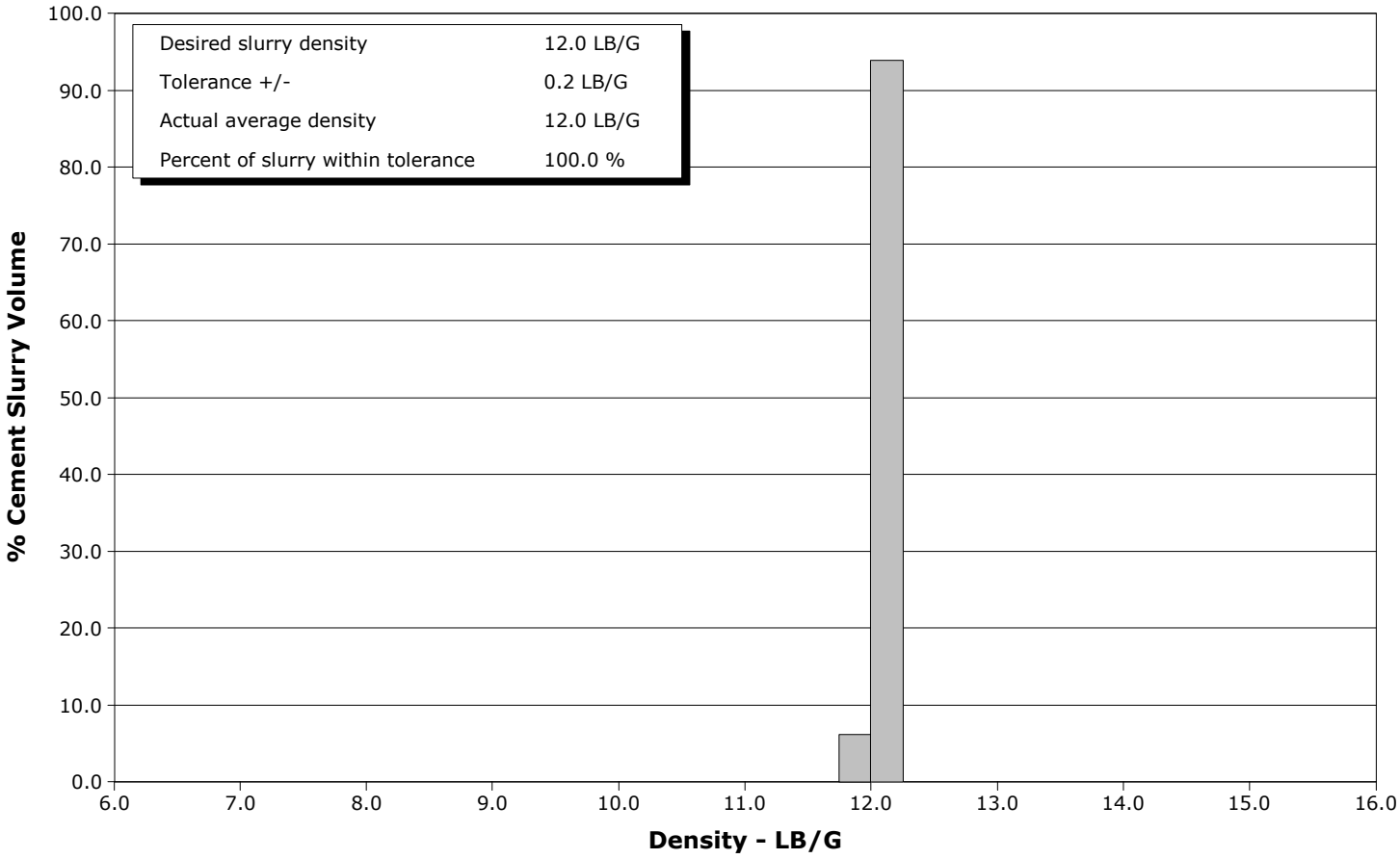
Cementing Qa/Qc Density Report

Well	SGU 8508C-21	**Client**	Encana
Field	Story Gulch	**SIR No.**	BUNM-00630
Engineer	Matt Fair/Charles Peavey	**Job Type**	4 1/2" Production
Country	United States	**Job Date**	12-22-2011

Lead Slurry - 12/22/2011 16:14:54 to 12/22/2011 17:31:31



Tail Slurry - 12/22/2011 17:32:55 to 12/22/2011 18:03:12



Schlumberger Cementing Service Report

Customer	Job Number
Encana	BUNM-00630

Well	Location (legal)	Schlumberger Location	Job Start
SGU 8508C-21			Dec/22/2011

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
Story Gulch	Shale	deg	8.5 in	12094.0 ft	12094.0 ft

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
Garfield	Colorado	psi	260 degF	199 degF	lb/gal

Well Master	API/UWI
0631277974	

Rig Name	Drilled For	Service Via
Patterson 306	Gas	Land

Offshore Zone	Well Class	Well Type
	New	Development

Drilling Fluid Type	Max. Density	Plastic Viscosity
Bentonite	9.50 lb/gal	cP

Service Line	Job Type
Cementing	4 1/2" Production

Max. Allowed Tub. Press	Max. Allowed Ann. Press	WH Connection
7780 psi	6350 psi	Single Cement head

Service Instructions

Cement Production Casing Per Design
953sks/465bbl 11.0 Y=2.74
603sks/192bbl 12.0 Y=1.79
447sks/199bbl 13.0 Y=2.5

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
2100.0	9.6	36.0	N/A	N/A
12094.0	4.5	11.6	N80	BUTT

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	187.0 bbl		ft

Tubing Vol.	Casing Vol.	Annular Vol.	Openhole Vol.
bbl	188.0 bbl	390.0 bbl	829.0 bbl

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

Lift Pressure	Pipe Rotated	Pipe Reciprocated
8821 psi	☐	☐

No. Centralizers	Top Plugs	Bottom Plugs
	1	0

Cement Head Type
Single

Job Scheduled For	Arrived on Location	Leave Location
Dec/22/2011 12:00	Dec/22/2011 12:00	Dec/22/2011 21:00

Casing Tools		Squeeze Job	
Shoe Type	Float	Squeeze Type	
Shoe Depth	12094.0 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	12046.0 ft	Sqz. Total Vol.	bbl

Date	Time 24-hr clock	CPF1_DENSITY LB/G	CPF1_PRESS PSI	CPF1_TTL_RATE B/M	Message
12/22/2011	15:49:27	8.35	-0	0.0	Started Acquisition
12/22/2011	15:49:30	8.35	-1	0.0	Start Job
12/22/2011	15:51:07	8.35	-1	0.0	
12/22/2011	15:52:47	8.35	-1	0.0	
12/22/2011	15:54:27	8.35	115	2.2	
12/22/2011	15:56:07	8.35	896	0.0	
12/22/2011	15:57:47	8.35	5448	0.0	
12/22/2011	15:59:27	8.35	3935	0.0	
12/22/2011	16:00:18	8.35	3477	0.0	Pressure Test Lines
12/22/2011	16:00:19	8.35	3464	0.0	Low PSI test good
12/22/2011	16:01:07	8.35	5404	0.0	
12/22/2011	16:02:20	8.35	3	0.0	Pressure Test Lines
12/22/2011	16:02:47	8.35	0	0.0	
12/22/2011	16:04:27	8.35	20	0.0	
12/22/2011	16:05:46	8.35	45	0.7	Start Pumping Spacer
12/22/2011	16:05:48	8.35	63	1.3	50 bbl MUDPUSH II
12/22/2011	16:06:07	10.52	389	3.5	
12/22/2011	16:07:47	10.71	294	4.3	
12/22/2011	16:09:27	10.70	299	4.3	
12/22/2011	16:11:07	10.72	550	5.8	
12/22/2011	16:11:57	10.73	540	5.9	No returns

Well	Field	Job Start	Customer	Job Number
SGU 8508C-21	Story Gulch	Dec/22/2011	Encana	BUNM-00630

Date	Time 24-hr clock	CPF1_DENSITY LB/G	CPF1_PRESS PSI	CPF1_TTL_RATE B/M	Message
12/22/2011	16:14:06	10.86	492	5.9	End Spacer
12/22/2011	16:14:13	10.88	528	5.9	Start Cement Slurry
12/22/2011	16:14:15	10.89	551	5.9	Start Mixing Scav Slurry
12/22/2011	16:14:27	10.93	548	5.9	
12/22/2011	16:14:53	10.98	574	5.9	End Scavenger Slurry
12/22/2011	16:14:54	10.98	574	5.9	Start Mixing Lead Slurry
12/22/2011	16:16:07	11.01	553	5.9	
12/22/2011	16:17:31	11.03	518	5.9	Took wet/dry samples
12/22/2011	16:17:32	11.03	540	5.9	Wet sample=11.0 on mudscales
12/22/2011	16:17:47	11.02	612	5.9	
12/22/2011	16:19:27	11.00	544	5.9	
12/22/2011	16:21:07	11.00	567	5.9	
12/22/2011	16:22:47	10.99	520	5.9	
12/22/2011	16:24:27	11.00	585	6.3	
12/22/2011	16:26:07	11.00	520	5.9	
12/22/2011	16:27:47	11.00	498	5.9	
12/22/2011	16:29:27	11.10	468	5.9	
12/22/2011	16:31:07	11.05	466	5.9	
12/22/2011	16:32:47	11.00	420	5.9	
12/22/2011	16:34:27	11.09	425	5.9	
12/22/2011	16:36:07	10.96	389	5.9	
12/22/2011	16:37:47	10.99	408	5.9	
12/22/2011	16:39:27	11.00	358	5.9	
12/22/2011	16:41:07	11.01	367	5.9	
12/22/2011	16:42:47	11.02	350	5.9	
12/22/2011	16:44:27	11.02	322	5.9	
12/22/2011	16:46:07	11.02	355	5.9	
12/22/2011	16:47:47	11.03	326	5.9	
12/22/2011	16:49:27	11.02	389	5.9	
12/22/2011	16:51:07	11.02	350	5.9	
12/22/2011	16:52:47	11.02	372	5.9	
12/22/2011	16:54:27	11.02	361	5.9	
12/22/2011	16:56:07	11.02	367	5.9	
12/22/2011	16:57:47	11.02	320	5.9	
12/22/2011	16:59:27	11.02	296	5.9	
12/22/2011	17:01:07	11.02	326	5.9	
12/22/2011	17:02:47	11.02	334	5.9	
12/22/2011	17:04:27	11.02	345	5.9	
12/22/2011	17:06:07	11.02	360	5.9	
12/22/2011	17:07:47	11.02	381	5.9	
12/22/2011	17:09:27	11.02	325	5.9	
12/22/2011	17:10:41	11.02	346	5.9	Good returns
12/22/2011	17:11:07	11.02	336	5.9	
12/22/2011	17:12:47	11.02	277	5.9	
12/22/2011	17:14:27	11.02	318	5.9	
12/22/2011	17:16:07	11.02	304	5.9	
12/22/2011	17:17:47	11.02	347	5.9	
12/22/2011	17:19:27	11.02	362	5.9	
12/22/2011	17:21:07	11.02	331	5.9	
12/22/2011	17:22:47	11.03	342	5.9	
12/22/2011	17:24:27	11.03	279	5.9	
12/22/2011	17:26:07	11.01	314	5.9	
12/22/2011	17:27:47	11.02	307	5.9	
12/22/2011	17:29:27	11.01	378	5.9	

Well	Field	Job Start	Customer	Job Number
SGU 8508C-21	Story Gulch	Dec/22/2011	Encana	BUNM-00630

Date	Time 24-hr clock	CPF1_DENSITY LB/G	CPF1_PRESS PSI	CPF1_TTL_RATE B/M	Message
12/22/2011	17:31:31	11.16	411	5.9	End Lead Slurry
12/22/2011	17:31:36	11.22	404	5.9	Start Mixing Scav Slurry
12/22/2011	17:31:45	11.25	381	5.9	Bring to weight
12/22/2011	17:32:47	11.99	393	5.9	
12/22/2011	17:32:54	12.02	423	5.9	End Scavenger Slurry
12/22/2011	17:32:55	12.02	405	5.9	Start Mixing Tail Slurry
12/22/2011	17:32:58	12.03	379	5.9	192 bbl 12.0 lead
12/22/2011	17:34:27	11.99	324	5.9	
12/22/2011	17:36:07	12.02	314	5.9	
12/22/2011	17:37:47	12.03	280	5.9	
12/22/2011	17:38:36	12.03	282	5.9	Good returns
12/22/2011	17:38:49	12.02	284	5.9	Took wet/dry samples
12/22/2011	17:38:50	12.02	284	5.9	Wet sample=12.0 on mudscales
12/22/2011	17:39:27	12.03	278	5.9	
12/22/2011	17:41:07	12.02	308	6.3	
12/22/2011	17:42:47	12.03	266	5.9	
12/22/2011	17:44:27	12.02	303	6.0	
12/22/2011	17:46:07	12.02	271	5.9	
12/22/2011	17:47:47	12.02	277	5.9	
12/22/2011	17:49:27	12.02	270	5.9	
12/22/2011	17:51:07	12.02	294	5.9	
12/22/2011	17:52:47	12.02	272	5.9	
12/22/2011	17:54:27	12.02	278	5.9	
12/22/2011	17:56:07	12.01	273	5.9	
12/22/2011	17:57:47	12.01	273	5.9	
12/22/2011	17:59:27	12.04	289	5.9	
12/22/2011	18:01:07	12.01	268	5.9	
12/22/2011	18:02:47	12.01	200	4.5	
12/22/2011	18:03:12	12.00	207	4.5	End Tail Slurry
12/22/2011	18:04:27	11.96	191	4.5	
12/22/2011	18:06:07	12.90	234	4.4	
12/22/2011	18:07:35	13.03	228	4.2	Start 13.0 tail
12/22/2011	18:07:47	13.03	199	4.2	
12/22/2011	18:07:50	13.03	225	4.2	199 bbl 13.0 tail slurry
12/22/2011	18:08:08	13.03	254	4.2	Good returns
12/22/2011	18:09:27	12.99	347	5.9	
12/22/2011	18:11:07	12.99	336	5.9	
12/22/2011	18:11:19	13.00	334	5.9	Took wet/dry samples
12/22/2011	18:11:20	13.01	334	5.9	Wet sample=13.0 on mudscales
12/22/2011	18:12:47	13.01	351	5.9	
12/22/2011	18:14:27	13.02	332	5.9	
12/22/2011	18:16:07	13.02	333	5.9	
12/22/2011	18:17:47	13.01	347	5.9	
12/22/2011	18:19:27	13.03	329	5.9	
12/22/2011	18:21:07	13.03	347	5.9	
12/22/2011	18:22:47	13.02	327	5.9	
12/22/2011	18:24:27	12.98	363	5.9	
12/22/2011	18:26:07	13.02	330	5.9	
12/22/2011	18:27:47	13.00	347	5.9	
12/22/2011	18:29:27	12.98	343	5.9	
12/22/2011	18:31:07	13.01	338	5.9	
12/22/2011	18:32:47	13.01	347	5.9	
12/22/2011	18:34:27	12.97	349	5.9	
12/22/2011	18:36:07	12.99	329	5.9	

Well	Field	Job Start	Customer	Job Number
SGU 8508C-21	Story Gulch	Dec/22/2011	Encana	BUNM-00630

Date	Time 24-hr clock	CPF1_DENSITY LB/G	CPF1_PRESS PSI	CPF1_TTL_RATE B/M	Message
12/22/2011	18:39:27	13.03	173	3.6	
12/22/2011	18:41:07	12.96	142	3.4	
12/22/2011	18:42:21	12.98	28	2.8	End 13.0 tail
12/22/2011	18:42:47	13.03	12	0.3	
12/22/2011	18:44:27	12.98	12	0.1	
12/22/2011	18:46:07	12.98	40	0.0	
12/22/2011	18:47:47	9.44	117	2.5	
12/22/2011	18:49:27	8.64	132	3.3	
12/22/2011	18:51:07	8.70	190	4.4	
12/22/2011	18:52:47	-3.12	66	0.0	
12/22/2011	18:54:27	8.36	25	0.4	
12/22/2011	18:55:24	8.35	107	2.7	Drop Top Plug
12/22/2011	18:55:25	8.35	116	2.7	Start Displacement
12/22/2011	18:56:07	8.36	47	1.7	
12/22/2011	18:57:46	8.37	12	1.0	Displace 187 bbl H2O
12/22/2011	18:57:47	8.37	12	1.0	
12/22/2011	18:59:27	8.37	4	0.0	
12/22/2011	19:01:07	8.37	10	0.9	
12/22/2011	19:02:47	8.37	7	0.7	
12/22/2011	19:04:27	8.37	18	2.6	
12/22/2011	19:06:07	8.36	29	4.2	
12/22/2011	19:07:47	8.36	37	5.9	
12/22/2011	19:09:27	8.35	38	5.9	
12/22/2011	19:11:07	8.35	38	5.9	
12/22/2011	19:12:47	8.35	37	5.8	
12/22/2011	19:13:30	8.35	534	5.8	Good returns
12/22/2011	19:14:27	8.35	616	5.8	
12/22/2011	19:16:07	8.35	759	5.8	
12/22/2011	19:17:47	8.35	874	5.8	
12/22/2011	19:19:27	8.35	1004	5.8	
12/22/2011	19:21:07	8.35	1134	5.8	
12/22/2011	19:22:47	8.35	1265	5.8	
12/22/2011	19:24:27	8.35	1175	4.0	
12/22/2011	19:26:07	8.35	1248	4.0	
12/22/2011	19:27:47	8.35	1273	4.0	
12/22/2011	19:29:27	8.35	1505	5.7	
12/22/2011	19:31:07	8.35	1652	5.7	
12/22/2011	19:32:47	8.35	1613	4.0	
12/22/2011	19:34:27	8.35	1705	3.9	
12/22/2011	19:36:07	8.35	1827	3.9	
12/22/2011	19:37:47	8.35	1960	3.9	
12/22/2011	19:39:27	8.35	2585	0.0	
12/22/2011	19:41:07	8.35	2601	0.0	
12/22/2011	19:42:47	8.35	2686	0.0	
12/22/2011	19:43:01	8.35	2698	0.0	Bump Top Plug
12/22/2011	19:43:02	8.35	2698	0.0	End Displacement
12/22/2011	19:43:04	8.35	2698	0.0	Bumped plug @ 2700 PSI
12/22/2011	19:44:27	8.35	2770	0.0	
12/22/2011	19:46:07	8.35	2828	0.0	
12/22/2011	19:47:47	8.34	2877	0.0	
12/22/2011	19:49:27	8.35	2865	0.0	
12/22/2011	19:51:07	8.35	2869	0.0	
12/22/2011	19:52:47	8.35	2886	0.0	
12/22/2011	19:54:27	8.35	1009	0.0	

Well	Field	Job Start	Customer	Job Number
SGU 8508C-21	Story Gulch	Dec/22/2011	Encana	BUNM-00630

Date	Time 24-hr clock	CPF1_DENSITY LB/G	CPF1_PRESS PSI	CPF1_TTL_RATE B/M	Message
12/22/2011	19:57:47	8.36	1088	0.0	
12/22/2011	19:59:27	8.36	1102	0.0	
12/22/2011	20:01:07	8.36	25	0.0	
12/22/2011	20:02:47	8.36	34	0.3	
12/22/2011	20:03:38	8.36	31	0.0	1 bbl back

Post Job Summary

Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
5.2			6.7	856.0	0.0	49.6	

Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
6571	34	649	2500			bbl	lb/gal

Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp		
%	856.0 bbl	186.9 bbl	49 degF	Cement Circulated to Surface? [X]	Volume 30.0 bbl
				Washed Thru Perfs [ ]	To ft

Customer or Authorized Representative	Schlumberger Supervisor		
Robert Escojeda	Matt Fair/Charles Peavey	Circulation Lost [ ]	Job Completed [X]
		-	-

Schlumberger Service Quality Evaluation

Client:	Encana
Field:	Story Gulch
Rig:	Patterson 306
Well:	SGU 8508C-21
Service Line:	Cementing
Job Type:	4 1/2" Production

Service Order #:	
Date:	Dec/22/2011
Operating Time (hh:mm):	00:00
Client Rep:	Robert Escojeda
Schlumberger Engineer:	Matt Fair/Charles Peavey
Schlumberger FSM:	

Main Objective:

To be completed by Company Rep. Please answer Y (Yes) or N (No) and add any comments below.

		Score	Yes / No	Result
1	**HSE**			
1a	Free of lost time injury and compliance with SLB and loc. spec. HSE practice	5	**yes** [X] **no** [ ]	5
1b	Free of environmental spill or non-compliant discharge	5	**yes** [X] **no** [ ]	5
1c	Wellsite left clean	4	**yes** [X] **no** [ ]	4
			Sub-total	100%

2	**Design / Preparation**			
2a	Program incl. job simulation (CemCADE) & pump schedule / tool hydraulic calcs	3	**yes** [X] **no** [ ]	3
2b	Equipment maintenance schedule completed / Green tagged	2	**yes** [X] **no** [ ]	2
2c	All materials and equipment required for job/contingency checked & on location	2	**yes** [X] **no** [ ]	2
2d	Safety / pre-job meeting conducted with all involved present	2	**yes** [X] **no** [ ]	2
			Sub-total	100%

3	**Execution**			
3a	Lost time < 30 mins	3	**yes** [X] **no** [ ]	3
3b	Equipment pressure tested succesfully	3	**yes** [X] **no** [ ]	3
3c	All key parameters monitored and recorded accurately (Pressure, Rate, Density)	2	**yes** [X] **no** [ ]	2
3d	Plugs / darts released and tested succesfully	2	**yes** [X] **no** [ ]	2
3e	Density variation met expectations	2	**yes** [X] **no** [ ]	2
3f	Personnel performed as per expectations	2	**yes** [X] **no** [ ]	2
3g	Equipment performed as per expectations	2	**yes** [X] **no** [ ]	2
3h	Job pumped as per design	3	**yes** [X] **no** [ ]	3
3i	Did job start on time	2	**yes** [X] **no** [ ]	2
3j	Free of Operational failures (screen out, Cementing Example, etc.)	3	**yes** [X] **no** [ ]	3
			Sub-total	100%

4	**Evaluation**			
4a	Main job objective achieved with no consequential non-productive time	10	**yes** [X] **no** [ ]	10
			Sub-total	100%

Total 100%

Comments: (Please include a brief explanation for a "NO" response and summarize any innovations attempted on this well.)

Client:	**Schlumberger:**
Client Signature:	**Schlumberger Signature:**