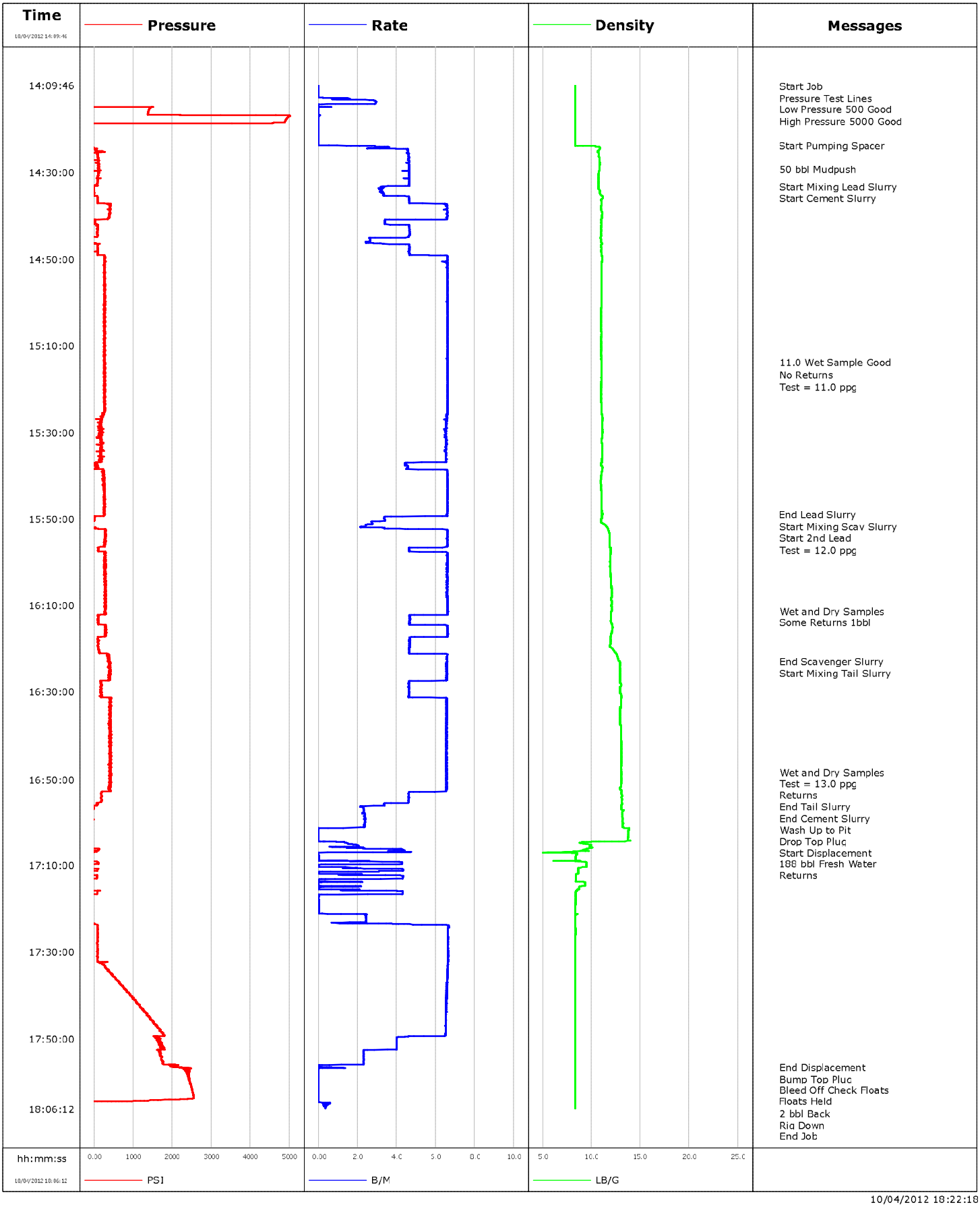
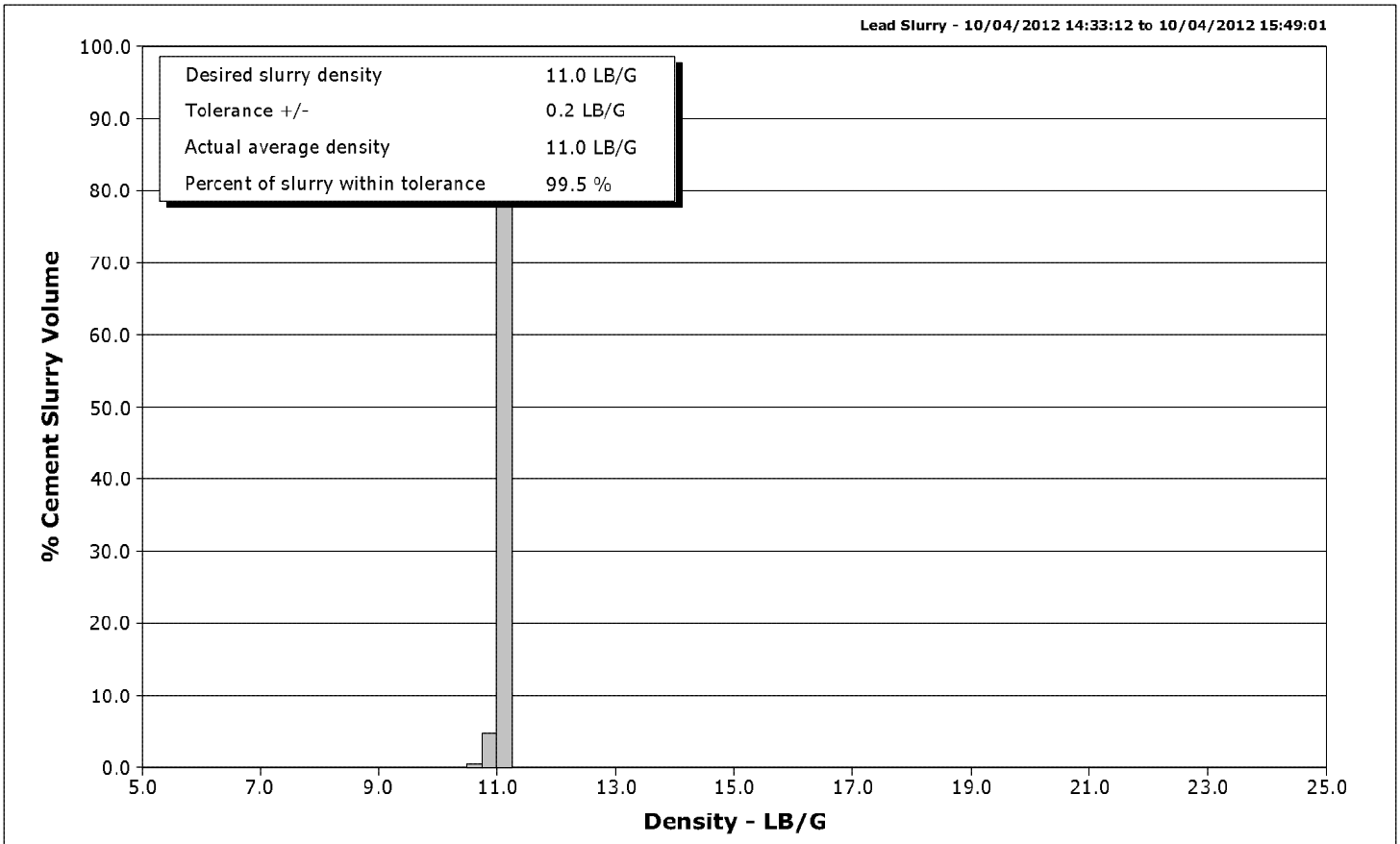
Schlumberger Cementing Job Report

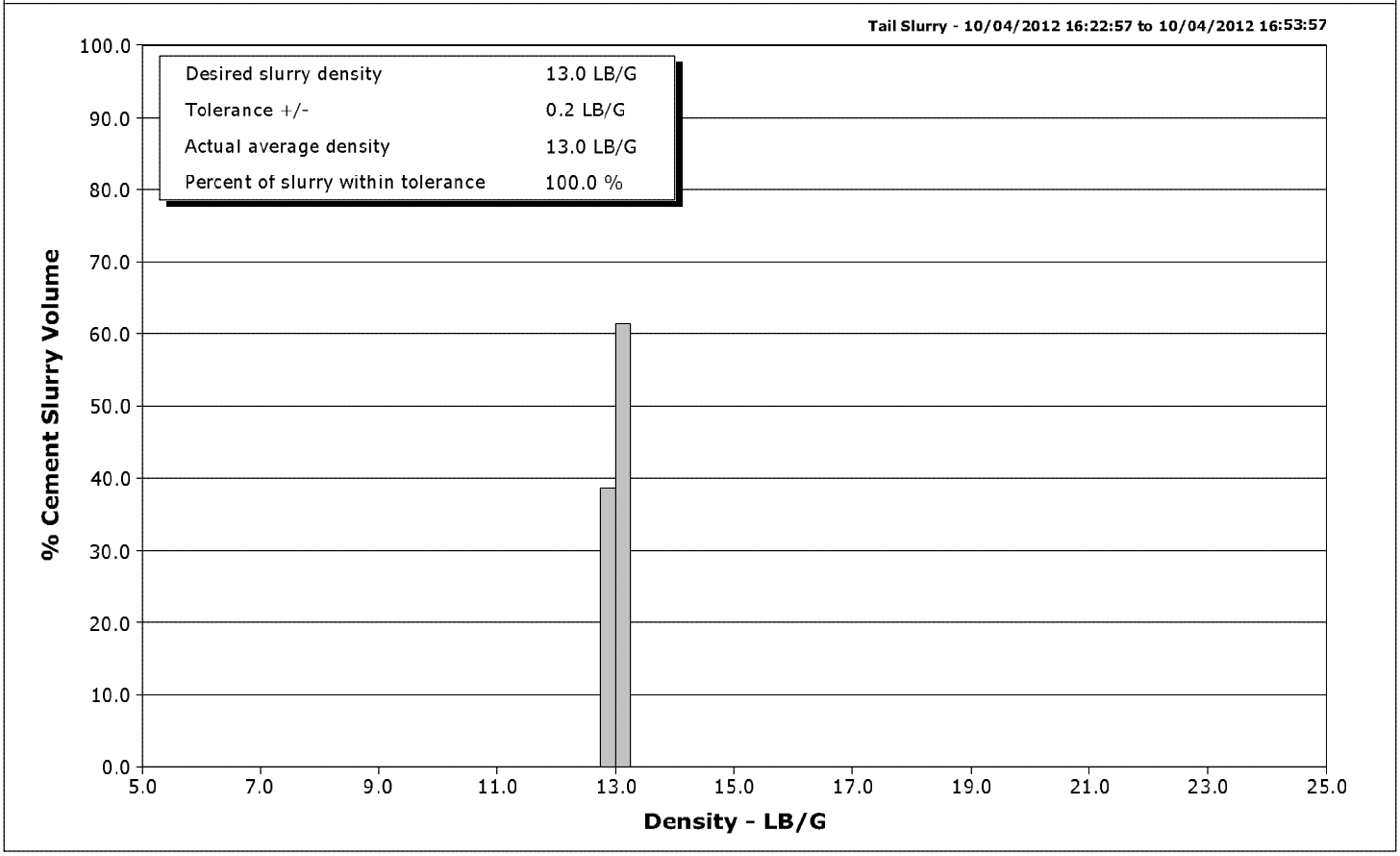
Well	SG 8513D-25 D	**Client**	Encana
Field	Story Gulch	**SIR No.**	
Engineer	Jordan Moreland/Travis Willardson	**Job Type**	4 1/2 Production
Country	United States	**Job Date**	10-04-2012



Schlumberger Cementing Qa/Qc Density Report

Well	SG 8513D-25 D	**Client**	Encana
Field	Story Gulch	**SIR No.**	
Engineer	Jordan Moreland/Travis Willardson	**Job Type**	4 1/2 Production
Country	United States	**Job Date**	10-04-2012





Schlumberger

Cementing Service Report

Customer	Job Number
Encana	C9U4-00202

Well	Location (legal)	Schlumberger Location	Job Start
SG 8513D-25 D SG 851D-25 D		GCC	Oct/04/2012

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
Story Gulch					

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
Garfield	Colorado		260 degF	216 degF	

Well Master	API/UWI
0631304008	

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

Service Line	Job Type
Cementing	4 1/2 Production

Max. Allowed Tub. Press	Max. Allowed Ann. Press	WH Connection
5000 psi		Single Cement head

Service Instructions

Rate and Density Checked
50 bbl Mudpush
909 sks 11.0 Lead
540 sks 12.0 Lead
632 sks 13.0 Tail
Displace fresh water

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
3000.0	9.630	36.0	K55	8RD
12090.0	4.500	11.6	N80	BUTT

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	188.0 bbl		

Tubing Vol.	Casing Vol.	Annular Vol.	Openhole Vol.
	189.0 bbl	670.0 bbl	1099.0 bbl

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

Lift Pressure	Pipe Rotated	Pipe Reciprocated
8818 psi	☐	☐

No. Centralizers	Top Plugs	Bottom Plugs
	1	

Cement Head Type
Single

Job Scheduled For	Arrived on Location	Leave Location
Oct/04/2012 00:10	Oct/04/2012	Oct/04/2012

Casing Tools		Squeeze Job	
Shoe Type	Guide	Squeeze Type	
Shoe Depth	12090.0 ft	Tool Type	
Stage Tool Type		Tool Depth	
Stage Tool Depth		Tail Pipe Size	
Collar Type	Float	Tail Pipe Depth	
Collar Depth	12067.0 ft	Sqz. Total Vol.	

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
10/04/2012	13:20:31					Started Acquisition
10/04/2012	14:09:46	-115	0.0	8.36	0.0	
10/04/2012	14:10:00					Start Job
10/04/2012	14:10:00	-115	0.0	8.36	0.0	
10/04/2012	14:10:13					Pressure Test Lines
10/04/2012	14:10:13	-118	0.0	8.36	0.0	
10/04/2012	14:10:19					Low Pressure 500 Good
10/04/2012	14:10:19					High Pressure 5000 Good
10/04/2012	14:10:19	-118	0.0	8.36	0.0	
10/04/2012	14:10:31	-119	0.0	8.36	0.0	
10/04/2012	14:12:31	-119	0.0	8.35	0.0	
10/04/2012	14:14:31	-106	0.0	8.36	3.4	
10/04/2012	14:16:31	1367	0.0	8.36	3.4	
10/04/2012	14:18:31	4561	0.0	8.36	3.4	
10/04/2012	14:20:31	-98	0.0	8.36	3.5	
10/04/2012	14:22:31	-89	0.0	8.36	3.5	
10/04/2012	14:23:41					Start Pumping Spacer
10/04/2012	14:23:41	-80	0.5	8.36	3.5	
10/04/2012	14:24:31	47	4.6	10.84	6.1	
10/04/2012	14:26:31	110	4.6	10.81	15.3	
10/04/2012	14:28:31	109	4.6	10.80	24.6	

Well	Field	Job Start	Customer	Job Number
SG 8513D-25 D SG 851D-25 D	Story Gulch	Oct/04/2012	Encana	C9U4-00202

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
10/04/2012	14:29:07	110	4.7	10.81	27.4	
10/04/2012	14:30:31	99	4.7	10.71	33.9	
10/04/2012	14:32:31	86	4.7	10.71	43.2	
10/04/2012	14:33:12					Start Mixing Lead Slurry
10/04/2012	14:33:12	-23	3.2	10.69	46.1	
10/04/2012	14:34:31	-1	3.3	10.83	50.3	
10/04/2012	14:35:50					Start Cement Slurry
10/04/2012	14:35:50	90	4.6	11.12	55.3	
10/04/2012	14:36:31	88	4.7	11.04	58.5	
10/04/2012	14:38:31	419	6.6	11.02	70.7	
10/04/2012	14:40:31	356	6.6	11.06	83.9	
10/04/2012	14:42:31	90	4.7	11.04	92.1	
10/04/2012	14:44:31	79	4.6	11.03	101.4	
10/04/2012	14:46:31	103	4.6	11.06	107.7	
10/04/2012	14:48:31	101	4.6	11.05	117.0	
10/04/2012	14:50:31	280	6.4	11.08	129.3	
10/04/2012	14:52:31	258	6.6	11.05	142.5	
10/04/2012	14:54:31	268	6.6	11.04	155.7	
10/04/2012	14:56:31	268	6.6	11.04	168.9	
10/04/2012	14:58:31	250	6.6	11.04	182.1	
10/04/2012	15:00:31	239	6.6	11.04	195.3	
10/04/2012	15:02:31	282	6.6	11.01	208.5	
10/04/2012	15:04:31	287	6.6	11.01	221.7	
10/04/2012	15:06:31	241	6.6	11.03	234.9	
10/04/2012	15:08:31	246	6.6	11.03	248.1	
10/04/2012	15:10:31	268	6.6	11.03	261.3	
10/04/2012	15:12:31	264	6.6	11.03	274.5	
10/04/2012	15:13:35					11.0 Wet Sample Good
10/04/2012	15:13:35	243	6.6	11.03	281.6	
10/04/2012	15:14:31	258	6.6	11.04	287.8	
10/04/2012	15:16:31	251	6.6	11.04	301.0	
10/04/2012	15:16:36					No Returns
10/04/2012	15:16:36	268	6.6	11.03	301.5	
10/04/2012	15:16:50					Test = 11.0 ppg
10/04/2012	15:16:50	282	6.6	11.03	303.1	
10/04/2012	15:18:31	271	6.6	11.03	314.2	
10/04/2012	15:20:31	274	6.6	11.03	327.4	
10/04/2012	15:22:31	265	6.6	11.01	340.6	
10/04/2012	15:24:31	258	6.6	11.04	353.8	
10/04/2012	15:26:31	185	6.6	11.13	367.0	
10/04/2012	15:28:31	172	6.5	11.09	380.1	
10/04/2012	15:30:31	159	6.5	11.11	393.2	
10/04/2012	15:32:31	166	6.6	11.09	406.2	
10/04/2012	15:34:31	154	6.5	11.11	419.3	
10/04/2012	15:36:31	137	6.5	11.06	432.4	
10/04/2012	15:38:31	219	5.1	11.09	442.0	
10/04/2012	15:40:31	220	6.6	11.00	455.2	
10/04/2012	15:42:31	260	6.6	11.01	468.4	
10/04/2012	15:44:31	258	6.6	11.05	481.6	
10/04/2012	15:46:31	240	6.6	11.07	494.8	
10/04/2012	15:48:31	239	6.6	11.06	508.0	
10/04/2012	15:49:01					End Lead Slurry
10/04/2012	15:49:01	267	6.6	11.09	511.3	
10/04/2012	15:49:10					Start Mixing Scav Slurry

Well	Field	Job Start	Customer	Job Number
SG 8513D-25 D SG 851D-25 D	Story Gulch	Oct/04/2012	Encana	C9U4-00202

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
10/04/2012	15:49:53					Start 2nd Lead
10/04/2012	15:49:53	4	3.4	11.03	515.4	
10/04/2012	15:50:31	-30	2.9	11.02	517.5	
10/04/2012	15:50:47					Test = 12.0 ppg
10/04/2012	15:50:47	-21	2.7	11.04	518.2	
10/04/2012	15:52:31	302	6.6	11.75	523.8	
10/04/2012	15:54:31	266	6.6	11.87	537.0	
10/04/2012	15:56:31	116	5.1	11.92	550.2	
10/04/2012	15:58:31	283	6.6	11.95	561.3	
10/04/2012	16:00:31	296	6.6	11.93	574.5	
10/04/2012	16:02:31	302	6.6	11.97	587.7	
10/04/2012	16:04:31	255	6.6	12.05	600.9	
10/04/2012	16:06:31	283	6.6	12.06	614.0	
10/04/2012	16:08:31	297	6.6	12.05	627.2	
10/04/2012	16:10:31	293	6.6	12.07	640.4	
10/04/2012	16:11:11					Wet and Dry Samples
10/04/2012	16:11:11	284	6.6	12.07	644.8	
10/04/2012	16:11:12					Some Returns 1bbl
10/04/2012	16:11:12	269	6.6	12.06	644.9	
10/04/2012	16:12:31	118	4.7	12.04	652.8	
10/04/2012	16:14:31	265	6.5	12.13	662.3	
10/04/2012	16:16:31	305	6.6	12.05	675.5	
10/04/2012	16:18:31	104	4.7	11.96	686.2	
10/04/2012	16:20:31	126	4.7	12.36	695.6	
10/04/2012	16:22:31	381	6.6	12.78	707.6	
10/04/2012	16:22:53					End Scavenger Slurry
10/04/2012	16:22:53	388	6.6	12.88	710.0	
10/04/2012	16:22:57					Start Mixing Tail Slurry
10/04/2012	16:22:57	407	6.6	12.88	710.5	
10/04/2012	16:24:31	371	6.6	12.95	720.7	
10/04/2012	16:26:31	361	6.6	12.94	733.9	
10/04/2012	16:28:31	193	4.6	13.02	744.8	
10/04/2012	16:30:31	200	4.6	13.02	754.1	
10/04/2012	16:32:31	402	6.6	13.02	765.8	
10/04/2012	16:34:31	406	6.6	12.97	779.0	
10/04/2012	16:36:31	419	6.6	12.96	792.1	
10/04/2012	16:38:31	411	6.6	13.01	805.2	
10/04/2012	16:40:31	443	6.6	13.03	818.4	
10/04/2012	16:42:31	374	6.5	13.05	831.5	
10/04/2012	16:44:31	413	6.6	13.05	844.6	
10/04/2012	16:46:31	444	6.6	13.04	857.7	
10/04/2012	16:48:25					Wet and Dry Samples
10/04/2012	16:48:25	404	6.6	13.04	870.2	
10/04/2012	16:48:27					Test = 13.0 ppg
10/04/2012	16:48:27	417	6.6	13.04	870.4	
10/04/2012	16:48:31	417	6.6	13.05	870.8	
10/04/2012	16:49:39					Returns
10/04/2012	16:49:39	407	6.6	13.04	878.3	
10/04/2012	16:50:31	381	6.6	13.04	883.9	
10/04/2012	16:52:31	414	6.6	13.01	897.1	
10/04/2012	16:53:57					End Tail Slurry
10/04/2012	16:53:57	193	4.6	13.16	904.6	
10/04/2012	16:53:58					End Cement Slurry
10/04/2012	16:53:58	195	4.6	13.17	904.7	

Well	Field	Job Start	Customer	Job Number
SG 8513D-25 D SG 851D-25 D	Story Gulch	Oct/04/2012	Encana	C9U4-00202

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
10/04/2012	16:54:46					Wash Up to Pit
10/04/2012	16:54:46	201	4.6	13.16	908.4	
10/04/2012	16:55:01					Drop Top Plug
10/04/2012	16:55:01	199	4.6	13.13	909.5	
10/04/2012	16:55:04					Start Displacement
10/04/2012	16:55:04	200	4.6	13.13	909.8	
10/04/2012	16:55:06					188 bbl Fresh Water
10/04/2012	16:55:06					Returns
10/04/2012	16:55:06	202	4.6	13.13	909.9	
10/04/2012	16:56:31	-13	2.3	13.06	915.0	
10/04/2012	16:58:31	-23	2.4	13.17	919.6	
10/04/2012	17:00:31	-24	2.4	13.23	924.4	
10/04/2012	17:02:31	-102	0.0	13.80	926.2	
10/04/2012	17:04:31	-92	0.3	10.57	926.2	
10/04/2012	17:08:31	-98	0.0	8.42	932.5	
10/04/2012	17:10:31	-50	1.9	8.77	935.6	
10/04/2012	17:12:31	73	4.3	8.45	940.3	
10/04/2012	17:14:31	-98	0.0	9.33	943.5	
10/04/2012	17:16:31	79	4.3	8.39	947.4	
10/04/2012	17:18:31	-116	0.0	8.38	948.1	
10/04/2012	17:20:31	-115	0.0	8.38	948.2	
10/04/2012	17:22:31	-81	2.5	8.37	951.3	
10/04/2012	17:24:31	80	6.6	8.38	959.8	
10/04/2012	17:26:31	87	6.6	8.36	973.1	
10/04/2012	17:28:31	91	6.6	8.37	986.3	
10/04/2012	17:30:31	94	6.6	8.36	999.6	
10/04/2012	17:32:31	122	6.6	8.36	1012.9	
10/04/2012	17:34:31	384	6.6	8.36	1026.1	
10/04/2012	17:36:31	581	6.6	8.36	1039.3	
10/04/2012	17:38:31	782	6.6	8.36	1052.5	
10/04/2012	17:40:31	989	6.6	8.36	1065.6	
10/04/2012	17:42:31	1160	6.5	8.36	1078.7	
10/04/2012	17:44:31	1356	6.5	8.36	1091.8	
10/04/2012	17:46:31	1535	6.5	8.36	1104.8	
10/04/2012	17:48:31	1744	6.5	8.36	1117.9	
10/04/2012	17:50:31	1598	4.0	8.36	1128.3	
10/04/2012	17:52:31	1792	4.0	8.36	1136.3	
10/04/2012	17:54:31	1722	2.3	8.36	1141.0	
10/04/2012	17:56:29					End Displacement
10/04/2012	17:56:29	2114	0.0	8.36	1144.7	
10/04/2012	17:56:31	2087	0.0	8.36	1144.7	
10/04/2012	17:56:36					Bump Top Plug
10/04/2012	17:56:36	2034	0.1	8.36	1144.7	
10/04/2012	17:57:31					Bleed Off Check Floats
10/04/2012	17:57:31	2428	0.0	8.36	1144.9	
10/04/2012	17:57:32					Floats Held
10/04/2012	17:57:32	2428	0.0	8.36	1144.9	
10/04/2012	17:58:31	2388	0.0	8.36	1144.9	
10/04/2012	18:00:31	2462	0.0	8.36	1145.0	
10/04/2012	18:02:31	2525	0.0	8.36	1145.0	
10/04/2012	18:04:31	629	0.0	8.36	1145.0	
10/04/2012	18:06:02					2 bbl Back
10/04/2012	18:06:02					Rig Down
10/04/2012	18:06:02	-112	0.4	8.36	1145.5	

Well	Field	Job Start	Customer	Job Number
SG 8513D-25 D SG 851D-25 D	Story Gulch	Oct/04/2012	Encana	C9U4-00202

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
10/04/2012	18:06:07	-112	0.4	8.36	1145.5	

Post Job Summary

Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
4.9		0.0	6.7	1145.6	0.0	46.0	

Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
5017	-112	503					

Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp	Cement Circulated to Surface?	Volume
		235.2 bbl		X	
				Washed Thru Perfs ☐	To

Customer or Authorized Representative	Schlumberger Supervisor	Circulation Lost	Job Completed
Curt Childers	Jordan Moreland/Travis Willardson	-	X -

Schlumberger

Service Quality Evaluation

Client:	Encana
Field:	Story Gulch
Rig:	Patterson 306
Well:	SG 8513D-25 D
Service Line:	Cementing
Job Type:	4 1/2 Production

Service Order #:	
Date:	Oct/04/2012
Operating Time:	0.0
Client Rep:	Encana
Schlumberger Engineer:	Jordan Moreland/Travis Willardson
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	Free of RIRs	5	yes [X] no [ ]	5
1d	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 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:**