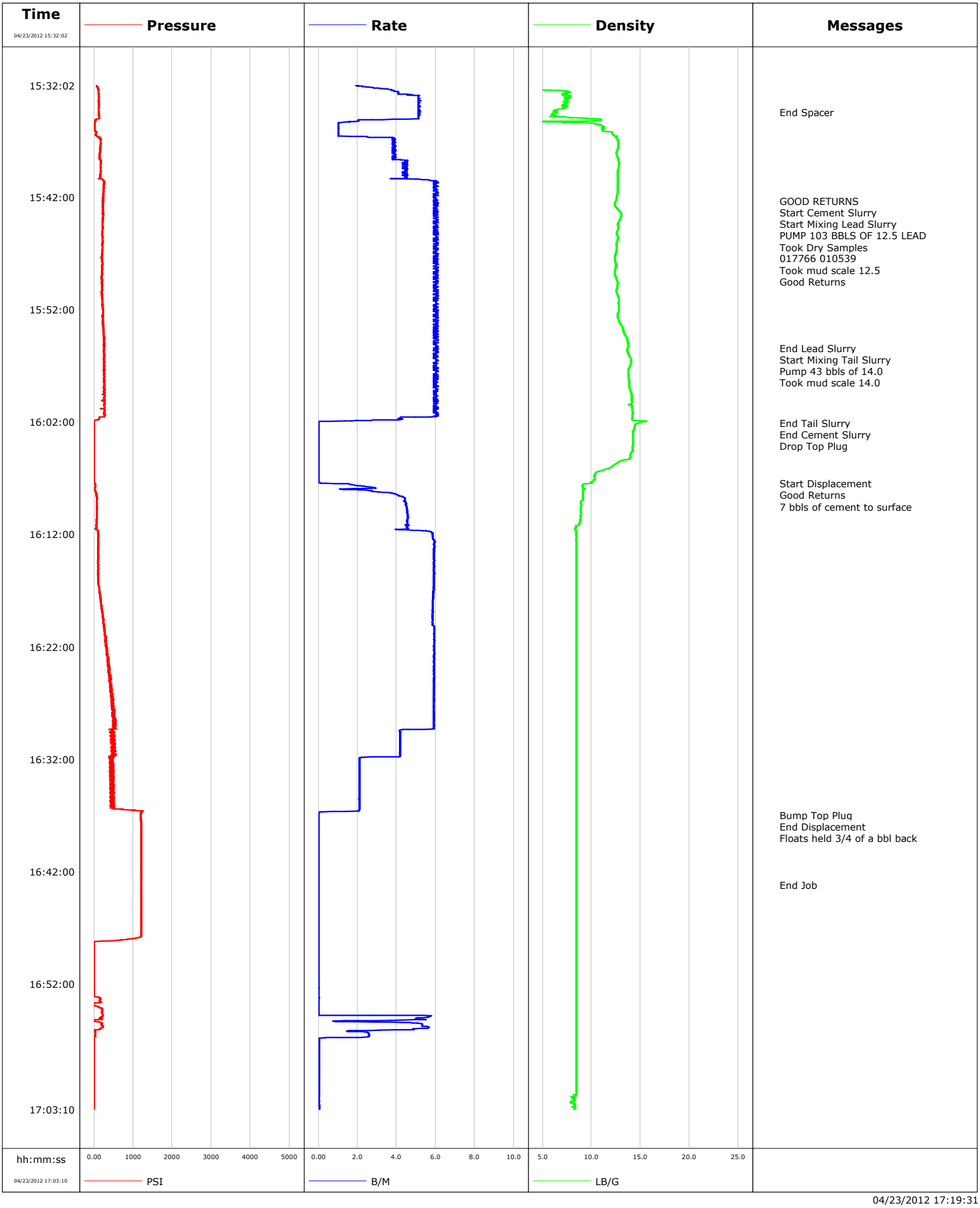
Schlumberger Cementing Job Report

CemCAT v1.3

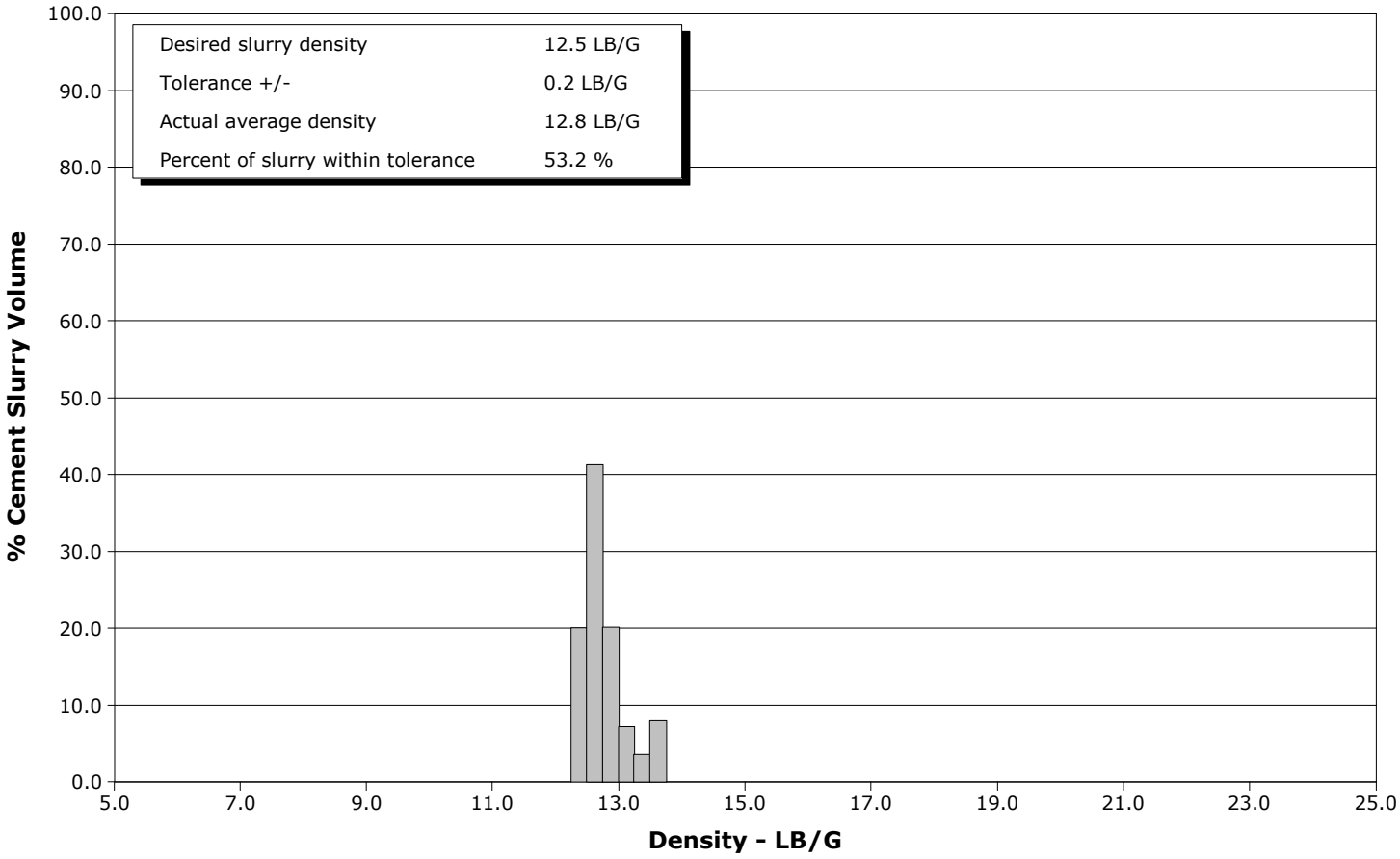
Well	EF11F-27 P	**Client**	ENCANA
Field		**SIR No.**	
Engineer		**Job Type**	SURFACE
Country	United States	**Job Date**	04-23-2012



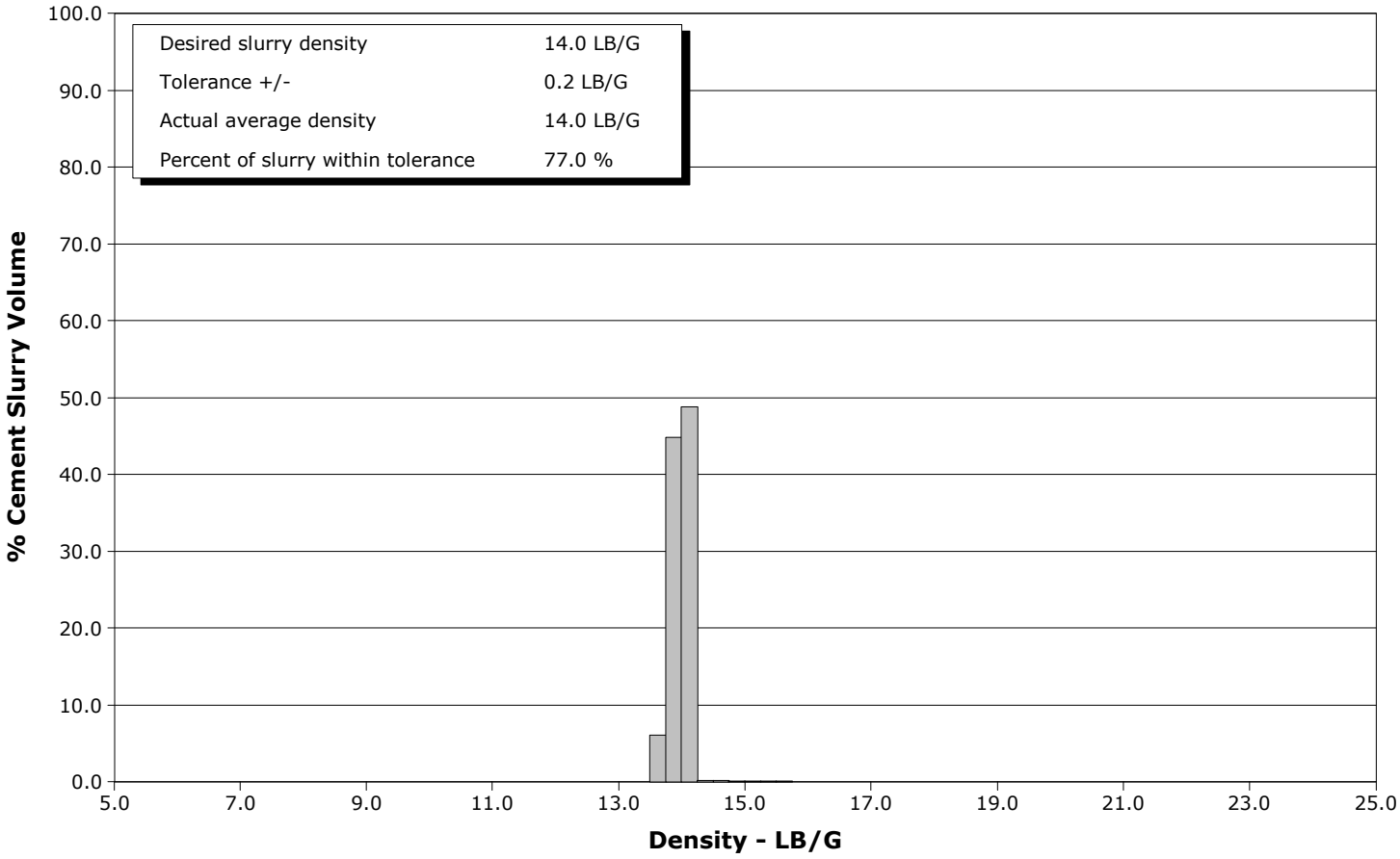
Schlumberger Cementing Qa/Qc Density Report

Well	EF11F-27 P	**Client**	ENCANA
Field		**SIR No.**	
Engineer		**Job Type**	SURFACE
Country	United States	**Job Date**	04-23-2012

Lead Slurry - 04/23/2012 15:42:30 to 04/23/2012 15:55:24



Tail Slurry - 04/23/2012 15:55:33 to 04/23/2012 16:02:04



Schlumberger

Cementing Service Report

Customer	Job Number
ENCANA	759617

Well	Location (legal)	Schlumberger Location	Job Start
EF11F-27 P EF-11F-27P	P27		Apr/23/2012

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
		0 deg	12.3 in	1829.0 ft	1829.0 ft

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

Well Master	API/UWI
0631244188	

Rig Name	Drilled For	Service Via
PATTERSON 303	Gas	Land

Offshore Zone	Well Class	Well Type
	New	Development

Drilling Fluid Type	Max. Density	Plastic Viscosity
Bentonite		

Service Line	Job Type
Cementing	SURFACE

Max. Allowed Tub. Press	Max. Allowed Ann. Press	WH Connection
905 psi		9 5/8

Service Instructions

RIG UP PER STD
FLOW 2 BBLS OF WATER
PRESSURE TEST LINES TO 3000 PSI
PUMP 20 BBLS OF WATER
PUMP 272 SKS OF 12.5 LEAD(102 BBLS)
PUMP 158 SKS OF 14.0 TAIL (43 BBLS)

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	138.0 bbl	None	

Tubing Vol.	Casing Vol.	Annular Vol.	Openhole Vol.
	141.0 bbl	112.0 bbl	263.0 bbl

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

Lift Pressure	905 psi	Shoe Type	Float	Squeeze Type	
Pipe Rotated	☐	Pipe Reciprocated	☐	Shoe Depth	1829.0 ft	Tool Type	
No. Centralizers	6	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	Float	Tail Pipe Depth	
Apr/23/2012	Apr/23/2012	Apr/23/2012			Collar Depth	1782.0 ft	Sqz. Total Vol.	

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
04/23/2012	14:21:14					Started Acquisition
04/23/2012	15:07:56					Start Job
04/23/2012	15:24:03					Pressure Test Lines
04/23/2012	15:31:21					Start Pumping Spacer
04/23/2012	15:31:23					PUMP 20 BBLS OF FRESH WATER
04/23/2012	15:32:02	70	1.8	0.07	0.0	
04/23/2012	15:32:14	91	2.8	0.21	0.5	
04/23/2012	15:32:44	108	4.1	7.24	2.3	
04/23/2012	15:33:14	120	5.1	7.28	4.8	
04/23/2012	15:33:44	119	5.1	7.30	7.3	
04/23/2012	15:34:14	120	5.1	6.39	9.9	
04/23/2012	15:34:23					End Spacer
04/23/2012	15:34:23	124	5.1	6.34	10.6	
04/23/2012	15:34:44	125	5.1	5.97	12.4	
04/23/2012	15:35:14	31	2.0	4.78	14.5	
04/23/2012	15:35:44	20	1.0	11.29	15.0	
04/23/2012	15:36:14	63	1.0	12.11	15.5	
04/23/2012	15:36:44	140	3.8	12.56	16.4	
04/23/2012	15:37:14	172	3.8	12.75	18.3	
04/23/2012	15:37:44	160	3.9	12.65	20.3	
04/23/2012	15:38:14	138	3.9	12.58	22.2	

Well	Field	Job Start	Customer	Job Number
EF11F-27 P EF-11F-27P		Apr/23/2012	ENCANA	759617

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
04/23/2012	15:39:14	167	4.4	12.79	26.4	
04/23/2012	15:39:44	162	4.3	12.66	28.6	
04/23/2012	15:40:14	156	4.4	12.66	30.8	
04/23/2012	15:40:44	249	6.1	12.68	33.6	
04/23/2012	15:41:14	249	6.0	12.69	36.5	
04/23/2012	15:41:44	234	5.9	12.64	39.6	
04/23/2012	15:42:14	241	6.0	12.52	42.5	
04/23/2012	15:42:19					GOOD RETURNS
04/23/2012	15:42:19	234	5.9	12.50	43.0	
04/23/2012	15:42:26					Start Cement Slurry
04/23/2012	15:42:26	240	6.0	12.42	43.7	
04/23/2012	15:42:30					Start Mixing Lead Slurry
04/23/2012	15:42:30	224	6.1	12.38	44.1	
04/23/2012	15:42:38					PUMP 103 BBLS OF 12.5 LEAD
04/23/2012	15:42:38	220	6.0	12.38	44.9	
04/23/2012	15:42:39					Took Dry Samples
04/23/2012	15:42:39	220	6.0	12.38	45.0	
04/23/2012	15:42:44	227	5.9	12.40	45.5	
04/23/2012	15:42:48					017766 010539
04/23/2012	15:42:48					Took mud scale 12.5
04/23/2012	15:42:48	219	6.0	12.44	45.9	
04/23/2012	15:43:14	235	6.1	12.85	48.5	
04/23/2012	15:43:44	227	6.0	12.99	51.5	
04/23/2012	15:44:14	226	6.1	12.74	54.5	
04/23/2012	15:44:44	221	5.9	12.75	57.5	
04/23/2012	15:45:14	216	5.9	12.58	60.5	
04/23/2012	15:45:44	216	6.1	12.68	63.5	
04/23/2012	15:46:11					Good Returns
04/23/2012	15:46:11	205	6.0	12.54	66.3	
04/23/2012	15:46:14	219	6.0	12.55	66.6	
04/23/2012	15:46:44	217	6.0	12.55	69.6	
04/23/2012	15:47:14	219	5.9	12.40	72.6	
04/23/2012	15:47:44	202	6.0	12.42	75.6	
04/23/2012	15:48:14	217	6.1	12.47	78.6	
04/23/2012	15:48:44	206	6.1	12.38	81.6	
04/23/2012	15:49:14	197	6.1	12.53	84.6	
04/23/2012	15:49:44	212	6.0	12.65	87.6	
04/23/2012	15:50:14	210	6.1	12.56	90.6	
04/23/2012	15:50:44	210	6.1	12.69	93.6	
04/23/2012	15:51:14	216	5.9	12.78	96.6	
04/23/2012	15:51:44	224	6.0	12.78	99.6	
04/23/2012	15:52:14	227	6.0	12.72	102.6	
04/23/2012	15:52:44	232	6.1	12.70	105.6	
04/23/2012	15:53:14	227	6.1	12.92	108.6	
04/23/2012	15:53:44	243	6.0	13.23	111.6	
04/23/2012	15:54:14	238	6.0	13.41	114.6	
04/23/2012	15:54:44	266	6.1	13.67	117.6	
04/23/2012	15:55:14	250	6.1	13.73	120.6	
04/23/2012	15:55:24					End Lead Slurry
04/23/2012	15:55:24	248	6.1	13.68	121.6	
04/23/2012	15:55:33					Start Mixing Tail Slurry
04/23/2012	15:55:33	261	6.0	13.66	122.5	
04/23/2012	15:55:36					Pump 43 bbls of 14.0
04/23/2012	15:55:36	251	5.9	13.66	122.8	

Well	Field	Job Start	Customer	Job Number
EF11F-27 P EF-11F-27P		Apr/23/2012	ENCANA	759617

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
04/23/2012	15:55:37	253	5.9	13.66	122.9	
04/23/2012	15:55:44	244	6.1	13.68	123.6	
04/23/2012	15:56:14	258	6.0	13.93	126.6	
04/23/2012	15:56:44	260	5.9	14.02	129.6	
04/23/2012	15:57:14	264	6.1	13.83	132.6	
04/23/2012	15:57:44	245	6.0	13.76	135.6	
04/23/2012	15:58:14	261	6.0	13.83	138.6	
04/23/2012	15:58:44	263	5.9	13.85	141.6	
04/23/2012	15:59:14	256	5.9	14.00	144.6	
04/23/2012	15:59:44	272	6.0	14.07	147.6	
04/23/2012	16:00:14	273	6.0	14.15	150.6	
04/23/2012	16:00:44	262	5.9	14.16	153.6	
04/23/2012	16:01:14	276	6.1	14.21	156.6	
04/23/2012	16:01:44	129	4.3	14.15	159.3	
04/23/2012	16:02:04					End Tail Slurry
04/23/2012	16:02:04	-12	0.0	14.88	159.9	
04/23/2012	16:02:07					End Cement Slurry
04/23/2012	16:02:07	-11	0.0	14.73	159.9	
04/23/2012	16:02:14	-12	0.0	14.46	159.9	
04/23/2012	16:02:27					Drop Top Plug
04/23/2012	16:02:27	-10	0.0	14.38	159.9	
04/23/2012	16:02:44	-9	0.0	14.32	159.9	
04/23/2012	16:03:14	-8	0.0	14.23	159.9	
04/23/2012	16:03:44	-7	0.0	14.22	159.9	
04/23/2012	16:04:14	-4	0.0	14.18	159.9	
04/23/2012	16:04:44	-3	0.0	14.03	159.9	
04/23/2012	16:05:14	-6	0.0	13.91	159.9	
04/23/2012	16:05:44	-5	0.0	12.50	159.9	
04/23/2012	16:06:14	-5	0.0	11.33	159.9	
04/23/2012	16:06:44	-5	0.0	10.35	159.9	
04/23/2012	16:07:14	-5	0.0	10.19	159.9	
04/23/2012	16:07:28					Start Displacement
04/23/2012	16:07:28	17	0.4	9.79	159.9	
04/23/2012	16:07:38					Good Returns
04/23/2012	16:07:38	34	1.9	9.11	160.2	
04/23/2012	16:07:39					7 bbls of cement to surface
04/23/2012	16:07:39	34	2.0	9.09	160.2	
04/23/2012	16:07:44	31	2.4	9.08	160.4	
04/23/2012	16:08:14	45	3.1	9.12	161.6	
04/23/2012	16:08:44	74	4.4	9.11	163.6	
04/23/2012	16:09:14	70	4.5	8.89	165.8	
04/23/2012	16:09:44	71	4.5	8.90	168.1	
04/23/2012	16:10:14	66	4.6	8.88	170.3	
04/23/2012	16:10:44	62	4.5	8.84	172.6	
04/23/2012	16:11:14	57	4.5	8.43	174.9	
04/23/2012	16:11:44	101	5.7	8.42	177.2	
04/23/2012	16:12:14	104	5.9	8.44	180.1	
04/23/2012	16:12:44	112	6.0	8.45	183.1	
04/23/2012	16:13:14	104	5.9	8.45	186.1	
04/23/2012	16:13:44	110	5.9	8.46	189.0	
04/23/2012	16:14:14	105	5.9	8.46	192.0	
04/23/2012	16:14:44	106	5.9	8.46	194.9	
04/23/2012	16:15:14	105	5.9	8.46	197.9	
04/23/2012	16:15:44	102	5.9	8.46	200.8	

Well	Field	Job Start	Customer	Job Number
EF11F-27 P EF-11F-27P		Apr/23/2012	ENCANA	759617

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
04/23/2012	16:16:44	135	5.9	8.46	206.7	
04/23/2012	16:17:14	144	5.9	8.46	209.7	
04/23/2012	16:17:44	165	5.9	8.46	212.6	
04/23/2012	16:18:14	183	5.9	8.46	215.5	
04/23/2012	16:18:44	203	5.8	8.46	218.4	
04/23/2012	16:19:14	215	5.8	8.46	221.4	
04/23/2012	16:19:44	236	5.9	8.46	224.3	
04/23/2012	16:20:14	256	5.9	8.46	227.2	
04/23/2012	16:20:44	274	5.9	8.46	230.2	
04/23/2012	16:21:14	287	5.9	8.46	233.1	
04/23/2012	16:21:44	286	5.9	8.46	236.1	
04/23/2012	16:22:14	341	5.9	8.46	239.0	
04/23/2012	16:22:44	329	5.9	8.46	242.0	
04/23/2012	16:23:14	351	5.9	8.46	245.0	
04/23/2012	16:23:44	379	5.9	8.46	247.9	
04/23/2012	16:24:14	384	5.9	8.46	250.9	
04/23/2012	16:24:44	435	5.9	8.46	253.8	
04/23/2012	16:25:14	395	5.9	8.46	256.8	
04/23/2012	16:25:44	448	5.9	8.46	259.7	
04/23/2012	16:26:14	439	5.9	8.46	262.7	
04/23/2012	16:26:44	447	5.9	8.46	265.6	
04/23/2012	16:27:14	443	5.9	8.46	268.6	
04/23/2012	16:27:44	522	5.9	8.46	271.5	
04/23/2012	16:28:14	488	5.9	8.46	274.5	
04/23/2012	16:28:44	497	5.9	8.46	277.4	
04/23/2012	16:29:14	551	5.9	8.46	280.4	
04/23/2012	16:29:44	431	4.2	8.46	282.7	
04/23/2012	16:30:14	427	4.2	8.46	284.8	
04/23/2012	16:30:44	487	4.2	8.46	286.9	
04/23/2012	16:31:14	457	4.2	8.46	289.0	
04/23/2012	16:31:44	531	4.2	8.46	291.0	
04/23/2012	16:32:14	467	2.1	8.46	292.3	
04/23/2012	16:32:44	507	2.1	8.46	293.3	
04/23/2012	16:33:14	405	2.1	8.46	294.4	
04/23/2012	16:33:44	504	2.1	8.46	295.4	
04/23/2012	16:34:14	410	2.1	8.46	296.4	
04/23/2012	16:34:44	449	2.1	8.46	297.5	
04/23/2012	16:35:14	418	2.1	8.46	298.5	
04/23/2012	16:35:44	517	2.1	8.46	299.6	
04/23/2012	16:36:14	490	2.1	8.46	300.6	
04/23/2012	16:36:44	1214	0.1	8.46	301.5	
04/23/2012	16:36:59					Bump Top Plug
04/23/2012	16:36:59	1198	0.0	8.46	301.5	
04/23/2012	16:37:00					End Displacement
04/23/2012	16:37:00	1198	0.0	8.46	301.5	
04/23/2012	16:37:06					Floats held 3/4 of a bbl back
04/23/2012	16:37:06	1207	0.0	8.46	301.5	
04/23/2012	16:37:14	1201	0.0	8.46	301.5	
04/23/2012	16:37:44	1203	0.0	8.46	301.6	
04/23/2012	16:38:14	1203	0.0	8.46	301.6	
04/23/2012	16:38:44	1204	0.0	8.46	301.6	
04/23/2012	16:39:14	1204	0.0	8.47	301.6	
04/23/2012	16:39:44	1204	0.0	8.46	301.6	
04/23/2012	16:40:14	1205	0.0	8.46	301.6	

Well	Field	Job Start	Customer	Job Number
EF11F-27 P EF-11F-27P		Apr/23/2012	ENCANA	759617

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
04/23/2012	16:41:14	1205	0.0	8.47	301.6	
04/23/2012	16:41:44	1205	0.0	8.47	301.6	
04/23/2012	16:42:14	1206	0.0	8.46	301.6	
04/23/2012	16:42:44	1206	0.0	8.46	301.6	
04/23/2012	16:43:11					End Job
04/23/2012	16:43:11	1207	0.0	8.46	301.6	
04/23/2012	16:43:14	1206	0.0	8.46	301.6	
04/23/2012	16:43:44	1207	0.0	8.46	301.6	
04/23/2012	16:44:14	1206	0.0	8.46	301.6	
04/23/2012	16:44:44	1206	0.0	8.46	301.7	
04/23/2012	16:45:14	1206	0.0	8.46	301.7	
04/23/2012	16:45:44	1207	0.0	8.47	301.7	
04/23/2012	16:46:14	1207	0.0	8.47	301.7	
04/23/2012	16:46:44	1207	0.0	8.47	301.7	
04/23/2012	16:47:14	1207	0.0	8.47	301.7	
04/23/2012	16:47:44	1208	0.0	8.47	301.7	
04/23/2012	16:48:14	97	0.0	8.47	301.7	
04/23/2012	16:48:44	-7	0.0	8.47	301.7	
04/23/2012	16:49:14	-7	0.0	8.47	301.7	
04/23/2012	16:49:44	-7	0.0	8.47	301.7	
04/23/2012	16:50:14	-7	0.0	8.47	301.7	
04/23/2012	16:50:44	-7	0.0	8.47	301.7	
04/23/2012	16:51:14	-8	0.0	8.47	301.7	
04/23/2012	16:51:44	-8	0.0	8.47	301.8	
04/23/2012	16:52:14	-9	0.0	8.47	301.8	
04/23/2012	16:52:44	-9	0.0	8.47	301.8	
04/23/2012	16:53:14	152	0.0	8.47	301.8	
04/23/2012	16:53:44	7	0.0	8.47	301.8	
04/23/2012	16:54:14	213	0.0	8.47	301.8	
04/23/2012	16:54:44	223	0.0	8.47	301.8	
04/23/2012	16:55:14	7	4.0	8.46	304.0	
04/23/2012	16:55:44	207	5.3	8.46	306.0	
04/23/2012	16:56:14	28	1.5	8.44	308.3	
04/23/2012	16:56:44	-16	2.6	8.46	309.5	
04/23/2012	16:57:14	-7	0.0	8.46	309.7	
04/23/2012	16:57:44	-8	0.0	8.46	309.7	
04/23/2012	16:58:14	-7	0.0	8.46	309.7	
04/23/2012	16:58:44	-9	0.0	8.46	309.7	
04/23/2012	16:59:14	-8	0.0	8.46	309.7	
04/23/2012	16:59:44	-9	0.0	8.46	309.8	
04/23/2012	17:00:14	-9	0.0	8.46	309.8	
04/23/2012	17:00:44	-9	0.0	8.46	309.8	
04/23/2012	17:01:14	-8	0.0	8.46	309.8	
04/23/2012	17:01:44	-9	0.0	8.46	309.8	
04/23/2012	17:02:14	-9	0.0	8.12	309.8	

Well	Field	Job Start	Customer	Job Number
EF11F-27 P EF-11F-27P		Apr/23/2012	ENCANA	759617

Post Job Summary

Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
3.6		0.0	6.1	146.0	0.0	20.0	

Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
1265	-10	393	1000				

Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp	Cement Circulated to Surface?	Volume
		138.0 bbl		X	8.0 bbl
				Washed Thru Perfs ☐	To

Customer or Authorized Representative	Schlumberger Supervisor	Circulation Lost	Job Completed
CODY HUSEBY	JUSTIN ZIKA	-	X
		-	-

Schlumberger

Service Quality Evaluation

Client:	ENCANA
Field:	
Rig:	PATTERSON 303
Well:	EF11F-27 P
Service Line:	Cementing
Job Type:	SURFACE

Service Order #:	
Date:	Apr/23/2012
Operating Time:	0.0
Client Rep:	ENCANA
Schlumberger Engineer:	JUSTIN ZIKA
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** ☐ **no** ☒	0
1b	Free of environmental spill or non-compliant discharge	5	**yes** ☐ **no** ☒	0
1c	Free of RIRs	5	**yes** ☐ **no** ☒	0
1d	Wellsite left clean	4	**yes** ☐ **no** ☒	0
			Sub-total	0%

2	**Design / Preparation**			
2a	Program incl. job simulation (CemCADE) & pump schedule / tool hydraulic calcs	3	**yes** ☐ **no** ☒	0
2b	Equipment maintenance schedule completed / Green tagged	2	**yes** ☐ **no** ☒	0
2c	All materials and equipment required for job/contingency checked & on location	2	**yes** ☐ **no** ☒	0
2d	Safety / pre-job meeting conducted with all involved present	2	**yes** ☐ **no** ☒	0
			Sub-total	0%

3	**Execution**			
3a	Lost time < 30 mins	3	**yes** ☐ **no** ☒	0
3b	Equipment pressure tested succesfully	3	**yes** ☐ **no** ☒	0
3c	All key parameters monitored and recorded accurately (Pressure, Rate, Density)	2	**yes** ☐ **no** ☒	0
3d	Plugs / darts released and tested succesfully	2	**yes** ☐ **no** ☒	0
3e	Density variation met expectations	2	**yes** ☐ **no** ☒	0
3f	Personnel performed as per expectations	2	**yes** ☐ **no** ☒	0
3g	Equipment performed as per expectations	2	**yes** ☐ **no** ☒	0
3h	Job pumped per design	3	**yes** ☐ **no** ☒	0
3i	Did job start on time	2	**yes** ☐ **no** ☒	0
3j	Free of Operational failures (screen out, Cementing Example, etc.)	3	**yes** ☐ **no** ☒	0
			Sub-total	0%

4	**Evaluation**			
4a	Main job objective achieved with no consequential non-productive time	10	**yes** ☐ **no** ☒	0
			Sub-total	0%

Total 0%

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

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