

Well Twin Creek 12-4D1

Field Mamm Creek

Engineer Matt Fair/Z. Langsdorf *← Zach*

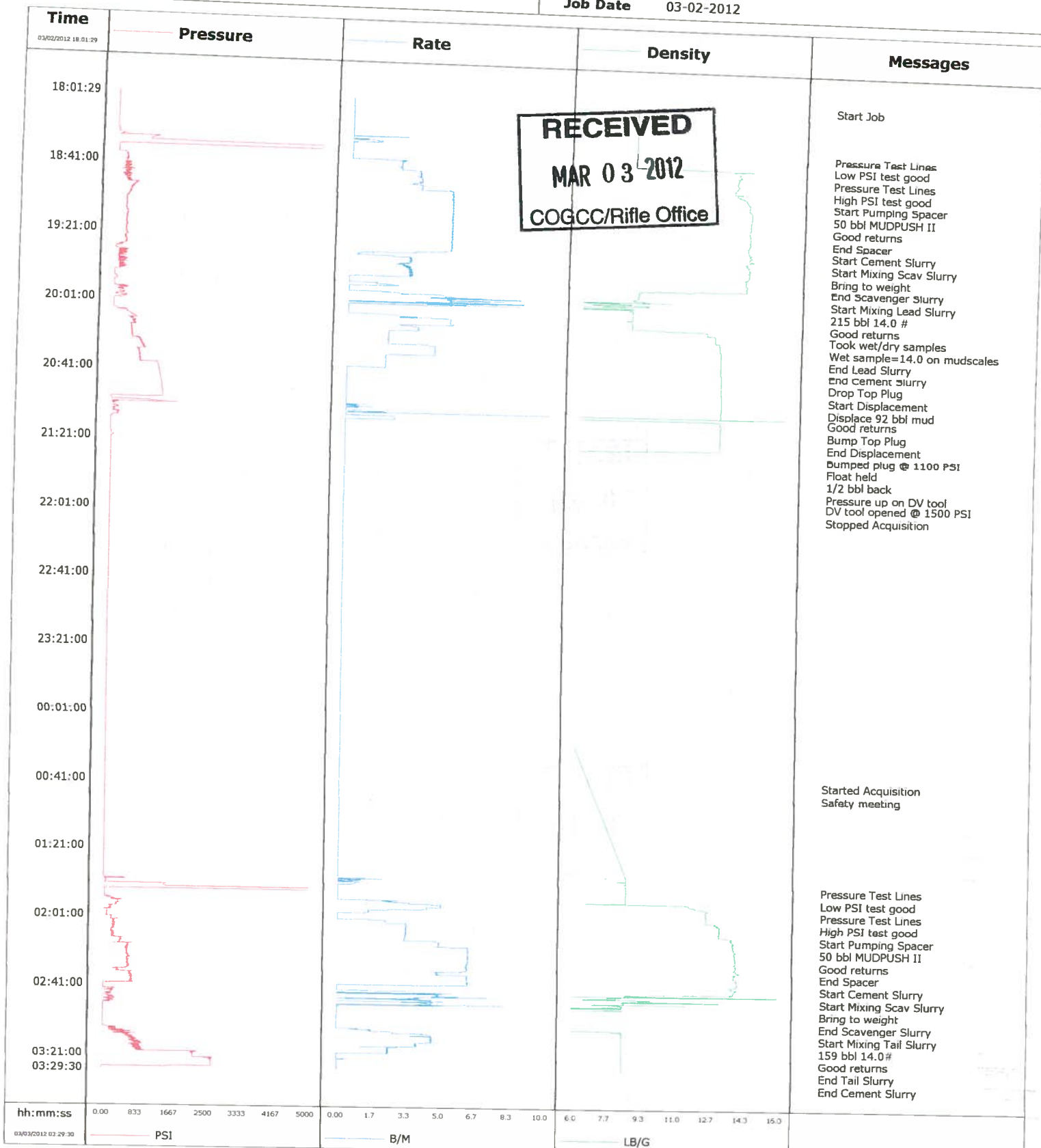
Country United States

Client Encana

SIR No. BQMF-00918

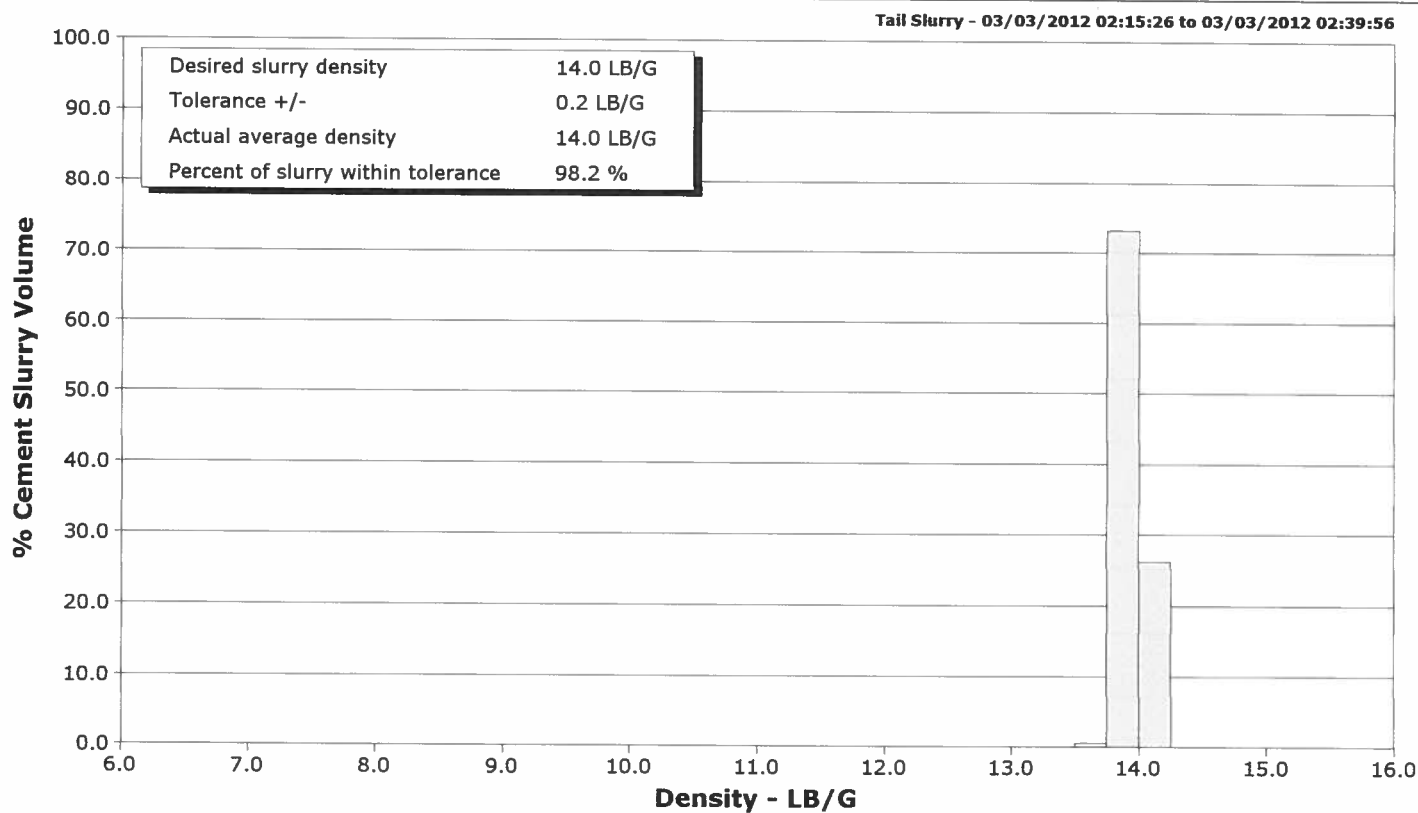
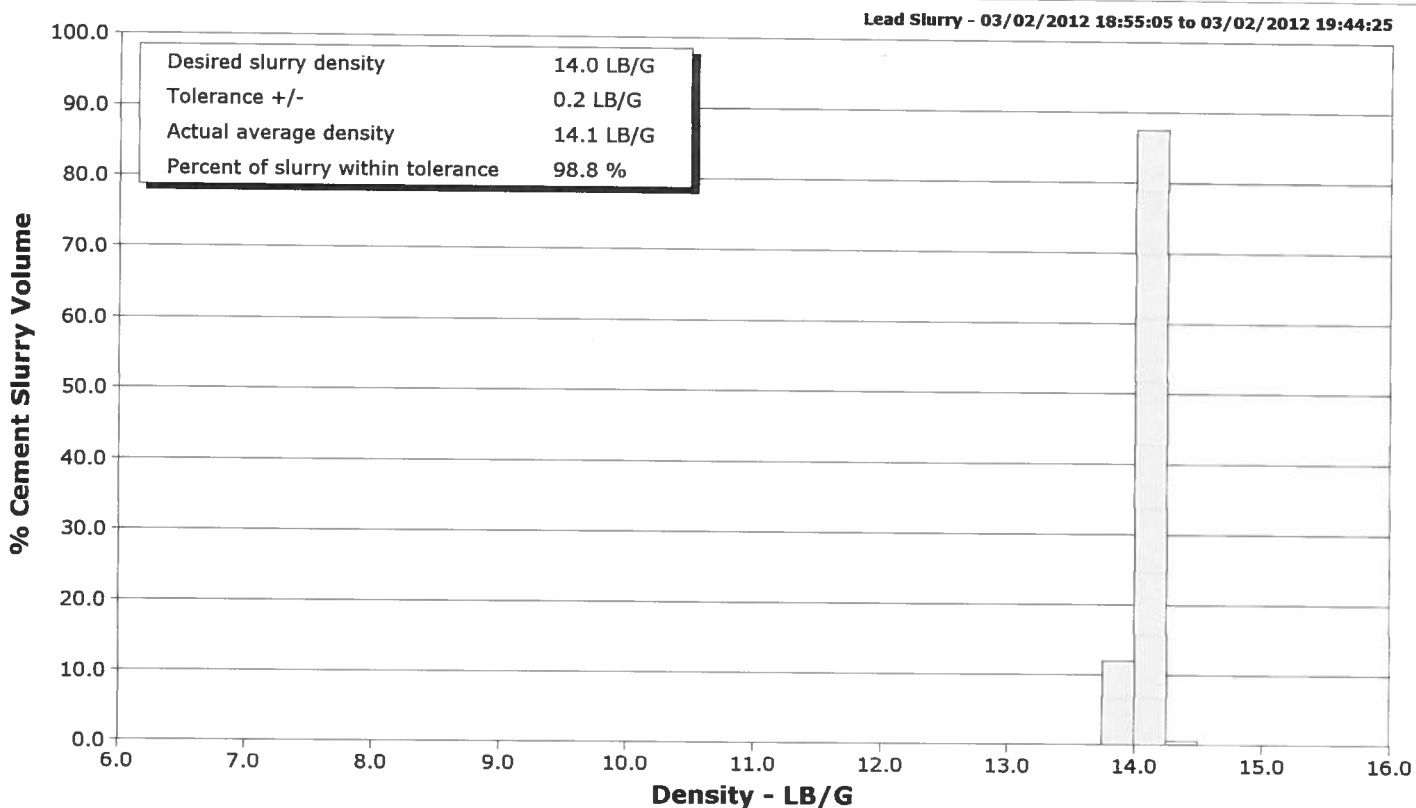
Job Type 2 Stage Production

Job Date 03-02-2012



Well Twin Creek 12-4D1
Field Mamm Creek
Engineer Matt Fair/Z. Langsdorf
Country United States

Client Encana
SIR No. BQMF-00918
Job Type 2 Stage Production
Job Date 03-02-2012



Cementing Service Report

Well		Location (legal)		Customer		Job Number	
Twin Creek 12-4D1				Encana		BQMF-00918	
Field		Formation Name/Type		Deviation		Schlumberger Location	
Mamm Creek		Shale		deg		Mar/02/2012	
County		State/Province		Bit Size		Well MD	
Garfield		Colorado		8.8 in		5957.0 ft	
Well Master		API/UWI		BHP		BHST	
0631250964				psi		160 degF	
Rig Name		Drilled For		BHCT		Pore Press. Gradient	
Nabors M15		Gas		138 degF		lb/gal	
Offshore Zone		Well Class		Service Via		Casing/Liner	
		New		Land		Depth, ft	
		Development				Size, in	
						Weight, lb/ft	
						Grade	
						Thread	
Drilling Fluid Type		Max. Density		Plastic Viscosity		Tubing/Drill Pipe	
Bentonite		12.40 lb/gal		cP		T/D	
Service Line		Job Type		Depth, ft		Size, in	
Cementing		2 Stage Production		5957.0		4.5	
Max. Allowed Tub. Press		Max. Allowed Ann. Press		Weight, lb/ft		Grade	
6350 psi		7780 psi		36.0		N/A	
WH Connection		Single Cement head		11.6		N80	
Service Instructions				Butt			
Stage 1-997 sks/215 bbl							
Stage 2-738 sks/159 bbl							
14.0 EasyBLOCK Yield=1.21							
Perforations/Open Hole							
Top, ft		Bottom, ft		shot/ft		No. of Shots	
ft		ft				Total Interval	
ft		ft				ft	
ft		ft				Diameter	
in							
Treat Down		Displacement		Packer Type		Packer Depth	
Casing		139.0 bbl				ft	
Tubing Vol.		Casing Vol.		Annular Vol.		Openhole Vol.	
bbl		140.0 bbl		329.0 bbl		590.0 bbl	
Casing/Tubing Secured		1 Hole Vol. Circulated prior to Cement		Casing Tools		Squeeze Job	
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		Shoe Type		Squeeze Type	
Lift Pressure		4345 psi		Float			
Pipe Rotated		<input type="checkbox"/>		Shoe Depth		Tool Type	
Pipe Reciprocated		<input type="checkbox"/>		5957.0 ft			
No. Centralizers		Top Plugs		Stage Tool Type		Tool Depth	
		1		DV		ft	
Cement Head Type		Single		Stage Tool Depth		Tail Pipe Size	
				3009.0 ft		in	
Job Scheduled For		Arrived on Location		Collar Type		Tail Pipe Depth	
Mar/02/2012 11:00		Mar/02/2012 11:00		Float		ft	
Leave Location		Mar/02/2012 05:00		Collar Depth		Sqz. Total Vol.	
				5912.0 ft		bbl	
Date	Time 24-hr clock	CPF1_DENSITY LB/G	CPF1_PRESS PSI	CPF1_TTL_RATE B/M	Message		
03/02/2012	18:01:29	8.44	2	0.0	Started Acquisition		
03/02/2012	18:03:09	8.44	2	0.0			
03/02/2012	18:04:49	8.44	2	0.0			
03/02/2012	18:06:29	8.44	3	0.0			
03/02/2012	18:08:09	8.44	3	0.0			
03/02/2012	18:09:49	8.44	4	0.0			
03/02/2012	18:11:29	8.44	4	0.0			
03/02/2012	18:13:09	8.44	5	0.0			
03/02/2012	18:14:49	8.45	5	0.0			
03/02/2012	18:16:29	8.45	6	0.0			
03/02/2012	18:18:09	8.45	5	0.0			
03/02/2012	18:19:49	8.45	6	0.0			
03/02/2012	18:21:29	8.45	6	0.0			
03/02/2012	18:23:09	8.45	3	0.0			
03/02/2012	18:24:49	8.44	21	0.0			
03/02/2012	18:26:29	8.44	138	1.4			
03/02/2012	18:28:09	8.44	866	0.0			
03/02/2012	18:29:49	8.44	5342	0.0			
03/02/2012	18:30:13	8.44	5196	0.0	Pressure Test Lines		
03/02/2012	18:30:14	8.44	5194	0.0	Low PSI test good		
03/02/2012	18:31:15	8.44	5124	0.0	Pressure Test Lines		

Well		Field	Job Start	Customer	Job Number
Twin Creek 12-4D1		Mamm Creek	Mar/02/2012	Encana	BQMF-00918
Date	Time 24-hr clock	CPF1_DENSITY LB/G	CPF1_PRESS PSI	CPF1_TTL_RATE B/M	Message
03/02/2012	18:31:29	8.44	5109	0.0	
03/02/2012	18:33:09	8.44	33	0.0	
03/02/2012	18:34:49	8.44	27	0.0	
03/02/2012	18:36:29	8.44	25	0.0	
03/02/2012	18:36:46	8.44	60	1.0	Start Pumping Spacer
03/02/2012	18:36:48	8.45	65	1.4	50 bbl MUDPUSH II
03/02/2012	18:38:09	13.29	237	2.5	
03/02/2012	18:39:49	13.49	262	2.5	
03/02/2012	18:41:29	13.61	230	2.5	
03/02/2012	18:43:09	13.43	290	3.4	
03/02/2012	18:43:48	13.43	317	3.4	Good returns
03/02/2012	18:44:49	13.42	310	3.4	
03/02/2012	18:46:29	13.49	271	3.4	
03/02/2012	18:48:09	13.37	269	3.5	
03/02/2012	18:49:49	13.30	275	3.5	
03/02/2012	18:51:29	13.43	287	3.5	
03/02/2012	18:53:09	13.72	326	3.4	
03/02/2012	18:53:19	13.72	313	3.5	End Spacer
03/02/2012	18:53:26	13.75	318	3.4	Start Cement Slurry
03/02/2012	18:53:27	13.75	337	3.4	Start Mixing Scav Slurry
03/02/2012	18:53:30	13.76	273	3.4	Bring to weight
03/02/2012	18:54:49	13.89	507	5.0	
03/02/2012	18:55:04	13.91	466	5.0	End Scavenger Slurry
03/02/2012	18:55:05	13.91	476	5.0	Start Mixing Lead Slurry
03/02/2012	18:55:14	13.93	453	5.0	215 bbl 14.0 #
03/02/2012	18:56:29	13.99	416	5.0	
03/02/2012	18:58:09	14.03	367	5.0	
03/02/2012	18:59:49	13.99	341	4.9	
03/02/2012	19:00:40	14.01	313	5.0	Good returns
03/02/2012	19:01:29	14.10	302	5.0	
03/02/2012	19:03:09	14.15	253	5.0	
03/02/2012	19:04:49	14.17	241	5.0	
03/02/2012	19:06:29	14.11	254	5.0	
03/02/2012	19:08:05	14.10	247	5.0	Took wet/dry samples
03/02/2012	19:08:06	14.10	241	5.0	Wet sample=14.0 on mudscales
03/02/2012	19:08:09	14.10	238	5.0	
03/02/2012	19:09:49	14.09	261	4.9	
03/02/2012	19:11:29	14.08	285	5.0	
03/02/2012	19:13:09	14.06	277	5.0	
03/02/2012	19:14:49	14.08	259	5.0	
03/02/2012	19:16:29	14.08	262	5.0	
03/02/2012	19:18:09	14.10	274	4.9	
03/02/2012	19:19:49	14.09	253	5.0	
03/02/2012	19:21:29	14.06	249	4.9	
03/02/2012	19:23:09	14.01	284	5.0	
03/02/2012	19:24:49	14.05	260	5.0	
03/02/2012	19:26:29	14.13	225	5.0	
03/02/2012	19:28:09	14.21	284	5.0	
03/02/2012	19:29:49	14.07	185	4.0	
03/02/2012	19:31:29	13.98	18	0.5	
03/02/2012	19:33:09	14.01	111	3.0	
03/02/2012	19:34:49	14.06	113	3.0	
03/02/2012	19:36:29	14.07	89	2.9	
03/02/2012	19:38:09	14.08	102	2.6	

Well		Field	Job Start	Customer	Job Number
Twin Creek 12-4D1		Mamm Creek	Mar/02/2012	Encana	BQMF-00918
Date	Time 24-hr clock	CPF1_DENSITY LB/G	CPF1_PRESS PSI	CPF1_TTL_RATE B/M	Message
03/02/2012	19:41:29	13.96	188	3.0	
03/02/2012	19:43:09	13.94	111	3.0	
03/02/2012	19:44:25	13.96	25	2.0	End Lead Slurry
03/02/2012	19:44:49	14.02	16	0.0	
03/02/2012	19:46:29	14.00	9	0.0	
03/02/2012	19:48:09	13.99	10	0.0	
03/02/2012	19:49:49	9.00	80	2.1	
03/02/2012	19:51:29	8.74	11	0.0	
03/02/2012	19:53:09	8.68	8	0.0	
03/02/2012	19:54:49	8.48	88	2.6	
03/02/2012	19:56:29	7.01	143	6.0	
03/02/2012	19:58:09	9.16	247	5.0	
03/02/2012	19:59:49	8.47	302	5.0	
03/02/2012	20:01:29	8.45	25	0.0	
03/02/2012	20:03:09	8.45	7	0.0	
03/02/2012	20:04:49	8.44	9	0.0	
03/02/2012	20:06:29	8.44	9	0.0	
03/02/2012	20:07:58	8.43	266	2.5	Drop Top Plug
03/02/2012	20:07:59	8.43	266	2.5	Start Displacement
03/02/2012	20:08:00	8.43	297	2.5	Displace 92 bbl mud
03/02/2012	20:08:09	8.43	199	2.5	
03/02/2012	20:09:49	8.43	384	5.0	
03/02/2012	20:11:29	8.43	512	5.0	
03/02/2012	20:13:09	12.09	429	2.6	
03/02/2012	20:14:49	12.13	484	3.5	
03/02/2012	20:16:29	12.55	425	2.2	
03/02/2012	20:18:09	12.55	453	2.0	
03/02/2012	20:19:49	12.75	453	2.0	
03/02/2012	20:21:25	12.76	470	2.0	Good returns
03/02/2012	20:21:29	12.76	469	2.0	
03/02/2012	20:23:09	12.77	497	2.0	
03/02/2012	20:24:49	12.82	678	4.0	
03/02/2012	20:26:29	12.81	719	4.3	
03/02/2012	20:28:09	12.82	740	4.3	
03/02/2012	20:29:49	12.82	776	4.3	
03/02/2012	20:31:29	12.82	659	1.9	
03/02/2012	20:33:09	12.82	682	1.9	
03/02/2012	20:34:49	12.82	676	1.9	
03/02/2012	20:36:29	12.82	687	1.9	
03/02/2012	20:38:06	12.83	1101	1.0	Bump Top Plug
03/02/2012	20:38:07	12.86	1101	0.4	Bumped plug @ 1100 PSI
03/02/2012	20:38:09	12.86	1126	0.2	
03/02/2012	20:39:49	12.88	1125	0.0	
03/02/2012	20:41:29	12.88	1144	0.0	
03/02/2012	20:43:09	12.88	1161	0.0	
03/02/2012	20:44:49	12.88	1177	0.0	
03/02/2012	20:46:29	12.88	1191	0.0	
03/02/2012	20:48:09	12.89	1205	0.0	
03/02/2012	20:49:49	12.89	1217	0.0	
03/02/2012	20:51:29	12.89	1228	0.0	
03/02/2012	20:53:09	12.89	1239	0.0	
03/02/2012	20:54:49	12.89	1249	0.0	
03/02/2012	20:56:29	12.89	1256	0.0	
03/02/2012	20:58:09	12.89	1153	0.0	

Well		Field	Job Start	Customer	Job Number
Twin Creek 12-4D1		Mamm Creek	Mar/02/2012	Encana	BQMF-00918
Date	Time 24-hr clock	CPF1_DENSITY LB/G	CPF1_PRESS PSI	CPF1_TTL_RATE B/M	Message
03/02/2012	20:59:07	12.89	3	0.0	
03/02/2012	20:59:40	12.89	3	0.0	1/2 bbl back
03/02/2012	20:59:49	12.89	3	0.0	Pressure up on DV tool
03/02/2012	21:01:26	12.84	18	1.3	DV tool opened @ 1500 PSI
03/02/2012	21:01:29	12.85	18	0.9	
03/02/2012	21:03:09	12.88	138	0.0	
03/02/2012	21:04:49	12.80	186	2.0	
03/02/2012	21:06:29	7.45	90	0.5	
03/02/2012	21:08:09	12.82	159	2.4	
03/02/2012	21:09:49	12.87	32	0.0	
03/02/2012	21:11:29	12.86	12	0.0	
03/02/2012	21:13:09	12.85	11	0.0	
03/02/2012	21:14:49	12.85	11	0.0	
03/02/2012	21:16:29	12.85	10	0.0	
03/02/2012	21:18:09	12.85	9	0.0	
03/02/2012	21:19:49	12.85	8	0.0	
03/02/2012	21:21:29	12.85	3	0.0	
03/02/2012	21:23:09	12.85	4	0.0	
03/03/2012	01:36:29	8.63	3	0.0	
03/03/2012	01:38:09	8.64	7	0.0	
03/03/2012	01:39:49	8.62	64	1.1	
03/03/2012	01:41:29	8.61	48	0.0	
03/03/2012	01:43:09	8.61	1453	0.0	
03/03/2012	01:43:31	8.61	1498	0.0	Pressure Test Lines
03/03/2012	01:43:32	8.61	1497	0.0	Low PSI test good
03/03/2012	01:44:33	8.61	5058	0.0	Pressure Test Lines
03/03/2012	01:44:34	8.61	5057	0.0	High PSI test good
03/03/2012	01:44:49	8.61	5047	0.0	
03/03/2012	01:46:29	8.61	33	0.0	
03/03/2012	01:48:09	8.60	32	0.0	
03/03/2012	01:49:49	8.60	31	0.0	
03/03/2012	01:50:12	8.60	60	0.0	Start Pumping Spacer
03/03/2012	01:50:16	8.58	56	1.2	50 bbl MUDPUSH II
03/03/2012	01:51:29	11.68	189	2.5	
03/03/2012	01:53:09	12.09	339	5.0	
03/03/2012	01:54:49	12.54	316	4.4	
03/03/2012	01:56:29	12.51	153	1.5	
03/03/2012	01:57:02	12.51	174	1.5	Good returns
03/03/2012	01:58:09	12.54	93	0.0	
03/03/2012	01:59:49	12.53	89	0.0	
03/03/2012	02:01:29	12.52	88	0.0	
03/03/2012	02:03:09	13.04	206	2.3	
03/03/2012	02:04:49	13.18	235	3.3	
03/03/2012	02:06:29	13.16	235	3.3	
03/03/2012	02:08:09	13.19	266	3.3	
03/03/2012	02:09:49	13.46	231	3.3	
03/03/2012	02:10:51	13.87	212	3.3	End Spacer
03/03/2012	02:10:55	13.77	267	3.3	Start Cement Slurry
03/03/2012	02:10:57	13.76	236	3.3	Start Mixing Scav Slurry
03/03/2012	02:10:58	13.76	236	3.3	Bring to weight
03/03/2012	02:11:29	13.71	218	3.3	
03/03/2012	02:13:09	13.91	204	3.3	
03/03/2012	02:14:49	13.81	438	5.0	
03/03/2012	02:15:24	13.86	401	5.0	End Scavenger Slurry

Well		Field	Job Start	Customer	Job Number
Twin Creek 12-4D1		Mamm Creek	Mar/02/2012	Encana	BQMF-00918
Date	Time 24-hr clock	CPF1_DENSITY LB/G	CPF1_PRESS PSI	CPF1_TTL_RATE B/H	Message
03/03/2012	02:15:28	13.85	446	5.0	159 bbl 14.0#
03/03/2012	02:15:48	13.85	390	5.0	Good returns
03/03/2012	02:16:29	13.87	383	5.0	
03/03/2012	02:18:09	13.96	584	6.4	
03/03/2012	02:19:49	13.92	587	6.4	
03/03/2012	02:21:29	13.94	556	6.4	
03/03/2012	02:23:09	13.95	581	6.4	
03/03/2012	02:24:49	13.99	643	6.4	
03/03/2012	02:26:29	13.97	612	6.4	
03/03/2012	02:28:09	13.93	614	6.3	
03/03/2012	02:29:49	14.02	617	6.4	
03/03/2012	02:31:29	13.93	367	4.8	
03/03/2012	02:33:09	13.90	383	4.9	
03/03/2012	02:34:49	14.00	634	6.3	
03/03/2012	02:36:29	14.08	655	6.3	
03/03/2012	02:38:09	13.99	671	6.3	
03/03/2012	02:39:49	13.82	737	6.4	
03/03/2012	02:39:56	13.81	71	4.1	End Tail Slurry
03/03/2012	02:39:59	14.12	47	1.9	End Cement Slurry
03/03/2012	02:41:29	13.89	22	0.0	
03/03/2012	02:43:09	11.68	75	1.5	
03/03/2012	02:44:49	8.44	238	4.9	
03/03/2012	02:46:29	9.81	103	4.1	
03/03/2012	02:48:09	8.49	230	4.5	
03/03/2012	02:49:49	8.27	124	4.4	
03/03/2012	02:51:29	6.44	27	1.4	
03/03/2012	02:53:09	0.01	14	0.0	
03/03/2012	02:54:49	0.01	17	0.0	
03/03/2012	02:56:29	0.01	19	0.0	
03/03/2012	02:58:09	0.01	19	0.0	
03/03/2012	02:59:49	0.01	19	0.0	
03/03/2012	03:01:29	0.01	18	0.0	
03/03/2012	03:03:09	0.02	19	0.0	
03/03/2012	03:04:49	1.26	19	0.0	
03/03/2012	03:05:17	8.46	221	0.7	Drop Top Plug
03/03/2012	03:05:18	8.46	194	0.7	Start Displacement
03/03/2012	03:06:29	8.46	174	1.7	
03/03/2012	03:08:09	8.47	519	4.2	
03/03/2012	03:08:28	8.47	532	4.7	Displace 47'bbl H2O
03/03/2012	03:09:30	8.47	651	4.7	Good returns
03/03/2012	03:09:49	8.47	537	4.6	
03/03/2012	03:11:29	8.47	785	4.6	
03/03/2012	03:13:09	8.47	720	3.9	
03/03/2012	03:14:49	8.47	821	3.9	
03/03/2012	03:16:29	8.47	814	2.5	
03/03/2012	03:18:09	8.47	829	2.5	
03/03/2012	03:19:21	8.47	2285	0.2	Bump Top Plug
03/03/2012	03:19:25	8.47	2319	0.0	Bumped plug @ 2200 PSI
03/03/2012	03:19:49	8.47	2252	0.0	
03/03/2012	03:21:29	8.47	2229	0.0	
03/03/2012	03:22:50	8.47	2547	0.5	Pressure up to 2700 PSI
03/03/2012	03:23:09	8.47	2684	0.0	
03/03/2012	03:24:49	8.47	2664	0.0	
03/03/2012	03:26:29	8.47	2671	0.0	

Well Twin Creek 12-4D1		Field Mamm Creek		Job Start Mar/02/2012		Customer Encana		Job Number BQMF-00918	
Date	Time 24-hr clock	CPF1_DENSITY LB/G	CPF1_PRESS PSI	CPF1_TTL_RATE B/M		Message			
03/03/2012	03:29:03	8.47	9	0.0		Float held			

Post Job Summary

Average Pump Rates, bbl/min					Volume of Fluid Injected, bbl			
Slurry 3.8	N2	Mud	Maximum Rate 8.1	Total Slurry 374.0	Mud 0.0	Spacer 101.0	N2	
Treating Pressure Summary, psi					Breakdown Fluid			
Maximum 5133	Final 9	Average 444	Bump Plug to 1100	Breakdown	Type	Volume bbl	Density lb/gal	
Avg. N2 Percent %	Designed Slurry Volume 374.0 bbl		Displacement 130.5 bbl	Mix Water Temp 65 degF	Cement Circulated to Surface? <input type="checkbox"/>	Volume bbl		
					Washed Thru Perfs <input type="checkbox"/>	To ft		
Customer or Authorized Representative Tony Ketterling			Schlumberger Supervisor Matt Fair/Z. Langsdorf			Circulation Lost <input type="checkbox"/>	Job Completed <input checked="" type="checkbox"/>	
						-	-	



Service Quality Evaluation

Client:	Encana
Field:	Mamm Creek
Rig:	Nabors M15
Well:	Twin Creek 12-4D1
Service Line:	Cementing
Job Type:	2 Stage Production

Service Order #:	
Date:	Mar/02/2012
Operating Time (hh:mm):	00:00
Client Rep:	Tony Ketterling
Schlumberger Engineer:	Matt Fair/Z. Langsdorf
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 <input checked="" type="checkbox"/>	no <input type="checkbox"/>	5
1b	Free of environmental spill or non-compliant discharge	5	yes <input checked="" type="checkbox"/>	no <input type="checkbox"/>	5
1c	Wellsite left clean	4	yes <input checked="" type="checkbox"/>	no <input type="checkbox"/>	4
Sub-total					100%

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

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

4	Evaluation				
4a	Main job objective achieved with no consequential non-productive time	10	yes <input checked="" type="checkbox"/>	no <input type="checkbox"/>	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: