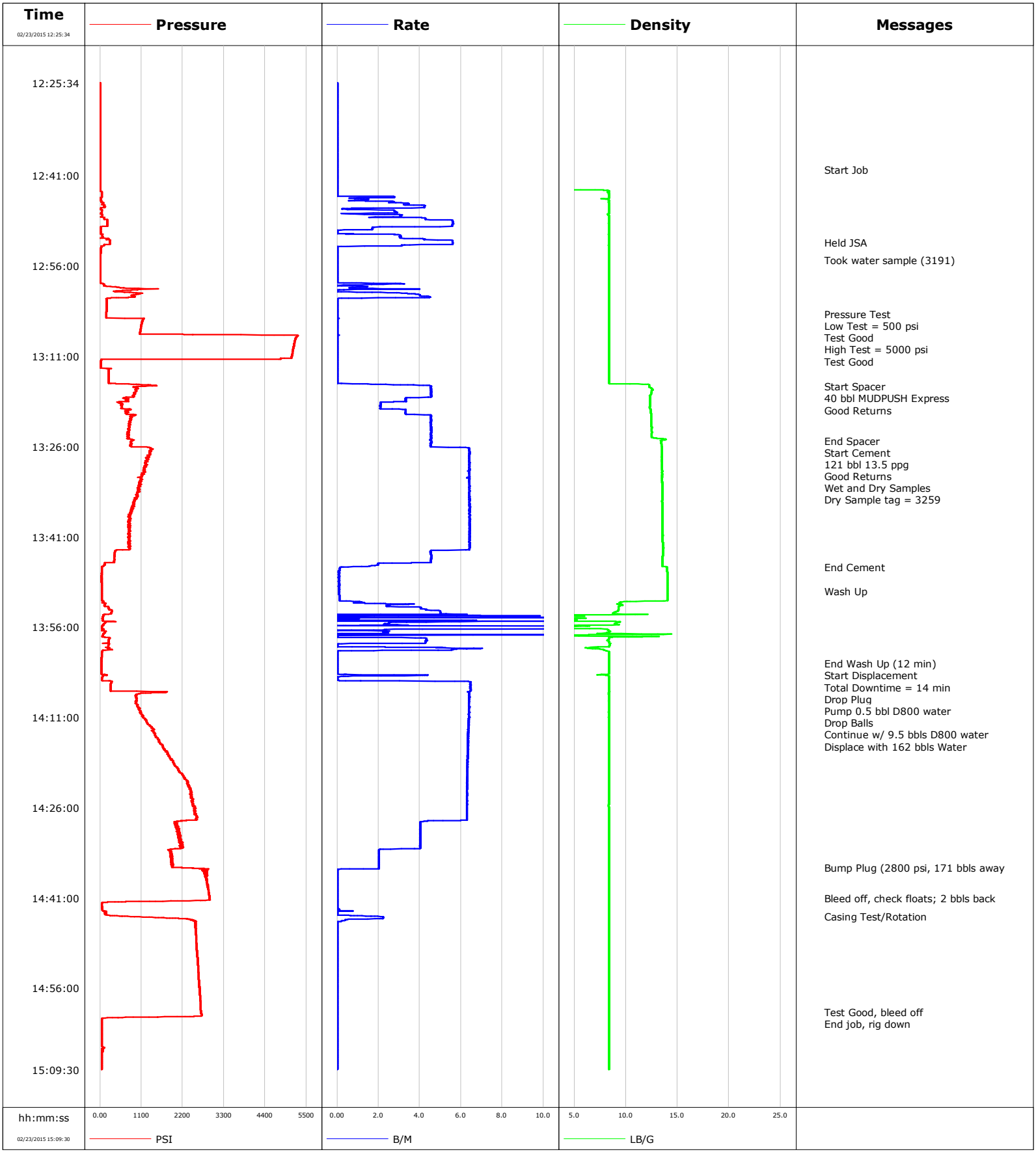
Schlumberger

Cementing Job Report

CemCAT v1.6

Well	Ruhl 1J-32H	**Client**	Encana
Field	DJ	**SIR No.**	D8FO-00122
Engineer	Meaghan Langley	**Job Type**	4 1/2 Production
Country	United States	**Job Date**	2/23/2015



Schlumberger Cementing Service Report

Customer	Job Number
Encana	D8FO-00122

Well	Location (legal)	Schlumberger Location	Job Start
Ruhl 1J-32H 0631588852	Ensign 135	Cheyenne	Feb/23/2015

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
DJ	Shale	deg	6.1 in	11530.0 ft	ft

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
Weld	Colorado	psi	212 degF	212 degF	lb/gal

Well Master	API/UWI
05123402760000	05123402760000

Rig Name	Drilled For	Service Via
Ensign 135	Oil	Land

Offshore Zone	Well Class	Well Type
	New	Development

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

Service Line	Job Type
Cementing	4 1/2 Production

Max. Allowed Tub. Press	Max. Allowed Ann. Press	WH Connection
psi	psi	Double Cement head

Service Instructions

Rates and Densities Checked
40 bbl MUDPUSH Express, 12.5 ppg
121 bbl 13.5 Slurry
172 bbl Displacement

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
7525.0	7.0	26.0	P110	
11530.0	4.5	13.5	P110	

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
	bbl		ft

Tubing Vol.	Casing Vol.	Annular Vol.	Openhole Vol.
bbl	bbl	bbl	bbl

Casing/Tubing Secured	1 Hole Vol. Circulated prior to Cement	Lift Pressure	Pipe Rotated	Pipe Reciprocated	No. Centralizers	Top Plugs	Bottom Plugs	Cement Head Type
X	X	psi	X			1		Double

Job Scheduled For	Arrived on Location	Leave Location
Feb/23/2015	Feb/23/2015	Feb/23/2015

Casing Tools		Squeeze Job	
Shoe Type	Float	Squeeze Type	
Shoe Depth	11530.0 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	11477.0 ft	Sqz. Total Vol.	bbl

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
02/23/2015	12:25:34	0	0.0	0.04	0.0	Started Acquisition
02/23/2015	12:27:34	0	0.0	0.03	0.0	
02/23/2015	12:29:34	1	0.0	0.04	0.0	
02/23/2015	12:31:34	1	0.0	0.04	0.0	
02/23/2015	12:33:34	2	0.0	0.03	0.0	
02/23/2015	12:35:34	2	0.0	0.03	0.0	
02/23/2015	12:37:34	3	0.0	0.04	0.0	
02/23/2015	12:39:34	3	0.0	0.04	0.0	
02/23/2015	12:40:00	3	0.0	0.04	0.0	Start Job
02/23/2015	12:41:34	3	0.0	0.03	0.0	
02/23/2015	12:43:34	12	0.0	8.24	0.0	
02/23/2015	12:45:34	75	3.4	8.36	2.2	
02/23/2015	12:47:34	62	3.1	8.32	7.6	
02/23/2015	12:49:34	24	1.7	8.37	16.9	
02/23/2015	12:51:34	184	4.2	8.37	20.4	
02/23/2015	12:52:00	257	5.6	8.37	22.7	Held JSA
02/23/2015	12:53:34	15	0.0	8.36	26.1	
02/23/2015	12:55:00	11	0.0	8.36	0.0	Took water sample (3191)
02/23/2015	12:55:34	11	0.0	8.36	0.0	
02/23/2015	12:57:34	11	0.0	8.36	0.0	
02/23/2015	12:59:34	520	0.7	8.36	1.0	

Well	Field	Job Start	Customer	Job Number
Ruhl 1J-32H 0631588852	DJ	Feb/23/2015	Encana	D8FO-00122

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
02/23/2015	13:03:34	171	0.0	8.36	5.3	
02/23/2015	13:04:00	169	0.0	8.36	5.3	Pressure Test
02/23/2015	13:05:00	1134	0.0	8.36	5.4	Low Test = 500 psi
02/23/2015	13:05:34	1110	0.0	8.36	5.4	
02/23/2015	13:07:34	5266	0.0	8.37	5.4	
02/23/2015	13:09:00	5169	0.0	8.36	5.4	High Test = 5000 psi
02/23/2015	13:09:34	5149	0.0	8.36	5.4	
02/23/2015	13:11:34	32	0.0	8.36	5.4	
02/23/2015	13:13:34	230	0.0	8.37	0.0	
02/23/2015	13:15:34	580	1.1	9.10	0.0	
02/23/2015	13:16:00	1024	4.6	12.25	1.5	Start Spacer
02/23/2015	13:17:00	921	4.5	12.49	6.0	40 bbl MUDPUSH Express
02/23/2015	13:17:34	903	4.6	12.32	8.6	
02/23/2015	13:19:34	574	2.1	12.31	14.4	
02/23/2015	13:21:34	823	4.6	12.44	21.8	
02/23/2015	13:23:34	763	4.6	12.51	30.9	
02/23/2015	13:25:00	853	4.5	13.37	37.4	End Spacer
02/23/2015	13:25:34	823	4.5	13.44	40.0	
02/23/2015	13:26:00	835	4.5	13.47	42.0	Start Cement
02/23/2015	13:27:34	1303	6.4	13.48	51.8	
02/23/2015	13:28:00	1259	6.4	13.47	54.5	121 bbl 13.5 ppg
02/23/2015	13:29:00	1245	6.4	13.51	60.9	Good Returns
02/23/2015	13:29:34	1173	6.4	13.51	64.6	
02/23/2015	13:30:00	1189	6.4	13.52	67.3	Wet and Dry Samples
02/23/2015	13:31:34	1087	6.4	13.52	77.3	
02/23/2015	13:33:34	1037	6.4	13.53	90.2	
02/23/2015	13:35:34	886	6.4	13.53	103.0	
02/23/2015	13:37:34	782	6.4	13.53	115.8	
02/23/2015	13:39:34	793	6.4	13.55	128.6	
02/23/2015	13:41:34	764	6.4	13.54	141.5	
02/23/2015	13:43:34	394	4.5	13.59	153.6	
02/23/2015	13:45:34	130	2.0	13.55	162.1	
02/23/2015	13:46:00	43	0.3	13.97	162.8	End Cement
02/23/2015	13:47:34	40	0.1	14.02	163.0	
02/23/2015	13:49:34	40	0.1	14.03	163.1	
02/23/2015	13:50:00	40	0.1	14.03	163.2	Wash Up
02/23/2015	13:51:34	40	0.1	14.03	163.3	
02/23/2015	13:53:34	302	5.0	8.87	169.4	
02/23/2015	13:55:34	88	2.3	9.22	176.1	
02/23/2015	13:57:34	54	0.0	12.52	191.7	
02/23/2015	13:59:34	223	7.0	6.79	197.3	
02/23/2015	14:01:34	39	0.0	8.36	0.0	
02/23/2015	14:02:00	39	0.0	8.36	0.0	End Wash Up (12 min)
02/23/2015	14:03:34	39	0.0	8.35	0.0	
02/23/2015	14:04:00	178	4.4	8.14	0.4	Start Displacement
02/23/2015	14:05:00	309	6.2	8.36	1.2	Pump 0.5 bbl D800 water
02/23/2015	14:05:34	282	6.5	8.36	4.8	
02/23/2015	14:06:00	284	6.5	8.37	7.6	Continue w/ 9.5 bbls D800 water
02/23/2015	14:07:00	1087	6.4	8.35	14.1	Displace with 162 bbls Water
02/23/2015	14:07:34	974	6.4	8.35	17.7	
02/23/2015	14:09:34	1034	6.4	8.36	30.4	
02/23/2015	14:11:34	1231	6.4	8.35	43.2	
02/23/2015	14:13:34	1429	6.3	8.35	55.9	
02/23/2015	14:15:34	1660	6.3	8.35	68.6	

Well	Field	Job Start	Customer	Job Number
Ruhl 1J-32H 0631588852	DJ	Feb/23/2015	Encana	D8FO-00122

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
02/23/2015	14:19:34	2084	6.3	8.35	93.9	
02/23/2015	14:21:34	2309	6.3	8.35	106.5	
02/23/2015	14:23:34	2442	6.3	8.35	119.1	
02/23/2015	14:25:34	2474	6.3	8.34	131.6	
02/23/2015	14:27:34	2585	6.3	8.35	144.2	
02/23/2015	14:29:34	2097	4.0	8.35	153.6	
02/23/2015	14:31:34	2121	4.0	8.35	161.6	
02/23/2015	14:33:34	1867	2.0	8.35	168.2	
02/23/2015	14:35:34	1900	2.0	8.35	172.3	
02/23/2015	14:36:00	2446	2.0	8.35	173.2	Bump Plug (2800 psi, 171 bbls away
02/23/2015	14:37:34	2806	0.0	8.35	173.5	
02/23/2015	14:39:34	2875	0.0	8.35	173.5	
02/23/2015	14:41:00	2915	0.0	8.36	173.5	Bleed off, check floats; 2 bbls back
02/23/2015	14:41:34	1322	0.0	8.36	173.5	
02/23/2015	14:43:34	132	0.0	8.36	173.6	
02/23/2015	14:44:00	592	1.6	8.36	173.8	Casing Test/Rotation
02/23/2015	14:45:34	2560	0.0	8.35	175.0	
02/23/2015	14:47:34	2558	0.0	8.35	175.0	
02/23/2015	14:49:34	2578	0.0	8.35	175.0	
02/23/2015	14:51:34	2601	0.0	8.35	175.0	
02/23/2015	14:53:34	2620	0.0	8.36	175.0	
02/23/2015	14:55:34	2642	0.0	8.36	175.0	
02/23/2015	14:57:34	2665	0.0	8.36	175.0	
02/23/2015	14:59:34	2682	0.0	8.36	175.0	
02/23/2015	15:00:00	2693	0.0	8.36	175.0	Test Good, bleed off
02/23/2015	15:01:00	54	0.0	8.36	175.0	End job, rig down
02/23/2015	15:01:34	51	0.0	8.36	175.0	
02/23/2015	15:03:34	49	0.0	8.36	175.0	
02/23/2015	15:05:34	48	0.0	8.36	175.0	

Post Job Summary

Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2

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

Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp		
%	0.0 bbl	bbl	65 degF	Cement Circulated to Surface? [X]	Volume bbl
				Washed Thru Perfs [ ]	To ft

Customer or Authorized Representative	Schlumberger Supervisor	Circulation Lost	Job Completed
	Meaghan Langley	-	- [X]

Schlumberger Service Quality Evaluation

Client:	Encana
Field:	DJ
Rig:	Ensign 135
Well:	Ruhl 1J-32H
Service Line:	Cementing
Job Type:	4 1/2 Production

Service Order #:	
Date:	Feb/23/2015
Operating Time (hh:mm):	00:00
Client Rep:	
Schlumberger Engineer:	Meaghan Langley
Schlumberger FSM:	Daniel Joelson

Main Objective: Cement 4 1/2 Production

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:**