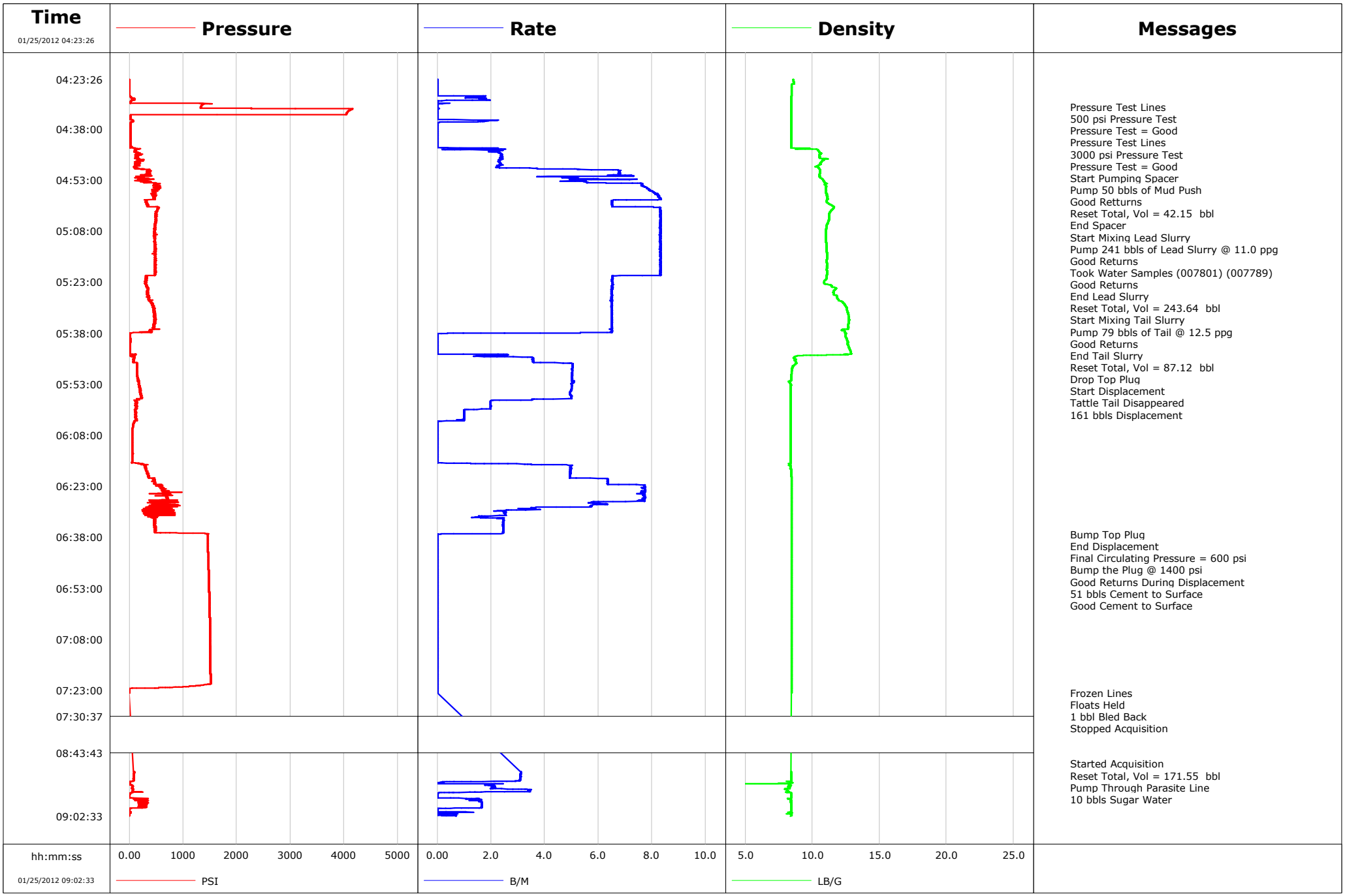
Schlumberger Cementing Job Report

Well	DW 8608D-28	**Client**	EnCana
Field	Double Willow	**SIR No.**	BQMF-00615
Engineer	Ryan Bowditch	**Job Type**	9 5/8" Surface
Country	United States	**Job Date**	01-25-2012



Schlumberger Cementing Service Report

Customer	Job Number
EnCana	BQMF-00615

Well	Location (legal)	Schlumberger Location	Job Start
DW 8608D-28		Grand Junction, CO	Jan/25/2012

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
Double Willow	Shale	10 deg	14.8 in	2136.0 ft	ft

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
Garfield	Colorado	psi	110 degF	91 degF	lb/gal

Well Master	API/UWI

Rig Name	Drilled For	Service Via
Patterson 308	Gas	Land

Offshore Zone	Well Class	Well Type
	New	Development

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

Service Line	Job Type
Cementing	9 5/8" Surface

Max. Allowed Tub. Press	Max. Allowed Ann. Press	WH Connection
3000 psi	1500 psi	Single Cement head

Service Instructions

Cement 9 5/8" Surface Casing with:
50 bbls 10.0 ppg MudPush II
241 bbls 11.0 ppg Lead Slurry (471 sks @ 2.87 cft/sk)
79 bbls 12.5 ppg Tail Slurry (246 sks @ 1.81 cft/sk)
161 bbls Water Displacement

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
120.0	16.0	65.0		
2136.0	9.6	36.0	K55	8RD

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	161.4 bbl		ft

Tubing Vol.	Casing Vol.	Annular Vol.	Openhole Vol.
bbl	165.1 bbl	261.0 bbl	428.0 bbl

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

Lift Pressure	
600 psi	

Pipe Rotated	Pipe Reciprocated
☐	☐

No. Centralizers	Top Plugs	Bottom Plugs
18	1	

Cement Head Type	
Single	

Job Scheduled For	Arrived on Location	Leave Location
Jan/25/2012	Jan/25/2012	Jan/25/2012

Casing Tools

Shoe Type	Float
Shoe Depth	2136.0 ft
Stage Tool Type	
Stage Tool Depth	ft
Collar Type	Float
Collar Depth	2088.0 ft

Squeeze Job

Squeeze Type	
Tool Type	
Tool Depth	ft
Tail Pipe Size	in
Tail Pipe Depth	ft
Sqz. Total Vol.	bbl

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Solid Fraction NULL	Message
01/25/2012	04:23:26	-2	0.0	8.57	28.1	0	Started Acquisition
01/25/2012	04:25:06	-6	0.0	8.45	28.1	0	
01/25/2012	04:26:46	-7	0.0	8.44	0.0	0	
01/25/2012	04:28:26	6	1.5	8.43	0.3	0	
01/25/2012	04:30:06	17	0.0	8.42	2.2	0	
01/25/2012	04:31:26	1331	0.0	8.42	2.2	0	Pressure Test Lines
01/25/2012	04:31:27	1330	0.0	8.42	2.2	0	500 psi Pressure Test
01/25/2012	04:31:28	1330	0.0	8.42	2.2	0	Pressure Test = Good
01/25/2012	04:31:46	1334	0.0	8.42	2.2	0	
01/25/2012	04:32:29	4102	0.0	8.42	2.2	0	Pressure Test Lines
01/25/2012	04:32:30	4102	0.0	8.42	2.2	0	3000 psi Pressure Test
01/25/2012	04:32:31	4099	0.0	8.42	2.2	0	Pressure Test = Good
01/25/2012	04:33:26	4044	0.0	8.42	2.2	0	
01/25/2012	04:34:23	15	0.0	8.42	2.2	0	Start Pumping Spacer
01/25/2012	04:34:24	15	0.0	8.42	2.2	0	Pump 50 bbls of Mud Push
01/25/2012	04:35:06	12	0.0	8.42	2.2	0	
01/25/2012	04:36:46	16	0.0	8.42	3.4	0	
01/25/2012	04:38:26	13	0.0	8.42	3.4	0	
01/25/2012	04:40:06	11	0.0	8.42	3.4	0	
01/25/2012	04:41:46	14	0.0	8.42	3.4	0	
01/25/2012	04:43:26	11	0.0	8.40	3.4	0	

Well	Field	Job Start	Customer	Job Number
DW 8608D-28	Double Willow	Jan/25/2012	EnCana	BQMF-00615

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Solid Fraction NULL	Message
01/25/2012	04:46:46	157	2.4	11.08	10.3	13	
01/25/2012	04:48:26	100	2.3	10.62	14.1	1	
01/25/2012	04:50:06	377	6.7	10.55	19.4	21	
01/25/2012	04:51:46	372	7.3	10.52	30.8	30	
01/25/2012	04:53:26	296	5.4	10.85	39.8	26	
01/25/2012	04:53:50	476	5.6	10.93	42.1	27	Reset Total, Vol = 42.15 bbl
01/25/2012	04:53:51	476	5.6	10.94	42.2	27	End Spacer
01/25/2012	04:53:56	484	7.3	10.98	42.7	27	Start Mixing Lead Slurry
01/25/2012	04:53:58	458	7.6	11.00	42.9	27	Pump 241 bbls of Lead Slurry @ 11.0 ppg
01/25/2012	04:55:06	502	7.8	11.00	51.6	31	
01/25/2012	04:56:46	435	8.1	10.99	64.8	32	
01/25/2012	04:58:26	460	8.3	11.11	78.4	33	
01/25/2012	05:00:06	314	6.5	11.27	90.1	35	
01/25/2012	05:01:46	510	8.3	11.46	102.4	36	
01/25/2012	05:03:26	489	8.3	11.23	116.2	34	
01/25/2012	05:05:06	479	8.3	11.19	130.1	33	
01/25/2012	05:06:46	482	8.3	11.04	143.9	32	
01/25/2012	05:07:29	481	8.3	11.00	149.9	31	Took Water Samples (007801) (007789)
01/25/2012	05:08:26	478	8.3	10.98	157.8	31	
01/25/2012	05:10:06	483	8.3	10.98	171.6	31	
01/25/2012	05:13:26	488	8.3	11.05	199.3	32	
01/25/2012	05:15:06	474	8.3	11.08	213.1	32	
01/25/2012	05:15:49	476	8.3	11.08	219.1	32	Good Returns
01/25/2012	05:16:46	474	8.3	11.07	227.0	32	
01/25/2012	05:18:26	479	8.3	11.08	240.8	33	
01/25/2012	05:21:46	310	6.5	11.06	267.3	33	
01/25/2012	05:23:26	287	6.5	10.88	278.2	32	
01/25/2012	05:23:51	317	6.5	11.33	280.9	34	End Lead Slurry
01/25/2012	05:24:35	332	6.5	11.61	285.7	38	Reset Total, Vol = 243.64 bbl
01/25/2012	05:25:06	346	6.5	11.73	289.1	39	
01/25/2012	05:26:46	343	6.5	11.61	299.9	39	
01/25/2012	05:27:43	368	6.5	11.83	306.0	41	Start Mixing Tail Slurry
01/25/2012	05:28:01	365	6.5	11.88	308.0	41	Pump 79 bbls of Tail @ 12.5 ppg
01/25/2012	05:28:02	350	6.5	11.88	308.1	41	Good Returns
01/25/2012	05:28:26	372	6.5	11.95	310.7	42	
01/25/2012	05:30:06	439	6.5	12.48	321.5	46	
01/25/2012	05:31:46	477	6.5	12.61	332.3	48	
01/25/2012	05:33:26	474	6.5	12.71	343.2	48	
01/25/2012	05:35:06	480	6.5	12.71	354.0	48	
01/25/2012	05:35:55	468	6.5	12.66	359.3	48	End Tail Slurry
01/25/2012	05:36:46	450	6.5	12.66	364.8	48	
01/25/2012	05:38:07	6	0.4	12.49	372.9	69	Reset Total, Vol = 87.12 bbl
01/25/2012	05:38:12	5	0.0	12.49	372.9	0	Drop Top Plug
01/25/2012	05:38:13	5	0.0	12.49	372.9	0	Start Displacement
01/25/2012	05:38:26	5	0.0	12.47	372.9	0	
01/25/2012	05:40:06	12	0.0	12.58	372.9	0	
01/25/2012	05:41:46	3	0.0	12.67	372.9	0	
01/25/2012	05:43:26	3	0.0	12.83	372.9	0	
01/25/2012	05:44:50	30	1.4	8.79	374.3	37	Tattle Tail Disappeared
01/25/2012	05:45:06	98	3.4	8.65	374.8	37	
01/25/2012	05:46:46	91	3.8	8.76	380.7	30	
01/25/2012	05:48:26	132	5.0	8.46	389.0	8	
01/25/2012	05:50:06	145	5.0	8.43	397.4	7	
01/25/2012	05:51:46	154	5.0	8.42	405.7	9	

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DW 8608D-28	Double Willow	Jan/25/2012	EnCana	BQMF-00615

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Solid Fraction NULL	Message
01/25/2012	05:55:06	189	5.0	8.39	422.4	4	
01/25/2012	05:56:46	212	5.0	8.38	430.7	5	
01/25/2012	05:58:26	130	2.0	8.38	436.5	3	
01/25/2012	06:00:06	123	2.0	8.38	439.8	2	
01/25/2012	06:01:46	115	1.0	8.37	441.8	3	
01/25/2012	06:03:26	113	1.0	8.37	443.5	3	
01/25/2012	06:05:06	68	0.0	8.38	443.9	3	
01/25/2012	06:06:46	50	0.0	8.38	443.9	3	
01/25/2012	06:08:26	49	0.0	8.38	443.9	3	
01/25/2012	06:10:06	49	0.0	8.37	443.9	3	
01/25/2012	06:11:46	49	0.0	8.37	443.9	3	
01/25/2012	06:13:26	60	0.0	8.37	443.9	3	
01/25/2012	06:15:06	48	0.0	8.36	443.9	3	
01/25/2012	06:16:46	286	4.7	8.36	445.2	3	
01/25/2012	06:18:26	309	5.0	8.42	453.4	0	
01/25/2012	06:20:06	367	4.9	8.42	461.7	0	
01/25/2012	06:21:46	485	6.3	8.44	471.3	0	
01/25/2012	06:23:26	578	7.7	8.44	483.1	0	
01/25/2012	06:25:06	649	7.7	8.44	495.9	0	
01/25/2012	06:26:46	714	7.7	8.44	508.8	0	
01/25/2012	06:28:26	625	6.3	8.44	520.1	0	
01/25/2012	06:30:06	329	2.7	8.44	527.7	0	
01/25/2012	06:31:46	460	2.0	8.44	531.9	0	
01/25/2012	06:33:26	482	2.5	8.44	535.5	0	
01/25/2012	06:35:06	469	2.5	8.44	539.6	0	
01/25/2012	06:36:46	673	2.4	8.44	543.7	0	
01/25/2012	06:37:09	1464	0.0	8.45	544.4	0	Bump Top Plug
01/25/2012	06:37:10	1453	0.0	8.45	544.4	0	End Displacement
01/25/2012	06:37:11	1463	0.0	8.45	544.4	0	Final Circulating Pressure = 600 psi
01/25/2012	06:38:14	1456	0.0	8.44	544.4	0	51 bbls Cement to Surface
01/25/2012	06:38:26	1458	0.0	8.45	544.4	0	
01/25/2012	06:38:33	1457	0.0	8.44	544.4	0	Good Cement to Surface
01/25/2012	06:40:06	1459	0.0	8.45	544.4	0	
01/25/2012	06:41:46	1463	0.0	8.45	544.4	0	
01/25/2012	06:43:26	1466	0.0	8.45	544.4	0	
01/25/2012	06:45:06	1469	0.0	8.45	544.4	0	
01/25/2012	06:46:46	1472	0.0	8.45	544.4	0	
01/25/2012	06:48:26	1474	0.0	8.45	544.4	0	
01/25/2012	06:50:06	1477	0.0	8.45	544.4	0	
01/25/2012	06:51:46	1479	0.0	8.45	544.4	0	
01/25/2012	06:53:26	1482	0.0	8.45	544.4	0	
01/25/2012	06:55:06	1483	0.0	8.45	544.4	0	
01/25/2012	06:56:46	1486	0.0	8.45	544.4	0	
01/25/2012	06:58:26	1488	0.0	8.45	544.4	0	
01/25/2012	07:00:06	1490	0.0	8.45	544.4	0	
01/25/2012	07:01:46	1492	0.0	8.45	544.4	0	
01/25/2012	07:03:26	1494	0.0	8.45	544.4	0	
01/25/2012	07:05:06	1496	0.0	8.45	544.4	0	
01/25/2012	07:06:46	1498	0.0	8.45	544.4	0	
01/25/2012	07:08:26	1499	0.0	8.44	544.4	0	
01/25/2012	07:10:06	1501	0.0	8.44	544.4	0	
01/25/2012	07:11:46	1503	0.0	8.44	544.4	0	
01/25/2012	07:13:26	1505	0.0	8.44	544.4	0	
01/25/2012	07:15:06	1507	0.0	8.44	544.4	0	

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DW 8608D-28	Double Willow	Jan/25/2012	EnCana	BQMF-00615

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Solid Fraction NULL	Message
01/25/2012	07:18:26	1510	0.0	8.44	544.4	0	
01/25/2012	07:20:06	1513	0.0	8.44	544.4	0	
01/25/2012	07:21:46	1242	0.0	8.44	544.4	0	
01/25/2012	07:23:26	-2	0.0	8.44	544.4	0	
01/25/2012	07:23:48	-2	0.0	8.44	544.4	0	Frozen Lines
01/25/2012	07:23:49	-2	0.0	8.44	544.4	0	Floats Held
01/25/2012	08:49:27	85	3.1	8.40	688.9	1	Reset Total, Vol = 171.55 bbl
01/25/2012	08:49:28	89	3.1	8.40	688.9	1	Pump Through Parasite Line
01/25/2012	08:50:06	81	3.1	8.40	690.9	17	
01/25/2012	08:51:46	76	3.1	8.40	696.0	24	
01/25/2012	08:53:26	37	1.9	8.35	698.8	0	
01/25/2012	08:55:06	56	3.4	8.17	703.0	0	
01/25/2012	08:56:46	-4	0.0	8.40	704.2	0	
01/25/2012	08:58:26	165	1.7	8.39	706.0	0	
01/25/2012	09:00:06	233	1.6	8.40	708.7	0	

Post Job Summary

Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
5.1			8.3	320.0	0.0	50.0	

Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
4157	-4	607	1400			bbl	lb/gal

Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp	Cement Circulated to Surface?	Volume
%	320.0 bbl	161.0 bbl	60 degF	[X]	51.0 bbl
				Washed Thru Perfs [ ]	To ft

Customer or Authorized Representative	Schlumberger Supervisor	Circulation Lost	Job Completed
Nathan Curley	Ryan Bowditch	-	[X] -