

				Customer Conoco Phillips			Job Number 202800171				
Well Loon Creek O6			Location (legal)			Schlumberger Location			Job Start Feb/20/2013		
Field Norman Wells		Formation Name/Type Shale		Deviation 0 deg		Bit Size 222 mm		Well MD 1860.0 m		Well TVD 1860.0 m	
County		State/P Northwest Territories		BHP kPa		BHST 66 degC		BHCT 42 degC		Pore Press. Gradient kg/m3	
Well Master		API/UWI									
Rig Name		Drilled For Oil		Service Via Land		Casing/Liner					
						Depth, m		Size, mm		Weight, kg/m	
										Grade	
										Thread	
Offshore Zone		Well Class New		Well Type Exploration		1860.0		178		38.6	
						600.0		244		53.6	
										P110	
										J55	
										LTC	
										LTC	
Drilling Fluid Type Invert		Max. Density 950.00 kg/m3		Plastic Viscosity cP		Tubing / Drill Pipe					
						T/D		Depth, m		Size, mm	
										Weight, kg/m	
										Grade	
										Thread	
Service Line Cementing		Job Type Long String									
Max. Allowed Tub. Press kPa		Max. Allowed Ann. Press kPa		WH Connection		Perforations / Open Hole					
						Top, m		Bottom, m		shot / m	
										No. of Shots	
										Total Interval m	
										Diameter mm	
						Treat Down Casing		Displacement m3		Packer Type	
										Packer Depth m	
						Tubing Vol. m3		Casing Vol. m3		Annular Vol. m3	
										Openhole Vol. m3	
Casing / Tubing Secured ☐		1 Hole Vol. Circulated prior to Cement ☒				Casing Tools				Squeeze Job	
Lift Pressure kPa						Shoe Type				Squeeze Type	
Pipe Rotated ☐		Pipe Reciprocated ☐				Shoe Depth 1860.0 m				Tool Type	
No. Centralizers		Top Plugs 1		Bottom Plugs 1		Stage Tool Type				Tool Depth m	
Cement Head Type Single						Stage Tool Depth m				Tail Pipe Size mm	
Job Scheduled For Feb/19/2013 19:00		Arrived on Location Feb/19/2013 19:00		Leave Location Feb/20/2013		Collar Type Float				Tail Pipe Depth m	
						Collar Depth 1845.0 m				Sqz. Total Vol. m3	
Date	Time 24-hr clock	Treating Pressure KPA	Flow Rate M3/MN	Density K / M3	Volume M3	Message					
02/20/2013	00:00:32	-712	0.01	120.62	0.0						
02/20/2013	00:03:02	-726	0.01	120.56	0.0						
02/20/2013	00:05:32	-730	0.00	120.68	0.0						
02/20/2013	00:08:02	-736	0.00	120.62	0.0						
02/20/2013	00:10:32	1180	0.89	916.62	0.5						
02/20/2013	00:13:02	142	0.44	1021.24	1.7						
02/20/2013	00:15:32	213	0.57	1023.98	3.1						
02/20/2013	00:18:02	-247	0.02	1022.72	4.3						
02/20/2013	00:20:32	-592	0.01	1022.78	4.4						
02/20/2013	00:23:02	-539	0.01	1022.72	4.4						
02/20/2013	00:25:32	-464	0.01	1022.72	4.4						
02/20/2013	00:28:02	-414	0.01	1022.78	4.5						
02/20/2013	00:30:32	-454	0.01	1022.72	4.5						
02/20/2013	00:33:02	-420	0.01	1022.72	4.5						
02/20/2013	00:35:32	-383	0.01	1022.72	4.5						
02/20/2013	00:38:02	-369	0.01	1022.72	4.6						
02/20/2013	00:40:32	-367	0.01	1023.98	4.6						
02/20/2013	00:43:02	-359	0.01	1023.98	4.6						
02/20/2013	00:45:32	-363	0.00	1023.98	4.9						
02/20/2013	00:48:02	-377	0.00	1023.98	4.9						
02/20/2013	00:50:32	-381	0.00	1023.98	4.9						

Well			Field		Job Start		Customer		Job Number	
Loon Creek O6			Norman Wells		Feb/20/2013		Conoco Phillips		202800171	
Date	Time 24-hr clock	Treating Pressure KPA	Flow Rate M3MN	Density K / M3	Volume M3	Message				
02/20/2013	00:55:32	-408	0.00	1023.98	4.9					
02/20/2013	00:58:02	-428	0.00	1023.98	0.0					
02/20/2013	01:00:32	-580	0.00	1023.98	0.0					
02/20/2013	01:01:17	-554	0.00	1024.04	0.0	Fill line				
02/20/2013	01:03:02	838	0.26	1023.98	0.4					
02/20/2013	01:05:32	9437	0.00	1023.98	0.5					
02/20/2013	01:05:35	11936	0.00	1023.98	0.5	Pressure Test Lines				
02/20/2013	01:05:39	19930	0.01	1023.98	0.5	Reset Total, Vol = 0.51 m3				
02/20/2013	01:08:02	191	0.00	1023.92	0.0					
02/20/2013	01:10:32	154	0.00	1024.04	0.0					
02/20/2013	01:13:02	146	0.00	1025.24	0.0					
02/20/2013	01:15:14	1341	0.23	1081.06	0.1	Start pumping MudPUSH				
02/20/2013	01:15:32	821	0.24	1159.74	0.2					
02/20/2013	01:18:02	957	0.32	1167.51	1.2					
02/20/2013	01:20:32	1801	0.47	1168.83	2.0					
02/20/2013	01:23:02	1312	0.47	1159.86	3.1					
02/20/2013	01:23:36	-197	0.00	1157.34	3.4	end mudpush				
02/20/2013	01:23:40	-280	0.00	1157.40	3.4	Reset Total, Vol = 3.38 m3				
02/20/2013	01:25:32	-393	0.00	1156.14	0.0					
02/20/2013	01:27:40	-422	0.00	1154.88	0.0	Start Mixing Lead Slurry				
02/20/2013	01:28:02	-424	0.00	1154.88	0.0					
02/20/2013	01:30:32	-260	0.11	1162.66	0.0					
02/20/2013	01:30:53	-249	0.11	1360.81	0.1	Start pumping lead				
02/20/2013	01:33:02	507	0.70	1404.01	0.4					
02/20/2013	01:35:32	1629	0.68	1398.81	2.1					
02/20/2013	01:38:02	2231	0.83	1421.66	4.0					
02/20/2013	01:40:32	1766	0.89	1396.30	6.2					
02/20/2013	01:43:02	1158	0.96	1405.15	8.5					
02/20/2013	01:45:32	1330	0.96	1421.61	10.9					
02/20/2013	01:48:02	2075	1.18	1431.72	13.7					
02/20/2013	01:50:32	1801	1.10	1424.12	16.5					
02/20/2013	01:53:02	1748	1.08	1425.38	19.2					
02/20/2013	01:55:32	1643	1.05	1426.58	21.9					
02/20/2013	01:58:02	1766	1.05	1432.92	24.5					
02/20/2013	02:00:32	-114	0.32	1402.18	26.1					
02/20/2013	02:03:02	-37	0.32	1417.66	26.9					
02/20/2013	02:03:46	-4	0.32	1685.19	27.2	End Lead Slurry				
02/20/2013	02:03:51	12	0.32	1704.33	27.2	Reset Total, Vol = 27.19 m3				
02/20/2013	02:05:32	783	0.57	1784.78	0.8					
02/20/2013	02:06:29	1892	0.80	1865.69	1.4	Start Mixing Tail Slurry				
02/20/2013	02:08:02	1872	0.80	1886.37	2.6					
02/20/2013	02:10:32	1939	0.81	1905.40	4.6					
02/20/2013	02:13:02	1876	0.80	1914.26	6.6					
02/20/2013	02:15:32	2130	0.80	1935.85	7.9					
02/20/2013	02:17:21	-176	0.10	1939.00	9.3	End Tail Slurry				
02/20/2013	02:17:22	-181	0.10	1939.63	9.3	Reset Total, Vol = 9.33 m3				
02/20/2013	02:18:02	-310	0.00	1939.68	0.0					
02/20/2013	02:20:32	193	0.00	1356.41	0.0					
02/20/2013	02:23:02	-327	0.00	1022.38	0.0					
02/20/2013	02:25:32	45671	0.00	1065.63	0.0					
02/20/2013	02:28:02	43258	0.00	1042.78	0.0					
02/20/2013	02:30:32	-166	0.37	1033.92	0.1					
02/20/2013	02:33:02	570	0.93	1024.95	2.3					
02/20/2013	02:35:30	732	0.93	1023.69	4.6	Start Displacement				

Well			Field		Job Start	Customer		Job Number
Loon Creek O6			Norman Wells		Feb/20/2013	Conoco Phillips		202800171
Date	Time 24-hr clock	Treating Pressure KPA	Flow Rate M3MN	Density K / M3	Volume M3	Message		
02/20/2013	02:38:02	669	0.96	1022.44	7.0			
02/20/2013	02:40:32	773	0.96	1022.44	9.4			
02/20/2013	02:43:02	740	0.94	1022.49	11.7			
02/20/2013	02:45:32	675	0.96	1022.44	14.1			
02/20/2013	02:48:02	2452	0.96	1022.44	16.5			
02/20/2013	02:50:32	3594	0.96	1022.44	18.8			
02/20/2013	02:53:02	4939	0.94	1021.12	21.2			
02/20/2013	02:55:32	6541	0.94	1022.44	23.6			
02/20/2013	02:58:02	7259	0.91	1022.38	25.9			
02/20/2013	03:00:32	8303	0.93	1022.32	28.3			
02/20/2013	03:03:02	5338	0.58	1022.38	30.5			
02/20/2013	03:05:32	5344	0.41	1022.38	31.6			
02/20/2013	03:08:02	6117	0.47	1022.38	32.7			
02/20/2013	03:10:32	6896	0.48	1022.32	33.9			
02/20/2013	03:13:02	5849	0.16	1022.27	34.2			
02/20/2013	03:15:32	6819	0.44	1022.32	34.9			
02/20/2013	03:18:02	5796	0.09	1022.32	35.4			
02/20/2013	03:20:32	6121	0.10	1022.32	35.6			
02/20/2013	03:23:02	6129	0.10	1023.64	35.9			
02/20/2013	03:25:32	6539	0.10	1023.69	36.1			
02/20/2013	03:28:02	6737	0.10	1023.69	36.3			
02/20/2013	03:30:32	6671	0.10	1023.69	36.6			
02/20/2013	03:33:02	6886	0.10	1023.69	36.8			
02/20/2013	03:35:32	7683	0.30	1023.69	37.4			
02/20/2013	03:38:02	12223	0.00	1023.69	38.2			
02/20/2013	03:40:32	12142	0.00	1023.69	38.2			
02/20/2013	03:43:02	12171	0.00	1023.69	38.2			
02/20/2013	03:45:32	12209	0.00	1023.75	38.2			
02/20/2013	03:48:02	12232	0.00	1023.69	38.2			
02/20/2013	03:50:32	12329	0.00	1023.69	38.2			
02/20/2013	03:53:02	12341	0.00	1023.75	38.2			
02/20/2013	03:55:32	12390	0.00	1025.01	38.2			
02/20/2013	03:58:02	12477	0.00	1025.07	38.2			
02/20/2013	04:00:32	12522	0.00	1025.07	38.2			
02/20/2013	04:03:02	12512	0.00	1025.07	38.2			
02/20/2013	04:05:32	4133	0.00	1025.12	38.2			
02/20/2013	04:08:02	-339	0.00	1025.07	38.2			
02/20/2013	04:10:32	2572	0.14	1028.89	38.2			
02/20/2013	04:11:13	4685	0.00	1026.32	38.3	Float holding		
02/20/2013	04:13:02	13059	0.11	1022.55	38.4			
02/20/2013	04:14:07	17631	0.00	1022.55	38.5	Pressure Test Casing		
02/20/2013	04:14:13	17562	0.00	1022.55	38.5	Reset Total, Vol = 38.53 m3		
02/20/2013	04:15:32	17657	0.00	1022.61	0.0			
02/20/2013	04:18:02	17683	0.00	1022.55	0.0			
02/20/2013	04:20:32	17693	0.00	1022.55	0.0			
02/20/2013	04:23:02	17738	0.00	1022.55	0.0			
02/20/2013	04:25:25	17766	0.00	1022.55	0.0	End off casing test		
02/20/2013	04:25:32	17768	0.00	1022.61	0.0			
02/20/2013	04:28:02	12082	0.00	1022.55	0.0			
02/20/2013	04:30:32	-398	0.00	1022.55	0.0			
02/20/2013	04:32:32	-347	0.00	1023.87	0.0	End Job		

Well Loon Creek O6	Field Norman Wells	Job Start Feb/20/2013	Customer Conoco Phillips	Job Number 202800171
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Post Job Summary

Average Pump Rates, m3 / min					Volume of Fluid Injected, m3						
Slurry 0.50	N2	Mud	Maximum Rate 1.23		Total Slurry 36.500	Mud 0.0	Spacer 3.4	N2			
Treating Pressure Summary, kPa					Breakdown Fluid						
Maximum 46266	Final -357	Average 6555	Bump Plug to	Breakdown	Type		Volume m3		Density kg/m3		
Avg. N2 Percent %		Designed Slurry Volume 36.000 m3		Displacement 38.500 m3		Mix Water Temp 22 degC		Cement Circulated to Surface? ☐		Volume m3	
								Washed Thru Perfs ☐		To m	
Customer or Authorized Representative				Schlumberger Supervisor				Circulation Lost ☐		Job Completed ☒	
								-		-	

Well Loon Creek O6
Field Norman Wells
Engineer
Country Canada

Client Conoco Phillips
SIR No. 202800171
Job Type Long String
Job Date 02-20-2013

