

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-86-A				Date: 98-09-05	
Purpose of Job: Completion				Report # 100	
Report From: Wayne Casler		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Rig out and move equipment				Code	Item Amount
				3324.0m - 3334.0mKB	
Contractor: N/A		Fluid Vol. m3	Water	Oil	3299.0m - 3302.0mKB
Road/Lease: Good		Total Hauled to Lease:	321.50		3285.0m - 3292.0mKB
Weather: 17°C		Total Hauled from Lease:	N/A		3276.0m - 3280.0mKB
Contact Phone: 403-232-5340		Total in Tanks:	NIL		3260.0m - 3272.0mKB
Zone: Nahanni		Initial Well Fluid:	Water/standrill		3234.0m - 3248.0mKB
Perforations: Under daily costs		Total Load Fluids:	723.31		3165.0m - 3172.0mKB
SITP 0 KPa @ 0800 hrs.		Non-recov. Ann. Fluids:	94.70		3152.0m - 3159.0mKB
SICP 1510 KPa @ 0800 hrs.		Recovery Last 24 hrs.	0.00		3134.0m - 3148.0mKB
Rig Hr: nil Cum Rig Hrs.: 		Recovery to Date:	1048.10		3125.0m - 3139.0mKB
AFE # EBD-011		Load to Recover (+New)	N/A		3115.0m - 3122.0mKB
KB Elevation: 459.89 m				Daily Costs: 825.590	
KB. to CF: 10.35 m				Previous Costs: \$8,340,531	
KB. to THF: 8.60 m				Cumulative Costs: \$11,386,121	
				AFE Estimate: \$3,331,700	

TIME	OPERATION
0800	Demobilize the equipment and haul water.
2100	All the equipment and water is across the river, Husky Transport will back-haul the 60.0 m ³ tanks to Fort St. John. We hauled 3-12.0 m mats to Fort Liard and Husky will take them from there to another job with no charge to us.

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-88-A				Date: 98-09-04																																																											
Purpose of Job: Completion				Report # 99																																																											
Report From: Wayne Casler		Report To: Leroy Brown		Daily Cost Summary																																																											
Current Operation: Rig out and move equipment				Code	Item Amount																																																										
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AFE # E8D-011		KB Elevation: 459.89 m																																																													
		KB. to CF: 10.35 m																																																													
		KB. to THF: 8.60 m																																																													
TIME	OPERATION																																																														
0800	Demobilize the equipment and haul water.																																																														

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-68-A				Date: 98-09-03	
Purpose of Job: Completion				Report # 98	
Report From: Wayne Casler/Stan Bernier		Report To: Ken Kendierski		Daily Cost Summary	
Current Operation: Rig out and move equipment				Code	Item Amount
				3324.0m - 3334.0mKB	
Contractor: N/A		Fluid Vol. m3		Water	Oil
Road/Lease: Good		Total Hauled to Lease:		3295.0m - 3302.0mKB	
Weather: 22 °C		Total Hauled from Lease:		3285.0m - 3282.0mKB	
Contact Phone: 404-232-5340		Total in Tanks:		3275.0m - 3280.0mKB	
Zone: Nahanni		Initial Well Fluid:		3260.0m - 3272.0mKB	
Perforations: Under daily costs		Total Load Fluids:		3234.0m - 3248.0mKB	
SITP 0 KPa @ 0600 hrs.		Non-recov. Ann. Fluids:		3185.0m - 3172.0mKB	
SICP 1500 KPa @ 0800 hrs.		Recovery Last 24 hrs.		3152.0m - 3159.0mKB	
Rig Hr: nil Cum Rig Hrs.: 		Recovery to Date:		3134.0m - 3148.0mKB	
		Load to Recover (+New)		3125.0m - 3138.0mKB	
				3115.0m - 3122.0mKB	
APE # E80-011		KB Elevation: 459.89 m		Daily Costs:	846,433
		KB. to CF: 10.35 m		Previous Costs:	85,283,473
		KB. to THF: 8.60 m		Cummulative Costs:	85,289,908
				AFE Estimate:	89,331,700

TIME	OPERATION
0600	Demobilize the equipment and haul water.

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Llard P-66-A				Date: 98-09-02	
Purpose of Job: Completion				Report # 97	
Report From: Wayne Casier/Stan Bernier		Report To: Ken Kandierski		Daily Cost Summary	
Current Operation: Rig out and move equipment				Code	Item Amount
Contractor:	N/A	Fluid Vol. m3	Water	Oil	
Road/Lease:	Good	Total Hauled to Lease:	321.60		3324.0m - 3334.0mKB
Weather:	14 C - showers	Total Hauled from Lease:	588.37		3285.0m - 3302.0mKB
Contact Phone:	403-232-5340	Total in Tanks:	12.73		3285.0m - 3282.0mKB
Zone:	Nahanni	Initial Well Fluid:	Water/standrill		3276.0m - 3280.0mKB
Perforation:	Under daily costs	Total Lead Fluids:	723.31		3260.0m - 3272.0mKB
SITP	0 KPa @ 0600 hrs.	Non-recov. Ann. Fluids:	94.70		3234.0m - 3248.0mKB
SICP	0 KPa @ 0600 hrs.	Recovery Last 24 hrs.	0.00		3165.0m - 3172.0mKB
Rig Hr:	nil	Recovery to Date:	1048.10		3152.0m - 3159.0mKB
Cum Rig Hrs.:		Load to Recover (+New)	372.40		3134.0m - 3148.0mKB
AFE # E810-011		KB Elevation: 459.89 m		Daily Costs: \$78,973	
		KB. to CF: 10.35 m		Previous Costs: \$3,174,500	
		KB. to THF: 6.60 m		Cumulative Costs: \$3,253,473	
				AFE Estimate: \$3,331,700	
TIME	OPERATION				
0600	Continued to filter the produced water to 5 micron and pump down the casing. Filters plugging up constantly.				
1320	Pumped 115.5 m3 of filtered produced water, then rigged in Bonnet Wireline. Pressure tested the BOP's to 1.4 mPa and 28 mPa for 10 minutes each - good. Pressure tested the lubricator to 1.4 mPa and 28 mPa for 10 minutes each good.				
1410	Ran into the hole with a 69.5 mm gauge ring to the Otis 69.85 mm 'XN' nipple at 3054.0 mcf. Pulled out of the hole and ran in with an Otis 'XN' lock and set in the Otis 'XN' nipple at 3054.0 mcf. Pulled out and ran in with an Otis 'PXN' prong and set in the plug.				
1830	Filled the tubing with inhibited water and pressure tested the 88.9 mm tubing and plug to 28700 kPa for 12 minutes Held - bled off to 0 kPa and left the well open for a 10 minute flow test. No flow.				
2000	Bled the casing to 0 kPa, topped with 250 litres of diesel fuel, filled with 2.0 m3 of inhibited water and pressure tested to 21 mPa for 10 minutes - good. Bled to 0 kPa and left open for a 10 minute flow check - ok.				
2030	Blew water from the tubing and topped with 60 litres of methanol, installed the Vetco 88.9 mm 1 way Back Pressure Valve. Lubricated all the valves and closed all of the wellhead valve including the 'ESD' lower master valve. Secured the well, and purged the Norward test equipment with propane.				
98/09/03					
0200	Rigged out the Norward equipment. Short change crew for days.				

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-09-01	
Purpose of Job: Completion				Report # 96	
Report From: Wayne Casler/Stan Bernier		Report To: Ken Kendierski		Daily Cost Summary	
Current Operation: Pumping filtered produced water				Code	Item Amount
Contractor: N/A		Fluid Vol. m3		Water	Oil
Road/Lease: Good		Total Hauled to Lease:		321.50	
Weather: 18 c		Total Hauled from Lease:		588.37	
Contact Phone: 403-232-5340		Total in Tanks:		12.73	
Zone: Nahanni		Initial Well Fluid:		Water/standrill	
Perforations: Under daily costs		Total Load Fluids:		723.31	
SITP 300 KPa @ 0800 hrs.		Non-recov. Ann. Fluids:		94.70	
SITP 300 KPa @ 0800 hrs.		Recovery Last 24 hrs.		0.00	
Rig Hr: nil Cum Rig Hrs.:		Remains in Date:		1049.10	
		Load to Recover (+New)		256.54	
AFE # ESD-011				Daily Costs:	
KB Elevation: 459.89 m				Previous Costs:	
KB. to CF: 10.35 m				Cumulative Costs:	
KB. to THF: 8.60 m				AFE Estimate:	
				\$131,361	
				\$5,043,148	
				\$5,174,509	
				\$9,331,760	
TIME	OPERATION				
0620	Ran in with a 63.5 mm 'RB' pulling tool and wire grapple, jarred on the fish - wire broke. Pulled out of the hole. Recovered 0.3 m of 0.125" wire.				
0655	Refer and tagged the fish at 302 mcf., jarred on the fish grapple let go - pulled out, no wire recovered.				
0730	Reran and tagged the fish at 303 mcf. jarred on the fish, sheared off the running tool. Pulled out of the hole.				
1020	Ran in with a 63.5 mm 'SB' pulling tool and hydraulic jars. Latched to the fish and jarred twice, wire grab let go. Pulled out of the hole - no recovery.				
1100	Reran the 63.5 mm 'RB' pulling tool and hydraulic jars. Tagged the fish at 300 mcf. Jarred up once and sheared off of the running tool. Pulled out of the hole.				
1130	Ran into the hole with a 63.5 mm 'JDC' pulling tool and hydraulic jars. Latched to the fish at 294 mcf. Worked the fishing string, fish free. Pulled the wireline grapple into the lubricator, and closed the BOP's. Removed the lubricator stripped on the pack-off. Opened the BOP's and pulled to 800 mcf. Closed the BOP's and stripped on the lubricator. Pulled out of the hole with the tool string, there was 1 dog broke off of the pulling tool.				
1630	Pumped 25 m3 of filtered produced water down the tubing. Ran in with a Camco 'JDC' pulling tool and latched to the Lee 'LMR' recorders. Pulled out of the hole and layed down the recorders. Built new rope socket, ran in and latched to 69.3 mm dart. Pulled out of the hole, the dart hung up in the 71.4 mm 'X' nipple at 1500 mcf. jarred through and continued pulling out. Layed down the dart and rigged out the Bonnet lubricator and BOP's				
2130	Dowell pressured up the surface lines to 20 mPa, opened the wing valve and Pumped filtered produced water filtered to 5 micron.				
98/09/02					
0600	Continued pumping filtered produced water down the tubing at 0.3 m3/ minute at 300 kPa				

Job Number: GP-86-114
 Customer: Ranger Oil Ltd
 Wellname: Lard
 Well Location: P-66-A
 Formation: Tight Hole

FieldNotes

NORWARD

Row	Date	Chk Tm	Tbg Press	Cag Press	Tbg Temp	Choke	Diff1	Static1	Diff1	Temp1	Gas Rate1	Cum Gas1	Orf2	Static2	Diff2	Temp2	Gas Rate2	Cum Gas2	Water	Wat Rate	Cum Wat 2	pH	SALINITY
	yy/mm/dd	clock	kPa	kPa	C	mm	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	m3	m3/d	m3		ppm
1925	1998/08/01	08:10:00																					
1926		08:20:00																					
1927	1998/08/01	08:20:00	3670	1800			0.00						0.00										
1928		08:45:00																					
1929		08:55:00																					
1930		08:57:00																					
1931		07:25:00																					
1932		07:30:00	6100	1800																			
1933		07:32:00																					
1934		08:00:00	6800	1800																			
1935		08:30:00	7880	1800																			
1936		08:00:00	6750	1800																			
1937		08:05:00																					
1938	1998/08/01	10:20:00	11080	1850																			
1939		10:20:00																					
1940		10:30:00	11340	1850																			
1941		10:52:00																					
1942		11:00:00	12010	1800																			
1943		11:00:00																					
1944		11:23:00																					
1945		11:30:00	12620	1900																			
1946		11:30:00																					
1947		12:00:00	13320	1900																			
1948		12:15:00																					
1949	1998/08/01	12:30:00	13900	1900																			
1950		13:00:00	14380	1900																			
1951		13:30:00	14940	1900																			
1952		14:00:00	15360	1950																			
1953		14:30:00	15850	1950																			
1954		15:00:00	16350	1950																			
1955		15:30:00	16700	1950																			
1956		16:00:00	17050	1950																			
1957		16:22:00																					
1958		16:30:00																					
1959	1998/08/01	16:05:00																					
1960		16:30:00	300	1750																			
1961		19:45:00																					

Page 55A

Fast

10:4

SEP-02-1998 08:36

 403 232 5200
 REM 02:9
 04-2-1-DES
 74%
 P.03

Job Number: GP-98-114
 Customer: Ranger Oil Ltd
 Well Name: Lard
 Well Location: P-98-A
 Formation: Tight Hole

Field Notes

NORWARD

Row	Date	CK	Tim	Tbg Pres	Cog Pres	Tbg Temp	Choker	CHT	Stuck	CHT	Temp	Flow Rate	Cum Gas	CHT2	Stuck2	CHT2	Temp	Flow Rate	Cum Gas2	Wt/Wt	Wet Rate	Cum Wet	Z	pH	SALINITY
1862	1998/09/01	20	15:00	10.00	10.00	10.00	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1863		20	15:00	10.00	10.00	10.00	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1864		21	20:00	10.00	10.00	10.00	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1865		21	20:00	10.00	10.00	10.00	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1866		21	20:00	10.00	10.00	10.00	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1867		21	20:00	10.00	10.00	10.00	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1868		21	20:00	10.00	10.00	10.00	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1869		21	20:00	10.00	10.00	10.00	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1870		21	20:00	10.00	10.00	10.00	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1871		21	20:00	10.00	10.00	10.00	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1872		21	20:00	10.00	10.00	10.00	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1873		21	20:00	10.00	10.00	10.00	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1874		21	20:00	10.00	10.00	10.00	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1875		21	20:00	10.00	10.00	10.00	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1876		21	20:00	10.00	10.00	10.00	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1877		21	20:00	10.00	10.00	10.00	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1878		21	20:00	10.00	10.00	10.00	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1879		21	20:00	10.00	10.00	10.00	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1880		21	20:00	10.00	10.00	10.00	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1881		21	20:00	10.00	10.00	10.00	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1882		21	20:00	10.00	10.00	10.00	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1883		21	20:00	10.00	10.00	10.00	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm

Page 58A

Fast

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-08-31	
Purpose of Job: Completion				Report # 95	
Report From: Wayne Casler/Stan Bemler		Report To: Ken Kandierski		Daily Cost Summary	
Current Operation: Fishing sickline				Code	Item Amount
				3324.0m - 3334.0mKB	
				3295.0m - 3302.0mKB	
				3285.0m - 3292.0mKB	
				3278.0m - 3280.0mKB	
				3280.0m - 3272.0mKB	
				3234.0m - 3248.0mKB	
				3165.0m - 3172.0mKB	
				3152.0m - 3159.0mKB	
				3134.0m - 3148.0mKB	
				3125.0m - 3139.0mKB	
				3115.0m - 3122.0mKB	
Daily Costs:					\$89,983
Previous Costs:					\$4,873,168
Cumulative Costs:					\$5,043,149
AFE Estimate:					\$3,331,700

Contractor: N/A		Fluid Vol. m3		Water	Oil
Road/Lease: Good		Total Hauled to Lease:		321.50	
Weather: 15 c		Total Hauled from Lease:		588.37	
Contact Phone: 403-232-5340		Total in Tanks:		12.73	
Zone: Nahanni		Initial Well Fluid:		Water/standrill	
Perforations: Under daily costs		Total Load Fluids:		723.31	
SITP 28-15 KPa @ 0600 hrs.		Recovery Last 24 hrs.		0.00	
SICP 1800 KPa @ 0600 hrs.		Recovery to Date:		1048.10	
Rig Hr: nil Cum Rig Hrs.: 		Load to Recover (+New)		87.24	
AFE # E8D 011		KB Elevation:		459.89 m	
		KB. to CF:		10.35 m	
		KB. to THF:		8.60 m	

TIME	OPERATION
0600	Slipped and 12 m of 0.125" sickline and build new rope socket. Ran in with 63.5 mm 'RB' pulling tool and latched to the fish at 279 mcf. Worked tools to free the fish for 1 hr. Sheared off, Pulled out and redressed the 63.5 mm 'RB' pulling tool, ran in, but could not latch to the fish. Pulled out and checked the pulling tool - good. Reran and latched to the fish, pulled the grapple free, pulled out and recovered approximately 1.0 m of 0.125" line.
0830	Pressured up to 100 wing Valve to 20 mPa and pumped 12.0 m3 of clean fresh water down the tubing at 0.2 m3/minute tubing pressure dropped to 4.8 mPa.
1100	Ran in with the 63.5 mm 'RB' pulling tool and the inside grapple, tagged the fish at 302 mcf. Worked the fish to a maximum of 1500 lbs. 'RB' pulling tool slipped off the fish neck, ran in with an 'RS' pulling tool and latched to the fish at 270 mcf. jarred on the fish and sheared the pulling tool. Ran in with the 63.5 mm 'RB' pulling tool, latched to the fish at 285 mcf. Sheared the pulling tool. Slipped and cut 15 m of 0.125" line.
1430	Made four runs to break the wireline and pull approximately 2.0 m of 0.125" line to surface
1645	Pumped 25 m3 of fresh clean water down the tubing, tubing pressure at 1550 kPa. Ran in with the 63.5 mm 'RB' pulling tool and wire grapple, could not latch to the fish. Pulled out, checked and reran, latched to the fish at 297 mcf. pulled to 250 mcf. and lost the fish. Pulled out, approximately 0.3 m of 0.125" line jammed in the lubricator.
2000	Ran in with the 63.5 mm 'RB' pulling tool and grapple, latched to the fish and pulled to 1100 lbs. string weight. Lost the fish, pulled out and slipped and cut 5.0 m of 0.125" line off. Reran the 63.5 mm inside grapple.
2250	Could not latch to the fish, pulled out and ran in with a wire spear, latched to the fish at 302 mcf. pulled up and lost the fish, sharpened the edges of the 63.5 mm inside grapple and reran, latched to the fish at 302 mcf.
98/09/01	
0000	Pulled off of the fish at 800 lbs. Pulled out of the hole, dressed and reran the 63.5 mm 'RB' pulling tool and the inside grapple. Latched to the fish and worked from 400 lbs. to 1500 lbs.
0115	Sheared off of the grapple. pulled out of the hole, redressed and reran the 'RB' pulling tool. Latched to the grapple and pulled out of the hole.
0230	Dowell pressured up the surface lines to 20 mPa, opened the wing valve and pumped 25 m3 of clean fresh water down the tubing. Tubing pressure after pumping = 500 kPa.
0430	Ran in 'RB' pulling tool and internal grapple, tagged the fish at 302 mcf. Hand jarred to catch fish, sheared off of the grapple. redressed and reran the 'RB' pulling tool 3 times and sheared off of the grapple. Ran a 63.5 mm 'SB' pulling tool and latched to the grapple, jarred out and pulled out of the hole - no wire in the grapple.
0800	Ran in with a 63.5 mm 'SB' pulling tool and latched to the grapple, jarred up and pulled free, no wire in the grapple.

Norman

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P.04

Job Number: GP-89-114
Customer: Ranger Oil Ltd
Wellname: Lard
Well Location: P-66-A
Formation: Tight Hole

FieldNotes



Row	Date	Clk Tim	Bkg Pres	Cag Pres	Tbg Temp Choke	Orf1	Static1	DMT1	Temp1	Gas Rate1	Cum Gas1	Orf2	Static2	DMT2	Temp2	Gas Rate2	Cum Gas2	Wet2r	Wet Rate	Cum Wet 2	pH	SALINITY
	yy/mm/dd	clock	kPa	kPa	C	mm	mm	kPa	kPa	C	10 ³ m3/d	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	m3	m3/d	m3		ppm
1851	1999/08/31	09:30:00	12560	1900			0.00					0.00										
1852		09:30:00	Wireline out of hole with wire grab and 1m of wire.																			
1853		09:45:00	Begin pumping 12m3 of water down hole at 2m3/min.																			
1854		10:53:00	Finished pumping.																			
1855		10:55:00	4200	1775																		
1856		11:00:00	4370	1775																		
1857		11:00:00	Wireline run in hole with wire grab.																			
1858		11:30:00	6450	1700																		
1859		11:45:00	Wireline out of hole, sheared off wire grab.																			
1860		11:50:00	Wireline run in hole with pulling tool.																			
1861	1999/08/31	12:30:00	7450	1750																		
1862		12:31:00	Wireline out of hole.																			
1863		12:40:00	7820	1760																		
1864		12:41:00	Wireline run in hole with pulling tool.																			
1865		13:00:00	8460	1800																		
1866		13:30:00	9260	1850																		
1867		14:00:00	10060	1860																		
1868		14:07:00	Wireline out of hole.																			
1869		14:30:00	10800	1850																		
1870		14:30:00	Wireline run in hole with pulling tool.																			
1871		14:51:00	Wireline out of hole.																			
1872	1999/08/31	15:00:00	12570	1860																		
1873		15:00:00	Wireline run in hole with pulling tool.																			
1874		15:15:00	Wireline out of hole.																			
1876		15:20:00	Wireline run in hole with pulling tool.																			
1876		15:30:00	12440	1850																		
1877		15:55:00	Wireline out of hole.																			
1878		16:00:00	13320	1900																		
1879		16:00:00	Wireline run in hole with pulling tool.																			
1880		16:30:00	13900	1900																		
1891		16:35:00	Wireline out of hole with wire grab and 2m of wire.																			
1882		16:45:00	Begin pumping 25m3 of water down hole at 3m3/min.																			
1883	1999/08/31	18:15:00	Finished pumping fluid, wireline run in hole with wire grab.																			
1884		18:15:00	850	1800																		
1885		18:30:00	1020	1850																		
1886		18:45:00	Wireline out of hole, no wire recovered.																			
1887		18:55:00	Wireline run in hole with wire grab.																			

Page 53A

Fast

09/01/98 TUE 09:03 FAX 403 232 5200

RANGER OIL

004
P. 23

P. 05

09/01/98 TUE 09:04 FAX 403 232 5200 RANGER OIL

2007-08

Job Number: GP-9-114
Customer: Ranger Oil Ltd
Wellname: Llard
Well Location: P-68-A
Formation: Tuff Hole

FieldNotes

FORWARD

[illegible]

Page 54A

Fast

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A		Date: 98-08-30																																														
Purpose of Job: Completion		Report # 94																																														
Report From: Wayne Casler/Stan Bernier		Report To: Ken Kanderski																																														
Current Operation: Fishing slickline		Daily Cost Summary																																														
Contractor: N/A Road/Lease: Good Weather: 15 c Contact Phone: 403-232-5340 Zone: Nahanni Perforations: Under daily costs SITP 7420 KPa @ 0800 hrs. SICP 1850 KPa @ 0800 hrs. Rig Hr: nil Cum Rig Hrs.: AFE # E8D-011		<table border="1"> <thead> <tr> <th>Code</th> <th>Item</th> <th>Amount</th> </tr> </thead> <tbody> <tr><td>3324.0m</td><td>- 3334.0mKB</td><td></td></tr> <tr><td>3385.0m</td><td>- 3392.0mKB</td><td></td></tr> <tr><td>3278.0m</td><td>- 3280.0mKB</td><td></td></tr> <tr><td>3260.0m</td><td>- 3272.0mKB</td><td></td></tr> <tr><td>3234.0m</td><td>- 3248.0mKB</td><td></td></tr> <tr><td>3165.0m</td><td>- 3172.0mKB</td><td></td></tr> <tr><td>3152.0m</td><td>- 3160.0mKB</td><td></td></tr> <tr><td>3134.0m</td><td>- 3148.0mKB</td><td></td></tr> <tr><td>3128.0m</td><td>- 3138.0mKB</td><td></td></tr> <tr><td>3115.0m</td><td>- 3122.0mKB</td><td></td></tr> <tr><td colspan="2">Daily Costs:</td><td>\$102,138</td></tr> <tr><td colspan="2">Previous Costs:</td><td>\$4,871,026</td></tr> <tr><td colspan="2">Cumulative Costs:</td><td>\$4,973,164</td></tr> <tr><td colspan="2">AFE Estimate:</td><td>\$5,331,700</td></tr> </tbody> </table>		Code	Item	Amount	3324.0m	- 3334.0mKB		3385.0m	- 3392.0mKB		3278.0m	- 3280.0mKB		3260.0m	- 3272.0mKB		3234.0m	- 3248.0mKB		3165.0m	- 3172.0mKB		3152.0m	- 3160.0mKB		3134.0m	- 3148.0mKB		3128.0m	- 3138.0mKB		3115.0m	- 3122.0mKB		Daily Costs:		\$102,138	Previous Costs:		\$4,871,026	Cumulative Costs:		\$4,973,164	AFE Estimate:		\$5,331,700
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AFE Estimate:		\$5,331,700																																														
Total Hauled to Lease: 321.50 Total Hauled from Lease: 588.37 Total in Tanks: 12.73 Initial Well Fluid: Water/standstill Total Load Fluids: 723.31 Non-recov. Ann. Fluids: 94.70 Recovery Last 24 hrs: 0.00 Recovery to Date: 1049.10 Load to Recover (+New): 20.24		KB Elevation: 449.89 m KB. to CF: 10.35 m KB. to THF: 8.60 m																																														
TIME	OPERATION																																															
0800	The shut in tubing pressure is 21430 kPa and the casing pressure is 1850 kPa.																																															
1200	the shut in tubing pressure is 21430 kPa and the casing pressure is 1900 kPa.																																															
1230	Bonnet Wireline on the location, safety meeting. Rigged in 2 hydraulic BOP stacks and pressure tested each one to 1.4 mPa and 28 mPa 10 minutes each - good. Rigged in the lubricator and pressure tested to 1.4 mPa and 28 mPa 10 minutes each - good. opened the master valve. tools would not go through the 35 mPa x 70 mPa crossover, I.D. = 71.12 mm																																															
1800	Ran in with a 73.66 mm swedging tool to the top of the fish at 308 mcf., hand jarred down to bend the line over, pulled out and ran in with a 69.34 mm inside grapple, could not catch the fish, pulled out of the hole.																																															
1700	Changed out the wellhead flange and the lower BOP. Pressure tested the BOP to 1.4 mPa and 28 mPa 10 minutes each - good. Ran in with a 66.8 mm O.D. grapple and a 72.6 mm drift above the grapple.																																															
1900	Tagged the fish at 307 mcf., jarred down and latched to fish, came off the fish. Pulled out of the hole and made up 66.8 mm O.D. grapple with 72.6 mm drift above.																																															
2030	Ran in and tagged the fish at 307 mcf. Latched to the fish and pulled free at 800 lbs., approximate string weight is 200 lbs. Approximately 2.0 m of 0.125" wire in the grapple.																																															
2100	Ran in and tagged the fish at 295 mcf., pulled up to 1150 lbs. and pulled off the fish. No wire.																																															
2130	Lower BOP leaking, replaced the O-ring and retested - good. Ran in with same fishing tools and tagged the fish at 301 mcf. Hand jarred down and latched to the fish, worked the tools to a maximum of 1500 lbs. and jarred down in an attempt to shear off the Lee recorders, sheared off the fishing tool, pulled out of the hole, repined the tools with brass and reran to tag the fish at 284 mcf. latched to the fish and worked to a maximum of 1500 lbs. sheared off of the fishing tools, pulled out of the hole and redressed with a brass shear pin. Reran and tagged the fish at 285 mcf., worked the tools to a maximum of 1500 lbs.																																															
98/08/31																																																
0030	Wire broke, pulled out of the hole and recovered approximately 1 m of wire. Installed night cap on the well and pressured up to the wing valve to 28 mPa. Pumped 20 m3 of clean produced water down the tubing at 0.2 m3/minute. Tubing pressure dropped to 1.5 mPa.																																															
0230	Ran in and latched to the fish at 308 mcf. Pulled to surface and line broke in the BOP's and fish dropped back down the hole. Reran the wireline grapples 3 more times, latched to the fish on the third run																																															
0500	Worked the tool string to a maximum of 1500 lbs. for 1 hr. dropping down to 200 and 500 lbs.																																															
0800	Continued to work tool string.																																															

Job Number: GP-88-114
 Customer: Ranger Oil Ltd
 Well Name: Lizard
 Well Location: P-68-A
 Formation: Tight Hole

FieldNotes

NORWARD

Row	Date	Cik Tm	Tbg Pres	Cag Pres	Tbg Temp	Choke	Orif1	Static1	Diff1	Temp1	Gas Rate1	Cum Gas1	Orif2	Static2	Diff2	Temp2	Gas Rate2	Cum Gas2	Wat/hr	Wat Rate	Cum Wat 2	pH	SALINITY
	yy/mm/dd	clock	kPa	kPa	C	mm	mm	kPa	kPa	C	10 ³ m ³ /d	10 ³ m ³	mm	kPa	kPa	C	10 ³ m ³ /d	10 ³ m ³	m ³	m ³ /d	m ³		ppm
1703	1998/08/28	12:00:00	21450	1800			0.00						0.00										
1704		12:30:00	21450	1800																			
1705		13:00:00	21450	1800																			
1706		13:30:00	21450	1800																			
1707		14:00:00	21450	1800																			
1708		14:30:00	21450	1800																			
1709		15:00:00	21450	1800																			
1710		15:30:00	21440	1800																			
1711		16:00:00	21440	1800																			
1712		16:30:00	21440	1800																			
1713		17:00:00	21440	1800																			
1714		17:30:00	21440	1800																			
1715	1998/08/28	18:00:00	21440	1800																			
1716		18:00:00	Checked 400 psi tanks for acid leakage. Casing checked for sour, no sour present.																				
1717		18:30:00	21440	1850																			
1718		19:00:00	21440	1850																			
1719		19:30:00	21440	1850																			
1720		20:00:00	21440	1850																			
1721		20:30:00	21440	1850																			
1722		21:00:00	21440	1850																			
1723		21:30:00	21440	1850																			
1724		22:00:00	21440	1850																			
1725		22:30:00	21440	1850																			
1726		23:00:00	21440	1850																			
1727		23:30:00	21440	1850																			
1728	1998/08/29	00:00:00	21440	1850																			
1729		00:00:00	Checked 400 psi tanks for acid leakage.																				
1730		00:30:00	21440	1850																			
1731		01:00:00	21440	1850																			
1732		01:30:00	21440	1850																			
1733		02:00:00	21440	1850																			
1734		02:30:00	21440	1850																			
1735		03:00:00	21440	1850																			
1736		03:30:00	21440	1850																			
1737		04:00:00	21440	1850																			
1738		04:30:00	21440	1850																			
1739		05:00:00	21440	1850																			

Fast

Job Number: GP-98-114
 Customer: Ranger Oil Ltd
 Well Name: P-98-A
 Well Location: P-98-A
 Formation: Tipton Hills

Field Notes

NOTED

Row	Date	Cls Tm	Tbg Press	Cog Press	Tbg Temp	Choke	Orif	Subst	DMT	Temp	Gas Rate	Cum Gas	Orif	Subst	DMT	Temp	Gas Rate	Cum Gas	Wash	Wet Res	Cum Wet	2 pH	SALINITY
	1740	1998/08/29	05:30:00	21440	1850																		
	1741	1998/08/29	06:00:00	21440	1850																		
	1742	1998/08/29	06:30:00	21440	1850																		

08:00:00 Checked 400 lbs for leakage. Checked casing for seal, no seal found.

Page 50A

Fast

Job Number: GP-88-114
 Customer: Ranger Oil Ltd
 Wellname: Lland
 Well Location: P-66-A
 Formation: Tight Hole

FieldNotes

NORWARD

Row	Date	Clk Tm	Tbg Pres	Cg Pres	Tbg Temp	Choke	Orf1	Static1	Orf1	Temp1	Gas Rate1	Cum Gas1	Orf2	Static2	Orf2	Temp2	Gas Rate2	Cum Gas2	Wat/hr	Wat Rate	Cum Wat 2	pH	SALINITY
	yy/mm/dd	clock	kPa	kPa	C	mm	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	m3	m3/d	m3		ppm
1740	1998/08/28	05:30:00	21440	1850			0.00						0.00										
1741	1998/08/29	06:00:00	21440	1850																			
1742		06:00:00	Checked 40 jobs for leakage. Checked casing for sour, no sour found.																				
1743		06:30:00	21440	1850																			
1744		07:00:00	21440	1850																			
1745		07:30:00	21440	1850																			
1746		08:00:00	21440	1850																			
1747		08:30:00	21440	1850																			
1748		09:00:00	21440	1850																			
1749		09:30:00	21440	1850																			
1750		10:00:00	21440	1850																			
1751		10:30:00	21440	1850																			
1752		11:00:00	21440	1850																			
1753		11:30:00	21440	1850																			
1754		12:00:00	21440	1850																			
1755		12:30:00	21440	1850																			
1756		13:00:00	21440	1850																			
1757		13:30:00	21440	1850																			
1758		14:00:00	21440	1850																			
1759		14:30:00	21440	1850																			
1760		15:00:00	21440	1850																			
1761		16:30:00	21440	1850																			
1762		16:30:00	Shut in master valve, bleed off wellhead, rig in wireline to pull recorders and pressure test.																				
1763		17:40:00	Pressure test complete.																				
1764	1998/08/29	18:00:00	Hold safety testing, wireline run in hole to pull recorders.																				
1765		19:00:00	Wireline going out of hole, line broke shut in master, rig off lubricator. Await orders.																				
1766		20:30:00	Open master valve and record build ups.																				
1767		20:30:00	21440	1850																			
1768		21:00:00	21440	1850																			
1769		21:30:00	21440	1850																			
1770		22:00:00	21440	1850																			
1771		22:10:00	Shut in master valve, rig B.O.P's off wellhead.																				
1772		22:25:00	Open master valve, record build ups.																				
1773		22:30:00	21440	1850																			
1774		23:00:00	21440	1850																			
1775		23:30:00	21440	1850																			
1776	1998/08/30	00:00:00	21440	1850																			

Fast

FieldNotes

Job Number: GP-98-114
Customer: Ranger Oil Ltd.
Wellname: Uard
Well Location: P-06-A
Formation: Tight Hole

NORWARD

Row	Date	Clk Tm	Tbg Pres	Csg Pres	Tbg Temp	Choke	Orf1	Static1	Orf1	Temp1	Gas Rate1	Cum Gas1	Orf2	Static2	Orf2	Temp2	Gas Rate2	Cum Gas2	Wet/ly	Wet Rate	Cum Wet 2	pH	SALINITY
	yy/mm/dd	clock	kPa	kPa	C	mm	mm	kPa	kPa	C	10 ³ m ³ /d	10 ³ m ³	mm	kPa	kPa	C	10 ³ m ³ /d	10 ³ m ³	m ³	m ³ /d	m ³		ppm
1777	1998/08/30	00:00:00	Checked 400 bbls for acid leakage.																				
1778		00:30:00	21440	1850			0.00						0.00										
1779		01:00:00	21440	1850																			
1780		01:30:00	21440	1850																			
1781		02:00:00	21430	1850																			
1782		02:30:00	21430	1850																			
1783		03:00:00	21430	1850																			
1784		03:30:00	21430	1850																			
1785		04:00:00	21430	1850																			
1786		04:30:00	21430	1850																			
1787		05:00:00	21430	1850																			
1788		05:30:00	21430	1850																			
1789	1998/08/30	06:00:00	21430	1850																			
1790		06:00:00	Checked 400 bbls for acid leakage. Checked casing for sour, none found.																				

Job Number: GP-88-114
 Customer: Ranger Oil Ltd
 Well Name: Llard
 Well Location: P-68-A
 Formation: Tight Hole

FieldNotes

NORWARD

Row	Date	Clk Tim	Tbg Pres	Cag Pres	Tbg Temp	Choke	Crff1	Static1	DRT1	Temp1	Gas Rate1	Cum Gas1	Crff2	Static2	DRT2	Temp2	Gas Rate2	Cum Gas2	Watrhr	Wat Rate	Cum Wat 2	pH	SALINITY
	yy/mm/dd	clock	kPa	kPa	C	mm	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	m3	m3/d	m3		ppm
1777	1998/08/30	00:00:00	Checked 400 bbls for acid leakage.																				
1778		00:30:00	21440	1850			0.00						0.00										
1779		01:00:00	21440	1850																			
1780		01:30:00	21440	1850																			
1781		02:00:00	21430	1850																			
1782		02:30:00	21430	1850																			
1783		03:00:00	21430	1850																			
1784		03:30:00	21430	1850																			
1785		04:00:00	21430	1850																			
1786		04:30:00	21430	1850																			
1787		05:00:00	21430	1850																			
1788		05:30:00	21430	1850																			
1789	1998/08/30	08:00:00	21430	1850																			
1790		08:00:00	Checked 400 bbls for acid leakage. Checked casing for sour, none found.																				
1791		08:30:00	21430	1850																			
1792		07:00:00	21430	1900																			
1793		07:30:00	21430	1900																			
1794		08:00:00	21430	1900																			
1795		08:30:00	21430	1900																			
1796		09:00:00	21430	1900																			
1797		09:30:00	21430	1900																			
1798		10:00:00	21430	1900																			
1799		10:30:00	21430	1900																			
1800		11:00:00	21430	1900																			
1801		11:30:00	21430	1900																			
1802	1998/08/30	12:00:00	21430	1900																			
1803		12:30:00	21430	1900																			
1804		12:40:00	New wireline truck on location. shut in master. bleed off, rig in and pressure test.																				
1805		15:30:00	Pressure test complete.																				
1806		16:07:00	Wireline run in hole with tubing swedge.																				
1807		16:30:00	Wireline out of hole.																				
1808		16:25:00	Wireline run in hole with wire grab.																				
1809		17:00:00	Wireline out of hole, no wire retrieved. Change BOP's and pressure test.																				
1810		18:45:00	Pressure test complete. wireline run in hole with wire grab.																				
1811		19:45:00	Wireline out of hole, no wire retrieved.																				
1812		20:20:00	Wireline run in hole with wire grab.																				
1813		21:00:00	Wireline out of hole, minimal wire recovered.																				

Fast

Job Number: 07-06-114
 Customer: Ranger Oil Ltd
 Well Name: P-09-A
 Well Location: Tipton

Field Notes

NOTED

Row	Date	Ck Tm / Tag Press	Cog Press	Temp Choke	Ort. Static	DMT	Temp Gas	Relat	Cum Gas	Ort. Static	DMT	Temp Gas	Relat	Cum Gas	Water	Well Relat	Cum Water	pH	SALINITY		
year/month	check	hPa	hPa	C	mm	mm	hPa	hPa	C	10 ⁻³ m3	10 ⁻³ m3	mm	hPa	hPa	C	10 ⁻³ m3	10 ⁻³ m3	m3	m3	m3	ppm
1814	1889/08/30	21:10:00	Wireline run in hole with wire grab.																		
1815		21:25:00	Wireline out of hole, no wire retrieved.																		
1816		21:55:00	Wireline run in hole with RB tool.																		
1817		22:45:00	Wireline out of hole.																		
1818		23:05:00	Wireline run in hole with RB tool.																		
1819		23:45:00	Wireline out of hole.																		
1820		23:55:00	Wireline run in hole with wire grab.																		
1821	1890/09/01	00:20:00	Wireline out of hole with wire grab, internal wire recovered.																		
1822		00:45:00	Stand later valve on 490 psi production tank, gas valve lead down hole and to well valve.																		
1823		00:55:00	Stand later valve on 490 psi production tank, gas valve lead down hole and to well valve.																		
1824		01:30:00																			
1825		02:25:00	Finished reposition fluid down hole.																		
1826		03:00:00	2450.																		
1827		03:40:00	Wireline run in hole with wire grab.																		
1828		03:55:00	Wireline out of hole with wire grab, internal wire recovered.																		
1829		04:00:00	Wireline run in hole with wire grab.																		
1830		04:05:00	Wireline out of hole with wire grab.																		
1831		04:10:00	Wireline out of hole with internal wire recovered.																		
1832		04:25:00	Wireline run in hole with wire grab.																		
1833		04:30:00	4500.																		
1834		05:00:00	Wireline out of hole, assessed off wire grab.																		
1835		05:05:00	Wireline run in hole with RB tool.																		
1836		05:10:00	8970.																		
1837		05:30:00	8890.																		
1838	1898/08/31	08:30:00	7420.																		

Page 52A

Fast

2

GAS ANALYSIS

V1326

CONTAINER IDENTITY

52137-98-4526

LABORATORY NUMBER

Ranger Oil Limited

OPERATOR

PAGE

P-66-A

LOCATION

WELL OR SAMPLE LOCATION

KB ELEV. (m)

GR ELEV. (m)

FIELD OR AREA

POOL OR ZONE

Core Laboratories

SAMPLER

TEST TYPE & NO.

TEST RECOVERY

Test Sep. Gas Leg

POINT OF SAMPLE

AMT & TYPE CUSHION

MUD RESISTIVITY

PUMPING

FLOWING

GAS LIFT

SWAB

WATER

m³d

OIL

m³d

GAS

m³d

TEST INTERVAL (months)

2275

SEPARATOR

RESERVOIR

°C

19100 @ 22°C

CONTAINER WHEN SAMPLED

CONTAINER WHEN RECEIVED

78.0

SEPARATOR

Pressures, kPa (gauge)

Temperatures, °C

98 (18 22)

DATE SAMPLED (Y/M/D)

98 (18 24)

DATE RECEIVED (Y/M/D)

98 (18 29)

DATE ANALYZED (Y/M/D)

JH

ANALYST

SIGNATURE

COMPONENT	MOLE FRACTION AIR FREE AS RECEIVED	MOLE FRACTION AIR FREE ACID GAS FREE	Wt. % AIR FREE AS RECEIVED
H ₂	0.0002	0.0002	
He	0.0011	0.0013	
N ₂	0.0493	0.0589	
CO ₂	0.1555	0.0000	
H ₂ S	0.0171	0.0000	
C ₁	0.7866	0.9394	
C ₂	0.0002	0.0002	0.7
C ₃	0.0000	0.0000	0.0
iC ₄	0.0000	0.0000	0.0
C ₄	0.0000	0.0000	0.0
iC ₅	0.0000	0.0000	0.0
C ₅	0.0000	0.0000	0.0
C ₆	0.0000	0.0000	0.0
C ₇₊	0.0000	0.0000	0.0
Total	1.0000	1.0000	0.7

CALCULATED GROSS HEATING VALUE

MJ/m³ @ 15°C & 101.325 kPa (abs.)

29.91

MOISTURE FREE

35.52

MOISTURE & ACID GAS FREE

CALCULATED VAPOR PRESSURE

kPa (abs.) @ 46.6°C

0.0

PENTANES PLUS

CALCULATED TOTAL SAMPLE PROPERTIES (AIR-1) @ 15°C & 101.325 kPa

MOISTURE FREE AS SAMPLED

0.893 kg/m³

DENSITY

0.728

RELATIVE DENSITY

21.1

RELATIVE MOLECULAR MASS

CALCULATED PSEUDOCRITICAL PROPERTIES

AS SAMPLED

ACID GAS FREE

4998.4

kPa (abs.)

p_{Pc}

206.1

K

p_{Tc}

kPa (abs.)

p_{Pc}

K

p_{Tc}

REMARKS:

Hydrogen sulphide determined
in the laboratory = 0.71%.

NOTE:

THE GROSS HEATING VALUE HAS BEEN CALCULATED IN ACCORDANCE TO
AGA REPORT #6 AND ALL PROPERTIES HAVE BEEN CALCULATED UTILIZING
AGA 2-1985 PHYSICAL CONSTANTS.

COMPANY: Ranger Oil Limited
PROJECT: Fluid Analysis - Fort Liard P66A

PAGE: of
FILE: S2137-98-4526
DATE: 98 Aug 31

2. Sample Set 1A, Aug 22, 4:00 AM, 2900 kPa, 93 deg. C, gas flow rate 420 E3 m3

V7076	Gas sample	C7+ composition results attached	
V5945	Gas sample (duplicate)		
G040	Gas sample	Sulfur species results faxed previously	
G103	Gas sample (duplicate)	QC check	
G181	Gas sample (triplicate)	(QC if required)	
049	Water, preserved	One complete water analysis using a	
050	Water, preserved (duplicate)	combination of the preserved and	
051	Water, preserved (triplicate)	unpreserved samples (Na, K, Ca, Mg, Ba	
052	Water, unpreserved	Sr, Fe, Mn, Cl, HCO ₃ , SO ₄ , CO ₃ , OH, pH,	
053	Water, unpreserved (dup)	resistivity, RI, spec. gravity, TDS, Stiff	
054	Water, unpreserved (trip)	diagram) - results attached	
058	Water, unfiltered	Fe/Mn analysis	Results to follow
059	Water, unfiltered	Fe/Mn analysis	
060	Water, unfiltered	Fe/Mn analysis	
061	Water, filtered	Fe/Mn analysis	
062	Water, filtered	Fe/Mn analysis	
063	Water, filtered	Fe/Mn analysis	
055	Water	Dissolved H ₂ S	101 mg/kg
056	Water	Dissolved H ₂ S	101
057	Water	Dissolved H ₂ S	90

Sample Set 1A - On-site testing results

Turweiller	1.077 % H ₂ S
pH/Temperature	6.61 @ 24 deg. C
Alkalinity (total alk. as CaCO ₃)	335 mg/L
Dissolved CO ₂	144 mg/L
Dissolved O ₂	sample too dirty
Chloride (by titration)	7699 mg/L (suspect result, prelim value for sample 052 is 89317 mg/L)

(4)

GAS ANALYSIS

V7076

CONTAINER IDENTITY

52137-9N-4526

LABORATORY NUMBER

Ranger Oil Limited

OPERATOR

PAGE

P-66-A

LOCATION

WELL OR SAMPLE LOCATION

KB ELEV. (m)

QBR ELEV. (m)

FIELD OR AREA

POOL OR ZONE

Core Laboratories

SAMPLE A

TEST TYPE & NO

TEST RECOVERY

Gas Log @ 420 E3m3 (1a)

POINT OF SAMPLE

BMT. & TYPE CUSHION

MUD RESISTIVITY

PUMPING

FLOWING

GAS LIFT

SWAB

WATER

m³/d

OIL

m³/d

GAS

m³/d

TEST INTERVAL (meters)

2900

SEPARATOR

RESERVOIR

e °C 2400 @ 22 °C

CONTAINER
WHEN SAMPLEDCONTAINER
WHEN RECEIVED

93.0

SEPARATOR

Pressures. kPa (gauge)

Temperatures. °C

98 08 22

DATE SAMPLED (Y/M/D)

98 08 24

DATE RECEIVED (Y/M/D)

98 08 28

DATE ANALYZED (Y/M/D)

HJ/TJ

ANALYST

SIGNATURE

COMPONENT	MOLE FRACTION AIR FREE AS RECEIVED	MOLE FRACTION AIR FREE ACID GAS FREE	mL/m ³ AIR FREE AS RECEIVED
H ₂	0.00015	0.0006	
He	0.00011	0.0013	
N ₂	0.0490	0.0585	
CO ₂	0.1513	0.0000	
H ₂ S	0.0108	0.0000	
C ₁	0.7871	0.9394	
C ₂	0.0002	0.0002	0.7
C ₃	0.0000	0.0000	0.0
iC ₄	0.0000	0.0000	0.0
C ₄	0.0000	0.0000	0.0
iC ₅	0.0000	0.0000	0.0
C ₅	0.0000	0.0000	0.0
C ₆	0.0000	0.0000	0.0
C ₇₊	0.0000	0.0000	0.0
Total	1.0000	1.0000	0.7

CALCULATED GROSS HEATING VALUE		CALCULATED VAPOR PRESSURE	
MJ/m ³ @ 15°C & 101.325 kPa (abs.)		kPa (abs.) @ 40.0°C	
30.02	35.52	(1.1)	
MOISTURE FREE	MOISTURE & ACID GAS FREE	PENTANES PLUS	

CALCULATED TOTAL SAMPLE PROPERTIES (AIR-T) @ 15°C & 101.325 kPa		
MOISTURE FREE AS SAMPLED		
0.890 kg/m ³	0.726	21.0
DENSITY	RELATIVE DENSITY	RELATIVE MOLECULAR MASS

CALCULATED PSEUDOCRITICAL PROPERTIES				
AS SAMPLED		ACID GAS FREE		
5002.2	206.3			
kPa (abs)	K	kPa (abs)	K	
p _{pc}	p _{tr}	p _{pc}	p _{tr}	

REMARKS:

Hydrogen sulphide determined
in the field = 1.077%

NOTE: THE GROSS HEATING VALUE HAS BEEN CALCULATED IN ACCORDANCE TO
AGA REPORT #8 AND ALL PROPERTIES HAVE BEEN CALCULATED UTILIZING
AGA 228.8 PHYSICAL CONSTANTS.

(5)

WATER ANALYSIS

052

CONTAINER IDENTITY

52137-98-4526

LABORATORY NUMBER

Ranger Oil Limited

OPERATOR

PAGE

P-66-A

LOCATION

WELL OR SAMPLE LOCATION

NO. BLEV. (m)

GR. BLEV. (m)

FIELD OR AREA

POOL OR ZONE

Core Laboratories

SAMPLER

TEST TYPE & NO.

TEST RECOVERY

Separator: 1A

POINT OF SAMPLE

AMT. & TYPE CUSHION

MUD RESISTIVITY

PUMPING

FLOWING

GAS LIFT

SWAB

WATER

m³/d

OIL

m³/d

GAS

m³/d

TEST INTERVAL (HOURS)

SEPARATOR

RESERVOIR

Pressures. kPa (gauge)

CONTAINER
WHEN SAMPLEDCONTAINER
WHEN RECEIVED

SEPARATOR

Temperatures. °C

98 08 22

DATE SAMPLED (Y/M/D)

98 08 24

DATE RECEIVED (Y/M/D)

98 08 28

DATE ANALYZED (Y/M/D)

MS/MN

ANALYST

SIGNATURE

CATIONS

ION	mg/L	mg Fraction	mmol/L
Na	41760	0.2818	1816.5
K	4449	0.0300	113.8
Ca	10860	0.0733	541.9
Mg	1448	0.0098	119.2
Ba	104	0.0007	1.5
Str	648	0.0044	14.8
Fe			
Mn			

ANIONS

ION	mg/L	mg Fraction	mmol/L
Cl	88570	0.5978	2498.2
Br			
I			
SO ₄	312	0.0021	5.1
SO ₃	18	0.0001	0.4
CO ₃	0	0.0000	0.0
OH	0	0.0000	0.0
H ₂ S	Pres.		

Total Solids (mg/L)

By Evaporation @ 110 °C

By Evaporation @ 180 °C

At Ignition

148169

Calculated

1.1038 @ 15.6 °C

Specific Gravity

1.3586 @ 21 °C

Refractive Index

6.6

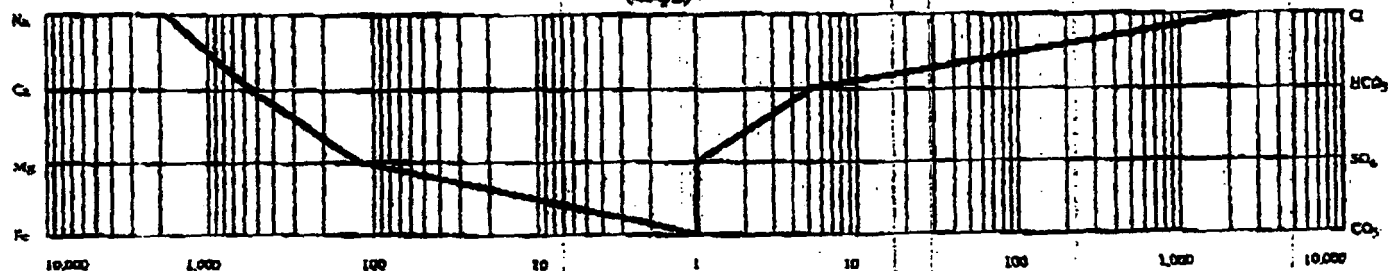
pH

0.057 @ 25 °C

Resistivity (Ohm-Meters)

LOGARITHMIC PATTERNS OF DISSOLVED IONS

(mg/L)



Remarks: Pres. - Analyte Present.

6

COMPANY: Ranger Oil Limited
PROJECT: Fluid Analysis - Fort Lard P66A

PAGE: of
FILE: 52137-98-4526
DATE: 98 Aug 31

3. Sample Set 1B, Aug 22, 6:30 AM, 3110 kPa, 94 deg. C, gas flow rate 536 E3 m3

V0135	Gas sample	C7+ composition results attached	
Z2096	Gas sample (duplicate)		
G105	Gas sample	Sulfur species results faxed previously	
G090	Gas sample (duplicate)	QC check	
G110	Gas sample (triplicate)	(QC if required)	
H312	Water (under pressure)	Gas/water ratio, flashed gas analysis	
H051	Water (press., duplicate)	Testing/analysis pending	
H164	Water (press., triplicate)		
064	Water, preserved	One complete water analysis using a combination of the preserved and unpreserved samples (Na, K, Ca, Mg, Ba, Sr, Fe, Mn, Cl, HCO ₃ , SO ₄ , CO ₃ , OH, pH, resistivity, RI, spec. gravity, TDS, Stiff diagram) - results attached	
065	Water, preserved (duplicate)		
066	Water, preserved (triplicate)		
067	Water, unpreserved		
068	Water, unpreserved (dup)		
069	Water, unpreserved (trip)		
073	Water, unfiltered	Fe/Mn analysis	Results to follow
074	Water, unfiltered	Fe/Mn analysis	
075	Water, unfiltered	Fe/Mn analysis	
076	Water, filtered	Fe/Mn analysis	
077	Water, filtered	Fe/Mn analysis	
070	Water	Dissolved H ₂ S	170 mg/kg
071	Water	Dissolved H ₂ S	161
072	Water	Dissolved H ₂ S	174

(7)

COMPANY: Ranger Oil Limited
PROJECT: Fluid Analysis - Fort Liard P66A

PAGE: of
FILE: S2137-98-4526
DATE: 98 Aug 31

Sample Set 1B - On-site testing results

Turweiller	1.089 % H ₂ S
pH/Temperature	6.60 @ 25 deg. C
Alkalinity (total alk. as CaCO ₃)	308 mg/L
Dissolved CO ₂	198 mg/L
Dissolved O ₂	sample too dirty
Chloride (by titration)	111039 mg/L (prelim value for sample 067 is 91167 mg/L)

Bacteria - aerobes
Bacteria - anaerobes
Bacteria - SRB

Millipore (gas)

Filter destroyed (cannot quantify), significant solids
observed on the filter.
XRD/EDX analysis in progress

Millipore (water)

20.2 mg/L
XRD/EDX analysis in progress

(P)

GAS ANALYSIS

Z135

CONTAINER IDENTITY

52137-9K-4526

LABORATORY NUMBER

Ranger Oil Limited

OPERATOR

PAGE

P-66-A

LOCATION

WELL OR SAMPLE LOCATION

RS ELEV. (m)

GR ELEV. (m)

FIELD OR AREA

POOL OR ZONE

Core Laboratories

SAMPLER

TEST TYPE & NO

TEST RECOVERY

Gas Leg @ 536 E3in3 (1b)

POINT OF SAMPLE

AMT. & TYPE CUSHION

MUD RESISTIVITY

PUMPING

FLOWING

GAS LIFT

SWAB

WATER

m³/d

OIL

m³/d

GAS

m³/d

TEST INTERVAL (months)

3110

SEPARATOR

RESERVOIR

@

°C

2600 @ 22 °C

CONTAINER
WHEN SAMPLEDCONTAINER
WHEN RECEIVED

94.0

SEPARATOR

Pressures. kPa (gauge)

Temperatures. °C

98 08 22

DATE SAMPLED (Y/M/D)

98 08 24

DATE RECEIVED (Y/M/D)

98 08 28

DATE ANALYZED (Y/M/D)

HJ/TJ

ANALYST

SIGNATURE

COMPONENT	MOLE FRACTION AIR FREE AS RECEIVED	MOLE FRACTION AIR FREE ACID GAS FREE	mL/M ³ AIR FREE AS RECEIVED
H ₂	0.0008	0.0010	
He	0.0011	0.0013	
N ₂	0.11492	0.0590	
CO ₂	0.1557	0.0000	
H ₂ S	0.0109	0.0000	
C ₁	0.7830	0.9384	
C ₂	0.0001	0.0001	0.4
C ₃	0.0002	0.0002	0.7
iC ₄	Trace	Trace	Trace
C ₄	Trace	Trace	Trace
iC ₅	Trace	Trace	Trace
C ₅	Trace	Trace	Trace
C ₆	0.0000	0.0000	0.0
C ₇₊	0.0000	0.0000	0.0
Total	1.0000	1.0000	1.1

CALCULATED GROSS HEATING VALUE

MJ/m³ @ 15°C & 101.325 kPa (abs.)

29.85

MOISTURE FREE

35.50

MOISTURE & ACID GAS FREE

CALCULATED VAPOR PRESSURE

kPa (abs.) @ 40.0°C

0.0

PENTANES PLUS

CALCULATED TOTAL SAMPLE PROPERTIES (AIR-1) @ 15°C & 101.325 kPa

MOISTURE FREE AS SAMPLED

0.896

kg/m³

DENSITY

0.731

RELATIVE DENSITY

21.2

RELATIVE MOLECULAR MASS

CALCULATED PSEUDOCRITICAL PROPERTIES

AS SAMPLED

ACID GAS FREE

5013.6

kPa (abs.)

p_{pc}

206.8

K

p_{TC}

kPa (abs.)

p_{pc}

K

p_{TC}

REMARKS:

Hydrogen sulphide determined
in the field = 1.089%

NOTE:

THE GROSS HEATING VALUE HAS BEEN CALCULATED IN ACCORDANCE TO
AGA REPORT 8 AND ALL PROPERTIES HAVE BEEN CALCULATED UTILIZING
AGA 2145-88 PHYSICAL CONSTANTS.

P.19

(10)

COMPANY: Ranger Oil Limited
PROJECT: Fluid Analysis - Fort Liard P66A

PAGE: of
FILE: 52137-98-4526
DATE: 98 Aug 31

4. Sample Set 2, Aug 22, 3:30 PM, 1500 kPa, 40 deg. C, gas flow rate 273 E3 m3

V1134	Gas sample	C7+ composition results attached	
V6887	Gas sample (duplicate)		
G073	Gas sample	Sulfur species results faxed previously	
G156	Gas sample (duplicate)	QC check	
G124	Gas sample (triplicate)	(QC if required)	
078	Water, preserved	One complete water analysis using a	
079	Water, preserved (duplicate)	combination of the preserved and	
080	Water, preserved (triplicate)	unpreserved samples (Na, K, Ca, Mg, Ba	
081	Water, unpreserved	Sr, Fe, Mn, Cl, HCO ₃ , SO ₄ , CO ₃ , OH, pH,	
082	Water, unpreserved (dup)	resistivity, RI, spec. gravity, TDS, Stiff	
083	Water, unpreserved (trip)	diagram) - results attached	
087	Water, unfiltered	Fe/Mn analysis	To follow
088	Water, unfiltered	Fe/Mn analysis	
089	Water, unfiltered	Fe/Mn analysis	
090	Water, filtered	Fe/Mn analysis	
091	Water, filtered	Fe/Mn analysis	
084	Water	Dissolved H ₂ S	208 mg/kg
085	Water	Dissolved H ₂ S	180
086	Water	Dissolved H ₂ S	128

Sample Set 2 - On-site testing results

Turweiller	0.849 % H ₂ S
pH/Temperature	5.58 @ 26 deg. C
Alkalinity (total alk as CaCO ₃)	106 mg/L
Dissolved CO ₂	132 mg/L
Dissolved O ₂	sample too dirty
Chloride (by titration)	13325 mg/L (prelim value for sample 081 is 12347 mg/L)

(11)

GAS ANALYSIS

V1134

CONTAINER IDENTITY

52137-98-4526

LABORATORY NUMBER

Ranger Oil Limited

OPERATOR

PAGE

P-66-A

LOCATION

WELL OR SAMPLE LOCATION

KB ELEV. (m)

GR ELEV. (m)

FIELD OR AREA

POOL OR ZONE

Core Laboratories

SAMPLER

TEST TYPE & NO.

TEST RECOVERY

Gas Log @ 273 E3m3 (2)

POINT OF SAMPLE

AMT. & TYPE CUSHION

MUD RESISTIVITY

PUMPING

FLOWING

GAS LIFT

SWAB

WATER

m³/d

OIL

m³/d

GAS

m³/d

TEST INTERVAL (meters)

1500

SEPARATOR

RESERVOIR

°C

1235 @ 22°C

CONTAINER WHEN SAMPLED

CONTAINER WHEN RECEIVED

40.0

SEPARATOR

Pressures. kPa (gauge)

Temperatures. °C

98 (18 23

DATE SAMPLED (Y/M/D)

98 (18 24

DATE RECEIVED (Y/M/D)

98 (18 28

DATE ANALYZED (Y/M/D)

HJ/TJ

ANALYST

SIGNATURE

COMPONENT	MOLE FRACTION AIR FREE AS RECEIVED	MOLE FRACTION AIR FREE ACID GAS FREE	m/m AIR FREE AS RECEIVED
H ₂	0.0001	0.0001	
He	0.0011	0.0013	
N ₂	0.0491	0.0587	
CO ₂	0.1551	0.0000	
H ₂ S	0.0085	0.0000	
C ₁	0.7858	0.9395	
C ₂	0.0003	0.0004	1.1
C ₃	0.0000	0.0000	0.0
iC ₄	0.0000	0.0000	0.0
C ₄	0.0000	0.0000	0.0
iC ₅	0.0000	0.0000	0.0
C ₅	0.0000	0.0000	0.0
C ₆	0.0000	0.0000	0.0
C ₇₊	0.0000	0.0000	0.0
Total	1.0000	1.0000	1.1

CALCULATED GROSS HEATING VALUE

M.M.B.T. @ 15°C & 101.325 kPa (abs.)

29.92

MOISTURE FREE

35.53

MOISTURE & ACID GAS FREE

CALCULATED VAPOR PRESSURE

kPa (abs.) @ 40.0°C

0.0

PENTANES PLUS

CALCULATED TOTAL SAMPLE PROPERTIES (AIR-1) @ 15°C & 101.325 kPa

MOISTURE FREE AS SAMPLED

0.893

DENSITY kg/m³

0.729

RELATIVE DENSITY

21.1

RELATIVE MOLECULAR MASS

CALCULATED PSEUDOCRITICAL PROPERTIES

AS SAMPLED

ACID GAS FREE

5014.0

kPa (abs.)

206.4

K

kPa (abs.)

K

p_{pc}p_{pc}p_{pc}p_{pc}

REMARKS:

Hydrogen sulphide determined
in the field = 0.849%.NOTE: THE GROSS HEATING VALUE HAS BEEN CALCULATED IN ACCORDANCE TO
AGA REPORT 85 AND ALL PROPERTIES HAVE BEEN CALCULATED UTILIZING
AGA 2105-85 PHYSICAL CONSTANTS.

(12)

WATER ANALYSIS

081

52137-98-4526

LABORATORY NUMBER

CONTAINER IDENTITY

Ranger Oil Limited

OPERATOR

PAGE

P-66-A

LOCATION

WELL OR SAMPLE LOCATION

KB ELEV. (m)

GR ELEV. (m)

FIELD OR AREA

POOL OR ZONE

Core Laboratories

SAMPLER

TEST TYPE & NO.

TEST RECOVERY

Separator 2

POINT OF SAMPLE

AFC & TYPE CLOSURE

MUD RESISTIVITY

PUMPING

FLOWING

GAS LIFT

SWAB

WATER

m³/d

OIL

m³/d

GAS

m³/d

TEST INTERVAL (months)

SEPARATOR

RESERVOIR

Pressures. kPa (gauge)

CONTAINER

WHEN SAMPLED

CONTAINER

WHEN RECEIVED

SEPARATOR

Temperatures. °C

98 08 22

98 08 24

98 08 28

MS/MN

DATE SAMPLED (Y/M/D)

DATE RECEIVED (Y/M/D)

DATE ANALYZED (Y/M/D)

ANALYST

SIGNATURE

CATIONS

ANIONS

ION	mg/L	mg Fraction	mg/L
Na	5532	0.2758	240.6
K	560	0.0279	14.3
Ca	1502	0.0749	75.0
Mg	198	0.0099	16.3
Ba	28	0.0014	0.4
Str	91	0.0045	2.1
Fe			
Mn			

ION	mg/L	mg Fraction	mg/L
Cl	11992	0.5978	338.3
Str			
I			
HCO ₃	131	0.0065	2.1
SO ₄	26	0.0013	0.5
CO ₃	0	0.0000	0.0
OH	0	0.0000	0.0
H ₂ S	Pres.		

Total Solids (mg/L)

By Evaporation @ 110 °C

By Evaporation @ 180 °C

At 1g/100g

20060

Calculated

1.0135 @ 15.6 °C

1.3371 @ 21 °C

Specific Gravity

Refractive Index

6.1

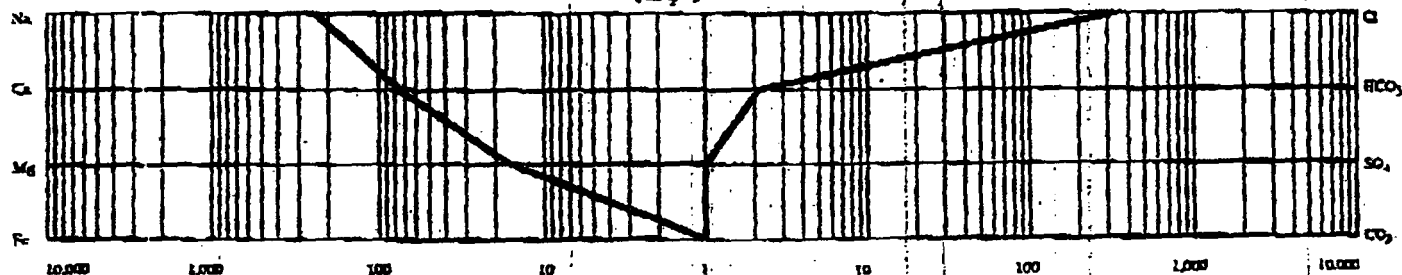
0.307 @ 25 °C

pH

Resistivity (Ohm-Meters)

LOGARITHMIC PATTERNS OF DISSOLVED IONS

(mg/L)



Remarks: Pres.- Analyte Present.

(13)

COMPANY: Ranger Oil Limited
PROJECT: Fluid Analysis - Fort Liard P66A

PAGE: of
FILE: 52137-98-4526
DATE: 98 Aug 31

5. Sample Set 3A, Aug 22, River Water

107	Water, unpreserved	One complete water analysis - results attached	
108	Water, unpreserved (dup)		
109	Water, unpreserved (trip)		
113	Water, unfiltered	Fe/Mn analysis	To follow
114	Water, unfiltered	Fe/Mn analysis	
115	Water, filtered	Fe/Mn analysis	
116	Water, filtered	Fe/Mn analysis	
117	Water, filtered	Fe/Mn analysis	
118	Water, filtered	Fe/Mn analysis	
110	Water	Dissolved H ₂ S	To follow
111	Water	Dissolved H ₂ S	
112	Water	Dissolved H ₂ S	

Compatibility Testing

Visual and turbidimetric compatibility testing with water sample 1B - pending

Sample Set 3A - On-site testing results

pH/Temperature	8.53 @ 13 deg. C
Alkalinity (total alk. as CaCO ₃)	161 mg/L
Dissolved CO ₂	2.5 mg/L
Dissolved O ₂	100+ ppb
Chloride (by titration)	30 mg/L
Bacteria - aerobes	
Bacteria - anaerobes	
Bacteria - SRB	

14

WATER ANALYSIS

108

52137-98-4526

LABORATORY NUMBER

PAGE

Ranger Oil Limited

OPERATOR

P-66-A

LOCATION

WELL OR SAMPLE LOCATION

KB ELEV. (m)

GR ELEV. (m)

FIELD OR AREA

POOL OR ZONE

Core Laboratories

SAMPLER

TEST TYPE & NO.

TEST RECOVERY

River Water 3

POINT OF SAMPLE

AMT & TYPE CUSHION

MUD RESISTIVITY

PUMPING

FLOWING

GAS LIFT

SWAB

WATER

n_{7d}

OIL

n_{7d}

GAS

n_{7d}

TEST INTERVAL (meters)

SEPARATOR

RESERVOIR

CONTAINER

WHEN SAMPLED

CONTAINER

WHEN RECEIVED

SEPARATOR

Pressures. kPa (gauge)

Temperatures. °C

98 08 22

DATE SAMPLED (Y/M/D)

98 08 24

DATE RECEIVED (Y/M/D)

98 08 28

DATE ANALYZED (Y/M/D)

MNAMS

ANALYST

SIGNATURE

CATIONS

ANIONS

Total Solids
(mg/L)

ION	mg/L	mg Fraction	mg/L
Na	10	0.0214	0.4
K	1.7	0.0036	0.0
Ca	86	0.1844	4.3
Mg	25	0.0536	2.1
Ba	0.05	0.0001	0.0
Str	0.70	0.0015	0.0
Fe			
Mn			

ION	mg/L	mg Fraction	mg/L
Cl	4	0.0086	0.1
Br			
I			
SC ₂	181	0.3880	3.0
SO ₄	158	0.3387	3.3
CO ₃	0	0.0000	0.0
OR	0	0.0000	0.0
H ₂ S	N.D.		

By Evaporation @ 110 °C

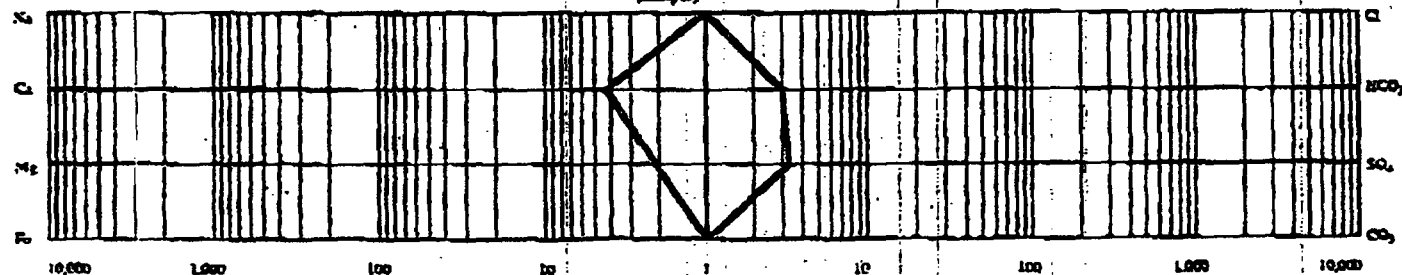
By Evaporation @ 180 °C

At Ignition

466
Calculated1.0006 @ 15.6 °C
Specific Gravity1.3333 @ 21 °C
Refractive Index8.0
pH17.953 @ 25 °C
Resistivity (Ohm-Meters)

LOGARITHMIC PATTERNS OF DISSOLVED IONS

(mg/L)



Remarks: N.D.- Not Detected.

(15)

COMPANY: Ranger Oil Limited
PROJECT: Fluid Analysis - Fort Liard P66A

PAGE: of
FILE: 52137-98-4526
DATE: 98 Aug 31

6. Sample Set 3B, Aug 22, Tank Water

092	Water, unpreserved	One complete water analysis - results	
093	Water, unpreserved (dup)	attached	
094	Water, unpreserved (trip)		
095	Water, unpreserved (4th)		
096	Water, unpreserved (5th)		
097	Water, unpreserved (6th)		
101	Water, unfiltered	Fe/Mn analysis	To follow
102	Water, unfiltered	Fe/Mn analysis	
103	Water, unfiltered	Fe/Mn analysis	
104	Water, filtered	Fe/Mn analysis	
105	Water, filtered	Fe/Mn analysis	
106	Water, filtered	Fe/Mn analysis	
098	Water	Dissolved H ₂ S	< 1 mg/kg
099	Water	Dissolved H ₂ S	< 1
100	Water	Dissolved H ₂ S	< 1

Sample Set 3B - On-site testing results

pH/Temperature	7.76 @ 22 deg. C
Alkalinity (total alk as CaCO ₃)	115 mg/L
Dissolved CO ₂	10 mg/L
Dissolved O ₂	100+ ppb
Chloride (by titration)	296 mg/L

16

WATER ANALYSIS

093

CONTAINER IDENTITY

52137-98-4526

LABORATORY NUMBER

Ranger Oil Limited
OPERATOR

PAGE

P-66-A

LOCATION

WELL OR SAMPLE LOCATION

KB ELEV. (m)

GR ELEV. (m)

FIELD OR AREA

POOL OR ZONE

Core Laboratories

SAMPLER

TEST TYPE & NO.

TEST RECOVERY

Fresh Water Tank

POINT OF SAMPLE

AMT. & TYPE CUSHION

MUD RESISTIVITY @ °C

PUMPING

FLOWING

GAS LIFT

SWAB

WATER

mPa

DL

mPa

GAS

mPa

TEST INTERVAL (meters)

SEPARATOR

RESERVOIR

CONTAINER WHEN SAMPLED

CONTAINER WHEN RECEIVED

SEPARATOR

Pressures, kPa (gauge)

Temperatures, °C

98 08 22

DATE SAMPLED (Y/M/D)

98 08 24

DATE RECEIVED (Y/M/D)

98 08 28

DATE ANALYZED (Y/M/D)

MN/MS

ANALYST

SIGNATURE

CATIONS

ANIONS

ION	mg/L	mg Fraction	meq/L
Na	11	0.0252	0.5
K	1.6	0.0037	0.0
Ca	78	0.1787	3.9
Mg	23	0.0527	1.9
Ba	0.07	0.0002	0.0
Str	0.70	0.0016	0.0
Fe			
Mn			

ION	mg/L	mg Fraction	meq/L
Cl	9	0.0206	0.3
Str			
I			
HCO ₃	168	0.3850	2.8
SO ₄	145	0.3323	3.0
CO ₃	0	0.0000	0.0
OH	0	0.0000	0.0
H ₂ S	N.D.		

Total Solids (mg/L)

By Evaporation @ 110 °C

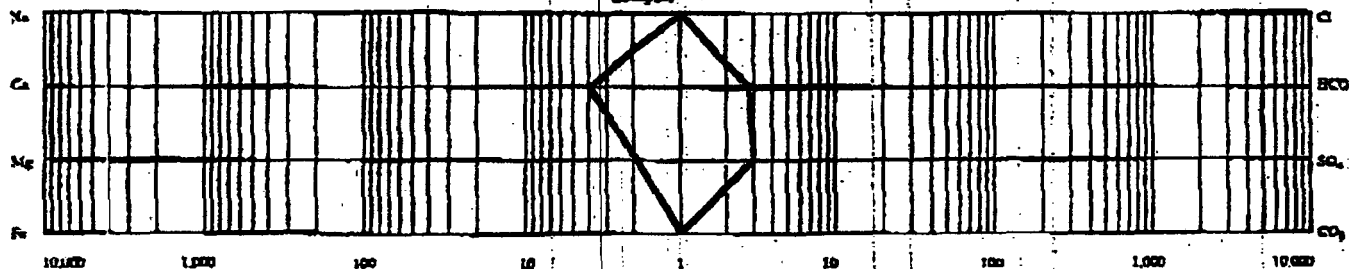
By Evaporation @ 180 °C

At Ignition

436
Calculated1.0008 @ 15.6 °C
Specific Gravity1.3331 @ 21 °C
Refractive Index8.0
pH18.587 @ 25 °C
Resistivity (Ohm-Meters)

LOGARITHMIC PATTERNS OF DISSOLVED IONS

(mg/L)



Remarks: N.D. - Not Detected.

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A			Date: 98-08-29		
Purpose of Job: Completion			Report # 93		
Report From: Wayne Casler/Stan Bernier		Report To: Ken Kondlarski		Daily Cost Summary	
Current Operation: Wait on slickline fishing equipment.				Code	Item
				3324.0m - 3334.0mKB	Amount
Contractor: N/A		Fluid Vol. m3		3295.0m - 3302.0mKB	
Road/Lease: Good		Total Hauled to Lease: 321.50		3285.0m - 3292.0mKB	
Weather: 18.3 c Evening shower		Total Hauled from Lease: 588.37		3276.0m - 3289.0mKB	
Contact Phone: 403-232-5340		Total in Tanks: 12.73		3269.0m - 3272.0mKB	
Zone: Nahanni		Initial Well Fluid: Water/standrill		3234.0m - 3246.0mKB	
Perforations: Under daily costs		Total Load Fluids: 703.31		3185.0m - 3172.0mKB	
SITP 21430 KPa @ 0600 hrs.		Non-recov. Ann. Fluids: 94.70		3152.0m - 3199.0mKB	
SICP 1850 KPa @ 0600 hrs.		Recovery Last 24 hrs. 0.00		3134.0m - 3148.0mKB	
Rig Hr: nil Cum Rig Hrs.: 		Recovery to Date: 1048.10		3126.0m - 3138.0mKB	
		Load to Recover (+New) 0.00		3115.0m - 3122.0mKB	
AFE # ESD-011		KB Elevation: 459.89 m		Daily Costs: \$88.102	
		KB. to CF: 10.35 m		Previous Costs: \$4,802,925	
		KB. to THF: 8.60 m		Cumulative Costs: \$4,871,028	
				AFE Estimate: \$3,331,700	
TIME	OPERATION				
0600	Well shut in for build up. The shut in tubing pressure is 21440 kPa and the casing pressure is 1850 kPa.				
1200	The shut in tubing pressure is 21440 kPa and the casing pressure is 1850 kPa				
1500	The shut in tubing pressure is 21440 kPa and the casing pressure is 1850 kPa.				
1530	The shut in tubing pressure is 21440 kPa and the casing pressure is 1850 kPa				
1530	Shut in the master valve and rigged in Bonnet Wireline to pull the Lee Tool Recorders. Pressure tested the BOP's to 1.4 mPa and 28 mPa for 10 minutes each - good. Rigged in the lubricator and pressure tested to 1.4 mPa and 28 mPa 10 minutes each - good. Safety meeting.				
1800	Opened the master valve and ran into the hole with 38.1 mm roller stem tool string and mechanical spangs. Checked the pulling string weight at 3025 mcf. = 1025 lbs. Ran down and latched to the Lee Tool 'LMR's at 3045.0 mcf. Pulled off bottom at 1300 lbs. 275 lbs. drag. Pulled up to 2715 mcf, dragging to 1750 lbs.				
1900	Worked up and down three times, tools would not go down. Pulled to 1750 lbs. 3rd time and the 0.125" line parted at the lower sheave. The line dropped down the hole, closed the crown valve and secured the well. Rigged out Bonnet's lubricator and BOP's, capped the well and continued to monitor the tubing pressures.				
	NOTE: The end of the broken line from the line truck was necked down before parting.				
2400	The shut in tubing pressure is 21440 kPa and the casing pressure is 1850 kPa				
	98/08/30				
0300	The shut in tubing pressure is 21430 kPa and the casing pressure is 1850 kPa.				
0600	The shut in tubing pressure is 21430 kPa and the casing pressure is 1850 kPa.				

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-08-28																																																																		
Purpose of Job: Completion				Report # 92																																																																		
Report From: Roy Elliott/Wayne Casler		Report To: Ken Kondierski		Daily Cost Summary																																																																		
Current Operation: Monitor shut in well head pressures				Code	Item																																																																	
				3324.0m - 3334.0m	KB																																																																	
				3295.0m - 3302.0m	KB																																																																	
				3285.0m - 3292.0m	KB																																																																	
				3276.0m - 3280.0m	KB																																																																	
				3260.0m - 3272.0m	KB																																																																	
				3234.0m - 3248.0m	KB																																																																	
				3169.0m - 3172.0m	KB																																																																	
				3152.0m - 3158.0m	KB																																																																	
				3134.0m - 3148.0m	KB																																																																	
				3125.0m - 3138.0m	KB																																																																	
				3115.0m - 3122.0m	KB																																																																	
Daily Costs:				860,162																																																																		
Previous Costs:				34,742,524																																																																		
Cumulative Costs:				34,602,686																																																																		
AFE Estimate:				33,331,700																																																																		
<table border="1"> <tr> <td>Contractor:</td> <td>N/A</td> <td>Fluid Vol. m3</td> <td>Water</td> <td>Oil</td> </tr> <tr> <td>Road/Lease:</td> <td>Good</td> <td>Total Hauled to Lease:</td> <td>321.50</td> <td></td> </tr> <tr> <td>Weather:</td> <td>Wind gusting + 11.4°C</td> <td>Total Hauled from Lease:</td> <td>588.37</td> <td></td> </tr> <tr> <td>Contact Phone:</td> <td>403-232-5340</td> <td>Total in Tanks:</td> <td>12.73</td> <td></td> </tr> <tr> <td>Zone:</td> <td>Nahanni</td> <td>Initial Well Fluid:</td> <td>Water/standoil</td> <td></td> </tr> <tr> <td>Perforations:</td> <td>Under daily costs</td> <td>Total Load Fluids:</td> <td>703.31</td> <td></td> </tr> <tr> <td>SITP 21440</td> <td>KPa @ 0600 hrs.</td> <td>Non-recov. Ann. Fluids:</td> <td>94.70</td> <td></td> </tr> <tr> <td>SICP 1850</td> <td>KPa @ 0600 hrs.</td> <td>Recovery Last 24 hrs.</td> <td>0.00</td> <td></td> </tr> <tr> <td>Rig Hr: nil</td> <td>Cum Rig Hrs.:</td> <td>Recovery to Date:</td> <td>1049.10</td> <td></td> </tr> <tr> <td>AFE # E8D-011</td> <td></td> <td>Load to Recover (+New)</td> <td>0.00</td> <td></td> </tr> <tr> <td colspan="2">KB Elevation:</td> <td>459.89 m</td> <td colspan="2"></td> </tr> <tr> <td colspan="2">KB. to CF:</td> <td>10.35 m</td> <td colspan="2"></td> </tr> <tr> <td colspan="2">KB. to THF:</td> <td>8.60 m</td> <td colspan="2"></td> </tr> </table>						Contractor:	N/A	Fluid Vol. m3	Water	Oil	Road/Lease:	Good	Total Hauled to Lease:	321.50		Weather:	Wind gusting + 11.4°C	Total Hauled from Lease:	588.37		Contact Phone:	403-232-5340	Total in Tanks:	12.73		Zone:	Nahanni	Initial Well Fluid:	Water/standoil		Perforations:	Under daily costs	Total Load Fluids:	703.31		SITP 21440	KPa @ 0600 hrs.	Non-recov. Ann. Fluids:	94.70		SICP 1850	KPa @ 0600 hrs.	Recovery Last 24 hrs.	0.00		Rig Hr: nil	Cum Rig Hrs.:	Recovery to Date:	1049.10		AFE # E8D-011		Load to Recover (+New)	0.00		KB Elevation:		459.89 m			KB. to CF:		10.35 m			KB. to THF:		8.60 m		
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KB. to THF:		8.60 m																																																																				
TIME	OPERATION																																																																					
0600	Well shut in for build up. The shut in tubing pressure is 21470 kPa and the casing pressure is 1900 kPa.																																																																					
1200	The shut in tubing pressure is 21450 kPa and the casing pressure is 1800 kPa																																																																					
1500	The shut in tubing pressure is 21450 Kpa and the casing pressure is 1800 Kpa																																																																					
1800	The shut in tubing pressure is 21450 kPa and the casing pressure is 1800 kPa																																																																					
2100	The shut in tubing pressure is 21440 kPa and the casing pressure is 1850 kPa																																																																					
0000	The shut in tubing pressure is 21440 kPa and the casing pressure is 1850 kPa																																																																					
98/08/28																																																																						
0300	The shut in tubing pressure is 21440 kPa and the casing pressure is 1850 kPa																																																																					
0600	The shut in tubing pressure is 21440 kPa and the casing pressure is 1850 kPa																																																																					
Checked the casing for H2S - 0%																																																																						

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-88-A				Date: 98-08-27	
Purpose of Job: Completion				Report # 91	
Report From: Roy Elliott/Wayne Casler		Report To: Ken Kendierski		Daily Cost Summary	
Current Operation: Monitor shut in well head pressures				Code	Item
				3324.0m - 3834.0mKB	Amount
Contractor:	N/A	Fluid Vol. m3	Water	Oil	
Road/Lease:	Good	Total Hauled to Lease:	321.50		3296.0m - 3302.0mKB
Weather:	Wind gusting + 13.8°C	Total Hauled from Lease:	588.37		3285.0m - 3282.0mKB
Contact Phone:	403-232-5340	Total in Tanks:	12.73		3276.0m - 3280.0mKB
Zone:	Nahanni	Initial Well Fluid:	Water/standfill		3280.0m - 3272.0mKB
Perforations:	Under daily costs	Total Load Fluids:	703.31		3234.0m - 3248.0mKB
SITP: 21470	KPa @ 0600 hrs.	Non-recov. Ann. Fluids:	84.70		3165.0m - 3172.0mKB
SICP: 1900	KPa @ 0600 hrs.	Recovery Last 24 hrs.	0.00		3152.0m - 3158.0mKB
Rig Hr: nil	Cum Rig Hrs.:	Recovery to Date:	1049.10		3134.0m - 3148.0mKB
		Load to Recover (+New)	0.00		3125.0m - 3139.0mKB
AFE # E8D-011		KB Elevation:	459.89 m	Daily Costs: \$89,852	
		KB. to CF:	10.35 m	Previous Costs: \$4,681,872	
		KB. to THF:	8.60 m	Cummulative Costs: \$4,742,824	
				AFE Estimate: \$3,321,700	
TIME	OPERATION				
0600	Well shut in for a build up. The shut in tubing pressure is 21490 kPa and the casing pressure is 1775 kPa.				
1200	The shut in tubing pressure is 21470 kPa and the casing pressure is 1800 kPa.				
1500	Recieved orders to suspend operations and demobilize the equipment.				
1800	The shut in tubing pressure is 21470 kPa and the casing pressure is 1800 kPa.				
1930	Bled off the casing to 1200 kPa				
2400	The shut in tubing pressure is 21470 kPa and the casing pressure is 1550 kPa.				
98/08/28					
0600	The shut in tubing pressure is 21470 kPa and the casing pressure is 1900 kPa.				

FORWARD

Job Number: GR-88-114
Customer: Ranger Oil Ltd
Well Name: Lord
Well Location: P-88-A
Formation: Tight Hole

[illegible]

६

0004
P-02

W. WAYNE CASLER

08/28/98 FRI 09:31 FAX 403 232 5200
AUG-28-98 FRI 6:08

Job Number: GP-08-114
Customer: Ranger Oil Ltd
Well Name: Lard
Well Location: P-08-A
Formation: Tight Hole

FieldNotes



Row	Date	Chk Tim	Tbg Pres	Csg Pres	Tbg Temp	Choke	Orif1	Stat1	Orif1	Temp1	Gas Rate1	Cum Gas1	Orif2	Stat2	Orif2	Temp2	Gas Rate2	Cum Gas2	Watr Hr	Wat Rate	Cum Wat 2	pH	SALINITY
	yy/mm/dd	clock	kPa	kPa	C	mm	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	m3	m3/d	m3		ppm
1629	1998/08/27	01:30:00	21500	1790			82.55						0.00										
1630		02:00:00	21500	1750																			
1631		02:30:00	21500	1775																			
1632		03:00:00	21500	1775																			
1633		03:30:00	21500	1775																			
1634		04:00:00	21490	1775																			
1635		04:30:00	21490	1775																			
1636		05:00:00	21490	1775																			
1637		05:30:00	21490	1775																			
1638	1998/08/27	06:00:00	21490	1775																			
1639		06:30:00	21490	1775																			
1640		07:00:00	21480	1775																			
1641		07:30:00	21470	1790																			
1642		08:00:00	21470	1790																			
1643		08:30:00	21470	1790																			
1644		09:00:00	21470	1790																			
1645		09:30:00	21470	1790																			
1646		10:00:00	21470	1790																			
1647		10:30:00	21470	1790																			
1648		11:00:00	21470	1800																			
1649		11:30:00	21470	1800																			
1650	1998/08/27	12:00:00	21470	1800																			
1651		12:30:00	21470	1800																			
1652		13:00:00	21470	1800																			
1653		13:30:00	21470	1800																			
1654		14:00:00	21470	1800																			
1655		14:30:00	21470	1800																			
1656		15:00:00	21470	1800																			
1657		15:30:00	21470	1800																			
1658		16:00:00	21470	1800																			
1659		16:30:00	21470	1800																			
1660		17:00:00	21470	1800																			
1661		17:30:00	21470	1800																			
1662	1998/08/27	18:00:00	21470	1800																			
1663		18:00:00	Begin blowing down coil unit.																				
1664		18:30:00	21470	1800																			
1665		18:45:00	Finished blowing down coil. 1.45m3 of fluid recovered.																				



RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-08-26									
Purpose of Job: Completion				Report # 90									
Report From: Ray Elliott/Wayne Casler		Report To: Ken Kandierski		Daily Cost Summary									
Current Operation: Monitor shut in well head pressures				Code	Item								
				3324.0m - 3334.0mKB									
Contractor: N/A		Fluid Vol. m3		Water	Oil								
Road/Lease: Good		Total Hauled to Lease:		3295.0m - 3302.0mKB									
Weather: Wind gusting + 14°C		Total Hauled from Lease:		3285.0m - 3292.0mKB									
Contact Phone: 403-232-3348		Total in Tanks:		3276.0m - 3280.0mKB									
Zone: Nahanni		Initial Well Fluid: Water/standrill		3260.0m - 3272.0mKB									
Perforations: Under daily costs		Total Load Fluids:		3234.0m - 3248.0mKB									
SITP: 21490 KPa @ 0800 hrs.		Non-recov. Ann. Fluids:		3165.0m - 3172.0mKB									
SICP: 1775 KPa @ 0800 hrs.		Recovery Last 24 hrs:		3152.0m - 3159.0mKB									
Rig Hr: nil		Recovery to Date:		3134.0m - 3148.0mKB									
Cum Rig Hrs.: 		Load to Recover (+New):		3123.0m - 3139.0mKB									
				3115.0m - 3122.0mKB									
AFE # ESD-011				Daily Costs: \$49,051									
KB Elevation: 459.89 m				Previous Costs: \$4,632,921									
KB. to CF: 10.35 m				Cumulative Costs: \$4,681,972									
KB. to THF: 8.60 m				AFE Estimate: \$3,331,700									
<table border="1"> <thead> <tr> <th>TIME</th> <th>OPERATION</th> </tr> </thead> <tbody> <tr> <td>0800</td> <td>Well shut in for a build up. The tubing pressure is 21550 kPa and the casing pressure is 1140 kPa. Working on the road and barge landing.</td> </tr> <tr> <td>00:00</td> <td>Continue to monitor shut in well head pressures - tubing pressure = 21520 kPa and annulus pressure = 1700 kPa w/ no H₂S present in test sample</td> </tr> <tr> <td>0600</td> <td>Shut in tubing pressure = 21490 kPa w/ casing pressure at 1775 kPa. A test of the casing showed no H₂S present and an LEL of 7% - possibly from the inhibitor. No fluid was recovered today 233m³ of storage is available on surface at present.</td> </tr> </tbody> </table>						TIME	OPERATION	0800	Well shut in for a build up. The tubing pressure is 21550 kPa and the casing pressure is 1140 kPa. Working on the road and barge landing.	00:00	Continue to monitor shut in well head pressures - tubing pressure = 21520 kPa and annulus pressure = 1700 kPa w/ no H ₂ S present in test sample	0600	Shut in tubing pressure = 21490 kPa w/ casing pressure at 1775 kPa. A test of the casing showed no H ₂ S present and an LEL of 7% - possibly from the inhibitor. No fluid was recovered today 233m ³ of storage is available on surface at present.
TIME	OPERATION												
0800	Well shut in for a build up. The tubing pressure is 21550 kPa and the casing pressure is 1140 kPa. Working on the road and barge landing.												
00:00	Continue to monitor shut in well head pressures - tubing pressure = 21520 kPa and annulus pressure = 1700 kPa w/ no H ₂ S present in test sample												
0600	Shut in tubing pressure = 21490 kPa w/ casing pressure at 1775 kPa. A test of the casing showed no H ₂ S present and an LEL of 7% - possibly from the inhibitor. No fluid was recovered today 233m ³ of storage is available on surface at present.												

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-68-A				Date: 98-08-25	
Purpose of Job: Completion				Report #: 89	
Report From: Roy Elliott/Wayne Casler		Report To: Ken Kendierski		Daily Cost Summary	
Current Operation: Monitor shut in well head pressures				Code	Item Amount
Contractor: N/A		Fluid Vol. m3		3324.0m - 3334.0mKB	
Road/Lease: Good		Total Hauled to Lease: 321.50		3295.0m - 3302.0mKB	
Weather: Cloudy/calm + 14c		Total Hauled from Lease: 588.37		3285.0m - 3282.0mKB	
Contact Phone: 403-232-5340		Total in Tanks: 12.73		3278.0m - 3280.0mKB	
Zone: Nahanni		Initial Well Fluid: Water/standfill		3280.0m - 3272.0mKB	
Perforations: Under daily costs		Total Load Fluids: 703.31		3234.0m - 3248.0mKB	
SITP 21550 KPa @ 0600 hrs.		Non-recov. Ann. Fluids: 94.70		3165.0m - 3172.0mKB	
SICP 1140 KPa @ 0600 hrs.		Recovery Last 24 hrs. 3.15		3152.0m - 3158.0mKB	
Rig Hr: nil Cum Rig Hrs.: 		Recovery to Date: 1048.10		3134.0m - 3148.0mKB	
AFE # E&D-011		Load to Recover (+New) 0.00		3125.0m - 3138.0mKB	
KB Elevation: 459.89 m		Daily Costs: \$100,047		3115.0m - 3122.0mKB	
KB. to CF: 10.35 m		Previous Costs: \$4,532,874			
KB. to THF: 8.60 m		Cumulative Costs: \$4,632,921			
		AFE Estimate: \$3,331,700			
TIME	OPERATION				
0800	Flowing the well as per program.				
0800	Flowing the well through a 11.61 mm choke. The flowing tubing pressure is 19780 kPa and there is 420 kPa on the casing. The flowing temperature is 75 °C. The flow rate is 274.620 10 ³ /m ³ /d. We have made 0.30 m ³ of water in the last hour. The pH is 8.0 with a salinity of 2000 PPM.				
1800	Shut the well in - Last tubing flowing pressure through 11.51mm choke was 19780 kPa w/ a temperature of 75°C and a flow rate of 272.114 10 ³ /m ³ /d and a water rate of 0.250m ³ /hr or 8.0m ³ /d a WGR of 0.022 salinity of fluid was 0 w/ H ₂ S & CO ₂ at 1.1% & 15% (w/ gaslec) respectively. Monitor build-ups annulus pressure was 410 kPa. After 5 minutes tubing pressure to 21450 kPa				
00:00	Tubing pressure at 21580 kPa w/ annulus pressure building to 760 kPa (the annulus pressure initially dropped to 270 kPa at 2030hrs then began to climb to present level during the last 3 1/2 hrs)				
0800	Continue to monitor shut in well head pressures w/ tubing pressure at 21550 kPa and annulus pressure at 1140 kPa climbing 40 kPa in the last hr. w/ no H ₂ S present on surface.				

Job Number: GP-05-114
Customer: Ranger Oil Ltd
Wellname: Liers
Well Location: P-68-A
Formation: Tight Hole

Field Notes

NORVARD

Row	Date	Chk Tm	Tbg Pres	Csg Pres	Tbg Temp	Choke	Orf1	Static1	Orf1	Temp1	Gas Rate1	Cum Gas1	Orf2	Static2	Orf2	Temp2	Gas Rate2	Cum Gas2	Watr Hr	Wat Rate	Cum Wat 2	pH	SALINITY
	yy/mm/dd	clock	kPa	kPa	C	mm	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	m3	m3/d	m3		ppm
1555	1998/08/25	16:00:00	19780	410	75	11.51	82.55	1300	28.4	30	272.144	6117.282	0.00						0.250	6.000	1603.560	6	0
1556		16:30:00	19780	410	75	11.51	82.55	1300	28.4	30	272.144	6122.981											
1557		17:00:00	19780	410	75	11.51	82.55	1300	28.4	30	272.144	6128.631							0.300	7.200	1603.860	6	0
1558		17:01:00	Samples taken 3L stock water, 2 H.P. gas #00019843, #00017171																				
1559		17:30:00	19780	410	75	11.51	82.55	1300	28.4	30	272.144	6134.301											
1560	1998/08/25	18:00:00	19780	410	75	11.51	82.55	1300	28.4	30	272.144	6139.970							0.250	6.000	1604.110	6	0
1561		18:00:00	H2S by gaslec shows 1.1%, CO2 by gaslec shows 15%																				
1562		18:00:00	Shut in well and begin to monitor build-ups																				
1563		18:05:00	21450	400																			
1564		18:10:00	21480	390																			
1565		18:15:00	21510	380																			
1566		18:20:00	21560	350																			
1567		18:45:00	21580	325																			
1568		18:00:00	21590	310																			
1569		19:30:00	21580	285																			
1570		20:00:00	21590	270																			
1571		20:30:00	21610	270																			
1572		21:00:00	21610	415																			
1573		21:30:00	21600	540																			
1574		22:00:00	21600	650																			
1575		22:30:00	21590	670																			
1576		23:00:00	21590	680																			
1577		23:30:00	21580	720																			
1578	1998/08/26	00:00:00	21580	760																			
1579		00:30:00	21580	800																			
1580		01:00:00	21580	840																			
1581		01:30:00	21570	880																			
1582		02:00:00	21570	920																			
1583		02:30:00	21570	980																			
1584		03:00:00	21570	980																			
1585		03:30:00	21570	1020																			
1586		04:00:00	21570	1040																			
1587		04:30:00	21560	1070																			
1588		05:00:00	21560	1100																			
1589		05:30:00	21550	1120																			
1590		06:00:00	21550	1140																			

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-08-24	
Purpose of Job: Completion				Report # 89	
Report From: Roy Elliott/Wayne Casler		Report To: Ken Kondierski		Daily Cost Summary	
Current Operation: Flowing well to test as per program				Code	Item
				3324.0m - 3334.0m	KB
				3295.0m - 3302.0m	KB
				3285.0m - 3292.0m	KB
				3276.0m - 3280.0m	KB
				3260.0m - 3272.0m	KB
				3234.0m - 3248.0m	KB
				3185.0m - 3172.0m	KB
				3152.0m - 3159.0m	KB
				3134.0m - 3148.0m	KB
				3125.0m - 3139.0m	KB
				3115.0m - 3122.0m	KB
Daily Costs:				\$40,047	
Previous Costs:				\$4,492,827	
Cumulative Costs:				\$4,532,874	
AFE Estimate:				\$3,331,700	

Contractor: N/A		Fluid Vol. m3		Water	Oil
Road/Lease: Good		Total Hauled to Lease:		321.50	
Weather: Cloudy/calm + 16c		Total Hauled from Lease:		588.37	
Contact Phone: 403-232-5340		Total in Tanks:		12.73	
Zone: Nahanni		Initial Well Fluid:		Water/standrail	
Perforations: Under daily costs		Total Load Fluids:		703.31	
Tbg. 19780 KPa @ 0600 hrs.		Non-recov. Ann. Fluids:		94.70	
ICP 20: 420 KPa @ 0600 hrs.		Recovery Last 24 hrs.		6.70	
Rig Hr: 00 Cum Rig Hrs.: 		Recovery to Date:		1045.95	
AFE # E812-011		Load to Recover (+New)		0.00	
KB Elevation: 459.89 m					
KB. to CF: 10.35 m					
KB. to THF: 8.60 m					

TIME	OPERATION
0600	Flowing the well as per program.
0800	We are flowing the well through a 11.51 mm choke. The flowing tubing pressure is 19780 kPa and the casing pressure is 380 kPa. The flowing temperature is 75 ° C. We are flowing the well at 272.152 10³/m³/d. We made 0.250 m³ of water in the last hour. The pH is 6.0 and the salinity is 4000 PPM.
1200	The flowing tubing pressure is 19790 kPa and the casing pressure is 405 kPa. The flowing temperature is 76 ° C. We are flowing the well at 271.178 10³/m³/d. We made 0.350 m³ of water in the last hour. The pH is 6.0 and the salinity is 0 PPM. The gastec readings are H₂S: 1.20 % and the CO₂ reading is 16.0 %.
1800	The flowing tubing pressure is 19800 kPa and the casing pressure is 410 kPa. The flowing temperature is 76 ° C. We are flowing the well at 271.178 10³/m³/d. We made 0.250 m³ of water in the last hour. The pH is 6.0 and the salinity is 0 PPM. The gastec readings are H₂S: 1.0 % and the CO₂ reading is 0 %.
00:00	Continued to flow the well w/ a 11.51mm choke setting - tubing pressure at 19780 kPa and tubing temperature at 73c The gas rate was 274.620 10³m³/d with a water rate of 0.30m³/hr or 7.2m³/d and the H₂S and CO₂ content at 1.1% and 16.0% respectively
0800	Continue flowing well through 11.51mm choke w/ tubing pressure of 19780 kPa and temperature of 74c Gas rate of 274.620 10³m³/d and a water rate of 0.3m³/hr or 7.2m³/d & a salinity of 0ppm and a pH of 6 --Recovered 6.7m³ leaving 236m³ of volume left on surface

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RANGER OIL
WELL

08/25/98 TUE 08:23 FAX 403 232 5200

Job Number: GP-88-114
Customer: Ranger Oil Ltd
Wellname: Ulfard
Well Location: P-66-A
Formation: Tight Hole

FieldNotes

NORWARD

Row	Date	Clk Tim	Tbg Pres	Cag Pres	Tbg Temp	Choke	Orft	Stat1	Diff	Temp1	Gas Rate1	Cum Gas1	Orft2	Stat2	Diff2	Temp2	Gas Rate2	Cum Gas2	Watr	Wat Rate	Cum Wat 2	pH	ALINITY
	yy/mm/dd	clock	kPa	kPa	C	mm	cm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	m3	m3/d	m3		ppm
1518	1998/08/24	23:00:00	19780	415	74	11.51	82.55	1320	28.5	30	274.620	5924.252	0.00						0.250	6.000	1598.810	6	0
1519		23:30:00	19780	415	73	11.51	82.55	1320	28.5	30	274.620	5928.963											
1520	1998/08/25	00:00:00	19780	415	73	11.51	82.55	1320	28.5	30	274.620	5936.684							0.300	7.200	1699.210	6	0
1521		00:00:00	H2S by Gaslec=1.1% CO2 by Gaslec=16.0%																				
1522		00:30:00	19780	415	74	11.51	82.55	1320	28.5	30	274.620	5941.405											
1523		01:00:00	19780	415	73	11.51	82.55	1320	28.5	30	274.620	5947.127							0.300	7.200	1599.510	6	0
1524		01:30:00	19780	415	74	11.51	82.55	1320	28.5	30	274.620	5952.848											
1525		02:00:00	19780	415	74	11.51	82.55	1320	28.5	30	274.620	5958.569							0.300	7.200	1699.810	6	0
1526		02:30:00	19780	420	74	11.51	82.55	1320	28.5	30	274.620	5964.290											
1527		03:00:00	19780	420	73	11.51	82.55	1320	28.5	30	274.620	5970.012							0.300	7.200	1600.110	6	0
1528		03:30:00	19780	420	73	11.51	82.55	1320	28.5	30	274.620	5975.733											
1529		04:00:00	19780	420	74	11.51	82.55	1320	28.5	30	274.620	5981.454							0.250	6.000	1600.360	6	0
1530		04:30:00	19780	420	74	11.51	82.55	1320	28.5	29	275.116	5987.181											
1531		05:00:00	19780	420	74	11.51	82.55	1320	28.5	29	275.116	5992.912							0.300	7.200	1600.660	6	0
1532		05:30:00	19780	420	74	11.51	82.55	1320	28.5	29	275.116	5998.644											
1533	1998/08/25	06:00:00	19780	420	74	11.51	82.55	1320	28.5	30	274.620	6004.370							0.300	7.200	1600.960	6	0
1534		06:00:00	H2S by Gaslec=1.0% CO2 by Gaslec=16.0%																				

Fast

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-08-20	
Purpose of Job: Completion				Report # 85	
Report From: Roy Elliott/Wayne Casler		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Flowing well to test as per program				Code	Item Amount
Contractor: N/A		Fluid Vol. m3	Water	Oil	3324.0m - 3334.0mKB
Road/Lease: Good		Total Hauled to Lease:	321.50		3295.0m - 3302.0mKB
Weather: Cloudy and 19c		Total Hauled from Lease:	588.37		3285.0m - 3292.0mKB
Contact Phone: 403-232-5340		Total in Tanks:	12.73		3275.0m - 3280.0mKB
Zone: Nahanni		Initial Well Fluid:	Water/standrill		3260.0m - 3272.0mKB
Perforations: Under daily costs		Total Load Fluids:	703.31		3234.0m - 3248.0mKB
Tbg. 17780 KPa @ 0800 hrs.		Non-recov. Ann. Fluids:	94.70		3165.0m - 3172.0mKB
SICP 200 KPa @ 0800 hrs.		Recovery Last 24 hrs.	42.38		3152.0m - 3159.0mKB
Rig Hr. nil Cum Rig Hrs.:		Recovery to Date:	829.10		3134.0m - 3148.0mKB
AFE # 1E8D-011		Load to Recover (+New)	0.00		3125.0m - 3139.0mKB
KB Elevation: 459.89 m					3115.0m - 3122.0mKB
KB. to CF: 10.35 m					Daily Costs: 648.800
KB. to THF: 8.60 m					Previous Costs: 64,274.538
				Cummulative Costs:	\$4,324,268
				AFE Estimate:	\$3,331,700
TIME	OPERATION				
0800	Continue to flow the well through 13.49mm choke to testers. Tubing pressure = 17780kPa w/ flow line temperature at 74c The gas rate was 337.503 10 ³ m ³ /d with the water rate at 1.6 m3/hr. or 38.4 m3/d a WGR of 0.1137 ** The gas rate has changed due to APA's change in the specific gravity (from 0.65 to 0.731) and not in the actual flow which has remained constant w/ a slight decrease through-out the test-ph=8				
1800	Tubing pressure 17780kPa w/ flowline temperature of 73c gas rate 334.126 10 ³ m ³ /d w/ water rate 1.75m3/hr. or 42m3/d w/ H ₂ S @ 0.88% by twisler and CO ₂ @ 14% w/ Gastec w/ salinity @ 124000ppm				
0600	Tubing pressure 17790 kPa w/ temperature @ 80c (checked the calibration of flow line thermometer it was out 4 to 5 degrees @ 2145hr's) The gas rate is 339.28 and the water rate was 1.85/hr or 44.4m3/d w/ a ph of 8 and the salinity at 124,000 ppm				

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-08-19	
Purpose of Job: Completion				Report #: 84	
Report From: Roy Elliott/Stan Bernier		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Flowing well to test as per program				Code	Item
				Amount	
Contractor: N/A		Fluid Vol. m3		Water	Oil
Road/Lease: Good		Total Hauled to Lease:		321.50	
Weather: Cloudy and showers 19c		Total Hauled from Lease:		588.37	
Contact Phone: 403-232-5340		Total in Tanks:		12.73	
Zone: Nahanni		Initial Well Fluid:		Water/standril	
Perforations: Under daily costs		Total Load Fluids:		703.31	
Tbg. = 17790 KPa @ 0600 hrs.		Non-recov. Ann. Fluids:		94.70	
SICP = 200 KPa @ 0600 hrs.		Recovery Last 24 hrs.		38.65	
Rig Hr: nil		Recovery to Date:		786.74	
Cum Rig Hrs.:		Load to Recover (+New)		0.00	
AFE # E8D - 011		KB Elevation:		459.89 m	
		KB. to CF:		10.35 m	
		KB. to THF:		8.60 m	
				Daily Costs: \$50,982	
				Previous Costs: \$4,274,559	
				Cumulative Costs: \$4,325,541	
				AFE Estimate: \$3,331,700	

TIME	OPERATION
0600	Continued to flow the well for test through 13.49mm choke setting w/ tubing pressure @ 17'800 kPa at 74c Gas rate 363.67 10 ³ m ³ /d w/ the water rate at 1.3 - 1.6 m3/hr. or 37.92m3/d a WGR of 0.104 w/ H ₂ S @ 1.2% & CO ₂ at 16%
1200	Tubing pressure and temperature constant at 17,800 kPa & 74c - The gas rate fell slightly to 361.11 10 ³ m ³ /d w/ th water rate presently @ 1.45m3/hr or 34.8m3/d a WGR of 0.0963
1800	Tubing pressure @ 17,820 w/ flowing temperature of 72c - Gas rate of 359.52 w/ water rates of 1.55m3/hr. or 37.2m3/d - WGR of 0.103
2400	Tbg. 17780 kPa; Wellhead temp. = 75 c; Gas rate = 357.904 10 ³ m3/d; Water/hr. = 1.49 m3 Cum. water = 776.79 m3; PH-6; Salinity = 120000 ppm; H2S = 1.1% CO2 = 16%
	98/08/20
0300	Tbg. = 17790 kPa; Wellhead temp. = 75 c; Gas rate = 358.886 10 ³ m3/d; Water/hr. = 1.7 m3 Cum. water = 781.94 m3; PH-6; Salinity = 116000 pp; H2S = 1.1%; CO2 = 16%
0600	Tbg. = 17790 kPa; Wellhead temp. = 74 c; Gas rate = 356.918 10 ³ m3/d; water/hr. = 1.4 m3 Cum. water = 786.74 m3; PH-6; Salinity = 118000 ppm; H2S = 1.1%; CO2 = 16%.

FieldNotes

FORWARD

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RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-08-18	
Purpose of Job: Completion				Report #: 83	
Report From: Roy Elliott/Stan Bernier		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Flowing well to test as per program				Code	Item
					Amount
Contractor:	N/A	Fluid Vol. m3	Water	Oil	
Road/Lease:	Good	Total Hauled to Lease:	321.50		3324.0m - 3334.0mKB
Weather:	Cloudy and rain 22 c	Total Hauled from Lease:	588.37		3295.0m - 3302.0mKB
Contact Phone:	403-232-5340	Total in Tanks:	12.73		3285.0m - 3292.0mKB
Zone:	Nahanni	Initial Well Fluid:	Water/standrill		3276.0m - 3280.0mKB
Perforations:	Under daily costs	Total Load Fluids:	703.31		3260.0m - 3272.0mKB
Tbg. = 17800kPa @ 0600 hrs.		Non-recov. Ann. Fluids:	94.70		3234.0m - 3248.0mKB
SICP = 200 kPa @ 0600 hrs.		Recovery Last 24 hrs.	28.70		3165.0m - 3172.0mKB
Rig Hr. : nil	Cum Rig Hrs.:	Recovery to Date:	748.09		3152.0m - 3159.0mKB
		Load to Recover (+New)	0.00		3134.0m - 3148.0mKB
AFE # E8D - 011				Daily Costs: \$59,072	
KB Elevation: 459.89 m				Previous Costs: \$4,215,487	
KB. to CF: 10.35 m				Cumulative Costs: \$4,274,559	
KB. to THF: 8.60 m				AFE Estimate: \$3,331,700	

TIME

OPERATION

0600 Cont. to flow well to test unit through 13.49mm choke - tubing pressure 17900kPa. Gas rate = 377.60 10³m³/d
The water rate climbed to 0.77m³/hr. or 18.48m³/d a WGR of 0.128. Tubing temperature is up to 72c
w/ the salinity up to 54,000 ppm. and the H₂S & CO₂ content remaining constant at 1.1% & 15.5% respectively
The well has been flowing at this setting for 20hours - Continue to flow the well for evaluation

1600 Continue to flow test well through 13.49mm choke - tubing pressure @ 17860kPa - gas rate = 372.6 10³m³/d
water rate is at 1.150m³/hr. or 27.6m³/d a WGR of 0.0074 and salinity up to 82,000 ppm.

1900 Tbg. = 17810 kPa; Wellhead temp. = 71 c; Gas rate = 369.136 10³ m³/d; Water/hr. = 1.0 m³
Cum. water = 733.11 m³; PH-6; Salinity = 86000 ppm.

2400 Tbg. 17780 kPa; Wellhead temp. = 73 c; Gas rate = 367.674 10³ m³/d; Water/hr. = 1.2 m³
Cum. water = 739.71 m³; PH-6; Salinity = 92000 ppm.

98/08/19

0300 Tbg. = 17800 kPa; Wellhead temp. = 73 c; Gas rate = 367.381 10³ m³/d; Water/hr. = 1.3 m³
Cum. water = 743.71 m³; PH-6; Salinity = 104000 ppm; H₂S = 1.2%; CO₂ = 15.0%

0600 Tbg. = 17800 kPa; Wellhead temp. = 74 c; Gas rate = 363.670 10³ m³/d; Water/hr. = 1.3 m³
Cum. water = 748.09 m³; PH-6; Salinity = 106000 ppm; H₂S = 1.2%; CO₂ = 16%.

Job Number: 4
 Customer: K Jil Ltd
 Wellname: Liard
 Well Location: P-66-A
 Formation: Tight Hole

Field

NEW

Row	Date	Clk TIm	Tbg Pres	Csg Pres	Tbg Temp	Choke	Orif1	Static1	Diff1	Temp1	Gas Rate1	Cum Gas1	Orif2	Static2	Diff2	Temp2	Gas Rate2	Cum Gas2	Wet/hr	Wet Rate	Cum Wet 2	pH	SALINITY
	yy/mm/dd	clock	kPa	kPa	C	mm	mm	kPa	kPa	C	10 ³ m ³ /d	10 ³ m ³	mm	kPa	kPa	C	10 ³ m ³ /d	10 ³ m ³	m ³	m ³ /d	m ³		ppm
1185	1998/08/18	19:00:00	17810	210	71	13.49	82.55	1700	37.6	42	369.138	4178.983	0.00						1.000	24.000	1318.900	6	86000
1186		19:30:00	17820	210	73	13.49	82.55	1700	37.6	44	367.874	4186.640											
1187		20:00:00	17810	210	71	13.49	82.55	1700	37.6	44	367.874	4194.304							1.400	33.600	1320.300	6	88000
1188		20:30:00	17810	210	72	13.49	82.55	1700	37.6	44	367.874	4201.969											
1189		21:00:00	17800	210	73	13.49	82.55	1700	37.6	44	367.874	4209.633							1.300	31.200	1321.600	6	90000
1190		21:30:00	17800	210	74	13.49	82.55	1700	37.6	44	367.874	4217.297											
1191		22:00:00	17800	210	72	13.49	82.55	1700	37.6	44	367.874	4224.961							1.150	27.600	1322.750	6	100000
1192		22:30:00	17800	210	73	13.49	82.55	1700	37.6	44	367.381	4232.620											
1193		23:00:00	17800	210	73	13.49	82.55	1700	37.5	44	367.381	4240.273							1.550	37.200	1324.300	6	86000
1194		23:30:00	17800	210	69	13.49	82.55	1700	37.6	44	367.874	4247.932											
1195	1998/08/19	00:00:00	17780	210	73	13.49	82.55	1700	37.6	44	367.874	4255.596							1.200	28.800	1325.500	6	92000
1195		00:00:00	H2S by Gastec = 1.2%, CO2 = 15%																				
1197		00:30:00	17800	210	72	13.49	82.55	1700	37.6	44	367.874	4263.260											
1198		01:00:00	17780	210	71	13.49	82.55	1700	37.6	44	367.874	4270.924							1.400	33.600	1326.900	6	94000
1199		01:30:00	17780	210	73	13.49	82.55	1700	37.6	44	367.874	4278.588											
1200		02:00:00	17780	210	73	13.49	82.55	1700	37.5	44	367.381	4286.247							1.300	31.200	1328.200	6	108000
1201		02:30:00	16900	210	73	13.49	82.55	1700	37.5	44	367.381	4293.901											
1202		02:30:00	Tubing pressure drop due to minor plug in deadweight line																				
1203		02:35:00	Deadweight line unplugged. Tubing pressure recorded at 17800 kpa																				
1204		03:00:00	17800	210	73	13.49	82.55	1700	37.5	45	366.756	4301.548							1.300	31.200	1328.500	6	104000
1205		03:30:00	17800	210	73	13.49	82.55	1700	37.5	45	366.756	4309.189											
1206		04:00:00	17800	210	73	13.49	82.55	1700	37.4	45	366.264	4316.825							1.500	36.000	1331.000	6	108000
1207		04:30:00	17800	210	74	13.49	82.55	1700	37.3	46	365.151	4324.444											
1208		05:00:00	17800	210	74	13.49	82.55	1700	37.1	46	364.164	4332.041							1.580	37.920	1332.580	6	108000
1209		05:30:00	17800	210	74	13.49	82.55	1700	37.0	46	363.670	4339.622											
1210		06:00:00	17800	210	74	13.49	82.55	1700	37.0	46	363.670	4347.199							1.300	31.200	1333.880	6	106000
1211		06:00:00	H2S by Gastec = 1.2%, CO2 = 16%																				

748.09 m³

Fast

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-08-17	
Purpose of Job: Completion				Report #: 82	
Report From: Roy Elliott/Stam Bernier		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Flowing well to test as per program				Code	Amount
				3324.0m - 3334.0mKB	
Contractor:	N/A	Fluid Vol. m3	Water	Oil	3295.0m - 3302.0mKB
Road/Lease:	Good	Total Hauled to Lease:	321.50		3285.0m - 3292.0mKB
Weather:	Clear 28c	Total Hauled from Lease:	588.37		3276.0m - 3280.0mKB
Contact Phone:	403-232-5340	Total in Tanks:	12.73		3260.0m - 3272.0mKB
Zone:	Nahanni	Initial Well Fluid:	Water/standrill		3234.0m - 3248.0mKB
Perforations:	Under daily costs	Total Load Fluids:	703.31		3165.0m - 3172.0mKB
Tbg. = 17860KPa @ 0600 hrs.		Non-recov. Ann. Fluids:	94.70		3152.0m - 3159.0mKB
SICP = 200 KPa @ 0600 hrs.		Recovery Last 24 hrs.	13.57		3134.0m - 3148.0mKB
Rig Hr: nil	Cum Rig Hrs.:	Recovery to Date:	719.39		3125.0m - 3139.0mKB
		Load to Recover (+New)	0.00		3115.0m - 3122.0mKB
AFE # E8D - 011				Daily Costs: \$48,602	
KB Elevation: 459.89 m				Previous Costs: \$4,166,885	
KB. to CF: 10.35 m				Cumulative Costs: \$4,215,487	
KB. to THF: 8.60 m				AFE Estimate: \$3,331,700	

TIME	OPERATION
0600	Flowing the well to test unit through 15.08mm choke
1000	after flowing the well for 11 hr.'s the tubing pressure was down 390 kPa to 16670kPa w/ tubing temperature down 4c to 76c. The gas rate had fallen 22.78 dek's to 439.11 10 ³ m ³ /d w/ the water rate climbing slightly (0.05m ³ /hr./1.2m ³ /d) to 1.25m ³ /hr. or 30m ³ /d, a WGR of 0.0683 H ₂ S steady @ 1% and CO ₂ remaining at 18% Cut the choke back to 13.49mm(34/64")
1030	The tubing pressure climbed to 18250 kPa (up 1580 kPa) and gas rate fell to 392.41 10 ³ m ³ /d (down 46.7 dek's) and the water rate dropping 0.6m ³ /hr to 0.65m ³ /hr. or 15.6m ³ /d @ WGR. of 0.0397 w/ salinity of fluid dropping to 38,000 ppm. Had to transfer 50m ³ of acid as the bung on the bottom drain developed a leak. Added inhibitor to both tanks of acid and rolled it to insure it was mixed in.
1800	Continue to flow the well to test unit
2300	Tbg. = 18050 kPa; Wellhead temp. = 72 c; Gas rate = 394.497 10 ³ m ³ /d; Water/hr. = 0.3 m ³ Cum. water = 714.92 m ³ ; PH-6; Salinity = 4000 ppm; H ₂ S = 1.0%; CO ₂ = 15.5%
	98/08/17
0300	Tbg. = 17900 kPa; Wellhead temp. = 69 c; Gas rate = 382.764 10 ³ m ³ /d; Water/hr. = 0.5 m ³ Cum. water = 717.12 m ³ ; PH-6; Salinity = 42000 ppm.
0600	Tbg. = 17860 kPa; Wellhead temp. = 68 c; Gas rate = 377.65 10 ³ m ³ /d; Water/hr. = 0.77 m ³ Cum. water = 719.39 m ³ ; PH-6; Salinity = 54000 ppm; H ₂ S = 1.1%; CO ₂ = 15.5%;

Ranger Ft. Liard P66
Flow Summary
 August 14-17, 1998

Time Period	Gas Rate E3 m3/D (MMSCFD)	Water Rate m3/hr (m3/D)	WGR m3/E3 m3 (Bbl/MM)	Chlorides ppm	Remarks
Fri 6 AM Sat 3 PM 33 hours	Began at 260 gradually increasing to 600 (21.1)	38 10	3.507 0.440	Very low 120,000	Had to produce 500- 600 m3 of fresh water load fluid <i>clean up period</i>
Sat 3 PM 11 PM	600 (21.1)	10 (240)	0.440 (78)	140,000	Water fluctuates once in a while
Sat 11 PM Sun 7 AM	455 (16)	0.46 (11)	0.024 (4) <i>water condensation.</i>	2000	Water rates and Chlorides decreased over first 2 hours of period Per GPSA equals predicted water condensation rate
Sun 7 AM Sun 3 PM	375 (13.2)	0.25 (6)	0.016 (2.8)	2000	Slightly lower than GPSA estimate
Sun 3 PM Sun 11 PM	525 (18.5)	3 (72)	0.137 (24)	140,000	Kept choke constant so rate decreased constantly to 490 at end of period
Sun 11 PM Mon 7 AM	455 (16)	0.41 (10)	0.022 (3.9)	20,000	Appeared "water free" until 5 AM Water starting to pick up & Chlorides 70,000 at 7 AM
	443	.6	<i>2.4</i>	60,000	

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-08-16	
Purpose of Job: Completion				Report #: 81	
Report From: Roy Elliott/Stan Bernier		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Flowing well to test as per program				Code	Item
					Amount
				3924.0m - 3334.0mKB	
				3295.0m - 3302.0mKB	
				3285.0m - 3282.0mKB	
				3276.0m - 3280.0mKB	
				3260.0m - 3272.0mKB	
				3234.0m - 3248.0mKB	
				3165.0m - 3172.0mKB	
				3152.0m - 3159.0mKB	
				3134.0m - 3148.0mKB	
				3125.0m - 3139.0mKB	
				3115.0m - 3122.0mKB	
Daily Costs:					\$48,452
Previous Costs:					\$4,118,283
Cumulative Costs:					\$4,166,735
AFE Estimate:					\$3,331,700

Contractor:	N/A	Fluid Vol. m3	Water	Oil
Road/Lease:	Good	Total Hauled to Lease:	321.50	
Weather:	Clear 24c	Total Hauled from Lease:	588.37	
Contact Phone:	403-232-5340	Total in Tanks:	12.73	
Zone:	Nahanni	Initial Well Fluid:	Water/standrill	
Perforations:	Under daily costs	Total Load Fluids:	703.31	
SITP=16670KPa @ 0600 hrs.		Non-recov. Ann. Fluids:	94.70	
SICP= 250 KPa @ 0600 hrs.		Recovery Last 24 hrs.	32.61	
Rig Hr: nil	Cum Rig Hrs.:	Recovery to Date:	705.82	
		Load to Recover (+New)	0.00	
AFE # E8D - 011		KB Elevation:	459.89 m	
		KB. to CF:	10.35 m	
		KB. to THF:	8.60 m	

TIME	OPERATION
0600	Flowing the well to the test unit w/ a gas rate of 460 10 ³ m ³ /d through a 15.8mm choke w/ a present WGR of 0.0209 (0.35m ³ /hr.) & a tubing pressure of 16970kPa and flowing temperature of 73c. The salinity of the produced fluid dropped to 0 w/ the pH- 6 remaining stable. the H ₂ S content was 1.2% (By Gastec) and the CO ₂ content of 16% - As of 0600 hr's we have recovered 673m ³ of fluid
0700	Decreased the choke to 13.1mm(33/64") the tubing pressure climbed to 18430kPa (an increase of 1460kPa) and the gas rate dropped to 369.6 10 ³ m ³ /d and was slowly climbing w/ the WDR remaining the same
1500	After 8 hr's of flowing through a 13.1 mm choke the gas rate had risen to 37810 ³ m ³ /d w/ the tubing pressure increasing slightly to 18490kPa (60kPa) the WGR remained constant @ 0.0209/0.30m ³ /hr w/ no other changes. We then - on instructions from APA-Calgary increased the choke to 17.46mm(44/64") - The gas rate increased to 52710 ³ m ³ /d w/ the tubing pressure dropping to 14870kPa To this point the flowing tubing temperature has stayed at 73 - 74c w/ pH/H ₂ S & CO ₂ remaining constant since 0600 hr's
1530	The water rate is increasing - we made 0.5m ³ in the first 1/2 hr.
1540	Increased the choke to 17.46 mm
1800	Tbg. = 14,770 kPa; Wellhead temp. = 80 c; Gas rate = 495.697 10 ³ m ³ /d; Water/hr = 3.5 m ³ Cum. water = 684.21 m ³ ; PH-6; Salinity = 108,000 ppm.
2300	Tbg. = 14780 kPa; Wellhead temp. = 81 c; Gas rate = 485.461 10 ³ m ³ /d; Water/hr = 3.35 m ³ Cum. water = 701.86 m ³ ; PH-6; Salinity = 138,000 ppm.
2300	Decreased the choke to 15.08 mm
2400	Tbg. = 17060 kPa; Wellhead temp. = 80 c; Gas rate = 461.819 10 ³ m ³ /d; Water/ hr = 1.20 m ³ Cum. water = 703.06 m ³ ; PH-6; Salinity = 64,000 ppm; H ₂ S = 1.0% CO ₂ = 15%.
	98/08/17
0300	Tbg. = 16900 kPa; Wellhead temp. = 78 c; Gas rate = 458.147 10 ³ m ³ /d; Water/hr = 0.36 m ³ Cum. water = 704.17 m ³ ; PH-6; Salinity = 28000 ppm.
0600	Tbg. = 16670 kPa; Wellhead temp. = 75 c; Gas rate = 443.285 10 ³ m ³ /d; Water/hr = 0.6 m ³ Cum. water = 705.82 m ³ ; PH-6; Salinity = 60,000 ppm. Fluid recovered in the last 24 hr. = 32.61 m ³ .

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-08-15	
Purpose of Job: Completion				Report #: 80	
Report From: Roy Elliott/Stam Bernier		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Continue to flow the well.				Code	Item
					Amount
Contractor:	N/A	Fluid Vol. m3	Water	Oil	
Road/Lease:	Good	Total Hauled to Lease:	321.50		3324.0m - 3334.0mKB
Weather:	Clear 18c	Total Hauled from Lease:	588.37		3285.0m - 3302.0mKB
Contact Phone:	403-232-5340	Total in Tanks:	12.73		3285.0m - 3292.0mKB
Zone:	Nahanni	Initial Well Fluid:	Water/standrill		3276.0m - 3280.0mKB
Perforations:	Under daily costs	Total Load Fluids:	703.31		3260.0m - 3272.0mKB
SIIP=	KPa @ 0600 hrs.	Non-recov. Ann. Fluids:	94.70		3234.0m - 3248.0mKB
Rig Hr:	nil	Recovery Last 24 hrs.	185.41		3165.0m - 3172.0mKB
	Cum Rig Hrs.:	Load to Recover (+New)			3152.0m - 3159.0mKB
AFE # E8D - 011		KB Elevation:	459.89 m		3134.0m - 3148.0mKB
		KB. to CF:	10.35 m		3115.0m - 3122.0mKB
		KB. to THF:	8.60 m		Daily Costs:
					\$50,722
					Previous Costs:
					\$4,067,561
					Cummulative Costs:
					\$4,118,283
					AFE Estimate:
					\$3,331,700

TIME	OPERATION
0600	Continued to flow well to test unit through 2" - 50.8mm choke to clean up. Flow rate was 58710 ³ m ³ /d with the tubing pressure of 8210kPa and line temperature of 92c and a water rate of 15.42m ³ /d and have recovered 543m ³ the past 16 hours. The gas rate was climbing slightly to 609 10 ³ m ³ /d w/ tubing pressure droppig to 7700 kPa @ 10:00 hrs
1000	Then cut choke back to 1" - 25.4mm. gas rate dropped slightly to 593 10 ³ m ³ /d and the tubing pressure climbed to 9700kPa w/ the water rate of 14m ³ /hr over the following hour. Tubing pressure was slightly increasing
1100	continued flowing the well for clean-up through 1" - 25.4mm choke. After flowing the well for 4 hours was steady at 585 10 ³ m ³ /d w/ tubing pressure at 9740kPa & flowline temperature dropping to 84c and salinity picking up to 125,000 ppm - H ₂ S at 1.1% and CO ₂ at 15.5 -16%-Fluid recovered since we initiated flow = 596m ³
1500	Start the first 8 hour flow rate sequence w/ 600 10 ³ m ³ /d through 1" - 25.4mm choke as above
1600	Tbg. = 9730 kPa; Choke = 25.4 mm; Orifice = 82.55 mm; Wellhead temp. = 86 c; Gas rate = 594.38 10 3 m3/d Water/hr = 9.22 m3; Cum. water = 605.28 m3; PH-6; Salinity = 136,000 ppm.
1900	Tbg. = 9680 kPa; Wellhead temp. = 88 c; Gas rate = 595.782 10 3 m3/d; Water/hr = 7.51 m3; Cum. water = 633.09 m3; PH-6; Salinity = 134,000 ppm.
2300	Tbg. = 9650 kPa; Wellhead temp. = 88 c; Gas rate = 604.421 10 3 m3/d; Water/hr = 8.46 m3 Cum. water = 668.79 m3; PH-6; Salinity = 134,000 ppm.
2300	Start second 8 hr flow rate; Adjust choke for desired rate of approximately 455 103 m3/d
2340	Tbg. = 16,900 kPa; Choke = 15.08 mm; Orifice = 82.55 mm; Wellhead temp. = 85 c; Gas rate = 446.667 10 3 m3/d;
	98/08/16
0300	Tbg. = 17040 kPa; Wellhead temp. = 80 c; Gas rate = 461.071 10 3 m3/d; Water/hr = 0.4 m3; Cum. water = 672.16 m3; PH-6; Salinity = 58,000 ppm
0600	Tbg. = 16970 kPa; Wellhead temp. = 72 c; Gas rate = 459.954 10 3 m3/d; Water/hr = 0.35 m3 Cum. water = 673.21 m3; PH-6; Salinity = .0 ppm; H2S = 1.2%; CO2 = 16%

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-08-14																																																											
Purpose of Job: Completion				Report #: 79																																																											
Report From: Roy Elliott/Stam Bernier		Report To: Leroy Brown		Daily Cost Summary																																																											
Current Operation: Continue to flow the well on clean up				Code	Item																																																										
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0800	Held pre-job procedure & safety meeting																																																														
0615	Opened well to choke. Tubing pressure at 21,400 kPa																																																														
98/08/15																																																															
0000	Continued to flow the well on clean up.																																																														
0600	Tubing pressure at 8210 kPa; Gas rate = 587.116 10 3 m/d; H2S by Gastec = 1.1%; CO2 = 16%																																																														
	Fluid recovered = 487.8 m3; PH-6; Salinity= 108000 ppm																																																														

FieldNotes

[illegible]

FieldNotes

FORWARD

[illegible]

RANGER OIL LIMITED

Name: Ranger Fort Liard P-66-A				Date: 98-08-13	
Purpose of Job: Completion				Report #: 78	
Report From: Roy Elliott/Stan Bernier		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Pulled out of the hole with the dummy tool string				Code	Item
					Amount
Contractor: N/A		Fluid Vol. m3			
Road/Lease: Good		Total Hauled to Lease:		321.50	
Weather: Clear 14 c		Total Hauled from Lease:		588.37	
Contact Phone: 403-232-5340		Total in Tanks:		12.73	
Zone: Nahanni		Initial Well Fluid:		Water/Standrill	
Perforations: Under daily costs		Total Load Fluids:		703.31	
SITP 21400 KPa @ 1600 Hrs		Non-recov. Ann. Fluids:		94.70	
SICP 200 KPa @ 1600 Hrs		Recovery Last 24 hrs.		0.00	
Rig Hr. Nil Cum Rig Hrs.: 456.0		Recovery to Date:		558.82	
		Load to Recover (+New)		145.04	
AFE # E8D-011				Daily Costs: \$91,519	
KB Elevation: 459.89 m				Previous Costs: \$3,978,042	
KB. to CF: 10.35 m				Cumulative Costs: \$4,067,561	
KB. to THF: 8.60 m				AFE Estimate: \$3,331,700	

TIME	OPERATION
0600	New Lee Tool recorders on way to location
1900	Rigged in Bonnet Wireline, pressure tested the lubricator to 1.4 mPa and 28 mPa 10 minutes each - good. Ran in with a 69.3 mm dart and set in the 88.9 mm Otis "XN" nipple at 3053 mcf. Pulled out of the hole and ran in with 3 Lee 'LMR' electronic recorders c/w extended battery packs 52 days
7	Landed the recorders on the dart at 3053 mcf at 2317 hrs. Pulled out of the hole and rigged out Bonnett Torqued the wellhead cap to specifications.
98/08/14	
0000	Open well to flow at daylight.
0600	Open the well to flow to Norward Testers.

Row	Date	Clk Tm	Tbg Pres	Csg Pres	Tbg Temp	Choke	Orf1	Static1	Diff1	Temp1	Gas Rate1	Cum Gas1	Orf2	Static2	Diff2	Temp2	Gas Rate2	Cum Gas2	Wet/hr	Wat Rate	Cum Wat	2pH	SALINITY
	yy/mm/dd	clock	kPa	kPa	C	mm	mm	kPa	kPa	C	10^3m3/d	10^3m3	mm	kPa	kPa	C	10^3m3/d	10^3m3	m3	m3/d	m3		ppm
963	1998/08/14	23:00:00	7980	300	90.0	50.800	82.55	2650	57.0	91.0	522.380	2415.634	100						20.410	489.840	956.240	6	72000.0
964		23:30:00	7090	250	90.0	50.800	82.55	2700	57.5	91.0	529.513	2426.591											
965	1998/08/15	00:00:00	8000	250	90.0	50.800	82.55	2700	58.0	91.0	531.825	2437.647							19.590	470.160	975.830	6	74000.0
966		00:00:00	H2S by Gaslec = 1.2%, CO2 = 16%																				
967		00:30:00	8080	250	90.0	50.800	82.55	2750	59.0	90.0	542.082	2448.833											
968		01:00:00	8080	250	90.0	50.800	82.55	2800	59.0	90.0	546.505	2460.177							15.790	378.980	991.620	6	72000.0
969		01:30:00	8140	250	90.0	50.800	82.55	2800	60.0	90.0	551.550	2471.619											
970		02:00:00	8180	250	90.0	50.800	82.55	2800	60.5	90.0	553.858	2483.134							20.050	481.200	1011.670	6	92000.0
971		02:30:00	8170	200	91.0	50.800	82.55	2850	61.5	90.0	563.330	2494.771											
972		03:00:00	8180	200	91.0	50.800	82.55	2850	61.5	90.0	563.330	2506.507							14.500	348.000	1026.170	6	96000.0
973		03:30:00	8180	250	91.0	50.800	82.55	2850	62.0	90.0	565.630	2518.267											
974		04:00:00	8180	250	92.0	50.800	82.55	2875	62.5	90.0	570.368	2530.101							17.950	430.800	1044.120	6	94000.0
975		04:30:00	8180	250	92.0	50.800	82.55	2900	62.5	91.0	571.944	2542.000											
976		05:00:00	8200	250	92.0	50.800	82.55	2900	63.0	90.0	575.103	2553.948							14.050	337.200	1058.170	6	100000.0
977		05:30:00	8210	250	91.0	50.800	82.55	2950	63.5	90.0	592.275	2566.004											
978	1998/08/15	06:00:00	8210	250	91.0	50.800	82.55	3000	63.5	90.0	587.116	2578.185							15.420	370.080	1073.590	6	108000.0
979		06:00:00	H2S by Gaslec = 1.1%, CO2 = 15%																				

FieldN



Fast

Job Number: GP-98-
 Customer: Ranger
 Well Name: Llard
 Well Location: P-66-A
 Formation: Tight Hole

FieldNote

NEWARK

W	Date	Clk Tim	Tbg Pres	Csg Pres	Tbg Temp	Choke	Orif1	Static1	Diff1	Temp1	Gas Rate1	Cum Gas1	Orif2	Static2	Diff2	Temp2	Gas Rate2	Cum Gas2	Wat/hr	Wat Rate	Cum Wat 2	pH	SALINITY
	yy/mm/dd	clock	kPa	kPa	C	mm	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	m3	m3/d	m3		ppm
4	1998/08/16	18:30:00	14770	225	81	17.46	82.5	2375	51.9	62	494.072	3352.285	0.00										
5		19:00:00	14770	250	80	17.46	82.5	2400	51.9	62	496.619	3362.605							2.950	70.800	1273.750	6	120000
6		19:30:00	14770	250	79	17.46	82.5	2350	51.8	62	491.037	3372.893											
7		20:00:00	14760	250	78	17.46	82.5	2350	51.7	62	490.559	3383.118							3.350	80.400	1277.100	6	128000
8		20:30:00	14770	250	78	17.46	82.5	2350	51.7	62	490.559	3383.338											
9		21:00:00	14760	250	80	17.46	82.5	2350	51.5	63	488.805	3403.540							3.500	84.000	1280.600	6	132000
10		21:30:00	14770	250	81	17.46	82.5	2325	51.5	63	486.250	3413.697											
11		22:00:00	14760	250	81	17.46	82.5	2325	51.5	64	485.461	3423.819							3.700	88.800	1284.300	6	120000
12		22:30:00	14780	250	81	17.46	82.5	2300	51.7	63	484.626	3433.924											
13		23:00:00	14780	250	81	17.46	82.5	2325	51.5	64	485.461	3444.029							3.350	80.400	1287.650	6	138000
14		23:00:00	Decrease choke to 15.08mm																				
15		23:05:00	15900	250		15.08	82.5																
16		23:10:00	16700	250		15.08	82.5																
17		23:15:00	17050	250	81	15.08	82.5																
18		23:30:00	17080	250	80	15.08	82.5	2150	48.2	58	456.368	3453.839											
19		23:45:00	17080	250	81	15.08	82.5	2175	48.2	55	461.240	3458.619											
20	1998/08/17	00:00:00	17060	250	80	15.08	82.5	2175	48.0	53	461.819	3463.426							1.200	28.800	1288.850	6	64000
21		00:00:00	H2S by Gastec = 1.0%, CO2 = 15%																				
22		00:30:00	17030	250	80	15.08	82.5	2175	48.0	52	462.597	3473.056											
23		01:00:00	17010	250	79	15.08	82.5	2175	47.7	51	461.920	3482.686							0.400	9.600	1289.250	6	64000
24		01:30:00	17000	250	79	15.08	82.5	2175	47.7	51	461.920	3492.309											
25		02:00:00	16980	250	78	15.08	82.5	2150	47.7	50	460.093	3501.914							0.350	8.400	1289.600	6	34000
26		02:30:00	16960	250	78	15.08	82.5	2150	47.5	50	459.121	3511.489											
27		03:00:00	16900	250	78	15.08	82.5	2150	47.3	50	458.147	3521.044							0.380	8.640	1289.980	6	28000
28		03:30:00	16770	250	78	15.08	82.5	2125	47.0	50	454.077	3530.546											
29		04:00:00	16770	250	76	15.08	82.5	2125	46.5	48	453.181	3539.997							0.450	10.800	1290.410	6	32000
30		04:30:00	16710	250	77	15.08	82.5	2125	46.2	48	451.707	3549.423											
31		05:00:00	16680	250	77	15.08	82.5	2100	45.8	48	447.139	3558.786							0.600	14.400	1291.010	6	52000
32		05:30:00	16680	250	75	15.08	82.5	2075	45.8	48	444.529	3568.074											
33	1998/08/17	06:00:00	16670	250	75	15.08	82.5	2075	45.7	49	443.285	3577.322							0.600	14.400	1291.610	6	60000
34		06:00:00	H2S by Gastec = 1.0%, CO2 = 15%																				

745.22

Fast

RANGER OIL LIMITED

WELL COMPLETION REPORT

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THIS COPY FOR:

File

ONLY

Well Name: Ranger Fort Liard P-66-A				Date: 98-08-12	
Purpose of Job: Completion				Report #: 77	
Report From: Wayne Casler/Stan Bernier		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Pulled out of the hole with the dummy tool string				Code	Amount
Contractor: N/A				3324.0 m - 3334.0 m KB	
Road/Lease: Good				3295.0 m - 3302.0 m KB	
Weather: Clear 11.7 c				3285.0 m - 3292.0 m KB	
Contact Phone: 403-232-5340				3276.0 m - 3280.0 m KB	
Zone: Nahanni				3280.0 m - 3272.0 m KB	
Perforations: Under daily costs				3234.0 m - 3248.0 m KB	
SITP 11050 KPa @ 1800 Hrs				3165.0 m - 3172.0 m KB	
SICP 200 KPa @ 1800 Hrs				3162.0 m - 3168.0 m KB	
Rig Hr: Nil Cum Rig Hrs.: 458.0				3134.0 m - 3148.0 m KB	
AFE # - E86-041				3125.0 m - 3130.0 m KB	
KB Elevation: -458.88 m				3115.0 m - 3122.0 m KB	
KB to CF: 10.35 m				Daily Costs:	572.436
KB to THF: 8.60 m				Previous Costs:	53,903.606
				Cumulative Costs:	53,976.042
				AFE Estimate:	53,331.700

TIME	OPERATION
0600	Service all the Baker tools and the Dowell Schlumberger equipment.
1400	Hold a safety meeting.
1415	Pressure test the blind rams. The blind rams are leaking. Remove the blind rams and window from the BOP stack. Work on the blind rams. Cleaned the blind ram blocks and replaced the rubbers
1900	Pressure tested the blind rams to 35 mPa dropped to 34 mPa in 10 minutes. No visual leaks. Pressure tested the pipe rams to 35 mPa - good. Installed the BOP stack on the wellhead and torqued the bolts to specs.
2330	Pressure tested the stack to 1.4 mPa and 28 Mpa - good. Pumped 20.5 m3 of fresh water down the 88.9 mm tubing, pressure dropped to 1.4 mPa.
98/08/13	
0000	Closed the well and bled off the stack. Rigged in Computalog and tested the lubricator to 1.4 mPa and 28 mPa 10 minutes each - good. Deployed the dummy tool string into the hole, rigged out Computalog and rigged in the Dowell injector. Deployed the tool string, closed the work window and pressure tested with the wellbore pressure.
0200	Start in the hole with the dummy tool string on the 38.1 mm Coiled tubing, pumping water at 100 L/minute down the annulus. No noticeable weight change through the 88.9 mm Otis 'X' nipple at 1497.74 mKB.
0415	Pull tested at 3035.0 mKB. Ran in and tagged the obstruction at 3075 mKB. Set down from 1000 daN to 4500 daN in 500 daN increments, pulled off of the obstruction with no indication of tools sticking each time
0500	picked up 20 m to 3083 mKB and pumped 80 m3 of fresh water at 12 c down the 88.9 mm annulus at 840 L/minute with a maximum pressure of 11.4 mPa, stopped the pump pressure dropped to 425 kPa in 1 minute. Waited 5 minutes and ran the tools in and tagged the obstruction at 3075 mKB. Set weight on the tools fro 1000 daN to 4500 daN in 1000 daN increments, pulled up each time with no indication of sticking. Maximum compression Dowell wanted to set on the tool string = 4500 daN
0600	Pulled out of the hole pumping water at 100 L/minute.

VERTICAL WELL PROFILE

OPERATOR

COMPANY REP.

WELL #

FIELD

PROVINCE

DATE

☐ Main Production☐ Maintenance

Job Log #

CASING

SIZE

WEIGHT

GRADE

THREAD

LINER

TUBING

OPEN

HOLE

WELL FLUIDS

TUBING

CASING

INITIAL

FINAL

NO. DEPTH LENGTH OD ID DESCRIPTION

1					COIL CONNECTOR 1.5" x 1 1/2" P.D.
2					X OVER 1 1/2" MT BOX x 1 1/4" ACME P.D.
3					SWIVAL 1 1/4" ACME BOX x 1 1/4" ACME P.D.
4					DUAL BACK PRESSURE VALVE 1 1/4" ACME BOX x P.D.
5					DEPLOYMENT BAR 1 1/4" ACME BOX x P.D.
6					X OVER 1 1/4" ACME x 1" MT P.D.
7					DUAL BACK PRESSURE VALVE 1" MT BOX x P.D.
8					FAW DISCONNECT 1" MT BOX x P.D.
9					CIRCULATION SUB 1" MT BOX x P.D.
10					X OVER 1" MT BOX x 1 1/2" MT P.D.
11					DUAL BACK PRESS VALVE 1 1/2" MT BOX x P.D.
12					HE LONG DISCONNECT 1 1/2" MT BOX x P.D.
13					CIRCULATION SUB 1 1/2" MT BOX x P.D.
14					X OVER 1 1/2" MT x 1 1/4" ACME P.D.
15					DUAL BACK PRESSURE VALVE 1 1/4" ACME BOX x P.D.
16					HE LONG DISCONNECT 1 1/4" ACME BOX x P.D.
17					CIRCULATION SUB 1 1/4" ACME BOX x P.D.
18					DUAL BACK PRESS VALVE 1 1/4" ACME BOX x P.D.
19					HE LONG 1 1/4" ACME BOX x P.D.
20					X OVER 1 1/4" ACME x 1 1/2" ACME P.D.
21					X OVER 1 1/2" ACME x 1 1/4" NU P.D.
22					DAIST 1 1/4" NU BOX x BOX
23					BNH PLUG 1 1/4" NU P.D.
24					
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PREPARED BY

DISTRICT

PHONE



1300 - 401 - 9th Avenue S.W.
Calgary, Alberta T2P 3C5
(403) 296-9600

Distribution: White - Calgary Yellow - Edmonton Pink - District

FieldNotes

Job Number: GP-09-114
Customer: Ranger Oil Ltd
Well Name: Lloyd
Well Location: P-08-A
Formation: Tight Hole

[illegible]

Page 25A

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Run	Time	Temp	Pressure	Flow	Level	Notes
1	0.11	10.0	10.0	10.0	10.0	
2	0.11	10.0	10.0	10.0	10.0	
3	0.11	10.0	10.0	10.0	10.0	
4	0.11	10.0	10.0	10.0	10.0	
5	0.11	10.0	10.0	10.0	10.0	
6	0.11	10.0	10.0	10.0	10.0	
7	0.11	10.0	10.0	10.0	10.0	
8	0.11	10.0	10.0	10.0	10.0	
9	0.11	10.0	10.0	10.0	10.0	
10	0.11	10.0	10.0	10.0	10.0	
11	0.11	10.0	10.0	10.0	10.0	
12	0.11	10.0	10.0	10.0	10.0	
13	0.11	10.0	10.0	10.0	10.0	
14	0.11	10.0	10.0	10.0	10.0	
15	0.11	10.0	10.0	10.0	10.0	
16	0.11	10.0	10.0	10.0	10.0	
17	0.11	10.0	10.0	10.0	10.0	
18	0.11	10.0	10.0	10.0	10.0	
19	0.11	10.0	10.0	10.0	10.0	
20	0.11	10.0	10.0	10.0	10.0	
21	0.11	10.0	10.0	10.0	10.0	
22	0.11	10.0	10.0	10.0	10.0	
23	0.11	10.0	10.0	10.0	10.0	
24	0.11	10.0	10.0	10.0	10.0	
25	0.11	10.0	10.0	10.0	10.0	
26	0.11	10.0	10.0	10.0	10.0	
27	0.11	10.0	10.0	10.0	10.0	
28	0.11	10.0	10.0	10.0	10.0	
29	0.11	10.0	10.0	10.0	10.0	
30	0.11	10.0	10.0	10.0	10.0	
31	0.11	10.0	10.0	10.0	10.0	
32	0.11	10.0	10.0	10.0	10.0	
33	0.11	10.0	10.0	10.0	10.0	
34	0.11	10.0	10.0	10.0	10.0	
35	0.11	10.0	10.0	10.0	10.0	
36	0.11	10.0	10.0	10.0	10.0	
37	0.11	10.0	10.0	10.0	10.0	

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RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A			Date: 98-08-11		
Purpose of Job: Completion			Report #: 76		
Report From: Wayne Casler/Stan Bernier		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Inspect the tool string				Code	Item
				3324.0 m - 3334.0 m KB.	Amount
Contractor: N/A		Fluid Vol. m3	Water	Oil	3295.0 m - 3302.0 m KB.
Road/Lease: Good		Total Hauled to Lease:	321.50		3295.0 m - 3292.0 m KB.
Weather: Clear 12.8 c		Total Hauled from Lease:	588.37		3278.0 m - 3280.0 m KB.
Contact Phone: 403-232-5340		Total In Tanks:	12.73		3280.0 m - 3272.0 m KB.
Zona: Nahanni		Initial Well Fluid:	Water/Standfill		3294.0 m - 3248.0 m KB.
Perforations: Under Gully		Total Load Fluids:	621.31		3165.0 m - 3172.0 m KB.
SITP 10910 KPa @ 1800 Hrs		Recovery Last 24 hrs:	94.70		3152.0 m - 3158.0 m KB.
SICP 450 KPa @ 1800 Hrs		Recovery to Date:	568.82		3134.0 m - 3146.0 m KB.
Rig Hr Nil	Cum Rig Hrs: 458.0	Load to Recover (+New)	227.04		3125.0 m - 3130.0 m KB.
AFE # E8C-011				Daily Costs: \$97,098	
KB Elevation: 459.89 m				Previous Costs: \$3,805,607	
KB. to CF: 10.35 m				Cumulative Costs: \$3,903,606	
KB. to THF: 8.60 m				AFE Estimate: \$3,591,700	

TIME	OPERATION
0600	Make up all the tools.
0830	Wait for the wind to go down.
1215	Hold a safety meeting.
1230	Pressure up the Dowell Schlumberger treating line. Open the well and pump 22.0 m ³ of fluid down the casing.
1345	Shut down the pump and hold a safety meeting.
1355	Install the lubricator and pressure test same to 20800 kPa for 10.0 min.
1415	Open the master valve and deploy the Baker packer and Lee recorders into the wellhead. Close the pipe/slip rams and bleed off the pressure above the rams. Open the window and remove the Wireline connector. Lay down the lubricator and pick up the injector coil. Insert the injector into the quick connector. Make up the coil tubing to the Baker tools. Close the window and equalize the pressure. We have 4500 kPa on the tubing.
1515	Hold a safety meeting.
1530	Open the pipe/slip rams and run in the hole with the Baker packer and the Lee recorders. Pumping fresh water down the Annulus at 70 L/minute while running into the hole.
2100	Tagged a tight spot at 3068 mKB, worked the tool string setting a maximum of 1000 daN on the tool string. Dropped through to 3075.7 mKB, worked the string to 3076.8 mKB, worked the tool string to a maximum of 1000 daN and could not work the packer through the tight spot. Stopped pumping fluid and worked the tubing could not make hole. Pulled up and out of the tight spot with very little pull over the string weight.
2210	Started pulling out of the hole at a maximum 15 m/minute while pumping water at 60 L/minute.
98/08/12	
0130	At surface with the tools, closed the pipe rams on the Baker deployment bar. Bled off above the BOP's. Opened the work window and disconnected and removed the Dowell Injector. Rigged in Computalog to deploy the tools out of the hole. Broke out Lee Recorders and the Baker equipment. Secured the well.
0330	Cleaned up the Lee and Baker tools and inspected for any damage. Found no indication of damage to the Lee tools. The Baker packer showed damage to a small ring above the lower sleeve and the packer elements and the element was expanded to 72.9 mm O.D. The outer rubber element showed the glaze worn off it on one side and the upper and lower ends.
0600	Complete inspection of the tools in the daylight.

Job Number: GP-98-114
Customer: Ranger Oil Ltd
Well Name: U-1
Well Location: P-66-A
Formation: Tight Hole

FieldNotes

FORWARD

Row	Date	Chk Tim	Tbg Press	Csg Press	Tbg Temp	Choke	Orf1	Static1	Diff1	Temp1	Gas Rate1	Cum Gas1	Orf2	Static2	Diff2	Temp2	Gas Rate2	Cum Gas2	Wet/hr	Wet Rate	Cum Wet	pH	SALINITY
	yy/mm/dd	clock	kPa	kPa	C	mm	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	m3	m3/d	m3		ppm
741	1998/08/10	23:30:00	21540	250			0.00						0.00										
742	1998/08/11	00:00:00	21540	250																			
743		00:30:00	21540	250																			
744		01:00:00	21550	250																			
745		01:30:00	21560	250																			
746		02:00:00	21550	250																			
747		02:30:00	21650	250																			
748		03:00:00	21650	250																			
749		03:30:00	21680	250																			
750		04:00:00	21680	250																			
751		04:30:00	21660	250																			
752		05:00:00	21660	250																			
753		05:30:00	21670	250																			
754	1998/08/11	06:00:00	21570	250																			
755		06:30:00	21570	250																			
756		07:00:00	21570	250																			
757		07:10:00	Bleed off well head to rig up Dowell																				
758		07:30:00	Wait for well to die down																				
759		07:30:00		250																			
760		08:00:00		250																			
761		08:30:00		250																			
762		09:00:00		250																			
763		09:30:00		250																			
764		10:00:00	21600	250																			
765		10:30:00	21580	250																			
766		11:00:00	21580	250																			
767		11:30:00	21580	250																			
768	1998/08/11	12:00:00	21580	250																			
769		12:30:00	Pump water to kill well																				
770		13:30:00	Rig up tools and injector																				
771		15:00:00	3580	250																			
772		16:30:00	Run in with coil																				
773		16:30:00	4600	250																			
774		16:00:00	3680	250																			
775		16:30:00	4450	300																			
776		17:00:00	4380	300																			
777		17:30:00	4030	300																			

FAST

Job Number: GP-98-114
Customer: Ranger Oil Ltd
Wellname: Lard
Well Location: P-68-A
Formation: Tight Hole

FieldNotes

NORWARD

Row	Date	Clk Tim	Tbg Pres	Csg Pres	Tbg Temp	Choke	Diff1	Status1	Diff2	Temp1	Gas Rate1	Cum Gas1	Diff2	Status2	Diff2	Temp2	Gas Rate2	Cum Gas2	Wet/hr	Wet Rate	Cum Wet	pH	SALINITY
	yy/mm/dd	clock	kPa	kPa	C	mm	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	m3	m3/d	m3		ppm
778	1998/08/11	18:00:00	3300	300			0.00						0.00										
779		18:30:00	3200	200																			
780		18:30:00	Shut casing bleed off.																				
781		19:00:00	3280	200																			
782		19:30:00	3480	200																			
783		20:00:00	3710	200																			
784		20:30:00	4000	250																			
785		21:00:00	4030	250																			
786		21:30:00	4050	250																			
787		22:00:00	4120	300																			
788		22:30:00	4470	300																			
789		23:00:00	4500	300																			
790		23:30:00	3940	400																			
791	1998/08/12	00:00:00	3450	400																			
792		00:30:00	3480	400																			
793		01:00:00	3470	400																			
794		01:30:00	3470	400																			
795		01:35:00	Down to surface. Prepare to rig on wireline lubricator.																				
796		02:00:00	4040	400																			
797		02:30:00	6250	400																			
798		02:50:00	Shut in master to valve to take off wireline lubricator.																				
799		03:30:00	Opened master and continue build-ups.																				
800		03:30:00	6690	400																			
801		04:00:00	7770	400																			
802		04:30:00	8690	400																			
803		05:00:00	8520	400																			
804		05:30:00	10450	400																			
805	1998/08/12	06:00:00	10910	450																			

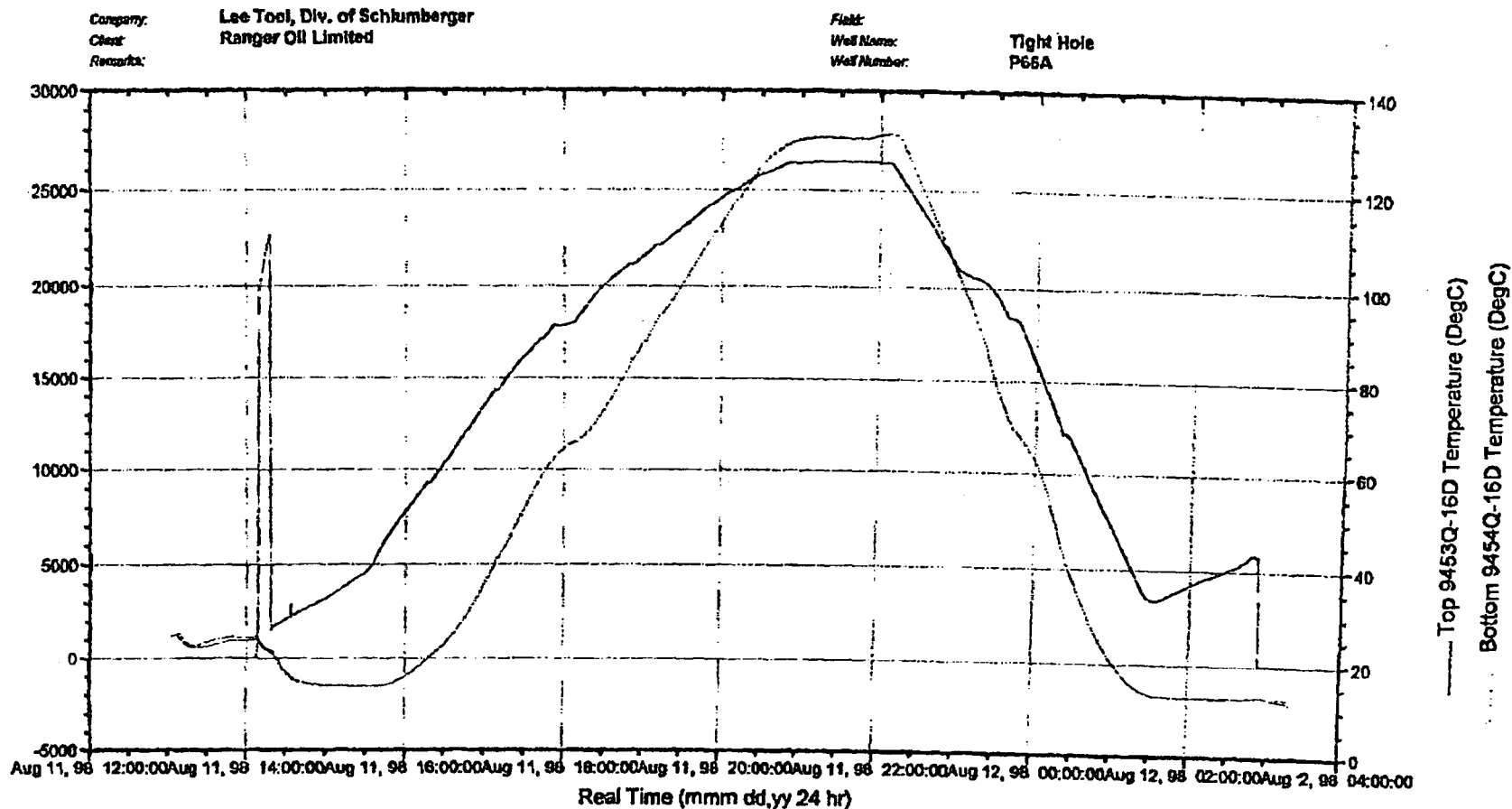
Fast

AUG-12-1998 08:25

403 232 5200
SERIAL 9453Q-16D Pressure (KPa G)
Bottom 9454Q-16D Temperature (DegC)
20:15
08-21-2008
73%

P.05

Pressure & Temperature vs. Real Time



Data							
9453Q-16D		9454Q-16D	9453Q-16D	9454Q-16D	9454Q-16D	9453Q-16D	
vs 9453Q-16D							
Real Time (mm dd yy 24 hr)	Elapsed Time (DD:HH:MM:SS)	Pressure (KPa G)	Pressure (KPa G)	Press. Diff. (KPa)	Temperature (DegC)	Temperature (DegC)	Comments
02:48:00	0:13:45:00	5868.8944	5882.5295	4.3650	13.0489	13.1070	
02:53:00	0:13:50:00	2201.0229	1526.8435	674.1794	13.1963	13.1697	
02:58:00	0:13:55:00	-2.1866	2.8017	-4.9882	13.0560	12.9852	
03:03:00	0:14:00:00	-1.9788	2.9698	-4.9485	12.7540	12.6900	
03:08:00	0:14:05:00	-18.0158	0.5686	-18.5844	12.9838	12.4518	
03:13:00	0:14:10:00	-13.3056	4.0252	-17.3309	12.8268	12.2287	

Job ID:

Service Company: Lee Tool, Div. of Schlumberger

Printed: Aug 12, 1998 @ 05:35:11

Recorded DataRanger Oil Limited
Northwest Territories, Canada

ght Hole

P66A

Data							
9453Q-16D		9454Q-16D	9453Q-16D	9454Q-16D	9454Q-16D	9453Q-16D	
				vs 9453Q-16D			
Real Time (mm/dd/yyyy 24 hr)	Elapsed Time DD:HH:MM:SS	Pressure (KPa G)	Pressure (KPa G)	Press. Diff. (KPa)	Temperature (DegC)	Temperature (DegC)	Comments
Aug 11, 98 13:03:00	0:00:00:00	-20.3798	15.0278	-35.4075	24.9608	24.7349	
13:08:00	0:00:05:00	-20.9635	30.2052	-50.7687	25.4027	24.6778	
13:13:00	0:00:10:00	12.6709	31.6552	-18.9843	23.6524	23.0189	
13:18:00	0:00:15:00	8.4268	28.9601	-20.5333	22.8362	22.4154	
13:23:00	0:00:20:00	4.5867	27.9664	-23.3797	22.9628	22.4580	
13:28:00	0:00:25:00	3.6413	27.7458	-24.1043	23.4796	22.6043	
13:33:00	0:00:30:00	3.8890	27.4788	-23.5898	23.8937	22.8450	
13:38:00	0:00:35:00	4.5136	27.0986	-22.5850	24.2535	23.2556	
13:43:00	0:00:40:00	5.5181	27.2839	-21.7658	24.4684	23.5900	
13:48:00	0:00:45:00	5.8975	27.4849	-21.5874	24.6110	23.8189	
13:53:00	0:00:50:00	6.1381	27.6309	-21.4928	24.7277	23.9923	
13:58:00	0:00:55:00	6.5430	28.2417	-21.6987	24.5555	23.9481	
14:03:00	0:01:00:00	6.5864	27.6205	-21.0541	24.5314	23.9739	
14:08:00	0:01:05:00	252.9626	299.6089	-46.6463	24.5073	24.0938	
14:13:00	0:01:10:00	21277.2994	21335.9992	-58.6998	22.4526	22.6358	
14:18:00	0:01:15:00	8606.8586	4454.7513	4162.1073	21.3645	21.8442	
14:23:00	0:01:20:00	1885.6276	1870.7667	14.8609	19.3717	19.9962	
14:28:00	0:01:25:00	2089.3063	2005.0053	84.3010	17.2635	17.9263	
14:33:00	0:01:30:00	2277.4328	2268.5212	7.9116	15.8498	16.3743	
14:38:00	0:01:35:00	2489.0808	2480.6560	8.4248	14.9617	15.3396	
14:43:00	0:01:40:00	2633.3729	2624.3065	9.0664	14.5159	14.7851	
14:48:00	0:01:45:00	2803.6717	2797.3113	6.3604	14.2661	14.4763	
14:53:00	0:01:50:00	2984.5958	2981.9201	2.6758	14.1097	14.2962	
14:58:00	0:01:55:00	3185.3738	3177.2951	8.0787	14.0028	14.1899	
15:03:00	0:02:00:00	3389.2305	3382.9089	6.3216	13.9264	14.1254	
15:08:00	0:02:05:00	3603.2575	3594.7381	8.5194	13.8691	14.0818	
15:13:00	0:02:10:00	3817.5068	3815.0884	2.4184	13.8233	14.0533	
15:18:00	0:02:15:00	4079.1429	4074.4272	4.7157	13.7832	14.0116	
15:23:00	0:02:20:00	4312.4557	4305.6106	6.8451	13.7774	13.9358	
15:28:00	0:02:25:00	4544.9145	4541.2345	3.6800	13.7698	13.8920	
15:33:00	0:02:30:00	4813.1593	4809.8477	3.3076	13.7584	13.8616	
15:38:00	0:02:35:00	5384.2513	5397.3331	-13.0818	13.8176	13.8787	
15:43:00	0:02:40:00	6163.0754	6189.5920	-26.5166	14.0772	14.0932	
15:48:00	0:02:45:00	6629.6381	6664.4271	-34.7890	14.3290	14.3360	
15:53:00	0:02:50:00	7098.9391	7149.0892	-50.1501	14.8474	14.8325	
15:58:00	0:02:55:00	7814.8821	7630.8683	-18.9862	15.6312	15.5683	
16:03:00	0:03:00:00	8069.8331	8072.9737	-3.1407	16.6274	16.5081	
16:08:00	0:03:05:00	8512.8556	8465.3936	47.4620	17.7171	17.5563	
16:13:00	0:03:10:00	8936.5878	8983.9013	-47.3135	18.9259	18.7250	
16:18:00	0:03:15:00	9301.4626	9304.7496	-3.2870	20.2430	20.0037	
16:23:00	0:03:20:00	9674.0194	9714.3236	-40.3043	21.3439	21.1010	
16:28:00	0:03:25:00	10195.6694	10141.3985	54.2709	22.5848	22.3561	
16:33:00	0:03:30:00	10640.5587	10690.8956	-50.3369	24.1830	23.9112	
16:38:00	0:03:35:00	11195.7116	11176.2207	19.4909	25.9066	25.8318	
16:43:00	0:03:40:00	11757.8261	11762.0734	-4.2473	27.7977	27.5356	
16:48:00	0:03:45:00	12225.1993	12215.9554	9.2439	29.9482	29.6938	
16:53:00	0:03:50:00	12784.5542	12759.1839	25.3703	32.3004	32.0161	
16:58:00	0:03:55:00	13267.9000	13288.1758	-20.2758	34.8714	34.5247	
17:03:00	0:04:00:00	13845.1162	13781.8768	63.2394	37.5347	37.1579	

SID:

1

Service Company: Les Tool, Div. of Schlumberger

Printed: Aug 12, 1998 @ 05:35:10

9453Q-16D		9454Q-16D	9453Q-16D	9454Q-16D	9454Q-16D	9453Q-16D
		vs 9453Q-18D				
Real Time (mm/dd/yy 24 hr)	Elapsed Time DD:HH:MM:SS	Pressure (KPa G)	Pressure (KPa G)	Press. Diff. (KPa)	Temperature (DegC)	Temperature (DegC)
21:58:00	0:08:55:00	26400.0250	26391.0232	9.0017	130.9731	130.8753
22:03:00	0:09:00:00	26396.9686	26387.1333	9.8353	131.2603	131.1611
22:08:00	0:09:05:00	26396.4729	26381.8187	14.6539	131.5183	131.4054
22:13:00	0:09:10:00	25993.7149	25960.4486	33.2660	131.0308	130.8241
22:18:00	0:09:15:00	25469.7720	25429.8896	40.0824	128.9533	128.7661
22:23:00	0:09:20:00	24953.9764	24910.1024	43.8740	125.6372	125.7487
22:28:00	0:09:25:00	24438.2072	24394.2855	43.9217	122.8945	122.8210
22:33:00	0:09:30:00	23936.8208	23896.8025	38.0183	119.7323	118.8805
22:38:00	0:09:35:00	23408.4862	23370.9282	37.5309	116.5765	116.8389
22:43:00	0:09:40:00	22884.3978	22849.9651	34.4328	113.5326	113.8744
22:48:00	0:09:45:00	22366.7061	22340.6996	25.0064	110.5791	110.7651
22:53:00	0:09:50:00	21830.7728	21798.6597	32.1131	107.4276	107.7096
22:58:00	0:09:55:00	21297.1871	21264.7336	32.4535	104.2122	104.5788
23:03:00	0:10:00:00	20889.6840	20872.8172	16.8668	100.9401	101.3852
23:08:00	0:10:05:00	20674.2251	20660.4989	13.7263	97.6217	98.1618
23:13:00	0:10:10:00	20572.2320	20565.8371	6.3949	93.7580	94.4227
23:18:00	0:10:15:00	20448.7869	20429.8273	18.9596	89.6627	90.3744
23:23:00	0:10:20:00	20160.2953	20149.4830	10.8124	85.1829	85.9292
23:28:00	0:10:25:00	19790.9841	19776.3096	15.6546	80.5161	81.3080
23:33:00	0:10:30:00	19233.6602	19202.7040	30.9562	76.2874	77.0628
23:38:00	0:10:35:00	18482.1914	18422.1155	60.0759	72.6561	73.1837
23:43:00	0:10:40:00	18404.6526	18391.3648	13.2878	69.6890	70.0607
23:48:00	0:10:45:00	18069.9860	18007.2711	62.7149	67.9954	68.1868
23:53:00	0:10:50:00	17227.2934	17174.2221	53.0713	66.1101	66.2118
23:58:00	0:10:55:00	16346.5965	16333.7840	12.8125	63.8577	63.9259
Aug 12, 98 00:03:00	0:11:00:00	15496.4851	15455.3847	41.1004	61.2101	61.1857
00:08:00	0:11:05:00	14666.7200	14542.6216	124.0985	57.4071	57.3528
00:13:00	0:11:10:00	13765.6067	13654.6507	110.9561	52.8144	52.6171
00:18:00	0:11:15:00	12804.8196	12758.3711	46.2486	47.3279	47.5226
00:23:00	0:11:20:00	12218.9415	12254.3350	-35.3935	42.4056	42.6159
00:28:00	0:11:25:00	11788.0380	11662.5611	123.4789	38.8982	39.0145
00:33:00	0:11:30:00	11014.8259	11000.9979	13.9260	35.7305	35.7291
00:38:00	0:11:35:00	10243.9096	10248.9634	-5.0538	32.4686	32.4661
00:43:00	0:11:40:00	9529.9251	9519.9472	9.9379	29.3717	29.3887
00:48:00	0:11:45:00	8838.8917	8786.0691	50.8227	26.5222	26.5612
00:53:00	0:11:50:00	8080.5413	8089.3422	11.1992	23.9271	23.9997
00:58:00	0:11:55:00	7422.6957	7406.3325	16.3632	21.6746	21.7384
01:03:00	0:12:00:00	6675.8492	6624.7298	51.1194	19.6818	19.7237
01:08:00	0:12:05:00	5983.0227	5905.8646	77.1581	17.9173	17.9528
01:13:00	0:12:10:00	5261.7673	5234.0127	27.7546	16.4208	16.4591
01:18:00	0:12:15:00	4563.4508	4529.0236	34.4270	15.1901	15.2356
01:23:00	0:12:20:00	3918.8189	3845.4129	73.4070	14.2394	14.2886
01:28:00	0:12:25:00	3517.6149	3529.5082	-11.8913	13.6169	13.6641
01:33:00	0:12:30:00	3450.3110	3464.8417	-14.3306	13.2747	13.3086
01:38:00	0:12:35:00	3543.7587	3636.9620	6.7966	13.1044	13.1279
01:43:00	0:12:40:00	3704.0480	3692.2081	11.8400	13.0240	13.0423
01:48:00	0:12:45:00	3878.5991	3872.3402	6.2589	12.9800	13.0023
01:53:00	0:12:50:00	4050.0728	4043.0262	7.0464	12.9532	12.9871
01:58:00	0:12:55:00	4215.3681	4202.5078	12.8803	12.9321	12.9833
02:03:00	0:13:00:00	4368.1729	4355.8022	12.3707	12.9168	12.9871
02:08:00	0:13:05:00	4517.7294	4511.7259	8.0035	12.8996	12.9966
02:13:00	0:13:10:00	4658.5517	4649.1973	9.3544	12.8843	13.0061
02:18:00	0:13:15:00	4794.7773	4783.1228	11.6545	12.8709	13.0175
02:23:00	0:13:20:00	4926.5930	4921.0626	5.5304	12.8575	13.0289
02:28:00	0:13:25:00	5070.0880	5061.1162	8.9724	12.8460	13.0423
02:33:00	0:13:30:00	5216.9554	5206.8957	10.2597	12.8345	13.0566
02:38:00	0:13:35:00	5376.9231	5372.3951	4.5280	12.8249	13.0575
02:43:00	0:13:40:00	5604.3367	5602.2029	2.1338	12.8881	13.0194

JOB ID:

Service Company: Lee Tool, Div. of Schlumberger

Printed: Aug 12, 1998 @ 08:16:11

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-08-10	
Purpose of Job: Completion				Report #: 75	
Report From: Wayne Casler/Sten Bernier		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Making up the Baker equipment and the Lee tools				Code	Item Amount
				3324.0 m - 3334.0 m KB	
				3295.0 m - 3302.0 m KB	
				3285.0 m - 3292.0 m KB	
				3278.0 m - 3280.0 m KB	
				3260.0 m - 3272.0 m KB	
				3234.0 m - 3248.0 m KB	
				3165.0 m - 3172.0 m KB	
				3152.0 m - 3169.0 m KB	
				3134.0 m - 3148.0 m KB	
				3125.0 m - 3130.0 m KB	
				3115.0 m - 3122.0 m KB	
Contractor: N/A				Fluid Vol. m3	Water Oil
Road/Lease: Good				Total Hauled to Lease:	321.50
Weather: Clear + 14° C				Total Hauled from Lease:	588.37
Contact Phone: 403-232-5340				Total in Tanks:	12.73
Zone: Nahanni				Initial Well Fluid:	Water/Standfill
Perforations: Under daily costs				Total Load Fluids:	539.71
SITP: 21570 KPa @ 1800 Hrs				Non-recov. Ann. Fluids:	94.70
SICP: 250 KPa @ 1800 Hrs				Recovery Last 24 hrs:	25.08
Rig Hr: Nil Cum Rig Hrs.: 456.0				Recovery to Date:	558.62
				Load to Recover (+New)	308.04
AFE # E80-011				KB Elevation:	459.89 m
				KB. to CF:	10.35 m
				KB. to THF:	8.60 m
				Daily Costs:	\$102,285
				Previous Costs:	\$3,703,342
				Cummulative Costs:	\$3,805,607
				AFE Estimate:	\$3,331,700
TIME OPERATION					
0600	Deploy the Baker tools and Computalog gun out of the hole. We only recovered 0.75 m of the strip gun.				
0800	Finish deploying the tools out of the hole. We found that the deployment bag was pitted and a Hydraulic hose needs replacing on the N ₂ pumper.				
0830	Wait on equipment. We had to cut off 70.0 m of the 38.1 mm coil tubing due to pitting. Changed out the stripper rubber on the injector. Put a new end on the coil tubing and pull test same. Installed new rubbers in the BOP'S.				
2400	Stump tested the blind rams, pumped 2.7 m3 of diesel fuel followed by 0.8 m3 water into the coiled tubing, pressure tested the Baker connector to 28 mPa 10 minutes -good. Bled off, installed the BOP stack on the wellhead and torqued the flange bolts to specifications. Closed the blind rams and pressure tested the flange connection to 1.4 mPa and 35 mPa for 10 minutes each-good.				
98/08/11					
0000	Wait on the Baker equipment.				
0600	Make up the tool string.				
<i>WAITING - HIGH WIND THROUGH THE VALLEY.</i>					

Job Number: GP-08-114
 Customer: Ranger Oil Ltd
 Wellname: Lard
 Well Location: P-68-A
 Formation: Tight Hole

FieldNotes

NORWARD

Row	Date	Clk Tim	Tbg Pres	Csg Pres	Tbg Temp	Choke	Orif1	Static1	Diff1	Temp1	Gas Rate1	Cum Gas1	Orif2	Static2	Diff2	Temp2	Gas Rate2	Cum Gas2	Wat/hr	Wat Rate	Cum Wat	pH	SALINITY
	yy/mm/dd	clock	kPa	kPa	C	mm	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	m3	m3/d	m3		ppm
704	1998/08/10	06:30:00	3280	2650			0.00						0.00										
705		07:00:00	4330	2650																			
706		07:30:00		1850																			
707		08:00:00	6410	1900																			
708		08:00:00	Tools at surface. Rig up packer.																				
709		08:30:00																					
710		09:00:00		750																			
711		09:30:00	10010	550																			
712		10:00:00	11050	650																			
713		10:30:00	12600	550																			
714		11:00:00	13170	550																			
715		11:30:00	14110	550																			
716	1998/08/10	12:00:00	14850	500																			
717		12:30:00	15820	450																			
718		13:00:00	16230	400																			
719		13:01:00	Shut in master to check for leaking.																				
720		13:30:00	0	400																			
721		14:00:00	0	400																			
722		14:30:00	0	350																			
723		15:00:00	0	350																			
724		15:30:00	16000	350																			
725		16:00:00	16330	300																			
726		16:30:00	16880	300																			
727		17:00:00	16810	250																			
728		17:30:00	19100	300																			
729	1998/08/10	18:00:00	19380	300																			
730		18:30:00	19540	300																			
731		19:00:00	18820	300																			
732		19:30:00	20150	300																			
733		20:00:00	20410	300																			
734		20:30:00	20580	300																			
735		20:30:00	Function tested ESD.																				
736		21:00:00	20810	300																			
737		21:30:00	21220	250																			
738	1998/08/10	22:00:00	21440	250																			
739		22:30:00	21630	250																			
740		23:00:00	21640	250																			

Fast

Job Number: GP-88-114
 Customer: Ranger Oil Ltd
 Wellname: Lland
 Well Location: P-88-A
 Formation: Tight Hole

FieldNotes



Row	Date	Clk Tim	Tbg Pres	Csg Pres	Tbg Temp	Choke	Orif1	Static1	Orif1	Temp1	Gas Rate1	Cum Gas1	Orif2	Static2	Diff2	Temp2	Gas Rate2	Cum Gas2	Water	Wat Rate	Cum Wat	pH	SALINITY
	yy/mm/dd	clock	kPa	kPa	C	mm	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	m3	m3/d	m3		ppm
741	1998/08/10	23:30:00	21540	250			0.00						0.00										
742	1998/08/11	00:00:00	21540	250																			
743		00:30:00	21540	250																			
744		01:00:00	21550	250																			
745		01:30:00	21550	250																			
746		02:00:00	21550	250																			
747		02:30:00	21550	250																			
748		03:00:00	21550	250																			
749		03:30:00	21560	250																			
750		04:00:00	21560	250																			
751		04:30:00	21560	250																			
752		05:00:00	21560	250																			
753		05:30:00	21570	250																			
754	1998/08/11	06:00:00	21570	250																			

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-08-09	
Purpose of Job: Completion				Report #: 74	
Report From: Wayne Casler/Sten Bernier		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Deploy the perforating guns out of the hole				Code	Item
					Amount
				3324.0 m - 3334.0 m KB.	
				3295.0 m - 3302.0 m KB.	
				3285.0 m - 3292.0 m KB.	
				3276.0 m - 3280.0 m KB.	
				3280.0 m - 3272.0 m KB.	
				3234.0 m - 3248.0 m KB.	
				3165.0 m - 3172.0 m KB.	
				3152.0 m - 3159.0 m KB.	
				3134.0 m - 3148.0 m KB.	
				3125.0 m - 3130.0 m KB.	
				3115.0 m - 3122.0 m KB.	
Daily Costs:					\$59,142
Previous Costs:					\$3,644,200
Cumulative Costs:					\$3,703,342
AFE Estimate:					\$3,331,700

Contractor:	N/A	Fluid Vol. m3	Water	Oil
Road/Lease:	Good	Total Hauled to Lease:	321.50	
Weather:	Raining + 14° C	Total Hauled from Lease:	535.67	
Contact Phone:	403-232-5340	Total In Tanks:	12.50	
Zone:	Nahanni	Initial Well Fluid:	Water/Standfill	
Perforations:	Under daily costs	Total Load Fluids:	539.71	
SITP	4630 KPa @ 1600 Hrs	Non-recov. Ann. Fluids:	94.70	
SICP	2700 KPa @ 1600 Hrs	Recovery Last 24 hrs.	25.08	
Rig Hr.	Nil	Recovery to Date:	558.62	
Cum Rig Hrs.:	456.0	Lead to Recover (+New)	308.04	

AFE #	E80-011	KB Elevation:	459.89 m
		KB. to CF:	10.35 m
		KB. to THF:	8.60 m

TIME	OPERATION
0600	Wait on parts from Baker Oil Tools.
0800	Rig up Dowell Schlumberger.
0815	Pressure test the pump lines and blind rams to 1400 kPa low test and 28000 kPa high test.
0850	Open the well and pump 20.0 m ³ of fluid down the tubing.
0950	Stop the pump. We have 1500 kPa on the tubing.
1000	Deploy the perforating gun into the well.
1030	Install the coil tubing injector into the quick connector and make up the 38.1 mm coil tubing connector to the perforating assembly. Close the window and equalize the pressure. We have 5200 kPa on the wellhead.
1105	Hold a safety meeting.
1115	Open the pipe/slip rams and run in the hole with a 54.0 mm Spiral Sho-Gun perforating gun, 13 SPM, 14 gram charges. Checked the "X" nipple with the nipple locator. Ran in the hole and perforated the zone from 3349.0 m - 3356.0 m KB. with a Hydraulic firing head.
1800	Pumped 3.3 m3 of fresh water to pressure up on the 38.1 mm Coiled Tubing, the guns appeared to fire at approximately 18.0 mPa, the weight indicator jumped. The burst disc let go at approximately 20.0 mPa.
2000	Pumped 6.0 m3 fresh water down the tubing, dropped the 12.7 mm ball to open the circulating port. Pumped 2.5 m3 of fresh water, stopped the pump and let the ball drop to the seat. Pumped the pressure to 28.0 mPa and the circulating port opened. Moved the tubing down to position the circulating port at 3358.0 mKB. Left the csg. closed during the wash.
2200	Pumped 0.7 m3 of 28% HCL acid, Followed by 3.9 m3 of fresh water to spot the acid over the first wash interval. Conducted 7 - 100 L washes over the interval from 3358.0 m to 3349.0 mKB, let each wash sit 5 minutes. #1-11.8 mPa maximum pressure. #7-8.7 mPa maximum pressure.
2345	Had to pump 5.8 m3 of fresh water down the annulus in order to move the circulating port up to 3338 mKB. Pumped 1.0 m3 Of 28% HCL acid, followed by 3.8 m3 fresh water to spot the acid over the first interval. Conducted 10-100 L washes over the interval from 3334.0 m to 3324.0 mKB. Let each wash soak for 5 minutes. #1-13.8 mPa maximum pressure. #10-7.1 mPa maximum pressure.
98/08/10	
0100	Ran the circulating port to 3375.0 mKB. Safety meeting. Started to blow down the 38.1 mm coiled tubing with N2. Flowed well max. 272 10 3 m3/d Annulus to the Norward Tester's. Recovered a total of 25.08 m3 of fluid. Approximately 3.0 m3 of fluid reading a PH-3,4 then back up to a PH-5. 38.1 mm tubing cleaned out to N2.
0330	Shut in the 88.9 mm Annulus, and pumped fresh water down the Annulus while pulling out of the hole with Coiled tubing. No noticeable weight change coming into the tailpipe at 3077.6 mKB
0530	Out of the hole, continued pumping water to drop the Annulus pressure to 3000 mPa, dropped the deployment
0600	bar into position and closed the rams and slips.

Job Number: GP-98-114
 Customer: Ranger Oil Ltd
 Wellname: Uland
 Well Location: P-66-A
 Formation: Tight Hole

FieldNotes

FORWARD

Row	Date	Clk Tim	Tag Pres	Csg Pres	Tag Temp	Choke	Orif1	Static1	Diff1	Temp1	Gas Rate1	Cum Gas1	Orif2	Static2	Diff2	Temp2	Gas Rate2	Cum Gas2	Water	Wat Rate	Cum Wat	pH	SALINITY
	yy/mm/dd	clock	kPa	kPa	C	mm	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	m3	m3/d	m3		ppm
630	1998/08/09	06:30:00	21800	250			82.55						0.00										
631		07:00:00	21810	250																			
632		07:30:00	21810	250																			
633		08:00:00	21820	250																			
634		08:20:00	Shut master begin pressure testing.																				
635		08:50:00	Pump water to kill well.																				
636		08:50:00	21820	250																			
637		09:00:00	19000	250																			
638		09:30:00	4700	250																			
639		10:30:00	3800	200																			
640		11:00:00	4880	200																			
641		11:20:00	Start running in hole with C.T.U. with perf guns.																				
642		11:30:00	5910	200																			
643	1998/08/09	12:00:00	7290	200																			
644		12:30:00	8320	200																			
645		13:00:00	6860	200																			
646		13:30:00	4700	200																			
647		14:00:00	4870	200																			
648		14:30:00	4420	250																			
649		15:00:00	4810	250																			
650		16:30:00	5850	375																			
651		16:00:00	6030	375																			
652		16:30:00	6450	375																			
653		17:00:00	6540	400																			
654		17:30:00	6840	400																			
655	1998/08/09	18:00:00	6790	400																			
656		18:30:00																					
657		19:00:00	6530	400																			
658		19:30:00	7710	400																			
659		20:00:00	9450	400																			
660		20:30:00	Safety meeting held.																				
661		21:00:00	12150	650																			
662		21:30:00	13820	800																			
663		21:55:00	Downwell started to pump acid.																				
664		22:00:00	14850	800																			
665		22:30:00	16010	950																			
666		23:00:00	17490	950																			

Fast

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-08-08	
Purpose of Job: Completion				Report #: 73	
Report From: Wayne Casler/Stah Bernier		Report To: Leroy Brown		Daily Cost Summary	
Current Operation:				Code	Item
					Amount
Contractor: N/A		Fluid Vol. m3	Water	Oil	
Road/Lease: Good		Total Hauled to Lease:	321.60		3324.0 m - 3334.0 m KB.
Weather: Raining + 14° C		Total Hauled from Lease:	535.67		3295.0 m - 3302.0 m KB.
Contact Phone: 403-232-5340		Total In Tanks:	12.60		3285.0 m - 3292.0 m KB.
Zone: Nahanni		Initial Well Fluid:	Water/Standfill		3276.0 m - 3280.0 m KB.
Perforations: Under daily costs		Total Load Fluids:	451.25		3260.0 m - 3272.0 m KB.
SITP 21000 KPa @ 1600 Hrs		Non-recov. Ann. Fluids:	94.70		3234.0 m - 3246.0 m KB.
SICP 230 KPa @ 1600 Hrs		Recovery Last 24 hrs.	0.00		3185.0 m - 3172.0 m KB.
Rig Hr: N/A Cum Rig Hrs.: 458.0		Recovery to Date:	533.74		3152.0 m - 3159.0 m KB.
AFE # E80-011		Load to Recover (+New)	396.50		3134.0 m - 3146.0 m KB.
KB Elevation: 459.89 m					3125.0 m - 3130.0 m KB.
KB. to CF: 10.35 m					3115.0 m - 3122.0 m KB.
KB. to THF: 8.60 m					Daily Costs: \$81,485
				Previous Costs: \$3,562,715	
				Cumulative Costs: \$3,644,200	
				AFE Estimate: \$3,331,700	

TIME	OPERATION
0600	Wait on parts from Baker Oil Tools.
1330	Re-build the Baker tools.
1400	Rig up Dowell Schlumberger.
1415	Pressure test lines to 1400 kPa low test and 28000 kPa high test for 10.0 min, each
1440	Start to pump 20.0 m ³ of fluid down the tubing.
1530	Stop the pump. The tubing pressure is 1000 kPa.
1540	Rig up to deploy the perforating gun into the hole.
1600	We found out that we are short on the deployment bar to get the guns in the hole.
1615	Wait on a deployment bar extension (sub) from Baker Oil Tools.
2400	
98/08/09	
0000	
0600	Waiting on the Baker deployment bar.

Job Number: GP-88-114
 Customer: Ranger O3 Ltd
 Wellname: Llard
 Well Location: P-66-A
 Formation: Tight Hole

FieldNotes

NORWARD

Row	Date	Ck Time	Tbg Pres	Csg Pres	Tbg Temp Chdke	Orif1	Static1	Dif1	Temp1	Gas Rate1	Cum Gas1	Orif2	Static2	Dif2	Temp2	Gas Rate2	Cum Gas2	Water	Wat Rate	Cum Wat	pH	SALINITY
	yy/mm/dd	clock	kPa	kPa	C	mm	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	m3	m3/d	m3	ppm
566	1998/06/07	11:30:00	21700	900			82.65							0.00								
567		11:50:00	Computalog cut of hole, bleed off and prepare to rig up Dowell.																			
568	1998/06/07	12:00:00		850																		
569		12:30:00		850																		
570		16:00:00	Start pumping water to kill well.																			
571		16:30:00	14500	900																		
572		17:00:00	4660	850																		
573		17:15:00	Shut master pressure test B.O.P.'s.																			
574		17:30:00		850																		
575		17:30:00		850																		
576		18:00:00	4490	800																		
577		18:30:00	7260	850																		
578		19:43:00	Rig off Computalog and rig in Dowell.																			
579		21:15:00	Dowell run in with tool string.																			
570		21:30:00	8260	850																		
571		22:00:00	5150	800																		
572		22:30:00	2620	800																		
573		23:00:00	4370	800																		
574		23:30:00	4610	800																		
575	1998/08/08	00:00:00	4540	800																		
576		00:30:00	4150	800																		
577		01:00:00	3700	800																		
578		01:30:00	3950	800																		
579		01:45:00	Shut in master and rig dowell off of wellhead.																			
580		04:00:00	Computalog rig back in.																			
581		04:15:00	Wireline broke, try to retrieve tools at surface.																			
582		05:30:00	Open master and record buildups.																			
583		05:30:00	14440	850																		
584	1998/08/08	06:00:00	15480	1000																		
585		06:30:00	16710	1000																		
586		07:00:00	17730	1000																		
587		07:30:00	18830	975																		
588		08:00:00	19880	800																		
589		08:30:00	20350	775																		
590		08:00:00	20850	750																		
591		09:30:00	21490	700																		
592		10:00:00	21710	600																		

Fast

Job Number: GP-88-14
Customer: Ranger Oil Ltd
Wellname: Uard
Well Location: P-88-A
Formation: Tight Hob

FieldNotes

NORWARD

Row	Date	Chk Time	Tbg Pres	Csg Pres	Tbg Temp	Choke	Orft	Static1	Diff1	Temp1	Gas Rate1	Cum Gas1	Diff2	Static2	Diff2	Temp2	Gas Rate2	Cum Gas2	Welltr	Well Rate	Cum Well	pH	SALINITY
	yy/mm/dd	clock	kPa	kPa	C	mm	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	m3	m3/d	m3		ppm
593	1998/08/08	10:30:00	21760	800			82.65						0.00										
594		11:00:00	21750	800																			
595		11:30:00	21770	800																			
596	1998/08/08	12:00:00	21780	800																			
597		12:30:00	21780	800																			
598		13:00:00	21840	800																			
599		13:30:00	21790	800																			
600		14:00:00	21790	800																			
601		14:15:00	Shut master pressure test, pump water to kill well																				
602		15:00:00	19000	800																			
603		17:00:00	Tool string is too short. Wait on tool to be flown in.																				
604		17:30:00	5130	250																			
605	1998/08/08	18:00:00	8470	200																			
606		18:30:00	7820	350																			
607		19:00:00	9140	250																			
608		19:30:00	10390	250																			
609		20:00:00	11830	250																			
610		20:30:00	12880	250																			
611		21:00:00	14110	250																			
612		21:30:00	15140	250																			
613		22:00:00	16230	250																			
614		22:30:00	17230	250																			
615		23:00:00	18180	250																			
616		23:30:00	19160	250																			
617	1998/08/09	00:00:00	19890	250																			
618		00:30:00	20840	250																			
619		01:00:00	21350	250																			
620		01:30:00	21760	250																			
621		02:00:00	21770	250																			
622		02:30:00	21780	250																			
623		03:00:00	21780	250																			
624		03:30:00	21780	250																			
625		04:00:00	21790	250																			
626		04:30:00	21790	250																			
627		05:00:00	21780	250																			
628		05:30:00	21780	250																			
629	1998/08/09	06:00:00	21900	250																			

Fast

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-86-A				Date: 98-08-07	
Purpose of Job: Completion				Report #: 72	
Report From: Wayne Casler/Stan Bernier		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Waiting on tools.				Code	Item
Contractor: N/A		Fluid Vol. m3	Water	Oil	Amount
Road/Lease: Good		Total Hauled to Lease:	321.50		3324.0 m - 3334.0 m KB.
Weather: Raining + 14° C		Total Hauled from Lease:	535.67		3295.0 m - 3302.0 m KB.
Contact Phone: 403-232-5340		Total in Tanks:	12.50		3285.0 m - 3292.0 m KB.
Zone: Nahanni		Initial Well Fluid:	Water/Standstill		3270.0 m - 3280.0 m KB.
Perforations: Under daily costs		Total Load Fluids:	431.25		3260.0 m - 3272.0 m KB.
SITP 15410 KPa @ 1800 Hrs		Non-recov. Ann. Fluids:	94.70		3234.0 m - 3248.0 m KB.
SICP 1000 KPa @ 1800 Hrs		Recovery Last 24 hrs:	0.00		3185.0 m - 3172.0 m KB.
Rig Hr: Nil Cum Rig Hrs.: 456.0		Recovery to Date:	533.74		3152.0 m - 3159.0 m KB.
AFE # E80-011		Load to Recover (+New)	416.50		3134.0 m - 3148.0 m KB.
KB Elevation: 459.89 m				Daily Costs: \$63,758	
KB. to CF: 10.35 m				Previous Costs: \$3,498,987	
KB. to THF: 8.60 m				Cumulative Costs: \$3,562,715	
				AFE Estimate: \$3,331,700	

TIME	OPERATION
0630	Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test for 10.0 min. each.
0830	Run in the hole with a 57.0 mm gauge ring, x/o sub, 1-set of 54.0 mm spangs, 1-set of 54.0 mm Hydraulic jars, x/o sub, CCL, and 6.0 m of 43.0 mm electric stem. We logged the bottom of the cut off pup joint at 3077.80 m KB.
1145	Rig cut Computalog.
1200	Rig up the Dowell Schlumberger coil tubing unit. We changed out the pipe/slip rams and pressure tested same to 1400 kPa low test and 28000 kPa high test for 10.0 min. each.
1615	Pump 15.0 m³ of fluid down the tubing.
1710	Open the window and fill the BOP'S with water. Close the blind rams and pressure test same to 1400 kPa low test and 35000 kPa high test for 10.0 min. each. Close the window and open the blind/shear rams. Pressure test the lubricator to 1400 kPa low test and 28000 kPa high test for 10.0 min. each.
1820	Run the Baker dummy tool into the top crown valve.
1835	Open the top master valve and the top crown valve. We have 8500 kPa on the tubing. Pump 5.0 m³ of fluid down the tubing.
1900	BOP's leaked. Opened and repositioned the deployment bar. BOP's held. Opened the work window. Backed off Computalog tools and rigged out the lubricator. Rigged in the Dowell injector and connected to the Baker dummy string. Closed the window and opened the BOP's, no leaks. Pulled the tools to the top of the injector and started to run into the hole. Pump 0.1 m³/minute while running in. Pull tested at regular intervals until the tubing end. Ran and pulled through the tubing end, no indication of drag. Pull tested every 50m to 3380 m KB. No indication of hanging up or noticeable drag.
2400	98/03/09
0000	Pulled out of the hole with Coiled tubing. Closed the pipe rams on the deployment bar, bled off the lubricator, and opened the work window, backed out the tools and rigged off the Dowell injector. Rigged in Computalog and latched to the tools, closed the window and equalized the lubricator, opened the BOP's and pulled the tools into the lubricator. Closed the master valve, bled off the lubricator. Pulled out of the rope socket and
0445	dropped the tools on top of the upper crown valve, safety meeting and layed down the lubricator and tool string. Broke down the tool string and found tools damaged by the drop. 1) Baker swivel; 2) Dual Back Pressure valve; 3) Hydraulic disconnect.
0600	Wait on tools.

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-56-A				Date: 98-08-06	
Purpose of Job: Completion				Report #: 71	
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Run in with a 54 mm O.D. gauge ring				Code	Item
					Amount
Contractor:	N/A	Fluid Vol. m3	Water	Oil	
Road/Lease:	Good	Total Hauled to Lease:	321.50		3324.0 m - 3334.0 m KB.
Weather:	Raining + 14° C	Total Hauled from Lease:	535.67		3285.0 m - 3302.0 m KB.
Contact Phone:	403-232-5340	Total in Tanks:	12.50		3285.0 m - 3282.0 m KB.
Zone:	Nahanni	Initial Well Fluid:	Water/Standrill		3278.0 m - 3280.0 m KB.
Perforations:	Under daily costs	Total Load Fluids:	383.36		3260.0 m - 3272.0 m KB.
SITP	9770 KPa @ 1600 Hrs	Non-recov. Ann. Fluids:	94.70		3234.0 m - 3248.0 m KB.
SICP	600 KPa @ 1600 Hrs	Recovery Last 24 hrs.	0.00		3165.0 m - 3172.0 m KB.
Rig Hr:	NI	Recovery to Date:	533.74		3152.0 m - 3159.0 m KB.
	Cum Rig Hrs.: 456.0	Load to Recover (+New)	488.63		3134.0 m - 3148.0 m KB.
AFE # E8D-011				Daily Costs: \$53,097	
KB Elevation: 459.89 m				Previous Costs: \$3,445,860	
KB, to CF: 10.35 m				Cumulative Costs: \$3,498,957	
KB, to THF: 8.60 m				AFE Estimate: \$3,331,700	

TIME	OPERATION
0600	Rig out Dowell Schlumberger.
0700	Rig up Computalog. Pressure tested the BOP'S on the ground ad per program.
0815	Rig in Dowell Schlumberger and pump 14.0 m ³ of fluid down the tubing.
1020	Check fire through the sinker bars and the collar locator.
1035	Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test for 10.0 min. each.
1105	Open the master valve and run in the hole with a Owen 54.0 mm Jet Cutter c/w a 50.0 gram charge. We pumped fluid at 100.0 L/min. while running in the hole. We logged the Jet Cutter on depth at 3077.50 m KB. Plug back total depth is 3077.80 m KB. When we went to fire the Jet Cutter we had a open Circuit. Pulled out of the hole with the Jet Cutter. When we got out of the hole we found that we had a o-ring gone and the cap and Jet Cutter wetted out.
1510	Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test for 10.0 min. each.
1540	Run in the hole with a 50.8 mm Owen Jet Cutter c/w a 50.0 gram charge. Log the cutter into position at 3077.50 m KB. When we fired the Jet Cutter we did not have a good indication on surface.
1630	When we got out of the hole with the Jet Cutter we found that the cap had fired but the charge has wetted out. The Jet Cutter did not fire.
1900	Removied the wireline BOP's. Cut 47 m from the 38.1 mm Coiled Tubing. Made up the Bottom hole assembly. 1) Baker external coil connector; 2) X-over; 3) Dual back pressure valves; 4) Hydraulic Disconnect; 5) Circulation sub; 6) X-over; 7) X-over; 8) Pressure activated firing head; Pull tested to 8500 daN - good.
2000	Pressure tested to 28.0 mPa - good. Installed the Dowell work window, Annular and Hydraulic connector, Torqued the flange bolts, installed the injector and pressure tested to 1.4 mPa and 28 mPa for 10 minutes each - good. opened the work window and installed the chemical cutter, closed the window
2230	Safety meeting. Opened the well, and checked the window with the well bore pressure - good. Start into the hole, started pumping fresh water down the annulus at 0.05 m ³ /minute when the tools reached 2000 m KB. Pull tests at 600, 1500, 2300, 2925 m KB - good.
	98/08/07
0100	Tagged the top of the damaged cutter at 3079.3 m KB. Pulled to 3068 m KB. Ran in and set 500 daN on the cutter at 3079.3 m KB. Pressured up on the tubing to approximately 9600 kPa. cutter appeared to fire, Continued to pump a total of 2.0 m ³ fresh water to 30 mPa, stopped the pump, the pressure bled off.
0130	Pulled up 11.0 m to 3067.0 m KB. String weight good. Ran in pull testing every 25 m to tag at 3393.5 m, pulled up and relogged at 3394.4 m KB, sat 5000 daN down fish not moving. Pulled back into the tubing to 3078.6 m KB. Ran back out of the tubing 25 m - no indication of obstructions. Pulled into the 88.9 mm tubing, and pumped 5.0 m ³ of fresh water at 0.5 m ³ /minute down the 88.9 mm tubing. Pulled out of the hole
0430	Out of the hole, cutter fired. Rigged out Dowell.
0500	

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-56-A				Date: 98-08-06	
Purpose of Job: Completion				Report #: 71	
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Run in with a 54 mm O.D. gauge ring				Code	Amount
				Item	
Contractor: N/A				3324.0 m - 3334.0 m KB.	
Road/Lease: Good				3205.0 m - 3302.0 m KB.	
Weather: Raining + 14° C				3205.0 m - 3282.0 m KB.	
Contact Phone: 403-232-5340				3278.0 m - 3280.0 m KB.	
Zone: Nahanni				3260.0 m - 3272.0 m KB.	
Perforations: Under daily costs				3234.0 m - 3248.0 m KB.	
SITP: 9770 KPa @ 1800 Hrs				3165.0 m - 3172.0 m KB.	
SICP: 600 KPa @ 1600 Hrs				3152.0 m - 3158.0 m KB.	
Rig Hr: Ni Cum Rig Hrs.: 456.0				3134.0 m - 3148.0 m KB.	
AFB # E8D-011				3125.0 m - 3130.0 m KB.	
KB Elevation: 459.89 m				3115.0 m - 3122.0 m KB.	
KB. to CF: 10.35 m				Daily Costs:	\$52,097
KB. to THF: 8.60 m				Previous Costs:	\$3,445,860
				Cummulative Costs:	\$3,498,957
				AFE Estimate:	\$3,331,700

TIME	OPERATION
0600	Rig out Dowell Schlumberger.
0700	Rig up Computalog. Pressure tested the BOP'S on the ground ad per program.
0815	Rig in Dowell Schlumberger and pump 14.0 m ³ of fluid down the tubing.
1020	Check fire through the sinker bars and the collar locator.
1036	Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test for 10.0 min. each.
1105	Open the master valve and run in the hole with a Owen 54.0 mm Jet Cutter c/w a 50.0 gram charge. We pumped fluid at 100.0 L/min. while running in the hole. We logged the Jet Cutter on depth at 3077.50 m KB. Plug back total depth is 3077.80 m KB. When we went to fire the Jet Cutter we had a open Circuit. Pulled out of the hole with the Jet Cutter. When we got out of the hole we found that we had a o'ring gone and the cap and Jet Cutter wetted out.
1510	Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test for 10.0 min. each.
1540	Run in the hole with a 50.8 mm Owen Jet Cutter c/w a 50.0 gram charge. Log the cutter into position at 3077.50 m KB. When we fired the Jet Cutter we did not have a good indication on surface.
1630	When we got out of the hole with the Jet Cutter we found that the cap had fired but the charge has wetted out. The Jet Cutter did not fire.
1900	Removed the wireline BOP's. Cut 47 m from the 38.1 mm Coiled Tubing. Made up the Bottom hole assembly. 1) Baker external coil connector; 2) X-over; 3) Dual back pressure valves; 4) Hydraulic Disconnect; 5) Circulation sub; 6) X-over; 7) X-over; 8) Pressure activated firing head; Pull tested to 6500 daN - good.
2000	Pressure tested to 28.0 mPa - good. Installed the Dowell work window, Annular and Hydraulic connector, Torqued the flange bolts, installed the injector and pressure tested to 1.4 mPa and 28 mPa for 10 minutes each - good. opened the work window and installed the chemical cutter, closed the window
2230	Safety meeting. Opened the well, and checked the window with the well bore pressure - good. Start into the hole, started pumping fresh water down the annulus at 0.05 m ³ /minute when the tools reached 2000 m KB. Pull tests at 600, 1500, 2300, 2925 m KB - good.
98/08/07	
0100	Tagged the top of the damaged cutter at 3079.3 m KB. Pulled to 3068 m KB. Ran in and set 500 daN on the cutter at 3079.3 m KB. Pressured up on the tubing to approximately 9600 kPa. cutter appeared to fire. Continued to pump a total of 2.0 m ³ fresh water to 30 mPa, stopped the pump, the pressure bled off.
0130	Pulled up 11.0 m to 3067.0 m KB. String weight good. Ran in pull testing every 25 m to tag at 3393.5 m, pulled up and retagged at 3394.4 m KB, set 5000 daN down fish not moving. Pulled back into the tubing to 3078.6 m KB. Ran back out of the tubing 25 m - no indication of obstructions. Pulled into the 88.9 mm tubing, and pumped 5.0 m ³ of fresh water at 0.5 m ³ /minute down the 88.9 mm tubing. Pulled out of the hole
0430	Out of the hole, cutter fired. Rigged out Dowell.
0600	

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-08-05	
Purpose of Job: Completion				Report #: 70	
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Rigging down Dowell CTU				Code	Item
					Amount
Contractor:	N/A	Fluid Vol. m ³	Water	Oil	
Read/Lease:	Good	Total Hauled to Lease:	281.90		3324.0 m - 3334.0 m KB.
Weather:	Raining + 14° C	Total Hauled from Lease:	535.67		3285.0 m - 3302.0 m KB.
Contact Phone:	403-232-5340	Total in Tanks:	12.50		3285.0 m - 3292.0 m KB.
Zone:	Nahanni	Initial Well Fluid:	Water/Standfill		3276.0 m - 3280.0 m KB.
Perforations:	Under daily costs	Total Load Fluids:	359.00		3280.0 m - 3272.0 m KB.
SITP 3003	KPa @ 1600 Hrs	Non-recov. Ann. Fluids:	94.70		3234.0 m - 3248.0 m KB.
SICP 300	KPa @ 1600 Hrs	Recovery Last 24 hrs.	0.00		3168.0 m - 3172.0 m KB.
Rig Hr: Nil	Cum Rig Hrs.: 456.0	Recovery to Date:	539.74		3152.0 m - 3159.0 m KB.
AFE # E60-011		Lead to Recover (+New)	424.87		3134.0 m - 3148.0 m KB.
KB Elevation: 459.89 m					3125.0 m - 3130.0 m KB.
KB. to CF: 10.35 m					3115.0 m - 3122.0 m KB.
KB. to THF: 8.60 m					Daily Costs: \$80,442
					Previous Costs: \$3,376,418
					Cummulative Costs: \$3,445,860
					AFE Estimate: \$3,331,700

TIME	OPERATION
0600	Wait on orders.
1600	Received orders to Jet cut the 73.0 mm pup joint. Rig up Computalog. Pressure test the BOP'S on the ground as per program.
1725	Pick up the lubricator and check fire through the sinker bars and the collar locator. Install the Jet cutter.
1735	Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test for 10.0 min. each.
1805	Run in the hole with a 54.0 mm Jet cutter c/w a 50.0 gram charge. We logged into position and fired the Jet cutter at 3075.70 m KB. When we fired the Jet cutter we moved up the hole into the 89.0 mm tubing, then dropped down and tagged the bottom at the same place. When we pulled out of the hole with the Jet cutter we found that the cutter had fired.
2030	Held prejob procedure/safety meeting
2045	Rigged up Dowell coiled tubing unit - and BHA as follows 43mm wash nozzle x spacer bar x 'X'Over x 'X'Over x circulating sub x FAU disconnect x dual back pressure valve sub x 'X'Over x coil connector - stabbed into lubricator and pressure tested surface equipment and connections to 1.4 & 35 mPa for 10 minutes each OK - and ran in the hole to top of junk @ 3076.6mKB and attempt to work cut tail pipe free w/ a maximum weight of 7 - 9000 daN at surface while pumping 0.1m3 of fresh water per minute we worked the tubing for 3hrs and saw no progress nor did we see an increase of pump pressure while on the fish w/ an increased pump rate of 0.3m3/hour. A total of 39.6 m3 of fresh water was pumped during operation
0400	Pulled out of the hole w/ the coiled tubing assembly to surface
0530	Rigged down Dowell lubricator and equipment there were some small marks on bottom of nozzle
0800	There are presently 37 personnel on site

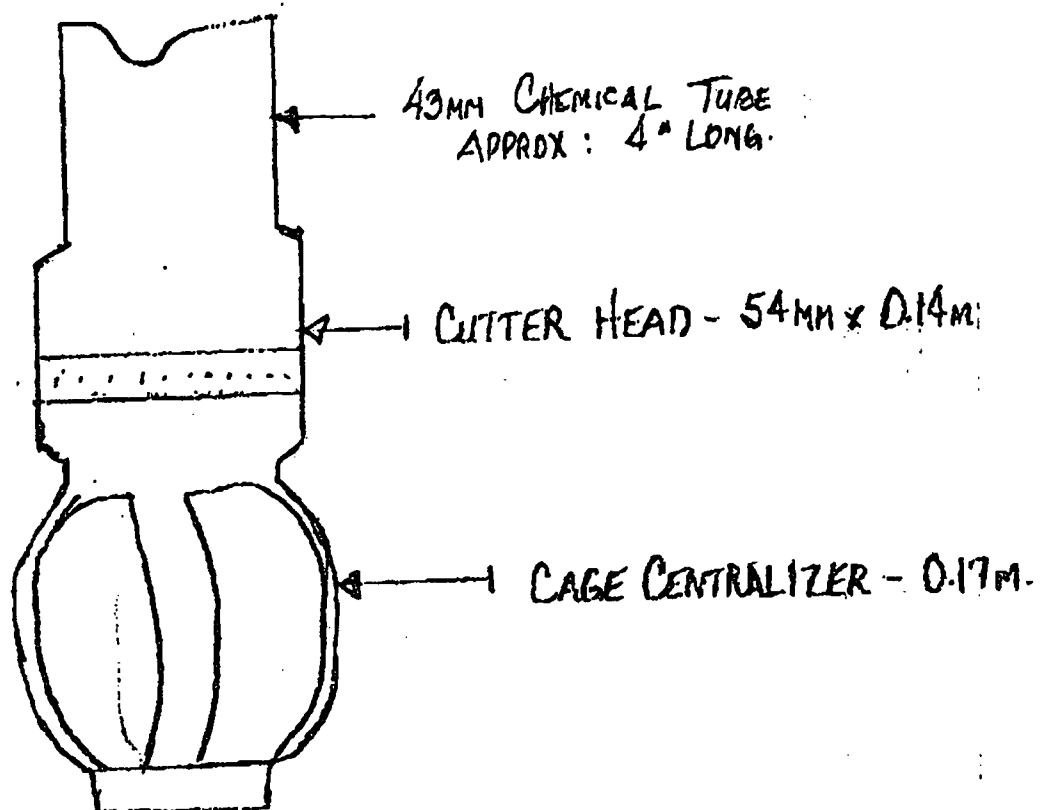
RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-08-04	
Purpose of Job: Completion				Report #: 69	
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Out of the hole w/ parted cutting assembly				Code	Amount
				3324.0 m - 3334.0 m KB	
Contractor: N/A		Fluid Vol. m3		Water	Oil
Read/Lease: Good		Total Hauled to Lease:		143.40	
Weather: Clear/Calm + 14° C		Total Hauled from Lease:		535.87	
Contact Phone: 403-232-5340		Total in Tanks:		12.50	
Zone: Nahanni		Initial Well Fluid:		Water/Standfill	
Perforations: Under daily costs		Total Load Fluids:		319.40	
SITP 3000 KPa @ 1800 Hrs		Non-recov. Ann. Fluids:		94.76	
SICP 365 KPa @ 1800 Hrs		Recovery Last 24 hrs.		0.00	
Rig Hr: Nil		Recovery to Date:		533.74	
Cum Rig Hrs.: 456.0		Load to Recover (+New)		424.87	
AFE # E80-011				Daily Costs: \$70,754	
KB Elevation: 459.89 m				Previous Costs: \$3,303,664	
KB. to CF: 10.35 m				Cumulative Costs: \$3,376,418	
KB. to THF: 8.60 m				AFE Estimate: \$3,331,700	

TIME	OPERATION
0830	Rig out Computalog and rig up Dowell Schlumberger.
1135	There is 21765 kPa on the tubing. Pump 17.0 m ³ of water down the tubing.
1240	Shut down the pump. We have 1300 kPa on the tubing.
1250	Stab the injector into the Quick-Connect and pressure test the lubricator to 1400 kPa low test and 28000 kPa high test for 10.0 min. each. The BOP'S were tested on the ground.
1350	Run in the hole with the 38.1 mm coil tubing while pumping fluid down the coil tubing at 180.0 L/min.
1643	We are at 2286.0 m KB. Stop pumping down the coil tubing and start to pump down the annulus at 190.0 L/min. with a pressure of 2014 kPa. We ran in and tagged bottom at 3086.0 m KB. We did not see any pressure increase on the way to bottom. Picked back up to 3084.0 m KB. Switched back and pumped down the coil tubing at 150.0 L/min. We washed back down to bottom in 1.0 m stages while pumping water at 3.0 min. at each stage. We washed back to bottom at 3086.0 m KB. Worked the tubing on bottom but we could not get past 3086.0 m KB.
1915	Pull out of the hole with the 38.1 mm tubing wash assembly and rigged out injector and window/BOP assy. Total fluid pumped during operation was 78.9m ³ of fresh water
2300	Hold pre-job procedure/safety meeting
2315	Arrn Computalog chemical tubing cutter pick up Computalog BOPE's and lubricator w/ tubing cutter assembly and pressure test connections to 1.4 & 35 mPa for 10 minutes each OK (BOPE was tested on ground) and ran in the hole while pumping fresh water @ 0.35m ³ /min. to insure the tubing was kept full. We ran in to 3081mKB and logged up w/ CCL and stopped pumping water - pumped total of 20m ³ fresh water. We logged cutter head into place @ 3075.8 mKB - 1.46m above 'R' nipple at 3077.26mKB and fired cutter to cut tubing - all indications showed cutter fired - waited 5 minutes to allow slips to retract and attempted to move down w/ no success we then picked up w/ collar locator working and logged up into 89mm tubing we then logged down but were unable to pass where we cut the tubing - so we pulled out of the hole bled the pressure off and laid down the lubricator and tools. The chemical tube was parted 4" or 7cm above the cutting head leaving this plus the cage centralizer (17m) in the hole. Checked w/ the Baker representative for possible fishing tools but nothing is available. I dont believe it is possible to fish this item because of its size and the nature of its operation.
0600	There are 35 personnel on site

Le Roy: This is what was left in the hole.



RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-08-03																											
Purpose of Job: Completion				Report #: 68																											
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary																											
Current Operation: Pulling out of the hole w/ 54mm drift and CCI				Code	Item																										
					Amount																										
				3324.0 m - 3334.0 m KB.																											
				3285.0 m - 3302.0 m KB.																											
				3265.0 m - 3292.0 m KB.																											
				3276.0 m - 3280.0 m KB.																											
				3260.0 m - 3272.0 m KB.																											
				3234.0 m - 3248.0 m KB.																											
				3185.0 m - 3172.0 m KB.																											
				3152.0 m - 3159.0 m KB.																											
				3134.0 m - 3148.0 m KB.																											
				3125.0 m - 3130.0 m KB.																											
				3115.0 m - 3122.0 m KB.																											
Contractor: N/A				Fluid Vol. m3																											
Road/Lease: Good				Water																											
Weather: Slight breeze +20°C				Oil																											
Contact Phone: 403-232-5340				Total Hauled to Lease: 143.40																											
Zone: Nahanni				Total Hauled from Lease: 535.67																											
Perforations: Under daily costs				Total in Tanks: 12.50																											
STP: 3000 KPa @ 3600 Hrs				Initial Well Fluid: Water/Standoff																											
SICP: 300 KPa @ 3600 Hrs				Total Load Fluids: 220.50																											
Rig Hr: N				Non-recov. Ann. Fluids: 94.70																											
Cum Rig Hrs.: 456.0				Recovery Last 24 hrs: 0.00																											
AFE # E8D-011				Recovery to Date: 533.74																											
				Load to Recover (+New): 424.67																											
KB Elevation: 459.89 m				Daily Costs: \$105,220																											
KB. to CF: 10.35 m				Previous Costs: \$3,200,435																											
KB. to THF: 8.60 m				Cumulative Costs: \$3,305,655																											
				AFE Estimate: \$3,331,700																											
<table border="1"> <thead> <tr> <th>TIME</th> <th>OPERATION</th> </tr> </thead> <tbody> <tr> <td>0630</td> <td>Rig up the Dowell Schlumberger Coil tubing unit and the Baker fishing tools.</td> </tr> <tr> <td>0750</td> <td>Slung into the Quick-Connect.</td> </tr> <tr> <td>0800</td> <td>Held a safety meeting.</td> </tr> <tr> <td>0815</td> <td>Pressure test the 38.1 mm coil tubing, Hydraulic window and the stripper rubber to 1400 kPa low test and 28000 kPa high test for 10.0 min. each.</td> </tr> <tr> <td>1025</td> <td>Open the crown and master valve. We have 3125 kPa on the 38.1 mm coil tubing and 3140 kPa on the coil tubing annulus. Start to run in the hole with a Hydraulic release overshot. We pull tested the coil tubing at 500.0 m, 1000.0 m, 1450.0 m, 1700.0 m, 1950.0 m, 2200.0 m, 2450.0 m, 2700.0 m, 2950.0 m, and 3055.0 m KB.</td> </tr> <tr> <td>1400</td> <td>Latched onto the fishing neck at 3070.90 m KB. and pull out of the hole with the 38.1 mm tubing and the chemical cutter.</td> </tr> <tr> <td>1715</td> <td>Space out and set the deployment bar across the BOP'S.</td> </tr> <tr> <td>1725</td> <td>Close and lock the pipe/slip rams. Bleed off the lubricator and the 38.1 mm coil tubing.</td> </tr> <tr> <td>1736</td> <td>Open the deployment window. When we broke the connector between the coil tubing and the deployment bar the pipe/slip rams started to leak. We closed and locked the window.</td> </tr> <tr> <td>1800</td> <td>Unlock and open the pipe/slip rams and pump 14.0 m³ of water down the tubing. Pressure dropped to 3500kPa and pipe rams sealed - closed pipe/slip rams and opened window disconnected from the deployment bar rigged out Dowell CT injector, picked up Computalog lubricator made connection to deployment-bar - closed window equalized pressure and pulled into lubricator closed master valve bled off pressure and laid down fish the cutter was fired (a hole was burnt into the oxidizing tube approx. 3' above cutter head)</td> </tr> <tr> <td>2030</td> <td>made-up 57.9mm overshot(as blind box) assembly on Dowell coiled tubing as follows - overshot x FAU hydraulic disconnect x dual back pressure valve sub x crossover x coil connector stabbed in & pressure tested to 1.4 & 35mPa for 10 minutes each - OK. then ran in the hole to pull out coil pipe to bottom. We logged at 3081mKB CTU depth while pumping 90 l/min. set 3300daN on the nipple and tubing/annulus pressure increased to 8200 kPa indicating that the tubing was not cut above the nipple - this was inconsistent with the condition of the tubing cutter - it took 2000 daN to pull up from the nipple indicating a friction grab we worked the tubing at this depth repeatedly with no progress - achieving the same results then pulled out of the hole and laid down the injector</td> </tr> <tr> <td>0300</td> <td>Then made up the CCL w/ 54mm drift on the bottom w/ 5 sinker bars 5m each on top of the CCL picked up Computalogs lubricator and BOP's(tested on the ground) and pressure tested lubricator and connections to 1.4 & 35 mPa 10 minutes each - OK, and ran in the hole to 3034 and logged down to Ods 'X' nipple at 3073.97 mKB where we were unable to get past. We then attempted to pull up and were unable to pull out free. We worked the string until we came free then continued to pull out of the hole and laid down the the tools and lubricator. The drift on the bottom showed only rub marks around the O.D of the tool. There are 35 personnel on site</td> </tr> </tbody> </table>						TIME	OPERATION	0630	Rig up the Dowell Schlumberger Coil tubing unit and the Baker fishing tools.	0750	Slung into the Quick-Connect.	0800	Held a safety meeting.	0815	Pressure test the 38.1 mm coil tubing, Hydraulic window and the stripper rubber to 1400 kPa low test and 28000 kPa high test for 10.0 min. each.	1025	Open the crown and master valve. We have 3125 kPa on the 38.1 mm coil tubing and 3140 kPa on the coil tubing annulus. Start to run in the hole with a Hydraulic release overshot. We pull tested the coil tubing at 500.0 m, 1000.0 m, 1450.0 m, 1700.0 m, 1950.0 m, 2200.0 m, 2450.0 m, 2700.0 m, 2950.0 m, and 3055.0 m KB.	1400	Latched onto the fishing neck at 3070.90 m KB. and pull out of the hole with the 38.1 mm tubing and the chemical cutter.	1715	Space out and set the deployment bar across the BOP'S.	1725	Close and lock the pipe/slip rams. Bleed off the lubricator and the 38.1 mm coil tubing.	1736	Open the deployment window. When we broke the connector between the coil tubing and the deployment bar the pipe/slip rams started to leak. We closed and locked the window.	1800	Unlock and open the pipe/slip rams and pump 14.0 m ³ of water down the tubing. 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RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A					Date: 98-08-02	
Purpose of Job: Completion					Report #: 67	
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown			Daily Cost Summary	
Current Operation: Rigging up Dowell to fish tubing cutter assembly					Code	Item
					Amount	
Contractor:		N/A	Fluid Vol. m3	Water	Oil	3324.0 m - 3334.0 m KB.
Road/Lease:		Good	Total Hauled to Lease:	143.40		3295.0 m - 3302.0 m KB.
Weather:		Slight breeze +15°C	Total Hauled from Lease:	535.67		3285.0 m - 3292.0 m KB.
Contact Phone:		403-232-5340	Total in Tanks:	12.50		3278.0 m - 3280.0 m KB.
Zone:		Nahanni	Initial Well Fluid:	Water/Standrill		3260.0 m - 3272.0 m KB.
Perforations:		Under daily costs	Total Load Fluids:	176.50		3234.0 m - 3248.0 m KB.
SITP.. 3000		KPa @ 1600 Hrs	Non-recov. Ann. Fluids:	94.70		3165.0 m - 3172.0 m KB.
SICP.. 300		KPa @ 1600 Hrs	Recovery Last 24 hrs.	0.00		3152.0 m - 3158.0 m KB.
Rig Hr: Nil		Cum Rig Hrs.: 456.0	Recovery to Date:	533.74		3134.0 m - 3148.0 m KB.
			Load to Recover (+New)	424.67		3125.0 m - 3130.0 m KB.
AFE # E80-011		KB Elevation: 458.89 m				3115.0 m - 3122.0 m KB.
		KB. to CF: 10.35 m				Daily Costs: \$61,897
		KB. to THF: 8.60 m				Previous Costs: \$3,138,538
						Cummulative Costs: \$3,200,435
						AFE Estimate: \$3,331,700

TIME	OPERATION
0700	Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test for 10.0 min. each.
0730	Run in the hole with a Otis "R" mandrel and set same in the "R" nipple at 3068.0 m CF.
0910	Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test for 10.0 min. each.
0935	Run in the hole with a "R" prong and set same in the "R" mandrel.
1020	There is 12900 kPa on the tubing. Open the well through the Norwood separator.
1120	Shut in the well. The tubing pressure is TSTM.
1135	Fill the hole by pumping 2.40 m ³ of water. Pressure test the 88.9 mm tubing and the Otis plug to 6000 kPa.
1200	Rig up Computalog.
1250	Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test for 10.0 min. each. The BOP'S were pressure tested as per the program.
1330	Run in the hole with a 54.0 mm chemical cutter. We got down to 3073.0 m KB. and we could not work the chemical cutter down past the Otis "X" nipple. Pulled out of the hole.
1730	Close the master valve. Bleed off the lubricator and safe out the chemical cutter. When we examined the bottom of the centralize we found marks that look like the top of the fishing neck of the prong.
1920	There is 10340 kPa on the tubing. Open the well to the Norwood separator and bleed off the tubing.
1930	Change out BOP rams for 1.25 wire and pressure test to 1.4 & 35mPa on ground 10 min. each OK
2000	Made up 'R' plug prong pulling tool - Picked up tools & lubricator - pressure tested lubricator to 1.4 & 35 mPa for 10 minutes each - OK and ran in the hole and engaged pulled equalizing prong to surface
2130	Made up Otis 'R' plug pulling tool picked up tools and lubricator and pressure tested lubricator to 1.4 & 35 mPa 10 minutes each -OK. - engaged and pulled 'R' plug to surface - OK - Laid down and rigged out Bonnetts wireline equipment
2300	Pressure tested Computalogs BOPE 1.4 & 35mPa for 10 minutes each on ground- OK
2330	Held pre-job procedure & safety meeting w/ on site personnel prior to loading cutter
2345	Load and make up tubing cutter assembly - picked up tools & lubricator pressure tested lubricator to 1.4 & 35 mPa for 10 minutes each - OK and ran into hole and tagged Otis 'RN' nipple @ 3081.85mKB and log cutter into place to cut off tubing @ 3077mKB -0.28m above Otis 'R' nipple. pumped 2m3 fresh water down tubing to insure pad around cutter then cut tubing
0200	Picked up to unset cutter slips - no success - worked cable to 2400 lbs - 1400lbs over string weight to free stuck cutter assembly then we pulled out of rope socket(rope socket was tied to release @ 1600# over string weight)
0310	Pulled to 2000mKB stopped and pumped 14m3 fresh water- tubing volume - tubing pressure was at 16670 kPa dropped to 5000kPa the continued to pump at slow pump rate of 0.2 m3/min. while pulling out of the hole - tubing pressure dropped to 3000 kPa when we reached surface - pumped total of 28m3
0500	Wire to surface - closed in well w/ hydraulic controled master valve - bled off pressure to testers and laid down compalog equipment 35 personnel on site

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-08-01	
Purpose of Job: Completion				Report #: 66	
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Running in the hole w/ nipple brush				Code	Item
					Amount
Contractor: N/A		Fluid Vol. m3			
Road/Lease: Good		Total Hauled to Lease: 143.40			
Weather: Slight breeze +20°C		Total Hauled from Lease: 595.67			
Contact Phone: 403-232-5340		Total in Tanks: 12.50			
Zone: Nahanni		Initial Well Fluid: Water/Standfill			
Performers: Under daily costs		Total Load Fluids: 156.50			
SITP 6400 KPa @ 3600 Hrs		Non-recov. Ann. Fluids: 84.70			
SICP 300 KPa @ 3600 Hrs		Recovery Last 24 hrs. 0.00			
Rig Hr. Nil Cum Rig Hrs.: 456.0		Recovery to Date: 533.74			
		Load to Recover (+New) 424.67			
AFE # E80-011		KB Elevation: 459.89 m		Daily Costs: \$84,937	
		KB. to CF: 10.35 m		Previous Costs: \$3,083,601	
		KB. to THF: 8.60 m		Cumulative Costs: \$3,168,538	
				AFE Estimate: \$3,331,700	

TIME	OPERATION
0745	Rig out the Bennett Wireline lubricator and BOP'S.
0815	Open the well through the Norwood separator.
0850	The tubing pressure bled down to 12000 kPa then started to build up pressure. The plug is leaking. Shut in the well.
0910	Rig out the Dowell Schlumberger coil tubing window and Hydrii. Pressure test the Computalog BOP'S on the ground as per program.
1315	Pick up and install the lubricator, BOP'S and the tool string.
1330	Pressure test the lubricator to 1400 kPa low test and 28000 kPa high test for 10.0 min. each.
1355	Open the top master valve and start to fill the tubing with water. We pumped 17.0 m³ of fluid and the tubing would not pressure up.
1450	Run in the hole with the 54.0 mm chemical cutter while pumping water at 100.0 L/min. We could not get past 3073.0 m KB. Pull out of the hole.
1830	Rig out Computalog.
1900	Rig up Bennett's Wireline. Made up 68.2mm gauge-ring and lubricator - pressure test lubricator and BOPE to 1.4 & 35 mPa - 10 minutes each - OK
2000	Ran in the hole w/ gauge-ring tag obstruction @ 780 mcf and push to 1540mcf then pull out of the hole w/ drag on tool to 880mcf tools then pulled free to surface - gauge ring showed friction marks the top lip of the gauge-ring
2200	Made up a 72.7mm gauge-ring and pushed up the hole and lubricator pressure tested to 1.4 & 35 mPa 10 minutes each - OK and ran in the hole to 88.9mm Otis X' nipple @ 1507mcf. without tagging any obstruction pulled out of the hole and laid down gauge-ring
2300	Made up a 89.8mm gauge-ring and ran in the hole to the top of the 'XN' nipple @ 3052 mCF (3062mKB) didn't tag any obstruction - pulled out without any overpull and no marks on the tool-string or gauge ring
0030	Made up Otis equalizing prong pulling tool pressure tested lubricator 1.4 & 35mPa for 10 minutes each - OK ran in the hole tagged and engaged prong at 3067mCF (3077mKB) and pulled out of the hole with prong
0230	Bled off and laid down lubricator checked shives and snuffing box packing - changed out packing
0330	Picked up Otis 'R' plug pulling tool & lubricator pressure tested lubricator to 1.4 & 35mPa - 10 minutes each - OK - ran in the hole & tagged nipple at 3067mCF (3077mKB) - this indicates that we are 2m higher than the nipple correlating to the 88.9mm 'XN' nipple tag depth previously - pulled out of the hole w/ 'R' nipple and found the latch dogs indicating that they were not latched into the nipple but perhaps on junk (wire may-be)
0530	Made up & picked up a nipple brush to clean any wire or junk left in the hole or nipples - pressure tested the lubricator to 1.4 & 35 kPa for 10 minutes each - OK - Presently there are 35 personnel on the site total

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-07-31	
Purpose of Job: Completion				Report #: 65	
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Pulling out of the hole w/ Otis 'R' plug setting tool				Code	Amount
				3324.0 m - 3334.0 m KB.	
				3295.0 m - 3302.0 m KB.	
				3285.0 m - 3292.0 m KB.	
				3276.0 m - 3280.0 m KB.	
				3260.0 m - 3272.0 m KB.	
				3234.0 m - 3248.0 m KB.	
				3165.0 m - 3172.0 m KB.	
				3152.0 m - 3159.0 m KB.	
				3134.0 m - 3148.0 m KB.	
				3125.0 m - 3130.0 m KB.	
				3115.0 m - 3122.0 m KB.	
Daily Costs:					\$25,237
Previous Costs:					\$3,028,384
Cumulative Costs:					\$3,053,621
AFE Estimate:					\$3,331,700

Contractor: N/A		Fluid Vol. m3		Water	Oil
Read/Lease: Good		Total Hauled to Lease:		143.40	
Weather: Clear - +16		Total Hauled from Lease:		535.67	
Contact Phone: 403-232-3340		Total in Tanks:		12.50	
Zone: Nahanni		Initial Well Fluid:		Water/Standfill	
Perforations: Under daily costs		Total Load Fluids:		123.50	
SITP KPa @		Non-recov. Ann. Fluids:		94.70	
SICP KPa @		Recovery Last 24 hrs.		0.00	
Rig Hr. Nil		Recovery to Date:		533.74	
Cum Rig Hrs.: 458.0		Load to Recover (+New)		424.67	
AFE # EAD-011		KB Elevation:		459.89 m	
		KB. to CF:		10.35 m	
		KB. to THF:		8.60 m	

TIME	OPERATION
0800	Wait on Wireline equipment.
0800	Repair the line counter and the Wireline shive.
0935	Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test for 10.0 min. each.
1100	Run in the hole with a 53.85 mm gauge ring and tag up at 3068.0 m CF.
1200	Close the upper master valve and bleed off the lubricator.
1215	Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test for 10.0 min. each.
1245	Run in the hole with a 56.64 mm gauge ring and tag up at 3068.0 m CF. When we pulled out of the hole with the gauge ring we had two marks on the bottom of the gauge ring. It looks like it could be wire sticking up through the nipple.
1455	Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test for 10.0 min. each.
1525	Run in the hole with a 55.40 mm wire grab c/w a 50.8 mm "JUC" pulling tool. Worked the grapple at 3064.0 m CF. Pulled out of the hole and recovered 0.45 m of wire in the grapple.
1645	Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test for 10.0 min. each.
1715	Run in the hole with a 55.40 mm wire grab c/w a 50.8 mm "JUC" pulling tool. Worked the grapple at 3068.0 m CF. When we pulled out of the hole there was no wire in the grapple but we had rub marks on the outside of the grapple. We think the grapple went into the Otis "R" nipple.
1840	Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test for 10.0 min. each.
1810	Run in the hole with a Otis 55.67 mm "R" mandrel c/w a Otis "R" running tool and set the plug in the "R" nipple at 3077.26 m KB. pulled out of the hole w/ setting tool
2030	Pick-up & make up equalizing prong & running tool and lubricator - pressure tested lubricator to 1.4-low & 35mPa - high for 10 minutes each - OK. and ran in the hole and set in 'R' plug @ 3077.26mKB. then pulled out w/ running tool
2130	Bled off tubing pressure slowly through 22/64" choke. Tubing bled to 7000 kPa then pressure started to build to 21mPa, then we shut in the well.
2230	Made up equalizing prong pulling tool - pressure tested BOPE & lubricator 1.4 & 35 mPa 10 minutes each-OK
0120	Ran in the hole engaged and pulled prong to surface - checked prong - the packing was scrubbed
0245	Made-up 'R' plug pulling tool pressure tested lubricator 1.4 & 35 mPa 10 minutes each - OK and ran in the hole and engaged and pulled plug to surface - again the packing was scrubbed and it appeared that the plug was not properly set in nipple
0415	Redressed the plug and prong and picked up the 'R' plug and running tool and lubricator - pressure tested lubricator 1.4 & 35 mPa - 10 minutes each - OK
0500	Ran in the hole w/ the 'R' plug and reset in 'R' nipple @ 3077.26 mKB.
0600	Pull out of the hole w/ setting tool * there are 35 people presently on site

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-07-30	
Purpose of Job: Completion				Report #: 64	
Report From: Roy Elliot/Wayne Casler		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Wait on Wireline equipment.				Code	Item
				3324.0 m - 3334.0 m KB	
				3295.0 m - 3302.0 m KB	
				3285.0 m - 3292.0 m KB	
				3275.0 m - 3280.0 m KB	
				3260.0 m - 3272.0 m KB	
				3234.0 m - 3248.0 m KB	
				3165.0 m - 3172.0 m KB	
				3152.0 m - 3158.0 m KB	
				3134.0 m - 3148.0 m KB	
				3120.0 m - 3130.0 m KB	
				3112.0 m - 3122.0 m KB	
Contractor: N/A				Fluid Vol. m3	Water
Read/Lease: Good				Total Hauled to Lease:	143.40
Weather: Hi cloud +18				Total Hauled from Lease:	535.67
Contact Phone: 403-232-5340				Total in Tanks:	12.50
Zone: Nahanni				Initial Well Fluid:	Water/Standfill
Perforations: Under daily costs				Total Load Fluids:	123.50
SITP kPa @ 0600				Non-recov. Ann. Fluids:	94.70
SICP kPa @ 0600				Recovery Last 24 hrs.	0.00
Rig Hr. Nil				Recovery to Date:	533.74
Cum Rig Hrs. 425.0				Load to Recover (11 hrs)	125.56
AFE # E8D-011				KB Elevation:	459.89 m
				KB. to CF:	10.35 m
				KB. to THF:	8.60 m
TIME					
0800	Monitor wellhead pressures while waiting on barge to deliver Bennett slick line unit				
1800	Moved in and rigged up slickline unit				
1730	Made up 53.86 mm gaugering assembly - on a flexible assembly - picked up hydrolic wireline BOPE & lubricator and installed them on top of Dowell Quick connector and pressure tested BOP's with fresh water to 1.4 & 35mPa - Hi and Low for 10 minutes each - OK then filled the lubricator w/ water and tested to 1.4 & 35 mPa for 10 minutes each - O.K.				
1845	Ran in the hole w/ 53.86 mm gaugering assembly to 3037mCF - to the 'RN' nipple and pulled out of the hole - We tagged no tight spots or obstructions but while pulling out the line counter quit working due to an indicator line break putting us 122m off depth				
2030	Closed master valve bled off the pressure and laid down the Bop's & lubricator, installed the quick - connector nite cap and secured the well.				
2200	Monitor wellhead pressures while waiting for repair parts to arrive by plane from RedDeer.				
0800	Waiting on airplane				

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-07-30	
Purpose of Job: Completion				Report #: 64	
Report From: Roy Elliot/Wayne Casler		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Wait on Wireline equipment.				Code	Item Amount
				3324.0 m - 3334.0 m KB	
				3295.0 m - 3302.0 m KB	
				3285.0 m - 3292.0 m KB	
				3275.0 m - 3280.0 m KB	
				3260.0 m - 3272.0 m KB	
				3234.0 m - 3248.0 m KB	
				3165.0 m - 3172.0 m KB	
				3152.0 m - 3158.0 m KB	
				3134.0 m - 3148.0 m KB	
				3125.0 m - 3130.0 m KB	
				3115.0 m - 3122.0 m KB	
Contractor: N/A				Fluid Vol. m3	Water Oil
Road/Lease: Good				Total Hauled to Lease:	143.40
Weather: Hi cloud +18				Total Hauled from Lease:	535.87
Contact Phone: 403-232-5340				Total In Tanks:	12.50
Zone: Nahanni				Initial Well Fluid:	Water/Standfill
Perforations: Under daily costs				Total Load Fluids:	123.50
SITP: kPa @ 0600				Non-recov. Ann. Fluids:	94.70
SICP: kPa @ 0600				Recovery Last 24 hrs:	0.00
Rig Hr: NH				Recovery to Date:	533.74
Cum Hrs: 426.6				Load to Recover (171m):	123.50
AFE # E8D-011				KB Elevation:	459.89 m
				KB. to CF:	10.35 m
				KB. to THF:	8.60 m
TIME				Daily Costs:	\$39,818
				Previous Costs:	\$2,968,746
				Cummulative Costs:	\$3,028,384
				AFE Estimate:	\$3,331,700
0800	Monitor wellhead pressures while waiting on barge to deliver Bonnett slick line unit				
1600	Moved in and rigged up slickline unit				
1730	Made up 53.85 mm gaugering assembly - on a flexible assembly - picked up hydrolic wireline BOPE & lubricator and installed them on top of Dowell Quick connector and pressure tested BOP's with fresh water to 1.4 & 35mPa - Hi and Low for 10 minutes each - OK then filled the lubricator w/ water and tested to 1.4 & 35 mPa for 10 minutes each - O.K.				
1845	Ran in the hole w/ 53.85 mm gaugering assembly to 3037mCF - to the 'RN' nipple and pulled out of the hole - We tagged no light spots or obstructions but while pulling out the line counter quit working due to an indicator line break putting us 122m off depth				
2030	Closed master valve bled off the pressure and laid down the Bop's & lubricator, installed the quick - connector nite cap and secured the well.				
2200	Monitor wellhead pressures while waiting for repair parts to arrive by plane from RedDeer.				
0600	Waiting on airplane				

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P 66 A				Date: 08-07-98	
Purpose of Job: Completion and flow test				Report #: 64	
Report From: Roy Elliot/Stan Bernier		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Wait on Slickline.				Code	Item
				3324.0 m - 3334.0 m KB	Amount
Contractor:	N/A	Fluid Vol. m3	Water	Oil	3295.0 m - 3302.0 m KB
Road/Lease:	Good	Total Hauled to Lease:	143.40		3285.0 m - 3282.0 m KB
Weather:	calm/clear +18 C	Total Hauled from Lease:	535.67		3276.0 m - 3280.0 m KB
Contact Phone:	403-232-5340	Total in Tanks:	12.50		3260.0 m - 3272.0 m KB
Zone:	Nahanni	Initial Well Fluid:	Water/Standfill		3234.0 m - 3248.0 m KB
Perforations:	Under daily costs	Total Load Fluids:	123.50		3185.0 m - 3172.0 m KB
SITP=	15,560 kPa @ 0800	Non-recov. Ann. Fluids:	94.76		3152.0 m - 3159.0 m KB
SICP=	1,450 KPa @ 0800	Recovery Last 24 hrs.	0.00		3134.0 m - 3148.0 m KB
Rig Hr:	Nil	Recovery to Date:	533.74		3125.0 m - 3130.0 m KB
	Cum Rig Hrs.: 456.0	Load to Recover (+New)	123.50		3115.0 m - 3122.0 m KB
AFE # E8D-011		KB Elevation:	459.89 m		Daily Costs:
		KB. to CF:	10.35 m		Previous Costs:
		KB. to THF:	8.60 m		Cummulative Costs:
TIME					AFE Estimate:
0600	After firing the jars we picked up 20 m then ran back down and tagged the top of fish at the same depth of 3061.39 mKB w/ 1 daN. Picked up w/ no drag and pulled out of the hole				
1000	After pulling to surface we had a problem w/ hydrolic window wanting to piston open - we bled back the pressure and re-secured the window - OK. We then bled off the pressure opened the window removed coiled tubing connector and rigged down injector and picked up the wireline lubricator and installed wireline connector closed the window equalized pressure and pulled the tools into the lubricator closed the master valve bled down the pressure - picked up the lubricator and laid down the fish -100% recovery there were no marks on the fish to indicate where or how we were stuck.				
1430	Serviced coil tubing equipment and changed out connector, installed nozzle needed to jet and clean the tubing and prepared to run in the hole.				
1800	Function tested ESD and hydrolic controled master valve and greased all well head valves - OK Hydrolic controled master vlv. closed in 2 seconds & opened w/ 600 psi - ESD closed in 4 seconds				
1900	Picked up coiled tubing injector and installed same to run in the hole with jet nozzle - pressure tested connections to 1.4 + 35 mPa for 10 minutes each - OK - Pressure tested the surface lines to 35 mPa - good				
2020	Opened the master valve and ran into the hole with the 38.1 mm Coiled tubing, pumping fresh water down the annulus and the tubing to lower the wellbore pressure. Stopped the pump, with 8.0 m3 away. Pull tested 1,000 m; 1,500 m; 2,000 m; 2250 m; 2600 m KB.				
2250	At 2800 mKB started pumping down the Coil tubing and annulus, pumped 75% down the coiled tubing and 25% down the annulus. Tubing pressure = 11,400 kPa; Annulus pressure = 11,900 kPa Ran to 3080 m KB. Pull tested at 2895 m and 3050 m KB.				
2330	Decreased the pump rate to 0.1 m3/minute and pulled out of the hole to 2600 m KB, increased the pump rate to 0.55 m3/minute ran back down to 3082 m KB at 18 m/minute. Sat on bottom for 5 minutes to clean out the 'RN' nipple.				
	98/07/30				
0030	Pulled out of the hole, stopped the pump at 2511 m KB.				
0300	At surface, closed the master valve and rigged out the Dowell 38.1 mm Coiled Tubing. Secured the well				
0600	Wait on slickline				

Job Number: GP-88-114
 Customer: Ranger Oil Ltd
 Wellname: Uard
 Well Location: P-68-A
 Formation: Tight Hole

FieldNotes

NORWARD

Row	Date	Clk Tim	Tbg Pres	RTR	Csg Pres	Tbg Temp	Choke	Orf1	Static1	DF1	Temp1	Gas Rate1	Cum Gas1	Orf2	Static2	Diff2	Temp2	Gas Rate2	Cum Gas2	Wetthr	Wet Rate	Cum Wat	pH	SALINITY
	yy/mm/dd	clock	kPa	kPa	kPa	C	mm	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	m3	m3/d	m3		ppm
223	1988/07/28	05:30:00	10410		1550			82.65								0.00								
224	1988/07/28	06:00:00	10390		1550																			
225		06:30:00	10250		1550																			
226		07:00:00	10700		1500																			
227		07:30:00	11400		1500																			
228		08:00:00	12880		1600																			
229		08:30:00	14320		1600																			
230		09:00:00	15920		1600																			
231		09:30:00	16800		1600																			
232	1988/07/29	10:00:00	Coil to surface.																					
233		10:50:00	Bleed off.																					
234		13:05:00	Rig on wireline lubricator.																					
235	1988/07/29	14:25:00	Pressure up to choke and bleed off lubricator.																					
236		14:30:00	21480		1700																			
237		15:00:00	21480		1700																			
238		15:30:00	21480		1700																			
239		16:00:00	21480		1750																			
240		16:30:00	21480		1750																			
241		17:00:00	21480		1750																			
242		17:30:00	21480		1750																			
243	1988/07/29	18:00:00	21480		1750																			
244		18:30:00	21410		1750																			
245		19:00:00	21410		1750																			
246		19:30:00	21410		1750																			
247		19:40:00	Pressure test Downline lines and ROP's.																					
248		20:00:00	Safety meeting held.																					
249		20:20:00	Downline begin to run in hole to do tubing wash.																					
250		20:30:00	21070		1750																			
251		21:00:00	13120		1700																			
252		21:30:00	8385		1600																			
253		22:00:00	9150		1575																			
254		22:30:00	10800		1500																			
255		23:00:00	9850		1400																			
256		23:30:00	2210		950																			
257	1988/07/30	00:00:00	3210		1000																			
258		00:30:00	3140		800																			
259		01:00:00	3020		800																			

Fast

Field Notes

Job Number: GP-88-114
Customer: Ranger Oil Ltd
Wellname: Lard
Well Location: P-66-A
Formation: Tight Hole

NORVAAD[illegible]

07/30/98 THU 08:24 FAX 403 232 5200
RANGER OIL
WATFUE
005

Job Number: GP-88
Customer: Ranger Oil
Wellname: Lard
Well Location: P-68-A
Formation:

Field Notes

NORWARD

Row	Date	Clk Time	Liquid produced in 24hrs	Liquid volume on location	Liquid shipped off location	Liquid recovered to date
	yy/mm/dd	clock	m3	m3		m3
1	1998/07/10	08:00:00	20.900	0.000	20.900	20.900
2	1998/07/11	08:00:00	26.620	12.230	14.380	47.620
3	1998/07/12	08:00:00	138.010	75.680	74.540	185.530
4	1998/07/13	08:00:00	15.620	91.300	0.000	201.150
5	1998/07/14	08:00:00	0.000	91.300	0.000	201.150
6	1998/07/15	08:00:00	1.770	69.530	26.540	202.920
7	1998/07/16	08:00:00	57.480	66.480	59.180	260.380
8	1998/07/17	08:00:00	59.580	19.480	104.850	319.970
9	1998/07/18	08:00:00	0.000	19.480	0.000	319.970
10	1998/07/18	08:00:00	0.000	3.300	19.190	319.970
11	1998/07/20	08:00:00	0.000	0.000	0.000	319.970
12	1998/07/21	08:00:00	0.000	3.300	0.000	319.970
13	1998/07/22	08:00:00	39.640	41.910	0.000	359.810
14	1998/07/23	08:00:00	0.150	5.900	38.190	358.760
15	1998/07/24	08:00:00	142.480	28.750	122.890	501.220
16	1998/07/25	08:00:00	48.520	75.270	0.000	549.740
17	1998/07/26	08:00:00	1.770	15.840	60.130	651.510
18	1998/07/27	08:00:00	0.000	5.720	10.120	651.510
19	1998/07/28	08:00:00	9.200	14.910	0.000	660.710
20	1998/07/29	08:00:00	0.000	14.910	0.000	660.710
21	1998/07/30	08:00:00	0.000	14.910	0.000	660.710
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98-07-30 propane 13% - 45%

Fast

Job Number: GP-88-
 Customer: Ranger Oil
 Wellname: Land
 Well Location: P-88-A
 Formation:

FieldNotes



Row	Date	Clk Tim	Liquid produced in 24hrs	Liquid volume on location	Liquid shipped off location	Liquid recovered to date
	yy/mm/dd	clock	m3	m3		m3
1	1998/07/10	06:00:00	20.900	0.000	20.900	20.900
2	1998/07/11	06:00:00	26.620	12.230	14.390	47.520
3	1998/07/12	06:00:00	138.010	75.660	74.540	185.530
4	1998/07/13	06:00:00	15.620	91.300	0.000	201.150
5	1998/07/14	06:00:00	0.000	91.300	0.000	201.150
6	1998/07/15	06:00:00	1.770	69.530	28.540	202.920
7	1998/07/16	06:00:00	57.480	65.460	59.160	260.380
8	1998/07/17	06:00:00	59.580	19.480	104.950	319.970
9	1998/07/18	06:00:00	0.000	19.480	0.000	318.970
10	1998/07/19	06:00:00	0.000	3.300	16.190	318.970
11	1998/07/20	06:00:00	0.000	3.300	0.000	318.970
12	1998/07/21	06:00:00	0.000	3.300	0.000	318.970
13	1998/07/22	06:00:00	38.840	41.840	0.000	358.610
14	1998/07/23	06:00:00	0.150	5.800	38.190	358.760
15	1998/07/24	06:00:00	142.460	28.750	122.680	501.220
16	1998/07/25	06:00:00	48.520	75.270	0.000	549.740
17	1998/07/26	06:00:00	1.770	15.840	60.130	551.510
18	1998/07/27	06:00:00	0.000	5.720	10.120	551.510
19	1998/07/28	06:00:00	9.200	14.910	0.000	560.710
20	1998/07/29	06:00:00	0.000	14.910	0.000	560.710
21	1998/07/30	06:00:00	0.000	14.910	0.000	560.710
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Page 3A



18-07-30 propane 13% - 45%

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-68-A				Date: 98-07-28	
Purpose of Job: Completion and flow test				Report #: 63	
Report From: Roy Elliot/Stan Bernier		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Pulled out of the hole with 38.1 mm CTU				Code	Item
				3324.0 m - 3334.0 m KB	
Contractor:	N/A	Fluid Vol, m3	Water	Oil	3285.0 m - 3302.0 m KB
Road/Lease:	Good	Total Hauled to Lease:	58.00		3285.0 m - 3292.0 m KB
Weather:	calm/clear +18 C	Total Hauled from Lease:	535.67		3279.0 m - 3280.0 m KB
Contact Phone:	403-232-5340	Total in Tanks:	12.50		3260.0 m - 3272.0 m KB
Zone:	Nahanni	Initial Well Fluid:	Water/Standfill		3234.0 m - 3248.0 m KB
Perforations:	Under daily costs	Total Load Fluids:	65.50		3185.0 m - 3172.0 m KB
SITP=	10,390 kPa @ 0800	Non-recov. Ann. Fluids:	94.70		3152.0 m - 3159.0 m KB
SICP=	1,550 kPa @ 0800	Recovery Last 24 hrs.	0.00		3134.0 m - 3148.0 m KB
Rig Hr:	Nil	Recovery to Date:	523.74		3125.0 m - 3130.0 m KB
Cum Rig Hrs.:	458.0	Load to Recover (+New)	585.30		3119.0 m - 3122.0 m KB
AFE # 1180-011				Daily Costs: \$75,340	
KB Elevation: 459.89 m				Previous Costs: \$2,645,846	
KB. to CF: 10.35 m				Cumulative Costs: \$2,921,186	
KB. to THF: 8.60 m				AFE Estimate: \$3,331,700	
TIME					
0600	Continue to work stuck tools from 900 to 3000 lb's pull on the line - Maximum allowable pull = 3000 lbs				
0730	Hold pre-job procedure/safety meeting.				
0800	Rig up Dowell to pump F.water down tubing. (slight glitch on Dowell's computer had to repair) received up dated program w/ some changes. Break out pump lines on Dowell pumper and drive to tanks to load w/ 2m3 diesel fuel				
1130	Hold job procedure/safety meeting - discussed changes to original plan				
1200	Pressure tested Dowell's pump lines to 1.4 & 35 mPa for 10 minutes each - OK. Hold wire line in neutral weight of 900 lb's while pumping fresh water down tubing in an attempt to free the fish. * WE were pumping through a 1" port- the initial pump pressure was 18 mpa @ 0.5m3/ minute falling to 10319 kPa @ 1.0m3/min There was no movement nor weight gain at the stuck tools. - * 14m3 is tubing volume- after pumping 18m3 An additional 4m3 pump pressure increased to 10820kPa still with no movement nor weight gain at the stuck tools. After pumping 21m3 with still no movement at fish we slowed the pump rate to 0.5m3 pressure remaining the same we pulled into the fish w/ 2900 lb's - 2000 lb's over string weight and came free w/ our weight slightly over 8 daN at this point. We then started to pump at 0.5m3/min. In order to keep the well dead and insure safe recovery of fish or wire from lubricator - pulled into lubricator and shut in the well - An additional 14m3 of fresh water was pumped after pulling free of the fish with a final pump pressure of 3100 kPa at 850 l/min.. We then laid down the lubricator and removed the wireline rope socket While pumping fluid the pressure in the casing dropped from 1800kPa to 800kPa				
1300	Monitored shut in well pressure while making arrangements for fishing tools to be freighted in by air thes tools had been previously ordered and shipped to Ft. St. John arriving there this morning.				
2030	Baker fishing tools arrived at air strip.				
2100	Made up the BHA: on 38.1 mm Coll tubing 1) Coll Connection; 2) Swivel; 3) Xover; 4) Deployment bar; 5) Xover; 6) Dual BPV; 7) HI-Load disconnect; 8) Circ. sub; 9) 2-Xovers; 10) Bowen Jars; 11) Xover; 12) Hydraulic release overshot				
98/07/28					
0030	Safety meeting. Filled the Coiled tubing with water and pressure tested the Stripper, Annular, Lubricator to 1.4 mPa and 28 mPa each - good. Surface lines to 35 mPa				
0230	Ran in to 20.0 mKB and closed the pipe rams pressure tested from below with wellbore pressure 10 minutes.				
0300	Pumped water down the Coiled tubing to pressure up to the wellbore pressure of 9,500 kPa. Pull tested every 250 m to 1500 m KB. Varied the pull tests from 1500 m to the top of the fish at 3061.39 mKB on the Dowell depth indicator. Appeared to be hanging up at 3045 mKB and 3053 mKB, taking approximately 300 - 500 daN to push through each spot. After tagging the fish set down 1,000 daN, Pulled up 1200 daN over the string drag, Jars fired, pulled up with normal drag.				
0800					

Job Number: 98-98-114
 Customer: Ranger Oil Ltd
 Well Name: P-85-A
 Well Location: Light Hole

Field Notes

NOTED

Row	Date	Ch. In	Tag Pres	RTR	Csg Pres	Tag Temp	Chase	Orif	Stuck	Orif	Temp	Rate	Cum Gas	Orif	Stuck	Orif	Temp	Rate	Cum Gas	Watr	Watr Rate	Cum Wat	pH	SALINITY
148	1898/07/27	20:30:00	21160					82.55					0.00											
149		21:00:00	18320		1500																			
150		21:30:00	18000		1500																			
151		22:00:00	18030		1500																			
152		22:30:00	18325		1250																			
153		23:00:00	18525		1000																			
154		00:00:00	18010																					
155		00:30:00	18275																					
156		01:00:00	18470																					
157		01:30:00	18620																					
158		02:00:00	18680																					
159		02:30:00	18725																					
160		03:00:00	18750																					
161		03:30:00	18780																					
162		04:00:00	18790																					
163		04:30:00	18790																					
164		05:00:00	18770																					
165		05:30:00	18760																					
166		06:00:00	18780																					
167		06:30:00	18800																					
168		07:00:00	18820																					
169		07:30:00	18840																					
170		08:00:00	18860																					
171		08:30:00	18880																					
172		09:00:00	18900																					
173		09:30:00	18920																					
174		10:00:00	18940																					
175		10:30:00	18960																					
176		11:00:00	18980																					
177		11:30:00	19000																					
178		12:00:00	19020																					
179		12:30:00	19040																					
180		13:00:00	19060																					
181		13:30:00	19080																					
182		14:00:00	19100																					
183		14:30:00	19120																					
184		15:00:00	19140																					
185		15:30:00	19160																					

Page 1A

Fast

Job Number: GP-48-
Customer: Ranger Oil
Well Name: 1482
Well Location: P-05-A
Form: 1000

Field Notes

NOVEMBER

Row	Date	Chk Time	Liquid produced in 24hrs	Liquid volume on location	Liquid shipped off location	Liquid recovered to date
1	1998/07/10	06:00:00	20.500	0.000	20.500	20.500
2	1998/07/11	06:00:00	28.620	12.220	14.380	47.520
3	1998/07/12	06:00:00	138.070	75.860	74.540	168.580
4	1998/07/13	06:00:00	18.620	91.390	0.000	201.150
5	1998/07/14	06:00:00	0.000	91.300	0.000	292.450
6	1998/07/15	06:00:00	1.770	89.530	20.540	292.920
7	1998/07/16	06:00:00	57.490	85.490	80.190	298.340
8	1998/07/17	06:00:00	59.590	18.490	104.950	318.970
9	1998/07/18	06:00:00	0.000	19.480	0.000	319.970
10	1998/07/19	06:00:00	0.000	3.300	18.190	319.970
11	1998/07/20	06:00:00	0.000	3.300	0.000	319.970
12	1998/07/21	06:00:00	0.000	3.300	0.000	319.970
13	1998/07/22	06:00:00	39.840	47.840	0.000	358.810
14	1998/07/23	06:00:00	0.150	5.800	38.190	358.760
15	1998/07/24	06:00:00	142.460	28.760	122.690	501.220
16	1998/07/25	06:00:00	48.520	75.770	0.000	549.740
17	1998/07/26	06:00:00	1.770	16.440	80.130	551.510
18	1998/07/27	06:00:00	0.000	5.720	10.120	551.510
19	1998/07/28	06:00:00	8.290	14.810	0.000	560.710
20	1998/07/29	06:00:00	0.000	14.810	0.000	560.710
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98/01/29 06:00hrs Tanks in use (surge) 358-452 Tanks off to the side 402-852

Fast

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Llard P- 66- A				Date: 98-07-27	
Purpose of Job: Completion and flow test				Report #: 62	
Report From: Roy Elliot/Stan Bernier		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Attempt to free the wireline tools.				Code	Amount
				3324.0 m - 3334.0 m KB	
				3295.0 m - 3302.0 m KB	
				3285.0 m - 3292.0 m KB	
				3276.0 m - 3280.0 m KB	
				3260.0 m - 3272.0 m KB	
				3234.0 m - 3248.0 m KB	
				3186.0 m - 3172.0 m KB	
				3152.0 m - 3159.0 m KB	
				3134.0 m - 3148.0 m KB	
				3125.0 m - 3130.0 m KB	
				3119.0 m - 3122.0 m KB	
Daily Costs:					\$68,098
Previous Costs:					\$2,778,848
Cumulative Costs:					\$2,845,646
AFE Estimate:					\$3,331,700

Contractor: N/A		Fluid Vol. m3		Water	Oil
Road/Lease: Good		Total Hauled to Lease:		56.00	
Weather: 18 c		Total Hauled from Lease:		535.87	
Contact Phone: 403-232-5340		Total in Tanks:		12.50	
Zone: Nahanni		Initial Well Fluid:		Water/Standfill	
Perforations: Under daily costs		Total Load Fluids:		30.50	
SITP= 19,790 kPa @ 0600		Non-recov. Ann. Fluids:		94.70	
SICP= 1,000 kPa @ 0600		Recovery Last 24 hrs.		9.20	
Rig Hr: Nil		Recovery to Date:		533.74	
Cum Rig Hrs.: 456.0		Load to Recover (+New)		530.30	
AFE # E8D-011		KB Elevation:		459.88 m	
		KB. to CF:		10.35 m	
		KB. to THF:		8.60 m	

TIME	OPERATION
0600	Continue to work electric wire-line cable to free stuck gauge ring assembly from tight spot at 3000mKB +/- .50m with no success
1230	Hold job procedure - safety meeting - open well to flow at 200103m3/d while working wire-line to free stuck tools. Started flowing while pulling 200# over string weight but saw no change in weight - we then pulled up to 2500# to work free w/ no success
1300	Shut in the well and continued to work the tool string from 200 - 1900 lb.s over again w/ no progress
1400	We then opened the well to a 12.7mm choke and flowed the well at a gas rate of 440 103m3/d while working string to free the fish. We again saw no movement nor progress
1530	We then shut in the well while continuing to work the string to free stuck tool with no success
1700	We then opened the well to a 17.46 mm choke and flowed a gas rate of 500 103m3/d while again working wire the cable from string weight to up to 1900 lb.s over string weight and again had no success nor saw any progress
1830	We then opened the choke to 20.64mm increasing the gas rate to 577 103m3/d with again no success. We then shut in the well and worked the stuck tools while Dowell loaded 2m3 of diesel fuel onto their pump truck.
1900	Pressure tested the surface lines to 28 mPa for 10 minutes. Opened the wing valve and pumped 2.2 m3 of diesel fuel down the tubing at 0.4 m3/minute. Shut the well in and waited for the diesel to drop to the stuck tools.
2000	Husky B3 m3 tank # 4264-A leaking. transfered 53 m3 of 32% HCL acid to tank # 6269 A
2130	Finished pumping the diesel fuel, shut in the wing valve and rigged out Dowell.
2400	Started to work the wireline.
08/07/28	
0000	Continued working the Computalog Wireline. Dropped to 200 daN and pulled up to 935 daN, then 1340 daN every 5th pull - no movement of the tools. Pulled over string a total of 60 times.
0800	Continued pulling over the string weight.

FieldNotes

Job Number: GP-98-114
 Customer: Ranger Oil Ltd
 Well Name: W-1000
 Well Location: P-68-A
 Formation: Tight Leds

NORWARD

Row	Date	Ch Time	Thg Pres	RTR	Cog Pres	Thg Temp	Chains	Offt	Shedrt	Dist	Temp/Gas Rate1	Cum Gas1	Ort2	Shed2	Dist2	Temp/Gas Rate2	Cum Gas2	Wetbr	Wet Rate	Cum Wet	pH	SALINITY
	formatted	deck	hPa	hPa	hPa	C	mm	mm	hPa	hPa	C	10³m³/d	10³m³	mm	hPa	hPa	C	10³m³/d	10³m³	mm		psm
149	1998/07/27	20:30:00	21150					62.65					0.00									
150		21:00:00	19820		1500																	
151		21:30:00	18900		1500																	
152		22:00:00	18030		1500																	
153		22:30:00	16325		1250																	
154		23:00:00	16520		1250																	
155		23:30:00	16800		1000																	
156	1998/07/28	00:00:00	19030		1000																	
157		00:15:00	Completing start to work line to try and break																			
158		00:30:00	19270																			
159		01:00:00	19470																			
160		01:30:00	19620																			
161		02:00:00	19620																			
162		02:30:00	19680																			
163		03:00:00	19720																			
164		03:30:00	19750																			
165		04:00:00	19750																			
166		04:30:00	19760																			
167		05:00:00	19770																			
168		05:30:00	19790																			
169	1998/07/28	06:00:00	19790		1000																	

Page 7A

Fast

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P- 66- A				Date: 98-07-26																																																											
Purpose of Job: Completion				Report #: 61																																																											
Report From: Roy Elliot/Stan Bernier		Report To: Leroy Brown		Daily Cost Summary																																																											
Current Operation: Work stuck wireline				Code	Item																																																										
				3324.0 m - 3334.0 m KB	Amount																																																										
				3295.0 m - 3302.0 m KB																																																											
				3285.0 m - 3282.0 m KB																																																											
				3276.0 m - 3280.0 m KB																																																											
				3260.0 m - 3272.0 m KB																																																											
				3234.0 m - 3248.0 m KB																																																											
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TIME	OPERATION
0600	Continue pulling out of the hole w/ endless tubing - bleed lines and rigged down lubricator and injector.
1000	Pick up computalog BOPE and lubricator - BOP elements were tested while running coiled tubing - Tools were picked up into lubricator - lubricator and wireline BOP's installed and pressure tested to 1.4 & 35 mPa for 10 minutes each - OK. ran in the hole w/ 55.2 mm gauge ring x CCL x 6m of 43mm sinker bar x rope socket. Vetco - Gray personnel serviced the Weatherford valve manifold.
1200	Ran into a tight spot/obstruction at 3069.5 mKB Logged up and logged down to the tight spot, attempted to work the tools at the tight spot pulling a maximum of 680 daN over the string weight, not moving.
1900	Continued working the tool string. Opened the well to flow 0 - 57 10 9 m3 and worked the string to a maximum of 1360 daN. Dropped down to 0 weight and pulled up to 1360 daN, still stuck. Pressured up on the casing to 14,000 kPa while working the tools, won't pull free. Pulled to 115 daN over string and let sit.
98/07/27	
0000	Wait on the wellbore to cool down
0800	Attempt to work the tools free by working the line tension down to the top of the rope socket.

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-07-25	
Purpose of Job: Completion				Report #: 60	
Report From: Roy Elliot/Stan Bernier		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: pulling out of the hole w/ coiled tubing				Code	Item
				3324.0 m - 3334.0 m KB	
				3295.0 m - 3302.0 m KB	
				3285.0 m - 3292.0 m KB	
				3276.0 m - 3280.0 m KB	
				3280.0 m - 3272.0 m KB	
				3234.0 m - 3248.0 m KB	
				3165.0 m - 3172.0 m KB	
				3152.0 m - 3159.0 m KB	
				3134.0 m - 3148.0 m KB	
				3125.0 m - 3130.0 m KB	
				3115.0 m - 3122.0 m KB	
Contractor: N/A				Total Hauled to Lease: 16.00	
Road/Lease: Good				Total Hauled from Lease: 535.67	
Weather: Calm - clear + 18				Total in Tanks: 75.27	
Contact Phone: 403-232-5340				Initial Well Fluid: Water/Standrill	
Zone: Nahanni				Total Load Fluids: 16.00	
Perforations: Under daily costs				Non-receive. Ann. Fluids: 94.70	
SITP 21,430 KPa @ 0600				Recovery Last 24 hrs. 0.00	
SICP 2200 KPa @ 0600				Recovery to Date: 533.74	
Rig Hr: Nil Cum Rig Hrs.: 456.0				Load to Recover (+New) 519.24	
AFE # E80-011				Daily Costs: \$70.015	
KB Elevation: 459.89 m				Previous Costs: \$2,564,803	
KB. to CF: 10.35 m				Cumulative Costs: \$2,634,917	
KB. to THF: 8.60 m				AFE Estimate: \$3,331,700	

TIME	OPERATION
0600	Well was shut in and tubing pressures monitored at 21880 kPa. final
0700	Hold job-procedure/ safety meeting - Discussed PPE - hi-pressure and environmental concerns
0730	Rigged up Dowell continuous tubing unit and mixed pickling acid w/ additives as per program slight problem with getting the new tubing entered into the lubricator - installed the lubricator and BOP's - pressure tested the pump line up to the coil 1.4 Mpa low 30 min - OK and 35 Mpa - high 30 min. - OK. We then pickled the tubing w/ 1/2m ³ of fresh water followed by 500 liters of 28% HCL acid followed by 1 1/2m ³ of fresh water flush. A 19.1mm ball drift was installed in the manifold of the tubing and circulated through with tubing volume + of fresh water. the ball was stuck in a manifold valve and the procedure repeated with success and and the ball recovered in the trap
1800	Picked up a 43mm nozzle x weight bar x hydraulic disconnect x check valve assembly x cross-overr sub x ball shear sub x internal grapple x 38.1mm coiled tubing string to pressure test BOPE 1.4-low + 35Mpa high test on all rams for 10 minutes each.
1900	Pressure tested the annular and work window to 1.4 mPa and 35 mPa 10 minutes each, all tests good.
2030	Removed the injector and installed the Baker Non - Rotating Hydraulic Disconnect tool, pull tested the same to 6600 daN, good. Removed and installed the the Bottom Hole Assembly 1) Baker Disconnect; 2) Crossover sub; 3) 2-check valves; 4) Dowell Shear sub.; 5) Straight bar; 6) Jetting nozzle - 43 mm O.D. Reinstalled the injector and pressure tested the Dowell tubing pack-off to 1.4 mPa and 35.0 mPa 10 minutes each - good. Bled down to testers to 24.0 mPa.
2215	Opened the well, and started in with the 38.1 mm Coiled Tubing. Snubbed in against 21,800 kPa while pumping fresh water down the 38.1 mm tubing at 0.11 m3/minute. Pull tested every 500 m to 1500 mKB Every 250 m to 2000 mKB
98/07/26	
0000	Continued snubbing into the hole, pipe light until approximately 1850 mKB. Pull test every 100 m from 2000 mKB to fish. Tagged the top of the fish at 3364.0 mKB by the depth indicators
0300	Pushed the fish to 3404 mKB. Pulled up to 3364.0 mKB and down to 3404.0 mKB 4 times, appeared to push fish down.
0350	Pulled out of the hole
0600	Lost 16.0 m3 fresh water.

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-07-24	
Purpose of Job: Completion				Report #: 59	
Report From: Roy Elliot/Stan Bernier		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Rig in the Coiled Tubing				Code	Item
					Amount
				3324.0 m - 3334.0 m KB	
				3285.0 m - 3302.0 m KB	
				3285.0 m - 3282.0 m KB	
				3278.0 m - 3280.0 m KB	
				3280.0 m - 3272.0 m KB	
				3234.0 m - 3248.0 m KB	
				3185.0 m - 3172.0 m KB	
				3152.0 m - 3159.0 m KB	
				3134.0 m - 3148.0 m KB	
				3125.0 m - 3130.0 m KB	
				3116.0 m - 3122.0 m KB	
Contractor: N/A				Daily Costs: \$36,950	
Road/Lease: Good				Previous Costs: \$2,527,862	
Weather: Clear & calm 17.5°C				Cumulative Costs: \$2,664,802	
Contact Phone: 403-232-5340				AFE Estimate: \$3,331,700	
Zone: Nahanni					
Perforations: Under daily costs					
SITP 21,880 KPa @ 0800					
SICP 200 KPa @ 0800					
Rig Hr: Nil Cum Rig Hrs.: 456.0					
KB Elevation: 459.89 m					
KB. to CF: 10.35 m					
KB. to THF: 8.60 m					
Fluid Vol. m3					
Total Hauled to Lease: 16.00					
Total Hauled from Lease: 115.85					
Total in Tanks: 75.27					
Initial Well Fluid: Water/Standfill					
Total Load Fluids: 14.50					
Non-receive. Ann. Fluids: 94.70					
Recovery Last 24 hrs. 48.52					
Recovery to Date: 549.74					
Load to Recover (+New) 535.24					

TIME	OPERATION
0600	Continue to flow well to test unit through 11.51mm choke at 314,528 10 ³ m ³ /d w/ tubing pressure @ 200.55 kPa and temperature of 71°C and a water/hr rate of 0.20m ³ H ₂ S by Gastec = 1.1% and CO ₂ at 15%
0930	Decrease choke to 8.73mm & flow well @ 153,208 to 145,974 10 ³ m ³ /dw/ tubing pressure increasing to 21200 kPa then leveling out at 20970 kPa and tubing temperature dropping to 54°C and H ₂ S/ CO ₂ levels remaining constant
1848	Increase the choke to 20.64 mm: 82.55 mm Orifice
1900	Tubing = 13080 kPa; SICP = 350 kPa; Tubing temperature = 62 c; Gas rate = 579,364 10 ³ m ³ /d Water/ hr = 4.5 m3; PH-8; Salinity - 135,000 ppm: 1925 hrs. Increase choke to 21.43 mm
2100	Spotted the Dowell 31.75 mm Coiled Tubing Unit, Equipment truck, Nitrogen Pumper, Nitrogen Bulk Truck
2330	H ₂ S by Gastech - 1.0%; CO ₂ - 14%; 2 - Stock water samples taken, 3 - High Pressure gas samples taken # 00001185; # 00018191; # 00021468.
98/0725	
0030	Tubing = 12,720 kPa; SICP = 850 Kpa; Tubing temperature = 83 c; Gas rate = 589,864 10 ³ m ³ /d Water/ hr. = 3.82 m3; PH-8; Salinity - 152,000 ppm. Shut the well in and record the build ups
0800	Tubing pressure = 21880 kPa; SICP = 850 kPa

Job Number: GP-85-
Customer: Ranger Oil
Wellname: Llard
Well Location: P-86-A
Formation:

FieldNotes

NORWARD

Row	Date	Clk Tm	Liquid produced in 24hrs	Liquid volume on location	Liquid shipped off location	Liquid recovered to date
	yy/mm/dd	clock	m3	m3		m3
1	1998/07/10	08:00:00	20.900	0.000	20.900	20.900
2	1998/07/11	08:00:00	28.620	12.220	14.390	47.620
3	1998/07/12	08:00:00	138.910	75.600	74.540	168.530
4	1998/07/13	08:00:00	15.620	91.300	0.000	201.150
5	1998/07/14	08:00:00	0.080	91.300	0.000	201.150
6	1998/07/15	08:00:00	1.770	68.530	29.540	202.920
7	1998/07/16	08:00:00	57.480	65.480	59.180	260.380
8	1998/07/17	08:00:00	59.580	10.490	104.850	319.970
9	1998/07/18	08:00:00	0.000	19.490	0.000	319.970
10	1998/07/19	08:00:00	0.000	3.300	16.180	319.970
11	1998/07/20	08:00:00	0.000	3.300	0.000	319.970
12	1998/07/21	08:00:00	0.000	3.300	0.000	319.970
13	1998/07/22	08:00:00	28.640	41.940	0.000	358.610
14	1998/07/23	08:00:00	0.150	5.900	38.180	358.760
15	1998/07/24	08:00:00	142.480	28.750	122.880	501.220
16	1998/07/25	08:00:00	48.520	76.270	0.000	549.740
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RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-07-23	
Purpose of Job: Completion				Report #: 58	
Report From: Wayne Casler/Stan Bernier		Report To: Leroy Brown		Daily Cost Summary	
Current Operation:				Code	Item
Contractor: N/A					Amount
Read/Lease: Good				3324.0 m - 3334.0 m KB	
Weather: Clear/calm + 29° C				3295.0 m - 3302.0 m KB	
Contact Phone: 403-232-5340				3285.0 m - 3292.0 m KB	
Zone: Nahanni				3278.0 m - 3280.0 m KB	
Perforations: Under daily costs				3260.0 m - 3272.0 m KB	
SITP KPa @ 0800				3234.0 m - 3248.0 m KB	
SICP 750 KPa @ 0800				3165.0 m - 3172.0 m KB	
Rig Hr: Nil Cum Rig Hrs.: 456.0				3152.0 m - 3159.0 m KB	
				3134.0 m - 3148.0 m KB	
				3125.0 m - 3130.0 m KB	
				3115.0 m - 3122.0 m KB	
AFE # E8D-011 KB Elevation: 459.89 m				Daily Costs: \$59,997	
KB. to CF: 10.35 m				Previous Costs: \$2,467,955	
KB. to THF: 8.60 m				Cumulative Costs: \$2,927,952	
				AFE Estimate: \$3,331,700	

TIME	OPERATION
	Pressure test the lubricator to 1400 kPa low test and 28000 kPa high test.
0630	Run in the hole with a grapple and tag the top of the wire at 106.0 m CF. Latch onto the wireline and pull the wireline fishing tools up into the lubricator. When we started off bottom we were pulling 850 LBS.
0700	Close the bottom set of BOP'S. Bleed off the lubricator. Lift up the lubricator and clamp the wireline. Strip on a pack-off and open the wireline BOP'S.
0800	Pull out of the hole with the Wireline to + - 300.0 m CF. Close the BOP'S and bleed off the pack-off.
1030	Remove the pack-off from the top of the BOP'S. Strip the wire through the pack-off. Cut the wire and strip the wire through the lubricator. Install the lubricator.
1100	Pull out of the hole with the wire and the recorders.
1200	Rig out the 101.6 mm BOP'S and rig up to flow the well. Make crew change hold pre-job procedure and safety meeting w/ new crews
1630	Open well to flow to testers through 8.73 mm. Increase choke to 25.4 mm, fluid to surface - 82.55 mm Orifice
1600	Tubing pressure = 11,800 kPa; SICP = 1250 kPa; Flowing tubing temperature = 34 c; Gas rate = 750,180 10 3 m3/d; Water = 4.4 m3/hr. PH-8; salinity - 172,000 ppm
1922	Increased the choke to 31.75 mm
	08/07/24
0000	Tubing pressure = 9585 kPa; SICP = 250 kPa; Flowing tubing temperature = 81 c; Gas rate = 647.974 10 3 m3/d; Water = 10.0m3/hr; PH-8; salinity 140,000 ppm
0330	Tubing pressure = 9840 kPa; SICP = 450 kPa; Flowing tubing temperature = 82 c; Gas rate = 654.546 10 3 m3/d; water rate = 10.23 m3/hr Decreased the choke to 15.08 mm, then 11.9 mm
0600	Tubing pressure = 19,855 kPa; SICP = 250 kPa; Flowing tubing temperature = 71 c Gas rate = 314.528 10 3 m3/d; Water = 0.2 m3/hr. PH-8; Salinity - 0ppm

FieldNotes

Job Number: GP-99-114
Customer: Ranger Oil
Wellhead: Lard
Well Location: P-68-A
Formation:

FORWARD

Row	Date	Chk Tim	Tbg Pres	RTR pres	Cag Pres	Choke	Tbg Temp	Chk1	Diff1	Temp1	Gas Rate1	Cum Gas1	Diff2	Temp2	Gas Rate2	Cum Gas2	Viscosity	Wet Ret	Cum Wet Ret	pH	SALINITY
yp/hardid	check	check	MPa	MPa	MPa	mm	C	MPa	MPa	C	10 ³ m3/d	10 ³ m3	MPa	C	10 ³ m3/d	10 ³ m3	m3	m3	m3		ppm

815	05:01:00	increase choice 11 80mm																					
817	05:15:00	18980	160	11.90	70	82.55	1300	34.2	43	309.070	1418.844												
818	05:15:00	18980	160	11.90	70	82.55	1300	34.2	41	310.115	1422.088												
819	05:20:00	18980	175	11.80	70	82.55	1300	34.2	38	313.889	1426.328												
820	05:45:00	18980	250	11.80	70	82.55	1325	34.2	38	313.889	1426.328												
821/1898/07/24	06:00:00	18980	250	11.80	71	82.55	1325	34.2	38	314.528	1428.593												

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Page 24A

JUL-24-1998 08:24

403 232 5200

73%

P.05

FieldNotes

NORWAG

Job Number: GP-68-114
Customer: Ranger Oil
Well Name: Lard
Well Location: P-68-A
Formation:

Row	Date	Chk Time	Tbg Pres	RTR pres	Cog Pres	Tbg Temp	Choke	Orf1	Stat-1	DIF1	Temp1	Gas Rate1	Cum Gas1	Orf2	Stat-2	DIF2	Temp2	Gas Rate2	Cum Gas2	Water/hr	Wat Rate	Corr Wat	pH	SALINITY	
	yy/mm/dd	clock	kPa	kPa	kPa	C	mm	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	m3	m3/d	G		ppm	
741	1998/07/22	23:00:00	21500		800																				
742		23:30:00	Safety meeting held.																						
743		23:30:00	21600		800																				
744	1998/07/23	00:00:00	21570		800																				
745		00:30:00	21570		800																				
746		01:00:00	21570		800																				
747		01:30:00	21570		800																				
748	1998/07/23	02:00:00	21670		800																				
749		02:30:00	21530		800																				
750		03:00:00	21530		800																				
751		03:30:00	21530		776																				
752		04:00:00	21530		750																				
753		04:30:00	21530		750																				
754		05:00:00	21530		750																				
755		05:30:00	21500		750																				
756	1998/07/23	06:00:00	21500		750																				
757		06:01:00	Pressure test indicator.																						
758		06:00:00	21500		700																				
759		06:30:00	21500		700																				
760		09:00:00	21510		700																				
761		09:30:00	21520		700																				
762		10:00:00	21520		700																				
763		10:30:00	21530		700																				
764		11:00:00	21520		700																				
765		12:30:00	Wireline relative flow.																						
766		15:25:00	Obtain opening pressure on well.																						
767		15:25:00	21510		800			0.00	0.00	0	0.0	0	0.000	1067.853	0.00	0	0.0	0	0.000	0.000	0.000	0.000	38.780		
768		15:20:00	Pressure up to choke, and open well to flow on a 22/64(12.7mm).																						
769		15:35:00	Increase choke to 32/64(12.7mm).																						
770		15:35:00	21200		850		24	12.70																	
771		15:40:00	15500		850		24	12.70																	
772		15:41:00	Increase choke to 44/64(17.46mm).																						
773		15:45:00	14450		850		26	17.48																	
774		16:45:00	Open choke to 64/64(25.4mm).																						
775		15:50:00	Fluid to surface.																						
776		15:53:00	Meter in service with a 3.250(82.55mm) orifice plate.																						
777		16:00:00	11600		1250		34	25.40	32.55	4400	55.0	21	750.180	1086.088	0.00	0	0.0	0	0.000	0.000	4.400	181.028	38.180	6	172000

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07/24/98 FRI 08:21 FAX 403 232 5200

RANGER OIL

JUL-24-1998 08:25

403 232 5200 23750 23750 02:5 199 06-42-17N 73%

P.06

FieldNotes

NORWACO

Job Number: GP-06
Customer: Ranger Oil
Wellname: Lard
Well Location: P-06-A
Formation:

Row	Date	Clk Tm	Liquid produced in 24hrs	Liquid volume on location	Liquid shipped off location	Liquid recovered to date
	yy/mm/dd	clock	m3	m3		m3
1	1998/07/10	08:00:00	20.800	0.000	20.800	20.800
2	1998/07/11	08:00:00	28.620	12.230	14.390	47.620
3	1998/07/12	08:00:00	128.010	75.680	74.640	185.530
4	1998/07/13	08:00:00	15.620	21.300	0.000	201.150
5	1998/07/14	08:00:00	0.000	21.300	0.000	201.150
6	1998/07/15	08:00:00	1.770	28.530	28.540	222.920
7	1998/07/16	08:00:00	57.480	65.480	59.160	280.340
8	1998/07/17	08:00:00	69.590	19.480	104.950	319.970
9	1998/07/18	08:00:00	0.000	19.480	0.000	319.970
10	1998/07/19	08:00:00	0.000	3.300	16.180	319.970
11	1998/07/20	08:00:00	0.000	3.300	0.000	319.970
12	1998/07/21	08:00:00	0.000	3.300	0.000	319.970
13	1998/07/22	08:00:00	38.840	41.840	0.000	359.810
14	1998/07/23	08:00:00	0.150	6.900	36.180	359.790
15	1998/07/24	08:00:00	142.490	26.750	122.680	501.220
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Page 3A

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RANGER OIL

0008

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-07-22																											
Purpose of Job: Completion				Report #: 57																											
Report From: Wayne Casler/Stan Bernier		Report To: Leroy Brown		Daily Cost Summary																											
Current Operation: Fishing for wireline.				Code	Item Amount																										
					3324.0 m - 3334.0 m KB																										
					3295.0 m - 3302.0 m KB																										
					3285.0 m - 3292.0 m KB																										
					3276.0 m - 3280.0 m KB																										
					3260.0 m - 3272.0 m KB																										
					3234.0 m - 3248.0 m KB																										
					3165.0 m - 3172.0 m KB																										
					3152.0 m - 3158.0 m KB																										
					3134.0 m - 3148.0 m KB																										
					3125.0 m - 3130.0 m KB																										
					3115.0 m - 3122.0 m KB																										
AFB # E8D-C11				Daily Costs: \$41,401																											
KB Elevation: 459.89 m				Previous Costs: \$2,426,554																											
KB. to CF: 10.35 m				Cumulative Costs: \$2,467,955																											
KB. to THF: 8.60 m				AFE Estimate: \$3,331,700																											
<table border="1"><thead><tr><th>TIME</th><th>OPERATION</th></tr></thead><tbody><tr><td>0600</td><td>We are stuck in the hole with the Wireline and recorders.</td></tr><tr><td>0715</td><td>Hook up the Computalog grease injector and inject oil into the lubricator. Work the Wireline, we are getting very little stretch on the line. Worked the Wireline up to a pull of 1400 lbs. and the line parted. The line should take a pull of 2200 lbs. Pulled out of the hole with the Wireline and recovered 90.0 m of line.</td></tr><tr><td>0930</td><td>Rig out the lubricator and pull 150.0 m of line off the drum.</td></tr><tr><td>1030</td><td>Rig up the 101.6 mm BOP'S, 1-joint of 101.6 mm lubricator, 1-set of 88.9 mm BOP'S, and 3-joints of 88.9 mm lubricator.</td></tr><tr><td>1200</td><td>Make up a tool string c/w 3.6 m of sinker bar, spangs and a 59.0 mm gauge ring.</td></tr><tr><td>1215</td><td>Fill the lines and pressure test the bottom BOP'S to 1400 kPa low test and 28000 kPa high test. Open the bottom BOP'S and close the top set of BOPS. Pressure test the top set of BOPS to 1400 kPa low test and 28000 kPa high test. Open the top BOP'S and pressure test the lubricator to 1400 kPa low test and 28000 kPa high test.</td></tr><tr><td>1315</td><td>Run in the hole with the gauge ring to 110.0 m CF. and we did not tag anything. Pull out of the hole with the gauge ring.</td></tr><tr><td>1325</td><td>Pressure test the lubricator to 1400 kPa low test and 28000 kPa high test. Run in the hole with a 68.0 mm wire grab c/w a 72.7 mm tubing swedge and a 50.8 mm "SB" pulling tool. Tag the top of the wire at 125.0 m CF. Pulled up to 82.0 m CF. and the wire grab let go. Pulled out of the hole and checked the grapple. We did not recover any wire.</td></tr><tr><td>1415</td><td>Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test. Run in the hole and tagged the top of the wire at 122.0 m CF. Worked the wire up to 81.0 m CF. and the grapple let go. Run in the hole to 106.0 m CF. and tagged the wire. Pulled out of the hole and recovered 0.20 m of bent up wire.</td></tr><tr><td>1530</td><td>Dump 15.0 L of methanol down the tubing. Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test. Run in the hole and tag the top of the wire 106.0 m CF. Worked the grapple up to 83.0 m CF. at 1000 LB maximum pull and the line slipped off the grapple. We ran back in to 106.0 m CF. and could not latch onto the wire. Pulled out of the hole with the grapple. We did not recover any wire.</td></tr><tr><td>1715</td><td>Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test. Run in the hole and latch onto the wire. Worked the wire and the wire broke. Pulled out of the hole and recovered 1.0 m of wire.</td></tr><tr><td>1900</td><td>Re-head the Wireline rope socket and put a new pin in the "SB" pulling tool. Install the lubricator.</td></tr></tbody></table>						TIME	OPERATION	0600	We are stuck in the hole with the Wireline and recorders.	0715	Hook up the Computalog grease injector and inject oil into the lubricator. Work the Wireline, we are getting very little stretch on the line. Worked the Wireline up to a pull of 1400 lbs. and the line parted. The line should take a pull of 2200 lbs. Pulled out of the hole with the Wireline and recovered 90.0 m of line.	0930	Rig out the lubricator and pull 150.0 m of line off the drum.	1030	Rig up the 101.6 mm BOP'S, 1-joint of 101.6 mm lubricator, 1-set of 88.9 mm BOP'S, and 3-joints of 88.9 mm lubricator.	1200	Make up a tool string c/w 3.6 m of sinker bar, spangs and a 59.0 mm gauge ring.	1215	Fill the lines and pressure test the bottom BOP'S to 1400 kPa low test and 28000 kPa high test. Open the bottom BOP'S and close the top set of BOPS. Pressure test the top set of BOPS to 1400 kPa low test and 28000 kPa high test. Open the top BOP'S and pressure test the lubricator to 1400 kPa low test and 28000 kPa high test.	1315	Run in the hole with the gauge ring to 110.0 m CF. and we did not tag anything. Pull out of the hole with the gauge ring.	1325	Pressure test the lubricator to 1400 kPa low test and 28000 kPa high test. Run in the hole with a 68.0 mm wire grab c/w a 72.7 mm tubing swedge and a 50.8 mm "SB" pulling tool. Tag the top of the wire at 125.0 m CF. Pulled up to 82.0 m CF. and the wire grab let go. Pulled out of the hole and checked the grapple. We did not recover any wire.	1415	Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test. Run in the hole and tagged the top of the wire at 122.0 m CF. Worked the wire up to 81.0 m CF. and the grapple let go. Run in the hole to 106.0 m CF. and tagged the wire. Pulled out of the hole and recovered 0.20 m of bent up wire.	1530	Dump 15.0 L of methanol down the tubing. 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1900	Re-head the Wireline rope socket and put a new pin in the "SB" pulling tool. Install the lubricator.																														
NOTE: We will leave the well shut in until 0600 hours to see if the tubing will cool down and return to the normal configuration.																															

Job Number: GP-05-114
Customer: Ranger Oil
Well Name: Lard
Well Location: P-05-A
Formalant:

Field Notes

20000000

Row	Date	Gr Tim	Thg Pres	RTR pres	Cog Pres	Thg Temp	Choke	Ort	Stroci	Ort	Temp	Gas Rate	Cum Gas	Ort	Stroci	Ort	Temp	Gas Rate	Cum Gas	Wet	Wet Rate	Cum Wet	pH	SALINITY
	Yr/Mo/D	check	lPa	lPa	lPa	C	mm	mm	lPa	lPa	C	10 ³ m ³ /d	10 ³ m ³	mm	lPa	lPa	C	10 ³ m ³ /d	10 ³ m ³	m ³	m ³ /d	m ³		ppm
743	10/06/07/22	22:00:00	21600					0.00						0.00										
744	10/06/07/23	00:00:00	21570																					
745		00:30:00	21570																					
746		01:00:00	21570																					
747		01:30:00	21570																					
748	10/06/07/23	02:00:00	21570																					
749		02:30:00	21530																					
750		03:00:00	21530																					
751		03:30:00	21530																					
752		04:00:00	21530																					
753		04:30:00	21530																					
754		05:00:00	21530																					
755		05:30:00	21500																					
756	10/06/07/23	06:00:00	21500																					

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RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A		Date: 98-07-21	
Purpose of Job: Completion		Report #: 56	
Report From: Wayne Casler/Sten Bernier		Report To: Leroy Brown	
Current Operation:		Daily Cost Summary	
		Code	Item Amount
			3324.0 m - 3334.0 m KB
			3286.0 m - 3302.0 m KB
			3286.0 m - 3292.0 m KB
			3276.0 m - 3280.0 m KB
			3260.0 m - 3272.0 m KB
			3234.0 m - 3248.0 m KB
			3185.0 m - 3172.0 m KB
			3152.0 m - 3160.0 m KB
			3134.0 m - 3148.0 m KB
			3125.0 m - 3130.0 m KB
			3116.0 m - 3122.0 m KB
Contractor: N/A		Fluid Vol. m3	Water Oil
Road/Lease: Good		Total Hauled to Lease:	18.00
Weather: Clear/calm + 13° C		Total Hauled from Lease:	160.20
Contact Phone: 403-232-5340		Total in Tanks:	NIL
Zone: Nahanni		Initial Well Fluid:	Water/Standfill
Perforations: Under daily costs		Total Load Fluids:	14.50
SITP 21,340 KPa @ 0600		Non-receive, Ann. Fluids:	94.70
SICP 550 KPa @ 0600		Recovery Last 24 hrs.	38.64
Rig Hr. Nil Cum Rig Hrs.: 458.0		Recovery to Date:	358.81
AFE # ESD-011		Load to Recover (+New)	344.11
KB Elevation: 459.89 m		Daily Costs: \$47,280	
KB to CF: 10.35 m		Previous Costs: \$2,379,274	
KB to THF: 8.60 m		Cumulative Costs: \$2,426,554	
		AFE Estimate: \$3,331,700	

TIME	OPERATION
0600	Rig out all the 88.9 mm and 101.6 mm wireline lubricator and BOP'S.
1030	Rig up the Genco Wireline top adapter and torque the bolts to the API specs.
1200	Pick up the Genco lubricator and BOP'S.
1310	Load the recorders and install the lubricator. Pressure test the BOP'S to 1400 kPa low test and 28000 kPa high test.
340	Bleed off the pressure. We have a leak on the hydraulic body of the BOP'S. Tighten the body of the BOP'S and pressure test the BOP'S to 28000 kPa for 10.0 minutes.
1355	Open the BOP'S and pressure test the lubricator to 1400 kPa low test and 28000 kPa high test. When we got to 28000 kPa the hydraulic ram body of the BOP'S started to leak.
1415	Rig out the BOP'S and pick up another BOP stack. Pressure test the BOP'S to 1400 kPa low test and 28000 kPa high test. Pressure test the lubricator to 1400 kPa low test and 28000 kPa high test for 10.0 minutes each.
1505	Open the master valve. Run a gradient with 10.0 minute stops at surface, 1000.0 m, 1500.0 m, 2000.0 m, 2500.0 m, 3000.0 m, 3000.0 m, then we stopped every 10.0 m down to 3317.0 m CF. We ran two Lee memory recorders, the top recorder ser # is 9803 Q-16E and the bottom recorder ser # is 9812Q-16D. The recorders were started at 1305 hours 88-07-21.
2140	Finished down gradient, pulled up to 3345.0 mcf. Safety meeting.
2200	SITP - 21340 kPa SICP - 450 kPa Opened the well to flow on a 15.08 mm choke, 82.55 mm Orifice plate in service at 2207 hrs. Fluid at surface at 2216 hrs. Decreased the choke to 13.5 mm, then 11.9 mm. Hydrate forming in the choke, opened the choke to 15.08 mm, then to 17.46 mm
98/07/22	
0000	Continued to flow the well to bring the flowing temperature up. Tubing pressure = 14,700 kPa; SICP = 625 kPa; 17.46 mm choke; 82.55 mm Orifice; Tubing flowing temperature = 35 c Gas Rate = 498,716 10 3 m 3/d
0330	Tubing pressure = 15,020 kPa; SICP = 350 kPa; 17.46 mm choke; 82.55 mm Orifice; Flowing tubing temperature = 60 c; Gas rate = 477,822 10 3 m 3/d
0340	Switched to the hydraulic choke. Difference in the gas rate between the chokes, switched back to the manual choke and adjusted to get a stable flow rate
0600	Flowing tubing pressure = 21,100 kPa; SICP = 200 kPa; 7.54 mm choke; 82.55 mm orifice; Flowing tubing temperature = 48 c; Gas rate = 142,612 10 3 m3/d Liquid produced in 8.0 hrs. = 38.64 m 3; PH-S Salinity = 133,000 ppm H2S with Gas Tech = 1.4%; CO 2 = 16%

Job Number: GP-88-114
Customer: Ranger Oil
Wellname: Lard
Well Location: P-68-A
Formation:

FieldNotes

FORWARD

Row	Date	Clk Tim	Tog Pres	RTR pres	Cog Pres	Tog Temp	Choke	Orif1	Static1	Diff1	Temp1	Gas Rate1	Cum Gas1	Orif2	Static2	Diff2	Temp2	Gas Rate2	Cum Gas2	Water1	Wat Rate	Cum Wat	pH	SALINITY
	yy/mm/dd	clock	kPa	kPa	kPa	C	mm	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	m3	m3/d	m3		ppm
667	1988/07/21	17:00:00	21320		425			0.00						0.00										
668		17:30:00	21320		425																			
669	1988/07/21	18:00:00	21340		425																			
670		18:30:00	21340		450																			
671		19:00:00	21340		460																			
672		19:30:00	21340		450																			
673		20:00:00	21340		450																			
674		20:30:00	21340		450																			
675		21:00:00	21340		450																			
676		21:30:00	21340		450																			
677		21:55:00	Open wing, pressure up to choke and record opening pressure.																					
678	1988/07/21	22:00:00	21340		450		0.00	0.00	0	0.0	0	0.000	828.004	0.00	0	0.0	0	0.000	0.000	0.000	0.000	318.970		
679		22:00:00	Open choke to flow on a 15.08mm.																					
680		22:05:00	17400		450		20																	
681		22:07:00	Meter in service with a 62.55mm orifice plate.																					
682		22:10:00	17300		450		21																	
683		22:15:00	15850		450		22	15.08	82.55	1180	56.0	-4	408.838	932.273						0.000	0.000	318.970		
684		22:18:00	Fluid to surface.																					
685		22:30:00	18200		500		24	15.08	82.55	1275	61.0	1	443.058	938.716										
686		22:45:00	18300		550		27																	
687		22:51:00	Decrease choke to 13.50mm.																					
688		23:00:00	17500		600		28	13.50	82.55	1050	52.0	3	371.524	946.200						7.300	233.600	327.270	6	128000
689		23:02:00	Decrease choke to 11.90mm.																					
690		23:28:00	Hydrate forming at choke. Increase choke size to 15.08mm.																					
691		23:30:00	17100		600		29	15.08	82.55	1500	70.0	-6	520.947	954.497										
692		23:38:00	Hydrate still in choke. Increase size to 17.46mm.																					
693	1988/07/22	00:00:00	14700		625		35	17.46	82.55	1500	69.0	12	498.718	969.116						5.130	123.120	332.400	6	133000
694		00:30:00	14750		625		40	17.46	82.55	1475	68.6	17	492.176	975.448										
695		01:00:00	14750		625		45	17.46	82.55	1580	68.3	22	490.458	985.878						7.600	182.400	340.000	6	137000
696		01:30:00	14800		450		48	17.46	82.55	1500	68.9	28	485.447	985.841										
697		02:00:00	14870		480		51	17.46	82.55	1480	69.5	30	482.541	1006.924						7.480	179.520	347.480	6	135000
698		02:30:00	14920		480		54	17.46	82.55	1490	69.5	34	478.132	1018.942										
699		03:00:00	14970		200		58	17.46	82.55	1500	68.5	38	478.878	1025.822						8.800	158.400	354.080	6	138000
700		03:30:00	15020		350		60	17.46	82.55	1500	68.9	39	477.882	1035.890										
701		03:38:00	Decrease choke size to 8.00mm.																					
702		03:54:00	Change over to the adjustable choke to ensure same gas rate. Choke size 8.33mm																					
703		04:00:00	20450		300		54	8.33	82.55	400	19.5	33	140.407	1042.136						3.630	91.920	357.910	6	133000

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Job Number: GP-48-14
Customer: Ranger Oil
Well Name: Uard
Well Location: P-68-A
Formal: 68-A

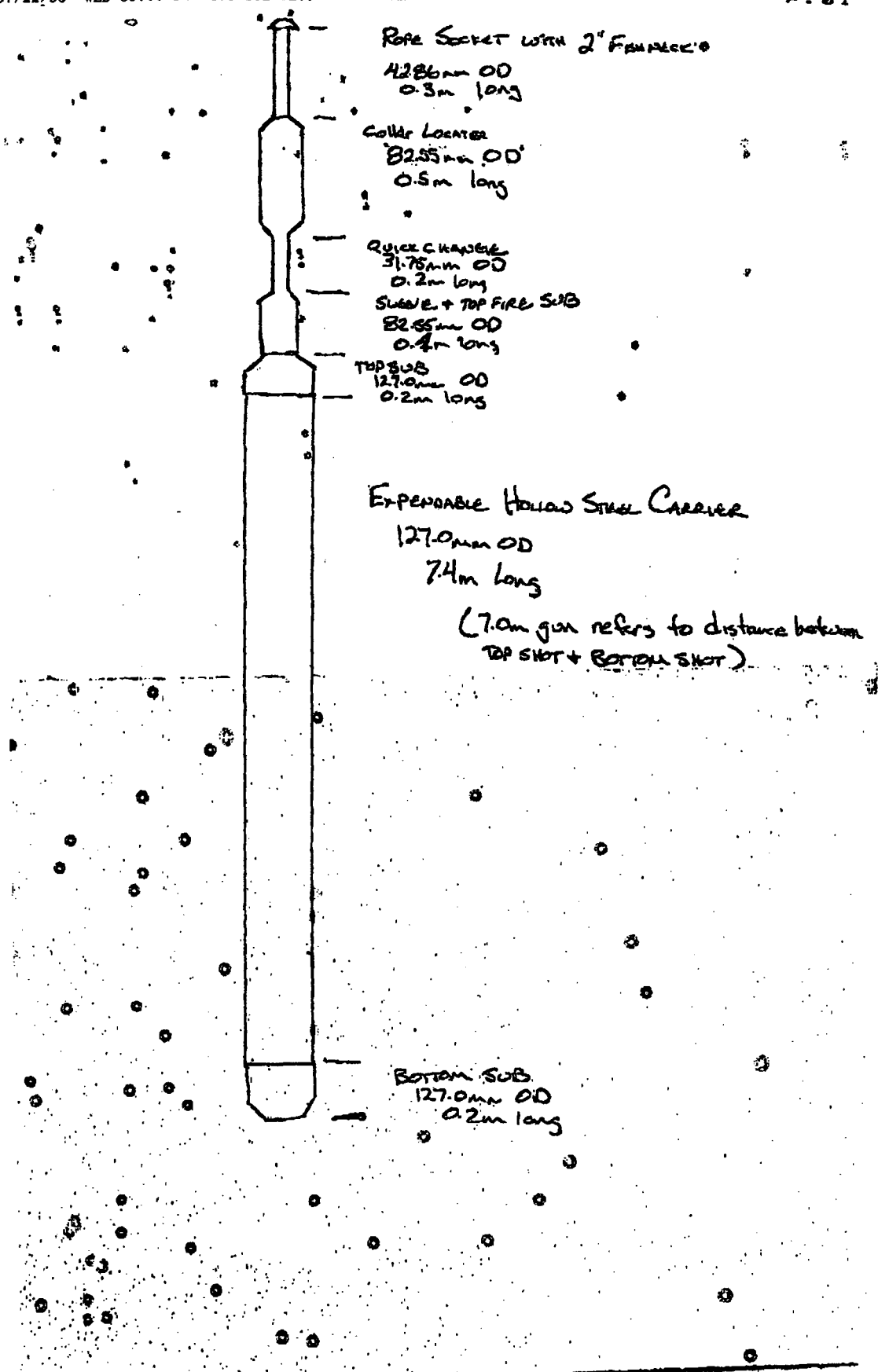
Field Notes

NEWARK

Row	Date	Ch. Tin	Tag Free	RTR pres	Cog Pres	Temp	Choke	Ort	Stat1	Dm	Temp	Gas Rate	Cum Gas	Ort2	Stat2	Ort2	Temp2	Gas Rate2	Cum Gas2	Wet	Wet Rate	Cum Wet	pH	SALINITY
704	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98
705	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98
706	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98
707	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98
708	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98
709	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98
710	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98
711	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98
712	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98	06/08/98

Page 22A

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RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P- 66- A				Date: 98-07-20		
Purpose of Job: Completion				Report #: 55		
Report From: Wayne Casler/Stan Bernier		Report To: Leroy Brown		Daily Cost Summary		
Current Operation:				Code	Item	Amount
					3324.0 m - 3334.0 m KB	
					3295.0 m - 3302.0 m KB	
					3285.0 m - 3282.0 m KB	
					3276.0 m - 3280.0 m KB	
					3280.0 m - 3272.0 m KB	
					3234.0 m - 3248.0 m KB	
					3185.0 m - 3172.0 m KB	
					3182.0 m - 3158.0 m KB	
					3134.0 m - 3148.0 m KB	
					3125.0 m - 3130.0 m KB	
					3115.0 m - 3122.0 m KB	
				Daily Costs:		\$37,808
				Previous Costs:		\$2,341,499
				Cumulative Costs:		\$2,379,274
				AFE Estimate:		\$3,331,700
Contractor: N/A				Fluid Vol. m3		
Road/Lease: Good				Total Hauled to Lease:		16.00
Weather: Clear/calm + 13° C				Total Hauled from Lease:		160.20
Contact Phone: 403-232-5340				Total in Tanks:		NIL
Zone: Nahanni				Initial Well Fluid:		Water/Standrill
Perforations: Under daily costs				Total Load Fluids:		14.50
SITP 21,440 KPa @ 0600				Non-receive. Ann. Fluids:		94.70
SICP 500 KPa @ 0600				Recovery Last 24 hrs.		0.00
Rig Hr. Nil Cum Rig Hrs.: 456.0				Recovery to Date:		201.15
AFE # E8D-0-11				Load to Recover (+New)		243.48
KB Elevation: 459.89 m						
KB. to CF: 10.35 m						
KB. to THF: 8.60 m						

TIME	OPERATION
0600	Wait on the fishing equipment.
1430	Unload the fishing equipment.
1500	Install a new ESD valve. Change out the top flange on the upper crown valve. Install a set of 101.6 mm BOP'S. Torque all the flange bolts to the API specs. Install 1 joint of 101.6 mm lubricator, change over sub, 1 set of 88.9 mm BOP'S and 4 joints of 88.9 mm lubricator c/w a pack-off.
1800	Make up a 68.0 mm 3 prong grab, 72.7 mm tubing swedge, Camco "JDC" pulling tool, set of spangs and 3.35 m of stem. Install the lubricator.
1815	Fill the lines and pressure test the flow line, change over subs and the bottom BOP'S to 1400 kPa low test and 28000 kPa high test for 10.0 minutes. Close the ESD valve and bleed off the flow line. Test the ESD to 28000 kPa for 10.0 minutes. Bleed off the pressure and function test the ESD valve. Open the bottom BOP'S and close the upper BOP'S. Pressure test the upper BOP'S to 1400 kPa low test and 28000 kPa high test. Open the top BOP'S and pressure test the lubricator and pack-off to 1400 kPa low test and 28000 kPa high test for 10.0 minutes.
1930	Ran in to 20 mcf, and tagged the fish. Worked the the three prong grapple from 20 mcf to surface 4 times, appeared to catch the fish. Pulled the tools to the top of the lubricator, 675 lbs. on the weight indicator. Closed the 101.6 mm BOP's and bled off the lubricator. Procedure meeting.
2000	Removed the 101.6 mm lubricator, and clamped the Matzline, layed down the 101.6 mm and 88.9 mm lubricators and the 88.9 mm BOP's. Installed a stub pack-off on top of the 101.6 mm BOP stack. Spliced the line and pulled 50 m of line out of the hole, reclamped and removed the splice. Wrapped approx. 20 wrps of line on the drum, pulled to string weight and removed the clamp.
2345	Started pulling out of the hole
98/07/21	
2400	Continued to pull to 300 m of line left in the hole. Closed the 101.6 mm BOP's, bled off the lubricator and lifted off BOP's, clamped the wireline, pulled 100 m from the drum and stripped on the 88.9 mm lubricator. Installed the lubricator and pressure tested with the well bore pressure. Opened the 101.6 mm BOP's and pulled the recorders to surface
0445	Closed the 101.6 mm BOP's and bled off the lubricator. Layed down the recorders and the lubricator
0545	Removed the 101.6 mm BOP and the adapter flanges, installed and torqued the wellhead cap to
0600	API specs.

Job Number: GP-98-114
 Customer: Ranger Oil
 Well Name: Lard
 Well Location: P-48-A
 Forwarder:

Field Notes



Row	Date	Chk Time	Tag Press	RTR Press	Cug Press	Temp	Choke	Orft	Stat1	DMT	Temp1	Gas Rate1	Cum Gas1	Orft2	Stat2	DMT2	Temp2	Gas Rate2	Cum Gas2	Water/hr	Well Rate	Cum Well	pH	SALINITY
519	1998/07/18	01:30:00	21670					0.00						0.00										
520		02:00:00	21685			375																		
521		02:30:00	21685			400																		
522		03:00:00	21695			400																		
523		03:30:00	21695			400																		
524		03:30:00	21695			400																		
525		03:30:00	21695			400																		
526		03:30:00	21695			400																		
527	1998/07/18	03:30:00	21695			400																		
528		03:30:00	21695			400																		
529		03:30:00	21695			400																		
530		03:30:00	21695			400																		
531		03:30:00	21695			400																		
532		03:30:00	21695			400																		
533		03:30:00	21695			400																		
534		03:30:00	21695			400																		
535		03:30:00	21695			400																		
536		03:30:00	21695			400																		
537		03:30:00	21695			400																		
538		03:30:00	21695			400																		
539	1998/07/18	19:00:00	21695			400																		
540		20:00:00	21695			400																		
541		20:30:00	21695			400																		
542		21:00:00	21695			400																		
543		21:30:00	21695			400																		
544		22:00:00	21695			400																		
545		22:30:00	21695			400																		
546		23:00:00	21695			400																		
547		23:30:00	21695			400																		
548	1998/07/19	00:00:00	21695			400																		
549		00:30:00	21695			400																		
550		01:00:00	21695			400																		
551		01:30:00	21695			400																		
552		02:00:00	21695			400																		
553		02:30:00	21695			400																		
554		03:00:00	21695			400																		
555		03:30:00	21695			400																		

Page 17A

Fast

FieldNotes

GERMAN

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Job Number: GP-88-114
Customer: Ranger Oil
Well Name: Land
Well Location: P-88-A
Formation:

Field Notes

NOVARTIS

Row	Date	Ch. Time	Tag Pres	RTR Pres	Cag Pres	Tag Pres	Temp	Choice	Cat	Subst	Dirt	Temp	Gas	Retn	Cum Gas	Out	Subst	Dirt	Temp	Gas	Retn	Cum Gas	Water	Wet Rate	Cum Well	PH	SALINITY
630	198807/26	22:30:00	21370		600			0.00								0.00											
631		23:00:00	21370		600																						
632		23:30:00	21370		600																						
633	198807/28	00:00:00	21370		600																						
634		00:30:00	21370		600																						
635		01:00:00	21370		600																						
636		01:30:00	21370		600																						
637		02:00:00	21370		600																						
638		02:30:00	21370		600																						
639		03:00:00	21370		600																						
640		03:30:00	21370		600																						
641		04:00:00	21370		600																						
642		04:30:00	21370		600																						
643		05:00:00	21370		600																						
644		05:30:00	21370		600																						
645	198807/29	06:00:00	21370		600																						
646		06:30:00	21370		600																						
647		07:00:00	21370		600																						

06:00:00 Shut in well. Bled off lubricator and rig out. Gases.
06:00:00 Shut in well head flange and cap on.
08:00:00 Function test ESD. FRI open to full close and returned to open.

Fast

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-07-19	
Purpose of Job: Completion				Report #: 54	
Report From: Wayne Casler/Stan Bernier		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Wait on ESD and tools				Code	Item
					Amount
Contractor: N/A		Fluid Vol. m3			
Road/Lease: Good		Total Hauled to Lease: 16.00			
Weather: Clear/calm + 13° C		Total Hauled from Lease: 160.20			
Contact Phone: 403-232-5340		Total in Tanks: 65.48			
Zone: Nahanni		Initial Well Fluid: Water/Standrill			
Perforations: Under daily costs		Total Load Fluids: 14.50			
SITP 21,930 KPa @ 0800		Non-receive. Ann. Fluids: 94.70			
SICP 400 KPa @ 0800		Recovery Last 24 hrs. 0.00			
Rig Hr. NA		Recovery to Date: 201.15			
Cum Rig Hrs.: 456.0		Load to Recover (+New) 243.48			
AFE # ESD-011				Daily Costs: \$41,841	
KB Elevation: 459.89 m				Previous Costs: \$2,289,827	
KB. to CF: 10.36 m				Cumulative Costs: \$2,341,468	
KB. to THF: 8.60 m				AFE Estimate: \$3,331,700	
TIME OPERATION					
0600 Monitor the tubing. pressure while waiting on 'ESD' valve and tools					
98/07/20					
2400 Monitor the tubing pressure while waiting on 'ESD' valve and tools.					
0800 Tubing pressure = 21,440 kPa					



Client: Ranger Oil
 Well: P68A
 Formation:
 District:
 Country:

Item	Depth	ID	Comment
8'	← Packoff		
8'	← 3 1/2" Lubricator		
8'	← 3 1/2" Lubricator		
8'	← 3 1/2" Lubricator		
6'	← 3 1/2" Lubricator		
8'	← Bleeder		
	← 3 1/2" Lubricator		
3 1/8" B.O.P.			
8'	← Bleeder		
	← 4" Lubricator		
4 1/16" B.O.P.			
	← W.H. Connection		

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A		Date: 98-07-18	
Purpose of Job: Completion		Report #: 53	
Report From: Wayne Gasler/Stan Bernier		Report To: Leroy Brown	
Current Operation:		Daily Cost Summary	
		Code	Item Amount
			3324.0 m - 3334.0 m KB
			3295.0 m - 3302.0 m KB
			3285.0 m - 3292.0 m KB
			3278.0 m - 3280.0 m KB
			3260.0 m - 3272.0 m KB
			3234.0 m - 3248.0 m KB
			3165.0 m - 3172.0 m KB
			3152.0 m - 3159.0 m KB
			3134.0 m - 3148.0 m KB
			3128.0 m - 3130.0 m KB
			3115.0 m - 3122.0 m KB
		Daily Costs: \$38,872	
		Previous Costs: \$2,281,195	
		Cumulative Costs: \$2,290,627	
		APE Estimate: \$3,331,700	

Contractor:	N/A	Fluid Vol. m3	Water	Oil
Road/Lease:	Good	Total Hauled to Lease:	16.00	
Weather:	Clear/calm + 13° C	Total Hauled from Lease:	180.20	
Contact Phone:	403-232-5340	Total in Tanks:	66.46	
Zone:	Nahanni	Initial Well Fluid:	Water/Standfill	
Perforations:	Under daily costs	Total Load Fluids:	14.50	
SITP 21,660 KPa @ 0600		Non-receive Ann. Fluids:	94.70	
SICP 400 KPa @ 0600		Recovery Last 24 hrs.	0.00	
Rig Hr: Nil	Cum Rig Hrs.: 458.0	Recovery to Date:	201.15	
		Lead to Recover (+New)	243.48	
APE # E8D-011		KB Elevation:	459.89 m	
		KB. to CF:	10.35 m	
		KB. to THF:	8.60 m	

TIME	OPERATION
0630	Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test.
0700	Run in the hole with a swedging tool and tag the top of the wire at 20.0 m CF.
0800	Pressure test the lubricator to 1400 kPa low test and 28000 kPa high test. Run in the hole with a 73.0 mm Alligator grapple and work the grapple down to 10.0 m CF.
0850	Pulled out of the hole and recovered 6.0 m of inner wire.
0905	Pressure test the lubricator to 1400 kPa low test and 28000 kPa high test. Run in the hole with a Alligator grapple. Tagged the wire at 10.0 m CF. Spanged the grapple down to 19.0 m CF. We pulled up and the weight indicator was fluxuating then went back to normal weight. Ran back in and worked the grapple at 19.0 m CF. Pulled out of the hole and we sheared off the running tool.
1015	Pressure test the lubricator to 1400 kPa low test and 28000 kPa high test. Run in the hole with a 50.8 mm "SB" pulling tool and latch onto the fishing neck of the grapple. Spang the fish up to 12.0 m CF. and the tool slipped off the fishing neck of the grapple.
1120	Pressure test the lubricator to 1400 kPa low test and 28000 kPa high test. Run in the hole and latch onto the fishing neck of the grapple at 12.0 m CF. Spanged the fish up to 9.0 m CF. and the pulling tool slipped off the fishing neck of the grapple.
1315	Pressure test the lubricator to 1400 kPa low test and 28000 kPa high test. Run in the hole with a 50.8 mm "SB" pulling tool. Spang up with the tool string and the pulling tool slipped off the fishing neck of the grapple. The dogs of the "SB" pulling tool were rounded.
1435	Pressure test the lubricator to 1400 kPa low test and 28000 kPa high test. Run in the hole with a Obannon positive grab overshot c/w a new fishing neck. Latch onto the fishing neck of the grapple. Spanged the fish up to 9.0 m CF. and the tools came free. Pulled out of the hole and we have lost 1.52 m of sinker bar, a set of spangs and the "SB" pulling tool. It looks like the sinker bar backed off.
1550	Pressure test the lubricator to 1400 kPa low test and 28000 kPa high test. Run in the hole with a "RJ" overshot pulling tool and latch onto the top of the sinker bar. Jar down on the tools and sheared off the "JDC" overshot on top of the Obannon grab. The outer skirt of the "JDC" pulling tool was cracked.
1730	Pressure test the lubricator to 1400 kPa low test and 28000 kPa high test. Run in the hole with a "JDC" pulling tool c/w a kunkle joint and latch onto the Obannon positive overshot. Spang the fish out of the hole. When we got to surface with the tools we could not get the bottom BOP'S to close. We cut the wire with the top crown valve. Removed the lubricator and we recovered some wire and outside tube.
1900	Install and pressure test the lubricator to 1400 kPa low test and 28000 kPa high test. Run in, hanging up in the wellhead, pulled out, recovered conductor wire from top of the master valve.
2000	Installed and tested the lubricator to 1400 kPa low test and 28000 kPa high test. hanging up in the lower BOP stack. Pulled out, damaged. Replaced the elements and guide plate. Nonward 'ESD' valve not working
98/0719	
	Order 'ESD valves and 101.6 mm lubricator. Monitor the tbg. pressure 0600

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P- 66- A				Date: 98-07-17	
Purpose of Job: Completion				Report #: 52	
Report From: Wayne Casler/Stan Bernier		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Fishing for Metz Line				Code	Item Amount
				3324.0 m - 3334.0 m	KB
				3295.0 m - 3302.0 m	KB
				3285.0 m - 3292.0 m	KB
				3276.0 m - 3280.0 m	KB
				3260.0 m - 3272.0 m	KB
				3234.0 m - 3246.0 m	KB
				3165.0 m - 3172.0 m	KB
				3152.0 m - 3159.0 m	KB
				3134.0 m - 3148.0 m	KB
				3125.0 m - 3130.0 m	KB
				3115.0 m - 3122.0 m	KB
Daily Costs:				\$55,937	
Previous Costs:				\$2,205,218	
Cumulative Costs:				\$2,261,155	
AFE Estimate:				\$3,331,700	
TIME OPERATION					
0600 Wait on fisherman and tools.					
2200 Fisherman and tools on the location, check out the tools. Discussed the fishing method.					
2400 Safety meeting.					
98/07/18					
Made Genco lubricator with 5.7 m of 88.9 mm lubricator on the bottom. Made up the tool string with a 73 mm swagging tool on the end. Rigged in a second set of wireline BOP's.					
0330 Pressure tested the lower BOP 1400 kPa and 28000 kPa 10 minutes each - good, bled off					
Second BOP would not pressure test, removed and checked the ram rubbers - ok. Replaced and closed the equalizing port. Pressure tested to 1400 kPa and 28000 kPa 10 minutes each					
good. Pressure tested the lubricator to 1400 kPa and 28000 kPa 10 minutes each, good.					

Job Number: GR-88-114
Customer: Ranger Oil
Well Name: Level
Well Location: P-68-A
Formation:

FieldNotes

NOVEMBER

Row	Date	Ch. Tin	Day Pres	RTR pres	Cog Pres	Log Temp	Choke	Orb1	Struck1	Orb1	Temp1	Gas Rate1	Cum Gas1	Orb2	Struck2	Orb2	Temp2	Gas Rate2	Cum Gas2	Water	Wet Rate	Cum Wet	pH	SALINITY	
445	1998/07/16	16:00:00	20770		2500	76	8.00	82.55	950	10.0	80	140.088	918.854	0.00							4.800	116.200	317.250	6	133000
446		16:30:00	20840		1350	74	8.00	82.55	950	9.5	58	138.832	821.519								2.820	62.880	319.870	6	135000
447		17:00:00	20870		750	70	8.00	82.55	900	12.0	48	133.085	824.840								0.100	4.800	319.870		
448		17:30:00	20890		650	67	8.00	82.55	850	12.0	40	130.817	828.004												
449		17:35:00	20900		600																				
450		17:40:00	21516		600		0.00	0.00	0	0.0	0	0.000	828.004												
451	1998/07/16	18:00:00	21800		400																				
452		18:30:00	21820		300																				
453		18:30:00	21870		300																				
454		18:30:00	21870		500																				
455		20:00:00	21870		750																				
456		20:30:00	21870		800																				
457		21:00:00	21870		800																				
458		21:30:00	21870		1000																				
459		22:00:00	21870		1300																				
460		22:30:00	21870		1200																				
461		23:00:00	21870		1300																				
462		23:30:00	21870		1400																				
463	1998/07/17	00:00:00	21830		1400																				
464		00:30:00	21830		1600																				
465		01:00:00	21830		1800																				
466		01:30:00	21830		1800																				
467		02:00:00	21830		1800																				
468		02:30:00	21810		1600																				
469		03:00:00	21800		1700																				
470		03:30:00	21800		1700																				
471		04:00:00	21800		1700																				
472		04:30:00	21800		1800																				
473		05:00:00	21800		1800																				
474		05:30:00	Open casing to bleed off slowly.																						
475		06:00:00	21890		1825																				
476	1998/07/17	06:30:00	21780		1850																				
477		06:30:00	21780		1850																				
478		06:30:00	21780		1500																				
479		07:00:00	21780		1500																				
480		07:30:00	21780		1600																				
481		08:00:00	21780		1650																				

Page 15A

Fast

Job Number: GP-98-114
Customer: Ranger Oil
Well Name: Lland
Well Location: P-85-A
Form Used:

Field Notes

FORWARD

Row	Date	Chl Time	Ting Pres	RTR Press	Gas Pressing	Temp Chokes	QGR1	Strat1	DMT1	Temp1	Gas Rate1	Cum Gas1	QGR2	Strat2	DMT2	Temp2	Gas Rate2	Cum Gas2	Watershr	Wet Rate	Cum Wet	PH	SALINITY
482	1998/07/17	08:30:00	21770		1706		0.00						0.00										
483		08:30:00	21770		1765																		
484		08:30:00	21780		1806																		
485		10:30:00	21740		1864																		
486		10:30:00	21760		1800																		
487		11:00:00	21750		1900																		
488		11:30:00	21730		1960																		
489	1998/07/17	12:00:00	21780		1870																		
490		12:30:00	21780		1870																		
491		12:31:00	21780		1870																		
492		13:00:00	21780		1000																		
493		13:30:00	21730		700																		
494		14:00:00	21730		700																		
495		14:30:00	21730		500																		
496		15:00:00	21720		400																		
497		15:30:00	21720		400																		
498		16:00:00	21720		600																		
499		16:30:00	21720		800																		
500		17:00:00	21700		1000																		
501		17:30:00	21700		1050																		
502		18:00:00	21700		1050																		
503	1998/07/17	18:00:00	21700		1050																		

Fast

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-07-16	
Purpose of Job: Completion				Report #: 51	
Report From: Wayne Casler/Stan Bernier		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Record Tubing Pressures; Wait on fishing tools				Code	Item
				3324.0 m - 3334.0 m KB	Amount
Contractor: N/A		Fluid Vol. m3		3295.0 m - 3302.0 m KB	
Road/Lease: Good		Total Hauled to Lease: 16.00		3285.0 m - 3292.0 m KB	
Weather: Clear/calm - 13° C		Total Hauled from Lease: 104.85		3276.0 m - 3280.0 m KB	
Contact Phone: 403-232-5340		Total in Tanks: 19.49		3260.0 m - 3272.0 m KB	
Zone: Nehanni		Initial Well Fluid: Water/Standrill		3234.0 m - 3248.0 m KB	
Perforations: Under daily costs		Total Load Fluids: 14.50		3165.0 m - 3172.0 m KB	
SITP flowing KPa @ 0600		Non-receive. Ann. Fluids: 94.70		3152.0 m - 3169.0 m KB	
SICP 700 KPa @ 0600		Recovery Last 24 hrs. 59.59		3134.0 m - 3148.0 m KB	
Rig Hr. Nil		Recovery to Date: 319.70		3126.0 m - 3130.0 m KB	
Cum Rig Hrs.: 458.0		Load to Recover (+New) 305.47		3115.0 m - 3122.0 m KB	
AFE # E8D-911		KB Elevation: 459.89 m		Daily Costs:	\$83,247
		KB. to CF: 10.38 m		Previous Costs:	\$2,141,971
		KB. to THF: 8.60 m		Cumulative Costs:	\$2,205,218
				AFE Estimate:	\$3,331,700

TIME

OPERATION

0600 Flowing the well and logging up with the Metz Line in 10.0 m intervals with a 10.0 min. stop.

0655 We are at 3100.0 m CF. Start to log down at 10.0 m intervals with 10.0 min. stops.

0938 We are at 3240.0 m CF. and the drive shaft u-joint twisted off the power take off that runs the light plant and the computer shut down. Picked back up to 3100.0 m CF.

1004 Start to log down at 10.0 m intervals with 10.0 min. stops. We logged down to 3347.0 m CF.

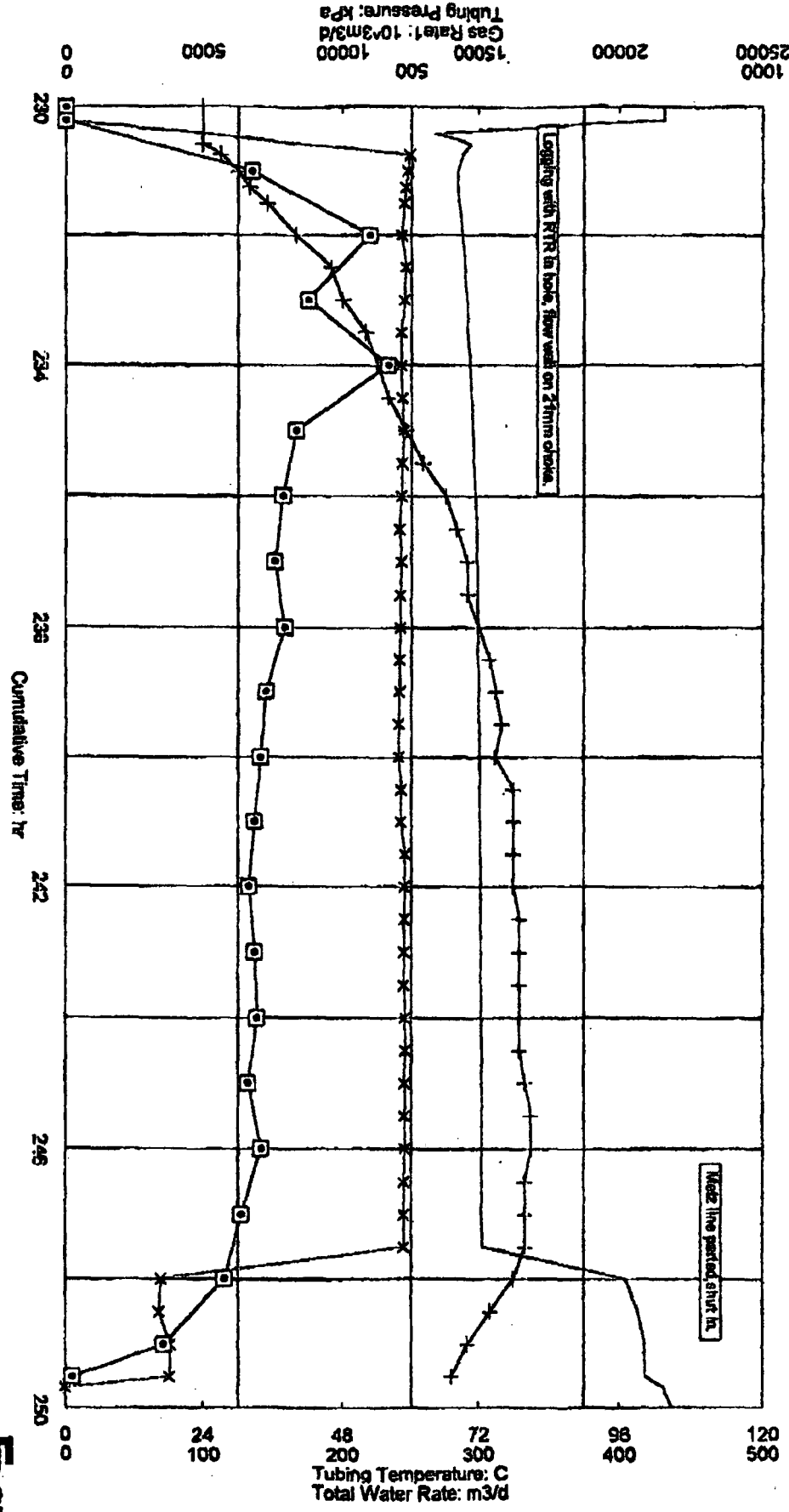
1510 Attempted to pull up to the mid point of the bottom perforations and the Metz line was stuck in the wireline pack-off. Injected oil into the injector sub and worked the Metz line.

1725 Started out of the hole with the Metz line. We pulled out of the hole to 3335.0 m CF. and the Metz line parted. Closed in the Wireline BOP'S. Bled off the lubricator. Picked up the lubricator and found that the outer tube was pulled apart and the conductor line is in the BOP'S. Cut the conductor line at the top of the BOP'S and install the night cap. Equalize the Wireline BOP'S and open same. Close the top crown valve. Open the bleed off valve on top of the night cap and bleed off the pressure above the top crown valve. Close the bottom crown valve and close the upper master valve. There is no wire in the wellhead valves.

1800 Open the upper master valve and record pressures.

98/07/17

0600 Tubing. pressure = 21,780 kPa



RANGER LIARD P-66-A

003

Fast

Field Notes

NEW

Page 14A

TS

Job Number: GP-98-114
Customer: Ranger Oil
Wellname: Land
Well Location: P-56-A
Formation:

FieldNotes



Row	Date	Ch. Time	Top Press	RTIR Press	Gas Press	Top Temp	Choke	QRT	Stroke	QRT	Temp	Gas Rate	Cum Gas	QRT	Stroke	QRT	Temp	Gas Rate	Cum Gas	Water	Wet Rate	Cum Wet	pH	SALINITY
446	08/06/98	16:00:00	202.10		2500	78	0.00	82.55	950	10.0	80	140.050	318.804	0.00						4.800	115.200	317.250	6	139000
447	08/06/98	16:30:00	208.40		1350	74	0.00	82.65	950	9.5	80	138.932	327.879							2.920	82.890	319.879	8	135000
448	08/06/98	17:00:00	209.70		750	70	0.00	82.65	900	12.0	40	153.083	324.440							0.100	4.800	318.879		
449	08/06/98	17:30:00	208.80		650	67	0.00	82.55	450	12.0	40	160.617	328.004											
450	08/06/98	17:30:00	215.10		900		0.00	0.00	0	0.0	0	0.000	328.004											
451	08/06/98	18:00:00	216.00		400																			
452	08/06/98	18:30:00	216.20		300																			
453	08/06/98	18:30:00	216.70		300																			
454	08/06/98	18:30:00	216.70		500																			
455	08/06/98	20:00:00	216.70		750																			
456	08/06/98	20:30:00	216.70		800																			
457	08/06/98	21:00:00	216.70		800																			
458	08/06/98	21:30:00	216.70		1000																			
459	08/06/98	21:30:00	216.70		1100																			
460	08/06/98	22:30:00	216.70		1200																			
461	08/06/98	23:00:00	216.70		1300																			
462	08/06/98	23:30:00	216.70		1400																			
463	08/06/98	00:00:00	216.50		1400																			
464	08/06/98	00:30:00	216.50		1400																			
465	08/06/98	01:00:00	216.50		1500																			
466	08/06/98	01:30:00	216.50		1600																			
467	08/06/98	02:00:00	216.10		1600																			
468	08/06/98	02:30:00	216.00		1700																			
469	08/06/98	03:00:00	216.00		1700																			
470	08/06/98	04:00:00	216.00		1750																			
471	08/06/98	04:30:00	216.00		1800																			
472	08/06/98	05:00:00	216.00		1900																			
473	08/06/98	05:30:00	216.00		1900																			
474	08/06/98	06:00:00	216.00		1925																			
475	08/06/98	06:30:00	217.80		1650																			
476	08/06/98	06:00:00	217.80		1650																			
477	08/06/98	06:00:00	217.80		1650																			

Fast

07/17/98 FRI 08:44 FAX 403 232 5200
JUL-16-98 THU 17:36 WAYNE CASLER

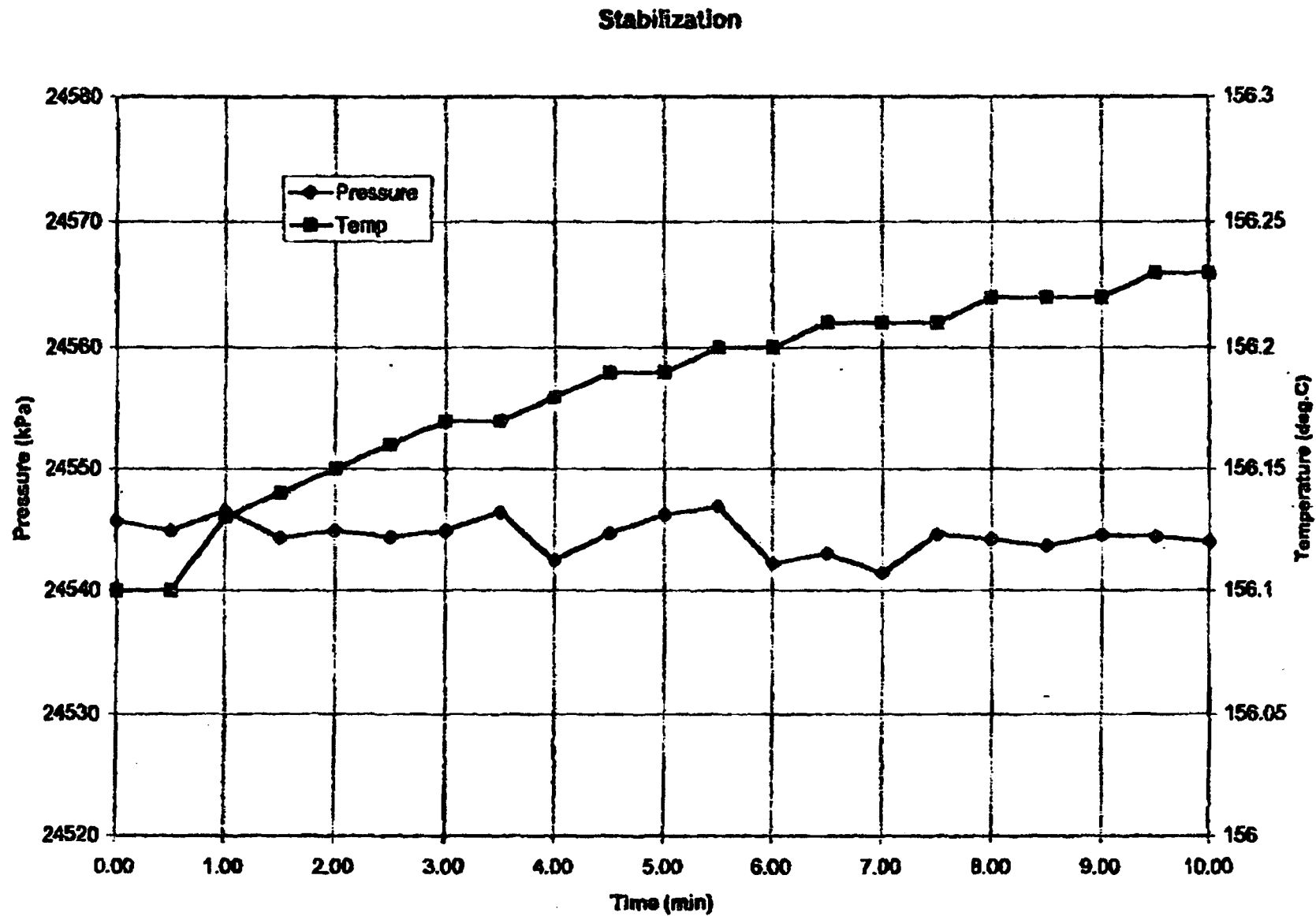
P. 006
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JUL-17-1998 08:46

403 232 5200

99%

P.06



RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-07-15	
Purpose of Job: Completion				Report #: 50	
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Running gradient while flowing the well				Code	Amount
				3324.0 m - 3334.0 m KB	
				3305.0 m - 3302.0 m KB	
				3285.0 m - 3282.0 m KB	
				3276.0 m - 3280.0 m KB	
				3260.0 m - 3272.0 m KB	
				3234.0 m - 3248.0 m KB	
				3185.0 m - 3172.0 m KB	
				3152.0 m - 3159.0 m KB	
				3134.0 m - 3148.0 m KB	
				3125.0 m - 3130.0 m KB	
				3115.0 m - 3122.0 m KB	
				Daily Costs:	\$36,212
				Previous Costs:	\$2,105,769
				Cummulative Costs:	\$2,141,971
				AFE Estimate:	\$3,331,700

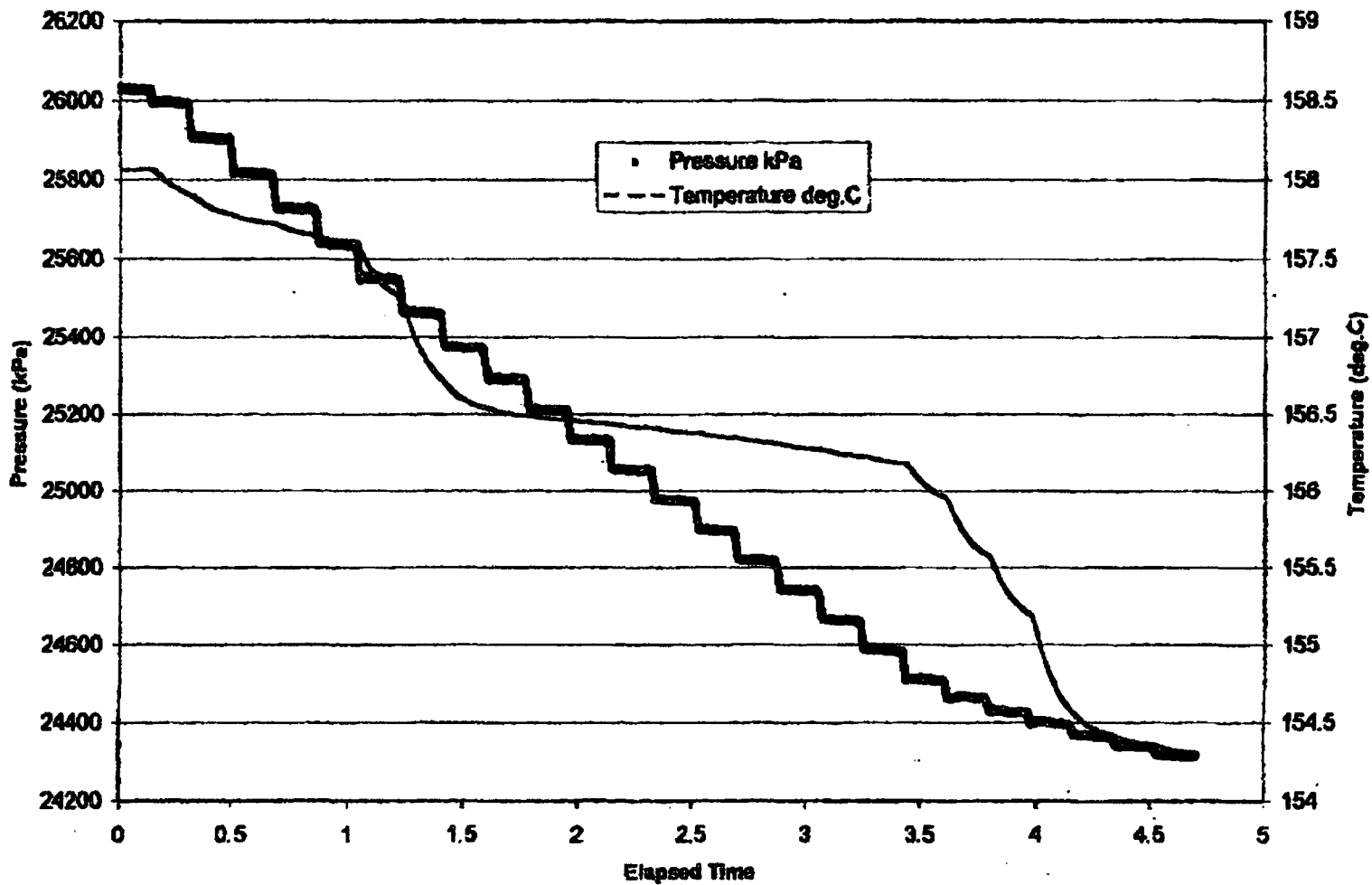
Contractor: N/A		Fluid Vol. m3		Water	Oil
Road/Lease: Good		Total Hauled to Lease:		16.00	
Weather: Clear/calm - 13° C		Total Hauled from Lease:		160.20	
Contact Phone: 403-232-5340		Total in Tanks:		65.48	
Zone: Nahanni		Initial Well Fluid:		Water/Standfill	
Perforations: Under daily costs		Total Load Fluids:		14.60	
SITP flowing KPa @ 0600		Non-recov. Ann. Fluids:		94.70	
SICP 700 KPa @ 0600		Recovery Last 24 hrs.		58.83	
Rig Hr: Nil		Recovery to Date:		201.15	
Cum Rig Hrs.: 458.0		Load to Recover (+New)		243.48	
AFE # E8D-011		KB Elevation:		459.89 m	
		KB. to CF:		10.35 m	
		KB. to THF:		8.60 m	

TIME	OPERATION
0615	Close the master valve and bleed off the lubricator.
0730	Install the lubricator and pressure test same to 1400 kPa low test and 35000 kPa high test for 10.0 min.
0900	Open the master valve and run in the hole with the perforating gun. We correlated the gun run and went down to 3350.0 m KB.
0920	Check the wellhead for pressure. The tubing pressure is 21585 kPa. Open the well through a 13.49 mm choke. Logged the gun into position and attempted to perforate from 3324.0 m KB. to 3329.0 m KB. 13 SPM, 9 gram charges with a Spiral Sho-Gun perforating strip.
0935	Shut in the well.
0950	Pull out of the hole with the perforating gun. We had no problems coming back into the 73.0 mm tail pipe.
1115	Close the master valve and bleed off the lubricator. When we removed the gun from the lubricator we found that only the top two charges went off. The primicord was cut below the second charge.
1130	Lay down the lubricator and build a new perforating gun.
1300	Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test for 10.0 min.
1330	Run in the hole with the perforating gun. We correlated the gun run and dropped down to 3350.0 m KB.
1435	Check the wellhead for pressure. The tubing pressure is 21470 kPa. Open the well on a 13.49 mm choke. Logged the gun into position and perforated with a Spiral Sho-Gun with 13.0 SPM, 9 gram charges.
1445	Shut in the well. We had 17890 kPa on the tubing.
1500	Pull out of the hole with the perforating gun. We had no problems going into the 73.0 mm tail pipe.
1600	Close the master valve. Bleed off the lubricator. All the charges fired. Rig out Computalog.
1700	Rig up Genco Wireline.
1830	Install the Genco lubricator. Pressure test the BOP'S to 1400 kPa low test and 28000 kPa high test for 10.0 min. Pressure tested the lubricator to 1400 kPa low test and 28000 kPa high test for 10.0 min.
nnnn	Run in the hole w/ real time recorder and LMR 3000' recorder in tandem to 3357 mKB - estimated fluid level - by temperature change - at 3268 mKB
2000	Run in the hole w/ real time recorder and LMR 3000' recorder in tandem to 3357 mKB - estimated fluid level - by temperature change - at 3268 mKB
2220	With recorders on bottom slowly open well to testers to a setting of 21mm on hydrolic choke and flow well for 4 hours to stabilize well. Initial shut in tubing pressure at surface = 21570 kPa w/ real time recorder down hole pressure = 27265 kPa and a bottom hole temperature of 158° C
0220	After flowing well for 4 hours the flow rate stabilized at 485.0 10³m³/d the bottom hole pressure dropped to 26025 kPa - a pressure drop of 1240 kPa or 4.55% with the bottom hole temperature remaining at 158°
0600	Log hole up at 10m/min with 10 minute stops every 10 meters - 25 stops w/ last stop at 3140kPa @ 0600hrs. Gas rate at 483.752 10³m³/d w/ water production at 6.6m³/hr. H₂S by Tutwiler = 1.15% w/ CO₂ = 18% Salinity of produced water = 135000ppm w/ a pH of 6

- ① RIG UP AND RUN IN THE HOLE WITH A REAL TIME SURFACE READ OUT RECORDER PLUS A BACK UP RECORDER. LAND RECORDERS ON BOTTOM
- ② OPEN THE WELL THROUGH THE WILLAS CHOKE SET AT 21.0 MM. FLOW THE WELL UNTIL STABLE (4 HOURS) THEN LOG UP 10.0M EVERY 10.0 MIN. TILL WE REACH 3110.0M KB. LOG DOWN FROM 3110.0M KB TO 3357.0M KB (BOTTOM) EVERY 10.0M WITH 10.0 MIN. STOPS. AFTER REACHING BOTTOM LOG UP SLOWLY (5.0M/MIN.) TO 3110.0M KB THEN LOG BACK TO BOTTOM (5.0M/MIN.)
- ③ CUT BACK THE RATE TO $142.0 \text{ m}^3/\text{d}$. FLOW THE WELL UNTIL STABLE (4 HOURS) THEN LOG UP 10.0M WITH 10.0 MIN. STOPS UNTIL WE REACH 3110.0M KB. LOG DOWN FROM 3110.0M KB TO 3357.0M KB (BOTTOM) EVERY 10.0M WITH 10.0 MIN. STOPS. AFTER REACHING BOTTOM LOG UP SLOWLY (5.0M/MIN.) TO 3110.0M KB THEN LOG BACK TO BOTTOM (5.0M/MIN.)
- ④ OPEN THE WELL UP TO $284.0 \text{ m}^3/\text{d}$. FLOW THE WELL UNTIL STABLE (4 HOURS) THEN LOG UP 10.0M WITH 10.0 MIN. STOPS UNTIL WE REACH 3110.0M KB. LOG DOWN FROM 3110.0M KB TO 3357.0M KB (BOTTOM). AFTER REACHING BOTTOM LOG UP SLOWLY (5.0M/MIN.) TO 3110.0M KB. THEN LOG BACK TO BOTTOM (5.0M/MIN.)
- ⑤ OPEN THE WELL UP TO $500.0 \text{ m}^3/\text{d}$. FLOW THE WELL UNTIL STABLE (4 HOURS) THEN LOG UP 10.0M WITH 10.0 MIN. STOPS UNTIL WE REACH 3110.0M KB. LOG DOWN FROM 3110.0M KB TO 3357.0M KB (BOTTOM) EVERY 10.0M WITH 10.0 MIN. STOPS. AFTER REACHING BOTTOM LOG UP SLOWLY (5.0M/MIN.) TO 3110.0M KB. THEN LOG BACK TO BOTTOM (5.0M/MIN.)

Flowing Gradient Up-Pass

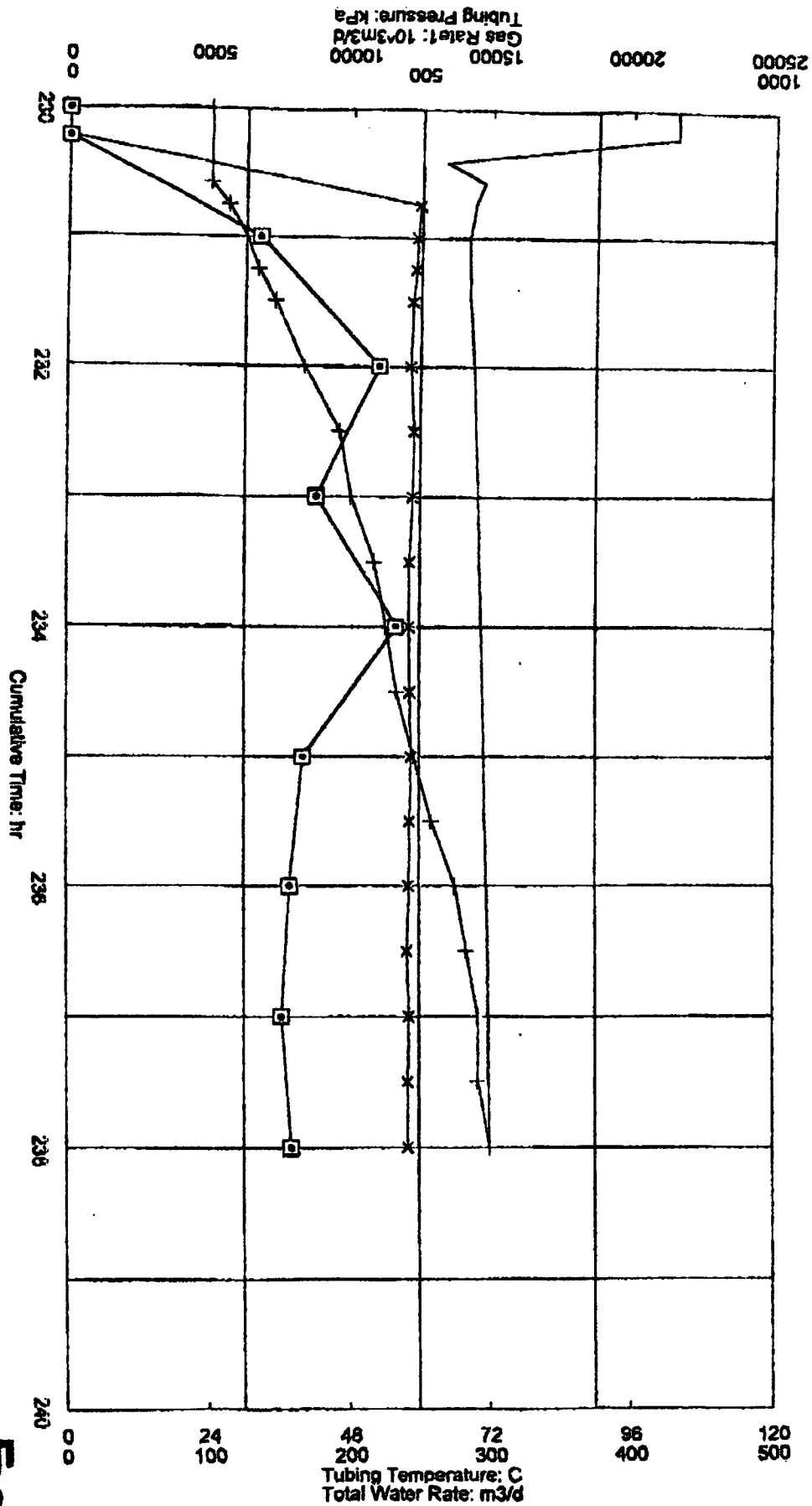
Rate = 480 e3m3/d



90-P
JUL-16-1998 08:40

ERTSAC ENYAM 21:7
403 232 5200

NHL 86-91-TNR
94%



Fast

NOTED

FieldNotes

CRASH

59

Job Number: GP-98-114
Customer: Ranger Oil
Well Name: Lund
Well Location: P-85-A
Formation:

Field Notes

Normal

Row	Date	Ch Tin	Thg Pres	RTR pres	Cog Pres	Thg Choke	Offt	Stuck1	Diff	Temp1	Gas Ratio	Can Gas1	Chr2	Stuck2	Diff2	Temp2	Gas Ratio2	Can Gas2	Water	Well Rate	Can Well	pH	SALINITY
371	1998/07/15	16:15:00	21548		700		0.00						0.00										
372		16:30:00	21550		700																		
373		17:00:00	21580		800																		
374		17:15:00	Compassing at surface. Gears did not fix. Rig up a new set.																				
375		17:30:00	21575		850																		
376	1998/07/15	12:00:00	21585		875																		
377		12:30:00	21590		950																		
378		13:00:00	21590		1000																		
379		13:30:00	21520		1050																		
380		13:50:00	Open in hole with new set of vent. bits.																				
381		14:00:00	21470		1150																		
382		14:30:00	21470		1200																		
383		14:38:00	Gun on bottom. Open well to flow in a 1.5 dpm (3400-4).																				
384		14:41:00	17750	24	1200		13.48																
385		14:48:00	17600	25	1250		13.48																
386		14:47:00	14470		1300																		
387		14:57:00	21510		1350																		
388		15:02:00	21530		1350																		
389		15:16:00	21580		1350																		
390		15:30:00	21580		1350																		
391		15:45:00	21580		1400																		
392		16:00:00	21585		1400																		
393		16:30:00	Compassing at surface. Rig them off and rig on Genco.																				
394	1998/07/15	18:00:00	Genco rigged onto wellhead and sent to pressure test.																				
395		20:00:00	Genco run in hole with recorders.																				
396		22:10:00	Pressure up to choke and record opening pressures.																				
397		22:13:00	21570		1850		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
398		22:15:00	Start to bleed off casing slowly.																				
399		22:20:00	Open well to flow in a 21.0 dpm choke.																				
400		22:25:00	13350		1700																		
401		22:30:00	14050		1850																		
402		22:30:00	14050		1850																		
403		22:30:00	Wellhead in service with a 52.5 dpm choke slide.																				
404		22:35:00	14700		1900		24																
405		22:35:00	Well to surface.																				
406	1998/07/15	22:45:00	14400		1450		27	21.00	02.55	1450	98.0	5	497.461	572.321	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
407		23:00:00	14300		1450		30	21.00	02.55	1450	98.0	6	494.520	577.480	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Fast

0008

RANGER OIL

07/16/98 THU 08:40 FAX 403 232 5200

Job Number: GP-88-114
 Customer: Ranger Oil
 Wellname: Lard
 Well Location: P-88-A
 Formation:

FieldNobs

NORWARD

Row	Date	Clk Tim	Tbg Pres	RTR pres	Cog Pres	Tbg Temp	Choke	Orfi	Static1	Diff1	Temp1	Gas Rate1	Cum Gas1	Orfi2	Static2	Diff2	Temp2	Gas Rate2	Cum Gas2	Water/hr	Wat Rate	Cum Wat	pH	SALINITY
	yy/mm/dd	clock	kPa	kPa	kPa	C	mm	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	mm	kPa	kPa	C	10 ³ m3/d	10 ³ m3	m3	m3/d	m3		ppm
408	1998/07/15	23:15:00	14220		1450	32	21.00	82.55	1450	69.0	10	482.591	582329	0.00	0	0.0	0	0.000	0.000					
409		23:30:00	14250		1450	35	21.00	82.55	1450	69.5	12	488.882	587741	0.00	0	0.0	0	0.000	0.000					
410	1998/07/16	00:00:00	14390		1450	40	21.00	82.55	1450	69.0	17	488.036	597896	0.00	0	0.0	0	0.000	0.000	9.160	218.840	218.880	6	133000
411		00:30:00	14465		1300	48	21.00	82.55	1500	69.5	23	481.173	608075	0.00	0	0.0	0	0.000	0.000					
412		01:00:00	14550		1000	48	21.00	82.55	1500	70.0	26	488.360	618289	0.00	0	0.0	0	0.000	0.000	7.200	175.200	224.280	6	136000
413		01:30:00	14600		700	52	21.00	82.55	1500	69.9	30	486.482	628444	0.00	0	0.0	0	0.000	0.000					
414		02:00:00	14680		550	54	21.00	82.55	1500	70.5	33	485.008	638553	0.00	0	0.0	0	0.000	0.000	9.700	232.800	233.980	6	133000
415		02:25:00	Genco starts to do production logging																					
416		02:30:00	128 by Lardwell = 1.150%, CO2 = 16%																					
417		02:30:00	14735		425	58	21.00	82.55	1525	70.5	38	488.272	648871	0.00	0	0.0	0	0.000	0.000					
418		03:00:00	14795		300	69	21.00	82.55	1550	70.5	38	488.352	658823	0.00	0	0.0	0	0.000	0.000	6.940	166.560	240.820	6	133000
419		03:30:00	14820		200	62	21.00	82.55	1560	70.7	41	488.530	668978	0.00	0	0.0	0	0.000	0.000					
420		04:00:00	14880		400	68	21.00	82.55	1560	71.0	44	485.088	678099	0.00	0	0.0	0	0.000	0.000	6.550	157.200	247.470	6	133000
421		04:30:00	14940		450	68	21.00	82.55	1560	71.0	47	482.842	688180	0.00	0	0.0	0	0.000	0.000					
422		05:00:00	14955		550	70	21.00	82.55	1560	72.0	48	485.263	698262	0.00	0	0.0	0	0.000	0.000	6.310	151.440	253.780	6	133000
423		05:30:00	14975		600	70	21.00	82.55	1550	72.5	52	483.752	708388	0.00	0	0.0	0	0.000	0.000					
424	1998/07/16	06:00:00	14975		700	72	21.00	82.55	1560	72.5	52	483.752	718434	0.00	0	0.0	0	0.000	0.000	6.600	158.400	260.380	6	136000

Fast

Job Number: GR-00-114
Customer: Ranger Oil
Wellname: Lind
Well Location: P-00-A
Formation:

FieldNotes

[illegible]

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-07-14	
Purpose of Job: Completion				Report #: 49	
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Laying down spent spent perforating gun assembly				Code	Item
				3924.0 m - 3334.0 m KB	
				3295.0 m - 3302.0 m KB	
				3285.0 m - 3282.0 m KB	
				3278.0 m - 3280.0 m KB	
				3260.0 m - 3272.0 m KB	
				3234.0 m - 3248.0 m KB	
				3165.0 m - 3172.0 m KB	
				3152.0 m - 3159.0 m KB	
				3134.0 m - 3148.0 m KB	
				3125.0 m - 3130.0 m KB	
				3115.0 m - 3122.0 m KB	
				Daily Costs:	\$50.378
				Previous Costs:	\$2,058.581
				Cummulative Costs:	\$2,108.959
				AFE Estimate:	\$3,331.700
Contractor: N/A		Fluid Vol. m3		Water	Oil
Road/Lease: Good		Total Hauled to Lease:		16.00	
Weather: Clear/calm + 10° C		Total Hauled from Lease:		26.54	
Contact Phone: 403-232-5340		Total in Tanks:		68.53	
Zone: Nahanni		Initial Well Fluid:		Water/Standrill	
Perforations: Under daily costs		Total Load Fluids:		14.50	
SITP KPa @ 0800 21590		Non-recov. Ann. Fluids:		94.70	
SICP KPa @ 0600 550		Recovery Last 24 hrs.		1.77	
Rig Hr: Nil		Recovery to Date:		202.92	
Cum Rig Hrs.: 456.0		Load to Recover (+New)		188.42	
AFE # E8D-011		KB Elevation: 459.89 m			
		KB. to CF: 10.35 m			
		KB. to THF: 8.80 m			
TIME	OPERATION				
0830	The final bottom hole pressure was 26466 kPa and the bottom hole Temperature was 151.3° C.				
0837	Pull out of the hole with the Real Time Recorders.				
0855	Start to inject methanol with the Norwood Textstream pump.				
0910	Close the master valve and bleed off the lubricator and recover the Real Time Recorders.				
0930	Change out the Metzline for a slick line.				
1030	Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test for 10.0 min.				
1100	Bleed off the test line.				
1110	Open the master valve. Run in the hole with a Otis "GS" slimline pulling tool and latch onto the recorders at 3072.0 m CF. Pull out of the hole with the recorders.				
1230	Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test for 10.0 min.				
1300	Open the top master valve and run in the hole with a 48.3 mm gauge ring. We hit an obstruction at 3347.0 m CF. We spanged down on the obstruction and it would not move.				
1340	Pull out of the hole with the gauge ring. We pulled from 500 - 700 lbs. over string weight getting up into the bottom of the tail pipe. We pulled 300 - 500 lbs. over string weight from the bottom of the tail pipe to 2300.0 m GL. then we pulled out of the hole with normal overpull on the Wireline.				
1445	Close the master valve. Rig out the lubricator.				
1500	Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test for 10.0 min.				
1520	Open the wellhead. Run in the hole for a gradient with 10.0 min. stops at surface, 1000.0 m, 1500.0 m, 2000.0 m, 2500.0 m, 3000.0 m, 3080.0 m, 3100.0 m, 3120.0 m, 3140.0 m, 3160.0 m, 3180.0 m, 3200.0 m, 3210.0 m, 3220.0 m, 3240.0 m, 3260.0 m, 3280.0 m, 3300.0 m, 3320.0 m, 3340.0 m, 3347.0 m CF. Pulled out of the hole, broke down-loaded recorder data at surface to confirm recovery. Rig down Genco				
2045	Hold pre-job safety/job procedure meeting				
2100	Rigged up Computalog and pressure tested the BOP'S to 1400 kPa low test and 28000 kPa high test for 10.0 min each. (Changed out upper ram blocks) Picked up the lubricator and perforating gun. Pressure tested the lubricator to 1400 kPa low test and 28000 kPa high test for 10.0 min. each. Run in the hole with a Spiral through tubing gun and drop off sub. Ran in the hole to 3350.0 m KB. Opened the well to the test unit on a 21.0 mm choke. Logged the guns into position while flowing the well. We were flowing the well at 800.0 10³/m³/d. Perforated from 3329.0 m - 3334.0 m KB with 13 SPM, 9 gram charges while flowing the well. Shut in the well and waited 15.0 min. for any gun debris to fall to bottom. Pulled out of the hole with the perforating gun. We did not have any significant hole drag while pulling out of the hole.				
0600	Shut in well bleed of lubricator and lay down fired guns - all shots fired & spent guns recovered.				

Field Notes

WANTED

Page 11A

८

Job Number: GP-68-114
Customer: Ranger Oil
Well Name: Lard
Well Location: P-68-A
Formation:

Field Notes

FORWARD

Row	Date	Ch Time	Tag Free	RTT	gpm	Cog Press	Tag Temp	Choke	Ort	Stat1	Ort1	Temp1	Gas Rate1	Cum Gas1	Qaz2	Stat2	Ort2	Temp2	Gas Rate2	Cum Gas2	Wd Rate	Wd Rate	Cum Wd	pH	SALINITY
334	1998/07/14	20:00:00	21570			1400			0.00						0.00										
335		20:05:00	21570																						
336		20:20:00	21570																						
337		20:30:00	21570																						
338		21:00:00	21570																						
339	1998/07/14	21:30:00	21570																						
340	1998/07/15	02:30:00	21570																						
341		03:00:00	21570																						
342		03:05:00	21570																						
343		03:08:00	21570																						
344		03:10:00	21570																						
345		03:15:00	21570																						
346		03:20:00	21570																						
347		03:25:00	21570																						
348		03:30:00	21570																						
349		03:35:00	21570																						
350		03:40:00	21570																						
351		03:45:00	21570																						
352		03:50:00	21570																						
353		03:55:00	21570																						
354		04:00:00	21570																						
355		04:05:00	21570																						
356	1998/07/15	08:30:00	21570																						

Fast

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P- 66- A				Date: 98-07-13	
Purpose of Job: Completion				Report #: 48	
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Monitor shut in well pressures and temperatures.				Code	Item
				3334.0 m - 3334.0 m KB	Amount
				3295.0 m - 3302.0 m KB	
				3285.0 m - 3292.0 m KB	
				3275.0 m - 3280.0 m KB	
				3260.0 m - 3272.0 m KB	
				3234.0 m - 3248.0 m KB	
				3165.0 m - 3172.0 m KB	
				3152.0 m - 3168.0 m KB	
				3134.0 m - 3148.0 m KB	
				3125.0 m - 3138.0 m KB	
				3115.0 m - 3122.0 m KB	
				Daily Costs:	\$49,080
				Previous Costs:	\$2,008,493
				Cumulative Costs:	\$2,057,573
				AFE Estimate:	\$3,331,700

TIME	OPERATION
0600	Continue to monitor shut in well shut in pressures w/ real time read out recorders through metline real time read out equipment. Shut in well head pressure = 26408 kPa w/ temperature of 154.3° C 98/07/14
0600	Shut in well pressure by realtime recorders on surface read out equipment = 26463.83 kPa w/ the temperature @ 151.28° C - pressure is building 1 to 2 kPa/Hr. w/ a temperature drop of 3° C over the past 12 hours.

316	Norwood Energy Services	Supply men and equipment to test well	6817	24,700
322	Misty Holdings	Supervision	N/A	\$735
322	Pajak Engineering Ltd	Supervision	N/A	\$735
323	Beaver Enterprises	Rental of loader	N/A	\$400
323	Weatherford	Rental of manifold	0897-01	\$670
323	Buzzard	1 Wellshe trailer	N/A	\$165
323	Husky tank rentals	Tank farm	N/A	\$600
323	ICG Propane	Propane tank rental	N/A	\$10
323	Dowell Schlumberger	Supply man and a C&A pump truck	N/A	\$2,500
323	RLV Holdings Ltd	Rental of light towers and a air compressor	N/A	\$440
400	Mosat	Communications (Satellite Phone)	N/A	\$3,250
401	Knutson's First Aid	Ambulance and Paramedic	N/A	\$275
401	Patch H2S Services Ltd	Supply men and safety equipment	7411	\$1,485
401	Fire Power Oilfield	Shower Truck	6666	\$500

Fieldnotes

Job Number: GP-88-114
Customer: Ranger Oil
Well Name: Lead
Well Location: P-88-A
Form: 88-A

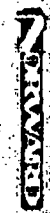


Row	Date	Ck Time	Top Press	RTF Press	Cg Press	Temp	Flow Rate	Cum Gas	Ort1	Stat1	Ort2	Stat2	Ort3	Stat3	Temp	Flow Rate	Cum Gas	Water	Wat Rate	Cum Wat	pH	Salinity
280	08/07/93	04:30:00	21740	28401	1800				0.00													
281	08/07/93	05:00:00	21740	28403	1800																	
282	08/07/93	05:30:00	21740	28406	1850																	
283	08/07/93	06:00:00	21730	28408	1850																	
284	08/07/93	06:30:00	21730	28418	1850																	
285	07/30/94	07:00:00	21728	28412	1850																	
286	07/30/94	07:30:00	21728	28422	1850																	
287	08/03/95	08:00:00	21725	28441	1700																	
288	08/03/95	08:30:00	21720	28417	1700																	
289	08/03/95	09:00:00	21716	28418	1700																	
290	08/30/95	09:30:00	21716	28422	1750																	
291	10/03/95	10:00:00	21720	28421	1750																	
292	10/03/95	10:30:00	21720	28421	1750																	
293	11/30/95	11:30:00	21720	28427	1800																	
294	12/30/95	12:00:00	21695	28418	1800																	
295	12/30/95	12:30:00	21695	28430	1800																	
296	13/30/95	13:00:00	21695	28429	1800																	
297	14/03/95	14:00:00	21695	28437	1800																	
298	14/03/95	14:30:00	21695	28435	1800																	
299	15/03/95	15:00:00	21695	28427	1875																	
300	15/30/95	15:30:00	21670	28438	1875																	
301	16/03/95	16:00:00	21670	28444	1875																	
302	16/30/95	16:30:00	21670	28437	1900																	
303	17/03/95	17:00:00	21670	28434	1900																	
304	17/30/95	17:30:00	21690	28443	1900																	
305	18/03/95	18:00:00	21690	28444	1900																	
306	18/30/95	18:30:00	21650	28446	1900																	
307	18/03/95	18:00:00	21650	28447	1900																	
308	18/30/95	18:30:00	21650	28448	1900																	
309	20/30/95	20:30:00	21650	28449	2000																	
310	21/30/95	21:30:00	21645	28450	2000																	
311	21/30/95	21:30:00	21645	28451	2000																	
312	22/30/95	22:00:00	21645	28452	2000																	
313	22/30/95	22:30:00	21645	28453	2000																	

Fast

Job Number: GP-88-114
Customer: Ranger Oil
Well Name: West
Well Location: P-88-A
Formation:

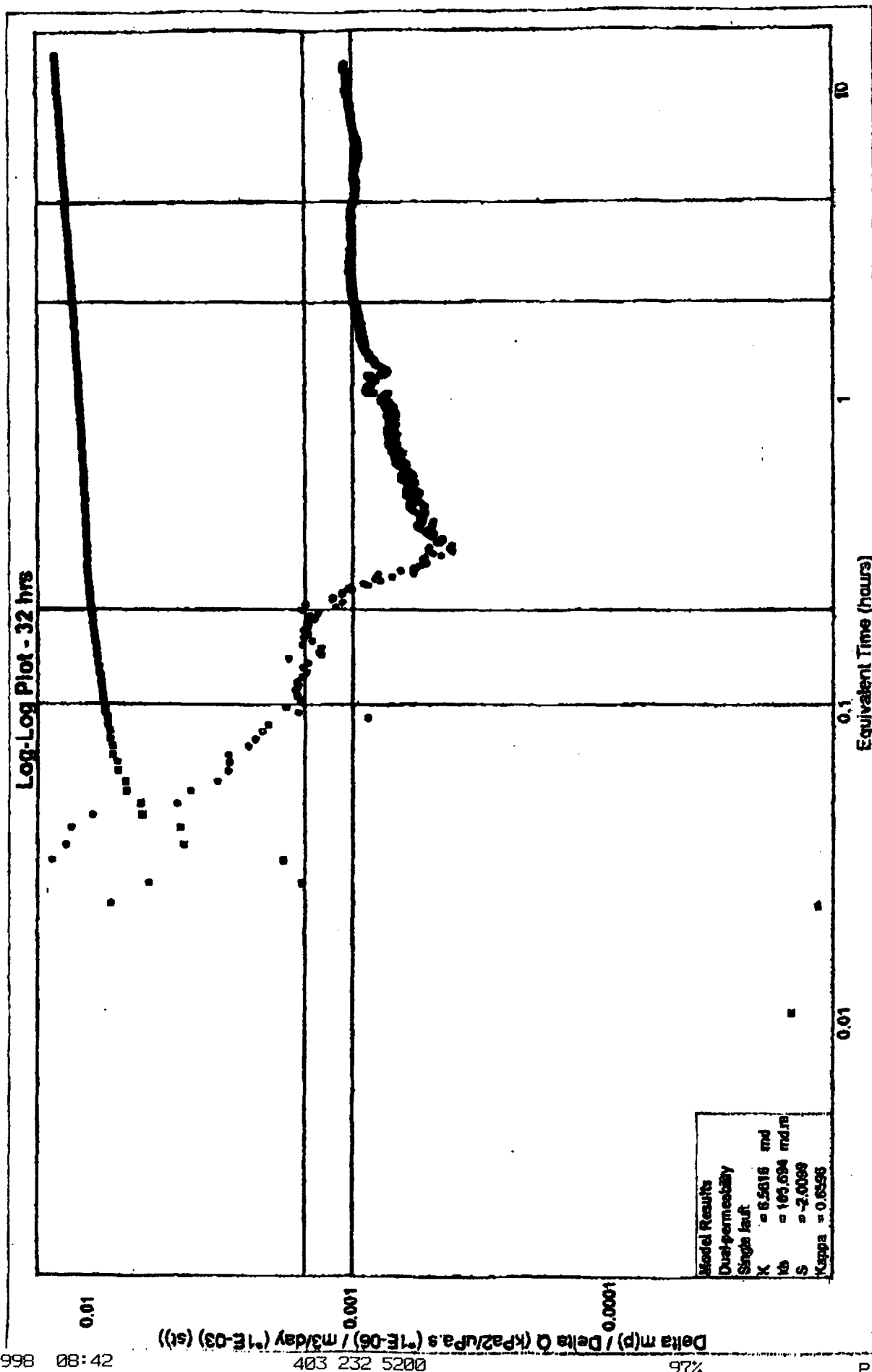
Field Notes



Row	Date	Chk Tim	Tag Pres	RTR pres	Cog Pres	Tag Temp	Chk1	Stat1	DM1	Temp Gas Rate1	Cum Gas1	Chk2	Stat2	DM2	Temp Gas Rate2	Cum Gas2	Water/	Wet Rate	Cum Wet	pH SALINITY		
W/Hr/Min	check	MPa	MPa	MPa	C	mm	mm	MPa	MPa	C	10 ⁻³ m ³ /d	10 ⁻³ m ³	mm	MPa	MPa	C	10 ⁻³ m ³ /d	10 ⁻³ m ³	m ³	mg/d	m ³	ppm
292	1998/07/13	23:00:00	21845	28454	2000		0.00															
293		23:30:00	21846	28455	2000																	
294	1998/07/14	00:00:00	21845	28455	2000																	
295		00:30:00	21845	28455	2000																	
296		01:00:00	21846	28457	2000																	
297		01:30:00	21847	28457	2000																	
298	1998/07/14	02:00:00	21845	28455	2000																	
299		02:30:00	21845	28455	2000																	
300		03:00:00	21846	28457	2000																	
301		03:30:00	21847	28457	2000																	
302		04:00:00	21847	28457	2000																	
303		04:30:00	21847	28457	2000																	
304		05:00:00	21847	28457	2000																	
305		05:30:00	21847	28457	2000																	
306		06:00:00	21847	28457	2000																	
307		06:30:00	21847	28457	2000																	
308		07:00:00	21847	28457	2000																	
309		07:30:00	21847	28457	2000																	
310		08:00:00	21847	28457	2000																	
311	1998/07/14	08:00:00	21845	28454	2000																	

Page 11A

Fast



RANGER OIL LIMITED: Fluid and Samples

[illegible]

**Adams Pearson Associates Inc.
Petroleum Engineering Consultants**

Samples

GENCO PRESSURE CONTROL LIMITED
(403) 250-3800 Calgary, AB.

PRESSURE TRANSIENT TEST DATA

Company: Ranger Oil Limited
Ranger Fort Liard

LSD: P-66-A
Bottom Gauge

Date	Time	dt(hrs)	P(kPaG)	dP	T(°C)	dT	Pt. #
	21:22:07	37.0969	26361.6	2.2	151.8	0.0	5950:
	21:39:06	37.3900	26363.8	2.3	151.8	0.0	5984:
	21:56:05	37.6631	26366.0	2.2	151.8	0.0	6018:
	22:13:04	37.9461	26368.1	2.1	151.8	0.0	6052:
	22:30:06	38.2300	26370.2	2.1	151.8	-0.1	6086:
	22:47:05	38.5131	26372.0	1.9	151.8	0.0	6120:
	23:04:04	38.7961	26374.0	2.0	151.8	0.0	6154:
	23:21:02	39.0789	26375.9	1.9	151.8	0.0	6188:
	23:38:05	39.3631	26377.8	1.9	151.8	0.0	6222:
	23:55:04	39.6461	26379.6	1.7	151.8	0.0	6256:
1998/07/13	00:12:02	39.9289	26381.4	1.9	151.7	-0.1	6290:
	00:29:01	40.2119	26383.2	1.8	151.7	0.0	6324:
	00:46:04	40.4961	26384.8	1.6	151.7	0.0	6358:
	01:03:02	40.7789	26386.5	1.7	151.7	0.0	6392:
	01:20:01	41.0619	26388.2	1.7	151.7	0.0	6426:
	01:37:00	41.3450	26389.7	1.5	151.7	-0.1	6460:
	01:54:02	41.6289	26391.3	1.6	151.7	0.0	6494:
	02:11:01	41.9119	26392.8	1.5	151.7	0.0	6528:
	02:28:00	42.1950	26394.3	1.5	151.7	0.0	6562:
	02:45:02	42.4789	26395.8	1.5	151.7	0.0	6596:
	03:02:01	42.7619	26397.2	1.4	151.7	0.0	6630:
	03:19:00	43.0450	26398.7	1.4	151.7	0.0	6664:
	03:35:59	43.3281	26400.0	1.3	151.7	0.0	6698:
	03:52:58	43.6111	26401.4	1.4	151.6	-0.1	6732:
	04:10:00	43.8950	26402.8	1.4	151.6	0.0	6766:
	04:26:59	44.1781	26404.0	1.2	151.6	0.0	6800:
	04:43:58	44.4611	26405.3	1.2	151.6	0.0	6834:
	05:00:56	44.7439	26406.6	1.3	151.6	0.0	6868:
	05:17:59	45.0281	26407.8	1.2	151.6	0.0	6902:
	05:34:58	45.3111	26408.5	0.7	151.6	0.0	6936:
	05:51:56	45.5939	26409.8	1.2	151.6	0.0	6970:
	06:08:55	45.8769	26410.9	1.1	151.6	-0.1	7004:
	06:25:58	46.1611	26412.0	1.2	151.6	0.0	7038:
	06:42:56	46.4439	26413.1	1.1	151.6	0.0	7072:
	06:59:55	46.7269	26414.2	1.1	151.6	0.0	7106:
	07:16:54	47.0100	26415.3	1.1	151.6	0.0	7140:
	07:33:56	47.2939	26416.4	1.0	151.6	0.0	7174:
	07:50:55	47.5769	26417.5	1.1	151.6	0.0	7208:
	08:07:54	47.8600	26418.5	1.0	151.6	0.0	7242:
	08:24:53	48.1431	26419.6	1.0	151.6	0.0	7276:
	08:41:55	48.4269	26420.5	1.0	151.6	0.0	7310:
	08:58:54	48.7100	26421.5	1.0	151.5	-0.1	7344:
	09:15:53	48.9931	26422.4	1.0	151.5	0.0	7378:
	09:32:52	49.2761	26423.5	1.0	151.5	0.0	7412:

Absolute pressures are converted to gauge pressures,
assuming a barometric pressure of 90 kPa.
Reporting on an interval of 1 in 34 data points.

DATA - 5

GENCO PRESSURE CONTROL LIMITED
(403) 250-3800 Calgary, AB.

PRESSURE TRANSIENT TEST DATA

Company: Ranger Oil Limited
Ranger Fort Liard

LSD: P-66-A
Bottom Gauge

Date	Time	dt(hrs)	P(kPaG)	dP	T(°C)	dT	Pt. #
	09:49:54	49.5600	26424.3	0.8	151.5	0.0	7446:
	10:06:53	49.8431	26425.3	1.0	151.5	0.0	7480:
	10:23:52	50.1261	26426.2	0.8	151.5	0.0	7514:
	10:40:50	50.4089	26427.0	0.8	151.5	0.0	7548:
	10:57:53	50.6931	26428.0	1.0	151.5	0.0	7582:
	11:14:52	50.9761	26428.7	0.8	151.5	0.0	7616:
	11:31:50	51.2589	26429.5	0.8	151.5	0.0	7650:
	11:48:49	51.5419	26430.4	0.8	151.4	-0.1	7684:
	12:05:52	51.8261	26431.3	0.9	151.4	0.0	7718:
	12:22:50	52.1089	26432.0	0.8	151.4	0.0	7752:
	12:39:49	52.3919	26432.9	0.8	151.4	0.0	7786:
	12:56:48	52.6750	26433.5	0.7	151.4	0.0	7820:
	13:13:50	52.9589	26434.3	0.8	151.4	0.0	7854:
	13:30:49	53.2419	26435.2	0.9	151.4	0.0	7888:
	13:47:48	53.5250	26436.0	0.8	151.4	0.0	7922:
	14:04:47	53.8081	26436.6	0.6	151.4	0.0	7956:
	14:21:49	54.0919	26437.3	0.7	151.4	0.0	7990:
	14:38:48	54.3750	26438.0	0.8	151.4	0.0	8024:
	14:55:47	54.6581	26438.7	0.6	151.4	0.0	8058:
	15:12:46	54.9411	26439.4	0.8	151.4	0.0	8092:
	15:29:48	55.2250	26440.0	0.6	151.4	0.0	8126:
1998/07/13	15:32:16	55.2661	26440.2	0.1	151.4	0.0	8131:

End Data Acquisition

Absolute pressures are converted to gauge pressures
assuming a barometric pressure of 90 kPa.
Reporting on an interval of 1 in 34 data points.

DATA - 6

.....

CONFIDENTIAL

To: Jik Chan, Leroy Brown	Fax: 261-7010
From: Tareq Chowdhury	Date: 07/13/98
Re: 32 hr Buildup Analysis	Pages: 7
CC: APA	

☐ Urgent
 ☒ For Review
 ☐ Please Comment
 ☐ Please Reply
 ☐ Please Recycle

I've attached the updated 32hr buildup analysis plots.

The new analysis results have not changed from the previous results:

Inner Permeability = 6.8 mD
 Outer Permeability = 9.8 mD
 Effective Skin = -3
 Extrapolated Pressure = 27029 kPa

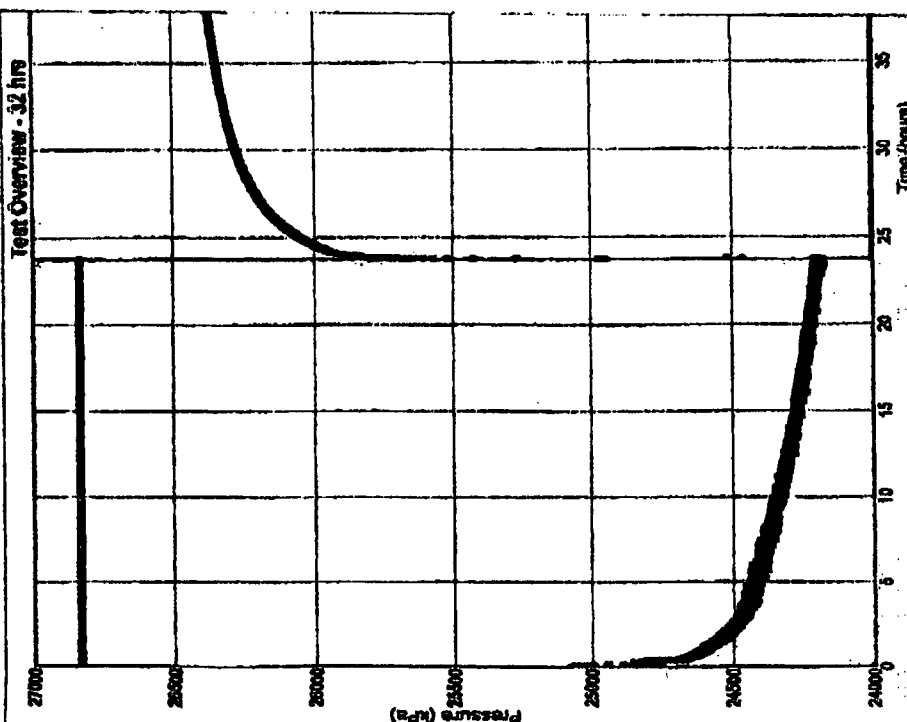
There is slight upward inflection on the derivative plot.

Also attached is the fluid samples summary sheet outlining AGAT's sample collection during the 24 hour flow period.

Also attached is the updated pressure data (pgs 5 + 6)

.....

CONFIDENTIAL



.....
facsimile transmittal

To: Jik Chan, Leroy Brown	Fax: 261-7010
From: Tareq Chowdhury	Date: 07/13/98
Re: 32 hr Buildup Analysis	Pages: 7
CC: APA	
☐ Urgent ☒ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle	

I've attached the updated 32hr buildup analysis plots.

The new analysis results have not changed from the previous results:

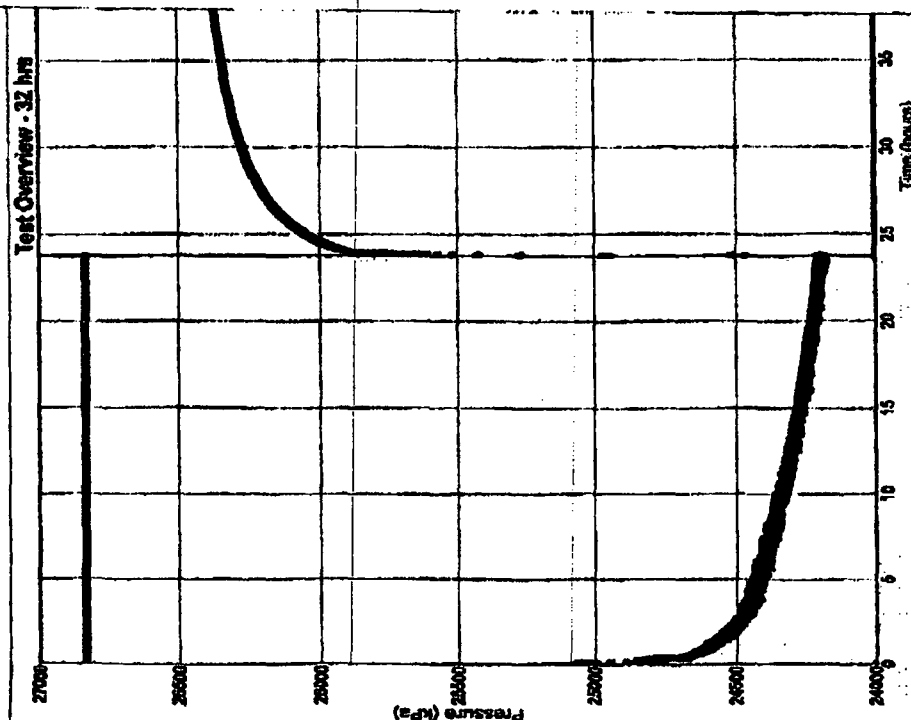
Inner Permeability = 6.6 mD
Outer Permeability = 9.9 mD
Effective Skin = -2
Extrapolated Pressure = 27028 kPa

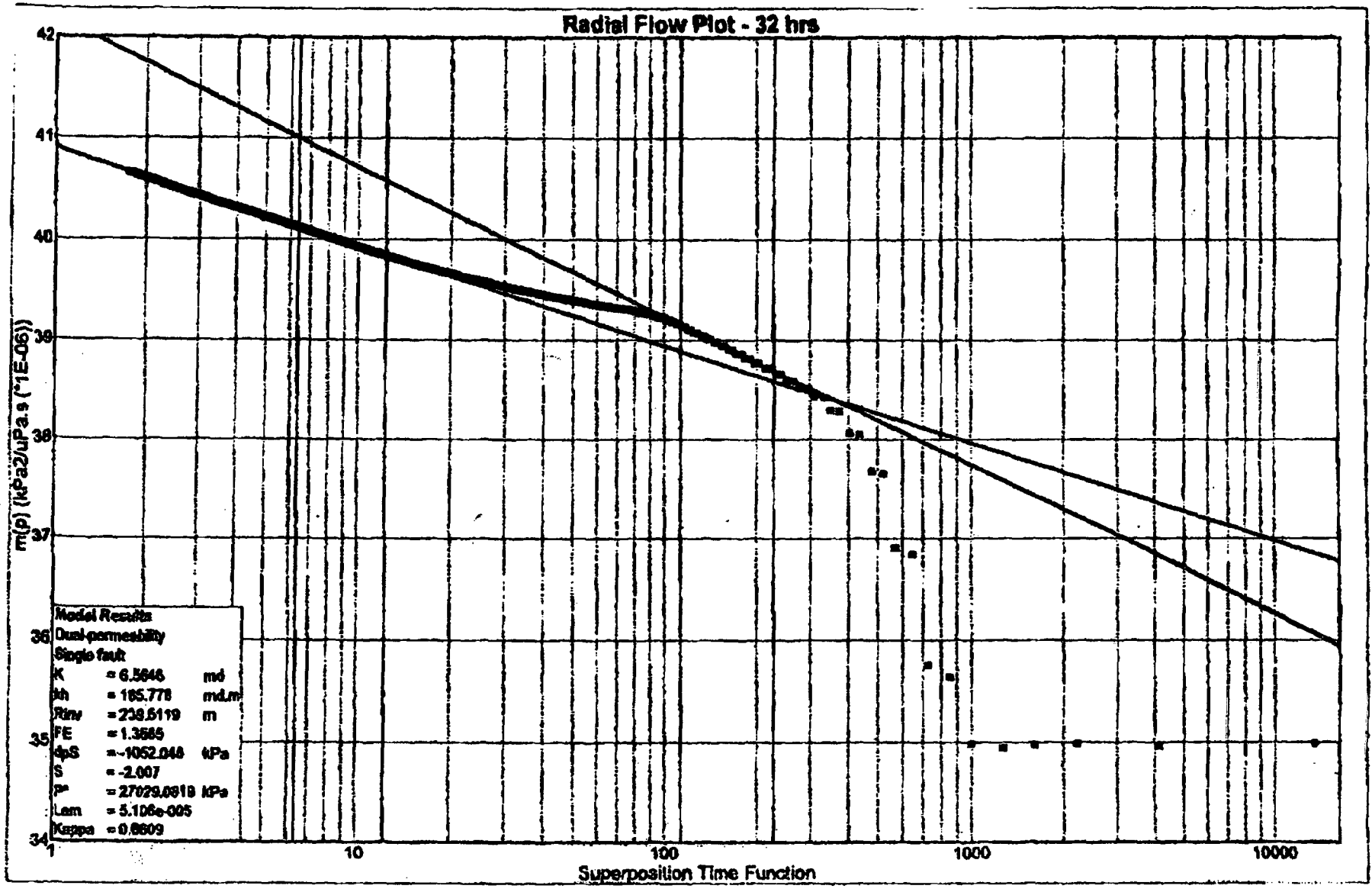
There is slight upward inflection on the derivative plot.

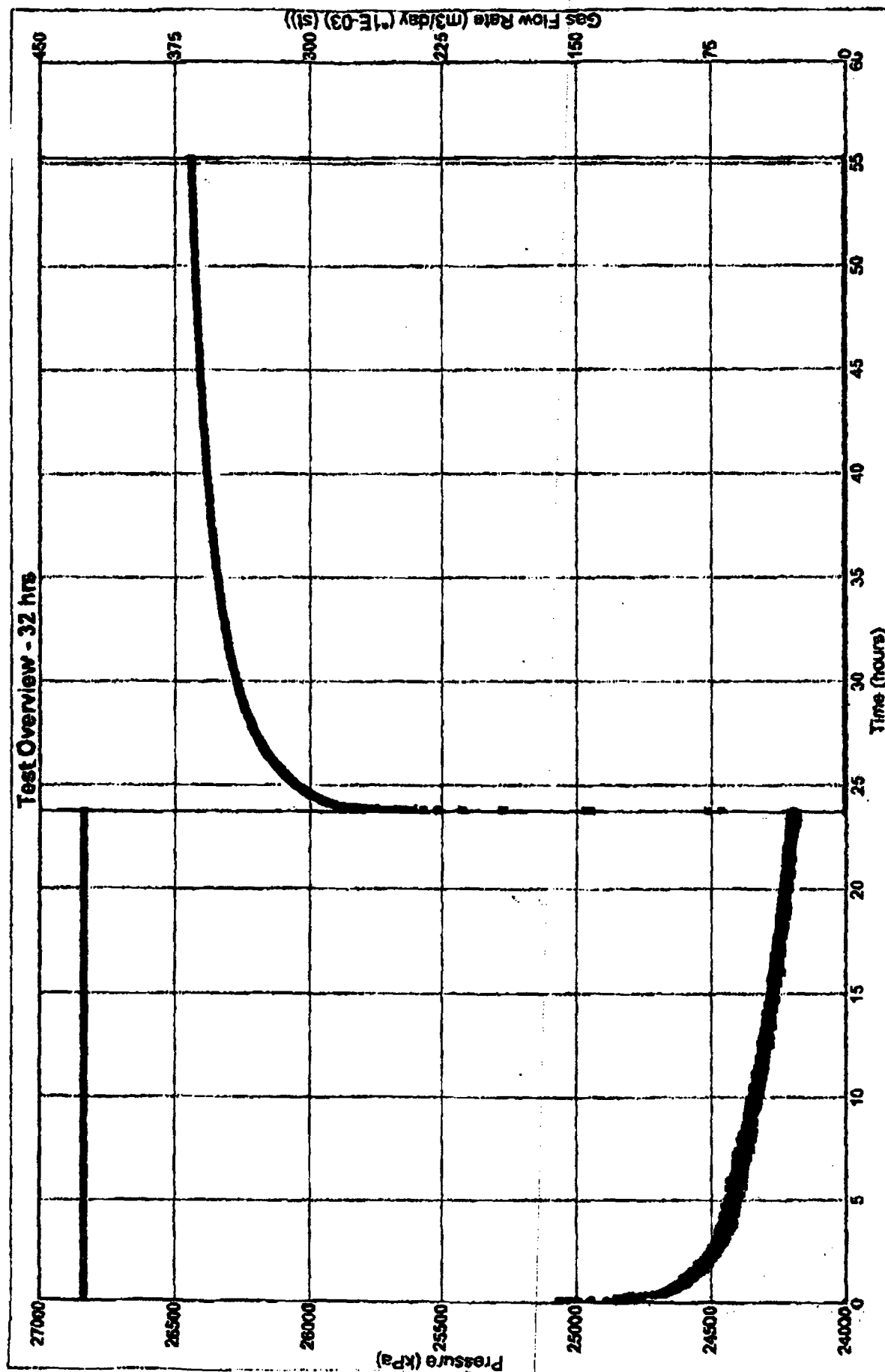
Also attached is the fluid samples summary sheet outlining AGAT's sample collection during the 24 hour flow period.

Also attached is the updated pressure data (pgs 5 & 6)

CONFIDENTIAL







RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-07-12	
Purpose of Job: Completion				Report #: 47	
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Monitor shut in well pressures & temperatures				Code	Item
					Amount
				3324.0 m - 3334.0 m KB	
				3285.0 m - 3292.0 m KB	
				3278.0 m - 3280.0 m KB	
				3260.0 m - 3272.0 m KB	
				3234.0 m - 3248.0 m KB	
				3185.0 m - 3172.0 m KB	
				3152.0 m - 3158.0 m KB	
				3134.0 m - 3148.0 m KB	
				3125.0 m - 3120.0 m KB	
				3115.0 m - 3122.0 m KB	
Daily Costs:					\$69,545
Previous Costs:					\$1,818,847
Cumulative Costs:					\$2,008,492
AFE Estimate:					\$3,331,700

Contractor: N/A		Fluid Vol. m3	Water	Oil
Road/Lease: Good		Total Hauled to Lease:	16.00	
Weather: Clear + 26°C Rain 14%		Total Hauled from Lease:	74.54	
Contact Phone: 403-232-5340		Total in Tanks:	91.30	
Zone: Nahanni		Initial Well Fluid:	Water/Standrill	
Perforations: Under daily costs		Total Load Fluids:	14.50	
SITP flow KPa @ 0800		Non-recov. Ann. Fluids:	84.70	
SICP flow KPa @ 0600		Recovery Last 24 hrs:	15.62	
Rig Hr Nil Cum Rig Hrs.: 456.0		Recovery to Date:	201.15	
		Lead to Recover (+New)	167.00	
AFE # E8D-011		KB Elevation:	459.89 m	
		KB. to CF:	10.35 m	
		KB. to THF:	8.60 m	

TIME	OPERATION
0600	Continue to flow well to Norwood test unit
0830	Shut in well and monitor build up with SRO equipment - Initial shut in pressure - 24237kPa and temperature of 154.3°C - last tutwieler reading of 1.0013% H ₂ S. - pH = 5.99 & CO ₂ = 18%
98/0713	
0600	Real time readout on surface readout pressure of 26408kPa and building + - 5kPa/Hr on average

FieldNotes

DRYLAND

Page 84

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Job Number: GP-98-114
 Customer: Ranger Oil
 Well Name: P-98-A
 Formation:

Field Notes



Row	Date	Ch. In	Thg Pres	RTR Pres	Cas Pres	Thg Temp	Chdles	Chd1	Stat1	DMT	Temp/Gas Rate1	Cum Gas1	Chd2	Stat2	DMT2	Temp/Gas Rate2	Cum Gas2	Washhr	Wet Rate	Cum Wet	pH	SALINITY
225	07/12/98	10.40.00	21800	26125	150		0.00															
226	16.50.00	21800	26135	700																		
227	11.00.00	21810	26145	200																		
228	11.30.00	21800	26175	200																		
229	12.00.00	21800	26185	250																		
230	12.30.00	21800	26225	450																		
231	13.00.00	21800	26235	600																		
232	14.00.00	21800	26255	750																		
233	14.30.00	21800	26277	800																		
234	15.00.00	21870	26297	800																		
235	16.00.00	21870	26285	875																		
236	16.30.00	21800	26303	925																		
237	17.00.00	21800	26313	880																		
238	17.30.00	21800	26317	1000																		
239	18.00.00	21845	26325	1050																		
240	18.30.00	21845	26328	1050																		
241	19.00.00	21870	26335	1100																		
242	20.00.00	21850	26344	1200																		
243	20.30.00	21815	26348	1200																		
244	21.00.00	21805	26352	1250																		
245	21.30.00	21805	26357	1300																		
246	22.00.00	21805	26361	1350																		
247	22.30.00	21805	26365	1350																		
248	23.00.00	21805	26369	1350																		
249	23.30.00	21805	26372	1350																		
250	07/13/98	00.00.00	21805	26375	1400																	
251	01.00.00	21800	26378	1450																		
252	01.30.00	21790	26382	1450																		
253	02.00.00	21785	26385	1450																		
254	02.30.00	21780	26388	1500																		
255	03.00.00	21770	26390	1500																		
256	03.30.00	21750	26393	1550																		
257	04.00.00	21750	26398	1600																		

Page 04

Fast

Job Number: GP-88-114
Customer: Ranger Oil
Well Name: Laid
Well Location: P-88-A
Formation:

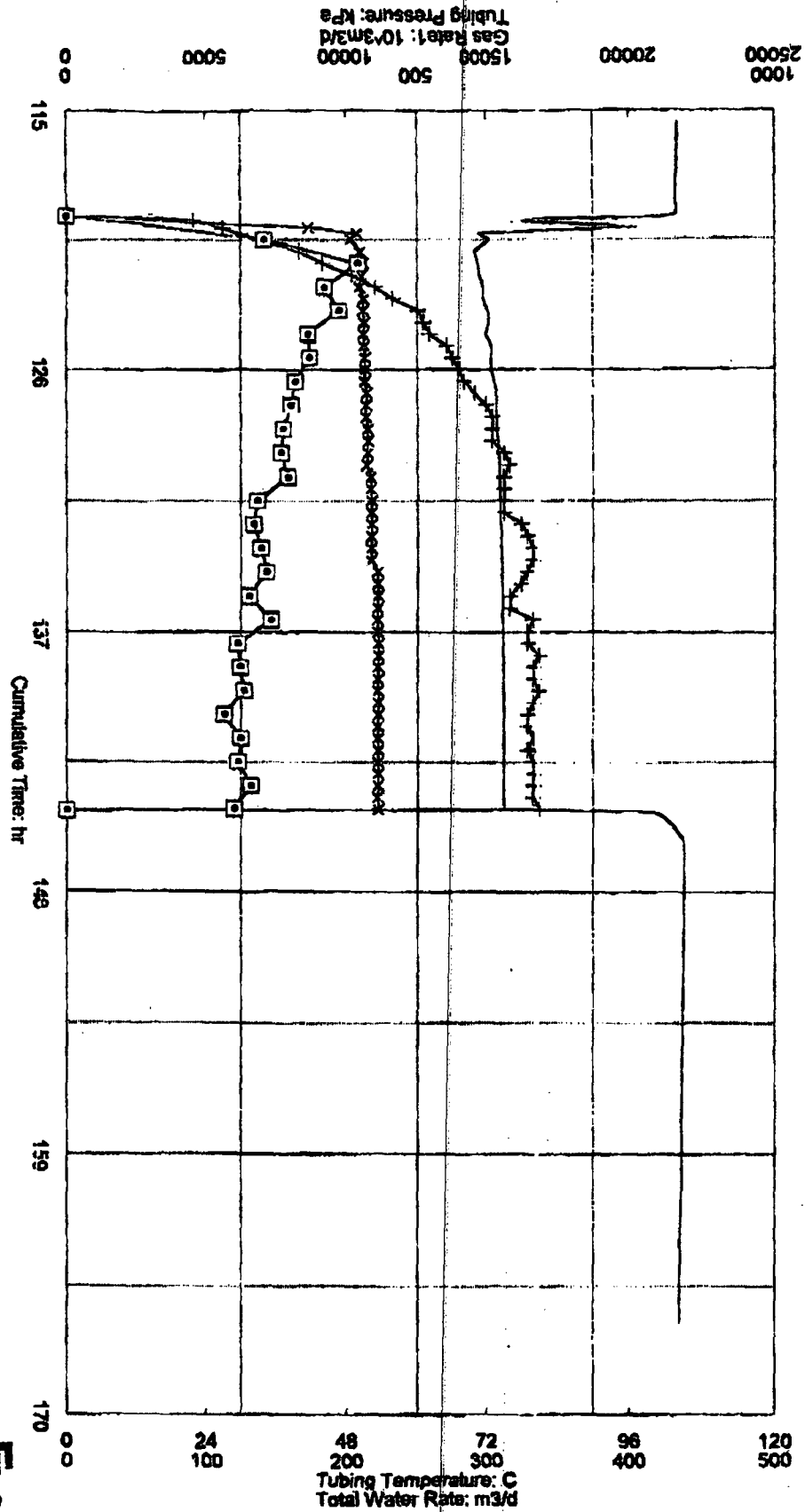
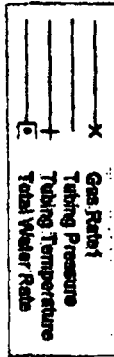
Field Notes

NOVARD

Row	Date	Chk Tm	Tag Pres	RTIR Pres	Csg Pres	Thg Temp	Choke	Ort1	Struck1	DRT	Temp/Sec Rate1	Cum Gas1	Ort2	Struck2	DR2	Temp/Sec Rate2	Cum Gas2	Waterfr	Visa Rate	Cum Weal	pH	SALINITY
	Yhr:MM:dd	chck	MPa	MPa	MPa	C	mm	mm	MPa	MPa	C	10 ³ m3/d	mm	MPa	MPa	C	10 ³ m3/d	10 ³ m3/d	m3	m3/d	m3	ppm
280	08/07/98	04:30:00	21740	28401	1000			0.00					0.00									
281	08/08/98	05:00:00	21740	28403	1000																	
282	08/09/98	05:30:00	21740	28405	1000																	
283	08/07/98	08:00:00	21730	28408	1000																	

Page 10A

Fast



RANGER LIARD P-66-A

NEW

Fast

RANGER OIL LIMITED

WELL COMPLETION REPORT

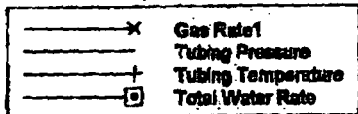
Well Name: Ranger Fort Liard P-86-A				Date: 98-07-11	
Purpose of Job: Completion				Report #: 46	
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Flow test well through test unit				Code	Item
				3324.0 m - 3334.0 m KB	Amount
				3285.0 m - 3302.0 m KB	
				3285.0 m - 3282.0 m KB	
				3276.0 m - 3280.0 m KB	
				3280.0 m - 3272.0 m KB	
				3234.0 m - 3248.0 m KB	
				3165.0 m - 3172.0 m KB	
				3152.0 m - 3159.0 m KB	
				3134.0 m - 3148.0 m KB	
				3125.0 m - 3130.0 m KB	
				3115.0 m - 3122.0 m KB	
Daily Costs:					\$39,799
Previous Costs:					\$1,880,051
Cumulative Costs:					\$1,919,850
AFE Estimate:					\$3,331,700

Contractor: N/A		Fluid Vol. m3		Water	Oil
Road/Lease: Good		Total Hauled to Lease:		16.00	
Weather: Clear + 29° C		Total Hauled from Lease:		74.54	
Contact Phone: 403-232-5340		Total in Tanks:		75.68	
Zone: Nahanni		Initial Well Fluid:		Water/Standfill	
Perforations: Under daily costs		Total Load Fluids:		14.50	
SITP flow KPa @ 0800		Non-recov. Ann. Fluids:		94.70	
SICP flow KPa @ 0800		Recovery Last 24 hrs.		138.01	
Rig Hr: Nil		Recovery to Date:		185.53	
Cum Rig Hrs.: 456.0		Load to Recover (+New)		170.50	
AFE # E8D-011		KB Elevation:		459.89 m	
		KB. to CF:		10.35 m	
		KB. to THF:		8.60 m	

TIME	OPERATION
0625	Run in the hole with a RTR recorder ser # 9512Q-16D. Land the recorders on top of the LMR recorders.
0729	Land the recorders on top of the LMR recorders.
0730	Check and record shut-in tubing pressure - 21630 kPa - and casing pressure - 800kPa
0747	Open well to choke and open choke slowly to 16.67mm.
	Gas meter # 1 in service w/ 82.55mm orifice plate.
	98-07-12
0600	Flowing well through Norwood separator - Tubing pressure - 15610kPa - RTR recorder pressure - 24237kPa - Casing pressure - 875kPa Tubing temperature - 79° C - Choke 21mm - Orifice 82.55mm Gas rate 445.007 10³m³/d - Water/hr - 5.2 m³ - pH - 6 - salinity 137000 ppm - H₂S - 0.8956% CO² - 16%

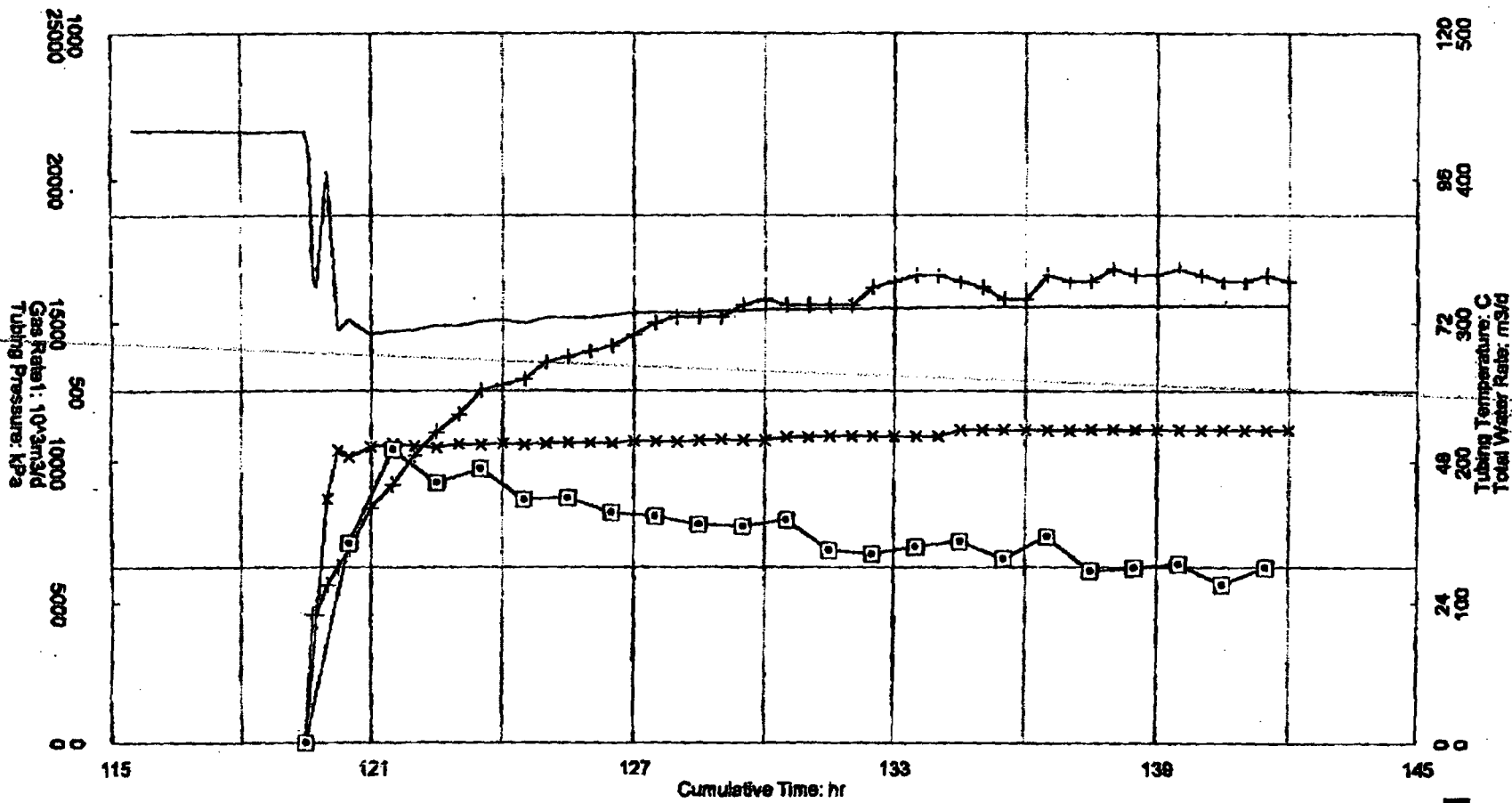
JUL-12-98 MON 11:31 FAX 403 232 5200
RANGER OIL
JUL-12-98 SUN 18:22 WAYNE CABLER

015



RANGER LIARD P-66-A

North



Fast

JUL-13-1998 11:33

403 232 5200

73%

P.15

Field Notes

CRIMINAL

Page 6A

58

Field Notes

OVERNIGHT

Page 7A

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CONWAY

15

Field Notes

CRIMINAL

Page 5A

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RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-07-10	
Purpose of Job: Completion				Report #: 45a	
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Running Metzline and recorders				Code	Amount
Contractor: N/A		Fluid Vol. m3	Water	Oil	
Road/Lease: Good		Total Hauled to Lease:	18.00		3324.0 m - 3334.0 m KB
Weather: Clear + 27° C		Total Hauled from Lease:	35.28		3295.0 m - 3302.0 m KB
Contact Phone: 403-232-5340		Total In Tanks:	12.23		3285.0 m - 3292.0 m KB
Initial Well Fluid: Water/Standfill					3276.0 m - 3280.0 m KB
Perforations: Under daily costs		Recovery Last 24 hrs.	26.62		3260.0 m - 3272.0 m KB
SITP: 21620 kPa @ 0600		Recovery to Date:	47.52		3234.0 m - 3248.0 m KB
SICP: 1800 kPa @ 0800		Lead to Recover (+New)	33.02		3165.0 m - 3172.0 m KB
Rig Hr: Nil Cum Rig Hrs.: 456.0					3152.0 m - 3158.0 m KB
AFE # E8D-011		KB Elevation:	459.89 m		3134.0 m - 3148.0 m KB
		KB. to CF:	10.35 m		3125.0 m - 3130.0 m KB
		KB. to THP:	8.60 m		3118.0 m - 3122.0 m KB
				Daily Costs:	\$34,137
				Previous Costs:	\$1,843,914
				Cumulative Costs:	\$1,860,051
				AFE Estimate:	\$3,331,700

TIME	OPERATION
98-07-11	
0030	Rig out Computalog.
0100	Rig up The Genco Wireline truck.
0130	Pick up Tandem 41370 kPa LMR Quartz Electronic memory recorders. The top recorder ser # is 9803-Q-16 E and the bottom recorder ser # is 9804-Q-16 E.
0200	Install the lubricator and pressure test same to 1400 kPa low test and 28000 kPa high test. Bled the lubricator pressure down to 21600 kPa and opened the master valve.
0245	Run in the hole with the recorders and lock the recorders into the "RN" nipple at 3081.85 m KB. with the recorders hung out the bottom of the tail pipe. Release from the recorders and pull out of the hole with running tool. Close the top master valve and lay down the running tools.
0430	Switch over to the Metzline. Pick up and install the lubricator. Pressure test the lubricator to 1400 kPa low test and 28000 kPa high test.

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-86-A				Date: 88-07-10	
Purpose of Job: Completion				Report #: 45	
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Running Metzline and recorders				Code	Amount
Contractor:	N/A	Fluid Vol. m3	Water	Oil	
Road/Lease:	Good	Total Hauled to Lease:	18.00		3324.0 m - 3334.0 m KB
Weather:	Clear + 27° C	Total Hauled from Lease:	35.29		3286.0 m - 3302.0 m KB
Contact Phone:	403-232-5340	Total in Tanks:	12.23		3285.0 m - 3282.0 m KB
Zone:	Nahanni	Initial Well Fluid:	Water/Standfill		3276.0 m - 3280.0 m KB
Perforations:	Under daily costs	Total Load Fluids:	14.50		3260.0 m - 3272.0 m KB
SITP	21620 KPa @ 0600	Non-recov. Ann. Fluids:	84.70		3234.0 m - 3246.0 m KB
SICP	1800 KPa @ 0600	Recovery Last 24 hrs.	26.82		3165.0 m - 3172.0 m KB
Rig H:	NH	Recovery to Date:	47.52		3152.0 m - 3159.0 m KB
Cum Rig Hrs.:	458.0	Load to Recover (+New)	33.02		3134.0 m - 3148.0 m KB
AFE #:	E8D-011	KB Elevation:	459.89 m		3125.0 m - 3130.0 m KB
		KB. to CF:	10.35 m		3116.0 m - 3122.0 m KB
		KB. to THF:	8.80 m		
				Daily Costs:	\$34,137
				Previous Costs:	\$1,845,914
				Cumulative Costs:	\$1,880,051
				AFE Estimate:	\$3,321,700

TIME	OPERATION
0600	Pulling out of the hole with the logging tools. When we got to 40.0 m from surface with the logging tools hydrates. Pumped methanol down the tubing and the tools came free.
0730	Lay down the tool string and changed out the Fluid Density and pressure tools.
0830	Pick up and install the lubricator on top of the BOP'S. Filled the lubricator with methanol and pressure tested the lubricator to 28000 kPa.
1030	Open the master valve. We have 21500 kPa on the tubing. Run in the hole with a GR/CCL/PRESSURE/TEMPERATURE/FLUID DENSITY/FULL BORE SPINNER TOOL. There was no hydrates at 40.0 m KB.
1130	We are at 2180.0 m KB and the tools quit working. Pulled out of the hole with the logging tools.
1230	The logging tools are at surface. Lay down the logging tools and check out the tools. We found that the pressure tool was shorted out and the temperature was flooded. Install a different temperature tool.
1315	Install the lubricator and pressure test same to 28000 kPa.
1330	Open the master valve. The tubing pressure was 21370 kPa. Run in the hole with a GR/CCL/TEMPERATURE/FLUID DENSITY/FULL BORE FLOW METER. We do not have a good pressure tool left.
1445	Log a static pass down from 3025.0 m - 3350.0 m KB. and log a static pass up from 3350.0 m - 3025.0 m KB. Drop the logging tool string down to 3300.0 m KB.
1548	Pressure up to the choke. Open the choke slowly to 18.67 mm. We lost 20.0% of our line weight.
1608	Decrease the choke to 15.88 mm.
1630	Made three logging passes up and down from 3350.0 m - 3110.0 m KB. We logged at line speeds of 10.0 m/min./20.0 m/min. and 30.0 m/min. The tubing pressure was 15790 kPa at 395.518 10 ³ /m ³ /d.
1607	Decreased the choke to 13.49 mm.
1617	We are flowing the well at a gas rate of 353.005 10 ³ /m ³ /d. We made three logging passes from 3350.0 m - 3110.0 m KB at a logging rate of 10.0 m/min, 20.0 m/min. and 30.0 m/min.
2000	Decreased the choke to 11.11 mm.
2015	We are flowing the well at 293.978 10 ³ /m ³ /d. Start to log up from 3350.0 m KB at 10.0 m/min. The tool drag was increasing as we were pulling up. At 3186.0 m KB. we are pulling 600.0 lbs over string weight. We attempted to drop back down with no success. Increased the flow rate to 470.113 10 ³ /m ³ /d and our line weight dropped off to 400.0 lbs over string weight. Pulled the logging tools up to 3110.0 m KB. and shut in the well. The string weight increased to 500.0 lbs over string weight. We could drop down but the tools were dragging. Worked the tools into the bottom of the tail pipe. We could move the tools up the hole with 600.0 lbs pull over string weight. We could also move the tools down the hole but we were getting drag. Worked the tool string out of the hole to 2850.0 m and lost 150.0 lbs of overpull. At 2490.0 m we lost 100.0 lbs of overpull and at 2350.0 m we lost 150.0 lbs of overpull. The tools then pulled out of the hole with normal weight loss.

SCHEDULE OF DAILY COSTS

FROM: WAYNE CASLER/ROY ELLIOT

P. 10

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-07-09																																																											
Purpose of Job: Completion				Report #: 44																																																											
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary																																																											
Current Operation: Production logging.				Code	Item																																																										
				3324.0 m - 3334.0 m KB																																																											
				3295.0 m - 3302.0 m KB																																																											
				3285.0 m - 3292.0 m KB																																																											
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TIME	OPERATION																																																														
0045	Rig up and run in the hole with a 48.3 mm gauge ring to 3347.0 m CF. (3357.0 m KB.) We tagged an obstruction 23.0 m below the bottom perforations. The line counter was on depth when we pulled the plug. We tried to work the gauge ring through the obstruction no success. The obstruction is hard and the gauge ring is not sticking when pulling up after tagging the obstruction. Pull out of the hole with the Wireline. Cap and secure the well. The tubing pressure is 5310 kPa. We will wait on daylight to open the well.																																																														
0200	Check the wellhead for pressure. There is 10930 kPa on the tubing and the casing is 0 kPa. Open the well through the Norwood separator to clean up the well.																																																														
0500	Shut in the well for a build up. We flowed back a total of 20.90 m ³ of fluid with a PH of 6.0 PPM and a salinity of 105000 PPM. The final flowing tubing pressure was 15450 kPa. There is 2600 kPa on the casing. The final flow rate was 426.045 10 ³ /m ³ /d.																																																														
0700	The shut in tubing pressure is 21620 kPa and the casing pressure is 300 kPa.																																																														
1300	Rig up Genco Wireline. Install the lubricator. Pressure test the lubricator to 28000 kPa. We have a leak on the stem of the ESD valve. Bleed off the lubricator.																																																														
1400	Repair the ESD valve.																																																														
1645	Pressure test the ESD valve to 34475 kPa. Install the control pot on top of the ESD valve.																																																														
1810	Pressure test the Genco lubricator to 28000 kPa.																																																														
1830	Open the top master valve. The tubing pressure is 21570 kPa.																																																														
1840	Run in the hole with 2-LMR Quartz Electronic memory recorders. The top recorder ser # is 9803-Q-16 E. The bottom ser # is 9804 - Q -16 E. We did a 10.0 minute stop at surface, 500.0 m, 1000.0 m, 1500.0 m, 2000.0 m, 2200.0 m, 2400.0 m, 2600.0 m, 2800.0 m, 3000.0 m, 3050.0 m, 3100.0 m, 3150.0 m, 3200.0 m, 3250.0 m, CF. We did a 60.0 minute stop at the mid point of the perforations at 3276.40 m CF. Pull out of the hole with Genco Wireline and dump the recorders. Rig out Genco Wireline.																																																														
2330	Rig in Computalog. Pressure test the BOP'S to 1400 kPa low test and 35000 kPa high test as per program. Install the logging tools in the lubricator and install the BOP'S and lubricator onto the wellhead. Pressure test the lubricator to 1400 kPa low test and 35000 kPa high test.																																																														
0410	Check the wellhead for pressure. There is 21740 kPa on the tubing. Equalize the lubricator and run in the hole with a GR/CCL/TEMPERATURE/PRESSURE/DENSITY/FULL BORE SPINNER TOOL. When we got to bottom the density tool was not working. Made one pass with the logging tools and pulled out of the hole.																																																														

Job Number: GP-40-
Customer: Ranger Oil
Well Name: Land
Well Location: P-68-A
Formed:

Field Notes

NORWARD

Row	Date	Ch. Tin	Deg Pres	Cog Pres	Deg Temp	Choke	Ort	Stat1	Deg1	Temp1	Gas Rate1	Cum Gas1	Ort2	Stat2	Deg2	Temp2	Gas Rate2	Cum Gas2	Water	Wet Ratio	Cum Wet	pH	ISALINITY
38	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
39	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
40	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
41	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
42	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
43	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
44	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
45	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
46	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
47	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
48	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
49	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
50	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
51	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
52	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
53	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
54	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
55	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
56	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
57	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
58	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
59	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
60	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
61	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
62	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
63	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
64	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
65	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
66	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
67	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
68	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
69	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
70	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
71	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
72	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000
73	07/08/98	07:00:00	15450	2600	30	16.66	62.66	1500	54.0	30	428.046	24.421							10.604	292.000	20.900	61	105000

Page 44

Fast

SCHEDULE OF DAILY COSTS

FROM: WAYNE CASLER/ROY ELLIOT

Daily Cost
Previous
TOTAL

Job Number: GP-88
 Customer: Ranger Oil
 Wellname: Liard
 Well Location: P-68-A
 Formation:

FieldNotes

P.05

Row	Date	Clk Tim	Tbg Pres	Ceg Pres	Tbg Temp	Choke	Orif1	Static1	Orif1	Temp1	Gas Rate1	Cum Gas1	Orif2	Static2	Diff2	Temp2	Gas Rate2	Cum Gas2	Water/hr	Wat Rate	Cum Wat
	yy/mm/dd	clock	kPa	kPa	C	mm	mm	kPa	kPa	C	10 ³ m ³ /d	10 ³ m ³	mm	kPa	kPa	C	10 ³ m ³ /d	10 ³ m ³	m ³	m ³ /d	m ³
38	1998/07/09	07:00:00	15450	2600	36	16.69	62.55	1500	54.0	30	426.045	24.421							10.500	252.000	20.900
39		07:00:00	Shut in well and monitor buildup pressures.																		
40		07:05:00	17950	2400																	
41		07:10:00	20100	1000																	
42		07:15:00	20270	200																	
43		07:30:00	20570	0																	
44		07:45:00	20950	0																	
45		08:00:00	21280	200																	
46		08:30:00	21300	300																	
47		08:00:00	21500	300																	
48		09:30:00	21670	225																	
49		10:00:00	21690	200																	
50		10:30:00	21690	200																	
51		11:00:00	21690	200																	
52		11:30:00	21660	200																	
53	1998/07/09	12:00:00	21650	200																	
54		12:30:00	21640	200																	
55		13:00:00	21620	300																	
56		13:30:00	21620	450																	
57		13:50:00	Pressure test lubricator.																		
58		18:00:00	21570																		
59		19:30:00	21550																		
60		20:00:00	21550																		
61		20:30:00	21550																		
62		21:00:00	21530																		
63		21:30:00	21530																		
64		22:00:00	21530																		
65		22:30:00	21530																		
66		23:00:00	21530																		
67		23:00:00	Complete static gradient. Pressure test Computalog.																		
68	1998/07/10	04:00:00	Run in hole with computalog after pressure testing.																		
69		04:00:00	21740																		
70		04:30:00	21530																		
71		05:00:00	21530																		
72		05:30:00	21500	1400																	
73	1998/07/10	06:00:00	21500	750																	

94%

403 232 5200

JUL-10-1998 08:34

GENCO Pressure Control Limited
(403) 250-3800
SUBSURFACE PRESSURE MEASUREMENTS

CALGARY, AB.

Basic Data:

Company <u>Ranger Oil Limited</u>		Centronics Electronic Gauge	
Address _____		c/w Memory Recorder	
_____		S/N: <u>CMQ-9804</u>	

Well Name <u>Ranger Fort Liard</u>		Field & Pool <u>Liard / Sibianni</u>	
Well Identifier <u>P-66-A</u>		Type of Test <u>Static Gradient</u>	
Status <u>G.I. Gas</u>		Date of Test <u>Jul 09, 1998</u>	
DWG Tubing Pressure <u>21580</u> kPa		DWG Casing Pressure <u>N/A</u> kPa	
Tubing <u>28.9</u> mm @ <u>3082.4</u> m KB		Casing <u>177.8</u> mm @ <u>3499.0</u> m KB	
Producing Interval <u>3115 - 3234</u> m KB		Producing Through <u>Tubing</u>	
Elevation <u>449.54</u> m CF, <u>459.89</u> m KB		MPP Interval <u>3214.3</u> m CF	
Datum Depth of Well _____ m CF		Run Depth <u>3276.4</u> m CF	
Temperature at Run Depth <u>155.8</u> °C		Pool Datum _____ m (subsea)	
Pressure at Run Depth <u>26792</u> kPaG		Gradient at Run Depth <u>1.60</u> kPa/m	
MPP Pressure _____ kPaG		Datum Depth Pressure _____ kPaG	
Final Buildup Pressure _____ kPaG		Date on Bottom <u>July 9, 1998</u>	
Date off Bottom <u>July 9, 1998</u>		Shut in Date <u>July 9, 1998</u>	

Summary:

Tandem LMR Quartz Recorders ran within specifications.

Preparation Data:

Tested By GENCO Computed By P. Mulgrew Report Date Jul 10, 1998

BOTTOM GADEN

GENCO PRESSURE CONTROL LIMITED
(403) 250-3800

Calgary, AB.

OPERATIONS SUMMARY

Company: Ranger Oil Limited
Ranger Fort Liard

LSD: P-66-A

Bottom Gauge

Date	Time	dt(hrs)	P(kpaG)	T(°C)	Pt. #	Remarks
1998/07/09	18:13:19	0.0000	37.9	21.6	1 :	Begin Data Acquisition
	18:14:10	0.0142	26537.9	21.7	6 :	Pressure Test Lubricator
	18:25:08	0.1969	21545.9	22.2	71 :	@ surface
	18:43:19	0.5000	22690.5	24.6	180 :	@ 500 mCF
	18:59:49	0.7750	23692.4	47.5	279 :	@ 1000 mCF
	19:16:01	1.0450	24554.3	78.5	376 :	@ 1500 mCF
	19:32:10	1.3142	25244.2	104.7	473 :	@ 2000 mCF
	19:44:38	1.5219	25507.1	116.5	548 :	@ 2200 mCF
	19:57:11	1.7311	25739.4	122.6	623 :	@ 2400 mCF
	20:09:40	1.9392	25958.5	129.3	698 :	@ 2600 mCF
	20:22:52	2.1592	26172.0	135.9	777 :	@ 2800 mCF
	20:35:10	2.3642	26396.7	143.1	851 :	@ 3000 mCF
	20:45:50	2.5419	26483.1	147.7	915 :	@ 3050 mCF
	20:56:20	2.7169	26553.0	149.6	978 :	@ 3100 mCF
	21:08:20	2.9169	26615.4	151.4	1050 :	@ 3150 mCF
	21:19:19	3.1000	26678.3	153.1	1116 :	@ 3200 mCF
	21:30:40	3.2892	26744.7	154.2	1184 :	@ 3250 mCF
	21:41:38	3.4719	26781.1	155.3	1250 :	@ 3276 mCF (run depth)
	23:07:08	4.8969	15714.2	51.0	1762 :	End Data Acquisition

Absolute pressures are converted to gauge pressures
assuming a barometric pressure of 90 kPa.

OPERATIONS - 1

GENCO PRESSURE CONTROL LIMITED
(403) 250-3800

Calgary, AB.

OPERATIONS SUMMARY

Company: Ranger Oil Limited
Ranger Fort Liard

LSD: P-66-A
Top Gauge

Date	Time	dt(hrs)	P(kpaG)	T(°C)	Pt. #	Remarks
1998/07/09	18:16:52	0.0000	0.0	21.5	1 :	Begin Data Acquisition
	18:17:49	0.0158	26476.0	21.5	7 :	Pressure Test Lubricator
	18:28:52	0.2000	21524.4	21.5	72 :	@ surface
	18:46:59	0.5019	22708.9	25.9	181 :	@ 500 mCF
	19:03:29	0.7769	23719.8	50.3	280 :	@ 1000 mCF
	19:19:41	1.0469	24566.2	81.4	377 :	@ 1500 mCF
	19:35:38	1.3128	25239.3	106.3	473 :	@ 2000 mCF
	19:49:11	1.5219	25503.4	117.1	548 :	@ 2200 mCF
	20:00:50	1.7328	25731.2	123.2	624 :	@ 2400 mCF
	20:13:19	1.9408	25947.9	129.9	699 :	@ 2600 mCF
	20:26:31	2.1608	26157.6	136.6	778 :	@ 2800 mCF
	20:38:38	2.3628	26380.1	143.6	851 :	@ 3000 mCF
	20:49:19	2.5408	26479.9	147.9	915 :	@ 3050 mCF
	21:00:00	2.7189	26552.8	149.7	979 :	@ 3100 mCF
	21:12:00	2.9189	26613.3	151.5	1051 :	@ 3150 mCF
	21:22:59	3.1019	26676.7	153.2	1117 :	@ 3200 mCF
	21:34:19	3.2908	26743.1	154.3	1185 :	@ 3250 mCF
	21:45:22	3.4750	26780.8	155.4	1251 :	@ 3276 mCF (run depth)
	23:10:41	4.8769	15569.2	43.2	1762 :	End Data Acquisition

Absolute pressures are converted to gauge pressures
assuming a barometric pressure of 90 kPa.

OPERATIONS - 1

GENCO PRESSURE CONTROL LIMITED
(403) 250-3800

Calgary, AB.

STATIC GRADIENT SURVEY

Company: Ranger Oil Limited
Ranger Fort Liard

LSD: P-66-A
Bottom Gauge

Depth (meters)	Pressure (kPaG)	Gradient (kPa/m)	Temp (°C)	Gradient (°C/m)
At Surface: 1998/07/09 18:25:08 (Running In)				
000	21546	-----	22.2	-----
500	22691	2.29	24.6	0.005
1000	23692	2.00	47.5	0.046
1500	24554	1.72	78.5	0.062
2000	25244	1.38	104.7	0.052
2200	25507	1.31	116.5	0.059
2400	25739	1.16	121.6	0.031
2600	25959	1.10	127.3	0.034
2800	26172	1.07	135.9	0.033
3000	26397	1.12	143.1	0.036
3050	26483	1.73	147.7	0.092
3100	26553	1.40	147.6	0.038
3150	26615	1.25	151.4	0.036
3200	26678	1.26	153.1	0.034
3250	26745	1.33	154.2	0.022
3276	26781	1.40	155.3	0.042

Absolute pressures are converted to gauge pressures
assuming a barometric pressure of 90 kPa.

GRADIENT - 1

GENCO PRESSURE CONTROL LIMITED
(403) 250-3800

Calgary, AB.

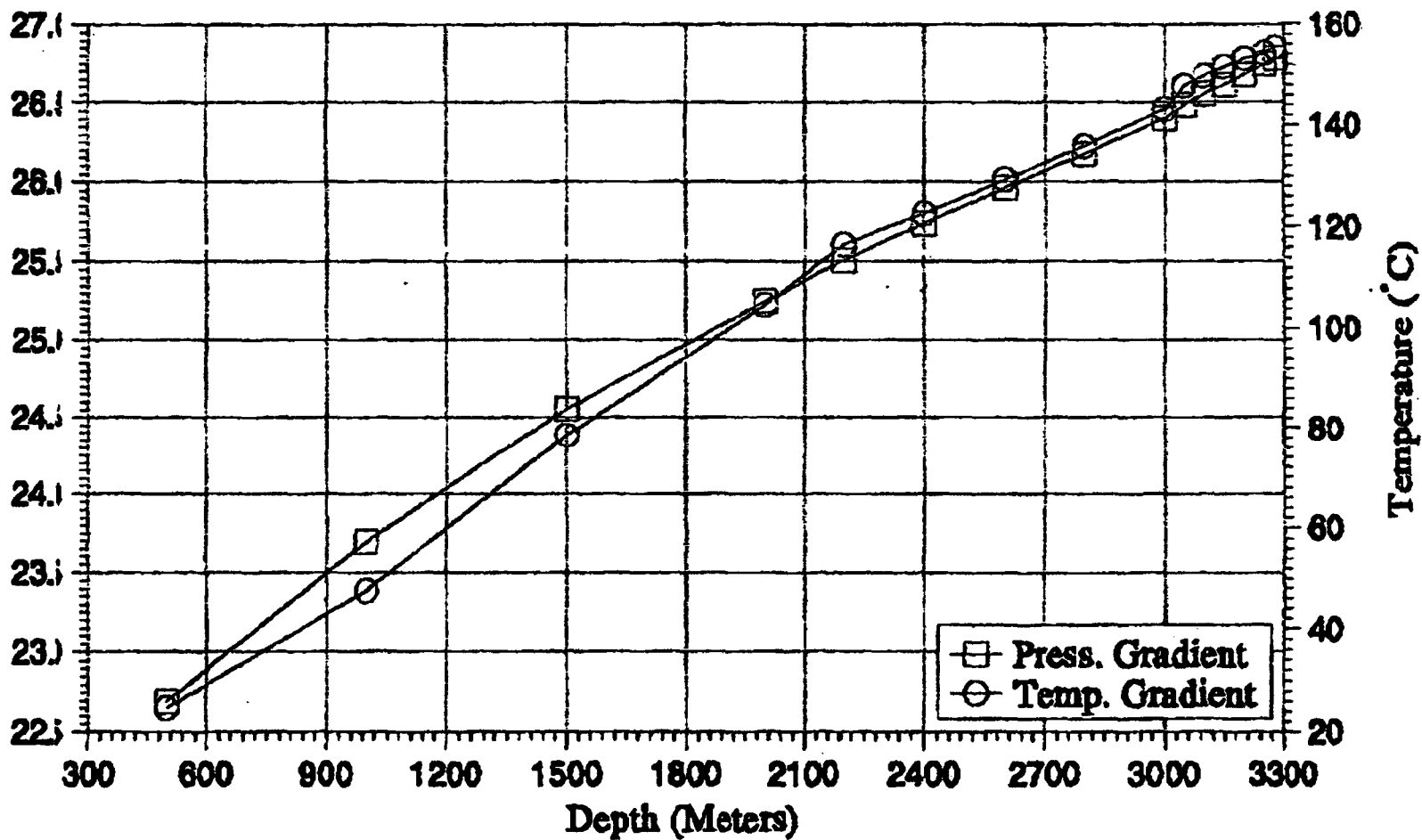
STATIC GRADIENT SURVEYCompany: Ranger Oil Limited
Ranger Fort LiardLSD: P-66-A
Top Gauge

Depth (meters)	Pressure (kPaG)	Gradient (kPa/m)	Temp (°C)	Gradient (°C/m)
At Surface: 1998/07/09 18:28:52 (Running In)				
000	21524	-----	21.5	-----
500	22709	2.37	25.9	0.009
1000	23720	2.02	50.3	0.049
1500	24566	1.69	81.4	0.062
2000	25239	1.35	106.3	0.050
2200	25503	1.32	117.1	0.054
2400	25731	1.14	123.2	0.031
2600	25948	1.08	129.9	0.034
2800	26158	1.05	136.6	0.034
3000	26380	1.11	143.6	0.035
3050	26480	2.00	147.9	0.086
3100	26553	1.46	149.7	0.036
3150	26613	1.21	151.5	0.036
3200	26677	1.27	153.2	0.034
3250	26743	1.33	154.3	0.022
3276	26781	1.45	155.4	0.042

Absolute pressures are converted to gauge pressures
assuming a barometric pressure of 90 kPa.

GRADIENT - 1

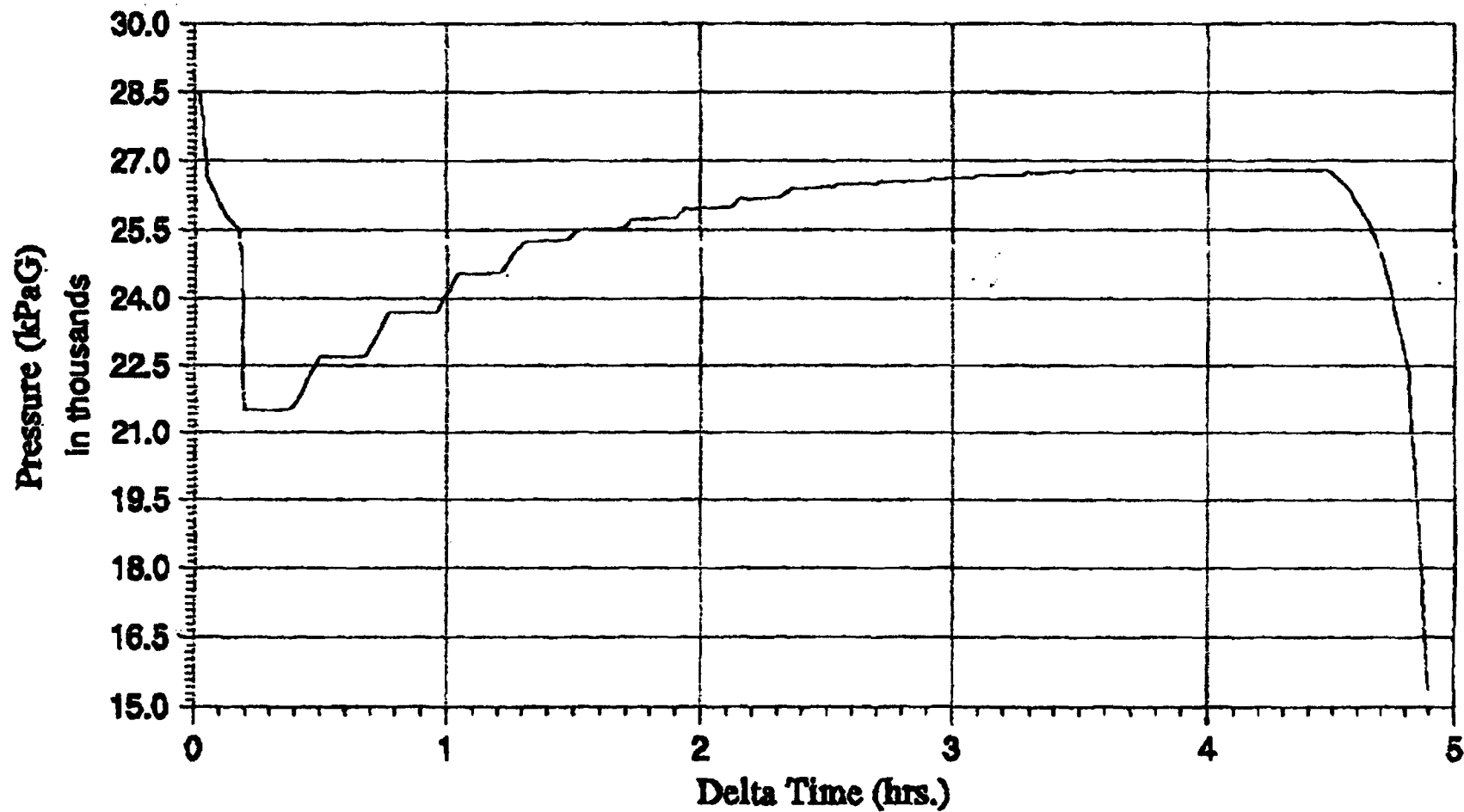
Pressure (kPaG)
in thousands



GENCO PRESSURE CONTROL LTD (403) 250-1800
Start Acquisition: 1998/07/09 10:11:19
End Acquisition: 1998/07/09 23:07:08

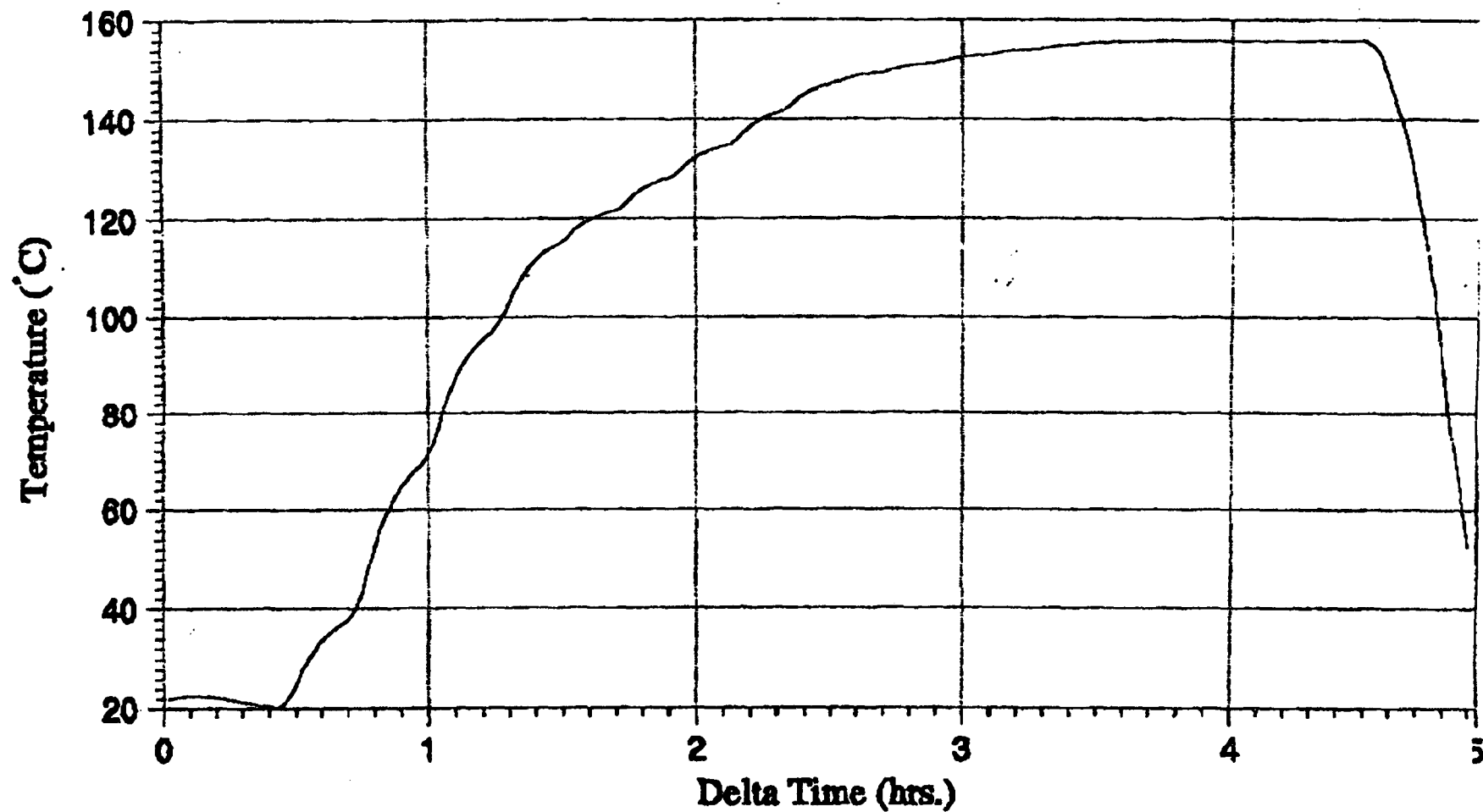
BTM

Ranger Oil Limited
P-66-A
Gentronics Quartz Bottom Gauge Pressures



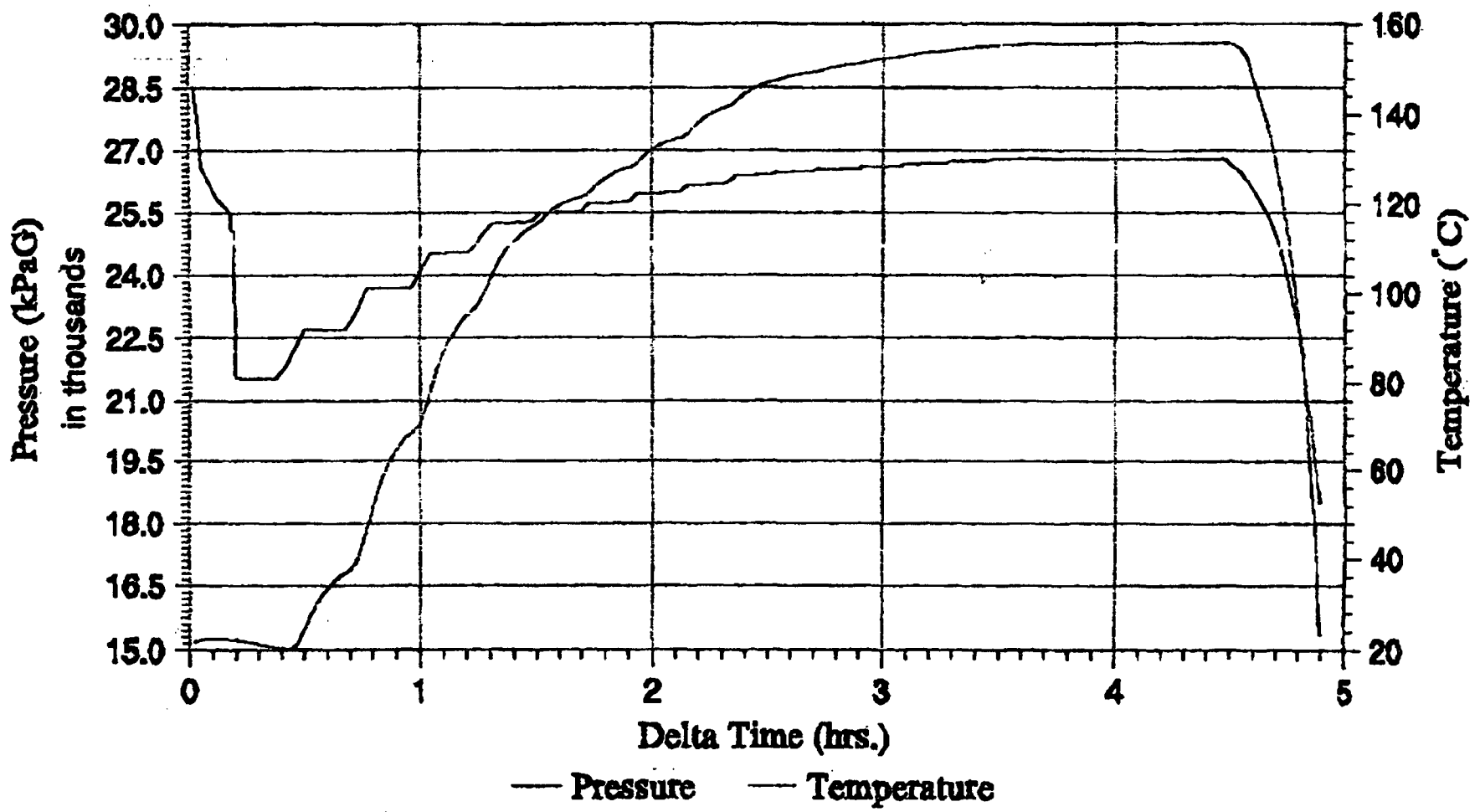
Genco Pressure Control Ltd (403)250-3800
Start Acquisition: 1998/07/09 18:13:19
End Acquisition: 1998/07/09 23:07:08

Ranger Oil Limited
P-66-A
Gentronics Quartz Bottom Gauge Temp.



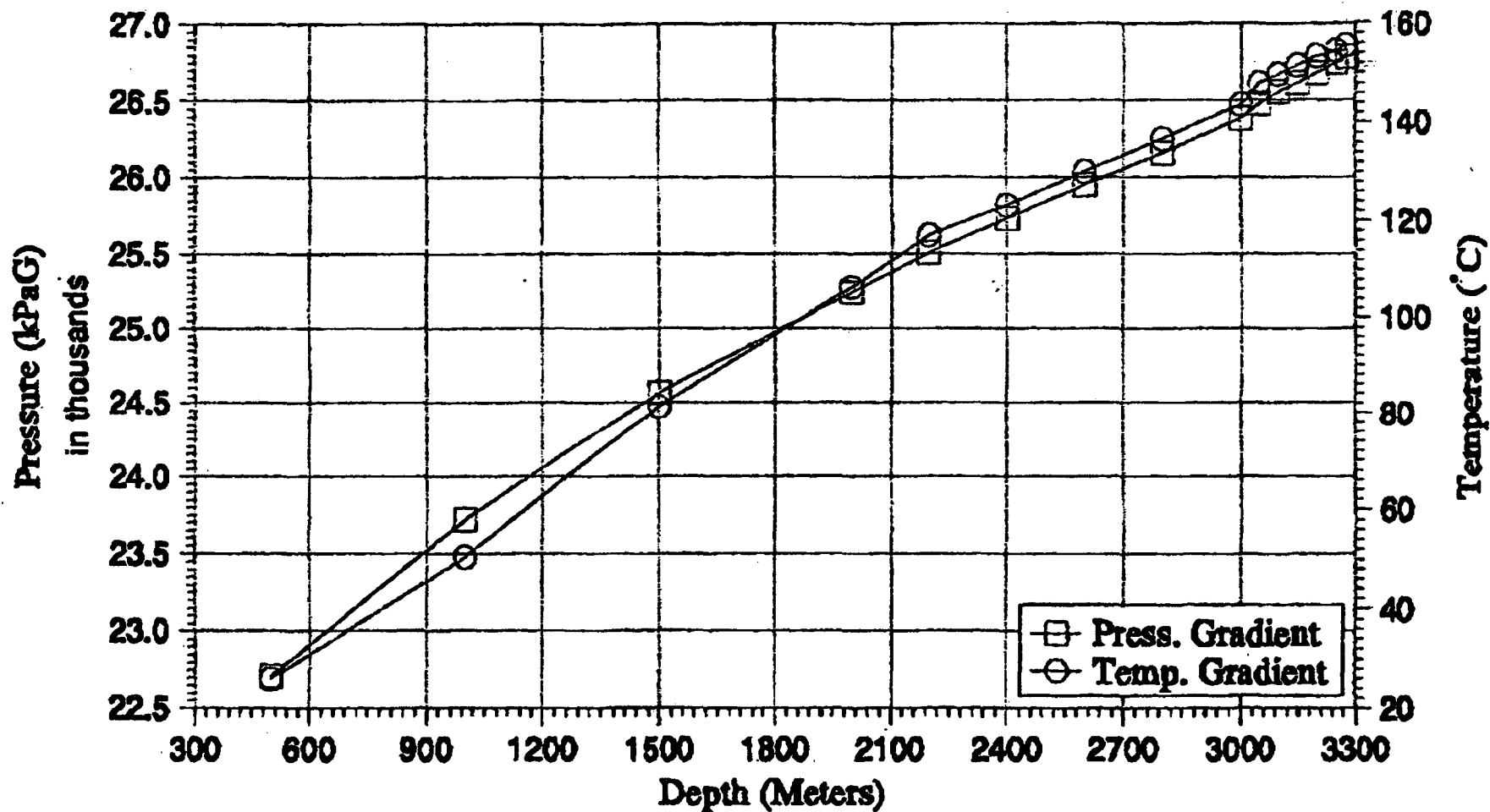
GENCO PRESSURE CONTROL LTD (403) 250-3800
Start Acquisition: 1998/07/09 18:13:19
End Acquisition: 1998/07/09 23:07:08

Ranger Oil Limited
P-66-A
Gentronics Quartz Bottom Pressure/Temp



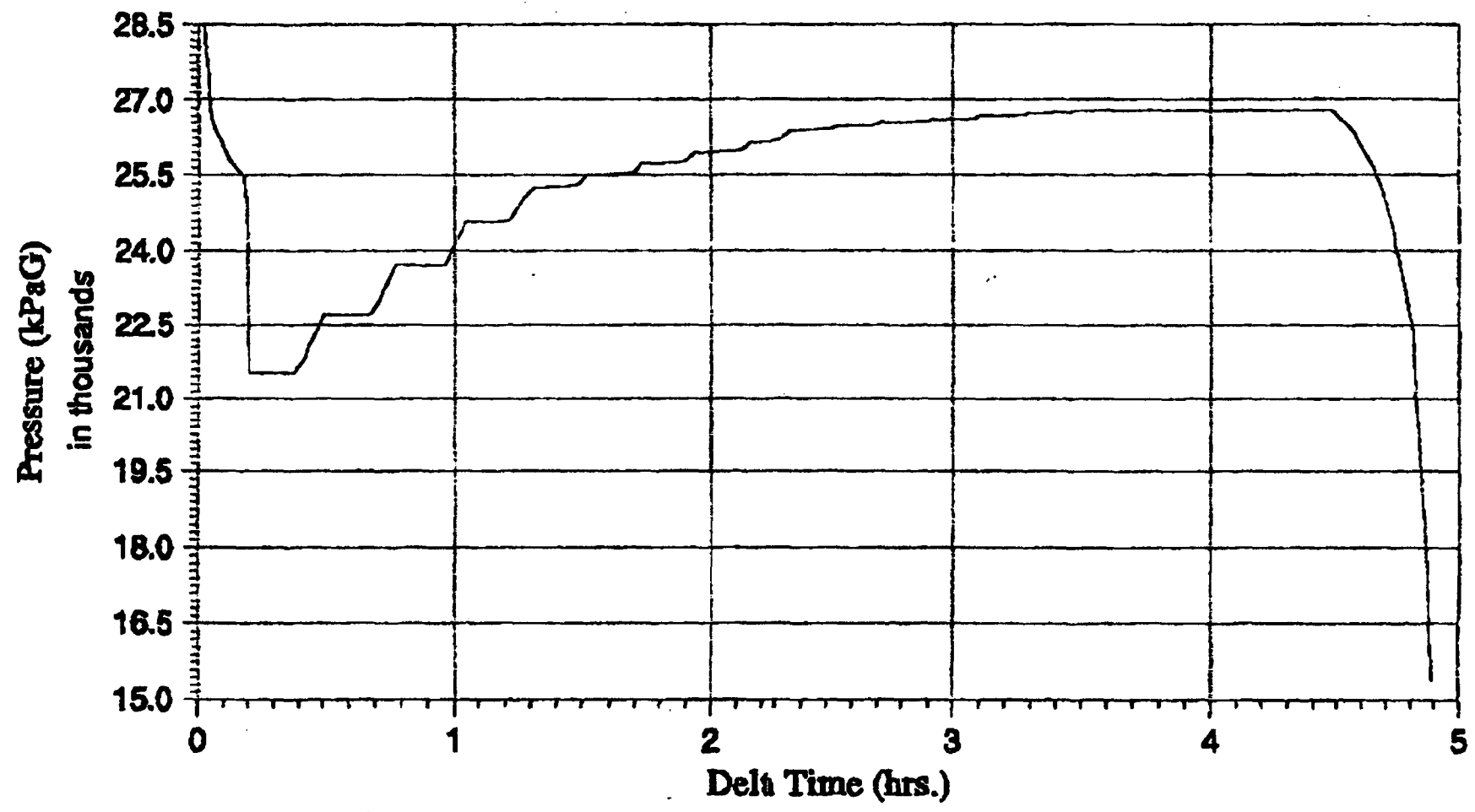
GENCO PRESSURE CONTROL LTD (403)250-3800
Start Acquisition: 1998/07/09 10:13:19
End Acquisition: 1998/07/09 23:07:00

Ranger Oil Limited P-66-A Gentronics Quartz Static Gradient Survey



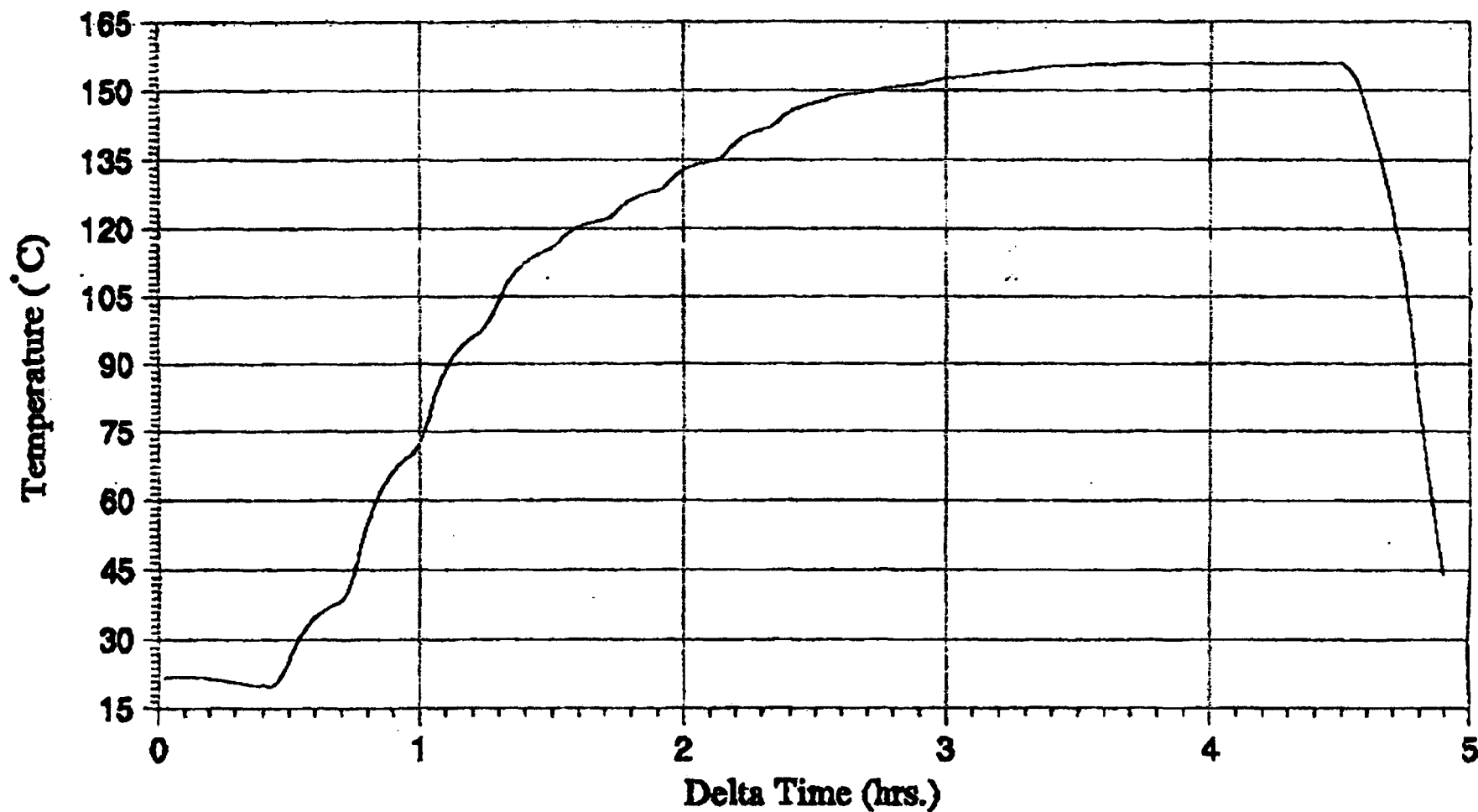
GENCO PRESSURE CONTROL LTD (403)250-3800
Start Aquisition: 1998/07/09 18:13:19
End Aquisition: 1998/07/09 23:10:41

Ranger Oil Limited
P-66A
Gentronics Quartz Top Gauge Pressures



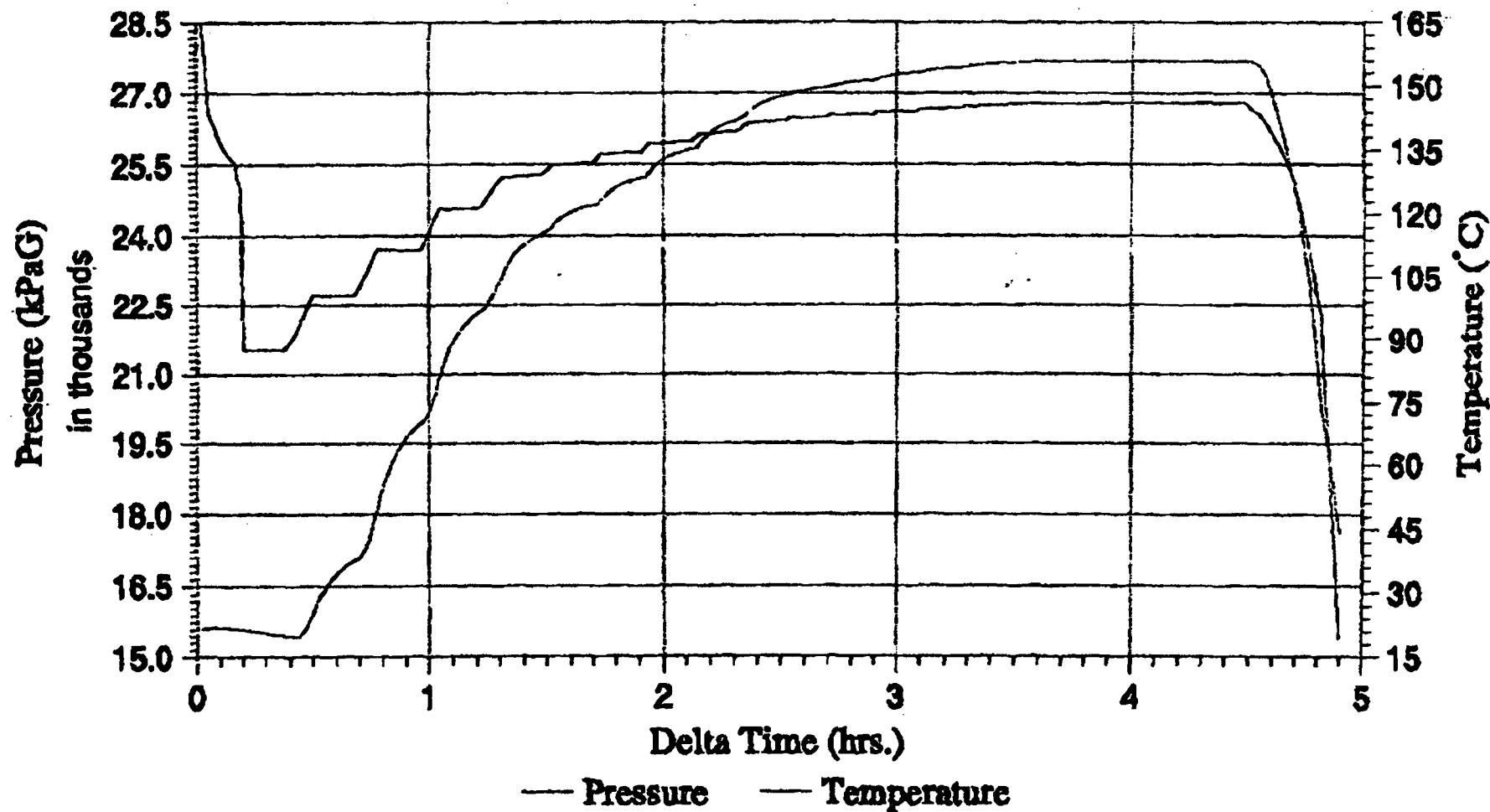
GENCO PRESSURE CONTROL LTD (803) 250-3800
Start Acquisition: 1998/07/09 18:13:19
End Acquisition: 1998/07/09 23:10:41

Ranger Oil Limited
P-66-A
Gentronics Quartz Top Gauge Temp.



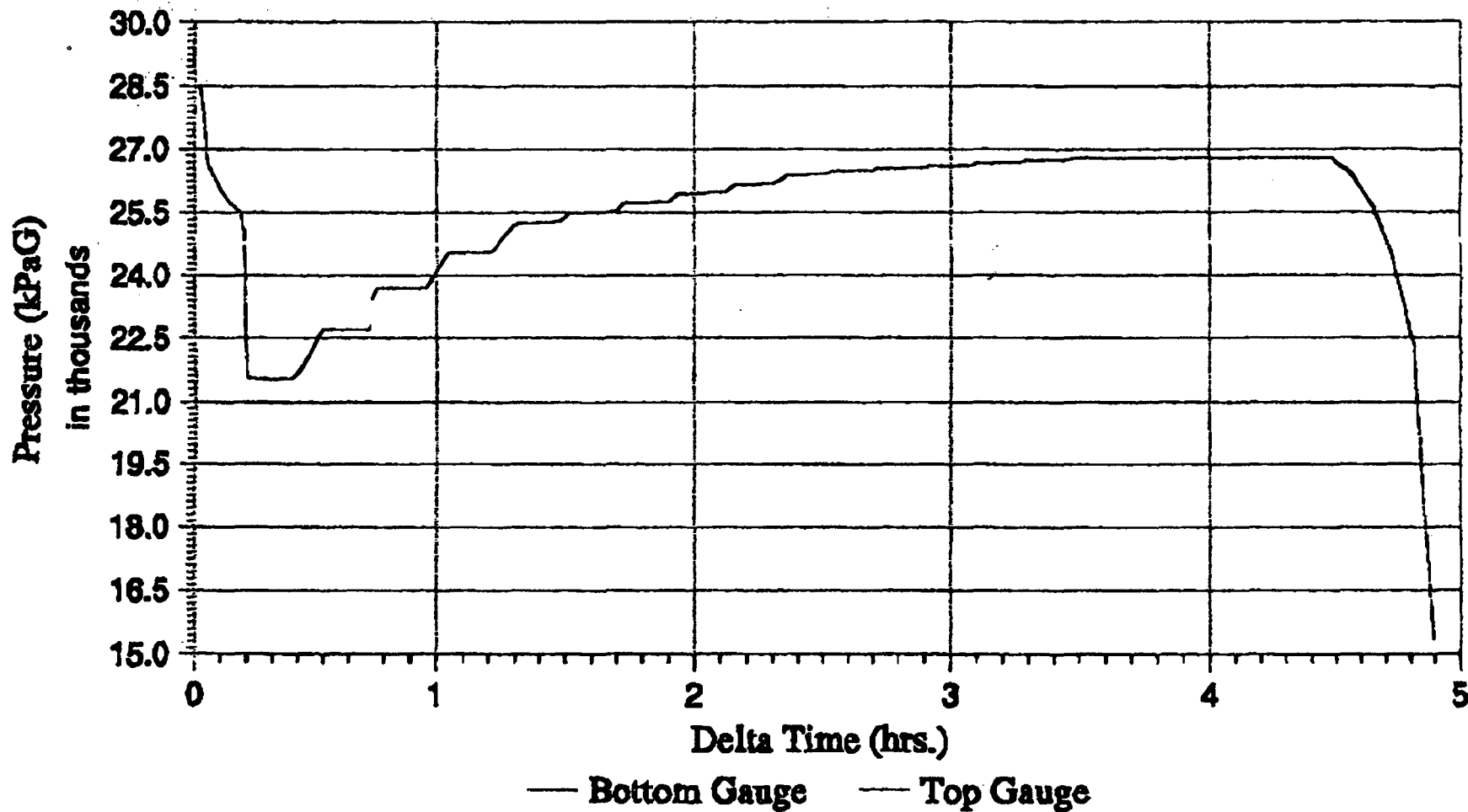
Genco Pressure Control Ltd (403)250-3800
Start Acquisition: 1998/07/09 18:17:19
End Acquisition: 1998/07/09 23:10:41

Ranger Oil Limited P-66-A Gentronic Quartz Top Pressure/Temp



GENCO PRESSURE CONTROL LTD (403)250-3800
 Start Acquisition: 1998/07/09 18:13:19
 End Acquisition: 1998/07/09 23:10:41

Ranger Oil Limited
P-66-A
Gentronics Quartz Gauge Press. Tracking



GENCO PRESSURE CONTROL LTD (403)50-5800
Start Acquisition: 1998/07/09 18:3:19
End Acquisition: 1998/07/09 23:0:41

GENCO PRESSURE CONTROL LIMITED
(403) 250-3800 Calgary, AB.

PRESSURE TRANSIENT TEST DATA

Company: Ranger Oil Limited
Ranger Fort Liard

LSB: P-66-A
Bottom Gauge

Date	Time	dt(hrs)	P(kPaG)	dP	T(°C)	dT	Pt. #
Begin Data Acquisition:							
1998/07/09	18:13:19	0.0000	37.9	37.9	21.6	21.6	0:
	18:14:31	0.0200	28507.8	28469.9	21.8	0.2	8:
	18:15:50	0.0419	27385.3	-1122.6	22.1	0.3	16:
	18:17:10	0.0642	26477.4	-907.9	22.3	0.2	24:
	18:18:29	0.0861	26217.5	-259.9	22.4	0.1	32:
	18:19:52	0.1092	25968.6	-248.9	22.5	0.0	40:
	18:21:11	0.1311	25779.8	-188.8	22.4	-0.0	48:
	18:22:30	0.1531	25642.1	-137.8	22.4	-0.1	56:
	18:23:49	0.1750	25511.5	-130.6	22.3	-0.1	64:
	18:25:19	0.2000	21547.9	-3963.6	22.2	-0.1	72:
	18:26:38	0.2219	21539.5	-8.3	22.0	-0.1	80:
	18:28:01	0.2450	21528.1	-11.4	21.9	-0.2	88:
	18:29:20	0.2669	21526.4	-1.7	21.6	-0.2	96:
	18:30:40	0.2892	21527.3	0.8	21.4	-0.2	104:
	18:31:59	0.3111	21528.0	0.8	21.2	-0.2	112:
	18:33:22	0.3342	21529.7	1.7	21.0	-0.2	120:
	18:34:41	0.3561	21531.2	1.5	20.7	-0.2	128:
	18:36:00	0.3781	21537.1	5.9	20.5	-0.2	136:
	18:37:19	0.4000	21679.6	142.5	20.5	0.0	144:
	18:38:38	0.4219	21864.4	184.9	20.2	-0.3	152:
	18:40:01	0.4450	22107.3	242.9	20.4	0.2	160:
	18:41:20	0.4669	22347.5	240.2	21.5	1.1	168:
	18:42:40	0.4892	22593.0	245.5	23.3	1.9	176:
	18:43:59	0.5111	22690.0	97.0	25.9	2.6	184:
	18:45:22	0.5342	22691.4	1.4	28.3	2.4	192:
	18:46:41	0.5561	22693.4	2.0	30.4	2.1	200:
	18:48:00	0.5781	22694.8	1.4	32.1	1.7	208:
	18:49:19	0.6000	22696.0	1.2	33.6	1.4	216:
	18:50:38	0.6219	22697.1	1.0	34.7	1.2	224:
	18:52:01	0.6450	22696.8	-0.3	35.7	1.0	232:
	18:53:20	0.6669	22696.5	-0.3	36.6	0.8	240:
	18:54:40	0.6892	22793.7	97.3	37.3	0.7	248:
	18:55:59	0.7111	23007.4	213.7	38.4	1.1	256:
	18:57:22	0.7342	23244.3	236.9	40.7	2.2	264:
	18:58:41	0.7561	23494.8	250.4	43.8	3.2	272:
	19:00:00	0.7781	23691.4	196.6	48.1	4.2	280:
	19:01:19	0.8000	23689.9	-1.5	52.4	4.3	288:
	19:02:38	0.8219	23689.3	-0.6	56.0	3.6	296:
	19:04:01	0.8450	23687.9	-1.4	59.1	3.1	304:
	19:05:20	0.8669	23686.0	-1.1	61.6	2.6	312:
	19:06:40	0.8892	23686.4	-0.3	63.7	2.1	320:
	19:07:59	0.9111	23687.3	0.9	65.4	1.7	328:
	19:09:22	0.9342	23698.8	1.4	66.9	1.5	336:

Absolute pressures are converted to gauge pressures
assuming a barometric pressure of 90 kPa.
Reporting on an interval of 1 in 8 data points.

DATA - 1

GENCO PRESSURE CONTROL LIMITED
(403) 250-3800 Calgary, AB.

PRESSURE TRANSIENT TEST DATA

Company: Ranger Oil Limited
Ranger Fort Liard

LSD: P-66-A
Bottom Gauge

Date	Time	dt(hrs)	P(kPaG)	dP	T(°C)	dT	Pt. #
	19:10:41	0.9561	23691.1	2.3	68.1	1.2	344:
	19:12:00	0.9781	23876.5	185.5	69.3	1.2	352:
	19:13:19	1.0000	24109.2	232.7	71.3	2.0	360:
	19:14:38	1.0219	24340.3	231.1	74.4	3.1	368:
	19:16:01	1.0450	24554.3	214.0	78.5	4.1	376:
	19:17:20	1.0669	24552.7	-1.7	82.4	3.9	384:
	19:18:40	1.0892	24552.9	0.3	85.7	3.3	392:
	19:19:59	1.1111	24554.9	1.9	88.4	2.7	400:
	19:21:22	1.1342	24559.1	4.3	90.6	2.2	408:
	19:22:41	1.1561	24563.9	4.8	92.4	1.8	416:
	19:24:00	1.1781	24569.5	5.6	93.9	1.5	424:
	19:25:19	1.2000	24574.9	5.4	95.1	1.2	432:
	19:26:38	1.2219	24655.2	80.3	96.2	1.1	440:
	19:28:01	1.2450	24831.0	175.8	97.7	1.5	448:
	19:29:20	1.2669	25002.6	171.6	99.6	1.9	456:
	19:30:40	1.2892	25142.9	140.3	101.8	2.3	464:
	19:31:59	1.3111	25240.3	97.4	104.4	2.6	472:
	19:33:22	1.3342	25243.4	3.1	106.8	2.4	480:
	19:34:41	1.3561	25248.9	5.5	108.8	2.0	488:
	19:36:00	1.3781	25256.6	7.7	110.4	1.6	496:
	19:37:19	1.4000	25264.4	7.8	111.8	1.3	504:
	19:38:38	1.4219	25271.9	7.6	112.8	1.1	512:
	19:40:01	1.4450	25278.9	7.0	113.8	0.9	520:
	19:41:20	1.4669	25285.1	6.2	114.5	0.7	528:
	19:42:40	1.4892	25348.3	63.2	115.1	0.6	536:
	19:43:59	1.5111	25463.0	114.7	116.0	0.9	544:
	19:45:22	1.5342	25503.3	40.3	117.1	1.1	552:
	19:46:41	1.5561	25505.6	2.3	118.1	1.0	560:
	19:48:00	1.5781	25509.3	3.7	119.0	0.9	568:
	19:49:19	1.6000	25514.2	4.8	119.7	0.7	576:
	19:50:38	1.6219	25518.9	4.8	120.3	0.6	584:
	19:52:01	1.6450	25523.4	4.5	120.8	0.5	592:
	19:53:20	1.6669	25527.5	4.1	121.2	0.4	600:
	19:54:40	1.6892	25530.9	3.4	121.4	0.3	608:
	19:55:59	1.7111	25625.3	94.4	121.8	0.4	616:
	19:57:22	1.7342	25740.0	114.7	122.8	0.9	624:
	19:58:41	1.7561	25747.7	-10.1	124.0	1.2	632:
	20:00:00	1.7781	25730.8	0.9	125.1	1.1	640:
	20:01:19	1.8000	25735.0	4.2	125.8	0.8	648:
	20:02:38	1.8219	25740.3	5.2	126.6	0.7	656:
	20:04:01	1.8450	25745.4	5.2	127.1	0.6	664:
	20:05:20	1.8669	25750.2	4.8	127.6	0.4	672:
	20:06:40	1.8892	25754.6	4.4	127.9	0.4	680:
	20:07:59	1.9111	25811.1	56.5	128.3	0.3	688:

Absolute pressures are converted to gauge pressures
assuming a barometric pressure of 90 kPa.
Reporting on an interval of 1 in 8 data points.

DATA - 2

GENCO PRESSURE CONTROL LIMITED

(403) 250-3800

Calgary, AB.

PRESSURE TRANSIENT TEST DATA

Company: Ranger Oil Limited
Ranger Fort Liard

LSD: P-66-A
Bottom Gauge

Date	Time	dt(hrs)	P(kPaG)	dP	T(°C)	dT	Pt. #
	20:09:22	1.9342	25940.4	127.3	129.1	0.8	696:
	20:10:41	1.9561	25949.3	8.9	130.3	1.2	704:
	20:12:00	1.9781	25950.2	0.9	131.3	1.1	712:
	20:13:19	2.0000	25954.8	4.6	132.2	0.8	720:
	20:14:38	2.0219	25961.1	6.3	132.8	0.7	728:
	20:16:01	2.0450	25967.0	5.9	133.4	0.6	736:
	20:17:20	2.0669	25972.4	5.4	133.9	0.5	744:
	20:18:40	2.0892	25977.3	4.9	134.3	0.4	752:
	20:19:59	2.1111	25981.4	4.1	134.6	0.3	760:
	20:21:22	2.1342	26044.1	62.7	134.9	0.3	768:
	20:22:41	2.1561	26158.3	114.2	135.8	0.9	776:
	20:24:00	2.1781	26161.8	3.5	137.1	1.3	784:
	20:25:19	2.2000	26162.4	0.6	138.2	1.1	792:
	20:26:38	2.2219	26167.8	5.4	139.2	0.9	800:
	20:28:01	2.2450	26175.3	7.5	139.9	0.7	808:
	20:29:20	2.2669	26182.8	7.4	140.5	0.6	816:
	20:30:40	2.2892	26189.7	6.9	141.0	0.5	824:
	20:31:59	2.3111	26200.0	10.3	141.4	0.4	832:
	20:33:22	2.3342	26262.8	62.8	141.9	0.5	840:
	20:34:41	2.3561	26366.3	103.4	142.7	0.8	848:
	20:36:00	2.3781	26388.6	22.3	143.8	1.1	856:
	20:37:19	2.4000	26390.6	2.0	144.7	0.9	864:
	20:38:38	2.4219	26397.0	6.4	145.4	0.7	872:
	20:40:01	2.4450	26404.6	7.6	146.0	0.6	880:
	20:41:20	2.4669	26412.2	7.7	146.5	0.5	888:
	20:42:40	2.4892	26419.1	6.8	146.9	0.4	896:
	20:43:59	2.5111	26424.9	5.9	147.3	0.4	904:
	20:45:22	2.5342	26454.7	29.8	147.6	0.3	912:
	20:46:41	2.5561	26479.6	24.9	147.9	0.4	920:
	20:48:00	2.5781	26481.8	2.2	148.3	0.4	928:
	20:49:19	2.6000	26485.5	3.7	148.6	0.3	936:
	20:50:38	2.6219	26488.9	3.4	148.8	0.2	944:
	20:52:01	2.6450	26492.3	3.4	149.1	0.2	952:
	20:53:20	2.6669	26495.1	2.8	149.2	0.2	960:
	20:54:40	2.6892	26497.5	2.4	149.3	0.1	968:
	20:55:59	2.7111	26530.4	33.0	149.5	0.2	976:
	20:57:22	2.7342	26544.6	14.2	149.8	0.3	984:
	20:58:41	2.7561	26542.4	-2.3	150.2	0.3	992:
	21:00:00	2.7781	26543.5	1.2	150.4	0.3	1000:
	21:01:19	2.8000	26546.0	2.5	150.7	0.3	1008:
	21:02:38	2.8219	26549.0	3.0	150.9	0.2	1016:
	21:04:01	2.8450	26551.9	2.9	151.1	0.2	1024:
	21:05:20	2.8669	26554.6	2.7	151.2	0.1	1032:
	21:06:40	2.8892	26556.8	2.2	151.3	0.1	1040:

Absolute pressures are converted to gauge pressures
assuming a barometric pressure of 90 kPa.
Reporting on an interval of 1 in 8 data points.

DATA - 3

GENCO PRESSURE CONTROL LIMITED
(403) 250-3800 Calgary, AB.

PRESSURE TRANSIENT TEST DATA

Company: Ranger Oil Limited
Ranger Fort Liard

LSO: P-66-A
Bottom Gauge

Date	Time	dt(hrs)	P(kPaG)	dP	T(°C)	dT	Pt. #
	21:07:59	2.9111	26594.2	37.4	151.4	0.1	1048:
	21:09:22	2.9342	26607.0	12.8	151.7	0.3	1056:
	21:10:41	2.9561	26605.7	-1.2	152.0	0.3	1064:
	21:12:00	2.9781	26607.3	1.6	152.3	0.3	1072:
	21:13:19	3.0000	26609.6	2.3	152.4	0.2	1080:
	21:14:38	3.0219	26612.3	2.6	152.6	0.2	1088:
	21:16:01	3.0450	26614.7	2.5	152.8	0.2	1096:
	21:17:20	3.0669	26617.0	2.3	152.9	0.1	1104:
	21:18:40	3.0892	26627.8	10.8	153.0	0.1	1112:
	21:19:59	3.1111	26674.6	46.8	153.2	0.2	1120:
	21:21:22	3.1342	26673.8	-0.8	153.4	0.2	1128:
	21:22:41	3.1561	26674.9	1.1	153.6	0.2	1136:
	21:24:00	3.1781	26676.7	1.8	153.7	0.2	1144:
	21:25:19	3.2000	26678.6	1.9	153.8	0.1	1152:
	21:26:38	3.2219	26680.5	1.9	153.9	0.1	1160:
	21:28:01	3.2450	26682.3	1.8	154.1	0.1	1168:
	21:29:20	3.2669	26683.7	1.4	154.1	0.1	1176:
	21:30:40	3.2892	26744.7	61.0	154.2	0.1	1184:
	21:31:59	3.3111	26738.6	-6.1	154.4	0.2	1192:
	21:33:22	3.3342	26738.2	-0.4	154.6	0.2	1200:
	21:34:41	3.3561	26739.5	1.3	154.8	0.2	1208:
	21:36:00	3.3781	26741.1	1.6	154.9	0.2	1216:
	21:37:19	3.4000	26742.9	1.9	155.1	0.1	1224:
	21:38:38	3.4219	26744.7	1.7	155.1	0.1	1232:
	21:40:01	3.4450	26746.4	1.7	155.2	0.1	1240:
	21:41:20	3.4669	26767.3	20.9	155.3	0.1	1248:
	21:42:40	3.4892	26780.8	13.6	155.4	0.1	1256:
	21:43:59	3.5111	26782.1	1.2	155.4	0.1	1264:
	21:45:22	3.5342	26783.3	1.2	155.5	0.1	1272:
	21:46:41	3.5561	26784.4	1.1	155.6	0.1	1280:
	21:48:00	3.5781	26785.2	0.8	155.6	0.1	1288:
	21:49:19	3.6000	26786.0	0.8	155.6	0.0	1296:
	21:50:38	3.6219	26786.5	0.6	155.7	0.1	1304:
	21:52:01	3.6450	26787.1	0.6	155.7	0.0	1312:
	21:53:20	3.6669	26787.6	0.6	155.7	0.1	1320:
	21:54:40	3.6892	26788.0	0.3	155.7	0.0	1328:
	21:55:59	3.7111	26788.3	0.3	155.7	0.0	1336:
	21:57:22	3.7342	26788.6	0.3	155.8	0.1	1344:
	21:58:41	3.7561	26788.9	0.3	155.8	0.0	1352:
	22:00:00	3.7781	26789.1	0.2	155.8	0.0	1360:
	22:01:19	3.8000	26789.4	0.3	155.8	0.0	1368:
	22:02:38	3.8219	26789.5	0.1	155.8	0.0	1376:
	22:04:01	3.8450	26789.7	0.2	155.8	0.0	1384:
	22:05:20	3.8669	26789.9	0.1	155.8	0.0	1392:

Absolute pressures are converted to gauge pressures
assuming a barometric pressure of 90 kPa.
Reporting on an interval of 1 in 8 data points.

DATA - 4

GENCO PRESSURE CONTROL LIMITED
(403) 250-3000 Calgary, AB.

PRESSURE TRANSIENT TEST DATA

Company: Ranger Oil Limited
Ranger Fort Liard

LSD: P-66-A
Bottom Gauge

Date	Time	dt(hrs)	P(kPaG)	dP	T(°C)	dT	Pt. #
	22:06:40	3.8872	26790.1	0.0	155.8	0.0	1408:
	22:07:59	3.9111	26790.1	0.0	155.8	0.0	1416:
	22:09:22	3.9342	26790.2	0.1	155.8	0.0	1424:
	22:10:41	3.9561	26790.4	0.2	155.8	0.0	1432:
	22:12:00	3.9781	26790.4	-0.1	155.8	0.0	1440:
	22:13:19	4.0000	26790.5	0.1	155.8	0.0	1448:
	22:14:38	4.0219	26790.5	0.0	155.8	0.0	1456:
	22:16:01	4.0450	26790.6	0.1	155.8	0.0	1464:
	22:17:20	4.0669	26790.7	0.1	155.8	0.0	1472:
	22:18:40	4.0892	26790.8	0.1	155.8	0.0	1480:
	22:19:59	4.1111	26790.8	0.0	155.8	0.0	1488:
	22:21:22	4.1342	26790.8	-0.1	155.8	0.0	1496:
	22:22:41	4.1561	26791.1	0.3	155.8	0.0	1504:
	22:24:00	4.1781	26790.9	-0.1	155.8	0.0	1512:
	22:25:19	4.2000	26791.1	0.1	155.8	0.0	1520:
	22:26:38	4.2219	26791.1	0.0	155.8	0.0	1528:
	22:28:01	4.2450	26791.2	0.1	155.8	0.0	1536:
	22:29:20	4.2669	26791.3	0.1	155.8	0.0	1544:
	22:30:40	4.2892	26791.3	0.0	155.8	0.0	1552:
	22:31:59	4.3111	26791.3	0.1	155.8	0.0	1560:
	22:33:22	4.3342	26791.3	0.0	155.8	0.0	1568:
	22:34:41	4.3561	26791.4	0.1	155.8	0.0	1576:
	22:36:00	4.3781	26791.5	0.1	155.8	0.0	1584:
	22:37:19	4.4000	26791.5	0.1	155.8	0.0	1592:
	22:38:38	4.4219	26791.5	-0.1	155.8	0.0	1600:
	22:40:01	4.4450	26791.6	0.1	155.8	0.0	1608:
	22:41:20	4.4669	26791.5	-0.1	155.8	0.0	1616:
	22:42:40	4.4892	26720.9	-70.7	155.8	0.0	1624:
	22:43:59	4.5111	26612.0	-108.9	155.6	-0.2	1632:
	22:45:22	4.5342	26516.5	-95.5	154.9	-0.7	1640:
	22:46:41	4.5561	26380.9	-135.6	153.6	-1.3	1648:
	22:48:00	4.5781	26228.1	-152.7	151.7	-1.9	1656:
	22:49:19	4.6000	26054.1	-174.0	148.7	-2.9	1664:
	22:50:38	4.6219	25860.8	-193.3	144.9	-3.8	1672:
	22:52:01	4.6450	25633.6	-227.3	140.6	-4.3	1680:
	22:53:20	4.6669	25383.3	-250.3	135.8	-4.8	1688:
	22:54:40	4.6892	25035.6	-341.7	130.7	-5.1	1696:
	22:55:59	4.7111	24623.2	-412.4	125.1	-5.7	1704:
	22:57:22	4.7342	24186.5	-436.7	118.4	-6.7	1712:
	22:58:41	4.7561	23703.9	-482.6	110.3	-8.1	1720:
	23:00:00	4.7781	23168.1	-535.8	100.9	-9.4	1728:
	23:01:19	4.8000	22586.7	-581.4	90.4	-10.5	1736:
	23:02:38	4.8219	22066.3	-520.4	79.6	-10.8	1744:
	23:04:01	4.8450	21735.0	-331.2	69.2	-10.4	

Absolute pressures are converted to gauge pressures
assuming a barometric pressure of 90 kPa.
Reporting on an interval of 1 in 8 data points.

DATA - 5

GENCO PRESSURE CONTROL LIMITED
(403) 250-3800 Calgary, AB.

PRESSURE TRANSIENT TEST DATA

Company: Ranger Oil Limited
Ranger Fort Liard

LSO: P-66-A
Bottom Gauge

Date	Time	dt(hrs)	P(kPaG)	dP	T(°C)	dT	Pt. #
	23:05:20	4.8669	21605.0	-130.0	60.4	-8.8	1752:
	23:06:50	4.8919	15357.6	-6247.4	52.7	-7.7	1760:
1998/07/09	23:07:08	4.8969	15714.2	356.6	51.0	-1.7	1762:

End Data Acquisition:

Absolute pressures are converted to gauge pressures
assuming a barometric pressure of 90 kPa.
Reporting on an interval of 1 in 8 data points.

DATA - 6

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-07-08	
Purpose of Job: Completion				Report #: 43	
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Pressure test wellhead/pull prong and plug.				Code	Amount
				3324.0 m - 3334.0 m KB	
				3295.0 m - 3302.0 m KB	
				3285.0 m - 3292.0 m KB	
				3276.0 m - 3280.0 m KB	
				3260.0 m - 3272.0 m KB	
				3204.0 m - 3240.0 m KB	
				3165.0 m - 3172.0 m KB	
				3152.0 m - 3159.0 m KB	
				3134.0 m - 3148.0 m KB	
				3125.0 m - 3130.0 m KB	
				3115.0 m - 3122.0 m KB	
Contractor: N/A				Fluid Vol. m3	
Road/Lease: Good				Total Hauled to Lease: 16.00	
Weather: Clear + 29° C				Total Hauled from Lease: 412.59	
Contact Phone: 463-232-5546				Total in Tanks: 16.00	
Zone: Nahanni				Initial Well Fluid: Water/Oil and Mill	
Perforations: Under daily costs				Total Load Fluids: 209.12	
SITP 103 KPa @ 1630				Non-recov. Ann. Fluids: 94.70	
SICP 360 KPa @ 1715				Recovery Last 24 hrs. Nil	
Rig Hr: Nil Cum Rig Hrs.: 456.0				Recovery to Date: 460.04	
				Load to Recover (+New) 345.62	
AFE # ESD-011				KB Elevation: 459.89 m	
				KB. to CF: 10.35 m	
				KB. to THF: 8.60 m	
				Daily Costs: \$23,372	
				Previous Costs: \$1,790,688	
				Cumulative Costs: \$1,814,060	
				AFE Estimate: \$3,331,700	

TIME	OPERATION
0000	Wait on a ESD valve to come from Calgary.
0200	Paul with Norwood called and they cant find there valve.
0300	Norwood has found a valve and they will have the valve on a plane at 0500 hours.
0600	Norwood phoned and informed us that the plane will leave Grande Prairie at 0800 hours. The valve is a old type M ^c Evoy c/w a outside bleed port. The valve has been function tested and pressure tested to 5000 kPa. A service man will accompany the valve to make sure that The ESD valve will work properly.
1200	Install the ESD valve and flow line onto the wing valve of the wellhead.
1400	Hold a safety meeting.
1410	Fill the flow lines back to the manifold. Close the ESD. Pressure test the ESD valve to 1700 kPa low test.
1422	Pressure test the ESD valve to 34475 kPa high test for 10.0 min.
1438	We bled off the line pressure and could not open the ESD valve. Bled off the ESD valve body and the ESD valve opened.
1455	Pressure test the flow line back to the manifold to 3100 kPa low test for 10.0 min.
1505	Pressure test the flow line back to the manifold to 34475 kPa high test for 10.0 min.
1515	Function test the ESD valve. The ESD closed in 6.0 seconds. We function tested the ESD twice under pressure. Bled off the pressure. We function tested the ESD valve with no pressure. Close the ESD valve.
1525	Close the two wing valves and opened the two crown valves. There is no pressure above the crown valves.
1530	Rig up the ABB Vetco Gray lubricator. Run in and retrieve the two way back pressure check valve.
1620	Close the two crown valves and open the wing valve. Start the pump to fill the tubing. We pumped 100.0 L of fluid and had 5000 kPa on the tubing. Pressure tested the 88.9 mm tubing and the Otis 58.0 mm "PX" plug to 34475 kPa. We pumped a total of 300.0 L of fluid to reach a pressure of 34475 kPa on the tubing. The casing pressure went up from 0 kPa to 240 kPa.
1645	Bled the tubing pressure to 0 kPa. The casing pressure went back to 0 kPa. Closed the upper master valve and the wing valve. Checked the top cap for pressure. There is no pressure above the top master valve. Removed the top flange cap and installed the lubricator flange. Rigged up Genco Wireline.
1740	Fill the lines and lubricator. Close the Wireline BOP'S and pressure tested the Wireline BOP'S to 1540 kPa low test and 28000 kPa high test for 10.0 min. Open the BOP'S and pressure test the lubricator to 1530 kPa low test and 28000 kPa high test. Bled off the lubricator. Closed the upper master valve and the wing valve. Removed the flange with the 50.8 mm outlet and installed a flange with a 12.7 mm outlet.
1900	Fill the 88.9 mm x 244.5 mm annulas using 1.7 m ³ of water. Pressure test the annulas to 28000 kPa.
2045	Open the master valve to run in the hole with Genco Wireline. We have a leak on the stem packing grease zerk. Change out the grease zerk and retest the wing valve to 28000 kPa.
2130	Run in the hole with a Otis 50.8 mm "RB" pulling tool and tag the top of the prong at 3072.0 m CF. We latched onto the prong. Jar the prong out of the Otis "PR" plug. When we pulled the prong we had

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-07-08	
Purpose of Job: Completion				Report #: 43a	
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Pressure test wellhead/pull prong and plug.				Code	Item
				3324.0 m - 3334.0 m KB	
Contractor: N/A		Fluid Vol. m3		Water	Oil
Road/Lease: Good		Total Hauled to Lease:		16.00	
Weather: Clear + 29° C		Total Hauled from Lease:		412.59	
Contact Phone: 403-232-5340		Total in Tanks:		16.00	
Zone: Nahanni		Initial Well Fluid:		Water/Standrill	
Perforations: Under daily costs		Total Load Fluids:		209.12	
SITP 103 KPa @ 1630		Non-recov. Ann. Fluids:		94.70	
SICP 380 KPa @ 1715		Recovery Last 24 hrs.		Nil	
Rig Hr: Nil		Recovery to Date:		460.04	
Cum Rig Hrs.: 456.0		Load to Recover (+New)		345.62	
AFE # E8D-011				Daily Costs:	
KB Elevation: 459.89 m				\$23,372	
KB. to CF: 10.35 m				Previous Costs:	
KB. to THF: 8.60 m				\$1,780,688	
				Cumulative Costs:	
				\$1,814,068	
				AFE Estimate:	
				\$3,331,700	

TIME

OPERATION

1280 kPa on the tubing immediately.

2300 Pick up and install the pulling tool. Pressure test the lubricator to 28000 kPa. Run in the hole with a Otis "GS" modified pulling tool. Latched onto the plug. Jar the plug out of the Otis "R" nipple. When we got to surface with the plug we had 2700 kPa on the wellhead.

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-07-07	
Purpose of Job: Completion				Report #: 42	
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Waiting on replacement ESD.				Code	Item
				3324.0 m - 3334.0 m KB	
Contractor:	N/A	Fluid Vol. m3	Water	Oil	3295.0 m - 3302.0 m KB
Road/Lease:	Good	Total Hauled to Lease:	16.00		3285.0 m - 3292.0 m KB
Weather:	Clear + 29° C	Total Hauled from Lease:	412.59		3276.0 m - 3280.0 m KB
Contact Phone:	403-232-5340	Total in Tanks:	16.00		3260.0 m - 3272.0 m KB
Zone:	Nahanni	Initial Well Fluid:	Water/Standrill		3234.0 m - 3248.0 m KB
Perforations:	Under daily costs	Total Load Fluids:	209.12		3165.0 m - 3172.0 m KB
SITP 103 KPa @ 1630		Non-recov. Ann. Fluids:	94.70		3152.0 m - 3159.0 m KB
SICP 360 KPa @ 1715		Recovery Last 24 hrs.	Nil		3134.0 m - 3148.0 m KB
Rig Hr: Nil	Cum Rig Hrs.: 456.0	Recovery to Date:	460.04		3125.0 m - 3130.0 m KB
		Load to Recover (+New)	345.62		3115.0 m - 3122.0 m KB
AFE # E8D-011		KB Elevation: 459.89 m		Daily Costs: \$145,208	
		KB. to CF: 10.35 m		Previous Costs: \$1,845,480	
		KB. to THF: 8.60 m		Cumulative Costs: \$1,790,668	
				AFE Estimate: \$3,331,700	
TIME	OPERATION				
0000	Install the ABB Vetco Gray lubricator and remove the back pressure valve. Install a two way check valve in the dognut. Pressure test the intermediate seals. The seals tested OK.				
0230	Install the Norwood ESD valve and the corrosion flange onto the wellhead wing valve and tie into the flow line. Rig in the Dowell Schlumberger pumper. Function test the ESD valve and the hydraulic bottom master valve.				
0620	Hold a safety meeting.				
0630	Fill the lines, wellhead and manifold with water and do a 10.0 min. low pressure test to 1400 kPa.				
0715	Pressure test the lower master valve, upper master valve, wing valves and the crown valve to 34475 kPa. When we went to pressure test the ESD valve the stem moved up in the control + - 1/4 " but the ESD held pressure. We cycled the ESD valve and it appeared that the valve did not close all the way. We attempted to pressure test the ESD valve and the valve would not hold pressure.				
1100	Wait on a new ESD valve.				
1730	Replacement ESD arrived & installed same.				
1830	Installed the new ESD. Pressure test and function test the ESD valve. Pressure tested to 1400 kPa low test and 34475 kPa high test for 10.0 min. each. Function tested the ESD and everything worked OK. Pressured up the system to 34475 kPa and proceeded to function test the ESD under pressure conditions. The closing functions worked OK but the valve would not open. The valve gate was pressure locked. Bled off the valve body through the bleed off port. Functioned the ESD valve open. The valve stem was sticking and the pressure pod was moving up slightly when we functioned the valve.				
2130	Serviced the valve by pumping grease into the valve body. We recovered contaminated hydrocarbon liquid. Performed numerous functions at 0 kPa to 34475 kPa with similar results. The valve continued to stick on the open function and would slam open after closing the valve. Discussed the situation with both Norwood and Unified valve representatives. We determined that the valve action noted above were abnormal. Ordered a replacement valve from Norwood in Calgary.				
2400	Wait on a ESD valve.				

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-86-A				Date: 98-07-06																	
Purpose of Job: Completion				Report #: 41																	
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary																	
Current Operation: Rigging in the test equipment. Pressure test lines.				Code	Item Amount																
Contractor: N/A		Fluid Vol. m3		Water	Oil																
Road/Lease: Good		Total Hauled to Lease:		Nil																	
Weather: Clear + 31° C		Total Hauled from Lease:		412.59																	
Contact Phone: 403-232-5340		Total in Tanks:		Nil																	
Zone: Nahanni		Initial Well Fluid:		Water/Standrill																	
Perforations: Under daily costs		Total Load Fluids:		209.12																	
SITP 103 KPa @ 1630		Non-recov. Ann. Fluids:		94.70																	
SICP 360 KPa @ 1715		Recovery Last 24 hrs.		Nil																	
Rig Hr: Nil Cum Rig Hrs.: 456.0		Recovery to Date:		460.04																	
		Load to Recover (+New)		345.62																	
AFE # E8D-011		KB Elevation: 459.89 m		Daily Costs: \$98,158																	
		KB. to CF: 10.35 m		Previous Costs: \$1,547,332																	
		KB. to THF: 8.60 m		Cumulative Costs: \$1,645,490																	
				AFE Estimate: \$3,331,700																	
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RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-07-05																																																											
Purpose of Job: Completion				Report #: 40																																																											
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary																																																											
Current Operation: Rigging in the test equipment. Pressure test lines.				Code	Item																																																										
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RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A					Date: 98-07-04											
Purpose of Job: Completion					Report #: 39											
Report From: Wayne Casler/Roy Elliot			Report To: Leroy Brown		Daily Cost Summary											
Current Operation: Rig in equipment to flow test the well					Code	Amount										
					Item											
					3324.0 m - 3334.0 m KB											
Contractor: N/A					3295.0 m - 3302.0 m KB											
Road/Lease: Good					3285.0 m - 3292.0 m KB											
Weather: Clear + 38° C					3278.0 m - 3280.0 m KB											
Contact Phone: 403-292-5340					3280.0 m - 3272.0 m KB											
Zone: Nahanni					3234.0 m - 3248.0 m KB											
Formation: Under daily costs					3165.0 m - 3172.0 m KB											
SITP N/A KPa @ N/A					3152.0 m - 3158.0 m KB											
SICP N/A KPa @ N/A					3134.0 m - 3148.0 m KB											
Rig Hr: Nil Cum Rig Hrs.: 456.0					3125.0 m - 3130.0 m KB											
AFB # E8D-011					3115.0 m - 3122.0 m KB											
KB Elevation: 459.89 m					Daily Costs:	\$43,072										
KB. to CF: 10.35 m					Previous Costs:	\$1,475,809										
KB. to THF: 8.60 m					Cummulative Costs:	\$1,518,881										
					AFE Estimate:	\$3,331,700										
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TIME	OPERATION															
0700	Hold a safety meeting.															
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1030	Shut down for the night.															

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-07-03															
Purpose of Job: Completion				Report #: 38															
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary															
Current Operation: Move in equipment to flow test the well				Code	Amount														
				3324.0 m - 3334.0 m KB															
Contractor: N/A		Fluid Vol. m3		Water	Oil														
Road/Lease: Good		Total Hauled to Lease:		Nil															
Weather: Clear + 37° C		Total Hauled from Lease:		412.59															
Contact Phone: 403-232-5340		Total in Tanks:		Nil															
Zone: Nahanni		Initial Well Fluid:		Water/Standrill															
Perforations: Under daily costs		Total Load Fluids:		209.12															
SITP N/A KPa @ N/A		Non-recov. Ann. Fluids:		94.70															
SITP N/A KPa @ N/A		Recovery Last 24 hrs.		Nil															
Rig Hr: Nil Cum Rig Hrs.: 456.0		Recovery to Date:		460.04															
		Load to Recover (+New)		345.62															
AFE # E8D-011		KB Elevation:		459.89 m															
		KB. to CF:		10.35 m															
		KB. to THF:		8.60 m															
				Daily Costs:	\$20,939														
				Previous Costs:	\$1,454,870														
				Cummulative Costs:	\$1,475,809														
				AFE Estimate:	\$3,331,700														
<table border="1"> <thead> <tr> <th>TIME</th> <th>OPERATION</th> </tr> </thead> <tbody> <tr> <td>1000</td> <td>Started to load all the equipment on the barge.</td> </tr> <tr> <td>1400</td> <td>Started two barges down the river.</td> </tr> <tr> <td>1830</td> <td>Unloaded the barges at the barge landing.</td> </tr> <tr> <td>2000</td> <td>Started to haul the equipment to the location.</td> </tr> <tr> <td>2300</td> <td>Installed the anchors for the flare line stack and stood the stack.</td> </tr> <tr> <td>2400</td> <td>Shut down for the night.</td> </tr> </tbody> </table>						TIME	OPERATION	1000	Started to load all the equipment on the barge.	1400	Started two barges down the river.	1830	Unloaded the barges at the barge landing.	2000	Started to haul the equipment to the location.	2300	Installed the anchors for the flare line stack and stood the stack.	2400	Shut down for the night.
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2400	Shut down for the night.																		

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-86-A				Date: 98-07-02					
Purpose of Job: Completion				Report #: 37					
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary					
Current Operation: Move in equipment to flow test the well				Code	Item				
				3324.0 m - 3334.0 m	KB				
				3285.0 m - 3302.0 m	KB				
				3285.0 m - 3293.0 m	KB				
				3276.0 m - 3280.0 m	KB				
				3260.0 m - 3272.0 m	KB				
				3234.0 m - 3248.0 m	KB				
				3185.0 m - 3172.0 m	KB				
				3152.0 m - 3159.0 m	KB				
				3134.0 m - 3148.0 m	KB				
				3126.0 m - 3130.0 m	KB				
				3115.0 m - 3122.0 m	KB				
AF# E8D-011				Daily Costs:	\$20,845				
KB Elevation: 459.89 m				Previous Costs:	\$1,434,225				
KB. to CF: 10.35 m				Cummulative Costs:	\$1,454,870				
KB. to THF: 8.60 m				AFE Estimate:	\$3,331,700				
<table border="1"> <thead> <tr> <th>TIME</th> <th>OPERATION</th> </tr> </thead> <tbody> <tr> <td></td> <td>Picked up a Ranger Oil Limited pick-up truck in Fort St. John. Checked on all the trucks bringing up the equipment to Fort Liard. Drove to Fort Nelson. Talked to Cooper Barging and we will start to load the barge at 1000 hours 98-07-03</td> </tr> </tbody> </table>						TIME	OPERATION		Picked up a Ranger Oil Limited pick-up truck in Fort St. John. Checked on all the trucks bringing up the equipment to Fort Liard. Drove to Fort Nelson. Talked to Cooper Barging and we will start to load the barge at 1000 hours 98-07-03
TIME	OPERATION								
	Picked up a Ranger Oil Limited pick-up truck in Fort St. John. Checked on all the trucks bringing up the equipment to Fort Liard. Drove to Fort Nelson. Talked to Cooper Barging and we will start to load the barge at 1000 hours 98-07-03								

RANGER OIL LIMITED

WELL COMPLETION REPORT

Well Name: Ranger Fort Liard P-66-A				Date: 98-07-01	
Purpose of Job: Completion				Report #: 36	
Report From: Wayne Casler/Roy Elliot		Report To: Leroy Brown		Daily Cost Summary	
Current Operation: Move in equipment to flow test the well				Code	Item
				3324.0 m - 3334.0 m KB	
Contractor: N/A		Fluid Vol. m3		Water	Oil
Road/Lease: Good		Total Hauled to Lease:		Nil	
Weather: Clear + 34° C		Total Hauled from Lease:		412.59	
Contact Phone: 403-232-5340		Total In Tanks:		Nil	
Zone: Nahanni		Initial Well Fluid:		Water/Standrill	
Perforations: Under daily costs		Total Load Fluids:		209.12	
SITP N/A KPa @ N/A		Non-recov. Ann. Fluids:		94.70	
SICP N/A KPa @ N/A		Recovery Last 24 hrs.		Nil	
Rig Hr: Nil Cum Rig Hrs.: 456.0		Recovery to Date:		460.04	
		Load to Recover (+New)		345.62	
AFE # E8D-011				Daily Costs: \$67,352	
KB Elevation: 459.89 m				Previous Costs: \$1,368,873	
KB. to CF: 10.35 m				Cumulative Costs: \$1,436,225	
KB. to THF: 8.60 m				AFE Estimate: \$3,331,700	

TIME

OPERATION

Start to mobilize all the equipment. Picked up Roy Elliot in Edmonton and drove to Fort St. John.