N.E.B. COPY

PETRO-CANADA OIL and GAS
COMPLETIONS DEPARTMENT

REPORT ON COMPLETION

AT

PCI et al Tweed Lake M-47

FROM: 04 - 02 - 28 TO 04 - 03 - 16

Prepared by: Jim Messervey

Approved by: Al Congdon
A.J. Congdon
Completions Superintendent

Distribution

Well File - 26 PCCW
NEB ~ Calgary
Field Office
Area Office
Partners - None

PETRO-CANADA OIL and GAS

TABLE OF CONTENTS

PETRO-CANADA OIL & GAS

INTRODUCTION: PCI et al Tweed Lake M-47 was spud on January 11, 1985. Two conductors were set. A 508 mm conductor was cemented to 23 mKB and a 340 mm conductor was cemented to 64 mKB. A 311 mm hole was drilled to 760 mKB and 245 mm casing was stage cemented in place at 760 mKB. A 216 mm main hole was drilled from 760 mKB -1418 mKB and 178 mm 43.1 kg/m production casing was cemented in place to TD. The cement was displaced with drilling mud and the plug was not bumped.

This report covers the completion of PCI et al Tweed Lake M-47 as a Mount Clark Gaswell.

DISCUSSION: Approvals from the NWT Land and Water Board and the NEB were received. Logistics opened up the access road and the lease. A service rig was moved on from Norman Wells on February 28, 2004. The temperature log was run from surface - 680 mKB but could not get deeper due to heavy mud in the casing. A 152.4 mm bit was run and the wellbore was cleaned out to PBD at 1322 mKB. The well was circulated on the trip in to prevent plugging of the bit due to the heavy mud. A 178 mm scraper was run and the casing was double scraped from 1180 - 1250 mKB on the trip in. The well was circulated over to Rimby Platinum frac oil. The fluid level was swabbed down on the trip out to 365 mKB. A cement bond log was run which showed good isolation over the zone of interest and cement into the surface casing above 365 mKB. The well was perforated 6600 kPa underbalanced with 114 mm ERHSC guns. A total of 189 perforations were made in the 178 mm casing and pressure increased from 0 - 5475 kPa during perforating. A 178 mm Halliburton Versaset wireline set/tubing retrievable packer was run but became stuck at 70 mKB. After flowing the well and pumping fluid past the packer the packer became free 20 hours later. Debris still on casing wall and small clearance tolerances were determined as the factor. The packer was set at 1196 mKB with the tail pipe bottom at 1201 mKB. A 73 mm 9.7 kg/m L-80 EUE production string complete with an 9.53 mm injection string clamped on tubing was run. The Halliburton injection nipple complete with 2 check valves was landed 1 pup joint above the packer at 1191.5 mKB for methanol injection. A 9.5 tonne gelled oil frac was completed on the Mount Clark formation injecting 76 m^3 of frac oil into the well. The well flowed on cleanup returning very little sand and recovering 19 m^3 during the 20.5 hour cleanup period. Tandem recorders were run using Real Time measurement. The well was tested at a rate of 147 $\cdot 10^3 m^3/d$ at 10.6 MPa followed by 3 rates of 167 $\cdot 10^3 m^3/d$, 209 $\cdot 10^3 m^3/d$ and a final rate of 263 $\cdot 10^3 m^3/d$ at 9.6 MPa and a fluid rate of 2.4 m^3/d. A BHP of 12.1 MPa after 1 day of build up was recorded. The Real Time recorders were pulled and a 58.75 mm 'PX' plug was set in the on/off at 1195.6 mKB and negative pressure tested then a 73 mm Halliburton 'G' packoff was set on a collar stop at 40 mKB. All equipment was moved off the lease and the wellhead was lock with a combination lock and chain. **Combination lock # 0246.**

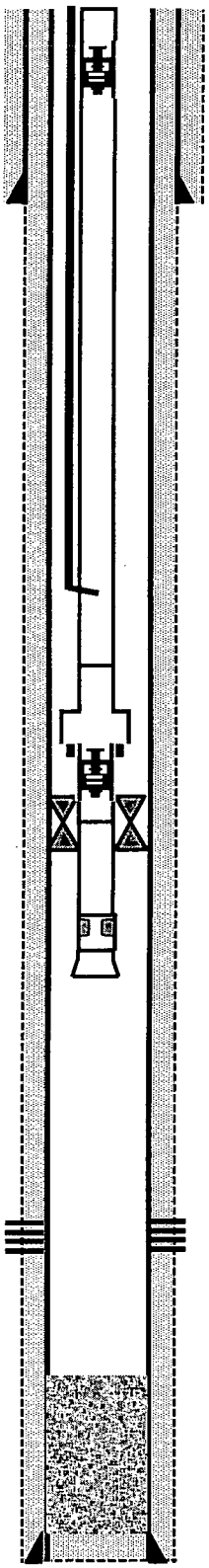
CONCLUSION: PCI et al Tweed Lake M-47 was successfully completed as a Mount Clark Gaswell. The well was suspended with 2 plugs in the tubing as required by the N.E.B.

PETRO-CANADA Oil and Gas

Well Name PCI et al Tweed Lake M-47 **Date** 03/16/04

UWI M-47

Surface Location M-47 **Latitude** N 66 56' 47.11" **Longitude** W 125 54' 9.42"



Elevations					
KB Elevation	435.22 m	KB-CF	6.12 m	TD	1418.00 mKB
GL Elevation	429.10 m	KB-GL	6.12 m	PBTD	1322.00 mKB

Casing	Hole	Jts	OD	Wt.	Grade	Thread		Top	Bottom	
	mm	#	mm	kg/m						
Conductor	610	2	508	140	K-55	BT&C		0.00	23.00	mKB
Conductor	445	5	340	101	K-55	BT&C		0.00	64.00	mKB
Surface	311	61	245	60/65	L-80/S0095	LT&C		0.00	760.00	mKB
Production	216	109	178	43	N-80/S0095	LT&C		0.00	1418.00	mKB
										mKB

MeOH Injection String			
	surface	1191.5	mKB

Annular Fluid	Rimby Platinum frac oil inhibited 0.5% with Baker CRO345 inhibitor.	23.1	m^3

Perforations / Open Hole		Top	Bottom	BHP	BHT	H_2S	CO_2
Date	Formation	(mKB)	(mKB)	(kPa)	(°C)	(%)	(%)
04/03/06	Mount Clark	1222.5	1233.5	12500	11.5	0.00	0.00
	Perforated with 114 mm ERHSC guns loaded with 38.6 gr Powerjet charges set at 17 spm & 60° phasing						

Bottomhole Equipment Description (from top down) depth in mKB

Jts	Description	Length	Top
	KB-THF	5.52	
1	Joint of 73 mm 9.7 kg/m L-80 EUE tubing.	9.53	
3	73 mm EUE 9.7 kg/m L-80 EUE pup joints. (1.25, 2.44, 3.03)	6.72	
1	Joint of 73 mm 9.7 kg/m L-80 EUE tubing.	9.60	
	Collar stop and Brace Oil Tools 'G' pack off set at 40 mKB.	1158.47	
120	joints of 73 mm 9.7 kg/m L-80 EUE tubing.		
	Compression -.23 m and tally to log correction 1.86 m.	1.63	
1	Halliburton 73 mm L-80 EUE chemical injection sub. No profile.	0.80	1191.47
1	3.0 m 73mm L-80 EUE pup joint.	3.07	
1	178 mm x 73 mm EUE Halliburton 'HD' on/off with a 58.75 mm profile.	0.66	1195.34
	58.75 mm 'PX' plug set in on/off profile. Negative pressure tested.		
1	177.8 mm x 73 mm EUE Halliburton "Versaset" double grip retrievable packer, 73mm EUE Connections, HNBR Elements for 43.16 kg/m casing.		1196.00
1	73mm 9.7 kg/m L-80 EUE pup joint.	3.09	
1	73mm EUE Halliburton 'XN' nipple w/ 58.7mm profile and 56.01mm no-go	0.39	1200.99
1	73mm EUE wireline re-entry guide. 98.55 mm OD.	0.15	
	Bottom of re-entry guide set at -		1201.53
1	**9.53mm stainless steel chemical injection line from surface to injection sub**		
	at 1191.47 mKB complete with upper and lower check valves on injection sub.		

Remarks: Plug at 40 mKB requires a 15.8 mm sucker rod 0.91 m long to shear equalizing Kobes knock out prior to pulling plug with a 'GS' pulling tool. Well was left with 6200 kPa below 'G' packoff plug. Pressure was bled off to 0 kPa above 'G' packoff to check integrity. Well suspended as required by N.E.B.

Well Status Suspended Gaswell. **Prepared by** Jim Messervey


PETRO-CANADA
M-47
WID-1600

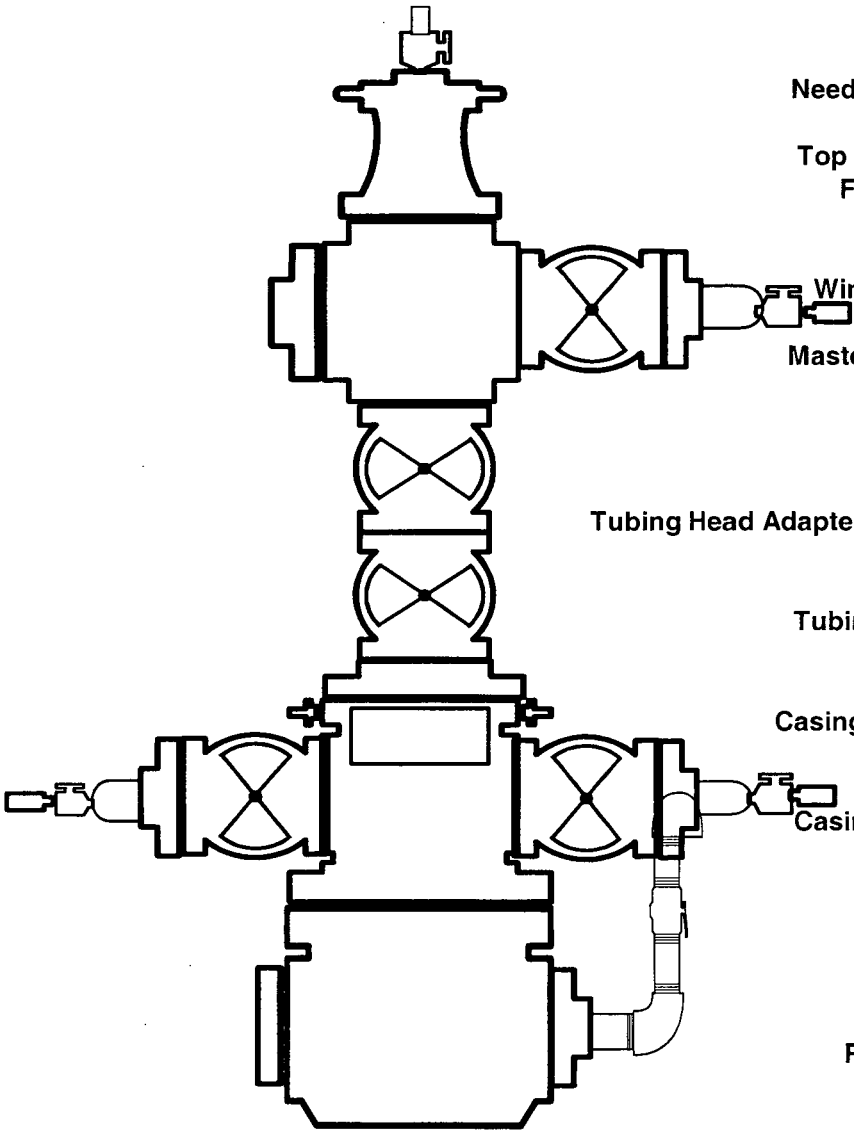
PETROCANADA Oil and Gas

WELLHEAD DIAGRAM AND DETAILS

DATE: **March 16, 2004**

LOCATION **PCI Tweed Lake M-47**

Lease Directions:	Longitude	W 125°	54'	9.42"
	Latitude	N 66°	56'	47.11"
UWI	Unit M, Section 47, Grid Area 67° oo'N; 125° 45'W			



Gauges	
Needle Valve	12.7 mm 42 MPa
Top Adaptor	65 mm 35 MPa with 73 mm lift threads
Flow-Tee	Galaxy studded cross. 65 mm x 65 mm x
	65 mm 35 MPa x 52 mm 21 MPa.
Wing Valve	Crown 52 mm 35 MPa gate valve.
	Serial # 113269-02
Mastervalves	Crown 65 mm 35 MPa gate valve.
	Serial # 91745-07
	Crown 65 mm 35 MPa gate valve.
	Serial # 85942-05
Tubing Head Adapter Flange	Crown dual string bonnet. 179 mm 21 MPa
	x 65 mm 21 MPa. Type 'A-EN' with
	injection line prep. Serial # 115378-167
Tubing Head	Crown 'CTCM' 279 mm x 179 mm 21 MPa
	with 2 - 52 mm outlets. Serial # 116678-03
	Crown 'CP' reducer for short cut casing
Casing Valves	McEvoy 52 mm 21 MPa gate valve.
	McEvoy 52 mm 21 MPa gate valve.
	Serial #'s 115182-27, 110250-22
Casing Head	McEvoy 245 mm x 279 mm 21 MPa.
	Complete with 52 mm blind flange and
	52 mm x 50 mm adaptor flange.
Vent	PC spec 50 mm vent assembly.
Hanger	Crown 'CTC-1A-EN' 179 mm x 73 mm EUE
	with 9.53 mm control line and 63.5 mm BPV
	threads. Serial # 115388-1
Remarks	All valves protected with blind flanges
	tapped 50 mm with bull plugs and needle
	valves.

Prepared by Jim Messervey

PETRO-CANADA Oil and Gas

Pipe Tally Sheet

Location								Date
PCI Tweed Lake M-47								2004-03-06
Description of pipe					Use of string			Page
73 mm	9.7 kg/m	L-80 Grade	EUE Thread		Production			1 of 1

No.	Length (m)	No.	Length (m)	No.	Length (m)	No.	Length (m)	No.	Length (m)	No.	Length (m)	No.	Length (m)
1	9.67	31	9.66	61	9.64	91	9.63	121	9.60	151		181	
2	9.67	32	9.66	62	9.65	92	9.65	122	9.66	152		182	
3	9.67	33	9.67	63	9.61	93	9.65	123✓	9.68	153		183	
4	9.65	34	9.67	64	9.67	94	9.64	124✓	9.66	154		184	
5	9.68	35	9.65	65	9.66	95	9.66	125✓	9.66	155		185	
6	9.66	36	9.63	66	9.63	96	9.65	126✓	9.66	156		186	
7	9.66	37	9.65	67	9.67	97	9.60	127✓	9.62	157		187	
8	9.67	38	9.67	68	9.64	98	9.61	128✓	9.67	158		188	
9	9.66	39	9.64	69	9.64	99	9.63	129✓	9.63	159		189	
10	9.66	40	9.64	70	9.66	100	9.63	130✓	9.60	160		190	
Total	**96.65**		**96.54**		**96.47**		**96.35**		**96.44**				
11	9.67	41	9.66	71	9.67	101	9.62	131✓	9.64	161		191	
12	9.66	42	9.68	72	9.64	102	9.66	132✓	9.67	162		192	
13	9.67	43	9.63	73	9.64	103	9.65	133✓	9.66	163		193	
14	9.67	44	9.67	74	9.65	104	9.64	134✓	9.61	164		194	
15	9.67	45	9.67	75	9.66	105	9.67	135✓	9.68	165		195	
16	9.67	46	9.62	76	9.66	106	9.68	136✓	9.66	166		196	
17	9.67	47	9.68	77	9.64	107	9.67	137✓	9.67	167		197	
18	9.68	48	9.63	78	9.60	108	9.67	138✓	9.67	168		198	
19	9.62	49	9.63	79	9.64	109	9.68	139✓	9.64	169		199	
20	9.67	50	9.66	80	9.67	110	9.69	140✓	9.68	170		200	
Total	96.65		96.53		96.47		96.63		96.58				
21	9.67	51	9.67	81	9.66	111	9.62	141✓	9.67	171		Pup Joints	
22	9.68	52	9.62	82	9.63	112	9.63	142✓	9.65	172			
23	9.67	53	9.64	83	9.66	113	9.63	143✓	9.67	173		1	3.07
24	9.63	54	9.67	84	9.67	114	9.62	144✓	9.67	174		2	3.03
25	9.67	55	9.67	85	9.62	115	9.68	145✓	9.67	175		3	2.44
26	9.66	56	9.66	86	9.65	116	9.64	146		176		4	2.46
27	9.67	57	9.67	87	9.65	117	9.62	147		177		5	1.86
28	9.68	58	9.69	88	9.63	118	9.66	148		178		6	1.85
29	9.64	59	9.68	89	9.66	119	9.66	149		179		7	1.25
30	9.67	60	9.68	90	9.65	120	9.65	150		180		8	1.25
	96.64		96.65		96.48		96.41		48.33				17.21

1-10	96.65	101-110	96.63	1-100	965.43
11-20	96.65	111-120	96.41	101-200	434.39
21-30	96.64	121-130	96.44	Pups	17.21
31-40	96.54	131-140	96.58	Page Total	1417.03
41-50	96.53	141-150	48.33		
51-60	96.65	151-160		Page Total	
61-70	96.47	161-170			
71-80	96.47	171-180		Page Total	
81-90	96.48	181-190			
91-100	96.35	191-200		Grand Total	1417.03
Total	965.43	Total	434.39		

Note: All joints delivered to lease must be tallied.
Check mark joints not run for final string.

Total Full Joints on Location 145
Total Full Joints left in Well 122

On Material Transfer # B783031-02 sent 23 joints
to Superior Pipe Inspection via Pentastar Trucking

Remarks: 0.65, 0.65. Extra pups.

Supervisor Jim Messervey

PETRO-CANADA Oil and Gas

WELLBORE LOAD FLUID REPORT

2003-07-01

Location	PCI Tweed Lake M-47	Supervisor	Jim Messervey
Job Description	Complete as a Mount Clark Gaswell		

DATE (Y/M/D)	CARRIER AND TICKET NUMBERS	FLUID IN		FLUID OUT		DOW	NDOW	WASTE CODE	LOCATION FROM OR TO / WASTE MANIFEST # IF DOW (Include typoe of water source, ie well, creek, etc.)
		TYPE	m^3	TYPE	m^3				
2004-02-28	Casing volume at start of job.	Muddy water	25.60				X		Lac Belot.
2004-02-29	SRP Delta 3. No tickets.	Fresh water	13.00				X		Lac Belot.
2004-03-02	SRP Delta 3. No tickets.	Fresh water	13.00				X		Lac Belot.
2004-02-26	Millard Trucking # 74971. Arrived Feb. 29	Frac Oil	25.00				X		Syn Oil Fluids Inc.
2004-02-26	Millard # 76977	Frac Oil	30.00				X		Syn Oil Fluids Inc.
2004-02-26	Millard # 77068	Frac Oil	25.00				X		Syn Oil Fluids Inc.
2004-03-03	Millard # 74972. Arrived @ CCS Mar 6			Dirty Water	25.00		X		CCS Rainbow Lake 16-32-110-5W6 Federal Manifest # 1798096-02
2004-03-03	Millard # 76978. Arrived @ CCS Mar 6			Dirty water	10.00		X		CCS Rainbow Lake 16-32-110-5W6 Federal Manifest # 1798096-02
2004-03-03	Millard # 77069. Arrived @ CCS Mar 6			Dirty water	17.00		X		CCS Rainbow Lake 16-32-110-5W6 Federal Manifest # 1798096-02
2004-03-10	Eveready (D&G) # RL2802			Produced oil and methanol	20.00		X		CCS Rainbow Lake 16-32-110-5W6 Federal Manifest # 1798097-0
2004-03-14	Millard Trucking # 77070			Produced oil and methanol	21.00		X		CCS Rainbow Lake 16-32-110-5W6 Federal Manifest # 1798099-06
2004-02-29	Brentag methanol purchased.	Methanol	10.00			X			Brentag Canada Leduc.

TOTALS		141.6	93.0
FLUIDS TO RECOVER	48.00 **m^3 Oil**		
	m^3 Water		

Total Produced Gas flared or vented: 496.1 $\cdot 10^3 m^3$

Note:

1. Report all fluid transfers **EXCEPT** water for camps, shacks or boilers (to be reported on Auxiliary Water Report).
2. A copy of this report must be submitted to the Production Department by the 2nd day of each month.
3. The report will assist Production Accounting to confirm volumes of fluids shipped to/from the facility.
4. Submit original with the final report.

PETRO-CANADA Oil and Gas

AUXILIARY WATER REPORT

2003-07-01

Location	PCI Tweed Lake M-4	Supervisor	Jim Messervey
Job Description	Complete as a Mount Clark Gaswell		

DATE (Y/M/D)	CARRIER AND TICKET NUMBERS	WATER IN		WATER OUT		LOCATION FROM OR TO (include type of source, ie well, creek, etc.)
		USE	m³	TYPE	m³	
2004-02-29	SRP North Ventures. Total for February.	Camp	60.00			Colville Lake.
2004-02-28	SRP North Ventures. Total for February.	Boiler	20.00			Lac Belot.
2004-03-02	SRP North Ventures. 2 days.	Camp	14.00			Colville Lake.
2004-03-11	SRP Delta 3. Updated when boiler shut down	Boiler	45.00			Lac Belot.
2004-03-13	SRP North Ventures. Shack water to date.	Shack	7.00			Colville Lake.
2004-03-16	SRP North Ventures. Camp water final.	Camp	98.00			Colville Lake.
	TOTALS		244.0			

Boiler Blowdown water 65.00 m³ from 04/02/28 (yy/mm/dd) to 04/03/11 (yy/mm/dd)

Note:

1. Report all water for camps, shacks or boilers.
2. Submit original with the final report.

PETRO-CANADA Oil and Gas

Daily Operations Report

11520E(9412)

Location	Date	Report No.
PCI et al Tweed Lake M-47	2004-02-28	1.1
Job Description	**AFE or Prop. Code**	**Amount**
Complete as a Lower Mount Clark Gaswell	B783031	$4,883,005

Tubing pressure: 0 kPa Casing pressure: 0 kPa H2S conc. 0

Received Application from Land and Water board 04-02-19. PCOG Logistics started preparing road and lease 04-02-20. PCOG Logistics moved in and rigged up Shanko 40 man camp onto site 04-02-24. Received Approval to Alter Well from NEB 04-02-23. Contacted NEB and started ERP 04-02-25. Started to move Shehtah rig #14 and related equipment form Norman Wells on 04-02-26; rig broke down on ice road. Held PCOG safety orientation with all available personnel. Rig buildings, pump and tank on lease. SRP moved on Northlands P-tank, tank skid, tool room and flare stack. Spotted equipment as per NEB and PCOG specifications. Spotted rig tank and pump. SRP truck had to leave lease for road assistance of other trucks moving Apache drilling rig. Waited for truck to return. Continued spotting equipment. Set up 3 - 63 m³ Smokey Oilfield double walled tanks for fluid storage. Moved on 2.0 mm BTU Northland line heater, unloaded 3 rental light towers from SRP, wellsite shack from Howards and Weatherford swivel, collars, crossovers and bits.

04-02-28

Moved on Shehtah rig #14 service rig carrier and Schlumberger wireline unit. Completed PCOG orientations with all personnel discussing ERP, camp policies, program outline and expected time lines. Spotted and rigged up equipment to N.E.B. and PCOG policies. Filled and fired boiler. Drained boiler to change out broken fitting on bottom of boiler. Rigged up Schlumberger wireline unit. Ran temperature tool and logged down from 10 mKB to 680 mKB; noted tools hung up in heavy mud, would go down but required working of tool string to get deeper.

continued on page 2

Daily Fluid:				Lost	Recovered	Cum. Fluid:				Lost	Recovered
	Oil	_____	m3	☐	☐		Oil	_____	m3	☐	☐
	Water	_____	m3	☐	☐		Water	_____	m3	☐	☐

Day cost	Cumulative cost	Supervisor
		Jim Messervey / Fred Feduniak
Man hours	**Cumulative man hours**	**Mobile number and area**
		1-600-700-8108 / 1-600-700-7884

PETRO-CANADA Oil and Gas

Daily Operations Report

11520E(9412)

Location	Date	Report No.
PCI et al Tweed Lake M-47	2004-02-28	1.2
Job Description	**AFE or Prop. Code**	**Amount**
Complete as a Lower Mount Clark Gaswell	B783031	$4,883,005

Tubing pressure: 0 kPa Casing pressure: 0 kPa H2S conc. 0

Noted temperature changed from -0.5°C to 2.2°C over length of log. Rigged out wireline unit. Unloaded 145 joints 73 mm 9.7 kg/m L-80 EUE tubing, 2 sets of pup joints and Stream-Flo wellhead and accessories. Removed existing wellhead top section and tubing head. Cleaned out around casing slips and re-dressed casing stub. Installed 279 mm x 179 mm 21 MPa Crown Type 'CTCM' tubing head with a 279 mm x 179 mm Crown 'CP' reducer bushing for short cut off casing and 179 mm x 65 mm 35 MPa top section. Pressure tested secondary seals to 17 MPa foe 10 minutes, okay. Unloaded methanol and Halliburton equipment from truck to 2400 hours. Worked on boiler.

Daily Fluid:				Lost	Recovered	Cum. Fluid:				Lost	Recovered
	Oil	_____	m3	☐	☐		Oil	_____	m3	☐	☐
	Water	_____	m3	☐	☐		Water	_____	m3	☐	☐

Day cost	Cumulative cost	Supervisor
$487,730	$487,730	Jim Messervey / Fred Feduniak
Man hours	**Cumulative man hours**	**Mobile number and area**
892	892	1-600-700-8108 / 1-600-700-7884

PETRO-CANADA Oil and Gas

Daily Operations Report

11520E(9412)

Location	Date	Report No.
PCI et al Tweed Lake M-47	2004-02-29	2
Job Description	**AFE or Prop. Code**	**Amount**
Complete as a Lower Mount Clark Gaswell	B783031	$4,883,005

Tubing pressure: 0 kPa Casing pressure: 0 kPa H2S conc. 0

Continued to work on boiler; steam returns to water tank at 0300 hours. Light plant for rig went down. Restarted light plant; could not continue running due to engine failure. Worked on changing out generator. Drained boiler to prevent freezing. Moved over standby support unit generator from camp. Held pre-job operational safety meeting with day shift. Worked on light plant and powered up rig. Filled and fired boiler. Boiler pressured up and a valve on the float column began leaking bad. Shut down boiler, waited on tank truck and drained fluid level down with tank truck below valve level. Changed out valve. Filled and fired boiler. Steam returns back to boiler at 1600 hours. Nabors light plant on location. Switched light plants and returned support unit. Steamed through pump lines to warm up. Heated double gate BOP's. Stump tested blind rams to 2000 kPa and 18 MPa for 10 minutes each. Held pre-job operational safety meeting with night shift. Removed wellhead top section and installed 179 mm 21 MPa Class III BOP's. Rigged up floor and installed tarps around BOP's and floor. Installed heater under tarp and warmed up BOP's to 2400 hours.

Temperature = -39°C and wind = ± 12 km/hr.

Daily Fluid:				Lost	Recovered	Cum. Fluid:				Lost	Recovered
	Oil	_____	m3	☐	☐		Oil	_____	m3	☐	☐
	Water	_____	m3	☐	☐		Water	_____	m3	☐	☐

Day cost	Cumulative cost	Supervisor
$128,910	$616,640	Jim Messervey / Fred Feduniak
Man hours	**Cumulative man hours**	**Mobile number and area**
664	1556	1-600-700-8108 / 1-600-700-7884

PETRO-CANADA Oil and Gas

Daily Operations Report

11520E(9412)

Location	Date	Report No.
PCI et al Tweed Lake M-47	2004-03-01	3
Job Description	**AFE or Prop. Code**	**Amount**
Complete as a Lower Mount Clark Gaswell	B783031	$4,883,005

Tubing pressure: 0 kPa Casing pressure: 0 kPa H2S conc. 0

Continued warming up BOP's and started PCOG rig inspection. Tallied top row of tubing and function tested BOP's; noted annular would not close. Closed blind rams and applied steam to BOP's to warm annular. Made up line to pressure test and noted work spool valve was frozen. Thawed out valve and landed 179 mm x 60 mm EUE Type CTC tubing hanger complete with 60 mm x 73 mm swedge and 73 mm pup joint. Attempted to pressure test without success; leaking past tubing hanger. Attempted to pull tubing hanger without success. Held pre-job operational safety meeting with day shift discussing program of operations, safety while pressure testing and safety around steam. Thawed and pulled tubing hanger from tubing spool; checked seal, okay. Landed tubing hanger and tightened lock down screws. Poured 20 litres methanol down into BOP's and closed pipe rams. Pressure tested pipe rams and flange connection to 2000 kPa and 18 MPa and annular to 2000 kPa and 16 MPa for 10 minutes each, okay. Rigged up floor and thread washers. Completed PCOG rig inspection. Ran:

- 152.4 mm Varel centre bored tri-cone bit
- 89 mm REG x 60 mm IF bit sub
- 6 - 89 mm drill collars
- 60 mm IF x 73 mm EUE crossover
- 62 joints 73 mm 9.7 kg/m L-80 EUE tubing

Caught sample from displacement fluid while running in hole; water salinity = 200,000 ppm. Held pre-job operational safety meeting discussing pump operational safety. Made up lines to reverse circulate well at 656 mKB. Reverse circulated well clean; recovered some heavy mud and mixture of mud and water; mud salinity = 240,000 ppm and pH = 8. Stopped pumping and blew out lines. Ran 43 joints 73 mm 9.7 kg/m L-80 EUE tubing. Prepared to reverse circulate well at 1073 mKB to 2400 hours.

Note: Held camp fire drill; good response.
Note: cost includes Apache road use of $500,000

Daily Fluid:				Lost	Recovered	Cum. Fluid:				Lost	Recovered
	Oil	_____	m3	☐	☐		Oil	_____	m3	☐	☐
	Water	_____	m3	☐	☐		Water	_____	m3	☐	☐

Day cost	Cumulative cost	Supervisor
$548,395	$1,165,035	Jim Messervey / Fred Feduniak
Man hours	**Cumulative man hours**	**Mobile number and area**
351	1907	1-600-700-8108 / 1-600-700-7884

PETRO-CANADA Oil and Gas

Daily Operations Report

11520E(9412)

Location	Date	Report No.
PCI et al Tweed Lake M-47	2004-03-02	4
Job Description	**AFE or Prop. Code**	**Amount**
Complete as a Lower Mount Clark Gaswell	B783031	$4,883,005

Tubing pressure: 0 kPa Casing pressure: 0 kPa H2S conc. 0

Reverse circulated wellbore to clean out drilling mud with bit at 1073 mKB. Continued to run 26 joints 73 mm 9.7 kg/m L-80 EUE tubing and tagged PBD at 1322 mKB with 131 full joints in hole. Reverse circulated wellbore with fresh water until drilling mud was removed; noted water was still dirty. Held pre-job operational meeting with day shift. Pulled and stood 130 joints 73 mm tubing. Laid down 6 - 89 mm drill collars, crossovers and bit. Rigged up Schlumberger wireline unit complete with stub lubricator. Ran GR-CCL-CBT-VDL high speed overview from 720 mKB to 1320 mKB which indicated cement top was higher than 150 mKB but loggers did not show this on log print. Correlated log on depth to Schlumberger Sonic GR dated January 29, 1985 and logged repeat pass from 1320 mKB to 1312 mKB and main pass from 1320 mKB to 722 mKB which indicated isolation above and below zone of interest and some patchy cement through out log; noted 50% or better bond over most of log. Rigged out wireline unit. Drifted in derrick and ran:

- 152.4 mm Varel tri-cone rock bit
- 178 mm casing scraper
- 89 mm REG x 73 mm EUE crossover
- 31 joints 73 mm 9.7 kg/m L-80 EUE tubing

Held pre-job operational safety meeting with night shift discussing drifting from derrick while running tubing. Continued to run:

- 91 joints 73 mm 9.7 kg/m L-80 EUE tubing.

Rotated and reciprocated casing scraper from 1180 mKB to 1250 mKB. Continued to run:

- 14 joints 73 mm 9.7 kg/m L-80 EUE tubing to 2400 hours.

Conducted 10 minute bubble test on surface casing vent and noted no bubbles.

Daily Fluid:				Lost	Recovered	Cum. Fluid:				Lost	Recovered
	Oil		m3	☐	☐		Oil		m3	☐	☐
	Water		m3	☐	☐		Water		m3	☐	☐

Day cost	Cumulative cost	Supervisor
$54,930	$1,219,965	Jim Messervey / Fred Feduniak
Man hours	**Cumulative man hours**	**Mobile number and area**
321	2228	1-600-700-8108 / 1-600-700-7884

PETRO-CANADA Oil and Gas

Daily Operations Report

11520E(9412)

Location	Date	Report No.
PCI et al Tweed Lake M-47	2004-03-03	5
Job Description	**AFE or Prop. Code**	**Amount**
Complete as a Lower Mount Clark Gaswell	B783031	$4,883,005

Tubing pressure: 0 kPa Casing pressure: 0 kPa H2S conc. 0

Ran 2 x 73 mm pup joints and tagged PBD at 1322 mKB. Pulled up 1.25 m and poured 60 litres of methanol down tubing. Installed and closed stabbing valve. Poured 120 litres of methanol down annulus and closed pipe rams. Filled wellbore and pressure tested casing to 10 MPa; bumped up pressure 3 times and held 10 MPa for 10 minutes solid. Moved on tank truck containing 25 m^3 Rimbey Platinum from nearby Apache well. Transfered fluid to Millard Trucking tank truck. Tied Millard tank truck into pump suction. Reverse circulated well over to Rimbey Platinum frac fluid. Recovered 24 m^3 dirty water from casing. Held pre-job operational safety meeting discussing program changes and safety during tripping pipe. Loaded Millard Trucking with 53 m^3 dirty water and sent south to CCS Rainbow Lake for disposal. Pulled and stood 16 joints 73 mm tubing. Poured new rope socket on sand line for swabbing. Pulled 8 swabs and recovered 11.3 m^3 frac fluid; effective fluid level will be at 583 mKB or 4.7 MPa hydrostatic pressure. Pulled and stood 120 joints 73 mm tubing, laid down crossover, scraper and bit. Started rigging up Schlumberger wireline unit at 1600 hours. Held pre-job operational safety meeting with night shift discussing safety while perforating. Prepared to run gauge ring in hole; Schlumberger not ready until 2100 hours. Ran a 151.5 mm gauge ring / junk basket to 1319 mKB; casing clean. Noticed slight weight change at 520 mKB when pulling out of hole (probable fluid level) and at 366 mKB. Noted junk basket was free of debris and injector head was froze up; operator suspected that pack off rubber may have been dragging as there was no grease getting to the line, electric line was dry. Worked on correcting grease injector head problem to 2400 hours.

				Lost	Recovered					Lost	Recovered
Daily Fluid:	Oil	12.7	m3	☒	☐	Cum. Fluid:	Oil	12.7	m3	☒	☐
	Water		m3	☐	☐		Water		m3	☐	☐

Day cost	Cumulative cost	Supervisor
$190,365	$1,410,330	Jim Messervey / Fred Feduniak
Man hours	**Cumulative man hours**	**Mobile number and area**
382	2610	1-600-700-8108 / 1-600-700-7884

PETRO-CANADA Oil and Gas

Daily Operations Report

11520E(9412)

Location	Date	Report No.
PCI et al Tweed Lake M-47	2004-03-04	6
Job Description	**AFE or Prop. Code**	**Amount**
Complete as a Lower Mount Clark Gaswell	B783031	$4,883,005

Tubing pressure: 0 kPa Casing pressure: 0 kPa H2S conc. 0

Continued to work on Schlumberger grease injection. Attempted lubricator pressure testing but leaked down past blind rams. BOP's not holding pressure from top side of rams but no external leaks on lubricator. Schlumberger released to get rest at 0600 hours. Woke up Schlumberger at 1200 hours. Made up a 6 m 114 mm ERHSC gun loaded with 38.6 gr Powerjet 4505 charges set at 17 spm and 60° phasing. Held pre-arming safety meeting with all personnel discussing road block and communications shut down. Picked up gun into lubricator and made up to well. Ran in the hole and correlated on depth to the Schlumberger bond log dated March 2, 2004. **Perforated the Mount Clark from 1227.5 - 1233.5 mKB.** All shots 101 shots fired. Pressure increased to 5200 kPa in 65 minutes. Ran in the hole with a 5 m 114 mm ERHSC gun loaded with 38.6 gr Powerjet charges set at 17 spm and 60° phasing. Correlated gun into position and **perforated the Mount Clark from 1222.5 - 1227.5 mKB.** All 85 shots fired. Pressure at 5310 kPa. Checked, tallied, picked up, and ran the following BHA on wireline (pressure at5475 kPa):

- 73 mm EUE wireline re-entry guide.
- 73 mm EUE Otis 'XN' nipple with a 58.75 mm profile and 56.0 mm no-go.
- 3 m 73 mm 9.7 kg/m L-80 EUE pup joint.
- 178 mm Halliburton Versaset double grip wireline set retrievable packer.
- 73 mm EUE on/off slick joint with a 58.75 mm 'X' profile.
- Baker model 20 setting tool with a slow settting charge.

Packer hung up at 41 mKB. Could not pull up but could go down. Ran to 70 mKB and packer hung up again. Could not move up or down. Worked packer up to 775 daN staying at 75% of rope socket pull strength. Rigged in testers and flowed well recovering gas and 5.3 m^3 fluid to p-tank. Pressure dropped to 3800 kPa. Packer did not move. Prepare to pump down casing at 2400 hours.

Cum gas flared = 0.63 $\cdot 10^3 m^3$
Recovered load oil = 5.3 m^3

				Lost	Recovered					Lost	Recovered
Daily Fluid:	Oil	5.3	m3	☐	☒	Cum. Fluid:	Oil	7.4	m3	☒	☐
	Water		m3	☐	☐		Water		m3	☐	☐

Day cost	Cumulative cost	Supervisor
$149,475	$1,559,805	Jim Messervey / Fred Feduniak
Man hours	**Cumulative man hours**	**Mobile number and area**
376	2986	1-600-700-8108 / 1-600-700-7884

PETRO-CANADA Oil and Gas

Daily Operations Report

11520E(9412)

Location	Date	Report No.
PCI et al Tweed Lake M-47	2004-03-05	7
Job Description	**AFE or Prop. Code**	**Amount**
Complete as a Lower Mount Clark Gaswell	B783031	$4,883,005

Tubing pressure: 0 kPa Casing pressure: 0 kPa H2S conc. 0

0000hrs Pumped 4.2 m^3 of frac oil down casing with 2.8 m^3 going past stuck packer at 0.5 m^3/min. Packer did not move. Opened well to test equipment and flowed back fluid from casing at 48.7 - 34.05 $\cdot 10^3 m^3/d$. Recovered 4.2 m^3. Shut in well. Monitored pressure until morning. Held pre-job operational safety meeting. Attempted to work packer free. Opened well through to testers flare and flowed well at rates from 50.4 - 69.8 $10^3 m^3/d$ with pressures from 8450 kPa - 5400 KPa. Flowed for 60 minutes recovering 3.3 m^3 of frac oil. Shut in well and monitored build up pressures. Continued to work packer. Packer began moving down hole. Ran the Halliburton 178 mm Versaset packer and tail pipe with as listed on March 4 report. **Set packer at 1196 mKB** with a Baker slow setting charge. Tail pipe bottom at 1201.53 mKB and 'XN' nipple landed at 1200.9 mKB. Opened casing through testers and bled off pressure above packer (10183 kPa) in 45 minutes for a negative pressure test. Left well shut in to check packer integrity. Open well to rig tank - no pressure, packer is holding. Rigged in kill line and suction to 63 m^3 tank. Picked up and assembled on/off overshot onto pup joint. Tallied, drifted, threadwashed the 73 mm tubing while installing 9.53 mm stainless injection line for methanol injection. Ran:

- 178 mm x 73 mm EUE on/off overshot.
- 3 m 73mm 9.7 kg/m L-80 EUE pup joint.
- 73 mm L-80 EUE Halliburton injection sub with 2 - 9.53 mm stainless check valves.
- 21 joints 73mm 9.67 kg/m L-80 EUE tubing to 2400 hours.

All connections have 73 mm Cannon control line protectors installed over a 9.53 mm stainless tubing injection line.

Gas Flared in last 24 hours: $3.57 \cdot 10^3 m^3$
Cum Gas flared to date: $4.2 \cdot 10^3 m^3$
Frac oil recovered today: 7.65 m^3

Daily Fluid:				Lost	Recovered	Cum. Fluid:				Lost	Recovered
	Oil	7.65	m3	☐	☒		Oil	0.25	m3	☐	☒
	Water		m3	☐	☐		Water		m3	☐	☐

Day cost	Cumulative cost	Supervisor
$87,685	$1,647,490	Jim Messervey / Fred Feduniak
Man hours	**Cumulative man hours**	**Mobile number and area**
364	3350	1-600-700-8108 / 1-600-700-7884

PETRO-CANADA Oil and Gas

Daily Operations Report

11520E(9412)

Location	Date	Report No.
PCI et al Tweed Lake M-47	2004-03-06	8
Job Description	**AFE or Prop. Code**	**Amount**
Complete as a Lower Mount Clark Gaswell	B783031	$4,883,005

Tubing pressure: 0 kPa Casing pressure: 0 kPa H2S conc. 0

Continued to run in the hole with 73 mm production tubing and 9.53 mm injection line:

- 103 joints of 73 mm 9.7 kg/m L-80 EUE tubing. Complete with Canon clamps and 9.53 mm injection tubing clamped every connection.

Latched the on/off tool. Spaced out for 4000 daN compression. Pulled and laid down:

- 3 joints of 73 mm 9.7 kg/m L-80 EUE tubing.

Ran:

- 3 - 73 mm 9.7 kg/m L-80 EUE pup joints (1.85, 2.44, 3.03 m).
- 1 joint of 73 mm 9.7 kg/m L-80 EUE tubing.

Installed Canon clamps on all connections. Total of 122 full joints in well. Installed clamp half way on joint. Made up Stream -Flo 179 mm x 73 mm EUE 'CTC' 1A EN tubing hanger with a 9.53 mm injection port. Installed swedge lock fitting into hanger and pressure tested fitting to 28 MPa; held for 10 minutes. Connected injection tubing to fitting. Landed hanger with tubing in 4000 daN compression. Pulled 6000 daN over string weight to ensure on/off latched. Landed hanger . Installed 63.5 mm back pressure valve into hanger. Rigged out floor and removed BOPs. Installed the Stream-Flo 179 mm 21 MPa x 65 mm 35 MPa wellhead top section. Held safety meeting with night crew. Pressure tested the wellhead to 21 MPa with methanol; held. Filled the tubing with 3 m^3 of frac oil. Pressure tested the tubing to 10 MPa; held. Rigged up Schlumberger wireline with IPS slickline tools adapted to e-line. Ran in and pulled prong out of lock to 2400 hours.

Gas flared: $0.0 \cdot 10^3 m^3$
Cum Gas flared to date : $4.2 \cdot 10^3 m^3$

				Lost	Recovered					Lost	Recovered
Daily Fluid:	Oil	3.0	m3	☒	☐	Cum. Fluid:	Oil	2.75	m3	☒	☐
	Water		m3	☐	☐		Water		m3	☐	☐

Day cost	Cumulative cost	Supervisor
$93,755	$1,741,245	Jim Messervey / Fred Feduniak
Man hours	**Cumulative man hours**	**Mobile number and area**
386	3736	1-600-700-8108 / 1-600-700-7884

PETRO-CANADA Oil and Gas

Daily Operations Report

11520E(9412)

Location	Date	Report No.
PCI et al Tweed Lake M-47	2004-03-07	9
Job Description	**AFE or Prop. Code**	**Amount**
Complete as a Lower Mount Clark Gaswell	B783031	$4,883,005

Tubing pressure: 0 kPa Casing pressure: 0 kPa H2S conc. 0

Ran a 38.1 mm 'GS' pulling tool and latched onto 'PX' lock mandrel. Jarred lock mandrel free from nipple and recovered same. Rigged out and moved off Schlumberger wireline unit. Tied testers line into wing valve and methanol line onto wellhead. Began methanol injection and prepared to open well on pre-frac flow. Rigged out service rig. Mixed 120 litres CRO345 inhibitor into 20 m^3 of Rimbey Platinum frac oil. Filled casing and pressure tested to 10 MPa, okay. Held pre-job safety meeting discussing safety during flowing operations. Opened well to manifold; shut in and repaired leak. Opened well to flow **Lower Mount Clark interval** on a 5.56 mm choke:

Time	TP kPa	Q 10^3m^3d	HC Liquids m^3/d	cum m^3	Remarks
0559	3650				opened well on a 5.56 mm choke
0600	3650				fluid to surface
0700	8763	60.7	86.4	3.6	choke = 6.35 mm
0800	8968	66.3	0.00	3.6	well flowing dry
1000	9091	66.6	0.00	3.6	Core lab preparing to sample
1200	9126	68.9	0.00	3.6	samples caught 1100 hours
1400	9138	68.2	0.00	3.6	no other BS&W
1500	9157	66.3	0.00	3.6	shut in well, recorded buildup
1515	11103				
1530	11126				
1600	11133				
1800	11107				
2000	11109				
2400	11094				

Moved on and spotted Halliburton frac equipment; made up pumping line. Laid down service rig and moved off to edge of lease. Encountered boiler problems again. Light plant for rig failed and support unit was moved from camp again for power on rig. Continued to monitor pressures.

gas flared = 24.94 $\cdot 10^3m^3$
Cum gas flared to date = 29.14 $\cdot 10^3m^3$

				Lost	Recovered					Lost	Recovered
Daily Fluid:	Oil	3.6	m3	☐	☒	Cum. Fluid:	Oil	0.85	m3	☐	☒
	Water		m3	☐	☐		Water		m3	☐	☐

Day cost	Cumulative cost	Supervisor
$152,200	$1,893,445	Jim Messervey / Fred Feduniak
Man hours	**Cumulative man hours**	**Mobile number and area**
430	4166	1-600-700-8108 / 1-600-700-7884

PETRO-CANADA Oil and Gas

Daily Operations Report

11520E(9412)

Location	Date	Report No.
PCI et al Tweed Lake M-47	2004-03-08	10.1
Job Description	**AFE or Prop. Code**	**Amount**
Complete as a Lower Mount Clark Gaswell	B783031	$4,883,005

Tubing pressure: 11094 kPa Casing pressure: 0 kPa H2S conc. 0

Held pre-job operational safety meeting discussing fire protection. Eveready hot oiler heated 80 m³ Rimbey Platinum frac oil to 25°C with Safety Boss fire protection on standby. Noted Halliburton personnel on location at 0600 hours. Conducted fluid analysis and sand sieve. Installed Stinger isolation tool and tied testers into Stinger choke for forced closure. Tied in 50 mm line from casing to to rig tank. Installed and set annular relief valve at 12 MPa and held 9 MPa on annulus using hot oiler. Held pre-job operational safety meeting with all personnel discussing P.P.E and program of operations. Pressure tested surface lines to 54 MPa; repaired several leaks. Pumped first minifrac; 10.0 m³ My-T- Oil containing MO85/86 at 1.0 l/m³ and MOIV breaker at 2.0 l/m³ at 2.0 m³/min and displaced with 1.4 m³ My-T-Oil. Noted breakdown occurred at 32.5 MPa and engine on pumper failed; piston laying on ground. Shut down pumps and assessed damage. ISIP = 10.9 MPa and average pumping pressure = 25 MPa. Noted closure pressure was not determined due to shut in. Pumped second minifrac; 10 m³ My-T-Oil as above and displaced with 4.0 m³ My-T-Oil at 2.1 m³/min and average pumping pressure of 18 MPa. Shut down pumps. ISIP = 11.6 MPa and closure pressure = 7.5 MPa. Completed analysis on mini fracs and contacted Calgary with results; noted high leakoff. Pumped 18 m³ of a 26 m³ My-T-Oil pad at 2.5 m³/min when pump failed. Stopped and fixed valve. Started pumping again at the same rate for the remaining 8 m³ of pad. Added 9.8 tonnes 20/40 sand with ramp from 100 kg/m³ to 800 kg/m³ in 20 m³ My-T-Oil containing MO85/86 at 3.0 /m³ and increasing MOIV breaker from 8.5 to 10 l/m³ over 8 stages of sand. Average treating pressure = 20 MPa. Displaced with 4.0 m³ My-T-Oil at a final pressure of 24 MPa.

continued on page 2

Daily Fluid:				Lost	Recovered	Cum. Fluid:				Lost	Recovered
	Oil	_____	m3	☐	☐		Oil	_____	m3	☐	☐
	Water	_____	m3	☐	☐		Water	_____	m3	☐	☐

Day cost	Cumulative cost	Supervisor
		Jim Messervey / Fred Feduniak
Man hours	**Cumulative man hours**	**Mobile number and area**
		1-600-700-8108 / 1-600-700-7884

PETRO-CANADA Oil and Gas

Daily Operations Report

11520E(9412)

Location	Date	Report No.
PCI et al Tweed Lake M-47	2004-03-08	10.2
Job Description	**AFE or Prop. Code**	**Amount**
Complete as a Lower Mount Clark Gaswell	B783031	$4,883,005

Tubing pressure: 0 kPa Casing pressure: 0 kPa H2S conc. 0

Shut down pumps. ISIP = 14.8 MPa, 15 minute SIP = 4.3 MPa and closure pressure = 9 MPa. Total load fluid = 76 m^3. Sand in formation = 9.5 tonne and sand left in tubulars = 300 kg. Noted forced closure not required. Rigged out Halliburton equipment. Cleaned up motor oil and frac oil from ground. Removed Stinger isolation tool. Left well shut in for 5 hours to allow gel to break. Flowed **Lower Mount Clark interval 1222.5 - 1233.5 mKB** on cleanup:

Time	TP kPa	Q 10^3m^3d	HC Liquids m^3/d	cum m^3	Remarks
2000	2936				opened well on a 9.5 mm choke
2100	9870	91.5	144.0	6.00	sand = 10%
2200	10154	103.9	31.2	7.30	sand = 1.0%, choke = 10.3 mm
2300	10119	130.1	48.0	9.30	sand = 10%
2400	10201	136.2	25.2	10.35	sand = 0.5%

Injected methanol at 10 liters/ hour. Noted meter run temperature = -4°C and wellhead temp = -7°C. Continued to flow well on cleanup throughout the night.

Gas flared in 4 hours = 17.64 $\cdot 10^3m^3$
Cum gas flared to date = 46.78 $\cdot 10^3m^3$
Fluid pumped during frac = 76.00 m^3
Load fluid recovered today = 10.35 m^3

				Lost	Recovered					Lost	Recovered
Daily Fluid:	Oil	65.65	m3	☒	☐	Cum. Fluid:	Oil	64.8	m3	☒	☐
	Water		m3	☐	☐		Water		m3	☐	☐

Day cost	Cumulative cost	Supervisor
$435,350	$2,328,795	Jim Messervey / Fred Feduniak
Man hours	**Cumulative man hours**	**Mobile number and area**
571	4737	1-600-700-8108 / 1-600-700-7884

PETRO-CANADA Oil and Gas

Daily Operations Report

11520E(9412)

Location	Date	Report No.
PCI et al Tweed Lake M-47	2004-03-09	11
Job Description	**AFE or Prop. Code**	**Amount**
Complete as a Lower Mount Clark Gaswell	B783031	$4,883,005

Tubing pressure: 10201 kPa Casing pressure: 0 kPa H2S conc. 0

Continued to flow **Lower Mount Clark interval 1222.5 - 1233.5 mKB** on cleanup:

Time	WHT °C	TP kPa	Q 10^3m^3d	HC Liquids m^3/d	HC Liquids cum m^3	Remarks
0001	-7	10201	136.2	25.2	10.35	choke = 10.3 mm
0400	-5	10302	147.1	20.7	13.80	sand = 0.1%
0800	-5	10353	164.1	12.0	15.80	choke = 11.9 mm, sand = 0.2%
1200	-2	10032	213.4	13.7	18.08	choke = 12.7 mm, BS&W = 5%
1500	-3	10500	149.9	6.0	18.73	choke = 10.3 mm
1630	-4	10517	147.9	6.0	19.08	Core Labs caught gas samples

Shut in well and recorded buildup while rigging up to run RTM recorders. Core Lab gas gravity = .717, H2S = 0 ppm and API = 55.5° @ 15°C at 1600 hours.

Time	TP kPa	Remarks
1645	11098	recorded buildup
1700	11082	
1730	11139	ran 2 - 47.8 mm weight bars and tandem 21 MPa Spartek electronic recorders on 4.7 mm conductor
1800	11134	
2100	11140	tagged PBD at 1311 mKB, pulled up and hung recorders at 1235 mKB
2200	11138	closed RTM BOP's and bled off lubricator. Locked master valves with chain and combination lock (#0246)
2400	11125	BHP = 12,909 kPa

Gas flared in 16½ hours = 80.62 $\cdot 10^3m^3$
Cum Gas flared to date = 127.40 $\cdot 10^3m^3$
Load fluid recovered today = 8.73 m^3

Daily Fluid:				Lost	Recovered	Cum. Fluid:				Lost	Recovered
	Oil	8.73	m3	☐	☒		Oil	56.07	m3	☒	☐
	Water		m3	☐	☐		Water		m3	☐	☐

Day cost	Cumulative cost	Supervisor
$44,900	$2,373,695	Jim Messervey / Fred Feduniak
Man hours	**Cumulative man hours**	**Mobile number and area**
349	5086	1-600-700-8108 / 1-600-700-7884

PETRO-CANADA Oil and Gas

Daily Operations Report

11520E(9412)

Location	Date	Report No.
PCI et al Tweed Lake M-47	2004-03-10	12
Job Description	**AFE or Prop. Code**	**Amount**
Complete as a Lower Mount Clark Gaswell	B783031	$4,883,005

Tubing pressure: 11125 kPa Casing pressure: 0 kPa H2S conc. 0

Continued to monitor buildup on **Lower Mount Clark Interval 1222.5 - 1233.5 mKB** with RTM recorders:

Time	WHT °C	TP kPa	Q 10^3m^3d	HC Liquids m^3/d	HC Liquids cum m^3	Remarks
0001		11125				
0400		11143				
0800		11149				
0900	-5	10532	148.08	0.00	0.00	opened well on a 10.3 mm choke injected methanol at 120 litres/day
1000	-7	10513	146.05	7.20	0.30	BS&W = 0.4%, caught samples
1200	-3	10529	147.41	7.20	0.90	BS&W = 0.2%
1600	-1	10542	147.65	5.40	1.80	BS&W = 0.0%
2000	-4	10492	148.31	3.90	2.45	BS&W = 0.1%
2400	-2	10584	146.86	4.20	3.15	bS&W = 0.0%

Continued to flow well throughout the night.

Gas flared in 16 hours = 98.48 $\cdot 10^3m^3$
Cum gas flared to date = 225.88 $\cdot 10^3m^3$
Load fluid recovered today = 3.15 m^3

Daily Fluid:				Lost	Recovered	Cum. Fluid:				Lost	Recovered
	Oil	3.15	m3	☐	☒		Oil	52.92	m3	☒	☐
	Water		m3	☐	☐		Water		m3	☐	☐

Day cost	Cumulative cost	Supervisor
$132,060	$2,505,755	Jim Messervey / Fred Feduniak
Man hours	**Cumulative man hours**	**Mobile number and area**
357	5443	1-600-700-8108 / 1-600-700-7884

PETRO-CANADA Oil and Gas

Daily Operations Report

11520E(9412)

Location	Date	Report No.
PCI et al Tweed Lake M-47	2004-03-11	13
Job Description	**AFE or Prop. Code**	**Amount**
Complete as a Lower Mount Clark Gaswell	B783031	$4,883,005

Tubing pressure: 10584 kPa Casing pressure: 0 kPa H2S conc. 0

Continue to flow **Lower Mount Clark interval 1222.5 - 1233.5 mKB** with RTM recorders in hole:

Time	WHT °C	TP kPa	Q 10^3m^3d	HC Liquids m^3/d	cum m^3	Remarks
0001	-2	10584	146.86	4.20	3.15	choke = 10.3 mm
0400	-2	10594	146.62	2.70	3.60	BS&W = 0.1%
0700	Core lab caught 2 samples from meter run, 2 pressurized liquid sample from P-tank sight glass and 4 litres of liquid at atmospheric pressure from sight glass; gas gravity = .722, fluid API = 55.8° and H2S = 0%.					
0800		10588	147.06	2.70	4.05	shut in well, record buildup
0815		11078				
0830		11091				
0900		11108				
1000		11126				
1200		11129				
1400		11142				
1600		11166				
2000		11138				open well on a 11.1 mm choke
2030	-1	10480	168.72	2.40	4.10	BS&W = 0%
2100	-2	10426	167.65	0.00	4.10	BS&W = 0%
2200	-2	10417	166.20	1.80	4.25	BS&W = 0%
2400	-2	10410	165.75	4.20	4.75	BS&W = 0.01%

Testers started new file with gas gravity set at .722 as requested. New file does not carry over cummulative gas and frac oil recovered. This report has cummulative oil recovered after cleanup and total cummulative gas flared since start of completion. Continued methanol injection at 256 litres/day.

Gas flared in 12 hours = 76.33 $\cdot 10^3m^3$
Cum gas flared to date = 302.21 $\cdot 10^3m^3$
Load fluid recovered today = 1.60 m^3

Daily Fluid:				Lost	Recovered	Cum. Fluid:				Lost	Recovered
	Oil	1.6	m3	☐	☒		Oil	51.32	m3	☒	☐
	Water		m3	☐	☐		Water		m3	☐	☐

Day cost	Cumulative cost	Supervisor
$39,225	$2,544,980	Jim Messervey / Fred Feduniak
Man hours	**Cumulative man hours**	**Mobile number and area**
266	5709	1-600-700-8108 / 1-600-700-7884

PETRO-CANADA Oil and Gas

Daily Operations Report

11520E(9412)

Location	Date	Report No.
PCI et al Tweed Lake M-47	2004-03-12	14
Job Description	**AFE or Prop. Code**	**Amount**
Complete as a Lower Mount Clark Gaswell	B783031	$4,883,005

Tubing pressure: 10410 kPa Casing pressure: 0 kPa H2S conc. 0

Continued to flow the **Lower Mount Clark interval 1222.5 - 1233.5 mKB** on a single rate test while monitoring bottomhole pressure with Real Time Measurement recorders in hole:

Time	WHT °C	TP kPa	Q $10^3m^3/d$	HC Liquids m^3/d	HC Liquids cum m^3	Remarks
0001	-2	10410	165.75	4.20	4.75	Choke at 11.1 mm
0400	0	10404	166.08	3.60	5.30	0.1% BS&W
0800	-2	10411	166.74	3.60	5.75	0.4% BS&W
1000	-2	10405	167.36	2.40	5.95	0.1% BS&W.

Shut in and record pressures. Core Lab caught samples just prior to shutting in well. Trace of condensate in sample.

1015		11063				
1030		11081				
1100		11098				
1200		11122				
1400		11146				
1600		11135				
1800		11127				
2000		11129				
2145						Started methanol injection.
2200		11132				Opened on a 12.7 mm choke.
2230	-5	10187	208.38	0.00	5.95	0.0% BS&W.
2300	-4	10136	209.15	0.00	5.95	0.0% BS&W.
2400	-4	10094	208.26	2.40	6.05	0.0% BS&W.

Continued to flow well on test.

Gas flared today = $86.63 \cdot 10^3 m^3$
Cum. gas flared = $388.84 \cdot 10^3 m^3$

Daily Fluid:				Lost	Recovered	Cum. Fluid:				Lost	Recovered
	Oil	1.30	m3	☐	☒		Oil	50.02	m3	☒	☐
	Water		m3	☐	☐		Water		m3	☐	☐

Day cost	Cumulative cost	Supervisor
$142,440	$2,687,420	Jim Messervey / Fred Feduniak
Man hours	**Cumulative man hours**	**Mobile number and area**
244	5953	1-600-700-8108 / 1-600-700-7884

PETRO-CANADA Oil and Gas

Daily Operations Report

11520E(9412)

Location	Date	Report No.
PCI et al Tweed Lake M-47	2004-03-13	15
Job Description	**AFE or Prop. Code**	**Amount**
Complete as a Lower Mount Clark Gaswell	B783031	$4,883,005

Tubing pressure: 10094 kPa Casing pressure: 0 kPa H2S conc. 0

Continued to flow the **Lower Mount Clark interval 1222.5 - 1233.5 mKB** on a test while monitoring bottomhole pressures with Real Time Measurement recorders in hole:

Time	WHT °C	TP kPa	Q $10^3m^3/d$	HC Liquids m^3/d	HC Liquids cum m^3	Remarks
0001	-4	10094	208.26	2.40	6.05	0.0% BS&W. 12.7 mm choke.
0400	-3	10057	209.92	3.60	6.65	0.1% BS&W
0800	-2	10039	211.29	3.60	7.20	Line heater went out. Fixed and started again. Fire eye vibrated loose.
0900	-4	10032	211.60	4.80	7.40	Core Lab on location. Caught samples.
1000	-4	10044	212.20	2.40	7.50	**Shut in for build up.**
1015		11047				
1030		11066				
1100		11075				
1200		11085				
1300		11115				
1400		11126				
1600		11130				
2000		11122				
2200		11132				Opened on a 12.7 mm adjust. choke.
2210	-6	8756	321.69	0.00		Increased choke size to 15 mm.
2220	-6	8723	343.00	0.00		Adjustable not set properly.
2240	-6	9627	269.64	0.00		Choke to 14.3 mm bean in 2 steps.
2245	-6	9647	260.18	3.60	7.65	0.1% BS&W.
2300	-6	9645	259.90			0.1% BS&W.
2400	-6	9615	260.15	3.60	7.90	0.1% BS&W.

Continued to flow well on test.

Gas flared today = $108.62 \cdot 10^3m^3$
Cum. gas flared = $497.46 \cdot 10^3m^3$

Daily Fluid:				Lost	Recovered	Cum. Fluid:				Lost	Recovered
	Oil	1.85	m3	☐	☒		Oil	48.17	m3	☒	☐
	Water		m3	☐	☐		Water		m3	☐	☐

Day cost	Cumulative cost	Supervisor
$38,275	$2,725,695	Jim Messervey / Fred Feduniak
Man hours	**Cumulative man hours**	**Mobile number and area**
210	6163	1-600-700-8108 / 1-600-700-7884

PETRO-CANADA Oil and Gas

Daily Operations Report

11520E(9412)

Location	Date	Report No.
PCI et al Tweed Lake M-47	2004-03-14	16
Job Description	**AFE or Prop. Code**	**Amount**
Complete as a Lower Mount Clark Gaswell	B783031	$4,883,005

Tubing pressure: 9615 kPa Casing pressure: 0 kPa H2S conc. 0

Continued to flow **Lower Mount Clark interval 1222.5 - 1233.5 mKB** while monitoring bottom hole pressures with Real Time Measurement recorders in hole;

Time	WHT °C	TP kPa	Q 10^3m^3d	HC Liquids m^3/d	cum m^3	Remarks
0001	-6	9615	260.15	3.60	7.90	BS&W = 0.10%, choke = 14.3 mm
0400	-5	9554	261.93	4.20	8.60	BS&W = 0.10%
0600	-6	9549	262.41	4.80	9.10	BS&W = 4%, sal = 253,000 ppm
0800	-5	9548	263.56	4.80	9.50	BS&W = 1%, sal = 272,000 ppm
0900	-5	9557	263.56	4.80	9.70	BS&W = 2.6%, Core Lab caught samples
1000	-5	9541	263.56	4.80	9.90	BS&W = 1.6%, shut in well, end of test

Recorded buildup and rigged out test equipment.

Time	TP kPa
1015	10692
1030	11003
1100	11068
1200	11087
1300	11116
1400	11121
1600	11146
1800	11122

Gas flared in 10 hours = 107.22 · 10^3m^3
Cum gas flared to date in 82.4 hours since perforating = 496.06 · 10^3m^3
HC liquids recovered in 10 hours = 2.00 m^3
Total HC liquids recovered since frac = 27.93 m^3

Moved off all test equipment, Core Labs samples, sampling equipment, remaining rig shack, 63 m^3 tank, methanol totes and Safety Boss equipment to Norman Wells. Equipment will be hauled out of NWT before road closure.

Daily Fluid:				Lost	Recovered	Cum. Fluid:				Lost	Recovered
	Oil	2.0	m3	☐	☒		Oil	46.17	m3	☒	☐
	Water		m3	☐	☐		Water		m3	☐	☐

Day cost	Cumulative cost	Supervisor
$123,220	$2,848,915	Jim Messervey / Fred Feduniak
Man hours	**Cumulative man hours**	**Mobile number and area**
241	6404	1-600-700-8108 / 1-600-700-7884

PETRO-CANADA Oil and Gas

Daily Operations Report

11520E(9412)

Location	Date	Report No.
PCI et al Tweed Lake M-47	2004-03-15	17
Job Description	**AFE or Prop. Code**	**Amount**
Complete as a Lower Mount Clark Gaswell	B783031	$4,883,005

Tubing pressure: 11119 kPa Casing pressure: 7 kPa H2S conc. 0

Recorded deadweight pressures; SITP = 11,119 kPa and SICP = 7.0 kPa. Bladed lease with loader. Started to rig out camp; trucks to move camp out will be arriving tonight. Packed up some equipment from wellsite shack and sent to Calgary on charter from Colville Lake with 8 people released from site. Real Time Measurement and Airborne Energy Services on location. Warmed up equipment and prepared to pull RTM tandem electronic recorders. Pulled recorders from 1235 mKB and made 5 minute gradient stops on trip out at 1200, 1100, 1000, 700 and 400 mKB and at surface. Removed lock and chain from open master valves. Shut in well and rigged out RTM equipment. Moved on and rigged up Airborne slickline skid. Pressure tested lubricator with well gas to 11 MPa, okay. Ran a 59.4 mm gauge ring on a 44.5 mm tool string to 'X' profile at ±1196 mKB. Secured well and shut down for night.

Promotional work on cabin between Fort Good Hope and Colville completed by Logistics.

Had to medi-vac Bushmaster second cook to Inuvik today; complained of chest pains. Paramedic checked out and thought we should not take a chance. Turns out she did not really have any troubles but just wanted to get out.

Daily Fluid:				Lost	Recovered	Cum. Fluid:				Lost	Recovered
	Oil	_____	m3	☐	☐		Oil	46.17	m3	☒	☐
	Water	_____	m3	☐	☐		Water	_____	m3	☐	☐

Day cost	Cumulative cost	Supervisor
$48,955	$2,897,870	Jim Messervey / Fred Feduniak
Man hours	**Cumulative man hours**	**Mobile number and area**
111	6515	1-600-700-8108 / 1-600-700-7884

PETRO-CANADA Oil and Gas

Daily Operations Report

11520E(9412)

Location	Date	Report No.
PCI et al Tweed Lake M-47	2004-03-16	18
Job Description	**AFE or Prop. Code**	**Amount**
Complete as a Lower Mount Clark Gaswell	B783031	$4,883,005

Tubing pressure: 11100 kPa Casing pressure: 7 kPa H2S conc. 0

Held pre-job operational safety meeting with RTM and Airborne Energy discussing safety around wireline while lowering and raising lubricator with snatch block. Made up 58.75 mm 'PX' plug onto tool string. Installed and pressure tested lubricator with well gas. Ran and set 58.8 mm 'PX' lock mandrel in 'X' profile inside on-off connector at 1195.6 mKB. Made up prong on a 'SB' running tool. Installed and pressure tested lubricator with well gas. Ran and set prong. Bled tubing pressure down from 11,100 kPa to 6200 kPa and conducted negative test on plug for 10 minutes; noted no buildup. Ran and set 73 mm collar stop at 40 mKB. Ran and set 73 mm Brace Oil Tools 'G' packoff with Kobes equalizing assembly on top of collar stop at 40 mKB for surface isolation as required by N.E.B. Bled off tubing pressure to zero and monitored pressure for 10 minutes, okay. Rigged out and moved off Airborne Energy Services equipment and Real Time Measurement equipment to Norman Wells. Installed wellhead top adapter with hammer cap. Secured all wellhead valves with 12.7 mm needle valves and 12.7 mm plugs. Chained and locked wellhead valves with combination lock (#0246). Took photo of wellhead. Turned lease over to PCOG Logistics to complete cleanup.

FINAL REPORT

Note: Wellsite unit to be moved on 04-03-17 after logistics has completed cleanup.

Daily Fluid:				Lost	Recovered	Cum. Fluid:				Lost	Recovered
	Oil	_____	m3	☐	☐		Oil	48.07	m3	☒	☐
	Water	_____	m3	☐	☐		Water	_____	m3	☐	☐

Day cost	Cumulative cost	Supervisor
$259,755	$3,157,625	Jim Messervey
Man hours	**Cumulative man hours**	**Mobile number and area**
157	6672	1-600-700-8108 / 1-600-700-7884