

VII. APPENDIX

This appendix contains the following items:

- summary sheets for the 15 excavated quadrants at the S1/S4 buildings and valley area
- soil characterization details of analysis including QA/QC
- 3 progress reports.

The progress of the remediation of PCB contaminated soils at the S1/S4 buildings and valley areas is shown on Map VII-1 on the following page. The 15 quadrants from which all CEPA materials have now been removed are marked with an “X” on Map VII-1 and are listed below.

G15

I9; I10

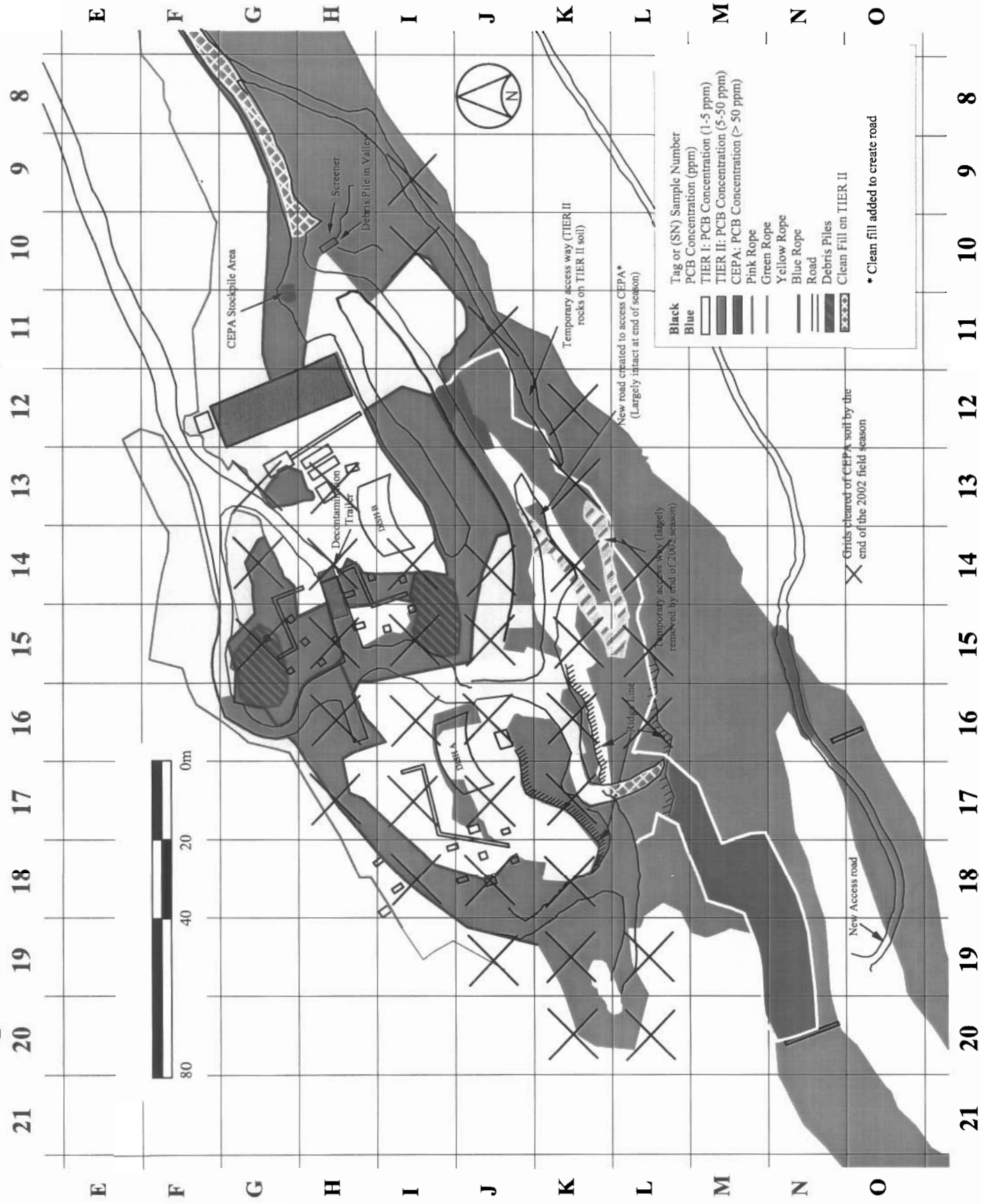
J11; J14; J15

K12; K13; K14; K15; K16; K17

L14; L15; L16

For the soil characterization detailed analytical data is provided for the analyses of metals, chlorobenzenes, mercury, PCBs, TPH and chlorinated dioxins and furans.

Map VII-1: The S1/S4 Area Show the 36 Completed Quadrants



DESCRIPTION OF QUADRANT / ADDITIONAL INFORMATION

EXCAVATION LOG

Date	Type*	Location	Material #	Depth	Comments
July 20/01	M	CEPA area in grid	CEPA	0-30	Debris removal
July 29/01	V	CEPA areas (S3)	CEPA	—	soil vacuumed to bedrock.

* H Heavy Equipment, M Manual, V Vacuum

>2000 ppm, CEPA, Tier II, Tier I.

ANALYSIS LOG:

Date	Sample [△]	Type [◇]	Results (ppm)	Comments
July 20/01	030	S	140.2	composite taken in grids G14-G15. contamination still in grids G14-15. Needs to be vacuumed.
July 29/01	046	S	1.99	Composite sample taken along border of the CEPA area in grids G14- G15. Results indicate all CEPA has been removed.
July 19/02	RSD2-00C	S	11.99 ppm	Confirmatory analysis. Edge of area is TIER II =. GRID COMPLETED.

△ Prefix RI01-

◇ S Soil, W Wood, M Metal, O Other

CERTIFICATION THAT ALL SOIL CONTAINING > 50 PPM PCBs IS REMOVED FROM QUADRANT

G. Curran
Queen's Representative

25 July 02
Date

[Signature]
Engineer Representative

26/07/02
Date

[Signature]
QC Representative

July 27/02
Date

DESCRIPTION OF QUADRANT / ADDITIONAL INFORMATION

Work initiated 2002

EXCAVATION LOG

Date	Type*	Location	Material #	Depth	Comments
Aug. 3 '02	H	CEPA Patch	-	-	Road built to CEPA Patch.
Aug 5 '02	H	CEPA Patch	CEPA	3 feet	The hole is full of water.
Aug 8 / 02	H	edges of excavated area	CEPA	30 cm	remaining CEPA on edges excavated
Aug 13 '02	H	excavation of edges	CEPA	1 foot	further excavation along edge
Aug 15 '02	H	CEPA Patch	-	-	Road built through cleared tier CEPA Patch.

*H Heavy Equipment, M Manual, V Vacuum

>2000 ppm, CEPA, Tier II, Tier I.

ANALYSIS LOG:

Date	Sample ^Δ	Type [◇]	Results (ppm)	Comments
Aug 5 '02	244	S	7.6	The middle of the hole full of water
Aug 5 '02	245	S	46.8	The edge of the hole full of water
Aug 8 / 02	205	S	18, 28	} edges of re excavated area.
Aug 8 / 02	204	S	56	
				- more excavation required.
Aug. 13 '02	173	S	2.9; 5.3	- further excavation along edges.
				All CEPA removed from grid.

Δ Prefix RI02 -

◇ S Soil, W Wood, M Metal, O Other

CERTIFICATION THAT ALL SOIL CONTAINING > 50 PPM PCBs IS REMOVED FROM QUADRANT

<u>Shakeel Virik</u> Queen's Representative	<u>Aug. 19 '02</u> Date	<u>MBT</u> Engineer Representative	<u>02/08/20</u> Date
<u>[Signature]</u> QC Representative	<u>Aug 20 / 02</u> Date		

DESCRIPTION OF QUADRANT / ADDITIONAL INFORMATION

2002 work.

EXCAVATION LOG

Date	Type*	Location	Material #	Depth	Comments
Aug 5 '02	H	CEPA Patch	CEPA	3 feet	The hole is full of water
Aug 8/02	H	edges of excavated area	CEPA	30cm	
Aug 13 '02	H	excavated edge	CEPA	1 foot	Further excavation along edge
Aug 15 '02	H	Through CEPA Patch	-	-	Road built on cleaned (Tier II) CEPA patch.

* H Heavy Equipment, M Manual, V Vacuum

>2000 ppm, CEPA, Tier II, Tier I.

ANALYSIS LOG:

Date	Sample ^Δ	Type [◊]	Results (ppm)	Comments
Aug 5 '02	244	S	7.6	The middle of the hole is full of water
Aug 5 '02	245	S	46.8	The edge of the hole full of water
Aug 8/02	127	S	4.1	} edges of re-excavated hole - more
	128	S	73	
	204	S	56	
Aug 13 '02	172	S	21.8	Edges after further excavation required.
				All CEPA removed from Grid.

Δ Prefix RI02 -

◊ S Soil, W Wood, M Metal, O Other

CERTIFICATION THAT ALL SOIL CONTAINING > 50 PPM PCBs IS REMOVED FROM QUADRANT

<u>Shakeel Virk</u> Queen's Representative	<u>Aug. 14 '02</u> Date	<u>[Signature]</u> Engineer Representative	<u>02/08/20</u> Date
<u>[Signature]</u> QC Representative	<u>Aug 20/02</u> Date		

DESCRIPTION OF QUADRANT / ADDITIONAL INFORMATION

2002 work

EXCAVATION LOG

Date	Type*	Location	Material #	Depth	Comments
19 Aug 02	H	Along the CEPA rope	CEPA	1ft → back	formed a ^{water} filled depression
21 Aug 02	H	Above the ridge	CEPA	30cm → back	Area immediately above the 'water filled hole'.

* H Heavy Equipment, M Manual, V Vacuum

>2000 ppm, CEPA, Tier II, Tier I.

ANALYSIS LOG:

Date	Sample [△]	Type [◇]	Results (ppm)	Comments
19 Aug 02	R102-151	S	20.9 ppm	small amount of sediment. water filled hole
21 Aug 02	R102-148	S	43.6 ppm	sample extends into T12.
				All CEPA removed from grid.

△ Prefix R102-

◇ S Soil, W Wood, M Metal, O Other

CERTIFICATION THAT ALL SOIL CONTAINING > 50 PPM PCBs IS REMOVED FROM QUADRANT

<u>G. Cairns</u> Queen's Representative	<u>24 Aug 02</u> Date	<u>[Signature]</u> Engineer Representative	<u>02/08/26</u> Date
<u>[Signature]</u> QC Representative	<u>Aug 26/02</u> Date		

DESCRIPTION OF QUADRANT / ADDITIONAL INFORMATION

2002 Work

EXCAVATION LOG

Date	Type*	Location	Material #	Depth	Comments
23 July 02	H	S th in the grid. 2000 ppm area.	>2000	20cm → 2m.	
31 July 02	H	Bottom left in grid on road.	CEPA.	30cm.	Road scraped away from Berm.
2 Aug 02	H	In same area as above	CEPA.	Another 30cm to 60cms.	Deeper excavation.
11 Aug 02	V	Bottom Left corner	2000 area	10-20cm	2000 area vacuuming

* H Heavy Equipment, M Manual, V Vacuum

>2000 ppm, CEPA, Tier II, Tier I.

ANALYSIS LOG:

Date	Sample ^Δ	Type [◇]	Results (ppm)	Comments
23 July 02	011	S	399.2; 268.	Area along road just before it excavated 2000 area
31 July 02	037	S	74.6	CEPA Road after scraping.
1 Aug 02	048	S	4.4	Resampling of RI02-037 after scrap.
4 Aug 02	242	S	7.6	Further down CEPA Road.
4 Aug 02	242 (Field D.P.)	S	16.2	After scraped.
5 Aug 02	243	S	11.9	Further down CEPA Road after scrap.
				All CEPA areas in grid removed.

Δ Prefix RI02-

◇ S Soil, W Wood, M Metal, O Other

CERTIFICATION THAT ALL SOIL CONTAINING > 50 PPM PCBs IS REMOVED FROM QUADRANT

<u>G. Carr</u> Queen's Representative	<u>Aug 19 '02</u> Date	<u>MLB</u> Engineer Representative	<u>02/09/02</u> E
<u>[Signature]</u> QC Representative	<u>Aug 20 02</u> Date		

DESCRIPTION OF QUADRANT / ADDITIONAL INFORMATION

Initial Work Started in 2001

EXCAVATION LOG

Date	Type*	Location	Material #	Depth	Comments
21 July 01	H	Area S of trap	Rock	Surface	
26 July 01	H	Cliff near trap. Dish.	Tier II	1m	Test pit dug 1 meter deep
18 Aug 01	H	Archway	CEPA	0-40cm	
21 Aug 01	H	Archway	CEPA	30cm	Excavated 30cm to 2nd Layer
22 Aug 01	H	See map	CEPA	to bedrock	
23 rd Aug 01	V	CEAA	CEPA	bedrock	see map, bedrock area.
end of season		below previous archway	clean fill	—	add it end of season after vac. comp

* H Heavy Equipment, M Manual, V Vacuum

>2000 ppm, CEPA, Tier II, Tier I. - Ben installed to stop contamination spread during spring run off.

ANALYSIS LOG:

Date	Sample ^Δ	Type [◊]	Results (ppm)	Comments
26 July 01	053	S	1.11	Composite sample taken to confirm Tier II soil
18 Aug 01	119	S	236	Excavation of archway
21 Aug 01	183	S	370	Excavated 30 cm then sampled.
22 Aug 01	198	S	750	Need to be vac.
* See next page for 2002 information				

Δ Prefix RI01 -

◊ S Soil, W Wood, M Metal, O Other

CERTIFICATION THAT ALL SOIL CONTAINING > 50 PPM PCBs IS REMOVED FROM QUADRANT

<u>C. Lewis</u>	<u>19 Aug 02</u>	<u>[Signature]</u>	<u>02/08/20</u>
Queen's Representative	Date	Engineer Representative	Date
<u>[Signature]</u>	<u>Aug 19/02</u>		
QC Representative	Date		

DESCRIPTION OF QUADRANT / ADDITIONAL INFORMATION

2002 Work

EXCAVATION LOG

Date	Type*	Location	Material #	Depth	Comments
31 July '02	H	Berm	Berm	-	Berm removed
31 July '02	H	Next to Berm (East side)	CEPA	30-50cm	Scraping East of Berm
1 Aug '02	H	Next to Berm (East side)	CEPA	30-50cm	Scraping East side of Berm
3 Aug '02	H	Berm	CEPA	1-2m	Further Scraping under berm
8 Aug '02	V	Berm	CEPA	10-20cm	Vacuumed under berm
11 Aug '02	V	2000 area (bottom right)	2000	10-20cm	Vacuumed area

* H Heavy Equipment, M Manual, V Vacuum

>2000 ppm, CEPA, Tier II, Tier I.

ANALYSIS LOG:

Date	Sample [△]	Type [◇]	Results (ppm)	Comments
20 July '02	004	S	2.6	Checking fill including edge to verify berm was effective.
31 July '02	039	S	14.5	} scraped CEPA ground on East side of berm
	038	S	66.4	
	037	S	74.6	
1 Aug '02	046	S	40.4	Area where berm was removed
	047	S	14.3; 13.5	Resampling of RI02-038 after scraping
	048	S	4.4	Resampling of RI02-037 after scraping
3 Aug '02	049	S	52.6	Resampling under Berm was RI02-046
3 Aug '02	050	S	26.4	Sampling under upper part of Berm
				ALL CEPA removed from Grid

△ Prefix RI02-

◇ S Soil, W Wood, M Metal, O Other

CERTIFICATION THAT ALL SOIL CONTAINING > 50 PPM PCBs IS REMOVED FROM QUADRANT

<u>G. Carter</u>	<u>19 Aug 02</u>	<u>MBT</u>	<u>02/08/02</u>
Queen's Representative	Date	Engineer Representative	Date
<u>[Signature]</u>	<u>Aug 20/02</u>		
QC Representative	Date		

DESCRIPTION OF QUADRANT / ADDITIONAL INFORMATION

Work Initiated in 2002

EXCAVATION LOG

Date	Type*	Location	Material #	Depth	Comments
July 29 '02	H	Lower right of K14, ^{lower} left of	K13 CEPA	30cm-1m	Scraping to build road to I9-I10.
Aug. 13 '02	H	Top of CEPA area	CEPA	20cm-50cm	scraping
Aug. 16 '02	H	Top middle of grid	CEPA	20cm-50cm	- Arrived via path from I9-I10
Aug 18 '02	H	Top right of grid	CEPA	20cm-50cm	scraping rocky slope area
Aug 19-21st '02	V	Left side of grid	CEPA	—	—
11	H	As above. Fill added to extend road	—	—	—

* H Heavy Equipment, M Manual, V Vacuum

>2000 ppm, CEPA, Tier II, Tier I.

ANALYSIS LOG:

Date	Sample [△]	Type [◇]	Results (ppm)	Comments
July 29 '02	RI02-186	S	29.38	- Composite
	RI02-190	S	6.89; 6.57	- composite
	RI02-185	S	6.01	- composite
Aug. 14 '02	RI02-174	S	65.1	- 2000 area after scraping
Aug. 16 '02	RI02-134	S	78.3	- scraped slope sampled
Aug 16 '02	RI02-175	S	106.0	- scraped slope sampled
Aug 16 '02	RI02-177	S	2.5	- Retesting of RI02-190, 185, 186
Aug 17 '02	RI02-169	S	43.59	- Scraped slope sampled.
Aug. 17 '02	RI02-139	S	63.74	- Scraped ^{slope} sampled.
Aug 17 '02	RI02-141	S	11.36	- Scraped slope sampled.
Aug. 17 '02	RI02-178	S	10.3	- scraped slope sampled.
Aug 18 '02	RI02-146	S	9.9	- scraped upper right CEPA section
Aug 21 '02	RI02-209	S	35.6	vacuumed + fill added to edge?
Aug 21 '02	RI02-210	S	10.3	lower ridge. Check to see if soil is original or fill.

△ Prefix RI02

◇ S Soil, W Wood, M Metal, O Other from clean fill.

CERTIFICATION THAT ALL SOIL CONTAINING > 50 PPM PCBs IS REMOVED FROM QUADRANT

<u>G. Cairns</u>	<u>24 Aug 02</u>	<u>MLB</u>	<u>02/08/26</u>
Queen's Representative	Date	Engineer Representative	Date
<u>[Signature]</u>	<u>Aug 26/02</u>		
QC Representative	Date		

DESCRIPTION OF QUADRANT / ADDITIONAL INFORMATION

Work initiated in 2002

EXCAVATION LOG

Date	Type*	Location	Material #	Depth	Comments
Aug 22, 02	V	Top middle/left of grid. in area just above RI02-209	CEPA	—	Vacuuming on upper ridges in grid.
Aug 23-24	V	remainder of CEPA in grid.	CEPA	—	Vacuuming top middle remainder

* H Heavy Equipment, M Manual, V Vacuum

>2000 ppm, CEPA, Tier II, Tier I.

ANALYSIS LOG:

Date	Sample [△]	Type [◇]	Results (ppm)	Comments
				ALL CEPA removed from grid.

△ Prefix RI01-

◇ S Soil, W Wood, M Metal, O Other

CERTIFICATION THAT ALL SOIL CONTAINING > 50 PPM PCBs IS REMOVED FROM QUADRANT

<u>G. Carter</u> Queen's Representative	<u>24 Aug 02</u> Date	<u>MT</u> Engineer Representative	<u>02/08/24</u> Date
<u>[Signature]</u> QC Representative	<u>Aug 26/02</u> Date		

DESCRIPTION OF QUADRANT / ADDITIONAL INFORMATION

Initial Work started in 2002.

EXCAVATION LOG

Date	Type*	Location	Material #	Depth	Comments
23 July 02	H	NW section, 2000 ppm area.	>2000	20m-2m.	2000 area excavated into side of slope.
24-25 July 02	H	As above.	72000	✓	Filling flower pots.
26-27 July 02	H	2000 area.	72000	✓	Filling flower pots.
7 Aug 02	H	CEPA Road	CEPA	1-2 feet	Scraping Road back
Aug 5-12	V	2000 Area / Berm	CEPA	0-10 cm	Vacuuming
8 Aug 02	H	CEPA Road	CEPA	2-3 feet	Scraping CEPA road back

* H Heavy Equipment, M Manual, V Vacuum

>2000 ppm, CEPA, Tier II, Tier I.

ANALYSIS LOG:

Date	Sample [△]	Type [◇]	Results (ppm)	Comments
23 July 02	008	S	121	} Along edge of face. Test to see if excavation is sufficient
	007	S	35	
29 July 02	RI02-190	S	6.89; 6.57	composite extends to K13
31 July 02	040	S	14.0; 11.9	Composite of scraped ground
31 July 02	041	S	128.1	" " " "
6 Aug 02	030	S	89.5	Rocky cliff area.
7 Aug 02	052	S	22 ppm	Composite of road.
8 Aug 02	053	S	63	Composite of road

△ Prefix RI02-

◇ S Soil, W Wood, M Metal, O Other

CERTIFICATION THAT ALL SOIL CONTAINING > 50 PPM PCBs IS REMOVED FROM QUADRANT

Shakel Vink
Queen's RepresentativeAug 19, 02
Date[Signature]
Engineer Representative02/08/2
Da.[Signature]
QC RepresentativeAug 20/02
Date

DESCRIPTION OF QUADRANT / ADDITIONAL INFORMATION

Initial work started in 2001 season.

EXCAVATION LOG

Date	Type*	Location	Material #	Depth	Comments
/	H	2000 ppm area in grids K14-15/J14-15	Wood/Debris	/	See excavation protocol for debris disposal.
See Page (2) for 2002 excavation log.					

* H Heavy Equipment, M Manual, V Vacuum

>2000 ppm, CEPA, Tier II, Tier I.

ANALYSIS LOG:

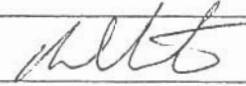
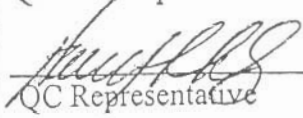
Date	Sample ^Δ	Type [◇]	Results (ppm)	Comments
21 Aug 01	RI01-184	W	198	
21 Aug 01	RI01-185	W	68	
21 Aug 01	RI01-189	W	314	
	-181			plywood, dry in damp patches, in soil
	-182			on surface, damp
	-186			in soil, damp
	-187			on surface, dry
	-188			above ground, same piece of wood as 182
	-202			above surface, dry
	-203			above surface, dry, same piece of wood as 186
	-204			wood panelling, in gravel, damp
23 Aug 01	RI01-056	W	38	Wood from CEPA 50-2000 ppm
	-067		24	area in K15 - also in K14 & K13
	-214			- all taken from in soil; damp

Δ Prefix RI01-

See Page (2) for 2002 analysis log

◇ S Soil, W Wood, M Metal, O Other

CERTIFICATION THAT ALL SOIL CONTAINING > 50 PPM PCB IS REMOVED FROM QUADRANT

 Queen's Representative	Date	 Engineer Representative	02/08/20 Date
 QC Representative	Aug 20/02 Date		

DESCRIPTION OF QUADRANT / ADDITIONAL INFORMATION

2002 Work

EXCAVATION LOG

	Date	Type*	Location	Material #	Depth	Comments
	23 July 02	H	2000 ppm Area.	>2000	20cm → 2.0m	steep slope on 2000 area. Depth from road to below, up to 2m
	24 July 02	H	2000 ppm Area.	>2000	/	Containers being filled.
	25 July 02	H				
	26 July 02	H				
	26 July 02	H	Area (Normal CEPA testing to edge of 2000)	CEPA	0-50cm below	/
	31 July 02	M	CEPA Area	CEPA	20cm ± 0.5m	
	1 Aug. 02	M	"	CEPA	20cm ± 0.5m	

* H Heavy Equipment, M Manual, V Vacuum

>2000 ppm, CEPA, Tier II, Tier I.

ANALYSIS LOG:

	Date	Sample ^Δ	Type [◇]	Results (ppm)	Comments
	23 July 02.	010	S	38	Excavation to edge sufficient
		009	S	78	" "
		011	S	399.2; 268	Sample extends into J14.
	26 July 02	025	S	(130.6; 116.7)	Area on ridge just under main ridge before 2000 area.
	27 July 02	183	S	5.0	Scraped area close to edge of 2000
	28 July 02	036	S	31.1; 41.5	comp to edge of 2000, extends south into L15
	31 July 02	038	~S	66.4	-Area beside Berm above 2000 (extends to J
	31 July 02	043	S	108.8	-Area below Road (extends to L15)
	1 Aug 02	047	S	14.2; 13.5	-Resampling of RI02-038 after scraping
	1 Aug 02	045	S	3.6	-Resampling of RI02-043 after scraping
	1 Aug 02	046	S	40.4	-Area under Berm
	* See next page (page 3) for rest of results.				

Δ Prefix RI01-

◇ S Soil, W Wood, M Metal, O Other

CERTIFICATION THAT ALL SOIL CONTAINING > 50 PPM PCBs IS REMOVED FROM QUADRANT

Queen's Representative

Date

Engineer Representative

Date

QC Representative

Date

02/08/20

DESCRIPTION OF QUADRANT / ADDITIONAL INFORMATION

2002 Work

EXCAVATION LOG

	Date	Type*	Location	Material #	Depth	Comments
	3 Aug. 02	H	Burn	CEPA	50cm-2m	Scraping under Burn
	7 Aug '02	H	CEPA Road	CEPA	1-2 feet	Scraped CEPA Road
	8-12 Aug '02	V	2000 Area	CEPA	0-10cm	Vacuuming CEPA from
	11 Aug '02	H	Burn / 2000 Area	Tier II		2000 area + Burn
		H	Vacuumed area			Access Road built
						Access Road extended

* H Heavy Equipment, M Manual, V Vacuum

>2000 ppm, CEPA, Tier II, Tier I.

ANALYSIS LOG:

	Date	Sample ^Δ	Type [○]	Results (ppm)	Comments
					(was
	3 Aug. 02	049	S	52.6	Area under Burn being retested?
	6 Aug 02	246	S	27.0	Rocky Cliff Area.
	7 Aug 02	05*	S	41	Composite of scraped road.
					All CEPA removed from area.

Δ Prefix RI02 -

○ S Soil, W Wood, M Metal, O Other

CERTIFICATION THAT ALL SOIL CONTAINING > 50 PPM PCBs IS REMOVED FROM QUADRANT

<u>G. Cotton</u>	<u> </u>	<u> </u>	<u>02/08/20</u>
Queen's Representative	Date	Engineer Representative	Date
<u> </u>	<u>08/20/02</u>		
QC Representative	Date		

DESCRIPTION OF QUADRANT / ADDITIONAL INFORMATION

Initial work started in 2001 season.

EXCAVATION LOG

Date	Type*	Location	Material #	Depth	Comments
Aug 11-13/01	H	CEPA area below Trogo dish A.	CEPA.	30cm	Soil was excavated to bedrock (almost)
Aug 15-16/01	H	As above	CEPA	30cm	" "
Aug 25/01	H	CEPA area	CEPA	Bedrock	scraped.
SEE PAGE (2) for 2002 excavation log.					

* H Heavy Equipment, M Manual, V Vacuum

>2000 ppm, CEPA, Tier II, Tier I.

ANALYSIS LOG:

Date	Sample [△]	Type [◇]	Results (ppm)	Comments
Aug 13/01	163	S	42 ppm	Composite samples taken after 30cm of soil was excavated.
	168	S	118; 119	
Aug 16/01	170	S	73	CEPA still in. Need vacuum.
	171	S	13	TIER II this area now OK.
Aug 25/01	217	S	202	Vacuuming now required here.
SEE PAGE (2) for 2002 excavation log.				
ALL CEPA removed from GRID				

△ Prefix RI01-

◇ S Soil, W Wood, M Metal, O Other

CERTIFICATION THAT ALL SOIL CONTAINING > 50 PPM PCBs IS REMOVED FROM QUADRANT

<u>A. Lutter</u> Queen's Representative	<u>8 Aug 02</u> Date	<u>[Signature]</u> Engineer Representative	<u>Aug 11, 2002</u> Date
<u>[Signature]</u> QC Representative	<u>Aug 13/02</u> Date		

DESCRIPTION OF QUADRANT / ADDITIONAL INFORMATION

2002 Work

EXCAVATION LOG

Date	Type*	Location	Material #	Depth	Comments
23 July 02	H	Ridge on South edge of grid	ROCKS on CEPA	/	Removing rocks to access the CEPA underneath.
23/24 July 02	V	SW section of grid	CEPA	/	Removing CEPA then cleanfill added to allow further entry.
25 July 02	H	Ridge on S. edge of grid	ROCKS ON CEPA	/	Removing rocks to access the CEPA underneath.
26 July 02	H	" " "	"	/	Removing rocks to access the CEPA
27-28 July 02	H/M	Grapple / manual removal of rock to prep for vacuuming.	small rocks / CEPA	/	Vacuuming ridge.

* H Heavy Equipment, M Manual, V Vacuum

>2000 ppm, CEPA, Tier II, Tier I.

ANALYSIS LOG:

Date	Sample [△]	Type [◇]	Results (ppm)	Comments
19 July 02	RI02-005	S	38.4, 45.4	Area was excavated at end of 2001. TESTED as TIER II at start of 2002.
25 July 02	RI02-021	S	93.5	First composite in area under rocks on rock ledges (extends into K17)
25 July 02	RI02-020	S	51.4	In S part of grid. Middle third. Composite taken on rock ridge, when rocks removed
26 July 02	RI02-023	S	67.2	On ledges under main ridge, towards 2000
26 July 02	RI02-024	S	100.9	On ledges under main ridge, towards K15.
28 July 02	RI02-035	S	21.6 ppm	Bottom right hand section of the grid.

△ Prefix RI01-

◇ S Soil, W Wood, M Metal, O Other

CERTIFICATION THAT ALL SOIL CONTAINING > 50 PPM PCBs IS REMOVED FROM QUADRANT

<u>D. Nutter</u>	<u>8 Aug 02</u>	<u>[Signature]</u>	<u>Aug 16, 2002</u>
Queen's Representative	(Date)	Engineer Representative	Da.
<u>[Signature]</u>	<u>8 Aug 02</u>		
QC Representative	Date		

DESCRIPTION OF QUADRANT / ADDITIONAL INFORMATION

Initial work started in 2001 season

EXCAVATION LOG

Date	Type*	Location	Material #	Depth	Comments
July 27/01	H	Behind Tropicana A	CEPA	—	Building a road on Cape
July 28/01		(near S1)			gravel to get to the 22000 ppm
Aug 8/01	H	CEPA area in this	CEPA	—	area in S1.
Aug 9/01		quadrant			Rocks + boulders are being
see page ③ for 2002 excavation log					moved to L16 to smooth
					out the drop-off. (necessary
					to gain access in the S1/S4

* H Heavy Equipment, M Manual, V Vacuum

>2000 ppm, CEPA, Tier II, Tier I. Valley.

ANALYSIS LOG:

Date	Sample [△]	Type [◇]	Results (ppm)	Comments
Aug 10/01	167	S	167.7	- Composite Samples.
	169	S	3.0	
Aug 13/01	164	S	18	
	166	S	84	- will need vacuum.
Aug 29/01	226	S	2.1	- Area at top of beach. *Final check to make sure.
July 20/02	005	S	38,45	- excavated area does not need to be vacuumed
see page ③ for 2002 analysis log.				*same movement of soil during spring run off was scheduled to be vacuumed at beginning of season but this is no longer necessary

△ Prefix RI01-

◇ S Soil, W Wood, M Metal, O Other

CERTIFICATION THAT ALL SOIL CONTAINING > 50 PPM PCBs IS REMOVED FROM QUADRANT

<u>A. Tuttle</u> Queen's Representative	<u>8 Aug 02</u> Date	<u>[Signature]</u> Engineer Representative	<u>Aug 11, 2002</u> Date
<u>[Signature]</u> QC Representative	<u>Aug 12/02</u> Date		

DESCRIPTION OF QUADRANT / ADDITIONAL INFORMATION

Initial work started in 2002.

EXCAVATION LOG

Date	Type*	Location	Material #	Depth	Comments
29 July 02	1+	NW corner.	CEPA	0-30cm	scraped to bedrock.

* H Heavy Equipment, M Manual, V Vacuum

>2000 ppm, CEPA, Tier II, Tier I.

ANALYSIS LOG:

Date	Sample [△]	Type [◇]	Results (ppm)	Comments
July 29 '02	RI02-184	S	20.17	- composite sample.
				MI CEPA removed from GRID

△ Prefix RI01-

◇ S Soil, W Wood, M Metal, O Other

CERTIFICATION THAT ALL SOIL CONTAINING > 50 PPM PCBs IS REMOVED FROM QUADRANT

<u>[Signature]</u> Queen's Representative	<u>8 Aug 02</u> Date	<u>[Signature]</u> Engineer Representative	<u>Aug 14th 02</u> Date
<u>[Signature]</u> QC Representative	<u>Aug 12/02</u> Date		

DESCRIPTION OF QUADRANT / ADDITIONAL INFORMATION

Initial work started 2002

EXCAVATION LOG

Date	Type*	Location	Material #	Depth	Comments
27 July	H	ridge below	CEPA	0-30	
28 July	H	scraped proposed road			
31 July	H	scraping		0-30	
1 Aug	H	more scraping			

* H Heavy Equipment, M Manual, V Vacuum

>2000 ppm, CEPA, Tier II, Tier I.

ANALYSIS LOG:

Date	Sample ^Δ	Type [◇]	Results (ppm)	Comments
27 July 02	026	S	17.0	composite extends to L16 below road.
27 July 02	027	S	18.7, 3.3	composite
28 July 02	036		31, 42	Tier II
31 July 02	043		109	CEPA need to remove more soil
1 Aug 02	045		3.6	Tier I!

Δ Prefix RI02-

◇ S Soil, W Wood, M Metal, O Other

CERTIFICATION THAT ALL SOIL CONTAINING > 50 PPM PCBs IS REMOVED FROM QUADRANT

A. Rutter
Queen's Representative*8 Aug 02*
Date*[Signature]*
Engineer Representative*Aug 11, 2002*
Date*[Signature]*
QC Representative*Aug 17/02*
Date



REPORT OF ANALYSIS

ASU #: 5247
 Client: DIAND

Report I.D.: ASU5247 Metals
 Date Submitted: 25-Jul-02
 Date Analyses Initiated: 01-Aug-02
 Date Reported: 07-Aug-02
 Matrix: Soil

Method: Metals by acid digestion/ICP

Results : all results are in ug/g

Sample	BRI 02-001	BRI 02-002	BRI 02-004	BRI 02-005*	BRI 02-006	BRI 02-007	BRI 02-008
Ag	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
As	1.1	1.3	1.3	2.1	1.7	<1.0	1.2
Ba	42	49	51	44	66	44	45
Cd	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Co	7.9	8.8	8.5	6.9	9.6	8.7	8.7
Cr	34	37	39	34	45	33	36
Cu	67	72	70	72	83	68	65
Mn	129	130	141	104	163	124	122
Mo	3.2	<2.0	2.7	2.4	4	<2.0	<2.0
Ni	37	43	41	34	45	42	40
Pb	10.6	<10	17.2	<10	21	<10	84
S	270	249	400	320	650	250	360
Se	<10	<10	<10	<10	<10	<10	<10
Sn	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Zn	77	79	81	62	96	65	75

Sample	BRI 02-010	BRI 02-011	BRI 02-012	BRI 02-013*	BRI 02-014	BRI 02-015	BRI 02-016
Ag	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
As	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.6
Ba	49	37	50	34	31	46	64
Cd	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Co	8.2	8.5	<5.0	5.7	<5.0	8.0	12.0
Cr	36	30	43	28	30	27	41
Cu	66	83	80	68	61	54	74
Mn	109	100	97	79	66	97	163
Mo	<2.0	2.7	6.1	<2.0	7.1	<2.0	2.4
Ni	41	41	23	36	7.1	37	56
Pb	10.3	<10	<10	<10	<10	<10	149
S	350	480	420	180	520	260	310
Se	<10	<10	<10	<10	<10	<10	<10
Sn	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	112
Zn	68	83	42	39	22	67	200

* average of duplicate analyses



Prepared by: *Mary Andrews*
 Bennett ASU5247 Metals

Authorization: *[Signature]*

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PREPARING LEADERS AND CITIZENS FOR A

John S. Poland, D. Phil
 Director

Sample	Blank	Blank	MESS-3	MESS-3	BRI 02-005	BRI 02-005	BRI 02-013	BRI 02-013
Ag	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
As	<1.0	<1.0	15.7	16.2	2.1	<1.0	<1.0	<1.0
Ba	<5.0	<5.0	385	413	44.6	43.7	37.3	31.4
Cd	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Co	<5.0	<5.0	10.7	10.9	7.1	6.6	5.8	5.5
Cr	<20	<20	42.8	46.6	34.9	33.9	29.2	26.4
Cu	<3.0	<3.0	33.9	34.8	70.4	73.5	69.5	66.5
Mn	<1.0	<1.0	303	310	109	98.4	78.4	79.5
Mo	<2.0	<2.0	<2.0	<2.0	2.1	2.7	<2.0	<2.0
Ni	<5.0	<5.0	37.5	38.3	35.1	32.7	37.1	34.9
Pb	<10	<10	17.7	18.2	<10	<10	<10	<10
S	<20	<20	1730	1780	321	319	194	176
Se	<10	<10	<10	<10	<10	<10	<10	<10
Sn	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Zn	<15	<15	131	138	62.1	61.2	39.4	38.3

MESS-3 = National Research Council Marine Estuarine Sediment Standard

Laboratory Control Limits for aqua regia digestible metals are As 12.9-23.1; Cr 32.8-53.7; Co 9.1-14.2; Cu 24.9-37.1; Mn 286-375; Pb 13.2-21.8; Ni 31.2-42.9; Zn 103.5-167.8

Prepared by: Mary Andrews Authorization: [Signature]
Bennett ASU5247 Metals



REPORT OF ANALYSIS

ASU # 5247
 Client: DIAND

Report I.D.: Bennett ASU5247 CB
 Date Submitted: 25-Jul-02
 Date Analyses Initiated: 12-Aug-02
 Date Reported: 16-Aug-02
 Matrix: soil

Method: Extraction/GC/MS

Results :

	Units	BRI 02-001	BRI 02-002	BRI 02-004	BRI 02-005	BRI 02-006
1,3-dichlorobenzene	ug/g	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-dichlorobenzene	ug/g	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichlorobenzene	ug/g	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	ug/g	0.9	5.0	0.5	0.4	230
1,2,3-trichlorobenzene	ug/g	0.3	1.5	<0.1	<0.1	35
1,2,3,5- and 1,2,4,5-tetrachlorobenzene	ug/g	0.4	<0.1	<0.1	<0.1	22
1,2,3,4-tetrachlorobenzene	ug/g	11	17	6.1	3.7	540
pentachlorobenzene	ug/g	5.5	2.4	2.3	2.9	110
hexachlorobenzene	ug/g	<0.1	<0.1	<0.1	<0.1	1.3
Total Chlorobenzenes	ug/g	18	26	8.9	7.0	940

	Units	BRI 02-007	BRI 02-008	BRI 02-010	BRI 02-011	BRI 02-012
1,3-dichlorobenzene	ug/g	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-dichlorobenzene	ug/g	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-dichlorobenzene	ug/g	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	ug/g	<0.1	0.3	1.7	8.9	<0.1
1,2,3-trichlorobenzene	ug/g	<0.1	0.3	0.5	4.4	<0.1
1,2,3,5- and 1,2,4,5-tetrachlorobenzene	ug/g	<0.1	0.2	0.4	1.0	<0.1
1,2,3,4-tetrachlorobenzene	ug/g	2.3	7.3	9.5	9.2	<0.1
pentachlorobenzene	ug/g	1.7	3.3	5.3	1.7	<0.1
hexachlorobenzene	ug/g	<0.1	<0.1	<0.1	<0.1	<0.1
Total Chlorobenzenes	ug/g	4.0	11	18	25	<1.0

Prepared by: *A. Hutter*

Authorization: *[Signature]*

Bennett ASU5247chlorobenzenes

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	Units	BRI 02-013	BRI 02-014	BRI 02-015	BRI 02-016
1,3-dichlorobenzene	ug/g	<0.1	<0.1	<0.1	<0.1
1,4-dichlorobenzene	ug/g	<0.1	<0.1	<0.1	<0.1
1,2-dichlorobenzene	ug/g	<0.1	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	ug/g	<0.1	<0.1	<0.1	<0.1
1,2,3-trichlorobenzene	ug/g	0.1	<0.1	<0.1	<0.1
1,2,3,5- 1,2,4,5-tetrachlorobenzene	ug/g	<0.1	<0.1	<0.1	<0.1
1,2,3,4-tetrachlorobenzene	ug/g	0.3	<0.1	0.3	0.1
pentachlorobenzene	ug/g	<0.1	<0.1	0.3	0.4
hexachlorobenzene	ug/g	<0.1	<0.1	<0.1	<0.1
Total Chlorobenzenes	ug/g	<1.0	<1.0	<1.0	<1.0

Laboratory QA/QC:

	Units	BRI 02-010	BRI 02-010 duplicate	Blank
1,3-dichlorobenzene	ug/g	<0.1	<0.1	<0.1
1,4-dichlorobenzene	ug/g	<0.1	<0.1	<0.1
1,2-dichlorobenzene	ug/g	<0.1	<0.1	<0.1
1,2,4-trichlorobenzene	ug/g	1.9	1.4	<0.1
1,2,3-trichlorobenzene	ug/g	0.6	0.3	<0.1
1,2,3,5- 1,2,4,5-tetrachlorobenzene	ug/g	0.4	0.4	<0.1
1,2,3,4-tetrachlorobenzene	ug/g	9.5	9.5	<0.1
pentachlorobenzene	ug/g	6.3	4.2	<0.1
hexachlorobenzene	ug/g	0.1	<0.1	<0.1

Prepared by:



Authorization:



Bennett ASU5247chlorobenzenes

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