Table II-1: PCB Concentrations in Soil Samples Collected During the Excavation in the S1/S4 Buildings Area

Date Sampled	Sample Number (prefix RI01-)	Quadrant	PCB Concentration by GC/ECD (by Test Kit) - ppm	Comments
12-Jul-01	003	I16	100	Vacuumed in 2000, re-contaminated over winter
12-Jul-01	004	H15/H16	6.7	Access to S1 and S3 clean fill in 2000
12-Jul-01	005	G16/H16	4.3	Access road to S1/S4 clean fill in 2000
14-Jul-01	022	H14	>100	Area previously under S3 vacuumed in 2000
15-Jul-01	008	H16	98	Sediment in deep hole dug in 2000 previously under S1
15-Jul-01	023	J16	98	Sediment in deep at side of dish
16-Jul-01	009	H14	27	South of "clean fill" access road into S3 area scraped in 2000
16-Jul-01	010	I14	17	South of "clean fill" access road into S3 area scraped in 2000
16-Jul-01	011	H15	157	South of "clean fill" access road into S3 area scraped in 2000
15-Jul-01	012	I15	53	South of "clean fill" access road into S3 area scraped in 2000
18-Jul-01	024	G13	1.5 (0.9)	Taken in Tier I area underneath former S4 corridor
18-Jul-01	025	G14	1.4 (1.0)	Tier I area adjacent to corridor up to the blue roped Tier II area
18-Jul-01	026	G14	3.7 (>10)	Tier II area

Date Sampled	Sample Number (prefix RI01-)	Quadrant	PCB Concentration by GC/ECD (by Test Kit) - ppm	Comments
18-Jul-01	027	H15	7.1 (7)	Former CEPA pile of unknown origin. Surface was tested as Tier II, but decision was made to treat as CEPA.
20-Jul-01	028	H14	244	Area few meters north of Dish B
20-Jul-01	029	H14	>250	Center of the S1/S4 area, just north of sample RI01-029
20-Jul-01	030	G13-G14	140	Former CEPA area under corridor and in vicinity
20-Jul-01	031	H15	7.8	Area under north most radar dish
20-Jul-01	032	H14	23	Small area beside the south radar dish, west of troposcatter dish B
20-Jul-01	033	H16	74	Hole west of the entry road into the S1/S4 area. Beside the CEPA pile.
21-Jul-01	007	H16	25	Large dirt pile west of the temporary decontamination area.
21-Jul-01	013	H16-H17	>250	Area leading up to the green 2000 ppm rope at the S1 area.
22-Jul-01	021	H15	15.4	Area under the small CEPA pile. Tested after the pile had been moved to the screener. Under the North radar dish
25-Jul-01	018	J14	5.4	Area south of south radar dish. Beside large rock, uncovered during removal of surface boulders
25-Jul-01	019	J13	3.2	Approx 25m south of troposcatter dish, in middle to lower slope

Date Sampled	Sample Number (prefix RI01-)	Quadrant	PCB Concentration by GC/ECD (by Test Kit) - ppm	Comments
25-Jul-01	040	I12	2.8	Point sample taken half way up the slope. Sandy ground.
25-Jul-01	041	I12	16.2	Point sample. Taken half way up the slope. South southeast of the Large troposcatter dish
25-Jul-01	058	J14-J15	1.6	Area approx southwest of sample 018
25-Jul-01	059	J14	0.8	Area on slope east southeast of the archway
25-Jul-01	060	I12	33	Same area as samples 040 and 041, but a composite taken all over to get a more representative result
26-Jul-01	053	J15	1.1	Depth sample made with grapple. 2 m down from the top of the slope. 40-50 cm depth.
26-Jul-01	054	I13, J13	34	Depth sample made with grapple. 1 m depth on slope
26-Jul-01	055	J14	2.1	Depth sample made with grapple. Down 3 m from the top of the slope. 40-50 cm depth
26-Jul-01	057	I12	16.2	Depth sample made with grapple. 3 m from yellow rope. 1 m depth on the slope.
29-Jul-01	046	G13,G14, G15	2.0	Sample taken along the CEPA border at the S3 area
29-Jul-01	081	H13-H14	3.4	Taken along the CEPA border at the S3 area
3-Aug-01	045	I17, I18	118	Taken in the >2000 ppm area in S1
3-Aug-01	077	H17, I17	>250	Taken in the >2000 ppm area in S1 after the soil has been scraped down to bedrock.

Date Sampled	Sample Number (prefix RI01-)	Quadrant	PCB Concentration by GC/ECD (by Test Kit) - ppm	Comments
3-Aug-01	079	H16, H17	12.4	Taken the along the CEPA border in the S1 area
3-Aug-01	080	I17	97	Taken in the >2000 ppm area in S1 after the soil has been scraped down to bedrock.
3-Aug-01	105	I17, I18	>250	Taken in the >2000 ppm area in S1 after the soil has been scraped down to bedrock.
4-Aug-01	072	H16	>250	Taken in the S1 area next to the clean filled road (close to the troposcatter dish).
4-Aug-01	075	H16	12.6	Taken in the S1 area next to the clean filled road.
5-Aug-01	069	J18	0.8	Near the pillars in the CEPA area in S1
5-Aug-01	131	J18	0.8	Near the pillars in the CEPA area in S1
5-Aug-01	133	J18	3.3	Near the pillars in the CEPA area in S1
5-Aug-01	136	J18	62	Near the pillars in the CEPA area in S1
7-Aug-01	065	I18-J18	29	Taken after 30 cm of CEPA soil was taken off (behind the S1 area).
7-Aug-01	066	K18	5.6	Taken after 30 cm of CEPA soil was taken off (behind the S1 area).
7-Aug-01	125	J18	15.2	Taken after 30 cm of CEPA soil was taken off (behind the S1 area).
7-Aug-01	128	J18, J17	9.5	Taken after 30 cm of CEPA soil was taken off (behind the S1 area).

Date Sampled	Sample Number (prefix RI01-)	Quadrant	PCB Concentration by GC/ECD (by Test Kit) - ppm	Comments
7-Aug-01	134	J18	5.5	Taken after 30 cm of CEPA soil was taken off (behind the S1 area).
8-Aug-01	123	K18-L18	5.8	Taken after 30 cm of CEPA soil taken off - along CEPA pathway from S1.
8-Aug-01	126	K18	0.7	Taken after 30 cm of CEPA soil taken off - along the CEPA pathway from S1.
8-Aug-01	127	K18	0.2	Taken after 30 cm of CEPA soil taken off - along the CEPA pathway from S1.
8-Aug-01	129	K18	3.9	After 30 cm of CEPA soil taken off (continuing along the CEPA pathway from S1).
8-Aug-01	130	K19, K20, L19, L20	1.5	From the small CEPA area off to a side.
10-Aug-01	167	K17	170	Taken after 30 cm of soil excavated - along the CEPA pathway from S1.
10-Aug-01	169	K17, K18, L17, L18	3.0	Taken after 30 cm of soil excavated - along the CEPA pathway from S1.
13-Aug-01	163	J16, K16	42	From CEPA area below the troposcatter dish A.
13-Aug-01	164	J16, J17, K16, K17	17.6	From CEPA area below the troposcatter dish A.
13-Aug-01	166	K16, K17	84	From CEPA area below the troposcatter dish A.
13-Aug-01	168	K16	120	From CEPA area below the troposcatter dish A.
16-Aug-01	170	K16	73	Along CEPA pathway (on the road).
16-Aug-01	171	J16-K16	13	Near troposcatter dish A.

Date Sampled	Sample Number (prefix RI01-)	Quadrant	PCB Concentration by GC/ECD (by Test Kit) - ppm	Comments
16-Aug-01	173	J16	10.5	Adjacent to troposcatter dish A.
16-Aug-01	174	I16-J16	102	Under troposcatter dish A.
18-Aug-01	112	J16	(82)	Archway Area. From a few m in front of arch till a few m south on the rock ridges
18-Aug-01	119	J15	(240)	Excavation of archway.
18-Aug-01	122	J17	63.5	Composite sample taken in NW corner of quadrant.
18-Aug-01	151	J16	<1 (<5)	Strip of soil along CEPA boundary
18-Aug-01	152	I16	(120)	Bottom of rock platform. Contamination from heavy equipment cleaning
18-Aug-01	153	L17	(18)	Area disturbed trying to access CEPA soil in valley (5 m stretch from CEPA line to flat rock)
18-Aug-01	155	L17	(>50)	Area disturbed trying to access CEPA soil in valley
18-Aug-01	156	L17	(>50)	Area disturbed trying to access CEPA soil in valley
18-Aug-01	157	L17	(9)	Area disturbed trying to access CEPA soil in valley (to the end of the CEPA quadrant)
18-Aug-01	158	H15	(16)	From CEPA line to vacuumed area near decontamination trailer
18-Aug-01	159	I15	(30)	Top section of quadrant on flat rock slope
18-Aug-01	160	I15	(21)	Area immediately west of Tier II debris pile

Date Sampled	Sample Number (prefix RI01-)	Quadrant	PCB Concentration by GC/ECD (by Test Kit) - ppm	Comments
18-Aug-01	161	I16	(120)	Bottom right corner of quadrant. Northeast of archway.
18-Aug-01	162	J17	(>50)	From edge of vacuuming for CEPA.
18-Aug-01	172	J17	<1.0	Checking vertical edge area at the >2000 areas
18-Aug-01	176	J16	(110)	Composite sample taken at SE corner of quadrant
19-Aug-01	116	J18	(25)	Composite sample from Tier II/CEPA boundary
19-Aug-01	117	J18	>50	Corner at tip of small CEPA vacuumed area
19-Aug-01	118	J18	(5)	From end of previous sample to edge of quadrant
19-Aug-01	120	I16	>350 (>50)	On rock north of Dish A
19-Aug-01	121	J17	(9.5)	Composite sample taken in NW corner of quadrant
19-Aug-01	141	I16, I17	(5)	Rockier area of strip behind rock
19-Aug-01	147	J18	(15)	Along edge of CEPA and Tier I until angle change
19-Aug-01	150	I17	59 (>50)	Large rock outcrop
19-Aug-01	200	I17	94 (>50)	Sediment strip under dish
21-Aug-01	179	J16	84	Composite sample taken at SE corner of quadrant
21-Aug-01	180	J16	140	Archway Area. From a few m in front of arch till a few meters south on the rock ridges
21-Aug-01	183	J15	370	Archway area. Excavated 30cm then sampled
21-Aug-01	190	J17, J18	>350	S1 drainage >2000 final edge

Date Sampled	Sample Number (prefix RI01-)	Quadrant	PCB Concentration by GC/ECD (by Test Kit) - ppm	Comments
21-Aug-01	191	J16	95	Archway area. Area re-sampled, now at bedrock
22-Aug-01	132	J16	(>50)	Area a few meters south southwest of the archway was scraped to bedrock
22-Aug-01	175	J16	(>50)	South of square structure immediately south of Troposcatter Dish A. Re-test since this former Tier-II area, had CEPA soil accidentally dumped on it. This CEPA soil was removed and the area scraped prior to sampling.
22-Aug-01	196	J17	1.1	Surface composite at end of S1 drainage
22-Aug-01	198	J15	(>50)	Area a few meters south of the archway was scraped to bedrock
22-Aug-01	199	J18	4.1	Edge of vacuumed edge in S1 drainage
22-Aug-01	205	J17	6.9	Surface composite at end of S1 drainage
22-Aug-01	207	J17	<0.5	30-40 cm depth just past 2000 ppm edge in S1 drainage
22-Aug-01	208	J17	7.2	30-40 cm depth just past 2000 ppm edge in S1 drainage
22-Aug-01	210	J17	>350	Composite sample from bank at edge of vacuumed area
23-Aug-01	209	J16, I16	<1.0	Under Dish A
24-Aug-01	215	I16	8.4	Sediment strip (30 cm removed)
24-Aug-01	216	I17	22	Sediment strip (30 cm removed)

Date Sampled	Sample Number (prefix RI01-)	Quadrant	PCB Concentration by GC/ECD (by Test Kit) - ppm	Comments
25-Aug-01	076	J17	6.1	Face re-sampled after 1 foot removed by vacuum. Re: sample 210
25-Aug-01	212	J16	>350	Area sampled after area was re-scraped. Some CEPA soil was accidentally placed here.
25-Aug-01	217	K16	200	Area sampled after being scraped to bedrock
27-Aug-01	223	I16	4.0	Sampled soil bank after excavation and vacuuming
27-Aug-01	224	J16	7.5	Sampled from excavated soil under Troposcatter Dish A
29-Aug-01	225	J17, J16	3.0	Top of rock rubble bank
29-Aug-01	226	K17	2.1	Area at top of bank

Table II-2: PCB Concentrations in Wood Samples Collected in the S1/S4 Buildings Area

Sample Number (prefix RI01-)	PCB Concentration by GC/ECD (ppm)	Comment
056	38	In contact with soil 50 – 2000 ppm
063	0.6	6 inches above 50 – 2000 ppm soil
067	24	In contact with soil 50 – 2000 ppm
184	198	In contact with >2000 ppm soil
185	68	In contact with >2000 ppm soil
189	314	In contact with >2000 ppm soil
192	4.1	6 inches above >2000 ppm soil
193	1.0	6 inches above 50 – 2000 ppm soil
194	3.6	6 inches above >2000 ppm soil
195	16	In contact with soil 50 – 2000 ppm
197	240	In contact with >2000 ppm soil
234	2.3	Taken at landfill near camp
235	<1.0	Taken at landfill near camp
236	2.6	Taken at landfill near camp
238	2.5	Taken at landfill near camp
239	3.0	Taken at landfill near camp
240	2.1	Taken at landfill near camp

D. Beach Dump

1. General

The extent of lead contamination found below the toe of the Beach dump (formerly referred to as the Lead Dump) was determined in 1994. In 1999, the snow in the area totally melted and oil was observed to be migrating to the sea along the water course flowing through one side of the dump. As a result all material on the side of a ridge traversing the dump was excavated in 1999. No additional work was conducted at the dump site in 2000.

2. Excavation

A new protocol for the excavation work at this location was written and is reproduced at the end of this chapter as Annex B. All the visible debris was removed from the dump this year. All non-hazardous material was taken to the new beach landfill. Photograph II-11 shows the face of the dump at the start of the season and Photograph II-12 towards the end of the excavation. Barrels in various states of decay were again found in the dump and many contained oily liquids. These were treated as in 1999 by first testing to ensure that the material in the barrel contained < 50 ppm PCBs by the use of Clor-n-Oil test kits. None were found exceeding the limit. In some cases the test kits indicated 0 to 50 ppm and the contents of these barrels were checked on site by GC/ECD. The spill trays were also analyzed periodically. The contents of the barrels were then either pumped directly into sound barrels or emptied into containment trays from which the oils/fuels were then pumped into the sound barrels (Photograph II-13).

Decontamination trays and equipment were set up next to the road on the SE side of the dump. Oil absorbent Matasorb material was placed on a flat, debris free area of the dump, in the NE section of the dump. Any oily barrels with minimal free product were placed in this location and identified with an orange spray painted 'O' label. Three spill trays were placed close by, also on Matasorb and several booms placed around the trays. The trays and booms were moved up the dump in a SW direction as the work progressed. Barrels and other debris extended deep into the dump and work was temporarily suspended once the permafrost was reached to allow sufficient time for thawing to occur.

Several containers of unknown materials were found during the excavation. Results of analyses of these are included in Tables IV-3 and IV-4 in Chapter IV.

Amongst these, were several barrels of an amyl acetate based off-white coating product. These were placed in 2 steel flowerpot containers (Photograph II-14) and moved to the hazardous waste storage facility. One container was found to contain a yellow solid material identified as a mixture of calcium chloride and chromium chloride, and a barrel was found containing pink egg shaped objects, found to be a mixture of sodium phosphate, sodium sulfate and sodium sulfite (for use as a boiler additive). The "eggs" were placed in a barrel labeled RI01-EGGS1, and this was transported to the hazardous waste storage facility. During the excavation, several electrical components were also unearthed (Photograph IV-4). A hole was drilled into the center of each of these and the residue was analyzed. No PCBs were found in any of the components.

Excavation was also carried out on a second smaller dump near to the beach dump (Photograph II-15). It is identified by reference to sample number L4118 in reports of the 1993 and 1994 work. Investigation at that time showed concentrations of PCBs at 1.4 ppm and lead of 221 ppm, both values slightly greater than DCC I criteria. A second sample (L1117) taken 6 m further down the drainage pathway, gave values much lower than the DCC criteria for either analyte. Contamination of the soil around L1118 was therefore concluded to be localized. A large quantity of debris from this area was excavated and piled besides the road leading to the main beach dump area (Photograph II-15). In the excavation process soil and rock was accumulated. Five composite samples were taken near the end of the field season from the excavated area and the results displayed in Table II-3. All samples tested as less than DCC I criteria for both metals and PCBs. QA/QC data is compiled in Chapter III, Section K.

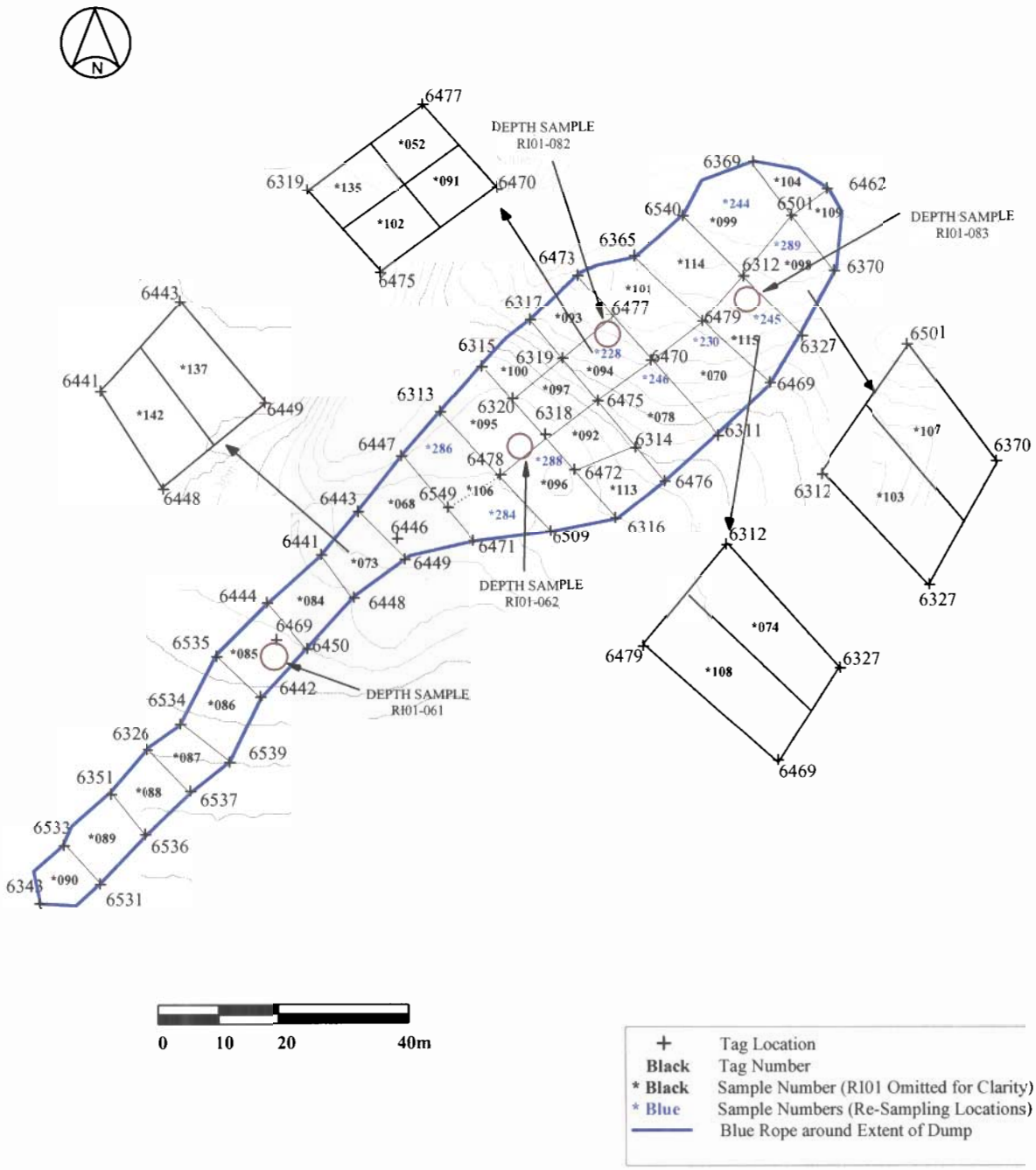
Table II-3: PCB and Metal Concentrations in Soil Samples Collected From the Smaller Beach Dump

Sample	PCBs	Cu	Pb	Zn	Comments
RI01-221	<1.0	59	60	70	
RI01-274	<1.0	64	24	192	metals duplicate
RI01-275	<1.0	44	36	104	
RI01-283	<1.0	44	25	47	
RI01-287	<1.0	57	37	63	

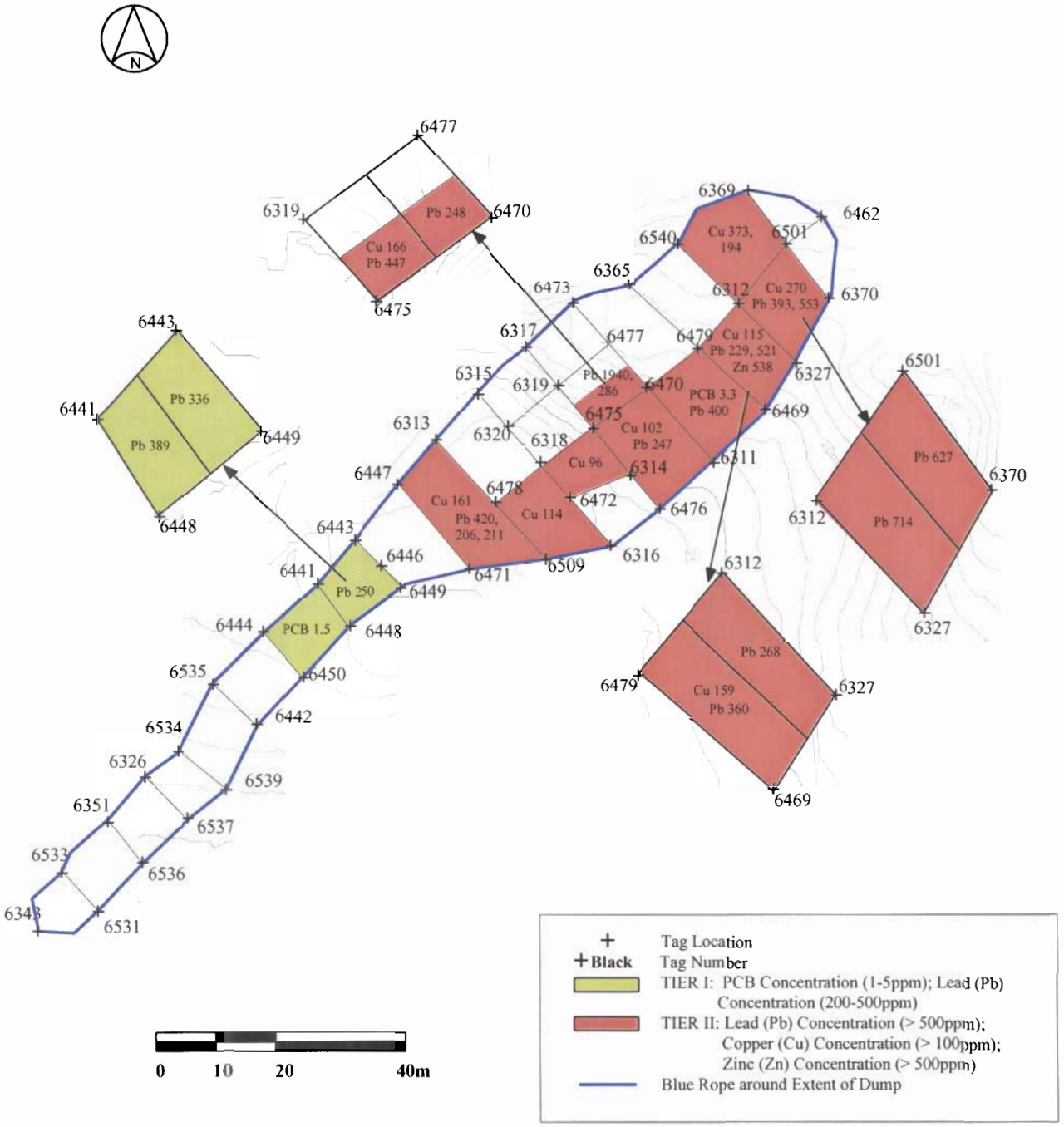
3. Delineation

The main beach dump area was delineated and tested for copper, lead and zinc. The footprint-shaped area was bisected into two parts by a row of tags, which were placed along the center of the dump. Sample markers were placed at equal intervals to form 27 grids within the perimeter of the dump. The area was subsequently mapped by GPS and the sampling locations are shown on Map II-4. Twenty-seven composite samples and four depth samples of the area were taken during a break in the excavation work, when the permafrost layer was first reached. The composite samples were taken between 0 - 20 cm and the depth samples ranged from 0.5 to 2 m from the surface of the dump. Each sample was tested for PCBs and metals (Table II-4). These results gave the contamination levels for individual quadrants. Those quadrants which contained metals above the DCC criteria were subdivided, re-sampled and analyzed. The second part of the excavation work, resulted in a re-distribution of some soil. Quadrants where soil had been disturbed were re-sampled. The results are shown in Table II-4 and displayed on Map II-5. QA/QC data is compiled in Chapter III, Section K. Based on the results of both surface and depth samples, the volume of Tier I metal contaminated soil is estimated as 300 m^3 and the volume of Tier II metal contaminated soil as 500 m^3.

Map II-4: Sampling Locations at the Beach Dump in 2001



Map II-5: PCB and Metal Concentrations and Areas of Contamination at the Beach Dump in 2001



Photograph II-11: The Beach Dump at the Start of the Year.

Photograph II-12: Near Completion of the Excavation of Debris From the Beach Dump.

Photograph II-13: Pumping the Contents of Rusty Fragile Barrels into Sound Barrels at the Beach Dump.

Photograph II-14: Placing Material Contaminated with a Formulation Containing Amyl Acetate into Steel Containers.

Photograph II-15: Excavation the Small Dump Adjacent to the Main Beach Dump.

Photograph II-16: Taking Delineation Composite Soil Samples To Determine the Extent of Lead and PCB Contamination at the Beach Dump; The Hole was Excavated to Obtain Depth Samples.

Table II-4: PCB and Metal Concentrations in Soil Samples Collected From the Beach Dump

Sample	PCBs	Cu	Pb	Zn	Comments
RI01-052	na	64	145	140	
RI01-061	<1.0	<50	56	61	metals by XRF; depth 0.8 - 1.0 m
RI01-062	<1.0	84	192	124	depth 1.5 – 2.0 m
RI01-068	<1.0	71	126	105	
RI01-070	<1.0	57	400	154	metals duplicate
RI01-073	<1.0	62	250	64	
RI01-074	na	61	268	85	
RI01-078	<1.0	102	47	56	PCB duplicate
RI01-082	<1.0	67	120	107	depth 1.0 m
RI01-083	<1.0	70	67	65	depth 1.0 m
RI01-084	1.5	49	54	49	
RI01-085	<1.0	<50	50	46	metals by XRF
RI01-086	<1.0	61	76	90	
RI01-087	<1.0	<50	69	89	metals by XRF
RI01-088	<1.0	<50	38	71	metals by XRF
RI01-089	<1.0	<50	34	<30	metals by XRF
RI01-090	<1.0	<50	<30	87	metals by XRF
RI01-091	na	66	248	313	
RI01-092	<1.0	96	177	140	
RI01-093	<1.0	67	132	92	metals duplicate
RI01-094	<1.0	78	1940	240	
RI01-095	<1.0	38	52	53	
RI01-096	<1.0	114	143	89	
RI01-097	<1.0	79	172	132	
RI01-098	<1.0	79	393	240	
RI01-099	na	373	100	205	
RI01-100	<1.0	66	150	117	

Sample	PCBs	Cu	Pb	Zn	Comments
RI01-101	<1.0	39	91	62	
RI01-102	na	166	447	230	
RI01-103	na	71	714	101	
RI01-106	<1.0	161	420	73	
RI01-107	na	93	627	172	
RI01-108	na	157	360	350	
RI01-111	<1.0	64	<10	59	
RI01-113	<1.0	68	84	145	
RI01-114	na	82	124	199	metals duplicate
RI01-115	na	84	229	195	
RI01-135	na	73	156	179	
RI01-137	na	58	336	107	metals duplicate
RI01-142	na	74	389	88	
RI01-228	<1.0	64	286	184	
RI01-230	3.3	80	145	195	
RI01-244	<1.0	194	51	211	
RI01-245	<1.0	115	521	538	PCB duplicate
RI01-246	<1.0	69	247	143	
RI01-284	<1.0	87	206	96	
RI01-286	<1.0	64	211	101	
RI01-288	<1.0	63	156	113	
RI01-289	<1.0	270	553	176	PCB duplicate; metals quadruplicate

na = not analyzed

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ANNEX A

23 August 2001

Resolution Island Wood Debris Protocol

Before the excavation of contaminated soil large debris such as wood must be removed. The wood debris in contaminated areas has been tested and the below protocol is based on the analytical results obtained.

Responsibilities regarding excavations are described in the Resolution Island Excavation Protocol. Before wood debris is removed areas are inspected by heavy equipment, engineering and Queen's personnel.

Disposal of the wood debris will be based on the following criterion:

Wood in >2000 ppm area

-any wood in contact with soil or wood which is obviously stained from having been previously in contact with the soil is CEPA
-wood 6 inches above the ground level and not in contact with soil is Tier I

Wood in CEPA
-any wood in contact with soil or wood which is obviously stained from having been previously in contact with the soil is Tier II
-any wood 6 inches above the ground level and not in contact with soil is Tier I

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ANNEX B

25 July 2001

Resolution Island Beach Dump Excavation Protocol

The protocol for excavation of the beach dump was established during the 1999 season. This protocol is being used to complete excavation of the dump this season. Protective equipment must be worn by all personnel working within the excavation area.

The parties/individuals responsibilities during the Beach Dump Excavation (or equivalent dump excavation) are summarized below:

Qikiqtaaluk Corporation responsibilities

1. Person in charge: Site Superintendent. When absent: Assistant Site Superintendent / Engineer
2. Ensures that work plan is accomplished by the end of the field season
3. Provides heavy equipment operators (see HE responsibilities below) and provides other workers as required to perform any miscellaneous tasks during the excavation such as pumping barrels contents.
4. Integrates recommendations issued by other parties/individuals
5. Imposes decisions when disagreement occurs after consultation with INAC
6. Reports to INAC
7. Assigns work tasks to all supervisors

ASU-Queen's University responsibilities

1 Monitoring the excavation at all times.

2 Discuss with HE department the location of spill trays and areas for drained barrels to ensure any spills will be minimal.

3 Where possible identifying full and empty barrels before they are moved by the heavy equipment. If barrels are buried this is not always possible. In this case the barrels will be moved carefully by heavy equipment. Leaking barrels will be moved as quickly as possible to a spill tray. Barrels which are empty or filled with water are non-hazardous waste. Any barrel dripping free product must be stock piled on oil absorbent material until the barrels can be cleaned.

4 Testing contents of barrels for PCBs using Chlor–in–oil test kits. This is ongoing and performed as the barrels are excavated. If the results are in doubt the sample will be analyzed for PCBs in the on site laboratory.

5 Identifying and analyzing any unknown hazardous materials found in the dump. These may require moving and/or packaging which will be the responsibility of QC.

6 The spill containment trays are pumped by QC into sound barrels. These barrels will be sampled by Queens and the samples sent south for full barrel protocol analysis.
7 Marking the area of excavation/contaminated areas on an ongoing basis as much as practical to ensure all personnel working in the area know where the contamination is
8 Establishing decontamination procedures with Health and Safety officer
9 Meet with HE supervisor and site engineer on a daily basis to discuss progress.
10 Discuss with QC, Engineer and HE department disposal of debris and any contaminated soils.
11 Ensures that decisions can be made by on-site senior personnel

Engineer responsibilities

1 Works with HE department and Queen's on a daily basis for ongoing operations and planning of debris and contaminated soil handling.
2 Makes recommendations to QC on engineering related issues.
3 Records amount of soil/debris and rejects handled during the field season.
4 Discuss with QC, Queen's and HE department disposal of debris and any contaminated soils.
5 If needed, add procedures to the Health and Safety plan.
6 Reports to QC.

Heavy equipment operational division

1 Removal of barrels and debris from dump
2 Determines the starting location for the dump excavation
3 Determines how to excavate the barrels, other debris and soils and with what equipment
4 Discuss with Queens the location of spill trays and areas for drained barrels to ensure any spills will be minimal.
5 Relocate heavy equipment, when needed, to optimize downtime as planned with Queen's and Engineers
6 Discuss with QC, Queen's and Engineer disposal of debris and contaminated soils
7 Reports to QC

Health and Safety Officer

1 Establish decontamination and safety procedures
2 Implement decontamination and safety procedures
3 Maintain decontamination area (trailer) supplies

Dr Allison Rutter