

QUADRANT NUMBER Q25PAGE 1 of 1

RI 2004/2005 Field Season Tier I/Tier II

EXCAVATION LOG

Date	Type*	Location	Material #	Depth	Comments
25 July 04	H	S1/S4 Valley	Tier II	40cm	(~15cm of Tier I <1.0 soil remaining)


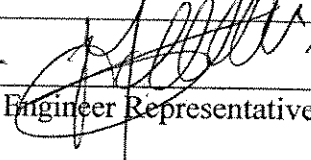

* H Heavy Equipment, M Manual, V Vacuum

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

ANALYSIS LOG:

Date	Sample	Results (ppm)	Comments
25 July 04	R104-258	1.1	Tier I
25 July 04	259	21.0	clean
15 Aug 05	—		Scraped to bedrock no further sampling required

CERTIFICATION THAT QUADRANT IS COMPLETE AND ALL SOILS CONTAINING TIER I/II
PCBs ARE REMOVED IF POSSIBLE

 Queen's Representative	<u>21 Sept 05</u> Date	 Engineer Representative	<u>12/01/2006</u> Date
 QC Representative	<u>Jan 12/06</u> Date		

QUADRANT NUMBER Q26

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RI 2004/2005 Field Season Tier I/Tier II

EXCAVATION LOG

Date	Type*	Location	Material #	Depth	Comments
24 July 04	H	51/54 Valley	Tier II	15-20cm	

* H Heavy Equipment, M Manual, V Vacuum

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

ANALYSIS LOG:

Date	Sample	Results (ppm)	Comments
24 July 04	250	≤ 1.0	} area now clear
	250 D	≤ 1.0	
	251	≤ 1.0	
	Small area with		mass inaccessible

CERTIFICATION THAT QUADRANT IS COMPLETE AND ALL SOILS CONTAINING TIER I/II PCBs ARE REMOVED IF POSSIBLE

<u>Alissa Rutter</u>	<u>21 Sept 05</u>	<u>[Signature]</u>	<u>12/01/2006</u>
Queen's Representative	Date	Engineer Representative	Date
<u>[Signature]</u>	<u>Jan 12/06</u>		
QC Representative	Date		

DESCRIPTION OF QUADRANT / ADDITIONAL INFORMATION

RI 2005 Field Season Tier II

R 23

EXCAVATION LOG

Date	Type*	Location	Material #	Depth	Comments
25 July 05	NONE	SISU Valley	Tier II	20.5cm	Minimal Soil/Moss

* H Heavy Equipment, M Manual, V Vacuum

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

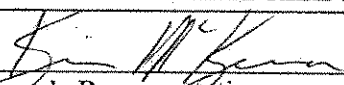
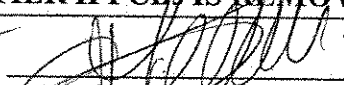
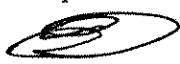
ANALYSIS LOG:

Date	Sample [△]	Type [◇]	Results (ppm)	Comments
NONE				Area considered Inaccessible. Mostly exposed bedrock.
				No further action will be taken in this Quadrant.

△ Prefix RI05-

◇ S Soil, W Wood, M Metal, O Other

CERTIFICATION THAT ALL SOIL CONTAINING TIER II PCBs IS REMOVED FROM QUADRANT

 Queen's Representative	15 August 2005 Date	 Engineer Representative	12/01/2006 Date
 QC Representative	Jan 12/06 Date		

RI 2004 Field Season

[illegible]

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

[illegible]

◇ S Soil, W Wood, M Metal, O Other

CERTIFICATION THAT ALL SOIL CONTAINING PCBs > 5 PPM IS REMOVED FROM QUADRANT

12/01/2006
Date

Date
Jan 12/06
Date

QUADRANT NUMBER R25PAGE 1 of 1

DESCRIPTION OF QUADRANT / ADDITIONAL INFORMATION

RI 2004 Field Season

EXCAVATION LOG

Date	Type*	Location	Material #	Depth	Comments
25-July-04	NONE	SIS4 Valley	tier 2	<0.5cm	Minimal soil/moss

* H Heavy Equipment, M Manual, V Vacuum

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


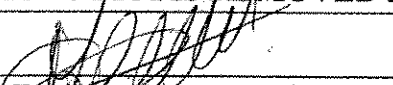
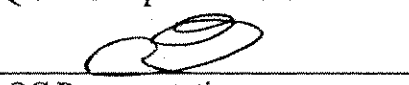
ANALYSIS LOG:

Date	Sample [△]	Type [◇]	Results (ppm)	Comments
NONE				area considered inaccessible for heavy equipment (unsafe).
				Quadrant to be left as is.

△ Prefix RI04-

◇ S Soil, W Wood, M Metal, O Other

CERTIFICATION THAT ALL SOIL CONTAINING PCBs > 5 BPM IS REMOVED FROM QUADRANT

 Queen's Representative	<u>Aug 15 2005</u> Date	 Engineer Representative	<u>12/01/2006</u> Date
 QC Representative	<u>Jan 12/06</u> Date		

1 of 1

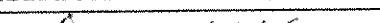

R26

NONE.
Area Inaccessible
Very little soil/
moss present.



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

QC / Queen's
decided in 2004
that this area was
unsafe and impractical
to excavate.

◇ S Soil, W Wood, M Metal, O Other


 Queen's Representative

 QC Representative

15 Aug 2005
 Date


 Engineer Representative


12/01/2006
 Date

Jan 12/06
 Date



11 July 2005

Lou Spagnuolo,
Indian and Northern Affairs Canada
Nunavut Regional Office
Iqaluit, Nunavut
X0A 0H0

Resolution Island 2005 – Progress Report #1

Dear Lou,

A great deal of progress has been made in our first two weeks on site. I arrived on site 27 June 05 with Kevin, Sarah and Chris. All our equipment arrived the next day. Within two days all the equipment in the laboratory was up and running. Krysta arrived on site on July 1st. They have been working long hours to keep up with excellent progress that QC has been making with excavation of the PCB contaminated soils.

S1/S4 Beach Excavation

The grid markers were re-established and as necessary we remarked the areas to be excavated. The flags, spray paint and ropes need to be set up each year due to wear and tear over the winter. The excavation of the CEPA area was completed quickly and work on the Tier I and Tier II soils are ongoing. The area closest to the beach (9F, 8D, 8E, 8F, 8G) is challenging because it is difficult to access and there are many large boulders which need to be moved to complete Tier II and Tier I excavation. The Tier II excavation continues in the accessible part of the upper slope (5C, 5D, 5E, 6C, 6D and 6E). On the western edge of the excavation (6C, 6D, 7D, 8D and 8E) boulders are being moved off to allow access to the Tier I soil. Particularly near the beach it will be important to remove as much contaminated soil as we can.

S1/S4 Valley

The flags, ropes and spray paint have been re-established and replaced where necessary. There have been many loads of Tier II hauled to the landfill already. Stockpiles in grids Q23, Q24, P21-24, O16-21, N15, N16, N18-20, M14, M15, L13, K12, K13, J10, J11, I12; H6-8, H-9, H16, G6, G9-11, G15-16, E5 have already been removed. Excellent progress has been made in clearing the Tier II soil, and there are very few stockpiles remaining from the 2004 excavation. In some grid areas where larger stockpiles existed, (P23, 24, Q23, 24, N19, 20) permafrost was discovered within the stockpile. As a result,



these soil piles have not been completely removed. It is expected that the permafrost will melt within the next week or two and the remaining soil will be removed at that point. The excavation of Tier II below Dish B (grids I13, J13)) and building B4 (grid I11) has uncovered CEPA soil. This is not unexpected and at present there will still be sufficient containers to accommodate this volume. The Tier II debris pile in grids I14 and I15 has been removed from the valley. This material is being placed in the Tier II landfill as at this point the landfill base thickness and compaction is sufficient for debris placement.

PCL dump and Helipad

Both the PCL dump and helipad area are now roped off and excavation can begin as scheduled. The PCL dump is roped off near the camp in the area where it is broad. As it continues past the training center towards the ocean it is clearly contained in a drainage pathway. Where possible the Tier I soil from this pathway should be scraped out. Because the pathway actively drains to the ocean, covering the Tier I soil along this pathway is not a recommended remediation solution.

North Slope Dump

This area was roped off and the soil scraped to bedrock. The dump will need to be covered with clean fill as time permits.

Lead Beach Dump

Debris was cleared by QC in this area, which allowed us to take samples. Many of our tags were missing and therefore additional samples needed to be taken before excavation could begin. Samples were received in Kingston on Friday and confirmatory analysis should be complete by Tuesday. The XRF has been used to do the majority of analysis on site and assuming the confirmatory testing agrees with the on site data we will be able to complete all the analyses on site.

Maintenance Dump

In this area contamination with cobalt at the Tier II level was investigated and delineated in 1999. The ropes have been refurbished; the area is well marked and ready for excavation.

Barriers

The PCB barrier in the S1/S4 valley was inspected and the funnel and gate system performed successfully during the run off this year. Modifications were put in last year to increase the capacity of the barrier to trap sediment. The new funnel materials did not clog this year and despite the large amounts of sediment continued to function well, filtering the water. This year's run off appears to have been quite dramatic due to the warm temperatures in May and so this was a good test of our barrier. As much as possible

of the sediment has been taken out by excavator and the remainder will be shoveled by hand. Samples from the funnel are currently being tested but are expected to be Tier II. The S1/S4 beach barrier site has been inspected and construction will begin in August once all excavation is complete.

TPH remediation

The trial landfarm has been sampled. The rototilling regime has been started and will be maintained by our personnel until the second sampling is complete. At the beach POL tanks the remaining area of soil greater than 8000 ppm has been roped off. This area was covered with fill and rocks at some point late in the season last year. These should be removed and not included in the 25 cubic meters to be removed. The soil which is >8000 ppm will be used to fill 5 metal containers as requested by Phillip and the remainder will be added to the large landfill. The large landfill still needs to be tilled before the first sampling can be done. We are currently discussing how to till the plot with QC. It has been suggested that the IT24 be used for this if it becomes available.

Samples have been taken from the barrel cache valley stains and will be analyzed in Kingston to determine if they are below the CCME criterion. An additional stain at the imploded tank has also been sampled. The settling ponds established last year are still intact and working well.

Tier II landfill and airstrip dump monitoring

The first sampling of the monitoring wells at the Tier II landfill was completed this weekend. The soil monitoring points in both areas have been sampled. They have been clearly marked with 4 stakes and rope to ensure that samples will be taken from the same area each year.

Other Work

The stains of the concrete floor of Building B2 have been sampled and samples were received in Kingston on Friday. Two barrel samples have been taken from drained engines at the Quonset huts which were taken down; two from barrels found below the north slope dump. A fifth barrel sample was taken from the drum outside the lab which is used for solvent waste disposal. The camp water has been sampled and analysis is in progress. Background water samples have been taken from the same six locations as last year and will go south on the 14th July.

Sincerely,



Allison Rutter



29 July 2005

Lou Spagnuolo,
Indian and Northern Affairs Canada
Nunavut Regional Office
Iqaluit, Nunavut
X0A 0H0

Resolution Island 2005 – Progress Report #2

Dear Lou,

Excellent progress has been made in the last two to three weeks and much of the excavation on site has been completed.

S1/S4 Beach Excavation

The excavation of the Tier II at the beach is completed and all the CEPA soil from the beach has been containerized. Tier II has been removed from all accessible grids. As previously discussed Tier II soil remains in inaccessible grids 3C, 3D, 4B, 4C, 4D and 4E. All accessible Tier I has been removed. There is a small section of Tier I in grid 9F, (15 metre surface area) that will be covered with clean fill at a later date as the rain has made road access to this area difficult, (grids 7D and 7E). Areas of the road (7E and 7D) were excavated and cleared for <1 ppm before large rocks were placed on the soft fill to accommodate the heavy trucks transporting the soil. The Tier I excavation uncovered a clay layer, which will serve well to funnel runoff into the new barrier at the base of the slope. Tier I soil under a 3 meter high pile of boulders in grids 5C, 6C and 7C will be left in place; this has an approximate volume of 20 cubic metres. Grids 8E, 7E, 6D, 5D and 5C and 7D have been cleared to <1 ppm. Some Tier I still remains in grids 8F and 9F. Confirmatory samples were taken from clean fill roads used to access grids 6C, 7C and 7D. A small section of road (10 m²) was found to be Tier I and will have to be excavated or filled.

S1/S4 Valley

The excavation of the Tier II in the S1/S4 valley is complete. Nearly all of the Tier I has been excavated. There is a small section of Tier I soil in grids F12, F13, F14, F15, E12 and E13 near the camp sewage lagoon that is unexcavated. The area contains approximately 80 m³ of Tier I soil. Two areas near Dish A and B were excavated for Tier I and after 0.3 m of soil was removed the underlying soil was considered to be mostly

large boulders. Clean fill was placed on Tier 1 in these two cases, (grids J17, J18, K17, and K18). Below Dish B in grid I13 there is a small area of frozen Tier 2 that will be covered with clean fill at a later date (surface area of 5 m²). This area is well marked with blue rope. As described in a previous report, Tier 1 pockets in inaccessible areas near the cliff edge have been left untouched (grids Q25, Q24, P24, P23). For closure of the SIS4 valley excavation, activity is required in the Tier 1 area near the sewage lagoon, (grids described above) and clean fill should be placed on the small area of Tier 2 in grid I13.

North slope dump, DND Helipad and PCL dump excavations

The north slope dump soils have been excavated. The dump still needs to be covered with clean fill. The DND helipad and the PCL dump were roped off for Tier 1 and Tier 2. Additional sampling was required to re-establish the Tier I and Tier II soils in these two areas. The DND helipad has been excavated for Tier 1 and Tier 2, scraped to bedrock and clean fill placed in the excavated area. All Tier I and Tier 2 soil has been excavated from the PCL dump and its drainage pathway. Though the contamination in this pathway runs all the way to the cliff edge, concerns were raised regarding the stability of the cliff face with an excavator at its edge. Excavation was therefore terminated 20 metres from the cliff edge where the terrain became quite rocky.

Lead Beach Dump

Confirmatory analysis of samples agreed with the on site data obtained by XRF and therefore the remainder of the analysis was completed on site. The area was clearly roped with each round of excavation and analysis. Excavation of the Tier II soil in the dump is complete. Tier I areas are marked off and ready to be excavated. Excavation was recommenced on July 28th. It is estimated that excavation will be completed in the following 2 days. Tier 1 areas are currently being excavated to bedrock and good progress is being made.

Maintenance Dump

As per the excavation protocol 30 cm was removed from the roped Tier 2 area at the maintenance dump. The depth to bedrock is unknown. Samples from the excavated area are being sent to Kingston for cobalt analysis.

TPH remediation

The rototilling regime of the trial landfarm is continuing and soil temperatures are also being taken regularly to establish the temperature depth profile. Soil temperatures are being recorded at the large landfarm as well. The large landfarm still needs to be tilled before the first sampling can be done. This is scheduled for an evening on July 28th-July 30th depending on the availability of heavy equipment.

The construction of the in situ landfarm was initiated on July 27th. A 12 m by 12 m area between the two POL tanks was excavated to bedrock and large boulders were removed

from the soil with an excavator in lieu of using a screener as originally designed. There have been several days of constant precipitation, and as a result the water table at the beach POL tanks is less than 2 feet below the ground surface. The soil is saturated with water and unsuitable for additives or landfarm establishment at this time.

Samples from the barrel cache valley stains have been analyzed for hydrocarbons according to the CCME protocol. The F3 fraction ranges from 31,000 ppm to 42,000 ppm in these soils. Soil at the dismantled imploded tank footprint has been sampled and analyzed. Analysis found this material over the 8000 pm F2 criterion and the top layer of soil should be excavated and added the large landfarm. Samples have been taken of the booms, soils, water and barrier materials of the two ponds in the imploded tank drainage pathway.

Tier II landfill and airstrip dump monitoring

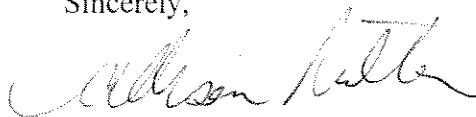
The fourth sampling of the monitoring wells at the Tier II landfill was completed this week. Wells 1B and 3B are still frozen while wells 5A and 6 still have insufficient water for sample collection. The first set of results for the remaining five wells are currently being analyzed and will be reported this week.

The precipitation has become an issue for landfill compaction and therefore the vacuum truck has been cleaned and is being used to transport the water from the landfill to the SIS4 valley where it is being filtered through the PCB barrier system. New charcoal filters have been installed in the barrier.

Other Work

The stains of the concrete floor of Building B2 have been analyzed and PCBs were only found in one sample. This sample was only 1.3 ppm and therefore no action is warranted. The four barrel samples have been analyzed and results reported. Two more barrel samples were taken and have been analyzed. The camp water has been sampled twice and the lake water once as per regulations. The samples from the debris in seacan 3 were received at the laboratory at the end of last week and analysis will be started this week on the 20 samples for PCBs.

Sincerely,

A handwritten signature in cursive script, appearing to read "Allison Rutter".

Allison Rutter and Krysta Paudyn



12 August 2005

Lou Spagnuolo,
Indian and Northern Affairs Canada
Nunavut Regional Office
Iqaluit, Nunavut
X0A 0H0

Resolution Island 2005 – Progress Report #3

Dear Lou,

Good progress continues to be made on site and all Tier II soils are in the Tier II landfill. Many of our other tasks are complete and for the next few weeks our focus will be on completing the barriers.

S1/S4 Beach, S1/S4 Valley North slope dump, DND Helipad, Lead Beach Dump Maintenance Dump and PCL dump excavations

As described in the previous progress report these excavation have been completed. The confirmatory samples at the maintenance dump were analyzed and determined to be below Tier II.

PCB Storage Facility

The barrels which were thought to contain non-hazardous waste in Seacan 3 were analyzed. All samples except one were above 50 ppm and therefore must be put back into seacan 3 to be shipped south. All the metal containers filled with CEPA soil have been labeled appropriately, and are in the process of being double-checked.

Barrels

The site is being scoured for barrels and therefore a number barrels have been sent south for barrel protocol analysis. Seven barrels have already been sampled, analyzed and reported. An additional 12 barrel samples are currently being analyzed and 5 more are currently being shipped south.

TPH remediation

The trial landfarm has been sampled twice and soil temperatures are also being taken daily to establish the temperature depth profile. The large landfarm was well mixed



using the IT24 and sampled for TPH and nutrients. The analysis of all these samples is ongoing. Subsequently the large landfarm was tilled using the harrows attached to an ATV. The landfarm is 60 cm deep and the harrows only tilled the top 20 cm of the soil. We are still working with QC to come up with another solution.

The in situ landfarm is still pending and will be located at the barrel cache valley because the water table is too high at the beach area.

The barrel cache valley stains have been excavated and containerized. The soil in the imploded tank footprint which was above 8000 ppm has been excavated and added to the large landfarm. The 25 cubic metres of soil contaminated with greater than 8000 ppm at the beach was excavated and containerized for Philip Simon's project. (this soil only filled three small flowerpots after being screened.)

PCB Barriers

Samples of the silt from the funnel of the furniture dump and the S1/S4 valley have been sampled and analyzed. One sample at the furniture dump barrier was found to be above 50 ppm. This soil was excavated with shovels and added to a large metal container. The charcoal and gravel filters from the furniture dump and S1/S4 valley have been sampled. Work has started on upgrading the furniture dump barrier. The wooden filter box installed two years ago has been removed and a concrete foundation has been prepared for the new metal filter box. The old barrier installed in 1994 has been taken out and sampled.

Tier II landfill and airstrip dump monitoring

The fifth sampling of the monitoring wells at the Tier II landfill was completed this week and the air strip dump monitoring wells as well as the one maintenance dump monitoring well have been sampled. Analysis of the first two sets of samples indicate that as in previous years low levels of TPH and PCBs are present in some of the wells. The second set of soil samples from the Tier II landfill monitoring points have been taken.

Other Work

The borrow pit at the old water lake has been sampled and will be tested for PCBs, TPH and metals. Three air samples for both PCB and chlorobenzenes have been taken. The plant samples, which are used to monitor background levels of PCBs on site, have been taken.

Sincerely,



Allison Rutter



26 September 2005

Lou Spagnuolo,
Indian and Northern Affairs Canada
Nunavut Regional Office
Iqaluit, Nunavut
X0A 0H0

Resolution Island 2005 – Progress Report #4

Dear Lou,

Our team left Resolution Island on September 8th after very busy but successful field season.

S1/S4 Valley

Tier I areas (grids F7, F8, F9, G8, G9, G10, G11 and G12) that stretched from behind the ASU mobile laboratory to S4 foundations have been covered with clean fill. The addition of clean fill in grid F15 behind the sewage lagoon was completed. There were some remaining grids which contained Tier I soils but were inaccessible. These areas are clearly marked on site and will be documented on the final maps.

TPH remediation

The in situ landfarm was constructed at the location of the former barrel cache valley and sampled twice for TPH and nutrients. The large landfarm was also sampled twice for TPH. Prior to the second sampling, the large landfarm soil was well-mixed with the use of the IT24. Thermistors were installed in two of the in situ landfarm plots for temperature monitoring. Temperatures in the trial landfarm and the large landfarm were monitored daily. Booms were sampled and replaced in the imploded tank drainage pathway ponds. Six coolers of hydrocarbon contaminated soil were shipped south for the next set of reactor experiments.

Once the beach POL tanks were removed samples of the tank footprint were taken.

PCB Barriers

Silt trapped by the S1/S4 valley barrier was analyzed and found to be Tier II. Soil was excavated out of the barrier using shovels and stockpiled under a geotextile liner. This soil was later removed using heavy equipment to fill two small flowerpots. All the old filter boxes have been sampled and replaced. All barriers on site now have two gravel and two charcoal filters. Gravel for these filters was prepared by sieving material from the borrow pit at Radio Hill.



The upgrading of the barrier at the furniture dump is complete. The permanent stainless steel filter boxes were installed. Concrete was used to smooth out the front of the liner system to allow for better seal between the liner and bedrock.

The funnel and gate barrier at the S1/S4 beach was installed this year. This was a challenging task and we are very pleased with the final product. Once the site was chosen, the area was excavated and a large berm constructed by QC to channel flow towards the filter gates. The gate area was further excavated by hand and a concrete base was poured. The three stainless steel filter boxes were installed on top of this base. Gabions were constructed for the funnel walls using rocks collected in the vicinity. The large berm was lined with a woven geotextile to prevent erosion. The barrier was lined with two layers of geosynthetic clay liner, which were wetted with use of the water truck. A black HDPE liner was installed on top and toed in. An additional black liner was installed to protect this liner and to facilitate the shoveling of sediment out to the funnel in subsequent seasons. Several sediment traps were constructed upstream from the barrier to help impede flow and sediment transport. A drainage pathway was channeled using the excavator and this drainage pathway was cobbled with reject rock to further reduce sediment movement.

Tier II Landfill and Airstrip dump monitoring

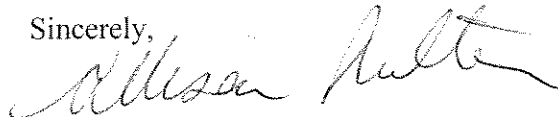
Sampling of the Tier II landfill monitoring wells continued on a weekly basis. In total, the wells were sampled 8 times over the season. A second well was installed at the maintenance dump but was found to be dry upon purging.

Other Work

Air samples for PCBs and chlorobenzenes were taken. An additional set of plant samples were taken as part of the long term monitoring plan. All PCB containers for shipment south were labeled with PN numbers and the inventory updated. An additional 7 barrels were found, sampled and analyzed.

Scientific investigations were undertaken at Radio Island this year. Asbestos and lead leachate samples were taken for analysis.

Sincerely,



Allison Rutter and Indra Kalinovich