4- PCB CONTAINERIZATION AND STORAGE

This section describes the PCB waste containerization and storage operations conducted during the 2003 season.

4.1-Soil Thawing

Before the soil contained inside the Main PCB storage facility could be transferred into steel containers, the frozen pile of soil had to be thawed. In order to achieve this, a ground heater was purchased and shipped to the site early in the season.

The ground heating equipment used consists of a heater and pump system which circulates a warm glycol mixture through a closed loop flexible hose. The temperature of the fluid is controlled and kept at a level at which PCB stripping will not occur.

The ground heater hose was laid on the top of the pile in a tight S pattern. A tarp was placed over the hose to minimize heat loss to the air. Every 24 to 48 hours, the hose was removed from the pile and the loose soil was scrapped off the top of the pile using a wheeled front-end loader (*i.e.,* Bobcat, or IT24). Afterwards, the hose and tarp were repositioned for another period of thawing. The thawing rate measured was approximately 30 to 45 cm of thawing depth per period of 24 hours.

Soil thawing was conducted between June 24 and July 21. Soil thawing and containerization operations were conducted simultaneously.

4.2-Containerization of CEPA Soil

CEPA soil containerization operations initiated during the 2002 season continued during this past summer. Containerization was conducted mainly in three (3) areas, 1) the Main PCB Storage Facility, 2) the new B2 PCB soil Storage Building, and 3) the S1/S4 valley screening area. A total of 604 steel containers were filled with CEPA soil this past season. Most of the containers used this year were of the newer model (*i.e.,* 2002 and 2003), however, approximately 20 of the older model containers (2001) were repaired to EIS specification on site and then used as well for soil containerization.

The CEPA soil stored inside the PCB storage buildings was transferred into the steel containers using the conveyor system. The intake conveyor hopper was placed inside the building while the discharge end was located outside the building. The crew working in the building used a Bobcat loader equipped with an exhaust purifier to feed the conveyor. At the other end of the conveyor belt, the soil was discharged into a lined container, sitting on a containment pad made of HDPE membrane. A loader was used to move the containers (empty and full). Once filled, the containers were brought to the lid and bolting platform. Containerization at the Main PCB Storage Facility was conducted from July 4 to 31, and 328 containers were filled. A total of 187 containers were filled at the B2 PCB Storage Building between August 10 and September 6.

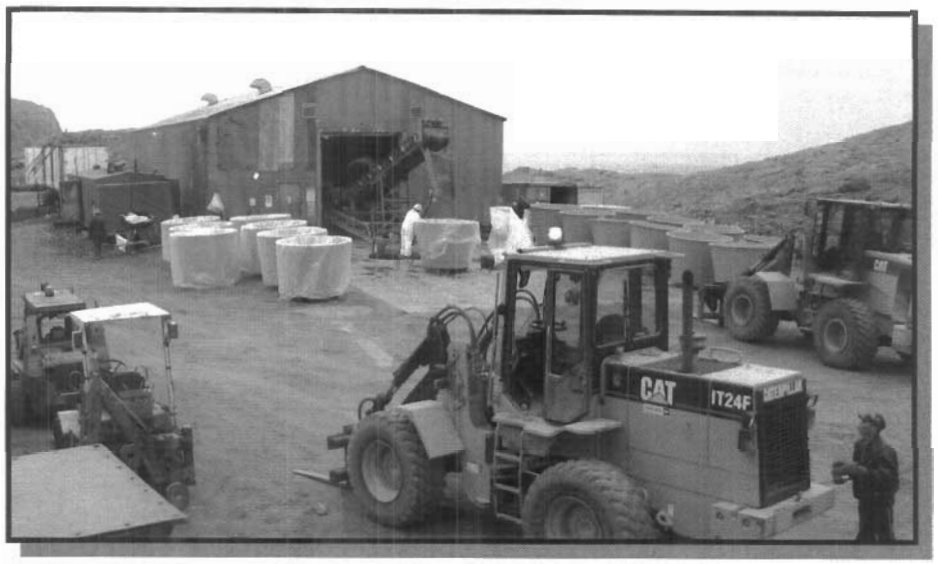
Most of the CEPA soil excavated and vacuumed this season was containerized immediately after being processed through the screening plant in the S1/S4 valley. A total of 89 containers were filled at that location from July 11 to 17.

Photograph 4.1 Containerization of CEPA soil from S1/S4 screener

Once filled and closed the containers were identified with numbered labels for waste tracking purposes. Two (2) labels, with the same number, were placed on each container. A third label, also with the same number, was kept as a replacement in case one of the labels is lost or damaged during handling and transportation. The containers filled in 2003 were numbered RI-236 to RI-847. Certain tags (RI-345, -471, -479, -595, -722, -723, and -731) were eliminated from the list because they were either lost or damaged. ASU personnel also placed a registered Environment Canada PCB label on each container. The registered PCB number was also written on each container using paint markers, in case the PCB label is lost or damaged during transportation. The list of identification numbers of all the soil filled containers is presented in Appendix 3.

The containers were temporarily stored at the beach staging areas. The containers filled at the B2 building were moved to the staging area using a wheel loader, while the containers filled at the upper site were loaded and strapped onto a flat bed trailer (7 per load) and then transported down to the lower site using the crane truck.

The main staging area for the soil filled containers is located along the access road west of the B2 building, and the other area is located behind the bedrock outcrop just east of the B2 building. These areas of temporary storage were used during the season before both off-site shipments of containers. By the end of the season all the containers had been shipped south so no containers were staged there for the winter.



Photograph 4.2 Containerization of CEPA soil at B2 Building

4.3-PCB Soil Storage

During the 2003 season, PCB contaminated soil was stored both at the Main PCB Storage Facility, and at the new B2 Storage Building. In preparation for the demolition of the Main PCB Storage Facility, the following waste materials stored outside the building were hauled down to the lower site for temporary storage near the east beach POL tank:

- 53 small (1.6 m^3) steel containers filled with CEPA soil;
- 20 large (3.1 m^3) steel containers filled with CEPA soil;
- 156 blue plastic drums filled with CEPA soil and concrete (Iqaluit Upper Base);
- 3 wooden crates filled with CEPA soil (Furniture Dump).

At the beginning of the season, the Main PCB Storage Facility contained approximately 1,800 m^3 of CEPA soil. Approximately, 60 m^3 of excavated, and screened soil was hauled from the S1/S4 screener to the building, while approximately 820 m^3 of soil from the building was transferred into 328 steel containers (volume based on assumption that 2.5 m^3 of soil is placed in each container). The remaining volume of soil (1,040 m^3) was transferred to the new B2 storage building. Table 4.1 summarizes the soil volume transfers to and from the Main PCB Storage Facility.

Table 4.1: Summary of Soil Volumes - Main PCB Storage Facility

Soil Storage and Movement	Volume (m^3)
Stockpile inside building - end of 2002 season	1,800
Transfer from S1/S4 screener to building	60
Transfer from building to 328 steel containers	-820
Transfer from building to B2	-1,040
Stockpile inside building - end of 2003 season	**0**

The Beach Hazardous Waste storage facility was turned into the new B2 PCB Soil Storage Building. The B2 building was first emptied of its contents. The wooden crates, wranglers, and drums containing various types of hazardous wastes were moved outside near the east beach POL tank. The building's concrete floor and wall base (approximately 1 metre) were then lined with layers of geotextile and geomembrane. The back wall of the building was opened up and a new garage door was installed. A new garage door was also installed in the main entrance to replace the old one. The genset from the Main PCB Storage Facility was hauled down and hooked up to the new building to provide electricity for lighting and the conveyor system.

The remaining soil from the Main PCB Storage Facility was then hauled down to the B2 building using dump trucks (GMC 10-wheelers and D250 Rock trucks). A total of 124 loads (approximately 1,040 m^3) were hauled down to B2 between July 30 to August 9. Three (3) loads of CEPA soil (10m^3) from the clean up of the Tier II landfill area were also hauled down to B2. The 73 steel containers (53 x 1.2 m^3 and 20 x 2.5 m^3) filled with CEPA soil from the Main PCB Storage Facility were also emptied inside the building (the used soil container liners were placed in waste wranglers). Finally, a total of 187 containers (470 m^3) were filled with CEPA soil from B2. Table 4.2 summarizes the soil volume transfers to and from the B2 Storage Building.

Table 4.2: Summary of Soil Volumes - B2 PCB Storage Building

Soil Storage and Movement	Volume (m^3)
Transfer from Main Facility to B2	1,040
Soil from Tier II landfill clean up	10
73 steel containers emptied in B2	115
Transfer from B2 to 187 steel containers	-470
Stockpile inside B2 - end of 2003 season	**695**

A monthly inspection of the PCB Soil Storage Facilities was conducted and logged as per regulations. The complete inventory of containers and CEPA soil stored inside the storage facilities is to be presented in Queen's University ASU 2003 report.

5- OTHER CLEAN UP ACTIVITIES

Other clean up activities listed in the 2003 work plan, and carried out during the field season include: clean up of the Airstrip and Maintenance dumps, excavation of hydrocarbon contaminated soil, demolition of the PCB building, removal of the old water and power lines, shredding and disposal of non-hazardous waste, monitoring of the furniture dump trial silt barrier, as well as storage and disposal of non-PCB hazardous waste. The following sections describe in detail these clean up activities conducted during the past season.

5.1- Airstrip and Maintenance Dumps

The clean up of the Airstrip Dump was initiated by the consolidation of scattered debris located at the toe of the dump. The 322 excavator with grapple attachment was used to gather and move debris while the bulldozer pushed it up against the dump toe. The bulldozer was then used to compact the waste debris over the entire dump surface area. These operations were carried out from June 23 to 25. During the waste consolidation, two drums containing waste oil were found. These were put aside, sampled, analyzed, and then managed appropriately.

The clean up activities were completed by covering the dump with a total of 1,240 m^3 of gravel and screener rejects. A bulldozer was used to spread the material which was then compacted using the roller-compactor. These activities were conducted between July 18 and August 1. It was initially estimated that a volume of 5,500 m^3 would be required to cover the dump with 0.5 m of material. In order to save as much material as possible for the construction of the landfill, a lesser volume was used to cover the airstrip dump. The missing volume of fill material will be added before the end of the project. The geotechnical stability of the dump will be evaluated during the 2004 season and work (*e.g.,* backfilling and regrading) will be conducted on an as-required basis.

Finally, three (3) monitoring wells were installed around the airstrip dump, two (2) down-gradient and one up-gradient. Boreholes were drilled to a depth of 4.5 metres using an Air Track Drill and stainless steel wells were installed according to UMA-EBA specifications. The location of the monitoring wells is presented on the 2003 As-Built Drawings.

The Maintenance Dump clean up activities scheduled for the 2003 season consisted in removing surface debris and disposing of them on site in a non-hazardous landfill. On September 8 and 9, sixteen (16) truck loads of debris (approximately 80 m^3) were hauled down to the beach Non-Hazardous Landfill. The metal waste was shredded and/or landfilled, and then compacted.

5.2- Hydrocarbon Contaminated Soil

Petroleum hydrocarbon (HC) contaminated soil was excavated in three (3) areas during the season: 1) Collapsed POL tank area, 2) West beach POL tank, and 3) Incinerator Platform.

As part of the general clean up of the area and in order to prepare a temporary clean gravel stockpile area, HC soil was excavated from the west side of the collapsed POL tank, which is located across the road from the former Main PCB Storage Facility. Approximately 40 m^3 of soil

was excavated and hauled down to Barrel Cache Valley for temporary storage.

A total of 20 m^3 of HC soil was also excavated beside the West beach POL tank. The soil contaminated by lighter hydrocarbon fuels was hauled to Barrel Cache Valley and used on the four (4) trial landfarming plots required by Queen's University for their experiments.

Finally, as part of the demobilization of the waste oil incinerators and the general cleanup of the area, HC soil had to be excavated. Approximately 20 m^3 of soil was scraped off the surface of the area and hauled down to barrel cache valley for temporary storage. Table 5.1 presents the volumes excavated and the action taken with the HC soil.

Table 5.1 Volume and fate of excavated hydrocarbon contaminated soil

Excavated Area	Volume removed (m^3)	Action
Collapsed POL Tank	40	Hauled to barrel cache valley
Incinerator Platform	20	Hauled to barrel cache valley
West Beach POL Tank	20	Hauled to barrel cache valley and used for landfarming
Total	80	

Approximately 8 m^3 of HC soil stockpiled at barrel cache valley was containerized in eight (8) lined wooden boxes. The boxes were hauled to the east beach POL tank for temporary storage.

5.3- Demolition of PCB Building

In preparation for the construction of the new Tier II landfill site, the Main PCB Storage Facility had to be removed from its location. Because of its steel frame structure, standard demolition of the building would have generated large volumes of bulky debris to be hauled and disposed of. Therefore, in order to minimize the volume of demolition debris, most of the building was actually dismantled manually as well as with the use heavy equipment. The demolition/dismantling activities were conducted simultaneously to the soil containerization operations as well as during the final clean up stages and decontamination of the building interior.

Most of the soil was removed from the building with heavy equipment, however some soil had to be removed manually as well as with the vacuum truck. Once all the soil was removed, the underlying geomembrane and geotextile liners as well as fibreglass insulation from the walls were also removed. This waste material, considered Tier II waste as per Queen's University test results, was bagged and temporarily stored to the west of the future Tier II landfill.

The geomembrane liner installed on the exterior wall on the North side of the building was first removed. This was followed by the manual removal of the steel cladding walls. The upper section of the walls (1 m) was initially removed in order to let sunlight and warm air in to accelerate the final thawing of the frozen soil pile. Once all the soil was removed from inside the building, all the

remaining steel cladding (*i.e.*, walls and roof) was manually removed by workers. Special safety precautions were taken during the removal of the roofing in order to prevent falls. A safety line was attached to the roof, and all workers were equipped with harnesses which were tied to that safety line. The annex on the southwest corner of the building was then removed. Finally, the steel frame structure was taken down using an excavator. Some of the steel beams had to be cut into smaller pieces using a gas torch. The waste steel was then moved aside using loaders.

Photograph 5.1: Removal of steel cladding from PCB building roof

Photograph 5.2: Demolition of building structural steel frame

All cladding material was hauled down to the beach NH landfill for disposal, while the structural steel was temporarily stockpiled to the east of the future Tier II landfill site. The bulk of the demolition/dismantling work was conducted between July 24 and August 14.

5.4- Removal of Water and Power Lines

The old water line which used to supply the upper site with water from Freshwater lake was removed during the season. Other piping running parallel to the water line as well as a power line and associated creosote treated wooden poles were also removed. The dismantling and clean up work was conducted between August 19 and September 3.

Part of the water line and other piping were lined with asbestos insulation. The removal, handling and disposal of this asbestos material required special procedures. Three (3) types of asbestos material were present on the two (2) different pipes. The water line was covered by a 12-inch (30-cm) diameter culvert which was lined with an asbestos fibreboard / tar paper. In this type of material the asbestos fibres are pressed and trapped within a resin matrix, which presents a very low risk of generating airborne fibres. This type of material resembles the asbestos fibreboard presently on the market.

Photograph 5.3: Removal of asbestos insulation from old fuel line

The other type of piping, perhaps the old fuel line, present alongside the old water line, contained two other types of asbestos materials. The outer part of the lining was made of coarse woven asbestos fabric resembling the material found on the market. This type of material is also not prone to releasing airborne fibres. Finally, between the outer liner and the steel pipe was a series of insulating materials, one of which was a 2-3 mm layer of loose fibrous asbestos. This material could have posed a greater risk of exposure for the workers, however, since the material was completely soaked and trapped between layers of other materials the actual risk was minimal. Nonetheless, handling and disposal of all three types of asbestos materials was carried out by

following standard procedures. Workers were equipped with particulate filter cartridge half masks and work gloves. The procedures were implemented following recommendations from Queen's University based on test results.

The asbestos lined culverts were emptied of their contents (*i.e.,* fibreglass insulation and steel pipe), moved to the side of the road and placed in a temporary stockpile. As for the other type of piping, the old lining was simply ripped off manually and placed in yellow plastic asbestos bags which were taped shut. The used work gloves were also disposed in those bags. The culverts and bags were hauled down to the beach NH landfill, disposed in a separate cell, and covered with a layer of gravel. The area was then marked to identify the presence of asbestos waste and referenced in the As-Built Drawings. Approximately 20 m^3 of asbestos waste was managed.

The remaining part of the old water line was also removed, most of the line had to be cut in sections using a gas-powered circular saw. As for the adjacent power line, the wooden poles were cut using a chain saw. The communication cables and wires were cut in manageable lengths and rolled up. All but twenty (20) of the poles were felled, however, they have yet to be to be collected and disposed. All other waste debris was hauled down to the beach NH landfill for disposal.

5.5- Non-Hazardous Waste Shredding and Landfilling

Various types of waste and debris from various origins were hauled down to the beach NH Landfill site for shredding and disposal. These waste materials include:

- debris collected from the Maintenance Dump clean up;
- debris from the dismantling of the old water, power and POL lines;
- demolition debris from the Main PCB storage facility;
- scattered debris gathered from various areas, and
- washed drums from the incineration platform.

Lighter metal debris such as empty drums were shredded, and disposed of in the landfill, while bulkier metal debris were dumped directly into the landfill. Occasionally, the landfill debris were compacted by driving the D7 bulldozer on top of the debris pile. During the 2003 season, the shredder was operated for a total of 2 days (September 4 and 5).

It should be noted that the asbestos waste (*i.e.,* piping and insulation) was not shredded, or compacted, and that it was placed in a separate cell and marked for future reference.

5.6- Furniture Dump Silt Barrier

A trial silt barrier developed by QC/Sinanni and installed down-gradient from the former Furniture Dump during the 2001 season was inspected during this past season. The barrier effectively blocked and retained washed and/or eroded soil particles which accumulated on the up-gradient side of the barrier. This soil was sampled and sent to a CAEAL certified laboratory for analysis to determine its PCB content. The soil sample was analyzed by Maxxam Analytique in Montréal. The analytical result showed a PCB concentration of 10 mg/kg, which corresponds to Tier II level contamination. The certificate of analysis is available on request. This soil will eventually have to be removed and disposed in the Tier II landfill. It should be mentioned that research on barriers is

now being conducted by Queen's University in order to develop full scale units that will have to be installed by the end of the project.

5.7- Hazardous Waste Storage

During this past season, various types of non-PCB hazardous wastes were moved around, as well as added or removed from the waste inventory. Because the beach hazardous waste storage warehouse was turned into a PCB soil storage facility, all the waste items it contained had to be moved out. Some items were moved to another storage area while others were shipped south for disposal. The items listed below are presently stored beside the East Beach POL tank.

- 1 waste wrangler of oily sorbent
- 30 wooden crates filled with mercury contaminated soil
- 29 wooden crates filled with metal contaminated soil
- 1 red metal vault filled with batteries
- 2 waste wranglers filled with batteries
- 1 drum filled with zinc contaminated soil
- 1 conical (3.1 m^3) container with residual solid combustible substance
- 3 conical (3.1 m^3) containers filled with amyl acetate substance

The inventory also includes waste wranglers containing contaminated liners and tier II debris. One can refer to the ASU report for the full inventory of hazardous waste. Most of the hazardous waste will be eventually placed within the Tier II disposal facility. Others will need to be shipped down south to registered disposal facilities. As such, a total of 168 drums of hazardous waste from the storage warehouse were shipped south for disposal (refer to Section 6 for details).

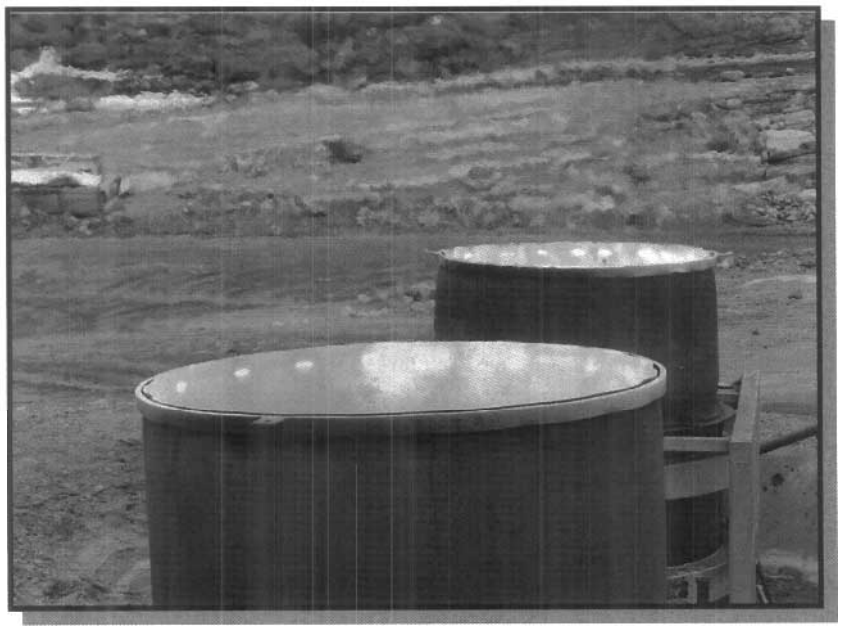
6- DRUMS AND POL MANAGEMENT

Management of drum and POL (Petroleum, Oil and Lubricants) waste products continued during the 2003 season. The main activity consisted in the processing and incineration of the waste grease. Other waste oil products were also incinerated. Associated operations such as drum staging, sorting, and pumping, as well as drum washing and water treatment were also carried out. The incineration equipment was demobilized at the end of the operations. Finally, ship-south drums were containerized in overpack drums and shipped for disposal to an authorized facility in Québec.

6.1-Incineration Operations

Processing, and incineration of the waste grease was a major part of the POL management program for the 2003 season. The waste grease was diluted in diesel fuel at a ratio of approximately 1.5/1 (fuel to grease) in order to decrease viscosity and improve flow through the system. An explosion proof propeller mixer (2 HP) was used to produce the mixture.

The drums of grease and fuel were drained by gravity into the mixing tank. The fuel drums drained rapidly, however the drums of grease required more effort. The bulk of the grease flowed out by gravity but the residual contents were manually scraped out. The empty grease drums were then rinsed by spraying with fuel. After mixing, the fuel-grease mixture was pumped into the feeding tank prior to incineration.



Photograph 6.1 Incineration of waste POL products

A gear pump, installed beside the feeding tank, was used to re-circulate the grease and fuel mixture within the tank. This circulation was useful in keeping the mixture homogenous and preventing separation and settling of the grease.

Besides the drums of grease, drums of DND waste oil stored beside the storage containers since the end of 2002 were also incinerated this past season.

During the 2003 field season, the incinerators were operated for a total of 302 hours, over a 21-day period. The system was operated 24-hour/day with two rotating crew for about a week, to make sure this activity could be completed on schedule. Only nine (9) hours of down time were recorded due to maintenance on the incinerators. A total of 53,095 litres (11,800 Imp. gal.) of POL products were incinerated. The average burning rate of the incineration system was 177 litres/hr (39 gal./hr).

The following table presents the quantities of POL products incinerated during the 2003 season.

Table 6.1: Volumes of POL products incinerated

Waste Processed	Nb Drums	Volume (litres)
grease	86	17,630
diesel fuel	127	26,035
used oil (DND)	46	9,430
total	259	53,095

The drum washing station, installed beside the settling tank, was operated for most of the season. The washing station, operated by one person, uses high pressure steam to remove residual oil from inside the empty drums. Oily water, which drains out of the drums by gravity, is collected and processed through the oil-water separator.

Drums processed through the washing station consisted mostly of drums emptied of their waste oil contents as part of the POL management, and incineration program. Drum washing was required to render the empty drums non-hazardous, and to allow for the on-site disposal in the beach non-hazardous waste landfill. Over 300 empty drums were processed through the drum washing station during the 2003 season.

Washed drums were temporarily stockpiled nearby and then hauled to the beach shredder (located next to the non-hazardous landfill). The shredded drums were dumped into the Beach Non-Hazardous landfill.

6.2-Demobilization of Incineration Equipment

After incineration of the inventory of drums was completed, the incineration equipment had to be dismantled and moved to make way for the construction of the new Tier II landfill.

All tanks, separators, pipes, and hoses were drained of their contents. Residual oil was incinerated in the system. The oil-water separation and treatment system was also dismantled. Residual water was processed through the system. All oily solid waste products, which could not be incinerated, such as sorbents, plastic tarps, and sludge were containerized. Depending on contamination levels, these waste products will either be shipped south or disposed of in an engineered landfill.

The spill containment berms surrounding the burners and tanks were also removed. A layer of soil was scraped from the entire surface of the incineration operations area to remove oily stains. The berms and the surface soils were hauled to Barrel Cache Valley for temporary stockpiling.

Most of the incineration equipment was hauled to Barrel Cache Valley for temporary storage. The smaller equipment, such as tools, pumps and compressors were sent to the warehouse and added to the inventory of equipment available for general use.

A simplified system consisting of one of the two (2) burners with associated equipment will be setup at Barrel Cache Valley at the beginning of the 2004 season. This will be used to incinerate the diesel drained from the beach POL tanks and transferred into drums in 2001. It was originally expected that this fuel could be used for the camp furnace. However, damages on the burners were observed after a few trial.

6.3-Containerization, Shipment, and Disposal

Most of the ship-south drums that were removed from the Beach Non-Hazardous Waste Storage Warehouse had to be containerized into over-pack (Salvage) drums in accordance with the new Transportation of Dangerous Goods (TDG) Clear Language Regulations. After re-containerization, each drum was properly identified and labeled. The over-pack drums were then securely strapped 2 to 3 per pallet.

Photograph 6.2 Loading of waste drums on barge for south-bound shipment

On September 12, 2003, a total of 168 drums of hazardous waste were loaded onto the *M.V. Cécilia Desgagnés* for south-bound transport to a disposal facility. Most drums contained waste petroleum products (*i.e,* grease, fuel, gasoline, and oil), while others contained various other solid and liquid waste products (*e.g.,* solvent, charcoal, batteries, etc.).

The waste drums were unloaded from the ship at the Port of Ville Sainte-Catherine, Québec, and then transported by Ecolocycle Inc. to their waste transfer station in Saint-Hyacinthe, Québec, for disposal.

The list of drums shipped south, as well as a copy of the transport manifest are presented in Appendix 4.

7- TIER II LANDFILL

Construction of the Tier II landfill site was initiated during the 2003 season. Gravel production was another major task which was directly related to landfill construction. A greater number as well as new pieces of heavy equipment were put to use in conducting both related tasks.

7.1-Gravel Production

Gravel production was identified as a major activity in the 2003 work plan. Gravel was mainly required for the construction of the Tier II landfill berm core. Three (3) borrow pits were identified for use during the season: Radio Hill borrow pit, Airstrip borrow pit (pit 9), and Lake borrow pit. The volume of material quarried and remaining from all borrow pits is summarized in Table 7.1.

Radio Hill Borrow Pit

Radio Hill pit, quarried since 2001, was used again this year for the production of gravel. The location of the borrow pit is indicated on the 2003 As-Built Drawings. Pit run was excavated and hauled to the screening plant. The excavated material was then processed through screens with two-inch (2") diameter openings. Approximately 6,500 m^3 of gravel, of the total estimated 7,500 m^3 volume, were quarried from the borrow pit. It is estimated that well over 1,000 m^3 of borrow material is still present in the area. The old upper section of the access road, blocked off in 2001 for safety reasons, was secured and reopened to ease traffic flow.

The screened material, stockpiled nearby, was classified as Type 4 (and alternate Type 3) material as per Tier II Landfill Construction Specifications. The screened gravel was used mostly for road maintenance and repairs, as well as for the construction of the Tier II landfill, as Type 3 material. Unscreened material (*i.e.,* pit run) and screener rejects were mainly used as cover material for the remediation of the Airstrip Dump.

Airstrip Borrow Pit

Quarrying operations at the Airstrip pit, also referred to as Pit 9, were initiated during the 2003 season. The borrow source, identified on the 2003 As-Built Drawings, is located behind the bedrock outcrop, north-west of the airstrip.

An access road was built to reach the gravel source. The road was constructed from June 29 to July 1, using the D6 and D7 bulldozers, the 315 excavator, and a rock truck. The road starts at the main site road near the edge of the airstrip dump and contours the bedrock outcrop towards the North.

Before actual quarrying could begin, the borrow pit had to be drained of its excess moisture. Drainage ditches were dug in a grid pattern to maximize efficiency. After a few days of soil draining, stockpiling of unscreened pit run was initiated by pushing material into several piles using bulldozers. Once sufficient material was stockpiled, the material was screened through grizzlies to remove large boulders. Since the pre-screened material still contained a fair amount of large

rocks, the material was then processed through a screener with four-inch (4") diameter openings. In certain areas, pit run was also hauled to the screening plant using a rock truck.

Photograph 7.1: Quarrying operations at the Airstrip borrow pit

Approximately 8,100 m^3 of gravel, of the total estimated 17,500 m^3 volume, were quarried from the borrow pit. It is estimated that only 1,100 m^3 of borrow material is still present in the area.

The screened gravel, classified as Type 3 material as per Tier II Landfill Construction Specifications, was used for the construction of the landfill berm core.

Lake Borrow Pit

The Lake Pit, used during the 1998 season, was identified by UMA/EBA[3] as a major source of granular material with an estimated volume of 17,500 m^3. The use of this borrow pit was not required during the 2003 season.

Before startup of the 2003 season, a landslide ripped through the eastern side of the borrow source, along the stream that borders the area, and sent an unknown but large volume of granular material as well as part of the access road to the bottom of the lake (see Photograph 7.2).

Since the site was last used in1998, most of the access road sustained some erosion damage over the years. In order to prepare site access for inspection, soil sampling, and potential quarrying activities later in the season, work on the access road was initiated. Part of the old road was repaired by backfilling and grading, and part of it was moved up, approximately 50 metres away

3 Resolution Island Site Reconnaissance - Tier II Contaminated Soil Landfill, prepared by EBA and UMA, November 2002.