REPORT ON CLEAN UP DONE IN JULY AND AUGUST 2003 FOR THE KIGGAVIK AND SISSONS PROJECTS, NUNAVUT

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IN JULY AND AUGUST 2003
FOR THE
KIGGAVIK AND SISSONS PROJECTS,
NUNAVUT

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EXECUTIVE SUMMARY

This report has been prepared by J.C. Nadeau, CRI Exploration Department Logistics Officer and D. Spelay, CRI Environment, Health and Safety Department Radiation Protection Specialist. The editing was done by J.C. Rippert. It is a follow up to the report "*2002 Inspections and Future Clean Up Plan for the Kiggavik and Sissons Projects, Nunavut, October 2002*" which was written after two visits to the project sites in the summer of 2002.

This report details the cleanup activities performed at the Kiggavik and Sissons Projects during July and August of 2003. The required work was outlined in the 2002 report, and focused on eliminating radiological concerns, demolishing/burning unused buildings, removing unnecessary materials from the sites, and general cleanup of the project areas. Explanations are provided for proposed tasks that were not completed.

Pictures taken at the end of the 2003 work program are appended. When compared with pictures inserted in the 2002 report, the 2003 pictures clearly show the amount of work done.

In the conclusion of this report a table is provided to allow comparison between proposed and completed activities. COGEMA intends to finish the outstanding work during the summer of 2004. At the end of this forthcoming program, a field inspection by the regulatory Agencies and members of the Community and of the Town Council of Baker Lake could be organized if one is desired.

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I. INTRODUCTION

The Kiggavik Sissons Project is a uranium surface exploration project located approximately 80 km west of Baker Lake, in the Kivalliq Region of Nunavut. Two large groups of mining leases and mineral claims are subdivided into Kiggavik Project in the north, and the larger Sissons Project to the south. While exploration drilling ended in the 1997 field season, at the Kiggavik Project the Kiggavik site still has a camp, office, core shack and drill core storage and the Pointer Lake site has a small core storage area. The Sissons Project has core shacks and core storage at the Andrew Lake site.

In April, 2002, the CNSC decided to revoke the AECB removal license, effective September 20, 2002. COGEMA inspected the Project site, assessed the condition of the camp and facilities, conducted radiological surveys of the core rack areas and areas where drill cuttings remain on the surface, identified potential chemical contaminants, and planned necessary remedial actions. A cleanup strategy was developed that would remove most facilities and leave the remainder in a low maintenance condition for indefinite storage.

In 2003, the majority of the necessary cleanup was performed. In the Sissons Project area, at the Andrew Lake site the Driller's shed and 3 tent platforms with their metallic tent frames were dismantled and the floors burned, and over 100 boxes of cores were prepared for shipping to Kiggavik. At the South West Grid site some radioactive cuttings were removed and others were covered with sand to reduce emissions to, or below, the accepted level.

At the Kiggavik Project several buildings, platforms, and fixtures were burned or dismantled, and 3 fuel storage areas and a garbage burning area were cleaned up and all hazardous materials removed. All unused walkways were burned, the water line and all electric cables were removed, protruding pieces of steel were cut off as close as possible to the ground, and casings were cut to less than 30 cm. A fenced compound was prepared to receive all the mineralized core boxes from the entire Kiggavik Sissons Project area, and an existing trench was used to receive contaminated soil from the Sissons sites, then backfilled.

II REPORT ON LOGISTICS – 2003 Program

2.1 Monday July 21

Arrived at Baker Lake in the evening. Intention is to follow the recommendations made in the distributed report "2002 Inspections and Future Clean Up Plan for the Kiggavik and Sissons Project, Nunavut, October 2002".

2.2 Tuesday July 22

Finalized logistical arrangements with Peter's Expediting Services Ltd., the contractor chosen for this cleanup project and met the cook/nurse hired for the project.

2.3 Wednesday July 23

Four COGEMA staff and contractors mobilized by helicopter to Kiggavik in the morning, and three in the afternoon. The day was spent preparing the camp living quarters and making logistical arrangements. The kitchen was in relatively good condition, requiring only extensive cleaning. A propane stove and two electric refrigerators with freezers were functional.

The water in the lake behind the camp was very low and not suitable for domestic use. Every day, two fuel drums were filled with water at the nearest lake (one kilometer west of camp) and brought in by helicopter. The water was to be boiled for consumption.

A flight to Andrew Lake enabled a look at the work to be performed in the upcoming days.

A total of 25 Jet B fuel drums were counted at Kiggavik and Andrew Lake, meaning 50 hours autonomy for the helicopter. There was no Jet B fuel available at Baker Lake.

At the end of the working day, the camp was functional and the crew was ready to start the cleanup, according to the following schedule (10 hours a day):

4 working hours in the morning with one short break,
1 hour break for lunch,
4 working hours in the afternoon with one short break,
2 hours for supper and finally,
2 working hours in the evening.

On each day during the cleanup project, the CRI Exploration Logistics Officer reported work activities to the Senior Geologist in Saskatoon and took direction as necessary.

The temperature was unusually warm and the tundra was very dry. These conditions lasted through most of the cleanup .

2.4 Thursday July 24

Andrew Lake Site (Sissons Project)

Andrew Lake area was the first priority as it was a smaller area with less work to be done: there were fewer buildings to be dismantled than at Kiggavik and less material to be removed. It also had to be cleaned of all radioactive materials. .

Work was concentrated at Andrew Lake from 8:00 am to 5:00 p.m., focusing first on the area around the Driller's shed. It was dismantled and 2"X4" studs and plywood salvaged to build boxes that will be used to ship materials to Baker Lake at the end of the winter of 2004. Two workers were assigned full time to this task.

All materials for Baker Lake or Kiggavik were collected in one place and the heavy items were slung by helicopter.

Work began on identifying the mineralized core in the core rack area.

Kiggavik Camp (Kiggavik Project)

In the evening, 2 workers began to dismantle the equipment building located behind the kitchen (by the waterline) to salvage 2"X4" studs and plywood. Safety was a concern as there were many nails sticking out of the salvaged wood.

Two crew members began to dismantle the personnel cabin furthest to the north, but it was determined that it was too difficult to salvage wood from this type of building and it would be burned instead.

One worker hauled camp water and burned garbage Two more workers arrived at Kiggavik to complete the work crew.

2.5 Friday July 25

Andrew Lake Site (Sissons Project)

Everybody went back to Andrew Lake to continue to work in the Driller's shed area.

The first task was to clean the work area and separate the salvaged 2"X4" studs and plywood from the wood to be burned. Then two workers made boxes; 2 workers removed nails; and the foreman and 2 other workers continued the cleanup around the drillers' shed.

The mineralized core recovery from the Andrew Lake core racks began. The core was located with the help of the 2002 report map and a scintillometer. In the core racks, the mineralized core was not all marked with red paint or in box number order, so in the mineralized areas each box had to be pulled out and scanned with a Ludlum. If the box was radioactive (above 1μSv/hr), the box was put aside for later transportation to the fenced core rack to be built at the Kiggavik camp.

These core boxes were secured by covering them up with an empty core box, with haywire at each end of the box to make sure that the core will stay in the box when manipulated and/or slung to Kiggavik. All these radioactive core boxes were then placed in an area away from the core racks, for later slinging with the helicopter.

Kiggavik Camp (Kiggavik Project)

In the evening work continued at Kiggavik. Two workers made boxes; 3 workers completed demolition of the #3 building by the waterline and moved on to the equipment building just north of the general purpose cabin to salvage wood; 2 workers removed nails; and one worker performed camp duties. Safety was again emphasized and work proceeded in a safe and efficient manner.

The equipment building was emptied of all contents and the shingles removed before the end of the workday.

2.6 Saturday July 26

Andrew Lake Site (Sissons Project)

In the morning the entire crew went to Andrew Lake.

The work around the drillers' shed continued with 5 workers: 2 making boxes and 3 filling them up. By the end of the day, almost all of the 120 empty drums were gathered, with numerous empty 45 gallon drums filled with driller's debris. Some of the 16 crates were filled with calcium chloride and other small material (white plastic pails, IP2 pails, steel debris etc).

Work continued at the radioactive core racks. In total, between 125 and 140 core boxes were ready to be flown to the new fenced core storage at Kiggavik, instead of the 50 core boxes originally mentioned to the contractor.

Kiggavik Camp (Kiggavik Project)

In the evening work continued at Kiggavik:

- 2 workers built boxes,
- 2 workers continued dismantling the equipment building which was started the day before,
- 2 workers cleaned the two offices building (#8) that will remain standing. These buildings were emptied of their entire contents other than some bulky stainless steel chairs.

No burning was done, as the risk of starting a tundra fire was too high.

2.7 Sunday July 27

Andrew Lake Site (Sissons Project)

The entire crew worked around the core shacks area. Three floor platforms with tent frames were dismantled: Core shack # 2, Core splitting tent and lunch tent. General cleanup of the area was performed. At the end of the day the floors were loaded with wooden debris, loose core boxes, and other material to be burned when weather permits.

One floor, not appearing in the drawing, located 30 meters north of Core shack #1, was also prepared for burning after removing 8 drums containing mineralized material (to be disposed of in a Kiggavik trench).

Core shack #1 was cleaned of its contents and all material destined for burning was placed on floor platforms. All non-burning material was put aside to be boxed.

The helicopter pad was left unaltered.

The crew started to gather the empty NQ core rack sections and the NQ core boxes into one pile; they will be transported to Baker Lake at the end of the winter 2004 (Delta Load # 2).

No burning was possible that day without risk of starting a tundra fire.

Kiggavik Camp (Kiggavik Project)

In the evening at Kiggavik:

- 2 workers removed non-combustible material (stove, beds, chairs etc) from the 5 personal cabins to be burned (#7 on Sketch Map 2).
- 2 workers made boxes
- 1 started to work on the core shack (# 10), a suitable building from which to salvage wood, and the adjacent equipment building (10),
- 2 people dismantled two empty core racks at Kiggavik, moved and rebuilt them to form a fenced compound to receive the mineralized core boxes from both Andrew Lake and Kiggavik. The location of this new fenced core racks appears on the Sketch Map 2, at the south end of the existing core rack area.
- 2 people cleaned the area marked (1) on Sketch Map 2, where the steel drum (for burning garbage) was located.
- The weather tower, located just north of the equipment building adjacent to the core shack, was dismantled.

No burning was possible that day at Kiggavik without risk of starting a tundra fire.

By the end of the day all buildings circled in red on Sketch Maps 1 and 2 were prepared for burning.

2.8 Monday July 28

Kiggavik Camp (Kiggavik Project)

The entire crew worked at Kiggavik:

- 2 people made boxes;
- 2 people continued dismantling the Core shack and the adjacent equipment building in an orderly manner;
- 2 people dismantled the floor platform beside the two office buildings and disposed of the numerous boxes of non-mineralized cuttings contained in sample bags. After this job they assisted the workers at the Core shack.

The helicopter was sent to Baker Lake at around 9:00 am to sling back the fence, bought by Peter's Expediting, for the Kiggavik compound containing mineralized core.

One worker was discovered to be underage and was returned to Baker Lake.

Kiggavik Grid (Kiggavik Project)

In the afternoon, work progressed on the Kiggavik grid where all the casing to be cut was flagged. The same was done in the camp with the exception of all protruding steel rods used as anchors.

2.9 Tuesday July 29

It rained during the night and the tundra was wet.

Kiggavik Camp (Kiggavik Project)

Early in the morning, having favorable wind conditions and wet ground, the building closest to the kitchen was burned.

Three workers stayed in Kiggavik camp all day to build boxes and remove nails from 2"X4" studs and plywood.

Andrew Lake Site (Sissons Project)

Four crew members went to Andrew Lake and burned everything earmarked for burning. At the drillers' shack area there were 4 separate fires, and five at the core shack area.

One worker remained at each site to tend the fires. After the fires were extinguished they continued stacking empty core boxes and core racks for transportation to Baker Lake.

Andrew Lake Grid (Sissons Project)

Two crew members went to the South West grid to investigate possible remediation methods for potentially radioactive cuttings in the immediate vicinity of the drill collars. Either removing the surficial contamination or blanketing the contaminated cuttings with clean soil were considered, but there are numerous affected drill collars, and the tundra is too hard to dig with a pick and shovel. The crew decided to wait for the radiation protection specialist before deciding what action to take.

It was also decided not to cut any casings at the South West and End grids during this phase of the cleanup operation. The casings are all no more than 30 cm above the ground; there is a large number of them; and with the equipment available the task would require an excessive amount of time and would most likely consume all of the helicopter fuel.

In the afternoon the workers returned to Andrew Lake to help stack radioactive core boxes for transportation to Baker Lake.

At the end of the day, the helicopter was used at the Core shack area to sling water (two 45 gallons drums) to successfully extinguish a fire (smoke but no flame) in the tundra near an area where wood had been burned.

Kiggavik Camp (Kiggavik Project)

In the evening, work continued at Kiggavik:

- 2 people continued building boxes,
- 2 worked at the Core shack to dismantle the building down to ground level and salvage more 2"X4" studs and plywood. The personal cabins, one outhouse, and numerous stacks of wood were prepared for safe burning.

2.10 Wednesday July 30

Kiggavik Camp/Grid (Kiggavik Project)

The entire crew worked at Kiggavik:

- 2 people made boxes,
- 2 people were assigned general cleanup duty,

Three people cut the casings that were previously flagged. Almost all the casings were at a 45° angle, making it difficult to cut them to ground level. Using an electric grinder with a portable generator, they were ground to less than 30 cm. It was not possible to use acetylene and oxygen as they were not available in Baker Lake; they are fragile and would be difficult to transport and difficult to stabilize on the tundra; and they would have been a fire risk.

Over two days approximately 42 casings were cut, 25 in an area one kilometer from the trenches and 17 at the north-east end of the grid. All cut casings except those closest to the trench were left in-situ due to time constraints.

That evening four personal cabins, one out house, and five stacks of wood were burned at Kiggavik.

2.11 Thursday July 31

Kiggavik Camp/Grid (Kiggavik Project)

The entire day was spent working at Kiggavik:

- 2 people cut casing,
- 2 people made boxes
- 2 people on general cleanup.

The old core shack was burned while the helicopter stood by with a 45 gallon drum of water. The water was used to prevent the nearby core racks from burning.

In the evening the helicopter flew to Baker Lake to drop off a worker and pick up COGEMA Resources' Radiation Protection Specialist.

2.12 Friday August 1

Andrew Lake Site/Grid (Sissons Project)

Everybody worked at Andrew Lake:

- 2 workers tidied up the burned areas,
- the remainder of the crew went to the South West (Andrew deposit) grid to deal with radioactive cuttings.

It was decided that where the radioactivity was the greatest, the cuttings will be scooped up, flown to Kiggavik, and deposited into one of the trenches. .As well, sand from a nearby sandpit would be used to cover some drill collars to reduce emissions.

All necessary work at Andrew Lake was finished that day. All that is left at the site are core shack #1, the helicopter pad, and the core racks (void of radioactive cores). All core racks are nailed shut. Three Delta loads for Baker Lake are temporarily stored at the site as well – Delta Load #1 is too large for a single trip and is located where the drillers' shed was; Delta Load #2 is located at the core shack #1 area and consists of 1000 BQ core boxes, 52 sections of NQ core racks, 20 4'X8'X1/2" plywood, 200 2"X4"X16' planks, and 35 4"X4"X16' planks.

Kiggavik Camp/Grid (Kiggavik Project)

In the evening work continued at Kiggavik. Half the building where the Bombardier is stored was demolished and the wood salvaged; the remaining part was secured to protect the Bombardier.

2.13 Saturday August 2

Andrew Lake Grid - End Grid (Sissons Project)

The Radiation Protection Specialist went to Andrew Lake with 2 workers and the helicopter to continue work on the radioactive cuttings at the South West and End grids.

Kiggavik Camp/Grid (Kiggavik Project)

The remaining crew worked at Kiggavik. The core racks were cleared of radioactive core and around 80 boxes of core were added to the mineralized core from Andrew Lake in the newly built core rack compound. Another core rack that had collapsed had the core boxes removed to be stored on a rebuilt base. These cores were not radioactive.

The remaining core racks should be adequate until final decommissioning.

Pointer Lake and Kiggavik Camp surroundings:

- Workers went to Pointer Lake to collect and stack all surplus wooden materials in an orderly manner.
- Others went to the 2 closest sandpits, 2 kilometers south of camp and 2 kilometers west of camp, to remove all rusted drums. All drums and steel material were slung back to camp for transport to Baker Lake.
- One drum and miscellaneous scrap wood were collected near the Kiggavik camp.

More wood was salvaged from the equipment building where the Bombardier is stored. All unnecessary sidewalks were burned. The water line was removed. The electric cables on the ground were collected and put in crates. All protruding pieces of steel in the Kiggavik camp area were cut as close as possible to the ground.

Three buildings (the kitchen and two personal cabins) were left with 45 gallon drums full of heating oil and an oil furnace. Only beds remain in the other personal cabins.

The big satellite dish on top of the general-purpose cabin was removed for transport to Baker Lake. The three freezers were removed from the kitchen. Two propane-stove and four refrigerators (with built-in freezers) remain; no propane is left in camp.

Fuel contaminated soil at the generator site (#13) behind each cabin and around the fuel cache has not been collected as the terrain was very dry.

2.14 Sunday August 3

Andrew Lake Grid - End Grid (Sissons Project)

The Radiation Protection Specialist returned to Andrew Lake with two workers and the helicopter to finish work on the radioactive drill collars. All together, 24 drums of contaminated cuttings/soil were flown from Andrew Lake to Kiggavik and deposited in one of the naturally radioactive trenches. Approximately 10 45-gallon drums full of sand were used to cover drill collars on the South West grid.

End grid did not yield any contaminated drill collars.

The Radiation Protection Specialist also surveyed the core racks at Andrew Lake and confirmed that no radiation above the limit stated in the 2002 report occurred: all readings were less than 1μSv/hr.

The burned sites were cleaned up.

Kiggavik Camp/Grid (Kiggavik Project)

The trench at Kiggavik that received the contaminated soil was covered with the native material initially blasted from that trench. This trench is referred to as the smaller trench in the 2002 report. The other trench was left untouched. There was not enough material to fill it, and there was not enough time to place all the cut casings in it.

The drums used for carrying contaminated soil were scanned, found to have no unsafe levels of radioactivity, and added to the material to send to Baker Lake. In addition the sandpit north of the core shack was cleared of rusty drums and the remaining drill rods were covered with sand. This task did not appear in the 2002 report.

In the evening the Radiation Protection Specialist surveyed the core racks area at Kiggavik. All readings were less than 1μSv/hr.

In Kiggavik the fenced compound for the radioactive core consists of a chain link fence around a 12 meters by 6 meters area. The fence posts were put in a 45 gallon drum and secured with wires.

It rained during the day and so the showers/dry, the two outhouses, and two more stacks of wood were burned. The two outhouses were not scheduled for burning but it was decided they could not be salvaged.

All buildings at Kiggavik scheduled for demolition have been burned and the ground cleaned as much as possible. All pieces of metal have been removed, the ground raked, and all wood and fiberglass that did not burn have been collected.

Other areas

One item in the "2002 Inspections and Future Clean Up Plan for the Kiggavik and Sissons Project, Nunavut, October 2002" that was not addressed this summer

was flying over areas such as "Granite" and "Bong" to check for protruding steel casings, abandoned material, and waste. The helicopter fuel was reserved to move radioactive drums from Andrew Lake to Kiggavik trench and for demobilization.

Enough material is left at Kiggavik for four to five Delta trips to transport it to Baker Lake at the end of winter 2004.This material includes:

- 26 full 45 gallons drums of diesel fuel,
- 135 empty 45 gallon drums,
- 25 wooden crates,
- 13 empty 100-lb. propane cylinders,
- miscellaneous bulky objects.

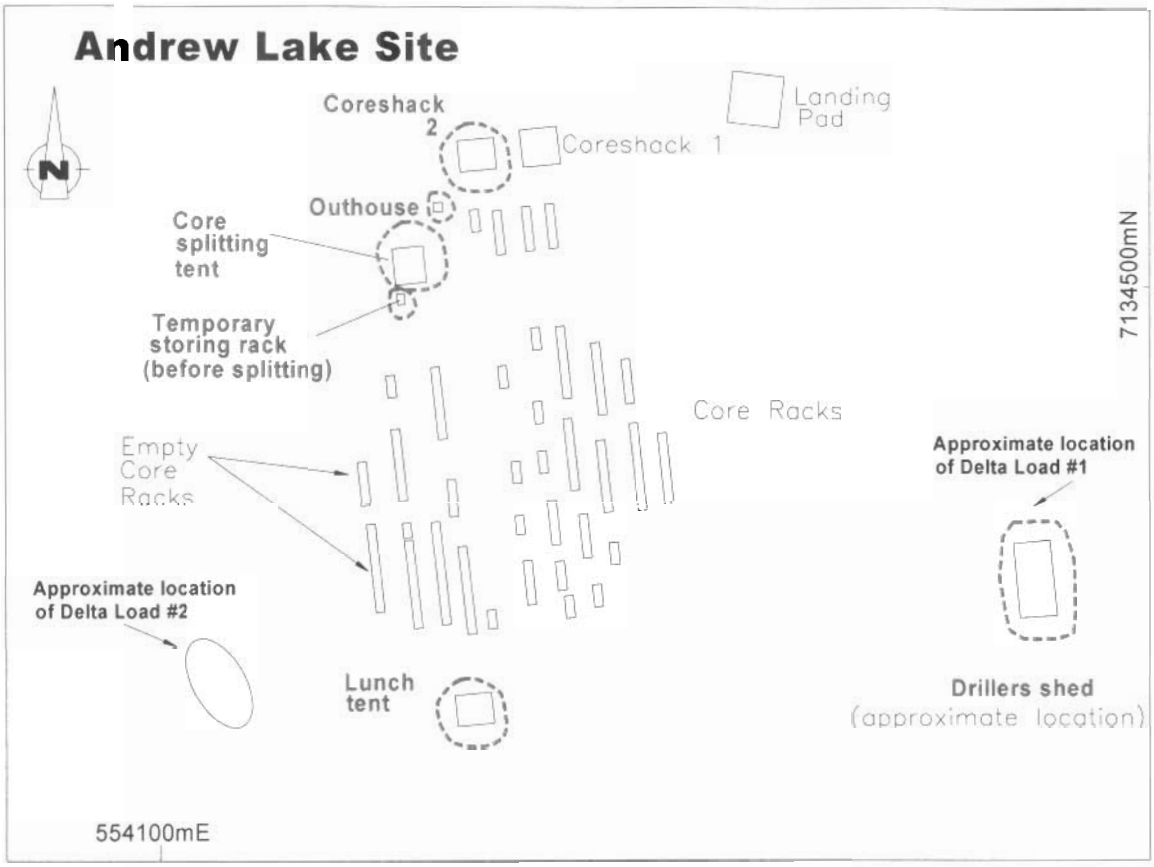
Two drums of Jet B fuel were left on the helicopter pad at Kiggavik to be used for the next inspection.

2.15 Monday August 4

Kiggavik Camp/Grid (Kiggavik Project)

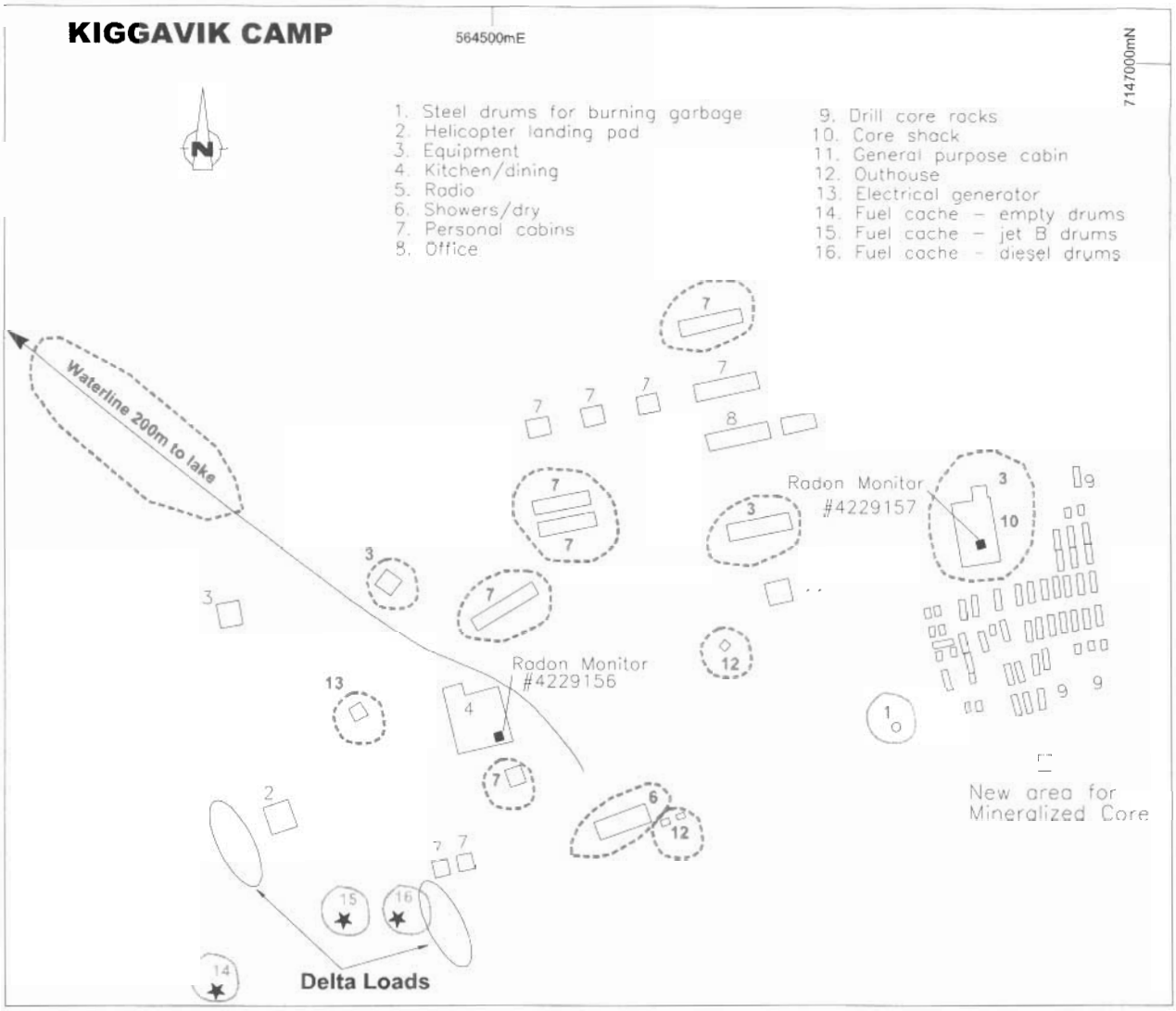
The Kiggavik grid was radiometrically surveyed by the Radiation Protection Specialist. People in camp cleared the ground of debris from the previous day's burning. Others went to Andrew Lake for a final inspection and took pictures for the record. Final inspection and picture taking was completed at Kiggavik in the late morning. In the early afternoon 4 crew members returned to Baker Lake in 2 helicopter loads.

In the afternoon the temperature turned cold and the weather forecast was for deteriorating conditions. The remaining crew rushed to close the camp and everyone returned to Baker Lake by 8:00 p.m.



Sketch Map 1: Andrew Lake Site (Sissons Project)

Location of the work during the 2003 Summer. Red circles: denote building / platform / fixtures burnt or dismantled.



Sketch Map 2: Kiggavik Camp (Kiggavik Project)

Location of the work during the 2003 summer. Red circles denote building / platforms / fixtures burnt or dismantled. Green circles: areas cleaned. Hazard removed.

III RADIOLOGICAL ASSESSMENT

3.1 Introduction

A follow-up radiological survey was conducted of the campsite, core racks, and borehole grids associated with the Kiggavik and Sissons Projects. The locations assessed include the Kiggavik camp and core storage area, Andrew Lake Grid and core storage area, and End Lake Grid. Measurements of the ambient gamma dose rate were conducted to verify the effectiveness of the 2003 cleanup activities. Elevated radioactivity due to activities associated with the Kiggavik and Sissons exploration programs prior to 1997 have been remediated to surface dose rates of <1.0 µSv/h at 1 m from the ground over all impacted areas outside the newly built, fenced radioactive core storage area.

Uranium is a natural element which is as common in the earth's crust as tin. It is present in most rocks and seawater in concentrations of 2-4 parts per million. Geological structures can result in a build up of uranium to the point where it may be economically viable to consider commercial mineral extraction.

A Ludlum 2221 digital scalar counter with a NaI scintillation probe was used to measure surface radiation levels. A post-survey calibration was conducted at the Saskatoon CNSC laboratory on August 8th, 2003 to compare the COGEMA's instrumentation to that of the CNSC, the Bicron survey meter with tissue-equivalent plastic scintillator. Conversion factors of 218 cpm (Ludlum 2221 with #45 probe) to 1 µSv/h (Bicron) and 12660 cpm (Ludlum 2221 with #46 probe) to 1 µSv/h (Bicron). Under laboratory conditions, a corrected conversion factor is expected to vary less than +/- 5% from the current value.

A Trimble Pathfinder Asset Surveyor was used to collect GPS positions of the radiation measurements. This unit acted as both the GPS receiver and data-logging device. Measurement points were extracted and differentially corrected using the Pathfinder Office software package. Arcview served as the geographical information system (GIS) and was used to produce the graphical plots included.

3.2 Kiggavik Camp and Site Buildings

Measurements for potential residual uranium contamination in areas where camp buildings were burned showed no values exceeding the variability of natural background radiation. All areas have less than 1 µSv/h radiation fields at 1 m from the ground.

The investigations focussed on burned areas where the core logging shack, offices, residences and dry were burned. Any material packaged for removal was scanned for contamination. No contamination was present in the material that will be shipped to Baker Lake.

3.3 Core Storage Areas

Obtaining uranium bearing drill core is the primary objective of any surface uranium exploration program. These cores provide geologists with a window to

underlying rock type, structure, type of mineralisation and geotechnical parameters. In Saskatchewan, it is required to permanently store non-radioactive exploration drill core onsite as an enduring geological record for the benefit of future explorers and the community as a whole.

Currently, all drill cores gathered throughout the duration of the Kiggavik and Sissons Projects are stored at three locations: the Kiggavik Camp, Pointer Lake and Andrew Lake site. Any radioactive core identified in the 2002 survey was moved inside a fenced radioactive core storage area built in 2003.

3.3.1 Remediation

A very small percentage (<1%) of the total drill core contributed to readings exceeding the 1 µSv/h level.

These radioactive cores are now stored in a fenced area by the Kiggavik core storage area (see Figure 3.3-1). The fenced area also has warning signs on each side of the enclosure. These steps prevent any radiological impact and potential exposure to humans or wildlife in the area.

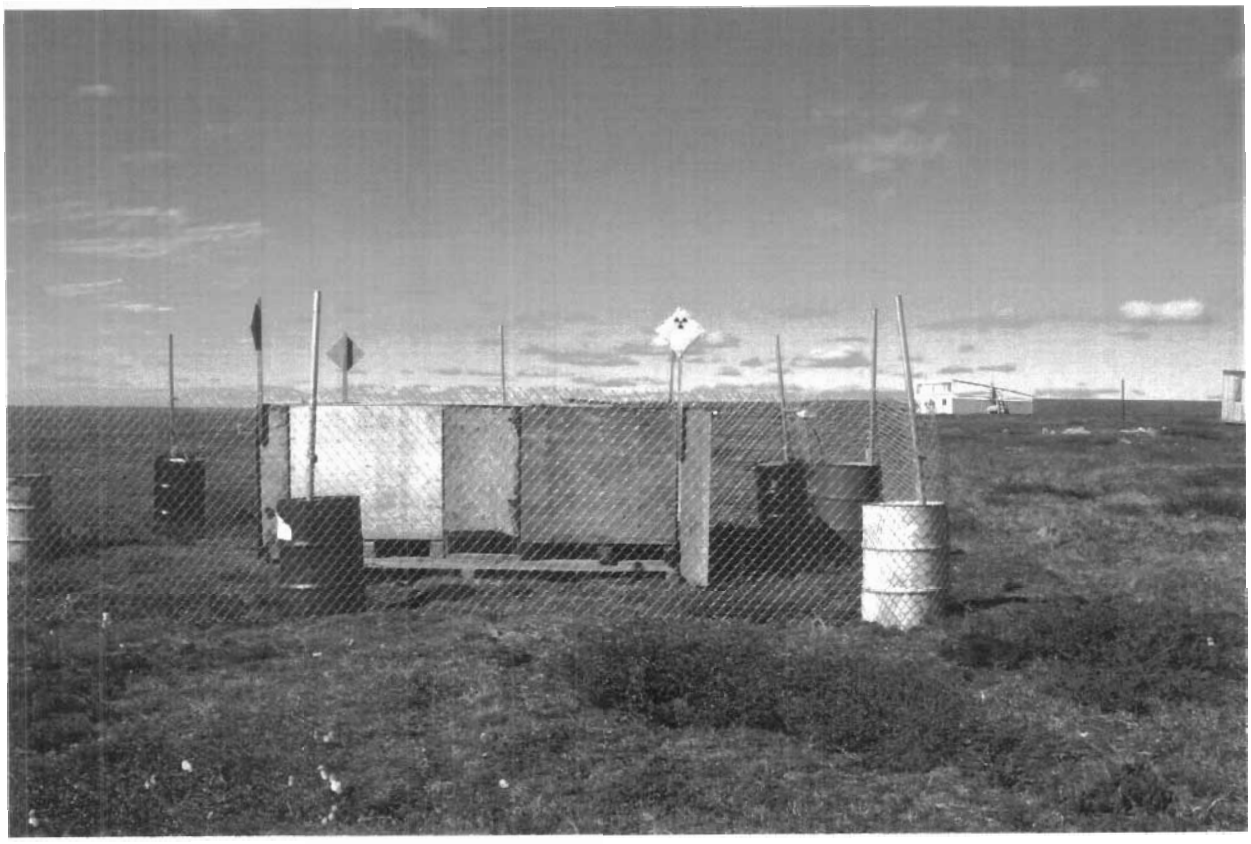


Figure 3.3-1: Radioactive Core Storage Area

3.3.2 Radiation Survey

3.3.2.1 Kiggavik Core Storage Area

There were no areas at the Kiggavik site core racks outside of the fenced radioactive core storage area where gamma fields exceeded 1 µSv/h due to the presence of radioactive core at 1 m from above the ground (see Figure 3.3-2). This assessment included measurements at the fence of the radioactive core storage area which also showed no gamma fields exceeding 1 µSv/h either.

3.3.2.2 Andrew Lake Core Storage Area

At Andrew Lake, the core racks contained no significant areas where the gamma readings exceed 1 µSv/h due to the presence of radioactive core at 1 m from above the ground (see Figure 2.3-3). It should be noted that two measurements exceeded 1 µSv/h (i.e., 1.1 µSv/h and 1.2 uSv/h). When averaged over adjacent readings, the ambient radiation levels are below 1 µSv/h. The readings in excess of 1 µSv/h were within the statistical fluctuations of background radiation and are indistinguishable from 1 µSv/h.

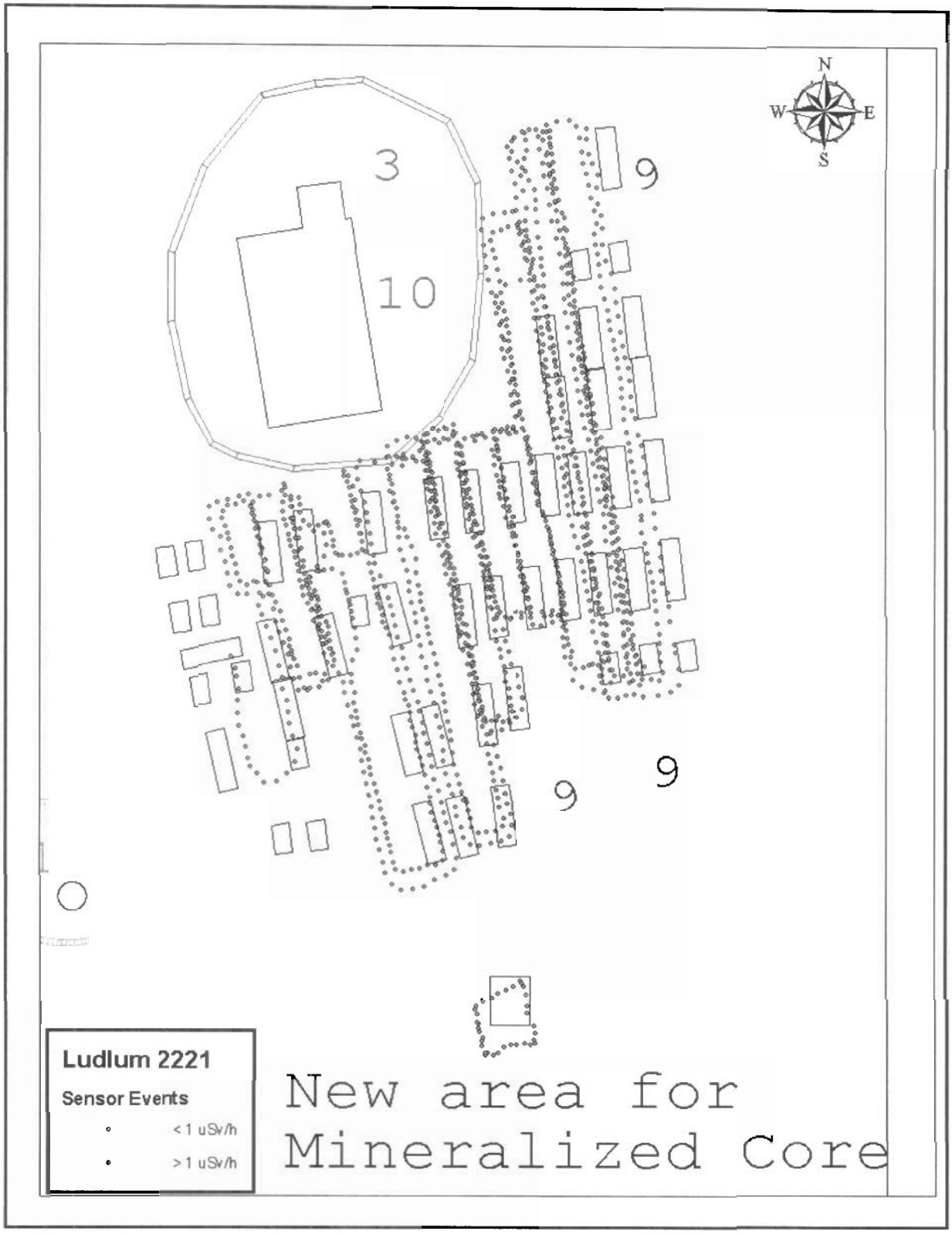


Figure 3.3-2: Kiggavik Site Core Racks

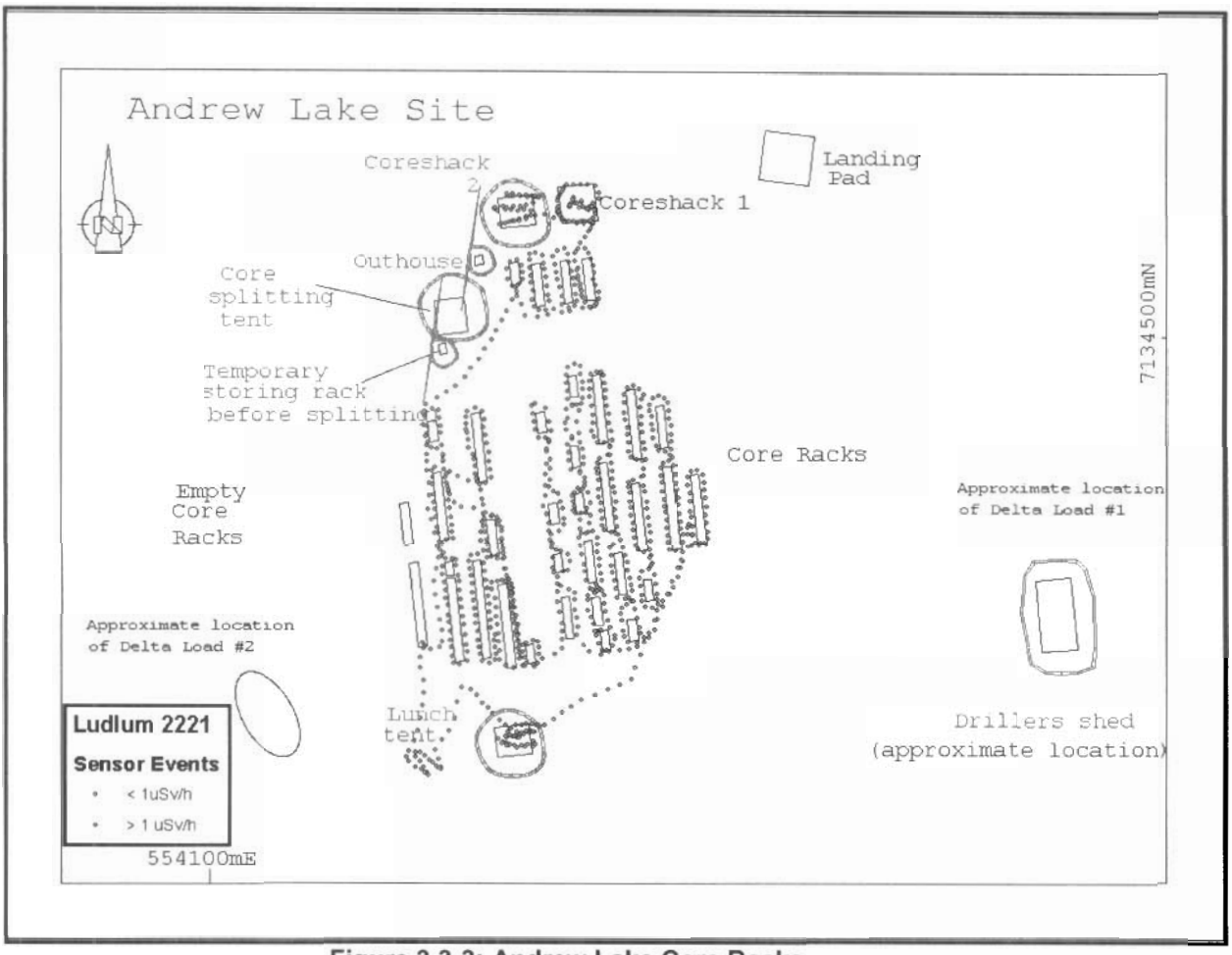


Figure 3.3-3: Andrew Lake Core Racks

3.4 Borehole Grids

Underground material reaches the surface during exploration drilling either directly as drill cuttings or suspended in drill water. Contamination levels at drill holes are roughly proportional to the amount of uranium drilled through. Grade-thickness (GT) is a product of the per thousand concentration and length of uranium bearing core quoted in meters per thousand (°/oo).

3.4.1 Remediation

As Andrew Lake was the only area with radioactive contamination associated with drilling activities, remediation was limited to selected drill holes in this grid. Impacted areas identified at Andrew Lake correspond to drill holes with cuttings on the surface which contain elevated uranium content. Elevated readings occurred at sandy deposits at the surrounding of these drill hole collars. This material has been removed within a radius of up to 5 m from the drill hole collar by manual shoveling. Clean soil has been used to further reduce radiation fields below 1 µSv/h (see Figure 3.4-1 and Figure 3.4-2). All contaminated soil removed from the area was

placed in barrels, flown by helicopter (see Figure 3.4-3), then placed in one of the naturally radioactive trenches of the Kiggavik Borehole Grid.

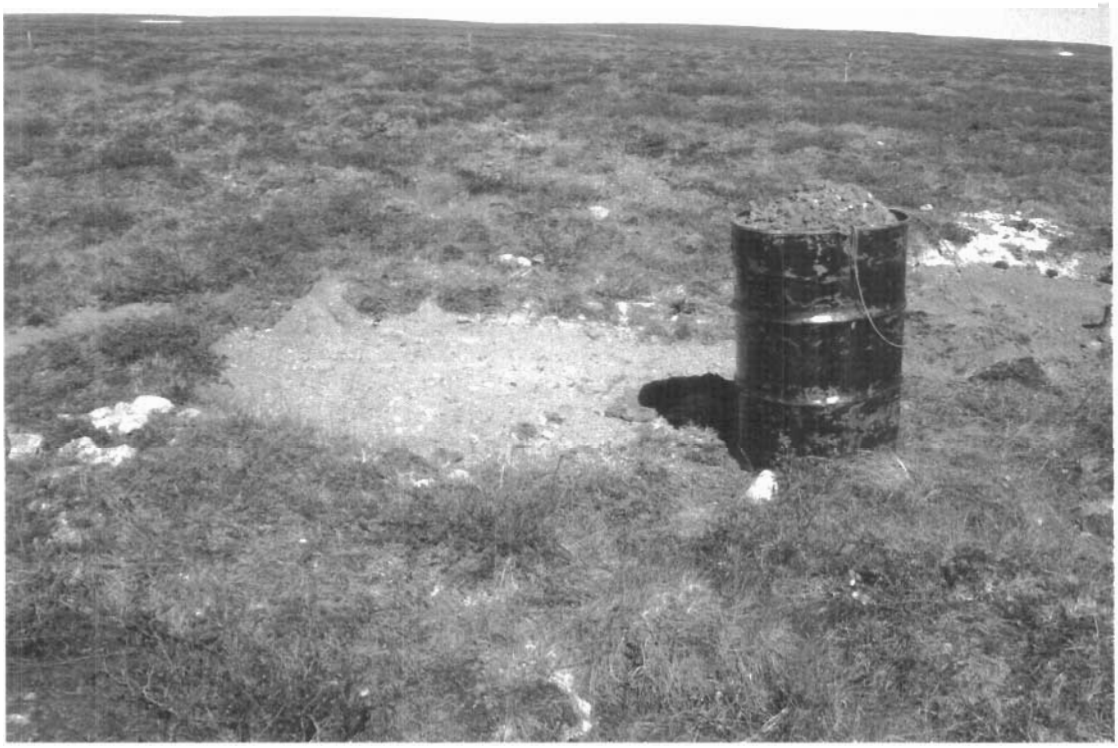


Figure 3.4-1: Remediated Borehole #38 in Andrew Lake Grid

Figure 3.4-2: Remediated Borehole #39 in Andrew Lake Grid

Figure 3.4-3: Airlift of Contaminated Cuttings from Andrew Lake Grid

3.4.2 Radiation Survey

3.4.2.1 Kiggavik Grid

Since very little elevated gamma readings were identified in 2002 at the Kiggavik grid outside of the naturally elevated areas, no radiological survey of this grid was conducted.

3.4.2.2 Andrew Lake Grid

Following remediation of selected boreholes by removing drill cuttings and covering with clean soil, a comprehensive survey of the entire grid was conducted to verify all impacted areas were identified and addresses. As shown in Figure 3.4-4, the results of the 2003 survey indicate all areas requiring remediation have been addressed.

3.4.2.3 End Grid

Although radiation measurements collected in 2002 are all below the 1 µSv/h threshold, a complete survey of the grid was undertaken to verify there were no impacted areas in the grid. Remedial measures will not be required based on radiation levels in this area (see Figure 3.4-5). It should be noted that boreholes #40 and #42 each had one reading exceeding 1 µSv/h. When averaged over adjacent readings, the ambient radiation levels are below 1 µSv/h. The readings in excess of 1 µSv/h were within the statistical fluctuations of background radiation and are indistinguishable from 1 µSv/h.