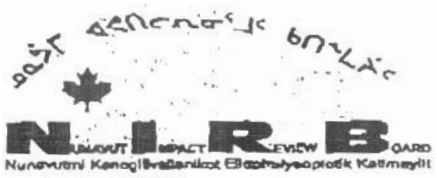
Appendix 9

Land Use Permit and Application Document



February 16, 2004

Spencer Dewar
Licensing Administrator Specialist
Land Administration
Indian and Northern Affairs Canada
P.O. Box 100
Iqaluit, NU
X0A 0H0

Dear Mr. Dewar:

Re: Land Use Application for Resolution Island Cleanup N2003X0038

Thank you for forwarding the above-mentioned land use application. As the project has not changed since the original screening, the Board will not be re-screening at this time. The original Project Certificate that was issued for the cleanup is attached for your reference. Please note, however, that a Project Report, required as part of the Project Certificate has been filed with the Board and is currently being reviewed. Should additional information be found in this report with respect to the above-noted application you will be notified accordingly.

The Board would however like to bring to your attention, that should the cleanup criteria change and an amendment be required, the project would at that time need to be re-evaluated and possibly screened.

Sincerely,

Gladys Joudrey
Sr. Environmental Assessment Officer
Nunavut Impact Review Board

cc: Minister Mitchell
Distribution List

APPLICATION FOR LAND USE PERMIT

FOR OFFICE USE ONLY - RÉSERVÉ AU BUREAU

Application fee	Land use fee	General receipt no.	Date	Class	Permit no.

To be completed by all applicants ▶ ☒ **New application** ☐ **Amendment**

1. Applicant's name and mailing address (Full name, no initials) Indian and Northern Affairs Canada Nunavut Regional Office P.O. Box 100, Iqaluit, NU X0A 0H0 Contact: Glen Stephens	Fax no. 867-975-4575 Telephone no. 867-975-4549
2. Head office address Indian and Northern Affairs Canada Nunavut Regional Office P.O. Box 100, Iqaluit, NU X0A 0H0	Fax no. 867-975-4575 Telephone no. 867-975-4549

Field supervisor	Radio telephone	E-Mail address	Telephone no.
Harry Flaherty, Qikiqtaaluk Corp.	—	hflaherty@qcorp.ca	867-979-6700

3. Other personnel (subcontractor, contractors, company staff, etc.)

70 persons x 45 days/year = 6450 person-days/year

TOTAL :

4. Qualifications

Refer to Section 21 of the Territorial Land Use Regulations

a(i) ☐ a(ii) ☐ a(iii) ☐ b ☐ c ☒

No(s) exploration permit mineral claims (if applicable): N/A

5. a) Summary of operation (describe purpose, nature and location of all activities)

Refer to Section 22(2)(b)of the Territorial Land Use Regulations (Use last page of form if necessary.)

See Appendix A - Project Summary

b) Please indicate if a camp is to be set up (Use last page to provide details)

A camp is already set up

6. Summary of potential environmental and resource impacts

(Describe the effects of the proposed program on land, water, flora & fauna and related socio-economic areas)

(Use separate pages if necessary)

See Appendix B - Environmental Screening Report

7. Proposed restoration plans (please use last page if required)

N/A The project itself consists in site restoration and clean-up.
See Appendices A and B

8. Other rights, licences or permits related to this permit application (mineral claims, Yukon timber permits, water licences, etc.) NWB Water Licence # NWB5RES0302
Land Use Permit # N2001X0011
Quarrying Permits # 2003QP0029, 2003QP0030, 2003QP0031, N2003QP0091

Roads ☐ Is this to be a pioneered road? Provide details on back page ☐ Has the route been laid out or ground truthed?

9. Proposed disposal methods

a) Garbage: Incineration	b) Sewage (Sanitary & Grey Water): Sewage lagoon
c) Brush & trees: N/A	d) Overburden (Organic soils, waste material, etc.): N/A

10. Equipment (Includes drills, pumps, etc.) (Please use last page if necessary)

Type & no.	Size	Proposed use
	See Appendix C	

11. Fuels	Number of containers	Capacity of containers
Diesel		
Gasoline	See Appendix C	
Aviation Fuel		
Propane		
Other		

12. Containment fuel spill contingency plans (Please attach separate contingency plan if necessary)

See Appendix D

13. Methods of fuel transfer (To other tanks, vehicles, etc)

APPLICATION FOR LAND USE PERMIT

14. Period of operation (Includes time to cover all phases of project work applied for, including restoration)

2004 – 2006

15. Period of permit (Up to two years, with maximum of one year extension) ▸ Start date YYYY / MM / DD 2004 / 05 / 16 ▸ Completion date YYYY / MM / DD 2006 / 05 / 16

16. Location of activities by map co-ordinates (Attached maps and sketches)

	Degrees	Minutes	Seconds		Degrees	Minutes	Seconds
Minimum Latitude	61	34		Minimum Longitude	64	37	
Maximum Latitude	61	37		Maximum Longitude	64	42	

Map sheet no. ▸ 025 H 10

17. Applicant (Print name in full)	Signature	Date
Glen Stephens		Nov 25/03

18. Fees

☐ Class **A** - **$150** ☐ Class **B** - **$150** ▸ $ 150.00

Land Use Fees: Less than or equal to 2 hectares ▸ $50.00 $ 50.00

For each additional hectare over 2 hectares or portion of a hectare ▸ x $50.00 = $

Total application and land use fees ▸ $

FOR OFFICE USE ONLY

19. Calculation of area involved (Includes access, staging areas, airstrips, campsites, etc.)

Total area (Ha)	Less than or equal to 2 hectares	**TOTAL(For fee calculation)**

20. Application checklist

a) ☐ Application signed and dated

b) ☐ Fees attached

c) ☐ Map included

d) ☐ Address and telephone number

e) ☐ Screening report

f) ☐ Timber permit applied for - Yukon

g) ☐ Fees attached

h) ☐ Lease applied for

Accepted by	Date

Remarks (Please use last page if additional space is required)

Land Use Permit

Appendix A

Project Summary

As per section 5 a)
of the
Application for Land Use Permit

Clean Up of Resolution Island 2004-2006

Project Summary

The abandoned military site of Resolution Island (Inuit name: Tujjaat - "place where birds land") is situated at the southeastern tip of Baffin Island approximately 310 km southeast of Iqaluit, just outside of Frobisher Bay (61° 35' N and 64° 40' W). This abandoned military radar site (BAF-5) occupies a surface area of approximately 3 km^2. The Resolution Island clean up project was based on a decision by Indian and Northern Affairs Canada (INAC) (the Owner) to comply with their legal requirements and remediate the site according to a risk-based approach. Remediation and clean up work has been on-going since 1997.

In the clean up plan proposed for the remaining three years, the site will be remediated according to a combination of CCME guidelines and DEW line clean up criteria and protocols. The use of these guidelines and protocols is consistent with INAC Contaminated Sites Management Framework.

The major activity required is the excavation of PCB contaminated soils. The excavation of CEPA (concentration >50 ppm PCB) soils, which were a major part of the legal compliance project, requires completion. The remaining volume of CEPA soil that needs to be excavated is located at the S1/S4 beach. This area is not easy to access and the soils are on a very steep incline that will make excavation difficult. Some soil will have to be left because of the extreme hazard involved in the excavation. All CEPA soils will be containerized and shipped south for destruction.

The Tier II and Tier I soils were not included in the initial legal compliance project. Large volumes of these soils (*i.e.*, approximately 20,000 m^3) will be excavated in this project. Most soils are PCB contaminated but some metal contaminated soils (*i.e.*, lead, mercury, and cobalt) will also be excavated and landfilled on site. The Tier II soils will be placed in an engineered lined landfill specifically designed for the Arctic. Construction of the landfill has been initiated at the site of the former Main PCB storage facility. Large amounts of gravel and clean fill will be required to cover the landfill and build the required berms. The Tier I soils will be placed in non-hazardous landfills as intermediate fill. Small amounts of inaccessible Tier I soils will be left in place without being covered. Because all contaminated soil cannot be removed from crevices in rock, barriers have been installed in the S1/S4 valley and the former Furniture Dump drainage pathways.

In addition to the excavation of soils described above, some remaining work on dumps is required. Minor excavation of non-hazardous debris and Tier I and II soils will be required at the two beach dumps, the Maintenance dump, the PCL dump and the north slope dump. Soils contaminated by heavy petroleum hydrocarbons (*i.e.*, lubricating oil and grease) will be excavated, and disposed on site or shipped off-site. Soils

contaminated with lighter petroleum products (*i.e.*, diesel fuel and gasoline) are to be identified, excavated and landfarmed. Some of the other tasks that are included in the remediation plan are the incineration of POL products and the transport and disposal of PCB contaminated debris. Table 1 below summarizes the major activities required to complete the remediation plan.

Table 1: Summary of Major Tasks in the Remediation Plan

Area	Materials		Soil (m^3)		
	Non-Hazardous	Hazardous	CEPA[a]	Tier II[b]	Tier I[c]
S1/S4 Buildings and Valley	Remove Tier I and II debris, demolish S4 building	Remove S4 building floor	-	6,000	5,000
Core Camp and Vicinity (PCL and North Slope Dumps)	Close two landfills; Demolish/move core camp	Remove old barrier material for off site disposal	-	255	200
Maintenance Area	Construct Tier II landfill	Excavate fuel contaminated soil	-	50	-
Beach Area	Excavate remaining debris in dumps; Close non-hazardous landfill	Excavate oily soil from barrel cache valley and cotton grass area and fuel contaminated soil near POL tanks; Containerise CEPA soil in B2 building	-	500	300
S1/S4 Beach	Install barrier		2,100	3,000	4,000
Other	Gravel production; collect scattered debris	Incinerate waste POL; ship south PCB debris			

[a] CEPA soils to be placed in steel conical containers and shipped off site;
[b] Tier II soil to be placed in engineered, lined Tier II landfill;
[c] Tier I soils to be placed in non-hazardous landfills or used in Tier II landfill construction.

The scheduled tasks are presented below for each of the three remaining field seasons:

2004 FIELD SEASON

Logistics

- Mobilization and demobilization: mobilize mid-June, demobilize mid-September
- Purchasing / acquisition: additional equipment as required, explosives

- Sea lifts: return the 600 empty containers to site as soon as possible – remove filled containers in September.
- Fuel re-supply: add fuel to the tanks as required such that there is an adequate amount for completion of the project.

Contaminated Soil Excavation

- S1/S4 Beach: commence PCB contaminated soil excavation – all levels of PCB contamination can be excavated as convenient – CEPA soil to containers, Tier II to Tier II landfill, Tier I to beach non-hazardous landfill – remove culvert at end of season and leave contaminated area in stable condition.
- S1/S4 Valley and Buildings Area: excavate and transport Tier II soil and debris to Tier II landfill when it is ready to receive material – excavate Tier I material and transport to camp non-hazardous landfill.
- Excavate fuel contaminated soil and landfarm.

CEPA Soil Containerisation

- Previously containerised CEPA soil: as time permits containerize CEPA soil from small conical steel containers and miscellaneous containers to standard containers – sort out barrels from Iqaluit and containerize soil.
- From excavation work: containerize CEPA soil.

Clean Fill

- Production of at least 25000 m^3 of gravel from borrow sources around the site or as shot rock by blasting.

Old Landfill Remediation

- Beach dumps: as time permits excavate Tier II soil and transport to Tier II landfill – excavate Tier I soil and take to beach non-hazardous landfill.
- Airstrip dump: as time permits cover with clean fill.
- Maintenance dump: remove debris from surface of dump - excavate cobalt contaminated soil to Tier II landfill – close dump by adding some fill and recontouring.
- North slope dump: no work planned
- PCL dump: no work planned

New Landfills

- Core camp non-hazardous landfill: add Tier I soil and debris from camp and maintenance areas – cover at end of season
- Beach non-hazardous landfill: add Tier I soil and debris from beach area – cover at end of season
- Tier II landfill: add Tier II material as per specifications.

Physical Debris

- Barrels and their contents: consolidate any new barrel contents found; shred any empty barrels located
- Other materials management

Other Tasks

- Training: on-the-job as available.
- ASU work: carry out analyses and mapping as required plus usual annual tasks – conduct research and prototype testing to support permanent barrier installation.
- Install monitoring wells at the new Tier II landfill.
- Carry out "as convenient" tasks as time and equipment permit.

2005 FIELD SEASON

Logistics

- Mobilization and demobilization:
- Purchasing: long term monitoring supplies.
- Arrange contract to remove hazardous wastes
- Sea lifts: return the 600 empty containers to site as soon as possible – remove filled containers and all other hazardous waste in September.
- Fuel re-supply: none anticipated - add fuel if required for demobilization year.

Contaminated Soil Excavation

- S1/S4 Beach: replace culvert in stream if necessary – complete PCB contaminated soil excavation – CEPA soil to containers, Tier II to Tier II landfill, Tier I to beach non-hazardous landfill – construct permanent barrier near cliff at beach edge - remove culvert at end of season and but leave materials, if necessary, such that ATV crossing can be undertaken in subsequent years.
- S1/S4 Valley and Buildings: complete excavation and transport of Tier II soil to Tier II landfill – excavate Tier I material and transport to camp non-hazardous landfill – construct permanent barrier at top of cliff.
- Old landfills: see below
- Oily Soil: excavate and containerize oily soil.
- Excavate fuel contaminated soils and landfarm

CEPA Soil Containerisation

- From excavation work: containerize CEPA soil

Clean Fill

- Production of the necessary material to complete the work.

Old Landfill Remediation

- Beach dumps: complete excavation of contaminated soil if not already completed.
- Airstrip dump: complete closure if not already done.
- Maintenance dump: complete remediation.
- North slope dump: excavate copper contaminated soil to Tier II landfill.
- PCL dump: excavate PCB contaminated soil to Tier II landfill.

New Landfills

- Core camp non-hazardous landfill: add Tier I soil and debris from camp and maintenance areas – cover at end of season
- Beach non-hazardous landfill: add Tier I soil and debris from beach area – cover at end of season.
- Tier II landfill: add Tier II material as per specifications, add liner and insulation. Cover and close landfill – add thermisters.

Physical Debris

- Barrels and their contents: consolidate any new barrel contents found
- Demolish core camp.
- Containerise all appropriate materials for off-site shipment. Place all material near beach for off-site contractor.

Other Tasks

- Training: on-the-job as available
- ASU work: carry out analyses and mapping as required plus usual annual tasks – install new permanent barriers
- Prepare "training centre" as new camp.

2006 FIELD SEASON (Demobilization)

Logistics

- Arrange to remove all excess equipment and supplies from site
- Sea lift: equipment and supplies to Iqaluit

Old Landfill Remediation

- Inspect and sample monitoring wells at airstrip and maintenance dumps.

New Landfills

- Inspect and sample monitoring wells and thermistors at Tier II landfill.
- Inspect non-hazardous landfills.

Other Tasks

- Inspect, monitor and manage permanent barriers.

Land Use Permit

Appendix B

Environmental Screening Report

As per section 6
of the
Application for Land Use Permit

see Appendix 11

Water License Application for a copy of the

Environmental Screening Report

Land Use Permit

Appendix C

List of Equipment and fuel

As per section 10 & 11
of the
Application for Land Use Permit

LIST OF EQUIPMENT FOR THE RESOLUTION ISLAND PROJECT

VEHICULE NAME and EQUIPMENT	*ESTIMATE*	*MOTOR TYPE*	*CAPACITY*	*PROPOSED USE*
All Terrain Vehicles (8 units)		2CYL	400CC	On-site transportation
PICK-UP service trucks (7 units)	E	8CYL	6,5L	On-site transportation
Chain saws (4 units)	E	1CYL	250CC	Chain saw: cut wooden pieces
Pumps (5 units)	E	2CYL	600CC	Pumping waste oil, water, etc
Manual compactors (2 units)	E	1 CYL	200CC	Manual compactor
GAZ GENERATOR (HONDA - 4 units)	E	1CYL	250CC	Supply AC current
CAT D6R BULDOZER		6CYL TURBO	10,5L 180HP@1900RPM	Road construction/ winch
CAT 315 EXCAVATOR (2 units)		6CYL TURBO	5L 99HP@2100	Dig clean/contaminated soil
CAT 322BL EXCAVATOR (2)		6CYL TURBO	6,6L 153HP@1950RPM	Dig contaminated soil
CAT D250E DUMPTRUCK (2 units)		6CYL TURBO	10,5L 260HP@2200RPM	Move dirt and debris
CAT IT38G TOOLCARRIER (2 units)		6CYL TURBO	6,6L 140HP@2200RPM	Load trucks and move snow
CAT D7 BULDOZER	E	6CYL TURBO	10,5L 230HP@2100RPM	Road construction
CAT IT24F TOOLCARRIER	E	6CYL TURBO	6,6L 125HP@2200RPM	Load trucks and move snow
CAT CS563 SOIL COMPACTOR		6CYL TURBO	6,6L 145HP@2200RPM	Compaction of soil for landfills
BOBCAT 763 (2 units)		4CYL	2,2L 46HP	Contaminated soil handling
CAT 950 LOADER		6CYL TURBO	6,6L 180HP@2200RPM	Load containers of contaminated soil
KENWORTH CRANE TRUCK		6CYL	12L, 395HP@2100RPM	Haul containers and other material
MOBILE TRAILER 1		4CYL IN LINE	3,86L (30kw) 60HP@1800RPM	Decontamination Trailer
MOBILE TRAILER 2		4CYL IN LINE	3,86L (30kw) 60HP@1800RPM	Laboratory
INTERNATIONAL WATER TRUCK		6CYL IN LINE	210HP@2300RPM	Supply water to the camp and trailers
GM FUEL TRUCK		6CYL IN LINE	210HP@2300RPM	Supply fuel to the camp and summit area
GM BOOM TRUCK		6CYL IN LINE	210HP@2300RPM	Move CEPA containers on-site
GM DUMP TRUCK (3 units)	E	6CYL IN LINE	300HP@2200RPM	Move soil and granular material
SUPERVAC 2000 VACUUM TRUCK		8 CYL	325 HP	Vacuum contaminated soil
SHREDDER (2 units)		6CYL TURBO	10,5L 134kW@1900RPM	Shred emply barrels and non-hazardous debris
HELICOPTER (B212)		UNKNOWN	UNKNOWN	Transport labour and supplies from Iqaluit to the site
CAMP GENERATOR (2 units)		4CYL	CAT3304	Supply AC current to the construction camp
ALL PURPOSE GENERATOR (2 units)		4 CYL	NISSAN	Welding, etc

LIST OF FUEL AND CONTAINERS - RESOLUTION ISLAND PROJECT

A variety of fuels, oils and other hazardous materials are used during clean up activities at the Resolution Island site. The greatest volumes involved consist in Arctic diesel, Jet A1 fuel (Type F-34 #CAN/CG-SO-3.23-97). Other substances such as lubricant oils, hydraulic fluid, antifreeze, fuel additives, gasoline, solvents, engine coolants are used but their volumes are small compared with diesel fuels. The following table summarizes the estimated quantities used per year.

Table-1: Estimated Quantities of Petroleum Products Used per Season

Liquids to be used	Estimated Volumes (Litres)
Jet-A1 diesel fuel	200,000
Gasoline	15,000
Engine oil	900
Transmission oil	1,500
Differential oil	325
Hydraulic oil	950
Coolant	310

The Jet-A1 is supplied by a tanker and the fuel is pumped from the ship directly into the fuel tanks located at the beach level near the existing North Warning System (NWS) facilities. The existing NWS pipe distribution system can be used to supply the fuel. For Jet A1, the following storage capacity are used:

- Eight (8) above ground steel self-contained fuel tanks having approximate capacity of 32,000 litres each (Standard Temperature and Pressure conditions) located at the beach level tank farm.
- One (1) above ground steel fuel tank with a lined containment berm having approximate capacity of 60,000 litres located at the summit near the construction camp.
- One (1) above ground steel self-contained fuel tank having approximate capacity of 32,000 litres located near the helipad at the summit area.
- One (1) above ground steel fuel tank having approximate capacity of 7,000 litres to supply the old construction camp generator.
- Two (2) above ground steel fuel tanks having approximate capacity of 1,000 litres and one (1) above storage tank of 5,000 litres to supply the new construction camp generator.
- One (1) above ground steel fuel tank having approximate capacity of 5,000 litres for vehicle diesel supply located near the helipad.
- Nine (9) above ground steel fuel tanks having approximate capacity of 1,000 litres to supply the construction camp furnaces.
- One (1) above ground steel fuel tank having approximate capacity of 1,000 litres to supply the waste oil incinerators located near the maintenance building.

For other petroleum products, the following storage facilities are used:

- One (1) above ground steel fuel tank having approximate capacity of 5,000 litres for vehicle

gasoline supply located near the helipad.

- One seacan containing drums of oil, grease and lubricants, and 4 gallon containers of oil-gasoline mix. The seacan is located next to the garage at the summit area.

A fuel truck having a tank of 11,500 litres is used to supply tanks located on the summit and daily tanks on equipment and vehicles. The fuel truck is equipped with a pump and a flow meter for transfer operations. Hand operated or mechanical pump are used for fuel transfer operations with drums of gasoline, oils and lubricants.

Other hazardous materials on site include chemicals used/stored at the mobile laboratory. Queen's University Analytical Services Unit (ASU) is responsible for the operation of the on-site laboratory. The following chemicals are used as part of the routine analysis being performed[1]: acetone, hexane, methylene chloride, chloroform, methanol, phosphoric acid, 4-aminophenazone, sodium borate, potassium ferricyanide, sodium potassium tartrate, copper sulphate, urea, compressed gases (helium, hydrogen, nitrogen and air), diluted standard solutions, pH buffer solutions.

[1] Small quantities of the required solvents and chemicals are stored inside the laboratory. Solvents are kept in 4-liter glass containers stored inside cabinets.

Sinanni Inc.

TÉLÉCOPIE / fax

À / to :	Glen Stephens	
DE / from :	Karl Côté	
FAX :	867-975-4585	
NB PAGE(S) :	7	DATE : 2003-06-19

Enclosed letter sent to Spencer Dewar concerning amendment to land use permit and copy of permit application form.

Sinanni Inc.
3333 Queen Mary, suite 580, Montréal, QC, CANADA, H3V 1A2 Tél.: (514) 940-3332 Fax.: (514) 940-3435 Web: www.sinanni.com

Indian and Northern Affairs Canada
www.inac.gc.ca

Affaires indiennes et du Nord Canada
www.ainc.gc.ca

Nunavut Regional Office
P.O. Box 2200
Iqaluit, NU, X0A 0H0

Your file - Votre référence

Our file - Notre référence
4206-7-9

Spencer Dewar
Land Administrator Specialist
Land Administration
DIAND
P.O. Box 100
Iqaluit, NU, X0A 0H0
tel.: 867.975-4283
fax.: 867.975-4286

6 PAGES

June 18, 2003

OBJECT: Land Use Permit #N2001X0011
Resolution Island, NU
Request for an amendment

Dear Sir,

INAC has recently decided to increase the clean up effort at Resolution Island. Over the next 3 years, the new work plan will include the construction of a secure landfill for the disposal of Tier II contaminated soil. As such, the 2003 field season includes the hauling of gravel for the construction of landfill berms and bottom, an activity for which were are requesting an amendment to the existing Land Use Permit #N2001X0011.

We feel this amendment is minor as the actual Land Use Permit already covers the quarrying and hauling of gravel for road maintenance and road construction, activities that are very similar to the one for which this amendment is requested. It should be noted that in 2003, there are no plans to excavate any Tier II soil or to use the landfill for the placement of such contaminated soil. As such, we are planning to submit a new Land Use Permit application that will detail the landfill specifications in September 2003.

Finally, we would appreciate if all information regarding this request also be forwarded by fax to Harry Flaherty (fax.: 867-979-8433) and to Philippe Simon (fax.: 514-940-3435)

Yours truly,

for G.S.

Glen Stephens
Manager, Environment and Contaminants
Indian and Northern Affairs Canada
P.O. Box 2200
Iqaluit, NU X0A 0H0
tel.: (867) 975-4549
fax: (867) 975-4585

cc Harry Flaherty, Qikiqtaaluk Corporation
Philippe Simon, P.Eng., Ph.D., Sinanni Inc.

Encl. Application for Land Use Permit (4 pages)