ANNUAL REPORT

Water Licence No. NWB5RES0308

RESOLUTION ISLAND PROJECT

Resolution Island, Nunavut

Report submitted to:

NUNAVUT WATER BOARD

by:

Indian and Northern Affairs Canada
Affaires indiennes et du Nord Canada

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QIKIQTAALUK CORPORATION

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QIKIQTAALUK ENVIRONMENTAL

January 2006

EXECUTIVE SUMMARY

As part of the Resolution Island clean up Project, Qikiqtaaluk Corporation (QC) holds, on behalf of Indian and Northern Affairs Canada (INAC), a Water Licence (NWB5RES0308) from the Nunavut Water Board. The annual report, in compliance with the licence, presents various information in the following sections:

a. Fresh Water Quantities
b. Sewage Water Quantities
c. Waste Discharge
d. Summary of Construction Work
e. Surveillance Network Program
f. Environmental Monitoring Program
g. Studies Requested
h. Unauthorized Discharges
i. Communication Exercises
j. Operation and Maintenance Plan
k. Contingency Plan Revisions
l. Trenches and Sumps
m. Clean Up Procedures
n. Public Consultation
o. Concerns Addressed
p. Other Details
q. Inuktitut Executive Summary

In reference to this annual report, several documents are appended. In summary, during the 2006 season all conditions of the Water Licence were complied with.

GENERAL CONDITIONS

As licensees, Qikiqtaaluk Corporation (QC) and Indian and Northern Affairs Canada (INAC) have implemented various procedures to comply with conditions described in the Water Licence (issued on August 29, 2003) related to the Resolution Island Project. The following document summarizes water use data and describes various activities conducted on-site as required by the General Conditions of the Permit.

a. Fresh Water Quantities

Lower Lake, used as the water supply, is located in a relatively undisturbed area (Lower Lake borrow pit nearby was last used in 2001) at approximately 3.2 km (in a straight line) from camp and 1.6 km from the nearest traffic and construction activities. During the work season fresh water was pumped from the supply lake into an 11 m^3 water truck and delivered to 3 (5,265-litre) polyethylene tanks located in the core camp. Fresh water was mainly used for sanitary and kitchen uses and for fire drills. The following table presents the monthly and annual quantities of fresh water used for the project. Estimates are based on the average number of truck loads per week.

Period	July	August
Water volume used (m^3)	90	198
Total volume (m^3)	288	

The permit stipulates that no more than 600 m^3 of fresh water per month be used (*i.e.,* approximately 20 m^3/day). This requirement was met.

b. Sewage Water Quantities

Sewage water was discharged from the core camp through a single pipe into the sewage lagoon. Monthly and annual estimates are presented in the following table.

Period	July	August
Sewage volume generated (m^3)	73	160
Total volume (m^3)	233	

c. Waste Discharge

Solid waste produced during on-site activities was transferred to a covered metal vault outside the core camp on a daily basis and incinerated using a double chamber forced-air Westland incinerator. Solid waste mainly originated from the kitchen operations and from discarded packaging of materials and supplies. The following table presents the monthly and annual quantities of solid waste managed during the 2006 field season at Resolution Island. Estimates are based on the assumption that every person in the camp generated, on average, approximately 2.5 kg of solid waste per day.

Period	July	August
Waste generated (M.T.)	0,7	1.6
Total (M.T.)	2.3	

d. Summary of Construction Work

Construction activities conducted at Resolution Island during the 2006 season are summarized in a report submitted to Indian and Northern Affairs Canada (INAC) in January 2006 by Qikiqtaaluk Corporation and Qikiqtaaluk Environmental Inc. Inc. (see appended document: *Summary of Technical Activities - 2006 - Resolution Island Project*).

e. Surveillance Network Program

Field activities that could generate environmental impacts have been evaluated and are presented in the document entitled *Environmental Screening Report* submitted with the permit application. As part of the Surveillance Network Program (SNP), water from the new supply lake (sampling station # RES-1) was sampled and analyzed.

The SNP analytical results are presented in Table I at the end of this document. These results can also be found in the document entitled *Resolution Island 2006 - Scientific Investigations* prepared by Queen's University Analytical Services Unit (ASU) (see appended document). Furthermore, the Quality Assurance and Quality Control (QA/QC) program used for the SNP is also included in this appended document.

Because of low pH values in the drinking water, pH adjustment was carried out throughout previous seasons by adding sodium carbonate to the camp water storage tanks thereby increasing the pH value to within the required range of 6.5 - 8.5. However, for the last season, pH adjustment was not conducted because the addition of a chemical to drinking water was never well perceived by Inuit in the past.

f. Environmental Monitoring Program

Details of the Environmental Monitoring Program conducted during the 2006 season are described in the document entitled *Resolution Island 2006 - Scientific Investigations* prepared by Queen's University ASU (see appended document). The long-term post-construction monitoring program, submitted to NWB, was implemented in 2006.

g. Studies Requested

No studies related to waste disposal, water use or reclamation were requested by the Board.

h. Unauthorized Discharges

No unauthorized discharges of liquid or solid waste were observed and/or recorded during the 2006 field season at Resolution Island.

i. Communication Exercises

All site workers (including sub-contractors) were instructed on camp rules and safety requirements. Drills were conducted for fire emergency and spill prevention events. Fire safety and spill contingency plans were implemented.

j. Operation and Maintenance Plan

Details of the operation and maintenance (O&M) plan were initially presented in the project Specifications and Environmental Protection Plan submitted with the first permit application in 1998. No major revisions to the initial plan have been implemented.

k. Contingency Plan Revisions

Details of the contingency plan were initially presented in the project Specifications and Environmental Protection Plan and submitted with the permit application. A Spill Contingency plan was submitted to NWB in September 1998 and was revised at the end of the 1999 field season and resubmitted. Further revisions were added during the 2001 season and an improved version was submitted to the NWB in October 2001.

l. Trenches and Sumps

The core camp sewage lagoon was backfilled at the end of the season. A new sewage lagoon was built by the New Monitoring Camp.

m. Clean Up Procedures

During the 2006 season, remedial activities included:

- Light hydrocarbon soils excavation: 72 m^3 of light hydrocarbon soil were excavated at the beach area from underneath the former west beach POL tank and hauled to the landfarm.

- Core Camp demolition and landfilling: all lights were disconnected, batteries were removed; furnace lines as well as water lines were disconnected and flushed and the camp used for this project was demolished and all demolition debris were placed in the camp landfill and covered with about 1700 m^3 of gravel.

- Other Activities: Assistance was given to ASU for the landfarm tilling (three (3) events) and for the hauling of the Quatrex wranglers (sediment from the S1/S4 Valley and Beach) to the B2 building.

Otherwise, details on these activities are summarized in a report submitted to Indian and Northern Affairs Canada in January 2006 by Qikiqtaaluk Corporation and Qikiqtaaluk Environmental Inc. Inc. (see appended document: *Summary of Technical Activities - 2006 - Resolution Island Project*).

n. Public Consultation

A media event announcing the completion of the project after 10 years of efforts was organized by INAC, December 2, 2006. Otherwise, Public consultations/meetings with local organizations or residents of Kimmirut, Pangnirtung and/or Iqaluit are planned to be conducted before the end of March 2007.

o. Concerns Addressed

No concerns or deficiencies related to the project were addressed during this past year. The project is now completed with all assets now demobilized from the site.

p. Other Details

No other details on water use or waste disposal were requested by the Board.

q. Inuktitut Executive Summary

The executive summary in Inuktitut of *Resolution Island Water Licence Annual Report 2006*, INAC/QC/QE., is presented at the beginning of this report. The executive summary in Inuktitut of *Summary of Technical Activities - 2006 - Resolution Island Project*, QC/QE., is presented as part of that report and attached to the current document. The executive summary of *Resolution Island 2006 - Scientific Investigations*, Queen's University ASU will be translated in Inuktitut and will be forwarded to NWB within the next few weeks.

TABLE I: SNP Sampling Results

Parameter	Units	CCME Water Quality Guidelines	Station Numbers (top) / Sample ID (bottom)				
			RES-1	RES-2[1]	RES-3[1]	RES-4[2]	RES-5[2]
			RI05-W004	-	-	-	-
Copper	mg/L	1	0.014	-	-	-	-
Iron	mg/L	0.3	2.9	-	-	-	-
Lead	mg/L	0.01	< 0.005	-	-	-	-
Manganese	mg/L	0.05	.102	-	-	-	-
Mercury	mg/L	0.001	<0.0001	-	-	-	-
Cadmium	mg/L	0.005	<0.001	-	-	-	-
Nickel	mg/L	-	0.078	-	-	-	-
Chromium	mg/L	0.05	0.005	-	-	-	-
Cobalt	mg/L	-	0.019	-	-	-	-
Zinc	mg/L	5	0.053	-	-	-	-
Phenols	µg/L	-	<1.0	-	-	-	-
pH	-	6.5-8.5	4.8	-	-	-	-
TSS	mg/L	< 500	<5.0	-	-	-	-
Nitrate	mg/L	< 10[3]	0.09	-	-	-	-
Nitrite	mg/L	< 1.0[3]	<0.05	-	-	-	-
Oil and Grease	mg/L	-	2.5	-	-	-	-
BOD	mg/L	-	<3	-	-	-	-
Fecal Coliforms	Cts/100	3	0	-	-	-	-

TSS: Total Suspended Solids
BOD: Biological Oxygen Demand

Notes: Certificate of analysis presented on following page

[1] Sampling and analysis not required

[2] No sampling and analysis carried out because of absence of runoff water at these sampling locations

[3] Ontario Ministry of the Environment (MOE) criteria