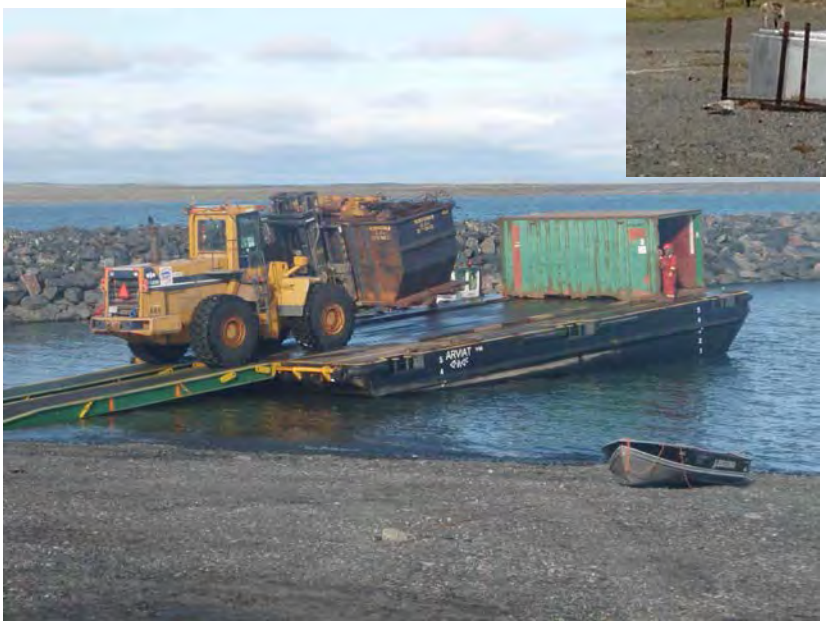
REHABILITATION OF ABANDONED MINERAL EXPLORATION SITES IN NUNAVIK

2014-2015 ACTIVITY REPORT



Kativik Regional Government

Renewable Resources, Environment, Lands and Parks Department

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KATIVIK

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The KRG would like to acknowledge the community of Salluit for their participation during the first year of cleanup at site WB-9 (Kenty Lake). The environmental division of Glencore should also be thanked for their contribution during the September work session at this site.

The community of Kuujjuaq contributed to the project again this year during the cleanup of several sites requiring intermediate cleanup 1 as well as at the Gerido Lake site.

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The KRG would like to thank Nunavik Rotors for its continued professionalism and expertise throughout the transportation of material and employees during fieldwork and inspections.

Finally, the KRG would like to underline the continued financial and technical support it receives from the Makivik Corporation, the Ministère de l'Énergie et des Ressources naturelles (Energy and Natural Resources) and the Fonds Restor-Action Nunavik.

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1 INTRODUCTION

In 2001 and 2002, a verification of 193 possible abandoned mineral exploration sites was performed in Nunavik, of which 90 were confirmed as such. 18 of these were classified as requiring major cleanup work, 27 needing intermediate cleanup work and 45 would require minor cleanup work.

In 2007, the mining industry recognized the need for action and created the Fonds Restor-Action Nunavik (FRAN) to rehabilitate abandoned mineral exploration sites in Nunavik dating as far back as several decades. In October 2007, the KRG, Makivik Corporation, the Ministère de l'Énergie et des Ressources naturelles (MERN) and the FRAN signed a formal contribution agreement that made it possible to proceed with the cleanup of the eighteen sites requiring major cleanup, using the expertise developed during previous pilot projects undertaken by the KRG. Furthermore, an amendment to this agreement signed in April 2012, has allowed for the rehabilitation work to continue and be extended to the group of sites requiring intermediate cleanup.

In January 2012, a report was published that provides, in greater detail, the history of this project and summarizes the rehabilitation work undertaken on a number of abandoned mineral exploration sites in Nunavik over a seven-year period, from 2005-2011 (KRG, 2012a).

In 2014-2015, cleanup work continued in the Nunavik region and the following report describes the rehabilitation activities carried out on the nine sites known as: TQ-10, TQ-14, TQ-6, TA-1, TA-2, G-240N3-4, PJ-19, WB-9 and PJ-1 (Aupaluk). Appendix 1 includes five maps that indicate these and all the 90 confirmed abandoned mineral exploration sites in relation to nearby communities in Nunavik.

2 CONTRIBUTION AGREEMENT

In April 2012 an amendment to the agreement concerning the cleanup of abandoned mineral exploration sites in Nunavik was signed to allow for continued funding in order to extend rehabilitation activities. This funding has been and continues to be used to carry out the rehabilitation of any remaining sites requiring major cleanup work as well as the remaining sites requiring intermediate cleanup. The 2012-2017 General Response Plan (GPR) was prepared in consequence to the amendment, a summary of which will be presented in this report. The full version of the report was published by the KRG in May 2012 (KRG, 2012b). The cost of the cleanup work in 2014-2015 was estimated at approximately seven hundred and twenty-eight thousand, nine hundred and twenty-seven dollars ($728,927).

The KRG is responsible for the management of the cleanup work carried out on all sites covered under the contribution agreement. The KRG is also responsible for drafting a timetable and anticipated budget for each year of work and for ensuring that the concerned Inuit communities are adequately informed of the cleanup being performed.

Makivik Corporation contributes to the project by way of in-kind contribution in the form of marine and air transportation services for materials and labour.

In the first agreement (2007-2012), the FRAN participated through a financial and in-kind contribution of seven hundred and fifty thousand dollars ($750,000). In the renewed agreement (2012-2017), the FRAN again contributed through a maximum financial and in-kind contribution of seven hundred and fifty thousand dollars ($750,000).

The MERN has participated since the beginning of the project through a financial contribution of which the maximum is four million, one hundred thousand dollars ($4.1 M).

3 SUMMARY OF PREVIOUS WORK

Since the launch of the rehabilitation project, 15 of the 18 sites requiring major cleanup have been completed. This work has been undertaken in collaboration with various Inuit communities in Nunavik, the Naskapi Nation of Kawawachikamach, the Innu Nation of Matimekush Lac-John, various active mining companies in the region and other Northern organizations. Table 1 provides a summary of the quantities of the waste removed from these sites from 2005-2014.

In 2011, the KRG Project Coordinator undertook inspections on a second group of sites classified as requiring intermediate cleanup. These 27 sites contain similar items found on the sites requiring major cleanup, only to a lesser extent. From 2006 to 2014 the KRG, various active mining companies and Cruise North Expeditions have initiated cleanup on 23 of these sites, 22 of which are now complete. Table 2 provides a summary of the quantities of the waste removed from these sites from 2005-2014.

Table 3 indicates the current status for all the sites requiring major and intermediate cleanup to date.

Table 1 Quantities of Waste Removed from the 18 Abandoned Mineral Exploration Sites Classified as Requiring Major Cleanup Work between 2005 and 2014

Sector/ Site	Buildings burned or demolished (no.)	Equipment (no.)	Propane tanks (no.)	Reservoirs (no.)	Barrels (no.)	Diesel or other fuel (L)	Motor oil (L)	Grease	Other hazardous material	Transformers (T) or batteries (B) (no.)	Pipes, core trays, wood (m^3)	Debris (m^3)
Kawawachikamach												
KAW-35	19	1 muskeg + various	0	5	1000	4000	0	0	Acid, solvents, paint, oil filters, extinguishers	15 B	500+	200+
KAW-45	5	0	0	0	12	30	0	0	Naptha	0	15+	5+
Tasiujaq												
PJ-1	3 + 5 platforms	30	80	10	403	5100	54	5 kg	Paint, antifreeze, extinguishers	2 T 20 B	150+	200+
TQ-1	0	1 snowmobile	6	0	30	500	0	0	0	1 B	20+	40+
TQ-4	2	1 drill	8	0	156	200	0	0	0	0	10+	10+
Aupaluk												
PJ-10	1 platform	0	15	1	74	1400	280	40 L	0	1 B	50+	25+
PJ-17	11	11	40	0	285	500	2000	1 pail	0	1 T; 6 B	75+	100+
Kangirsuk												
TW	2 platforms	1 pipe threader	11	0	83	1230	0	110 L 2 kg	0	0	30+	20+
Kangiqsujuaq												
K-28	1 tent	1 motor	15	2	70	2000	0	0	$CaCl_2$	0	30+	25+
K-61	12	11	18	1	3600	5000	2	900 L	Acid, paint	5 B	150+	75+
WB-3	0	0	1	0	85	675	0	0	0	0	20+	5+
Salluit												
KV-1	TO BE COMPLETED											
SAL-1	6	0	15	0	336	1000	27	0	0	4 B	50+	10+
SW-27	TO BE COMPLETED											
SW-34	1 platform	0	42	0	1500	1000	0	0	Acid, powder, oil filters	20 B	50+	70+
SW-42	1	0	0	0	45	1000	12	0	0	0	10+	10+
WB-9	TO BE COMPLETED											
Umiujaq												
WHA-1	9	0	0	0	28	280	0	0	Cleaners	0	50+	5+
TOTAL	-	-	**251**	**19**	**7 707**	**23 915**	**2 375**	**>1 075 L**	-	**3 T; 72 B**	**1 210+**	**800+**

Table 2 Quantities of Waste Removed from the 27 Abandoned Mineral Exploration Sites Classified as Requiring Intermediate Cleanup Work between 2006 and 2014

Sector/ Site	Equipment (no.)	Propane tanks (no.)	Barrels (no.)	Diesel or other fuel (L)	Other hazardous material	Batteries (no.)	Debris
Kawawachikamach							
KAW-36			40	90			Wooden platform, plastic core trays, drilling pipes, old dumpsite, wood and metal debris
KAW-119			11				2 wooden platforms
KAW-59			3	20			4 wooden platforms 1 stove, 1 tarp, 1 canoe wood and metal debris
Kuujjuaq							
Gerido Lake		4	300	43 drums			1 plastic reservoir 1 boat
P-24F		30 (small)	60	30			Wood and metal debris 2 stoves and pipes small dump site aluminium core trays
Tasiujaq							
TA-1		2	9				Wood debris Small dumpsite
TA-2			18				Aluminium core trays
TQ-6		2	10				3 stoves and pipes drilling pipes wood and metal debris small dumpsite cables and wires
TQ-10			1				3 large bladder 2 motors, tools metal debris
TQ-14		5	11			3	Drill rods, hoses
VP-11			20				Wooden debris from 3 collapsed buildings
Aupaluk							
G-24O4-3		4	50				Bed frames, tent poles, dumpsite
PJ-17 A		5	64			3	
PJ-19			63				
Kangirsuk							
QC-3	TO BE COMPLETED						
Kangiqsujuaq							
I-32		1	30	820			1 dumpsite
K-27			20				Wood, wiring, piping
K-37	1 water heater		14				
K-49	1 plane	14	45				1 stove, piping, wood, wood and metal debris
KAN-1	1 helicopter		12	820		1	Helicopter debris (metal)
KAN-2	2 tripods, 1 drill, 1 motor, 1 winch				$CaCl_2$		50 pipes
KAN-4			75				
KAN-6	INUIT CAMP						
KAN-7		18	75				2 oxygen tanks, metal, wood, Muskeg remains on site
KAN-10		1	25				Metal and wood, core trays
Salluit							
Parent Lake	TO BE COMPLETED						
SW-24	TO BE COMPLETED						
Umiujaq/Kuujjuarapik							
GW-8	TO BE COMPLETED						
TOTAL	**-**	**86**	**956**	**3 715**	**-**	**7**	**-**

Table 3 Status of Abandoned Mineral Exploration Sites Requiring Major and Intermediate Cleanup Work

Site Name	Latitude	Longitude	Status
SITES REQUIRING MAJOR CLEANUP			
KAW-45	55° 33.68' N	67° 21.20' W	Cleaned
KAW-35	55° 13.94' N	66° 07.27' W	Cleaned
PJ-1	58° 57.71' N	69° 35.85' W	Cleaned
TQ-1	57º 57.68' N	69 º 40.16' W	Cleaned
TQ-4	58º 15.23' N	70º 07.20' W	Cleaned
PJ-17	59° 20.29' N	69° 45.93' W	Cleaned
PJ-10	59° 15.07' N	70° 06.52' W	Cleaned
TW	60° 05.45' N	69° 55.48' W	Cleaned
K-28	61 º 34.65' N	73 º 14.75' W	Cleaned
K-61	61 º 33.25' N	73 º 27.25' W	Cleaned
WB-3	61 º 29.41' N	72 º 18.09' W	Cleaned
KV-1	61 º 25.64' N	76 º 45.46' W	Untouched
SAL-1	61 º 31.14' N	74 º 53.01' W	Cleaned
SW-34	61 º 34.90' N	74 º 28.12' W	Cleaned
SW-27	61 º 28.76' N	76 º 22.93' W	Untouched
SW-42	61 º 23.92' N	74 º 34.40' W	Cleaned
WB-9	61 º 27.35' N	74 º 33.22' W	Partially cleaned
WHA-1	56º 24.06' N	75º 59.40' W	Cleaned
SITES REQURING INTERMEDIATE CLEANUP			
KAW-36	55° 15.02'	66° 09.46'	Cleaned
KAW-59	56° 17.80'	67° 49.00'	Cleaned
KAW-119	57° 37.48'	66° 45.77'	Cleaned
P-24F	57° 01.54'	68° 53.20'	Cleaned
TA-1	58° 16.80'	69° 50.19'	Cleaned
TA-2	58° 17.48'	69° 56.34'	Cleaned
TQ-6	58° 17.92'	69° 57.37'	Cleaned
TQ-10	58° 06.36'	70° 09.10'	Cleaned
TQ-14	58° 19.36'	70° 14.30'	Cleaned
VP-11	57° 48.59'	69° 31.75'	Cleaned
G-24N04-3	59° 11.57'	69° 49.86'	Cleaned
PJ-17A	59° 20.54'	69° 43.81'	Cleaned
PJ-19	59° 18.91'	69° 46.06'	Cleaned
QC-3	60° 21.55'	70° 09.33'	Untouched
I-32	61° 43.12'	72° 54.94'	Cleaned
K-27	61° 36.24'	73° 19.89'	Cleaned
K-37	61° 31.07'	73° 37.44'	Cleaned
K-49	61° 28.70'	73° 49.70'	Cleaned
KAN-1	61° 32.19'	72° 57.90'	Cleaned
KAN-2	61° 32.51'	73° 31.11'	Partially Cleaned
KAN-4	61° 30.92'	73° 40.18'	Cleaned
KAN-6	61° 28.94'	73° 49.50'	Inuit Camp
KAN-7	61° 28.48'	73° 49.93'	Cleaned
KAN-10	61° 31.58'	72° 49.30'	Cleaned
Parent Lake	61° 33.43'	75 10.36'	Untouched
SW-24	61° 18.75'	75° 44.00'	Untouched
GW-8	55° 05.09'	78° 15.51'	Untouched

4 GENERAL RESPONSE PLAN, 2012-2017

The *Agreement Concerning the Cleanup in Nunavik of Abandoned Mineral Exploration Sites Classified as "Major",* originally signed in 2007 was amended in April 2012 to allow for continued funding for the rehabilitation activities being carried out on abandoned mineral exploration sites in Nunavik. This funding will not only be used to complete the cleanup work on the remaining sites requiring major cleanup but will also allow for the cleanup of sites classified as requiring intermediate work. The 2012-2017 General Response Plan (KRG, 2012b) was prepared as a result to the amendment and contains the following sections: a description of the cleanup work to be carried out before March 2017; the proposed work schedule; the proposed budget for the work; a description of human resources; and a few details concerning the communication of results.

A summary of the General Response Plan (GRP) is provided below. It is important to note that at the end of each year, the GRP is adjusted to better reflect the reality of the cleanup situation. The work schedule and budget presented in this report have therefore been adjusted from the original GRP since the end of the 2014-2015 season.

In 2014-2015, priority was given to initiating work on the site requiring major cleanup known as WB-9, preparing material in Aupaluk for transportation by ship to a recovery facility in the south as well as rehabilitating a block of sites requiring intermediate cleanup in the Tasijuaq and Kuujjuaq sectors.

According to the GRP, 2015-2016 will consist of completing work on any remaining sites requiring major or intermediate cleanup that were not rehabilitated in the previous years. 2016-2017 has been set aside for final inspections of all the sites where work was carried out and for the development of a presentation to be made to communities involved in the project.

4.1 WORK TO BE COMPLETED UNDER THE GRP

In drafting the GRP, the work to be completed at sites requiring major or intermediate cleanup was broken down into the following categories: 1) field logistics, 2) the transportation and disposal of hazardous material, 3) the management of combustible non-toxic material, and 4) the management of non-combustible non-toxic material. Below is a brief summary of those categories.

4.1.1 Field Logistics

Summer is the busiest and most productive cleanup season. It allows workers easier access to the material on the sites and a greater number of daylight hours to operate. Summer fieldwork involves the cutting up and crushing of barrels, the

transfer of residues to undamaged barrels, the gathering of hazardous material and waste, gathering of general debris, gathering and burning of combustible material, and facilitating, if necessary, the transportation of these materials during the winter.

Access by land may be possible after taking into account the distance between each site and the nearest villages as well as topographical conditions. However, generally speaking, most sites will have to be accessed by helicopter or float plane. Winter work could involve the transportation of materials if the sites were within proximity to a village and accessible by snowmobile.

4.1.2 Transportation and Disposal of Hazardous Waste

All recoverable hazardous material will be sent to a recovery facility south of the province. The transfer of residues to undamaged containers, labeling and preparing of the material for transportation will be carried out during summer fieldwork.

4.1.3 Management of Combustible Non-Toxic Material

Combustible non-toxic material will be burned or left at each site. This material includes wood as well as buildings constructed from wood, aluminum and mineral wool insulation. Pursuant to Section 22 of the *Regulation Respecting the Quality of the Atmosphere*, a certificate of authorization is required to burn wood, shacks and buildings. Prior to burning any building, all hazardous material must be removed including emergency lights (lead and Ni-Cd battery cells), smoke detectors, fluorescent ballasts and fire system accumulators (Ni-Cd battery cells). Non-combustible material should also be removed including asphalt shingles, heating stoves, refrigerators, stove-ovens, bed frames, etc. Material remaining after burning (tin, glass wool, iron and wire) is managed with the other waste at the site. It is also possible that petroleum hydrocarbons at the sites will be used to ignite combustible material. In such cases, a certificate of authorization will be required pursuant to Section 23 of the *Regulation Respecting the Quality of the Atmosphere* for the open-air burning of petroleum hydrocarbons, which the KRG obtained in 2008.

4.1.4 Management of Non-Combustible Non-Toxic Material

At most of the sites, non-combustible non-toxic material represents the greatest quantity of debris (empty barrels, equipment parts, domestic appliances, wire meshing, etc.) and is the least likely to be harmful to the environment or to jeopardize the health of animals and humans. Notwithstanding, such material adversely affects the appearance of the landscape. For this reason, wherever possible all waste will be removed from the sites. Batteries, oil, antifreeze and tires will be removed from equipment, transported from the sites and treated as hazardous material.

4.2 WORK SCHEDULE

Table 4 outlines the proposed work schedule for rehabilitation activities at the remaining sites requiring major and intermediate work, between April 1, 2012 and March 31, 2017. In order to facilitate the work, cleanup activities will be carried out, when possible, on sites located in the same sector. The table has been adjusted since the end of the 2014-2015 work season.

Table 4 Tentative Work Schedule for 2012-2017 Cleanup Activities

Site	Summer 2012	Winter 2012-2013	Summer 2013	Winter 2013-2014	Summer 2014	Winter 2014-2015	Summer 2015	Winter 2015-2016	Summer 2016	Winter 2016-2017
SW-34*									INSPECTIONS	COMMUNITY TOUR
SW-27*										
WB-9*										
KV-1*										
KAW-35*										
PJ-1 (Aupaluk)*										
KAW-36										
KAW-59										
KAW-119										
P-24F										
TA-1										
TA-2										
TQ-6										
TQ-10										
TQ-14										
VP-11										
G-24N04-3										
PJ-19										
QC-3										
KAN-10										
KAN-2										
KAN-7										
Parent Lake										
SW-24										
GW-8										

*Major Site

Rehabilitation activities to be undertaken in collaboration with active mining Companies
Rehabilitation activities to be undertaken by the KRG
Transportation of material in winter

4.3 ESTIMATED BUDGET, 2012-2017

Table 5 indicates the overall estimated yearly budget, as set out on the 2012-2017 GRP, for carrying out rehabilitation work on the remaining abandoned mineral exploration sites requiring major and intermediate work, as identified in the 2001-2002 inventory. It should be noted that adjustments to the budget are made at the end of each cleanup season to better reflect the work remaining on sites and in communities.

Table 5 Estimated Yearly Budget for 2012-2017 Rehabilitation Activities

YEAR	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	TOTAL
EXPENSES						
Coordinator salary (General Contract)	$44,000	$35,000	$30,000	$10,000	$11,000	$150,000
Technician salary and benefits	$36,000	$35,000	$30,000	$8,000	$5,000	$125,000
Workers salaries	$135,000	$125,000	$95,000	$30,000	$0	$225,000
Professional/Technical salaries (General Contract)	$20,000	$0	$0	$0	$0	$30,000
Transportation of waste (via south)	$110,000	$15,000	$0	$0	$0	$126,000
Transportation of material/employees	$115,000	$140,000	$140,000	$60,000	$0	$436,000
Disposal of waste (General Contract)	$25,000	$50,000	60,000	$10,000	$0	$125,000
Travel Airfare	$45,000	$65,000	$70,000	$10,000	$70,000	$99,000
Travel Expenses	$50,000	$115,000	$130,000	$20,000	$70,000	$57,000
Material/Equipment	$55,000	$65,000	$65,000	$10,000	$10,000	$63,000
Communication and translation	$1,200	$1,200	$1,200	$400	$2,00	$5,000
KRG training costs (Human Resources)	$6,000	$6,000	$6,000	$2,000	$2,000	$5,000
Sub-total	**$642,200**	**$652,200**	**$627,200**	**$160,400**	**$170,000**	**$2,252,000**
Administration (12%)	$77,064	$78,264	$75,264	$19,248	$20,400	$270,240
Weather Condition Provision (15%)	$96,330	$97,830	$94,080	$24,060	$25,500	$337,800
TOTAL	**$815,594**	**$828,294**	**$796,544**	**$203,708**	**$215,900**	**$2,860,040**

4.4 HUMAN RESOURCES

Human resources for the project fall into two categories: 1) KRG employees, which is to say the project coordinator and environmental or field technicians, and 2) local workers.

The project coordinator works full-time on the project while the environmental technician or field supervisor works part-time during the summer season and winter season if necessary. Experience acquired in the previous work terms suggests that it is absolutely necessary to have one and in some case two technicians on site to complete the cleanup according to the schedule and to allow for more consistent logistical planning by the coordinator.

Local workers are hired to work on the project from the communities located closest to each site. This not only creates jobs, but it also contributes to increasing local know-how regarding contaminated site restoration and environmental project management. The Northern Villages are central to providing local workers for the rehabilitation work, including the payment of the workers' wages. The amounts paid for these workers are subsequently invoiced to the KRG who reimburses all related costs. This cooperation is extremely effective and permits the hiring of individuals who are recognized in their communities. This kind of experience is also highly sought-after by mineral exploration companies for the cleanup of their sites and could therefore lead to future work.

Worker safety is also an important issue for those involved in rehabilitating the abandoned mineral exploration sites in Nunavik. All of the sites to be rehabilitated are in isolated locations that cannot easily be reached from nearby villages. In summer, workers are most often transported by helicopter or floatplane. Since the transporter does not remain at the site, emergency planning is important. It is essential that each work team have an emergency plan and adequate communication systems to contact help, if necessary.

4.5 COMMUNICATIONS

A yearly activity report will be sent to each of the partners involved in the cleanup work. In 2017, a final report will be prepared to summarize the overall outcome of the 2012-2017 rehabilitation efforts.

Also in 2017, at the end of the project, a tour in the communities involved in the cleanup project could be organized to present the results of the rehabilitation work. Also, as was the case in 2011, a presentation could be made during a KRG Regional Council meeting, at which a representative from each village is present.

5 DESCRIPTION OF 2014-2015 REHABILITATION WORK

This section provides an updated description of the sites where cleanup work was carried out during the 2014-2015 season. These sites were inspected in 2011 in order to have a clearer picture of the type of work, manpower and equipment required and to estimate a timeframe for rehabilitation.

This year, the rehabilitation of sites TA-1, TA-2, TQ-6, TQ-10, TQ-14, G-24N03-4, and PJ-19 were completed. Work was undertaken in the community of Aupaluk to prepare material, previously removed from various sites, for transportation by ship. Also, in collaboration with Glencore, work was started on the site requiring major cleanup known as WB-9. The work carried out on each site is described in Section 5.1 with supporting photographs available in Appendix 2.

It should be noted that in 2014 a field technician was hired to supervise the work on most of the sites and in some communities when necessary. Richard Knoxleet, who has many years of experience in the Nunavik region, was asked to fulfil the role for the second year. Nancy Dea remained as project coordinator in 2014.

5.1 DESCRIPTION OF WORK

Tasiujaq Sector

PJ-1

The abandoned mineral exploration site PJ-1 (58º 57.71' N, 69º 35.85' W) is located between the communities of Aupaluk and Tasiujaq (Map 4). The site covers more than 3 km^2 and is comprised of nine sectors. The 2001-2002 inventory ranked this site number one in importance for major rehabilitation. Extensive work has been completed on this site since 2006, including several winter terms. The final material was removed from PJ-1 in the summer of 2011 and was stored in the community of Aupaluk. In 2011 and 2012 approximately 36 pieces of equipment and machinery, totalling 117 tonnes, as well as 30 tonnes of scrap metal, were transported by ship to a metal recovery facility in the south. In 2013, due to logistical issues with the shipping company, only 2 marine containers were removed from Aupaluk.

In July 2014 the Project Coordinator travelled to Aupaluk to verify the material remaining there and to meet with the ship and its dock master. A miscommunication within the shipping company allowed for only a small portion of the material to be removed at that time. However, the problem was rectified and in October the ship removed all but three pieces of material from the community. A total volume of 82 tonnes was transported to a recovery facility in 2014.

The remaining material is being stored in the community of Aupaluk and will be transported in 2015. Pictures of this work and remaining material can be found in Appendix 2.

TA-1

Site TA-1 is located south of Tasiujaq (58° 16.80' N, 69° 50.19' W) and falls under the category of requiring intermediate cleanup (Map 4).

In collaboration with the Northern Village of Kuujjuaq, the field technician and 4 workers undertook one day of cleanup at this site in July 2014. 8 empty drums, 1 propane tank and a bag of debris were removed from the site and brought to the airstrip at Gerido Lake by helicopter for temporary storage. This site is now complete and pictures can be found in Appendix 2.

TA-2

Site TA-2 is located south of Tasiujaq (58° 17.48' N, 69° 56.34' W) and falls under the category of requiring intermediate cleanup (Map 4).

In collaboration with the Northern Village of Kuujjuaq, the field technician and 4 workers undertook one day of cleanup at this site in July 2014. 11 drums, pipes, aluminum core trays, 2 bed frames and a furnace were removed from this site and brought to the airstrip at Gerido Lake by helicopter for temporary storage. This site is now complete and pictures can be found in Appendix 2.

TQ-6

Site TQ-6 is located south of Tasiujaq (58° 17.92' N, 69° 57.37' W) and falls under the category of requiring intermediate cleanup (Map 4).

In collaboration with the Northern Village of Kuujjuaq, the field technician and 4 workers undertook one day of cleanup at this site in July 2014. Aluminum core trays, 3 bags of debris, 10 drums, 2 furnaces, chimney pieces, 3 bed frames, metal pipes and 2 propane tanks were removed from this site and brought to the airstrip at Gerido Lake by helicopter for temporary storage. This site is now complete and pictures can be found in Appendix 2.

TQ-10

Site TQ-10 is located south of Tasiujaq (58° 06.36' N, 70° 09.10' W) and falls under the category of requiring intermediate cleanup (Map 4).

In collaboration with the Northern Village of Kuujjuaq, the field technician and 1 other worker undertook one day of cleanup at this site in October 2014. 4 large

bladders, approximately 10 meters long, as well as several pipes, 1 pump and 1 motor were removed from this site and brought to the airstrip at Gerido Lake by helicopter for temporary storage. A few days later the bladders were brought to Kuujjuaq by helicopter and stored in a marine container. This site is now complete and pictures can be found in Appendix 2.

TQ-14

Site TQ-14 is located south of Tasiujaq (58° 19.36' N, 70° 14.30' W) and falls under the category of requiring intermediate cleanup (Map 4).

In collaboration with the Northern Village of Kuujjuaq, the field technician and 4 workers undertook one day of cleanup at this site in July 2014. 11 drums, 4 propane tanks, 3 batteries and a bag of small debris were removed from this site and brought to the airstrip at Gerido Lake by helicopter for temporary storage. This site is now complete and pictures can be found in Appendix 2.

Gerido Lake

Gerido Lake refers to an area adjacent to the abandoned mineral exploration site requiring major cleanup known as TQ-1 (57° 57.68' N, 69° 40.16' W) previously rehabilitated by the KRG in 2010. An abandoned outfitter camp and airstrip are also located in this area.

In 2011, Canadian Royalties undertook cleanup projects on several smaller abandoned mineral exploration sites in the area, storing the debris they collected at the Gerido Lake airstrip. During the 2014-2015 cleanup season the KRG decided to also store debris from several nearby sites (as described above) at the airstrip due to its proximity to these sites.

In October 2014 the Field Technician, in collaboration with the NV of Kuujjuaq, and 4 workers undertook a 4-day campaign to organize the debris found at the airstrip, which included crushing over 300 drums. The goal was to prepare the material for transportation by both helicopter and/or snowmobile. In the meantime, 7 large Quatrex bags of small debris, weighing approximately 3,600 pounds were transported by helicopter to Kuujjuaq and stored in a marine container.

Aupaluk Sector

G-24N04-3

Site G-24N04-3 is located southwest of Aupaluk (59° 11.57' N, 69° 49.86' W) and is considered as a site requiring intermediate cleanup (Map 5). It consists of 3 sectors spread out along approximately 1 kilometer of lakeshore.

In collaboration with the Northern Village of Aupaluk, the field technician and 3 workers undertook one day of cleanup at this site in September 2014. 50 drums, 4 propane tanks, 4 bed frames, aluminum tent poles and 2 bags filled with small debris were removed from the site and brought to the community of Aupaluk by helicopter. Approximately 5,600 pounds of material was removed from this site. The material was then stored in marine containers and readied for transportation. It was collected by ship in October. This site is now complete and pictures can be found in Appendix 2.

PJ-19

Site PJ-19 is located just south of Aupaluk (59° 18.91' N, 69° 46.06' W) and is considered as requiring intermediate cleanup (Map 5). The KRG, in collaboration with the community of Aupaluk, had previously undertaken the cleanup of this site during the spring of 2010, however several drum covers had been seen during previous inspections. In June 2014 the Project Coordinator removed 64 drum covers from the site by helicopter and brought them to Aupaluk. The site in now considered as complete and pictures can be found in Appendix 4.

Salluit Sector

WB-9

The abandoned mineral exploration site WB-9 (61°27.35' N, 74°33.22" W) is located next to Kenty Lake, roughly 100 km south-southeast of Salluit (Map 6). The site comprises only one sector. The 2001-2002 inventory ranks this site fifth in importance for major rehabilitation work. An inspection in 2012 confirmed the abandoned material and buildings previously recorded. A sketch of site WB-9 can be found in Appendix 3.

The objective for 2014 at site WB-9 was to empty all buildings of non-combustible material and to remove, if nothing else, the hazardous waste from the site. In collaboration with the NV of Salluit, the Project Coordinator and 4 workers undertook a first cleanup session at the site in July 2014. During this time, all non-combustible material was removed from each of the 11 buildings found on site and organized according to category outside in piles. A tarp was laid out on the ground for the hazardous material to be stored on. After 4 days of work a large volume of material was amassed into 3 piles. Table 6 lists the material found on site.

Table 6 Material Found on Site WB-9 (July 2014)

Material	Volume	Notes
Barrel (empty)	49	
Barrel (with fluid)	33	
Propane tank	9	
Metal debris		-metal rods (approximately 1,000 lbs), 3 fuel tanks, 19 mattresses with springs, 15 bed frames, 12 chimneys, stove pipes, wires, plastic tubing with wires, 3 fuse boxes, 10 chairs (metal / wood), 3 small hot water tanks, kitchen stove, 2 refrigerators (1 standard, 1 double door stainless steel), drill rods, plastic core trays, 3 sinks, light sockets / fixtures / switches, plastic tarps, chalkboard, garbage cans (plastic and metal), 2 camping stoves, small refrigerator, washing machine, freezer, metal shelf, radiator (floor model), tower (8 feet, aluminum), metal table frame
Hazardous waste		4 fire extinguishers, 3 pails of tar, 2 paint cans (residue), small propane tank (empty), oil jug (15 empty, 8 full), cleaners, oil filters (8), 1 car battery, 3 empty gas cans.
Small debris	10 bags	

In September 2014 the Project Coordinator and 4 workers from the community of Salluit returned to the site. In collaboration with Glencore, a large portion of the material was removed from the site and brought to their East Lake location by helicopter. Here Glencore had provided 3 marine containers for storing the material. These containers will later be shipped to a recovery facility in the south by way of in-kind contribution from Glencore. Approximately 12,000 pounds of material was removed and only the full drums and a small volume of debris remain on site. Pictures of this work can be found in Appendix 2. Work will continue of this site in 2015 and is described in Section 6 of this report.

5.2 2014-2015 EXPENDITURES

Table 7 indicates the estimated expenditures during the fieldwork undertaken during the 2014-2015 season. Some costs were under or over-estimated from previous cost assessments due to weather conditions and less days spent on some sites.

Table 7 Estimated 2014-2015 Expenditures

INCOME	
KRG surplus	$728 927
MERN income	$0
FRAN income	$0
TOTAL	**$**728 927

IN-KIND CONTRIBUTION			
Site	**PJ-1 (Aupaluk)**	**WB-9**	**Total**
Glencore		$10 705	$10 705
Makivik (NEAS)	$43 668		$43 668
TOTAL	**$43 668**	**$10 705**	**$54 373**

EXPENDITURES*	**2014**
Travel & Accommodations	$216 787
General Contracts	$31 972
Salaries & Fringe Benefits	$0
Purchase of Materials	$5 664
Shipping Expenses	$20 772
Translation Costs	$653
Administrative Charges	$1 182
TOTAL:	**$277 030**

*Source: 2014 KRG Financial Statement

6 DESCRIPTION OF 2015-2016 REHABILITATION WORK

The following section describes the work required on the abandoned mineral exploration sites scheduled for rehabilitation in 2015-2016, according to the work schedule presented in Section 4.2. Photographs of these sites can be found in Appendix 4.

Tasiujaq Sector

PJ-1

In 2014 the vast majority of material being stored in the community of Aupaluk was removed by ship. However, there remains 3 pieces of metal that need to be properly packaged and ready to be transported by ship.

In 2015, the KRG will need to package this material, most likely in a marine container, organize its removal with the appropriate shipping company and have a representative present for the loading.

Gerido Lake

There still remains a large volume of material currently being stored, from previous cleanup campaigns, at the airstrip at the site known as Gerido Lake.

During the 2015 season, KRG will need to organize a work team from the NV of Kuujjuaq to travel to Gerido Lake to assist with the transportation of the material to Kuujjuaq. Because the airstrip at the site is still in relatively good condition, a Twin Otter could be used to transport the material, allowing for a larger volume of material to be moved per trip in comparison to a helicopter. The price of chartering a Twin Otter would also be less.

Once the material has arrived in Kuujjuaq, in will need to be stored in marine containers and then transported to Montreal according to the shipping schedule.

Salluit Sector

WB-9

There remain approximately 33 full drums at site WB-9 and a small volume of debris. One of the full drums has a puncture and will need to be transferred into a suitable replacement drum. Conditional to a repeat partnership with Glencore in 2015, this material will need to be transported, by helicopter, to East Lake and stored in marine containers where it will be shipped to a recycling facility in Montréal. The KRG will need to communicate with Glencore regarding this work and organize any necessary logistics.

Furthermore, there are 11 buildings found on this site. One of these buildings contains a large amount of core samples, which is to remain on site. The majority of the other buildings are in poor condition and could pose a safety risk to wildlife and to people who may choose to use them as shelter. To this affect, these buildings will be demolished and burned on site in 2015. Again, the KRG will need to plan for the logistical and safety elements regarding this work. The work team will be organized in collaboration with the NV of Salluit.

Parent Lake

The site known as Parent Lake is located south of Salluit (61° 33.43’ N, 75 10.36’ W) and falls under the category of requiring intermediate cleanup (Map 4).

During the 2011 inspections, 6 barrels were seen, 4 of which were empty and the other with residue. Some wood debris was also spotted. In 2015, the KRG will need

to organize a team of workers to remove this material and if agreed upon by Glencore have it flown, by helicopter, to East Lake to be stored with material removed from site WB-9.

SW-24

Site SW-24 falls under the category of sites requiring intermediate cleanup (Map 4), however it is not specifically one single site. Several hundred drums and propane tanks have been spotted along the *Petite rivière de Puvirnituq* during the 2011 inspections and by various Inuit informants in the past. Most barrels are located in the downstream portion of the river on the south shore.

This site will prove a challenge, as it will require a team to navigate the river's shoreline over a long distance to collect the drums. In 2015, the KRG will need to work closely with the partners involved to ensure this is done effectively and efficiently. Again, it would be convenient to have Glencore agree to have this material brought to East Lake to be stored in marine containers.

Kangirsuk Sector

QC-3

Site QC-3 is located on the shores of Roberts Lake between the communities of Quaqtaq and Kangirsuk (60° 21.55' N, 70° 09.33' W) and falls under the category of requiring intermediate cleanup (Map 4).

During the 2011 inspection it was noted that an active Inuit camp occupied the site. Approximately 25 drums were found on or near the site as well as other debris.

In 2015 the KRG will need to organize a team of workers to remove the debris and to notify the owner of the camp with regards to this work. Due to the fact that this lake is a popular fishing destination, an airstrip was recently built there. This provides the option of having the material removed by Twin Otter rather than helicopter. Alternately, the material could be removed by snowmobile, as the area is often frequented in the winter months. The material can be brought to either Quaqtaq or Kangirsuk, where it will be stored in a marine container and shipped to an appropriate recycling facility.

Kuujjuaraapik Sector

GW-8

The site GW-8 is located west of the community of Kuujjuaraapik (55° 05.09' N, 78° 15.51' W) and falls under the category of requiring intermediate cleanup (Map 4).

The 2001-2002 inventory noted that 25 drums and a snowmobile are located at this site. Due to its location on the Hudson Coast, far from other sites, no follow-up

inspections have ever been done.

In 2015, arrangements could be made with the KRG Parks employees to have an inspection of the site during routine work in the nearby Parc National Tursujuq. Further to this, a team from the village of Kuujjuaraapik will need to be organized to remove the debris and have it brought to Kuujjuaraapik by helicopter or boat if accessible. The material will be stored in a marine container and shipped to an appropriate recycling facility.

6.1 COLLABORATIVE REHABILITATION WORK

The following section describes work to be carried out in collaboration with mining companies that are active in the Nunavik region.

Salluit Sector

KV-1

The abandoned mineral exploration site KV-1 (61°25.64' N, 76°45.46' W) is located on the shore of a lake, roughly 100 km southwest of Salluit (Map 6). The site comprises two sectors. The 2001-2002 inventory ranks this site 14th in importance for major rehabilitation work.

Roughly 23 barrels are scattered around the site and on the opposite shore of the lake. As well, 15 compacted barrels and two dumpsites are still present. The site is rather small in comparison with other sites requiring major cleanup.

Work will consist of gathering barrels and other debris to be removed from the site by helicopter. The combustible material can be burned on location. The site was inspected in September 2012 and photographs are found in Appendix 4.

SW-27

The abandoned mineral exploration site SW-27 (61°28.76' N, 76°22.93' W) is located roughly 90 km south-southwest of Salluit, far from any body of water (Map 6). The site covers 0.2 km^2 and comprises four sectors. The 2001-2002 inventory ranks this site 12th in importance for major rehabilitation work.

Site SW-27 contains a significant quantity of residual material and hydrocarbons residue: roughly 1650 L of diesel, 260 L of grease and 26 L of oil. Although covering only 2.5 m^2, hydrocarbon soil contamination is still very evident. Open or damaged barrels of grease were also observed. The site was inspected in September 2012 and photographs are found in Appendix 4.

This site is located near a Canadian Royalties claim and very near to site KV-1. This could allow for the two sites to be cleaned in tandem to make effective use of a work team and helicopter.

6.2 ESTIMATED BUDGET FOR 2015-2016

Table 8 indicates the estimated budget for carrying out the final rehabilitation work on site WB-9, as well as cleanup activities at sites Gerido Lake, QC-3, SW-24, Parent Lake and GW-8, as well as finalizing the work in Aupaluk regarding the transportation of material being stored there.

Table 8 Estimated 2015-2016 Budget

INCOME	
KRG surplus	$451 898
MERN income	$123 880
FRAN income	$0
Other	$5 120
TOTAL	**$580 898**

IN-KIND CONTRIBUTION								
Site	**WB-9**	**PJ-1 (Aupaluk)**	**Gerido**	**QC-3**	**Parent Lake**	**SW-24**	**GW-8**	**Total**
Glencore	assistance							$10,000
Makivik (NEAS)								$0
TOTAL	**$10,000**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$10,000**

EXPENSES								
Site	**WB-9**	**PJ-1 (Aupaluk)**	**Gerido**	**QC-3**	**Parent Lake**	**SW-24**	**GW-8**	**Total**
Coordinator salary (General Contract)	$15,000	$10,000	$5,000	$3,000	$3,000	$5,000	$3,000	**$44,000**
Technician salary and benefits	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	**$35,000**
Workers salaries	$20,000	$10,000	$15,000	$10,000	$10,000	$10,000	$10,000	**$85,000**
Professional/Technical salaries (General Contract)	$0	$0	$0	$0	$0	$0	$0	**$0**
Transportation of waste (via south)	$25,000	$10,000	$25,000	$5,0000	$5,0000	$5,0000	$5,0000	**$80,000**
Transportation of material/workers	$40,000	$0	$15,000	$10,000	$10,000	$10,000	$10,000	**$95,000**
Disposal of waste (General Contract)	$0	$0	$5,000	$5,000	$5,000	$5,000	$5,000	**$25,000**
Travel Airfare	$5,000	$5,000	$0	$5,000	$5,000	$5,000	$5,000	**$30,000**
Travel Expenses	$3,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	**$15,000**
Material/Equipment	$5,000	$5,000	$10,000	$5,000	$5,000	$5,000	$5,000	**$40,000**
Communication and translation	$200	$200	$200	$200	$200	$200	$200	**$1,400**
KRG training costs (Human Resources)	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	**$7,000**
Sub-total	**$119,200**	**$48,200**	**$83,200**	**$51,200**	**$51,200**	**$53,200**	**$51,200**	**$457,400**
Administration (12%)	$14,304	$9,984	$9,984	$6,144	$6,144	$6,384	$6,144	**$54,888**
Weather condition provision (15%)	$17,880	$12,480	$12,480	$7,680	$7,680	$7,980	$7,680	**$68,610**
TOTAL	**$151,384**	**$133,604**	**$105,664**	**$65,024**	**$65,024**	**$67,564**	**$65,024**	**$580,898**

7 REFERENCES

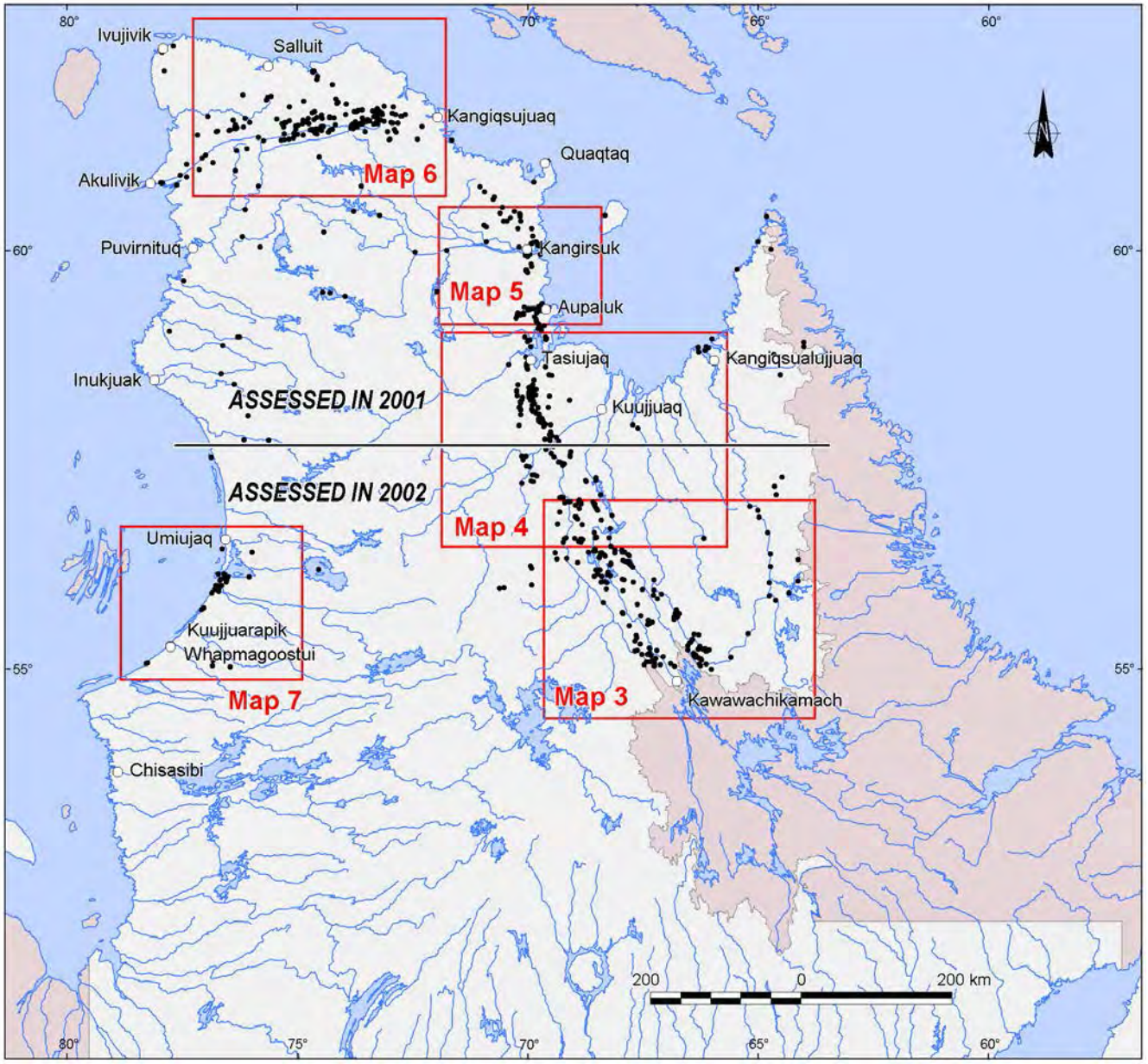
Kativik Regional Government. 2012a. *Abandoned Mineral Exploration Sites in Nunavik Rehabilitation Project. 2005-2012 Summary Report and Update of the General Response Plan*. Renewable Resources, Environment, Lands and Parks Department of the Kativik Regional Government, Kuujjuaq. 322 p. and appendices.

Kativik Regional Government. 2012b. *General Response Plan, 2012-2017: For the Rehabilitation of Abandoned Mineral Exploration Sites in Nunavik.* Renewable Resources, Environment, Lands and Parks Department of the Kativik Regional Government, Kuujjuaq. 12 p.

APPENDIX 1

Maps Showing the Locations of Abandoned Mineral Exploration Sites in Nunavik

LIST OF MAPS


Ivujivik
Salluit
Kangiqsujuaq
Quaqtaq
Akulivik
Map 6
Puvirnituq
Kangirsuk
Map 5
Aupaluk
Tasiujaq
Kangiqsualujjuaq
Inukjuak
ASSESSED IN 2001
Kuujjuaq
ASSESSED IN 2002
Map 4
Umiujaq
Kuujjuarapik
Whapmagoostui
Map 7
Map 3
Kawawachikamach
Chisasibi
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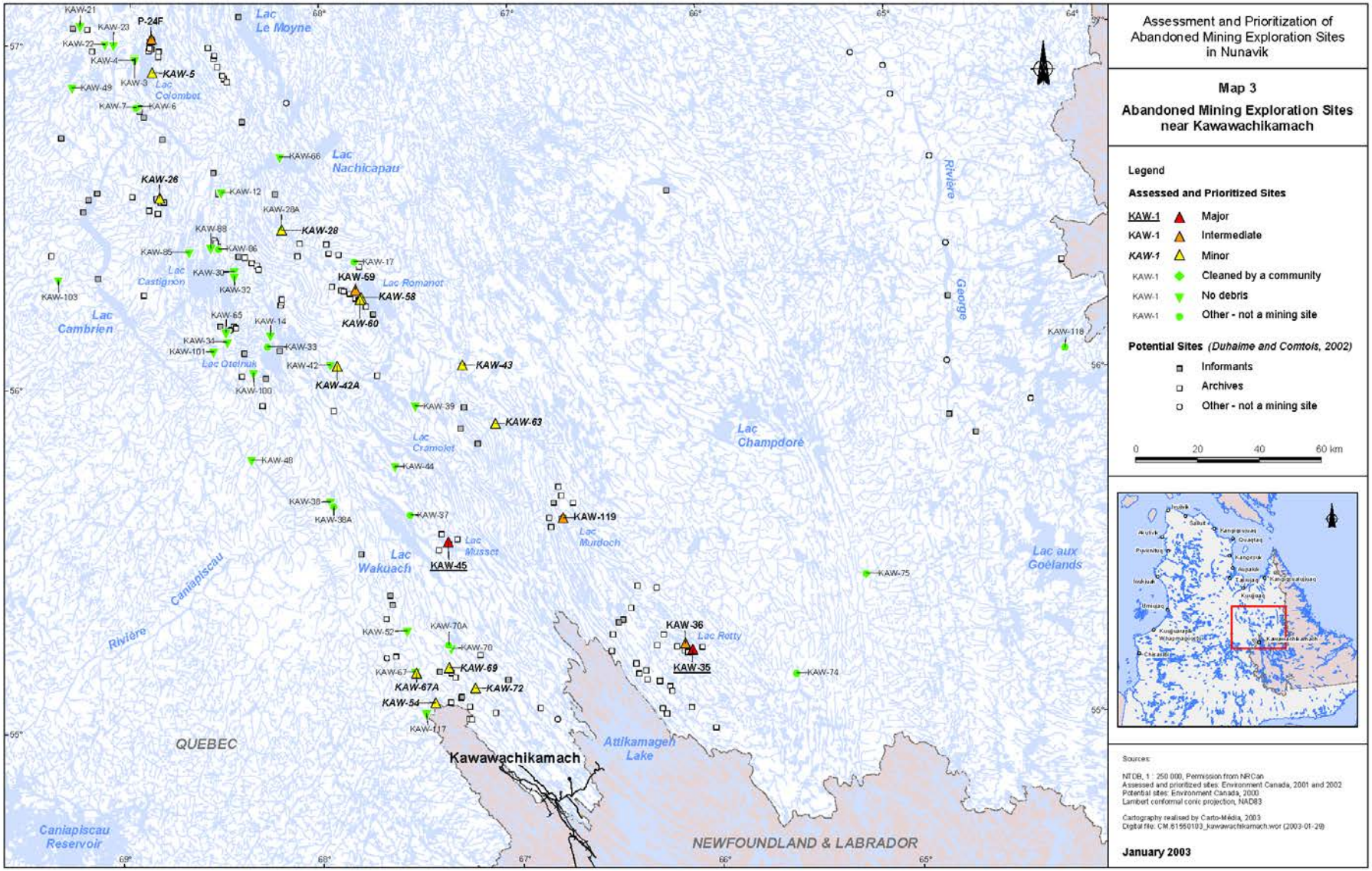
75°
55°


Assessment and Prioritization of Abandoned Mining Exploration Sites in Nunavik
Map 3
Abandoned Mining Exploration Sites near Kawawachikamach
Legend
Assessed and Prioritized Sites
KAW-1 Major
KAW-1 Intermediate
KAW-1 Minor
KAW-1 Cleaned by a community
KAW-1 No debris
KAW-1 Other - not a mining site
Potential Sites (Duhaime and Comtois, 2002)
Informants
Archives
Other - not a mining site
0 20 40 60 km
Sources:
NTDB, 1 : 250 000, Permission from NRCan
Assessed and prioritized sites: Environment Canada, 2001 and 2002
Potential sites: Environment Canada, 2000
Lambert conformal conic projection, NAD83
Cartography realised by Carto-Média, 2003
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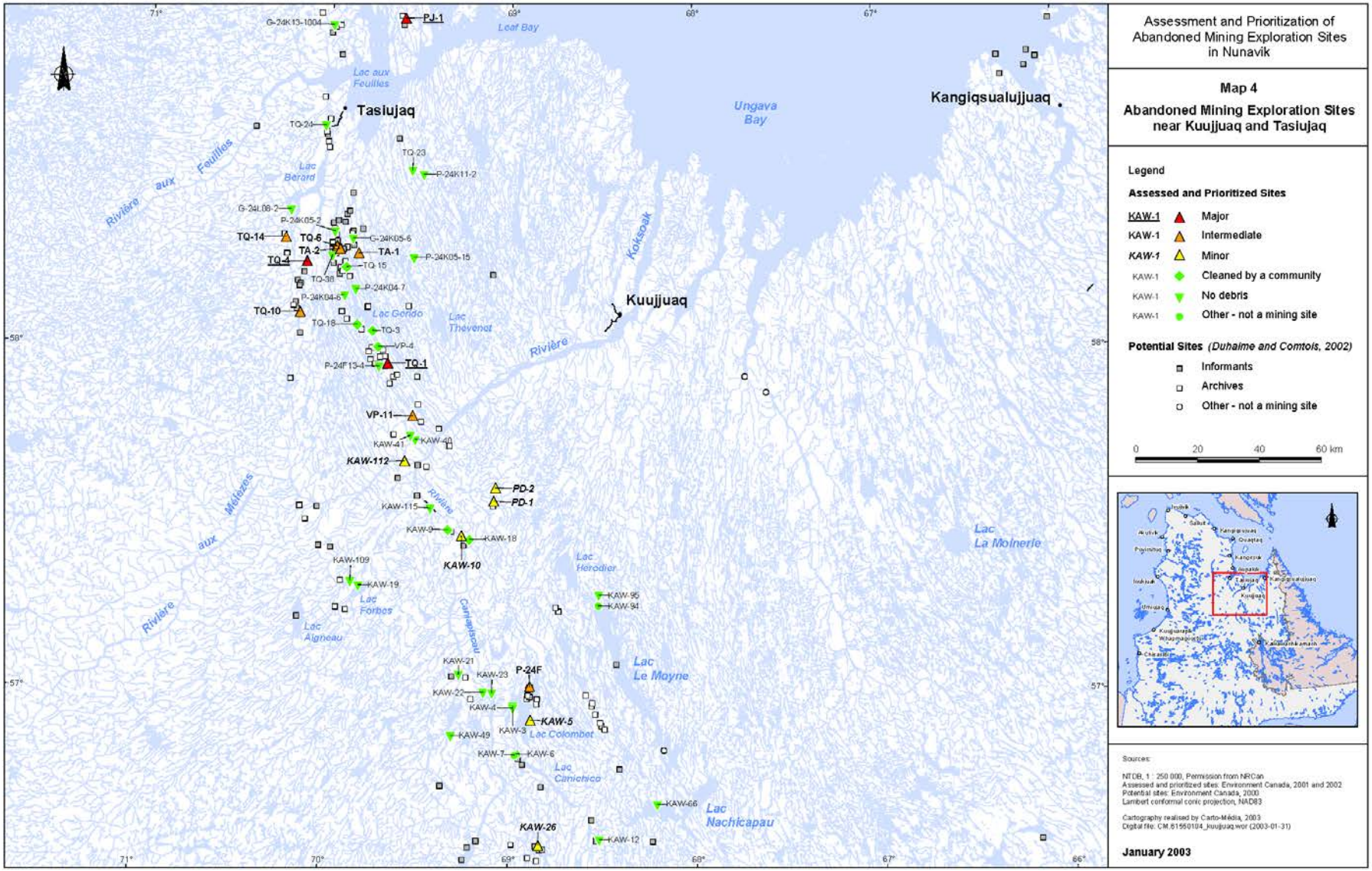
January 2003
Lac Le Moyne
Lac Nachicapau
Lac Castignon
Lac Cambrien
Lac Otelnuk
Lac Romanet
Lac Cramolet
Lac Champdoré
Lac Wakuach
Lac Musset
Lac Murdoch
Lac aux Goélands
Lac Retty
Rivière George
Rivière Caniapiscau
Caniapiscau Reservoir
Attikamagen Lake
QUEBEC
NEWFOUNDLAND & LABRADOR
Kawawachikamach
P-24F
KAW-5
KAW-26
KAW-28
KAW-59
KAW-58
KAW-60
KAW-43
KAW-42A
KAW-63
KAW-119
KAW-45
KAW-36
KAW-35
KAW-69
KAW-72
KAW-67A
KAW-54


Assessment and Prioritization of Abandoned Mining Exploration Sites in Nunavik
Map 4
Abandoned Mining Exploration Sites near Kuujjuaq and Tasiujaq
Legend
Assessed and Prioritized Sites
KAW-1 Major
KAW-1 Intermediate
KAW-1 Minor
KAW-1 Cleaned by a community
KAW-1 No debris
KAW-1 Other - not a mining site
Potential Sites (Duhaime and Comtois, 2002)
Informants
Archives
Other - not a mining site
0 20 40 60 km
Sources:
NTDB, 1 : 250 000, Permission from NRCan
Assessed and prioritized sites: Environment Canada, 2001 and 2002
Potential sites: Environment Canada, 2000
Lambert conformal conic projection, NAD83
Cartography realised by Carto-Média, 2003
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January 2003
Tasiujaq
Kangiqsualujjuaq
Kuujjuaq
Ungava Bay
Leaf Bay
Lac aux Feuilles
Rivière aux Feuilles
Lac Berard
Lac Gordo
Lac Thevenet
Rivière Koksoak
Lac La Molnerie
Lac Herodier
Lac Forbes
Lac Aigneau
Lac Le Moyne
Lac Colombet
Lac Canichico
Lac Nachicapau
Rivière aux Mélèzes
Rivière Carnaatscou
PJ-1
TQ-24
TQ-23
P-24K11-2
G-24L08-2
P-24K05-2
TQ-14
TQ-6
G-24K05-6
TA-2
TA-1
TQ-4
TQ-15
TQ-38
P-24K05-15
P-24K04-7
P-24K04-6
TQ-10
TQ-18
TQ-3
VP-4
P-24F13-4
TQ-1
VP-11
KAW-41
KAW-40
KAW-112
PD-2
PD-1
KAW-115
KAW-9
KAW-18
KAW-10
KAW-109
KAW-19
KAW-95
KAW-94
KAW-21
KAW-23
P-24F
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KAW-6
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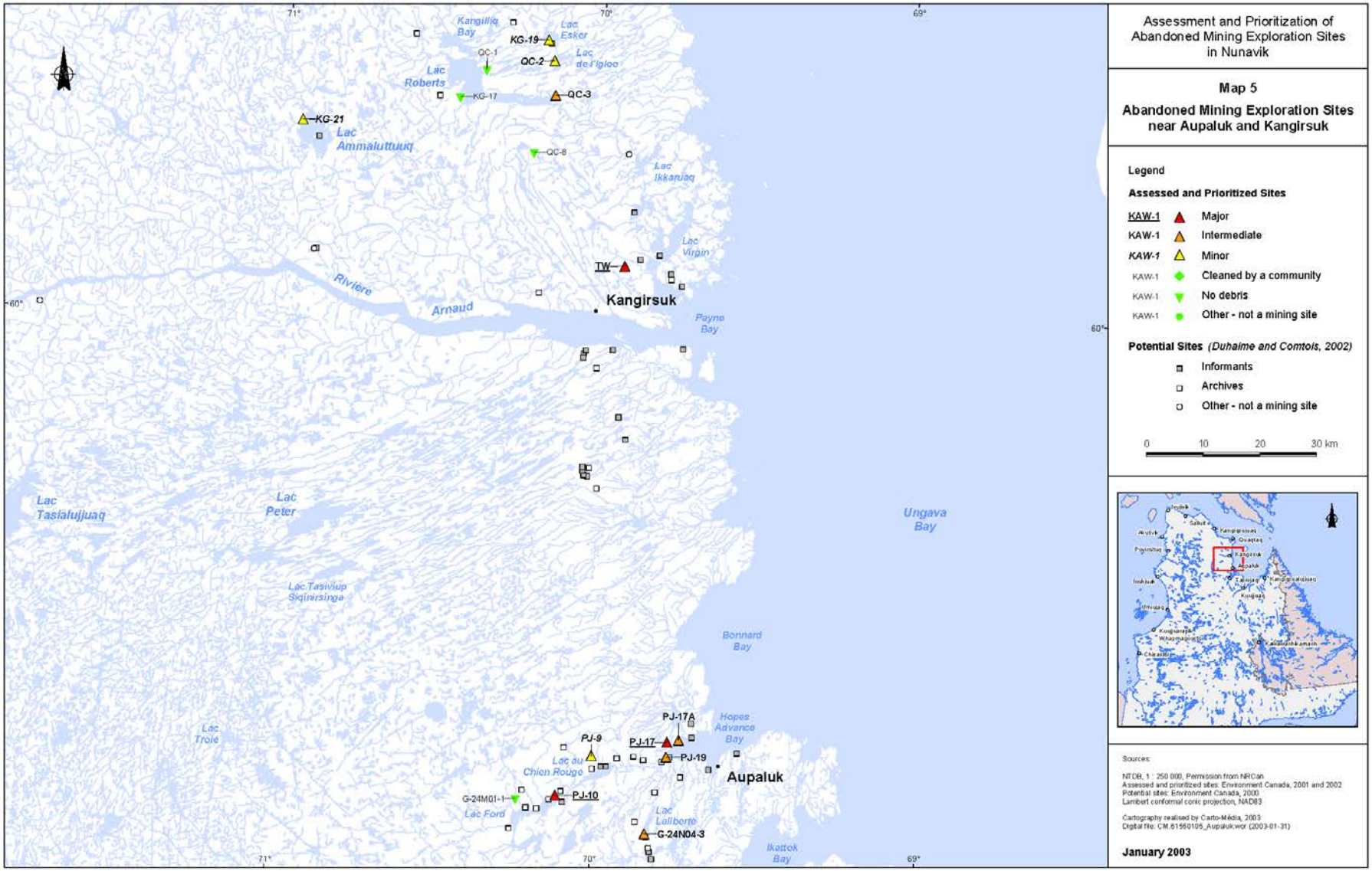
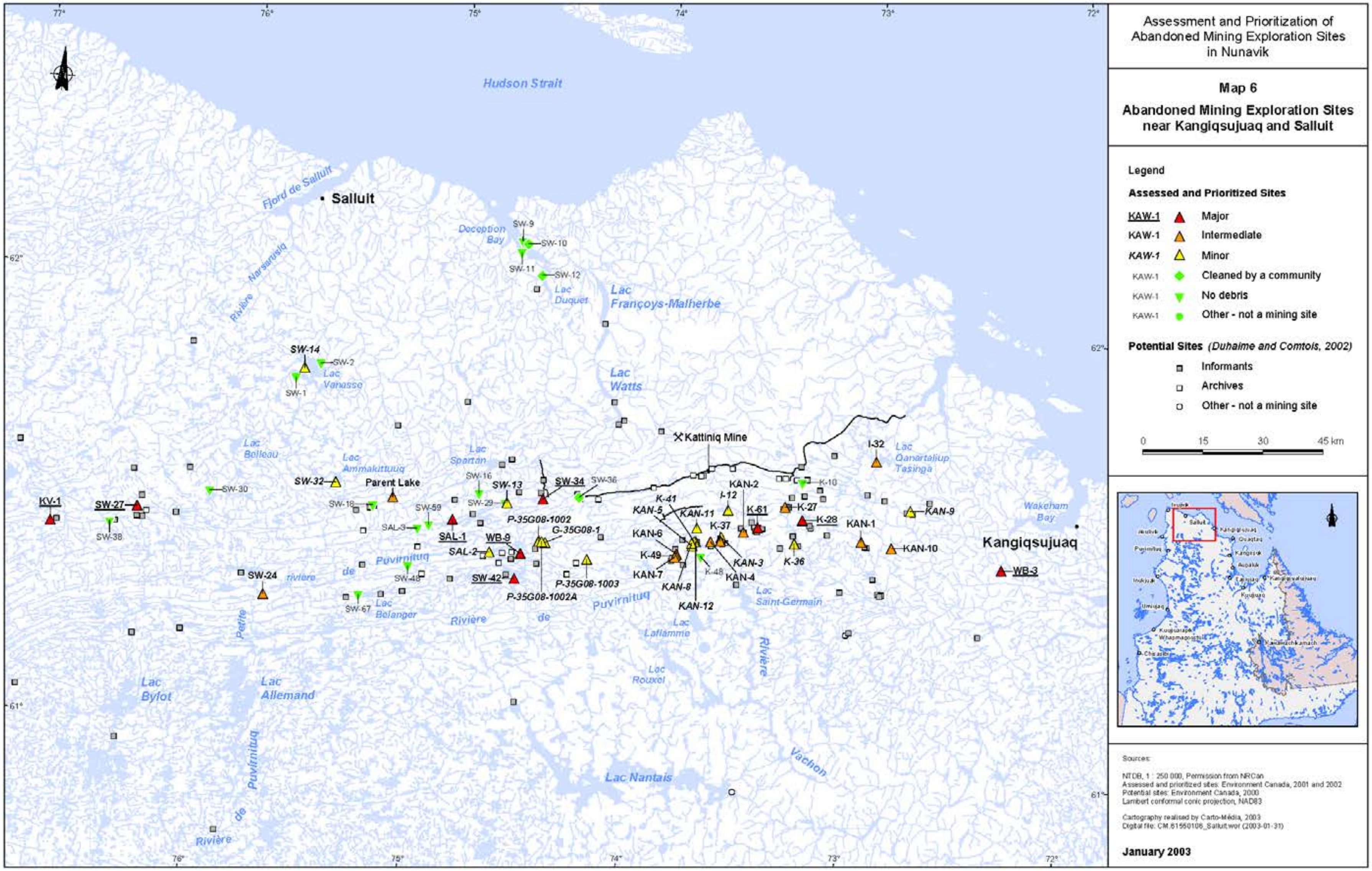
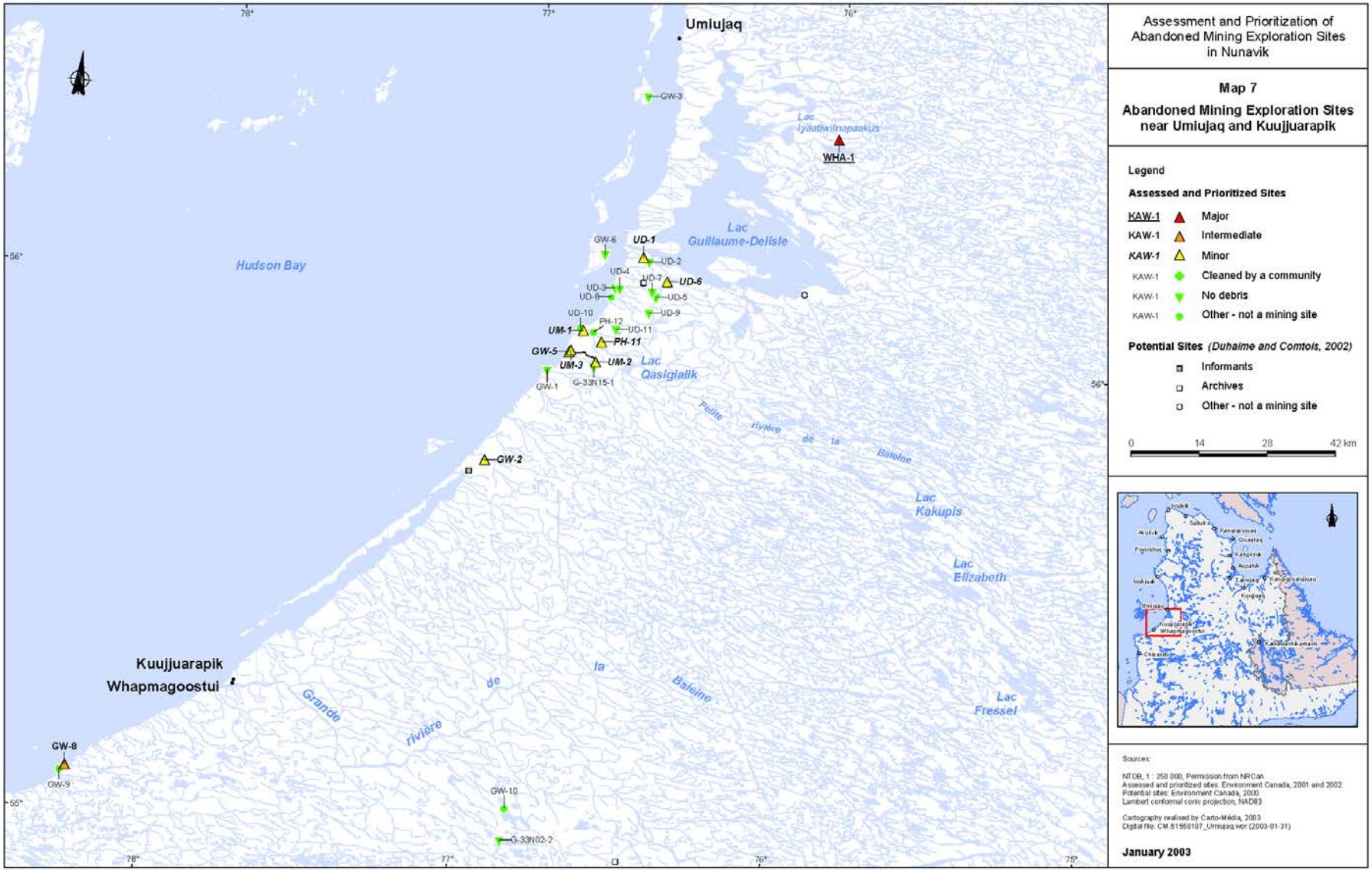
KAW-12


Assessment and Prioritization of Abandoned Mining Exploration Sites in Nunavik
Map 5
Abandoned Mining Exploration Sites near Aupaluk and Kangirsuk
Legend
Assessed and Prioritized Sites
KAW-1 Major
KAW-1 Intermediate
KAW-1 Minor
KAW-1 Cleaned by a community
KAW-1 No debris
KAW-1 Other - not a mining site
Potential Sites (Duhaime and Comtois, 2002)
Informants
Archives
Other - not a mining site
0 10 20 30 km
Sources:
NTDB, 1 : 250 000, Permission from NRCan
Assessed and prioritized sites: Environment Canada, 2001 and 2002
Potential sites: Environment Canada, 2000
Lambert conformal conic projection, NAD83
Cartography realised by Carto-Média, 2003
Digital file: CM.81560105_Aupaluk.wor (2003-01-31)
January 2003
Kangiliiq Bay
Lac Esker
Lac de l'Igloo
Lac Roberts
Lac Ammaluttuuq
Lac Ikkarujaq
Lac Virgin
Riviere Arnaud
Kangirsuk
Payne Bay
Lac Tasialujjuaq
Lac Peter
Ungava Bay
Lac Tasiviup Siqinirsinga
Bonnard Bay
Lac Troie
Hopes Advance Bay
Lac au Chien Rouge
Aupaluk
Lac Ford
Lac Lalibert
Ikattok Bay
KG-19
QC-1
QC-2
QC-3
KG-17
KG-21
QC-8
TW
PJ-9
PJ-17
PJ-19
PJ-10
G-24M01-1
G-24N04-3
71°
70°
69°
60°



Assessment and Prioritization of Abandoned Mining Exploration Sites in Nunavik
Map 6
Abandoned Mining Exploration Sites near Kangiqsujuaq and Salluit
Legend
Assessed and Prioritized Sites
KAW-1 Major
KAW-1 Intermediate
KAW-1 Minor
KAW-1 Cleaned by a community
KAW-1 No debris
KAW-1 Other - not a mining site
Potential Sites (Duhaime and Comtois, 2002)
Informants
Archives
Other - not a mining site
0 15 30 45 km
Sources:
NTDB, 1 : 250 000, Permission from NRCan
Assessed and priorized sites: Environment Canada, 2001 and 2002
Potential sites: Environment Canada, 2000
Lambert conformal conic projection, NAD83
Cartography realised by Carto-Média, 2003
Digital file: CM.61550106_Salluit.wor (2003-01-31)
January 2003
Hudson Strait
Salluit
Fjord de Salluit
Deception Bay
Lac Duquet
Lac Françoys-Malherbe
Lac Watts
Lac Vanasse
Rivière Narsarusiq
Lac Belleau
Lac Ammalukttuuq
Lac Spartan
Parent Lake
Kattiniq Mine
Lac Qanartaliup Tasinga
Wakeham Bay
Kangiqsujuaq
Lac Saint-Germain
Lac Laflamme
Lac Rouxel
Lac Nantais
Rivière Vachon
Lac Belanger
Rivière de Puvirnituq
Lac Bylot
Lac Allemand
Petite rivière de Puvirnituq
KV-1
SW-27
SW-38
SW-30
SW-24
SW-14
SW-2
SW-1
SW-32
SW-9
SW-10
SW-11
SW-12
SW-16
SW-13
SW-29
SW-34
SW-36
SW-18
SW-59
SW-48
SW-67
SW-42
SAL-1
SAL-2
SAL-3
WB-9
WB-3
P-35G08-1002
P-35G08-1002A
P-35G08-1003
G-35G08-1
KAN-1
KAN-2
KAN-3
KAN-4
KAN-5
KAN-6
KAN-7
KAN-8
KAN-9
KAN-10
KAN-11
KAN-12
K-10
K-27
K-28
K-36
K-37
K-41
K-48
K-49
K-61
I-12
I-32



Assessment and Prioritization of Abandoned Mining Exploration Sites in Nunavik

Map 7

Abandoned Mining Exploration Sites near Umiujaq and Kuujjuarapik

Legend

Assessed and Prioritized Sites

- KAW-1 ▲ Major
- KAW-1 ▲ Intermediate
- *KAW-1* △ Minor
- KAW-1 ◆ Cleaned by a community
- KAW-1 ▼ No debris
- KAW-1 ● Other - not a mining site

Potential Sites *(Duhaime and Comtois, 2002)*

- Informants
- Archives
- Other - not a mining site

0 14 28 42 km

Sources:

NTDB, 1 : 250 000, Permission from NRCan
Assessed and prioritized sites: Environment Canada, 2001 and 2002
Potential sites: Environment Canada, 2000
Lambert conformal conic projection, NAD83

Cartography realised by Carto-Média, 2003
Digital file: CM.61550107_Umiujaq.wor (2003-01-31)

January 2003

APPENDIX 2

Photographs of Sites on Which Rehabilitation Work was Undertaken in 2014-2015

Tasiujaq Sector

PJ-1

Figure 1 : Material ready for marine transport at Aupaluk marina, June 2014

Figure 2 : Open-top container stored next to Aupaluk municipal garage, June 2014

Figure 3: Containers being loaded onto barge in Aupaluk, July 2014

Figure 4: Material being transported by barge to main ship, Aupaluk, July 2014

Figure 5: Three remaining pieces of debris in Aupaluk to be transported in 2015, October 2014

TA-1

Figure 6: Field Technician, Richard Knoxleet, inspecting drums on site TA-1, June 2014

Figure 7: Site TA-1 after rehabilitation work, September 2014

TQ-6

Figure 8: Core samples in aluminum trays on site TQ-6, June 2014

Figure 9: Core after aluminum trays were removed, September 2014

Figure 10: Wooden box found on site TQ-6, June 2014

Figure 11: Site TQ-6 after box was removed, September 2014

Figure 12: Debris found on site TQ-6, June 2014

Figure 13: Site TQ-6 after debris was removed, September 2014

Figure 14: Partial view of site TQ-6, September 2011

Figure 15: Same view of site TQ-6, after rehabilitation work, September 2014

Figure 16: Partial view of site TQ-6, September 2011

Figure 17: Same view of site TQ-6 after rehabilitation work, September 2014

TQ-10

Figure 18: Bladders found on site TQ-10, June 2014

Figure 19: Bladders being removed by helicopter from site TQ-10, October 2014

TQ-14

Figure 20: Debris found on site TQ-14, June 2014

Figure 21: Site TQ-14 after rehabilitation work, September 2014

Figure 22: Site TQ-14, June 2014

Figure 23: Site TQ-14 after rehabilitation work, September 2014

Aupaluk Sector

G-24-N4-3

Figure 24: Aerial view of site G-24-N4-3, September 2011

Figure 25: Aerial view of barrels found on site G-24-N4-3, September 2011

PJ-19

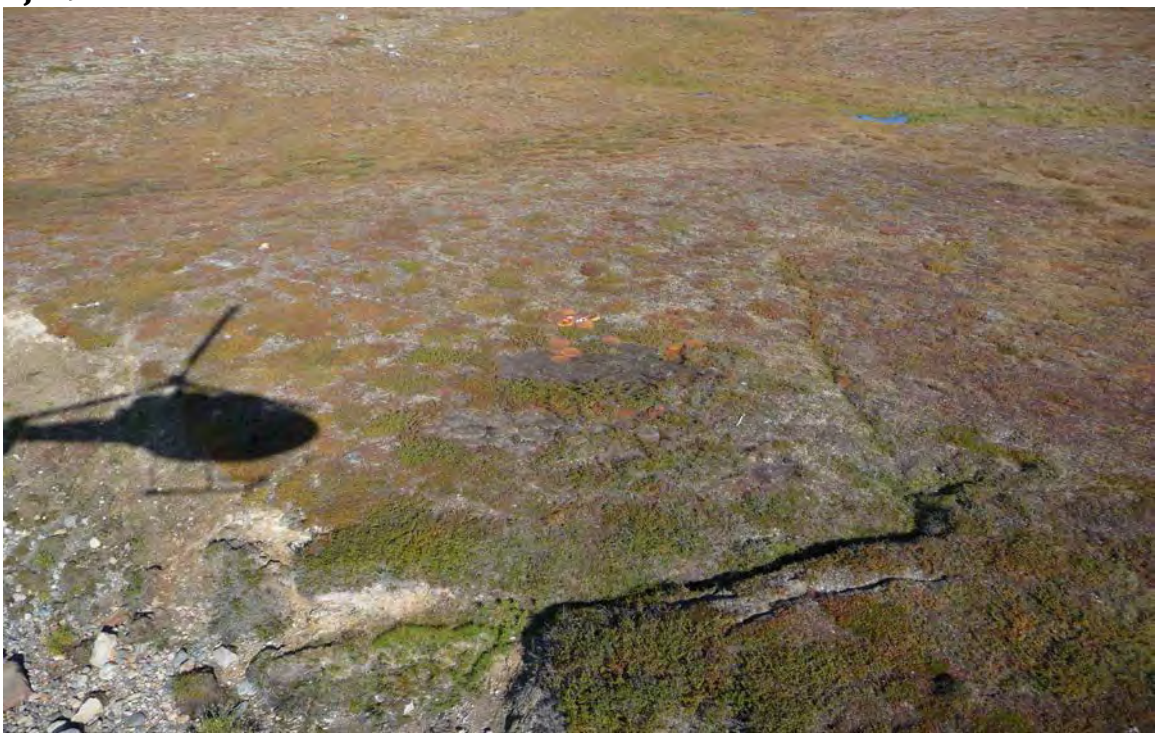


Figure 26: Aerial view of site PJ-19, September 2011

Figure 27: View of site PJ-19 after removal of drum covers, June 2014

Salluit Sector

WB-9

Figure 28: Site WB-9 during first cleanup session, July 2014

Figure 29: Core samples inside one of the buildings, June 2012

Figure 30: Burning combustible material on site WB-9, July 2014

Figure 31: Caribou seen at site WB-9, July 2014

Figure 32: Some of the debris removed from buildings on site WB-9, July 2014

Figure 33: View of site WB-9 after removal of debris, September 2014

Figure 34: Empty drums from site WB-9 stored in marine container at East Lake, September 2014

Figure 35: Singing loads of debris from site WB-9 to East Lake, September 2014

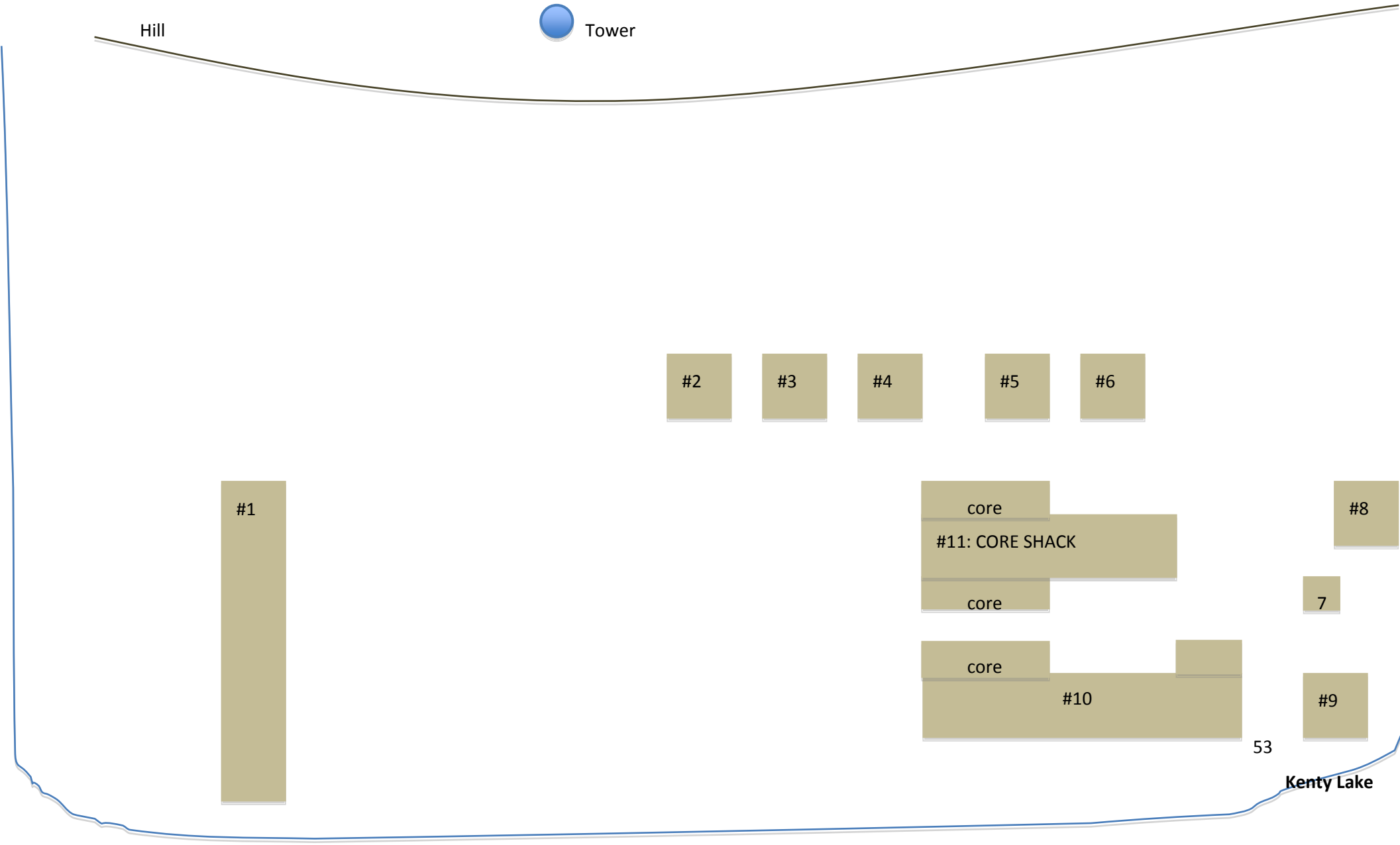
Figure 36: View of WB-9, July 2007

Figure 37: Site WB-9 after Phase 1 of cleanup, September 2014

APPENDIX 3

SKETCH OF SITE WB-9 (JULY 2014)

SITE WB-9


Hill
Tower
#2
#3
#4
#5
#6
#1
core
#11: CORE SHACK
core
#8
7
core
#10
#9
53
Kenty Lake

APPENDIX 4

Photographs of Sites on Which Rehabilitation Work Will be Undertaken in 2015-2016

Salluit Sector

Parent Lake

Figure 38: Debris found at site known as Parent Lake, September 2011

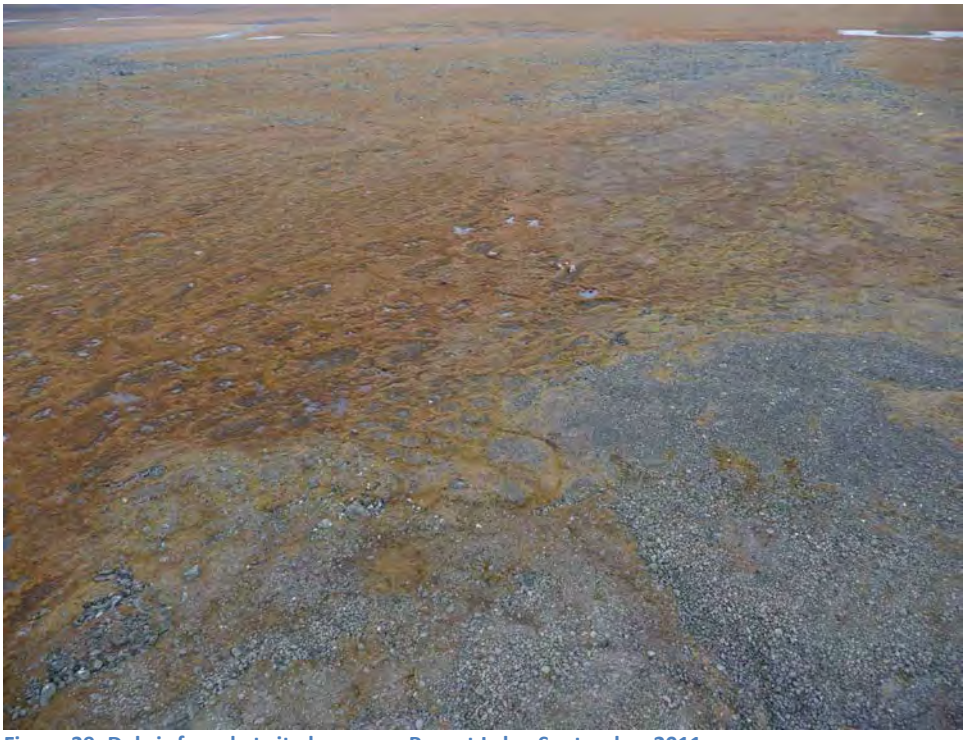


Figure 39: Debris found at site known as Parent Lake, September 2011

SW-24: There are currently no photographs of this site

Kangirsuk Sector

QC-3

Figure 40: Debris and Inuit camp located at site QC-3, September 2011

Figure 41: Debris at site QC-3, September 2011

Kuujjuaraapik Sector

GW-8

Figure 42: Site GW-8, located on the Hudson Coast, September 2002

Kangiqsujuaq Sector

KV-1

Figure 43: Sector 2 of site KV-1 containing crushed drum and wood, September 2012

Figure 44: Sector 1 of site KV-1 containing various debris and wood, September 2012

SW-27

Figure 45: Sector 1 of site SW-27, containing wood debris, barrels, propane tanks and hazardous waste, September 2012

Figure 46: Sector 2 of site SW-27, containing barrels, muskeg, trailer, debris and hazardous waste, September 2012

Figure 47: Sector 3 of site SW-27, containing barrels, wood and debris, September 2012

Figure 48: Sector 4 of site SW-27, containing barrels, debris and hazardous waste, September 2012

KATIVIK

Énergie et Ressources naturelles
Québec

Société Makivik
Makivik Corporation

Fonds Restor-Action Nunavik