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# **Kiggavik Project Final Environmental Impact Statement**

## **Tier 3 Technical Appendix 9D: Archaeological Resource Management Plan**

**September 2014**



## History of Revisions

Revision Number	Date	Details of Revisions
01	December 2011	First Issue with Draft Environmental Impact Statement
02	September 2014	Issued for Final Environmental Impact Statement

A management plan is a living document which is continually reviewed and revised throughout the life of the Project to ensure it meets health, safety, and environmental performance standards. This process of adaptive management and continual improvement (Tier 2, Volume 2, Section 17) is consistent with the Inuit Qaujimajatuqangit (IQ) principles of Qanuqtuurunnarniq *being resourceful and flexible to solve problems* and Pilimmaksarniq *maintaining and improving skills through experience and practice*.



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## Attachments

Attachment A LSA Archaeological Site Summary and Investigation Status



# 1 Introduction

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The AREVA Resources Canada Inc. (AREVA) Archaeological Resources Management Plan (Plan) applies to the Kiggavik Project (Project) located approximately 80 km west of Baker Lake. The Plan will be in effect during the construction, operation, and decommissioning of the Project. In addition, the Plan will be made available to operational remote areas, the Project, AREVA's Baker Lake office and AREVA's corporate office.

## 1.1 Purpose and Scope

Under the Nunavut Land Claims Agreement "...the identification, protection and conservation of archaeological sites and specimens and the interpretation of the archaeological record is of primary importance to the Inuit" (Article 33, Section 2.2).

As a result, and pursuant to subsection 51(1) of the Nunavut Act, archaeological sites are protected under the *Nunavut Archaeological and Palaeontological Sites Regulations* (2001):

3. No person shall possess or sell an archaeological artifact that was removed from an archaeological site after June 15, 2001.
4. No person shall search for archaeological sites or archaeological artifacts, or survey an archaeological site, without a Class 1 or Class 2 permit.
5. (1) No person shall excavate, alter or otherwise disturb an archaeological site, or remove an archaeological artifact from an archaeological site, without a Class 2 permit.

AREVA is committed to adhering to the *Nunavut Act* and the *Nunavut Archaeological and Palaeontological Sites Regulations* (2001) during construction, operation and decommissioning of the Kiggavik Project and to devising a mitigation plan to manage cultural heritage resources identified in the Kiggavik Local Study Area (LSA).

The Thelon River is designated a Heritage River under the Canadian Heritage Rivers System (CHRS 1990). As such, a planning and management program was developed for a corridor that extends 1 km on each side of the river (CHRS 1990). An objective of the management plan is to conserve and interpret archaeological sites identified in the corridor through existing legislation and regulations. Important archaeological sites may, if their condition and significance warrant, be developed as a park or historic site (CHRS 1990). This would include unique or rare historical or archaeological structures, or important archaeological sites representative of major themes and various periods of

Inuit culture. With the exception of the ferry crossing for the All-season road, the proposed Kiggavik Project is located outside the Thelon Heritage River corridor. AREVA is committed to adhering to the CHRS Management Plan for that portion of the Project located in the Thelon Heritage River Corridor. The Kiggavik Archaeological Resource Management Plan will be reviewed on an annual basis and updated as required to keep the information current and consistent with regulatory and procedural changes. Any changes and/or amendments to the Plan will be submitted to the appropriate regulatory agencies for approval.



## **2 Mitigation Plan**

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### **2.1 Summary of Baseline Studies**

Four seasons of archaeological baseline studies have been carried out for the Kiggavik project by Golder between 2007 and 2013 (Golder 2008, 2009, 2010 and 2014), as well as three years by Max Friesen between 1988 and 1991 (Friesen 1989, 1992). This has resulted in the identification of 28 archaeological sites in the Project LSA (Attachment A). The LSA corresponds to the specific Project footprint, plus a surrounding 250 meter buffer zone. Four of the sites within the LSA have been recorded, assessed and mitigated. The remaining 24 have been recorded and are awaiting final detailed engineering plans to determine if additional assessment and mitigation is necessary.

### **2.2 Mitigation Options**

#### Avoidance

According to Territorial regulations, archaeological sites must be avoided by a minimum of 30 m by proposed land use operations (Territorial Lands Act 10(a)). The buffer applies to individual features or artifacts that comprise a site and extend outward from the outer edge of those features or artifacts.

Avoidance is the preferred mitigation option for the protection of archaeological sites within the Kiggavik Project LSA. AREVA is committed to avoiding all known or suspected heritage resources by not encroaching on this 30 m buffer. Baseline studies have been conducted early in development planning so that site avoidance can be built into the project design. By employing this avoidance strategy it is anticipated that there will be no project effects to sites inside this 30 m buffer.

#### Assessment/Systematic Data Recovery

In cases where avoidance is not possible, a plan must be devised to thoroughly document and evaluate a site before it is impacted. In this process, archaeological sites are assessed to determine archaeological significance. Assessment of heritage resources involves systematic data recovery or sampling procedures in order to evaluate a site. This may include, but not be limited to, detailed mapping, surface collection, and subsurface testing. Sites located on bare rock outcrops or areas with little vegetation would minimally require detailed mapping and systematic surface inspection/artifact collection. Subsurface testing may be required at those sites with soil deposition or vegetation cover to determine the presence of buried or stratified deposits.

Once a detailed assessment has been completed, appropriate mitigation measures can be devised in coordination with the Department of Culture and Heritage. In instances where sites exhibit the potential for greater archaeological and cultural interpretation (e.g. buried components, high artifact/feature density, and diagnostic tools) a full scale excavation may be required to recover an adequate sample of the site before it is affected.

#### Procedures for Unanticipated Heritage Discoveries

Even the most thorough heritage investigation may not identify all archaeological materials present in the project area. As a result, there is potential for heritage resources to be inadvertently encountered during construction and operation of the mine. It is advised that if unanticipated archaeological materials or features are encountered, the following procedures are followed:

- All construction activity in the vicinity immediately ceases.
- The Territorial Archaeologist and a qualified consulting archaeologist are contacted. The potential significance of the cultural materials will first be assessed, and then mitigative options identified.
- If the cultural remains are determined to be significant enough to warrant further action and they cannot be avoided, the qualified consultant in consultation with the Territorial Archaeologist, Inuit Heritage Trust and representatives of local communities will determine an appropriate course of action.
- In the case of human remains, the Department of Culture and Heritage Human Remains Policy will be followed. The appropriate authorities will be contacted including the RCMP, Office of the Chief Coroner and the Department of Culture and Heritage. If remains are determined to be archaeological, representatives of local communities as well as the Inuit Heritage Trust will be contacted to determine how to appropriately deal with the remains. Options could include avoidance or potentially respectful removal and reburial.

AREVA is committed to providing an education program for mine staff and contractors that will provide a general awareness of archaeological resources and the legal requirement to protect them. This will aid in limiting direct and indirect effects during construction and operation of the mine.

## **2.3 Timing/Schedule**

AREVA is proceeding with a sequential environmental assessment and licensing/permitting process for the Kiggavik Project. Licenses and permits required for heritage resource protection will be applied for during the appropriate stage. AREVA is committed to any necessary follow-up assessments and mitigation once detailed engineering is finalized and before construction begins. Finalized project plans will be reviewed by a qualified archaeologist to identify any data gaps and to identify heritage resources that may be in unavoidable conflict. Priority areas will be determined and assessed based on the construction schedule and sequence. Assessment, significance evaluation and necessary mitigation will be completed prior to any ground disturbance.

## **2.4 Consultation with Stakeholders**

AREVA is committed to continued consultation and engagement with stakeholders during any follow-up assessment and mitigation. This will include involving local community members to assist with field work, Heritage Resource interpretation and significance evaluation.

## **2.5 Adaptive Management Measures**

The remoteness of Nunavut combined with unpredictable weather can affect field work schedule and execution. Given the location of the Project 80 km west of the community of Baker Lake and below 65 degrees Latitude, the Project may not be as remote or subject to the same extremes as other areas in Nunavut (e.g. High Arctic), but contingencies should be considered.

To limit the effect weather or other unforeseen circumstances may have on assessment activities, the following adaptive management measures are recommended:

- Assessment activities will be scheduled and mitigation measures put into place as far in advance as possible so that heritage resources are properly mitigated or avoided prior to any ground disturbance. Advanced planning will incorporate weather contingency days into fieldwork and travel schedules.
- In the event archaeological assessment and mitigation is delayed, heritage sensitive areas will be avoided by AREVA or alternate Project activities initiated until such time appropriate mitigation measures can be implemented.

Any unanticipated changes to the project schedule or development plans will be communicated to the Department of Culture and Heritage as soon as possible.



### 3 References

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- CHRS (Canadian Heritage Rivers System). 1990. Canadian Heritage Rivers System Management Plan for the Thelon River, NWT. Ottawa, ON: Department of Indian Affairs and Northern Development Canada.
- Friesen, M.T. 1989. Kiggavik Uranium Mine Project, Baker Lake, North West Territories Canada. Environmental Assessment. Supporting Document No. 9, Archaeology. Prepared by Beak Consultants Ltd. for Urangesellschaft Canada Ltd.
- Friesen, M.T. 1992. Archaeological Investigations in the Vicinity of the Kiggavik Uranium Mine Project, District of Keewatin, North West Territories: The 1991 Field Season (Permit No. 91-704).
- Golder Associates Ltd. 2008. *Archaeological Baseline Collection for the Kiggavik Uranium Project Nunavut 2007, Permit No. 2007-015A*. Report on File with the Department of Culture and Heritage, Igloolik.
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- Golder Associates Ltd. 2014. *Archaeological Baseline Collection for the Kiggavik Uranium Project Nunavut 2013, Permit No. 2013-027A*. Report on File with the Department of Culture and Heritage, Igloolik.
- Nunavut Archaeological and Palaeontological Sites Regulations. 2001. Section 4: Protection of Archaeological Sites. 2001-07-04 Canada Gazette Part II, Vol. 135, No. 14.
- Nunavut Land Claims Agreement. 1993. Article 33: Archaeology.



## **Attachment A      LSA Archaeological Site Summary and Investigation Status**

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**Table A- 1 LSA Archaeological Site Summary and Investigation Status**

<b>Borden No.</b>	<b>Project Component</b>	<b>Year/Archaeological Investigation Permit No.</b>	<b>Site Type</b>	<b>Features/Artifacts</b>	<b>Site Investigation Status</b>	<b>Future Action</b>
LcLa-33	All-Season Access Road	2008-024A	Hunting	Cache	Recorded	Avoidance or Detailed Assessment
LcLa-34	All-Season Access Road	2008-024A	Campsite	Square tent outline	Recorded	Avoidance or Detailed Assessment
LcLa-35	All-Season Access Road	2008-024A	Campsite	inuksuk, blind, pit (fire)	Recorded	Avoidance or Detailed Assessment
LcLa-36	All-Season Access Road	2008-024A	Campsite	Tent ring	Recorded	Avoidance or Detailed Assessment
LcLb-11	All-Season Access Road	2008-024A	Hunting	Cache	Recorded	Avoidance or Detailed Assessment
LcLb-12	All-Season Access Road	2008-024A	Campsite	Tent ring	Recorded	Avoidance or Detailed Assessment
LcLb-14	All-Season Access Road	2008-024A	Campsite	Tent ring	Recorded	Avoidance or Detailed Assessment
LcLb-15	All-Season Access Road	2008-024A	Hunting	Cache	Recorded	Avoidance or Detailed Assessment
LcLb-16	All-Season Access Road	2008-024A	Lookout	inuksuk, trail	Recorded	Avoidance or Detailed Assessment
LcLd-03	All-Season Access Road	2009-010A	Lithic scatter	30 debitage, bifacial core	Recorded	Avoidance or Detailed Assessment
LcLe-01	All-Season Access Road	1988-646	Lookout	3 tent rings; lithic scatter 150 debitage	Recorded	Avoidance or Detailed Assessment
LcLe-02	All-Season Access Road	1988-646	Campsite	2 tent rings; 3 U-shaped features; 5 Taltheilei Points; excavated	Recorded	Avoidance or Detailed Assessment
LcLe-03	All-Season Access Road	1988-646	Lithic Workshop	lithic scatter; 20 debitage	Recorded	Avoidance or Detailed Assessment
LcLe-16	All-Season Access Road	LcLe-16	Lithic scatter	Debitage	Recorded	Avoidance or Detailed Assessment
LdLd-05	All-Season Access Road	2009-010A	Hunting	cache	Recorded	Avoidance or Detailed Assessment



LdLd-06	All-Season Access Road	2009-010A	Campsite	3 caches, 1 square tent outline, 1 round tent outline, work spot, hunting rest/equipment cache, lithic scatter	Recorded	Avoidance or Detailed Assessment
LdLd-07	All-Season Access Road	2009-010A	Campsite	1 round tent outline, lithic scatter approx. 150 debitage, retouched flake and bifacial point collected	Recorded	Avoidance or Detailed Assessment
LdLd-11	All-Season Access Road	2009-010A	Lithic Workshop	>100 debitage	Recorded	Avoidance or Detailed Assessment
LbLb-17	Winter Access Road	2009-010A	Campsite	1 round tent outline	Recorded	Avoidance or Detailed Assessment
LcLe-19	Kiggavik Site	2007-015A	Lookout	boulder marker (recent)	Assessed/Mitigated	No Further Assessment (Low Cultural Importance)
LcLe-20	Kiggavik Site	2007-015A	Lookout	boulder marker (recent)	Assessed/Mitigated	No Further Assessment (Low Cultural Importance)
LcLe-21	Kiggavik Site	2007-015A	Hunting	cache (recent)	Assessed/Mitigated	No Further Assessment (Low Cultural Importance)
LcLe-22	Kiggavik Site	2007-015A	Lookout	boulder marker (recent)	Assessed/Mitigated	No Further Assessment (Low Cultural Importance)
LcLf-10	Kiggavik-Sissons Access Road	1991-704	Lithic scatter	2 debitage	Recorded	Avoidance or Detailed Assessment
LcL2-27	Kiggavik-Sissons Access Road	2008-034A	Campsite	1 tent outline; lithic scatter	Recorded	Avoidance or Detailed Assessment
LcLe-28	Kiggavik-Sissons Access Road	2008-034A	Campsite	6 tent outlines	Recorded	Avoidance or Detailed Assessment
LbLf-2	Kiggavik-Sissons Access Road	2009-010A	Campsite	1 tent outline	Recorded	Avoidance or Detailed Assessment
LbLx-26	Dock	2013-027A	Campsite	2 tent outlines, 1 box hearth	Recorded	Avoidance or Detailed Assessment