



**Mackenzie Valley**  
Environmental Impact Review Board

# Report of Environmental Assessment

and

# Reasons for Decision

for the Northrock Summit Creek B-44  
Exploratory Well

**Issued: August 8, 2003**

**Mackenzie Valley Environmental Impact Review Board**

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## Review Board Environmental Assessment Decision

To make its decision in this Environmental Assessment (EA), the Mackenzie Valley Environmental Impact Review Board has relied upon all the information on the Public Record. Having considered this evidence, the Review Board has made its decision in accordance with section 128 of the *Mackenzie Valley Resource Management Act* (MVRMA).

It is the Board's opinion that without additional mitigation, the proposed development, considered as a whole, would be likely to cause a significant adverse impact on the environment. In order to prevent this significant adverse impact, the Review Board has recommended a number of measures in this report.

The Board has concluded, pursuant to subparagraph 128(1)(b)(ii) of the MVRMA that with the implementation of the measures recommended in this Report of EA and the commitments made by Northrock Resources Ltd. (see Appendix E), the proposed development will not likely have a significant environmental impact and should proceed to the regulatory phase of approvals.

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TODD BURLINGAME

Chair of the Mackenzie Valley  
Environmental Impact Review Board

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DATE

## Executive Summary

The Mackenzie Valley Environmental Impact Review Board (Review Board) undertook an Environmental Assessment (EA) of Northrock Resources Ltd's proposed Summit Creek B-44 oil and gas exploration project according to the *Mackenzie Valley Resource Management Act* (MVRMA). The Review Board's EA focused on the following three questions:

- Will access via the proposed Keele River route cause significant environmental impacts in comparison to the previously used Little Bear River access alternative?
- Is the proposed development likely to have significant impacts on wildlife harvesting?
- Is the proposed development likely to have significant impacts on cultural and heritage resources?

In addition to analyzing written evidence the Review Board held a public hearing on May 15, 2003 in the affected community of Tulita. To answer the above questions the Review Board also looked at

- the Preliminary Screening Report of the Sahtu Land and Water Board.
- the physical properties of the two access routes;
- the known archaeological sites;
- the report of the Sahtu Heritage Places and Sites Joint Working Group *Rakeké Gok'é Godi: Places we take care of*;
- the draft Sahtu Land Use Plan;
- the harvest in the project area over the past few years; and
- the value of the wildlife harvest to the local economy.

The Review Board concluded that the potential impacts of the proposed Keele River access route on wildlife harvesting and on cultural and heritage resources are not greater than those of the Little Bear River access routes. Both routes pass through important areas for harvesting and near culturally important sites. The Keele River route, however, is likely to have less impact on lakes because it is shorter and requires less water.

The Review Board also concluded that the proposed development is not likely to have a significant impact on the total harvest level in the area. The Review Board, however, did conclude that significant impacts on individual harvesters are likely and that appropriate compensation measures consistent with the Sahtu Dene and Metis Comprehensive Land Claim Agreement are required.

The Review Board further concluded that significant impacts on cultural and heritage resources are not likely as long as the developer carries out the archaeological survey, as it committed to, and makes any necessary changes to the access route based on the findings of the survey.

The Mackenzie Valley Environmental Impact Review Board concludes that the proposed Summit Creek B-44 oil and gas exploration project can proceed along the proposed Keele

River access route under the condition that the recommendations by the Review Board are implemented. The Review Board has made the following recommendations under MVRMA section 128(2)(b)(ii).

- R-1 The Review Board recommends that the developer produce a plan in collaboration with the Tulita Renewable Resources Council for responding to individual compensation claims under section 18 of the Sahtu Dene and Metis Comprehensive Land Claim Agreement.
- R-2 The Review Board recommends that the Sahtu Land and Water Board ensure that the Water Licence contains a provision directing the developer not to withdraw water from Stewart Lake, but only from its outflow.
- R-3 The Review Board recommends that the Sahtu Land and Water Board ensure that the Land Use Permit requires the developer to
  - (a) have a qualified archaeologist and a knowledgeable community member jointly survey the access route while it is free of snow; and
  - (b) submit a plan satisfactory to the Prince of Wales Northern Heritage Centre for avoiding damage to any sites identified along the route.before land based activities can proceed.
- R-4 The Review Board recommends that the Sahtu Land and Water Board ensure that the Land Use Permit or the Water Licence contains provisions to protect the values that resulted in the Keele River area and the Mountain Dene Trail being identified as conservation areas in the preliminary draft Sahtu Land Use Plan.
- R-5 The Review Board recommends that the Sahtu Land and Water Board review the conditions of the Land Use Permit and the Water Licence for the proposed development directly with the community of Tulita.

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# 1 Introduction

## 1.1 Purpose

This is the Mackenzie Valley Environmental Impact Review Board's (Review Board) Report of Assessment and Reasons for Decision for the Northrock Resources Summit Creek B-44 Environmental Assessment (EA03-001). This report summarizes the proceedings of the Environmental Assessment (EA) and presents the Review Board's conclusions and recommendations. Throughout this EA the Review Board was guided by the *Mackenzie Valley Resource Management Act* (MVRMA) and its own *Rules of Procedure for Environmental Assessment and Environmental Impact Review Proceedings*.<sup>1</sup> This Report of Environmental Assessment was prepared to fulfill the reporting requirements of MVRMA sections 121 and 128.

The remainder of section 1 outlines the regulatory history of this project. Section 2 presents background information on the environment in the project area and on the proposed development. Section 3 summarizes the process followed in this EA. Section 4 summarizes and discusses the evidence entered onto the Public Record for this assessment. Section 5 presents the Review Board's conclusions based on the evidence, including the determination whether or not the proposed development is likely to cause significant adverse impacts on the environment. Section 6 summarizes the recommendations and suggestions of the Review Board to the developer, the Sahtu Land and Water Board and other parties to this assessment.

Unless otherwise noted, all information is derived from the public record for this EA. All sources can be accessed via the Review Board's Public Registry.

## 1.2 Regulatory History

Northrock Resources Ltd applied for a Land Use Permit and a Water Licence to the Sahtu Land and Water Board (SLWB) on September 13, 2002. The SLWB carried out a Preliminary Screening of the proposed development according to section 124 of the MVRMA. As per Section 124(3), the SLWB acted as lead screener. The SLWB consulted 26 organizations during the Preliminary Screening Process. On November 22, 2002 the SLWB ordered further investigations of the proposed development.

On March 21, 2003, the SLWB finalized the Preliminary Screening. It referred the proposed development to EA, according to section 125 of the MVRMA, citing potential for public concern. The Preliminary Screening Report concluded that all potential environmental impacts can be mitigated with known technology, but that there is a potential for public concern. The MVEIRB notified the developer on March 25, 2003 that the EA had been started.

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<sup>1</sup> Both documents may be obtained from the Review Board's office or at [www.mveirb.nt.ca](http://www.mveirb.nt.ca).

## 2 Background/Setting

### 2.1 Description of Environment

#### 2.1.1 Bio-Physical Environment

The project area spans the Mackenzie River Plain and Peel River Plateau ecoregions. The first part of the access route traverses the Mackenzie River Plain. The well site and the second part of the access route are located in the Peel River Plateau.

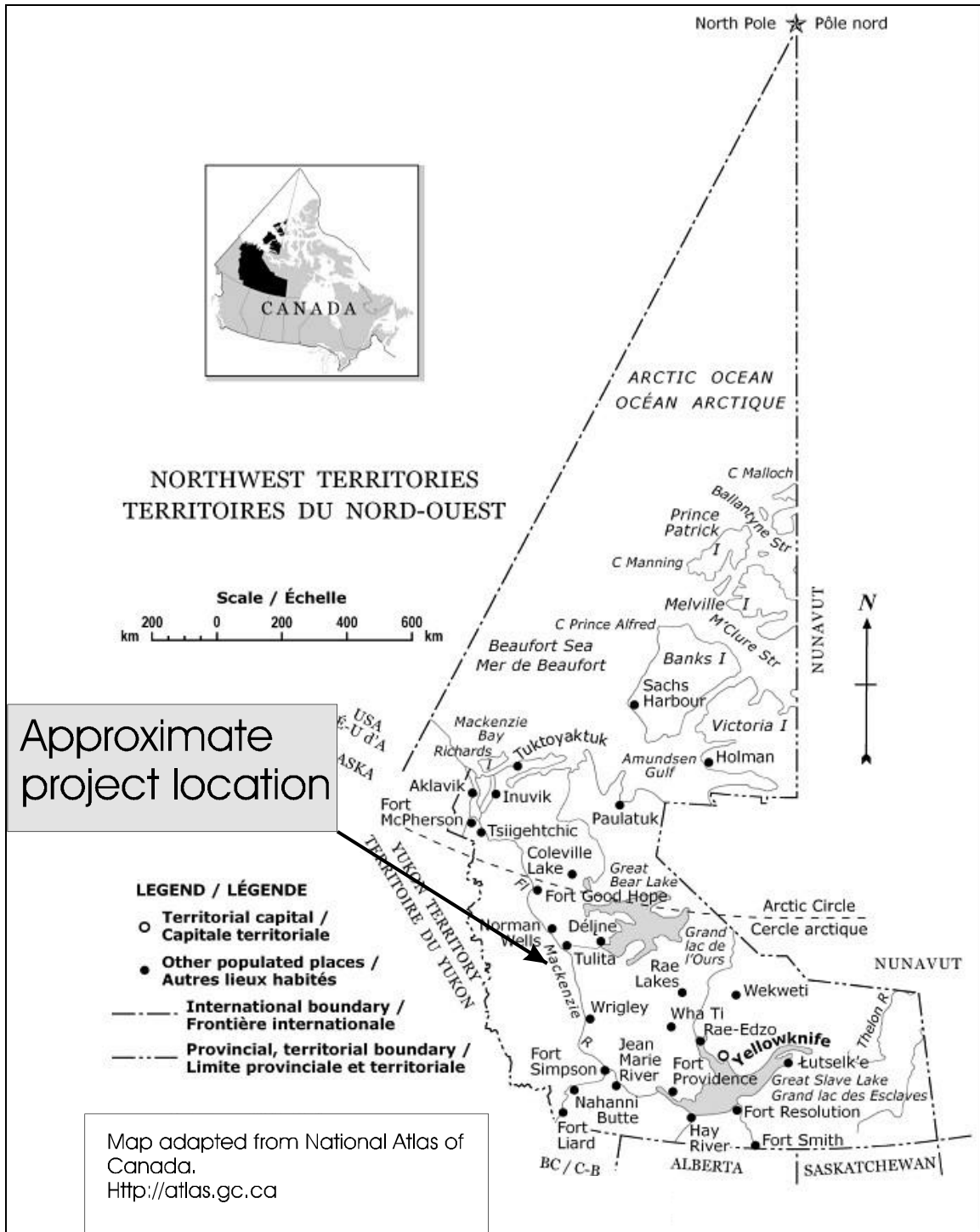
The Mackenzie River Plain ecoregion has a mean summer temperature of approximately 11.5°C and a mean winter temperature is -24.5°C. The mean annual precipitation ranges from 300-400 mm and the ecoregion has a subhumid, high boreal ecoclimate. The ecoregion is a broad, rolling, drift-covered plain lying between the Mackenzie River and the Franklin Mountains. Native vegetation is primarily black spruce and jack pine with an understory of feathermoss, bog cranberry, blueberry, Labrador tea, and lichens. The permafrost in the program area is extensive and discontinuous (50-90%) with medium ice content (10-20%) in the upper 10-20m of the ground.

The Peel River Plateau ecoregion spans the Yukon and Northwest Territories border between the Peel and Arctic Red rivers along the foothills of the Mackenzie and Richardson Mountains. The mean annual summer temperature is 10°C and the mean winter temperature is -22.5°C. Mean annual precipitation ranges from 200 to 275 mm. The ecoregion has a high subarctic ecoclimate. The predominant vegetation is open, stunted stands of black spruce and tamarack with a ground cover of dwarf birch, willow, heather, cottongrass, lichen, and moss. Low shrub tundra, consisting of dwarf birch and willow, is also common. Permafrost in the project area is extensive discontinuous and with medium to low ice content.<sup>2</sup> At the well site permafrost was found at two metres below the surface.

Elevations in the project area range from approximately 120 to 600 metres above sea level. The access along the river valley is generally flat and then rises over a series of benches before descending to Stewart Lake (elev. 255m). West of Stewart Lake the access encounters rolling terrain with steep slopes and rocky outcrops. There are a few small, isolated lakes and low, wet areas adjacent to the access. Stewart and Tate Lakes, approximately 25km to the west of the staging area on the Mackenzie River, are fish bearing lakes with cabins on them. The outflow to Stewart Lake (unnamed) at the southwest corner of Stewart Lake is the only significant stream to be crossed by the access.

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<sup>2</sup> [www.ec.gc.ca/soer-ree/English/Framework/NarDesc/taipln\\_e.cfm](http://www.ec.gc.ca/soer-ree/English/Framework/NarDesc/taipln_e.cfm)



**Map 1: Overview**

The vegetative cover in the project area varies with drainage and elevation. Vegetation along the wet or seasonally flooded river flats consists predominantly of willow thickets, which can reach heights of up to 3 metres. Black spruce and aspen are present in well drained areas further from the river banks and predominate on river benches, local draws



and near the shores of Stewart Lake. Upper elevations are dominated by spruce and fir with boreal shrub species. Muskeg is prevalent in poorly drained sites throughout the project area. A significant portion of the access route, as well as the well site, are contained within recent and older burn areas.<sup>3</sup>

Up to 15 species of mammals may be found in the project area, including Black Bear, Grizzly Bear, Moose, Mountain and Boreal Woodland Caribou. Roughly 22 bird species utilize the project area during the winter season.<sup>4</sup>

### **2.1.2 Socio Economic Setting**

The 2001 Statistics Canada census counted 475 persons in Tulita, 440 of which were aboriginal. Compared to the Canadian average of 7.4% , unemployment was high at 13.9%. About 62% of the residents participated in the wage economy but only a quarter of Tulita residents with earnings reported to have worked the full year. Nationally, 66.4% participated in the wage economy and over one half of all persons with earnings worked for the full year. The overall participation rate in the Northwest Territories was 77.2%. Almost 25% of Tulita residents had moved during the previous year, while nationally that number was below 15%. In 1996 the population was 450 persons, the participation rate in the wage economy 68.4% and the unemployment rate sat at 23.1%.<sup>5</sup>

The average earnings (per person with earnings) in Tulita was just above \$22,000 in 2001, compared to the Canadian average of \$31,700 and the Northwest Territories average of over \$36,600. Considering this discrepancy and the high cost of living in this remote area, with only 2 months of winter road access per year, traditional harvesting continues to play an important role. Moose have been identified as the most important species for subsistence harvesting. RWED estimates the meat replacement value of a moose (i.e. the cost of buying an equivalent amount of meat at a local store) is between \$3,600 and \$4,000.

Fur harvest records for the Tulita District show 16 or more trappers from 1999 to 2002 with a decline to 10 trappers in 2003. The total value of the harvest ranged from a low of less than \$7,000 in 1999 to a high of almost \$18,000 in 2000. The most recent harvest of 2003 was worth approximately \$15,000. These numbers reflect only the portion of the harvest sold to RWED. True harvest levels are likely higher because animals may also be harvested for personal use.

In summary, Tulita, - the community most directly affected by the development - may be characterized as one with relatively high unemployment, relatively low income, and relatively high dependence on the traditional economy.

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<sup>3</sup> Developer's Assessment Report

<sup>4</sup> Sahtu Regional Office of RWED

<sup>5</sup> www.statcan.ca

## **2.2 Development Description**

### **2.2.1 Overview**

This section provides a brief overview over the proposed development. For a more complete description, refer to the Developer's Assessment Report (DAR).

The proposed development includes:

- construction of a staging area, barging in and storage of construction equipment, and fuel;
- construction and watering of a temporary access road from the staging site to the well site, as well as construction and maintenance of an ice bridge across the Mackenzie River;
- shipment of a drilling rig and ancillary equipment via the winter road and temporary access road to the well site;
- drilling of an exploration oil or gas well using a fresh water-based gel chem mud system, including construction and operation of a sump;
- operation of a 16 person mobile camp during access construction, a 40 person camp near the well site, a six person camp at the staging site, and an airstrip;
- removal of all equipment via temporary access and winter road, or by barge if winter road closes; and
- restoration of well site, sumps, and access road.

### **2.2.2 Access Routes**

Map 2 presents the project area and shows the three different routes evaluated in this assessment. These are:

- The Keele River route: This is the route proposed by the developer. It starts at a staging site at the confluence of the Keele and the Mackenzie Rivers and runs west on seismic lines created in the 1970s for about 20 km. It joins with the other routes east of Stewart Lake.
- The Original Little Bear Route: This is the route most community members and leaders of Tulita want used. The developer used this route to access the same project area for a seismic program in 2001. This route starts at an existing staging site at the confluence of the Little Bear and the Mackenzie Rivers and runs south east on seismic lines for about 80 km until it joins the Keele River route.
- The Alternate Little Bear Route: This route runs parallel to the original Little Bear route on seismic lines created in the 1970s. It was identified by the developer as a route from the Little Bear staging site with adequate access to water, should the developer be forced to enter the project area via the Little Bear River staging area.

All three potential routes meet east of Stewart Lake. From there on only one possible access route has been identified. All three alternatives require an ice bridge across the

Mackenzie River. The Keele River route may also utilize an existing staging area on the east bank of the river.

### 2.2.3 Project Timing

Table 1 provides an overview over the timing of the proposed project, according to the DAR.

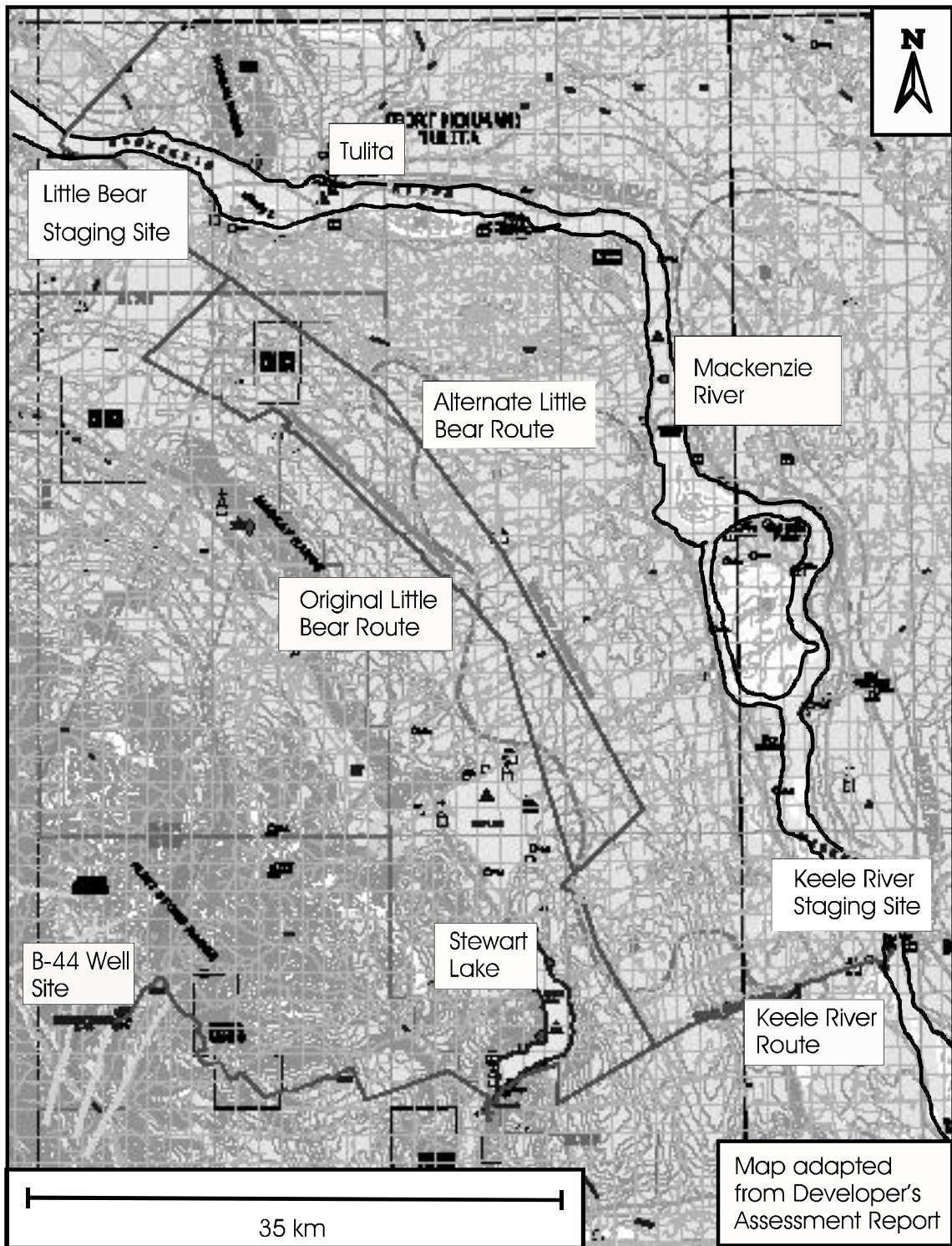
Activity	Time Required	Estimated Dates
Barging construction equipment to staging area	3 days	September 7 to 10, 2003
Road construction	60 days	November 15, 2003 to January 15, 2004
Mobilize rig and camp	5 days	January 15 to 20, 2004
Drilling	45 days	January 20 to March 6, 2004
Demobilize rig and camp via winter road	5 days	March 6 to 11, 2004
Demobilize rig and camp to existing staging area west of Mackenzie River (if required)	5 days	April 6 to 11, 2004
Reclaim well site and access route	To be determined	Inspection in early summer

**Table 1: Project Timing**

Traffic volumes on the access road will vary with the stage of the operation. Traffic will be heaviest during the mobilization and demobilization of the drilling rig and associated equipment to and from the well site. During drilling operations, traffic volumes will be limited to support and re-supply vehicles. The developer estimates that the following number of two-way trips will be required:

- January 1 to January 15: 152 trips to move in drilling rig, camp and equipment;
- January 15 to March 15: 127 trips during drilling operations;
- March 1 to March 15: 113 trips to move out drilling rig, camp and equipment.

There would be a total of 392 two-way trips, plus trips required for road maintenance.



**Map 2: Project Map**

## **3 Assessment Process**

### ***3.1 Scope of Development***

The Review Board determined that the scope of the proposed development includes all components listed in section 2.2.1.

### ***3.2 Scope of Assessment***

The scope of the assessment is the determination of which issues and items are examined in the EA. The Review Board notes that the Sahtu Land and Water Board referred the development to EA because of potential public concern regarding harvester compensation, access related issues, and potential impacts on cultural sites. The record of the Public Hearing the Board conducted for this EA on May 15, 2003 shows that many community members and leaders are not concerned with the project, but have concerns with using the proposed access route from the Keele River rather than the previously used route from the Little Bear River.

The Review Board examined the SLWB's Preliminary Screening report for this development and found that the Preliminary Screening adequately addressed the proposed development's environmental impacts, with the exception of comparing access route alternatives, impacts on wildlife harvesting, and impacts on cultural and heritage resources. Consequently, the Review Board limited the scope of this EA to these three issues.

### ***3.3 Overview of EA Process***

The Review Board issued a draft Terms of Reference and Work Plan for comment on April 4, 2003. GNWT-Resources Wildlife Economic Development (RWED), and the Department of Fisheries and Oceans (DFO) submitted comments on these draft Terms of Reference. The Review Board issued final Terms of Reference to the developer on April 22, 2003. The developer submitted the DAR on May 8 and additional information following a Deficiency Statement by the Review Board on May 12.

The Review Board issued Information Requests to the developer, to RWED and to the Sahtu Renewable Resources Board (SRRB) on May 28, 2003. A second round of Information Requests was issued to the developer on suggestion from the Canadian Parks and Wilderness Society (CPAWS) on June 30, 2003. Responses to all Information Requests were received on or prior to July 3, 2003. No Technical Analysis Reports were submitted for this EA. The Review Board closed the Public Record on July 22, 2003 and concluded its deliberations on August 6, 2003.

A table of anticipated and actual milestone completion dates can be found in Appendix B. A list of all parties to this EA can be found in Appendix C.

### **3.4 Public Consultation**

Northrock Resources held several consultation meetings with representatives from Tulita businesses, community leaders and community members prior to submitting an application for a Land Use Permit and a Water Licence. Throughout the EA process Northrock continued to meet with representatives of the Tulita District Land Corporation and its member corporations, as well as the Tulita Renewable Resources Council.

The Review Board held a Public Hearing in Tulita on May 15, 2003. Notes from this hearing were circulated for comment to the parties and then placed on the Public Registry as a written record of the hearing. The hearing was attended by approximately 70 persons from Tulita and Norman Wells, as well as representatives of the developer, the Sahtu Land and Water Board and several government agencies. The Review Board was present with five Board members and several staff. Appendix G contains a list of hearing participants.

## 4 Assessment Results

This section is intended to provide a summary of selected items on the Public Registry. It does not discuss every item (see Appendix D for an index of the public registry). The Review Board has considered all issues raised in this EA, as required by MVRMA s.117. The Review Board has given due consideration to all evidence on the Public Record for this EA. This *Report of Environmental Assessment* discusses only the evidence which the Review Board decided warranted further detailed consideration.

The conclusions reached in this document are based on the assumption that Northrock Resources will fulfill the commitments made during the EA. These include the commitments listed in Northrock's DAR of May 2, 2003 plus any commitments made after that submission (see Appendix E for a list of commitments). If Northrock fails to fulfill these commitments, the Review Board's determinations regarding significance described in section 5 below may change accordingly.

Following the scope of assessment determination in section 3.1 above, the Board's deliberations can be broken down into the following issues:

- a comparison of environmental impacts of the different access routes;
- a general examination of impacts on the traditional land based economy; and
- a general examination of impacts on cultural and heritage resources.

### 4.1 Comparison of Access Routes

The SLWB's Preliminary Screening Report identified a potential for public concern based on, among other things, letters submitted to the SLWB by the Tulita Land Corporation and the Fort Norman Metis Land Corporation. Both organizations expressed opposition to the Keele River route. The Fort Norman Metis Land Corporation further expressed a concern over impacts on a culturally important area. The issue of using the Little Bear access route, which Northrock has utilized for a seismic program in the same area in 2001, was repeatedly raised during the Public Hearing. Several presenters expressed concern that the Keele River route will damage the land and impact on harvesting. Citing a lack of water sources along the Little Bear route, the developer identified an Alternate Little Bear Route, which would have to be used if the Keele River route was not accessible.

Consequently, the Review Board has compared all three possible routes in terms of their physical impact, their impact on wildlife harvesting, and their impact on cultural and heritage resources. This section is strictly a comparison between the different routes and does not address the question whether the overall development is likely to cause significant adverse effects. This is done in sections 4.2 and 4.3.

## 4.1.1 Bio-Physical Impacts

### 4.1.1.1 Overview of Evidence

Several participants at the Public Hearing raised concerns over possible erosion caused by the Keele River route. In addition, the Review Board considered physical impacts from widening the access road, withdrawing water to ice in the road for heavy equipment, and re-opening of old cut lines, which may have partially re-grown. Widening may lead to a loss of vegetation, while excessive water use may have negative impacts on lakes. Reopening old cut lines also results in a removal of vegetation and may have an impact on wildlife as new lines of sight may be created.

In the DAR the developer committed to mitigating any erosion problems by spreading slash over steep slopes. The developer further committed to inspecting the area in summer and to re-contouring and re-seeding any areas that may be affected by erosion.

In response to an Information Request the developer submitted the following comparison of the different potential access routes on June 3, 2003:

	<b>Keele River Access Route</b>	<b>Original Little Bear Access Route</b>	<b>Alternative Little Bear Access Route</b>	<b>Remainder of Access Route to Well</b>
Length of access	18.50km	83.75km	78.75km	55.16km
Water budget (100m <sup>3</sup> /km)	1,850m <sup>3</sup>	8,375m <sup>3</sup>	7,875m <sup>3</sup>	5,616m <sup>3</sup>
Widening	18.50km	13.00km	78.75km	55.16km
Reopening cutlines > 5 years old	18.50km	0.0km	59.0km	Not required
Area	18.50ha	83.75ha	78.75ha	59.65ha

**Table 3: Comparison of Access Routes**

### 4.1.1.2 Discussion

Of the three alternatives, the Keele River route is the shortest and requires by far the least amount of water. The original Little Bear Route requires the least amount of widening and does not require the re-opening of old cut lines. It is, however, the longest route and has the highest water requirement. Moreover, there are relatively few water sources along this route. According to the developer's submission of June 3, 2003 it is questionable if the water sources along this route can provide sufficient water without violating DFO's protocols on water withdrawal. The alternative Little Bear route provides sufficient access to water but still requires more than four times as much water and more than three times as much widening than the Keele River route, which has sufficient water sources.

### 4.1.1.3 Conclusion

In the Review Board's opinion the developer's commitments to address erosion problems are effective mitigation measures. Considering the shorter distance, the considerably smaller amount of water required for a shorter road, and the resulting shorter travel



distances, the Review Board concludes that in terms of bio-physical impacts the Keele River route will result in fewer environmental impacts and impacts of smaller magnitude than both Little Bear routes.

## **4.1.2 Impacts on Harvesting**

### **4.1.2.1 Overview of Evidence**

Oil and gas exploration can affect traditional harvesting through disturbance of animals, habitat changes, and changes to access.

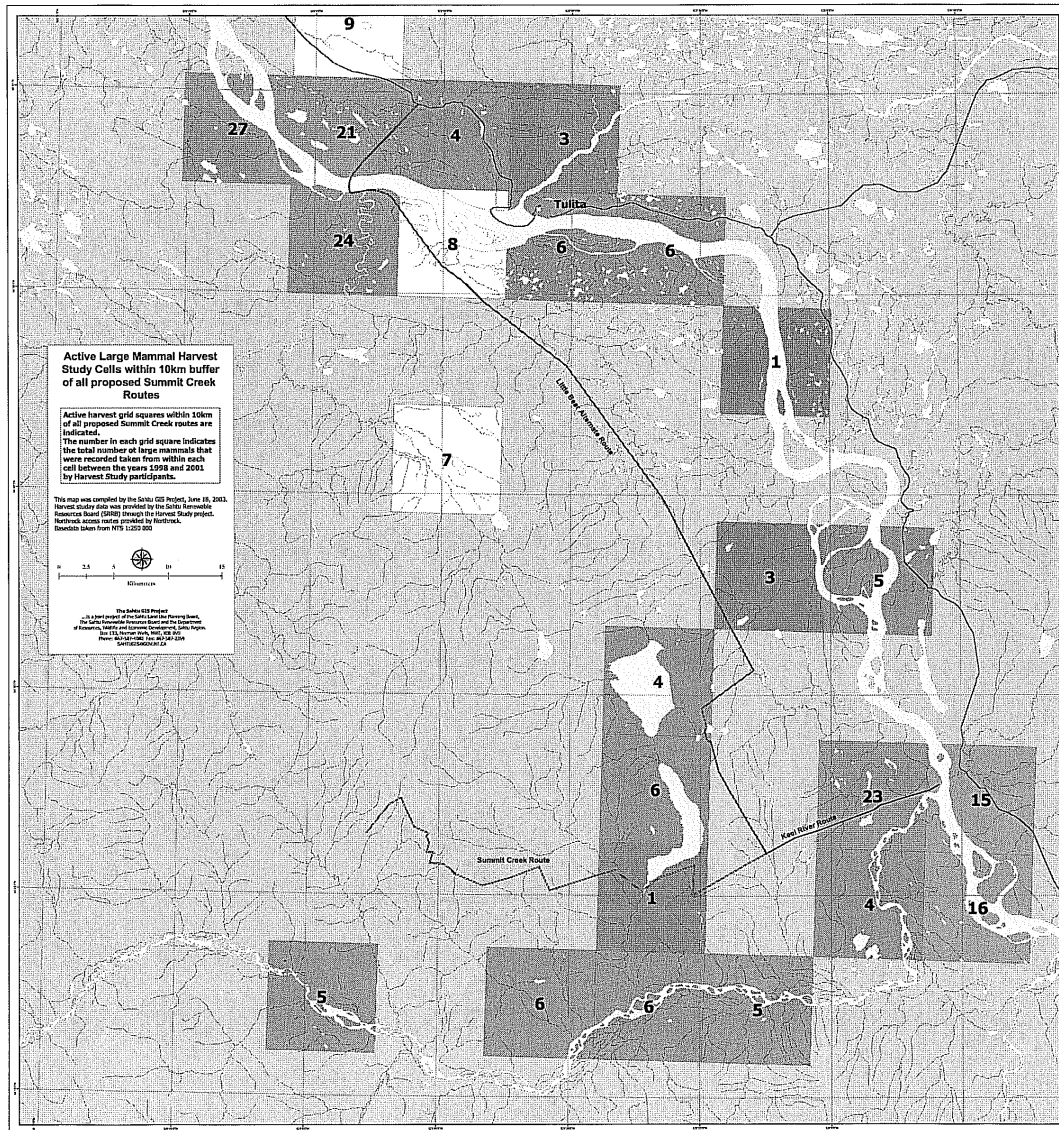
On June 10, 2003 the Sahtu Renewable Resources Board provided information on harvest levels along the Little Bear and Keele River routes between 1998 to 2002. The information is based on the Sahtu Harvest Study, with a regional participation rate of approximately 74%. Because the harvest study uses 10 km<sup>2</sup> blocks, the data for the Little Bear route applies to both, the original and the proposed alternate route.

The SRRB's submission (see Appendix F) shows that the harvest levels of large mammals (moose, caribou and black bear) are comparable for all routes. The harvest of birds was considerably higher near the Little Bear routes. The SRRB further stated that harvest levels have remained fairly constant over the five year period.

RWED analyzed Sahtu Harvest Study data in response to an Information Request and submitted its analysis on June 20, 2003. Map 3 shows the total harvest of large mammals along the access routes. The numbers in each square represent the number of large mammals harvested between 1998 and 2001 in each 10 km<sup>2</sup> block. Additional maps prepared by RWED show a pattern similar to the one for large mammals. Harvesting of birds is highest near the Little Bear routes, presumably due to the proximity to Tulita and easy access.

### **4.1.2.2 Conclusion**

Both the SRRB and the RWED analyses show that all access routes cross important harvesting areas. The Review Board concludes that the Keele River route will not have a greater impact on harvesting levels than the Little Bear routes.



**Map 3: Total Harvest of Large Mammals 1998 to 2001**

### 4.1.3 Impacts on Cultural and Heritage Resources

#### 4.1.3.1 Overview of Evidence

The submissions to the SLWB did not specify the cultural importance of the area or of specific sites. The Review Board, therefore, asked the developer to identify all known heritage resources along the access routes. The Review Board further considered published information on culturally important sites or areas by analyzing the report of the

Sahtu Heritage Places and Sites Joint Working Group: “*Rakeké Gok’é Godi: Places we take care of*”<sup>6</sup>, and the draft Sahtu Land Use Plan.

The DAR noted six known archaeological sites, which are located along the shores of Stewart Lake and thus on the portion of the access that is common to the Keele and the Little Bear routes. The DAR further noted that a post war trapper’s cabin had been recorded near the proposed staging area at the Keele River. The cabin could not be found in the field and was presumed to have been washed away as the proposed site for the staging area is prone to flooding in the spring.

The project map in the DAR identifies two additional archaeological sites in the vicinity of the proposed Mackenzie River crossing on the Keele River route. The project map further shows that the Little Bear routes cross the ‘Mountain Dene Trail to the Mountains’, a site identified in *Rakeké Gok’é Godi* and recommended for National Historic Site status, twice, while the Keele River portion of the access does not infringe on the trail.

In response to an Information Request Northrock Resource committed to have a qualified archaeologist examine the known archaeological sites in the project area and to survey the entire access route from the Keele River staging area to the well site.

The preliminary draft of the Sahtu Land Use Plan identifies a corridor along the Keele River as Conservation Area. Although the width of this corridor has not yet been specified, the Keele River staging area and the first section of the Keele River access route are within the proposed Conservation Area, as they are located at the confluence of the Keele and Mackenzie Rivers. The SLUPB describes the proposed Keele River conservation area as “a very important local travel corridor, heritage place and traditional use area”.

The draft Sahtu Land Use Plan refers to the ‘Mountain Dene Trail to the Mountains’ mentioned above as the ‘Mountain Dene Trail to Drum Lake’. The draft Plan identifies a corridor along this trail as conservation area. The Little Bear routes cross the trail at least once. The SLUPB describes the proposed Mountain Dene Trail to Drum Lake as “a very important local travel corridor, heritage place and traditional use area”.

The draft Land Use Plan identifies oil and gas exploration as activities not allowed in a conservation area.

#### 4.1.3.2 Conclusion

Considering the above evidence the Review Board concludes that the Keele River route will not have a significantly greater impact on cultural and heritage resources than the Little Bear routes. The Keele River route may infringe on two known archaeological sites, while the Little Bear River routes may infringe on one identified cultural site. The draft Sahtu Land Use Plan contains the same prescriptions for both potential routes.

The Review Board is satisfied that the archaeological survey is an effective mitigation measure against damaging yet unknown sites, if Northrock implements the appropriate

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<sup>6</sup> The report can be accessed on the Prince of Wales Northern Heritage Centre’s web site (<http://pwnhc.ca/research/denetrail.html>)

measures to protect sites identified during the survey. In the Review Board's opinion the archeological survey will be much more effective if the archaeologist conducts the survey jointly with a knowledgeable community member. (See section 4.3.4 for a related recommendation.)

## **4.2 Impacts on Traditional Harvesting**

This section discusses impacts on traditional economy in terms of direction, magnitude, geographical extent, duration, frequency, probability, and reversibility. This and the next section deal with issues regarding whether or not the overall project is likely to have a significant adverse effect, rather than comparing alternatives.

The SLWB's Preliminary Screening Report identifies compensation for trappers as a matter of potential public concern. Concern over impacts on harvesting was reiterated during the Public Hearing. It is not within the scope of this EA to determine appropriate levels of compensation. Rather, the Review Board examined whether significant adverse effects on wildlife harvesting are likely.

### **4.2.1 Overview of Evidence**

The DAR concludes that the development will have a neutral or positive effect on harvesting. While disturbances may lead to short term displacements, increased access will assist Tulita residents in their hunting and trapping efforts. Participants at the public hearing contested this view and expressed concerns that this project will lead to negative impacts on harvesting. Following a precautionary approach the Review Board concluded that negative impacts are possible and examined the issue further.

The only document on the Public Record that allows quantification of the magnitude of any impact is RWED's June 20, 2003, response to an Information Request. RWED considers moose to be the most important species for subsistence hunting. This view is supported by the fact that moose are the most frequently harvested large mammal. RWED estimates the value of a moose to be between \$3,600 and \$4,000 if the same amount of meat were to be bought at a local store. A reduced harvest of moose would therefore constitute an impact of considerable magnitude on individual subsistence harvesters and their families. This is especially true when considered in light of the overall low income level in Tulita.

The geographical extent of disturbances is limited to a corridor along the access route and an area around the well site. Northrock's own consultation for the Land Use Permit application has indicated that moose migrate through the willows along the Mackenzie River where the Keele River staging area is located. The same concerns have not been expressed throughout the proceedings for this EA for the staging site at the Little Bear River. However, the vegetation map in RWED's submission of June 20, 2003, and the similar level of harvesting activity at the Little Bear River do not indicate any difference in conditions between the two potential routes. Consequently, despite the narrow geographical extent, the proposed development may impact on important harvesting

areas, regardless of the choice of access route. Little to no harvesting has been reported near the well site.

Direct impacts of the proposed development are limited to one drilling season. Development related activities will last from September to April, including the staging of equipment. The development may, however, have indirect impacts over the longer term. Increased access may result in increased hunting pressure and/or continued disturbance. Disturbance after the project is likely on a considerably lower scale than during the development. Access into the area already exists from previous exploration developments. While the proposed development may re-open an older access, the current level of harvesting along the Keele River route suggests that some access to the area does exist now.

During the development the frequency of disturbances along the access will be high in the early stages as the winter access road is constructed and the drilling rig moved in. Disturbances will continue at lower frequency during the drilling of the well and will again be high as the equipment is de-mobilized. At the well site disturbance will be continuous. The frequency of disturbances after the completion of the development cannot be predicted.

#### **4.2.2 Discussion**

The DAR states that there will be no negative short term impact, but that some long term impacts may be possible if the well is successful and will eventually be tied into a production system. Community members and leaders, on the other hand, expressed concerns that the proposed development, in particular the Keele River route, will have a negative impact on wildlife harvest. Following these opposing views the Review Board requested information from the Sahtu Harvest Study from the SRRB.

The SRRB reported nearly constant harvest levels along the Little Bear routes between 1998 and 2002, despite recent oil and gas exploration. This indicates that the oil and gas activity did not have a measurable impact on harvest levels during this five year period. The Review Board concludes that the proposed development is not likely to have a significant adverse effect on the total harvest level. However, it does not draw the same conclusion for impacts on individual harvesters.

The Harvest Study data does not allow spatial analysis on a scale sufficient to determine local variations in harvest success. It does not identify an individual harvester's success. However, RWED's submission of June 20, 2003 contains statistics on trapping in the Tulita district. These statistics show that the success of individual trappers fluctuated between 1999 and 2003. In 2000, for instance, the average number of animals per trapper was 28.5, while in 2001 it was 17.3. The number of trappers showed some fluctuation as well. This indicates that while between 1998 and 2002 the total harvest along the Little Bear routes may have remained constant despite oil and gas development, there is no strong evidence suggesting that the success of individual harvesters has remained constant as well.

Improved access into an area may increase the total hunting effort, while resulting in poorer results per effort for subsistence harvesters. Moreover, there has been little disturbance along the Keele River route for 30 years, and it is quite possible that the

proposed development will result in local displacement of animals. This could affect the success of individual harvesters. Short term impacts on individual harvesters are therefore much more likely than impacts on the overall harvest.

#### **4.2.3 Conclusion**

Considering that there is a likelihood for impacts on individual harvesters and their families, and considering the magnitude of such impacts, the Review Board concludes that significant adverse impacts on individuals are likely. These impacts, however, can be mitigated by providing compensation to individual harvesters in accordance with the Sahtu Dene and Metis Comprehensive Land Claim Agreement.

#### **4.2.4 Recommendations and Suggestions**

The following recommendation is made in order to mitigate against a likely significant adverse impact on wildlife harvesting.

***R-1 The Review Board recommends that the developer produce a plan in collaboration with the Tulita Renewable Resources Council for compensating individual claims under section 18 of the Sahtu Dene and Metis Comprehensive Land Claim Agreement.***

The following suggestions are made in order to improve and simplify mitigation measures against impacts on harvesting for future projects.

***S-1 The Review Board suggests that the Sahtu Secretariat, in conjunction with designated land claim organizations in the Sahtu Settlement Area devise a general protocol for harvesters' compensation under the Sahtu Dene and Metis Comprehensive Land Claim Agreement.***

***S2 The Review Board suggests that the Minister provide the Sahtu Secretariat with sufficient means to carry out the above suggestion.***

### **4.3 Impact on Cultural and Heritage Resources**

#### **4.3.1 Overview of Evidence**

The SLWB's Staff Report S02A-004/S02L1-003 01 states that community consultation identified Stewart Lake as having spiritual value. The lake should not be used as a water source, only its outflow may be used. The SLWB's Preliminary Screening Report indicated that the Fort Norman Metis Land Corporation was concerned over the proposed development's incursion into a culturally important area. The Fort Norman Metis Land Corporation chose not to submit further information on the subject during the EA. The Public Hearing did not reveal new information on this issue either. The Review Board's conclusions are therefore based on the Preliminary Screening Report, the DAR, the draft Sahtu Land Use Plan and the *Rakeké Gok'é Godi: Places we take care of* report.

The DAR identified eight known archaeological sites along the access route, as well as the Mountain Dene Trail. The Little Bear routes cross the Mountain Trail, while the last portion of the access and the well site may be within one kilometre of the trail. The draft Sahtu Land Use Plan proposes a corridor along the Keele River and a corridor along the Mountain Dene Trail as conservation areas. In addition, Stewart Lake has been identified as special management area in the draft Land Use Plan. Special management areas prescribe conditions for oil and gas exploration. *Rakeké Gok'é Godi* recommends National Historic Site status for the Mountain Dene Trail. *Rakeké Gok'é Godi* also lists two more sites in the general vicinity of the proposed development, Red Dog Mountain near the Keele River and the Mackenzie River itself.

### **4.3.2 Discussion**

The possible impacts on known archaeological sites have already been discussed in section 4.1.3, as has the developer's commitment to surveying the entire access route for archaeological site prior to commencing access road construction.

Both potential access routes infringe on proposed conservation areas in the draft Land Use Plan. Although the Land Use Plan is not yet in effect, the Review Board is of the opinion that the values that resulted in the nomination of the conservation areas should be protected to the extent possible. The developer already committed to keeping all traditional trails open.

The SLWB's Screening Report suggests the withdrawal of water from the outflow of Stewart Lake rather than the lake itself as mitigation measure. The distance between Red Dog Mountain and the closest point of the proposed development is approximately 13 km. The Mackenzie River is used as transport corridor for oil and gas development, as well as to re-supply communities along the river, such as Tulita. During the Community Hearing no concerns were raised over impacts on either the Mountain Trail, Stewart Lake, Red Dog Mountain or the Mackenzie River.

### **4.3.3 Conclusion**

Considering the discussion above, the Review Board concludes that significant adverse effects on cultural or heritage resources are not likely, provided that adequate mitigation measures to protect archaeological sites, the values of proposed conservation areas, and Stewart Lake are implemented. In the Review Board's opinion the proposed archeological survey will be much more effective if the archaeologist conducts the survey jointly with a knowledgeable community member.

The Review Board notes that the decision about which access route to authorize could be as much a land use planning decision as it is an environmental impact assessment decision. The Review Board further notes that the SLUPB decided not to participate in this EA citing a lack of resources.

### **4.3.4 Recommendations and Suggestions**

The following recommendations are made in order to prevent significant adverse impacts on cultural and heritage resources.

- R-2** *The Review Board recommends that the Sahtu Land and Water Board ensure that the Water Licence contains a provision directing the developer not to withdraw water from Stewart Lake, but only from its outflow.*
- R-3** *The Review Board recommends that the Sahtu land and Water Board ensure that the Land Use Permit requires the developer to:*
- (a) have a qualified archaeologist and a knowledgeable community member jointly survey the access route while it is free of snow.*
  - (b) submit a plan satisfactory to the Prince of Wales Northern Heritage Centre for avoiding damage to any sites identified along the route. before land based activities can proceed.*
- R-4** *The Review Board recommends that the Sahtu Land and Water Board ensure that the Land Use Permit or the Water Licence contain provisions to protect the values that resulted in the Keele River area and the Mountain Dene Trail being identified as conservation areas in the preliminary draft Sahtu Land Use Plan.*
- R-5** *The Review Board recommends that the Sahtu Land and Water Board review the conditions of the Land Use Permit and the Water Licence for the proposed development directly with the community of Tulita.*

The following suggestion is made in order to maximize the effectiveness of above recommendations.

- S-3** *The Review Board suggests that the Prince of Wales Northern Heritage Centre assist Northrock with designing the archaeological survey; that the Centre review Northrock's plan to protect any sites identified during the survey; and that the Centre notify the SLWB if it is satisfied with the plan.*

The following suggestions are made in order to prevent significant impacts of future developments.

- S-4** *The Review Board suggests that the Sahtu Land and Water Board make archaeological surveys a pre-requisite for all new developments requiring a type A Land Use Permit, where the draft Land Use Plan identifies conservation or special management areas.*
- S-5** *The Review Board suggests that the Minister of DIAND should make every effort to ensure that the Sahtu Land Use Plan is approved within 24 months.*



## 5 Assessment Decision

Having reviewed the relevant evidence and following the discussion in section 4 the Review Board makes the following determinations:

- The Keele River access route, as proposed by the developer, is less likely to cause significant adverse impacts on the bio-physical environment than the Little Bear routes (see section 4.1).
- The Keele River access route, as proposed by the developer, is no more likely to cause significant adverse impacts on wildlife harvesting and on cultural and heritage resources than the Little Bear routes (see section 4.1).
- Regardless of route selection a significant adverse impact on individual wildlife harvesters is likely (see section 4.2).
- Significant impacts on cultural and heritage resources are not likely, if the identified mitigation measures are implemented (see section 4.3).

The Review Board is of the opinion that the *Sahtu Dene and Metis Comprehensive Land Claim Agreement* (Section 18) provides an effective mitigation measure against adverse impacts on individual wildlife harvesters.

In accordance with *MVRMA section 128(1)(b)(ii)* the Review Board concludes that the proposed Summit Creek B-44 Exploration Well may proceed using the proposed Keele River access route, subject to the recommendations in this document.

A summary of all recommendations and suggestions can be found in Appendix A.

# Appendix A – Recommendations and Suggestions

## Recommendations

- R-1** *The Review Board recommends that the developer produce a plan in collaboration with the Tulita Renewable Resources Council for compensating individual claims under section 18 of the Sahtu Dene and Metis Comprehensive Land Claim Agreement.*
- R-2** *The Review Board recommends that the Sahtu Land and Water Board ensure that the Water Licence contains a provision directing the developer not to withdraw water from Stewart Lake, but only from its outflow.*
- R-3** *The Review Board recommends that the Sahtu land and Water Board ensure that the Land Use Permit requires the developer to:*  
*(a) have a qualified archaeologist and a knowledgeable community member jointly survey the access route while it is free of snow.*  
*(b) submit a plan satisfactory to the Prince of Wales Northern Heritage Centre for avoiding damage to any sites identified along the route. before land based activities can proceed.*
- R-4** *The Review Board recommends that the Sahtu Land and Water Board ensure that the Land Use Permit or the Water Licence contains provisions to protect the values that resulted in the Keele River area and the Mountain Dene Trail being identified as conservation areas in the preliminary draft Sahtu Land Use Plan.*
- R-5** *The Review Board recommends that the Sahtu Land and Water Board review the conditions of the Land Use Permit and the Water Licence for the proposed development directly with the community of Tulita.*

## Suggestions

- S-1** *The Review Board suggests that the Sahtu Secretariat, in conjunction with designated land claim organizations in the Sahtu Settlement Area, devise a general protocol for harvesters' compensation under the Sahtu Dene and Metis Comprehensive Land Claim Agreement; and*
- S-2** *The Review Board suggests that the Minister provide the Sahtu Secretariat with sufficient means to carry out above suggestion.*
- S-3** *The Review Board suggests that the Prince of Wales Northern Heritage Centre assist Northrock with designing the archaeological survey; that the Centre review Northrock's plan to protect any sites identified during the survey; and that the Centre notify the SLWB if it is satisfied with the plan.*

- S-4 The Review Board suggests that the Sahtu Land and Water Board make archaeological surveys a pre-requisite for all new developments requiring a type A Land Use Permit, where the draft Sahtu Land Use Plan identifies conservation or special management areas.***
- S-5 The Review Board suggests that the Minister makes every effort to ensure the Sahtu Land Use Plan is approved within 24 months.***

## Appendix B – Milestone Completion Dates

The table presents the milestones as defined in the Terms of Reference for this EA. The durations are working days as anticipated in the Terms of Reference. The short scenario assumed that all tasks would be completed in the shorter time given under ‘duration’, while the long scenario assumed all tasks would require the maximum time. The last column contains the actual completion date for each milestone.

Definitions of the milestones can be found in the Terms of Reference for this EA

<b>MILESTONE</b>	<b>Duration</b>	<b>Short Scenario</b>	<b>Long Scenario</b>	<b>Actual</b>
Start-up of the EA	Done			
Draft Terms of Reference and Work Plan	6 days	April 4	April 4	April 4
Comments on draft ToR and WP	8 days	April 16	April 16	April 16
Final Terms of Reference and Work Plan	6-10 days	April 28	May 2	April 22
Developer’s Assessment Report	10-20 days	May 12	June 2	May 8
Review Board Conformity Check and Deficiency Statement (if required)	4-7 days	May 16	June 11	May 9 May 27
Developer’s response to the Deficiency Statement	5-10 days	May 26	June 25	May 12
Community Meeting	1 day			May 15
Review Board IRs to developer	5 days	June 2	July 2	May 28
Open IRs to developer	10 days	June 16	July 16	June 30
Developer’s response to IRs	5-15 days	June 23	August 7	July 3
Technical analysis reports	12 days	July 10	August 25	July 21
Closure of Public Registry	1 day	July 11	August 26	July 22
Review Board EA decision	10-15 days	July 25	Sept. 17	Aug 6
Review Board’s Report of EA to the NEB and the Minister of INAC	5 days	August 1	Sept. 24	Aug 8
Federal Minister’s response to the Review Board’s Report of EA (if required)				

## Appendix C – Parties to EA

The following organizations and individuals were parties to this EA:

Party	Status
GNWT-RWED	Directly Affected Party
Sahtu Renewable Resources Board	Directly Affected Party
Luciano Azzolini	Member of the Public
Environment Canada	Directly Affected Party
Ft Norman Metis Land Corporation	Directly Affected Party
Canadian Parks and Wilderness Society	Intervener
DIAND	Directly Affected Party

## Appendix D – Public Registry Index

Title/Subject	Sender	Date Received
Preliminary Screening Report, Recommended EA, Northrock Resources Ltd. - Summit Creek Drilling	G.T. Govier, SLWB	21-Mar-03
RE: Notice of Referral to EA	Martin Haefele, MVEIRB	25-Mar-03
RE: Notice of Referral to EA faxed to Northrock Resources Ltd. (Refer to Item # 2)	Martin Haefele, MVEIRB	25-Mar-03
Information about MVEIRB EA Process	Martin Haefele, MVEIRB	26-Mar-03
Type A Land Use permit Application and Type B Water License Application by Northrock Resources Ltd. <u>PURPOSE:</u> To inform SLWB about the application	SLWB	26-Mar-03
Type A Land Use permit Application and Type B Water License Application by Northrock Resources Ltd. <u>PURPOSE:</u> To re-consider their application	SLWB	26-Mar-03
Referral Agency Comments S02A-004/S02L1-003 - Northrock Resources Ltd. - <u>Sahtu Land &amp; Water Board</u>	Patricia McNeely, SLWB	27-Mar-03
Calgary Meeting - Minutes	Matt Law, Northrock Resources Ltd.	31-Mar-03
Mackenzie River Ice Profile - Northrock EA	Matt Law, Northrock Resources Ltd.	02-Apr-03
RE: Draft Terms of Reference and Work Plan for Northrock Summit Creek EA	Jennifer Morrin, CPAWS	07-Apr-03
Distribution List - Notice of Referral to EA - Northrock Resources	Martin Haefele, MVEIRB	27-Mar-03
Meeting Minutes	MVEIRB	08-Apr-03
Review Comments & Recommendations	Wade Romanko, Environment Canada	11-Apr-03
Draft TOR & Workplan - Comments	Matt Law, Northrock Resources Ltd.	16-Apr-03
Draft TOR & Workplan - Comments	Gavin More, GNWT-RWED	17-Apr-03
Draft TOR & Workplan - Comments	Kathleen Simms, DFO	16-Apr-03
Draft TOR & Workplan - Comments	Celina Stroeder, RWED- Sahtu Region	16-Apr-03
Approved TOR faxed / email to Parties	Martin Haefele, MVEIRB	22-Apr-03

Notification of Community Hearing on NorthRock Summit Creek Environmental Assessment	Martin Haefele, MVEIRB	30-Apr-03
Hamlet of Tulita Application to Lease Hamlet Property	Martin Haefele, MVEIRB	01-May-03
Developer's Assessment Report; Identification of Roles in EA	Martin Haefele, MVEIRB	08-May-03
Northrock - Summit Creek Community Hearing Presentation	Martin Haefele, MVEIRB	15-May-03
Public Service Announcement	Martin Haefele, MVEIRB	13-May-03
Response to the Notice of Non-Conformity	R. M. Raina, Northern Envirosearch	16-May-03
Northrock - Summit Creek Community Hearing Presentation - Participants List	Martin Haefele, MVEIRB	15-May-03
Distribution of an addition to Northrock's Assessment Report (by Northern EnviroSearch Ltd.)	Martin Haefele, MVEIRB	23-May-03
Directly Affected Parties and MVEIRB issued Information Requests	Martin Haefele, MVEIRB	28-May-03
Notes to file – telecom with Land Use Planner, Sahtu Land Use Planning Board	Martin Haefele, MVEIRB	28-May-03
Northrock Response to Information Requests	Matt Law, Northrock Resources Ltd.	03-Jun-03
SRRB - Northrock Information Request	Jody Snortland, Sahtu Renewable Resources Board	10-Jun-03
Distribution of Northrock EA Information Requests	Martin Haefele, MVEIRB	30-Apr-03
Northrock Response to Information Requests re: Northrock's EA	Matt Law, Northrock Resources Ltd.	12-Jun-03
Data Release for Northrock EA	Martin Haefele, MVEIRB	17-Jun-03
Northrock EA - GNWT Response to MVEIRB's Information Request	Gavin More, GNWT-RWED	20-Jun-03
Northrock EA - Information Request	Jennifer Morrin, CPAWS	25-Jun-03
Northrock EA - Information Requests	Northrock Resources Ltd.	03-Jul-03
Additional Information and Request for Technical Analysis Reports	Martin Haefele, MVEIRB	03-Jul-03
Response to CPAWS Information Request for Northrock EA (Refer to Item 34)	Martin Haefele, MVEIRB	02-Jul-03
Identification of Parties for Northrock EA	multiple submissions	23-May-03
Letter from INAC re: Technical Review for NorthRock	Fraser Fairman,	21-Jul-03

EA	INAC	
Summary Record of Tulita Community Hearing	Vern Christensen, ED, MVEIRB	15-May-03
Shuht'a Got'ine Eht'ene/Mountain Dene Trail to the Mountains - Prince of Wales Northern Heritage Centre	Martin Haeefele, MVEIRB	17-Jul-03



## Appendix E - Developer's Commitments

Source	Commitment
DAR p.5	Construction and removal of ice bridges will be in accordance with <i>DFO Protocol for Temporary Winter Access Water Crossings for Oil and Gas Activities in the Northwest Territories</i>
DAR p. 5	Bulldozers will be equipped with mushroom shoes to elevate blades
DAR p. 5, 7	Top soil at the well site will be double stripped and conserved for replacement.
DAR p.5	The well site will be bermed impermeably to contain any spills
DAR p. 6	Drilling waste will only be disposed into a sump if it meets Alberta Energy and Utilities Guide 50 standards. The sump will be covered with sufficient material to prevent pooling.
DAR p. 6, 7	All sumps will be fenced to protect wildlife and covered at the end of the drilling program. Culverts will be removed and campsites cleaned up.
DAR p.8	Areas prone to erosion will be covered with slash that has been bucked to lie flat. Areas with ground disturbance will be re-contoured and re-seeded. The access and well site will be inspected in late summer, early fall.
DAR p. 28	Company and contractor vehicles will travel at safe speeds to avoid collisions with wildlife.
DAR p. 29	Wildlife trails will be kept clear of slash, windrows will have regular breaks.
IR 1.1.2 Response	Northrock has retained an archaeologist to survey the access route and well site. Northrock will adjust routing and well site location according to the results of this survey.
IR 1.2.1 Response	Northrock will not widen the access route at stream crossings
IR 1.2.1 Response	Northrock uses drip pans and/or absorbent blankets to catch drips from heavy equipment
IR 1.2.1 Response	Northrock will retain the services of a qualified environmental monitor

## Appendix F – SRRB Sahtu Harvest Study Data

<b>Little Bear Routes</b>		Mallard	362
<b>Fish Harvested</b>	<b>Total</b>	Northern Pintail	60
Arctic Grayling	14	Ptarmigan Species***	5
Cisco (Herring)	60	Scoter Species***	38
Lake Whitefish	25	Snow Goose	14
Northern Pike	30	Surf Scoter	31
Sucker (Longnose or White)	20	Trumpeter Swan	3
<b>Small Mammals Harvested</b>		<b>Keele River Route</b>	
Beaver	4	<b>Fish Harvested</b>	
Hare Species***	80	- No data recorded	
Muskrat	3	<b>Small Mammals Harvested</b>	
Porcupine	2	Fox Species***	2
Snowshoe Hare	183	<b>Large Mammals Harvested</b>	
Wolf	1	Moose	35
<b>Large Mammals Harvested</b>		Woodland Caribou	3
Black Bear	2	<b>Birds Harvested</b>	
Moose	57	Brant Goose	2
Woodland Caribou	4	Canada Goose	15
<b>Birds Harvested</b>		Mallard	5
American Widgeon	28	<b>Remainder of Access Route</b>	
Black Scoter	18	<b>Fish Harvested</b>	
Brant Goose	7	Burbot	20
Canada Goose	154	Lake Trout	300
Duck Species***	30	Lake Whitefish	300
Goose Species***	88		
Grouse Species***	26		

Northern Pike 20

**Small Mammals Harvested Total**

Snowshoe Hare 5

**Large Mammals Harvested Total**

Moose 1

**Birds Harvested**

- No data recorded

\* Harvest study data does not include resident or non-resident harvest in the Sahtu Region.

\* Harvest study data is collected in 10km x 10km grid blocks. Therefore, rather than using a corridor, the Little Bear, Keele River and Access routes were overlaid on the harvest study maps and the grid blocks that were intersected by the routes were used to present the requested information.

\*\*\* Several categories (Fox spp, Hare spp, Grouse spp, Ptarmigan spp, Scoter spp, Duck spp, Goose spp) were created to accommodate harvesters who could not recall the species of small mammals or birds they harvested.

## Appendix G – Public Hearing Participants

### Northrock Summit Creek B-44 Environmental Assessment Participants in Community Hearing in Tulita, May 15, 2003

NAME	ORGANIZATION
Helen Squirrel	Tulita Housing Assoc.
D. Lennie	Ft. Norman Metis Land Corp
Larry Tourangiau	Sahtu Oil Inc.
Walter Bayha	Deline Band Council
Alfred Lennie	Tulita
?? Sam ...	Tulita
Jimmy Mendo	Tulita
Theres Etchinelle	Tulita
David Etchinelle	Tulita
Bobby Clement	Tulita TLC
Neal MacCauley	Tulita Dene Band Member
Edward MacCauley	Hamlet Mayor
Roy MacCauley	Tulita Dene Band (Sub-Chief)
Frank Andrew	Tulita Dene Band (Chief)
Fred Clemment	L & F Services
Dougie Yallee	Tulita
Rosa Etchinelle	Tulita
Julie Lennie	Tulita Elder
Eddy McPherson	Ft. Norman Metis
Danny Yakeleya	Ft. Norman Metis Land
Gordon Yakeleya	Tulita Land Corp
Ruby L. McDonald	Ernie McDonald Land Corp
Tony Grandjambe	Ernie McDonald Land Corp
Felicia Bavard	
Jonathon Ayah	

Derek Widow	
Fred Widow	
Agnes Naedzo	Entrepreneur
Archie Lennie Sr.	Tulita, RRC
Shella Bayha-Yallee	Tulita Band
Freddy Doctor	Tulita
Darren Moorman	Tulita, NT
George Campbell	Tulita, NT
Wilfred Lennie	TRRC
Blue Clement	
David Yalle Sr.	
Fred Widow	
J. B. Hetchinella	
Richard MacCauley	
Cecile MacCauley	
Debbie Yallee	
Walter Doctor	
Fredrick Andrew	
Richard Lennie	
Rena Menacho	
Clarence Andrew	
Mabel Martin	
C ?? ary Yakeleya	
Lorraine Doctor	
Lucy Ann Menacho	
Angus Grandjambe	
Helen Andrew	
Mike Gish	Akita Sahtu Drilling.
Rick Parker	Akita/Sahtu Drilling
Lane Dunham	EOG Resources - Calgary
Brian Merchant	Northrock Resources Ltd.

Bob Raina	Northern EnviroSearch – Calgary
Jenica Dyck	Northern EnviroSearch
Deb Archibald	GNWT – RWED
Gavin More	GNWT – RWED
Chris Baker	GNWT-RWED – Sahtu Region
Paul Rivard	GNWT-RWED
Fraser Fairman	INAC
Juliano Tupone	INAC
Larry Wallace	Rayuka – Norman Wells
Murray Peacock	SLWB, FGH
Patrick Clancy	SLWB
Mark Cliffe-Phillips	SLWB
Edna Tobac	SLWB
Janet Bayha	SRRB
Jody Snortland	SRRB
Vern Christensen	MVEIRB
John Donihee	MVEIRB
Martin Haefele	MVEIRB