January 20, 2005

Dear Baffin Distribution List

Re: Your comments on this application.
NIRB#: 05EN007
Project: Mining Exploration and Development, Ulu Project, Ulu, NU
Proponent: Wolfden Resources Incorporation

Nunavut Impact Review Board has received an application for Mining Exploration near Kugluktuk, NU. Please use NIRB file No. 05EN007 and the contact person listed below, in all future correspondence regarding this application.

The application documents are available through the internet on the NIRB ftp site at www://ftp.nunavut.ca/nirb in the folder "05EN007-Mining Exploration, Ulu NU, Wolfden Resources Inc. ".

Please assess the project proposal for the potential effects on the ecosystemic and socio-economic environments, from your knowledge of the area or your field of expertise.

Please forward your comments and recommendations to NIRB by February 10, 2005 1:00pm local time.

A comment form has been included with the package.

If you have any questions regarding the application, please do not hesitate to contact our office. Your input is greatly appreciated.

Yours truly,

Sylvia Novoligak
Environmental Screener Trainee
Phone (867) 983-4613
Fax (867) 983-2574 or (867) 983-2594

COMMENT FORM FOR NIRB SCREENINGS

The Nunavut Impact Review Board has a mandate to protect the integrity of the ecosystem for the existing and future residents of Nunavut. In order to assess the environmental and scio-economic impacts of the project proposals, NIRB would like to hear your concerns, comments and suggestions about the following project application:

Project Title: **Exploration and Development, Ulu Project**
Proponent: **Wolfden Resources Incorporated**
Location: **Ulu, Nunavut**
Comments Due By: **February 10, 2005** **NIRB #:** **05EN007**

Indicate your concerns about the project proposal below:

- ☐ no concerns
- ☐ water quality
- ☐ terrain
- ☐ air quality
- ☐ wildlife and their habitat
- ☐ marine mammals and their habitat
- ☐ birds and their habitat
- ☐ fish and their habitat
- ☐ heritage resources in area
- ☐ traditional uses of land
- ☐ Inuit harvesting activities
- ☐ community involvement and consultation
- ☐ local development in the area
- ☐ tourism in the area
- ☐ human health issues
- ☐ other: _____

Please describe the concerns indicated above:

Do you have any suggestions or recommendations for this application?

Do you support the project proposal? Yes ☐ No ☐ Any additional comments?

Name of person commenting: _____ **of** _____
Position: _____ **Organization:** _____
Signature: _____ **Date:** _____

KITIKMEOT INUIT ASSOCIATION
LANDS DIVISION
APPLICATION FOR ACCESS TO INUIT OWNED LAND

Office use only

Category	Application No:	Accepted :	Date Accepted:

To be completed by all applicants

1. Applicant's name and mailing address (Full name, no initials or abbreviations) **Wolfden Resources Inc.** **309 Court Street South** **Thunder Bay, Ontario** **P7J 1H1**	Fax no **(807) 345-0284** Telephone no. **(807) 346-1668**
2. Head Office address **As above**	Fax no. Telephone no.
3. Field supervisor and address if different from above **David B. Stevenson, Project Manager**	Telephone no. **(807) 346-2762 (TBay)** **(604) 759-0605 (Ulu)**

4. Other personnel list (Subcontractors or contractors to be used)

See attached list

Total no. of personnel: No. of person days

5. Location of activities by map coordinates. Attach **ORIGINAL** maps and sketches.

MAX Lat Min 57'	MIN Lat Deg 66°	MIN Lat Min 50'	MAX Lat Deg 66°
MAX Long Min 56'	MIN Long Deg 111°	MIN Long Min 03'	MAX Long Deg 110°

Map Sheet No: 76L 14, 15 Inuit Land Parcel No: **CO-21/76L, Lease #16928**

Coordinate of camp (if applicable) Lat. 66 ° 54 ' 27.8 " Long. 110 ° 58 ' 24.1 "

6. Periods of operation including periods of seasonal shut down and periods for restoration

Exploration done with this access to Inuit owned land will continue until we have enough information to make a decision on whether to start mining ore or close the underground workings and reclaim the site. During this operational period we intend to reclaim any areas where work is complete.

7. Period of access required (up to one or two years for licenses, depending on license level, up to five years for residential/recreational leases and level I and II commercial leases, and up to forty years for level III commercial leases)	Start date **January 15, 2005**	Completion Date **January 15, 2007**

8. Other rights, licenses permits or leases related to this application Provide proof of rights or indicate if in the process of applying for rights

☐ NTI Subsurface Right	☐ NRI Research License	☐ CWS Permit
X DIAND Subsurface Right	☐ RWED Tourism License	☐ Other – Please Specify
X NWB Water License	X* Explosives Permit	X U/G Diesel Permit

X* - in progress

9. TYPE OF LAND USE ACTIVITY

Check off the appropriate land use activities.

Mining/Oil & Gas
- X staking and prospecting
- X exploration (geophys-grd/air)
- X drilling (diamond/ice, etc.)
- ☐ bulk sampling
- ☐ mine (open pit, undergrd, etc.)
- X bulk fuel storage
- X other: exploratory underground drilling and excavation

Construction:
- ☐ camp
- ☐ building
- ☐ winter road
- ☐ all-season road
- ☐ quarrying
- ☐ other:

Tourism:
- ☐ tourism facility
- ☐ outfitting
- ☐ other: _____

Municipality:
- ☐ bulk storage of fuel
- ☐ residential building
- ☐ commercial building
- ☐ other:

Research:
- ☐ wildlife/fish/birds/marine
- ☐ survey (grd/aerial/collars)
- ☐ collection of species
- ☐ research station
- ☐ other: _____

Other:
- ☐ commercial harvest
- ☐ recreational camp
- ☐ _____
- ☐

10. On a separate page, provide a NON-TECHNICAL project summary. This should include a non-technical description of the project proposal, no more than 300 words, in English and Inuktituk (Inuinaktun, in the West Kitikmeot). The project description should outline the project activities and their necessity, method of transportation, any structures that will be erected, expected duration of activity and alternatives considered. If the proposed activity fits into any long-term developments, please describe the projected outcome of the development for the area and its timeline.

Attach a detailed project description as outlined in APPENDIX A

12. Application Fees:

☐ Land use license I -
Inuit - $ 0
Non-Inuit - $100 per 1:250,000 NTS Map Sheet

☐ Commercial Lease I - $ 500
☐ Commercial Lease II - $1000
☐ Commercial Lease III - $5000

Land use license II - $250
Land use license III- $500

Residential/Recreational Lease Inuit - $ 0
Non-Inuit - $250

☐ Exemption Certificate

Land use fees: **51.093** hectares used @ $50.00/hectare = **$2554.65**

Note: The land use fee is for the amount of land used on an annual basis.

13. a) The Applicant requests a Certificate of Exemption ☐

OR

b) The Applicant agrees to be bound by terms and conditions to be attached to the Inuit Land Use License or Lease. X

Sign name in full

Signature Date

APPENDIX A

All applicants must provide a detailed project description that includes ALL of the following:

1. Outline project activities, their necessity, their expected duration and alternatives considered. If the proposed activity fits into any long-term developments, describe the projected outcome of the development for the area and its timeline

2. Schedule of activities including both operations and shutdowns

3. Provide a preliminary plan showing the location of the lands proposed to be used and an estimate of their area in hectares. The preliminary plan should show the approximate location of all

   i) existing or new lines, trails, rights-of-way and cleared areas proposed to be used in the exercise of the Right;

   ii) buildings, campsites, air landing strips, air navigation aids, fuel and supply storage sites, waste disposal sites, excavations, ponds, reservoirs and other works and places proposed to be constructed or used during the exercise of the Right;

   iii) manmade structures and works, including bridges, dams, ditches, highways, roads, transmission lines, pipelines, survey lines and monuments, air landing strips; all topographical and natural features, including eskers, rivers, streams, lakes, inland seas and ponds, and all areas of biological interest, including wildlife and fish habitat, specifically, calving, denning, spawning or nesting areas, identified in consultation with the NWMB, RWO, or HTO, as appropriate, that may be affected by the exercise of the Right; and

   iv) the accurate location of all carving stone, archaeological sites, and archaeological specimens

4. Provide a list of structures that will be erected

5. Equipment to be used, indicating type and number, size and ground pressure and proposed use. Include all drills, pumps, vehicles etc.

6. Fuels to be used, capacity of containers and number of litres. Include diesel, gasoline, aviation fuel, propane and other fuel types. Describe method of fuel transfer.

7. Provide a copy of fuel spill contingency plan

8. Proposed disposal methods for garbage, sewage, grey water, overburden (organic soil, waste material, tailings etc.), hazardous waste and other waste products. Describe the acid rock drainage potential of waste rock materiel and testing methods, if applicable. List the type, estimated quantities and storage methods of any hazardous materials that are going to be stored on the property

   Describe the methods of transportation

10. Indicate the components of the environment that are near the project area, as applicable. Include the type of species, the important habitat area (calving, staging, denning, migratory pathways, spawning, nesting etc.) and the critical time periods (calving, post-calving, spawning, nesting, breeding etc.). Also include information on eskers, communities and historical/archaeological sites.

Summary of potential environmental, wildlife and resource impacts and mitigation measures to be used. Describe the effects of the proposed program on lands, water, flora and fauna.

Reclamation cost analysis for advanced exploration activities.

Proposed reclamation plan, that includes, but is not limited to the proposed methods and procedures for the progressive:

i) removal of all structures, equipment, and other manmade debris.

ii) rehabilitation of the area to its previous standard of human utilization and natural productivity.

iii) replacement of overburden and soil.

iv) grading of the area back to is natural contours; and

v) re-establishment, to the extent possible, of flora.

Include information about on going site remediation throughout the duration of the project.

14. Provide information on the socio-economic aspects of these activities. In particular, please provide details on:

i) How much money will be spent on this work?

ii) What percentage will go to Inuit firms or employees?

iii) How many jobs are available through this activity?

iv) How many Inuit employees will be hired?

v) What type of training opportunities for Inuit will be offered?

In addition to the above requirements, COMMERCIAL LEASE APPLICANTS must provide the following information:

- If the land is surveyed, state the lot and block number. If unsurveyed, state the size of the parcel and general area. Provide a detailed description and detailed sketch of the area applied for.
- Describe the type of commercial use.

In addition to the above requirements, RESIDENTIAL/RECREATIONAL LEASE APPLICANTS must provide the following information:

- If the land is surveyed, state the lot and block number. If unsurveyed, state the size of the parcel and general area. Provide a detailed description and detailed sketch of the area applied for.
- For what purposes will the land be used? Describe any buildings or improvements on this land. What is the value of the improvements on the land and who is the owner of the improvements.
- Provide a list of improvements planned for construction, the value of these improvements and within how many months of the effective date of the lease these improvements be finished.

In addition to the above requirements, QUARRY LICENSE or QUARRY CONCESSION AGREEMENT applicants must provide the following information:

- A description by meters and bounds of the land applied for;
- The name of the specified substances that the applicant desires to remove from the area, and
- A sketch showing clearly the position of the parcel in relation to a survey monument, prominent topographical feature or other known point and shown in its margin, copies of the markings on the posts or cairns.
- If for commercial use, the description shall contain an affidavit sworn by the applicant setting forth:
  - i) that the land contains material of the kind applied for in merchantable quantities;
  - ii) that the volume of specified substances are required for a project that has been approved by the appropriate level of government; and
  - iii) that the applicant has obtained a contract for the delivery of those Specified Substances.

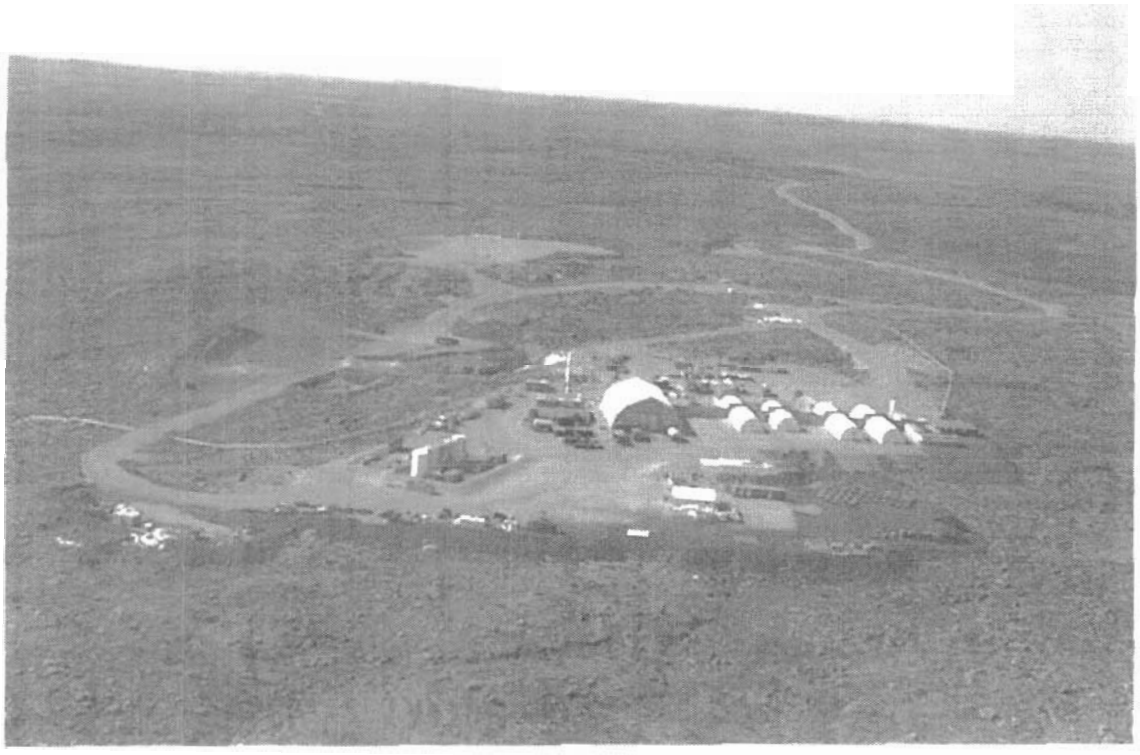
Please prepare this project description on a separate sheet of paper and attach it to your application form marked as APPENDIX A. Return the original, signed and dated application form, with attached APPENDICES A and B and all ORIGINAL maps of the area to the KIA Lands Office at Box 360, Kugluktuk, NU, X0B 0E0.

WOLFDEN RESOURCES INC.

2005-2006 EXPLORATION AND DEVELOPMENT PROJECT
ILU, NUNAVUT

NTS 76L 14/15

WOLFDEN RESOURCES INC.



KITIKMEOT INUIT ASSOCIATION
LANDS DIVISION
APPLICATION FOR ACCESS TO INUIT OWNED LAND
(attachment)

OTHER PERSONNEL LIST

1 – Project Manager
2 – Camp Managers
1 – Engineer
3 – Geologists
4 – Geological Technicians
2 – Nurses
2 – Cooks
1 – Bull Cook
2 – Dryman/Camp Attendant
2 – Mine Captains
8 – Miners
13 – Diamond Drillers
2 – Raise Miners
2 – Mechanics
2 – Electricians
2 – Surface Mechanical Operators

Total Workforce = 49 people
On-site Workforce = 25 people (number may vary depending on needs)
No. of person days = 9,000 (25 people x 12mth x 30day/mth)

10. NON-TECHNICAL PROJECT DESCRIPTION

The Ulu portal and underground workings were closed by Echo Bay Mines Ltd. in 1997 due to poor gold prices. Wolfden Resources Inc. purchased a 100% interest in the Ulu property from Echo Bay in December 2004. Since February 2004 Wolfden has drilled many surface drill holes in an attempt to find out if there is enough gold at Ulu to mine at a profit. However, before a decision can be made to start mining the orebody needs to be tested from underground. Before underground work begins the underground services (ventilation fans, vent tubing, water piping, electricity, refuge stations, phone system, etc.) have to be re-established. After this work is completed and the underground confirmed to be safe for work, then Wolfden intends to perform closely spaced drilling throughout the deposit as well as additional tunneling to determine whether the orebody is economic to mine at a profit. While the underground work is being performed Wolfden intends to expand the ore-pad on surface. The ore-pad is used to store ore until it can be hauled to High Lake for processing. Wolfden will also perform some deep drilling to determine whether the deposit extends at depth. If so, then additional tunneling and closely spaced drilling could be performed. At the end of the project the equipment and camp facilities will be removed and the roads and pads scarified and contoured.

AYOKNAITOT HAVAOTIKHAT OYAGAKHIOKVIKHAMI ONIPKANGIT

Ovani Ulu-mi paanga nunaplo ataanoktikakakvikhak havaktaoyut umikhimayut Echo Bay Mines Ltd. ovani 1997 talvani gold akikitpalaagaloakmat. Wolfden Resources Inc. neoviktat tamat ona 100% piotigilikhogo ona Ulu oyagakhiokvik okononanga Echo Bay-koni Desaipa 2004-mi. Talvani Febyoali 2004-mi Wolfden oyagakhiokvik ekootakvigilikta Ulu oyagakhiokvik maniliokvigilikhogo. Kihime, kanok chomaliokmaktat angmaktigiami oyagakhiokvikhak

manikaknik oyagak ehivgioktaoyagiakaktok nunap ataalo. Nunap ataanoktiktinagit oyagakhioktit emailiogiakaktot (hilamit annokhaaktakvikaktokhat ignikotikot, annokhakvikhanik nunap ataanot, emaktutinik, kulliktutinik, oyagakokvikhanik, foniotinik,etc.) tabkoa eliogagiakaktot nunap ataani. Tabkoa enikata ovalo nunap ataani havainagialakikpata hivoganaikkat, ema okoa Wolfden havagahoakniaktot nunap ataani ekootaklotik manikaknimik hammalo ahinik etikviniklogo kanok manikaknik oyagak maniliogotaoniakat anggikpat. Talvani nunap ataaniu havalikata okoa Wolfden manigiaknik oyagak anggikpat oyagakhiokhimakniaktat nunap kanganoktiklogo oyoagak. Oyagak kanganot nunap kaligeektiklogo aolaktinniaktat talvonga High Lake-mot pilokyiliktokhak manikaknia ammogaklogo. Wolfden havakniaktatlo nunap ataanot atpaktiklotik ekootakniaktot manikaknik ammogaklogo. Taimaitpat, kaiktok atpaktigiviginiaktat manikaknik amigaitpat. Talvani oyagakhioknik enilikat tamayat tupikakviitlo angiptiktaoniaktot apkotitlo halikaptakakviitlo nunalo pinnikhaffaklogo.

11. DETAILED PROJECT DESCRIPTION

OUTLINE

The Ulu gold deposit is located in the Nunavut Territory of Canada at longitude 110° 58' W and latitude 66° 54' N on NTS map sheet 76L14 and 76L 15. It is situated 155 km north of Lupin, 220 km southeast of Kugluktuk, 365 km southwest of Cambridge Bay and 530 km north of Yellowknife (Figure 1 to 3).

Access to the site is by helicopter or small fixed-wing aircraft. A 1,145 meter long gravel airstrip was constructed in August 1996 approximately 5 km south of the Ulu campsite. Twin Otter, HS 748 (Buffalo) and DC-4 aircraft have used the airstrip to haul freight, fuel and personnel during exploration of the project. This airstrip is currently being extended (1,300m) and widened to accommodate Hercules aircraft.

The construction of a winter road between Ulu and High Lake is anticipated pending a positive production decision at Ulu and High Lake. The road would be used to re-supply Ulu with fuel and materials and transporting the ore from Ulu to the High Lake prior to the official mill start up scheduled for 2007.

The Ulu site itself is in treeless Artic tundra, heavily dominated by boulder strewn glacial drift. Elevations in the immediate area of the camp range between 435 to 482 meters above sea level.

Kinross Gold Corporation temporarily closed the Ulu camp in September 1997 due to poor gold prices. Wolfden purchased a 100% interest in the property from Kinross in December 2003. Since February 2004 Wolfden has been evaluating the gold potential of the Ulu deposit by drilling over 40 surface diamond drill holes. Before a production decision can be made the deposit needs to be further evaluated from underground. During 2005 and 2006 Wolfden intends to perform this underground evaluation by a combination of exploration/definition drilling, ramp extension and drift/raise development on the deposit at different levels.

Wolfden is anticipating a budget of CDN$16,000,000 for exploration of which $5,000,000 is scheduled to be spent in 2005 and the remainder in 2006, if warranted. Table 1 summarizes the anticipated costs for the Ulu project during 2005 and 2006.

EXPLORATION AND DEVELOPMENT

Current lateral and ramp development consists of a 5.2m wide by 4.9m high ramp driven in the footwall of the ore deposit from surface to 155 meter level, approximately 60 meter long level access drifts on 25, 50, 75, 95, 115 and 135 levels and 80 meter long diamond drill platform drifts on 100 and 120 levels. Raise development to date consists of a series of temporary ventilation raises (future escape way system)

from 135 level to surface. Concrete ventilation bulkheads have been built in the raise access drifts on 50, 75, 95 115 and 135 levels

The 2005 exploration and development program will consist of establishing, or extending, ore zone access cross-cuts on the 25, 50, 75, 95, 115, 135 and 155 levels. Drifting and raising on the ore will also be performed on these levels. Concurrent with this development, 20,000m of exploratory and definition drilling will be conducted to confirm grade and continuity of the deposit at various levels

The 2006 exploration and development program, if warranted, would extend the ramp to just below the 315m level. Ore zone access cross-cuts will be driven off the ramp at 155, 175, 195, 215, 235, 255, 275, 295 and 315 levels. Alimak chambers and the excavation of Alimak fresh air raises will be driven on 135 and 275 levels.

Ore drifting will be carried out from the ore access cross-cuts on the 135, 175 and 235 levels. Drifting will also cross cut the ore zones on 275 and 315 levels.

All underground diamond drilling will be conducted at locations a minimum of 100 meters below surface. Core will be recovered and transported to surface for logging and sampling. Drilling waste will be limited to a small amount of drill cuttings produced at each drill site. All drill water is re-circulated back to underground sumps, where the sludge settles out and the water reused for drilling. No drill wastes will be brought to surface

No production activities are planned for this stage on the project

WINTER HAUL ROAD

Wolfden does not intend to establish a winter road between Ulu and High Lake until 2007. However, preparations to determine the best route between the two sites have been initiated.

PRELIMINARY PLAN

Drawings included with the application include NTS topographical maps of 1:250,000 and 1:10,000 scales. These drawings show location, camp and physical structures, airstrip and topographical features of the area.

Areas of biological interest including wildlife and fish habitat are identified in the additional reports mentioned within this description and are available in the environmental assessment documentation submitted by Echo Bay in January 1997.

List of structures that will be erected

Most site facilities, as they presently exist, will be sufficient for the duration of the project through production. Camp sleeping and eating accommodations that consists of four Atco-type trailers, Weatherhaven structures and tent frames (4), water supply and treatment, sewage disposal and treatment unit, offices, mine dry, core shed, airstrip, a covered power generation unit and fuel storage capacity have either been upgraded since project inception or were adequately sized at the start. Warehousing facilities are presently comprised of un-insulated tents and will need upgrading. The Weatherhaven shop is presently sufficient for mechanical maintenance activities but may become inconvenient once mining activities increase at depth. If maintenance is moved to a U/G location then this facility could house a warehouse and still have room for carpentry and surface mobile maintenance areas. A small assay lab may be constructed during the exploration phase housed in a sea-container

Table 1. Ulu Project – Anticipated Cost for 2005 and 2006

ACTIVITY DESCRIPTION	2005 and 2006
Ramp (Copco)	$2,000,000
Lateral waste (Copco)	$1,600,000
Lateral waste (Maxi)	$400,000
Ore drift (Maxi)	$700,000
Escapeway raise	
(timbered)	$200,000
Bulkheads	$160,000
Ventilation	
Alimak raise	$500,000
Surface vent fan	$250,000
Bulkheads	$40,000
U/G vent fans	$60,000
Diamond drilling	$1,700,000
Assay	$100,000
Aviation (personnel, supplies)	$1,000,000
Administration	
Salaries	$400,000
Supplies	$30,000
Communications	$40,000
Engineering	
Salaries	$160,000
Supplies	$30,000
Geology	
Salaries	$350,000
Supplies	$30,000
Maintenance	
Salaries/Wages	$1,200,000
Parts & Supplies	$450,000
Equipment replacement	$300,000
Surface site services (contract)	$400,000
Catering (contract)	$500,000
Fuel	
Cost	$1,000,000
Flights	$900,000
Subtotal	$14,500,000
Contingency @ 10%	$1,450,000
TOTAL COST	$15,950,000

The surface ore storage pad is still incomplete. Approximately 25,000 tonnes of development waste, with esker sand cover, is required to bring the pad to the design size. This quantity of waste will be generated by underground development activities carried out during 2005 and 2006

Presently the airstrip is a wide part of the Ulu access road from the main fuel tank farm and the powder magazines. If the property is brought into production safety and logistical concerns may require that an airstrip bypass road be constructed

EQUIPMENT TO BE USED

The equipment to be used is summarized in Table 2. This table includes information on the type of equipment, number of units, size, ground pressure and proposed use

Table 2. Ulu Equipment

Type & Number	Size & Ground Pressure	Proposed Use
2 water trucks	5 ton chassis Empty 3.07 PSI Loaded 13.25 PSI	Watering pads and roads
3 pick-up trucks	Ford F350 Empty 17.69 PSI Loaded 35.38 PSI	Supervision, moving people & moving light freight
1 Tractor & low boy		Moving equipment & freight
1 Picker truck	Five ton	Handling light freight
1 Bulldozer	1-Cat D8N 14.6 PSI	Piling, leveling sand & sand loading ore later
2 Rock trucks	Cat 769C Empty-124 PSI Loaded-356 PSI	Hauling sand & later ore
2 Grader	1-Cat 140 26.11 PSI 1-Cat 120G	Grading roads, pads, airstrip and later winter road
1 Loader/Forklift	Cat 966D 25.18 PSI	Freight handling & loading trucks
1 Commander	Loaded 9.0 PSI	Moving freight
1 Flat bed	Ford 3 ton	Moving freight
1 Bus	48 passenger	Moving passengers & freight
1 Lube & fuel truck	5 ton chassis Empty 3.07 PSI Loaded 13.25 PSI	Fueling rolling stock
1 Backhoe	Cat 311	Miscellaneous digging
1 Rubber tired dozer	Cat 824C	Pushing sand and waste
1 Road packer	Cat	Packing roads and airstrip
2 Loaders	Cat 988D Cat 930	Moving & loading sand & waste
1 Forklift	JCB	Moving freight
1 Tractor	Kubota	Moving people and freight
3 Jumbo drills	Atlas Copco twin-boom Tamrock twin-boom Tamrock single-boom	Drilling underground
1 Scissor lift	Getman	High work underground
4 Scooptrams	1 Wagner 3.5 cu. yd. 1 Wagner 2.0 cu. yd. 1 Elphinstone 7.5 cu. yd 1 Wagner 7.5 cu. yd	Mucking underground
2 Underground trucks	1 Wagner 44 ton 1 JDT 26 ton	Moving muck from underground

FUELS TO BE USED

Table 3 describes the fuels to be used during the exploration program, their containers capacity and volume inventory.

Table 3. Ulu Fuel

Fuel Type	No. of liters	No. of containers	Capacity
Diesel		13	2 – 1,325,000 liter
P-40	240,000		(350,000 gal) tanks
P-50	0		11 – 53,000 liter
			(14,000 gal) tanks
Propane	NA	[illegible]	37.3 kg (100 lbs)
Jet-B	9,020	44	205 liter (45 gal) barrels

* Dip test performed September 04, 2004

Diesel is used for various surface and underground equipment. Propane is used during surface drilling, general camp use and Jet-B is used by helicopters and fixed wing aircraft

At the tank farm the fuel is transferred by 120 volt electric pumps. The trucks have various pumping systems, both 24 volt electrical and mechanically driven. The 24 volt is from the battery system on the truck and the mechanical is from the power take off on the truck. This can be used for loading the truck, truck to truck pumping or truck to tank pumping. Helicopter and fixed wing aircraft have 24 volt electrical pumps for fuelling from barrels

WATER MANAGEMENT

Water Consumption

Water license NWB1ULU0008 permits the Ulu camp to consume up to 100 m^3 of water per day for general use and waste disposal. Based on meter readings Ulu is consuming on average 10m^3 per day. Consumption during the underground exploration and development program is not anticipated to exceed 100 cubic meters. Domestic water is treated using filters and a UV disinfection unit prior to use. Water samples from West Lake are collected on an annual basis and on a monthly basis from sewage effluent to East Lake and analyzed according to requirements outlined in the water license (Figure 4).

General Water Management on Site

Surface runoff follows the natural drainage paths toward either East Lake or West Lake. Where necessary, culverts are installed along access roads to prevent the interruption of overland flow. This will reduce the amount of ponding on the upstream sides of the roads and reduce the risk of erosion or washout of the roads during precipitation events or spring break-up

Mine Water Management

The Ulu mine site is located geographically in an area of continuous permafrost resulting in frozen ground to a depth of approximately 350 meters. The current mine workings extend to 155 meters below surface; well within the permafrost layer. As a result, there is very little ground water that requires handling from the underground workings

The day to day underground exploration and development do require some water to be supplied form surface. Recycling of water occurs throughout the development, however, some water may have to be

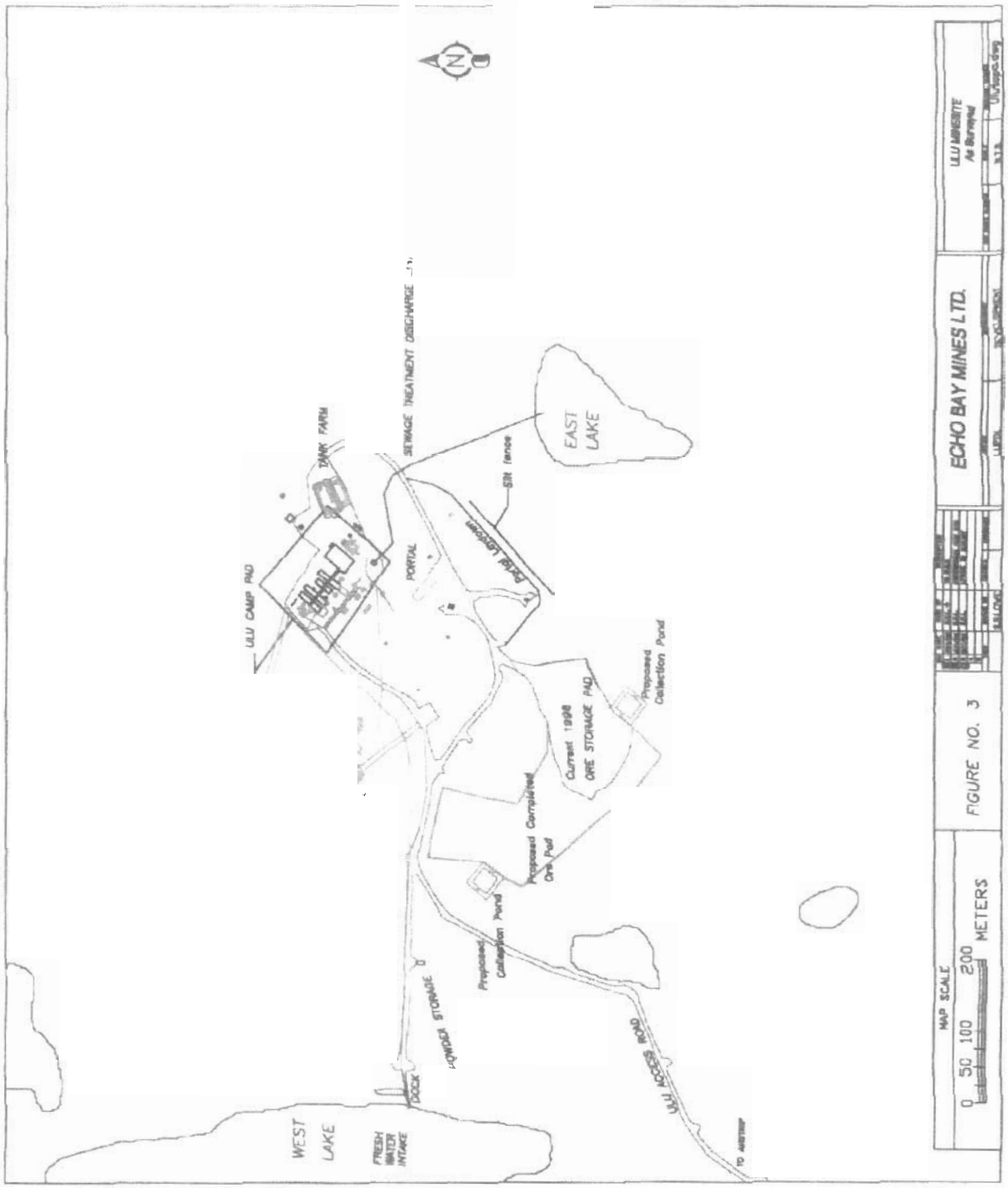


Figure 4. Ulu Water Supply and Sewage Disposal Location

pumped to surface for storage at the lined portal sump. If this was required accumulated water would be tested for all required constituents prior to any release of water to the East Lake drainage system.

A plant located in the surface maintenance shop produces brine for use by the mine drilling equipment to prevent freezing while drilling in the permafrost. The brine is a mixture of sodium chloride and water. Mine water will be recycled as much as possible to minimize fresh water and salt consumption.

In addition to the studies already undertaken the conditions attached to Ulu's water license require that the following studies be done:

- a hydrological assessment of West Lake;
- a plan for the disposal of mine water and excess runoff water from the Retention Pond and Settling/Neutralization Ponds;
- a plan for ongoing Acid Rock Drainage (ARD) and geochemical characterization;
- a waste rock and ore storage plan to address the management of all drainage from ore and waste rock storage areas, both permanent and temporary, over the term of the License; and
- a plan that addresses the disposal of sludges from the rotating biological contractor.

Various engineering companies will be contracted to initiate these studies in 2005.

WASTE HANDLING

Sewage Disposal

Sanitary sewage is treated prior to release to the environment. Treatment consists of an enclosed rotating biological contactor which has been sized to handle the sewage discharge from the camp. Once treated the effluent is released to East Lake. Sludge from the sewage treatment system will be disposed of within an above ground sump, >100m from a water body, within the site disturbance area and capped with waste rock.

Waste Disposal

Solid waste from the accommodation camp, kitchen and repair shops is burned in a packaged waste incinerator. The incinerator is diesel fired and located on the down wind side of the facilities. Burning is carried out on a regular basis to prevent the buildup of burnable wastes around the site, especially food wastes which may attract bears and other scavengers. Waste oil burners are used for the disposal of used oils and solvent while waste greases and other lubes are incinerated with the burnable solid wastes. Other wastes, such as waste metals, used tires and batteries, will be transported to an approved landfill site on an annual basis.

ENVIRONMENT

In support of the permit applications to conduct mining at the Ulu site and to construct a haulage road between Ulu and Lupin, Echo Bay initiated a series of environmental studies in 1996. These studies included investigations into archaeological resources, fisheries, wildlife, vegetation and terrain analysis both at Ulu and along a number of proposed road routes and the potential for acid rock generation from the Ulu waste and ore surface stockpiles. *For the purposes of this application please disregard any reference to the proposed road between Ulu and Lupin as Wolfden does not intend to establish a road between the two sites.*

The bulk of this work was conducted in 1996 and resulted in the four-volume Environmental Assessment report presented to the KIA, DIAND and Nunavut Impact Review Board in February 1997. Follow-up work to provide a broader baseline range continued through 1997.

The following environmental studies were undertaken for the Environment Assessment:

Ulu Project: Preliminary Assessment of Acid Rock Drainage Potential, Klohn-Crippen Consultants Ltd October 1996

Fisheries Assessment of Streams and Lakes in the Ulu Project Area, RL&K Environmental Services Ltd. November 1996.

Notes on Wildlife in the Vicinity of the Echo Bay Mines Ulu Project and Associated Transportation Corridor, Hubert and Associates and Canamera Geological Ltd., August 1996.

Wildlife and Wildlife Habitat Assessment, Canamera Geological Ltd., Environmental Resources Division, November 1996.

Ulu Mine Project Archaeological Impact Assessment: Phase I, Quaternary Consultants Ltd., July 1996

Ulu Mine Project Archaeological Impact Assessment: Phase II, Quaternary Consultants Ltd., September 1996

Land-Cover and Vegetation of the Ulu Site and Ulu/Lupin Winter road, Nunavut, Canada, Institute for Advanced Field Education Ltd., January 1998.

Vegetation and Soils in the Vicinity of the Ulu Mining Project and along the Hood River Riparian Corridor, Nunavut, Canada, January 1998

Kinetic Testing of the Sulfide-Rich Material From Ulu, Klohn-Crippen Consultants Ltd., April 1998

Baseline Aquatic Studies Program in the Ulu Project Area, Nunavut, RL&L Environmental Services Ltd., May 1998

These reports were prepared following the 1997 Environmental Assessment submission:

Review of Field Column Kinetic Test Data, Draft Report, Mehling Environmental Management Inc., January 15, 2003

Waste Rock and Ore Storage Technical Input, Final Report, BGC Engineering Inc., March 17, 2003

The impacts to the wildlife population will be negligible because the overall capacity of the ecosystem to sustain natural fauna will not be significantly impaired. Interaction with the wildlife will be minimized due to optimum planning of the road route, continued surveillance and low seasonal distribution of the population while road activities are in progress

The archaeological assessment for the Ulu Project showed that there were no heritage resources found in the Ulu disturbance site area.

VEGETATION AND HABITAT

The habitat in the area of the Ulu site is upland rocky tundra. The vascular plant community was examined in July 1996. Species and structural composition was measured by way of walking line intercept transects. Points were read at one meter intervals along 1,000 meters of transect and recorded on 100 point data forms. Table 4 summarizes this data

The dominant feature of this habitat type is the preponderance of rock. The dominant plant species are dwarf birch, Labrador tea and heather, all indicators of acidic soil. The value of an area as wildlife habitats can be evaluated directly and indirectly. The direct method used was faecal pellet counts. Walking line intercept transects over 1,200 meters were also used for these parameters. Caribou pellet groups were encountered with a frequency of one pellet group per 100 meters while artic hare pellet groups were encountered with a frequency of five per 100 meters. This further underscores the relatively low usage by caribou on an annual basis.

Table 4. Vascular Plant Community - Ulu

Ground Cover	% Frequency	Range*
Lichen	<1	0 – 1
Horsetail (*Equisetum sp.*)	<1	0 – 1
Draba sp.	<1	0 – 2
Mountain Avens (*Dryas integrifolia*)	1.7	0 – 4
Cotton Grass (*Eriophorum sp.*)	1.2	0 – 4
Bearberry (*Arctostaphylos sp.*)	<1	0 – 3
Cranberry (*Vaccinium vitis-idaea*)	2.0	0 – 6
Sedge (*Carex mardina*)	2.5	0 – 14
Blueberry (*Vaccinium uliginosum*)	2.6	0 – 6
Crowberry (*Empetrum nigrum*)	3.3	0 – 5
Willow (*Salix sp.*)	4.7	1 – 11
Labrador tea (*Ledum sp.*)	5.8	2 – 9
White heather (*Cassiope tetragona*)	6.2	0 – 14
Bare ground	6.5	0 – 17
Dwarf Birch (*Betula glandulosa*)	10.6	4 – 24
Rock	51.5	13 – 68

range in percent in a 100 point sample

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Another wild herbivore habitat evaluation technique is to examine the physical condition of willow on an area. Willow is a preferred browse species in most herbivore habitats throughout the boreal world. A willow shrub community incorporates more nutrients than other tundra plant communities. It is therefore not uncommon to observe very heavily browsed willow shrub on tundra range commonly frequented by large herbivores. The willow around the Ulu site show little effect of browse.

WILDLIFE

The wildlife study undertaken during 1996 concentrated on wildlife activities along the potential winter haul road routes between the Ulu site and Lupin as well as the vicinity of the Ulu site.

Birds

The short arctic summer with abundant daylight is an ideal breeding environment for migratory birds. The long daylight hours and abundant food resources, be they insect or vegetable, provide the birds

summering in the region "longer working hours" for feeding their young at a season when food is most in demand

Observations of birds near the Ulu site and the winter haul road alternative routes were made during the 1996 wildlife survey and during surveys undertaken prior to EBM's purchase of the Ulu lease. Bird sightings were also recorded by personnel working at the Ulu site

Many of the sightings and observations made during the 1996 wildlife survey were related to predatory birds. These birds are the most likely to be affected by the development of industry such as the Ulu site and the winter haul road. Other birds such as water fowl, ptarmigan, gulls, larks and swallows that may frequent the area are much more common and often do not breed in the area, fewer still over-winter in the area.

The predators of the bird world are collectively known as raptors. The areas surveyed support several species: the golden eagle, the rough-legged hawk, the peregrine falcon and the gyrfalcon. Bald eagles were also observed during the surveys but the tundra is marginal to their breeding range and no nests were observed. As sites occupied by ravens are also used by raptors, these were also recorded

As a group raptors are seasonally migratory but with significant individual variation. All species set up breeding territories while the land is snow covered and so are active on the tundra while winter roads are in operation. It is for this reason that it is important that raptor nest sites are documented and alignments adjusted accordingly where this is possible. This is important despite the tolerance that breeding pairs of some of these species have shown for human activities at other locations in their global distribution.

Mammals

Sixteen species of terrestrial mammals occupy the region of the Ulu Project. Unlike the birds of the region mammals are not migratory except for caribou and even some caribou remain on the tundra over winter. The mammalian fauna here is a full compliment of the natural ecosystem in that no species has been extirpated from the region. All populations are healthy and although the muskox population here was hunted to near extirpation 100 years ago it has made a strong recovery and continues to expand the overall territory occupied.

The species inventory includes that of masked shrew, arctic hare, arctic ground squirrel, voles, lemming, wolf, arctic fox, red fox, grizzly bear, short tailed weasel and least weasel, wolverine, caribou and muskox

Lakes and Fisheries

Five lakes (Reno Lake North, Reno Lake South, West Lake, East Lake and Ulu Lake) in the immediate vicinity of the Ulu site have the potential to be impacted by daily activities at the site. Impacts at the Reno Lakes will be primarily due to angling. The other lakes are a source of water for the site (West Lake) or receive sewage treatment plant effluent and surface runoff from the site (East Lake, which potentially drains to Ulu Lake).

Lake surveys were done on four of the lakes to determine fish species composition and relative abundance. East Lake is a very small, shallow water body without the potential of sustaining a permanent fish population so surveys were not done. East Lake drains by exfiltration to Ulu Lake, though a channel will allow surface flow to Ulu Lake during periods of unusually high water. East Lake is shallow enough to freeze to depth, preventing over wintering of any fish that may enter from Ulu Lake during high water periods. Analyses of water and sediments were also done on the lakes surveyed.

HISTORICAL RESOURCES

Historical resource studies were undertaken to establish the impact of the development of the Ulu site and associated winter haul road on archaeological sites. The investigation was done in two parts: Phase I and Phase II. Phase I consisted of an archaeological investigation of the Ulu site, local eskers and potential haul road routes north of the Hood River. Phase II consisted of an investigation of several potential route options between Lupin and the Hood River. *The findings of the Phase II report are not discussed in this report as it is not relevant to this application*

The primary goal of the archaeology studies was the identification and demarcation of heritage resources. When archaeological sites were encountered, they were surveyed and extensively flagged for avoidance. As most components of the Ulu Project have a degree of flexibility for their placement, avoidance is deemed to be the optimum form of mitigation for archaeological sites.

Phase I Investigation

Within the approximately 40 hectare area of the Ulu site is the mine ramp, the camp and an ore storage facility as well as internal roads. The site is linked to the airstrip and Camp 3 by a road approximately four kilometers long. Camp 3 was a temporary camp established to accommodate airstrip construction and site development. Sands and gravels for construction were obtained from a borrow located on the east side of the esker lying northwest of Camp 3 which is situated at the northwest end of Reno Lake.

The Ulu site location is on a glacially modified bedrock outcrop bounded by a linear lake (West Lake) on the west, a small semi-circular lake (East Lake) on the southeast, Ulu Lake on the northeast and a drainage system to the north. The terrain is rugged, consisting of exposed bedrock, usually modified by frost action into blocky, angular boulders, relocated boulders and occasional glacial erratics. A small area overlooking West Lake is a swale of soggy sedge tundra, as are large portions of the shores of the lakes. Throughout the area, excluding the exposed bedrock, colonizing vegetation is present.

No archaeological resources were located at the Ulu site. Considerable evidence of geological investigation is present – survey stakes, drilling locations and flagging tape. The most esoteric discovery is a recently-built stone structure measuring 3.1 meters by 2.1 meters and standing 1.1 meters high. This structure is built of more-or-less tabular rocks and has a narrow opening to the north east. Associated debris consists of black electrical tape and yellow plastic-coated electrical instrument wire. The structure was built by a field team of geophysicists and is colloquially known as "The Stone Igloo" or "The Geophysicists Fort".

The route of the road, under construction at the time of the study, between Ulu and the airstrip was traversed. The route extend south around the base of West Lake, northwest up the ridge, southwest down the ridge to a stream crossing and west up the next ridge to the airstrip. The terrain is rugged with boulder ridges crossing the route at angles. No evidence of cultural activity prior to mineral exploration is present.

The road between the airstrip and Camp 3 had been built using aggregate extracted from the east side of the esker northwest of Camp 3. In addition, a narrow road had been bulldozed to the northern end of the esker for the powder magazine. The edges of the borrow location were examined as were the peripheries of all access roads on the esker. The unmodified western portion of the esker was investigated. No evidence of archaeological resources is present.

ENVIRONMENT INTERACTIONS, MITIGATIVE MEASURES AND RESIDUAL IMPACTS

Assessment of the project/environment interactions and the types and levels of potential impacts on terrestrial wildlife and terrestrial wildlife habitat that could be associated with the Ulu Project were carried out and described in the following consultant reports:

Wildlife and Wildlife Habitat Assessment, Canamera Geological Ltd., Environmental Resources Division, November 1996.
Fisheries Assessment of Streams and Lake in the Ulu Project Area, Nunavut, RL & L Environmental Services Ltd., November 1996.

Ulu Mine Project Archaeological Impact Assessment: Phase I, Quaternary Consultants Limited, July 1996.

Ulu Mine Project Archaeological Impact Assessment: Phase II, Quaternary Consultants Limited, July 1996.

Table 5 summarizes the identified value ecosystem components that have the potential of being affected by the Ulu Project. The table indicates the activity that could cause the impact (since initial construction), the potential impact and its classification and what, if any, the residual impacts may be

Recent studies on migration movements of the Bathurst caribou herd, and the impact of human activity on these migration routes and caribou stress, are recognized. Every effort is made to minimize interaction with any caribou herd, especially during calving season. There is only one road, approximately 9 km in length, between the explosives magazines on the esker west of Reno Lake to the Camp 3 tank farm and the Ulu camp site. This route is traveled only a few times a day. Caribou, and other wildlife, always have the right of way and vehicle speeds are limited on the roadways at all times

Fixed wing flights into Ulu are few and are expected to average one per week during normal operations resulting in minimal noise. During 2005 and 2006 helicopter usage will be minimal as the majority of the surface drilling is completed.

CONTINGENCY AND INTERIM ABANDONMENT AND RESTORATION PLAN

Wolfden's Contingency Plan and Interim Abandonment and Restoration Plan for the Ulu project are on record with the Nunavut Water Board and the Kitikmeot Inuit Association.

RECLAMATION COST ANALYSIS AND PROPOSED RECLAMATION PLAN

Results of the various studies indicate that the environmental impacts associated with the Ulu Project are negligible or mitigable with known technology.

The reclamation liability at Ulu is mainly concerned with the area site disturbance and the potential contamination of the area through hydrocarbon use at the site, and the storage of potentially acid generating ore and waste rock on the surface. The extent of site disturbance is approximately 53.09 hectares comprised of the Ulu mine site, road network, Camp 3 fuel storage facility and airstrip.

In 1997, the restoration liability had been estimated by Echo Bay to be $CDN1,408,000. The Nunavut Water Board, in conjunction with INAC, have recently up dated this estimate to $CDN1,685,210 (Table 6). Wolfden currently has a bond for this amount, held in trust with INAC, for reclamation purposes at Ulu

Unit cost for the different components were derived by three methods; estimates obtained from the original contractors (Weatherhaven camp), estimates based on previous experience (winter road haul) and best engineering estimates (dismantle Ulu trailer camp).

Conducting reclamation activities concurrent with the mining operation is not practical (or possible) in most areas at Ulu due to the limited amount of disturbance at the site and the continued use of all areas (camp, roads, airstrip, ore storage) during the mining period

Table 5. Impact Evaluation Summary on VEC's due to the Ulu Project

VEC	Activity	Impact	Impact Classification	Residual Impact
Terrestrial Vegetation	Ulu Project construction	Loss of vegetation	Negligible	None expected
Terrestrial Habitat	Ulu Project construction	Loss of habitat	Negligible	None expected
Loons, waterfowl, shorebirds	1. Ulu Project construction and operation 2. fuel/chemical spills 3. acid rock drainage	Affect on the distribution and abundance of VEC migratory bird species	1. negligible 2. minor, local, short term 3. negligible	Displaced breeding birds will establish new locations within the region
Raptors	Ulu Project construction and operation	Affect on the distribution and abundance of raptors	Negligible	None expected
Wolves	Ulu Project construction and operation	Affect on the distribution and abundance of wolves	Negligible	None expected
Wolverines	Ulu Project construction and operation	Affect on the distribution and abundance of wolverines	Negligible	None expected
Grizzly Bears	Ulu Project construction and operation	Affect on the distribution and abundance of grizzly bears	Negligible with mitigation measures	None expected
Muskox	Ulu Project construction and operation	Affect on the distribution and abundance of muskox	Negligible	None expected
Caribou	Ulu Project construction and operation	Affect on the distribution and abundance of caribou	Negligible with mitigation measures	None expected
Wildlife Harvesting	Access to hunting areas over winter haul road	Affect on the distribution and abundance of big game and furbearer VEC species	Negligible	None expected
Terrestrial Ecosystem/ Economy	Ulu Project construction and operation	Affect on the sustainability of production of natural resources used by local/regional communities for subsistence and economic development	Negligible	None expected

Table 6. Ulu Reclamation Cost Summary

Component	Reclamation Cost
Cap vent raise	$18,345
Dismantle fuel tank	$196,577
Dismantle Weatherhaven	$190,186
Dismantle Ulu	$350,622
Winter road/air freight haul (Ulu to High Lake)	$894,582
Subtotal	$1,373,515
Other misc. items (grading, scarifying, hauling)	$34,898
Total	**$1,685,210**

All buildings at the permanent Ulu camp are considered collapsible and are designed to be dismantled at closure and removed for use at another site or sale. These structures include the main Ulu camp and vehicle repair shop. All other buildings, if not salvaged or sold, having their contents removed will be taken from surface and hauled to the underground workings for disposal prior to sealing off the access.

The other infrastructure support that the Ulu project relies on for its day to day operations include: the freshwater intake and associated piping; the camp sewage treatment and effluent discharge piping; the Ulu fuel tank farm; the main fuel tank farm at Reno lake esker; a 1,200 m airstrip; and the explosive magazine and detonator magazine. As there is no operating landfill at the Ulu Project, all non-burnable refuse and materials which cannot be disposed of in the underground workings is expected to be transported to High Lake for disposal or re-use/recycling

Acid rock drainage (ARD) potential of all rock types from the Ulu exploration site had been investigated prior to the property being purchased by EBM. In 1996 and later in 2003, additional investigation work was completed by EBM to specifically address the ARD characteristics of the ore and waste rock. The studies concluded that Ulu ore, and potentially acid generating (PAG) waste rock, would not give rise to net acid generation for at least 50 years (Klohn-Crippen, April 1998).

Since the expected mine life of Ulu is less than 7 years, and all the ore produced from Ulu will be trucked to High Lake on an annual basis, acid drainage generated from the waste stockpile and waste rock used as construction materials is considered to be negligible. Nevertheless, Wolfden intends to build one or more lined containment ponds to control, and treat if necessary, stockpile runoff during the life of the project. Treatment would consist of testing the water for pH and TSS prior to being released to East Lake. If the pH is unexpectedly low, then a provision to add lime for pH adjustment will be available prior to release. PAG waste rock will not be used for construction purposes on surface.

Upon closure, all high sulphide content waste rock isolated and stockpiled on the ore storage pad will be transferred back within the underground workings for disposal. This will be an on-going process whereby any material placed in the stockpile will be moved underground when the need for backfill is required, thus removing the PAG material from surface and minimizing the potential for ARD.

SOCIO-ECONOMIC ASPECTS

Echo Bay Mines. Ltd. with the Ulu Exploration Project carried out the first Inuit Impact Benefits Agreement (IIBA) to be negotiated and signed in Nunavut upon starting development of the project. This Agreement outlines the socio-economic benefits of the project including the overall employment availability. Inuit employment potential and training to be made available during the exploration phase of the project.

Discussions between Wolfden and the KIA have initiated in regard to the IIBA

During 2004 a total of 15 local Inuit, more than 50% of the Ulu workforce, were hired by Wolfden to work as heavy equipment operators, survey technicians, core technicians, general labourers or as assistants to environmental consultants hired by Wolfden Resources Inc. Similar, or greater, levels of employment for local Inuit are expected during 2005 and 2006.

In addition, Wolfden hired a minimum of 15 firms from the Nunavut and Northwest Territories area to provide goods and services to Ulu during 2004. These firms accounted for greater than 65% of the monies spent at Ulu in 2004, re-affirming Wolfden's commitment to hire locally

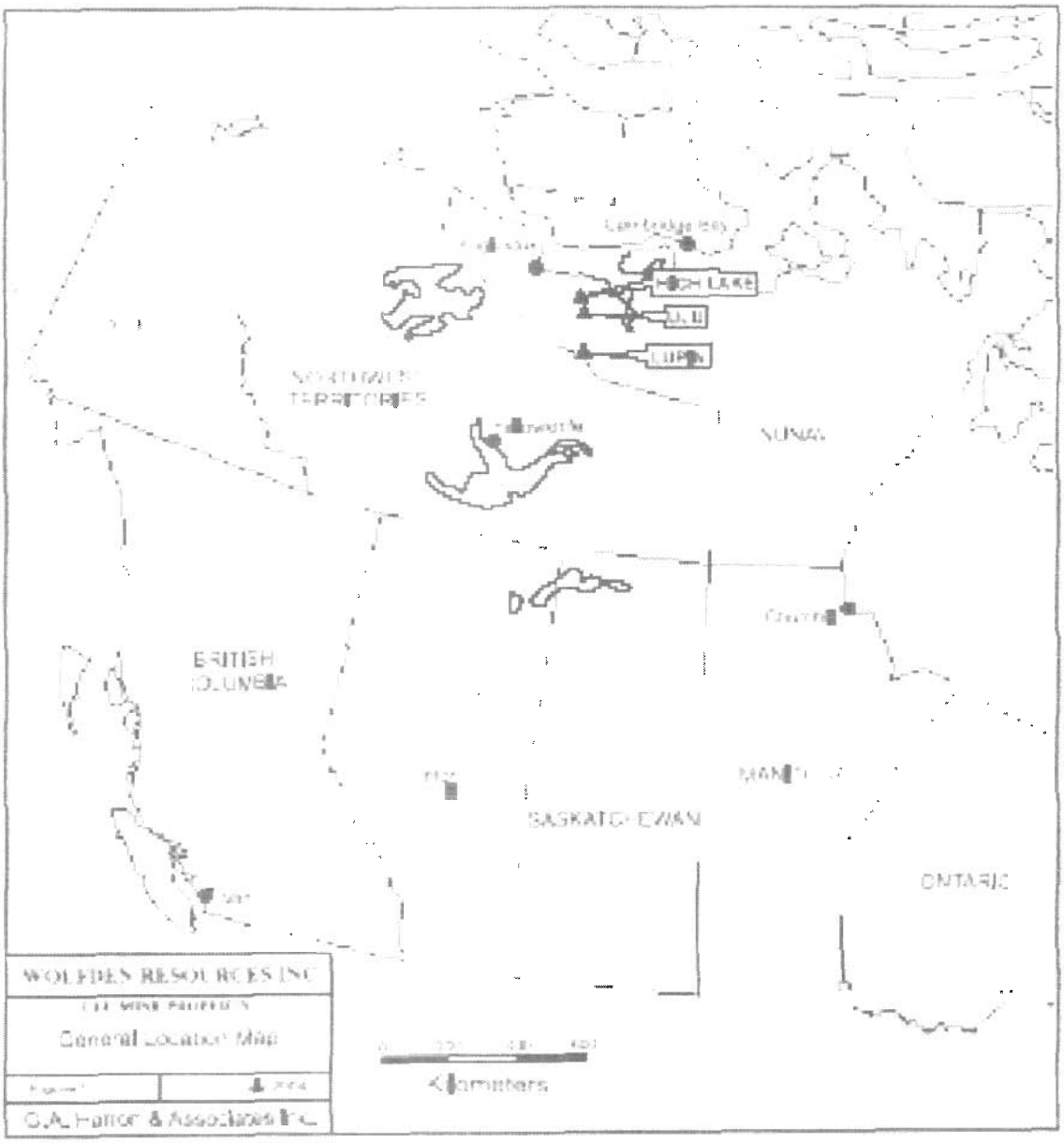

Figure 1. General Location Map

Figure 2. Ulu Mining Lease #3563 (CO-21/76L)

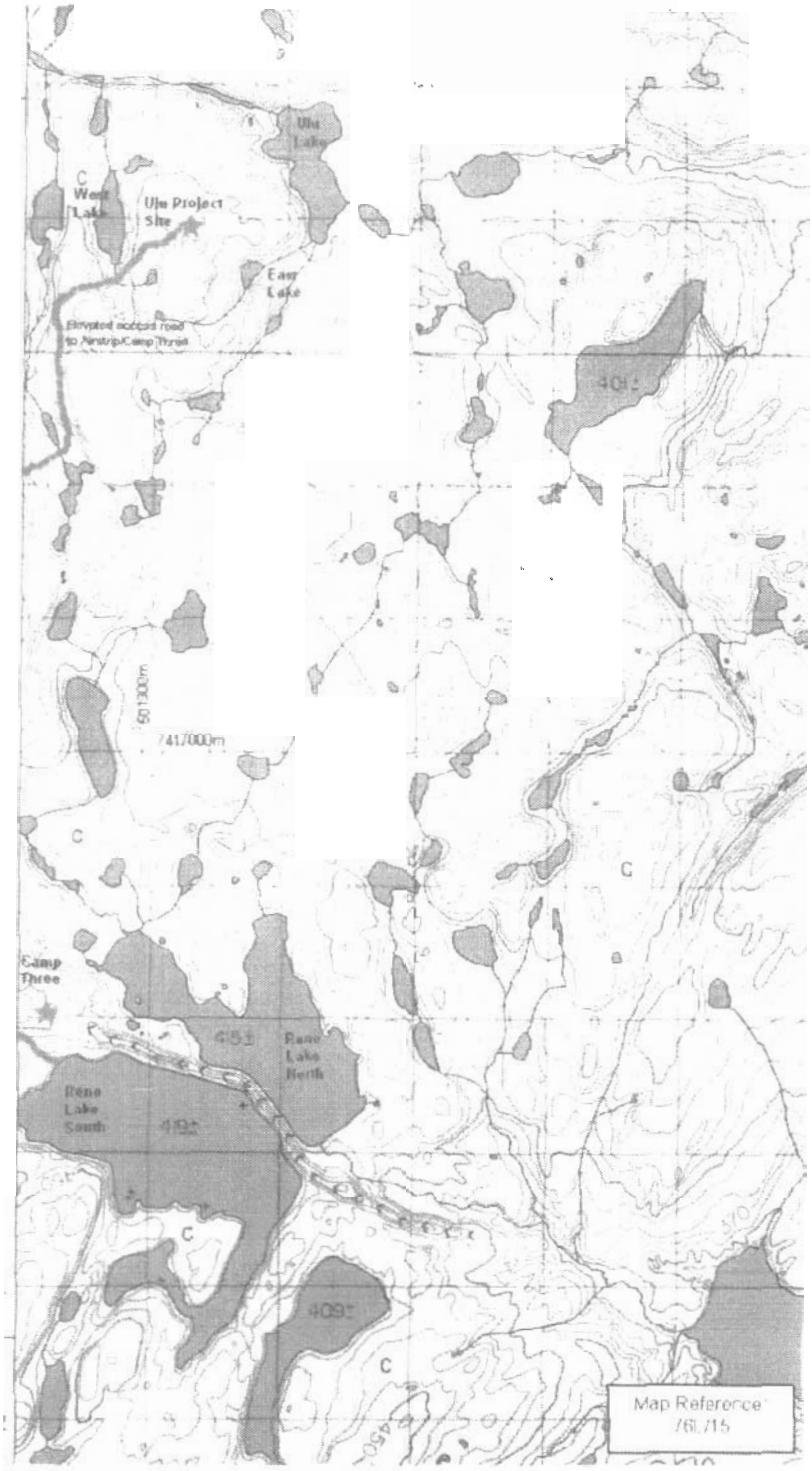

Figure 3. Ulu Detailed Location Map