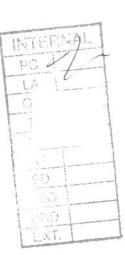


GJOA HAVEN, NT XOE 1JO

kNK5 wmoEp5 vtmpq

TEL: (867) 360-6338 NUNAVUT WATER BOARD FAX: (867) 360-6369 NUNAVUT IMALIRIYIN KATIMAYINGI

Water Licence Application
Supplementary Questionnaire
for Advanced Exploration
(Underground drilling, bulk sampling, etc.)
Amendment for Exploration Decline Program



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SEC'	TION 1:			
GENI	ERAL			
	1.	Applicant	HOPE BAY JOINT VEN (MIRAMAR HOPE BAY COPR.) (Company, corporation, ov 311 WEST FIRST STRE NORTH VANCOUVER, V7M 1B6	vner)
			(Postal address)	
			604-985-2572	604-980-0731
			(Telephone number)	(Fax)
			hwilson@miramarminin hugh r wilson@hotmail (E-Mail)	
	Corporate Ad	ldress (If differ	rent from above)	
			(Corporate Office Address)
			(Telephone number)	(Fax)
			(E-Mail)	
	Project Nam	e: HOPE BA	AY/DORIS HINGE PROJE	CT

Location: DORIS LAKE

Closest Community: UMINGMAKTOK

Latitude/Longitude: 68 degrees 09 minutes N and 106 degrees 40 minutes W

Show the location of the project on a general location map.

See attached maps:

2.	Environmental Manager: Hugh R. Wilson	604-985-2572 /780-975-2550
	(Name)	(Telephone No.)
	Environmental Technician: TBA	will provide when available

Exploration Manager: Dean McDonald 604 985 2572

Project Manager: Edward Mahoney 604 985 2571/604-516-6089

3.Indicate the status of the exploration activity on the date of application. (Check the appropriate space.)

A BETTER DEFINITION TO USE FOR STATUS OF OPERATION AT WINDY IS DOMESTIC USE SUPPORTING:

ADVANCED EXPLORATION XX Design XX

Under construction Initial activity planned for Sept.2002

In operation
Suspended
Care and Maintenance
Abandoned

4. If a change in the status of the exploration activity is expected, indicate the nature and anticipated date of such change.

This amendment to the Windy Licence is to undertake an exploration decline program for bankable feasibility level data information, based out of the Windy camp site and the associated advanced exploration activities (exploration decline) will be undertaken at the Doris Hinge project site. The information collected during this program is critical as inputs to the bankable feasibility study currently being developed for the Doris Hinge project. Water use for the exploration decline development work will be obtained form Doris Lake. All domestic waste and combustible waste associated with the exploration decline program will be taken to Windy camp for appropriate disposal.

5. Indicate the present (or purposed) schedule for the exploration activity.

Hours per week 7X24 = 154 hours per week

Days per week 7

Weeks per year September 2002-3 weeks; February – July 2003 ~ 22 weeks

Number of employees 40 Number of Inuit employees 15 6. Estimate the term (life) of the exploration activity.

The underground exploration program as envisaged will be completed in approximately seven (7) months with initial collaring of the decline in September 2002. Exploration decline development and underground exploration in the Doris Hinge Project deposit area would follow in early 2003 and be completed in July 2003. This activity is necessitated to provide inputs to the bankable feasibility study currently being developed. This exploration program and decline will be used as the production ramp for the Doris Hinge Project, currently under review by NIRB. These activities are seen to fall under the terms and conditions of the current licence.

- 7. How will the project effect the traditional uses on Inuit Owned Lands?

 NO EFFECTS ANTICIPATED BEYOND THOSE ALREADY EXISTING.
- 8. Have the Elders been consulted on effects to the traditional use on Inuit Owned Land? If so, list them. If not, why not?

As this is an amendment application and the activities are seen to be similar to those under the existing licence and a critical activity for the Doris Hinge Project development. Consultation has consisted of regular updates with the various Inuit groups (KIA, KIA Lands, NTI, NIRB, NWB.NPC,DSD Wildlife etc) Courtesy visits to Umingmaktok and Bathurst Inlet were made in August 2001 and similar visits are planned for 2002. It is our opinion that all communities and subsequently, the elders are familiar with the operation and further consultation is not warranted at this time.

9. Has the proponent consulted Inuit Organizations in the area? If so, list them.

As part of our existing permit requirements, local Inuit Organizations are familiar with the Hope Bay Project in general and the Windy Lake camp in particular and as such additional consultation is not expected. As mentioned above, organizations with whom the project has been discussed are: Kitikmeot Inuit Association; Kitikmeot Hunters and Trappers, Local HTA's (Bathurst Inlet and Umingmaktok); Community Lands and Resources Committees; Nunavut Wildlife personnel, NTI personnel, NIRB, NWB etc.

10. Has the proponent consulted surrounding communities on traditional water use areas? If so, list them. If not, why not?

As mentioned above, local communities were visited in 2001 during which time the current program was explained plus the expected activities in 2002. The underground decline and associated activities were included in the Preliminary Project Description (PPD) for the Doris Hinge Project and the planned decline construction is seen to be a timing issue to enable data information for the bankable feasibility study to be available sooner. The decline, underground development and mining, was fully explained in the PPD and as such, detailed

community consultation will be undertaken once NIRB has provided project guidelines. Local community visits will be undertaken again in the summer of 2002, to update the local residents of our activities and future plans.

- 11. Attach a detailed map drawn to scale showing the relative locations (or proposed locations) of the exploration activity, Sewage and solid waste facilities, and containment areas. The plan should include the water intake and pumphouse, fuel and chemical storage facilities. Ore and waste rock storage piles, piping distribution systems, and transportation access routes around the site. The map also should include elevation contours, water bodies and an indication of drainage patterns for the area. SEE ATTACHED MAPS
- 12. If applicable, provide a brief history of property development which took place before the present company gained control of the site. Include shafts, audits, mills (give rated capacity, etc.) waste dumps, chemical storage areas, tailings disposal areas and effluent discharge locations. Make references to the detailed map.
- 13. Give a short description of the proposed or current freshwater intake facility, the type and operating capacity of the pumps used, and the intake screen size.

Fresh water is obtained from Windy Lake from a floating or raised insulated pump shed. Pumping from Windy lake is not expected to change over the term of the current licence term. The water line is insulated and heat traced, the capacity of the pump is such that water for domestic purposes is pumped "on demand" to the camp facility. The intake itself is screened as per code to protect fish.

With respect to this amendment application, water requirements for the feasibility exploration decline will be pumped from Doris Lake using a floating or raised pump shed. This intake will be screened as per code to protect fish.

14. At the rate of intended water usage for the exploration activity, explain water balance inputs and outputs in terms of estimated maximum draw down and recharge capability of the water source from fresh water will be drawn.

The rate of water use for the feasibility exploration decline is estimated to be 3.0 cubic meters per day. As mentioned earlier, the Windy Lake camp will be used to house the workforce, the water use allowed in the current licence is seen to be adequate. Drawdown of Doris Lqke as a result of this program is seen not to be significant as the lake itself is large. All water requirements are based on the "demand" principle. This is to say that when water is required for decline drilling and exploration activities, the pumps would be activated.

15.	The feasibility exp permafrost. It is u	oloration decline p nknown at this tin	tes regions of permafrost? program as proposed, is in an a ne the extent the permafrost god l impacts on permafrost is seen	es, however; the HBJV will
16.	If "YES" above, is Continuous	the permafrost co	ontinuous or discontinuous ?	
17.	Were (or will) a exploration activi		or water bodies (be) dewate	red in order to conduct the
18	being reviewed by Hinge ore body as project commence although remote, disposal area app 3. If "YES" above, discharged and th Water body (if un Total volume Receiving Water Dewatering flow	NIRB. The plant and will continue to the production in 20 would be contained by KIA. indicate the name are chemical characteristics and give Latitute cubic metropolic cubic metropolic proved by KIA.	cubic metres / sec	neering view of the Doris up once the Doris Hinge umped from underground, osed of in the drill cutting
	T/Pb	mg/L	Total Ammonia	mg/L
	T/Cu	mg/L	Suspended solids	mg/L
	T/A1	mg/L	Specific conductivity	uhmo/cm
	T/HCN	mg/L	рН	
	T/Hg	mg/L		
	T/Zn	mg/L		
	T/Cd	mg/L		
	T/As	mg/L		
	T/Ni	mg/L		
	T/Mn	mg/L		

- 19. Was (or will) the above discharge (be) treated chemically?
 N/A
- 20. If "YES" above, describe the applied treatment.
- 21. Briefly describe what will be done with the camp sewage.

 Sewage associated with this amendment will be contained in Porta-Potties and taken back to Windy Lake and put into the approved RBC at Windy camp.

SECTION 2:

GEOLOGY AND MINERALOGY

Briefly describe the physical nature of the mineralization, including known dimensions and approximate shape.

The geology in the area of the Doris Hinge Project contains a system of quartz veins more than 2 km in length. The Doris Hinge occurs where the Doris Central and Doris Lakeshore veins meet in a zone of mineralization 4-5 meters wide with varying thickness from mere centimetres to 40+ meters. It is visible at surface as a quartz outcrop and is at least 600 meters long, plunging North at a gentle 10 degrees and is truncated by a crosscutting diabase sill. Please refer to the Doris Hinge Preliminary Project Description submitted in March 2002 and currently under review by NIRB.

23. Briefly describe the host rock in the general vicinity of the mineralization (from the surface to the mineralized zone.)

The host rock in the vicinity of the Doris Hinge is a layered mafic meta-volcanics. They consist primarily of meta-basalts with some meta-gabbros which are Archean in age. Franklin age diabase dykes have intruded into this area, cross-cutting the meta-volcanics. The meta-volcanics have undergone alteration, so that there is a significant component of carbonate minerals contained within them

24. Provide a geological description of the mineralized zone. (If possible, include the percentage of metals.)

The Doris Hinge is a structure with a folded shape where the west dipping Central Vein meets the east dipping Lakeshore Vein. These two veins are the Hinge and, where they meet, contain mostly quartz, with very small amounts of sulphide minerals (usually less

than 1%) and gold. Estimation is currently underway to determine the grade of gold present. It is a high grade deposit with gold values in the range of 30g/t.

25. Describe the geochemical tests which have been (or will be) performed on the ore, host rock, and waste rock to determine their relative acid generation and contaminant leaching potential. Outline methods used (or to be used) and provide test results in an attached report (ie. static tests, kinetic tests.)

The current ARD database for the Doris Lake deposit contains information from 165 static acid-base accounting (ABA) tests and 4 humidity cell tests, all conducted on samples of rock obtained through exploration drilling. The static ABA test results indicate that virtually all of the rock tested for the Doris deposit, outside of that classified as either mineralized quartz vein or mineralized material is expected to be non-acid generating. This includes nearly all of the diabase dyke, unaltered wall rock, unaltered basalt, massive coarse-grained gabbro, underground gabbro and mafic volcanic pillow flow materials. Typically these materials had measured net neutralization potentials (NNP) in excess of +20 kg CaCO₃/t and neutralization potential ratios (NPR) in excess of 3:1.

In general, Doris Lake samples associated with quartz mineralization had fairly low and variable neutralization potentials (NP=29.7 ⁻/₂ 36.6 kg CaCO₃/t) and contained highly variable total sulphur contents (0.02 to 6.02 wt%), nearly all present as sulphide sulphur. Consequently these materials tended to be classified as either potentially acid generating or having uncertain acid generating potential and will likely require special management.

Based on the ARD characterization work done to date, waste rock material suitable for construction of roadways, an airstrip and/or laydown areas is likely to come from diabase dyke, unaltered wall rock, unaltered basalt, massive coarse grained gabbro, underground gabbro and mafic volcanic pillow flow materials that have low sulphur contents. A suitable ARD screening system will be used to both delineate rock types and to designate whether rock is suitable for use as construction material or should be segregated and temporarily stored. Fortunately the initial ramp development is outside of the quartz mineralized material, consequently it is expected that much of the initial waste rock from the development ramp will be suitable construction material. Results of the full database will be provided in the final EIS.

Humidity cell testing suggests that the time to onset of acid generation in those samples identified as having acid generating potential may be relatively long (in the order of 68 to 182 years) due to the relatively high natural buffering capacity of the rock. Consequently short term storage of uncertain and potentially acid generating materials encountered in development of the proposed exploration decline is considered acceptable with minimal risk of acid generation. Such material would be segregated and stored on a laydown pad to be relocated once permanent waste management facilities had been constructed and were operational. The waste rock pad used for such storage would be constructed so that any runoff would be directed

		rds a collection area, ving environment.	where v	water quality can be	monitored prior to release into the				
	cell		leachin	g is not expected to be	te final two cycles of each humidity e an issue as none of the 13 metals E guideline values.				
26.	Estir	mate the percentage of s	ulphide	in the mineralization:					
	pyrit		betwe	en 1% and 2%					
	1 2	pyrrhotite							
		e / pyrrhotite mixture nopyrite							
		1 3							
SEC	TION	N 3 :							
EXD	. op i	TION OPED ATION							
EXP. 27.		TION OPERATION	onosed	tune) of exploration	operation that will be used on the				
27.		Check off the type (or proposed type) of exploration operation that will be used on the property and briefly describe the method in more detail.							
	РГОР	orly and origing deserve							
	-)	Danish a landation		hall commit					
	a) b)	Reverse circulation to Trenching	o obtair	bulk sample					
	c)	Conventional open p	it						
	d)	Decline Decline	/1 t		XX				
	u)	Decime							
	e)	Conventional under	ground						
	f)	Strip mining activity	,						
	g)	Other Exploration ac	etivity	(please explain)	XX				

The proposed decline is required to complete work and collect critical information for input into the bankable feasibility study. The decline will be driven primarily in waste rock and will provide access to the orebody for exploration drifting to confirm continuity and regularity of the ore/waste contacts, again, for information related to the bankable feasibility study.

28.	Indicate	the	CIZP 2	md	mum	or c	vf.	camin	le c	that	xzi11	he	aht	211200	1
20.	maicaic	uic	SIZU	ulu	HUHH		,,,	Samo	ıco	uiai	VVIII	UU	OUL	a_{111}	1.

Drifting in ore will result in the collection of approximately 3,000 samples, each weighing approximately 1 kg. These samples could be analyzed on site or at an external lab, depending on operational needs.

29. Indicate the present or proposed average rate of exploratory production from all mineralized sources on the property:

Should any mineralized material be extracted from the exploration decline, it would be stockpiled on the waste pad for future processing in the Doris Hinge mill. Although the amount of mineralized material that may be removed from this program is unknown at this time, the maximum expected would be approximately 9,000 tonnes, which would be stored on the waste pad.

30. Outline the water usage (or proposed water usage) in the exploration activity, indicate the source and volume of water for each use.

		Source	Use	Volume (m³ / day)
	1. 2.	Doris Lake	Exploration Decline	estimated at 3.0 Cubic meters/day
31.		licable, indicate or estings to the mine workings.		tural ground water presently gaining
	N	ONE	m³ / day	

Based on experience at the Boston site, the underground conditions encountered as a result of this amendment application, is expected to be dry as there is no ground water movement in deep permafrost conditions.

32. If applicable, outline methods used underground or on surface to decrease mine water flow. (For example: recycling)

Should water be encountered as a result of this exploration decline program, it will be recycled to the maximum extent possible. Should it be necessary to dispose of excess minewater, it will be collected in tanks and disposed of at the KIA approved drill cutting disposal area.

33.	List the brand names and constituents of the drill additives to be used.
	Calcium Chloride CaCl ₂ will be the main additive Sodium Chloride NaCl will be substituted for CaCl ₂ where possible. Other additives will include only industry standard products.
SEC'	ΓΙΟΝ 4 : NOT APPLICABLE
THE	MILL OR PROCESSING PLANT
34.	Is there (or will there be) a portable mill processing plant be operating on the property in conjunction with the exploration activity?
	Yes No
35.	If "yes" indicate the proposed point of discharge for the mill or process plant water and volume of the discharge.
	Point of discharge
	Volume of discharge m³ / day
36.	Attach a copy of the portable mill or processing plant flow sheet. Indicate the points of addition of all the various reagents (chemicals) that are (or will be) used.
37.	Indicate the proposed rate of milling.
	not applicable (check) ortonnes / day
38.	List the types and quantities of all reagents used in the mill or processing plant (in kg/tonne ore milled.)
	Reagent:Amount in kg/tonne ore milled:
39.	If applicable, is the (proposed) milling circuit based on autogenous grinding?
	Yes NoPartially

		mg/L	No. of the Control of	mg/L	
			Suspended solids	mg/L	
			Specific conductivity	uhmo/cn	n
		mg/L			
	T/Mn	mg/L	Alkalinity	CaCo ₃ /L	
	T/Ni	mg/L	Hardness	mg/L	
	T/Fe	mg/L		mg/L	
	T/Hg	mg/L	Oil and Grease	mg/L	
		g/L			
		mg/L			
		mg/L			
	T/A1	mg/L			
	Mn Cr	mg/g mg/g mg/g g/g	Ni As CN	mg/g	
	CTION 5 : CONTAIN	MENT AREAS			
42.			od of disposal of the mine e tailings pond, settling po	_	s plant tailings
			inor amounts of water nu	mped from undergrou	

43.	Attach detailed scale plan drawings of the proposed (or present) containment area. The drawings must include the following: NOT APPLICABLE – NO CONTAINMENT AREAS PLANNED FOR THE EXPLORATION DECLINE PROGRAM. SEE # 42 ABOVE.
	 a) details of pond size and elevation; b) details of all retaining structures (length, width, height, materials of construction, etc.); c) details of the drainage basin;
	 d) details of all decant, siphon mechanisms etc., including water treatment plant facilities;
	e) details with regard to the direction and route followed by the flow of wastes and / or waste water from the area; and
	f) indicate of the distance to nearby major watercourses.
44.	Justify your choice of location for the containment area design by rationalising rejection of other options. Consider the following criteria in your comparisons: subsurface strata permeability, abandonment, recycling/reclaiming waters, and assessment of runoff into basins. Attach a brief summation.
	NOT APPLICABLE TO THIS AMENDMENT APPLICATION
45.	The <u>average</u> depth of the <u>existing or proposed</u> containment area is <u>dependent on the volume of water encountered</u> metres. NOT APPLICABLE TO THIS AMENDMENT APPLICATION
	NOT AFFLICABLE TO THIS AMENDMENT AFFLICATION
46.	Indicate the total capacity for the <u>existing or proposed</u> containment area by using water balance and stage volume calculations and curves. (Attach a description of inputs and outputs along with volume calculations.) NOT APPLICABLE TO THIS AMENDMENT APPLICATION
47.	Has any evaporation and/or precipitation data been collected at the site? if so, please
.,,	include the data. NOT APPLICABLE TO THIS AMENDMENT APPLICATION

48. Will the <u>present or proposed</u> containment area contain the entire production from the mill or processing plant complex for the life of the project?

NOT APPLICABLE TO THIS AMENDMENT APPLICATION

49. Will the proposed tailings deposition area engulf or otherwise disturb any existing watercourse?

NOT APPLICABLE TO THIS AMENDMENT APPLICATION

50. If "Yes", attach all pertinent details (Name of watercourse, present average flow, direction of flow, proposed diversions, etc.)

51. Describe the proposed or present operation, maintenance and monitoring of the containment area.

SECTION 6:

WATER TREATMENT

52. If applicable, will the minewater, mill or process plant water be chemically treated before being discharged to the containment area? If so, explain the treatment process (Attach flow sheet if available.

Minewater is the only expected release and this is unlikely. As mentioned above, minewater will be recycled to the maximum extent possible. Any minewater that requires disposal will be done at the KIA approved disposal area used for drill cuttings.

53. Will (treated) effluent be discharged directly to a natural water body or will polishing or settling ponds be employed? Describe location, control structures, and process of water retention and transfer. Attach any relevant design drawings.

NO

54. Name the first major watercourse the discharge flow enters after it leaves the area of company operations.

Natural runoff from the exploration decline site would infiltrate into the tundra and in extreme runoff periods, may reach Doris Lake. Minewater, if encountered, and if requiring disposal,, would be done by taking the material to the KIA approved cuttings disposal area as mentioned above.

SECTION 7:

ENVIRONMENTAL MONITORING PROGRAM

55. Has Traditional Knowledge in the area been considered? If so, how? If not, why not?

Traditional Knowledge has not been considered for this amendment application as this program is one where additional information is required for the bankable feasibility study for the Doris Hinge project. The Doris Hinge Project is currently being reviewed by NIRB and details on Traditional knowledge will be incorporated into the final project EIS.

56. Has any baseline data been collected for the main water bodies in the area prior to development?

YES, data has been collected. This amendment application will enable the proponent to access the underground, complete the necessary feasibility level investigations to complete the bankable feasibility study. As part of the overall Doris Hinge NIRB review, these data will be reviewed in the final project EIS.

57. If "Yes", include all data gathered on the physical, biotic and chemical characteristics at each sampling location. Identify sampling locations on a map.

See response in #56 above.

58. Provide an inventory of hazardous materials on the property and storage locations.

There are no hazardous materials stored at the proposed decline site. Any consumables such as salt and explosives would be stored and handled in an appropriate manner.

59. Provide a conceptual abandonment and restoration plan for the site, detailing the costs to carry out the plan, and a proposal for a financial assurance which covers the costs to carry out the plan.

There is an Abandonment and Restoration Plan filed with the NWB and KIA related to current activities. The exploration decline as proposed in this amendment application has been incorporated into the overall Doris Hinge Preliminary Project Description. It is unlikely at this time that activities associated with this amendment application would require abandonment, however, should this be required, the waste pad would be re-contoured, the decline would be sealed and the surface support facilities would be removed and disposed of in an appropriate and approved location.

SECTION 8:

ENVIRONMENTAL ASSESSMENT AND SCREENING

60. Has this project ever undergone an initial environmental review? If yes, by whom and when.

NO, however the whole Doris Hinge Project is currently under review by NIRB. The exploration decline and underground program envisaged by this amendment application is part and parcel of the overall review. The reason for this amendment is to enable the proponent to satisfy its requirements to complete a bankable feasibility study and is therefore a timing issue.

61.	Has any baseline data collection and evaluation been undertaken with respect to the various biophysical components of the environment potentially affected by the project (eg. Wildlife, soils, air quality), ie. In addition to water treated information requested in this questionnaire?							
	Yes XX	No Unkno	own					
	complete require		ent application, which will enable the proponent ut into the bankable feasibility study. The baseli e final project EIS					
62.	If "Yes" please a	ttach copies of reports o	or cite titles, authors and dates.					
		ver the listing has been	e detailed listing of the various studies is seen no provided in the Preliminary Project Description					
63.	If no, are such st	udies being planned? _						
	Briefly describe	the proposals.						
64.		been obtained or sough	ht from the Department of Fisheries and Oceans containment of waste?	for				
	NOT APPLICA	BLE TO THIS AMEN	NDMENT APPLICATION					
65.	would include a	review of any public con	ont or evaluation of this project been undertaken? oncerns, land, water and cultural uses of the on, local employment opportunities, etc.)	this area,				
	Yes	No	Unknown					
	currently under r matters for this a	review by NIRB. We do	been provided in the preliminary project descript on not see the need to elaborate on socio-economic as the proposed exploration decline program is redy inputs.	С				

66.	If "Yes" please describe the proposal briefly.
	It would be better for the NWB to refer to the preliminary project description, currently on file and under review by NIRB. Issues such as these are generally negotiated with the KIA in an Inuit Impact and Benefits Agreement (IIBA). These discussions will be initiated with the KIA in due course as the project proceeds through the NIRB review process. The HBJV feels that the approval of this amendment application should be straight forward and information requirements related to this questions and others will be forthcoming as we move through the NIRB review process.
67.	If "No" is such a study being planned ? Yes No
	See comments in # 66 above
68.	Describe any cumulative impacts the project may create?
	Cumulative impacts from activities associated with this amendment application are not expected.
69.	Does the project alter the quantity or quality or flow of waters through Inuit Owned Lands?
	NO
70.	If yes, has the applicant entered into an agreement with the Designated Inuit Organization to pay compensation for any loss or damage that may be caused by the alteration.
71.	If no compensation arrangement has been made, how will compensation be determined?

