



High Lake Project - Summary

1. Purpose of Project Summary

The enclosed summary provides an overview of the High Lake Project in relation to regulatory approval applications for this Project. Wolfden Resources Inc. (Wolfden) is in the process of applying for several permits and licences to develop the High Lake Project into a producing base metal mine. In addition to a Project Certificate issued by the Nunavut Impact Review Board (NIRB), the major permits and licences required to develop the Project include: a Water Licence, Surface Leases, Land Use Permits, Inuit-owned Land Use Licences, Fisheries Act Authorizations, approvals for works in navigable waters, and permits to store and manufacture explosives.

2. Wolfden Resources Inc.

Wolfden is a Canadian exploration and mining development company based in Thunder Bay, Ontario and is a publicly traded company on the Toronto Stock Exchange (TSX). Wolfden has invested significantly in Nunavut, holding several properties in the Kitikmeot Region including the High Lake property, the Izok, Hood and Gondor properties, the Lupin Gold Mine, and the Ulu Gold property. Wolfden is committed to operating in a responsible and sensitive manner in all aspects of its operations.

Wolfden acquired the High Lake property in 2000 and has successfully carried out exploration programs designed to expand mineral reserves. It is Wolfden's objective to bring the High Lake Project into mining production for the benefit of its shareholders and the residents of Nunavut.

Wolfden initially outlined its overall approach to develop the High Lake Project in its *Strategic Plan for the High Lake Mine Project* (November 2003). Through the plan, Wolfden commits to open interaction with communities, Inuit organizations, government and other stakeholders; an early, effective and efficient consultation process; and an issues-based approach to its environmental assessment. Wolfden continues to meet these commitments.

3. Project Description Summary

The High Lake Project is located on both Inuit-owned Land and Crown land within the Kitikmeot Region of Nunavut (Figures 1 and 2), approximately 50 km from the Coronation Gulf. It is situated about 175 km southeast of Kugluktuk, 125 km west of Umingmaktok and 130 km northwest of Bathurst Inlet.

The High Lake Project consists of a base metal mine at High Lake, supported by a dock facility at Grays Bay (Coronation Gulf), an airstrip 12 km north of the mine at Sand Lake, and a 53 km all-season road extending between the mine and the dock. A winter road between the mine and the dock will be used temporarily during the construction phase.

The overall design of the Project has incorporated environmental mitigation measures at all stages during mine planning, including the underlying principle of minimizing the overall area of disturbance. The total area of the disturbance is about 1,079 ha, which is about twelve times the size of Cambridge Bay.

The mine site consists of three ore bodies that contain deposits of copper, zinc, gold, and silver. Ore close to the surface will be mined by open pit methods and the deeper ore will be mined by underground methods. Zinc and copper ore will be processed on-site and the resulting concentrate will be transported via the all-season road to the Grays Bay dock. Silver and gold will also be produced from the concentrate when it is refined off-site. Over the anticipated 14-year operational life of the Project, the production of ore is expected to be about 4,000 tonnes per day.

The main facilities at the High Lake mine site will include a camp, a mill, an explosives storage area, and a tailings facility (to store the waste material from ore concentration). The Sand Lake airstrip will be used for mobilization of personnel, equipment and supplies.

The Grays Bay dock site is designed to accommodate ships of about 50,000 tonnes, and to allow sufficient storage for ore concentrates, supplies, and fuel. Four to six ships annually will transport metal concentrates to markets and bring in supplies along western or eastern shipping routes.

An overview schedule for the construction, operation and closure phases of the proposed High Lake Project is provided in Table 1 (attached) and can be summarized by phase as follows:

- Mobilization and construction is anticipated to begin in 2008 and last 2 years;
- Operation is anticipated to begin in 2010 and last for 14 years; and
- Closure is expected to begin in 2024 and last about 3 years.

4. Socio-economic Information and Project Benefits

The High Lake Project will generate considerable benefits for nearby communities, the Kitikmeot Region, and Nunavut in general. The total project costs are estimated to be \$2.1 billion, including \$0.4 billion in capital costs and \$1.7 billion in operating costs.

During construction and operation of the mine, the yearly average workforce will range between 147 to 361 persons, peaking at 440 persons. The work force will be a mix of employees and

contract workers, and will be paid a competitive salary and benefits similar to that of other mines in the north. Preference will be given to hiring qualified Inuit workers.

Almost all of the operational workforce will work in two-week rotations. Personnel will travel to and from site by aircraft. Flights will connect with regional labour centres and pick-ups for local workers will be provided in Kugluktuk, Cambridge Bay, Gjoa Haven, Taloyoak, and Kugaaruk. A number of human resource policies (e.g., alcohol and drug, language and cultural support) will be developed and implemented by Wolfden to guide the management of the workforce. Wolfden will provide counselling services, performance incentives, support for families of workers, help with paperwork for housing mortgages and banking, and provide training opportunities to all staff.

Wolfden will also provide contract opportunities to Kitikmeot businesses, and will assist Kitikmeot businesses by providing information sessions on opportunities and expectations, and will provide reasonably advanced notification of routine procurement.

Wolfden is committed to hiring a Community Liaison Officer to interact with Kitikmeot communities and residents. It is anticipated that the officer will work out of a small office in one of the Kitikmeot communities.

5. Consultation and Communications Program

Wolfden's consultation and communications program has been key to understanding socio-economic and environmental issues related to the High Lake Project. Starting in 2004, several meetings and information sessions have been held with community members, Inuit organizations, and boards and government agencies in the Kitikmeot communities, as well as in Iqaluit and Ottawa. At these events, Wolfden outlined their approach to the development of the High Lake Project, provided project updates, and provided opportunities to listen and understand any issues expressed about the Project and its design. As part of this program, Wolfden also shared its field work plans on an annual basis, and provided regular project updates in the form of summary reports and newsletters.

6. Baseline and Impact Assessment

To obtain the necessary permits and licences to develop the High Lake Project, Wolfden is required to assess the potential socio-economic and environmental impacts of the High Lake Project. Wolfden has been collecting baseline information since 2003 through field studies, meetings, and consultations in the communities. The information and issues gathered through the baseline and communications program has been used to assess the potential impacts of the Project.

Wolfden values the importance of ***Inuit Qaujimagatuqangit (IQ)*** and implemented an IQ information collection program as part of its overall baseline program. This information has assisted Wolfden in planning the construction and operation of the High Lake development through better understanding how people have used and occupied the land in the High Lake Project area. Inuit Quajimagatuqangit has been gathered through literature reviews, community workshops, and site visits by elders.

The ***socio-economic*** data collection program considered the existing socio-economic setting at both the community and regional level. Information on population, employment, income, schooling, community facilities, housing and culture was collected for the seven Kitikmeot communities (Figure 3). Regional information about current economic conditions, land use and occupancy activities, social and cultural development, protected areas, power and energy, and government institutional capacity in the Kitikmeot was collected to assist in the assessment of socio-economic effects of the Project

The core ***biophysical*** data collection program began in 2004 and continued through 2006. Information was collected on: climate, vegetation, landforms and soils, archaeology, wildlife, freshwater and marine fish and fish habitat, marine mammals, hydrology, surface water and sediment quality, and groundwater.

Wolfden is completing its assessment of potential socio-economic and environmental impacts related to the High Lake Project, and will present these results in the *High Lake Project Draft Environmental Impact Statement*, which will be completed in October 2006. Wolfden developed a draft Terms of Reference to guide the impact assessment. It was distributed to interested parties in December 2005 and the feedback obtained has been incorporated into the Terms of Reference and considered in Wolfden's impact assessment.

Table 1 Overview of High Lake Project Schedule

Project Activity	Year*	Construc- tion		Operation														Closure		
		-2	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
High Lake Mine Site																				
Construction of mine site facilities		█	█																	
Open pit mining of AB Zone			█	█	█															
Open pit mining of D Zone						█	█													
Underground mining of West Zone						█	█	█	█	█	█	█	█	█	█	█				
Underground mining of AB Zone							█	█	█	█	█	█	█	█						
Underground mining of D Zone								█	█	█	█	█	█	█						
Processing of High Lake ore				█	█	█	█	█	█	█	█	█	█	█	█	█				
AB Zone Pit Closure														█	█					
High Lake mine site Closure																	█	█	█	
Grays Bay Dock																				
Deliver/store Nanisivik equipment		█																		
Construction of dock facilities		█	█	█																
Closure of Grays Bay dock																			█	
Shipping to Grays Bay dock		█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	
Roads																				
Dock to High Lake winter road		█	█																	
Dock-HL all-season road construction		█	█																	
Dock-HL all-season road operation				█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	
Closure of all-season road																		█	█	

* Year -2 = 2008; Year -1 = 2009; Year 1 = 2010; Year 2 = 2011 etc.

-  Construction activity
-  Operation activity
-  Closure activity



High Lake Oyagakhiokvik

1. Hok okoa Oyagakhiokvikhat Naitoliogait

Ona titigak hamani naitoliogak ekayutaoyuk kanogitniaktot High Lake Oyagakhiokvikmi kanok maligakhat angiktaoniaktot apikotit hamani Oyagakhiokvikhami. Wolfden Resources Inc. (Wolfden) ona apikhiliktot kaffinik laisikhanik oyagakhiogiami ovani High Lake Oyagakhiokvikhami angmagiami havilganik oyakikiligiangitni. Hamalo okoa ona Oyagakhiokvikhap angigotait toniyait Nunavut Nunalikionot Katimayiinot (NIRB), ona laisikhat angiok piyagiakaktok Oyagakhiokvikhak angmagiangani: Emaktutikhat Laisit, Nunap Kanganiitot Atutikhat, Nunanik Atutikhat Laisit, Inuit-nunaitni Atutikhat Laisit, Emakmiotani Maligat Angiktokhat, angiktokhat havaotikhat emakmi atogiami, ovalo laisit tutkomayutikhat ovalo kagaktitaotinotlo.

2. Wolfden Resources Inc.

Wolfden okoa Kanatamiatat oyagakhioktit ovalo oyagakhiokvikmik havakvikakpaktot afisikaktot IThunder Bay, Ontario-mi ovalo inuit atokpagat ona maniliiokvikaktok Toronto Stock Exchange (TSX). Wolfden maniknik angionik atokpaktot ovani Nunavutmi oyagakhiokhotik, kaffinik nunanik oyagakhiokvikaktot ovani Kitikmeot Nunaitni ovanilo High Lake . ona Izok, Nanitaami ovanilo Gondor oyagakhiokvikmi, ona Lupin Oyagakhiokvikmi tahikyoami, onalo Ulu Gold-nik oyagakhiokvik. Wolfden havakniakhimayut aolaliklotik oyagakhioktik kayagilotik nunamik.

Wolfden neovikpagat ona High Lake oyagakhiokvik ovani 2000-mi ovalo oyagakhiokhotik nalvakpaktot nunami angionik manikakninik. Ona okoat Wolfden oktogumayut ona angmaklogo High Lake Oyagakhiokvik aolalikniaktot maniknik amogailiklotik ovalo maniliioktitiniaktot Nunavutmionik.

Wolfden hajja kanogitnik oktutikaklotik angmaktiginiaktot ominga High Lake Oyagakhiokvikmik ovani *Opalongoiyaotini oktutini ominga High Lake Oyagakhiokvikmik* (Novepa 2003). Hamani opalongoiyaotini, Wolfden pinahoaliktot pikatigilogit inukaknit nunani, Inuit katimayiito, kavamatkot okoalo piotikaktot; ova ehoaktomik aolaligiagitni; ovalo inuit ehomagiyait maliknahoaklogit nuna kayagilogo. Wolfden maligakhatik atoktait haja.

3. Oyagakhiokvik Kanogitokhat Naitolioktat

Ona High Lake Oyagakhiokvik tamaini Inuit-nunaotani ovalo Kavamat Nunaitni ovani Kitikmeot Nunaitni Nunavutmi (Figures A and B), kanok 50 km ongahiktigiok Taggiomit. Ona tahamaniitok 175 km hivotata kivataani Kugluktup 125 km oataani Umingmaktok ovalo 130 km tonongata oataani Kengoap.

Onas High Lake Oyagakhiokvik pikkaktok havilganik ovani High Lake-mi, umiat tulaktakvikaklotik ovani Kugluktu ovani Kugluktoakyuk (Taggiomi), milvikakloni tingmianot 12 km tonongani ovani oyagakhiokviop ovani Sand Lake-mi, ovalo 53 km okiok-aoyak toktokhat apkotikakloni oyagakhiokvikmot taononga taggiomot. Ona okiomi apkotikhak oyagakhiokvikmi ovanilo umiakakvikhami atatapakniaktot hanayaolikhat apkot.

Ona tamaita kanogitokhat havaotit ovani Oyagakhiokvikmi eliogaiyut nunanik ahigoigomik havaotikhainik opalongaiyaktait ehoakotikhak, ovalo kanogitot nuna kayagiyutikhaitlo ahigotiknaitkotikhak. Ona tamat nuna ahigotakniaktok emakak 1,079 ha, emakak emaitok angitkiyanit Ikaluktutiap. .

Ona oyagakhiokvik nuna pinggahonik pikaktok haviknik kanoyaknik, zinc, gold-nik, okoalo silvanik. Oyagat manikanit nunap kangata hanianiitok ovalo kaiktok algaklogo amogakniaktait haviit ovalo atpakata nunap ataanot algalikniaktot. Zinc onalo kanoyat algakniagait tahamani aviktiklogit tahamani oyagakhiokvikmi ovalo manikaknit aolaktitaoniaktot apkotikhok tagioliagotilogit umiat eghogaktakhait aolaktiohat Kugluktoakyuk umiakakvikmi. Silvat okoalo goldlo amogakniagait ovalo ahinot aolaktitaolotik amogaktaoyukhat ahini. Ova tamaita emakak 14-okioni oyagakhiokvik angmaomaniaktok ovani Oyagakhiokvikmi, ona manikaknit angmaktaolotik 4,000 tonnes oblotoak.

Ona iglopkayoak pilokiyiligivik ovani High Lake oyagakhiokvikmi inuit hinniktakvikaklotik, pilokiyiligiimik, kaggaktitaotikakvikmik, ovalo emmakokvikhami (tutkokvikhait emmakot). Ona Sand Lake tingmiat milvikhat inuit havaktit atokniagait, tayalgiakvikha ovalo havaotinik.

Ona Kugluktoakyuk umiakakvikhak hanahimayuk umiat tolaktakvikhat angiot 50,000 tonnes, ovalo tutkomavikakloni havilganik, tamayanik, ovalo oghokakvikhanik kattakyukakvioloni. Hitamat siksit umiat kaivakniaktok agyaklotik tahamonga.

Ona kanok aolaniaktot havakvikhait tatkihietini, aolaliklotik ovalo umiktikvikalo ovani High Lake Oyagakhiokvikmi pikaklotik Table 1 (pikahiotiyuk) ovalo naitolioklogo okoat:

- Hanaliklotik ovalo nappaktigiliklotik ovani 2008 ovalo 2 okiok angmaktigilotik;
- Aolalikniaktot emakak ovani 2010 ovalo aolakhakniaktot 14 okioni; ovalo
- Umiktikvikhat emakak aolalikniaktok 2024 ova 3 okioni umiktigilotik.

4. Inuit-kanogilitniaktot Naonaitkotait ovalo Oyagakhiokvik Maniliokvioloni

Ona High Lake Oyagakhiokvikmi inuknot manilogotaoniaktok inukakninot, ovani Kitikmionot, ovalo Nunavutmo. Ona tamat akia oyagakhiokviop maniliokvioloni \$2.1 billiatdalamik, emalo \$0.4 billiatdalamik akitoyuk ovalo \$1.7 billiatdalak aolatjutaoniaktok.

Talavani hanayaolikat oyagakhiokvikhak ovalo aolalikat oyagakhiokvik, ona okiotoak inuit havaktit emaka amigaitiginiaktot 147-nik 361 inuit, amigainikhait emakak 440 inukakloni. Ona havaktit kinaoyut ovalo kantolaktit havaktit, ovalo akiliktaovakniaktot angionik ovalo akiliohiaktaovaklotik oyagakhiokviknot okioktaktomi. Inuinait ayoitot havaktitaovakniaktot.

Emakak tamaita aolaliktomi havaktit havakpakniakto tooweekni havaklotik tooweek halitiiklotik. Havaktit havagiaktokatakpakniaktot oyagakhiokvikmot tingmiakot. Tingmiat havaktinik agyaktakpakniaktot ovanga Kugluktumit, Ikaluktutiami, Oghoktomit, Talokyoamit, ovalo Kugakyukmit. Kaffit havaktit maligakhait (e.g., emiknaitok, angayaktokviolimaitok ovalo elitkohitigut ekayutikaklotik) hanayaoniaktot okoat Wolfden malikoyakhait havaktingitnot. Wolfden havaktinik ekayukpakniaktot, havatiakoivaklotik, ekayuklogit elagoheet havaktit, ekayuklogit iglonik akiliktutainik ovalo maniktutainik, ovalo elihaotikhainik tamait havaktit.

Wolfden ovalo inuknik kantolaktivakniaktot okononga Kitikmeot nanminiaktonot, ovalo ekayuklotik, ovalo ekayugiiyaklotik maniktutainik havaktit.

Wolfden angikhimayutlo havaktitivaklotik Nunani Inuknik Naonaikhimaviknik pikatigivaklogit Kitikmeot inukaknit ovalo inukniklo. Ehomayut ona havakti ekayukloni afisikakniaktok ovani ataohimi Kitikmeot inukaknimi.

5. Tohaakatigiiknik ovalo Tohaktititik Atogakhat

Wolfden's tohaktitikatakniat ovalo tohaktitikataotait atogakhat atottiaktok elihimakatigiigiami inuit-havaktot ovalo nunalikotait taffomonga High Lake Oyagakhiokvikmot. Aolalikhoktik ovani 2004, kaffeektokhotik meetiktot ovalo naonaikatigiiktikhotik nunani inukaknini, Inuit katimayit, okoalo meetiktit okoalo kavamatkot ovani Kitikmeot nunani, okoalo Iqalukni Atowamilo. Ovani meetiktoni, Wolfden okaotigihimayait hanalotik ona angmaklogo High Lake Oyagakhiokvikhak naonaiyakhimayat, inukniklo nalagiaktokhotik ovalo oingaiyakhogit ehomagiyayoyut Oyagakhiokvikmik ovalo kanogituniakmat. Hamani tohaktitainikmi, Wolfden tohaktitivaktot kanogitonik havaotikaklotik okiotoak naonaikhimaniaktot, ovalo onipkaxhanik tohaotiniklo titiganiklo tohaotinik.

6. Nunamiitokhat ovalo Kanogilitjutiniaktot Ehivgiokniagait

Tabkoa pinahoagamik laisinik ovalo laisiktutitik hanayami ovani High Lake Oyagakhiokvik, Wolfden ehivgiokhiyukhat kanogilitjutiniaktot inuknot-manilioktonot ovalo nunami kanogilitjutiniktok oyagakhiokvik. Wolfden katitigivaktot nunami naonaitkotinik ovani 2003 nuna ehivgiokhogo, meetikhotik, ovalo tohakatigiiktakhotik inukaknik Oyagakhiokvikmik.

Wolfden elihimatiaktait hivitoyut ovani **Inuit Kaoyimayatokanik (IQ)** ovalo eliogainiaktot ominga IQ naonaitkotinik katitigivaktot atoktait ova elaoniaktamata oyagakhiogotilikotinik. Okoa naonaitkotit ekayutaoniaktot Wolfden opalongaiyaligiangitni nappaktigilikata ovalo aolalikata ovani High Lake hanayaolikat elihimaliktakhat kanok inuit atokpatat ovalo atogiktagihiayat nuna ovani High Lake Oyagakhiokvik nuna. Inuit Kaoyimayatokangitnik nalonaiyakpaktot nunamik atokhomayatnk inuit tohaktivigivlogit ovalo oyagakhiokvikmot polaktivivlotik.

Ona **inuknot-manilioknik** titigait katitiktokhat ehomagiyait inuit-maniliokvikhat inukakninot inuit. Naonaitkotit inuit kanok amigaitigiot, havaktitaoyut, maniliogotait, sekogotikhait, inukakniit havakviit, iglokpait ovalo elitkohikaktot katitiktait saivat Kitikmeot inukaniit (Figure A). Nunat naonaitkotait hajja manilioknigit, nunanik atokvikhat ovalo atoktait nunat, aolanigit inuit elitkoihitlo, tutkomayut nunat, kuliktutaitlo, ovalo kavamat afisikakviit Kitikmeoni katitiktait inuit-maniliogotait omonga Oyagakhiokvikmot.

Ona **omayut** titigait katitiktayut aolaliktot ovani 2004 ovalo aolahimakniaktot ovani 2006-mi. Naonaitkotit katitiktaitlo okoat: hilat, nunami naovaktot, nunat kanogitot nunatlo, enitoklikokakviitlo, hogaatlo, tahikmiotat taggiokmiota ikalkuit okoalo ikaluit nayugait, taggiomiotat hogat, emmatlo, emmat kanganiitot natkaniitot makloit, emmainaitlo.

Wolfden eniktigilikot ehivgiokhivlotik kanogilitjutiniaktonot inuit-maniliolikata ovalo nunamotlo kanogilitjutiniaktot ovani High Lake Oyagakhiokvikmi, ovalo toniniaktait titigait aolalikata *High Lake Oyagakhiokvik Eniktokhat Nunalikotit Kanogilitjutiokhat Nunamot*, okoa enikniaktait ovani Aktoba 2006-mi. Wolfden hanayut eniktokhanik Maliktokhat Naonaitkotit maligakhat kanogilitjutiniaktonik. Titiganik tonikhaiyut kinanot ovani Desaipa 2005-mi ovalo tohaktivigiyait inuit ovani Maliktokhat Naonaitkotit ovalo ehomagiyait Wolfden's ehivgiogait.

Table 1 Havaotikhat High Lake Oyagakhiokvikmi Aolavikhat

Oyagakhiokvik Aolavikhak	Year*	Nappaktiginik		Aolanik														Umiknik		
		-2	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
High Lake Oyagakhiokvik																				
Nappaktiginik oyagakhiokvikmik		■	■																	
Nuna algaliklogo ovani AB Zone			■	■	■															
Nuna algaliknik ovani D Zone					■	■	■													
Nunap ataanokloti ovani West Zone						■	■	■	■	■	■	■	■	■	■	■	■			
Nunap ataani algaklotik AB Zone							■	■	■											
Nunap ataani algaklotik D Zone								■	■	■	■	■	■							
Pilokiyiligiloti High Lake manikaknik				■	■	■	■	■	■	■	■	■	■	■	■	■	■			
AB Zone Algaknik Umiktokhak														■	■					
High Lake oyagakhiokvik Umiktikloni																	■	■	■	
Kugluktoakyuk Umiakakvik																				
Agyaknik/tutkokvikhak Nanisivik pilokiyiligivik		■																		
Hananiaktat umiakakvikhak		■	■	■																
Umikvia Kugluktoakyuk umiakakvik																		■	■	
Agyaktaklotik Kugluktoakyukmot		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Apkotit																				
Umiakakvikmitto High Lake okiomi apkotikot		■	■																	
UmiakakvikHL apkot hanayaoloni		■	■																	
Umiakakvik-HL apkot aolaloni				■	■	■	■	■	■	■	■	■	■	■	■	■	■			
Umiktokhak apkot																	■	■	■	

* Okiok -2 = 2008; Okiok -1 = 2009; Okiok1 = 2010; Okiok2 = 2011 etc.



Havavikhat havaktot



Aolavikat havaktot



Umiktigivikhak havaknik