



**Liberty Mines Inc**

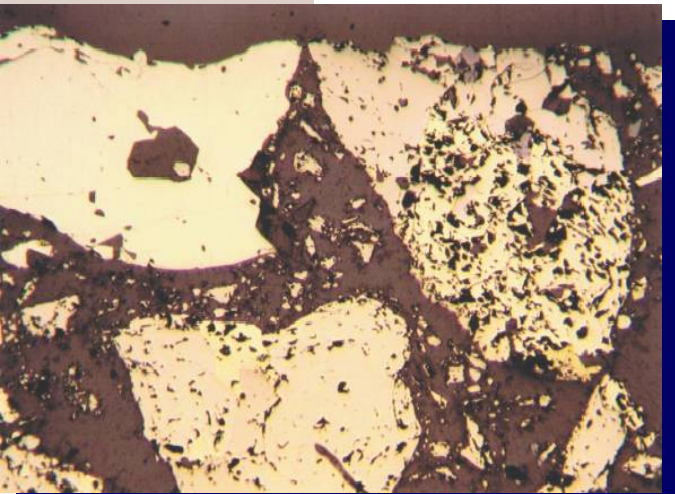
## **Mineral Resource Estimation for the Hart Project, Ontario, Canada**



*Report Prepared for*

***Liberty Mines Inc***

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**Project Reference Number:**  
**3CL008.003**

**August 7, 2008**  
**Amended on October 9, 2008**



# Mineral Resource Estimation for the Hart Project in Ontario, Canada

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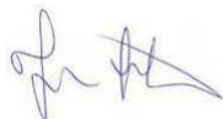
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Cover: Top: Photograph of drill rig at the Hart Project and Bottom: microphotograph of massive sulphide from the Hart Deposit.

## **Executive Summary**

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### **Introduction**

The assets of Liberty Mines Inc (“Liberty”) include the Hart nickel project (“Hart”), located about 27 kilometres southeast of Timmins, Ontario, Canada in Langmuir Township; and about 6 kilometres east of the Redstone Mine. Considerable recent drilling activity has occurred over this property between 2005 and 2008 to delineate significant Kambalda-style nickel sulphides mineralization.

Liberty engaged SRK Consulting (Canada) Inc. (“SRK”) in January 2008 to prepare an initial mineral resource estimate for the Hart nickel project and compile a technical report. This technical report was prepared following the guidelines of the Canadian Securities Administrators National Instrument 43-101 and Form 43-101F1, and in conformity with generally accepted CIM “Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines.” SRK visited the Hart project on January 14, 2008.

### **Property Description and Agreements**

The Hart project consists of twenty-one contiguous unpatented mining claims held by Liberty Mines Inc. The claims cover approximately 992 hectares, and are in the process of being legally surveyed. The property was acquired from Canadian Arrow Mines (“Canadian Arrow”) by way of an option agreement. Liberty satisfied the option agreement and earned 100 percent ownership on January 18, 2008. Canadian Arrow retains a two percent net smelter return royalty.

### **Location, Access and Physiography**

The Hart project is located approximately twenty-six kilometres southeast of the city of Timmins, Ontario. The property is accessed from the city of Timmins by a series of gravel roads. The access roads are used in all seasons, and are winter safe.

The Hart deposit is located in an area that is relatively flat with poor drainage. The topography is generally flat with a few local rock outcrops and ranges in elevation from 290 to 330 metres above sea level. This area of northeast Ontario is characterized by climate typical of northern boreal forest areas, with extended periods of sub-zero temperatures in the winter months from November through to March. Moderate temperatures prevail during the summer months with temperatures in the range of ten to thirty degrees Celsius accompanied by moderate precipitation.

The Hart project surface area is large enough to accommodate all future mining related infrastructures. It is located in close proximity to other Liberty owned infrastructures, including the active Redstone Mine as well as to the McWatters Project, which currently is in an early stage of development.

### **History**

Minor trenching was completed by L.N. Hart on surface iron formation exposures in the period 1960 to 1964. Between 1964 and 1969, Norlex Mines Ltd. completed 1,854 metres of drilling in thirteen holes on the property. Eight of the Norlex drill holes intersected the nickel mineralization. Paramaque Mines Ltd. drilled 1,950 metres of core in six diamond drill holes in 1968 and 1969 that intersected the nickel

mineralization. McWatters Gold Mines Limited acquired the property from Paramaque in 1969 and completed 2,440 metres of drilling in eight holes.

Starfire Minerals Inc (“Starfire”) drilled a total of six very shallow holes in the immediate area of the surface nickel showing in 2002. Canadian Arrow acquired the property in 2004 and drilled five drill holes, totalling 306 metres. Liberty optioned the property in 2006 and subsequently drilled 104 core boreholes (31,277 metres) in 2007 and 2008.

## **Geology and Mineralization**

The Hart nickel deposit is hosted by ultramafic rocks that form part of, or intrude, the Tisdale assemblage that flank the Shaw Dome and form part of the Abitibi Greenstone Belt. To date five nickel-copper platinum group metals deposits have been discovered in the Shaw Dome (including the Hart deposit) and numerous showings have been identified. These five deposits occur in komatiitic rocks found within the Deloro assemblage near the base of the Tisdale assemblage.

Five main rock types have been identified from Hart diamond drill core and surface mapping: footwall intermediate to felsic volcanics, banded iron formation, ultramafic flows, felsic dikes, and mafic dikes. The Hart deposit sulphide zone can be subdivided in three distinct zones: an upper zone of nickel-enriched banded iron formation, a basal lower zone consisting of massive to semi-massive sulphides and an interstitial zone of disseminated sulphides.

The komatiitic rocks, which host the nickel mineralization are serpentinized and locally altered to talc, chlorite and carbonate. The main sulphide zone that comprises the majority of the mineral resource consists of komatiite-hosted massive to semi-massive sulphides lying conformably on dacitic pyroclastic flows. Typical sulphide concentrations range in the sixty to eighty percent pyrrhotite and ten to thirty percent pentlandite. Other sulphide minerals include minor pyrite and chalcopyrite.

## **Exploration and Drilling**

The relevant exploration drilling information considered for resource estimation was acquired primarily by Liberty in 2007 and 2008. The drilling database also includes eleven core boreholes drilled by Starfire and Canadian Arrow. The drilling database also includes 104 NQ calibre core boreholes drilled by Bradley Bros using industry best practices.

## **Sampling Method, Approach and Analyses**

Liberty used industry best practices to sample, handle and assay core samples collected on the Hart project. Core samples were collected from half core split mechanically lengthwise. Sampling intervals honour geological boundaries.

Liberty submitted their core samples to the accredited ALS-Chemex laboratory for preparation in Timmins and assaying in the North Vancouver, British Columbia laboratory. Each sample was assayed for nickel and copper by aqua regia digestion and atomic absorption spectrometry and occasionally for gold, platinum and palladium by conventional ICP-AES.

Liberty implemented adequate analytical quality control measures to monitor the reliability of assay results delivered by the primary laboratory. This includes the use of quality control samples and blanks, and check assaying at umpire laboratories.

## Data Verifications

SRK visited the Hart project on January 18, 2008 during active drilling. SRK could inspect active and recent drilling site, review with Liberty personnel field and drilling procedures. Drill core from five recent boreholes was examined to ascertain the geological setting of the nickel mineralization and to verify logging information..

SRK reviewed the analytical quality control data produced by Liberty and summarized these data on bias chart to ascertain the reliability of assay data delivered by the primary laboratory.

SRK collected seven core samples replicating the original sampling intervals for independent verification. The verification samples were specifically collected to attest to the existence of nickel and copper mineralization on the Hart property.

In the opinion of SRK, exploration data collected by Liberty generally meet “industry best practices” and are sufficiently reliable for the purpose of resource estimation.

## Mineral Processing and Metallurgical Testing

Liberty operates the Redstone Mill located at the Redstone mine and approximately 22 kilometres from the Hart project. This 2,000 tonne per day mill has been specifically built to process nickel sulphide ore with a high MgO content. The mill uses conventional floatation and a laser induced plasma spectrometer online analyzer to measure the magnesium and nickel contents of the ground ore entering the floatation circuit. During the first quarter of 2008, the mill achieved nickel recovery of eighty-seven percent with a monthly throughput between 4,250 and 6,500 tonnes. Mill feed head grade varied between 1.6 and 2.2 percent nickel.

## Mineral Resource Estimation

The mineral resource estimate prepared by SRK and reported herein is the first resource evaluation prepared for Hart project according to NI 43-101 guidelines. It supersedes a previous historical estimate that should not be relied upon.

The mineral resources presented herein are reported in accordance with the Canadian Securities Administrators’ National Instrument 43-101 and have been estimated in conformity with generally accepted CIM “Estimation of Mineral Resource and Mineral Reserves Best Practices” guidelines.

The database used for resource estimation includes drilling data collected during three exploration programs conducted during the period 2005 to 2008. The total database comprises 115 boreholes and five surface trenches.

Three 3D wireframes (iron formation, massive sulphide and disseminated sulphide) were constructed from the drilling information and a 0.3 percent nickel threshold to constrain grade estimation. The massive and disseminated sulphide wireframes were sub-divided in to two sub-domains (lower and upper).

Assay intervals in each wireframe were composited to 1.0 metre and extracted for statistical analyses and grade interpolation. After review of probability plots, nickel and copper composites were capped at 4.86 and 0.33 percent, respectively.

Isatis software was used to model traditional experimental variograms from the capped composites for the various mineralization domains for nickel and copper in all three principle directions. A single spherical structure variogram was fitted for each

direction coinciding with geological features of the nickel mineralization. A Datamine sub-block routine was used to fill the mineralization wireframes with un-rotated blocks. Parent block size was set at 2.5 by 2.5 by 2.5 metres in the easting, northing and elevation directions respectively. An average specific gravity was assigned to each domain based on 231 pycnometry measurements obtained from the various sulphide mineralization types.

Block grades were estimated using inverse distance squared estimator because it was found to appropriately reflect general grade trends. Block grade estimation was completed in a single pass using the search ellipse ranges defined by variography.

Mineral resources were classified on the basis of variography and the confidence in geological interpretation. An Indicated Mineral Resource classification was assigned to blocks within the primary variography range from sample points. An Inferred Mineral Resource classification was assigned to blocks within twice the primary variography range from informing data.

Mineral resources for the Hart deposit have been estimated according to the “CIM Standards on Mineral Resources and Reserves: Definitions and Guidelines” (December, 2005) by Glen Cole, P. Geo an appropriate independent Qualified Person as defined by NI43-101. The Mineral Resources for the Hart nickel deposit are reported at a single cut-off of 0.6 percent nickel, that is considered by Liberty management to be achievable by a future underground mine, considering the nature of the nickel mineralization, its geometry and the projected underground extraction scenario. This cut-off is primarily based on current mining experience at the comparable Redstone Mine. The Mineral Resource Statement for the Hart nickel project is presented in Table i.

**Table i. Mineral Resource Statement\*, Hart Nickel Project, Timmins, Ontario, SRK Consulting June 23, 2008.**

Ore Zone	Classification	Tonnes (000's)	Nickel (%)	Copper (%)	Contained Nickel (lbs 000's)
IF Zone	Indicated	81	0.78	0.07	1,390
	Inferred	13	0.85	0.07	249
Massive Zone					
Lower	Indicated	960	1.60	0.11	33,866
	Inferred	225	1.41	0.09	6,995
Upper	Indicated	327	1.43	0.09	10,311
	Inferred	45	1.30	0.09	1,290
Disseminated Zone					
Lower	Indicated	22	0.82	0.05	403
	Inferred	3	0.65	0.02	38
Upper	Indicated	<1	0.63	0.03	2
<b>Total</b>	<b>Indicated</b>	<b>1,390</b>	<b>1.50</b>	<b>0.10</b>	<b>45,972</b>
	<b>Inferred</b>	<b>286</b>	<b>1.36</b>	<b>0.09</b>	<b>8,572</b>

\* Reported at 0.6% nickel cut-off. All figures have been rounded to reflect the accuracy of the estimate. Mineral Resources are not Mineral reserves and do not have demonstrated economic viability

## Conclusion and Recommendations

Significant nickel mineralization has been identified by Liberty on the Hart project. Confidence in estimating mineral resources at Hart is determined by various factors, including the following:

- An appreciation of the variables associated with komatiite-associated Ni-(Cu) deposits;
- An understanding of the 3D structural geological framework within which the nickel sulphide mineralization resides;
- The drilling density;
- Quality control procedures used to collect exploration data.

SRK believes that there is a strong potential to increase the Inferred Resources at Hart particularly by drilling the depth extensions of the sulphide zones. Additional infill drilling is warranted to upgrade the Inferred mineral resources to an Indicated classification.

SRK recommends that Liberty considers the following recommendations for its future exploration work at Hart:

- Increase the drill density at depths between 450 to 600 metres below surface;
- Undertake structural investigations to improve the understanding of the distribution of the sulphide mineralization improve the quality of the 3D geological model;
- Continue to model the intrusive dikes that occur in proximity to the sulphide zones of mineralization;
- Attempt to identify portions of the disseminated sulphide and ironstone hosted zones exhibiting higher nickel ;
- Update the resource model once the geological model will have been updated;
- Undertake conceptual engineering studies to evaluate the economic potential of the existing mineral resources and to evaluate mining and processing options for the Hart deposit.

SRK understand that Liberty plan further exploration drilling at Hart, which is scheduled to run from 2008 to 2010. The proposed drilling program is estimated at 10,500 metres and will target primarily the depth extensions of the sulphide zones with two objectives:

- Infill drilling to enhance and to increase confidence in the lower portion of the mineral resources (currently mostly assigned an Inferred classification);
- Test the depth extensions of massive sulphide zones below a known mafic dike.

SRK considers that this exploration program is warranted. The cost for the proposed exploration program is estimated at CN\$1.1 million.

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# 1 Introduction

## 1.1 Background of the project

The assets of Liberty Mines Inc (“Liberty”) include an interest in the Hart Nickel Project (“Hart”), located about 27 kilometres southeast of Timmins, Ontario, Canada in Langmuir Township about six kilometres east of the Redstone Mine.

Considerable recent drilling activity has occurred over this property between 2005 and 2008, which has delineated significant Kambalda-style nickel-copper massive sulphides preserved locally in palaeo-topographic depressions.

Liberty approached SRK Consulting (Canada) Inc. (“SRK”) in January 2008 to commission an initial mineral resource estimate for the Hart nickel project. During the ensuing months SRK and Liberty worked together to compile a validated database and model the geology of the deposit to used for resource estimation.

SRK received the final Hart geological model and database from Liberty on 11 June 2008 and proceeded to model the mineral resources. A mineral resource statement was issued to Liberty on 22 June 2008. It formed the basis for a press release issued by Liberty on June 23, 2008 to disclose publically the initial mineral resource estimate for the Hart nickel project.

This technical report describes the mineral resource model constructed for the Hart nickel project. It was prepared following the guidelines of the Canadian Securities Administrators National Instrument 43-101 and Form 43-101F1, and in conformity with generally accepted CIM “Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines”.

## 1.2 Scope of work

The scope of work, as defined in a proposal presented by SRK to Liberty on June 4, 2008, includes the construction of a mineral resource model for the Hart nickel sulphide deposit and compilation of an independent technical report in compliance with National Instrument 43-101 Form 43-101F1 guidelines. This typically requires an assessment of the following aspects of the project:

- Topography, landscape, access;
- Regional and local geology;
- Exploration history;
- Audit of exploration work carried out by Liberty;
- Mineral resource estimation for the Hart nickel deposit;

- Validation;
- Recommendations for additional work.

### 1.3 Basis of the Technical Report

This report is based on information provided to SRK by Liberty as well as information collected during the site visit.

SRK conducted certain verifications of exploration data from the Liberty drilling program from drill core, files and records maintained by Liberty. SRK has no reason to doubt the reliability of the information provided by Liberty.

This technical report is based on the following sources of information:

- Discussions with Liberty personnel;
- Datasets provided by Liberty;
- Field data verifications derived from the site visits; and
- Additional information obtained from the public domain sources.

### 1.4 Qualification of SRK

The SRK Group comprises over 700 professionals, offering expertise in a wide range of resource engineering disciplines. The SRK Group's independence is ensured by the fact that it holds no equity in any project and that its ownership rests solely with its staff. This permits SRK to provide its clients with conflict-free and objective recommendations on crucial judgment issues.

SRK has a demonstrated track record in undertaking independent assessments of Mineral Resources and Mineral Reserves, project evaluations and audits, technical reports and independent feasibility evaluations to bankable standards on behalf of exploration and mining companies and financial institutions worldwide. The SRK Group has also worked with a large number of major international mining companies and their projects, providing mining industry consultancy service inputs.

Mr. William Randall, P.Geo (APGO#1516) an employee of Liberty aggregated the data and prepared the geological model used for resource estimation. Mr. Randall also contributed to Sections 3 to 9 of this report under the supervision of SRK. The mineral resource modelling work was completed by Mr. Glen Cole, P.Geo (APGO#1416). This technical report was compiled by Mr. Randall and Mr. Cole; and reviewed by Dr. Jean-Francois Couture, P.Geo (APGO#0197). Mr. Cole reviewed the data provided by Liberty and reviewed the work of Mr. Randall. By virtue of his education and relevant work experience, Mr. Cole is an independent Qualified Person as this term is defined by National Instrument 43-101.

Mr. Randall is the Vice-President of Exploration for Liberty Mines Inc. Mr. Randall's area of expertise is the exploration and development of Ni-Cu-PGE

properties, having acquired the majority of his experience working in the Cape Smith Belt that contains the prolific Raglan trend. Mr. Randall has been closely involved with the project since late 2006.

Mr. Cole is a Principal Resource Geologist with SRK. He has been practicing his profession continuously since 1986 and has extensive experience in estimating mineral resources for base and precious metals projects in North America as well as in Southern and West Africa. Mr. Cole visited the project on January 14, 2008.

Dr. Couture is a Principal Geologist with SRK and has been employed by SRK since 2001. He has been engaged in mineral exploration and mineral deposit studies since 1982. Since joining SRK, Dr. Couture has prepared independent technical reports on several exploration projects in Canada, United States, China, Kazakhstan, Northern Europe, West Africa and South Africa. Dr. Couture did not visit the project area. Dr. Couture did not visit the project.

## **1.5 Site visit**

In compliance with National Instrument 43-101 guidelines, Mr. Cole visited the Hart project site on January 14, 2008, accompanied by Mr. William Randall.

The main purpose of this visit was to conduct geological investigations, validations and inspections of available diamond drill core from the Liberty drilling programs. Validation samples of split core were taken by SRK. SRK also visited active drilling sites. The nickel mineralization does not outcrop.

SRK was given full access to all relevant data and held discussions with Liberty exploration personnel to obtain information on the current exploration work, understand field procedures used to collect, record, store and analyse exploration data.

## **1.6 Acknowledgements**

SRK would like to acknowledge the support and input provided by Liberty exploration personnel for the preparation of this report. Mr. William Randall in particular provided all the validated and formatted data and geological models and provided valuable technical insight and suggestions that enhanced the resource modelling process. Mr. Tyron Breytenbach supervised much of the Hart exploration program.

## 2 Reliance on other Experts and Declaration

The technical work referenced in this report is the combined result of technical inputs from Liberty as well as SRK technical staff. SRK's opinion contained herein and effective **August 7, 2008**, is based on information provided to SRK by Liberty throughout the course of SRK's investigations, which in turn reflect various technical and economic conditions at the time of writing. Given the nature of the mining business environment, these conditions can change significantly over relatively short periods of time. Consequently actual results may be significantly more or less favourable.

A small portion of the project database (five drill holes) originates from exploration programs and sampling activities in 2005. These data cannot always be adequately verified and a reliance on the integrity of such data received from Liberty exists.

This report includes technical information, which requires subsequent calculations to derive sub-totals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, SRK does not consider them to be material.

SRK is not an insider, associate or an affiliate of Liberty, and neither SRK nor any affiliate has acted as advisor to Liberty or its affiliates in connection with this project. The results of the technical review by SRK are not dependent on any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings.

SRK has not performed an independent verification of land title and tenure as summarized in Section 3 of this report. SRK did not verify the legality of any underlying agreement(s) that may exist concerning the licenses or other agreement(s) between third parties but have relied on the client's solicitor(s) to have conducted the proper legal due diligence. SRK verified the tenure information on the Ministry of Northern Development and Mines Mining Claims Information System as of the effective date of this technical report.

The qualified persons preparing this technical report are not experts in the assessment of potential environmental liabilities associated Hart project. As such, no verification was conducted by SRK and no opinion is expressed regarding the environmental aspect of this exploration project.

The Hart nickel project is an undeveloped exploration property. Minimal surface disturbances have arisen from the surface exploration work completed by Liberty. These include, line cutting, ground geophysical surveying and surface diamond drilling. The exploration work was completed within the government authorizations.

Liberty has commissioned independent consultants Blue Heron to undertake environmental baseline studies at the Hart Property. A report on this work is in progress. Exploration does not require permitting in Ontario. Liberty has applied for a mining lease at Hart, approval for which is pending.

SRK was informed by Liberty that there are no known litigations potentially affecting the Hart Property.



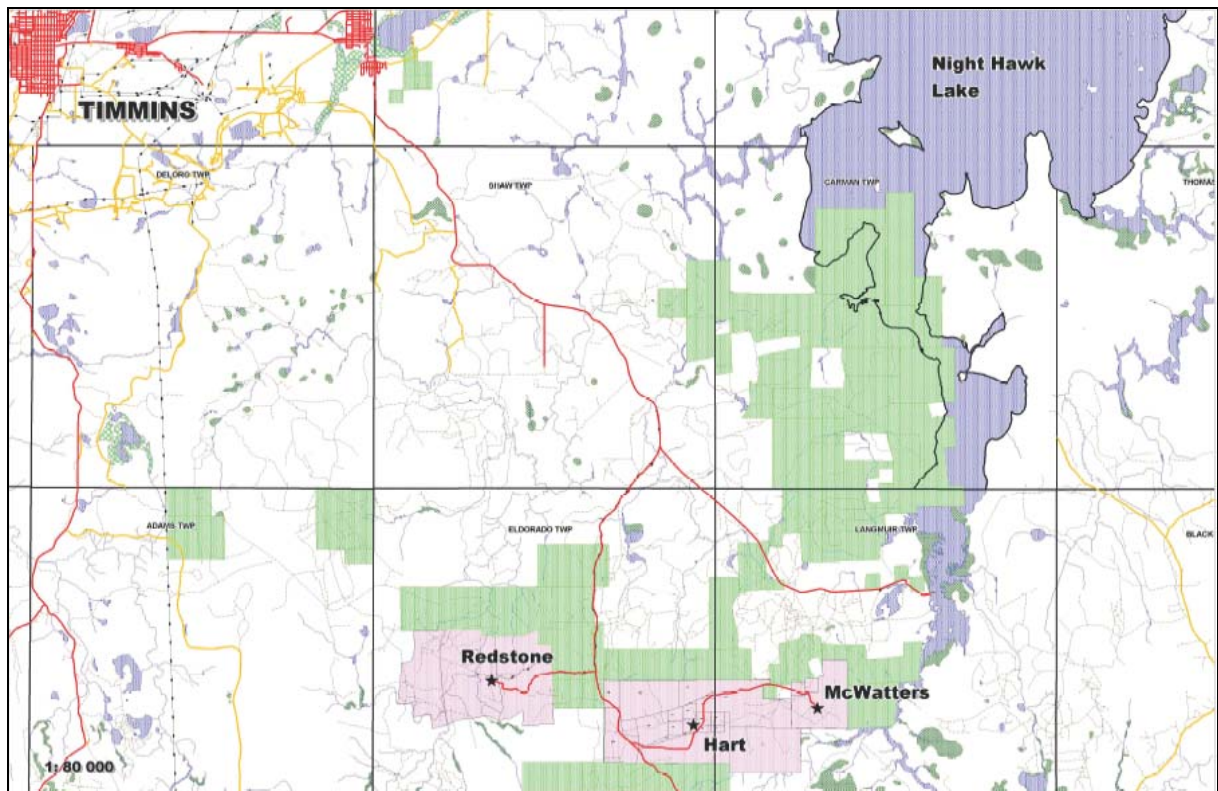
## 3 Property Description and Location

### 3.1 Introduction

The general location of the Hart Project is shown in Figure 1. It is located approximately twenty-seven kilometres southeast of the city of Timmins, Ontario. The property is within the boundaries of the city of Timmins and is centered at approximately UTM (NAD83 Z17) coordinates 5,350,230 mN and 493,900 mE. The property is located in Eldorado Township, within the Porcupine Mining Division, and is accessed from the city of Timmins/South Porcupine by a series of all-weather gravel roads. A detailed location map of the Hart Project in relation to the City of Timmins is shown in Figure 2.



Figure 1. Location of the Hart Project in Central Ontario, Canada.



**Figure 2. Detailed location map showing the Hart Project in relation to the city of Timmins.**

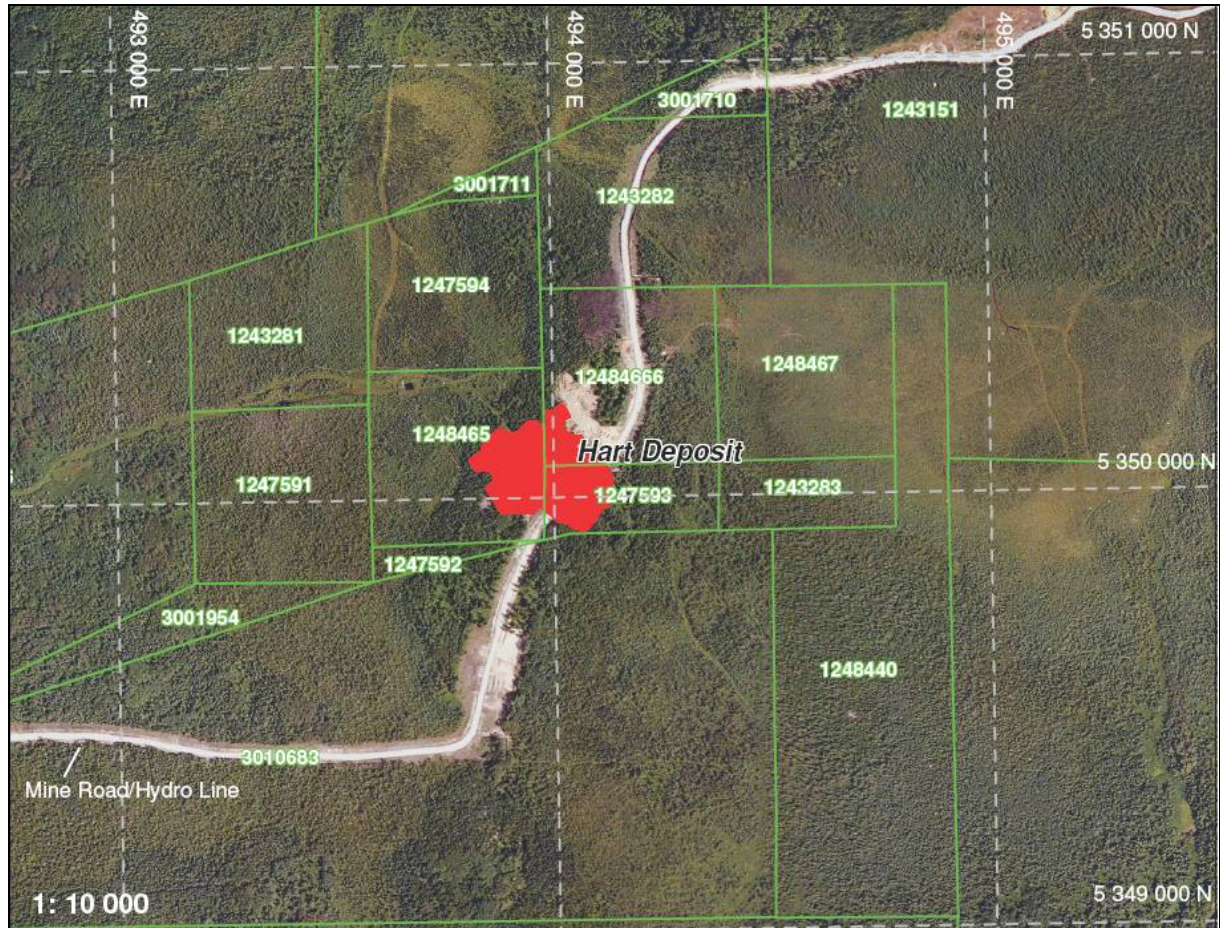
### 3.2 Land Tenure

The Hart Property consists of twenty-one contiguous unpatented mining claims held by Liberty Mines Inc. and located in Langmuir and Eldorado Townships of the Porcupine Mining Division. These claims total approximately 992 hectares, and are in the process of being legally surveyed. The details of these claims are listed in Appendix A. A Plan showing the Hart Project mining claims is shown in Figure 3.

SRK verified the ownership status of these tenements on the Ministry of Northern Development and Mines Mining Claims Information System. As of the effective date of this technical report, all mining claims are valid with expiry dates ranging from May 28, 2010 to July 18, 2013 (see Appendix A).

The mineral resources reported herein are all located on claims number 1248466, 1248465 and 1247593 (Figure 3).





**Figure 3. Hart Project mining claim plan.**

### 3.3 Underlying agreements

On July 17, 2006 Liberty optioned the Hart property from Canadian Arrow Mines. At this time the property consisted of claims 1243281, 1243282, 1243283, 1247591, 1247592, 1247593, 1247594, 1248465, 1248466, and 1248467 (the remaining claims were staked by Liberty). On January 18, 2008 Liberty met all obligations to Canadian Arrow Mines as set out under the option agreement, so that now Liberty owns 100 percent of the Hart property with no subsidiary involved.

The property is subject to a two percent Net Smelter Royalty retained by Canadian Arrow Mines. One third, or fifty percent, of this Net Smelter Royalty may be purchased by Liberty for the sum of CN\$1,000,000.

## **4 Accessibility, Climate, Local Resources, Infrastructure and Physiography**

The Hart Property is proximal to the city of Timmins, Ontario, which has a population of 48,000. The population consists of a skilled workforce with considerable experience and history in mining and mineral processing. Infrastructure is adequate to supply potential power and services for developing local resources, as well as mineral exploration activities.

The property is accessed from the city of Timmins by a series of gravel roads. Approximately twenty-six kilometres southeast of Timmins, a road branches east to the Hart property. Approximately three kilometres east along this road the deposit location is reached. The access roads are used in all seasons, and are winter safe.

The Hart deposit is located in an area that is relatively flat with poor drainage. The deposit location is generally low-lying with a few local rock outcrops and ranges in elevation from 290 to 330 metres above sea level.

No waters flow through the site. The site naturally drains to the south into the Forks River. The property lies entirely within the Night Hawk Lake sub-watershed. The Forks River drains north-easterly into the Night Hawk River which flows north-easterly into Night Hawk Lake. Night Hawk Lake in turn drains to the Frederickhouse River. The Frederickhouse River drains to the Abitibi River (north of Cochrane) then to Moose River, which ultimately discharges into James Bay.

The terrestrial vegetation is a combination of typical black spruce-lowland areas and slightly higher ground with soft wood forest (Figure 4). This vegetation type tends to represent a forest to wetland transition zone, and is characterized by poplar, pine, black spruce, bog rosemary, pale laurel, and sphagnum.

Wildlife communities around the Hart deposit are typical of other poorly drained northern boreal forest areas. The majority of the several species present are small mammals and songbirds that are common and widely distributed. Other species include ungulates, furbearers and raptors. Moose populations in the area are low to moderate. Furbearers in the vicinity include beaver, marten, mink, muskrat, fox, lynx and black bear. Other animal types include the snowshoe hare, fisher and wolf.

The climate is typical of northern boreal forest areas, with extended periods of sub zero temperatures in the winter months of November through to March. Moderate temperatures prevail during the summer months with temperatures in the range of ten to thirty degrees Celsius accompanied by moderate

precipitation. Experience indicates that most preliminary exploration activities can be executed in the summer months.

The Hart Project surface area is large enough to accommodate all future mining related infrastructures. The Hart Project is located in close proximity to other Liberty owned infrastructures, including the operational Redstone Mine as well as to the McWatters Project, which currently in at an early stage of development.



**Figure 4. Hart Project surface vegetation.**



## 5 History

The exploration history of the Hart property has been summarized by Brereton (2004), from which the following compilation has been extracted.

Minor trenching was completed by L.N. Hart on the surface iron formation exposures in the period 1960 to 1964. It is probable that the first indications of nickel were recorded at that time. In the period 1964 to 1968, Norlex Mines Ltd. carried out ground EM and magnetic surveys and completed 1,854 metres of drilling in thirteen holes on the property. Eight of the Norlex drill holes intersected nickel mineralization and are summarized in Table 1.

Paramaque Mines Ltd. subsequently acquired the property and drilled 1,950 metres of core in six diamond drill holes in the period 1968 to 1969. These holes were also successful in intersecting nickel mineralization and are summarized in Table 2.

**Table 1. Norlex Mines Ltd drill results, Hart Nickel Project.**

Hole No.	Core length (ft)	Ni (%)	Cu (%)
NLX 64-1	21.2	0.65	
	3.7	1.24	
NLX 64-5	15	2.10	0.18
NLX 64-6	4.4	0.53	
	31.5	0.31	
	9.2	0.68	
	8	1.12	
NLX 64-8	10	0.50	
	4.9	0.51	
NLX 64-10	17.2	0.89	0.11
NLX 64-12	2.2	0.87	
NLX 64-13	12.9	0.83	

**Table 2. Paramaque Mines Ltd drill results, Hart Nickel Project.**

Hole No.	Core length (ft)	Ni (%)	Cu (%)
PAR 69-1	26.6	0.32	
	5.0	1.78	
	3.0	2.48	
PAR 68-2	25.3	0.22	
PAR 69-3	30.8	0.44	
PAR 68-4	20.4	0.25	
	7.2	2.77	0.13
PAR 68-5	29.0	0.20	
PAR 68-6	10.6	0.62	
	6.6	1.11	0.11

McWatters Gold Mines Limited acquired the property from Paramaque in 1969 and completed 2,440 metres of drilling in eight holes. The results of this work are missing from assessment files in the Timmins MNDM office, which may suggest that this drilling did not intersect mineralization. No evidence of this drilling has been found on site.

Tontine Mining Limited purchased McWatters Gold Mines Limited in 1969 and apparently completed a feasibility study on the economics of the Hart deposit (this work is only referenced in a report by Timmins Nickel Inc with no information available on this study). Timmins Nickel Inc purchased the Hart property in 1989 and completed airborne magnetic and EM surveys over the area. This initial program was followed by ground magnetics and IP over the mineralized portion of the ultramafic. Timmins Nickel never carried out a drill program on the Hart Project.

Starfire Minerals Inc drilled a total of six very shallow holes in the immediate area of the surface showing in 2002. The holes were also extremely closely spaced and therefore tested the same portion of the nickel mineralization, referred to in this report as the IF Zone. These holes are considered in the present mineral resource estimate, but are deemed of limited value to the overall definition of the ore body. Low values were reported.

Canadian Arrow Mines acquired the property in 2004 through their subsidiary Legendary Ore Mining Company. Canadian Arrow Mines conducted ground geophysics over the property and completed diamond drill program comprising of five drill holes, totalling 306 metres.

Since 2005, Liberty has drilled a total of 104 drillholes with an average length of 301 metres. A limited amount of surface trenching was also undertaken.

## 6 Geological Setting

### 6.1 Regional Geological setting

The Hart deposit is hosted by ultramafic rocks that form part of, or intrude, the Tisdale assemblage that flank the Shaw Dome and form part of the Abitibi greenstone belt (AGB). The Abitibi greenstone belt is one of the youngest parts of the Achaean Superior Province forming what is considered one of the largest and best-preserved belts of its kind in the world. The Abitibi belt developed between 2.8 to 2.6 Ga (Jackson and Fyon, 1991) and has been subdivided in 9 lithotectonic assemblages (Ayer et al., 2002; Sproule et al., 2002).

The relationships between these assemblages are ambiguous and may represent a superposition of allochthonous terranes (each terrane having been formed in a different tectonic environment), or a tectonically complex and structurally deformed single autochthonous terrane formed along a convergent margin, or a combination of both these. Even though the AGB has been subdivided into 9 distinct lithotectonic assemblages, only four of these are generally accepted to contain komatiitic rocks and therefore considered prospective for ultramafic-hosted Ni-Cu-(PGE) sulphide deposits. These four assemblages have distinct and well defined ages as well as spatial distribution (Figure 5): the Pacaud assemblage (2750-2735 Ma), the Stoughton-Roquemaure assemblage (2723-2720 Ma), the Kidd-Munro assemblage (2719-2711 Ma), and the Tisdale assemblage (2710-2703 Ma). These four assemblages differ considerably in the physical volcanology and geochemistry of the komatiitic flows. It is important to note that the latter two of these assemblages contain larger volumes of high magnesium, Al-undepleted komatiites (> five percent), while the Tisdale assemblage contains more andesitic rocks and sulphide facies iron formations (Sproule et al., 2003).

The Shaw Dome is a major anticline centred approximately 20 km southeast of Timmins, Ontario (Muir, 1979; Green and Naldrett, 1981; Figure 5). The anticlinal structure may be a result of regional folding that affected rocks north of the Shaw Dome or, more probably, due to the diapiric action of a large granitic body which partially outcrops in the central south-east portion of the dome. Volcanic rocks associated with the Shaw Dome have been associated with the Deloro assemblage (2730 to 2725 Ma: Ayer et al., 1999) and younger Tisdale assemblage. Pyke (1982) further sub-divided these assemblages into three volcanic formations: lower, middle, and upper volcanic formations. The lower formation of the Deloro assemblage is not exposed in the Shaw Dome, while the middle formation occupies the central part of the Dome north of the Redstone mine. The upper volcanic formation of the Deloro was described by Pyke (1982) to contain a relative abundance of sulphide facies iron formations and a predominance of intermediate to felsic volcanic rocks of dacitic to andesitic composition. Pyke (1982) does not mention the presence of



extrusive komatiitic rocks in this assemblage having mapped all of the ultramafic rocks contained within this supracrustal package as intrusive in nature (Pyke, 1970, 1975). Pyke (1982) does, however, add that “there is some intercalation of the komatiites (of the Tisdale assemblage) with the Deloro Group volcanic rocks”. Since, both intrusive and extrusive ultramafic rocks have been identified within the Deloro volcanic package (Hall & Houle, 2003; Houle et al., 2004; Houle & Guillmette, 2005) outlined by Pyke (1982). Therefore, either the assumption that the Deloro assemblage is devoid of komatiitic flows needs to be revised or the disconformity that delineates the contact between Deloro and Tisdale rocks modified.

Stone & Stone (2000) divided the komatiitic rocks into two horizons making no reference to stratigraphy: the lower komatiitic horizon (LKH) and the upper komatiitic horizon (UKH). The UKH consists of extrusive komatiitic rocks intercalated with calc-alkalic volcanic rocks and sulphide facies iron formations, while the LKH consists of komatiitic rocks that intrude the underlying felsic to intermediate volcanic flows and interbedded iron formations. The rocks that form the LKH are mostly dunites, whelrlites, pyroxenites, and gabbros that intruded sometime between 2,725 Ma and 2,707 Ma (Stone & Stone, 2000 and references therein). The UKH rocks are cumulate, spinifex textured and aphyric komatiites that extruded sometime before 2,703 Ma (Corfu et al., 1989). The UKH komatiitic intrusions are interpreted to represent part of the feeder system that resulted in the eruption of channelized komatiitic flows that are, at least initially, cogenetic and form what is now a large dyke-sill-lava complex. Observations and interpretations by Stone & Stone (2000) are supported by later mapping of Adams, Shaw, Langmuir, and Carman Twps by Houle et al. (2004) and Houle & Guillmette (2005).

To date five Ni-Cu-(PGE) deposits have been discovered in the Shaw Dome (Redstone, Hart, McWatters, Langmuir #1, Langmuir #2), and numerous showings have been identified (Galata, etc). These five deposits occur in komatiitic rocks found within the Deloro assemblage near the base of the Tisdale assemblage.

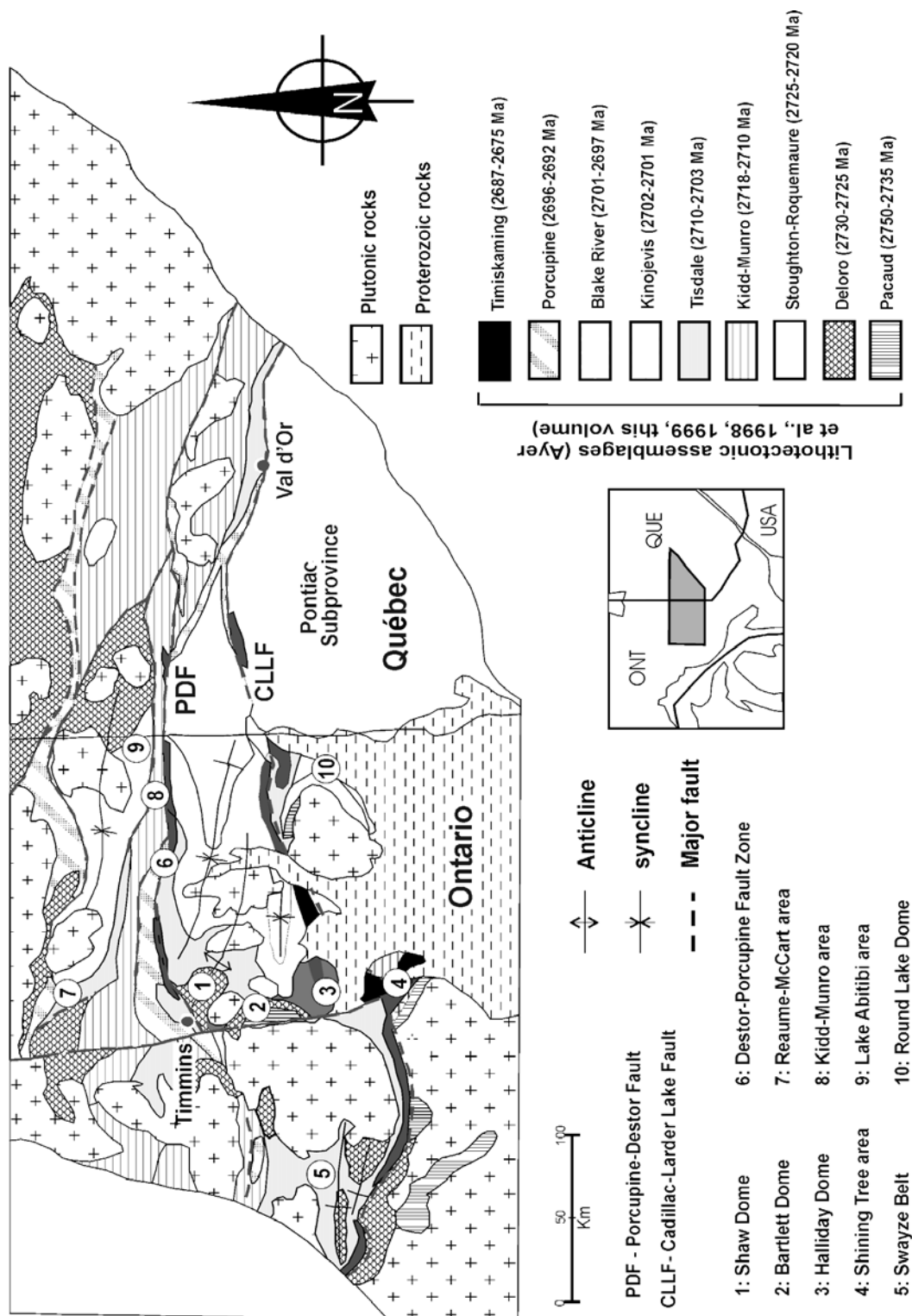
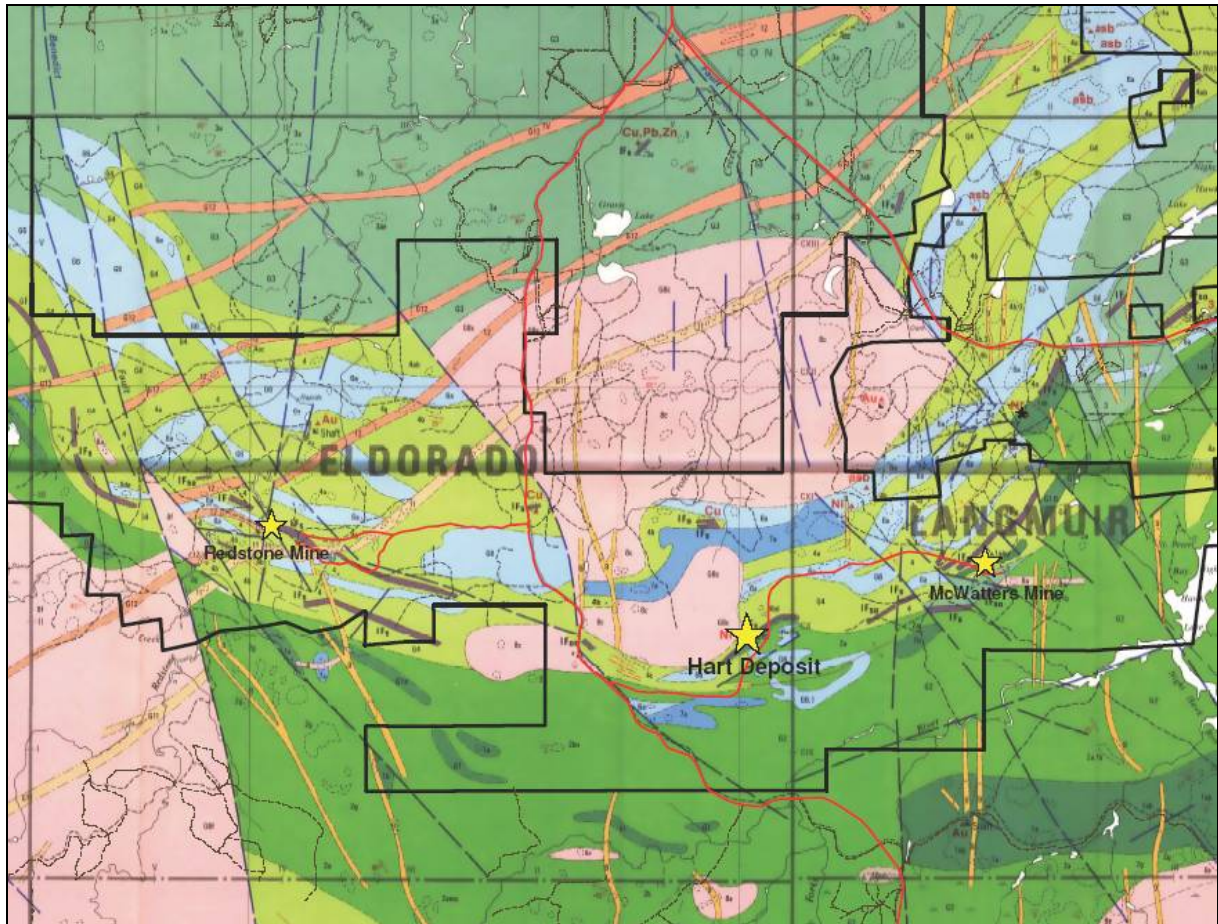


Figure 5. Simplified regional geological setting of the Abitibi Belt.



**Figure 6. Location of the Hart Project shown on an extract from Map P2455, produced by the Ontario Geological Survey.**

## 6.2 Property Geology

Five main rock types have been identified from diamond drill core and surface mapping: footwall intermediate to felsic volcanics, banded iron formation (BIF), mineralized ultramafic flows, felsic dykes, and mafic dykes. A surface geology map based on outcrop mapping and diamond drilling is shown in Figure 7. Based on whole rock data the volcanic rocks range in composition from andesite to dacite, classified using a total alkalis versus silica (TAS) diagram. They often exhibit pyroclastic textures, including blocks, bombs and lapilli. The ultramafic rocks are of komatiitic composition plotting near the 100 percent Mg apex on the Jensen cation plot (Jensen, 1976). The dykes are syeno-diorites and gabbros respectively (also using a TAS diagram).

The ultramafic flows, known as komatiites, lie conformably on the banded iron formation which, in turn, overlies the dacitic, pyroclastic volcanic flows. In localized areas the banded iron formation has been thermally eroded so that the komatiitic flows are in direct contact with the felsic volcanic rocks, forming

palaeotopographic embayments. During this process, and as a direct result of the sulphur contamination, nickel-sulphide precipitation occurred within the still active ultramafic flows, accumulating due to gravitational settling in many of these localized embayments. Subsequent regional tectonic events have uplifted the package so that it now dips SSE at an average angle of seventy-five degrees from horizontal. Little subsequent structural modification has been detected in core samples, unlike the nearby Redstone deposit which has been subjected to considerable post mineralization stress.

The process of sulphide assimilation by the komatiitic flow has been well recorded in the Hart deposit. In addition to the classical magmatic sulphide assemblage a contaminated iron formation (IF Zone) occurs near surface. This geological unit bears more visual resemblance to the barren banded iron formations that flank it, including predominant quartzitic and graphitic bedding planes, but contain significant nickel mineralization. Values range from anomalous to over two percent Ni. This area is interpreted as in situ evidence of sulphide assimilation, showing that the sulphur source and depositional environments can occur in very close proximity. This IF Zone also occurs in a stratigraphically higher region than the magmatic sulphides, re-enforcing the model.

The komatiitic rocks, which host the mineralization are serpentinized and locally altered to talc, chlorite and carbonate. Spinifex textures are common, occurring at distinct stratigraphic horizons, serving as a tentative marker horizon. The contained sulphide minerals in decreasing abundance are pyrrhotite, pentlandite, minor pyrite and chalcopyrite, occurring predominantly as massive to semi-massive sulphides at the base of the komatiitic flow. The total sulphide abundance decreases with increasing distance from the basal contact, in keeping with the classical model involving sulphide settling in an active magmatic environment. As result, the deposit exhibits the full range of concentrations from one to 100 percent sulphides

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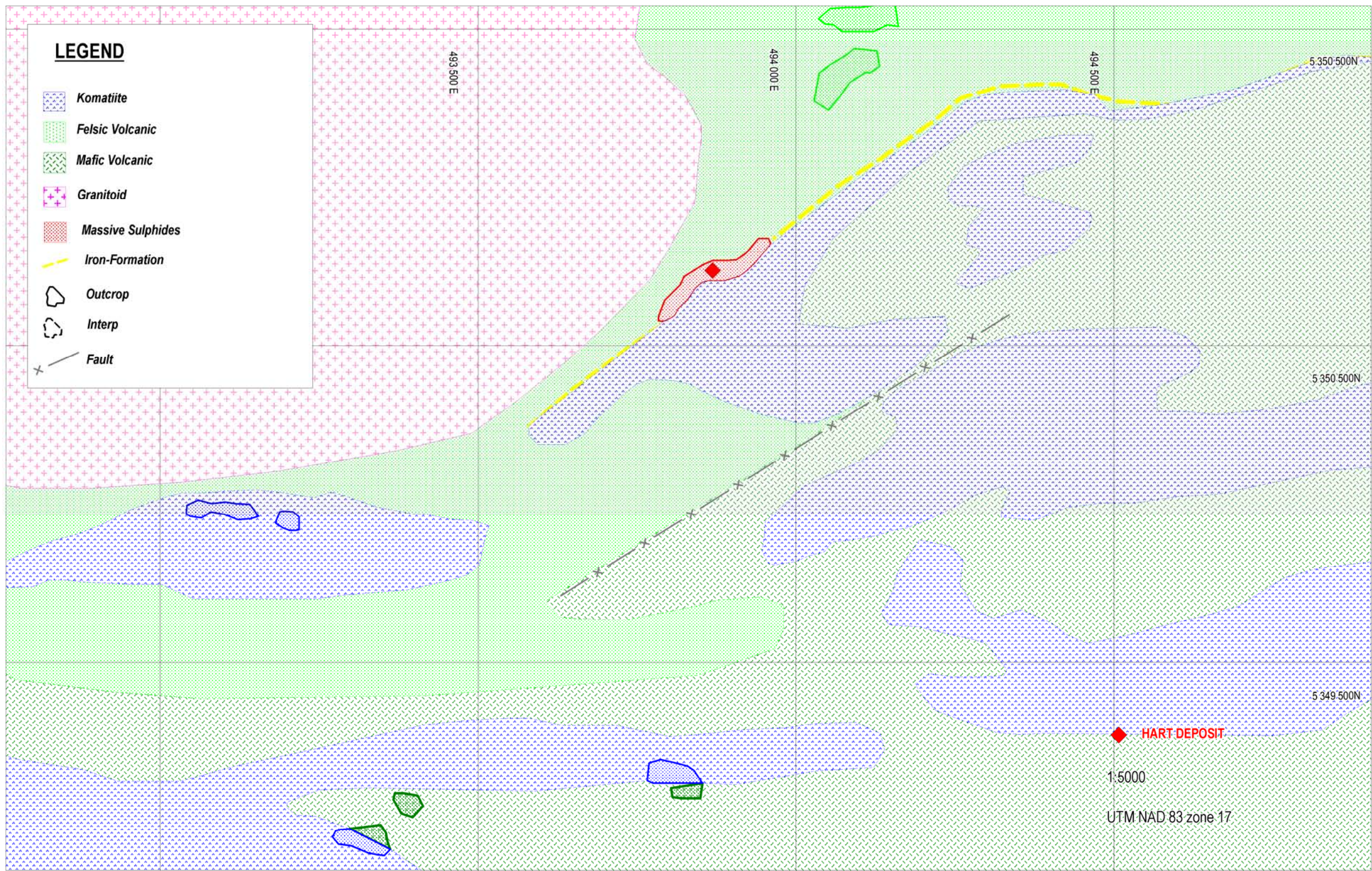
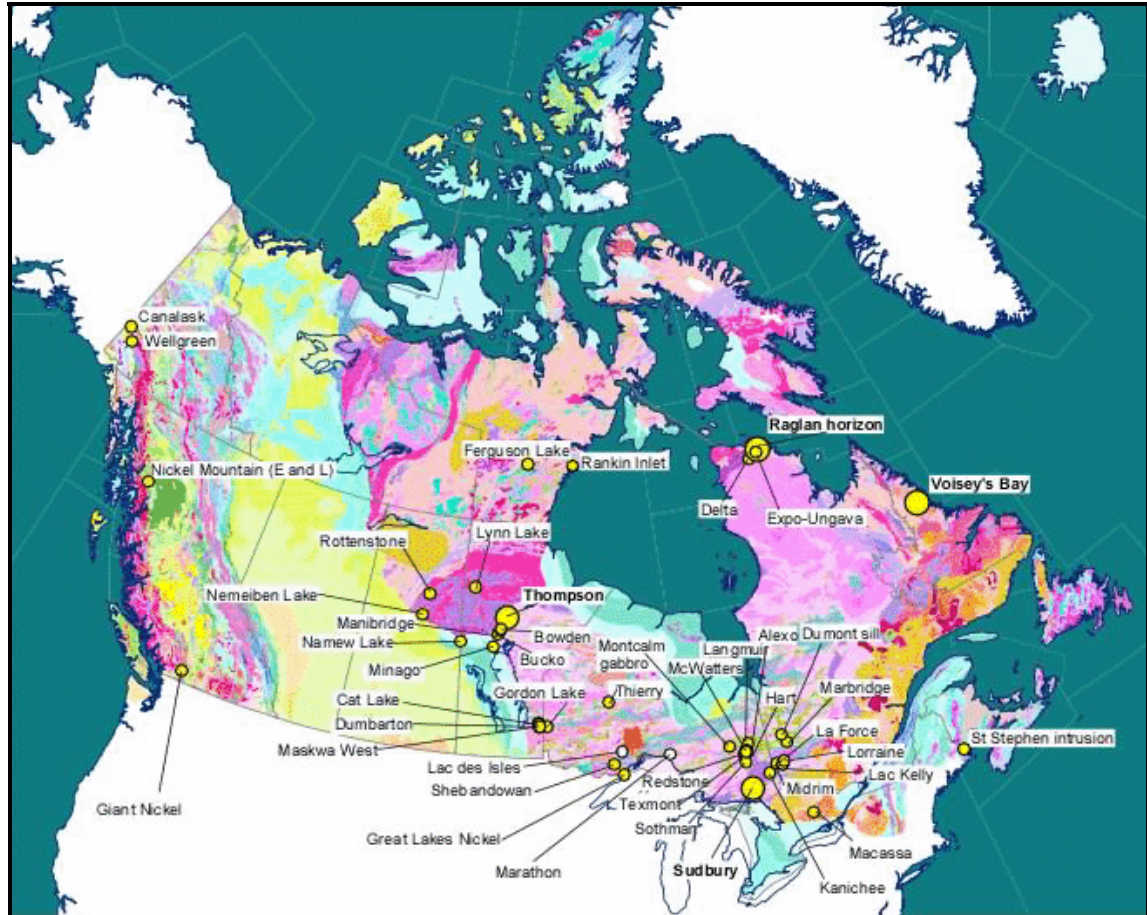


Figure 7. Simplified surface geological map of the Hart Project.



## 7 Deposit Types

The distribution of magmatic Ni-Cu-PGE sulphide deposits in Canada, with a resource size greater than 100,000 tonnes is shown in Figure 8.



**Figure 8. Map showing the distribution of magmatic NI-CU-PGE sulphide deposits in Canada, with resources greater than 100,000 tonnes (after Wheeler et al, 1996).**

Considerable research by various writers over the years indicates that komatiite hosted nickel deposits in the Timmins area are similar to the Achaean age nickel deposits of the Kambalda and Windarra areas in Western Australia.

In the AGB four of the assemblages contain komatiites. Komatiite-associated Ni-Cu-(PGE) deposits have only been identified within the Kidd- Munro and Tisdale (including Hart) assemblages. This is consistent with the interpretation that komatiite associated Ni-Cu-(PGE) deposits form within lava channels of channelized sheet flows, but not within sheet flows or lava lobes.

Tisdale assemblage ultramafic volcanic rocks with high MgO contents (up to thirty-two percent) are defined as aluminium undepleted komatiites (“AUK”). Individual flows are usually less than 100 metres thick and typically occur at or near the base of ultramafic sequences. The flow units can be recognised by the presence of chilled contacts, the distribution of spinifex textures, marked compositional or mineralogical changes at unit boundaries and the presence of ultramafic breccia or sulphidic sediments at contacts. Intrusive counterparts have also been recognized in the Tisdale assemblage.

The following three paragraphs are largely based on Lesher & Keays (2002), parts of which are paraphrased.

Komatiite-hosted Ni-Cu-PGE deposits are one of several lithological associations within the broader group of magmatic Ni-Cu-PGE deposits. Mineralization occurs in both extrusive and intrusive settings and experimental studies indicate that komatiitic magmas/lavas were emplaced at very high temperatures. Deposits of this association are mined primarily for their Ni contents, but they contain economically-significant amounts of Cu, Co, and PGE.

Komatiite-associated nickel sulphide deposits are part of a continuum of lithotectonic associations in the family of magmatic Ni-Cu-PGE deposits, which contains a variety of mineralization types (Table 3 from Lesher & Keays, 2002).

**Table 3 Classification of mineralization types in komatiite-associated magmatic Ni-Cu-PGE deposits (from Lesher and Keays, 2002).**

Origin	Magmatic						Hydrothermal-Metamorphic		Tectonic
Type	I basal/footwall		II strata-bound internal			III reef	IV		V
Subtype	I stratiform	I b footwall vein	II a blebby	II b interstitial	II c cloudy	stratiform	IV a meta-sediment	IV b vein	offset
Sulphide distribution	at or near the bases of komatiitic peridotite or komatiitic dunite units	veins or stringers in host or wall rocks associated with Type I a mineralization	coarse disseminations within komatiitic peridotite or dunite units	fine disseminations within komatiitic peridotite or dunite units	very fine disseminations within komatiitic peridotite or dunite units	at or near contact between lower cumulate zones and upper gabbro zones within strongly differentiated units	layers in sulphidic metasediments associated with Type I mineralization	veins in wall rocks associated with Type I mineralization	faults and shear zones within host or wall rocks associated with Type I mineralization
Sulphide textures	massive, net-textured, disseminated; sometimes xenolith- or xenomelt-bearing	massive	blebby	intercumulus, interstitial or lobate	intercumulus, interstitial	disseminated, rarely net-textured	layered, banded, laminated	massive to disseminated, typically associated with quartz and/or carbonate	brecciated, typically heterolithic; durchbewe-gung
Ore tenor	typically moderate-low, slightly fractionated	variable, commonly enriched in Cu-PGE relative to associated contact ores	moderately high, relatively unfractionated	typically high, relatively unfractionated	variable (high to low)	typically high, relatively fractionated	variable, commonly depleted in Cr and Ir relative to associated magmatic ores	variable, commonly depleted in Cr and Ir relative to associated magmatic ores	variable, commonly depleted in Cr, Pt, and Au relative to associated magmatic ores
Timing and paragenesis	early magmatic, segregated prior to or during emplacement	early or late magmatic, injected during initial emplacement or formed via fractional crystallization of MSS	intermediate magmatic, segregated during crystallization of cumulate host rock	intermediate magmatic, segregated during crystallization of cumulate host rock	late magmatic but meta-morphically modified, segregated during crystallization of cumulate host rock	late magmatic, segregated during final stages of crystallization of host rock	late magmatic or syn-metamorphic	syn-metamorphic, mobilized in hydrothermal fluids	syn-tectonic, mobilized from massive or net-textured sulphides
Examples	Alexo, Kambalda, Langmuir, Windarra, Hart	Kambalda, Alexo, Hart	Damba-Silwane, Otter shoot (Kambalda)	Mt. Keith, Dumont, Perseverence Main	Katinniq, Perseverence Main	Delta, Romeo II, Fred's Flow, Boston Creek Unit	Jan shoot (Kambalda), Langmuir, Thompson, Hart	Kambalda, Langmuir, Donaldson West	Thompson, Nepean, Perseverence 1A, Redross, Redstone, Trojan, Windarra



Most of the deposits in the Shaw Dome are **Type I** (stratiform basal), including Liberty's Redstone and Hart deposits. **Type Ib** (magmatic footwall vein) mineralization is a minor mineralization type associated with Type I deposits, but is an important ore type in other associations (e.g., Cu-PPGE-rich footwall veins at Sudbury). **Types IIa** (blebby disseminated) and **IIc** (cloudy disseminated) are common minor mineralization types associated with Types I and IIb. **Type III** (stratiform "reef") mineralization is a more recently-recognized primary mineralization type in this association and is normally subeconomic, but is an important ore type in other associations (e.g., Bushveld, Stillwater). **Type IVa** (Ni-enriched metasediment) mineralization occurs in many deposits where Type I ores are intimately associated with sulphidic metasedimentary rocks, as is the case with the Hart deposit. **Type IVb** (hydrothermal vein) mineralization is a relatively minor, but genetically important secondary ore type. **Type V** (offset) mineralization is associated with almost all Type I deposits and is common both at Redstone and Hart deposits.

The genesis of the Shaw Dome and the Australian deposits is attributed to the combined effect of lava channels (or channelized sheet flows) and intrusives, which provides the heat and metal sources and sulphide bearing iron formations in the footwall that, provide an external sulphur source. Thermal erosion of the underlying rocks by the komatiite flows is considered to be the dominant mechanism for adding sulphur to the magma and to the creating a depositional 'trough' for sulphide minerals. Type II mineralization characteristically contains disseminated sulphide mineralization within channelized flows resulting in large tonnage low grade deposits. Characteristics of this deposit type which should be used in exploration methodologies include:

- Geological mapping of komatiite flow units;
- Presence of sulphidic footwall rocks;
- Lithogeochemical surveys can detect AUK komatiites;
- Airborne and ground electromagnetic surveys will detect the location of massive sulphide mineralization, whereas magnetic surveys should detect pyrrhotite rich sulphide mineralization.

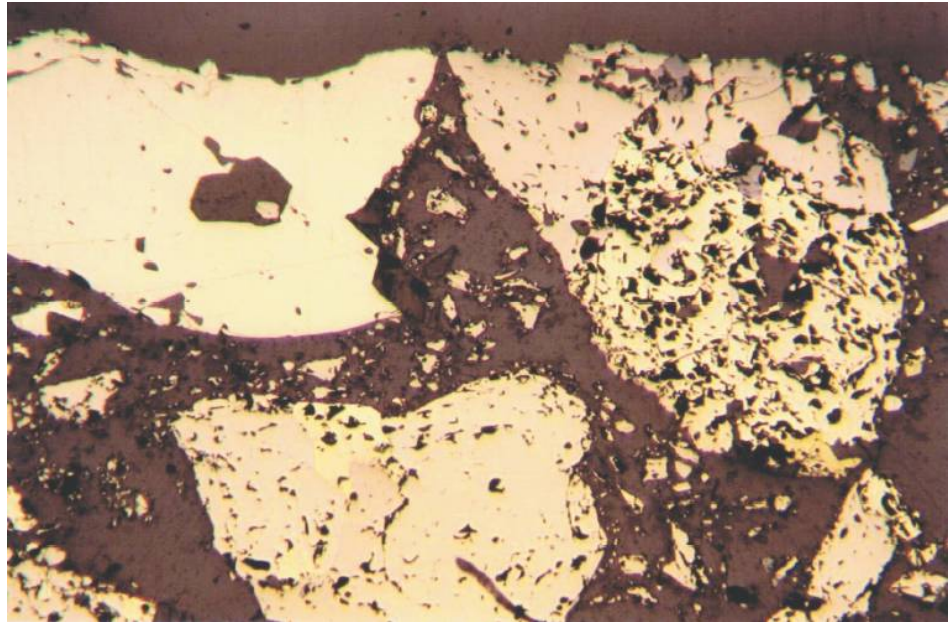
## 8 Mineralization

The Hart deposit mineralized zone can be subdivided in three distinct zones: an upper zone of Ni-enriched banded iron formation (IF Zone), a basal, lower zone consisting of massive to semi-massive sulphides (Figure 9), and a stratigraphically overlying zone of disseminated sulphides. The IF Zone consists primarily of altered metasediments including quartzite, graphite, and abundant pyrite and troilite. Overlying ultramafic rocks have enriched the iron sulphides with nickel. This zone is well bedded and primarily sedimentary.

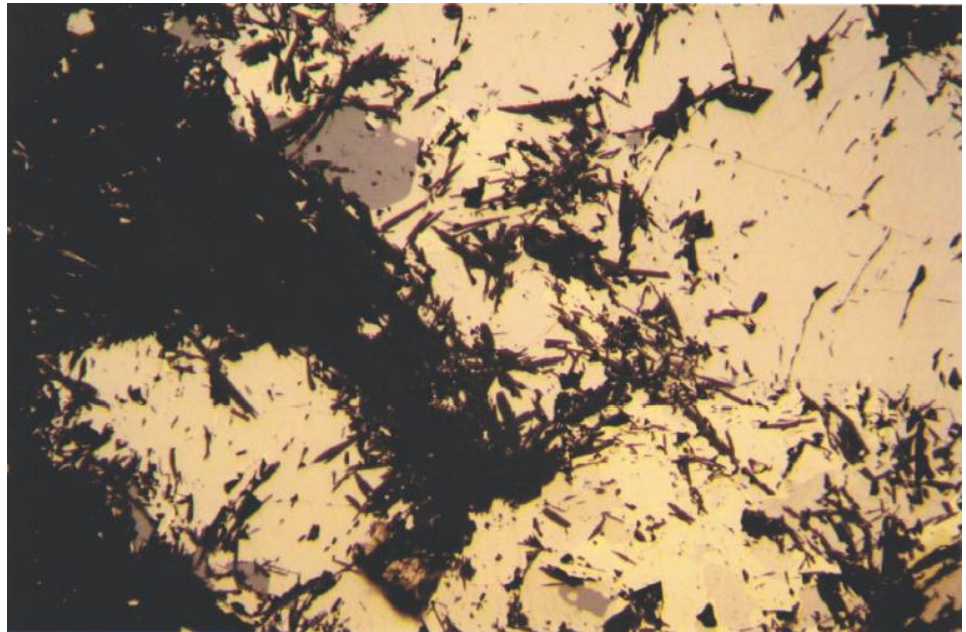
The main zone that comprises the majority of the mineral resource consists of komatiite-hosted massive to semi-massive sulphides lying conformably on dacitic pyroclastic flows. The sulphide assemblage consists of pyrrhotite, pentlandite, and minor pyrite and chalcopyrite. Typical sulphide concentrations range in the sixty to eighty percent pyrrhotite and ten to thirty percent pentlandite. The pentlandite occurs intergrown with pyrrhotite as irregular grains that are generally relatively coarse grained. Microphotographs of thin sections taken from this zone are shown in Figure 10 and Figure 11. The massive zone is overlain by disseminated sulphides of varying sulphide modal abundance, ranging from under one percent to twenty-five percent. The sulphide minerals are similar to those of the massive zone, with the exception of minor amounts of millerite also identified in thin section. Silicate minerals have been completely serpentinized and/or carbonatized.



**Figure 9. Semi-massive sulphide mineralization (primarily pyrrhotite and pentlandite) from drill core (H-07-48).**



**Figure 10. Microphotograph of Massive Sulphides. Scale 1cm = 120 microns. Illustrates the relative coarseness of the pentlandite in this sample. The large grains at the upper right and bottom centre are pyrrhotite (buff colour) with intergrown pentlandite (creamy yellow with abundant black polishing pits). The smooth surfaced cream-coloured grain at the upper left is pyrite.**



**Figure 11. Microphotograph of semi-massive sulphides. Scale 1cm = 120 microns. Shows intimate intergrowths of silicate gangue (acicular black) with pentlandite in pyrrhotite (buff colour). Pentlandite areas (pale yellow, e.g. bottom right, upper centre) in this photo range from 200 to 30 microns.**

## **9 Exploration**

### **9.1 Historical**

A review of the historical exploration activities on the Hart Property has been presented in Section 5 of this report.

### **9.2 Exploration Work by Liberty**

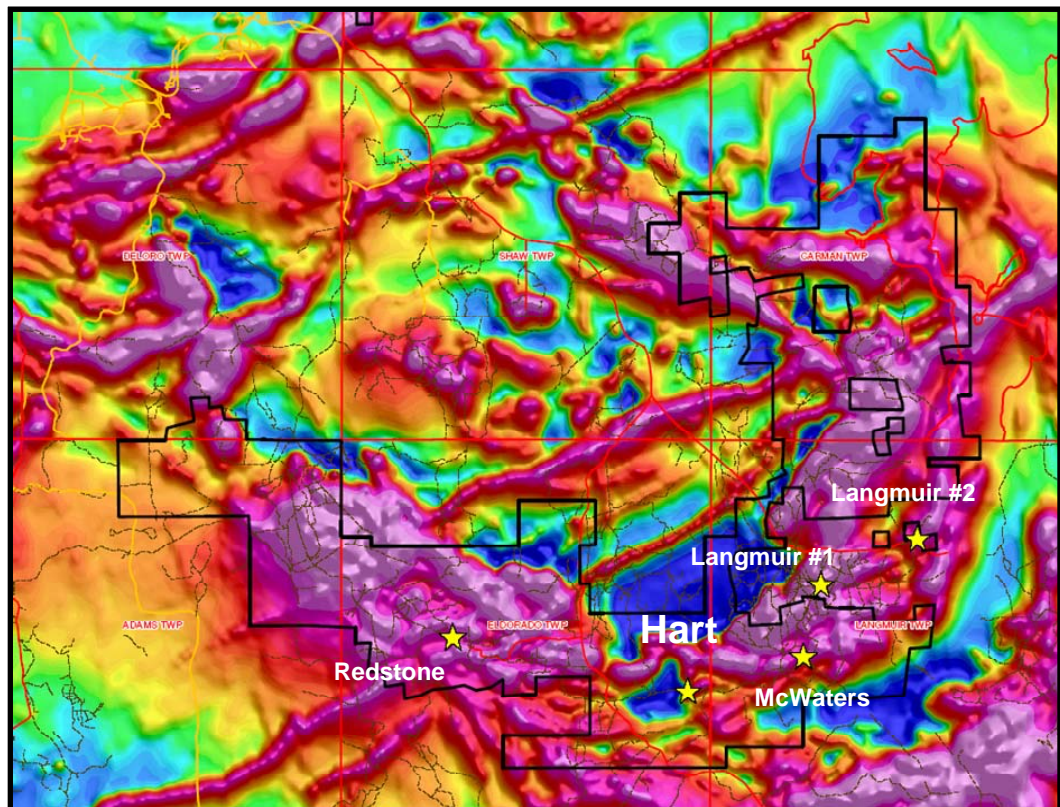
Since 2005, Liberty has drilled a total of 104 NQ size diamond drillholes with an average length of 301 metres. A total of five surface trenches were also undertaken.

### **9.3 Future Exploration Work**

The komatiitic flow that hosts the Hart ore zone continues at depth and has a strike length of several kilometres. Future exploration will focus on drill testing the depth extension from surface and/or underground drill bays in the event of mining. At depth a gabbroic dyke is known to cross-cut the mineralization. The nature of the ore body below this dyke is unknown and warrants further exploration.

The Hart Property is shown on a regional aeromagnetic image of the area (in relation to Liberty's regional claim outline) is shown in Figure 12. The entire strike length of the komatiitic flow package is prospective as the geological setting has been shown to be fertile. It is recommended that the strike length be evaluated and drill tested. Of particular importance is the identification of nickel enriched metasediments in the immediate vicinity of the magmatic sulphides, such that future exploration should be well aware of this relationship. There are numerous instances throughout the Shaw Dome of iron formations in contact with komatiitic flows that may exhibit a similar signature upon closer inspection.





**Figure 12. Plan position of the Hart Project in relation to other Shaw Dome properties in relation to Liberty's regional claim outline overlain on an aeromagnetic image of the area.**

## 10 Drilling

### 10.1 Introduction

During the period 1964 to 2002, a number of exploration companies undertook various phases of drilling activities in the vicinity of the Hart property. Poor records exist of the diamond drilling during this period, and the results have not been used in the present study. The block model used in this study was based on drilling conducted by Starfire Minerals Inc., Canadian Arrow Mines, and Liberty Mines Inc. Total drilling amounted to 32,054 metres of diamond drill core. Details of this drilling are tabulated in Figure 13.

**Table 4. Summary of drilling data available for the Hart project.**

Company	Period	Type	Drilling Details		
			No. Holes	Total Metres	Average Metres
Starfire Minerals	2002	Surface DD	6	471	78.5
Canadian Arrow	2005	Surface DD	5	306	61
Liberty Mines	2007-08	Surface DD	104	31,277	301

Diamond drilling conducted by Starfire Minerals consists of six, short angled holes. Original drill logs and assay certificates from Swastika Laboratories, Kirkland Lake, ON (Canada), were found. Surface plan maps showing drillhole locations were also located, which aided in reconstructing drillhole locations. Casings were inconsistently left in the ground enabling Liberty Mines to survey a few of the holes, adding confidence to the data. The drill core pertaining to this phase of drilling has not been examined by Liberty staff or SRK, and therefore has not been independently verified.

Diamond drilling conducted by Canadian Arrow Mines consists of five angled holes. Original drill logs and assay certificates from Swastika Laboratories, Kirkland Lake, ON were examined. Drillhole collars were all identified and surveyed. Drill core from this phase of drilling is stored at the Redstone Mine site, where Liberty staff was able to corroborate geological and analytical data satisfactorily.

### 10.2 Drilling by Liberty (post 2005)

All drilling by Liberty was conducted from surface. A total of 104 HQ-size core boreholes with an average length of 301 metres were completed on the site (31,277 metres). The core is stored at the Redstone Mine site and is available for review.


The drilling contractor for the entire program was Bradley Bros of Timmins. The boreholes are labelled by a clear alphanumeric code. The drill core was

not routinely photographed, although representative core intersections were photographed.

Drill collars were surveyed by a land surveyor, with the original collar azimuth and plunge setup determined by compass and/or cut grid lines. Downhole surveying was routinely conducted at twenty-five metre intervals with an EZ Shot Reflex instrument. Casing is used for one hole per set-up for all surface drill locations, with collar pickets installed with clear labels indicating location, borehole names, azimuth, and dip. Core orientation is achieved with the EzyMark system. Core recovery and rock quality determination were routinely collected.

An example of the output of a typical Liberty drill log (H08-99), highlighting all drilling information in DH logger (Century Systems) output is shown in Figure 13.

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Hole Number: H-08-99

Units: METRIC

Borehole ID: H-08-99

Primary Grid: HART:

Primary North: 3699.89

Primary East: 2561.03

Primary Elev: 2296.93

Destination Grid: UTM:

Destination North:

Destination East:

Destination Elev:

Project Number: HART

Claim #: 30310638

Township: Eldorado

Logged By: tdunnett

Log Finished: Apr 28, 2008

Core Storage: Redstone Minesite

Casing: Left in hole

Start Date: Apr 28, 2008

Finish Date: May 16, 2008

Drill Contractor: Bradley Bros.

Core Size: NQ

Hole Length: 569.00

Azimuth: 360.00

Dip: -67.00

Comments:

Survey Tests

Depth	Az	Dip	Depth	Az	Dip	Depth	Az	Dip	Depth	Az	Dip
0	360.00	-67.00	28.0000	355.20	-66.50	53.0000	357.90	-66.50	77.0000	357.30	-66.60
101.0000	355.30	-66.80	125.0000	356.70	-66.90	149.0000	32.00	-66.70	173.0000	1.30	-66.70
197.0000	359.80	-67.10	221.0000	2.50	-67.10	245.0000	2.50	-67.10	269.0000	2.60	-67.60
293.0000	3.10	-67.10	317.0000	3.20	-66.90	341.0000	359.10	-66.90	365.0000	2.60	-66.80
389.0000	3.40	-67.00	413.0000	3.30	-66.70	437.0000	3.30	-66.70	461.0000	5.10	-66.60
485.0000	4.70	-66.40	509.0000	2.20	-66.30	533.0000	2.70	-66.30	557.0000	3.10	-65.80
569.0000	3.50	-65.70									

Detailed Lithology

From	To	Lithology	From	To	Mineralization Type	Mineralization Style	Min %	Sample Number	From	To	Ni %	Cu %	Au gpt	Pt gpt	Pd gpt
0	17.00	CAS, Casing													
17.00	28.00	KPd, Komatiite													
28.00	28.20	MD, Mafic Dike hard, black, non-magnetic.													
28.20	36.00	KPd, Komatiite very broken and soft Kpd													
36.00	38.00	FLT, Fault Zone													
38.00	65.00	KPd, Komatiite very broken and soft Kpd													
65.00	96.80	KPd, Komatiite more competent rock													
96.80	97.80	Kosx, Komatiite Spinifex spinifex texture clearly visible.													
97.80	106.70	KPd, Komatiite													
106.70	111.40	Kosx, Komatiite Spinifex													
111.40	119.80	KPd, Komatiite													
119.80	123.10	Kosx, Komatiite Spinifex													

Figure 13. Extract from a typical drill log output (H-08-99) from the Hart drilling program highlighting drilling details.



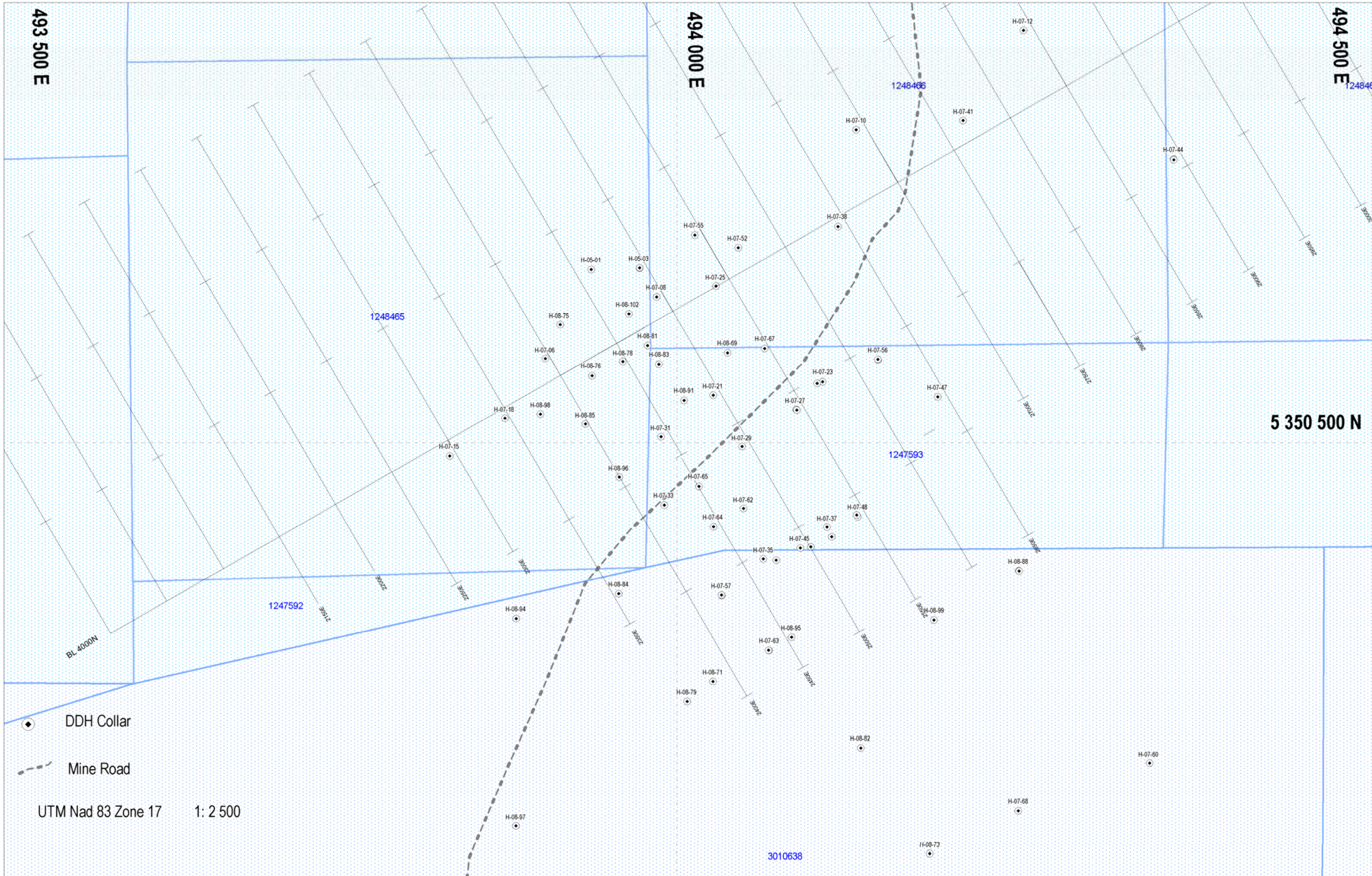
### 10.3 Drilling Pattern and Density

The plan position and a typical section showing the typical drilling pattern conducted at Hart are illustrated in Figure 14 and Figure 15.

Starfire Minerals and Canadian Arrow Mines drilled eleven surface holes targeting near surface mineralization. The maximum depth below surface achieved was approximately eighty metres, although drilling typically targeted depths less than sixty metres below surface. Drilling was conducted on a very tight pattern with one, two, or three drill holes per setup. These two phases of diamond drilling intersected what has been identified as the IF Zone, corresponding to Type IVa nickel mineralization (Leshner & Keays, 2002). The main zone was not intersected by this drilling.

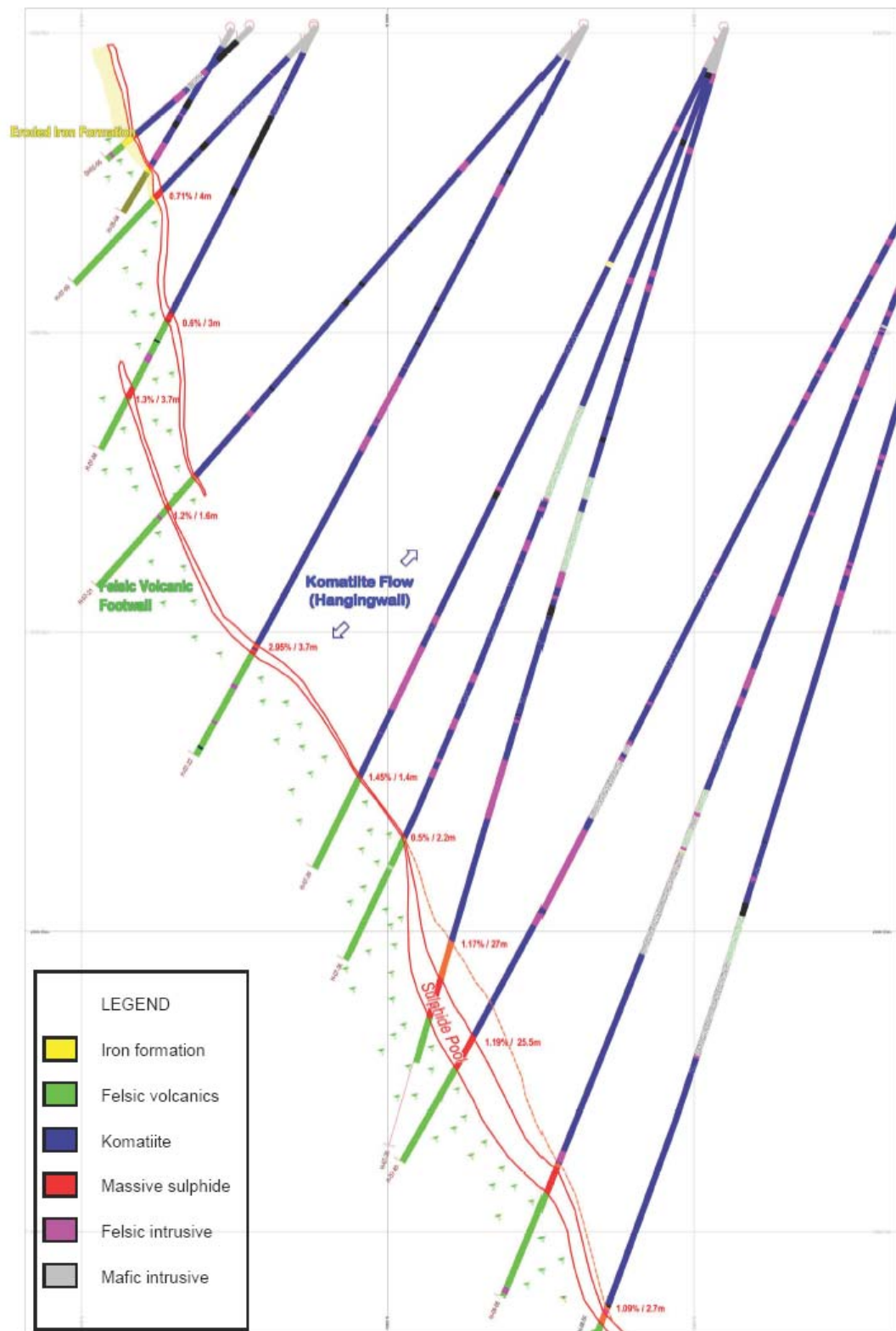
Liberty drilled 104 core boreholes from surface. These holes were all drilled grid north, with dips angles ranging from seventy-nine to forty-five degrees. Two to three boreholes were typically drilled from each setup. Drilling was designed to achieve a drill spacing of between twenty to thirty metres for the upper part of the deposit (above 250 metres below surface), and forty-five to seventy metres below 250 metres. The varying drill spacing was to ensure higher confidence in areas to be mined first, while also allowing an acceptable confidence in the delineation of the lower zone (Figure 15). Intersection widths in the lower zone are also larger, contributing to a sparser drill density.

It is the opinion of SRK that the drilling strategy and pattern have produced an adequate drill density to support resource estimation.



**Figure 14. Plan map showing drillhole collar locations, grid layout, and claim outlines.**





**Figure 15. Idealized section showing drill holes and geology.**


# 11 Sampling Approach and Methodology

## 11.1 Introduction

Data reviewed as part of in this study and used for geological modelling and resource estimation represent a aggregated data collected during various phases of exploration drilling from 2005 to 2008. Exploration field procedures implemented by exploration staff for the 2005 drilling is unavailable. However, the historical portion of the total data set is relatively minor (only five drill holes) and does not have a material impact on the reported mineral resources.

SRK was able to review core handling, logging or sampling procedures implemented by Liberty. All drill core is transported to the secure Redstone core yard, near the main office, where it is logged. Core is marked for sampling and mechanically split lengthwise for assaying. Half of the split core is submitted for sample preparation and analyses (and sometimes for specific gravity), whereas the other half remains stored in the original core boxes. Drill core logging and sampling information are recorded into DH logger (Century Systems) format, with adequate detail on lithology and mineralization. Assay results for nickel (percent), copper (percent), gold (gpt), platinum (gpt) and palladium (gpt) are recorded adjacent to lithology descriptions. SRK notes that gold, platinum and palladium have not been routinely sampled. An extract from the drill log for H-08-99 from 527.1 metres to 569 metres is provided in Figure 16.

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LIBERTY MINES DETAILED LOG

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Hole Number: H-08-99

Units: METRIC

Detailed Lithology			Mineralization Data					Assay Data							
From	To	Lithology	From	To	Mineralization Type	Mineralization Style	Min %	Sample Number	From	To	Ni %	Cu %	Au gpt	Pt gpt	Pd gpt
527.10	534.50	<b>SMS, Semi Massive Sulphide</b> 40-60% Sulphides. <b>RQD</b> 527.00 - 536.00 : % RQD 98.00 % Recovery 100.00						E106279	527.10	528.00	1.1800	0.0800			
								E106280	528.00	529.00	1.4100	0.1400			
								E106281	529.00	530.00	1.4000	0.0800			
								E106282	530.00	531.00	1.4600	0.1000			
								E106283	531.00	532.00	1.5200	0.1100			
								E106284	532.00	533.00	1.5300	0.0600			
								E106285	533.00	534.00	1.2400	0.1100			
								E106286	534.00	534.50	1.5100	0.0800			
534.50	535.00	<b>MS, Massive Sulphide</b> cba 40 degrees, massive Ni Sulphides, tested positive with xray gun for Ni. <b>RQD</b> 527.00 - 536.00 : % RQD 98.00 % Recovery 100.00						E106287	534.50	535.00	3.3800	0.0800			
535.00	569.00	<b>FV, Felsic Volcanic</b> foliated, 1% fe-sulphides. <b>RQD</b> 527.00 - 536.00 : % RQD 98.00 % Recovery 100.00						E106288	535.00	536.00	0.0900	0.0050			

RQD

From	To	Drill Length	Recovered Length	Piece Length >10cm	Recovery %	RQD %	Description
527.00	536.00	9.00	9.00	8.82	100.00	98.00	

Figure 16. An extract from Hart drill log for H-08-99 in DH Logger format.

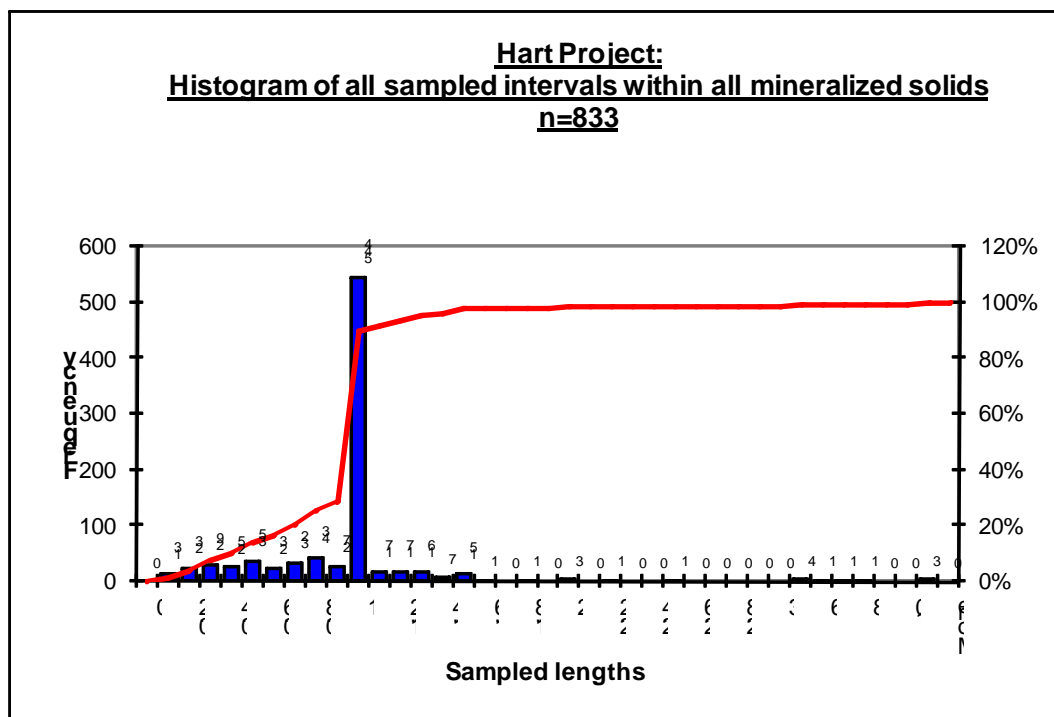
## 11.2 Sampling protocols

Summary statistics for sample lengths for the total Liberty drilling sampled intervals within mineralized solids at Hart is shown in Table 5. It is noted that the mean sample length for the Liberty drilling sampling within the modelled mineralized solids is 0.96 metres. During 2007 -2008, Liberty sampled all mineralized core intercepts, including a footwall sample below the massive sulphide basal contact as well as continuous sampling over all visibly mineralized sulphides in the overlaying disseminated sulphide zone. Records of sampling protocols for 2005 (and prior to that) sampling programs are unavailable. Only sample records from 2005 to 2008 were used for resource estimation.

**Table 5. Statistics of the sampled drilling lengths within modelled mineralized solids at the Hart Project.**

STATISTIC	LENGTH
Mean	0.96
Standard Error	0.02
Median	1.00
Mode	1.00
Standard Deviation	0.73
Sample Variance	0.54
Kurtosis	113.54
Skewness	9.45
Range	10.98
Minimum	0.02
Maximum	11.00
Sum	848.27
Count	883

A histogram illustrating the sampling intervals within all the modelled mineralized solids at the Hart project is shown in Figure 17. It can be noted that about ninety percent of sample intervals are 1.0 metre in length or less.



**Figure 17. Histogram of sampled lengths within the modelled mineralized solids.**

## 12 Sample Preparation, Analyses and Security

### 12.1 Sample Preparation and Analyses

Information regarding the historical sample preparation, analyses and procedures is not available to SRK. However, they represent a very small portion of the total assay data and are not considered to have a significant impact on the overall database. Summarized information regarding Liberty sample preparation and analyses is documented here.

The primary laboratory used by Liberty for drill core analyses is the accredited ALS Chemex Laboratory. Samples submitted for assaying were prepared at the Timmins sample preparation facility and subsequent analyses were performed at the ALS Chemex North Vancouver laboratory. Total turn-around time is reported to be about four weeks.

ALS Chemex North Vancouver laboratory is accredited to ISO 9001 by QMI and ISO 17025 by the Standards Council of Canada for a number of specific test procedures, including fire assay for gold with atomic absorption and gravimetric finish, multi-element inductively coupled plasma optical emission spectroscopy (“ICP-AES”) and atomic absorption assays for silver, copper, lead and zinc. ALS Chemex laboratories also participate in a number of international proficiency tests, such as those managed by CANMET and Geostats. At ALS Chemex, core samples were prepared using industry standard preparation procedures.

After reception, samples were organized into batches and weighed (method code LOG-22). Samples were then crushed to seventy percent passing below two millimetre mesh screen (CRU-31). A sub-sample of up to 1,500 grams was prepared using a riffle slipper (SPL-21) and pulverized to eighty-five percent passing below seventy-five microns (PUL-31).

Generally analyses are conducted for only nickel and copper, with analyses for platinum, palladium and gold conducted only by request. The assay method used for base metals is aqua regia digestion followed by fusion and AAS (analytical code AA46). Analyses for precious metals are reported from an aqua regia leach and using conventional inductively coupled plasma optical emission spectroscopy (“ICP-AES”) analyses (analytical code ME-ICP41).

Analytical results are communicated by ALS Chemex to Liberty electronically with data directly updated to the Century Systems database. Certificates of Analyses are received for all assay data and visually checked against the original digital data. The original pulps are stored for ninety days subsequent to the submission of the Certificates of Analyses, thereafter they are returned to site on request for storage.



## 12.2 Quality Assurance and Quality Control Program

Quality control measures are typically set in place to ensure the reliability and trustworthiness of exploration data. This includes written field procedures and independent verifications of aspects such as drilling, surveying, sampling and assaying, data management and database integrity. Appropriate documentation of quality control measures and analysis of quality control data are an integral component of a comprehensive quality assurance program and an important safeguard of project data.

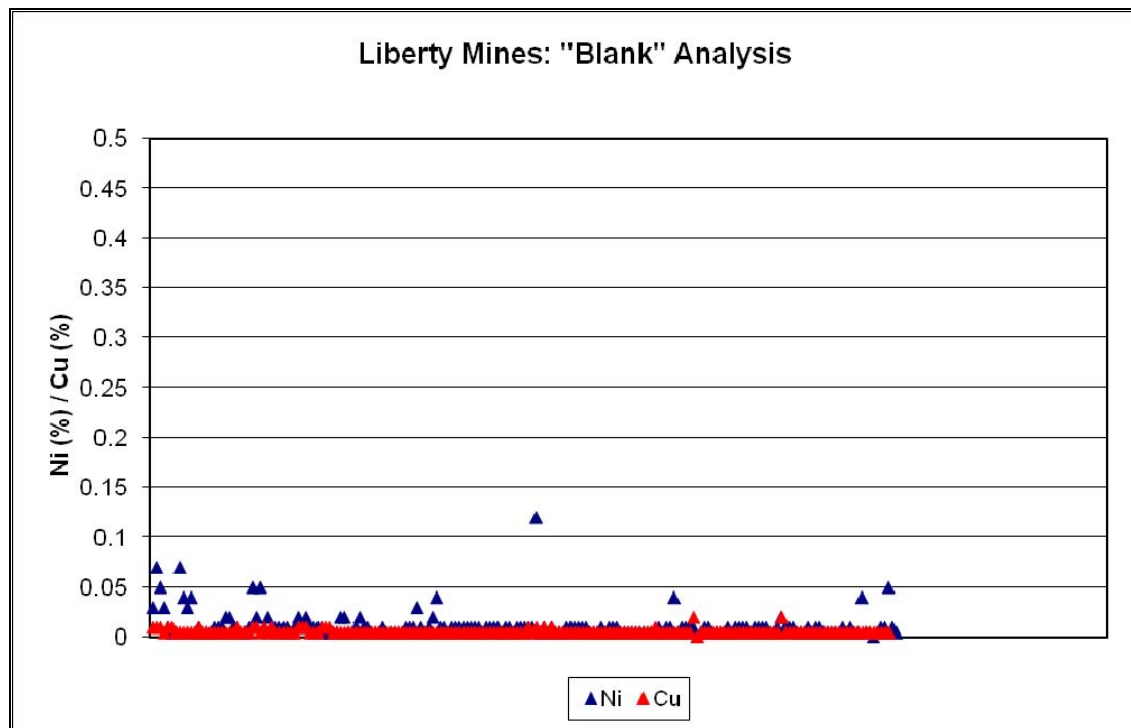
Aspects of the quality control measures implemented by Liberty have been reviewed by SRK. It is SRK's opinion that recent quality control measures implemented and documented by Liberty, generally meet industry best practices. Analytical quality control measures typically involve internal and external laboratory measures implemented to monitor the precision and accuracy of the sampling, preparation and assaying process. They are also important to prevent and monitor the voluntary or inadvertent contamination of samples. Assay certificates and Quality Assurance and Quality Control Reports from ALS Chemex were made available to SRK, who noted that internal and external laboratory control measures were in place.

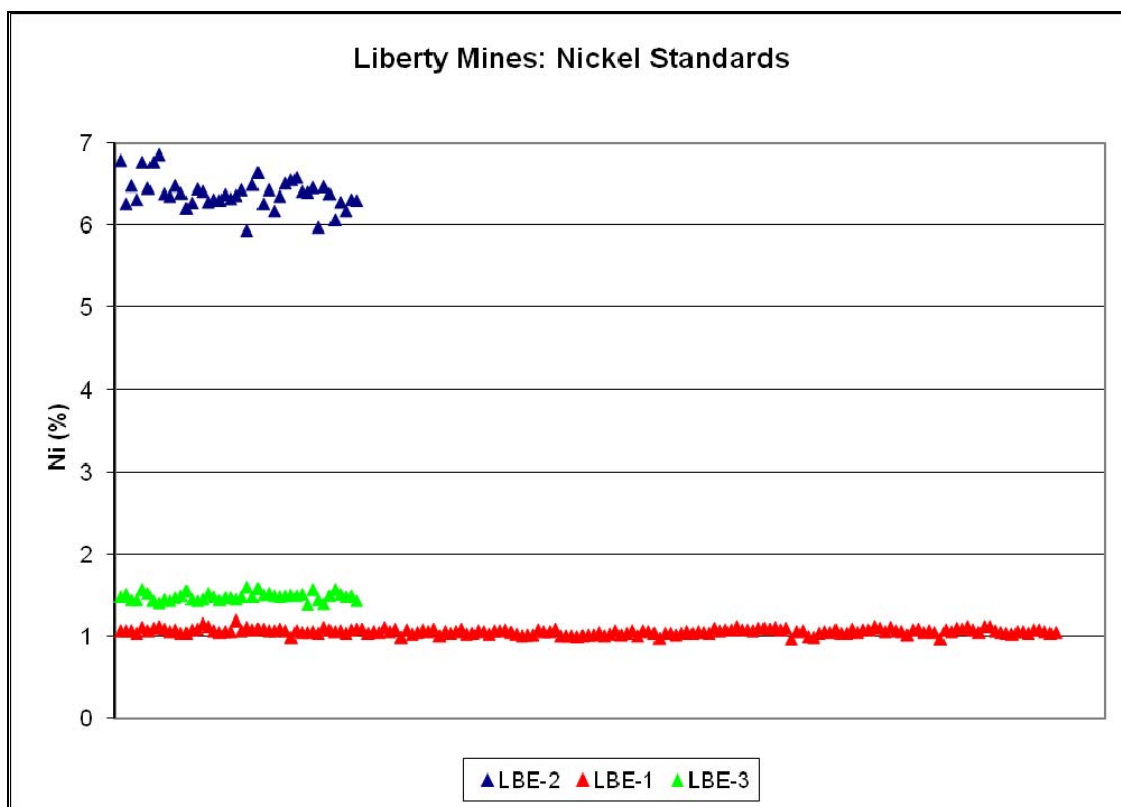
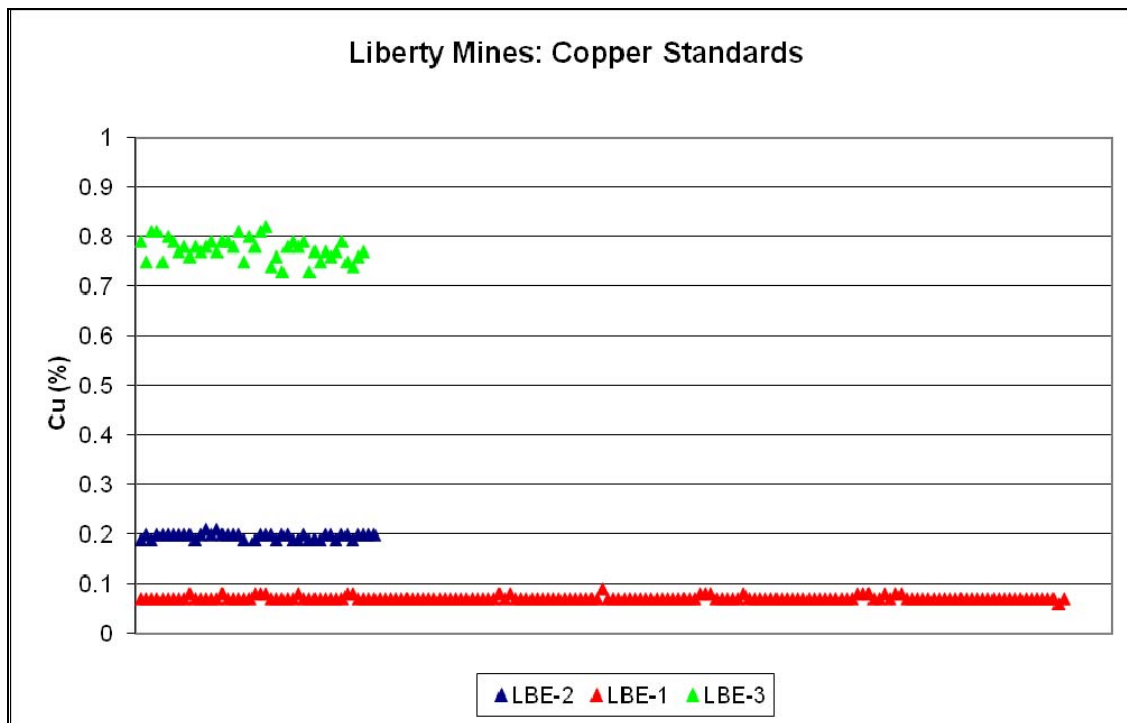
In addition to the quality assurance measures taken by ALS Chemex, a series of external analytical quality control measures were implemented by Liberty. This includes the use of sample blanks and quality control samples inserted at approximately every ten to twenty samples (usually about two per batch).

Certified blank samples are used by Liberty. These blanks have recently also been verified by Liberty, by sending ten blank samples to the SGS Laboratory at Lakefield. Nickel and copper assay results for the 'blank' samples are shown in Figure 18. A slight variance is noted in a limited number of samples available.

Three commercial certified reference material samples (LBE-1, LBE-2, and LBE-3) were used by Liberty. Reference samples LBE-1 and 2 were produced from Redstone Mine material, whereas LBE-3 was produced from material from the Montcalm Mine near Timmins. Assay results for the certified reference material samples are summarized in Figure 19. The recommended values for the copper and nickel reference materials are as follows:

	Ni %	Cu %
LBE-1	1.090	0.071
LBE-2	6.440	0.200
LBE-3	1.540	0.780





**Figure 19. Plot for the control nickel and copper samples used by Liberty (top=copper, bottom=nickel).**

## 12.3 Specific gravity database

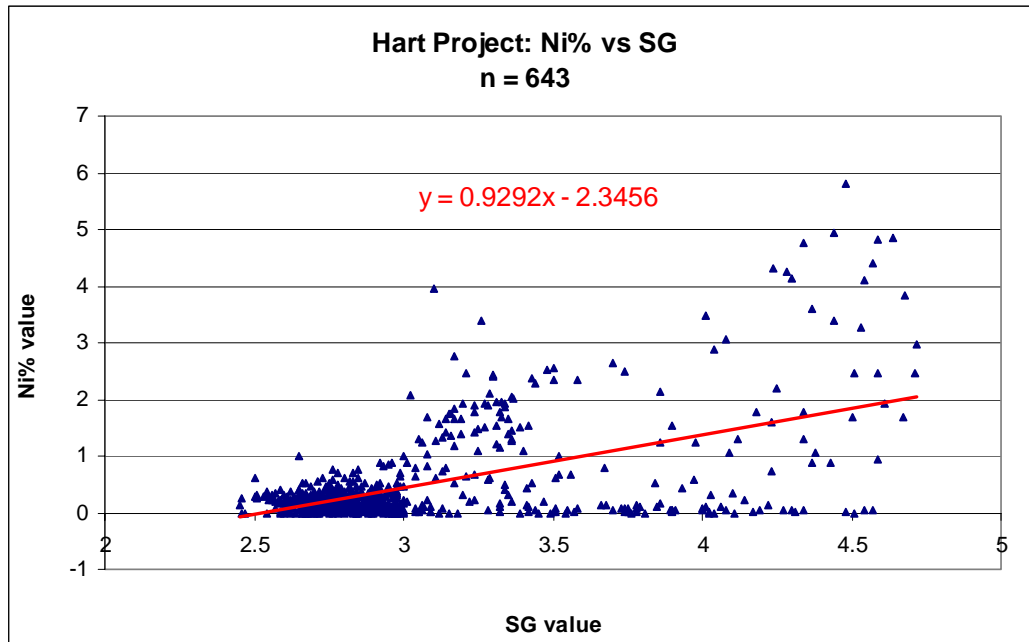
Specific gravity measurements were collected during the Liberty core drilling program in 2007 and 2008. No reliable specific gravity data exist for the 2005 drilling program.

A total of 643 specific gravity determinations are available for the Hart project. Two hundred and thirty one determinations were made from within the nickel-copper sulphide mineralization considered for resource estimation.. All specific gravity measurements were made by ALS Chemex from core pulp samples, using a pycnometer (Method Code OA-GRA08b). The statistics of this dataset is summarized in Table 6. This table differentiates between the three sulphide mineralization types (iron formation, massive and disseminated). The mean specific gravity for each type was used to estimate tonnages.

**Table 6. Summary of specific gravity data available for the Hart project (by sulphide mineralization type).**

Statistic	Iron Formation	Massives	Disseminated
Mean	4.00	3.47	2.82
Standard Error	0.13	0.05	0.02
Median	4.05	3.30	2.78
Mode	na	3.17	2.78
Standard Deviation	0.41	0.55	0.16
Sample Variance	0.17	0.30	0.02
Kurtosis	0.96	-0.33	3.47
Skewness	-1.09	0.92	1.68
Range	1.30	2.07	0.76
Minimum	3.13	2.65	2.61
Maximum	4.43	4.72	3.37
Sum	39.98	436.87	267.57
Count	10	126	95

A general positive relationship exists between specific gravity and nickel grade (Figure 19).



**Figure 20. Scatter plot showing the relationship between specific gravity and nickel grade.**

## 13 Data verifications

### 13.1 Introduction

The mineral resource model presented herein was prepared by SRK from exploration data provided by Liberty and a geological interpretation provided by Mr. Will Randall, P.Geo, and an employee of Liberty. As required under National Instrument 43-101, and Form 43-101F1, SRK has verified the quality and reliability of the all data and geological interpretations provided by Liberty and considered for resource estimation.

After review by SRK, the geological model provided by Liberty was found to be reasonable and appropriate for resource estimation.

It is good practice for exploration staff to implement field procedures designed to verify the collection of exploration data and to minimize the potential for inadvertent data entry errors. SRK was unable to comment on the procedures adopted prior to 2007. SRK was however able to review the procedures adopted by Liberty exploration staff since 2007, during which most of the exploration data for the Hart project was collected (see Table 4).

### 13.2 Control Sampling Assay Protocols

Control sampling procedures applied by Liberty at Hart include techniques such as the following:

- Insertion of routine blank samples to check for possible sample contamination during the preparation and assaying process;
- Application of appropriate grade certified control samples (standards);
- Replicate analysis on a second split of the pulverized sample at the laboratory;
- Duplicate analyses of selected samples;
- Sieve tests to verify the grinding on the pulp required for assaying;
- Validation of the assay results in the database compared with the original assay certificates;

The Century Systems database system used by Liberty is more than just a database; it is a management tool than combines borehole logging and assay data in a way that integrates seamlessly with Datamine Studio. Century Systems has built-in data verification tools, generating data input error and quality control reports for management action.

### 13.3 SRK Independent Verifications

During the site visit, SRK was able to verify many of the surface drill collars positions and review most of the exploration protocols and procedures used by Liberty exploration staff. SRK found that these protocols and procedures generally meet industry ‘best practices’. In addition SRK inspected core from five drill holes drilled by Liberty in 2008. Generally logging in the digital database compares well to what SRK observed in the drill core.

Assay results were compared to actual core intersections and a good correlation between sulphide mineralization and higher grades was observed.

SRK also collected seven core samples for independent verification analyses. Care was taken to replicate sampled intervals for various types of sulphide mineralization (low and high grade nickel mineralization). The verification samples were specifically collected to attest to the existence of nickel and copper mineralization on the Hart property.

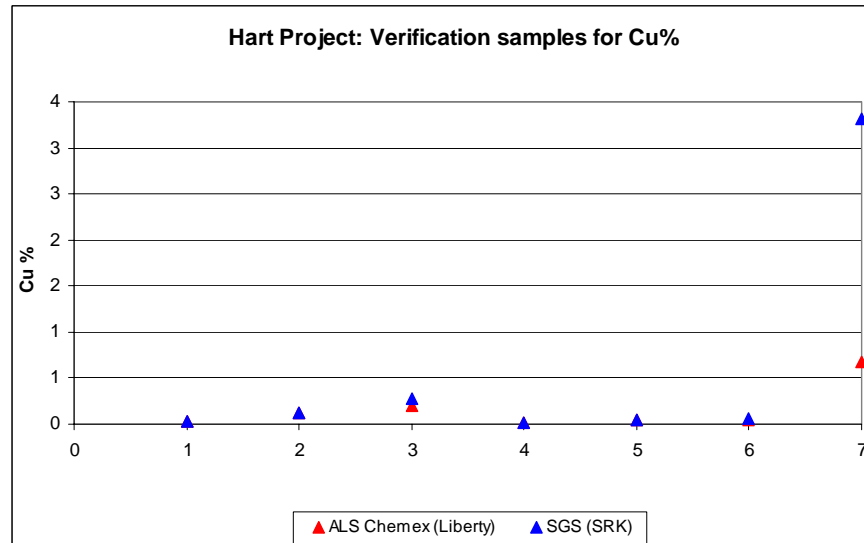
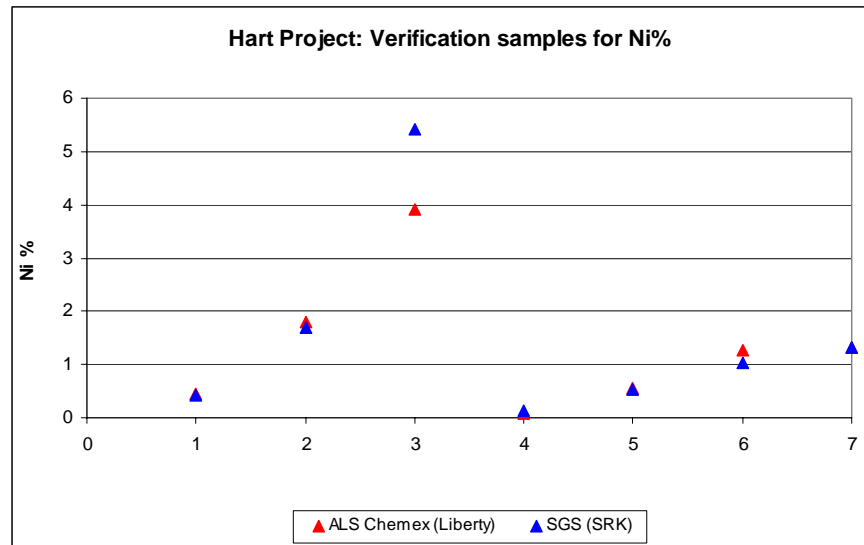
The SRK samples were submitted to SGS Laboratories in Toronto for independent analyses using a ‘near total’ four acid digestion followed by ICP-AES (analytical code ICP90Q). Liberty used and aqua regia digestion followed by atomic absorption finish. The comparative results are summarized in Table 7 and graphically in Figure 21. SRK regard the variance in nickel and copper grades in Table 7 to be acceptable and typical for deposits of this nature.

**Table 7. Comparative analyses for SRK check assay verification.**

Hole #	Sample #	Drill Depth (m)	SGS ICP 90Q		ALS Chemex AA46	
			Ni%	Cu%	Ni%	Cu%
H07-29	E96149	276.0 – 277.0	0.43	0.03	0.44	0.03
	E96150	277.0 – 277.2	1.69	0.12	1.81	0.12
	E97301	277.2 – 277.6	5.42	0.27	3.90	0.20
H07-55	E107844	61.0 – 61.6	0.13	<0.01	0.09	0.01
	E107845	61.6 – 62.6	0.54	0.04	0.55	0.04
H07-50	E105715	451.0 – 452.05	1.03	0.06	1.27	0.05
	E105716	452.05 – 452.2	1.31	3.31	1.31	0.67
<b>Average</b>			<b>1.51</b>	<b>0.55</b>	<b>1.34</b>	<b>0.16</b>

The verification study showed that although average assays are similar, for higher nickel grades SGS results tend to be higher, whereas at lower nickel grades ALS Chemex yield marginally higher results. These variations are however not considered significant.

In the opinion of SRK, the analytical results delivered by ALS-Chemex are sufficiently reliable for the purpose of resource estimation.



**Figure 21. Graph showing comparative Ni% and Cu% assays for SGS (ICP90Q) and ALS Chemex (AA46).**



## 14 Adjacent Properties

Liberty owns a large portion of the surrounding claims, including three of the four known deposits of the Shaw Dome. Hart is located in the central portion of Langmuir Township (Figure 6). The Redstone nickel deposit is located to the west in neighbouring Eldorado Twp and is the westernmost deposit known to date. The Redstone Mine is currently in production and is equipped with concentrating facilities on site. Going eastward, located between McWatters and Redstone, is the Hart nickel deposit, which lies entirely within Liberty's claim package. Langmuir #2, to the north, is shared with Inspiration Mining Corp, who owns part of the claims containing the mineralized zone. Langmuir #1 is the fourth deposit, and lies within a claim group whose mining rights belong to Inspiration Mining Corp.

Liberty owns the Redstone deposit that contains a reported Measured and Indicated mineral resource of 418,931 tonnes at an average grade of 2.32 percent nickel (SRK, 2007). This resource estimate only reflects the nickel mineralization contained to a depth of 508 metres, where current mining activities are taking place. The neighbouring Liberty-owned McWatters deposit host an Indicated Mineral Resource of 714,870 tonnes at 0.94 percent nickel and an Inferred Mineral Resource of 13,829 tonnes at 3.39 percent nickel (Liberty Mines Inc, 2008) McWatters is currently in the pre-production mining stages. In addition to the known deposits in the area there are many other prospects, including the Galata showing and the recently discovered mineralized intervals by Golden Chalice Resources.

Both Langmuir #1 and Langmuir #2 are past producing mines with total reported production of 111,502 tonnes with an average grade of 1.74 percent nickel, and 1,133,750 tonnes with an average grade of 1.50 percent nickel respectively (undated Ministry of Northern Development and Mines Resident Geologist Report ).

All nickel deposits of the Shaw Dome are hosted by ultramafic rocks, which have generally been interpreted as extrusive komatiitic flows, with the exception of McWatters. The latter deposit may be hosted by an ultramafic dyke that cross-cuts an iron formation.

## 15 Mineral Processing, Mineralogy and Metallurgical Testing

It is envisioned by Liberty that the sulphide mineralization from the Hart property could be processed at the Redstone Mill, located at the Redstone mine site approximately twenty-five kilometres southeast of Timmins, Ontario. This modern nickel concentrator was commissioned in July 2007 with a designed capacity of 2,000 tonnes per day of nickel sulphide ore with a high MgO content.

Liberty has initiated test work (open cycle test at different grades on representative core samples) on Hart sulphide mineralization to assess the compatibility of the sulphide mineralization with the Redstone mill process. The test work, which was done internally, as well as completed mineralogical petrographic reports, is under review by an independent qualified person. At the time this report has been prepared, results of this review had not yet been received



**Figure 22. The recently commissioned Redstone Mill located adjacent to Redstone Mine close to the Hart Project area.**

## 16 Mineral Resource and Mineral Reserve Estimates

### 16.1 Introduction

The Hart nickel deposit has an historical resource of 770,000 tonnes grading 0.9 percent nickel (Ministry of Northern Development and Mines Resident Geologist Report, 1999). The details of how this historical resource estimate was derived are uncertain. This historical mineral resource estimate was prepared prior to the adoption of NI43-101 and should not be relied upon.

The mineral resource estimate prepared by SRK is the first resource evaluation prepared for Hart project according to NI 43-101 guidelines. It supersedes the previous historical estimate.

This section summarizes the data, methodology and parameters used by SRK to estimate the mineral resources for the Hart deposit. The mineral resource estimates considers all Canadian Arrow and Liberty drilling data acquired during the period 2005 to 2008. The limited drilling data collected prior to this period was not considered.

All resource estimation work was completed by Glen Cole, P.Geo from data received from William Randall, P.Geo from Liberty. The resource estimation and accompanying technical report was reviewed by Dr Jean-Francois Couture, P.Geo of SRK.

The mineral resources presented herein are reported in accordance with the Canadian Securities Administrators' National Instrument 43-101 and have been estimated in conformity with generally accepted CIM "Estimation of Mineral Resource and Mineral Reserves Best Practices" guidelines. Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no guarantee that all or any part of the mineral resource will be converted into mineral reserve.

Datamine Studio Version 3 was used to construct the geological solids. Datamine Studio Version 2.1 was used to build composites, the block model, to run the grade interpolation and to estimate and tabulate mineral resources. Isatis Version 5.1.7 was used to undertake geostatistical analyses of the dataset and to generate variograms for nickel and copper.

### 16.2 Database validation

Data used for resource estimation were validated as discussed in Section 13. The database records provided to SRK by Liberty were audited against digital

log sheets, sections and plans. Database records reflect original data. Lithology codes applied are the standardized codes used by Liberty exploration staff on all Liberty Projects in the Shaw Dome being based on reasonable geological criteria suitable for the local variances within this type of deposit. These lithology codes facilitated the geological modelling process.

The Excel and Datamine format database provided to SRK was checked for any missing data, overlapping intervals and for duplicated data inputs. The assay database comprises of two data types viz. drill data as well as limited surface trench data.

## **16.3 Resource Estimation**

### **16.3.1 Database**

The database used for resource estimation includes exploration drilling data collected during three exploration programs conducted during the period 2005 to 2008. The Liberty drilling database is summarized in Table 4. The total database comprises 3,209 sample records from 115 drill holes and five surface trenches.

The Hart borehole database contains validated information about drill collar location, assay results for nickel and copper, lithology and surveying for all Liberty and Canadian Arrow drill holes. Additional information available in the database includes structural, rock quality determination, core recovery and specific gravity data. SRK is of the opinion however that the Hart dataset is adequate in detail, size and quality for resource modelling and grade estimation for this style of sulphide mineralization.

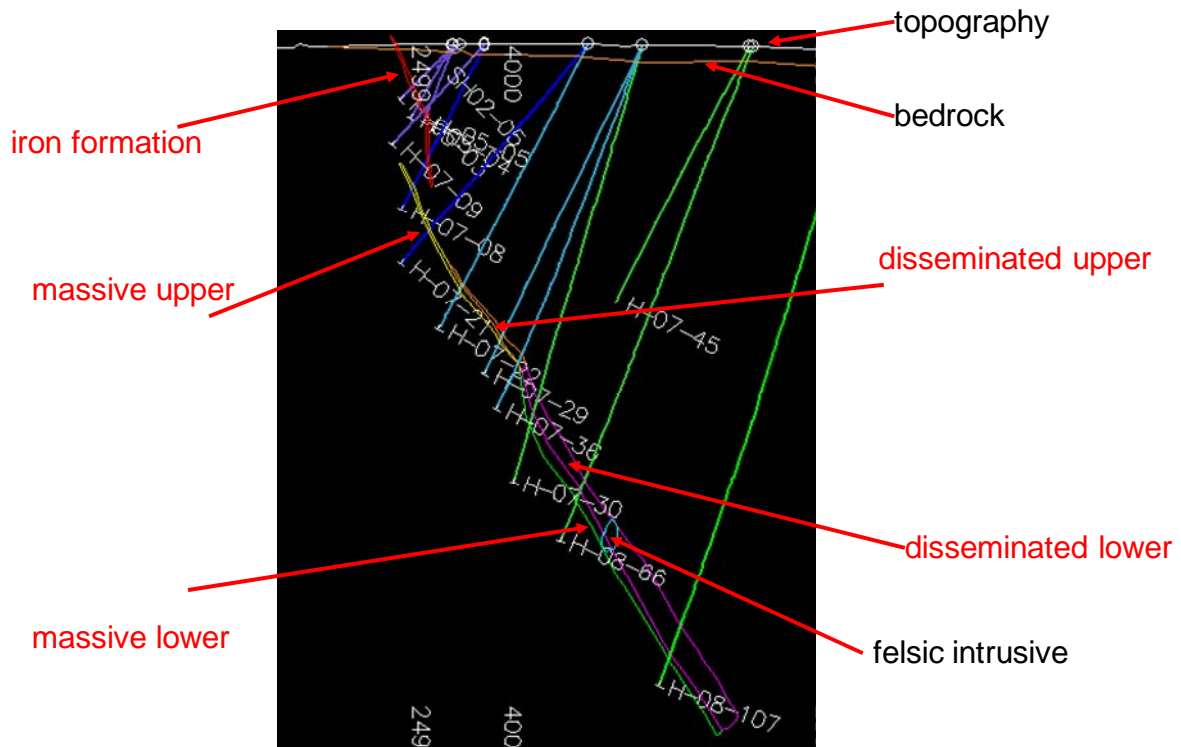
### **16.3.2 Solid Body Modelling**

Nickel (and copper) grades are spatially related to three kinds of sulphide mineralization. The highest and most continuous nickel mineralization is associated with the basal massive sulphide mineralization horizon. Disseminated sulphides overlay the massive sulphide mineralization forming discontinuous bodies with highly variable nickel grades. Locally, nickel sulphide also occurs in an iron formation..

Resource estimation was constrained to three 3D wireframes interpreted from the drilling data:

- Iron formation hosted mineralization;
- Massive sulphide mineralization, subdivided into ‘upper’ and a ‘lower’ sub-domains;
- Disseminated sulphide mineralization, generated using a 0.3 percent nickel threshold. Also divided into ‘upper’ and a ‘lower’ sub-domains.

The distinction between ‘upper’ and ‘lower’ sub-domains is defined by an inferred structural break in the sulphide mineralization at an average depth of between 200 to 230 metres below surface. A simplified section and an oblique view illustrating all the relevant wireframes constructed to constrain resource estimation are shown in Figure 23 and Figure 24.



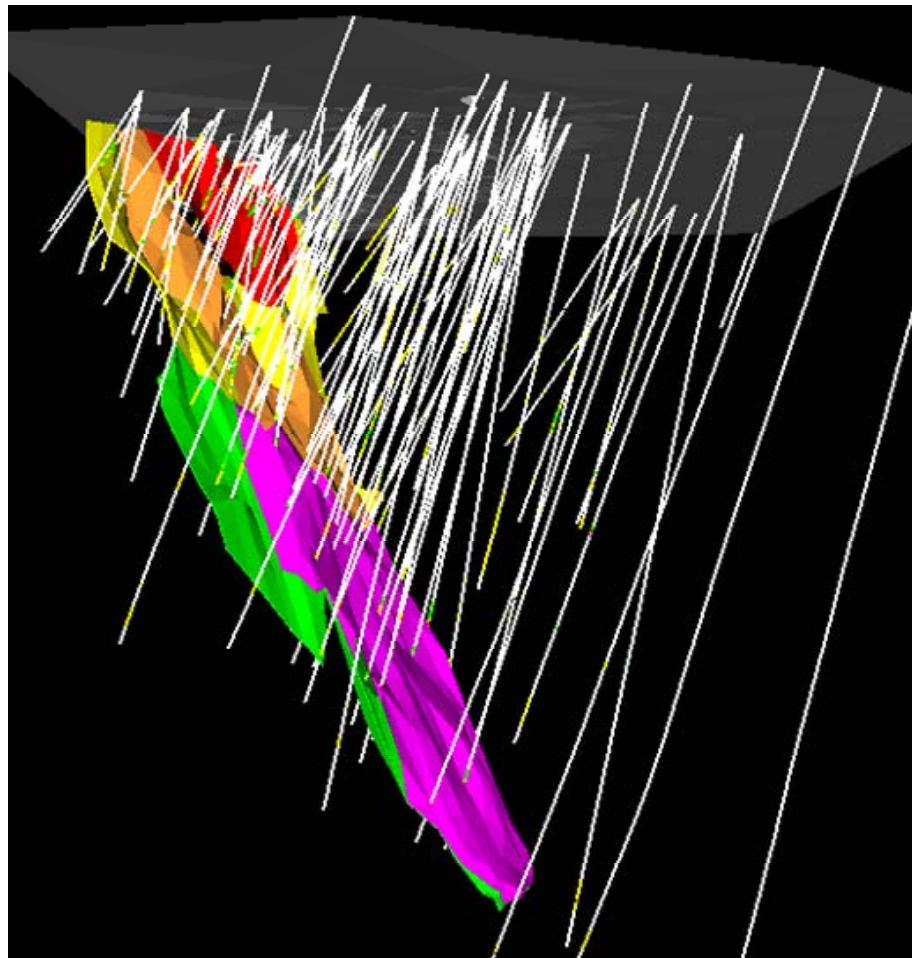
**Figure 23: Simplified vertical section (looking east) of the Hart modelled solids (mineralization solids in red).**

A topographic surface has been modelled from surveyed data by Liberty. Drill collars fit well to this topography surface. A bedrock surface, which is usually less than five metres below surface, has also been modelled. All resource wireframes were cut against the bedrock surface.

A felsic intrusion cross cuts the modelled ore domains and has been modelled from drillhole data. The volume of this intrusion was removed from the resource volumes.

It is recognized that this geological model is a simplification of the reality at Hart. The model should be seen as a starting point upon which to attach more detail as this becomes available. It is particularly important that the structural geology aspects be investigated during future drilling programs to improve the understanding of the geometry of the sulphide mineralization..





**Figure 24: Oblique view of the modelled mineralization solids at Hart in relation to informing drillhole data (looking northeast).**

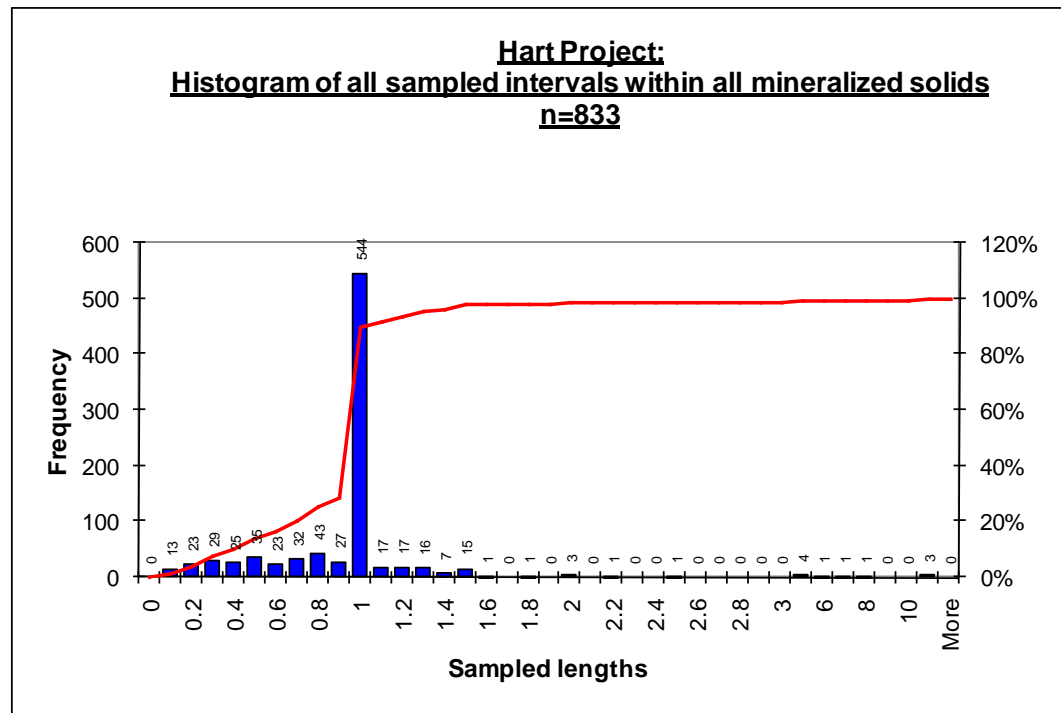
No weathered surfaces have been modelled, as all drilled material is considered fresh by all available logging detail and by site inspection of the Liberty core by SRK.

### 16.3.3 Compositing

Composite files were created using uncapped values starting at the drillhole collar position and defined within each sulphide mineralization type.

An optimum composite length of one metre was chosen for the input data within the modelled mineralized solids. Composites were extracted to a workspace for statistical analyses and grade interpolation. The core sample interval lengths are summarized in Figure 25. A value of zero was assigned to unsampled intervals. The mean sample length is 0.96 metre (mode = one metre) with a maximum of eleven metres.

After excluding all data within modelled dykes, composited datasets were generated for the modelled sulphide sub-domains. There are seventy-seven composites in the iron formation sub-domain, 109 in the Upper Massive, 163 in the Lower Massive sub-domain and 251 and 297 composites in the Upper and Lower Disseminated sub-domains, respectively.



**Figure 25: Histogram of all sampled intervals within all mineralized solids.**

### 16.3.4 Statistics

Basic statistics for nickel and copper composites within the sulphide sub-domains are presented in Table 8. This table compares composited metal grades with the original assay data and capped composite. The statistical signature of each of the three sub-domains is substantially different, justifying the decision to separate each sub-domain for geostatistical analyses.

Histograms for composited nickel and copper within the five modelled mineralized zones are provided in Appendix B.

Table 8. Descriptive Statistics (original, composited and capped) for composited Ni% and Cu% data from the five modelled geostatistical domains.

HART: BASIC STATISTICS TABULATIONS															
Iron Formation			Upper Massives			Lower Massives			Upper Disseminated			Lower Disseminated			
Nickel %															
	Original	Composited	Capped	Original	Composited	Capped	Original	Composited	Capped	Original	Composited	Capped	Original	Composited	Capped
Mean	0.69	0.68	0.68	1.04	1.09	1.08	1.68	1.71	1.70	0.33	0.30	0.30	0.31	0.27	0.27
Standard Error	0.05	0.05	0.05	0.08	0.08	0.08	0.08	0.09	0.09	0.02	0.01	0.01	0.02	0.01	0.01
Median	0.61	0.61	0.61	0.80	0.88	0.88	1.61	1.57	1.57	0.31	0.30	0.30	0.27	0.26	0.26
Mode	0.31	0.00	0.00	0.80	0.39	1.45	0.01	0.00	0.00	0.30	0.00	0.00	0.01	0.00	0.00
Standard Deviation	0.45	0.41	0.41	0.94	0.86	0.82	1.12	1.11	1.09	0.23	0.17	0.17	0.25	0.24	0.24
Sample Variance	0.21	0.17	0.17	0.89	0.73	0.67	1.26	1.23	1.19	0.05	0.03	0.03	0.06	0.06	0.06
Kurtosis	3.20	3.53	3.53	6.35	7.50	4.34	1.39	1.31	0.82	55.05	5.49	5.49	19.29	16.58	16.58
Skewness	1.36	1.31	1.31	2.06	2.06	1.64	0.99	0.96	0.85	5.81	1.09	1.09	3.52	2.87	2.87
Range	2.39	2.34	2.34	5.68	5.68	4.86	5.80	5.80	4.86	2.79	1.31	1.31	2.01	1.98	1.98
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum	2.39	2.34	2.34	5.68	5.68	4.86	5.80	5.80	4.86	2.79	1.31	1.31	2.01	1.98	1.98
Sum	54.80	52.08	52.08	138.74	118.28	117.46	301.36	278.02	277.08	76.61	75.07	75.07	80.24	79.59	79.59
Count	80	77	77	133	109	109	179	163	163	234	251	251	257	297	297
Copper %															
	Original	Composited	Capped	Original	Composited	Capped	Original	Composited	Capped	Original	Composited	Capped	Original	Composited	Capped
Mean	0.06	0.06	0.06	0.08	0.07	0.07	0.12	0.12	0.11	0.02	0.02	0.02	0.02	0.02	0.02
Standard Error	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Median	0.05	0.05	0.05	0.06	0.07	0.07	0.11	0.11	0.11	0.01	0.01	0.01	0.01	0.01	0.01
Mode	0.04	0.05	0.05	0.01	0.02	0.02	0.11	0.11	0.11	0.01	0.01	0.01	0.01	0.01	0.01
Standard Deviation	0.05	0.04	0.04	0.08	0.06	0.06	0.10	0.09	0.07	0.03	0.02	0.02	0.03	0.02	0.02
Sample Variance	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Kurtosis	5.90	2.23	2.23	23.57	2.73	2.73	12.88	12.71	0.99	88.76	129.76	129.76	99.93	26.56	26.56
Skewness	2.05	1.19	1.19	3.73	1.37	1.37	2.93	2.69	0.94	8.97	10.01	10.01	8.79	4.10	4.10
Range	0.28	0.19	0.19	0.66	0.31	0.31	0.68	0.68	0.33	0.33	0.31	0.31	0.41	0.17	0.17
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum	0.28	0.19	0.19	0.66	0.31	0.31	0.68	0.68	0.33	0.33	0.31	0.31	0.41	0.17	0.17
Sum	4.68	4.47	4.47	10.18	8.07	8.07	21.36	19.31	18.66	3.99	3.83	3.83	5.25	4.88	4.88
Count	80	77	77	133	109	109	179	163	163	234	251	251	257	297	297

Nickel and copper data are highly skewed with a dominance of lower values, within the disseminated sulphide and ironstone hosted domains. A more uniform grade distribution occurs in the massive sulphide domains. Copper values are however uniformly low in all mineralized domains.

### 16.3.5 Grade Capping

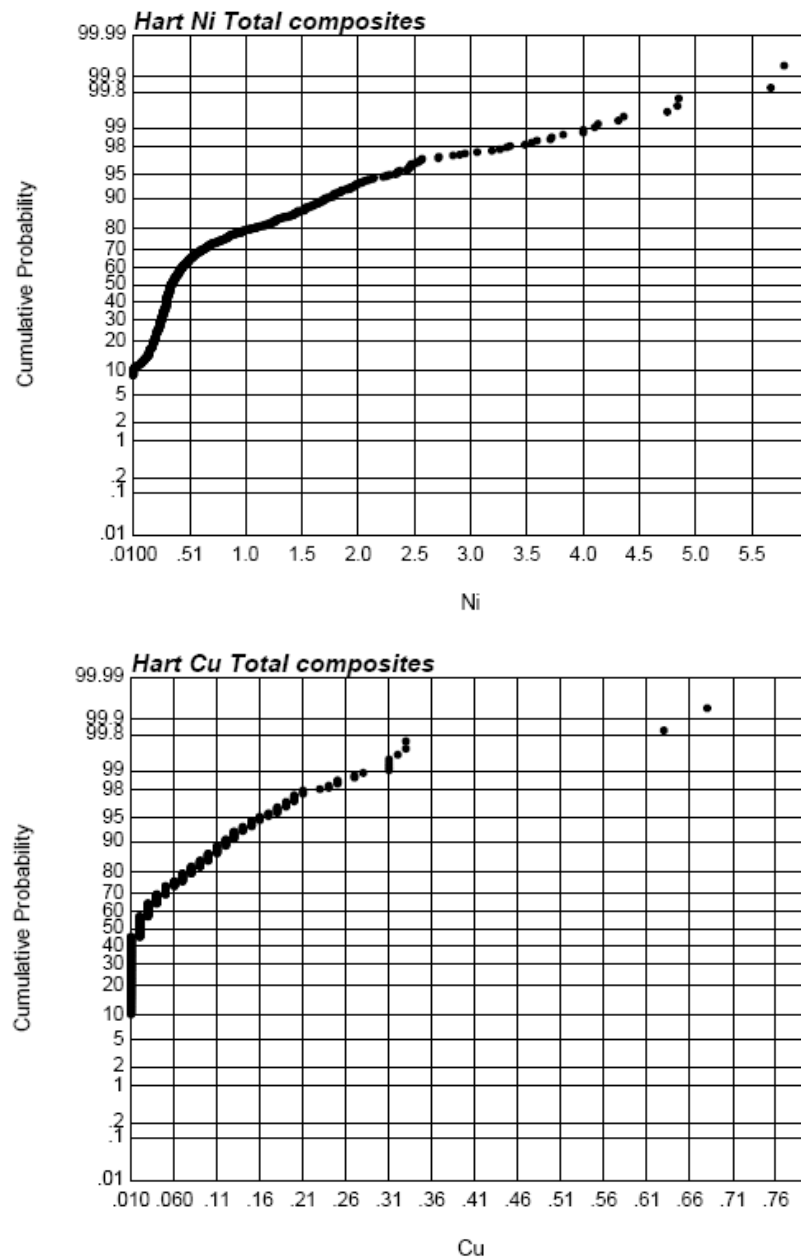
Based on careful examination of the combined composited nickel and copper datasets for all data within the all the modelled mineralized zones and by consideration of the respective probability plots (Figure 26), nickel and copper composites were capped at 4.86 and 0.33 percent, respectively. Capping only impacts the lower and upper massive sulphide sub-domains

### 16.3.6 Variography

Isatis software version 5.1.7 was used to generate all variograms. Traditional experimental variograms were modelled from the capped composited datasets for the various mineralization domains (two massive sulphides and two disseminated sulphides and one iron formation domain) for nickel and copper for all three principle directions.

A total of thirty variograms were then fitted, yielding the directional ranges listed in Table 9. Based on the highly irregular variograms obtained from the Hart dataset, it was decided not use kriging as a grade estimation technique, but to rather use an inverse distance square algorithm.

A single spherical structure variogram (including a nugget effect) was constructed and fitted for each direction (strike = N090, dip direction = N180 and normal to the reference plane) and inputted into the Datamine for grade estimation. These directions coincide with local modelled geological orientations, yielding optimal variograms. Slightly different search ellipses (ranges) were used for nickel and copper in the disseminated sulphide sub-domains to reflect their different geological imprints compared to the massive sulphide sub-domains. Variograms for all sub-domains were modelled with the reference plane inclined at negative sixty degrees in the dip direction to conform to geological modelling.



**Figure 26: Probability Plots for composited nickel and copper for all data sources within various mineralized zones.**



**Table 9: Variography analyses: ranges for nickel and copper for all modelled directions and for all modelled mineralization domains.**

<b>Modelled direction:</b>	<b>Nickel (m)</b>	<b>Copper (m)</b>
Iron Formation Domain		
Strike (90°)	45	50
Dip (180°)	45	55
Vertical	7	7
Massive Sulphide Domains		
<b><u>Lower</u></b>		
Strike (90°)	60	40
Dip (180°)	50	50
Vertical	10	10
<b><u>Upper</u></b>		
Strike (90°)	30	30
Dip (180°)	55	70
Vertical	10	10
Disseminated Sulphide Domains		
<b><u>Lower</u></b>		
Strike (90°)	25	70
Dip (180°)	30	45
Vertical	5	5
<b><u>Upper</u></b>		
Strike (90°)	45	35
Dip (180°)	35	40
Vertical	5	5

### 16.3.7 Block Model and Grade Estimation

Criteria used in the selection of block size includes the borehole spacing, composite assay length, a consideration of potential mining unit sizes as well as the geometry of the modelled mineralized zones. The block size was set at 2.5 metres by 2.5 metres by 2.5 metres in the easting, northing and elevation directions respectively. The parameters of the Datamine block model constructed by SRK are presented in Table 10.

A three split Datamine sub-block routine was applied during block model construction (with a minimum block size of 0.31 by 0.31 by 0.31 metre) to ensure that the modelled mineralized zones are adequately filled.

**Table 10: Parameters of the Hart Block Model constructed by SRK.**

Aspect	Block Model
Block origin:	
X	2,330
Y	3,805
Z	1,715
Rows	110
Columns	140
Levels	238
Percent Model	No
Rotation	No

Block grade estimation was completed in a single pass using the search ellipse ranges defined by variography as outlined in the previous section. In addition, the minimum and maximum numbers of samples used for grade estimation were set at two and twenty respectively.

The block models were coded to differentiate between resource classes (see Section 16.5 below). Specific gravity values appropriate to the mineralization code were added to the model (as per Section 12.3). The block models were cut to only include modelled ore below the bedrock surface and the volumes occupied by felsic intrusions were excluded from tonnage estimation.

## 16.4 Model validation

Global and local grade estimates were checked for appropriateness. Original nickel and copper drilled grades were compared with block grades on a section-by-section basis. Grade estimation by inverse distance squared was found to appropriately reflect general grade trends and appropriately correspond to proximal borehole grades. Other verification checks were also conducted to validate the integrity of the block model (including QQ plots and statistical reconciliations with the informing composited dataset).

## 16.5 Mineral Resource Classification

Mineral resources have been estimated in conformity with generally accepted CIM “Estimation of Mineral Resource and Mineral Reserves Best Practices” Guidelines. Mineral resources are not mineral reserves and do not have demonstrated economic viability.

SRK is not aware of any known environmental, permitting, legal; title, taxation, socio-economic, marketing or other relevant issues that could potentially affect this estimate of mineral resources. Mineral reserves can only be estimated based on the results of an economic evaluation as part of a preliminary feasibility study or a feasibility study. As such no mineral reserves have been estimated by SRK as part of the present assignment. There is no certainty that all or any part of the mineral resource will be converted into mineral reserve.

Mineral resources for the Hart deposit have been classified according to the “CIM Standards on Mineral Resources and Reserves: Definitions and Guidelines” (December, 2005) by Glen Cole, P. Geo an appropriate independent Qualified Person as defined by NI43-101.

Mineral resource classification is based on variography and on the confidence of geological interpretation and modelling. Both are directly related to the current drill spacing.

An Indicated Mineral Resource classification was assigned to blocks within the primary variography distance from sample points (as per Table 9).

An Inferred Mineral Resource classification was assigned to blocks within twice the primary variography range from informing data.

## 16.6 Mineral Resource Statement

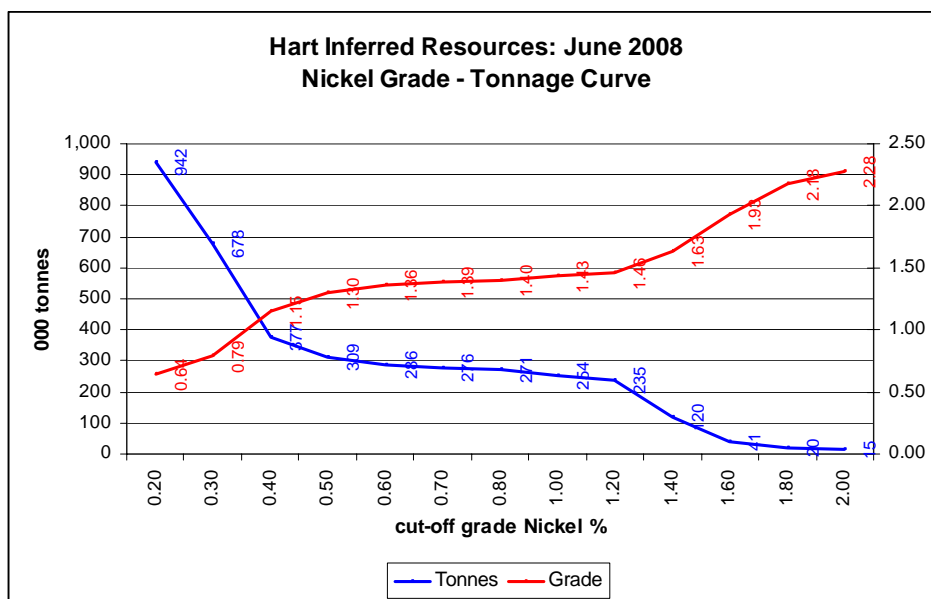
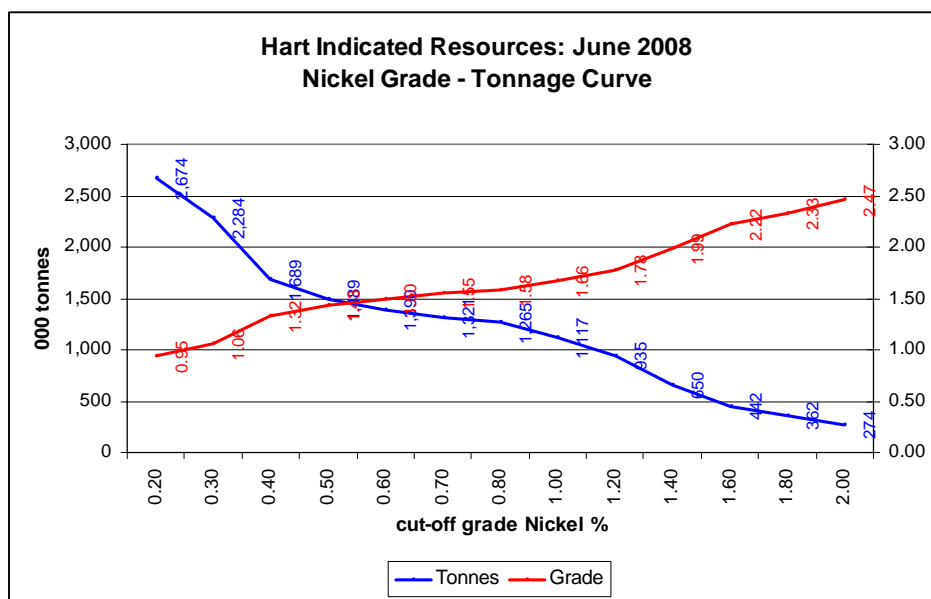
The Mineral Resources for the Hart nickel deposit are reported at a single cut-off of 0.6 percent nickel, that is considered by Liberty management to be achievable by a future underground mine, considering the nature of the nickel mineralization, its geometry and the projected underground extraction scenario.. This cut-off is primarily based on current mining experience at the comparable Redstone Mine.

The Mineral Resources statement for the Hart nickel project is presented in Table 11. The numbers have been rounded to reflect the relative accuracy of the estimates. Tonnage and metal grades are sensitive to the cut-off grade. Grade tonnage curves are presented in Figure 27. Other sensitivity tables are presented in Appendix C.

**Table 11: Mineral Resource Statement\*, Hart Nickel Deposit, Timmins, Ontario, SRK Consulting June 23, 2008.**

<b>Sulphide Zone</b>	<b>Classification</b>	<b>Tonnes (000's)</b>	<b>Nickel (%)</b>	<b>Copper (%)</b>	<b>Contained Nickel (lbs 000's)</b>
IF Zone	Indicated	81	0.78	0.07	1,390
	Inferred	13	0.85	0.07	249
Massive Zone					
Lower	Indicated	960	1.60	0.11	33,866
	Inferred	225	1.41	0.09	6,995
Upper	Indicated	327	1.43	0.09	10,311
	Inferred	45	1.30	0.09	1,290
Disseminated Zone					
Lower	Indicated	22	0.82	0.05	403
	Inferred	3	0.65	0.02	38
Upper	Indicated	<1	0.63	0.03	2
	Inferred				
<b>Total</b>					
	<b>Indicated</b>	<b>1,390</b>	<b>1.50</b>	<b>0.10</b>	<b>45,972</b>
	<b>Inferred</b>	<b>286</b>	<b>1.36</b>	<b>0.09</b>	<b>8,572</b>

\* Reported at 0.6% nickel cut-off. All figures have been rounded to reflect the accuracy of the estimate. Mineral Resources are not Mineral reserves and do not have demonstrated economic viability.



**Figure 27: Nickel Grade Tonnage Curve for Hart Indicated (top) and Inferred Resources (bottom).**

## 17 Other Relevant Data

SRK is not aware of any other relevant data pertaining to the Hart nickel project.



## 18 Interpretation and Conclusions

An appreciation of the geological controls determining the distribution of nickel mineralization at the Hart Deposit and the continuity of particularly the basal higher grade massive sulphide type ore has been gained from appropriately spaced drilling and from operational and exploration experience gained by Liberty on similar deposits in the Shaw Dome.

The current drill density has allowed the massive sulphide ore body to be extrapolated and modelled confidently down to approximately 450 metres below surface. Our understanding of the nickel grade distribution within the lower grade structurally – controlled disseminated type ore in the hanging wall has been limited and by the discontinuous nature of mineralization by a limited understanding of the structurally elements that influence its continuity. The structurally distorted and variable grade iron formation zone is seen as a lower priority target, despite its shallow location. The massive sulphide horizon is the primary target for underground mining.

Although exploration history at Hart dates back to the period 1960 to 1964, only verified data acquired in the period 2005 to 2008 has been applied for resource estimation purposes. This high quality dataset has facilitated resource modelling and estimation in this study. The exploration methodologies and protocols practiced by Liberty exploration staff conform to industry ‘best practices’. Liberty management apply a quality management system that compares well to industry standard. Sampling protocols, drilling procedures, database management and overall quality assurance and quality control are areas that have receive priority. The implementation of industry standard database management systems and 3D modelling software packages on Liberty have contributed considerably to the high exploration standards.

The geology model and classified resource estimate reflect current knowledge of the Hart mineralization continuity and associated grade trends. Modelled resources are classified as Indicated or Inferred. An opportunity exists to upgrade the resources in the deeper portion of the ore body (>450 metres) by increasing the drilling density as well as by increasing our understanding of the structural framework upon which the Hart ore body is based. Such an improved structurally based resource body will not only lead to upgraded resources but also to reduced risk in future mining decisions based on this model.

Although this first NI43-101 compliant resource estimate for Hart is the largest nickel resource identified to date at the Shaw Dome, it should serve as a starting point, which should be continually updated and enhanced as additional data and interpretations become available. The close proximity of the Hart Deposit to other existing Liberty mining and processing infrastructure should favourably impact future mining feasibility studies.

## 19 Recommendations

Significant nickel mineralization has been identified by Liberty on the Hart project. Confidence in estimating mineral resources at Hart is determined by various factors, including the following:

- An appreciation of the variables associated with komatiite-associated Ni-(Cu) deposits;
- An understanding of the 3D structural geological framework within which the nickel sulphide mineralization resides;
- The drilling density;
- Quality control procedures used to collect exploration data.

SRK believes that there is a strong potential to increase the Inferred Resources at Hart particularly by drilling the depth extensions of the sulphide zones. Additional infill drilling is warranted to upgrade the Inferred mineral resources to an Indicated classification.

SRK recommends that Liberty considers the following recommendations for its future exploration work at Hart:

- Increase the drill density at depths between 450 to 600 metres below surface;
- Undertake structural investigations to improve the understanding of the distribution of the sulphide mineralization improve the quality of the 3D geological model;
- Continue to model the intrusive dikes that occur in proximity to the sulphide zones of mineralization;
- Attempt to identify portions of the disseminated sulphide and ironstone hosted zones exhibiting higher nickel ;
- Update the resource model once the geological model will have been updated;
- Undertake conceptual engineering studies to evaluate the economic potential of the existing mineral resources and to evaluate mining and processing options for the Hart deposit.

SRK understand that Liberty plan further exploration drilling at Hart, which is scheduled to run from 2008 to 2010. The proposed drilling program is estimated at 10,500 metres and will target primarily the depth extensions of the sulphide zones with two objectives:

- Infill drilling to enhance and to increase confidence in the lower portion of the mineral resources (currently mostly assigned an Inferred classification);
- Test the depth extensions of massive sulphide zones below a known mafic dike.

SRK considers that the proposed exploration program is warranted. The costs for the proposed exploration drilling program are estimated at CN\$1.1 million (Table 12) based on an all inclusive unit drilling cost of CN\$100 per metre.

**Table 12: Hart Project: Proposed exploration budget for 2008 to 2010.**

Phase	Purpose	Drilling		
		# Holes	Metres	Cost (C\$)
1	Increase confidence of lower portions of the modelled deposit	17	8,500	850,000
2	Drill test depth extension of the massive sulphide	2	2,000	280,000
<b>Totals:</b>		19	10,500	1,130,000

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# **APPENDIX A**

## **Hart Property Mining Claims**

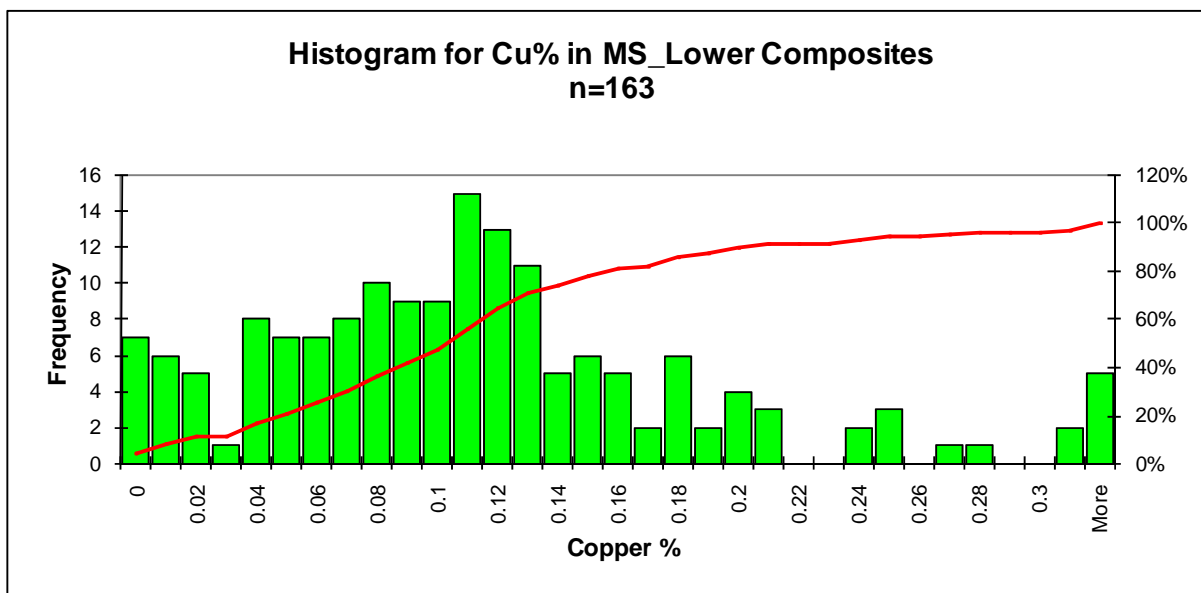
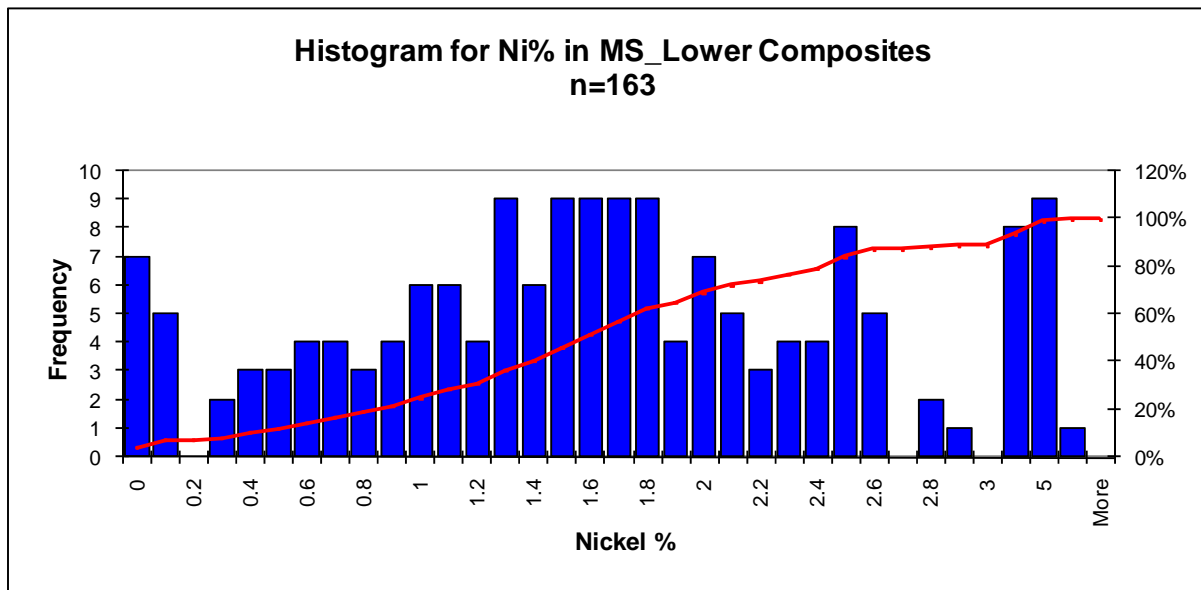
Township	Claim Number	Area	Map Area	Recording Date	Claim Due Date	Status	Percent Option
LANGMUIR	<a href="#">1243151</a>	208	42 A/6	2001-Jun-19	2010-Jun-19	Active	Liberty Mines Inc
ELDORADO	<a href="#">1243281</a>	16	42 A/6	2001-Jul-18	2013-Jul-18	Active	Liberty Mines Inc
ELDORADO	<a href="#">1243282</a>	32	42 A/6	2001-Jul-18	2011-Jul-18	Active	Liberty Mines Inc
LANGMUIR	<a href="#">1243283</a>	16	42 A/6	2001-Jul-18	2013-Jul-18	Active	Liberty Mines Inc
ELDORADO	<a href="#">1247502</a>	48	42 A/6	2001-May-28	2010-May-28	Active	Liberty Mines Inc
ELDORADO	<a href="#">1247591</a>	16	42 A/6	2001-Jun-06	2013-Jun-06	Active	Liberty Mines Inc
ELDORADO	<a href="#">1247592</a>	16	42 A/6	2001-Jun-06	2013-Jun-06	Active	Liberty Mines Inc
ELDORADO	<a href="#">1247593</a>	16	42 A/6	2001-Jun-06	2013-Jun-06	Active	Liberty Mines Inc
ELDORADO	<a href="#">1247594</a>	16	42 A/6	2001-Jun-06	2013-Jun-06	Active	Liberty Mines Inc
ELDORADO	<a href="#">1248406</a>	64	42 A/6	2001-Jul-03	2012-Jul-03	Active	Liberty Mines Inc
LANGMUIR	<a href="#">1248440</a>	64	42 A/6	2002-Mar-12	2012-Mar-12	Active	Liberty Mines Inc
LANGMUIR	<a href="#">1248464</a>	16	42 A/6	2001-Jun-04	2011-Jun-04	Active	Liberty Mines Inc
ELDORADO	<a href="#">1248465</a>	16	42 A/6	2001-Jun-04	2013-Jun-04	Active	Liberty Mines Inc
ELDORADO	<a href="#">1248466</a>	16	42 A/6	2001-Jun-04	2013-Jun-04	Active	Liberty Mines Inc
LANGMUIR	<a href="#">1248467</a>	16	42 A/6	2001-Jun-04	2013-Jun-04	Active	Liberty Mines Inc
LANGMUIR	<a href="#">1248468</a>	16	42 A/6	2001-Jun-04	2011-Jun-04	Active	Liberty Mines Inc
ELDORADO	<a href="#">3001710</a>	16	42 A/6	2002-Mar-27	2012-Mar-27	Active	Liberty Mines Inc
ELDORADO	<a href="#">3001711</a>	16	42 A/6	2002-Mar-27	2012-Mar-27	Active	Liberty Mines Inc
ELDORADO	<a href="#">3001954</a>	32	42 A/6	2002-Mar-27	2010-Mar-27	Active	Liberty Mines Inc
ELDORADO	<a href="#">3005464</a>	176	42 A/6	2003-Nov-20	2011-Nov-20	Active	Liberty Mines Inc
ELDORADO	<a href="#">3010638</a>	160	42 A/6	2003-Jan-07	2012-Jan-07	Active	Liberty Mines Inc
<b>total</b>		<b>992</b>					

## **APPENDIX B**

### **Histograms for composited data**

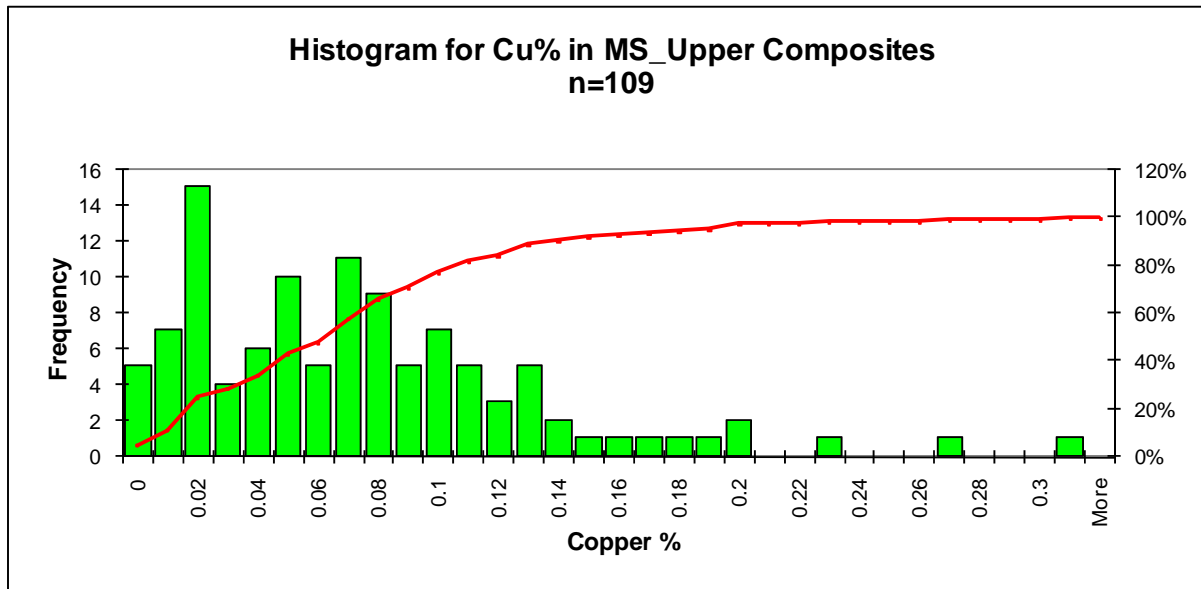
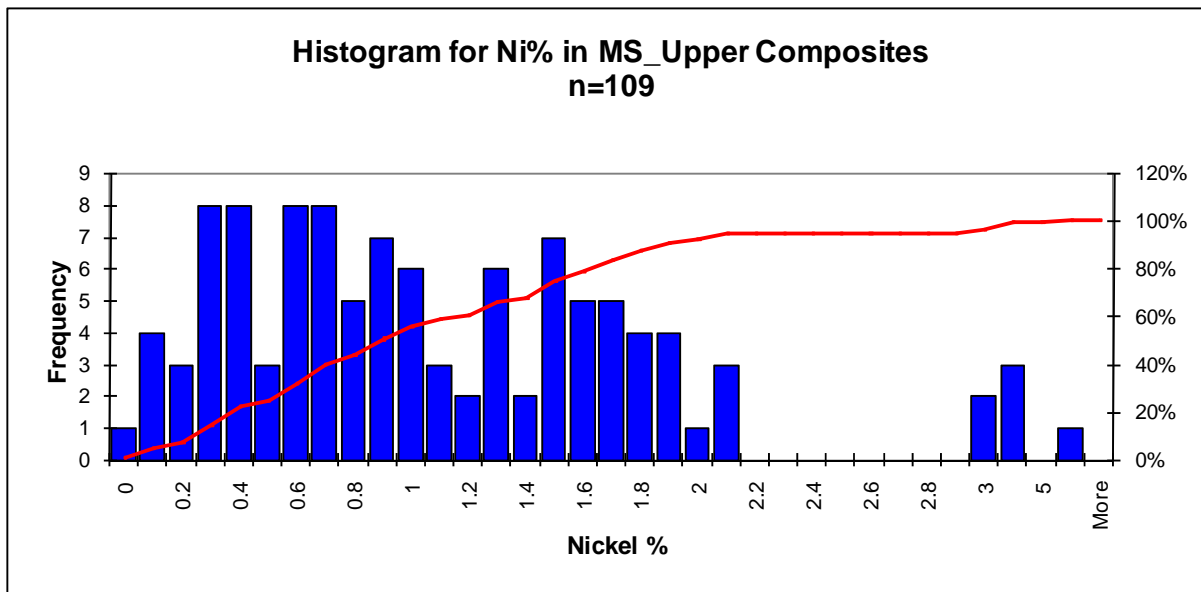
## MASSIVE SULPHIDES

### Lower Domain



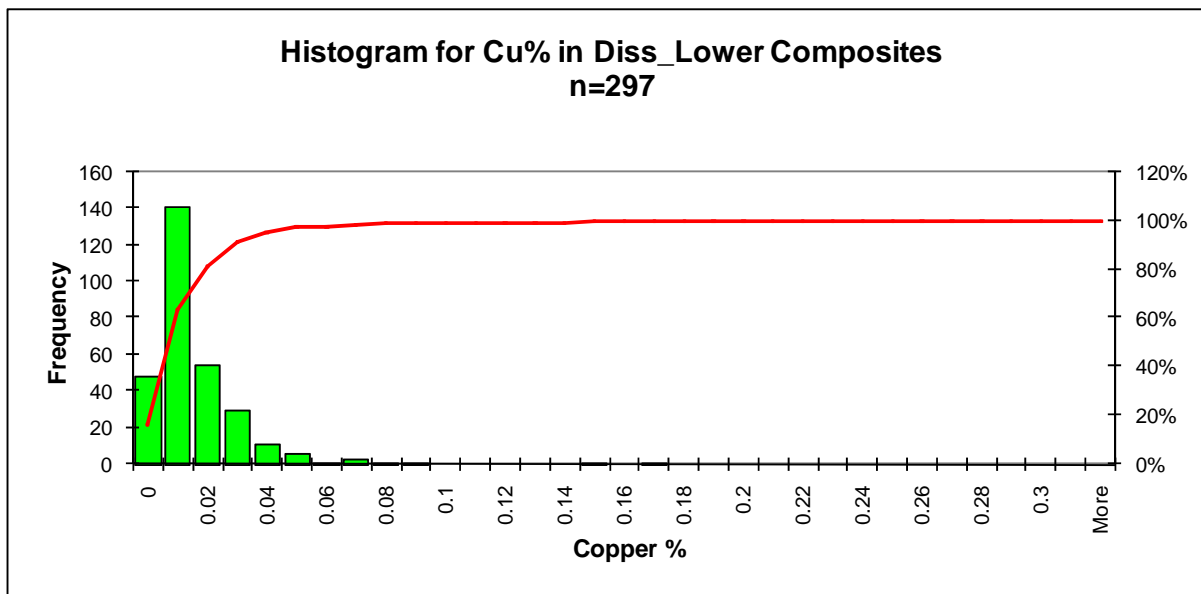
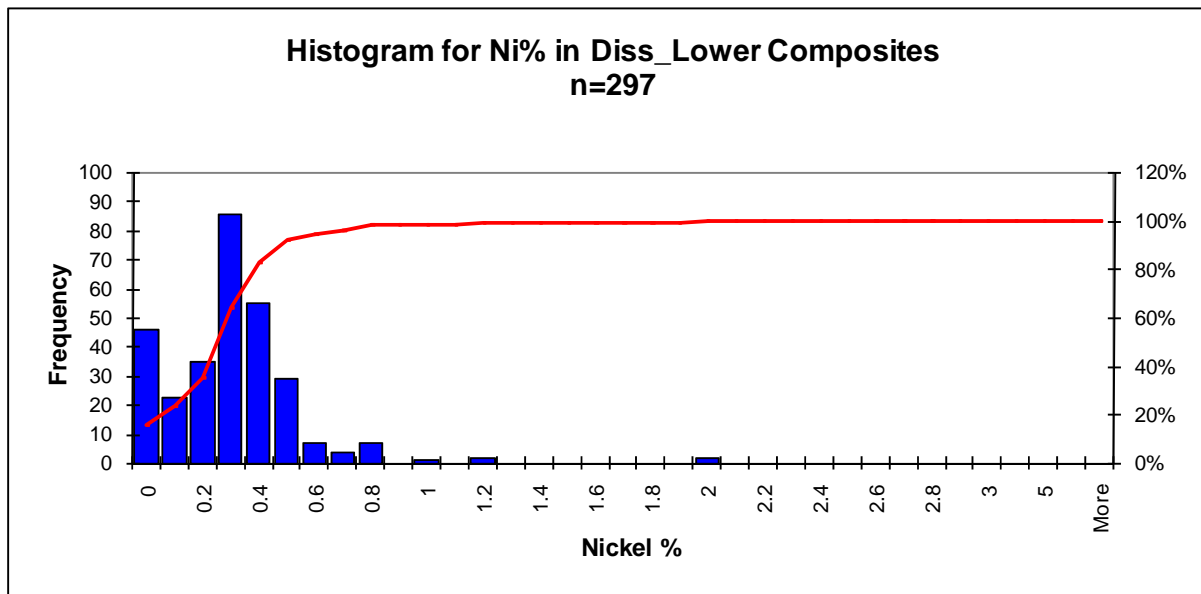
## MASSIVE SULPHIDES

### Upper Domain



## DISSEMINATED SULPHIDES

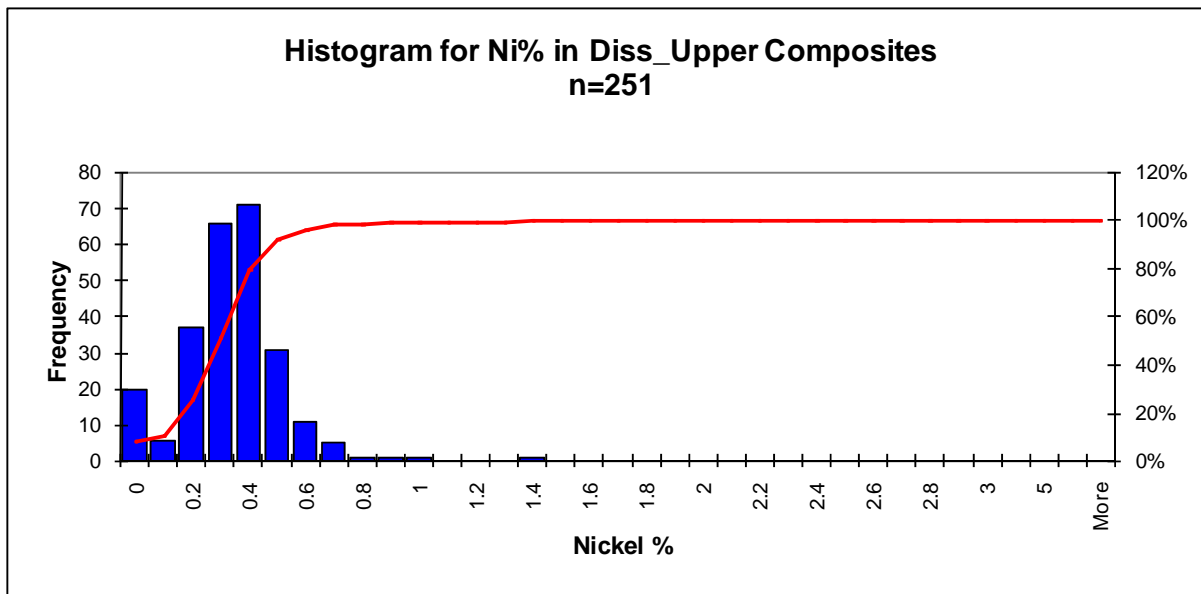
### Lower Domain



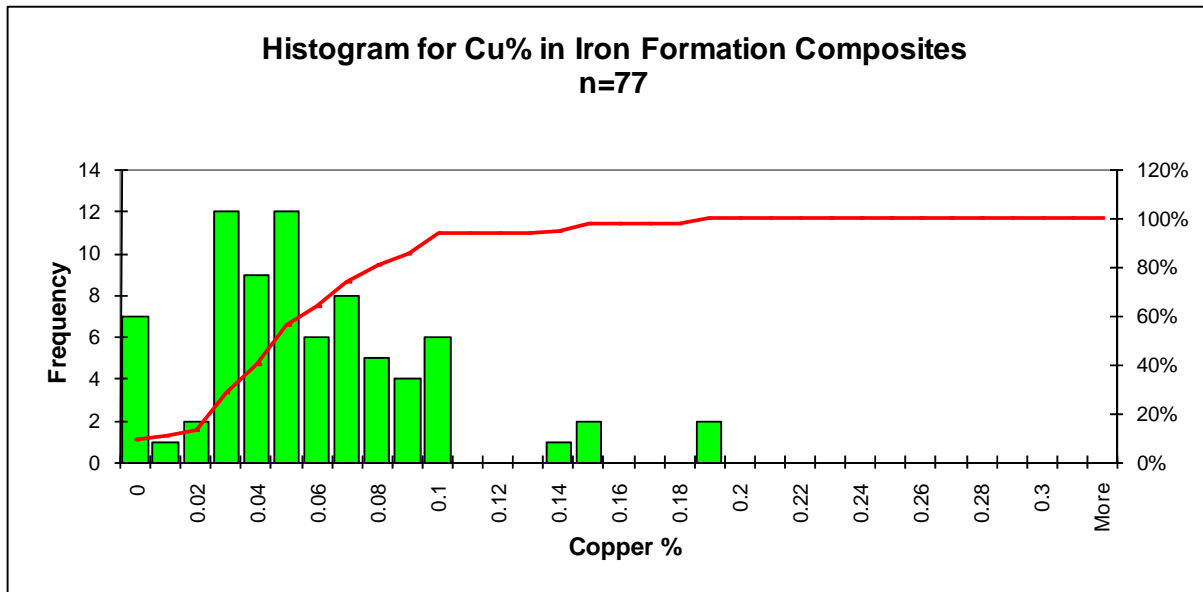
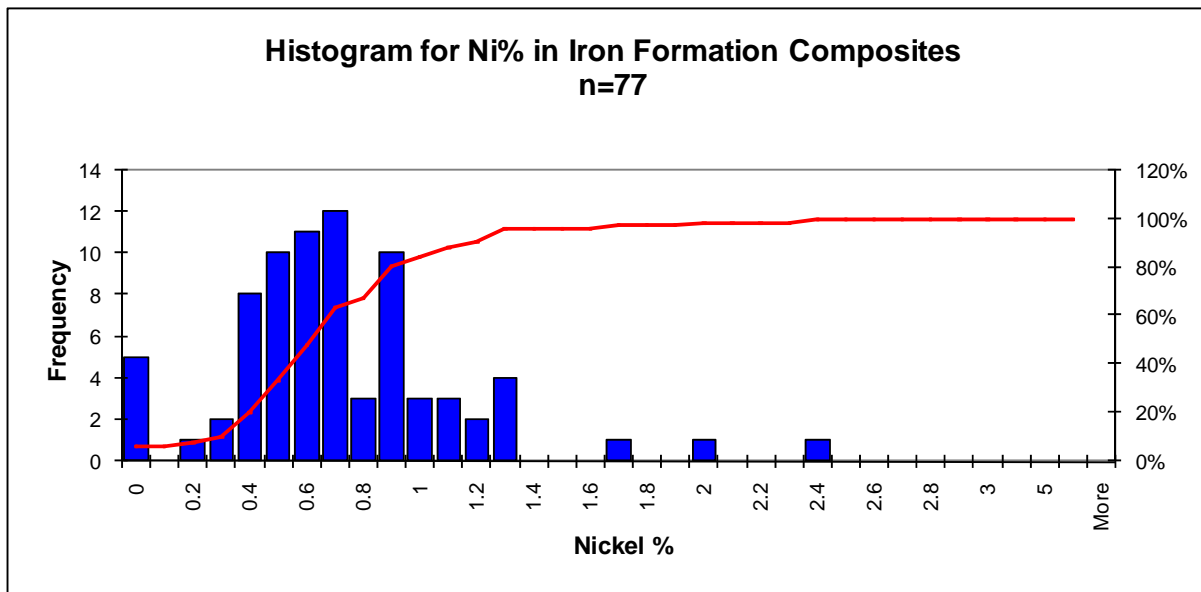


## DISSEMINATED SULPHIDES

### Upper Domain



## IRONSTONE HOSTED SULPHIDES



## **APPENDIX C**

### **Hart Resource sensitivity tables**

## INDICATED

### Iron Formation:

Ni% cut off	Tonnes (t)	Ni%	Cu%
0.20	136,752	0.67	0.06
0.30	136,644	0.67	0.06
0.40	131,852	0.68	0.06
0.50	117,316	0.71	0.06
0.60	80,864	0.78	0.07
0.70	50,928	0.85	0.07
0.80	29,972	0.93	0.07
1.00	6,632	1.08	0.08
1.20	252	1.22	0.08
1.40			
1.60			
1.80			
2.00			

### All Massives:

Above	Tonnes (t)	Ni%	Cu%
0.20	1,433,374	1.44	0.10
0.30	1,410,298	1.46	0.10
0.40	1,378,287	1.49	0.10
0.50	1,319,971	1.53	0.10
0.60	1,288,949	1.55	0.11
0.70	1,258,507	1.58	0.11
0.80	1,226,315	1.60	0.11
1.00	1,105,313	1.67	0.11
1.20	932,632	1.78	0.12
1.40	649,709	1.99	0.13
1.60	442,331	2.22	0.15
1.80	361,654	2.33	0.16
2.00	274,331	2.47	0.17

### All Disseminated:

Above	Tonnes (t)	Ni%	Cu%
0.20	1,103,996	0.34	0.02
0.30	736,722	0.38	0.02
0.40	178,399	0.50	0.03
0.50	52,142	0.66	0.04
0.60	22,473	0.82	0.05
0.70	11,432	0.98	0.06
0.80	8,663	1.06	0.06
1.00	4,588	1.21	0.07
1.20	2,267	1.33	0.06
1.40	395	1.54	0.07
1.60	127	1.76	0.06
1.80	37	1.92	0.06
2.00			

## INFERRED

### Iron Formation:

Above	Tonnes (t)	Ni%	Cu%
0.20	13,692	0.84	0.07
0.30	13,692	0.84	0.07
0.40	13,692	0.84	0.07
0.50	13,692	0.84	0.07
0.60	13,271	0.85	0.07
0.70	11,387	0.89	0.07
0.80	9,221	0.92	0.07
1.00	267	1.03	0.07
1.20			
1.40			
1.60			
1.80			
2.00			

### All Massives:

Above	Tonnes (t)	Ni%	Cu%
0.20	289,377	1.34	0.09
0.30	288,950	1.34	0.09
0.40	288,433	1.34	0.09
0.50	282,288	1.36	0.09
0.60	270,129	1.40	0.09
0.70	264,640	1.41	0.09
0.80	261,711	1.42	0.09
1.00	253,810	1.43	0.09
1.20	235,252	1.46	0.09
1.40	120,419	1.63	0.10
1.60	40,672	1.93	0.12
1.80	20,358	2.18	0.13
2.00	14,643	2.28	0.13

### All Disseminated:

Above	Tonnes (t)	Ni%	Cu%
0.20	638,606	0.32	0.02
0.30	375,833	0.37	0.02
0.40	75,269	0.46	0.02
0.50	13,426	0.56	0.02
0.60	2,679	0.65	0.02
0.70			
0.80			
1.00			
1.20			
1.40			
1.60			
1.80			
2.00			

## CERTIFICATE AND CONSENT

**To accompany the report entitled: Mineral Resource Estimate for the Hart Project in Ontario, Canada. Dated August 7, 2008 and amended on October 9, 2008.**

I, Glen Cole, residing at 15 Langmaid Court, Whitby, Ontario do hereby certify that:

- 1) I am a Principal Resource Geologist with the firm of SRK Consulting (Canada) Inc. (SRK) with an office at Suite 1000, 25 Adelaide Street East, Toronto, Ontario, Canada;
- 2) I am a graduate of the University of Cape Town in South Africa with a B.Sc (Hons) in Geology in 1983; I obtained an M.Sc (Geology) from the University of Johannesburg in South Africa in 1995 and an M.Eng in Mineral Economics from the University of the Witwatersrand in South Africa in 1999. I have practiced my profession continuously since 1986. I am an expert in geostatistical techniques and geological and resource modelling. Since 2006, I have estimated and audited mineral resources for a variety of early and advanced base and precious metals projects in Africa, Canada, Chile and Mexico. Between 1989 and 2005 I have worked for Goldfields Ltd at several underground and open pit mining operations in Africa and held positions of Mineral Resources Manager, Chief Mine Geologist and Chief Evaluation Geologist, with the responsibility for estimation of mineral resources and mineral reserves for development projects and operating mines. Between 1986 and 1989 I worked as a staff geologist on various Anglo American mines;
- 3) I am a Professional Geoscientist registered with the Association of Professional Geoscientists of the province of Ontario (APGO#1416) and am also registered as a Professional Natural Scientist with the South African Council for Scientific Professions (Reg#400070/02);
- 4) I have personally inspected the Hart Project and surrounding areas on 14 January 2008;
- 5) I have read the definition of “qualified person” set out in National Instrument 43-101 and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of National Instrument 43-101 and this technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
- 6) I, as the qualified person, am independent of the issuer as defined in Section 1.4 of National Instrument 43-101;
- 7) I am the principal author of this technical report and accept professional responsibility for the entire content of this technical report;
- 8) SRK Consulting (Canada) Inc. was retained by Liberty Mines Inc. to prepare a mineral resource estimate for the Hart Project in accordance with NI 43-101 and Form 43-101F1 guidelines. This assignment was completed using CIM “Best practices” and Canadian Securities Administrators National Instrument 43-101 guidelines.
- 9) I have not received, nor do I expect to receive, any interest, directly or indirectly, in the Hart Project or securities of Liberty Mines Inc.
- 10) That, as of the date of this certificate, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading;
- 11) I consent to the filing of the technical report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the technical report.

Toronto, Canada  
October 9, 2008



Glen Cole, P.Geo  
Principal Resource Geologist


## CERTIFICATE AND CONSENT

**To accompany the report entitled: Mineral Resource Estimate for the Hart Project in Ontario, Canada. Dated August 7, 2008 and amended on October 9, 2008.**

I, William Randall, residing at 21 Dale Avenue, Toronto, Ontario do hereby certify that:

- 1) I am the Vice President of Exploration for Liberty Mines Inc, with head office at 311A 8925-51 Avenue Edmonton, AB, Canada, T6E 5J3;
- 2) I am a graduate of the University of Toronto in Canada with a B.Sc (Hons) in 2002 and an M.Sc in 2004, both in Geology;
- 3) I am a Professional Geoscientist registered with the Association of Professional Geoscientists of the province of Ontario (APGO#1516);
- 4) I have personally inspected the Hart project and surrounding areas on various occasions dating back to late 2006;
- 5) I have read the definition of “qualified person” set out in National Instrument 43-101 and certify that by virtue of my education, affiliation to a professional association and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of National Instrument 43-101 and this technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
- 6) I, am an employee of Liberty Mines Inc and therefore not independent from the issuer as defined in Section 1.4 of National Instrument 43-101;
- 7) I contributed to the compilation for this technical report and co-authored Sections 3 to 9 under the supervision of Mr. Cole, P.Geoscientist an Independent Qualified Person;
- 8) That, as of the date of this certificate, to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading;
- 9) I consent to the filing of the technical report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the technical report.

Toronto, Canada  
October 9, 2008

  
\_\_\_\_\_  
Will Randall, P.Geoscientist  
VP Exploration, Liberty Mines



Project number: 3CL008.003

Toronto, October 9, 2008

To:  
Securities Regulatory Authorities  
B. C. Securities Commission (BCSC)  
Alberta Securities Commission (ASC)  
Ontario Securities Commission (OSC)  
L' Autorité des marchés financiers (AMF)  
Toronto Stock Exchange (TSX)

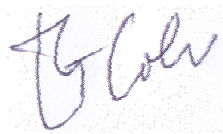
### **CONSENT of AUTHOR**

I, Glen Cole, do hereby consent to the public filing of the amended technical report entitled “Mineral Resource Estimation for the Hart Project, Ontario, Canada” (the “Technical Report”) and dated October 12, 2008 and any extracts from or a summary of the Technical Report under the National Instrument 43-101 disclosure of Liberty Mines Inc. and to the filing of the Technical Report with any securities regulatory authorities.

I further consent to the company filing the report on SEDAR and consent to press releases made by the company with my prior approval. In particular I have read and approved the press release of Liberty Mines Inc. dated June 23, 2008 (the “Disclosure”) in which the findings of the Technical Report are disclosed.

I also confirm that I have read the Disclosure and that it fairly and accurately represents the information in the Technical Report that supports the Disclosure.

Dated this 9th day of October 2008.



Glen Cole, P.Geol  
Principal Resource Geologist



**Group Offices:**

Africa  
Asia  
Australia  
North America  
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**North American Offices:**

Denver 303.985.1333  
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Toronto 416.601.1445  
Tucson 520.544.3668  
Vancouver 604-681-4196



Project number: 3CL008.003

Toronto, October 9, 2008

To:

Securities Regulatory Authorities  
B. C. Securities Commission (BCSC)  
Alberta Securities Commission (ASC)  
Ontario Securities Commission (OSC)  
L' Autorité des marchés financiers (AMF)  
Toronto Stock Exchange (TSX)

### **CONSENT of AUTHOR**

I, Will Randall, do hereby consent to the public filing of the amended technical report entitled "Mineral Resource Estimation for the Hart Project, Ontario, Canada" (the "Technical Report") and dated October 12, 2008 and any extracts from or a summary of the Technical Report under the National Instrument 43-101 disclosure of Liberty Mines Inc. and to the filing of the Technical Report with any securities regulatory authorities.

I further consent to the company filing the report on SEDAR and consent to press releases made by the company with my prior approval. In particular I have read and approved the press release of Liberty Mines Inc. dated June 23, 2008 (the "Disclosure") in which the findings of the Technical Report are disclosed.

I also confirm that I have read the Disclosure and that it fairly and accurately represents the information in the Technical Report that supports the Disclosure.

Dated this 9th day of October 2008.

A handwritten signature in purple ink, appearing to read 'WR', is positioned above the printed name of the signatory.

---

Will Randall, P.Geo  
VP Exploration, Liberty Mines