

**MINERAL RESOURCE UPDATE  
TURNAGAIN NICKEL PROJECT**

Turnagain River Area  
Liard Mining Division  
British Columbia

Latitude: 58° 22.1' - 58° 36.0' North  
Longitude: 128° 36.3' - 129° 10.7' West  
NTS Map-Areas 104I/06E, 07E&W, 10W, 11E

Prepared for

**HARD CREEK NICKEL CORPORATION**

By

**Ronald G. Simpson, P.Geo**

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**GeoSim Services Inc.**

1975 Stephens St.  
Vancouver, BC, Canada V6K 4M7  
Tel:(604) 803-7470  
Email: rgs@uniserve.com

### Cautionary Note to United States Investors Concerning Estimates of Measured, Indicated and Inferred Resources

This technical report uses the terms 'measured resources', 'indicated resources' and 'inferred resources'. Hard Creek Nickel Corp. advises United States investors that while these terms are recognized and required by Canadian regulations (under National Instrument 43-101 Standards of Disclosure for Mineral Projects), the United States Securities and Exchange Commission does not recognize them. **United States investors are cautioned not to assume that any part or all of the mineral deposits in these categories will ever be converted into reserves.** In addition, 'inferred resources' have a great amount of uncertainty as to their existence, and economic and legal feasibility. It cannot be assumed that all or any part of an Inferred Mineral Resource will ever be upgraded to a higher category. Under Canadian rules, estimates of Inferred Mineral Resources may not form the basis of feasibility or pre-feasibility studies, or economic studies except for a Preliminary Assessment as defined under 43-101. **United States investors are cautioned not to assume that part or all of an inferred resource exists, or is economically or legally mineable.**

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## List of Abbreviations

HNC	Hard Creek Nickel Corporation
AC Ni/Cu/Co	Ammonium acetate-hydrogen peroxide or ascorbic acid-hydrogen peroxide analysis for Sulphide Nickel, Copper and Cobalt
S Ni	Sulphide Nickel
Sil Ni	Silicate Nickel
DD	Diamond Drill
QXT/AQ/BQ/NQ	Drill core diameter
Ind	Indicated mineral resource
Inf	inferred mineral resource
Meas	Measured mineral resource

# 1 SUMMARY AND CONCLUSIONS

Hard Creek Nickel Corporation holds a 100% interest in the Turnagain nickel property situated 70 kilometres east of Dease Lake in northern British Columbia. The property consists of 81 contiguous, legacy and cell mineral claims covering an area of 29,370 hectares centred on Turnagain River. Primary access to the property is by helicopter from Dease Lake. A short airstrip of the property has been used in the past for limited access as has a secondary road extending easterly from highway 37 near Dease Lake.

This report, prepared at the request of Hard Creek Nickel Corporation, is based on discussions with company personnel, on records of recent exploratory work provided by the company, on information readily available in the public domain and on previous technical reports prepared by N.C Carter on the 2003 and 2004 exploration programs dated April 21, 2004 and June 15, 2005. This report also references a more recent technical report dated April 13, 2006 prepared by the current author. The author conducted a recent site inspection of the property between October 11 and October 12, 2006.

The first mineral claims in the area of the current Turnagain property were staked in 1956. Exploratory work since 1966, carried out by a number of operators including Hard Creek Nickel Corporation and a predecessor company, has included geological mapping, geophysical and geochemical surveys and 50,935 metres of diamond drilling in 230 holes. Nickel mineralization on the Turnagain property is associated with a zoned, Alaskan-type ultramafic body within Paleozoic metasedimentary and lesser metavolcanic rocks adjacent to the faulted terrane boundary between the North America cratonic margin and accreted Quesnel terrane. The Turnagain ultramafic body hosting mineralization is elongate in a northwesterly direction and measures 8 by 3.5 kilometres. The complex consists of a central dunite core and outer, marginal zones of wehrlite, olivine clinopyroxenite, clinopyroxenite and hornblende, all of which represent crystal cumulate sequences. Contacts between the various phases are gradational. Later intrusive events include narrow felsic dykes which are probably related to a small granodiorite stock in the central part of the ultramafic body and basic dykes of unknown age. Iron and nickel sulphides, of magmatic origin, are preferentially hosted by wehrlite and dunite adjacent to the transition from wehrlite to dunite. The central dunite core appears to be only weakly mineralized. Massive, semi-massive and sulphide matrix breccias have been noted in several surface showings and over restricted intervals in drill core within the Horsetrail zone in the southern part of the Turnagain ultramafic suite. Most of the sulphide mineralization encountered in drill holes consists of between 1% and 5% disseminated blebs which locally coalesce to form net-textured sulphides. Nickel is the principal commodity of interest, with low copper and cobalt values that average less than 0.02%. Combined platinum and palladium values are generally less than 100 parts per billion. Analytical studies indicate that between 60% and 90% of the nickel values are present in the form of sulphide minerals with the remainder occurring in crystal lattices of the silicate mineral olivine.

The 2007 mineral resource estimate is based on a revised and expanded geologic interpretation of the Horsetrail zone and peripheral area. The block model grades were estimated by the ordinary kriging using composites generated from drill data obtained since 2002. The following table presents the updated resource estimate using a cut-off grade of 0.10% sulphide nickel.

Table 1-1 2007 Mineral Resource Estimate

<b>Cut-off Grade 0.10 % Sulphide Ni</b>	<b>Tonnes (000)</b>	<b>% Sulphide Ni</b>	<b>% Total Ni</b>	<b>% Co</b>
<b>Measured</b>	37,629	0.17	0.23	0.011
<b>Indicated</b>	390,934	0.17	0.22	0.011
<b>Measured + Indicated</b>	428,563	0.17	0.22	0.011
<b>Inferred</b>	742,923	0.17	0.22	0.011

## 2 INTRODUCTION AND TERMS OF REFERENCE

Hard Creek Nickel Corporation (formerly Canadian Metals Exploration Limited) owns the Turnagain nickel property which is situated east of Dease Lake in northern British Columbia. Exploratory work on this property, in the mid-1960s and between 1997 and 2004, revealed the presence of widespread nickel and associated copper, cobalt and platinum group elements mineralization within an ultramafic complex. Comprehensive work programs and related research studies in 2004 and 2006 served to better define the geological setting of the property and the nature and distribution of mineralization. The last published Mineral Resource for the project was released March 2, 2006 (Simpson, 2006). A Preliminary Assessment was also completed by AMEC Americas Ltd. in June, 2006 (AMEC, 2006).

The author of this report has been retained by Hard Creek Nickel to prepare an updated resource estimate. This technical report has been prepared in compliance with the requirements of National Instrument 43-101 and Form 43-101F1 and is intended to be used as supporting documentation to be filed with the British Columbia Securities Commission and the TSX Venture Exchange.

The author visited the Turnagain Nickel property in October, 2005 and, more recently, from October 11-12<sup>th</sup>, 2006. The site inspection included examination of drill sites, drill core and surface outcrops as well as observation of sample preparation and QA/QC procedures. The author has also reviewed the geological information from previous programs and other relevant data available in the Vancouver office. The author is of the opinion that the programs and the data have been conducted and gathered in a professional and ethical manner and conforms to standards acceptable within the industry.

## 3 DISCLAIMER

The mineral resource estimates referred to within this document include the use of inferred resources that are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the preliminary assessment will be realized.

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, GeoSim does not consider them to be material.

## 4 PROPERTY DESCRIPTION AND LOCATION

### 4.1 Mineral Rights

The Turnagain nickel property consists of two legacy 4-post mineral claims, 27 two-post claims and 52 cell mineral claims, all of which are contiguous and are situated in the Liard Mining Division of northern British Columbia 70 kilometres east of Dease Lake and 1350 kilometres north-northwest of Vancouver (Figure 4-1). The mineral claims collectively cover an area of approximately 29,370 hectares (293 square kilometres) between latitudes 58°22.1' and 58°36.0' North and longitudes 128°36.3' and 129°10.7' West in NTS map-areas 104I/06E, 07E&W, 10W and 11E. (UTM coordinates (Zone 9) – 490000E – 524000E, 6470250N – 6495500N).





Figure 4-1 Location Map

The configuration of the various mineral claims, which extend northwest and southeast of Turnagain River, is illustrated on Figure 4-2 which incorporates information plotted on BC Mineral Titles Reference Maps M104I 045, 046, 055, and 056. Details are listed in the following table.

Table 4-1 Turnagain Mineral Claims

Tenure Number	Claim Name	Area /ha	Good To Date (YYYY/MM/DD)
402864	BEAR 1	500	2017-05-26
402865	BEAR 2	25	2017-05-26
402866	BEAR 3	25	2017-05-26
402867	BEAR 4	25	2017-05-26
402868	BEAR 5	25	2017-05-26
402869	BEAR 6	25	2017-05-26
402870	BEAR 7	25	2017-05-26
402871	BEAR 8	25	2017-05-26
402872	BEAR 9	25	2017-05-26
402873	BEAR 10	25	2017-05-26
402874	BEAR 11	25	2017-05-26
402875	BEAR 12	25	2017-05-26
402876	BEAR 13	25	2017-05-26
402877	BEAR 14	25	2017-05-26
402878	BEAR 15	25	2017-05-26
402879	BEAR 16	25	2017-05-26
402880	BEAR 17	25	2017-05-26
402881	BEAR 18	25	2017-05-26
402882	BEAR 19	25	2017-05-26
402883	BEAR 20	25	2017-05-26
402884	BEAR 21	25	2017-05-26
402885	BEAR 22	25	2017-05-26
402886	BEAR 23	25	2017-05-26
402887	BEAR 24	25	2017-05-26
402888	BEAR 25	25	2017-05-26
402889	BEAR 26	25	2017-05-26
402890	BEAR 27	25	2017-05-26
402891	BEAR 28	25	2017-05-26
407627	PUP 4	500	2017-01-01
501131	Drift 1	421.965	2013-01-12
501168	Drift 2	421.755	2013-01-12
501234	Drift 3	421.729	2013-01-12
501298	Drift 4	421.794	2013-01-12
503365		793.347	2013-02-18
508218	Dinah 1	407.204	2010-03-03
508219	Dinah 2	407.052	2010-03-03
508221	Dinah 3	406.859	2010-03-03
508222	Dinah 4	406.701	2010-03-03
508223	Dinah 5	407.096	2010-03-03
508225	Dinah 6	407.096	2010-03-03
508226	Dinah 7	254.575	2010-03-03
508227	Dinah 8	407.298	2010-03-03
508228	Dinah 9	135.529	2010-03-03
508229	Dinah 10	203.4	2010-03-03
510889		1627.862	2011-04-07

Tenure Number	Claim Name	Area /ha	Good To Date (YYYY/MM/DD)
510892		1219.257	2011-04-07
510910		1424.279	2012-04-07
510911		1066.865	2012-04-07
510912		779.891	2012-04-07
511214		979.883	2012-02-18
511226		1216.076	2010-02-18
511227		506.714	2009-02-17
511230		760.466	2010-02-17
511234		185.888	2009-02-16
511244		489.918	2012-02-18
511251		473.406	2012-02-17
511257		1014.444	2011-02-17
511279		896.687	2012-02-17
511304		1149.679	2012-02-17
511305		270.959	2012-09-27
511306		881.166	2014-02-19
511329		1015.364	2012-09-27
511330		592.594	2016-12-01
511337		1065.752	2016-12-01
511340		253.92	2016-12-01
511344		270.999	2017-02-19
511347		474.339	2015-04-07
511348		389.388	2016-12-01
511586		236.94	2017-01-01
511593		101.549	2017-01-01
511627		592.115	2016-12-01
511628		708.952	2012-02-18
511629		472.918	2012-02-18
528780	T1	67.745	2012-02-23
528781	T2	203.314	2012-02-23
528782	T3	152.557	2012-02-23
528784	T4	288.253	2012-02-23
528787	T5	169.649	2012-02-23
528788	T6	270.22	2012-02-23
528789	T7	422.475	2012-02-23
528790	T8	253.607	2012-02-23
	Total area	30544.49	

Initial mineral claims were located in 1996 by J. Schussler and E. Hatzl and subsequently optioned to Bren-Mar Resources Limited, a predecessor company of Canadian Metals Exploration Limited and Hard Creek Nickel Corporation. The original option agreement gave Bren-Mar Resources the right to earn a 100% interest in the mineral claims in exchange for the issuance of 200,000 shares and incurring property expenditures of \$1 million within five years of acquisition. The 100% interest has been earned subject to a 4% net smelter royalty on possible future production from the mineral claim 511330. Hard Creek Nickel Corporation retains the right to purchase all or part of this royalty for \$1 million per 1%.

The 14 DRIFT and DINAH cell mineral claims, situated southeast of Turnagain River (Figure 4-2), were acquired early in 2005 by way of the BC ministry of Energy and Mines “online” map selection process. Twenty-nine of the original 4-post mineral claims (now termed legacy claims) northwest of Turnagain River were converted to cell mineral claims in April. This conversion process ensures greater security of mineral title by effectively eliminating the possibility of internal and external fractions within or adjacent to the various mineral claims. Accumulated assessment work credits are also retained under the conversion system.

One 4-post claim and twenty-seven 2-post claims, located adjacent to and partially within the central part of the property holdings but outside of the prospective ultramafic rocks, were the subject of a legal dispute between Hard Creek Nickel Corporation and Mr. Weise. On July 10, 2007 the Supreme Court of British Columbia ordered that these claims be transferred to Hard Creek Nickel. The transfer has been completed and the claims have been included in the Turnagain property. Mr. Weise has subsequently filed a Notice of Appeal of the Order.

Legacy mineral claims in British Columbia may be kept in good standing by incurring assessment work or by paying cash-in-lieu of assessment work in the amount of \$100 per mineral claim unit per year during the first three years following the location of the mineral claim. This amount increases to \$200 per mineral claim unit in the fourth and succeeding years. Cell mineral claims, which are of varying size depending on their position within the province, require annual expenditures (or cash-in-lieu payments) of \$4 per hectare per annum for the first three years of tenure and \$8 per hectare annually thereafter. The maximum permitted assessment work (ten years) has been filed on all of the key claims to advance their expiry dates into 2017.

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## 4.2 Permits & Environmental Liabilities

Exploration work on mineral properties in British Columbia requires the filing of A Notice of Work and Reclamation with the Ministry of Energy and Mines. The issuance of a permit facilitating such work may involve the posting of a reclamation bond. Permits for the 2003 to 2006 exploration work programs were obtained with no undue delays and permitting for the proposed 2007 program is in progress. Reclamation bonds totalling \$187,900 have been posted by Hard Creek Nickel to the end of 2006.

Environmental studies within the property area have been ongoing since 2003. These include hydrological measurements on tributary creeks, water quality sampling from creeks and drill holes, wildlife observations and determination of fish species and the collection of weather data. Multi-element analyses of soil samples have provided useful information regarding background concentrations of major and trace elements.

The author is not aware of any specific environmental liabilities to which the various mineral claims are subject. The Turnagain property is situated in an area where mining-related activities have been underway for more than 75 years.

## 5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES INFRASTRUCTURE AND PHYSIOGRAPHY

The Turnagain nickel property is centred on Turnagain River 70 kilometres east of the community of Dease Lake (Figure 5-1). Dease Lake is situated on highway 37 some 400 kilometres north of the port of Stewart (Figure 4-1). Helicopter access from Dease Lake involves a 20 minute flight. Secondary roads extending easterly from Dease Lake have been used by large, articulated 4-wheel drive vehicles to convey large jade boulders from the Kutcho Creek area and to supply placer gold operations at Wheaton Creek over the past number of years. A branch of this road network extends into the Turnagain property; road distance to Dease Lake is about 100 kilometres.

A 700 metres long dirt airstrip, constructed in the 1960s and situated in the central property area on the north side of Turnagain River, can accommodate small aircraft. This airstrip is immediately adjacent to Hard Creek Nickel's current camp facility. Past exploration programs have made use of camp facilities at Wheaton Creek (Boulder) which is about 15 kilometres by road west of the property.

Dease Lake has three times a week scheduled airline service and offers some supplies and services. The communities of Terrace and Smithers, both several hundred kilometres south, offer the best range of supplies and services which can be trucked to Dease Lake via highway 37. On-site communications include satellite telephone, facsimile and internet connections.

The Turnagain property is situated in the Stikine Ranges of the Cassiar Mountains. The area between Dease Lake and the property features maturely dissected mountains rising to elevations of between 2000 and 2150 metres above sea level (Figure 5-1) and separated by wide, drift-filled valleys in which elevations average 1000 metres. Relief can be described as moderate for this part of British Columbia. Forest cover is present in valley areas up to elevations of about 1500 metres above sea level above which is typical alpine terrain. Bedrock is reasonably well exposed in the areas above tree line and along drainages.

The Turnagain property covers north-, west- and east-facing slopes northwest and southeast of Turnagain River and alpine terrain above tree line (Figure 5-1). Elevations range from about 1000 metres above sea level along Turnagain River in the central claims area to 2200 metres at an unnamed summit in the central property area.



The climate is typical of the northern interior of British Columbia with cold temperatures and moderate snow cover during the winter months and limited precipitation during the remainder of the year. Field work is best carried out between mid-June and late September when daytime temperatures average 10 to 15 degrees Celsius.

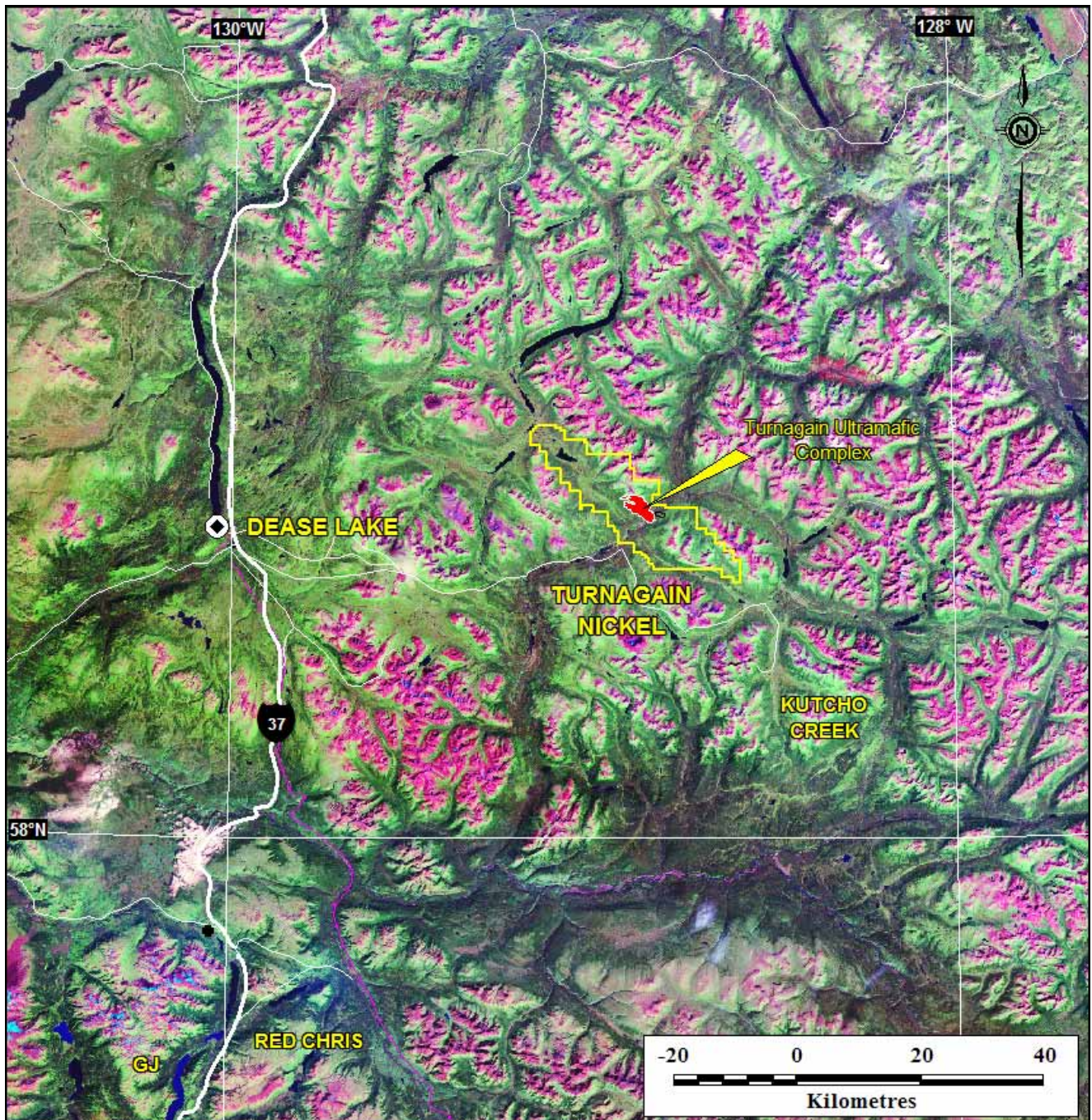


Figure 5-1 Landsat image (circa 1990) showing property location

## 6 HISTORY

The Turnagain property is situated in the Dease Lake area where placer gold was discovered at the north end of Dease Lake in the late 1800s. Subsequent prospecting resulted in the discovery of additional placer gold in other creeks including Goldpan Creek in the 1920s. The Letain asbestos deposit, 20 kilometres southeast of the Turnagain property was discovered in 1955 and exploration for porphyry copper deposits in the 1960s resulted in the discovery of the Eaglehead prospect 10 kilometres west of the Turnagain property. The Kutcho Creek massive sulphide deposit, 40 kilometres southeast, initially investigated in the 1970s and 1980s, was the focus of a major programs in 2004 and 2005. Numerous jade deposits in the area between Wheaton Creek and Kutcho Creek have been mined over the past 20 years.

Nickel and copper sulphides were discovered within the current property area in a bedrock exposure along Turnagain River in 1956. Mineral claims covering this showing and other occurrences were acquired by Falconbridge Nickel Mines Limited in 1966 and work completed over the ensuing seven years included surface and airborne geophysical surveys, geological mapping, geochemical surveys and 2895 metres of conventional and packsack diamond drilling in 40 widely spaced drill holes (Crosby and Steele, 1969; McDougall and Clark, 1972, 1973).

During this same time interval, geochemical surveys were carried out on adjacent ground by Union Minière Exploration and Mining Corporation Ltd. (Burgoyne, 1971). One short diamond drill hole (17 metres) was completed by independent claim owners in 1979 (Cukor, 1980) and Falconbridge drill core was re-sampled for platinum group elements in 1986 (Cukor, 1987). Additional investigation of platinum group elements was also undertaken by way of geochemical surveys conducted on behalf of Equinox Resources Ltd. in 1986 (Page, 1986).

The Turnagain River property was acquired by Bren-Mar Resources Limited (predecessor company of Canadian Metals Exploration Limited and Hard Creek Nickel Corporation) in 1996 and work that year included 400 line kilometres of airborne magnetic surveys and 792.5 metres of diamond drilling in 5 holes (Livgard, 1997). Additional diamond drilling in 1997 and 1998 amounted to 3096 metres in 14 holes (Downing, 1998). Related work included 18 line kilometres of surface magnetic surveys covering two areas of the property, bore hole pulse electromagnetic surveys of four of the 1997-1998 drill holes and preliminary metallurgical test work on drill core composites.

Canadian Metals Exploration Limited undertook work in 2002 consisting of an Induced Polarization survey of part of the claims area and 1687 metres of diamond drilling in 7 holes (Downing, 2003). Exploratory work in 2003 included geological mapping, prospecting and bedrock, stream sediment and soil sampling and 8669 metres of diamond drilling in 22 holes.

Hard Creek Nickel's 2004 exploratory program consisted of geological mapping, bedrock, stream sediment and soil sampling, surface, borehole and airborne geophysical surveys and 7522 metres of diamond drilling in 49 holes. Various mineralogical, metallurgical and analytical studies were also undertaken.

In 2005, Hard Creek Nickel completed 7154 metres of core drilling in 37 holes. In addition, transient EM surveys were conducted in 13 holes (7,400 m), fill-in soil geochemistry was carried out and the geologic mapping program was continued.



## 7 GEOLOGICAL SETTING

### 7.1 Regional Geology

The Turnagain nickel property is associated with a late Triassic ultramafic complex situated within early Paleozoic metasedimentary and metavolcanic rocks along the faulted terrane boundary between the cratonic margin (ancestral North America) and accreted, Mesozoic Quesnel terrane or Quesnellia as indicated on Figures 7-1 and 7-2 which are reproductions of a Geological Survey of Canada published map (Gabrielse, 1998).

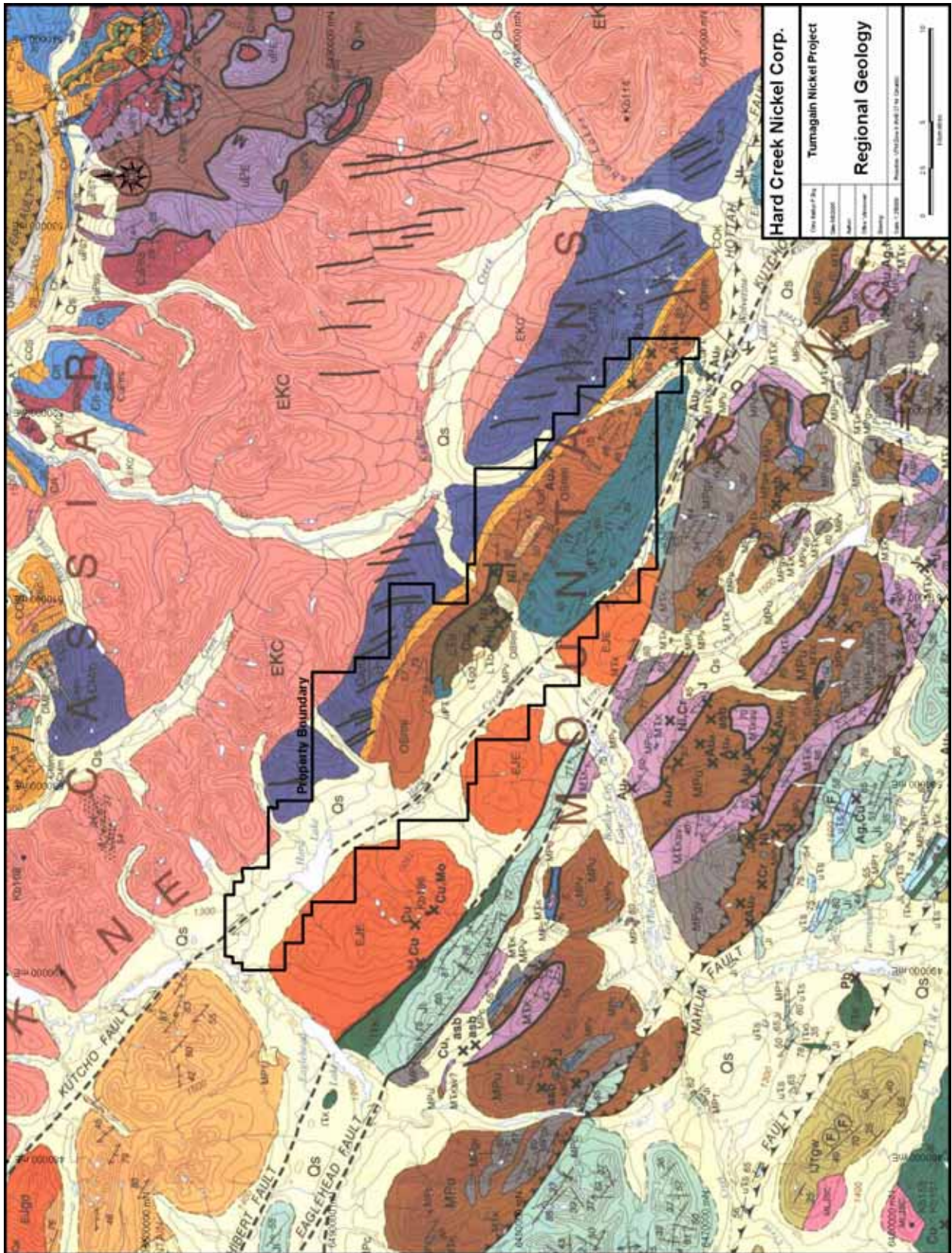
As shown in Figure 7-1, the Turnagain ultramafic suite (Scheel et al, 2005) was emplaced principally in an early Paleozoic (Ordovician to Devonian) metasedimentary sequence of black, graphitic and calcareous phyllites and lesser limestone and clastic sediments, part of ancestral North America. Along its northwestern margin, the complex is also in contact with volcanoclastic rocks of possible early Triassic age and of uncertain terrane affiliation.

The Turnagain ultramafic intrusion is immediately north of the regional, northwesterly trending Kutcho Fault (Figure 7-1) which separates ancestral North America from Quesnellia in this part of British Columbia. The Turnagain intrusion is recognized (Nixon, 1998) as an Alaskan-type ultramafic intrusion similar to those which have been identified in southeast Alaska and elsewhere in British Columbia and are considered as being part of accreted terranes. Two interpretations have been proposed (Nixon, 1998) for the geological setting of the Turnagain ultramafic intrusion. The first of these suggests that the early Paleozoic rocks marginal to the intrusion are autochthonous, or part of ancestral North America. The second interpretation, and the one favoured by Nixon (1998) and Scheel et al (2005), suggests that the ultramafic suite is part of the Mesozoic accreted island-arc terrane of Quesnellia, which in this locality was thrust eastward onto the margin of the North American craton. This latter interpretation conforms to the geological setting of similar, documented Alaskan-type ultramafic intrusions.

Regardless of which interpretation is correct, it is worthy of note that the Turnagain ultramafic suite is situated along a major terrane boundary, or in a geological setting not dissimilar to many of the major nickel-bearing mafic intrusions of the Canadian Shield.

Numerous other ultramafic bodies in this area are non-zoned Alpine-type bodies which cut sedimentary rocks of Cache Creek terrane. Most of these are serpentized and an example is the Letain asbestos deposit southeast of the Turnagain property which hosts some 15 million tonnes grading 4.7% asbestos fibre.

The area east of Dease Lake features diverse geology and a number of mineral deposits and occurrences. The best known of these include the Kutcho Creek massive sulphide deposits hosted by late Triassic felsic volcanic rocks (Figure 4-1). The main zone includes a measured and indicated resource of 11.6 million tonnes grading 2.22% copper, 2.98% zinc, 38.1 grams/tonne silver and 0.47 gram/tonne gold and 2.1 million tonnes grading 3.26% copper, 5.86% zinc, 75.7 grams/tonne silver and 0.71 gram/tonne gold in the higher grade Esso West zone (Western Keltic Mines Inc. news release, January 11, 2005). The Eaglehead porphyry deposit, west of the Turnagain property and hosted by early Jurassic granitic rocks, includes a reported 30 million tonnes grading 0.41% copper, 0.01% molybdenum, 2.71 grams/tonne silver and 0.20 gram/tonne gold. (Note that the foregoing resource figure is from BC Minfile and is not in accordance with Section 1.3 of National Instrument 43-101).



### Figure 7-1 Regional Geology





### Figure 7-2 Geologic Legend

## 7.2 Local and Property Geology

The generalized geological setting of the northern part of the Turnagain property is shown in Figure 7-3. Dominant is the Turnagain ultramafic suite which measures 8 by 3.5 kilometres and is elongate in a northwest direction and is conformable with the regional structural grain. The ultramafic body is in fault contact with early Paleozoic graphitic phyllites and lesser calc-silicate and quartz-rich tuff layers along its northern and eastern margins. Country rocks proximal to the intrusion display no evidence of contact metamorphism but the ultramafic rocks near the fault contact are serpentized (Scheel et al, 2005). Diamond drilling to date suggests that the poorly exposed southwestern margin of the intrusion is in intrusive contact with metasedimentary, volcanoclastic and carbonate rocks of possible Triassic age. A large raft of similar rocks in the northwestern part of the intrusive suite is reported by Scheel et al (2005) as being hornfelsed.

The Turnagain ultramafic suite broadly consists of a central dunite core with peripheral units of wehrlite (olivine+clinopyroxene-rich peridotite), olivine clinopyroxenite, clinopyroxenite and hornblendite, all of which represent crystal cumulate sequences (Clark,1980, Nixon,1998). Gabbro, common to many Alaskan-type complexes, has not been recognized (Nixon,1998).

As indicated on Figure 7-3, variably serpentized dunite, the most widespread exposed unit, is flanked by wehrlite, olivine clinopyroxenite, pyroxenite and hornblendite along the eastern, southern and western margins of the intrusive suite. Contacts between the ultramafic phases are gradational and difficult to follow although magnesium/calcium ratios derived from analyses of drill cores have proven to be useful in determining the boundaries of the various units.

In detail, the central dunite is massive and consists solely of olivine with minor chromite and pyroxene. Locally significant concentrations of cumulus chromite are present in this unit. Dunite weathers to a light brown colour which is particularly evident in the higher (northern) parts of the property. On fresh surfaces, this unit is dark green to black as are the other units. Layering on a small scale has been noted in a few localities. Serpentinization of dunite is variable but may amount to 10% by volume (Scheel et al, 2005). Wehrlite, the second most abundant rock unit and an important host for sulphide mineralization, mainly consists of cumulus olivine and intercumulus clinopyroxene. Clinopyroxenites and olivine clinopyroxenites, mainly exposed in the southwestern and northwestern parts of the intrusion (Figure 7-3) consist mainly of clinopyroxene with lesser olivine and alteration minerals. While most of these appear to be differentiates of original magma, coarser, intrusive varieties have also been noted. Hornblendites in the northwestern part of the intrusion include both cumulus hornblende and hornblende replacing pyroxene.

A 1700 x 300 metres, elongate hornblende diorite to granodiorite body intrudes hornblendite and dunite in the central part of the intrusive suite and is offset by an east-northeast striking fault (Figure 7-3). Recent age dating indicates the granodiorite and ultramafic units have similar ages of 190 Ma (Scheel et al; in prep.). Narrow porphyritic granitic dykes, usually in the order of 1 to 2 metres in width and clearly post-mineral, were noted cutting wehrlites and clinopyroxenites in drill core. Numerous inliers, xenoliths and small inclusions of hornfelsed, calc-silicate metasedimentary rocks, similar to those seen marginal to the ultramafic intrusion, are present within the ultramafic intrusive rocks.

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## 8 DEPOSIT TYPE

The Turnagain nickel deposit is classified as an ultramafic associated magmatic nickel sulphide deposit. The host Turnagain Complex is a zoned, Alaskan-type ultramafic.

## 9 MINERALIZATION

The Turnagain ultramafic intrusion is regarded as unusual in that it hosts relatively abundant sulphide minerals for an Alaskan-type complex (Clark, 1980; Nixon, 1998). A number of showings of semi-massive and massive sulphides have been identified by work to date (Figure 7-3). These semi-massive and massive zones, plus broad zones of disseminated sulphides, are invariably hosted by dunite and wehrlite near the southern and eastern margins of the ultramafic body (Figure 7-3). The central dunite is essentially devoid of sulphide minerals although it is worthy of note that the highly magnesian olivine is more enriched in nickel (up to 0.20-0.30% weight percent) than the olivines in the peridotites and pyroxenites which have been reported to be depleted in nickel in areas of sulphide mineralization. Nixon (1998) suggests that these features are further evidence of fractional crystallization of the ultramafic magma.

The association of sulphide minerals with wehrlite-dunite and, to a lesser degree, with clinopyroxenites, was recognized during earliest exploratory work on the property. McDougall and Clark (1972) state that contact areas between pyroxenites and peridotites (wehrlites and dunite) appear to be the most prospective zones in which to prospect for nickel.

Primary sulphide minerals consist mainly of pyrrhotite with lesser pentlandite (iron-nickel sulphide) and minor chalcopyrite. Some bornite has been reported. The writer concurs with other investigators that these are magmatic sulphides. Intercumulus and blebby sulphides, with grain sizes ranging from 1 to 4 millimetres, are evident in widespread disseminated zones seen in drill cores. With increasing concentrations, these intercumulus sulphide grains coalesce to form net-textured sulphides. Semi-massive and massive sulphides, and rare sulphide matrix breccias, were also noted in drill cores over intervals not exceeding a few tens of centimeters.

Narrow fracture-filling sulphide lenses, commonly featuring chalcopyrite and minor pentlandite along with the more prevalent pyrrhotite, appear to be products of remobilization of primary sulphides adjacent to dykes, altered xenoliths and serpentinized areas.

Secondary nickel and copper sulphides, including violarite and valleriite, have been noted in serpentinized zones and both primary and secondary sulphides are associated with graphite (Nixon, 1998). Recent microscopic and microprobe studies of drill core samples from the Horsetrail zone (Kucha, 2005) have identified additional nickel sulphide minerals including mackinawite, heazlewoodite, godlevskite and millerite. Platinum group element minerals identified to date include vysotskite, a palladium-iron-nickel sulphide and sperrylite, a platinum arsenide mineral.

The principal mineral zones identified to date on the Turnagain property (Figure 7-3) include the original Discovery Zone which is exposed along Turnagain River and contains nickel-copper values plus anomalous platinum. The Fishing Rock Zone, also adjacent to Turnagain River southwest of the Discovery Zone, consists of disseminated sulphides in wehrlite. The Cliff Zone, 1.5 kilometres east of Turnagain River, features pyrrhotite, pentlandite and chalcopyrite within a 100 x 75 metres area. The Northwest zone, near the southern contact of the intrusive body, and the Davis showing, situated near the northern margin of the ultramafic complex, include interstitial pyrrhotite and minor chalcopyrite in

wehrlite and clinopyroxenite. Two new discoveries in 2006 are in the Hatzl area located southeast of the Horsetrail Zone and the Duffy area lying 500 metres northeast of the Horsetrail.

The Horsetrail Zone, and the adjacent Northwest Zone have been the focus of most of the historic and recent diamond drilling (Figure 7-3). Results to date suggest a northwest to west-northwest trend for both of these zones which consist of broadly dispersed, disseminated to intercumulus sulphide mineralization in both dunite and wehrlite and in particular, in contact areas between the two rock types.

In detail, the Horsetrail Zone includes several, parallel, west-northwest-striking, steeply north-dipping lenses of  $>0.25\%$  nickel which are separated by intervals of sulphide mineralization containing lower nickel grades. Within the zone, the transition from dunite to wehrlite is marked by an increase in clinopyroxene, due in part to the contamination of the ultramafic magma by partially digested xenoliths of metasedimentary rocks containing sulphur, graphite, calcium and silica. It is thought that these xenoliths not only provided the elements for crystallization of clinopyroxene to form wehrlite but also resulted in the precipitation of iron-nickel sulphides. As such, there appears to be a spatial relationship between graphitic xenoliths, increasing clinopyroxene content in the ultramafic host rocks and the incidence of sulphide mineralization.

Sulphide grains within the broad zones of disseminated to intercumulus mineralization range in size from 0.5 to 5 millimetres and commonly rim olivine grains. Pyrrhotite is the most abundant sulphide mineral; zones of higher grade nickel mineralization feature pentlandite grains enclosed in pyrrhotite. Where present, chalcopyrite occurs along the margins of pyrrhotite and in narrow veinlets.

As noted, relatively unaltered dunite adjacent to the Horsetrail zone may contain nickel values of 0.20 to 0.30%, virtually all of which is encapsulated in the silicate mineral olivine and consequently is not of current economic importance. Nevertheless, dunite with high background levels of nickel may be an indicator of potential nearby nickel sulphide mineralization.

The Hatzl Zone was discovered in 2006 by exploration drilling of several airborne geophysical anomalies identified during 2004. Mineralization consists of disseminated and net textured pyrrhotite and pentlandite hosted by dunite and wehrlite. This mineralization is similar in texture and host rock to the Horsetrail Zone and may be continuous with the Horsetrail as the area between has not been tested.

The Duffy Zone was also discovered by exploration drilling in 2006 designed to test the eastern contact of the ultramafic complex and coincident geophysical and geochemical anomalies.

The Highland area lies 3 kilometres north-northwest of the Horsetrail Deposit and was discovered in 2005. It was tested by 6 core holes in 2006.

A magnetite-rich pegmatite horizon containing platinum and palladium mineralization was discovered 3 kilometres northwest of the Horsetrail Zone in 2004. Subsequent drilling has expanded the apparent strike length of the horizon to 1.1 km. This includes targets labeled the Bench, DJ and DB zones.

## 10 EXPLORATION

The Turnagain property was acquired in 1996 and the exploration program that year included 400 line-kilometres of fixed-wing magnetic survey and 795.3 metres of core drilling in 5 holes. Addition core drilling completed in 1997 and 1998 amounted to 3,119 metres in 14 holes. Holes were targeted to test mainly beneath mineralization exposed in the Hatzl, Cliff, Discovery, Horsetrail and Northwest areas. Related work included 18 line-kilometres of surface magnetic surveys, covering two small areas on the

property, bore-hole pulse-electromagnetic surveys in four of the 1997-1998 drill holes and preliminary metallurgical testwork on drill composite samples.

In 2002, work resumed on the property with ground magnetic and Induced Polarization geophysical surveys over the eastern portion of the ultramafic intrusion and 1,687 metres of core drilling in 7 holes.

Exploratory work in 2003 was focussed on extending the Horsetrail mineralization encountered in 2002. Twenty-two holes and the deepening of a 2002 hole were completed for a total of 8,672 metres. A reconnaissance geochemical sampling program carried out in 2003 was the first attempt to gain information outside of the drill area and consisted of the collection and analyses of 250 soil samples at 100 metres spacing along four topographic contour lines between 1300 and 1460 metres elevation, northwest and upslope of the principal mineralized zones. An analysis and interpretation of the results obtained from these samples was undertaken by Dr. Colin E. Dunn, P.Geo., on behalf of the company in early 2004. Results for copper, nickel, cobalt and platinum+palladium were kriged and contoured as 90th, 80th, 70th and 50th percentiles. Coincident and higher copper, cobalt and platinum+palladium values were concentrated within an area between 3 and 4 kilometres west-northwest of the Horsetrail zone. Higher nickel values in soils were more widespread and are coincident with the Horsetrail area, and several areas north and northwest of the Horsetrail area. Results from these reconnaissance soil lines were considered very sufficiently encouraging to plan for a larger, systematic geochemical soil survey in 2004.

Towards the end of 2003, metallurgical flotation tests were initiated on composite core samples from the 2002 and 2003 drill programs.

A reconnaissance biogeochemical survey, carried out in April, 2004, consisted of the collection of 132 twig and bark samples along four transects over the Turnagain ultramafic intrusion. Analytical results were not as definitive as those obtained from previous soil sampling and a comprehensive geochemical soil sampling program was initiated in mid-2004 to follow up and expand upon results of the 2003 surveys.

The 2004 program consisted of 49 drill holes for 7,633 metres, a helicopter-borne geophysical survey and extensive soil and rock sampling. The geochemical soil survey involved the collection of more than 2,000 soil samples collected at 50 metres intervals along survey lines at 200 metres spacing within an area of 15 square kilometres. More detailed sampling was undertaken in areas yielding anomalous base and precious metals results. Results of this survey include two strong copper-in-soil anomalies located 2.5 kilometres northwest of the Horsetrail zone. Values exceed 430 parts per million (ppm) copper (with peaks to 3219 ppm copper) over areas of 1500 x 1100 metres and 900 x 600 metres. These anomalous areas (DJ-DB area) flank the hornblende diorite-granodiorite intrusion which intrudes the ultramafic rocks in this area. Anomalous platinum-palladium values in soils are often coincident with the anomalous copper values. Drill holes in 2004, 2005 and 2006, located to test the stronger platinum-palladium soil anomalies, intersected long intervals of anomalous platinum and palladium, including 49.8 metres averaging 0.96 g/tonne platinum plus palladium in hole 05-88.

Anomalous nickel values in soils are widespread over the northern part of the Turnagain ultramafic intrusion from the Highland area southeast towards the Horsetrail mineralization, a distance of three kilometers. Much of the nickel soil anomaly is the result of sampling disintegrating nickel-rich dunite and is not directly related to nickel sulphides. However, several drill holes in the Highland area did intersect disseminated nickel sulphides near several of the higher nickel soil anomalies.

The 2004 geochemical program also included the collection and analyses of 330 rock float and 243 bedrock samples from within and adjacent to the soil geochemical grid. Significant total nickel results



(>0.20% to a maximum of 1.9%) in both float and bedrock samples are mainly clustered in the area of the Horsetrail zone and in a smaller area north of the DJ zone. Enhanced platinum-palladium values (>300 ppb to >600 ppb) are coincident with the nickel values in the area north of the DJ zone and are more broadly dispersed in the area of the Horsetrail zone. A more detailed description and illustration of the results of the 2004 soil and rock sampling program is given by Carter, P.Eng (2005) in his Report on the 2004 Exploration program.

Surface geophysical surveys undertaken in 2004 were directed to the Horsetrail zone and included 16 line-kilometres of magnetometer and VLF-EM surveys and 9 line-kilometres of transient EM coverage. The transient EM survey identified a number of east-west conductors within the Horsetrail zone; these have apparent strike lengths of up to 600 metres and are estimated to extend to depths of more than 100 metres. Down-hole transient EM surveys completed in 9 diamond drill holes aided the interpretation of the surface survey and also identified several off-hole conductors, at depths of up to 270 metres below surface, which remain untested.

An airborne geophysical survey was completed over the Turnagain property by AeroQuest Limited in late September of 2004. The survey utilized a helicopter-borne AeroTEM II time domain electromagnetic system and a high sensitivity cesium vapour magnetometer. Continuous readings on both instruments were obtained from northeast-southwest oriented survey lines at 50 to 200 metres spacings; precise locations were established using a global positioning system (GPS). Terrain clearance was 30 metres and the survey totaled 1866 linekilometres (Rudd, 2005).

The magnetic response confirmed the results of earlier surveys, accurately outlining the limits of the Turnagain ultramafic intrusion (Figure 10-1). Magnetic data ranged from lows of 55,000 nanoteslas (nT) to highs of 63,000 nT; average background was 57,800 nT (Rudd, 2005).

Electromagnetic anomalies were classified by conductance and by the thickness of the source. Early Off Time TAU electromagnetic response is illustrated on Figure 10-1 and the data is dominated by the response from the highly graphitic and conductive metasedimentary rocks units which border the ultramafic intrusion. The highlighted electromagnetic anomalies within the intrusion are of interest, particularly those labeled Bench Area, Highland Area, Hatzl and Horsetrail Zone (Figure 10-1). All of these include multi-channel responses and with well defined dips.

Exploration drilling in 2005 and 2006 targeted a number of electromagnetic conductors in the Bench, Highland, Hatzl and Horsetrail areas, located within the ultramafic complex, and several conductors adjacent to the ultramafic - metasedimentary contacts. Most of the conductors were caused by seams of graphite, semi-massive pyrrhotite or a combination of the two with, unfortunately, only minor nickel sulphides. However, conductors in the Horsetrail, Hatzl and also in a portion of the Highland area, while still caused by graphite and pyrrhotite, were present within wide zones of disseminated to blebby pyrrhotite-pentlandite mineralization. Grade and size of these mineralized zones justified additional step-out drilling in 2005 and 2006. Overall conductivity in the Horsetrail area is probably enhanced by finely disseminated graphite or carbonaceous material in the matrix of the altered dunite and wehrlite.

Five holes were designed to test electromagnetic conductors in the DJ-DB area and intersected pyrrhotite±chalcopyrite±pyrite in clinopyroxenite and hornblendite clinopyroxenite. Platinum-palladium values in three holes warrant additional drill holes.

Conductors along the southern portion of the Cliff area remain untested.

Although the 2006 exploration program was dominated by 19,121.8 metres of NQ core drilling in 68 holes, limited fill-in soil geochemical sampling and rock-saw channel sampling helped to define targets for

future drilling. Fifty-two of the drill holes in 2006 program were designed as step-out holes to increase the resource in the Northwest-Horsetrail-Hatzl areas. The remaining holes tested conductors and/or ultramafic-metasedimentary contacts in the Highland, Duffy and towards the western edge of the ultramafic complex. Significant intervals of intercumulus pyrrhotite and pentlandite were intersected in the Duffy area, located 900 metres northeast of the Horsetrail. Additional drill holes will be required to establish a connection, if any, between the Duffy and Horsetrail mineralization.

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## 11 DRILLING

The Turnagain ultramafic intrusion has been tested by 50,935 metres of diamond drilling in 230 holes since 1966 (Table 11-1). Sixty-eight inclined NQ core holes (19,122 metres) were completed by Hard Creek Nickel Corporation in 2006 and one previous hole was deepened. The drill hole locations are shown in Figure 11-1 and details listed in Appendix I and II.

Table 11-1 Summary of drill programs

Year	Operator	Holes	Metres
1967	Falconbridge	13	1,304.90
1970	Falconbridge	15	1,458.00
1996	Bren-Mar Resources Ltd.	5	795.30
1997	Bren-Mar Resources Ltd.	9	1,855.30
1998	Bren-Mar Resources Ltd.	5	1,264.10
2002	Canadian Metals Exploration	7	1,686.63
2003	Canadian Metals Exploration	*22	8,672.0
2004	Hard Creek Nickel	49	7,633.42
2005	Hard Creek Nickel	37	7,143.10
2006	Hard Creek Nickel	** 68	19,121.80
	Total	230	50,934.55

\* One 2003 drill hole was also extended

\*\* One 2005 drill hole was extended

Most of the holes drilled to date have been inclined. Initial drilling by Falconbridge between 1966 and 1970 recovered QXT and AQ core; BQ size (36.4 mm diameter) core has been recovered since 1996 by drill contractor DJ Drilling. The last nine holes of the 2004 program recovered NQ-size core. In 2005 holes drilled in, and peripheral to, the Horsetrail Zone also recovered NQ-size core. Seven BQ core holes were drilled on more remote targets using a helicopter-portable drill rig. Core recoveries are excellent, averaging 95%. Most drill holes have been sampled over their entire lengths; sample intervals do not exceed 2 metres in length.

Drill core from holes drilled between 1996 and 2002 is stored in racks at the Boulder camp on Wheaton Creek 15 kilometres west of the property. Core recovered from all the 2003 to 2006 programs is stored at the camp on the property.

During 2006, sixty-eight core holes were completed and one older hole extended for a total of 19,121.8 metres. Drilling was carried out by DJ Drilling of Surrey, B.C. using one skid-mounted LY38 drilling NQ size core and one helicopter supported LF70 drilling NQ size core. A 206B helicopter from Pacific Western Helicopters of Dease Lake was used for drill moves and crew changes for holes 06-135 to 06-157. Recoveries were generally better than 95% and down hole surveys indicate that holes generally deviate only a few metres from collar to end of hole. The 2006 targets consisted of AeroTEM conductors, magnetic anomalies, geochemical soil anomalies, and potential extensions of known mineralization.



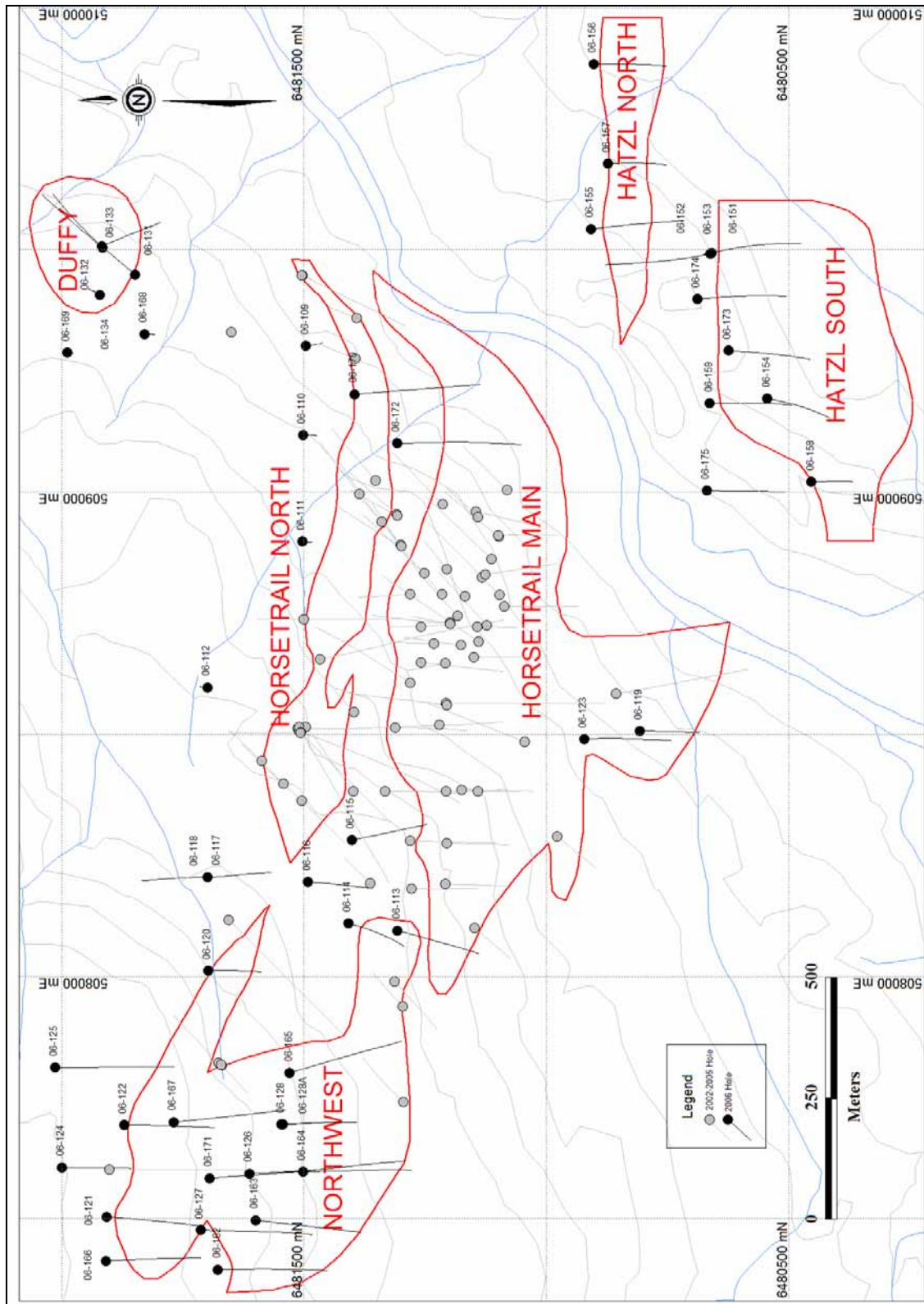


Figure 11-1 Drill hole plan

## 11.1 Collar Surveying

Hole locations were surveyed to centimeter accuracy with dual frequency GPS equipment. Azimuth and inclination of casing were also accurately determined in order to initialize the downhole survey tool. Most of the hole collars and casing orientation for 2003-2005 holes drilled in the Horsetrail area were surveyed. All surveying between 2004 and 2006 was conducted by Gabriel Aucoin, CLS, of Aucoin Surveys Ltd.

## Downhole Surveying

A Reflex Maxibor® unit was used for most downhole surveying during the 2004, 2005 and 2006 drill programs. Where casing was intact, 2002 and 2003 holes were re-entered and surveyed with the Maxibor instrument. A number of holes were not surveyed either because they were initial exploration holes drilled outside of the Horsetrail area (04-42 to 59, 05-85 to 89 and 101, 06-141 to 143), damaged or missing casing prevented re-entry or the tool was not available. Where Maxibor surveys were not conducted, acid dip tests provided limited control on hole orientation.

Figure 11-2 is a plot of downhole azimuths vs collar azimuths from the Maxibor surveys. Most of the drill holes are oriented either close to 180° or between 030 and 055° and show a very slight tendency to increase (clockwise deviation).

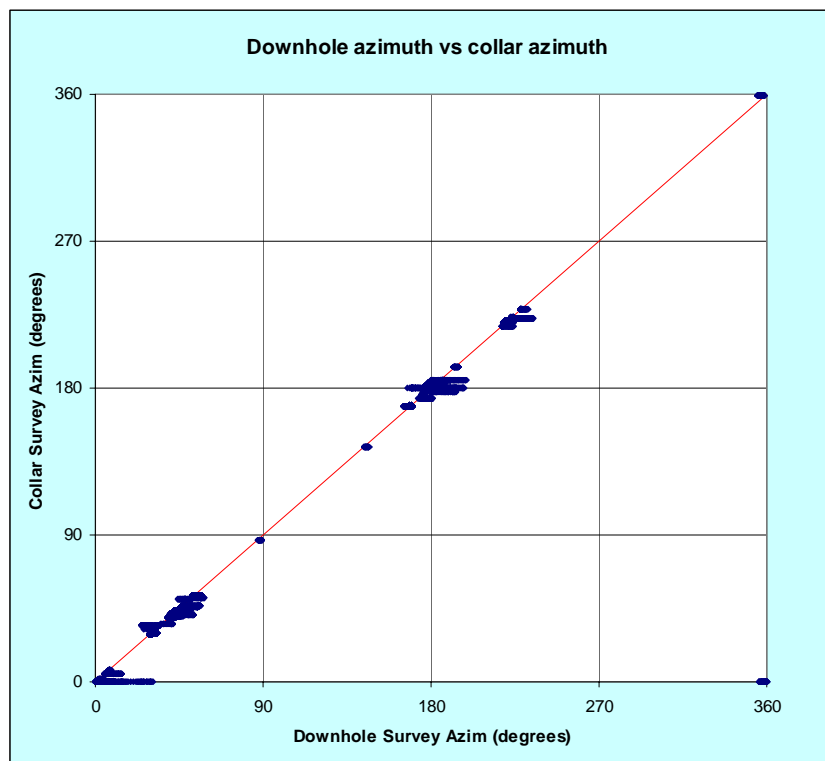


Figure 11-2 Comparison downhole vs collar azimuths

Figure 11-3 is a plot of downhole dips vs collar inclination and shows a clear tendency for dips to steepen slightly except for a series of NQ holes drilled angles between -55 and -65 degrees. The steepening is somewhat more pronounced in the survey results from BQ drilling.

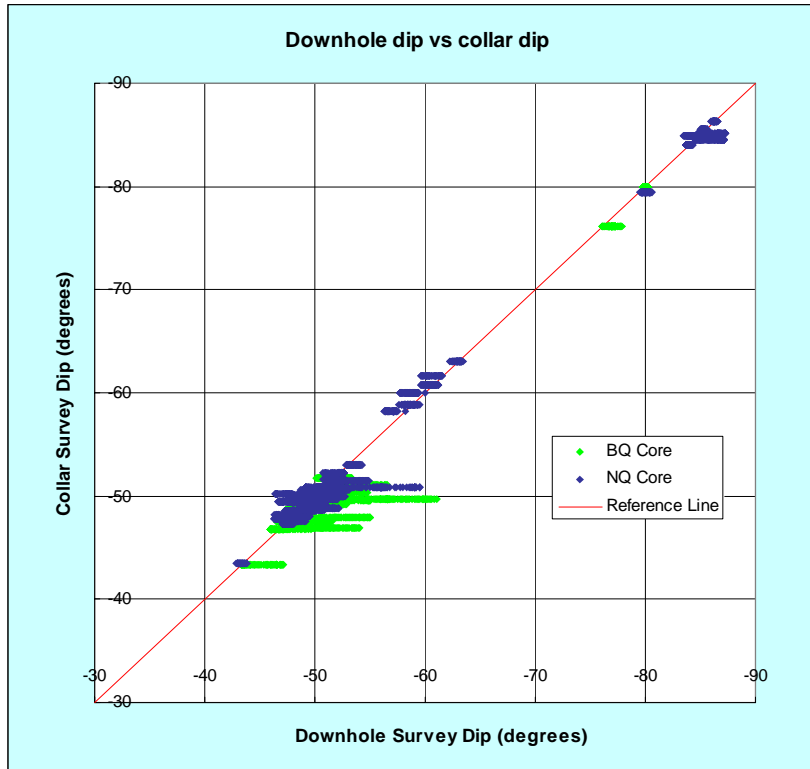


Figure 11-3 Comparison of downhole vs collar dips

Scatterplots were also generated showing the changes in azimuth and inclination between the collar and downhole surveys (Figures 11-4 and 5). Trend lines show that, with a few exceptions, the azimuths tend to stay within 5 degrees of the collar orientation while inclinations tend to steepen by a few degrees. The smaller diameter BQ holes show only slightly more deviation than the NQ holes.

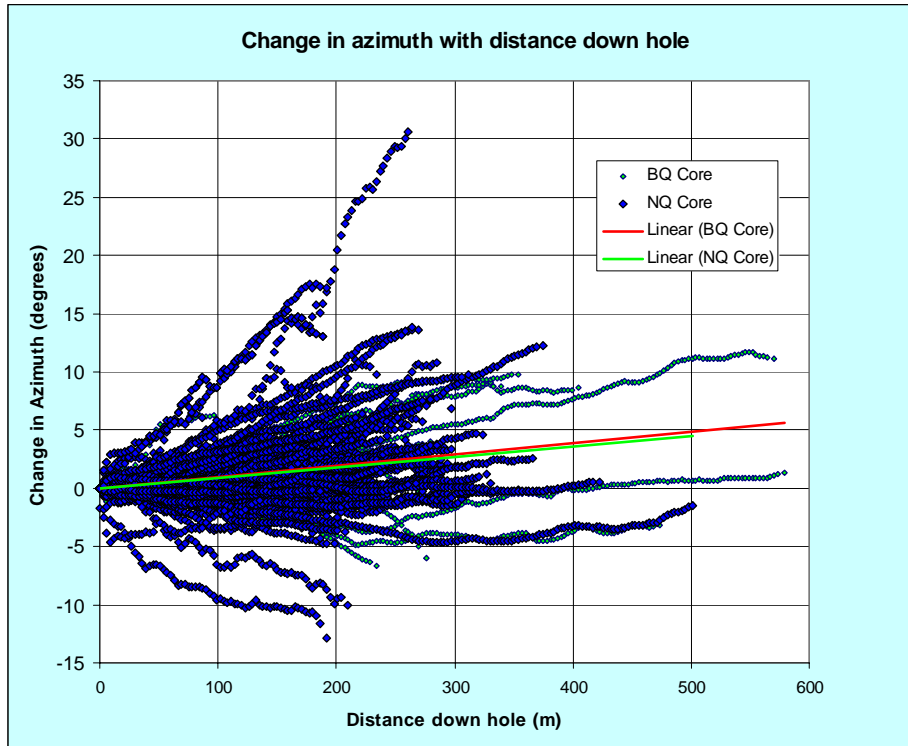


Figure 11-4 Change in azimuth with distance down hole

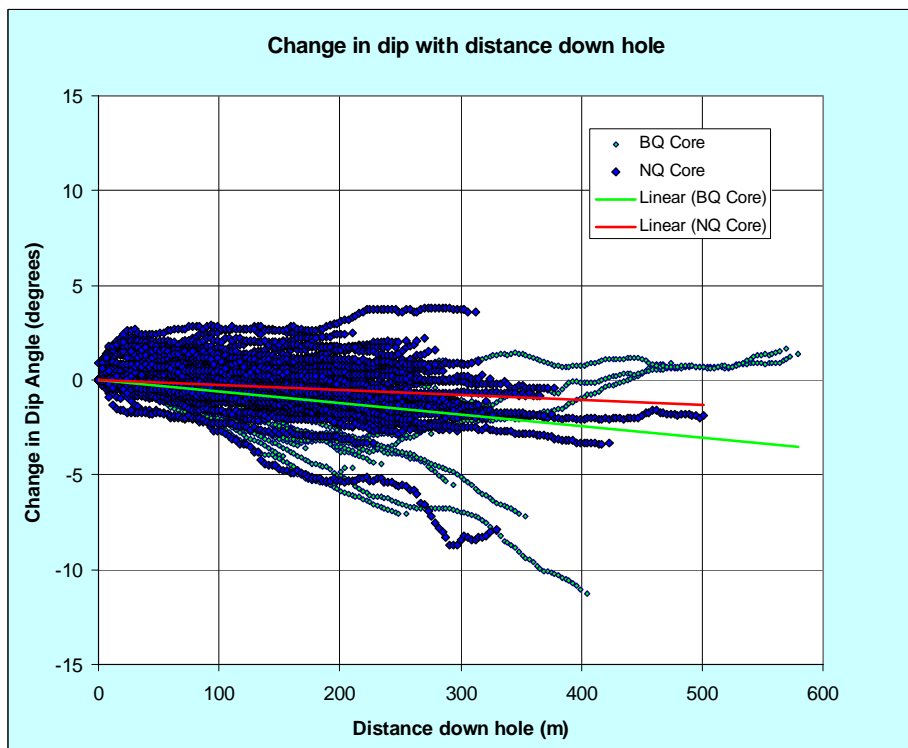


Figure 11-5 Change in dip with distance down hole



## 11.2 Summary and Interpretation of Drilling Results

During the 2006 exploration program 58 inclined NQ-size core holes were completed in the present resource area for a total length of 14861.5m (average depth of 286m). Twelve of these holes were drilled to determine the near surface extent and grade of the Horsetrail mineralization and upgrade part of the 2005 resource estimate from an inferred to an indicated category. Twenty holes were fill-in and definition for the Northwest Zone. Twelve holes explored the Hatzl Zone and eight were drilled on the Duffy Zone. Holes were oriented north or south and inclined at -48 to -86 degrees to intersect the east-west striking mineralization at close to optimum angle.

In all, 35 of the 58 holes drilled in the resource area intersected significant disseminated and net-textured pyrrhotite-pentlandite mineralization. Drilling results to date have outlined mineralization over a strike length of 2700 metres and a width of up to 700 metres. The mineralization remains open at depth in all zones and lateral boundaries have only been partially defined. The area between the Horsetrail and Hatzl zone has not been tested.

The twenty holes drilled outside of the resource area were designed to test magnetic and electromagnetic anomalies, geological contacts, geochemical soil anomalies and areas of minor, disseminated sulphides. A number of conductive pyrrhotite and/or graphitic intervals were intersected as well as several intervals of finely disseminated sulphides, but nickel values were disappointingly low.

## 12 SAMPLING METHOD AND APPROACH

Drill core from the 2006 program was logged and marked for sampling by C. Baldys, P.Eng., Bruce Northcote P.Geo., Greg Ross, Jeff Kyba and Erik Scheel. Drill core was sampled at 4 metres intervals or less and halved by use of a hydraulic core splitter and/or a diamond saw. Half of the core is stored in core boxes on site and half sent for analysis.

On arrival at the core logging facility the core was treated or examined as follows:

- washed if necessary to remove drill water additives
- location of depth markers and metric conversion checked
- core marked in one metre intervals
- core recovery, RQD and additional geotechnical parameters measured
- magnetic susceptibility and electrical conductivity measured
- metal tags, marked with hole number, core interval and box number, stapled to end of core box
- core photographed
- core logged for lithology, structure, alteration and mineralization
- core marked with sample numbers and sample intervals
- specific gravity measured on selected intervals by the water immersion method
- core split, placed in sequentially numbered plastic bags and closed with wire ties
- groups of 5 core samples for analysis secured in numbered, addressed bags for shipment
- reference pulps inserted every 25 samples and field blanks every 30 samples to monitor laboratory performance
- primary analytical laboratory requested to forward every 10<sup>th</sup> sample pulp to the check laboratory for analysis

Split core samples were numbered and bagged and were transported, in numbered bags, from the site by helicopter, in 300-350kg lots, to Dease Lake and shipped by commercial transport to Acme Analytical Laboratories, a certified ISO 9002 facility, in Vancouver. ALS Chemex, in North Vancouver, is also an ISO registered laboratory and was the check analytical facility for 2006 samples.

## 13 SAMPLE PREPARATION, ANALYSES AND SECURITY

Drill core samples received by Acme Analytical were checked against requisition documents prior to being dried, weighed, crushed, split and pulverized prior to being subjected to a variety of analytical techniques.

Samples were analyzed for platinum, palladium, and gold by lead-collection fire-assay fusion followed by inductively coupled plasma emission spectroscopy (ICP-ES) and results reported in parts per billion (ppb). Sulphur content, used to assist in distinguishing between silicate and sulphide nickel and, to a lesser extent, cobalt, was analyzed by the Leco furnace method. Prior to 2004, samples were also analyzed for nickel, copper, cobalt, and approximately twenty major and minor elements by aqua regia digestion followed by an ICP-ES finish. Although aqua regia digestion is routinely used to determine metal content of sulphide mineralization in more siliceous host rocks, it is not the most suitable digestion method for lower-grade nickel sulphide mineralization hosted by olivine-bearing ultrabasic rocks. Not only is nickel a major component in several sulphide minerals such as pentlandite, it can also occur in amounts of up to 0.20 to 0.30 percent within the crystal structure of olivine, a silicate soluble in hydrochloric acid. As noted, to assist in distinguishing nickel in sulphide from nickel in silicate phases, samples collected in 2003 were analyzed for total sulphur and every tenth sample was analyzed for sulphide nickel with an ammonium acetate-hydrogen peroxide leach.

Samples collected from the 2004, 2005 and 2006 programs were subjected to a four acid (HNO<sub>3</sub>-HClO<sub>4</sub>-HF and HCl) digestion followed by ICP-ES analyses to determine values for total nickel, copper, cobalt, and 20 other elements. The nickel sulphide content of each sample was determined by analyzing a second pulp by the ammonium acetate-hydrogen peroxide leach. As with previous procedures, Leco sulphur contents also helped to distinguish between nickel sulphide and nickel silicate contents. Although nickel analyses reported between 1996 and 2002 relied on aqua regia digestion without the benefit of determination of sulphur contents or ammonium acetate-hydrogen peroxide leach, most of the significant mineralized intervals have been re-analyzed to determine sulphide nickel content or have been included in metallurgical test samples to determine the recoverable nickel content. Sufficient analyses have been completed to suggest that sulphide nickel contents determined by ammonium acetate-hydrogen peroxide leach constitute between 60% and 95% of total nickel content.

### 13.1 Quality Assurance / Quality Control Program

Laboratory quality control was maintained by routinely analyzing internal standards, sample blanks and duplicate samples. Hard Creek Nickel staff also inserted standard reference samples with known nickel content in the sample sequence every 25 samples to monitor laboratory accuracy. Field blanks were inserted every 30 samples to check for possible laboratory contamination. For every 30th sample, duplicate pulps were prepared from separate rejects and analyzed to monitor laboratory error and sample homogeneity.

The field standards used for Ni, Cu and Co were two CANMET reference samples labeled “U.M. 2” and “U.M. 4” (GSC Paper 71-35). Both were derived from small lenticular masses of peridotite that occur along a major east-west fault zone in the Werner Lake district of northwestern Ontario. CANMET analysed the material for ascorbic acid-hydrogen peroxide soluble nickel and also by use of a four acid

digest for total Ni contents. The average grades of the standards determined by the initial CANMET testing and by ACME laboratories in 2004 and 2005 are shown in the following table.

**Table 13-1 Average grades (% total Ni) of certified reference materials**

CRM	CANMET (1975)	ACME 2004	ACME 2005
U.M. 2	0.39	0.360	0.357
U.M. 4	0.25	0.247	0.244

Although the UM-2 and UM-4 standards were prepared by CANMET specifically as standards for total and sulphide nickel and have been in use for 30 years, the development of the standards in 1975 did not include a round robin test program. Thus, the mean values for total and sulphide nickel were not certified and there is no data on standard deviation between various analytical laboratories for the nickel values. Since Hard Creek has relied on UM-2 and UM-4 for analytical quality control during the last four years of drilling and during the metallurgical flotation tests, certification of these two standards was considered a priority.

In order to begin the certification process, CDN Resource Laboratories Ltd. was instructed to prepare pulps from the following samples;

- UM-2
- UM-4
- HNC-94 is a composite from hole 05-94 between 108-156m with a head grade of 0.231% total nickel and 1.37% sulphur
- HNC-103 is a composite from hole 05-103 between 113.4-124.4m with a head grade of 0.415% total nickel and 4.3% sulphur.

Ten pulps from each of the above samples were forwarded to Acme, IPL, SGS Lakefield, Assayers Canada and Global Discovery Laboratory (Tech Cominco) for the following suite of analyses;

- Four acid digestion followed by multi-element ICP analyses for total Ni, Cu, Co, Fe and Mg
- Ammonium acetate / hydrogen peroxide leach followed by ICP analyses for Ni, Cu, Co, Fe and Mg (sulphide Ni, Cu and Co)
- Total S by Leco
- Samples 05-94 and 05-103 were also subjected to aqua regia digestion and multi-element ICP analyses for Ni, Cu, Co, Fe and Mg.

Analytical results from the five laboratories were forwarded to Smee and Associates Consulting Ltd. for review and, ultimately, to certify the various mean values and determine between-laboratory standard deviation. Unfortunately, there was considerable variation in interest and competency between the laboratories. Sufficient data was produced for Smee to certify means and determine between lab standard deviations for nickel and copper analyzed by ICP following four acid digestion. Leco sulphur was also certified for three of the samples. The attempt to certify results of the ammonium acetate / hydrogen peroxide leach for sulphide nickel, copper and cobalt was not successful. Only two labs, Acme and IPL, produced acceptable results. The other three labs either could not follow the requested protocol or declined to participate. The certificates of analysis prepared by Smee & Associates are in Appendix III.

In a discussion with Barry Smee regarding HNC's course of action after his inability to certify standards for sulphide nickel, copper and cobalt, he made the following comments;

- He could not recommend any additional analytical laboratories, worldwide, capable of providing sulphide specific analyses for either round robin testing or routine analytical test-work,
- Certification of standards for any partial extraction process, not just the ammonium acetate / hydrogen peroxide leach, is a difficult process. Minor differences in leach time, temperature, reagent strength, operator ability etc. can have a disproportionate effect on the results. Even if the five laboratories had all followed the recommended protocol and produced results, certification was not assured. Methods involving total extraction of elements are obviously preferred by both analytical labs and those certifying analytical results.
- In the absence of certified standards for sulphide Ni, Cu and Co, HNC could use the four years of data for CANMET standards UM-2 and UM-4 generated by Acme and IPL to continue establishing analytical limits for accepting future results.

Relying on previous results from only two labs to set the limits for determining QC/QA parameters is not ideal, but it does represent data collected over a four-year period using various batches of reagents and several laboratory technicians. HNC has recently forwarded 10 pulps from the four standards mentioned above to another laboratory with some experience in sulphide specific leaches but, as of writing this report, had not received any results. Monitoring analytical results for UM-2 and UM-4, during the last few years, has alerted HNC to changes in operator and/or reagents, which were then corrected by Acme.

A total of 243 field standards were inserted into the sample stream during the 2006 drill program (Figures 13-1 to 13-4). The results are generally acceptable with few samples exceeding two standard deviations from the mean for both total Ni and AC Ni. In four cases where analytical results for the reference standards differed significantly (more than two standard deviations) from their acceptable range, or if there was evidence of contamination, the laboratory re-analyzed the compromised batch of samples.

In general, ACME shows a slight low bias for total Ni which is more pronounced in the UM-4 standard (Figure 13-2). The average of all the 2006 standard assays for UM-4 from ACME was 0.240 compared to the certified mean of 0.244.

A review of the 2006 AC Ni sample sequence plots (Fig. 13-3 and 4) shows a noticeable drop in the ACME mean grade which occurred around mid September. The magnitude is only around 0.015% (UM-2) and is still within 2 standard deviations of the mean so is not considered to be significant.

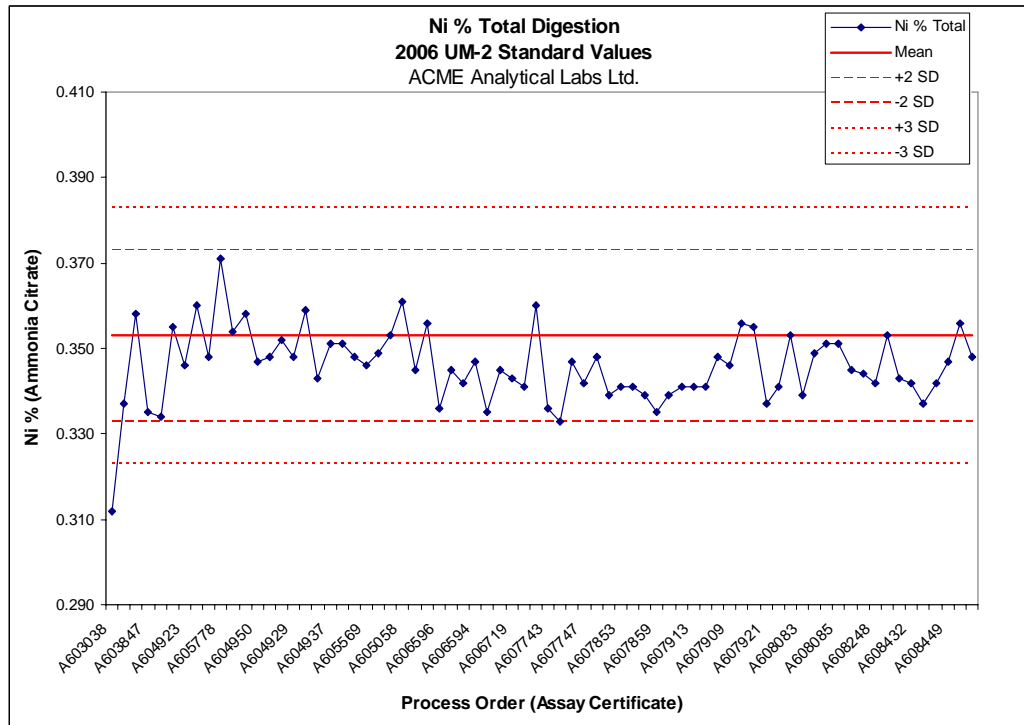


Figure 13-1 Total Ni assay results for standard UM-2

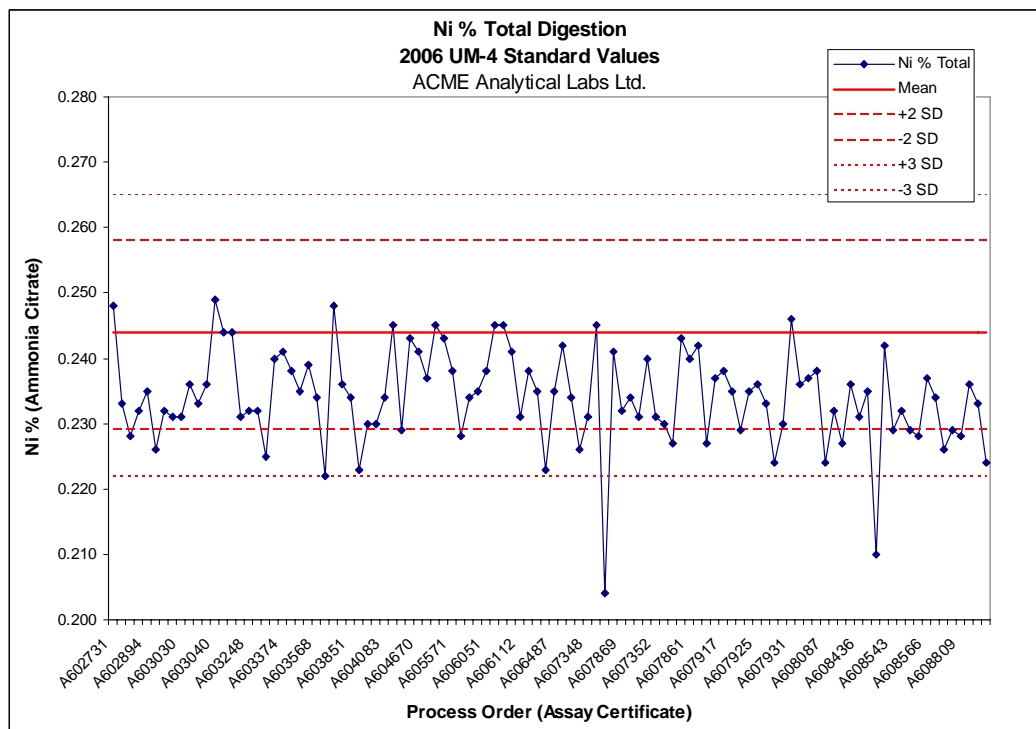


Figure 13-2 Total Ni assay results for standard UM-4

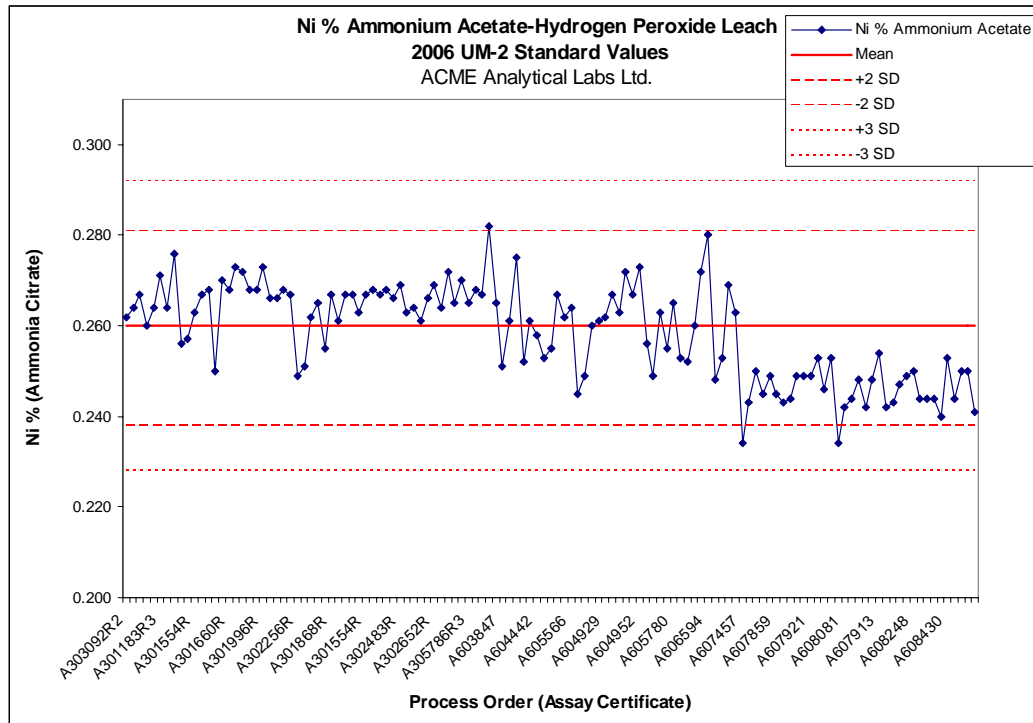


Figure 13-3 AC Ni assay results for standard UM-2

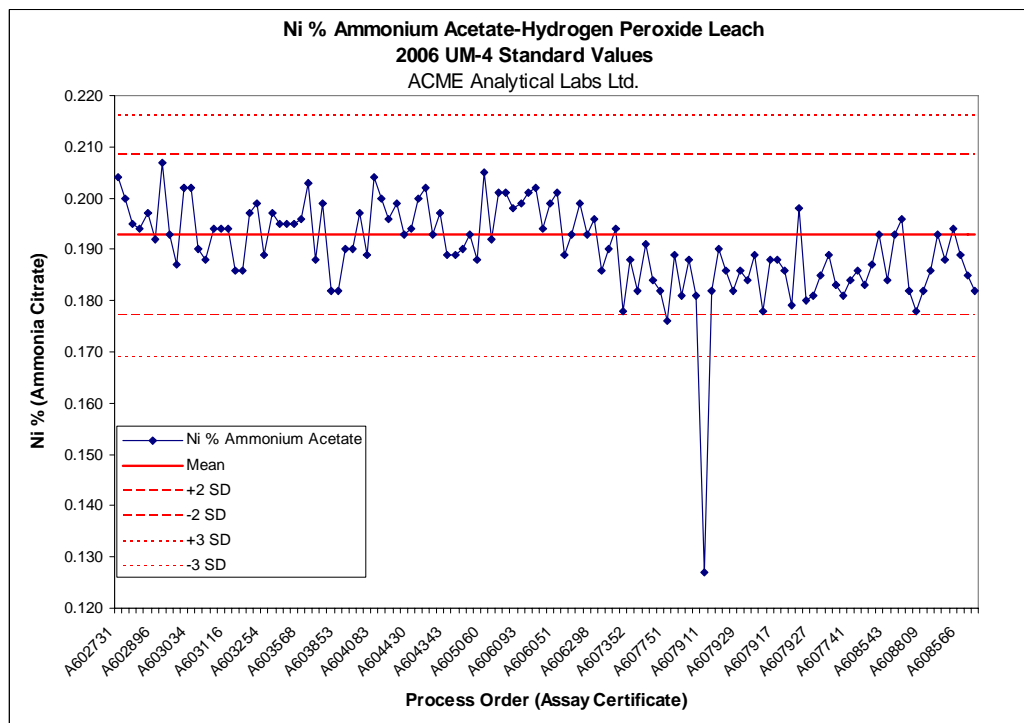


Figure 13-4 AC Ni assay results for standard UM-4

The field blank material used was crushed granite gneiss obtained from Squamish. A total of 94 blanks were inserted into the sample stream during the 2006 program.

## 14 DATA VERIFICATION

Laboratory quality control was maintained by routinely analyzing internal standards, sample blanks and duplicate samples. Hard Creek Nickel staff also inserted standard reference samples with known nickel content in the sample sequence every 25 samples to monitor laboratory accuracy. Field blanks were also inserted in sample batches to check for possible laboratory contamination.

### 14.1 Core Duplicates

In 2004, twenty-seven intervals of quarter split core duplicates were analyzed in order to test for sampling variability. Plots of the quarter split core against the original half split core grades are shown in figures 14-1 and 14-2. Results show a very good agreement on average with mean absolute differences of 0.016% for total Ni and 0.013% for AC Ni.

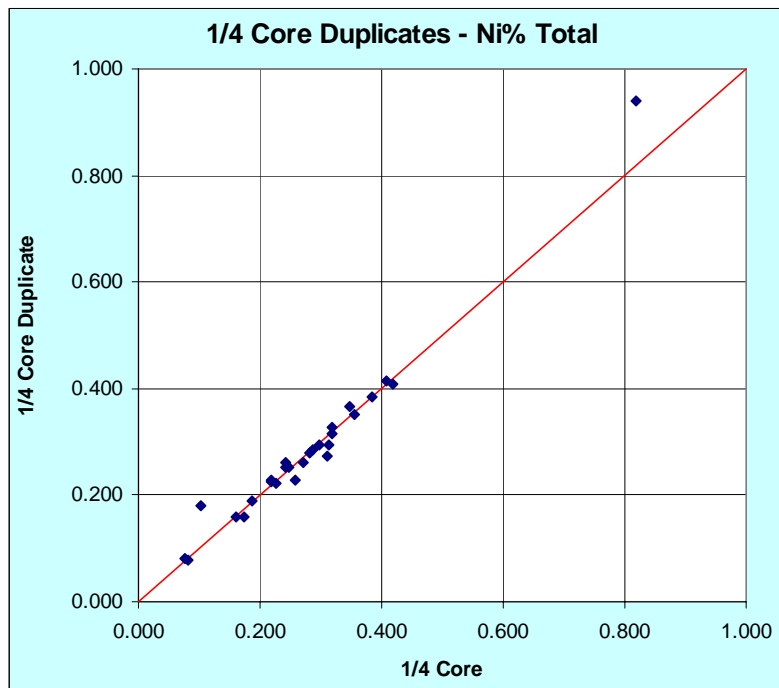


Figure 14-1 Quarter split core duplicates - Total Ni

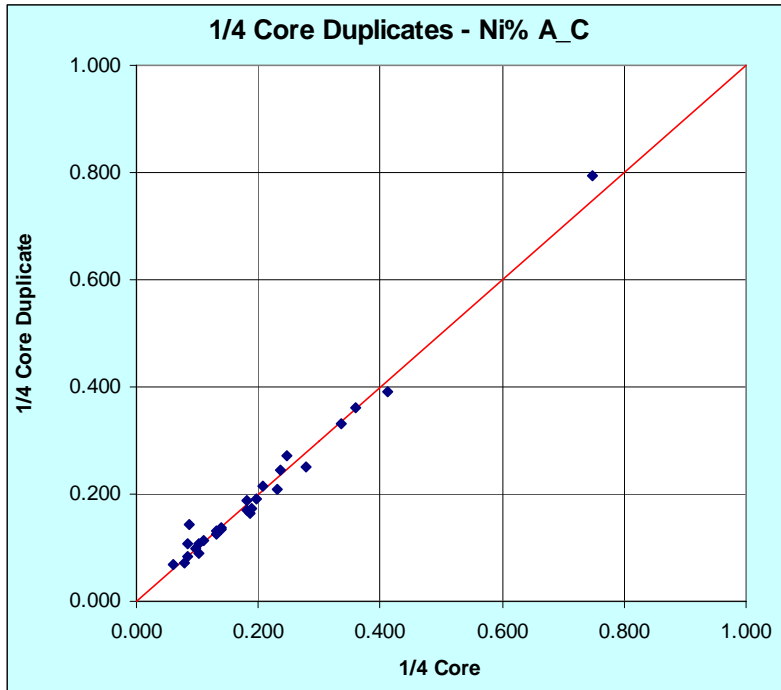


Figure 14-2 Quarter split core duplicates - AC Ni

## 14.2 Pulp Reject Duplicates

A total of 228 pulp reject duplicates from the 2006 drilling program were analyzed as part of ACME's internal verification procedure. Plots of the pulp reject duplicates against the original analyses for AC Ni and total Ni are shown in the following charts. Results show excellent agreement with a mean absolute difference of 0.002%.



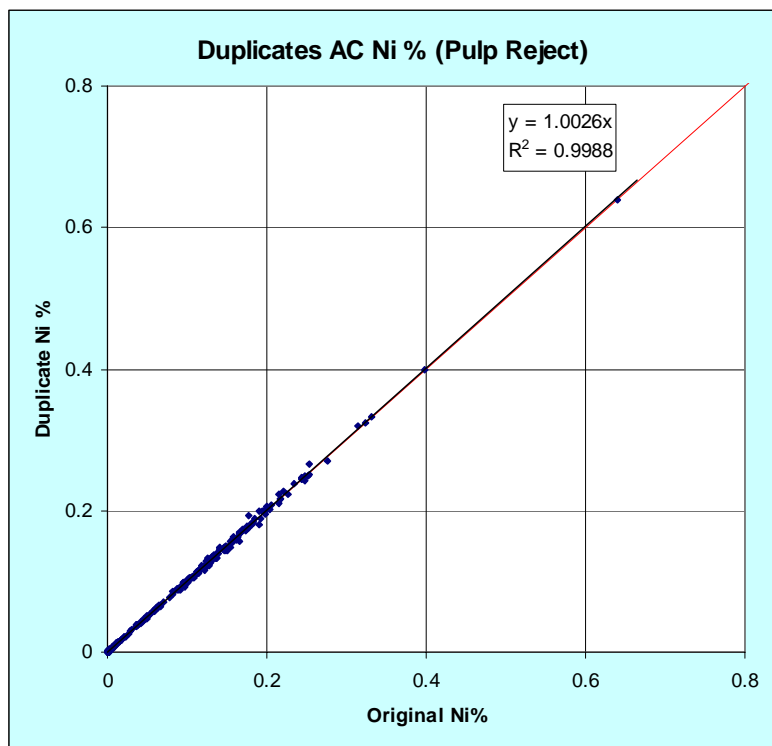


Figure 14-3 Pulp reject duplicates vs initial analysis for AC Ni

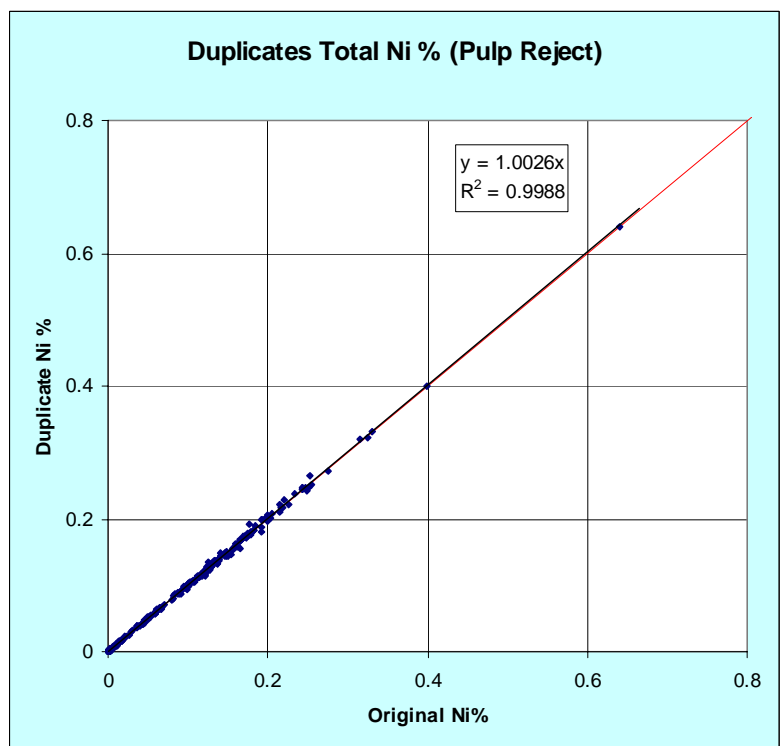


Figure 14-4 Pulp reject duplicates vs initial analysis for Total Ni

Acme's performance was also monitored by sending a separate pulp from every tenth sample to ALS Chemex, in Vancouver, for check analyses. A total of 465 pulps from the 2006 drilling programs were analyzed by ALS-Chemex for Ni, Cu, Co, S, Pt and Pd. The comparison with the initial ACME analyses for total Ni and Co are shown as a scatterplot charts in Figure 14-5 and 6. On average the total Ni grades from ACME were 5% higher than those from ALS-Chemex. This is a significant improvement over the 2005-2006 rechecks which averaged 11% higher. Cobalt values from ACME are also marginally higher than the re-checks.

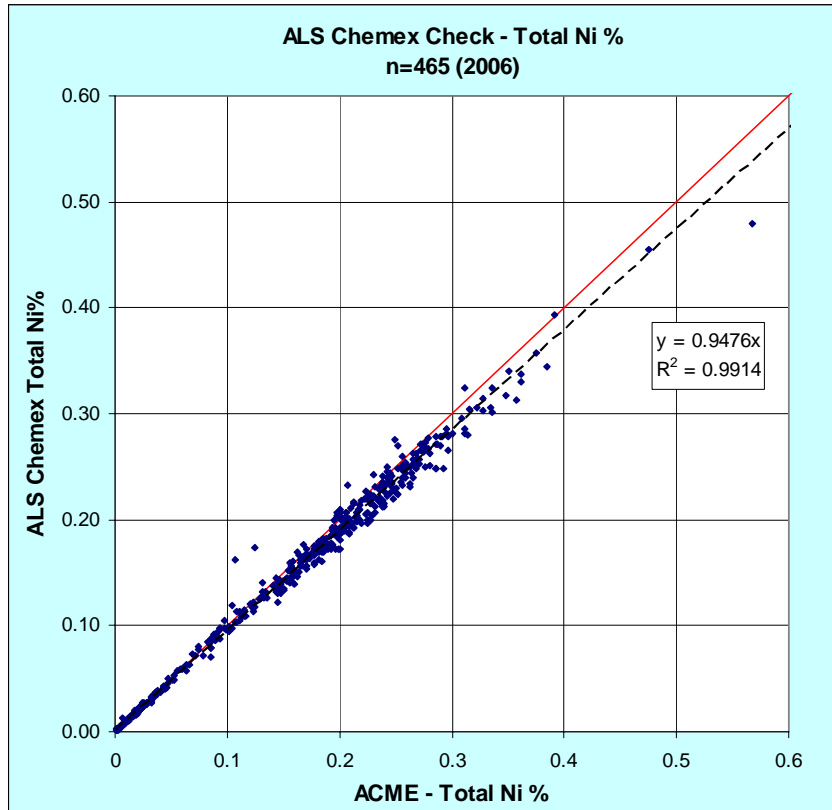


Figure 14-5 ALS Chemex Pulp Rechecks for total Ni

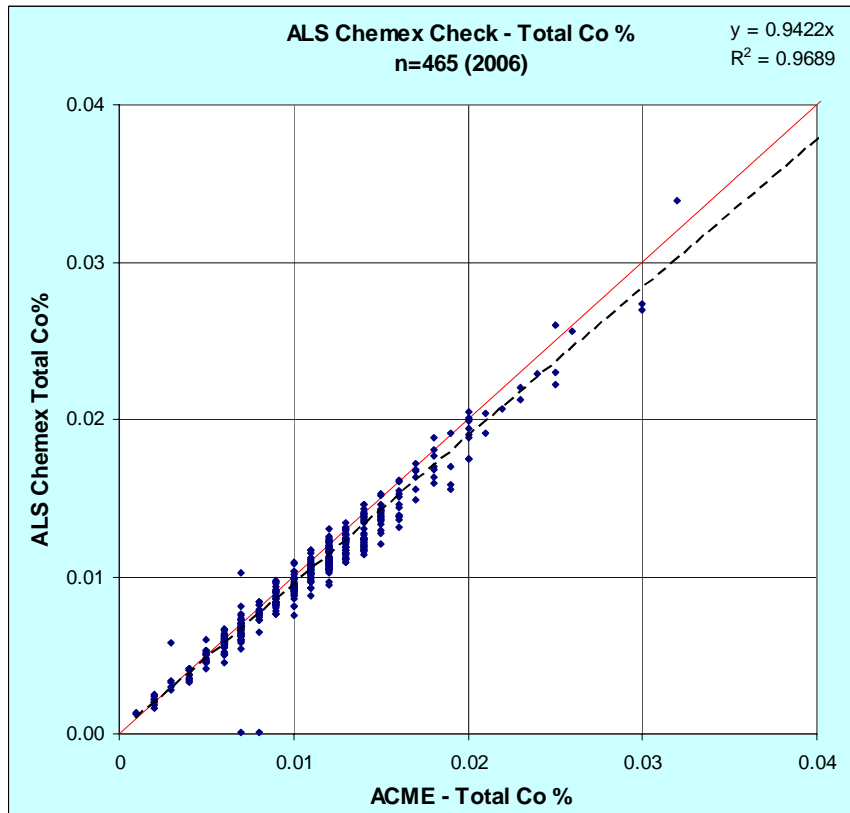


Figure 14-6 ALS Chemex Pulp Rechecks for Co

### 14.3 Coarse Reject Duplicates

A total of 378 coarse reject duplicates from the 2006 drilling program were analyzed as part of ACME's internal verification procedure. Plots of the coarse reject duplicates against the original analyses for AC Ni and total Ni are shown the following charts. Results show excellent agreement with a mean absolute difference of 0.004%.

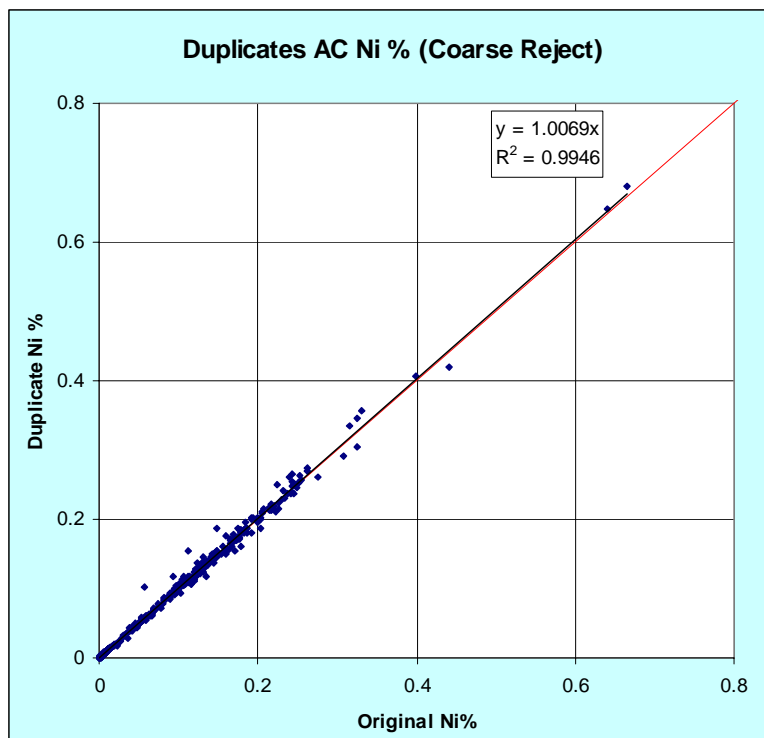


Figure 14-7 Coarse reject duplicates vs initial analysis for AC Ni

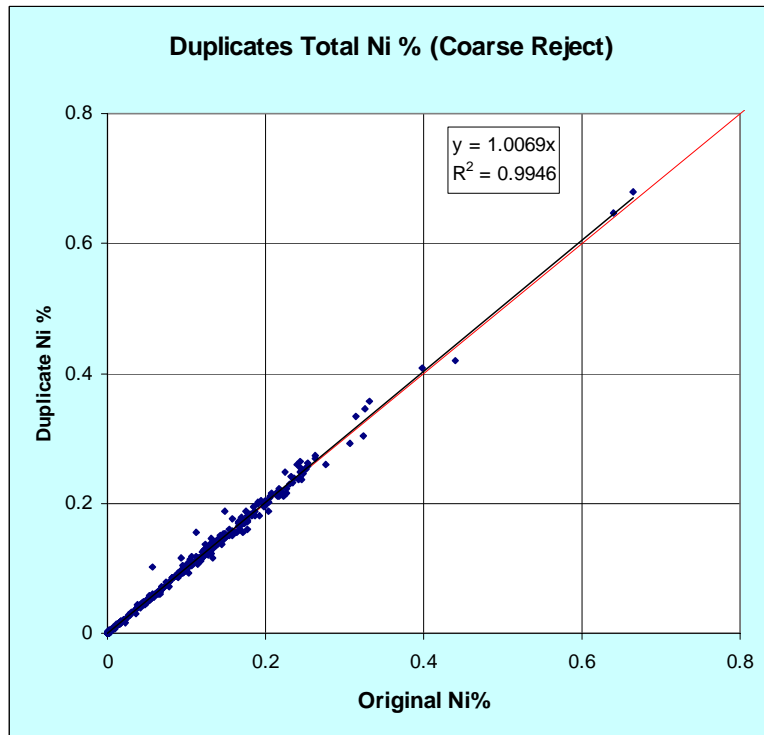


Figure 14-8 Coarse reject duplicates vs initial analysis for Total Ni

## 15 ADJACENT PROPERTIES

Not applicable.

## 16 MINERAL PROCESSING AND METALLURGICAL TESTING

A summary of the metallurgical testing up to and including 2004 is reported by Nick Carter, P.Eng (2005), and for 2005 by Ron Simpson, P.Eng. (2006). Since the 2006 Simpson report the metallurgical program has continued with using the 2005 drill core primarily obtained from the Horsetrail Zone, which includes portions of the North West Zone. Testing recently began on the 2006 drill core as soon as the composites were received by the metallurgical laboratory in March 2007. None of the flotation results from the 2006 drill core program were available at the time of writing this report. To reduce time requirements and improve storage practices for making up the metallurgical composites the company has leased property in Chilliwack BC. From this site, the assay rejects will be catalogued, stored, and blended for making up the composites used in future metallurgical programs. For 2007, assay rejects from the geological program will be shipped directly to Chilliwack from a sample preparation lab operated by ACME Laboratories in Smithers, BC.

Frank Wright, P.Eng., has provided a summary of the procedure and results of the metallurgical program. A primary objective of the current mineral processing philosophy is to define what ore zones of the deposit have the highest probability to produce a saleable flotation concentrate, suitable for direct shipment to smelters. Ideally, this would be to target a flotation concentrate nickel (Ni) grade above 9%, and containing less than 8% magnesium oxide (MgO), while still maintaining acceptable Ni recoveries. Alternately an on-site hydrometallurgical plant can be contemplated which can treat lower grade concentrates with higher MgO content. In particular, identifying ore zones that produce saleable concentrate closer to surface would be more relevant in order to reduce the upfront capital requirements by delaying construction of a hydrometallurgical treatment circuit until such time that it is required. Metallurgical data is to be implemented into the mine data base as part of the engineering evaluation. At current metal prices over 90% of the project value is in the nickel content. Cobalt and copper are followed as a by-product credit. Platinum group elements (PGE) are monitored as potential by-products for some portions of the resource.

Since the last technical report (Simpson, 2006) the laboratory bench scale test work has continued to focus on the concentration of nickel minerals using sulphide flotation techniques. As well there have been preliminary studies relating to comminution and hydrometallurgical treatment. Laboratory studies were performed by SGS Research, of Lakefield Ontario, and by Process Research Associates Ltd., of Richmond, BC. Drill hole composites were blended from drill core, assay rejects that were contiguous to a single drill hole and typically measured between 15 m to 80 m in length. Intervals were selected for blending based on the characteristics relating to the mineralogy and lithology, as well as nickel and sulfur head grades. The tested composite samples were obtained from drill holes 05-90 consecutive to 05-108. Further process studies are scheduled over the next several months on 2006 composite samples obtained from drill holes 06-109 consecutive to 06-175.

In addition laboratory studies were performed on master composites that were obtained by recombining some of the 2005 drill hole composites. Selection of sub-samples for the 2005 master composites was based on the head grade, sulfur to nickel ratio in the head, and the flotation response to best represent the various areas of the resource. Bench scale studies on the master composites focused on further flotation optimization, as well as locked cycle studies, both of which are continuing. One to two flotation pilot plant runs, each using up to two tonnes of 2005 master composite material is planned for spring 2007. The primary purpose of the piloting is to produce a sufficient quantity of concentrate for a

preliminary technical evaluation using various pyrometallurgical and hydrometallurgical treatment options.

The conceptual mineral processing flowsheet remains similar to earlier studies for production of a bulk concentrate, at a primary grind of ~80% passing 125 microns, and cleaned in 4 or 5 stages, without regrinding. A rougher scavenger concentrate may also be produced for recycle or for separate cleaning of a secondary lower grade product. Principal flotation reagents consisted of xanthate as a collector, copper sulfate as an activator, MIBC as a frother, and CMC as a dispersant. Additional modifications to reagents and circuit design are being tested.

Provided that the mineralogy and head grade were similar, the concentrate grades and recoveries obtained during recent open cycle flotation tests were similar to earlier work undertaken on composites obtained primarily from the central portion of the Horsetrail Zone. However, the majority of the recent tests were performed on material obtained from drill holes at locations that extend the resource out from the central Horsetrail Zone. The new resource areas resulted in some corresponding differences in the sample mineralogy. Among the most important mineralogical differences is the total sulfur (S) to sulfide nickel ratio in the feed. Drill hole composites to the north and east trend toward a lower total S to sulfide nickel ratio in the head. This type of feed can produce higher grade concentrates, but often at lower recoveries, and typically carry more magnesium oxide (MgO) minerals. In sufficiently high amounts MgO can make the flotation concentrate unsuitable for pyrometallurgical treatment and increase costs for hydrometallurgical treatment. Evaluation of various flotation reagents and the use of column flotation will be examined in hopes of improving rejection of MgO to the final concentrate.

Composites showing higher sulfur to sulfide nickel ratio tend to exhibit a lower grade flotation concentrate, but bulk recoveries typically trend higher. The lower grade is due to increased iron sulfide (pyrrhotite) content without a corresponding increase in sulfide nickel (pentlandite) mineralization. A more detailed evaluation of the concentrate nickel grade verses recovery relationship will be undertaken for pyrrhotite rejection, and as a best fit for the selected downstream production option. Future mineral processing studies will include the evaluation of flotation modifying reagents and depressants as well as use of physical separation procedures such as magnetic separation or flotation retention time.

The grade range of the cleaned concentrate from open cycle testing depends on the nickel grade and the sulfur to nickel ratio in the feed. As the sulfur ratio increases in the feed, the nickel recovery will typically increase, but produces a lower grade concentrate. The bulk recovery ranges from about 70% to 83% for open cycle testing. Pyrrhotite rejection can be considered during flotation testing for higher sulfur feed, but this will decrease recovery. Without pyrrhotite rejection and for head grades between 0.10% to 0.14% sulfide nickel; the flotation concentrate grade ranged from approximately 4% to 10% nickel. For head grades between 0.14% to 0.20% sulfide nickel; the flotation concentrate ranged from approximately 5% to 13% nickel. For head grades over 0.2% sulfide nickel; the flotation concentrate ranged from approximately 7% to 17% nickel. A tabulated summary is provided in the table below, using a cutoff grade of 0.10% sulfide nickel (NiS).

Table 16-1 Summary of Preliminary Open Cycle Flotation Results on 2005 Drill Composites

Head Grade Range			Avg. Head Grade		Bulk	Grade
%Ni <sub>s</sub> *	S: Ni <sub>s</sub> Ratio	# Tests	% Ni <sub>s</sub>	%S	Rec (%)	Conc %Ni
0.10 -0.14	<4	10	0.124	0.357	70	9.4
0.10 -0.14	4 - 8	5	0.126	0.662	74	7.9
0.10 -0.14	8 - 12	3	0.131	1.34	83	4.1
0.14 -0.20	<4	16	0.167	0.418	72	12.5
0.14 -0.20	4 - 8	22	0.162	0.964	73	8.4
0.14 -0.20	8 - 12	6	0.156	1.55	82	5.1

Head Grade Range			Avg. Head Grade		Bulk	Grade
%NiS*	S: NiS Ratio	# Tests	% NiS	%S	Rec (%)	Conc %Ni
>0.20	<4	14	0.241	0.481	71	17.2
>0.20	4 - 8	10	0.230	1.31	83	7.2
>0.20	8 - 12	1	0.227	2.08	74	7.0

\*NiS denotes nickel content in the sulfide form as defined by the ammonium citrate –hydrogen peroxide analytical procedure

Additional flotation test results using higher S:NiS ratio feed is available. However, this material is currently classified as waste, as the likely concentrate grade is considered too low (<4% Ni) to maximize project economics. Modifications to the flotation procedure to improve grade and / or use of on-site hydromet treatment to treat lower grade concentrate could result in re-evaluation for placing some of this material into the resource category in the future. An ore grade of less than 0.10% sulfide nickel is also not currently included in the resource. Flotation studies show samples below the current sulfide nickel cutoff grade (<0.10%, but >0.075% NiS) could produce suitable concentrate grades, but at recoveries of generally less than 65%, depending on the head grade of both nickel and sulfur. The use of higher forecast metal prices, or process circuit modifications may result in some of this material to be considered as part of the resource in the future, likely to be stockpiled initially into low grade dumps. Conversely lower forecast metal prices and more restrictive process design parameters would decrease the resource tonnage.

## 17 MINERAL RESOURCE ESTIMATE

### 17.1 Database – General Description

The current database for the Turnagain Nickel Deposit consists of 19,869 analyzed intervals in 230 drill holes representing 45,988 metres of core. An additional 5288 metres of core was not analyzed as it was deemed to be unmineralized. Data from 149 of these holes was used in this resource estimation comprising 17,654 assayed intervals (41,590 m). The data from pre-2002 drilling was not used as it was mostly small diameter core, sampling was incomplete and very few intervals were able to be re-analyzed for AC Ni. Furthermore, the areas drilled prior to 2002 have been covered reasonably well by later drill programs.

Virtually all samples from post 2002 drilling within the presently known mineralized zones have now been analyzed by the ammonium acetate-hydrogen peroxide leach process (AC Ni) as well as for total sulphur content (Leco S). Comparison of total Ni with AC Ni grades revealed that a small proportion of samples contained AC Ni grades exceeding the total Ni grade. This was more prevalent in the 2002-2003 results where total Ni was determined using an Aqua Regia digestion and 3.6% of the AC Ni results exceeded the total Ni by greater than 0.02%. Comparisons of the 2004-2006 results show less than 0.2% of samples had ACNi>Total Ni by over 0.02%. This is illustrated in figure 17-1 which compares AC Ni with total Ni determined by the total digestion method and total Ni determined by aqua regia digestion method. Points plotting above the reference line indicate AC Ni values greater than total Ni analyses.



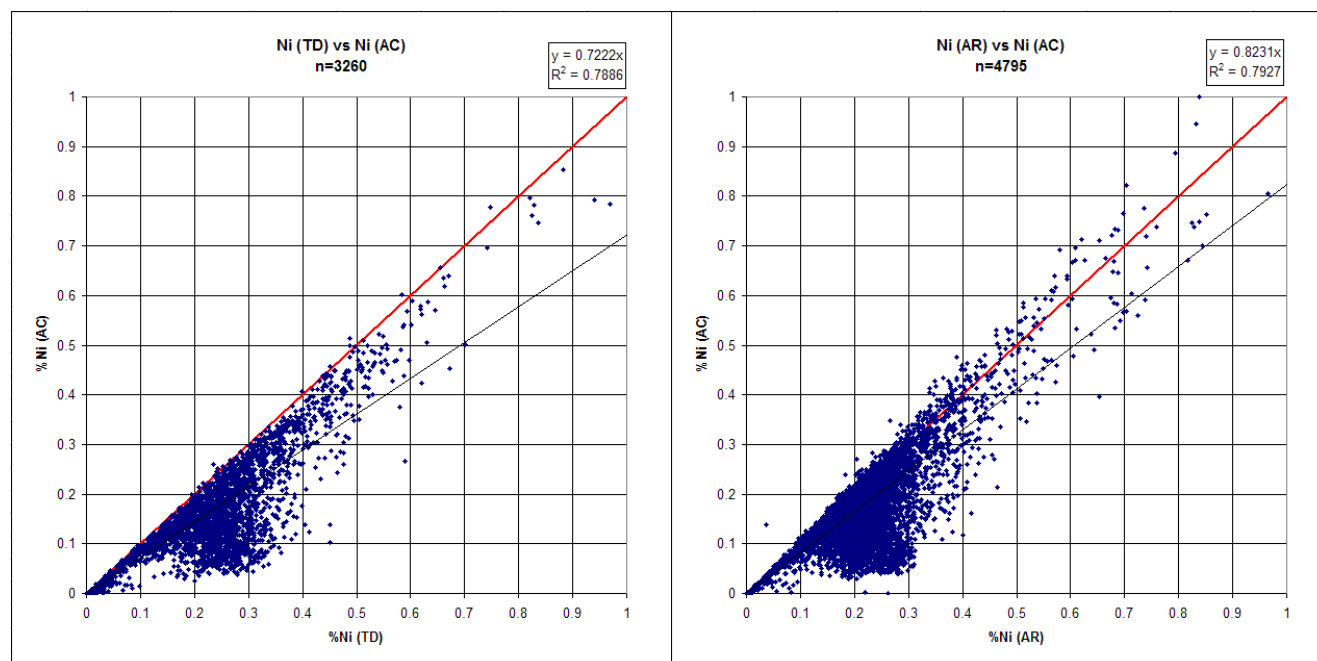


Figure 17-1 Comparison of total Ni assay methods with AC Ni results

It is concluded from these results that the partial digestion analytical method used for total Ni determination in the 2002-2003 drilling programs slightly understated the true total Ni grades. Only a few samples over a narrow range of values were analyzed for total Ni by both methods. Although the total digestion values did average slightly higher than the aqua regia values there was not enough data to be statistically relevant.

The sulphide Ni content used for resource estimation was based on the AC Ni value where total sulphur was greater or equal to 0.2%. Sulphide Ni was assumed to be absent and assigned a zero value where total sulphur values were less than 0.2%.

Silicate Ni content was determined by subtracting the sulphide Ni value from total Ni. In the small percentage of cases where AC Ni (and therefore sulphide Ni) exceeded total nickel analysis, the silicate Ni value was set to zero.

The descriptive statistics for the analyzed intervals within all the domains used in the present resource model are shown in table 17-1.

Table 17-1 Descriptive statistics of raw assay data

Item	Ni (%)	AC Ni (%)	Sulf Ni (%)	AC Cu (%)	AC Co (%)	Pt (ppb)	Pd (ppb)	Total S (%)	Mg (%)
<b>n</b>	10809	10756	10779	10684	10689	8991	8991	10805	10431
<b>Min</b>	0.000	0.001	0.000	0.001	0.001	1	1	0.00	0.01
<b>Max</b>	4.839	5.215	5.215	0.571	0.177	1067	964	21.90	36.05
<b>Mean</b>	0.227	0.180	0.163	0.028	0.011	23	25	0.94	20.88
<b>Median</b>	0.217	0.159	0.153	0.018	0.009	13	15	0.59	21.69
<b>Variance</b>	0.018	0.018	0.021	0.001	0.000	1508	1391	1.49	41.95
<b>Std. Dev.</b>	0.134	0.134	0.146	0.036	0.007	39	37	1.22	6.48

Item	Ni (%)	AC Ni (%)	Sulf Ni (%)	AC Cu (%)	AC Co (%)	Pt (ppb)	Pd (ppb)	Total S (%)	Mg (%)
C of V	0.591	0.746	0.896	1.259	0.676	2	1	1.30	0.31

Levels of Cu, Pt and Pd in the Horsetrail and peripheral zones are not high enough to be of economic interest and will not be discussed further in this report.

Frequency distribution and probability plot for AC Ni is shown in Figure 17-2. Histograms of total Ni, silicate Ni, total sulfur and AC Co are illustrated in Figure 17-3 to 17-6. Only assay data within the zone constrains (see Section 17.2) was used for creation of the charts.

The histograms for AC Ni and total Ni show a moderately skewed distribution with no strong bimodality evident. However, the log probability plot does indicate a small outlier population above 0.8%. The silicate Ni plot shows a strongly skewed distribution with a weak bimodal indication. Both total sulfur and AC Co approximate normal distributions.

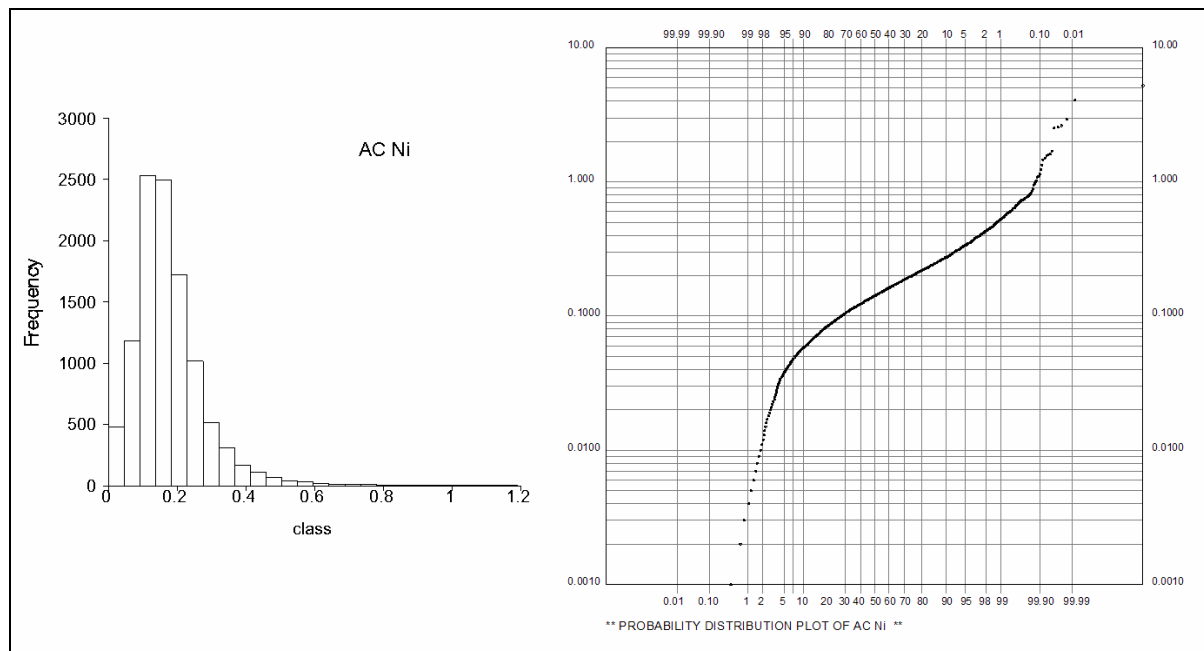


Figure 17-2 Frequency distribution and probability plot of AC Ni

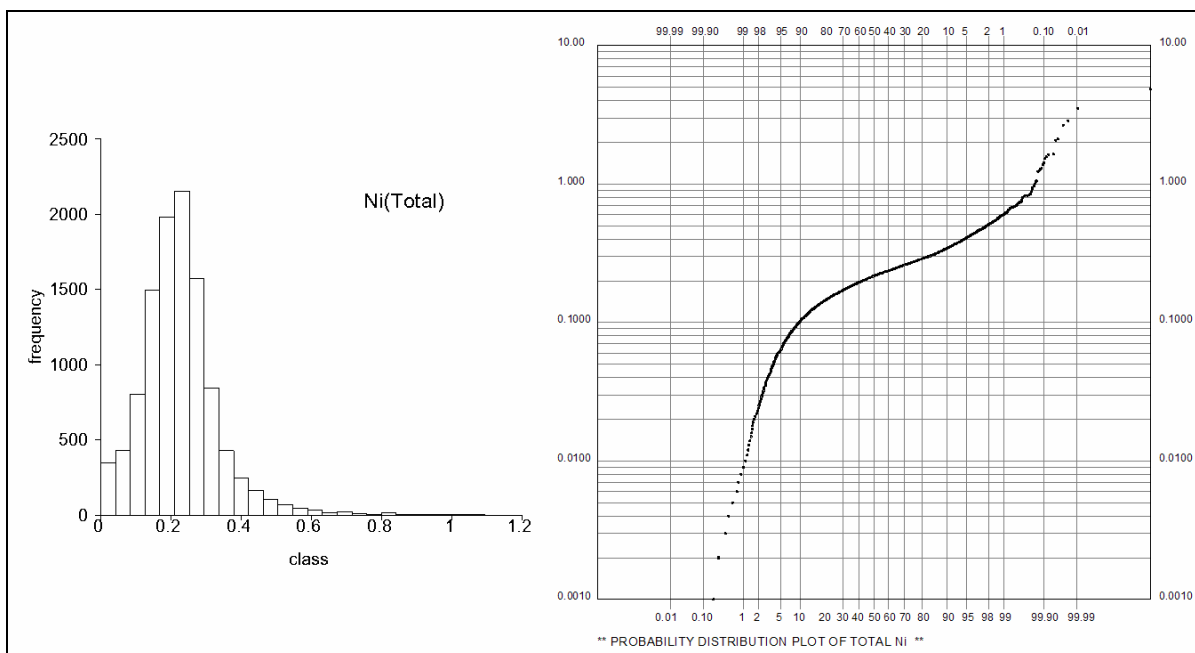


Figure 17-3 Frequency distribution and probability plot of total Ni

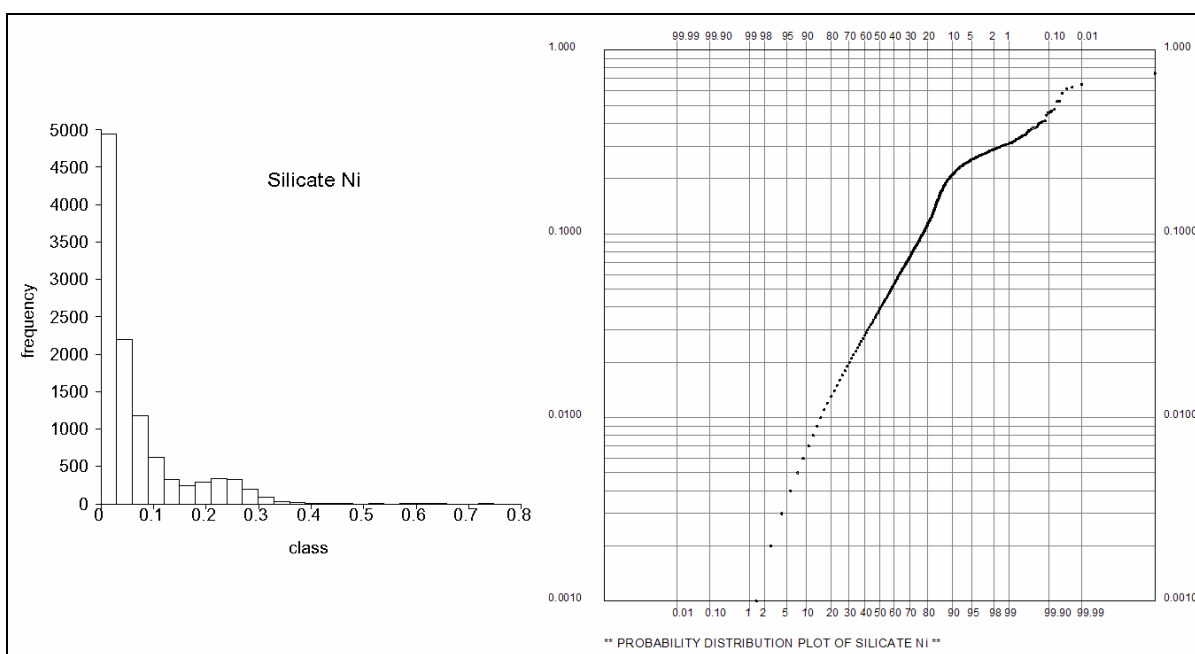


Figure 17-4 Frequency distribution and probability plot of Silicate Ni

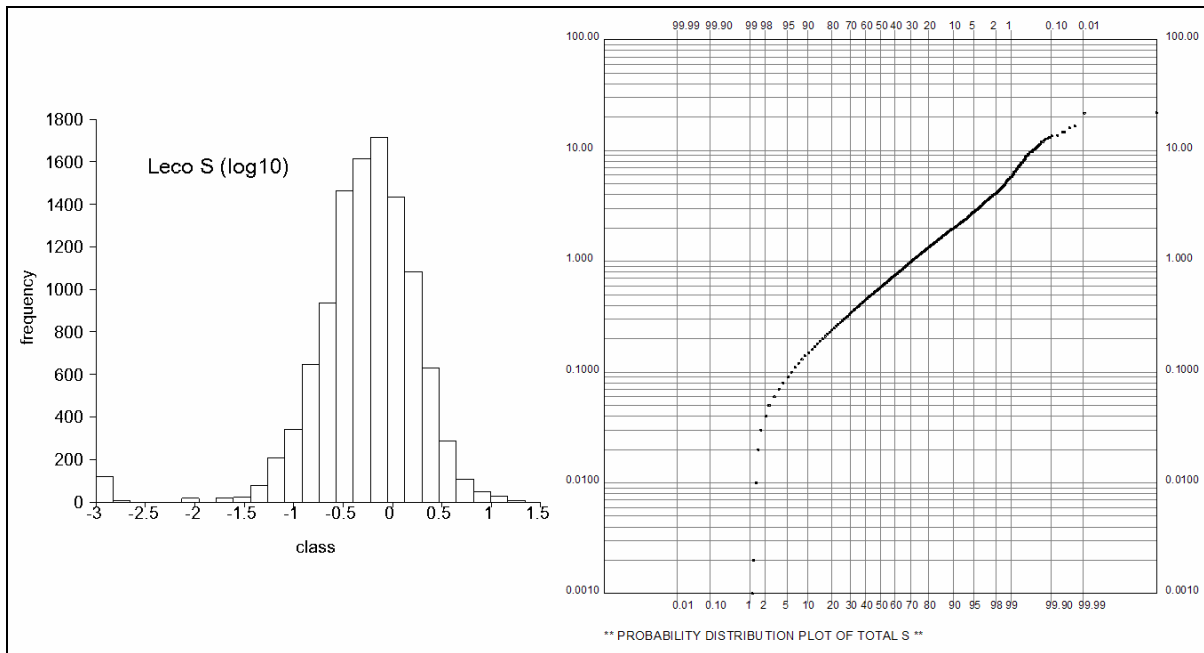


Figure 17-5 Frequency distribution and probability plot of total sulfur

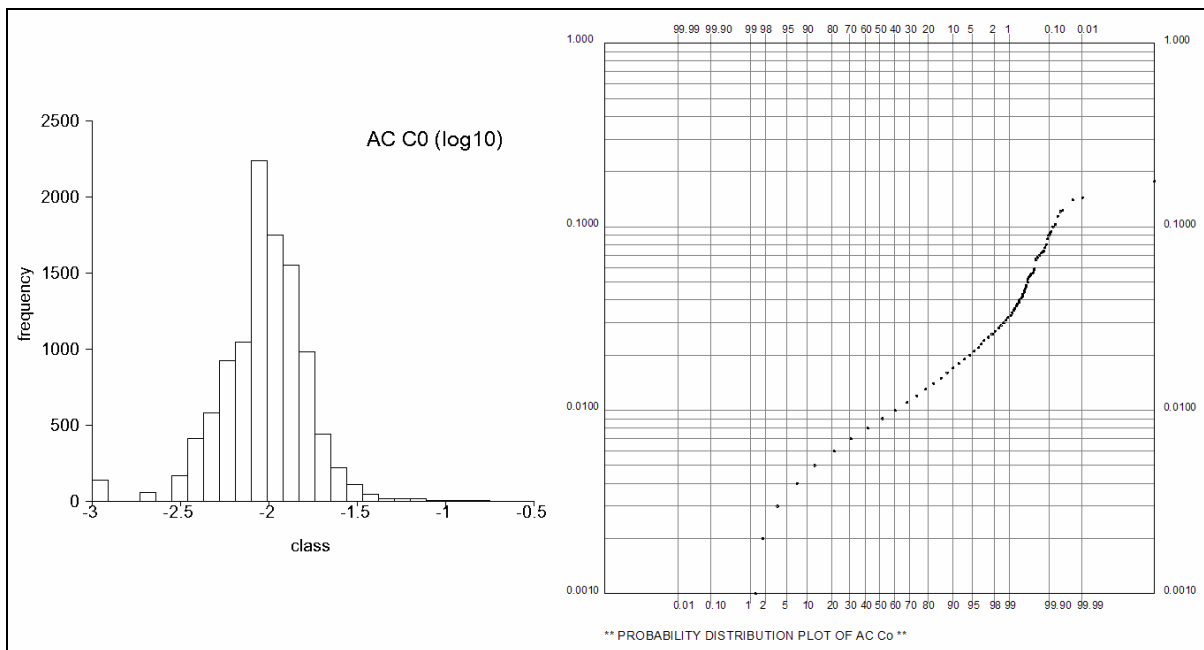


Figure 17-6 Frequency distribution and probability plot of AC Co

## 17.2 Zone Constraints

For the purpose of constraining the resource estimate, domains were created based on plan and cross section interpretation. Six separate domains were identified based on a low-grade cut-off of 0.1% sulphide Ni. Previous resource estimate (GeoSim, 2006 and Baldys, 2005) used additional higher-grade domains as hard boundaries base on +0.2% and higher sulphide Ni cutoffs. After re-estimating the

previous model with and without these inner hard boundaries it was found that they had little impact on the grade distribution and are presently deemed to be unnecessary.

The domains were coded 1 to 6 as follows and their locations are illustrated in the following figure.

- 1) Northwest Zone
- 2) Horsetrail North Zone
- 3) Horsetrail Main Zone
- 4) Hatzl North Zone
- 5) Hatzl South Zone
- 6) Duffy Zone

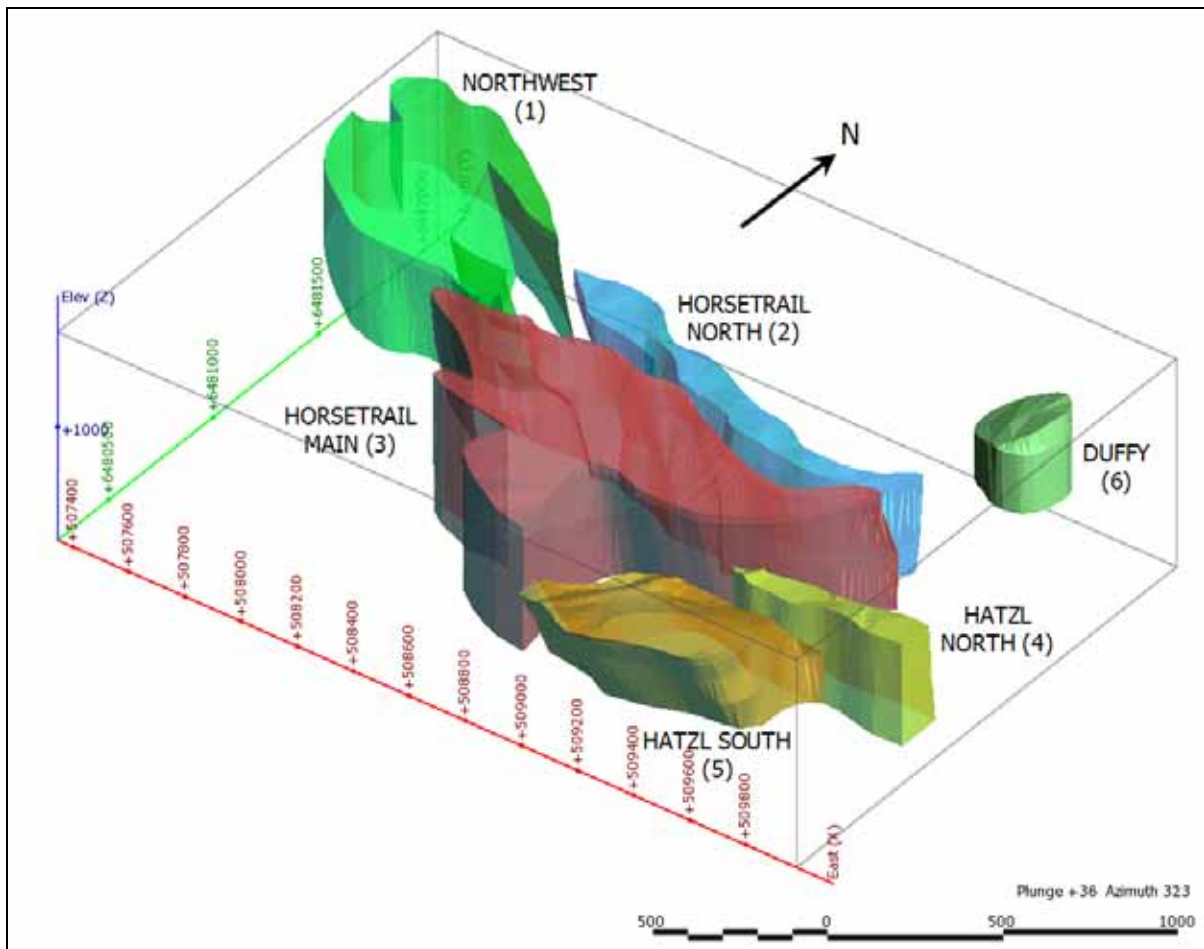


Figure 17-7 Domain zone locations

Descriptive statistics for AC\_Ni within the various zones are shown in the following table:

Table 17-2 Statistics of sulphide Ni values by zone

	Domain						
	All	1	2	3	4	5	6
<b>n</b>	10779	1833	2088	5983	179	535	161
<b>Min</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000

<b>Max</b>	5.215	2.927	5.215	1.693	0.585	1.241	0.349
<b>Mean</b>	0.163	0.142	0.131	0.180	0.177	0.153	0.185
<b>Median</b>	0.153	0.137	0.123	0.171	0.166	0.151	0.178
<b>Variance</b>	0.021	0.014	0.043	0.017	0.012	0.012	0.004
<b>Std. Dev.</b>	0.146	0.117	0.208	0.129	0.109	0.112	0.630
<b>C of V</b>	0.896	0.821	1.589	0.717	0.615	0.730	0.339

### 17.3 Density

Specific gravity measurements were carried out on 1122 core samples collected between 2004 and 2006. Specific gravity of core samples was measured in the field by the immersion method. A piece of whole core up to 50cm in length was weighed in air and in water and the specific gravity calculated using the following formula:

$$SG = \text{weight in air} / (\text{weight in air} - \text{weight in water})$$

As part of the metallurgical test program, Process Research Associates Ltd. (PRA), measured SG using the pycnometric method with -10 Tyler mesh assay rejects. Their results were within 5% of SG determinations measured by ACME Laboratory in 2007 using the same method. A total of 810 measurements were done by the immersion method on whole core and 312 measurements carried out on crushed samples using the pycnometric procedure. The table below summarizes the statistics by lithology.

Table 17-3 Specific gravity statistics

Lithology	Samples	Specific Gravity				
		Min	Max	Average	Median	Std Dev
Dunite	366	2.56	3.56	3.03	3.07	0.17
Green Dunite	33	2.82	3.29	3.09	3.12	0.10
Wehrlite	179	2.09	4.20	3.07	3.08	0.22
Serpentinite	42	2.46	3.14	2.83	2.82	0.13
Serp Dunite	125	2.69	3.48	2.97	2.95	0.17
Serp Wehrlite	31	2.68	3.26	2.94	2.93	0.16
Olivine Clinopyroxenite	63	2.24	4.06	3.06	3.07	0.23
Clinopyroxenite	132	2.72	3.60	3.19	3.22	0.18
Hornblendite	54	2.83	3.59	3.20	3.21	0.13
Calc-silicate inclusions/xenoliths	11	2.89	3.38	3.14	3.23	0.16
Sulphide >15%	13	3.19	4.06	3.49	3.42	0.26
Dyke	14	2.71	3.25	2.91	2.86	0.15
Diorite	24	2.64	3.22	2.97	2.98	0.13
Hornfels	26	2.64	3.48	2.94	2.89	0.18
Other	9	2.81	3.16	2.90	2.87	0.10
<b>All Samples</b>	<b>1122</b>	<b>2.09</b>	<b>4.20</b>	<b>3.05</b>	<b>3.07</b>	<b>0.20</b>

The average value of 3.05 was used for the tonnage calculations in this study. It is recommended that the database of density measurements be expanded and analyzed with the goal of modeling the specific gravity as a block attribute.

## 17.4 Extreme Grades

The distribution of drill hole assays within the mineralized zones was examined to check for outliers. These are extreme values that can lead to serious over estimation of average grade if they are treated in the same manner as are lower-grade values during resource estimation. Commonly these outlier populations are geologically distinctive and have limited geologic continuity relative to lower-grade values. From examination of the histogram and probability plot of AC\_Ni (Figures 17-2) it is evident that there is a small high grade population above 0.8%. It was decided to limit the influence of these samples during block estimation by only allowing them to be used in the first kriging pass (40m anisotropic search distance).

## 17.5 Compositing

Drill hole assays within the separate domains were composited downhole at intervals of 15 metres honouring domain boundaries. Partial composites were allowed if they were at least 7.5 metres in length. Composites from 117 drill holes were used in the final resource estimation.

A comparison of composite length vs grade (Figure 17-8) shows no evident bias towards higher or lower grades.

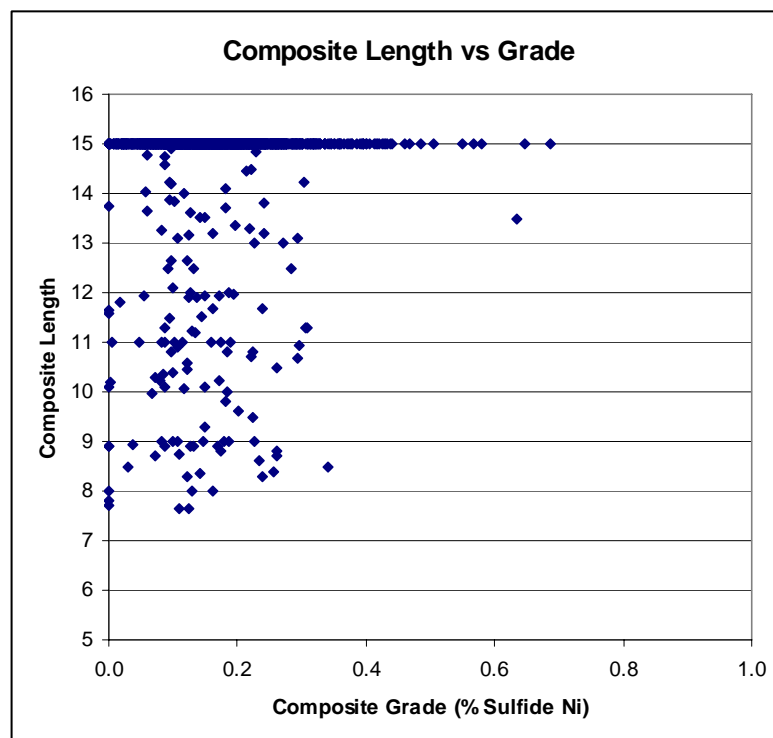


Figure 17-8 Composite length vs grade

Descriptive statistics of the composites is shown in the following table:



Table 17-4 Statistics of composites (all domains)

	Total Ni (%)	Sulf Ni (%)	Silicate Ni (%)	AC Cu (%)	AC Co (%)	Total S (%)	Mg (%)
<b>n</b>	1660	1659	1629	1656	1656	1660	1615
<b>Min</b>	0.002	0.000	0.001	0.001	0.001	0.006	0.80
<b>Max</b>	1.409	1.577	0.381	0.213	0.052	7.193	33.37
<b>Mean</b>	0.222	0.160	0.064	0.027	0.010	0.861	20.95
<b>Median</b>	0.217	0.150	0.041	0.020	0.010	0.636	21.38
<b>Variance</b>	0.008	0.009	0.004	0.001	0.000	0.560	29.93
<b>Std. Dev.</b>	0.087	0.092	0.063	0.024	0.004	0.748	5.47
<b>C of V</b>	0.395	0.577	0.985	0.911	0.421	0.869	0.26

## 17.6 Variogram Analysis

A down-hole variogram using 15 metre AC Ni composites from the Horsetrail zone was modeled in order to determine the nugget effect (Figure 17-9). The AC Ni values from the down-hole composites were then used to model directional variograms in order to determine anisotropy and kriging parameters. Pairwise relative variograms were also examined to assist in determining anisotropy. Nested models were fitted to the three principal directions and the results are shown in Figure 17-7.

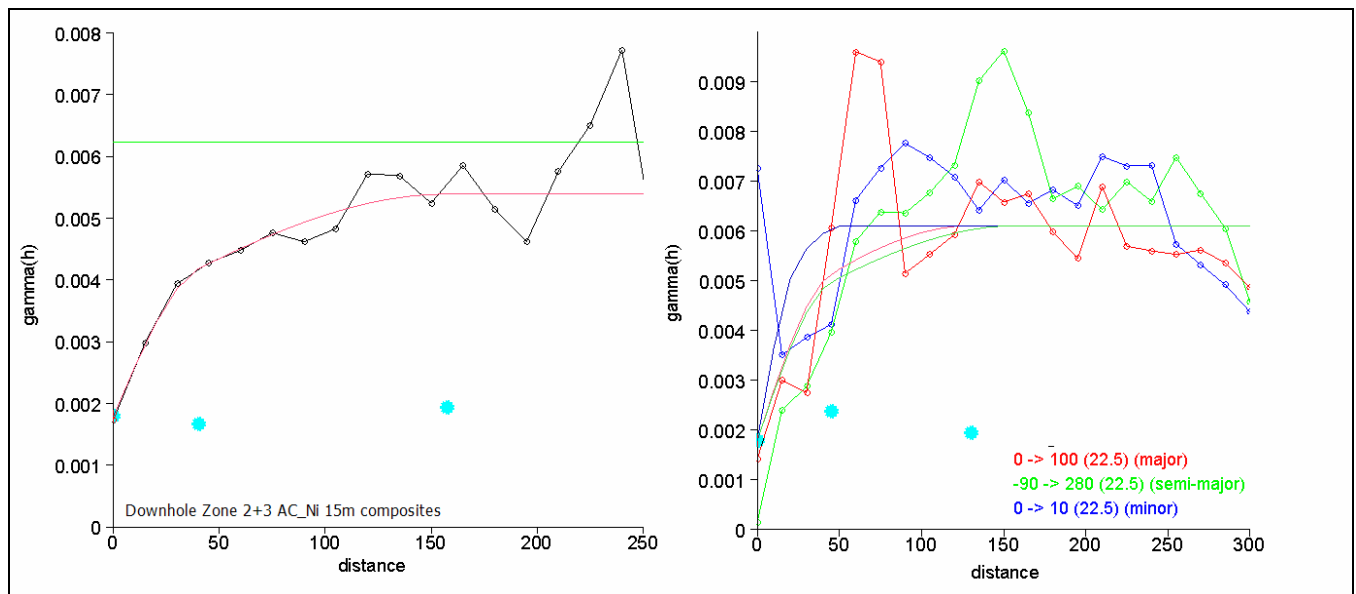


Figure 17-9 Downhole variogram and directional variograms for AC Ni

The principal bearing directions were adjusted for the various domains to match the individual geologic interpretations. This resulted in slight changes in the major axis between 090 and 110 degrees and variations in the secondary axis of between -60 and -90 degrees from horizontal. The final model parameters for all domains are summarized in Table 17-5.

Variography was also performed for silicate nickel (%), total sulfur(%) and AC cobalt (ppm). Combined composites samples in all domains were used for modeling. Results are summarized in table 17-6.

Table 17-5 Variogram models for AC Ni

Zone	Axis	direction	c0	c1	a1	c2	a2
1 Northwest	major	0-110	0.0018	0.0024	45	0.0019	158
	s-major	-85->020	0.0018	0.0024	45	0.0019	130
	minor	5->020	0.0018	0.0024	26	0.0019	53
2 Horsetrail North	major	0-100	0.0018	0.0024	45	0.0019	158
	s-major	Vertical	0.0018	0.0024	45	0.0019	130
	minor	0->010	0.0018	0.0024	26	0.0019	53
3 Horsetrail Main	major	0-100	0.0018	0.0024	45	0.0019	158
	s-major	-80->010	0.0018	0.0024	45	0.0019	130
	minor	10->010	0.0018	0.0024	26	0.0019	53
4 Hatzl North	major	0->090	0.0018	0.0024	45	0.0019	158
	s-major	-85->000	0.0018	0.0024	45	0.0019	130
	minor	5->000	0.0018	0.0024	26	0.0019	53
5 Hatzl South	major	0->090	0.0018	0.0024	45	0.0019	158
	s-major	-60->000	0.0018	0.0024	45	0.0019	130
	minor	30->000	0.0018	0.0024	26	0.0019	53
6 Duffy	major	0-100	0.0018	0.0024	45	0.0019	158
	s-major	Vertical	0.0018	0.0024	45	0.0019	130
	minor	0->010	0.0018	0.0024	26	0.0019	53

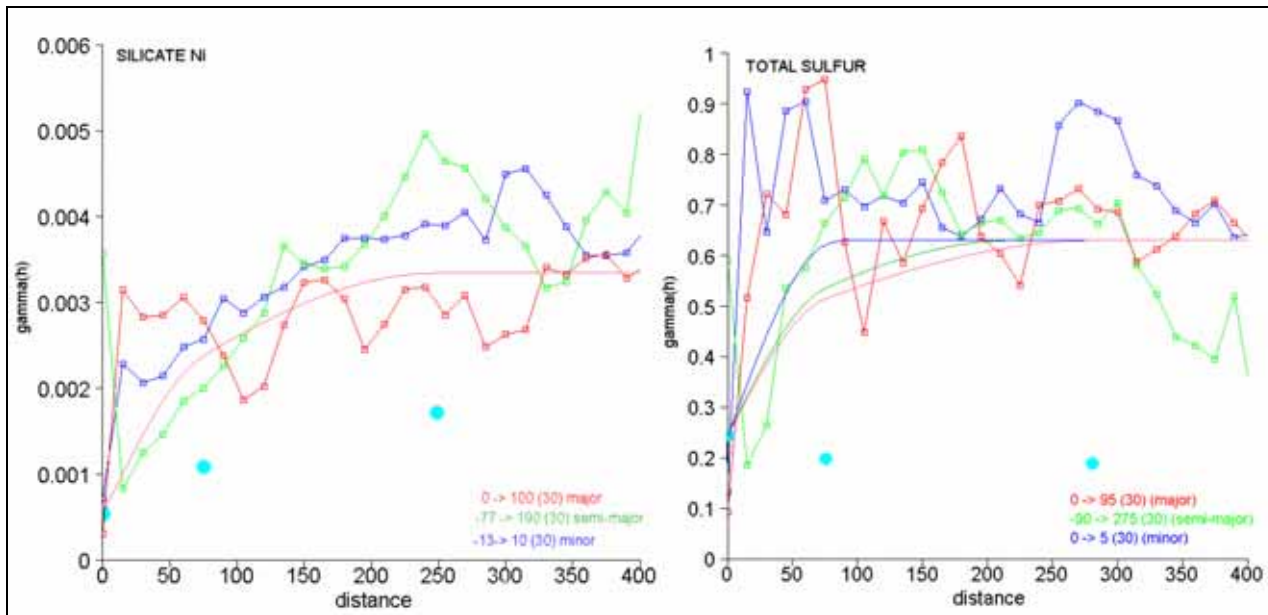


Figure 17-10 Directional variograms for silicate Ni and total sulfur

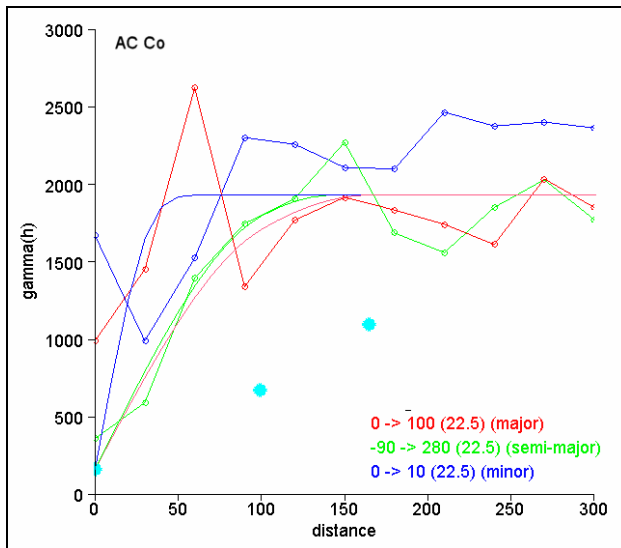


Figure 17-11 Directional variograms for AC Co

Table 17-6 Variogram models for silicate Ni, total S and AC Co

Item	axis	direction	co	c1	a1	c2	a2
<b>Silicate Ni (%)</b>	major	isotropic	0.001	0.0011	75	0.0017	250
	s-major						
	minor						
<b>Total Sulfur (%)</b>	major	0-095	0.2436	0.197	75.7	0.189	281
	s-major	Vertical	0.2436	0.197	75.7	0.189	218
	minor	0->185	0.2436	0.197	75.7	0.189	91
<b>AC Co (ppm)</b>	major	100	160	674.98	99	1096.33	165
	s-major	Vertical	160	674.98	90	1096.33	143
	minor	0->190	160	674.98	40	1096.33	56

## 17.7 Block Model and Grade Estimation Procedures

A block model with dimensions of 25x25x15 metres was created using Surpac Vision software. Extents of the model are shown in the following table:

Table 17-7 Block model extents

	Min	Max	Extent	size	number
x	507000	510000	3000	25	120
y	6480250	6482525	2275	25	91
z	600	1350	750	15	50

Blocks were estimated by ordinary kriging in three passes. Domain envelopes were treated as hard boundaries for sulphide Ni but not for the silicate Ni, total sulfur or AC Co. Search parameters for the various items estimated are summarized in the following table.

Table 17-8 Block model search parameters

	Pass	Search Type	Adj Oct Required	Max Comp / Hole	Max Search Distance	Min Comps	Max Comps
<b>Sulphide Ni</b>	1	octant	5	3	40	5	12
	2	octant	4	4	119	4	16
	3	ellipsoid	-	5	237	3	20
<b>Silicate Ni</b>	1	octant	5	3	63	5	12
	2	octant	4	3	188	4	16
	3	ellipsoid	-	-	250	3	20
<b>Total Sulfur</b>	1	octant	5	3	70	5	12
	2	octant	4	3	141	4	16
	3	ellipsoid	-	-	281	3	20
<b>AC Co</b>	1	octant	5	3	41	5	12
	2	octant	4	3	165	4	16
	3	ellipsoid	-	-	330	3	20

Block grades were estimated for sulphide Ni, silicate Ni, and AC Co. The total Ni value for each block was calculated by adding the sulphide and silicate nickel estimates. This eliminated the possibility of sulphide Ni block estimates exceeding the total Ni value. The levels of Cu, Pt and Pd were considered too low to be of economic interest in the Horsetrail Zone.

Partial block weighting was not used in this model. Only blocks with  $\geq 50\%$  of their volume within a domain were estimated.

The grade distribution of the model is illustrated in figure 17-12 as nested grade shells at cut-offs of 0.15, 0.20 and 0.25% Sulphide nickel. Figures 17-13 to 23 illustrate the Sulphide nickel block grade distribution in plan and section.

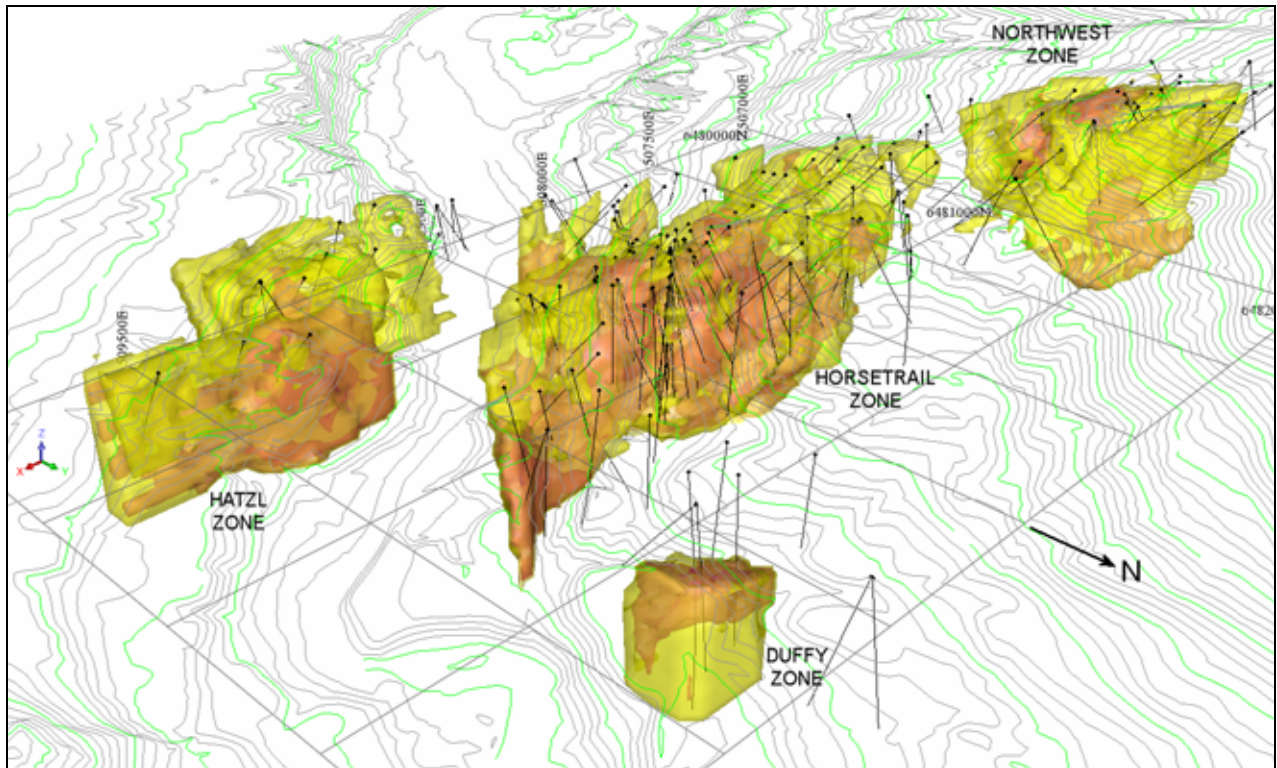


Figure 17-12 Perspective view to southwest showing nested grade shells

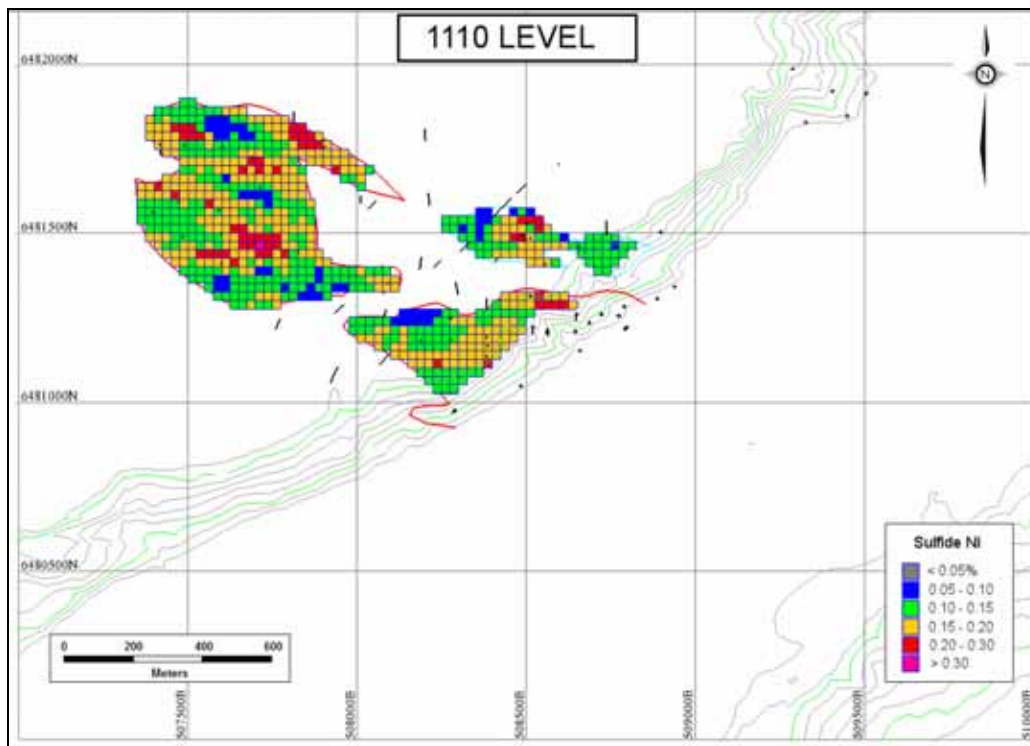


Figure 17-13 Sulphide Ni grades: 1110 Level



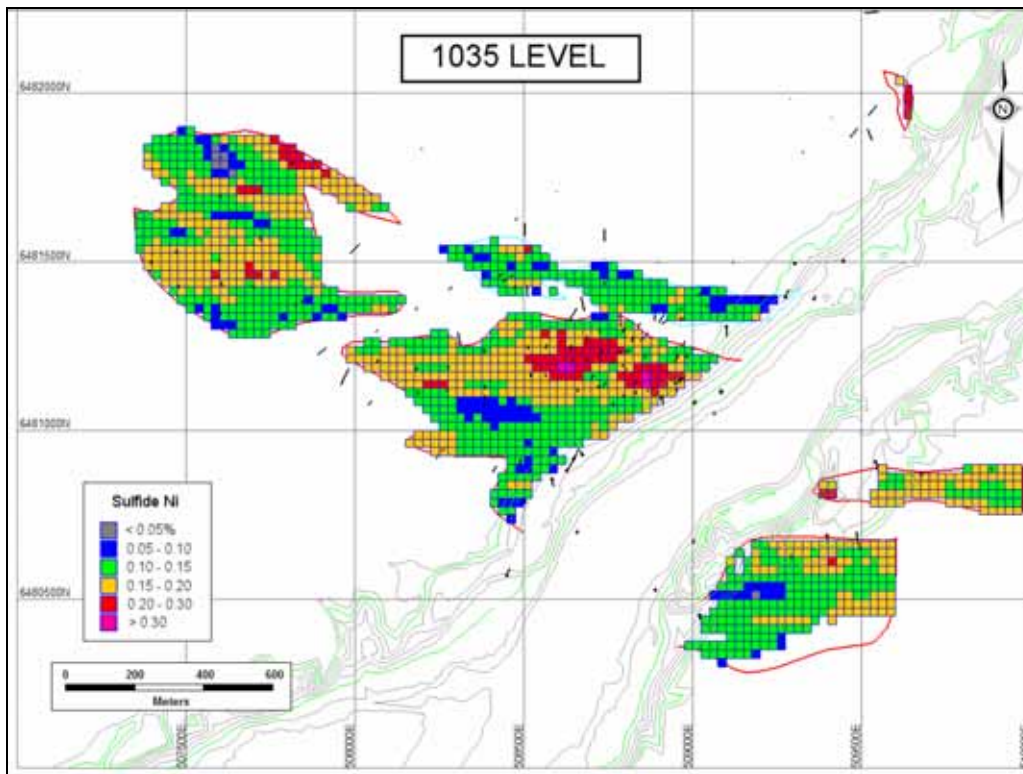


Figure 17-14 Sulphide Ni grades: 1035 Level

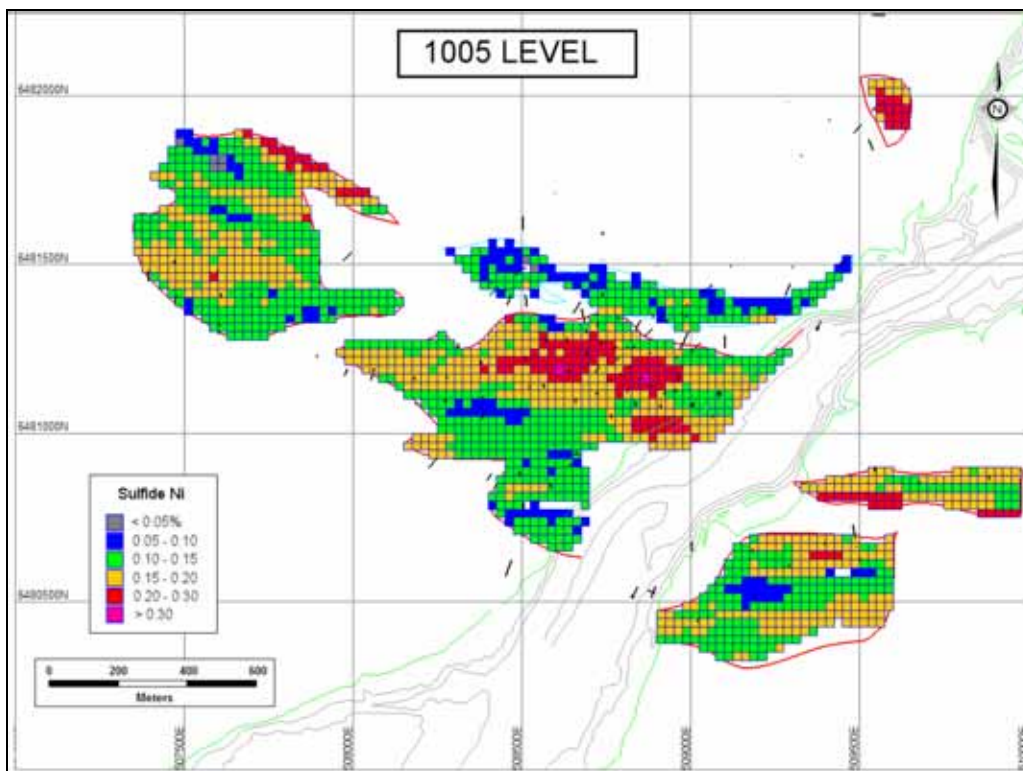


Figure 17-15 Sulphide Ni grades: 1005 Level

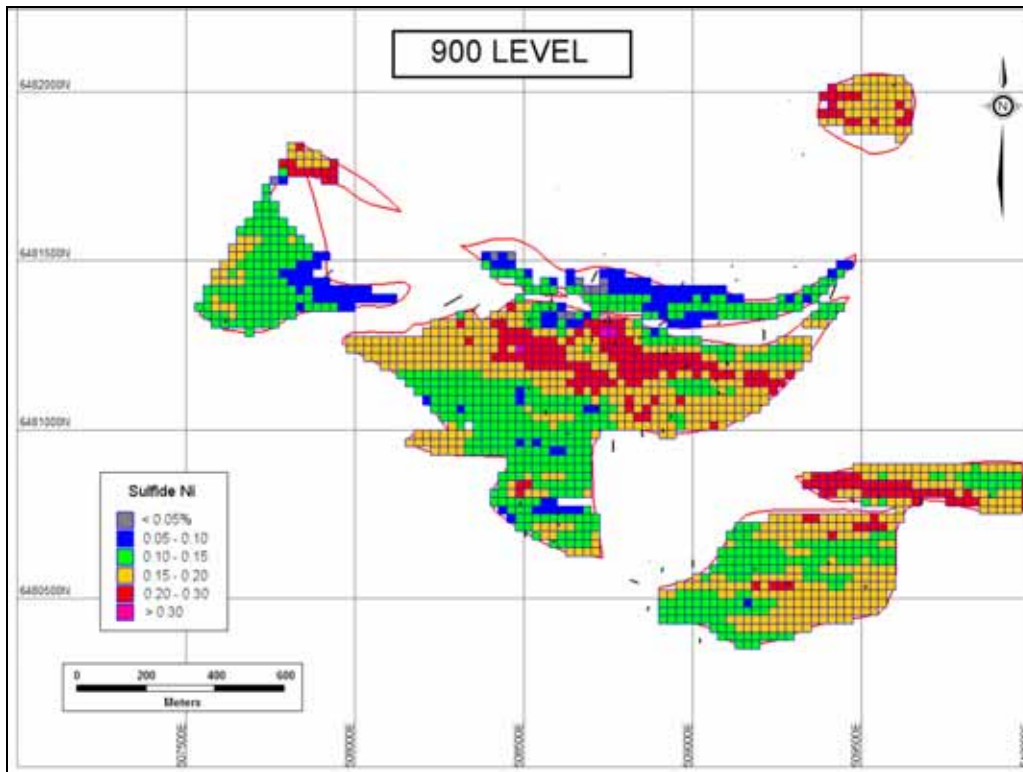


Figure 17-16 Sulphide Ni grades: 900 Level

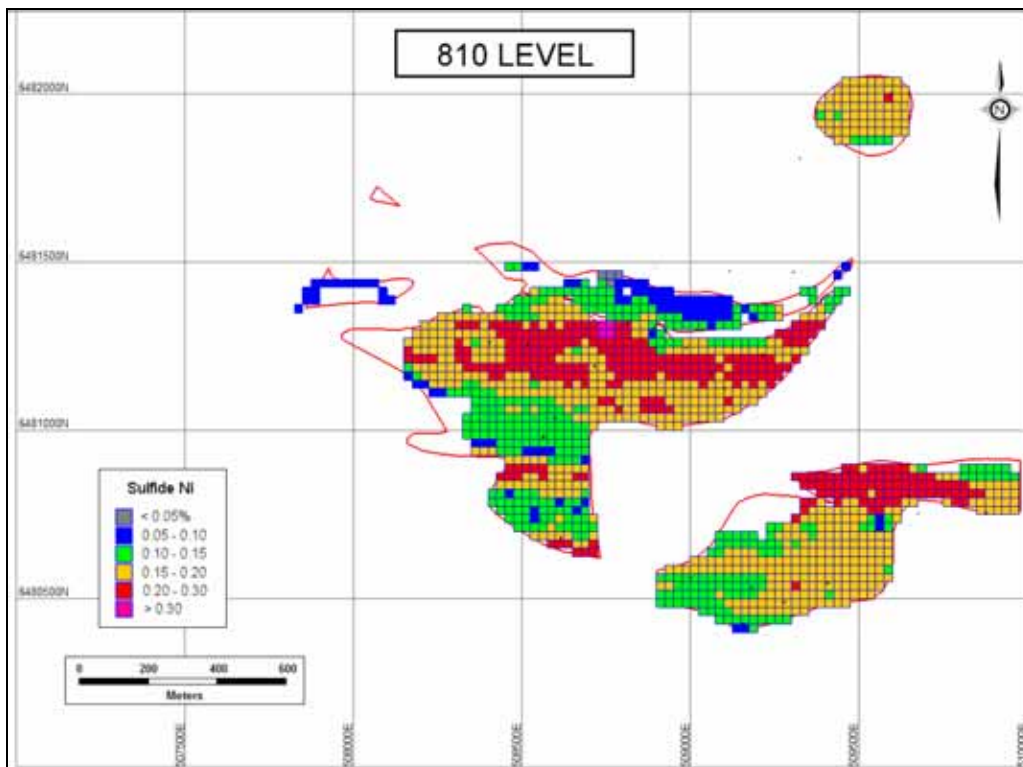


Figure 17-17 Sulphide Ni grades: 810 Level



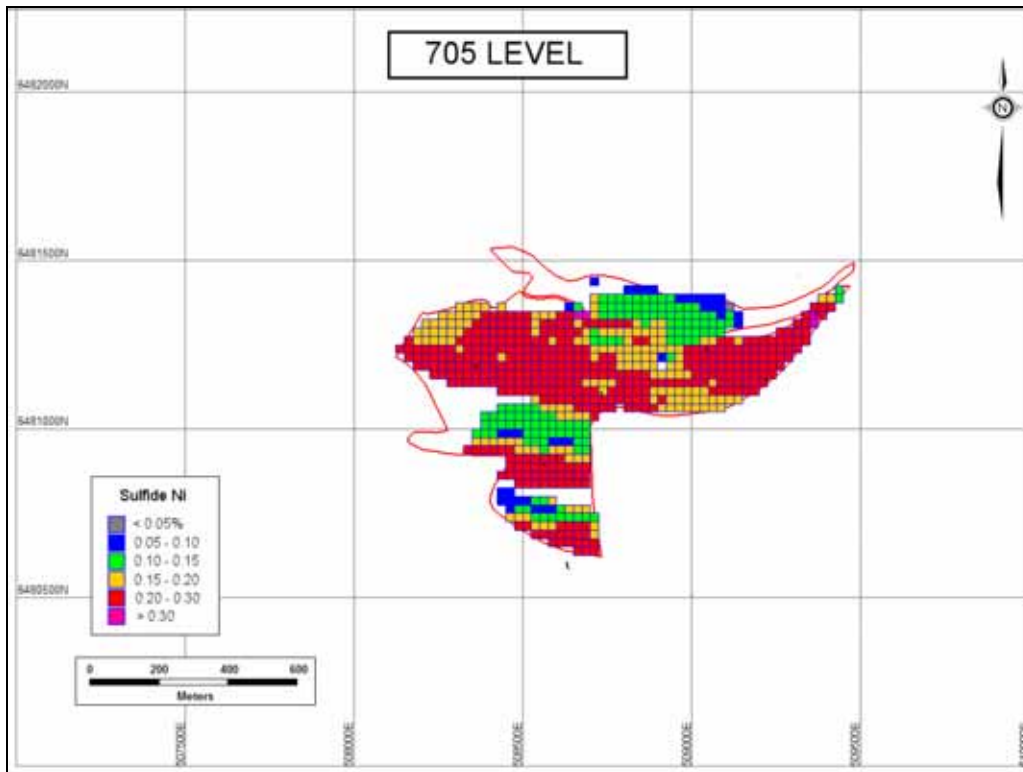


Figure 17-18 Sulphide Ni grades: 705 Level

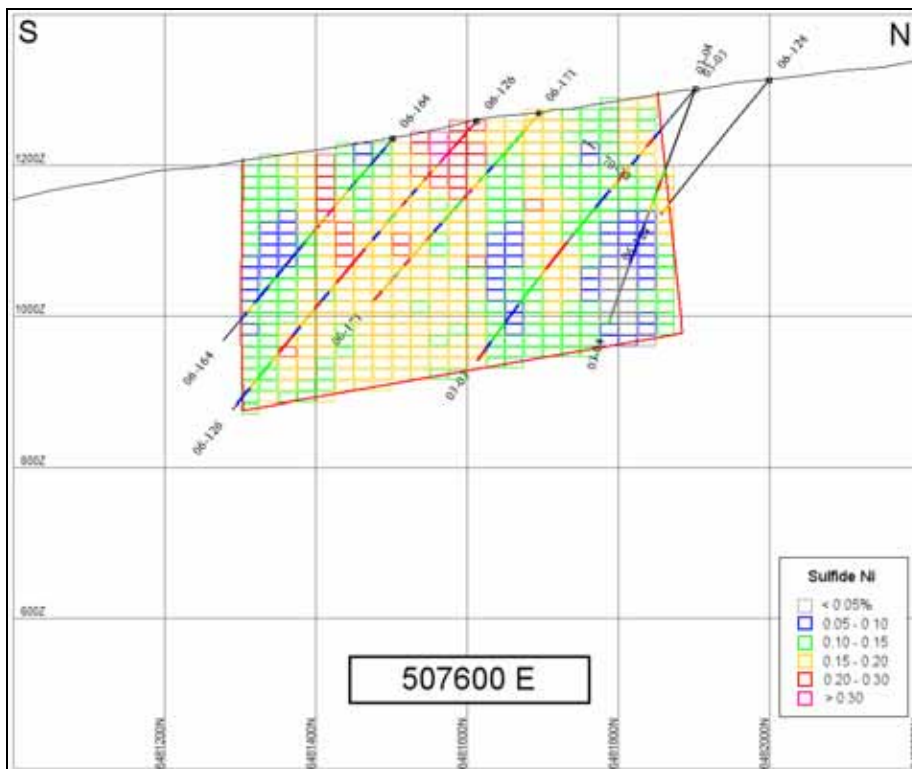


Figure 17-19 Sulphide Ni grades: Section 507600 East

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## 17.8 Mineral Resource Classification

Resource classifications used in this study conform to the following definition from National Instrument 43-101:

### **Measured Mineral Resource**

*A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.*

### **Indicated Mineral Resource**

*An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.*

### **Inferred Mineral Resource**

*An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.*

Blocks were classified as measured, indicated or inferred based on the number and distance of informing samples with relation to the block position. Extrapolated estimates were differentiated from interpolated values by using octant searches in the first two kriging passes. The methodology for block classification is as follows:

- Blocks estimated in the first kriging pass using an octant search were initially assigned to the 'Measured' category.
- Selected blocks estimated in the second pass but containing composite points were classified as 'Measured' within the Northwest and Horsetrail zones.
- Some areas were downgraded to 'Indicated' based on visual examination including any blocks in the Hatzl or Duffy zones estimated on the first pass.
- Remaining blocks estimated in the second pass were assigned to the 'Indicated' category.
- All blocks estimated in the third pass were classified as 'Inferred'

The following figures illustrate the distribution of the three classes in plan view and cross section.

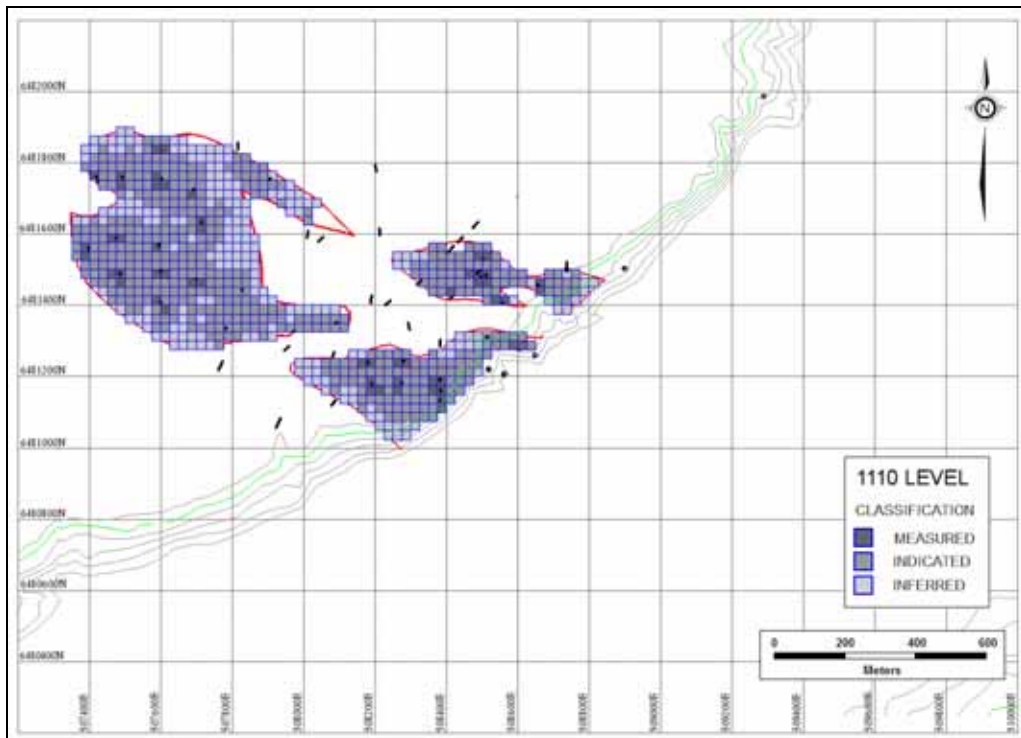


Figure 17-24 Block classification: 1110 Level

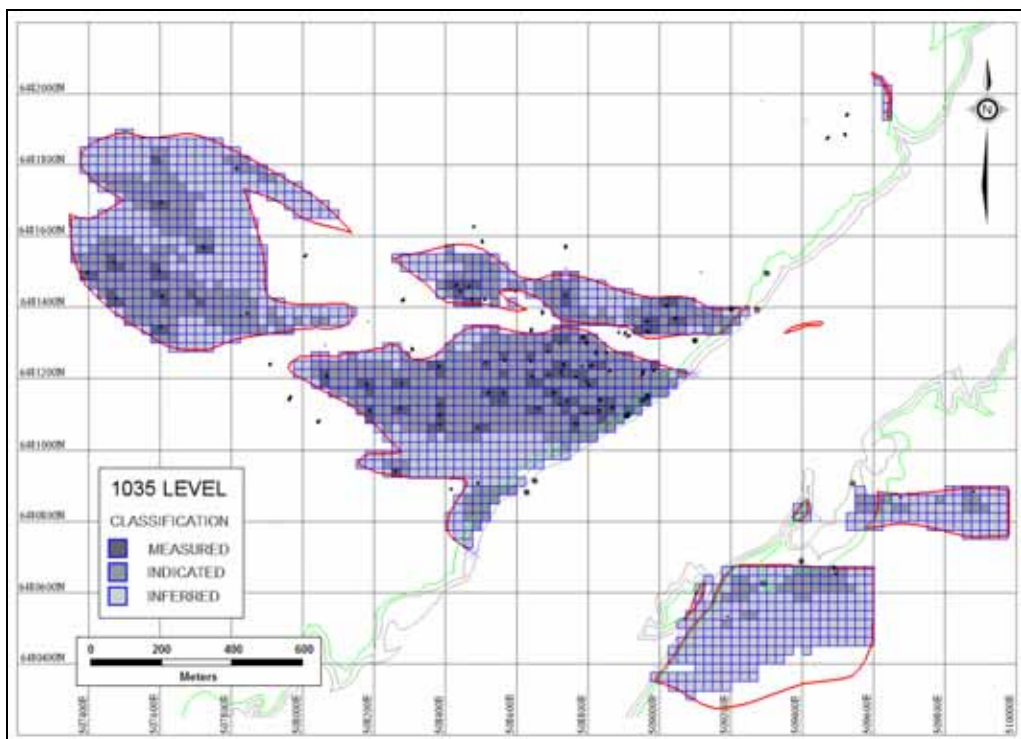


Figure 17-25 Block classification: 1035 Level

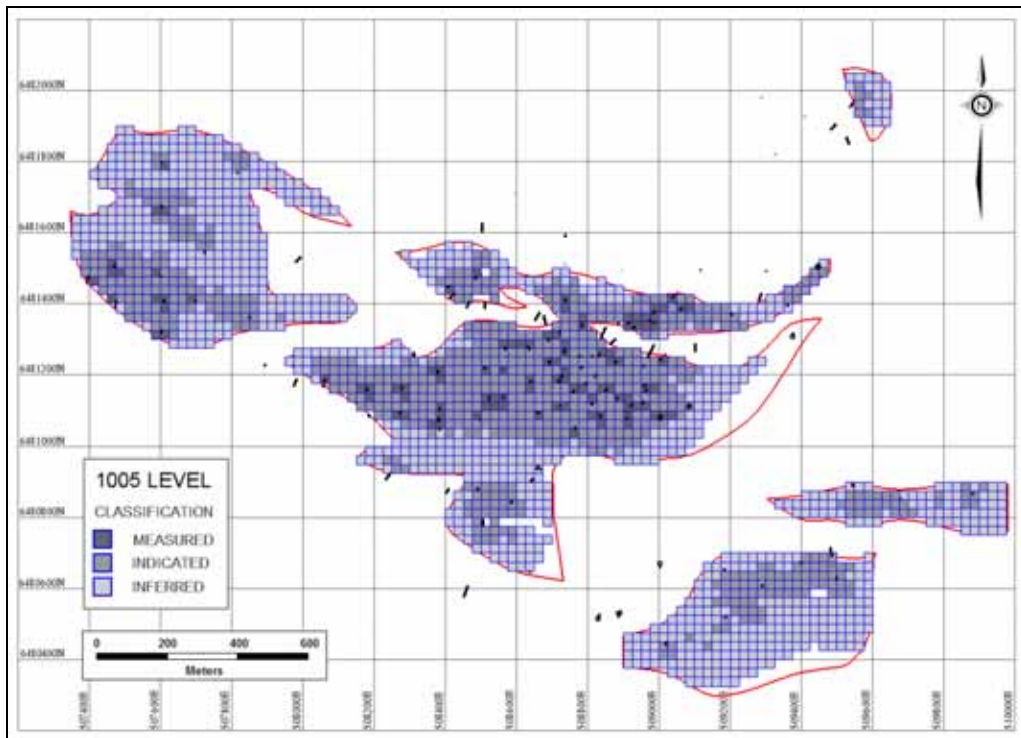


Figure 17-26 Block classification: 1005 Level

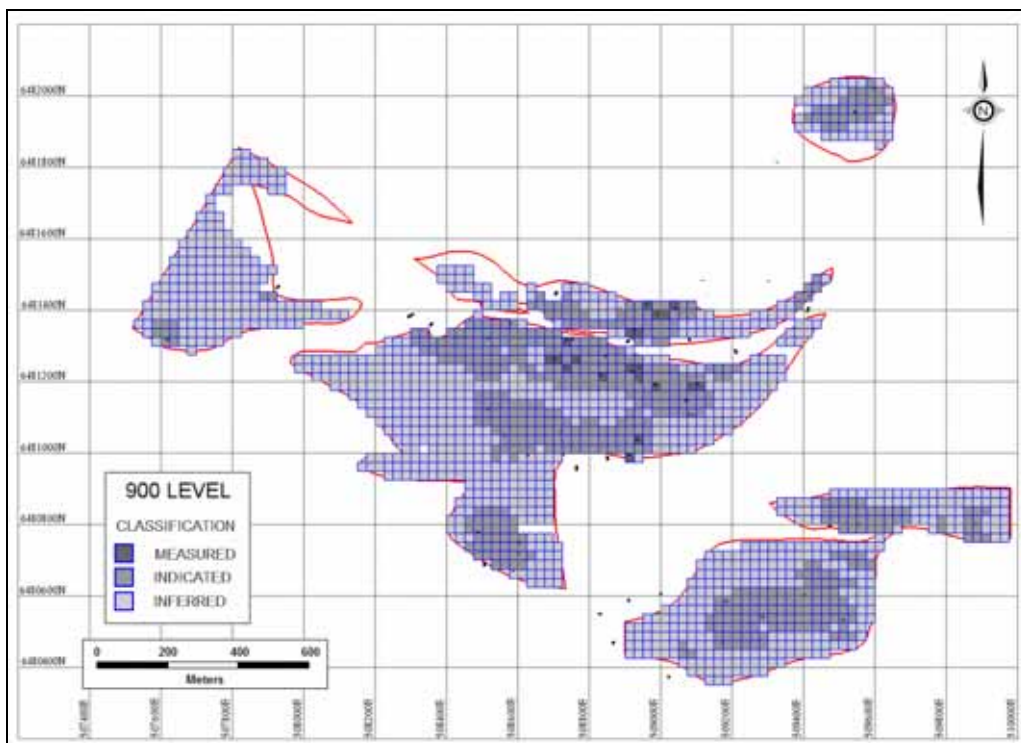


Figure 17-27 Block classification: 900 Level



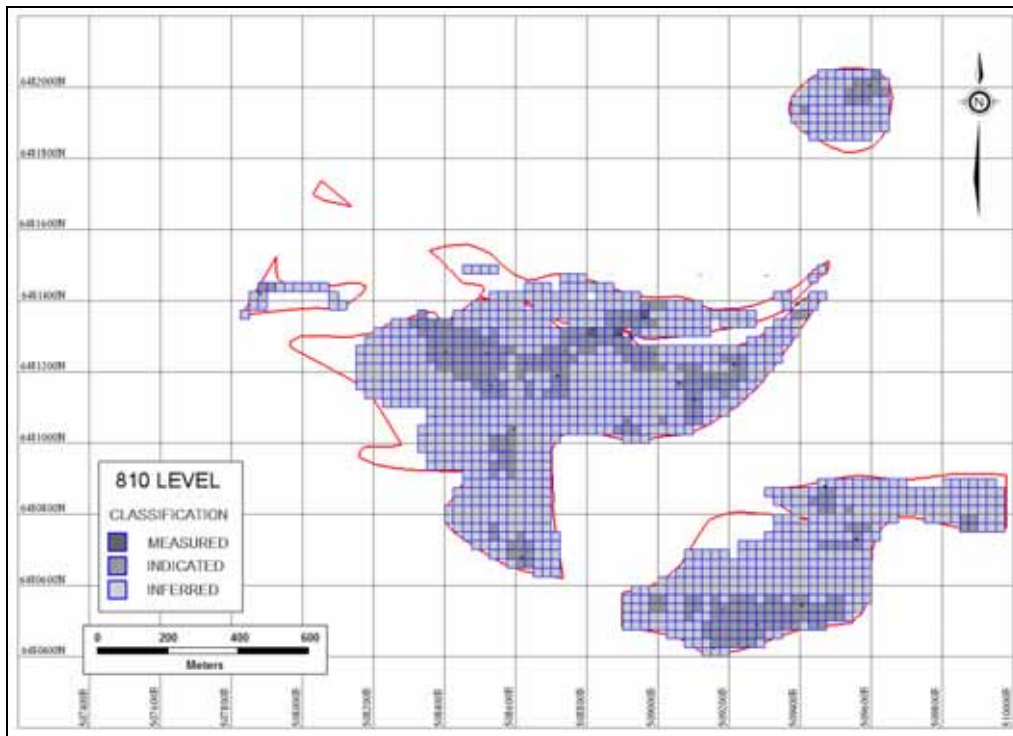


Figure 17-28 Block classification: 810 Level

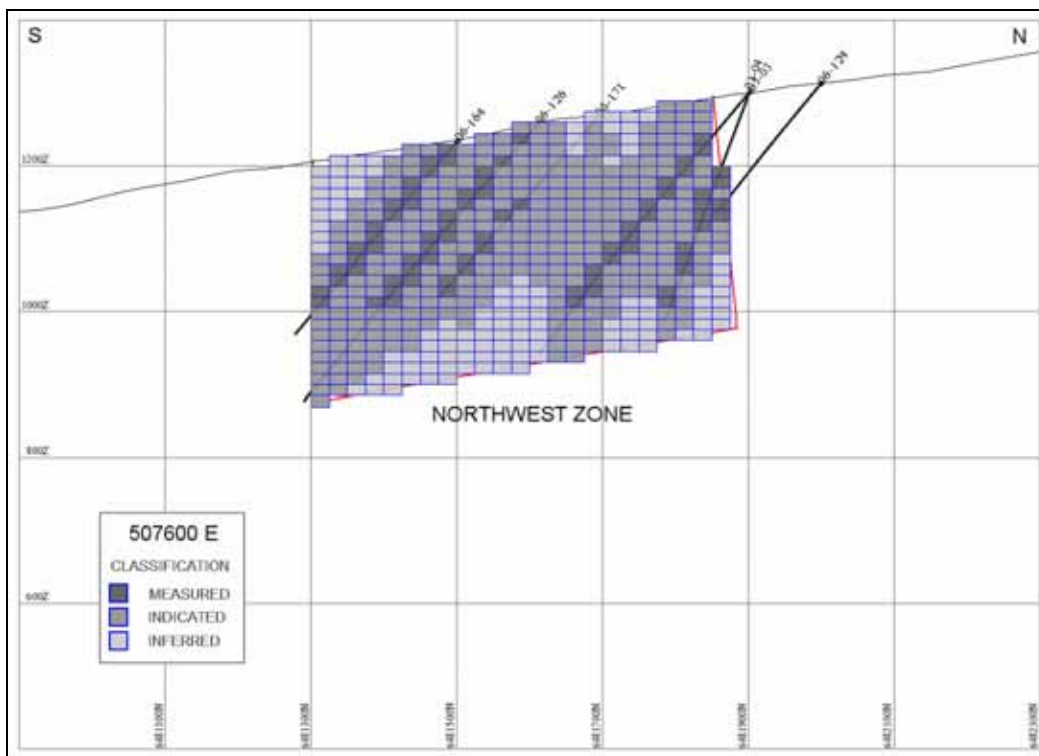


Figure 17-29 Block classification: Section 507600 E



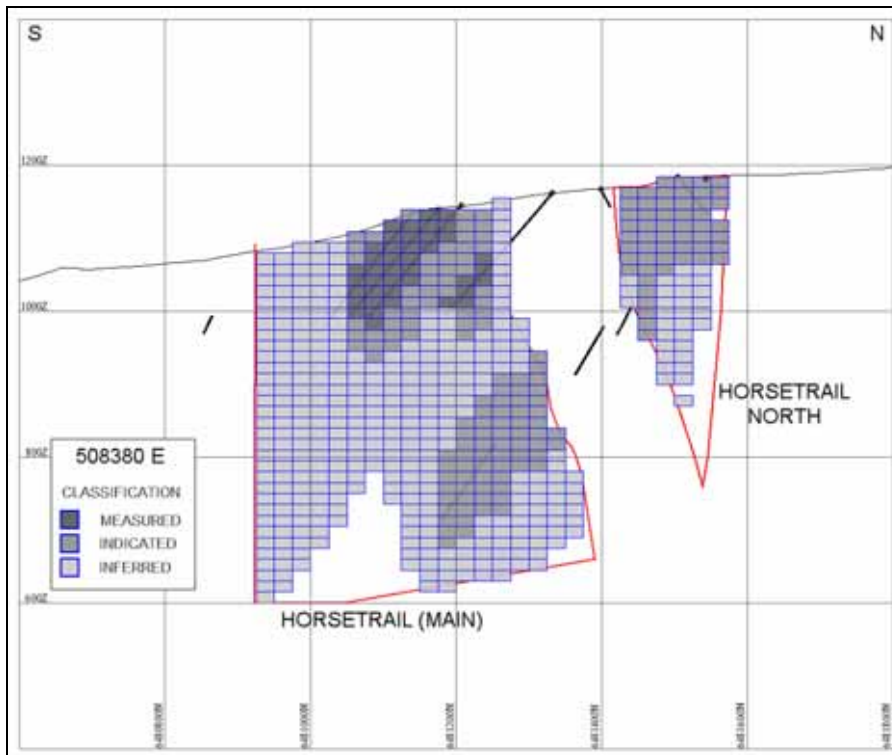


Figure 17-30 Block classification: Section 508380 E

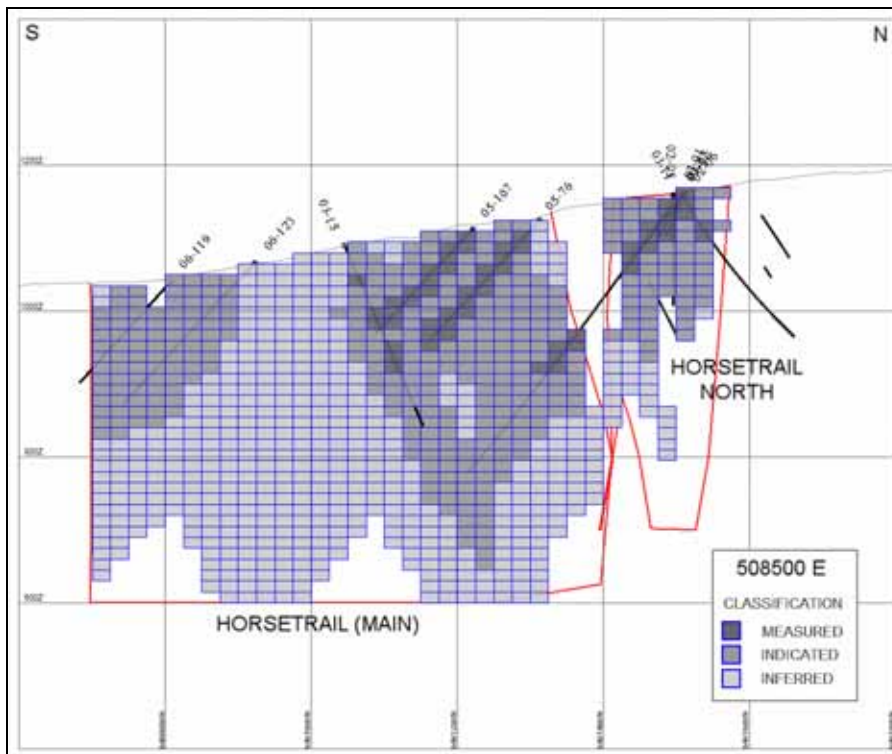


Figure 17-31 Block classification: Section 508500 E

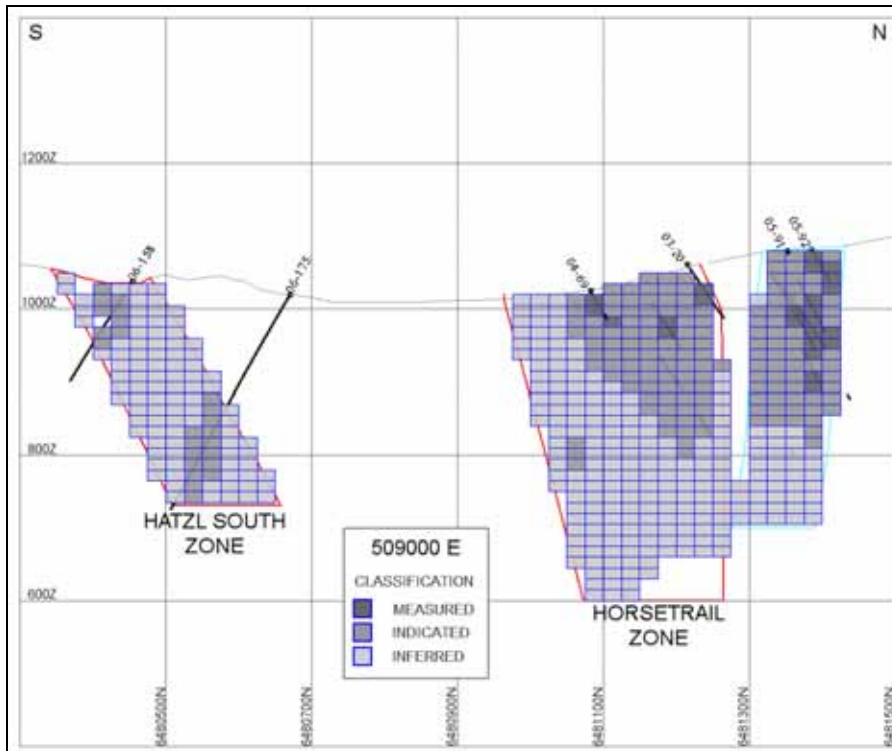


Figure 17-32 Block classification: Section 509000 E

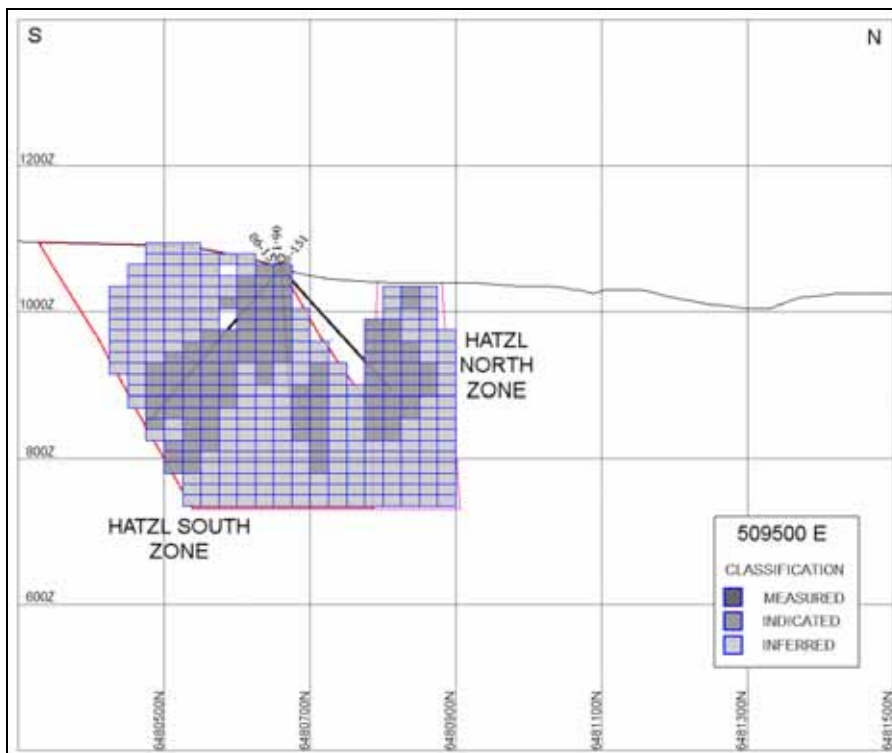


Figure 17-33 Block classification: Section 509500 E

## 17.9 Cut-off Grade Determination

In June, 2006, AMEC (2006) completed a preliminary assessment of the Turnagain deposit. A cut-off grade of 0.095% sulphide nickel was determined to be the bread-even grade for reporting resources that could potentially be mined by open-pit methods. The parameters used in the AMEC analysis included a nickel price of US\$5.50/lb, mining cost at CAD\$1.20/t, processing cost of CAD\$6.95/t and a recovery factor varying with grade from 57% to 62.7%.

In order to be consistent with the reporting accuracy of the present resource estimate, the cut-off grade was rounded to 0.10% sulphide nickel.

## 17.10 Mineral Resource Estimate

The following tables presents the updated resource estimate using a cut-off grade of 0.10% sulphide nickel. A total of 24,408 metres of diamond drilling in 117 drill holes were used in the block model estimate.

Table 17-9 Mineral Resource Estimate – All Zones

<b>Cut-off Grade 0.10 % Sulphide Ni</b>	<b>Tonnes (000)</b>	<b>% Sulphide Ni</b>	<b>% Total Ni</b>	<b>% Co</b>
<b>Measured</b>	37,629	0.17	0.23	0.011
<b>Indicated</b>	390,934	0.17	0.22	0.011
<b>Measured + Indicated</b>	428,563	0.17	0.22	0.011
<b>Inferred</b>	742,923	0.17	0.22	0.011

Table 17-10 Mineral Resource by Zone

<b>Zone</b>	<b>Class</b>	<b>Tonnes (000's)</b>	<b>% Sulphide Ni</b>	<b>% Total Ni</b>	<b>% Co</b>
<b>NORTHWEST Domain 1</b>	Measured	11,295	0.16	0.21	0.009
	Indicated	115,290	0.16	0.21	0.009
	Inferred	143,283	0.15	0.22	0.009
<b>HORSETRAIL Domain 2+3</b>	Measured	26,335	0.17	0.24	0.011
	Indicated	205,131	0.17	0.24	0.011
	Inferred	394,394	0.17	0.23	0.011
<b>HATZL Domain 4+5</b>	Measured	-	-	-	-
	Indicated	61,305	0.16	0.20	0.013
	Inferred	182,743	0.16	0.20	0.012
<b>DUFFY Domain 6</b>	Measured	-	-	-	-
	Indicated	9,207	0.19	0.22	0.011
	Inferred	22,503	0.18	0.24	0.011

## 17.11 Model Verification

Model verification was carried out by visual comparison of colour coded blocks and composites on plans and sections.

Statistical comparisons of global block grades and composite grades show excellent correlation (Figure 17-34). The mean sulphide Ni grade of the composites was 0.16 g/t as was the mean grade for the block model at a zero cutoff grade.

Model verification included a comparison of kriged to ID<sup>3</sup> and nearest neighbour estimates. A grade-tonnage chart comparing the block model statistics for the various interpolation methods is shown in Figure 17-35. Only a marginal difference is apparent between the ID<sup>3</sup> and kriged block models.

Comparison of the global resource statistics by zone and classification shows good agreement between the average sulphide Ni grades using the three interpolation methods. The average nearest neighbour grades were within 6% of the kriged grades while the ID<sup>3</sup> grades were within 4% (Table 17-11).

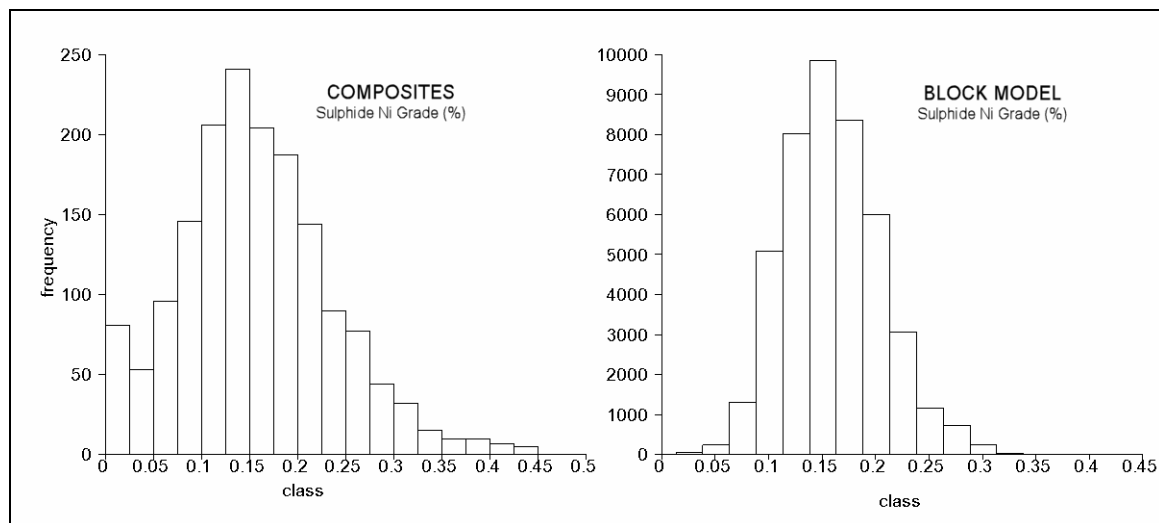


Figure 17-34 Frequency distribution of sulphide Ni in composites and blocks

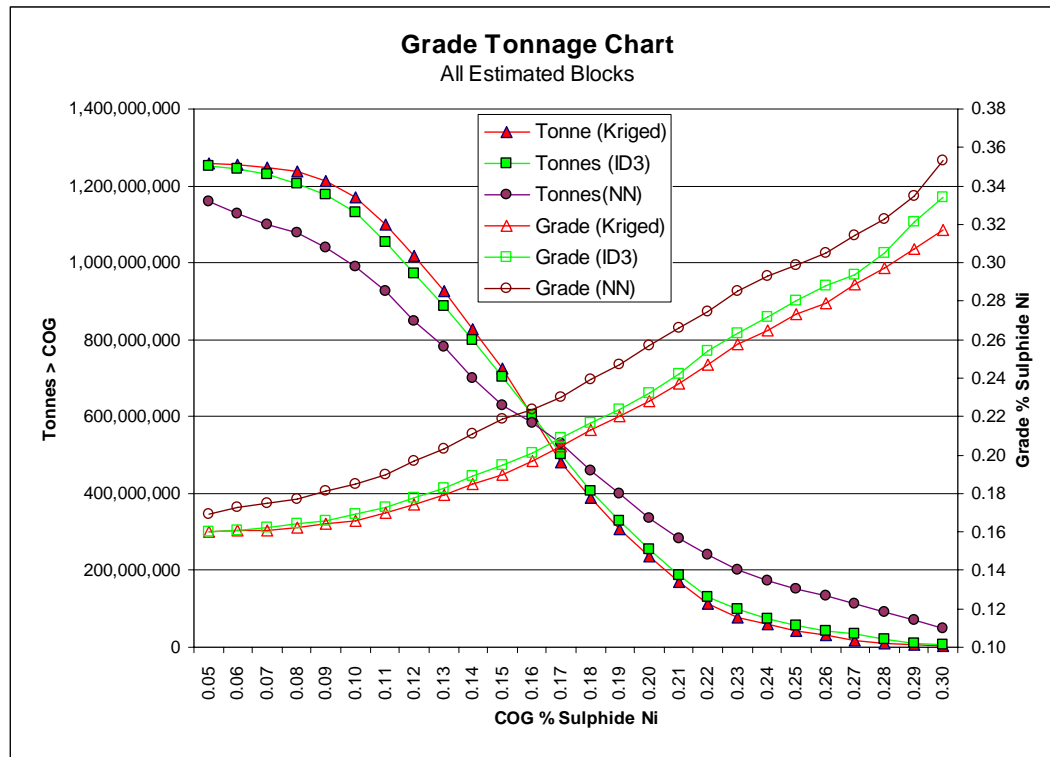


Figure 17-35 Comparison of estimation methods

Table 17-11 Kriging, ID3 and Nearest Neighbour Comparison at zero cut-off

Domain	Class	Tonnes (000)	Average Sulphide Ni Grade			% Diff ID3-Kriged	% Diff NN-Kriged
			Kriged	ID3	NN		
1	Measured	12,181	0.153	0.153	0.153	0.00%	0.00%
	Indicated	125,698	0.151	0.151	0.151	0.00%	0.00%
	Inferred	155,893	0.142	0.140	0.136	1.41%	4.23%
	Total	293,772	0.146	0.145	0.144	0.68%	1.37%
2	Measured	6,348	0.128	0.129	0.127	0.78%	0.78%
	Indicated	43,405	0.115	0.114	0.109	0.87%	5.22%
	Inferred	53,585	0.105	0.104	0.099	0.95%	5.71%
	Total	103,338	0.111	0.110	0.105	0.90%	5.41%
3	Measured	22,646	0.171	0.169	0.169	1.17%	1.17%
	Indicated	188,290	0.171	0.172	0.173	0.58%	1.17%
	Inferred	373,949	0.175	0.174	0.169	0.57%	3.43%
	Total	584,885	0.173	0.173	0.170	0.00%	1.73%
4	Measured	-					
	Indicated	15,212	0.188	0.186	0.183	1.06%	2.66%
	Inferred	52,613	0.190	0.184	0.180	3.16%	5.26%
	Total	67,824	0.190	0.185	0.181	2.63%	4.74%

Domain	Class	Tonnes (000)	Average Sulphide Ni Grade			% Diff	
			Kriged	ID3	NN	ID3-Kriged	NN-Kriged
5	Measured	-					
	Indicated	50,039	0.151	0.152	0.150	0.66%	0.66%
	Inferred	132,017	0.153	0.152	0.151	0.65%	1.31%
	Total	182,056	0.152	0.152	0.151	0.00%	0.66%
6	Measured	-					
	Indicated	9,207	0.190	0.190	0.192	0.00%	1.05%
	Inferred	22,503	0.181	0.180	0.177	0.55%	2.21%
	Total	31,710	0.184	0.183	0.181	0.54%	1.63%

Swath plots were generated all major orientations in order to test for local bias in the estimate. This was accomplished by selecting 50 metre-wide panels of blocks in three N-S cross sections, one longitudinal (E-W) section and one level plan. The block estimates for sulphide nickel using kriging, ID3 and nearest neighbour methods were then averaged and plotted (Figures 17-36 to 40).

No significant local biases were identified.

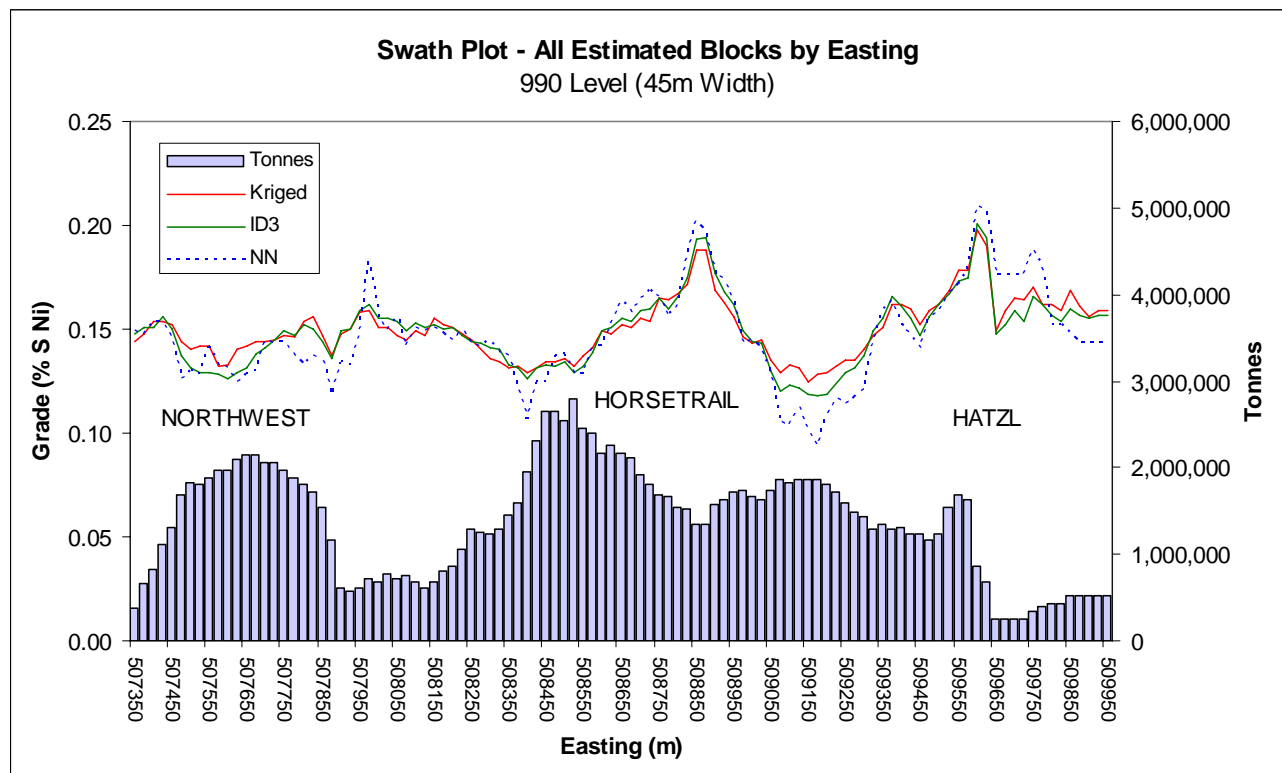


Figure 17-36 Swath Plot of 900 Level - Sulphide Ni grades by Easting

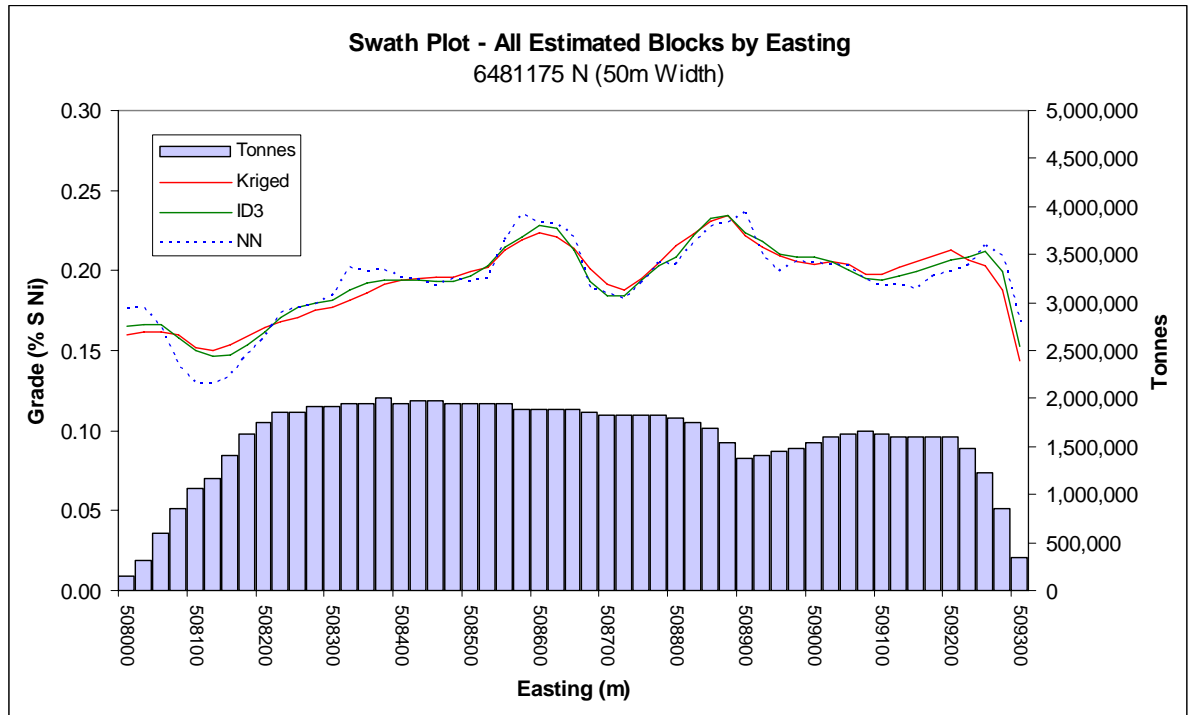


Figure 17-37 Swath Plot at 6481175 N - Sulphide Ni grades by Easting

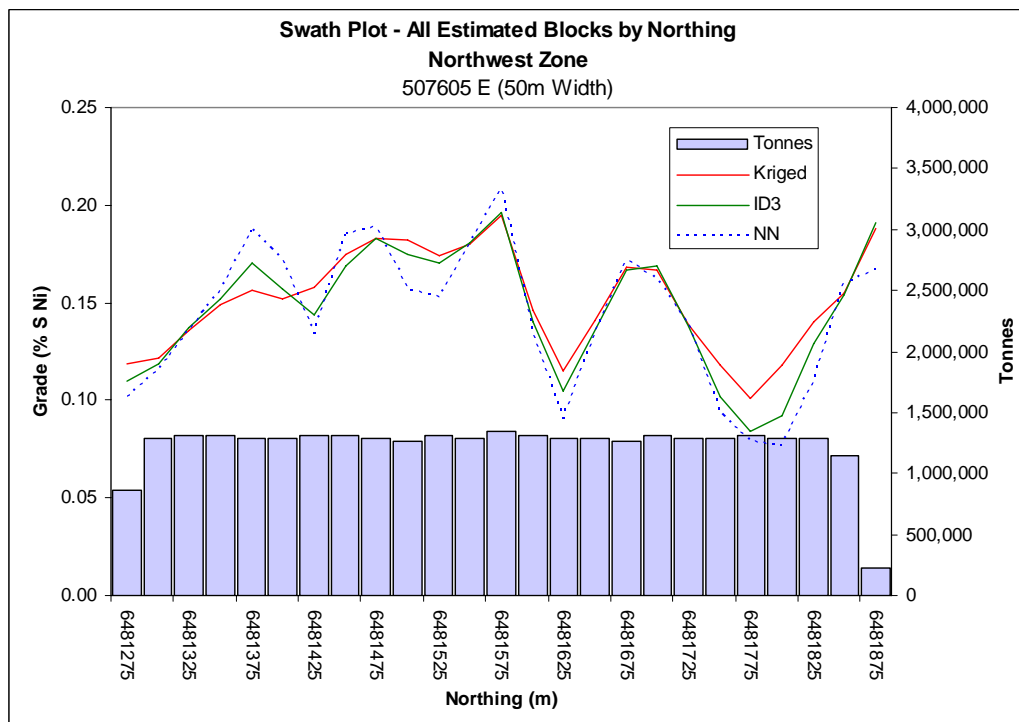


Figure 17-38 Swath Plot at 507605 E - Sulphide Ni grades by Easting



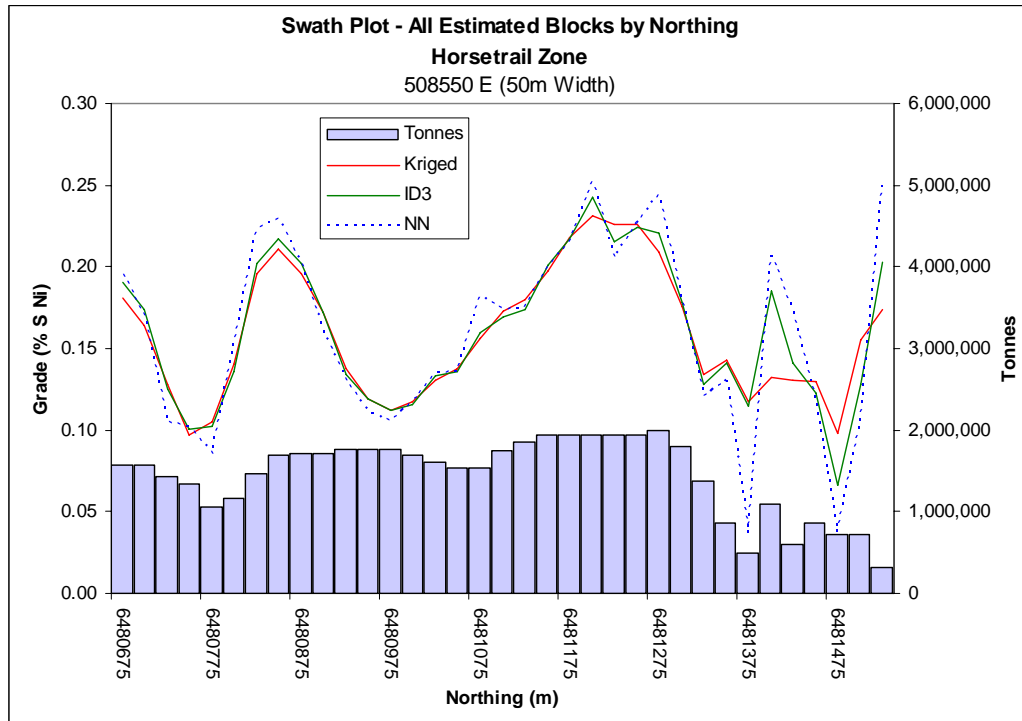


Figure 17-39 Swath Plot at 508550 E - Sulphide Ni grades by Easting

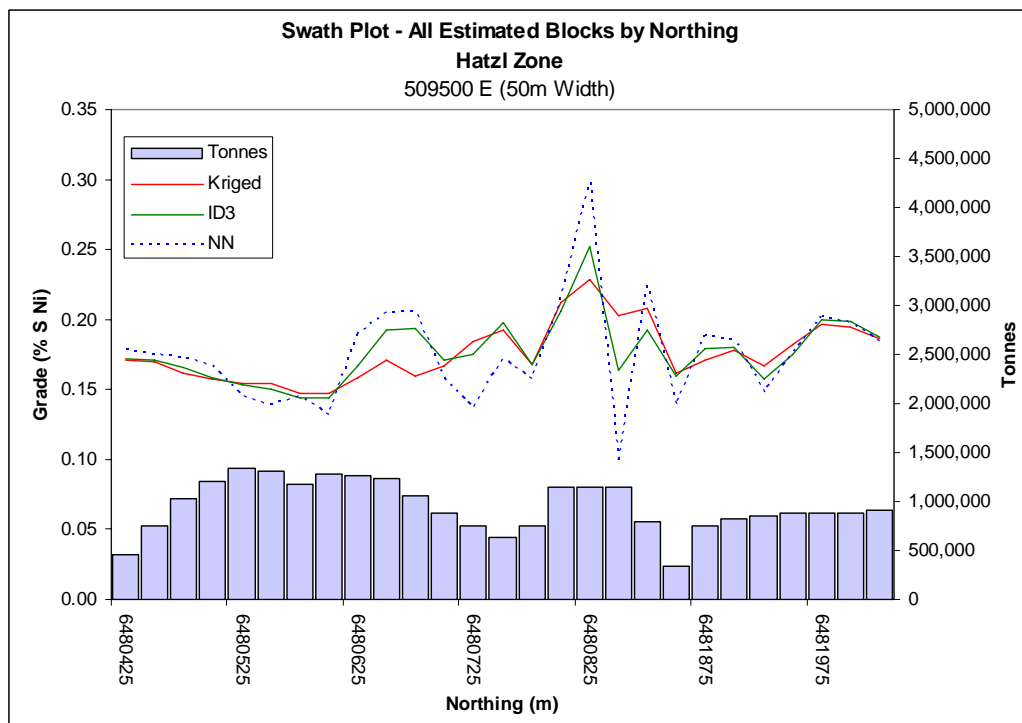


Figure 17-40 Plot at 509500 E - Sulphide Ni grades by Easting

## 18 OTHER RELEVANT DATA AND INFORMATION

The author is of the opinion that all known relevant technical data and information with regard to the Turnagain Nickel project has been reviewed and addressed in this Technical Report.

## 19 INTERPRETATION AND CONCLUSIONS

Using a 0.1% sulphide nickel cut-off grade for potential open pit resources, the Turnagain Nickel deposit is estimated to contain a measured and indicated resource of 428.6 million tonnes averaging 0.17% Sulphide Ni and 0.011% Co. An additional 743 million tonnes grading 0.17% Sulphide Ni and 0.011% Co is classified as inferred.

The outer resource boundaries are not completely defined and the deposit remains open both along strike to the southeast and down dip. The area between the Horsetrail and Hatzl zones has not been adequately tested.

## 20 RECOMMENDATIONS

- The database of density measurements should be expanded and analyzed with a view towards modeling the specific gravity as a block attribute.
- Fill-in and step-out drilling is warranted in order to establish the ultimate extents of the sulphide nickel zones and explore for peripheral zones.

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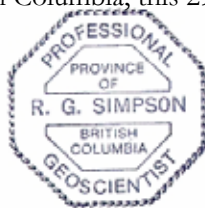
## Certificate of Author

I, Ronald G. Simpson, P.Geo, residing at 1975 Stephens St., Vancouver, British Columbia, V6K 4M7, do hereby certify that:

1. I am president of GeoSim Services Inc.
2. This certificate applies to the report entitled “Mineral Resource Update, Turnagain River Project, British Columbia” dated March 29, 2007.
3. I graduated with an Honours Degree of Bachelor of Science in Geology from the University of British Columbia in 1975. I have practiced my profession continuously since 1975. My relevant experience is as follows:
  - 1975-1993 Geologist employed by several mining/exploration companies including Cominco Ltd., Bethlehem Copper Corporation, E & B Explorations Ltd, Mascot Gold Mines Ltd., and Homestake Canada Inc.
  - 1993-1999 Self employed geological consultant specializing in resource estimation and GIS work
  - 1999 – Present: President, GeoSim Services Inc.
4. I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (Registered Professional Geoscientist, No. 19513) and a Fellow of the Geological Association of Canada. I am a “qualified person” for the purposes of NI 43-101 due to my experience and current affiliation with a professional organization as defined in NI 43-101.
5. I have visited the property most recently from October 11-12, 2006.
6. I am independent of the issuer applying all of the tests in section 1.4 of National Instrument 43 101.
6. This report is based on a study of the technical data and literature available on the Turnagain Nickel Project. I am responsible for the resource estimations completed in Vancouver during 2007. A site inspection was carried out between October 11 and October 12, 2006.
7. I have had prior involvement with the property that is the subject of the Technical Report. The nature of my prior involvement involves the following technical report prepared for Hard Creek Nickel Corporation.
  - April 2006: Technical Report and Mineral Resource Estimate, Turnagain Nickel Project, British Columbia, by GeoSim Services Inc.
8. I have read National Instrument 43 101 and Form 43 101F1, and the Technical Report has been prepared in compliance with that instrument and form.
9. As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading
10. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

DATED at Vancouver, British Columbia, this 29th day of March, 2007.

  
Ronald G. Simpson, P.Geo.



## **Appendix I**

### **2006 Drilling – Site Locations**

Hole	East	North	Elev	Length	Azimuth	Dip	Zone
05-102	506344.70	6482431.73	1362.09	337.40	221.00	-50.80	Bench (extended)
06-109	509301.80	6481495.90	1049.70	329.90	180.00	-84.00	Horsetrail
06-110	509117.80	6481501.70	1078.30	285.00	180.00	-84.90	Horsetrail
06-111	508897.70	6481503.70	1115.60	297.20	180.00	-84.50	Horsetrail
06-112	508596.84	6481698.65	1176.20	260.90	0.00	-85.20	Horsetrail
06-113	508095.20	6481307.30	1176.60	276.15	195.40	-49.80	NW/Horestrail
06-114	508109.60	6481408.40	1197.40	193.55	193.20	-49.90	NW
06-115	508281.40	6481401.00	1190.30	243.00	168.50	-50.60	Horsetrail
06-116	508195.30	6481491.60	1202.50	202.70	183.90	-48.20	Horestrail/NW
06-117	508204.40	6481699.70	1224.30	202.70	176.10	-48.10	Horestrail/NW
06-118	508205.10	6481698.70	1224.30	217.95	358.80	-50.20	Horestrail/NW
06-119	508506.30	6480807.90	1041.30	187.45	180.77	-48.10	Horsetrail
06-120	508011.50	6481697.80	1239.10	175.25	179.50	-50.50	NW
06-121	507504.00	6481907.60	1304.80	297.70	183.80	-49.70	NW
06-122	507693.27	6481870.90	1307.45	301.00	180.00	-49.90	NW
06-123	508489.70	6480922.80	1065.80	265.20	177.80	-47.80	Horsetrail
06-124	507606.10	6482000.10	1313.50	230.15	181.50	-48.80	NW
06-125	507812.40	6482013.80	1312.60	381.90	180.40	-49.60	NW
06-126	507593.50	6481612.70	1259.10	501.40	178.20	-48.70	NW
06-127	507476.50	6481712.70	1276.80	367.30	180.50	-49.70	NW
06-128	507694.35	6481546.07	1241.06	92.95	177.78	-47.75	NW
06-128A	507695.60	6481544.60	1242.10	297.20	177.80	-60.00	NW
06-129	509474.65	6482238.89	1094.76	227.10	40.50	-60.70	Duffy
06-130	509475.45	6482237.40	1096.45	214.90	86.90	-49.90	Duffy
06-131	509448.90	6481848.00	1093.00	388.60	39.80	-50.50	Duffy
06-132	509504.40	6481915.10	1088.60	266.85	39.30	-50.00	Duffy
06-133	509507.60	6481917.00	1088.70	208.80	156.80	-50.00	Duffy
06-134	509407.40	6481921.60	1101.50	343.50	34.40	-85.60	Duffy
06-135	507635.67	6484060.99	1676.88	197.20	223.00	-49.90	Highland
06-136	507654.31	6484263.88	1652.72	196.90	44.90	-48.60	Highland
06-137	507811.30	6484165.36	1647.19	219.75	43.00	-48.50	Highland
06-138	507853.06	6484049.31	1651.67	224.65	217.90	-48.20	Highland
06-139	508009.61	6483910.46	1607.37	215.50	220.00	-48.50	Highland
06-140	508097.72	6483845.60	1573.11	233.65	220.10	-48.90	Highland
06-141	504420.80	6483501.09	1276.53	255.10	30.61	-50.00	Mandible
06-142	504419.59	6483496.86	1275.62	245.95	210.61	-50.00	Mandible
06-143	504769.64	6483975.36	1402.70	340.45	31.30	-50.00	Mandible
06-144	507511.40	6482225.05	1342.61	184.40	40.00	-84.00	N of NW
06-145	507668.16	6482298.50	1353.60	161.60	40.00	-85.75	N of NW
06-146	506738.64	6482253.57	1341.30	251.45	180.00	-49.30	Bench
06-147	505937.98	6483466.01	1475.38	377.05	40.00	-50.90	DJ/DB
06-148	506101.49	6483388.70	1483.54	139.30	40.00	-49.00	DJ/DB
06-149	505911.96	6483180.07	1435.80	315.45	42.00	-49.50	DJ/DB
06-150	506032.27	6483009.63	1428.63	257.60	39.50	-49.80	DJ/DB



Hole	East	North	Elev	Length	Azimuth	Dip	Zone
06-151	509493.50	6480658.80	1058.70	282.55	166.60	-49.60	Hatzl
06-152	509492.20	6480661.70	1058.80	324.60	347.80	-50.20	Hatzl
06-153	509492.30	6480661.00	1058.60	233.80	347.80	-86.30	Hatzl
06-154	509193.00	6480544.30	1070.90	298.10	190.50	-63.00	Hatzl
06-155	509543.00	6480907.80	1040.70	303.90	174.00	-50.60	Hatzl
06-156	509883.02	6480903.06	1082.02	298.10	181.50	-61.80	Hatzl
06-157	509677.40	6480873.10	1059.10	260.60	178.20	-64.40	Hatzl
06-158	509021.25	6480453.31	1037.24	161.35	180.70	-58.10	Hatzl
06-159	509183.19	6480663.10	1038.67	330.90	180.00	-58.50	Hatzl
06-160	505442.82	6482934.05	1349.18	309.40	41.50	-49.10	DJ/DB
06-161	505431.81	6482833.59	1338.16	285.00	39.88	-48.50	DJ/DB
06-162	507395.10	6481677.50	1267.20	358.15	178.40	-50.90	NW
06-163	507497.00	6481599.80	1255.20	339.85	187.70	-49.20	NW
06-164	507596.80	6481501.80	1235.20	349.00	178.70	-48.70	NW
06-165	507801.40	6481529.40	1232.80	379.45	164.20	-49.70	NW
06-166	507412.80	6481908.20	1300.70	305.70	176.60	-49.20	NW
06-167	507699.70	6481768.50	1277.90	352.65	175.50	-48.30	NW
06-168	509326.30	6481829.40	1090.00	294.45	184.60	-84.70	Duffy
06-169	509288.10	6481988.00	1118.60	199.95	177.90	-85.10	Duffy
06-170	509202.10	6481395.40	1052.10	434.50	175.60	-51.50	Horsetrail
06-171	507583.80	6481695.20	1269.40	333.75	175.40	-50.00	NW
06-172	509100.80	6481308.10	1052.10	409.75	179.00	-50.50	Horsetrail
06-173	509292.00	6480624.90	1049.60	330.70	183.30	-58.90	Hatzl
06-174	509398.00	6480688.40	1045.30	340.00	173.40	-58.20	Hatzl
06-175	509003.03	6480669.79	1019.71	337.40	180.80	-61.60	Hatzl

## **Appendix II**

### **2006 Drilling – Significant Intercepts**

Hole	From	To	Width	% AC Ni	% Ni	% AC Co	% AC Cu	Pt (ppb)	Pd (ppb)
06-113	6.10	66.00	59.90	0.189	0.203	0.011	0.020	11	15
06-113	98.00	182.00	84.00	0.152	0.211	0.008	0.011	9	8
06-113	186.00	214.00	28.00	0.199	0.233	0.012	0.021	19	20
06-114	36.00	120.48	84.48	0.176	0.266	0.008	0.017	28	30
06-119	16.00	64.00	48.00	0.154	0.197	0.009	0.009	12	17
06-119	104.00	167.60	63.60	0.169	0.201	0.008	0.005	10	16
06-121	26.03	108.00	81.97	0.154	0.238	0.007	0.014	19	25
06-121	112.00	124.00	12.00	0.200	0.235	0.007	0.031	64	67
06-121	132.00	224.00	92.00	0.241	0.295	0.010	0.030	26	34
06-121	260.00	297.70	37.70	0.164	0.251	0.010	0.021	24	24
06-122	15.76	80.00	64.24	0.216	0.286	0.011	0.050	23	28
06-122	100.00	124.00	24.00	0.150	0.173	0.010	0.015	10	12
06-122	144.00	160.00	16.00	0.157	0.163	0.010	0.024	7	9
06-122	180.00	192.00	12.00	0.161	0.187	0.011	0.013	30	26
06-122	208.00	301.00	93.00	0.211	0.291	0.009	0.016	16	20
06-123	56.00	72.00	16.00	0.175	0.201	0.008	0.016	18	22
06-123	92.00	192.00	100.00	0.211	0.231	0.011	0.016	25	27
06-123	220.00	232.00	12.00	0.188	0.196	0.008	0.008	10	13
06-124	211.06	230.15	19.09	0.176	0.238	0.010	0.010	36	47
06-125	288.00	300.00	12.00	0.210	0.275	0.009	0.011	30	22
06-125	304.00	381.90	77.90	0.214	0.282	0.011	0.016	35	29
06-126	6.50	82.00	75.50	0.344	0.388	0.013	0.032	24	30
06-126	86.00	122.00	36.00	0.212	0.231	0.009	0.025	25	28
06-126	134.00	198.00	64.00	0.179	0.200	0.013	0.028	13	16
06-126	206.00	302.00	96.00	0.194	0.235	0.010	0.018	8	11
06-126	314.00	358.00	44.00	0.207	0.255	0.009	0.020	15	19
06-126	370.00	398.00	28.00	0.235	0.269	0.016	0.079	15	44
06-126	442.00	493.26	51.26	0.145	0.186	0.009	0.012	10	12
06-127	40.37	92.00	51.63	0.211	0.251	0.013	0.054	57	54
06-127	96.00	108.00	12.00	0.226	0.280	0.007	0.020	115	118
06-127	120.00	212.00	92.00	0.216	0.261	0.010	0.030	31	35
06-127	228.00	367.30	139.30	0.182	0.233	0.012	0.027	15	17
06-128	0.00	21.00	21.00	0.221	0.286	0.010	0.016	29	36
06-128	24.00	48.00	24.00	0.183	0.227	0.009	0.012	13	12
06-128	68.00	92.95	24.95	0.237	0.269	0.017	0.035	15	16
06-128A	15.55	48.00	32.45	0.193	0.248	0.009	0.013	13	13
06-128A	68.00	100.00	32.00	0.227	0.246	0.014	0.032	14	16
06-128A	104.00	204.00	100.00	0.289	0.331	0.016	0.035	19	23
06-128A	272.00	292.00	20.00	0.151	0.157	0.011	0.021	6	5
06-131	132.00	172.00	40.00	0.198	0.207	0.014	0.023	23	13
06-131	176.00	220.00	44.00	0.132	0.140	0.011	0.028	11	8
06-131	224.00	300.00	76.00	0.186	0.201	0.010	0.013	9	8
06-131	304.00	376.00	72.00	0.200	0.216	0.011	0.016	57	54
06-132	100.00	266.85	166.85	0.213	0.231	0.011	0.013	13	15
06-133	138.00	171.96	33.96	0.166	0.204	0.009	0.011	9	12

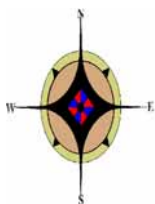
Hole	From	To	Width	% AC Ni	% Ni	% AC Co	% AC Cu	Pt (ppb)	Pd (ppb)
06-152	228.00	284.00	56.00	0.313	0.306	0.018	0.096	98	96
06-152	308.00	324.60	16.60	0.211	0.207	0.017	0.034	36	44
06-153	5.20	132.00	126.80	0.168	0.193	0.011	0.026	37	34
06-153	136.00	184.00	48.00	0.186	0.237	0.010	0.015	106	81
06-153	188.00	233.80	45.80	0.288	0.311	0.013	0.036	92	81
06-154	102.00	126.00	24.00	0.136	0.145	0.021	0.052	10	13
06-154	190.00	206.00	16.00	0.193	0.212	0.014	0.032	11	15
06-154	210.00	242.00	32.00	0.210	0.235	0.011	0.014	43	28
06-154	246.00	282.00	36.00	0.175	0.216	0.009	0.018	29	25
06-154	286.00	298.10	12.10	0.177	0.213	0.010	0.007	11	12
06-155	29.00	65.00	36.00	0.210	0.258	0.014	0.080	44	51
06-155	93.00	105.00	12.00	0.160	0.227	0.012	0.065	24	33
06-155	109.00	141.00	32.00	0.289	0.317	0.017	0.110	51	46
06-155	145.00	177.00	32.00	0.237	0.254	0.024	0.073	51	61
06-155	181.00	209.00	28.00	0.125	0.129	0.015	0.032	45	36
06-155	213.00	303.90	90.90	0.213	0.235	0.014	0.035	84	64
06-156	18.50	38.00	19.50	0.144	0.200	0.009	0.139	8	6
06-156	42.00	126.00	84.00	0.179	0.199	0.010	0.014	7	6
06-156	154.00	202.00	48.00	0.176	0.195	0.011	0.019	10	14
06-156	206.00	286.00	80.00	0.198	0.221	0.011	0.029	15	20
06-157	32.60	172.00	139.40	0.207	0.229	0.018	0.043	27	29
06-159	12.50	32.00	19.50	0.133	0.158	0.009	0.017	5	6
06-159	40.00	108.00	68.00	0.141	0.168	0.013	0.023	5	7
06-159	120.00	136.00	16.00	0.136	0.158	0.012	0.012	4	30
06-159	156.00	220.00	64.00	0.193	0.212	0.010	0.015	9	11
06-159	256.00	268.00	12.00	0.155	0.171	0.010	0.012	3	3
06-159	280.00	320.00	40.00	0.173	0.197	0.011	0.021	25	20
06-162	60.00	100.00	40.00	0.161	0.210	0.012	0.025	29	26
06-162	112.00	140.00	28.00	0.197	0.226	0.012	0.038	16	17
06-162	168.00	184.00	16.00	0.159	0.173	0.008	0.018	18	18
06-162	220.00	240.00	20.00	0.160	0.197	0.007	0.013	6	9
06-162	244.00	292.00	48.00	0.161	0.193	0.007	0.016	11	14
06-162	296.00	336.00	40.00	0.163	0.195	0.009	0.024	14	16
06-163	10.35	52.00	41.65	0.163	0.225	0.007	0.046	23	24
06-163	56.00	112.00	56.00	0.147	0.175	0.008	0.020	11	12
06-163	132.00	168.00	36.00	0.132	0.160	0.012	0.028	9	8
06-163	188.00	304.00	116.00	0.160	0.204	0.009	0.017	11	12
06-163	316.00	332.00	16.00	0.109	0.142	0.007	0.010	3	3
06-164	44.00	56.00	12.00	0.145	0.171	0.011	0.013	6	7
06-164	88.00	156.00	68.00	0.227	0.261	0.013	0.025	13	14
06-164	160.00	176.00	16.00	0.161	0.188	0.012	0.027	13	20
06-164	232.00	260.00	28.00	0.117	0.164	0.007	0.006	3	5
06-164	268.00	296.00	28.00	0.164	0.191	0.009	0.006	8	11
06-165	6.00	24.00	18.00	0.164	0.224	0.011	0.017	10	11
06-165	28.00	40.00	12.00	0.184	0.245	0.010	0.007	23	16
06-165	44.00	128.00	84.00	0.147	0.192	0.007	0.013	11	15

Hole	From	To	Width	% AC Ni	% Ni	% AC Co	% AC Cu	Pt (ppb)	Pd (ppb)
06-165	132.00	172.00	40.00	0.165	0.193	0.008	0.021	11	17
06-165	188.00	236.00	48.00	0.134	0.186	0.008	0.009	18	15
06-165	240.00	284.00	44.00	0.126	0.168	0.007	0.022	11	12
06-166	70.00	114.00	44.00	0.146	0.192	0.008	0.019	17	19
06-166	138.00	246.00	108.00	0.176	0.222	0.008	0.016	16	18
06-167	4.00	24.00	20.00	0.124	0.165	0.007	0.010	12	10
06-167	100.00	136.00	36.00	0.190	0.317	0.008	0.042	53	57
06-167	140.00	240.00	100.00	0.172	0.233	0.008	0.013	18	18
06-167	260.00	352.65	92.65	0.161	0.201	0.009	0.021	20	27
06-170	34.00	115.82	81.82	0.179	0.248	0.010	0.025	24	28
06-170	246.00	434.50	188.50	0.227	0.257	0.015	0.051	32	38
06-171	4.00	40.00	36.00	0.178	0.250	0.010	0.032	34	37
06-171	44.00	80.00	36.00	0.157	0.284	0.007	0.018	53	49
06-171	84.00	152.00	68.00	0.212	0.300	0.009	0.014	20	20
06-171	208.00	240.00	32.00	0.195	0.242	0.010	0.022	19	23
06-171	244.00	280.00	36.00	0.208	0.238	0.011	0.024	18	20
06-171	288.00	333.75	45.75	0.176	0.222	0.008	0.014	11	17
06-173	36.00	84.00	48.00	0.203	0.221	0.028	0.050	8	17
06-173	92.00	112.00	20.00	0.133	0.146	0.011	0.012	3	3
06-173	116.00	324.00	208.00	0.207	0.228	0.012	0.016	30	23
06-174	12.40	108.00	95.60	0.219	0.269	0.010	0.017	24	35
06-174	112.00	332.00	220.00	0.188	0.216	0.011	0.019	19	19
06-175	178.00	218.00	40.00	0.201	0.217	0.014	0.057	25	27
06-175	230.00	250.00	20.00	0.153	0.165	0.009	0.009	8	10
06-175	254.00	330.00	76.00	0.187	0.219	0.009	0.016	29	29

Intervals calculated using 0.1% AC Ni cutoff, minimum width 10m, max internal dilution 2 m

## **Appendix III**

### **Certificates of Analysis – Standard Reference Samples**



**S.M.E.E. & ASSOCIATES CONSULTING LTD.**  
**CONSULTING GEOCHEMISTRY / GEOLOGY**

## **Certificate of Analysis**

### **Hard Creek Nickel Standard UM-2**

<b>Element</b>	<b>Certified Mean</b>	<b>Two Standard Deviations (between lab)</b>
<b>Tot. Ni</b>	<b>3532 ppm</b>	<b>200 ppm</b>
<b>Tot. Cu</b>	<b>959 ppm</b>	<b>90 ppm</b>
<b>Tot. Fe</b>	<b>9.09 %</b>	<b>0.96 %</b>
<b>Tot. S</b>	<b>1.03 %</b>	<b>0.08 %</b>

<b>Element</b>	<b>Indicated Mean</b>	<b>Two Standard Deviations (between lab)</b>
<b>Tot. Co</b>	<b>149 ppm</b>	<b>29 ppm</b>

<b>Element</b>	<b>Provisional Mean</b>
<b>Tot. Mg</b>	<b>23.03 %</b>
<b>AR Mg</b>	<b>19.55 %</b>

Means and standard deviations were calculated from data supplied by five laboratories. All data and graphics are contained in the accompanying Excel spreadsheets. Indicated means are shown where the standard deviations are considered to be too large to certify an accepted mean, and Provisional means are for information purposes only. Laboratories were asked to supply analysis for sulphide Cu, Ni and Co, but some labs could not perform the analyses as defined, and two laboratories declined to participate in that analytical method. There is no useable data for the sulphide method.

The participating laboratories were:

Acme, Vancouver  
Assayers, Vancouver  
SGS Lakefield, Ontario  
IPL, Vancouver  
Global Discovery Labs, Vancouver

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Laboratories that failed a grouped t test were removed from the data set before calculating the initial mean and standard deviations. Any analysis that fell outside the



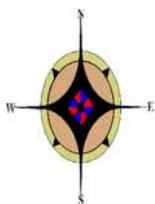
mean  $\pm$  2 SD limits was designated as a “flier” and was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data (shown as the 1<sup>st</sup> Iteration in the spreadsheets). The final standard deviation values are known as the “Between Lab” deviations, and can be used to monitor accuracy of a single analysis.

As some of the labs were removed from calculations, it is recommended that additional labs be invited to participate in this round robin and the calculations redone with the additional information.

The bulk standards were prepared and packaged by CDN Labs of Delta B.C. Each bulk sample was pulverized in a large rod mill, screened through 200 mesh using an electric sieve, and homogenized in a large rotating mixer. Each standard was sealed in plastic to prevent gravity separation and oxidation.

A handwritten signature in black ink, appearing to read "Barry W. Smee". The signature is fluid and cursive, with the first name "Barry" and last name "Smee" clearly distinguishable.

Barry W. Smee, Ph.D., P.Geo.



**SMEE & ASSOCIATES CONSULTING LTD.**  
**CONSULTING GEOCHEMISTRY / GEOLOGY**

## **Certificate of Analysis**

### **Hard Creek Nickel Standard UM-4**

<b>Element</b>	<b>Certified Mean</b>	<b>Two Standard Deviations (between lab)</b>
<b>Tot. Ni</b>	<b>2435 ppm</b>	<b>142 ppm</b>
<b>Tot. Cu</b>	<b>560 ppm</b>	<b>54 ppm</b>
<b>Tot. Fe</b>	<b>8.00 %</b>	<b>0.89 %</b>
<b>Tot. Mg</b>	<b>14.12 %</b>	<b>1.35 %</b>

<b>Element</b>	<b>Indicated Mean</b>	<b>Two Standard Deviations (between lab)</b>
<b>Tot. S</b>	<b>0.50 %</b>	<b>0.10 %</b>

<b>Element</b>	<b>Provisional Mean</b>
<b>Tot. Co</b>	<b>99 ppm</b>

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The participating laboratories were:

Acme, Vancouver  
Assayers, Vancouver  
SGS Lakefield, Ontario  
IPL, Vancouver  
Global Discovery Labs, Vancouver

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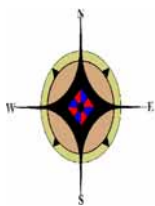
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## **Certificate of Analysis**

### **Hard Creek Nickel Standard 05-94**

<b>Element</b>	<b>Certified Mean</b>	<b>Two Standard Deviations (between lab)</b>
<b>Tot. Ni</b>	<b>2667 ppm</b>	<b>235 ppm</b>
<b>Tot. Cu</b>	<b>306 ppm</b>	<b>27 ppm</b>
<b>Tot. Fe</b>	<b>9.22 %</b>	<b>0.45 %</b>
<b>Tot. S</b>	<b>1.41 %</b>	<b>0.08 %</b>
<b>AR Ni</b>	<b>2531 ppm</b>	<b>221 ppm</b>
<b>AR Cu</b>	<b>305 ppm</b>	<b>25 ppm</b>
<b>AR Co</b>	<b>160 ppm</b>	<b>14 ppm</b>
<b>AR Fe</b>	<b>8.78 %</b>	<b>0.80 %</b>

<b>Element</b>	<b>Indicated Mean</b>	<b>Two Standard Deviations (between lab)</b>
<b>Tot. Co</b>	<b>165 ppm</b>	<b>26 ppm</b>

<b>Element</b>	<b>Provisional Mean</b>
<b>Tot. Mg</b>	<b>26.49 %</b>
<b>AR Mg</b>	<b>23.33 %</b>

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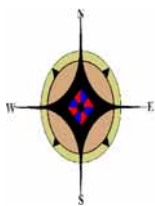
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**SMEETH & ASSOCIATES CONSULTING LTD.**  
**CONSULTING GEOCHEMISTRY / GEOLOGY**

## **Certificate of Analysis**

### **Hard Creek Nickel Standard 05-103**

<b>Element</b>	<b>Certified Mean</b>	<b>Two Standard Deviations (between lab)</b>
<b>Tot. Ni</b>	<b>4108 ppm</b>	<b>417 ppm</b>
<b>Tot. Cu</b>	<b>477 ppm</b>	<b>49 ppm</b>
<b>Tot. Fe</b>	<b>13.41 %</b>	<b>0.98 %</b>
<b>Tot. S</b>	<b>4.20 %</b>	<b>0.37 %</b>
<b>AR Ni</b>	<b>3995 ppm</b>	<b>388 ppm</b>
<b>AR Cu</b>	<b>467 ppm</b>	<b>41 ppm</b>
<b>AR Co</b>	<b>260 ppm</b>	<b>27 ppm</b>
<b>AR Fe</b>	<b>12.76 %</b>	<b>0.80 %</b>

<b>Element</b>	<b>Indicated Mean</b>	<b>Two Standard Deviations (between lab)</b>
<b>Tot. Co</b>	<b>267 ppm</b>	<b>49 ppm</b>

<b>Element</b>	<b>Provisional Mean</b>
<b>Tot. Mg</b>	<b>23.03 %</b>
<b>AR Mg</b>	<b>19.55 %</b>

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