# **Scott Wilson Mining**



# FIRST NICKEL INC.

# TECHNICAL REPORT ON THE WEST GRAHAM PROPERTY CONWEST ZONE RESOURCE ESTIMATE, GRAHAM TOWNSHIP, ONTARIO, CANADA

NI 43-101 Report

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# 1 SUMMARY

# **EXECUTIVE SUMMARY**

Scott Wilson Roscoe Postle Associates Inc. (Scott Wilson RPA) was retained by First Nickel Inc. (FNI) to carry out a resource estimate and prepare an independent Technical Report for the Conwest Zone on the West Graham property, Sudbury area, Ontario. This Technical Report conforms to NI 43-101 Standards of Disclosure for Mineral Projects. Scott Wilson RPA visited the property on November 26, 2008.

FNI is a nickel-copper producer and exploration company listed on the Toronto Stock Exchange (TSX). FNI acquired the Lockerby Mine from Falconbridge Limited (Falconbridge), now Xstrata Canada Inc. (Xstrata), in May 2005, reopened the mine and produced run of the mine crushed ore from the Depth and East zones, selling it to Xstrata under an Off-Take agreement. Lockerby operated from December 2005 to October 19, 2008, when operations were suspended due to falling nickel prices.

The West Graham property, east adjacent to the Lockerby Mine, is being explored and evaluated by FNI under the terms of an earn-in option agreement with Landore Resources Canada Inc. (Landore). FNI may earn up to 85% interest in the property subject to a 2% net smelter return (NSR) royalty. The Conwest Zone on the West Graham property was discovered by drilling in 1960 and has witnessed three drilling campaigns, the last of which was by FNI in 2007-2008. The deposit lies at a depth of 50 m and approximately 150 m up dip of the Lockerby Mine East Zone and thus has the potential for access from the East Zone underground workings as well as the Lockerby Mine infrastructure.

### INTERPRETATION AND CONCLUSIONS

Scott Wilson RPA independently estimated Mineral Resources for the Conwest Zone on the West Graham property. The Conwest Zone is interpreted to represent a large, low grade Ni-Cu-Co-Ag±PGE±Au bearing contact-type disseminated sulphide deposit hosted

by dark norite and located stratigraphically above sublayer norite at the base of the Sudbury Igneous Complex. The Conwest Zone tops at 45 m depth, extends for some 375 m on strike and 573 m along dip and is up to 66 m thick. The zone dips moderately at approximately 53° to the north and is 500 m up dip from the Lockerby Mine East Zone, which was developed and has witnessed limited mining by Falconbridge and FNI in the past. The Conwest Zone continues onto Vale Inco's Corridor Claim to the west, however, no drilling data for the Vale Inco property were available for the resource estimate and the resource estimate is terminated to within five metres of the west boundary to allow for a boundary pillar.

The resource estimate is based entirely on surface diamond drilling, core sampling and assaying. Drilling was completed in three campaigns by three operators since the 1960s. FNI's drilling was designed to fill-in and expand the zone, resulting in a 25 m drill hole section spacing with 30 m to 50 m zone intercepts along dip to provide sufficient sampling to class a portion of the resources as Indicated.

Scott Wilson RPA reviewed and audited the drilling and assaying data and the drill hole database. Scott Wilson RPA is of the opinion that the exploration has been industry standard and in compliance with best practices. The sampling and assaying and database preparation are industry standard and acceptable for Mineral Resource and Mineral Reserve estimation, however, there is some risk arising from the lack of downhole surveys, with only dip tests available for the 1960s holes as further noted below.

The resource estimate was carried out by conventional wireframing of mineralization at 0.30% nickel equivalent (NiEq) and 3D computer block modelling using ordinary kriging for grade interpolation. The resource was classified into Indicated and Inferred based on drill hole and sampling density. Drilling is focused in the area close to the west and north property boundaries, where Indicated Resources are delineated, and becomes more widely spaced to the east, where Inferred Resources are outlined. The wireframed mineral envelope is estimated to contain 8.55 million tonnes of Indicated Resources averaging 0.45% Ni, 0.31% Cu and 0.01% Co and 2.0 million tonnes of Inferred Resources averaging 0.38% Ni, 0.30% Cu and 0.01% Co.

Scott Wilson RPA notes that the downhole deviation surveys for the 1960s drilling by Conwest Exploration Company (Conwest) were limited but industry standard for the time. Coupled with the tendency to higher deviation for the narrower diameter (AX) drill tooling used, there is some uncertainty in the spatial location of the Conwest assay intercepts with respect to the well-located Falconbridge and FNI drilling resulting from modern, industry standard downhole surveys. In addition, the Conwest assays for nickel appear to be somewhat higher overall than the Falconbridge and FNI assays and there may be a problem with the assays for three consecutive Conwest drill holes on the west side of the deposit adjacent to the property boundary. These assays are located in the upper portion of the zone where there is proportionately less sampling by Falconbridge and FNI.

### **RECOMMENDATIONS**

Scott Wilson RPA has the following recommendations:

- Complete metallurgical testing to confirm metal recoveries by conventional processing.
- Carry out a scoping study/preliminary assessment of the Conwest Zone to evaluate the potential for economic viability and consider options as either a stand-alone milling operation or with mine production sold to Xstrata as part of the FNI-Xstrata Off-Take agreement, metallurgical aspects permitting.
- Contingent on encouragement from the preliminary economic assessment:
  - o Twin Conwest holes WG-25 to WG-27 to verify their higher grade nickel intercepts.
  - o Carry out diamond drilling on the east portion of the zone to upgrade the Inferred Resources to Indicated Resources.
  - Update the Conwest Zone resource estimate to reflect additional drill hole data.

In consultation with FNI, Scott Wilson RPA has prepared a budget for the recommended work (Table 1-1).

TABLE 1-1 WORK PROGRAM BUDGET
First Nickel Inc. West Graham Property, Conwest Zone, Sudbury, Ontario

	C\$
Phase 1	
Preliminary Assessment	100,000
Phase 2 (Contingent on Phase 1)	
Diamond Drilling Twin Holes (475 m)	57,000
Drilling to Upgrade Inferred Resources to Indicated (15,300 m)	1,836,000
Update Resource Estimate	50,000
Subtotal Phase 2	1,943,000
Work Program Total (Phases 1 & 2)	2,043,000

# TECHNICAL SUMMARY

### PROPERTY DESCRIPTION AND LOCATION

The West Graham property is located in Graham Township, Sudbury District, Sudbury Mining Division, Ontario, some 30 km west of the city of Sudbury and at the southwestern end of the South Range of the Sudbury Igneous Complex. The property consists of 129.9 ha contained in the patented Parcel 29073 that occupies the N½ and S½ of Lot 12, Concession 5, Graham Township.

Lot 12 is located 1.5 km east of the Lockerby Mine and is bordered on the east and south by the Vale Inco property, on the north by the FNI Lockerby Mine property, and on the west by the Lockerby Mine and Vale Inco holdings. The Vale Inco claim on the west is known as the "Corridor Claim" or "Crean Hill #3" and is surrounded by the FNI property. The Lockerby East Zone, down dip from the Conwest Zone, is located on FNI parcel numbers 9106 SWS to 9109 SWS in Lot 12 Concession 6 to the north of the West Graham property.

### LAND TENURE

Title to the West Graham patented claims is held by Landore and is maintained by the annual payment of taxes of \$519.62. The patents include surface and mineral rights.

Under the terms of an option agreement executed on November 21, 2005, FNI may earn up to an 85% interest in the West Graham property subject to a 2% NSR royalty. The agreement calls for payment of \$150,000 in cash and the expenditure of \$6 million on exploration and development on the property over four years to earn a 70% interest. Once FNI has vested to 70%, Landore can elect to participate in further work on the property to maintain its 30% interest. Should Landore decline participation, FNI has the right to increase its interest to 85% by completing a bankable feasibility study over two years thereafter.

### SITE INFRASTRUCTURE

Site infrastructure is limited to dirt roads and bush roads. The Lockerby Mine complex is within 1.5 km to the west, with the nearest underground mine access being to the Lockerby Mine East Zone some 500 m down dip and to the north of the Conwest Zone.

### **HISTORY**

The Conwest deposit was discovered in 1960 by Conwest. Conwest diamond drilled 27 holes (6,447.19 m) in 1960-1961 and 1969 and estimated a mineral inventory at 4.3 million tons (3.9 million tonnes) averaging 0.52% Ni and 0.33% Cu. This historic estimate predates the implementation of NI 43-101 reporting regulations and Scott Wilson RPA considers it to be non-compliant with CIM/NI 43-101 standards and guidelines.

From 1987 to 1989, Falconbridge carried out airborne geophysical surveys and geologic mapping followed by the diamond drilling of six holes totalling 7,403.03 m and downhole pulse electromagnetic (PEM) geophysical surveys.

Landore acquired the West Graham property in a reverse takeover of Brancote Canada Ltd. in 2001 but did not undertake significant exploration. FNI commenced exploration in 2005 after signing the earn-in agreement with Landore in August 2005.

FNI completed 14.8 line kilometres of magnetometer surveys and 11.8 line kilometres of deep penetrating, gradient induced polarization surveying. From 2005 to 2008, FNI diamond drilled 62 holes totalling 22,237.5 m on the West Graham property. Selected FNI holes were surveyed downhole by UTEM (large loop time domain electromagnetic survey) and PEM geophysical methods. The drill hole spacing, at approximately 25 m sections and 30 m to 50 m zone intercepts along dip, has been designed by FNI to provide the drilling density acceptable for resource estimation under CIM definitions

All diamond drilling on the property to date has been from surface.

### **GEOLOGY**

The West Graham property is situated in the southwest area of the Sudbury Igneous Complex (SIC) South Range. The SIC straddles the boundary between the Archean-aged Superior Geologic Province to the north and west, and the Southern Province of early Proterozoic age (Huronian) to the south and east. The Grenville Front, the northern margin of the Grenville Province, lies about 10 km to the southeast of the SIC.

The northern portion of the West Graham property straddles the contact of the lower norite unit of the SIC and the Creighton Pluton. The contact dips at 45° to 50° to the north. A discontinuous sublayer norite is exposed on the western portion of the property at the SIC contact. The sublayer unit, identified by diamond drilling, occurs above the basal contact of the SIC and is unusual in terms of both its stratigraphic location and composition. This sublayer unit contains fragments of granite and norite.

The Conwest Zone is located on the northwest portion of the West Graham property. The contact style mineralization, as traced by drilling, forms a continuous body striking east-west and dipping 53° north. The Conwest Zone extends from 40 m below surface to a depth of approximately 475 m. Sulphides occur in the norite above the sublayer norite and at the SIC contact. As modelled at 0.3% NiEq, the zone ranges from 1.7 m to 66 m thick and strikes for 375 m with a dip extent of up to 533 m. At depth, the Conwest Zone is interpreted to be contiguous with the Lockerby Mine East Zone. Drilling has tested the

Conwest Zone to the west boundary of the West Graham property where the zone continues onto the Corridor Claim held by Vale Inco.

The Conwest Zone is composed of disseminated, blebby, stringer and semi-massive sulphide zones hosted entirely within the norite unit some 30 m to 100 m above the SIC-basement contact. The nickel mineralization is generally low grade, however, higher grade zones in excess of 1% Ni have been intersected within the broader envelope of disseminated sulphides.

Pyrrhotite, chalcopyrite and pentlandite are the dominant sulphides within the zone. The nickel content of sulphides is 8% to 10% and is high for the Sudbury camp, reflecting the relatively pentlandite-rich nature of the sulphides. Within the resource wireframe contoured at 0.3% NiEq, the nickel in sulphide averages 8.25%.

### **MINERAL RESOURCES**

The resource estimate was prepared by conventional 3D computer block modelling based on surface diamond drill hole data and utilizing ordinary kriging for grade interpolation. Grade was estimated for Ni, Cu, Co, Pt, Pd, Au, Ag, S and NiEq. The estimate was constrained by geological interpretation and a wireframe model based on contouring a NiEq grade of 0.3%. NiEq factors are based on Ni, Cu and Co grades and are derived from metal accountability in the FNI-Xstrata Off-Take agreement. The factor is: NiEq% = Ni% + (0.32 x Cu%) + (0.53 x Co%). The precious metals are generally low

The resource is estimated on the West Graham property to within five metres of the Vale Inco Corridor Claim boundary assuming a pillar will be left allowing for independent mining on both sides of the north-south property boundary. Resources tied up in the pillar are reported independently. The resource was classified into Indicated and Inferred Mineral Resources based on drill hole and sampling density. Appropriate validation checks were performed to ensure the estimate is reasonable. Table 1-2 summarizes the Mineral Resources. Table 1-3 shows the resources at various incremental NiEq block cut-off grades.

TABLE 1-2 MINERAL RESOURCES
First Nickel Inc. West Graham Property, Conwest Zone, Sudbury, Ontario
(as of October 10, 2008)

Tonnes (000s)	Ni%	Cu%	Co%	Au g/t	Pt g/t	Pd g/t	Ag g/t	S%	NiEq%
Indicated Resource									
8,550	0.45	0.31	0.01	0.03	0.07	0.02	1.91	2.43	0.55
Inferred Resource									
2,000	0.38	0.30	0.01	0.04	0.09	0.03	2.11	2.15	0.48
Boundary Pillar									
270	0.57	0.33	0.02	0.02	0.06	0.02	1.29	3.00	0.68

#### Notes:

- 1. CIM definitions were followed for Mineral Resources.
- 2. Mineral Resources are estimated within a mineralization wireframe cut-off grade of 0.3% nickel equivalent. The cut-off grade is based on geologic continuity, as well as a preliminary estimate of bulk underground incremental operating costs, an average long-term nickel price of US\$7.00/lb, and a C\$/US\$ exchange rate of \$0.90.
- 3. Nickel equivalent is derived from the FNI-Xstrata Off-Take Agreement, NiEq%=Ni% + (0.32xCu%) + (0.53xCo%).
- 4. Resources are estimated from a depth of 45 m below surface to a depth of 557 m.

TABLE 1-3 RESOURCE TONNES AND GRADES AT VARIOUS BLOCK CUT-OFF GRADES

First Nickel Inc. Conwest Zone, West Graham Property, Sudbury, Ontario

Indicated R	esource									
NiEq Cut-off	Tonnes	Ni%	Cu%	Co%	S%	Au	Pt g/t	Pd	Ag	NiEq
%						g/t		g/t	g/t	%
0.30	8,550,000	0.45	0.31	0.01	2.43	0.03	0.07	0.02	1.91	0.55
0.35	8,450,000	0.45	0.31	0.01	2.45	0.03	0.08	0.02	1.93	0.56
0.40	8,010,000	0.46	0.32	0.01	2.49	0.03	0.08	0.02	1.93	0.57
0.45	8,010,000	0.46	0.32	0.01	2.49	0.03	0.08	0.02	1.93	0.57
0.50	7,320,000	0.47	0.32	0.01	2.52	0.03	0.08	0.02	1.97	0.58
0.55	5,080,000	0.49	0.33	0.01	2.63	0.03	0.07	0.02	1.90	0.60
0.60	2,110,000	0.52	0.36	0.02	2.70	0.03	0.08	0.02	2.27	0.64
0.65	671,000	0.55	0.38	0.02	2.89	0.03	0.09	0.02	2.39	0.68
0.70	223,000	0.57	0.39	0.02	2.99	0.03	0.09	0.02	2.36	0.70

Continuation of Table 1-3

Informed Becoures

interrea Re	esource									
NiEq Cut-off %	Tonnes	Ni%	Cu%	Co%	S%	Au g/t	Pt g/t	Pd g/t	Ag g/t	NiEq %
0.30	2,000,000	0.38	0.30	0.01	2.15	0.04	0.09	0.03	2.11	0.48
0.35	2,000,000	0.38	0.30	0.01	2.15	0.04	0.09	0.03	2.11	0.48
0.40	1,910,000	0.38	0.30	0.01	2.17	0.04	0.09	0.03	2.08	0.48
0.45	1,570,000	0.40	0.29	0.01	2.22	0.04	0.10	0.03	2.03	0.50
0.50	595,000	0.45	0.29	0.01	2.46	0.05	0.12	0.03	1.95	0.56
0.55	298,000	0.48	0.30	0.01	2.54	0.05	0.13	0.03	2.00	0.58
0.60	66,000	0.56	0.30	0.01	2.85	0.06	0.17	0.05	2.25	0.66
0.95	65,000	0.56	0.30	0.01	2.85	0.06	0.16	0.05	2.24	0.66

### MINERAL RESERVES

No pre-feasibility study or feasibility study has been carried out by Landore or FNI and consequently, under CIM definitions, there are no reserves reported for the West Graham property.

### METALLURGY AND MINERAL PROCESSING

FNI is undertaking a metallurgical study of the Conwest deposit concurrently with the resource estimate carried out in this report. During the third quarter of 2008 a composite sample was prepared from drill core and submitted to SGS Lakefield Research Limited, Lakefield, Ontario, for preliminary metallurgical test work consisting of sample preparation and rougher kinetic tests, which will provide an estimate of the recovery characteristics for the Conwest deposit. Samples for compositing were selected so as to provide a head grade of 0.5% NiEq assuming low grade bulk mining, to reflect differing mineralogy and styles of mineralization, and to be spatially representative of the deposit.

Results are pending.

### **ENVIRONMENTAL CONSIDERATIONS**

No environmental permitting has been completed by FNI for the West Graham property, however, the claims fall within the area of the MMER study (Mining Effluent Regulations of the Fisheries Act) completed for the Lockerby Mine and submitted to Environment Canada in 2006. FNI is currently in the process of completing the second cycle EEM (Mining Environmental Effects Monitoring) - MMER report for the period of 2006 to 2008.

# 2 INTRODUCTION AND TERMS OF REFERENCE

Scott Wilson Roscoe Postle Associates Inc. (Scott Wilson RPA) was retained by First Nickel Inc. (FNI) to carry out a resource estimate and prepare an independent Technical Report for the Conwest Zone on the West Graham property, adjacent to the Lockerby Mine, Graham Township, Sudbury area, Ontario. This Technical Report conforms to NI 43-101 Standards of Disclosure for Mineral Projects.

FNI is a nickel-copper producer and exploration company listed on the Toronto Stock Exchange (TSX). FNI acquired the Lockerby Mine from Falconbridge Limited (Falconbridge), now Xstrata Canada Inc. (Xstrata), in May 2005, reopened the mine and produced run of the mine crushed ore from the Depth and East zones, selling it to Xstrata under an Off-Take agreement. Lockerby operated from December 2005 to October 19, 2008, when operations were suspended due to falling nickel prices.

The West Graham property, east adjacent to the Lockerby Mine, is being explored and evaluated by FNI under the terms of an earn-in option agreement with Landore Resources Canada Inc. FNI may earn up to 85% interest in the property subject to a 2% net smelter return (NSR) royalty. The Conwest Zone on the West Graham property was discovered by drilling in 1960 and has witnessed three drilling campaigns, the last of which was by FNI in 2005-2008. The deposit lies at a depth of 50 m and approximately 500 m up dip of the Lockerby Mine East Zone and thus has the potential for access from the East Zone underground workings as well as the Lockerby Mine infrastructure. The latter includes:

- The physical plant site including mine shafts and associated facilities, paste backfill plant, coarse ore bin, ventilation, workshops, warehouses, administration buildings, and dry facilities.
- Facilities including electric power, heat, water treatment and supply, and sewage treatment.
- Underground infrastructure including two mine shafts, ramps, ventilation raises, maintenance shops, and mobile equipment fleet.

• Access by highway and gravel roads to Sudbury area mills and smelters.

Scott Wilson RPA has no prior involvement with the West Graham property, however, Scott Wilson RPA has prepared three technical reports for the adjacent Lockerby Mine property:

- 1. Technical report on the Lockerby Mine, Sudbury, Ontario (Clow et al., 2005)
- 2. Technical report on the 2007 resource estimate for the Depth and East zones, Lockerby Mine, Sudbury, Ontario (Routledge, 2007)
- 3. Technical report on the 2008 resource estimate for the Depth Zone, Lockerby Mine, Sudbury, Ontario (Routledge, 2008)

# SOURCES OF INFORMATION

FNI handed off the West Graham property drill hole database to Scott Wilson RPA on October 10, 2008. Mr. Bruce Churchill, P.Geo., Associate Consulting Geologist with Scott Wilson RPA, carried out the resource estimate for the Conwest Zone from October 31 to November 25, 2008. Scott Wilson RPA Consulting Geologist Richard Routledge, M.Sc., P. Geo., visited the West Graham property on November 26, 2008, and was responsible for overall supervision of the assignment and preparation of the Technical Report.

Discussions were held with the following FNI personnel:

- Mr. Paul Davis, P. Geo., FNI Vice President Exploration
- Mr. Philip Vicker, M.Sc., P.Geo., FNI Sudbury Geology Manager
- Mr. Scot Halladay, B.Sc., P. Geo., FNI Senior Geologist

Mr. Vicker and Mr. Scot Halladay were responsible for the direction of the FNI diamond drilling program on the Conwest Zone. Messrs. Vicker and Halladay are qualified persons (QPs) under NI 43-101 definitions. Although the authors have not had prior involvement with the West Graham property, Mr. Routledge is familiar with the Lockerby Mine and FNI exploration and has co-authored and authored three previous Scott Wilson RPA independent reports for FNI. Mr. Churchill is familiar with Lockerby

Mine operations and surrounding area, having worked there as Beat Geologist from 1973 to 1977, as Mine Geologist from 1994 to 1998, and having audited the FNI Lockerby Depth Zone resource estimate from November 20, 2007, to February 2008.

The documentation reviewed, and other sources of information, are listed at the end of this report in Section 21, References.

# LIST OF ABBREVIATIONS

Units of measurement used in this report conform to the SI (metric) system. All currency in this report is US dollars (US\$) unless otherwise noted.

μ	micron	kPa	kilopascal
°C	degree Celsius	kVA	kilovolt-amperes
۰F	degree Fahrenheit	kW	kilowatt
μg	microgram	kWh	kilowatt-hour
A	ampere	L	litre
а	annum	L/s	litres per second
bbl	barrels	m	metre
Btu	British thermal units	M	mega (million)
C\$	Canadian dollars	m <sup>2</sup>	square metre
cal	calorie	m <sup>3</sup>	cubic metre
cfm	cubic feet per minute	min	minute
cm	centimetre	MASL	metres above sea level
cm <sup>2</sup>	square centimetre	mm	millimetre
d	day	mph	miles per hour
dia.	diameter	MVA	megavolt-amperes
dmt	dry metric tonne	MW	megawatt
dwt	dead-weight ton	MWh	megawatt-hour
ft	foot	m <sup>3</sup> /h	cubic metres per hour
ft/s	foot per second	opt, oz/st	ounce per short ton
ft <sup>2</sup>	square foot	OZ	Troy ounce (31.1035g)
ft <sup>3</sup>	cubic foot	oz/dmt	ounce per dry metric tonne
g G	gram	ppm	part per million
	giga (billion)	psia	pound per square inch absolute
Gal	Imperial gallon	psig	pound per square inch gauge
g/L	gram per litre	RL	relative elevation
g/t	gram per tonne	S	second
gpm	Imperial gallons per minute	st	short ton
gr/ft <sup>3</sup>	grain per cubic foot	stpa	short ton per year
gr/m <sup>3</sup>	grain per cubic metre	stpd	short ton per day
hr	hour	t	metric tonne
ha	hectare	tpa	metric tonne per year
hp	horsepower	tpd	metric tonne per day
in	inch	US\$	United States dollar
in <sup>2</sup>	square inch	USg	United States gallon
J	joule	USgpm	US gallon per minute
k	kilo (thousand)	V	volt
kcal	kilocalorie	W	watt
kg	kilogram	wmt	wet metric tonne
km	kilometre	yd <sup>3</sup>	cubic yard
km/h	kilometre per hour	yr	year
km <sup>2</sup>	square kilometre		

# 3 RELIANCE ON OTHER EXPERTS

This report has been prepared by Scott Wilson Roscoe Postle Associates Inc. (Scott Wilson RPA) for First Nickel Inc. (FNI). The information, conclusions, opinions, and estimates contained herein are based on:

- Information available to Scott Wilson RPA at the time of preparation of this report,
- Assumptions, conditions, and qualifications as set forth in this report, and
- Data, reports, and other information supplied by FNI and other third party sources.

For the purpose of this report, Scott Wilson RPA has relied on ownership information provided by FNI. Scott Wilson RPA has not researched property title or mineral rights for the West Graham property and expresses no opinion as to the ownership status of the property.

Except for the purposes legislated under provincial securities laws, any use of this report by any third party is at that party's sole risk.

# 4 PROPERTY DESCRIPTION AND LOCATION

The West Graham property is located in Graham Township, Sudbury District, Ontario, some 30 km west of the city of Sudbury and at the southwestern end of the South Range of the Sudbury Igneous Complex (Figure 4-1).

The property is patented Parcel 29073 which consists of 129.9 ha contained in the N½ and S½ of Lot 12, Concession 5, Graham Township. Lot 12 is centred approximately at:

Latitude 46° 25' 4.7"N; longitude 81° 18' 46.3" UTM Zone 17, 476.850E, 5,141,600N (NAD 27)

Lot 12 is located 1.5 km east of the Lockerby Mine and is bordered on the east and south by the Vale Inco property, on the north by the FNI Lockerby Mine property, and on the west by the Lockerby Mine and Vale Inco holdings (Figure 4-2). The Vale Inco claim on the west is known as the "Corridor Claim" and is surrounded by the FNI property. The Lockerby East Zone, down dip from the Conwest Zone, is located on FNI parcel numbers 9106 SWS to 9109 SWS in Lot 12 Concession 6 to the north of the West Graham property (Figures 4-2 and 4-3).

Title to the West Graham patented claims is held by Landore Resources Canada Inc. (Landore) and is maintained by the annual payment of taxes of \$519.62. The patents include surface and mineral rights.

Under the terms of an option agreement executed on November 21, 2005, FNI may earn up to an 85% interest in the West Graham property subject to a 2% NSR royalty. The agreement calls for payment of \$150,000 in cash and the expenditure of \$6 million on exploration and development on the property over four years to earn a 70% interest. Once FNI has vested to 70%, Landore can elect to participate in further work on the property to maintain its 30% interest. Should Landore decline participation, FNI has the

right to increase its interest to 85% by completing a bankable feasibility study over two years thereafter. Lot 12 is subject to two easements to:

- 1. the Manitoulin and North Shore Railway
- 2. the Hydro Electric Power Commission of Ontario

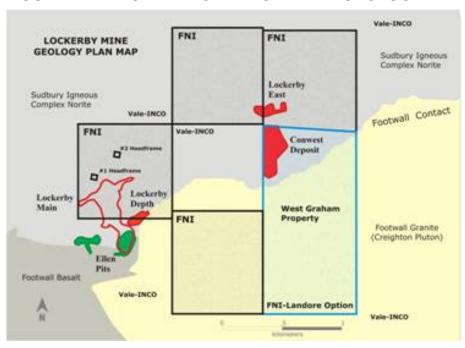
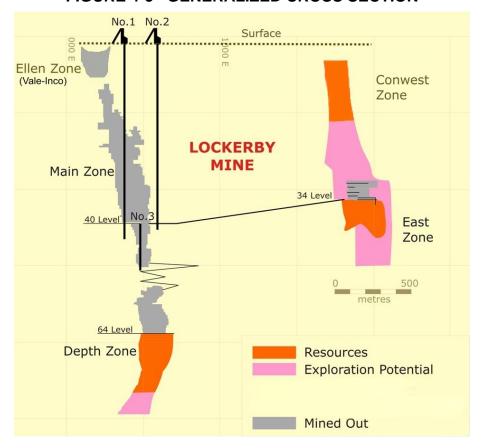


FIGURE 4-2 PROPERTY OWNERSHIP AND GEOLOGY MAP





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

# **ACCESS**

The West Graham property is located approximately 30 km west of Sudbury by road. Paved and unpaved roads connecting to highways 144 and 17 give access from the north, crossing over the Vermillion River, and from the south, respectively. A dirt road approximately one kilometre long connects the north portion of the property to the Lockerby Mine complex. Commercial scheduled air service is available at Sudbury Airport located northeast of the city. There is no rail access to the property.

### LOCAL RESOURCES

Sudbury is a ready source of skilled labour, equipment and supplies for the mining industry. It is one of Canada's most developed mining areas, with 93,000 inhabitants in the city and a total population of 166,000 in the surrounding district. The city is also a major centre in northeastern Ontario for commerce, government administration, education and medical facilities. Xstrata's Strathcona mill is located at Onaping 60 km northwest of Sudbury, and Xstrata's smelter is located 15 km to the northeast in Falconbridge. Vale Inco's Clarabelle concentrator and smelting facilities are located on the southwest side of Sudbury at Copper Cliff.

### SITE INFRASTRUCTURE

There is no site infrastructure at the West Graham property, however, FNI's Lockerby Mine would provide mine infrastructure for the property in the event FNI vests in the property and develops it. Lockerby Mine site infrastructure is described in Routledge (2007, 2008) and Clow et al. (2005). The closest existing underground access to the Conwest Zone from the Lockerby Mine is the East Zone access drift from the Shaft #2

load-out on the 40 Level that crosses the Vale Inco Corridor Claim to the 34 Level at the East Zone (Figure 4-3).

# PHYSIOGRAPHY AND CLIMATE

Terrain in and surrounding the West Graham property is characterized by moderate to subdued topographic relief and second growth northern boreal forests and small lakes and swamps. Elevations range from 265 m ASL to 296 m ASL on the property. Bedrock is poorly exposed in lower relief areas. Farmlands within the interior of the Sudbury Basin are underlain by flat-lying sedimentary and epiclastic rocks covered by Quaternary glacial deposits and thin soils.

The climate is northern continental temperate, with warm summers and cold winters. Seasonal temperatures average 24.8°C in summer and –8.4°C in winter. Average annual precipitation is 62.2 mm of rain and 247.5 mm of snow.

# **6 HISTORY**

Nickel-copper mineralization in the Sudbury area was first discovered in 1865 by Alexander Murray, who followed up on a land surveyor's report of a marked deflection in compass readings while surveying. Murray took samples—one of which assayed about 1% Ni and 2% Cu—from a gossan-stained ridge that ran along the hanging wall of what was to become the Creighton Mine orebody, located 10 km west of the West Graham property. Due to inaccessibility, nothing further was done until interest was rekindled by the mineral outcropping discovery of 1883 during the railway construction in the Sudbury area. The Creighton orebody was rediscovered in 1886, and in 1900, after 14 years of intensive exploration, an open-pit mining operation was started at Creighton by the Canadian Copper Company. The first shipment of Sudbury ore from Creighton was made in August 1901, and in 1907 underground mining began. The Canadian Copper Company eventually became part of Inco. Since the 1800s, historic metal production from Inco and Falconbridge operations for the Sudbury Basin, from over 100 mines, is in the order of 8.5 million tonnes of nickel and 8.4 million tonnes of copper. Total reserves and production in the camp are estimated at 1.6 billion tonnes (Patterson, 2001).

FNI's adjacent Lockerby Mine property was originally held by the Lockerby family from 1888 to 1908, then the Dominion Bank and a succession of mining companies until purchased by Falconbridge in 1942. Falconbridge drilled extensively throughout the 1960s. Shaft sinking at Lockerby began in 1969 and the first ore was produced from the Main Zone in 1971. Annual production peaked at 635,000 tonnes in 1984. Construction of a milling facility on site was halted shortly after foundations were poured, when a decision was made to process Lockerby ore at the Strathcona mill.

The Lockerby Depth and East zones were mined starting in 1991-1992. To December 31, 2003, a total of 8.26 million tonnes averaging 1.79% Ni and 1.07% Cu were produced from the Main, Depth, and East zones at Lockerby Mine. During its 33 years of Falconbridge production, mining was suspended from 1978 to 1980 and from

1994 to 1997, due to low nickel prices. Falconbridge placed the mine on care and maintenance in September 2004.

Under FNI ownership as of May 2005, the mine resumed commercial production from the Depth Zone in December 2005. Recent Lockerby production has been approximately 400 tpd. Ore is delivered by ramp to the 40 Level crusher and hoisted to surface via Shaft #2where it is recrushed, sampled and stockpiled before being trucked to the Strathcona mill for processing under an Off-Take agreement with Xstrata. Production has been mostly confined to the 63 Level and 64 Level of the Depth Zone, with limited tonnage pulled from the East Zone. In light of the declining nickel and copper prices and challenging financial environment, FNI announced on October 19, 2008, that it placed the Lockerby Mine on care and maintenance.

Recent Lockerby Mine production from 2001 to 2007 is summarized in Table 6-1.

TABLE 6-1 RECENT LOCKERBY MINE PRODUCTION HISTORY First Nickel Inc. - Lockerby Mine, Sudbury, Ontario

Year	Tonnes ('000s)	Ni Grade (%)	Cu Grade (%)
2001	156	1.99	1.10
2002	258	2.10	1.25
2003	214	1.88	1.22
2004 <sup>1</sup>	186	1.91	0.92
2005 <sup>2</sup>	5.7	2.58	1.32
2006	98	1.51	0.88
2007	124	1.57	0.92
Total	1,042	1.91%	1.10%

Notes:

- 1. September suspension
- 2. December restart

The Conwest deposit was discovered in late 1960 by Conwest on the north half of the West Graham property. Conwest diamond drilled six WG series holes (1,598.13 m) in 1960-1961, and 21 holes (4,849.06 m) in 1969 and estimated a mineral inventory at 4.3 million tons (3.9 million tonnes) averaging 0.52% Ni and 0.33% Cu. This historic estimate predates the implementation of NI 43-101 reporting regulations and Scott

Wilson RPA considers it to be non-compliant with CIM/NI 43-101 standards and guidelines.

In 1987-1988, Falconbridge carried out a regional Aerodat very low frequency electromagnetic (VLF-EM) and magnetometer airborne geophysical survey covering the property and geologic mapping for major structural features and surface mineralization on the property. This work was followed up in 1989 with six GRA series diamond drill holes totalling 7,403.03 m and downhole pulse electromagnetic (PEM) geophysical surveys. Of these holes, five were drilled in the Conwest deposit.

Landore acquired the West Graham property in a reverse takeover of Brancote Canada Ltd. in 2001 but did not undertake significant exploration. FNI commenced exploration in 2005 after signing the earn-in agreement with Landore in August 2005.

# 7 GEOLOGICAL SETTING

### REGIONAL GEOLOGY

The West Graham property is situated in the southwest area of the Sudbury Igneous Complex (SIC) South Range. The SIC straddles the boundary between the Archean-aged Superior Geologic Province to the north and west, and the Southern Province of early Proterozoic age (Huronian) to the south and east. The Grenville Front, the northern margin of the Grenville Province, lies about 10 km to the southeast of the SIC.

Superior Province rocks consist of granitic intrusives and gneisses and minor volcanic rocks of the Levack Gneiss Complex that have been dated at 2,700 Ma. These were deformed and metamorphosed at 2,640 Ma and subsequently intruded by northwest trending Matachewan dikes. The Southern Province metavolcanic and metasedimentary formations were deposited between 2,490 Ma and 2,200 Ma and extensively intruded by sills and dikes of Nipissing Diabase circa 2,200 Ma.

# LOCAL GEOLOGY

The SIC is an elliptical, layered intrusive body forming the walls of the Sudbury Basin that is 60 km long and 28 km wide (Figure 7-1). The SIC itself is 2.5 km to 3 km thick at surface. SIC igneous rocks dip about 35° to 45° towards the centre of the basin on the north side and up to vertical on the south. SIC rocks dip subvertically in the Graham Township area. The West Graham property itself straddles the SIC-basement contact east adjacent to the Lockerby Mine (Figure 7-2).

FIGURE 7-1 GEOLOGY OF THE SUDBURY BASIN

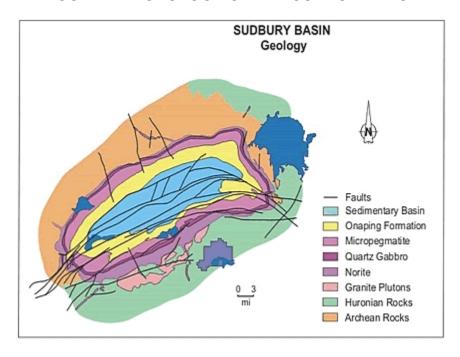
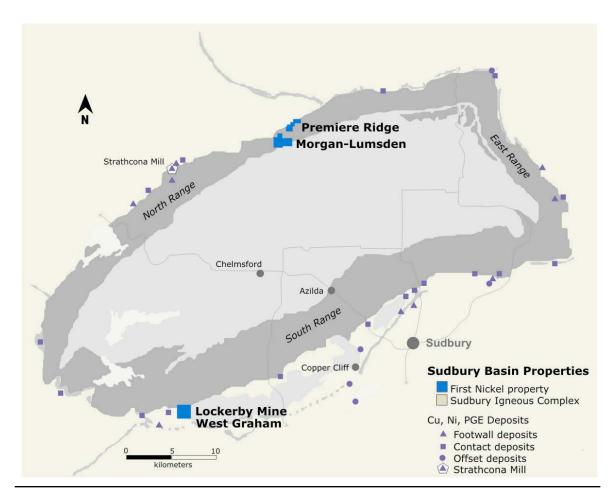


FIGURE 7-2 LOCATION OF FNI PROPERTIES IN THE SUDBURY BASIN



Geologic relationships and age dating indicate an emplacement age of 1,850 Ma, subsequent to a meteor impact that caused extensive brecciation and associated contact metamorphism of the SIC footwall rocks. The original structure exceeded 150 km in diameter. Later tectonic compression, faulting and thrusting at the margins, and deep erosion have modified the structure to its present shape. More extensive thrusting in the South Range has exposed deeper portions of the SIC compared to the North and East ranges and is reflected in differences in the lithologies, mineralogies, and ore deposit metal contents.

The three main geologic components related to the meteor impact are the SIC emplacement, deposition of the Whitewater sedimentary rocks occupying the centre of the Sudbury Basin, and the Sudbury Breccia.

The SIC itself is composed of an igneous suite of coarse-grained felsic norites succeeded upwards into the basin by a transition layer of quartz gabbro, and granophyric micropegmatites.

The Whitewater Group consists of synformal, Aphebian age epiclastic and sedimentary rocks comprising the Onaping Breccia and Onwatin Slate topped by the Chelmsford Sandstone in the centre of the basin. The Whitewater Group was deposited after emplacement of the SIC with the tuffs related to volcanic activity, followed by erosion of the SIC and sedimentation within the basin.

The Sudbury Breccias occur as dikes, stringers, and irregular bodies of pseudotachylite that is commonly developed between contacts of contrasting rock types within the footwall of the SIC. The breccias have an aphanitic matrix bearing xenoliths of local rocks, with matrix colour progressively lighter grey and bleached as the footwall is approached.

# **PROPERTY GEOLOGY**

The northern portion of the West Graham property straddles the contact of the lower norite unit of the SIC and the Creighton Pluton. The contact dips at 45° to 50° to the north. A discontinuous sublayer norite is exposed on the western portion of the property at the SIC contact. The sublayer unit, identified by diamond drilling, occurs above the basal contact of the SIC and is unusual in terms of both its stratigraphic location and composition. This sublayer unit contains fragments of granite and norite.

The southern portion of the property is underlain by the Creighton Pluton which consists of fine-grained, porphyritic quartz monzonite. Large gabbroic xenoliths and crosscutting zones of Sudbury Breccia are common. Sudbury Breccia occurs as numerous dyke-like and irregular bodies within the granite pluton. Breccia zones vary from a few centimetres to several tens of metres in width. The Sudbury Breccia on the property is composed of a dark grey granite matrix containing fragments of granite, gabbro, amphibolite, quartz, and rarely ultramafic rocks. Some of the Sudbury Breccia contains zones of biotite, chlorite and carbonate alteration.

Quartz diabase dikes varying in width between one and three metres cut all SIC and basement rocks. The dikes appear to be fault-related and trend in two directions across the property. The youngest rocks on the property, olivine diabase dikes of the Sudbury Dike Swarm, are up to 20 m wide and have extensive strike length.

Disseminated pyrrhotite, pentlandite and chalcopyrite mineralization is exposed in outcrop and has been intersected in drill holes in the norite above the sublayer norite and the SIC contact. Drilling has confirmed the presence of both contact and hanging wall hosted nickel-copper sulphide mineralization between 45 m and 475 m vertical depth. The Conwest Zone is located 1.5 km east of the Lockerby Mine Depth Zone and approximately 500 m up dip from the East Zone. The Conwest Zone is undeveloped, whereas the East Zone down dip was developed and mined by Falconbridge above the mine grid system 2,900 m RL (1,055 m depth) on five sublevels to the 30 Level overcut. The East Zone mineralization is controlled by a nose structure of norite/sublayer in the

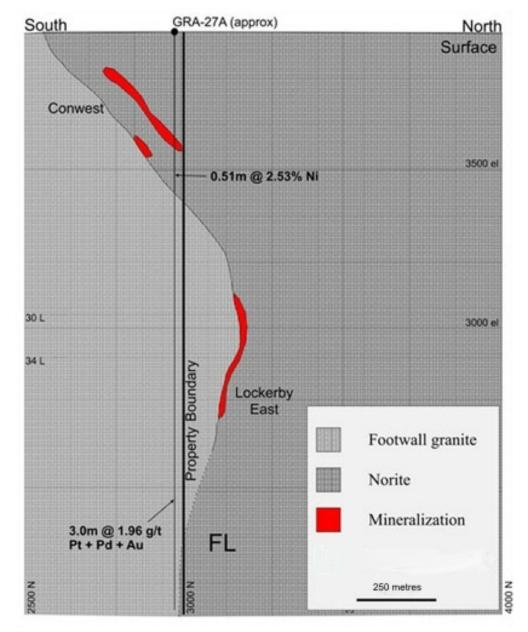
footwall that plunges from west to east at 40°. The Conwest Zone is at the top of the nose structure where the dip begins to steepen and reverse to the south. The Conwest Zone dips an average of 53° north, "pant legs" down dip and to the east, and then occurs in parallel sheets of nickel-copper mineralization on its east side.

**FNI LOCKERBY** Lockerby East Resource FNI LOCKERBY **XSTRATA VALE-INCO FNI LOCKERBY VALE-INCO** LANDORE RESOURCE Footyall Contact FIRST NICKEL **Felsic Norite** Norite/Sublayer Norite Lockerby Main **Felsic Norite** Conwest Zone Lockerby Depth Footwall Ganite (Creighton Pluton) Sublayer Norite VALE-INCO Footwall Basalt Ellen Pit Crean Hill Mine **FNI LOCKERBY** kilometres VALE-INCO

FIGURE 7-3 LOCAL AND PROPERTY GEOLOGY WITH LOCATION OF DEPOSITS

Modified from FNI

FIGURE 7-4 GEOLOGIC CROSS SECTION OF SIC-BASEMENT CONTACT AND LOCATION OF LOCKERBY EAST ZONE AND CONWEST ZONE



Source: FNI

Note that elevations are in Lockerby Mine grid system.

# **8 DEPOSIT TYPES**

Three main types of Ni-Cu±PGE deposits are recognized in the SIC:

- 1. Contact-type massive to disseminated sulphides occur in the SIC noritic sublayer. Mineralization is composed of pyrrhotite, pentlandite, chalcopyrite, pyrite, and magnetite. Bornite and millerite may occur in higher grade zones and arsenides are more common in the South Range.
- 2. Copper and PGE-rich footwall veins and stockworks are hosted by Sudbury Breccia within the SIC footwall gneisses or greenstones, often in the shadow of contact-type deposits. Chalcopyrite and cubanite predominate, with lesser pentlandite, magnetite, and pyrrhotite.
- 3. Offset quartz-norite dikes radiate from, or subparallel, the margin of the SIC and may host either lenticular zones of sulphide blebs or sulphide skins on Sudbury Breccia fragments on the margin of the dikes.

Most of Sudbury production has come from contact deposits in the sublayer rocks. The resources on the West Graham property have been estimated for the Conwest Zone contact-type deposit.

# 9 MINERALIZATION

The Conwest Zone is located on the northwest portion of the West Graham property. The contact style mineralization, as traced by drilling, forms a continuous body striking east-west and dipping 53° north. The Conwest Zone extends from 40 m below surface to a depth of approximately 475 m. As modelled at 0.3% nickel equivalent (NiEq), the zone ranges from 1.7 m to 66 m thick and strikes for 375 m with a dip extent of up to 533 m. At depth the Conwest Zone is interpreted to be contiguous with the Lockerby Mine East Zone. Drilling has tested the Conwest Zone to the west boundary of the West Graham property where the zone continues onto the Corridor Claim held by Vale Inco.

The Conwest Zone is composed of disseminated, blebby, stringer and semi-massive sulphide zones hosted entirely within the norite unit some 30 m to 100 m above the SIC-basement contact. The nickel mineralization is generally low grade, however, higher grade zones in excess of 1% Ni have been intersected within the broader envelope of disseminated sulphides.

Pyrrhotite, chalcopyrite, and pentlandite are the dominant sulphides within the zone. The nickel content of sulphides is 8% to 10% and is high for the Sudbury camp, reflecting the relatively pentlandite-rich nature of the sulphides. Within the resource wireframe contoured at 0.3% NiEq, the nickel in sulphide averages 8.25%.

In addition to the norite, sulphide mineralization has been observed in the sublayer norite, the footwall contact of the SIC and in the granitic basement. Finely disseminated, and joint fillings of, chalcopyrite, accompanied by platinum, palladium and gold mineralization, have been intersected over narrow widths at some distance into the footwall granites. The best values assayed in the Falconbridge drilling occurred between 20 m and 60 m below the SIC-basement contact.

# **10 EXPLORATION**

After executing a letter of intent for the earn-in option in August 2005, FNI completed 14.8 line kilometres of magnetometer surveys and 11.8 line kilometres of deep penetrating, gradient induced polarization surveying. Nine diamond drill holes totalling 2,564 m filled-in and traced mineralization in the Conwest Zone north and down dip towards the Lockerby East Zone.

In 2006, FNI drilling expanded the Conwest Zone and tested the SIC contact to the east and down plunge by diamond drilling 21 holes for 9,711 m. Selected FNI holes were surveyed downhole by UTEM (large loop time domain electromagnetic survey) and PEM (pulse electromagnetic) geophysical methods.

FNI completed 21 holes totalling 5,190 m of fill-in drilling on the Conwest Zone in 2007 and an additional 11 holes totalling 4,772.5 m in 2008. The drill hole spacing, at approximately 25 m sections and 30 m to 50 m zone intercepts along dip, has been designed to provide the drilling density acceptable for resource estimation under CIM definitions. FNI plans to undertake a metallurgical study of the Conwest deposit concurrently with the resource estimate being carried out in this report (FNI, 2008).

All diamond drilling on the property to date has been from surface.

## 11 DRILLING

The drill hole database contains 94 diamond drill holes totalling 36,897.78 m of which 66% of the holes by length are subvertical. All holes were drilled from surface. Recent FNI drilling accounts for 66% of the holes and 62% by length. Figure 11-1 shows the location of drill holes.

					Vertical		Inclined -43° to -83°	
Series	Dates	Holes	Length (m)	Core /mm	Holes	Length (m)	Holes	Length (m)
WG	1960-1961	27	6,447.25	AX/30.2	25	6,270.17	2	177.08
GRA	1989	5	7,403.03	BQ/36.5	5	7,403.03	-	-
FNI	2005-2008	62	23,047.50	NQ/47.6	32	10,735.42	30	12,312.08
Total		94	36,897.78	-	62	24,408.62	32	12,489.16

Most holes cut the zone at acute angles resulting in core lengths longer than the true width of the zone.

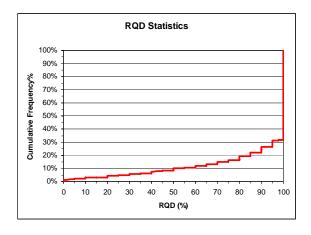
FNI surveyed the collars of all its FNI series holes and resurveyed all available collars from Conwest and Falconbridge drilling. Collar surveys were carried out by an Ontario Land Surveyor under contract using GPS instrumentation accurate to <10 cm. Coordinates are in UTM based on the North American Datum 1927, i.e., NAD 27 (Zone 17).

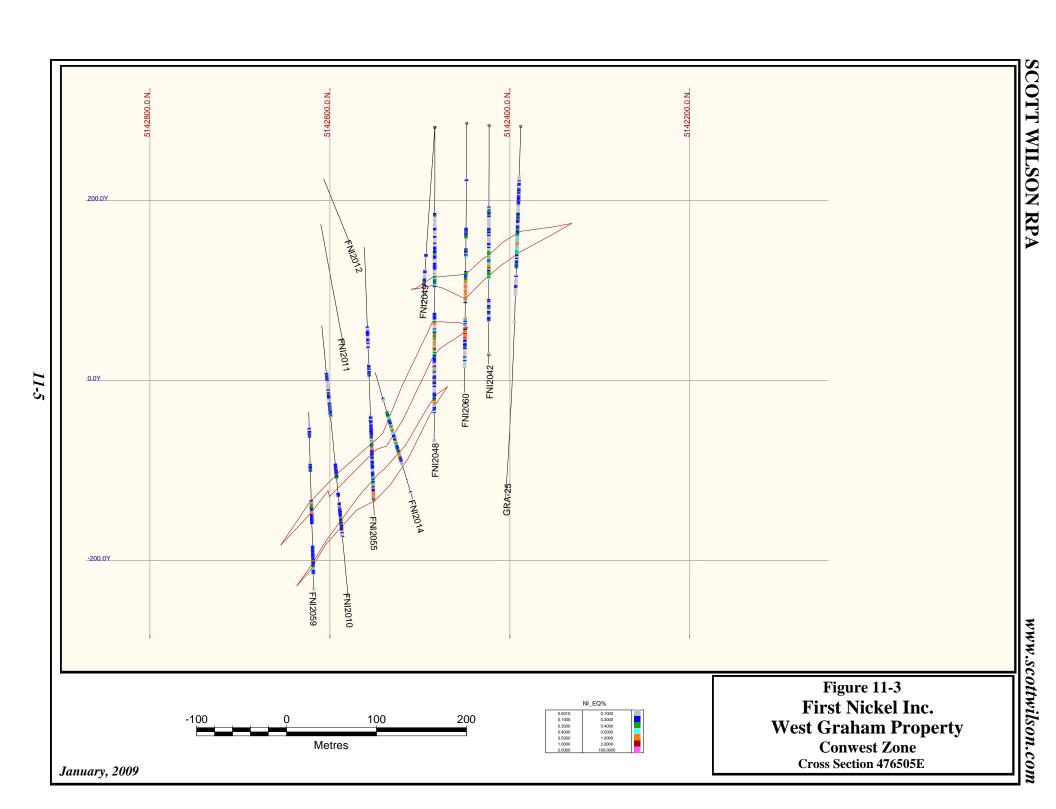
FNI and GRA series holes were surveyed downhole for azimuth and dip with the first reading appearing to be below the casing. Falconbridge holes were surveyed using gyro instrumentation. The FNI series drill holes were surveyed in part using a Reflex Instruments EZ-Shot (single shot) unit and in part by multi-shot surveying with a north seeking gyro unit. Some tests were done using a FlexIt magnetic based instrument similar to the EZ-Shot. The Reflex EZ-Shot and FlexIt instruments are suitable for inclined and horizontal holes but may be affected by magnetic fields.

FNI Series	Reading Interval (m)	No. of Holes
2010-2017, 2019-2022, 2024, 2026, 2031, 2052, 2055, 2057-2059	10	20
2001, 2004-2009	30	7
2018, 2023, 2025, 2027-2030, 2032-2041	50	17
2002 & 2003	60	2
2042-2051, 2053-2054, 2056, 2060-2062	100	16

Of the 27 Conwest WG series holes, 14 (52%) have no downhole surveys. Ten holes have readings for collar and toe only, and of these, two holes appear to have had azimuth surveyed as well as dip. Three holes have downhole survey readings taken at intervals of 50 ft. or 100 ft., with two at 200 ft. (15 m or 30 m; up to 61 m), however, the azimuth is the same for all readings indicating that only dip tests were taken. The Conwest holes that were surveyed downhole were likely acid dip tests, or Tropari where azimuth is recorded. Despite the average hole length of 239 m that is less than the averages for the FNI series (372 m) and the Falconbridge deep holes (1,481 m), the confidence in toe locations for the Conwest holes is not as good as for the other well surveyed holes owing to lack of high level downhole surveying and the smaller hole diameter (AQ) that is subject to more deviation.

Geotechnical data available for the FNI series holes, including rock quality designation (RQD) measurement, fracture/breaks density and disking recording, indicates that core recovery and rock quality is generally very good (70% at 100% RQD) and there is thus only small potential for problems with sample representativity for assaying. Scott Wilson RPA's visual inspection of the core confirmed generally excellent core recovery in mineralization.





# 12 SAMPLING METHOD AND APPROACH

The resources for the Conwest Zone are based on surface diamond drilling and core sample assays.

During the FNI drilling program, drill core was collected once daily from the drill rigs and securely transported by the mine personnel to a core logging facility located at surface on the Lockerby Mine site. Geotechnical measurements (RQD, core recovery, fracture densities), rock types with descriptions, structure, sulphide mineralization percentages, and visual grade estimates were logged directly into the digital computer database in a conventional manner according to industry standard practices. Core is routinely photographed by digital camera and images kept on file for reference as checks against assays and visual grade estimates.

All drill core with significant sulphide mineralization (>1%) was sampled over intervals ranging from 0.02 m to 46.7 m depending on the intensity of sulphides and geological characteristics. The long sample length (46.7 m) from a Falconbridge hole was likely an overall interval of grab sampling. Ninety-eight percent of the sampling was ≤3.05 m (10 ft.). No drill core recovery or sampling factors were present which could materially impact on the accuracy or reliability of core assaying.

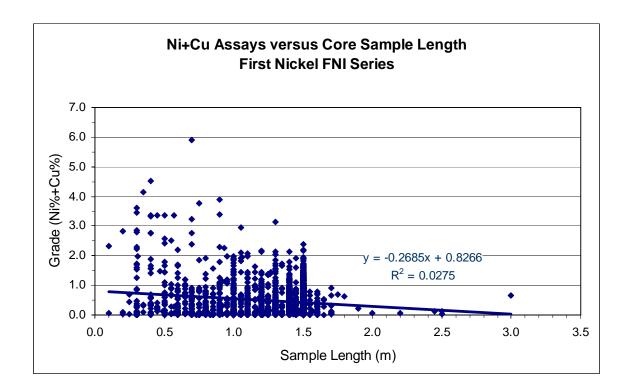
Core that was sampled by FNI was outlined by geology/mineralization, rock type and visual grade estimates, so sample lengths were all standardized, although 66% of the FNI samples were taken on 1.5 m lengths. Falconbridge standardized its sampling since approximately 60% of its core samples are at 1.5 m lengths. Conwest sample lengths are 23% at 5 ft. (1.52 m) and 50% at 10 ft. (3.05 m). In general, there is little to no nickel grade relationship with sample length, i.e., sample lengths are relatively grade independent as shown in the graphs below.

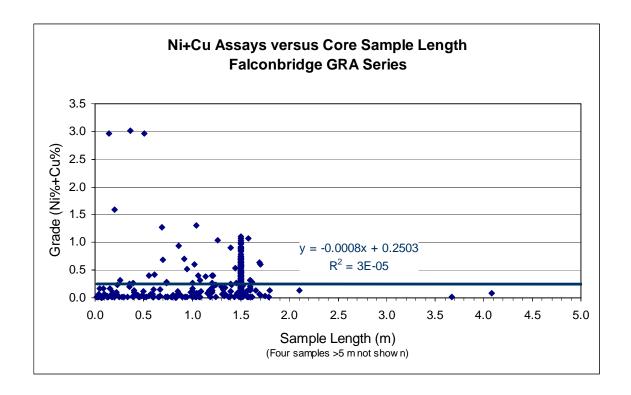
Mineralized core was diamond sawed in half, with one half bagged for assay and the other half returned to the core box for archive at the Lockerby Mine Core Storage Facility. Unsampled core above the mineralized zone was discarded in the Lockerby

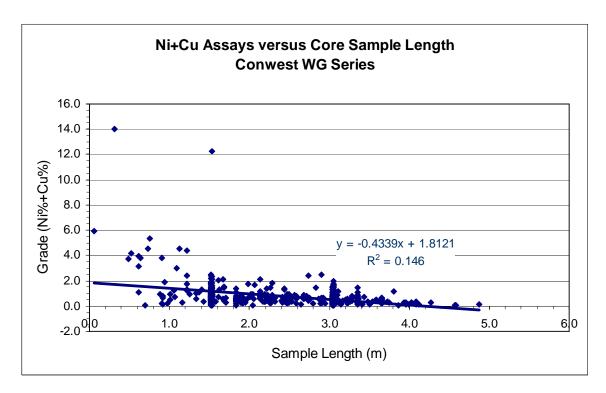
Mine waste dump unless some technical reason dictated that it be stored for future reference.

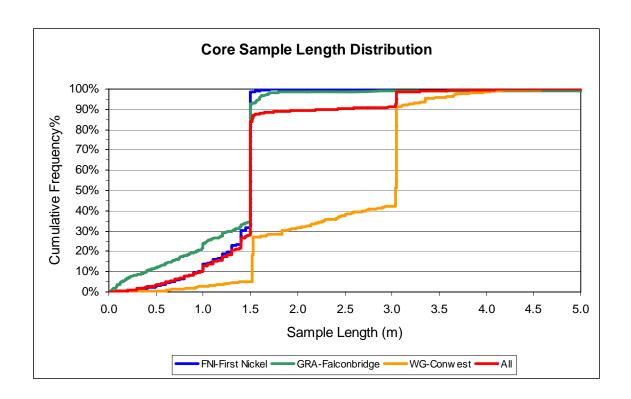
The FNI diamond drilling programs were carried out under the supervision of FNI's Sudbury Geology Manager, Phil Vicker, M.Sc., P.Geo., and Senior Geologist, Scot Halladay, B.Sc., P. Geo., "qualified persons" as defined by NI 43-101.

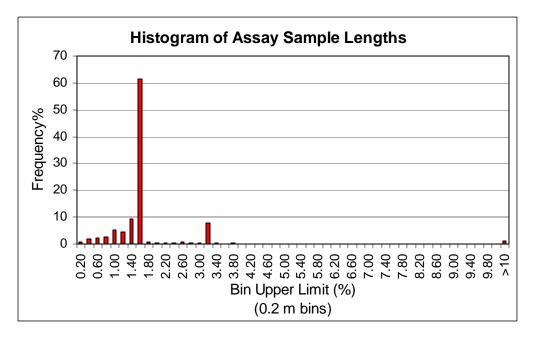
Scott Wilson RPA notes that FNI core sample numbers include the drill hole identity which facilitates data management. This is not optimal in terms of security where analyses are carried out at commercial laboratories and Scott Wilson RPA recommends the use of an alphanumeric or numeric system independent of drill hole identifiers.











# 13 SAMPLE PREPARATION, ANALYSES AND SECURITY

Between August 2005 and March 2007, sample preparation and analyses for drill holes FNI2001 to FNI2030 inclusive were as follows: core samples were sent for assay at the SGS Mineral Services (SGS) preparation facility in Garson, Ontario, where they were dried, crushed to 75% passing 2 mm (10 mesh), riffle split to 250 g, and pulverized to 85% passing 75 microns (200 mesh). The specific gravity of prepared sample pulps was determined by pycnometer. One extra selected pulp per drill hole batch was retained for future testing at a second independent laboratory. SGS sent the pulps to Toronto (SGS XRAL) for analysis of nickel, copper, cobalt (sodium peroxide fusion with inductively coupled plasma - optical emission spectroscopy (ICP-OES) finish), gold, platinum, palladium (fire assay-lead collection with ICP-OES finish), sulphur (Leco furnace), and silver (aqua regia digestion, atomic absorption spectroscopy, AAS).

SGS Lakefield Research/XRAL						
Element	Detection Limit					
Ni	5 ppm					
Cu	5 ppm					
Co	0.5 ppm					
Au	1 ppb					
Ag	1 ppm					
Pt	1 ppb					
Pd	1 ppb					

From March 2007 forward, FNI procedures were as follows: split diamond-sawed core samples from drill holes FNI2031 to FNI2062 inclusive were sent for initial preparation to Accurassay Laboratories (Accurassay), a commercial laboratory in Lively, Ontario. The FNI core was dry crushed to 90% passing 8 mesh (2.38 mm) and split in a multi-gate Jones Riffler until a 200 g to 400 g sample split was produced. Riffler rejects were bagged and returned to FNI. The 200 g to 400 g sample was bagged and shipped via Manitoulin Transport to Accurassay in Thunder Bay, Ontario.

At Lively, the crusher was tested and calibrated to 90% passing 8 mesh daily. The crusher was cleaned with compressed air after every sample, and the crushing area and crusher were cleaned and "wiped down" after each job. If there was visual evidence of contamination after a given sample, the crusher was wiped down immediately.

In the Accurassay Thunder Bay laboratory, the sample split is pulverized to 90% passing 150 mesh (106 µm) using a ring and puck pulverizer. A silica-clean of the pulverizer is performed between each sample to prevent cross-contamination. Pulps were homogenized and further split to prepare pulp duplicates for the various analytical methods. One extra pulp per drill hole batch is retained for further testing at a second independent laboratory. Specific gravity measurements are done by pycnometer on sample pulps.

Samples were analyzed at the Accurassay laboratory for nickel, copper and cobalt using sodium peroxide fusion with an ICP-AES finish; for gold, platinum and palladium by fire assay collection with an AAS finish; and for silver by aqua regia digestion and AAS finish. Specific gravity measurements are performed on pulps by pycnometer at the Accurassay laboratory.

Accurassay ships sample pulps for sulphur analysis to International Plasma Laboratories in Vancouver via Priority Post (Canada Post), where they are analyzed by LECO furnace.

Detection limits for the Accurassay are:

Element	Detection Limit
Ni	0.005%
Cu	0.005%
Co	0.002%
Au	5 ppb
Ag	1 ppm
Pt	15 ppb
Pd	10 ppb

In Scott Wilson RPA's opinion, the FNI sampling and assaying is industry standard and adequate for Mineral Resource and Mineral Reserve estimation.

The Falconbridge sampling was likely carried out at SGS Lakefield Research Limited (SGS Lakefield) using methods similar to those used by FNI at the SGS XRAL laboratory. The preferred method of SGS Lakefield in the past for Ni, Cu and Co has been sodium peroxide fusion with ICP finish.

Little information is available regarding the Conwest assaying for nickel and copper. Cobalt, platinum, palladium, gold, sliver and sulphur were not assayed.

# 14 DATA VERIFICATION

Scott Wilson RPA did not carry out any independent sampling and assaying to verify the project sampling and assaying. Core from the Conwest drilling was stored in outdoor wood racks which have partially collapsed and location of specific samples for resampling could not be reliably done. Scott Wilson RPA examined core for two FNI drill holes to compare and confirm FNI assayed grades with Scott Wilson RPA's visual estimates from split core.

## **DATABASE**

Scott Wilson RPA ran verification routines on the FNI data after importing the files to Gemcom Systems International Limited GEMS v.6.14 software. GEMS has stringent verification routines that are not found in other mining software. First pass after loading the FNI CSV data files, hole GRA-27 was found to have one zero length interval at 953.10 m, an artefact of FNI's practice of using the last 0.10 m of the hole to record the end of the hole (EOH). No other discrepancies, such as from-to errors and out of sequence or overlapping assays or lithologic units were found.

Scott Wilson RPA obtained the hard copy assay/analysis certificates for the FNI drilling and checked assay results for 22% of the drill holes against assay entries in the drill hole database. In the initial check, Scott Wilson RPA found 11 nickel and copper entries that were transposed compared to the drill hole logs for hole WG-5. All WG series holes were subsequently reviewed since the likelihood of errors is higher, with respect to modern digital transfer, because of manual transcription from the 1960s logs. Three additional errors for copper values were found and corrected in holes WG-1, 8 and 12. These errors were corrected in the resource database.

For some Accurassay values below detection limit (BDL), FNI has entered the value as the detection limit x 0.1 versus the conventional approach of multiplying by 0.5. Scott Wilson RPA notes that the BDL entries appear to be applied inconsistently, particularly for silver. Three silver entries for FNI series holes were found to be 0.01 g/t higher in the

database versus the certificate, likely from a reassay. None of these disparities has a material effect on resource estimation.

## **DRILL HOLE SURVEYS**

Scott Wilson RPA's field checks on the collars of four holes, including one Falconbridge and one Conwest hole, were all within five metres of the collars recorded in the resource database, well within the limits of accuracy of the hand-held GPS instrument used.

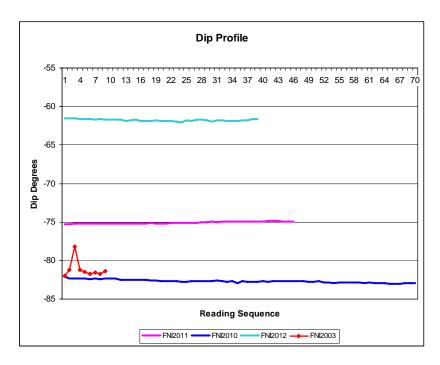
In the downhole survey file, the initial readings for the collar for 45 FNI and five GRA series holes are missing and, for the purpose of import to GEMS software for review, missing zero distance downhole entries were substituted by data from the FNI collar file that also includes collar location and hole length. Downhole magnetic field based instrumentation does not survey within the drill hole casing. Scott Wilson RPA notes that there are discrepancies of up to 6° in azimuth between the gyro downhole survey records for the collar and the collar file entries, and questions whether the collar records are as-planned or as-built. In the former case, some of the 50 holes lacking the surface downhole entry in the survey file and using the as-planned entry may have inaccurate spatial representation in 3D space.

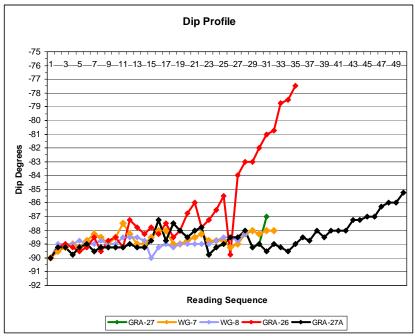
Two GRA series vertical holes contain blank azimuths and these were reset to 360°.

FNI2033 and FNI2034 have duplicate downhole distances with different azimuths and dips posted. This resulted from the non-removal of the initial uncorrected magnetic reading (10°W) in the database. Since the holes are near vertical, the hole trace in 3D is virtually unaffected, with no impact on modelling.

Scott Wilson RPA briefly examined downhole surveys for excessive deviation indicating possible spurious readings/database entries, and for overall drilling quality. Scott Wilson RPA notes that the FNI series has less deviation and better quality surveying and/or drilling compared to the older holes. This is in part due to larger drill

tooling. Hole FNI2023 appears to have a spurious reading at 20 m depth. For the older Falconbridge holes surveyed at larger intervals, there is higher deviation and holes GRA-27, GRA-27A and GRA-26 appear to have spurious readings that should be addressed. Hole GRA 26 shows some extreme readings, and flattening in the lower portion of the hole. It should be reviewed and resurveyed if possible.





## QUALITY ASSURANCE/QUALITY CONTROL

FNI follows rigorous quality assurance/quality control (QA/QC) protocols which include the insertion of standards and blanks for each drill hole batch of core samples. One pulp duplicate sample is taken from each batch and analyzed at a second commercial laboratory (SGS, Toronto).

FNI analytical work prior to March 2007 was completed at SGS, with the pulp duplicates being analyzed at ALS Chemex. Historic analytical work by Falconbridge was completed by SGS Lakefield. All are independent, commercial certified mineral laboratories.

Each drill hole sample lot has a blank sample and certified nickel reference standard submitted to the laboratories (SGS and Accurassay) by FNI at a frequency of at least one blank or standard per 25 samples. Drill holes with less than 25 samples had one standard submitted. Ten reference standards have been used from Geostats Pty Ltd. of Perth, Western Australia. Of these, two are less than 1% Ni with the others ranging up to 4.58% Ni.

Standards and blanks are checked by FNI personnel upon receipt from the lab to assure the quality of assaying is maintained. In the case of the failure of the reference standard or blank to analyze in the acceptable error field, the sample batch was reanalyzed from the pulps stored at the laboratory. Importation of the failed batch into the FNI Fusion database is prohibited by the software.

Assay values are compared to expected results from visual estimates recorded in drill logs. In the event the assay values are not in reasonable agreement with the visual estimates, the core or core photographs are re-examined to confirm or revise the sulphide visual estimate. Where the sulphide visual estimate is considered reasonable, the samples are reanalyzed either from the pulps or rejects, or from resampled (quartered) core.

Correlation between elements (e.g., Ni and S) is also examined to determine data quality. Where the data does not correlate as expected, the samples are reanalyzed, either from the pulps or rejects, or from resampled (quartered) core, if necessary.

The extra pulps requested with the original analyses were sent for check analysis at other independent, commercial mineral laboratories

Drill Hole Campaign	Check Analysis Laboratory
2005-2006	ALS Chemex
2006-2007	Accurassay
2007-2008	SGS XRAL

Assay results are received digitally and integrated into the Fusion drill hole database in order to eliminate data transfer errors, and are also received by hard copy certificate for filing.

Scott Wilson RPA examined the analyses for FNI's reference standards and control blank samples. For Ni grades above 2%, the reference standard analyses tended to be slightly low for three standards and accurate for one standard (Figure 14-1). For the 1.1% to 1.2% Ni standards, the analyses were at the standard mean value or slightly above with one standard at the borderline of acceptability (mean  $\pm$  3  $\delta$ ). The low grade standards in the 0.3% to 0.4% Ni range, returned acceptable results. Overall, the reference standards were within acceptable limits.

Blank sample grades were plotted in sequence with respect to acceptability thresholds of 3 x detection limits (Figure 14-2). The plots show some noise above the threshold for Ni and Cu but not at levels that impact on the assaying. Similarly, for Pt, Au and Ag there is some noise, with one Pt value above threshold. Scott Wilson RPA notes that if silver and the other precious metals were payable, alternative analytical methods would be necessary to achieve lower detection limits consistent with the low levels of the precious metals in the zone.

Scott Wilson RPA compiled and examined the precision for Ni and Cu pulp duplicates from Accurassay's internal QA/QC as exported from the FNI Fusion database and cross-reference to original assays (Figure 14-3). Linear correlation coefficients (R<sup>2</sup>) for Ni and Cu are acceptable at >98%. Relative difference plots show some noise, with most assays falling within the 5% envelope, particularly for assays above detection and within resource grades.

Envelope	±5%	±10%
Ni	84%	94%
Cu	88%	96%

Ni shows a slight bias for the original to be slightly lower than the duplicate. The pooled relative standard deviation (PRSD) for the original-duplicate pairs is 10% for Ni and 8% for Cu. PRSD for base metal analyses on pulp replicates is generally expected to be  $\leq$ 5%, but 10% is within the limits of acceptability.

Scott Wilson RPA briefly reviewed results of check assaying, of 49 pulp replicates from FNI samples, done by similar analytical methods at alternative commercial laboratories. Results of nickel and copper were examined (Figures 14-4 and 14-5) and are considered acceptable.

#### Nickel:

- Mean grades for original and checks are comparable to <1% difference.
- 70% of the pairs are within a 10% difference.
- For grades up to 1%, the check assays are somewhat higher than the original, but are lower above 1%.
- The relative differences are mostly  $\pm 12\%$ .
- PRSD is 12%.

#### Copper:

- Mean grades for original and checks are comparable to within <3% difference.
- 80% of the assay pairs are within a 10% difference.
- For grades >0.4%, the check assays are somewhat higher than the original.
- The relative differences are acceptable and mostly  $\leq +5\%$  and  $\geq -10\%$ .
- PRSD is 11%.

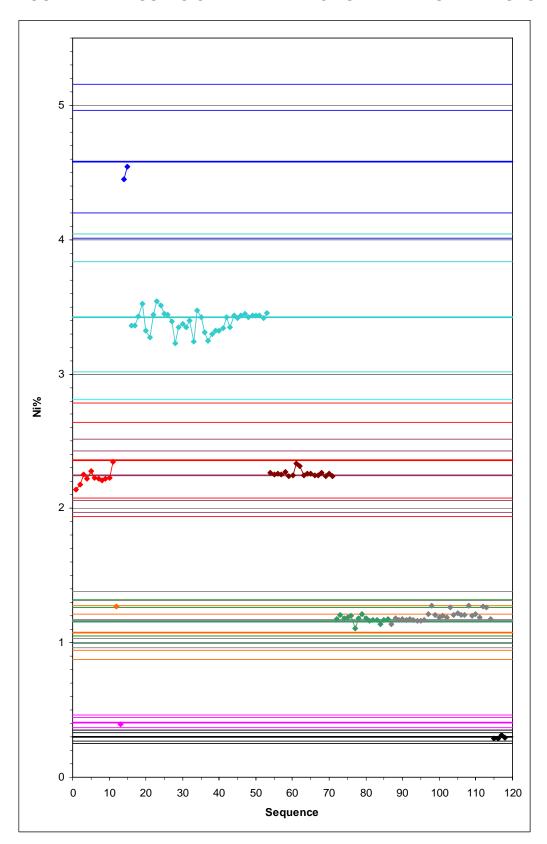
In view of the three drilling and sampling campaigns by different operators spanning some 47 years from the Conwest work, Scott Wilson RPA briefly examined grade distributions for nickel assays within the resource wireframe by means of QQ plots with respect to the FNI assays (Figure 14-6). The nickel assays were also normalized by using grade thickness to avoid differences in sampling lengths campaign to campaign. The plots indicate that the Falconbridge assaying is close to FNI's for most of the grade range up to 0.9% Ni where after Falconbridge grades are lower. The Conwest assaying appears to be somewhat higher as indicated by a higher mean nickel grade.

Assaying	Count	Ni%
FNI	1,548	0.42
Falconbridge	67	0.38
Conwest	1,395	0.48

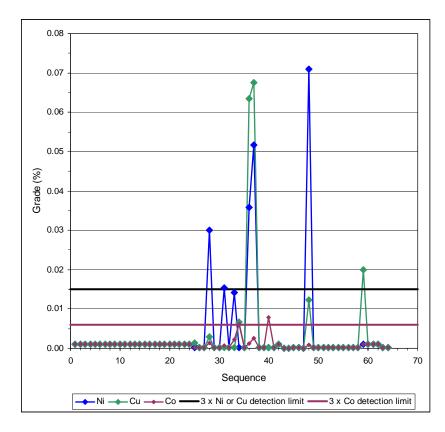
Examination of grade distribution indicates that the higher grades (≥1% Ni) for the Conwest holes clustered around the 200 m elevation at the top of the zone and are proportionately more than in the nearest FNI holes (Figure 14-7). Further examination shows the higher grades are mostly from three holes and these holes are on one section and in sequence WG-25 to 27, possibly indicating a batch assaying problem occurred. Scott Wilson RPA recommends twinning one or more of these Conwest holes to confirm the higher grades in this area of the deposit.

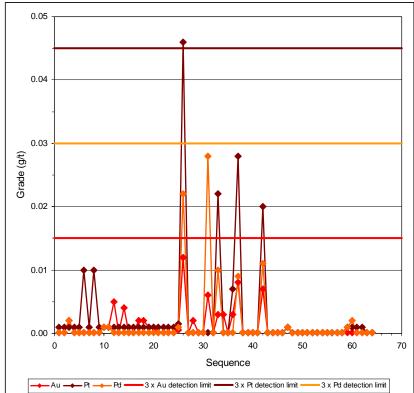
Other than the possibility of a problem in assaying for the three Conwest holes as described above, in Scott Wilson RPA's opinion, the sampling and assaying for the Conwest Zone are acceptable for resource and reserve estimation.

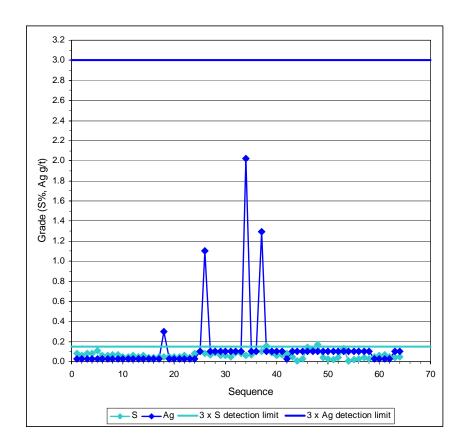
FIGURE 14-1 RESULTS OF NI REFERENCE STANDARDS ANALYSES



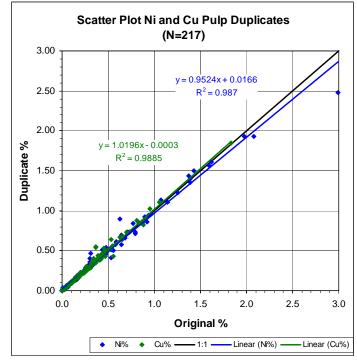
## FIGURE 14-2 RESULTS OF CONTROL BLANK SAMPLE ANALYSES

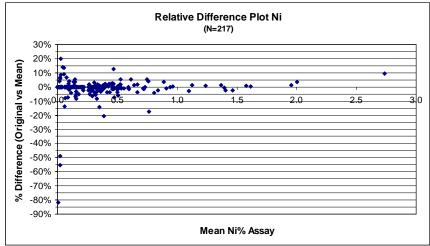






## FIGURE 14-3 DUPLICATE PULPS ANALYSES QA/QC





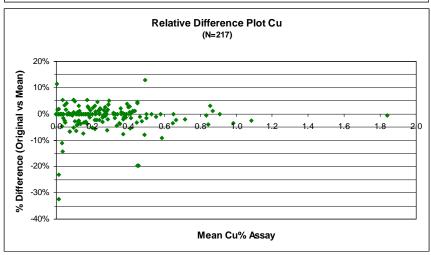
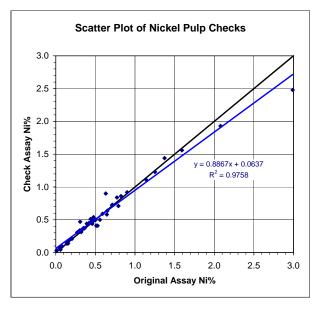
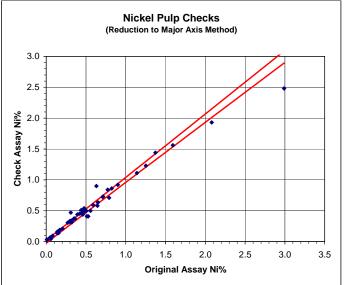
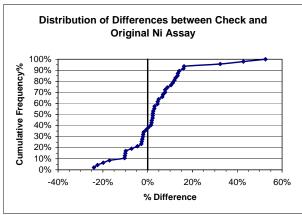
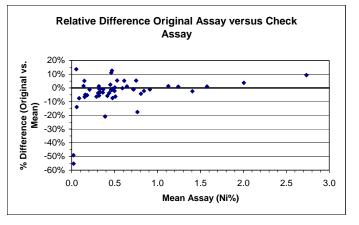


Figure 14-4 Results of Pulp Check Assaying at Alternative Commercial Laboratory: Nickel First Nickel Inc. West Graham Property, Conwest Zone, Sudbury, Ontario









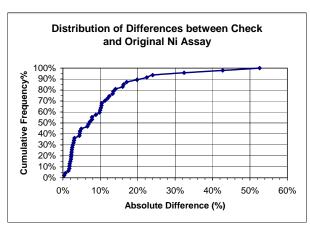
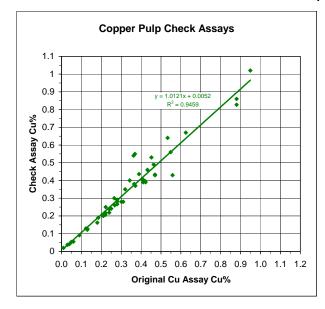
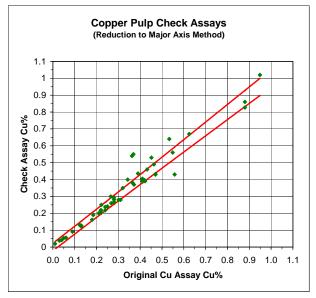
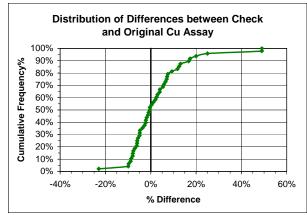
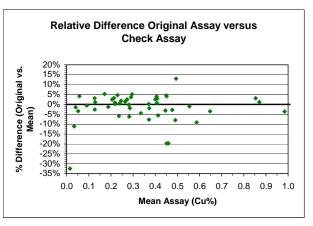


Figure 14-5 Results of Pulp Check Assaying at Alternative Commercial Laboratory: Copper First Nickel Inc. West Graham Property, Conwest Zone, Sudbury, Ontario









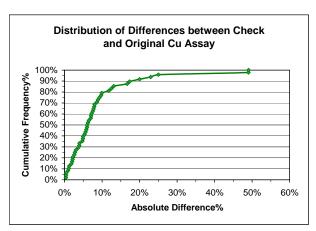
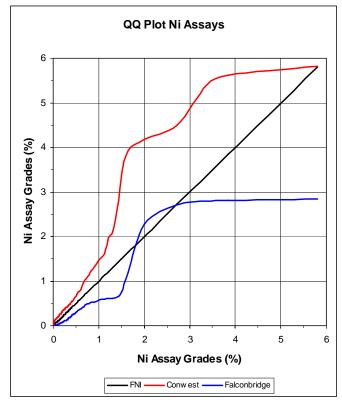
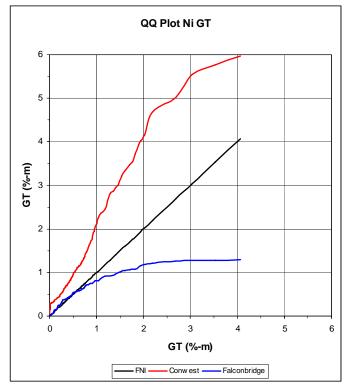
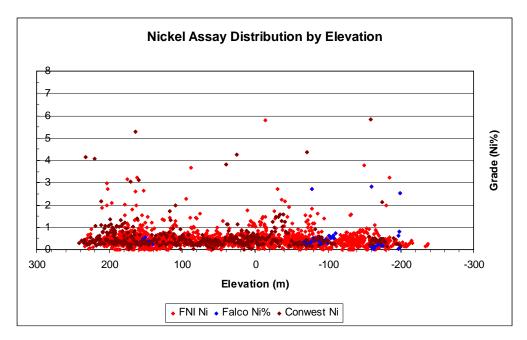


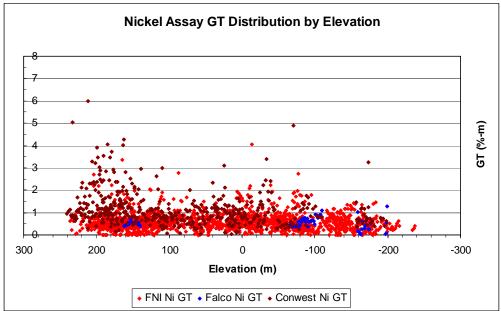
FIGURE 14-6 QQ PLOTS OF NICKEL ASSAYS WITHIN THE RESOURCE WIREFRAME





## FIGURE 14-7 NICKEL ASSAYS AND GT DISTRIBUTION BY ELEVATION





# 15 ADJACENT PROPERTIES

The FNI Lockerby Mine property is north adjacent and southwest adjacent to the West Graham property. Vale Inco holds the Corridor Claim to the west of the West Graham patents and surrounds the West Graham property on the east and south. The former Vale Inco Crean Hill Mine property adjoins the Lockerby Mine on its west boundary.

The Conwest Zone extends onto the Corridor Claim, however, there is no public information as to the existence or magnitude of any resources on the claim that may have been estimated by Vale Inco.

The Lockerby Mine has been previously described under "History" since FNI is the operator of the mine and the West Graham property. The Lockerby East Zone lies north and down plunge of the Conwest Zone. Inferred Mineral Resources in the East Zone, as of April 2007 at a cut-off grade of 1.2% NiEq, were 470,000 tonnes averaging 1.86% Ni, 0.67% Cu and 0.04% Co. The estimate of these resources is NI 43-101 compliant (Routledge, 2007). FNI has mined a small tonnage from the East Zone since 2007.

# 16 MINERAL PROCESSING AND METALLURGICAL TESTING

During the third quarter of 2008, a composite sample was prepared from drill core and submitted to SGS Lakefield for preliminary metallurgical test work consisting of sample preparation and rougher kinetic tests that will provide an estimate of the recovery characteristics for the Conwest deposit. Samples for compositing were selected so as to provide a head grade of 0.5% NiEq (NiEq= Ni%+0.32\*Cu%+0.53%\*Co%) assuming low grade bulk mining, to obtain samples of differing mineralogy and styles of mineralization, and to be spatially representative of the deposit.

Results are pending.

# 17 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

## MINERAL RESOURCES

#### SUMMARY

The resource estimate was prepared by conventional 3D computer block modelling based on surface diamond drill hole data and utilizing ordinary kriging for grade interpolation. Grade was estimated for Ni, Cu, Co, Pt, Pd, Au, Ag, S and NiEq. The estimate was constrained by geological interpretation and a wireframe model based on contouring a NiEq grade of 0.3%. NiEq factors are based on Ni, Cu and Co grades and are derived from metal accountability in the FNI-Xstrata Off-Take agreement. The factor is: NiEq% = Ni% + (0.32 x Cu%) + (0.53 x Co%). The precious metals are generally low.

The resource is estimated on the West Graham property to within 5 m of the Vale Inco Corridor Claim boundary assuming a pillar will be left allowing for independent mining on both sides of the north-south property boundary. Resources tied up in the pillar are reported independently. The resource was classified into Indicated and Inferred Mineral Resources based on drill hole/sampling density. Appropriate validation checks were performed to ensure estimate is reasonable. Table 17-1 summarizes the Mineral Resources.

TABLE 17-1 MINERAL RESOURCES
First Nickel Inc. West Graham Property, Conwest Zone, Sudbury, Ontario
(as of October 10, 2008)

Tonnes (000s)	Ni%	Cu%	Co%	Au g/t	Pt g/t	Pd g/t	Ag g/t	S%	NiEq%
				Indicated	Resource	е			
8,550	0.45	0.31	0.01	0.03	0.07	0.02	1.91	2.43	0.55
				Inferred I	Pasaurca				
0.000	0.00	0.00	0.04				0.44	0.45	0.40
2,000	0.38	0.30	0.01	0.04	0.09	0.03	2.11	2.15	0.48
Boundary Pillar									
270	0.57	0.33	0.02	0.02	0.06	0.02	1.29	3.00	0.68
Nietes.									

#### Notes:

- 1. CIM definitions were followed for Mineral Resources.
- 2. Mineral Resources are estimated within a mineralization wireframe cut-off grade of 0.3% nickel equivalent.
- 3. Nickel equivalent is derived from the FNI-Xstrata Off-Take agreement, NiEq%=Ni% + (0.32xCu%) + (0.53xCo%).
- 4. Mineral Resources are estimated using an average long-term nickel price of US\$7.00/lb and a C\$/US\$ exchange rate of \$0.90.
- 5. Resources are estimated from a depth of 45 m below surface to a depth of 557 m.

### **ESTIMATION METHODOLOGY**

A process flow chart was followed to provide a framework for the resource estimation. The estimate was undertaken using Datamine Studio Version 2.1.1518.0, using Standard Precision and creating Standard Precision files.

Drill hole data (collar coordinates, downhole surveys, assays and lithology) were exported from the FNI Fusion database in CSV (comma delimited) format and imported into Datamine. The cut-off date for the geological and analytical data was October 10, 2008.

Once imported into Datamine, various functions were used to generate basic statistics and highlight missing fields. As well, drill holes were viewed in conjunction with surface mapping to visually inspect collar locations and the trace of holes.

Drill hole segments greater than 0.30% NiEq were considered for inclusion in constructing the mineralized wireframe. The selection of 0.3% NiEq is based on

preliminary price-recovery-incremental operating cost estimates for nickel as tabulated below (Table 17-2). Mining is assumed to be bulk underground at more than 2,000 tpd.

TABLE 17-2 CONWEST ZONE CUT-OFF GRADE ESTIMATE
First Nickel Inc. West Graham Property, Conwest Zone, Sudbury, Ontario

Bulk Underground Mining Cost (\$/tonne)	35.00
Incremental Mining Cost <sup>1</sup> (\$/tonne)	21.00
Milling (\$/tonne)	15.00
G&A (\$/tonne)	3.00
Total Incremental Operating Cost (\$/tonne)	39.00
Long Term Ni Price (US\$/lb)	7.00
US Exchange Rate	0.90
Ni Recovery/Payable, %	76.0
Incremental Ni Cut-off Grade, %	0.30
Breakeven Ni Cut-off Grade, %	0.41

<sup>1 60%</sup> of mining cost

## **DATABASE**

Analytical data are not available for all fields in the historical data set; in particular for cobalt, sulphur and density. To enable a model estimate for all fields, regression formula and/or nickel tenor (0 < NiSd < 36.0) was derived from holes with analytical data. Percent availability of analytical data is shown below.

### **Analytical Data Availability**

No. of Drill Holes	Ni	Cu	Co	Ag	S	SG
76	99.85%	99.95%	77.65%	77.70%	77.56%	73.91%
Formula for missing	ng analytical	data:				
CO = (0.0264*Ni+	0.0021);	F	$R^2 = 0.8455$ ;		n = 1	,638
S = (100*NI+2.59*	n = 1	,629				
Bulk Density = $(0.0351*S+2.8597)$ ; $R^2 = 0.5619$ ;					n = 1	,561

During the construction of the mineralized zone, one diamond drill hole (GRA27A) was removed due to absence of samples.

Total number of available drill holes	=	94
Holes intersecting mineralized wireframe	=	76
Number of samples captured by wireframe	=	2,105

## **GEOLOGIC INTERPRETATION AND WIREFRAMING**

A wireframe surface was constructed for the norite-footwall (SIC basement) contact. This contact was honoured in giving shape to the mineralization.

Mineralization was interpreted via strings snapped to drill hole intersections on 12.5 m spaced south-north cross-sections (looking west). The modelled mineralization was restricted to mineralization greater than 0.3% NiEq. A summary of wireframe statistics is as follows:

Enclosed Volume, m <sup>3</sup>	=	3,824,935.04
Projected lower area, m <sup>2</sup>	=	167,761.61
Projected upper area, m <sup>2</sup>	=	167,761.61
Total surface area, m <sup>2</sup>	=	628,624.73
Minimum elevation, m	=	-279.43
Maximum elevation, m	=	242.74
Minimum X co-ord., m	=	476,337.50
Maximum X co-ord., m	=	476,712.50
Minimum Y co-ord., m	=	5,142,204.50
Maximum Y co-ord., m	=	5,142,696.50
Minimum surface dip, °	=	3.30
Maximum surface dip, o	=	90.00
Number of triangles	=	1,564

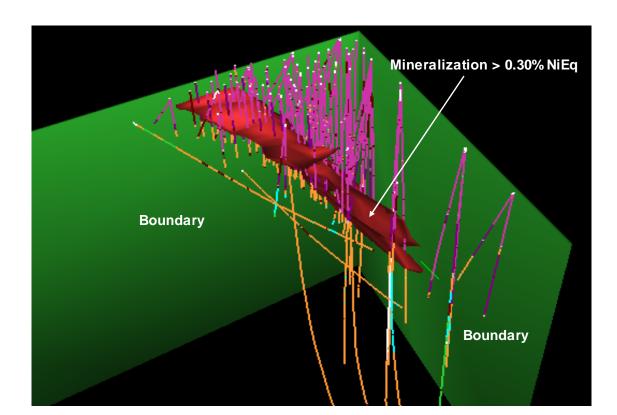
Tie-lines were used extensively to honour the drill hole assay data when shaping the interpreted strings between data points. At the edges of the data set, strings were projected up or down dip and pinched out, based on the following guidelines:

**Extrapolation Guidelines** 

Intersected Length (m)	Projected Distance (m)				
<5.0	25				
5.0-10.0	37.5				
10.0–25.0	50				
>25.0	100				

The mineralized wireframe was constructed and the model graded. The model was then trimmed to the property boundaries, with a five metre pillar isolated along the boundary. Figure 17-1 is a 3D screen capture of the mineralized area, diamond drilling and property boundary.

FIGURE 17-1 3D SCREEN CAPTURE OF THE MINERALIZED WIREFRAME View is to the northwest. The property boundary is in green.



## **ASSAY STATISTICS**

Table 17-3 summarizes the sample statistics and Figure 17-2 shows a histogram and cumulative frequency plot of nickel assay grades in the wireframe.

TABLE 17-3 CONWEST ZONE ASSAY STATISTICS
First Nickel Inc. Conwest Zone, West Graham Property, Sudbury, Ontario

<b>Summary Stats</b>	Ni%	Cu%	Co%	S%	Au g/t	Pt g/t	Pd g/t	Ag g/t
Mean	0.48	0.32	0.01	2.64	0.04	0.10	0.03	2.69
Standard Error	0.01	0.01	0.00	0.05	0.00	0.00	0.00	0.04
Median	0.38	0.28	0.01	2.12	0.03	0.06	0.02	2.63
Mode	0.29	0.22	0.01	1.74	0.02	0.04	0.02	1.00
Standard Deviation	0.46	0.36	0.01	2.45	0.04	0.12	0.03	1.54
Variance	0.21	0.13	0.00	6.02	0.00	0.01	0.00	2.37
Coefficient Variation	0.96	1.13	1.00	0.93	1.00	1.20	1.00	0.57
Kurtosis	40.43	925.76	29.04	32.83	35.12	45.85	77.96	6.82
Skewness	5.23	25.34	4.36	4.73	4.89	5.17	6.87	1.40
Range	5.82	13.69	0.16	30.88	0.49	1.57	0.59	16.50
Minimum	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.03
Maximum	5.82	13.69	0.16	30.90	0.49	1.57	0.59	16.53
Sum	1,011.06	683.05	31.10	5,562.61	61.15	155.16	47.76	4,396.18
Count	2,105	2,105	2,105	2,105	1,633	1,633	1,633	1,633

A correlation matrix for the eight elements is shown in Table 17-4.

TABLE 17-4 CORRELATION MATRIX First Nickel Inc. Conwest Zone, West Graham Property, Sudbury, Ontario (n=2,097)

	Ni	Cu	Co	S	Au	Pt	Pd	Ag	NiEq	SG
Ni	1.0000									
Cu	0.1305	1.0000								
Co	0.9491	0.1730	1.0000							
S	0.9643	0.2992	0.9425	1.0000						
Au	0.0482	0.1616	0.0264	0.0627	1.0000					
Pt	0.1091	0.1125	0.1019	0.1065	0.5764	1.0000				
Pd	0.2210	0.1259	0.1954	0.2453	0.5632	0.6586	1.0000			
Ag	0.0972	0.2597	0.0774	0.1365	0.4901	0.4036	0.4366	1.0000		
NiEq	0.9737	0.3888	0.9284	0.9714	0.0852	0.1312	0.2396	0.1559	1.0000	
SG	0.7893	0.2378	0.7863	0.8141	0.0258	0.0478	0.1759	0.0599	0.7937	1.0000

Generated in Datamine, using command CORREL, for Ni>0.001

Histogram - Ni

200.00%
100.00%
0.10 0.50 0.90 More

Bin

FIGURE 17-2 NICKEL ASSAY GRADE HISTOGRAM

#### **ASSAY COMPOSITING**

The composite length selected at 3.00 m is based on the results of an analysis of the sample length statistics. Sample length statistics are summarized in Table 17-5.

TABLE 17-5 ASSAY SAMPLE LENGTH STATISTICS
First Nickel Inc. West Graham Property, Conwest Zone, Sudbury

Statistic	
Mean (m)	1.59
Median (m)	1.50
Mode (m)	1.50
St. Deviation	0.61
Sample Variance	0.37
Kurtosis	2.08
Skewness	1.40
Range (m)	3.89
Minimum (m)	0.14
Maximum (m)	4.03
95th Percentile (m)	3.05
Composite Length (m)	3.00

Assay composite grades were weighted by length and specific gravity down hole. The composite residuals are included in the estimate:

Summary Stats (m)	
% Residuals	4.51
Residual/Non-residual % Ni	1.13

#### **TOP CUTTING**

The need for top-cutting of high grades was reviewed for nickel, copper and cobalt. The low to moderate coefficient of variance (CV) for assay composites for the principal metals as shown below, as well as the raw assays in Table 17-3, indicates that grade top-cutting is unnecessary.

Element	CV
Ni	0.61
Cu	0.51
Co	0.57

#### **VARIOGRAPHY AND SEARCH STRATEGY**

A nickel variogram was used for the grading of all elements in the model. Good correlation with geology was achieved (Figure 17-3). The relatively high nugget effect at 40% (for base metals) reflects in part the somewhat higher variance in the assaying and introduces a higher degree of smoothing in grade interpolation, which is desirable for a low grade deposit. Parameters are listed below.

Parameter	
VANGLE1	-10°
VANGLE2	50°
VANGLE3	-20°
VAXIS1	3
VAXIS2	1
VAXIS3	3
NUGGET %	0.4
ST1	1
ST1PAR1	61
ST1PAR2	38.5
ST1PAR3	44.5
ST1PAR4	0.6

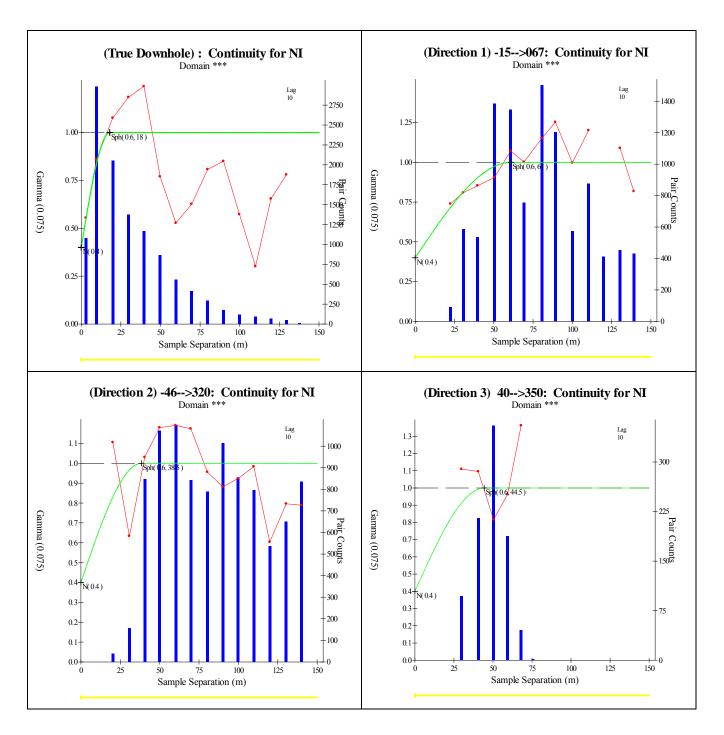
Subsequent to the variography, a search strategy was developed which was drawn from the shape of the variogram ellipse. No octant search or maximum value limitation

was utilized. At SVOLFAC2, the maximum range of the variogram is achieved. The final estimation does not appear to be sensitive to either variography or search strategy.

#### **Search Parameters**

Parameter	
SREFNUM	7
SMETHOD	2
SDIST1	40
SDIST2	25
SDIST3	30
SANGLE1	-10
SANGLE2	50
SANGLE3	-20
SAXIS1	3
SAXIS2	1
SAXIS3	3
MINNUM1	10
MAXNUM1	30
SVOLFAC2	1.5
MINNUM2	10
MAXNUM2	30
SVOLFAC3	6
MINNUM3	10
MAXNUM3	30

#### **FIGURE 17-3 SEMI-VARIOGRAMS**



#### SELECTION OF BLOCK SIZE

Kriging neighbourhood analysis was used to determine an optimum block size of 15 m\*5 m\*10 m (X\*Y\*Z), with sub-celling to 7.5 m\*2.5 m\*<1 m respectively. Table 17-6 summarizes wireframe and block model volume statistics.

TABLE 17-6 SUMMARY OF WIREFRAME STATISTICS
First Nickel Inc. Conwest Zone, West Graham Property, Sudbury, Ontario

Wireframe (m <sup>3</sup> )	3,682,241.59
Block Model (m <sup>3</sup> )	3,695,511.76
Block Model Volume/Wireframe Volume	1.0036
Volume>Cut-Off (m <sup>3</sup> )	3,682,214.59
% Volume>Cut-Off	100.0
Volume not Graded	0
% Volume not Graded	0

#### **ESTIMATE**

The base case resource estimation was generated using ordinary kriging (OK). Tonnes and grades above the wireframe cut-off grade of 0.3% NiEq, with classification and appropriately rounded is summarized in Table 17-1. Table 17-7 presents a summary of Indicated and Inferred Resource tonnes and grades at various block cut-off grades, and grade tonnage curves.

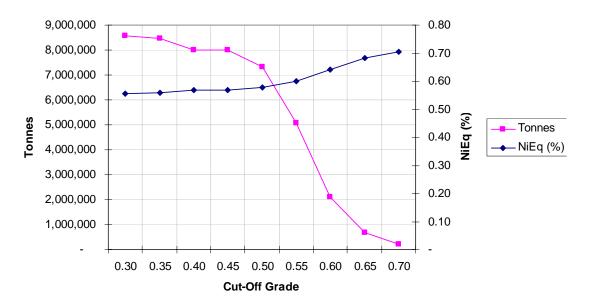
TABLE 17-7 RESOURCE TONNES AND GRADES AT VARIOUS BLOCK CUT-OFF GRADES

First Nickel Inc. Conwest Zone, West Graham Property, Sudbury, Ontario

#### **Indicated Resource**

Ni Eq Cut-off %	Tonnes	Ni %	Cu %	Co %	<b>S</b> %	Au g/t	Pt g/t	Pd g/t	Ag g/t	NiEq %
0.30	8,550,000	0.45	0.31	0.01	2.43	0.03	0.07	0.02	1.91	0.55
0.35	8,450,000	0.45	0.31	0.01	2.45	0.03	0.08	0.02	1.93	0.56
0.40	8,010,000	0.46	0.32	0.01	2.49	0.03	0.08	0.02	1.93	0.57
0.45	8,010,000	0.46	0.32	0.01	2.49	0.03	0.08	0.02	1.93	0.57
0.50	7,320,000	0.47	0.32	0.01	2.52	0.03	0.08	0.02	1.97	0.58
0.55	5,080,000	0.49	0.33	0.01	2.63	0.03	0.07	0.02	1.90	0.60
0.60	2,110,000	0.52	0.36	0.02	2.70	0.03	0.08	0.02	2.27	0.64
0.65	671,000	0.55	0.38	0.02	2.89	0.03	0.09	0.02	2.39	0.68
0.70	223,000	0.57	0.39	0.02	2.99	0.03	0.09	0.02	2.36	0.70

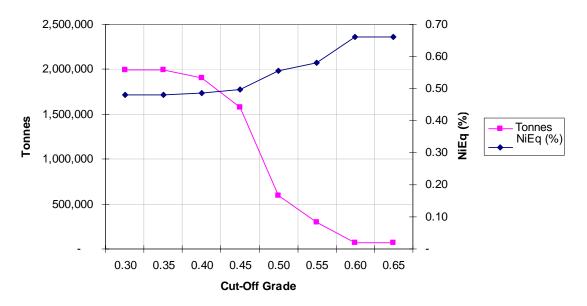
#### **Grade-Tonnage Curve (Indicated)**



Continuation of Table 17-7

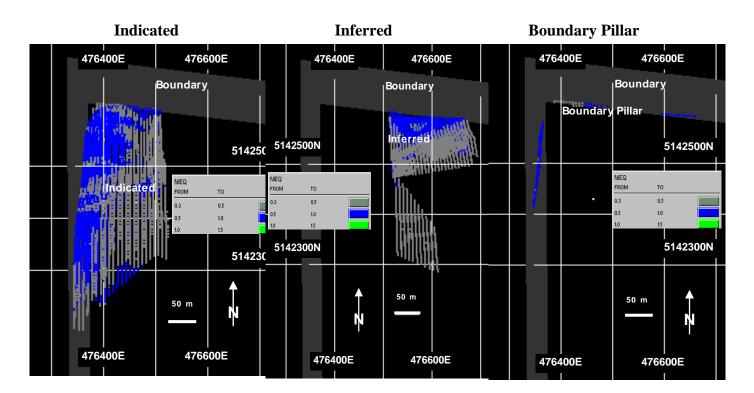
Inferred Res	source										
Ni Eq Cut-off %	Tonnes	Ni %	Cu %	Co %	S %	Au g/t	Pt g/t	Pd g/t	Ag g/t	NiEq %	
0.30	2,000,000	0.38	0.30	0.01	2.15	0.04	0.09	0.03	2.11	0.48	
0.35	2,000,000	0.38	0.30	0.01	2.15	0.04	0.09	0.03	2.11	0.48	
0.40	1,910,000	0.38	0.30	0.01	2.17	0.04	0.09	0.03	2.08	0.48	
0.45	1,570,000	0.40	0.29	0.01	2.22	0.04	0.10	0.03	2.03	0.50	
0.50	595,000	0.45	0.29	0.01	2.46	0.05	0.12	0.03	1.95	0.56	
0.55	299,000	0.48	0.30	0.01	2.54	0.05	0.13	0.03	2.00	0.58	
0.60	66,000	0.56	0.30	0.01	2.85	0.06	0.17	0.05	2.25	0.66	
0.95	65,000	0.56	0.30	0.01	2.85	0.06	0.16	0.05	2.24	0.66	

#### **Grade-Tonnage Curve (Inferred)**



#### RESOURCE CLASSIFICATION

Mineral Resources were classified into Indicated and Inferred Resources based on drill hole and sampling density resulting in a concentration of Indicated Resources in the west from the property boundary at 476,300E to 476,525E and Inferred Resources in the east extending from 476,525E to 476700E. Figure 17-4 is a screen capture of plan views of the Datamine block model for each category.



#### FIGURE 17-4 PLAN VIEW OF RESOURCE CATEGORIES

#### **MODEL VALIDATION**

The following steps were taken to validate the grade block model.

- Cross-sections of the graded model were reviewed to ensure the model honoured drill hole data and the geological interpretation (Figure 17-5).
- Alternate estimations were run using inverse distance squared (ID<sup>2</sup>) and nearest neighbour (NN), to identify major errors in variography. Results were virtually identical to ordinary kriging (OK).

Method	Tonnes	NiEq%				
OK	10,819,971	0.54				
$ID^2$	10,823,210	0.55				
NN	10,140,114	0.56				

- Average grades of the wireframe intercepts compared favourably with the block model resource grades (Appendix 1).
- East-west swath plots for nickel grades, showing composited drill data versus the regularized block model (Regmod) with the number of composited samples in 40

m corridors. The swath plot was the prime classification consideration in choosing 476,525E as the boundary between Indicated and Inferred Resources (Figure 17-6).

• Quantile plots of the composited assay data (Mincmp) were compared with the regularized block model (Regmod) nickel grades in a QQ plot to assess the distortion of grade distribution as shown in Figure 17-7.

#### FIGURE 17-5 SCREEN CAPTURES OF MODEL AND DDHS

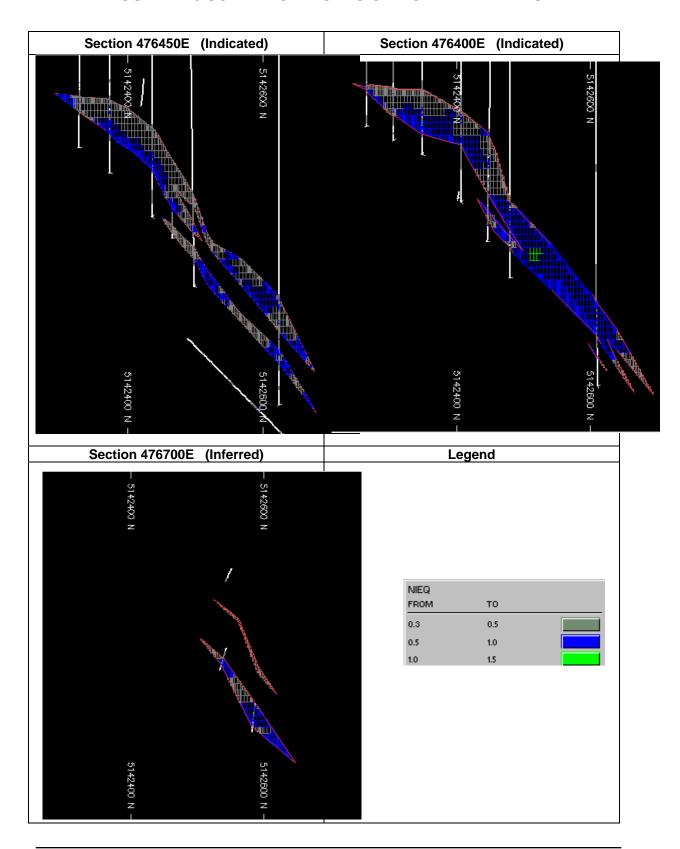


FIGURE 17-6 EAST-WEST SWATH PLOT

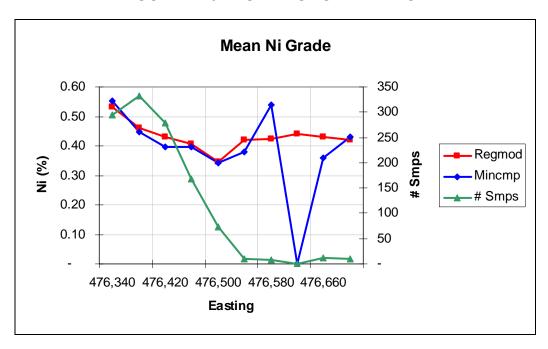
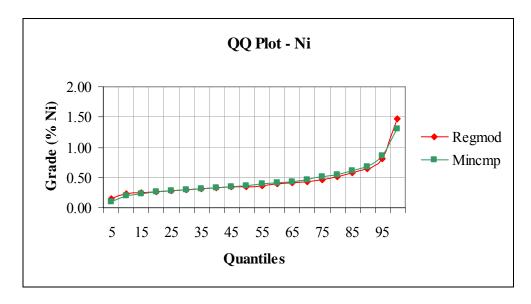


FIGURE 17-7 QQ PLOT OF COMPOSITED DRILL HOLE AND REGULARIZED BLOCK MODEL NICKEL GRADES



#### **MINERAL RESERVES**

No pre-feasibility study or feasibility study has been carried out by Landore or FNI and consequently, under CIM definitions, there are no reserves reported for the West Graham property.

# 18 OTHER RELEVANT DATA AND INFORMATION

No environmental permitting has been completed by FNI for the West Graham property, however, the claims fall within the area of the MMER study (Mining Effluent Regulations of the Fisheries Act) completed for the Lockerby Mine and submitted to Environment Canada in 2006. FNI is currently in the process of completing the second cycle EEM (Mining Environmental Effects Monitoring) - MMER report for the period of 2006 to 2008.

All other information in connection with the resource estimate for the Conwest Zone on the West Graham property has been addressed above.

## 19 INTERPRETATION AND CONCLUSIONS

Scott Wilson RPA independently estimated Mineral Resources for the Conwest Zone on the West Graham property. The Conwest Zone is interpreted to represent a large, low grade Ni-Cu-Co-Ag±PGE±Au bearing contact type disseminated sulphide deposit hosted by dark norite and located stratigraphically above sublayer norite at the base of the Sudbury Igneous Complex. The Conwest Zone tops at 45 m depth, extends for some 375 m on strike and 573 m along dip, and is up to 66 m thick. The zone dips moderately at approximately 53° to the north and is 500 m up dip from the Lockerby Mine East Zone, which was developed and has witnessed limited mining by Falconbridge and FNI in the past. The Conwest Zone continues onto Vale Inco's Corridor Claim to the west, however, no drilling data for the Vale Inco property were available for the resource estimate and the resource estimate is terminated to within five metres of the west boundary to allow for a boundary pillar.

The resource estimate is based entirely on surface diamond drilling, core sampling and assaying. Drilling was completed in three campaigns by three operators since the 1960s. FNI's drilling was designed to fill-in and expand the zone, resulting in a 25 m drill hole section spacing with 30 m to 50 m zone intercepts along dip to provide sufficient sampling to class a portion of the resources as Indicated.

Scott Wilson RPA reviewed and audited the drilling and assaying data and the drill hole database. Scott Wilson RPA is of the opinion that the exploration has been industry standard and in compliance with best practices. The sampling and assaying and database preparation are industry standard and acceptable for Mineral Resource and Mineral Reserve estimation, with some reservations as further noted below.

The resource estimate was carried out by conventional wireframing of mineralization at 0.30% nickel equivalent and 3D computer block modelling using ordinary kriging for grade interpolation. The resource was classified into Indicated and Inferred based on drill hole and sampling density. Drilling is focused in the area close to the west and north property boundaries, where Indicated Resources are delineated, and becomes more

widely spaced to the east, where Inferred Resources are outlined. The wireframed mineral envelope is estimated to contain 8.55 million tonnes of Indicated Resources averaging 0.45% Ni, 0.31% Cu and 0.01% Co and 2.0 million tonnes of Inferred Resources averaging 0.38% Ni, 0.33% Cu and 0.01% Co.

Scott Wilson RPA notes that the downhole deviation surveys for the 1960s drilling by Conwest were limited but industry standard for the time. Coupled with the tendency to higher deviation for the narrower diameter (AX) drill tooling used, there is some uncertainty in the spatial location of the Conwest assay intercepts with respect to the well-located Falconbridge and FNI drilling resulting from modern, industry standard downhole surveys. In addition, the Conwest assays for nickel appear to be somewhat higher overall than the Falconbridge and FNI assays and there may be a problem with the assays for three consecutive Conwest drill holes on the west side of the deposit adjacent to the property boundary. These assays are located in the upper portion of the zone where there is proportionately less sampling by Falconbridge and FNI.

## 20 RECOMMENDATIONS

Scott Wilson RPA has the following recommendations:

- Complete metallurgical testing to confirm metal recoveries by conventional processing.
- Carry out a scoping study/preliminary assessment of the Conwest Zone to evaluate the potential for economic viability and consider options as either a stand-alone milling operation or with mine production sold to Xstrata as part of the FNI-Xstrata Off-Take agreement, metallurgical aspects permitting.
- Contingent on encouragement from the preliminary economic assessment:
  - Twin Conwest holes WG-25 to WG-27 to verify their higher grade nickel intercepts.
  - o Carry out diamond drilling on the east portion of the zone to upgrade the Inferred Resources to Indicated Resources.
  - Update the Conwest Zone resource estimate to reflect additional drill hole data.

In consultation with FNI, Scott Wilson RPA has prepared a budget for the recommended work (Table 20-1).

TABLE 20-1 WORK PROGRAM BUDGET
First Nickel Inc. West Graham Property, Conwest Zone, Sudbury, Ontario

	C\$
Phase 1	
Preliminary Assessment	100,000
Phase 2 (Contingent on Phase 1)	
Diamond Drilling Twin Holes (475 m)	57,000
Drilling to Upgrade Inferred Resources to Indicated (15,300 m)	1,836,000
Update Resource Estimate	50,000
Subtotal Phase 2	1,943,000
Work Program Total (Phases 1 & 2)	2,043,000

## 21 REFERENCES

- Churchill, Bruce (2008): Resource Estimate REV1. Unpublished internal Scott Wilson Roscoe Postle Associates Inc. report, December 5, 2008, 17 pp.
- Clow, Graham C., Routledge, Richard E., Reddick, John and Cox, Jason J. (2005): Technical report on the Lockerby Mine, Sudbury, Ontario prepared for First Nickel Inc. SEDAR published Roscoe Postle Associates Inc. report, June 30, 2005, 131 pp.
- Patterson, James M. (2001): Technical report on mineral properties in the Sudbury Basin, Ontario for Fort Knox Gold Resources Inc. Published (SEDAR) report, November 7, 2001, 111 pp.
- First Nickel Inc. (2008): West Graham Property, Ontario Canada overview Landore (Conwest Deposit) Property. News release, Nov. 12, 2008, 3 pp.
- First Nickel Inc. (2008): First Nickel provides an exploration update on Lockerby and West Graham properties. News release, Nov. 7, 2008, 3 pp.
- First Nickel Inc. (2008): 2007 Annual report. May 23, 2008, 57 pp.
- Routledge, Richard (2008): Technical report on the 2008 resource estimate for the Depth Zone, Lockerby Mine, Sudbury, Ontario prepared for First Nickel Inc., February 28, 2008. Scott Wilson Roscoe Postle Associates Inc. NI 43-101 SEDAR-filed independent report 107 pp.
- Routledge, Richard E. (2007): Technical Report on the 2007 resource estimate for the Depth and East zones, Lockerby Mine, Sudbury, Ontario, prepared for First Nickel Inc., April 19, 2007. Scott Wilson Roscoe Postle Associates Inc. NI 43-101 SEDAR-filed independent report, 98 pp.

## **22 SIGNATURE PAGE**

This report titled "Technical Report on the West Graham Property Conwest Zone Resource Estimate, Graham Township, Ontario, Canada, prepared for First Nickel Inc." and dated January 15, 2009, was prepared and signed by the following authors:

(Signed & Sealed)

Dated at Toronto, Ontario January 15, 2009

Richard E. Routledge, M.Sc., P.Geo. Geologist

(Signed & Sealed)

Dated at Kingston, Ontario January 15, 2009

Bruce Churchill, B.A., P.Geo. Consulting Geologist

## 23 CERTIFICATE OF QUALIFICATIONS

#### RICHARD ROUTLEDGE

I, Richard E. Routledge, M.Sc., P.Geo., as an author of this report entitled "Technical Report on the West Graham Property Conwest Zone Resource Estimate, Graham Township, Ontario, Canada, prepared for First Nickel Inc." and dated January 15, 2009, do hereby certify that:

- 1. I am a Geologist with Scott Wilson Roscoe Postle Associates Inc. of Suite 501, 55 University Ave Toronto, ON, M5J 2H7.
- 2. I am a graduate of Sir George Williams (now Concordia) University, Montreal, Quebec, Canada, in 1971 with a Bachelor of Science degree in Geology and McGill University, Montreal, Quebec, Canada, in 1973 with a Master of Science degree in Applied Mineral Exploration.
- 3. I am licensed as a Professional Geologist in the Northwest Territories, Canada (L744) and I am a Practising Member of the Association of Professional Geoscientists of Ontario (1354). I have worked as a geologist for more than 35 years. My relevant experience for the purpose of the Technical Report is:
  - Review and report as a consultant (25 years) on numerous exploration and mining projects around the world for due diligence and regulatory requirements, including:
    - o Resource review and audit for the Lockerby Mine Depth and East zones Ni-Cu sulphide deposits, Sudbury, Ontario
    - o Resource review and audit for the Premiere Ridge Ni-Cu sulphide deposit, Sudbury, Ontario.
    - o Resource and reserves audits for McCreedy West and Levack nickel and copper mines, Sudbury, Ontario.
    - Resource audit for Onaping Depth nickel and copper deposit, Sudbury, Ontario.
    - Resource estimates for the Birch Lake, Maturi, Spruce Road and Nokomis copper, nickel and PGE deposits, Duluth Complex, Minnesota.
  - Vice President Exploration for a junior mining company in charge of diamond exploration programs in NWT and property evaluations worldwide for a variety of commodities, including gold, base metals, and diamonds.
  - Senior geologist with a major Canadian mining company charged with the evaluation of grassroots to advanced properties/projects and involved in acquisitions for a broad variety of commodities.
- 4. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI43-101") and certify that by reason of my education, affiliation with a

professional association (as defined in NI43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person".

- 5. I visited the West Graham property on November 26, 2008. I visited the adjacent Lockerby Mine property on October 20 and 21, 2004, November 20, 2007 and November 26, 2008.
- 6. I am responsible for overall preparation of the Technical Report.
- 7. I am independent of the Issuer applying the test set out in Section 1.4 of National Instrument 43-101.
- 8. I have had no prior involvement with the West Graham property that is the subject of this Technical Report.
- 9. I have read National Instrument 43-101F1, and the Technical Report has been prepared to National Instrument 43-101 and Form 43-101F1 standards.
- 10. 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.

Dated 15th day of January, 2009

(Signed & Sealed)

Richard E. Routledge, M.Sc. Applied, P.Geo.

#### **BRUCE CHURCHILL**

- I, Bruce Churchill, as an author of this report entitled "Technical Report on the West Graham Property Conwest Zone Resource Estimate, Graham Township, Ontario, Canada, prepared for First Nickel Inc." and dated January 15, 2009, do hereby certify that:
- 1. I am an Associate Consulting Geologist with Scott Wilson Roscoe Postle Associates Inc. of Suite 501, 55 University Ave Toronto, ON, M5J 2H7.
- 2. I am a graduate of Queen's University, Kingston, Ontario, Canada in 1969 with a Bachelor of Arts Degree in Chemistry and Geology.
- 3. I am registered as a Professional Geologist in the Province of Ontario (Reg.# 0152). I have worked as a mining geologist for over 39years since my graduation. My relevant experience for the purpose of the Technical Report is:
  - Over 35 years in mine geology (nickel sulphides) at five different Sudbury mines.
  - Experience includes production, exploration, projects and pre-feasibility and feasibility studies.
  - Estimating, documenting and reporting resource/reserve estimations for the Sudbury mines of Falconbridge Limited (now Xstrata Nickel).
  - Over 3 years of estimating resources for the Kabanga Nickel Company Limited (joint venture between Xstrata Nickel and Barrack Gold), through Scoping Study, Pre-Feasibility Study and now into Feasibility Study stages.
- 4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI43-101.
- 5. I have not visited the West Graham property but have both visited, and worked at, the adjacent Lockerby Mine.
- 6. I am responsible for the preparation of sections 17 and 24 and parts of sections 1, 19 and 20 of the Technical Report.
- 7. I am independent of the Issuer applying the test set out in Section 1.4 of National Instrument 43-101.
- 8. I have had no prior involvement with the property that is the subject of the Technical Report.
- 9. I have read National Instrument 43-101, and the Technical Report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1.

10.	. To t	he best	of my	knowled	ge, informa	tion, and	d belief,	the T	Cechnical	Repor	t conta	ins
	all s	cientific	and	technical	information	n that is	require	ed to b	e disclo	sed to	make	the
	techi	nical rep	ort no	t mislead	ling.							

Dated 15<sup>th</sup> day January, 2009

(Signed & Sealed)

Bruce Churchill, B.A., P.Geo.

# 24 APPENDIX 1

### **WIREFRAME INTERCEPTS**

BHID	From	То	Length	Ni	Cu	Со	S	Au	Pt	Pd	Ag	NiEq
	(m)	(m)	(m)	%	%	%	%	g/t	g/t	g/t	g/t	%
FNI2001	264.00	276.35	12.35	0.54	0.37	0.016	2.82	0.02	0.05	0.02	1.54	0.67
FNI2002	286.70	334.50	47.80	0.61	0.38	0.017	3.30	0.05	0.15	0.03	1.86	0.74
FNI2003	321.80	375.20	53.40	0.61	0.34	0.017	3.29	0.03	0.10	0.03	1.99	0.73
FNI2004	329.00	365.60	36.60	0.45	0.33	0.012	2.63	0.03	0.10	0.02	1.69	0.56
FNI2005	153.70	195.60	41.90	0.40	0.27	0.013	2.24	0.02	0.10	0.02	1.18	0.50
FNI2006	130.90	188.85	57.95	0.58	0.36	0.019	3.27	0.02	0.06	0.02	1.92	0.70
FNI2007	70.40	141.50	71.10	0.46	0.28	0.016	2.63	0.02	0.05	0.02	1.43	0.56
FNI2008	85.70	133.50	47.80	0.53	0.32	0.017	3.13	0.02	0.06	0.02	1.67	0.64
FNI2009	100.20	131.25	31.05	0.60	0.28	0.022	3.48	0.02	0.04	0.02	1.54	0.70
FNI2010	387.30	392.90	5.60	0.25	0.23	0.010	1.44	0.03	0.03	0.02	1.57	0.33
	434.85	437.15	2.30	0.33	0.29	0.014	1.89	0.04	0.10	0.03	1.58	0.43
FNI2011	410.90	413.00	2.10	0.25	0.22	0.010	1.32	0.04	0.08	0.02	1.30	0.33
	419.00	426.45	7.45	0.42	0.28	0.014	2.28	0.07	0.27	0.04	1.59	0.52
FNI2012	297.90	316.00	18.10	0.36	0.30	0.014	2.16	0.03	0.07	0.02	1.46	0.46
	361.10	362.50	1.40	0.23	0.22	0.010	1.34	0.05	0.05	0.01	1.00	0.31
FNI2013	448.10	465.20	17.10	0.49	0.46	0.014	2.83	0.08	0.21	0.07	1.86	0.64
	491.00	494.00	3.00	0.59	0.35	0.014	2.77	0.08	0.41	0.06	1.90	0.70
FNI2014	333.30	355.80	22.50	0.29	0.26	0.012	1.74	0.02	0.04	0.02	1.36	0.38
	375.30	390.70	15.40	0.32	0.35	0.010	1.77	0.06	0.20	0.04	1.77	0.44
FNI2015	345.50	380.00	34.50	0.32	0.25	0.012	1.74	0.02	0.06	0.03	1.41	0.41
	422.00	432.50	10.50	0.26	0.26	0.010	1.43	0.07	0.25	0.04	1.29	0.35
FNI2016	367.90	376.90	9.00	0.30	0.26	0.015	1.86	0.02	0.04	0.02	1.30	0.39
	422.10	458.25	36.15	0.43	0.36	0.016	2.66	0.04	0.08	0.03	1.73	0.55
FNI2018	80.00	92.00	12.00	0.28	0.51	0.006	1.61	0.04	0.10	0.05	3.77	0.44
FNI2026	287.00	290.00	3.00	0.25	0.24	0.015	1.69	0.02	0.02	0.01	1.30	0.33
	359.90	371.00	11.10	0.39	0.37	0.016	2.56	0.02	0.04	0.02	1.79	0.52
FNI2028	163.00	234.50	71.50	0.52	0.34	0.018	2.87	0.02	0.06	0.02	1.71	0.63
	288.20	301.50	13.30	0.53	0.28	0.017	3.17	0.04	0.09	0.02	1.27	0.63
FNI2029	131.30	169.70	38.40	0.32	0.19	0.013	1.70	0.01	0.04	0.01	1.06	0.39
FNI2031	396.00	450.00	54.00	0.60	0.39	0.023	2.93	0.06	0.17	0.03	3.19	0.73
	478.00	480.60	2.60	0.45	0.21	0.021	2.20	0.03	0.14	0.02	2.72	0.53
FNI2032	52.50	71.15	18.65	0.41	0.18	0.011	2.84	0.04	0.09	0.03	2.40	0.47
FNI2033	70.70	75.35	4.65	0.49	0.30	0.015	3.34	0.06	0.02	0.01	2.09	0.59

BHID	From	То	Length	Ni	Cu	Со	S	Au	Pt	Pd	Ag	NiEq
	(m)	(m)	(m)	%	%	%	%	g/t	g/t	g/t	g/t	%
FNI2034	81.00	118.50	37.50	0.33	0.20	0.008	1.88	0.02	0.04	0.02	1.69	0.40
FNI2035	82.50	150.00	67.50	0.46	0.26	0.017	2.88	0.02	0.05	0.03	2.95	0.55
FNI2036	97.50	98.60	1.10	0.35	0.25	0.015	2.69	0.04	0.09	0.03	3.64	0.44
FNI2037	94.50	120.00	25.50	0.24	0.22	0.011	1.50	0.03	0.07	0.04	2.87	0.32
FNI2038	111.00	153.00	42.00	0.34	0.29	0.010	2.13	0.03	0.06	0.03	3.14	0.43
FNI2039	106.50	159.00	52.50	0.44	0.25	0.014	3.02	0.03	0.08	0.03	2.34	0.53
FNI2040	95.70	159.00	63.30	0.30	0.23	0.012	2.06	0.02	0.05	0.02	4.06	0.38
FNI2041	120.00	180.00	60.00	0.47	0.35	0.014	2.95	0.02	0.06	0.03	2.79	0.59
FNI2042	139.50	169.50	30.00	0.32	0.29	0.008	2.08	0.03	0.07	0.03	2.57	0.42
FNI2043	138.30	201.00	62.70	0.39	0.32	0.008	2.19	0.03	0.08	0.02	3.19	0.50
FNI2044	154.60	207.15	52.55	0.47	0.25	0.012	3.36	0.04	0.06	0.03	2.87	0.56
FNI2045	240.50	308.60	68.10	0.60	0.45	0.014	2.76	0.05	0.10	0.03	3.87	0.75
FNI2046	246.90	333.00	86.10	0.47	0.28	0.011	2.24	0.03	0.11	0.03	3.30	0.56
FNI2047	261.00	265.50	4.50	0.24	0.19	0.013	1.49	0.03	0.04	0.02	3.40	0.31
	327.10	339.00	11.90	0.39	0.38	0.013	2.23	0.05	0.14	0.02	4.22	0.52
FNI2048	165.50	176.00	10.50	0.26	0.27	0.015	2.49	0.02	0.03	0.03	3.03	0.36
	213.50	252.50	39.00	0.36	0.25	0.016	2.20	0.04	0.15	0.03	2.55	0.45
	299.00	310.80	11.80	0.36	0.36	0.014	2.12	0.03	0.17	0.03	3.13	0.49
FNI2049	171.50	174.50	3.00	0.25	0.22	0.008	1.62	0.02	0.02	0.02	3.13	0.32
	232.60	283.60	51.00	0.35	0.24	0.008	1.92	0.03	0.06	0.02	3.01	0.43
	332.90	340.00	7.10	0.42	0.34	0.009	2.03	0.05	0.13	0.04	3.55	0.54
FNI2050	280.90	367.60	86.70	0.57	0.43	0.017	2.97	0.05	0.14	0.03	4.75	0.72
FNI2051	302.25	309.50	7.25	0.43	0.35	0.016	2.53	0.07	0.17	0.04	3.35	0.55
	347.30	363.35	16.05	0.61	0.41	0.020	3.26	0.05	0.15	0.04	3.84	0.75
FNI2052	318.40	357.20	38.80	0.41	0.36	0.012	1.65	0.03	0.09	0.02	2.90	0.54
	397.05	407.00	9.95	0.33	0.28	0.008	1.31	0.07	0.26	0.05	3.23	0.43
FNI2053	321.45	327.90	6.45	0.35	0.29	0.011	1.68	0.01	0.00	0.01	3.76	0.45
	362.50	380.00	17.50	0.36	0.32	0.009	1.67	0.04	0.11	0.02	3.47	0.47
FNI2054	359.80	370.30	10.50	0.26	0.22	0.009	1.20	0.03	0.02	0.02	3.61	0.34
	411.90	424.00	12.10	0.37	0.32	0.010	2.08	0.16	0.42	0.06	4.11	0.48
FNI2055	348.90	360.20	11.30	0.34	0.28	0.010	1.65	0.03	0.05	0.02	3.59	0.44
	388.70	415.35	26.65	0.36	0.26	0.009	1.50	0.06	0.13	0.03	3.20	0.45
FNI2056	398.50	433.50	35.00	0.47	0.40	0.011	2.16	0.06	0.05	0.04	3.50	0.61
	456.80	466.80	10.00	0.34	0.34	0.007	1.38	0.06	0.06	0.03	3.07	0.45
FNI2057	438.50	471.50	33.00	0.39	0.28	0.015	2.24	0.04	0.07	0.04	3.17	0.49
	494.00	504.50	10.50	0.29	0.25	0.013	1.35	0.07	0.14	0.04	2.90	0.37
FNI2057	519.50	522.50	3.00	0.34	0.11	0.013	1.66	0.07	0.61	0.24	2.43	0.38

BHID	From	То	Length	Ni	Cu	Со	S	Au	Pt	Pd	Ag	NiEq
	(m)	(m)	(m)	%	%	%	%	g/t	g/t	g/t	g/t	%
FNI2058	393.50	444.50	51.00	0.34	0.27	0.017	1.85	0.03	0.10	0.02	3.28	0.44
	471.90	493.30	21.40	0.36	0.30	0.008	1.79	0.10	0.30	0.08	3.50	0.46
FNI2059	416.00	430.10	14.10	0.30	0.34	0.006	1.68	0.03	0.07	0.02	4.83	0.42
	488.00	492.50	4.50	0.31	0.29	0.005	1.54	0.15	0.35	0.07	3.52	0.41
FNI2060	165.50	198.50	33.00	0.41	0.31	0.010	2.33	0.03	0.02	0.02	3.38	0.52
	216.50	240.10	23.60	0.47	0.35	0.009	2.30	0.03	0.07	0.02	4.41	0.58
FNI2061	231.90	246.50	14.60	0.32	0.24	0.012	1.62	0.03	0.08	0.02	3.65	0.40
	272.00	297.50	25.50	0.38	0.25	0.012	1.71	0.03	0.05	0.01	3.53	0.47
	312.50	329.80	17.30	0.30	0.27	0.008	1.53	0.08	0.09	0.02	3.38	0.39
FNI2062	97.50	105.50	8.00	0.63	0.34	0.024	4.27	0.02	0.06	0.03	2.89	0.75
GRA26	349.00	394.50	45.50	0.43	0.34	0.014	2.30	0.06	0.10	0.02	1.47	0.54
	442.94	461.00	18.06	0.31	0.19	0.008	1.44	0.06	0.24	0.08	1.08	0.37
	469.93	490.40	20.47	0.61	0.06	0.001	0.10	0.48	1.40	0.59	0.80	0.63
GRA-25	119.00	143.00	24.00	0.35	0.34	0.012	1.97	0.05	0.05	0.03	2.00	0.46
GRA-27	455.50	457.00	1.50	0.35	0.24	0.013	1.91	0.05	0.12	0.02	1.10	0.43
	474.80	478.40	3.60	0.73	0.20	0.017	3.43	0.01	0.09	0.04	0.68	0.80
WG-2	113.69	175.60	61.91	0.52	0.33	0.016	2.70	-	-	-	-	0.62
WG-3	141.12	235.82	94.70	0.31	0.23	0.010	1.65	-	-	-	-	0.38
	266.73	283.22	16.49	0.30	0.27	0.010	1.64	-	-	-	-	0.38
WG-4	244.60	286.73	42.13	0.49	0.45	0.015	2.73	-	-	-	-	0.64
	301.97	312.54	10.57	0.29	0.33	0.009	1.68	-	-	-	-	0.40
WG-5	174.74	190.59	15.85	0.37	0.26	0.012	1.97	-	-	-	-	0.45
	199.74	205.83	6.09	0.28	0.26	0.009	1.55	-	-	-	-	0.36
WG-7	433.55	459.79	26.24	0.45	0.31	0.014	2.38	-	-	-	-	0.55
	465.73	477.01	11.28	0.36	0.26	0.012	1.93	-	-	-	-	0.45
WG-8	263.35	357.56	94.21	0.55	0.37	0.016	2.88	-	-	-	-	0.66
WG-9	300.84	317.48	16.64	0.35	0.25	0.011	1.83	-	-	-	-	0.42
	349.76	374.23	24.47	0.55	0.33	0.017	2.87	-	-	-	-	0.66
WG-10	80.47	145.88	65.41	0.55	0.40	0.016	2.92	-	-	-	-	0.68
WG-11	96.62	151.49	54.87	0.46	0.24	0.014	2.34	-	-	-	-	0.53
WG-12	158.50	170.69	12.19	0.32	0.19	0.011	1.67	-	-	-	-	0.38
	198.42	281.03	82.61	0.43	0.26	0.013	2.24	-	-	-	-	0.51
WG-13	362.71	390.14	27.43	0.38	0.27	0.012	2.03	-	-	-	-	0.47
	435.86	454.15	18.29	0.44	0.26	0.013	2.27	-	-	-	-	0.52
WG-14	72.45	133.90	61.45	0.48	0.30	0.014	2.50	-	-	-	-	0.57
WG-15	169.83	264.47	94.64	0.33	0.26	0.011	1.79	-	-	-	-	0.42
	282.76	296.39	13.63	0.26	0.21	0.009	1.42	-	-	-	-	0.33

BHID	From	То	Length	Ni	Cu	Со	S	Au	Pt	Pd	Ag	NiEq
	(m)	(m)	(m)	%	%	%	%	g/t	g/t	g/t	g/t	%
WG-16	55.78	108.75	52.97	0.40	0.28	0.013	2.12	-	-	-	-	0.49
WG-17	95.40	121.31	25.91	0.31	0.25	0.010	1.69	-	-	-	-	0.39
WG-21	86.87	96.01	9.14	0.36	0.24	0.012	1.89	-	-	-	-	0.44
WG-23	91.44	147.83	56.39	0.27	0.17	0.009	1.42	-	-	-	-	0.33
WG-24	87.78	99.36	11.58	0.32	0.20	0.010	1.66	-	-	-	-	0.38
WG-25	53.04	106.98	53.94	0.68	0.38	0.020	3.51	-	-	-	-	0.80
WG-26	56.69	128.02	71.33	0.73	0.28	0.021	3.62	-	-	-	-	0.82
WG-27	89.31	131.98	42.67	0.77	0.39	0.022	3.93	-	-	-	-	0.90
Totals		115	3,437.81	0.44	0.30	0.010	2.40	0.03	0.07	0.02	1.75	0.55