TECHNICAL REPORT ON THE PRELIMINARY ASSESSMENT OF THE BIRCH LAKE AND MATURI DEPOSITS, MINNESOTA, U.S.A.

PREPARED FOR FRANCONIA MINERALS CORPORATION

NI 43-101 Report

Authors:
Graham G. Clow, P.Eng.
Jason J. Cox, P.Eng.
Richard E. Routledge, M.Sc., P.Geo.
Alfred S. Hayden, P.Eng.

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SCOTT WILSON ROSCOE POSTLE ASSOCIATES INC.

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1 SUMMARY

EXECUTIVE SUMMARY

Scott Wilson Roscoe Postle Associates Inc. (Scott Wilson RPA) was retained by Franconia Minerals Corporation (Franconia) to prepare an independent Technical Report (the Report) on the Birch Lake Project (the Project), located in Lake County, Minnesota, USA. The Project consists of the Birch Lake and Maturi deposits. The purpose of this Report is to provide an updated resource estimate for the Birch Lake deposit and a Preliminary Assessment of an operation combining production from both deposits. This Technical Report conforms to NI 43-101 Standards of Disclosure for Mineral Projects.

Franconia is a publicly-held exploration company, focused on exploring and developing platinum-group and base metals deposits in the continental United States. The Birch Lake deposit is located 11 km east of the town of Babbitt, Minnesota and consists of a large tonnage - low grade copper-nickel-PGE (Platinum Group Elements) deposit occurring near the base of the Duluth Intrusive Complex. Franconia can earn up to 82% interest from the Beaver Bay Joint Venture (BBJV) by completing a series of payments and expenditures. The Maturi deposit is located approximately five kilometres north-northeast of the Birch Lake deposit. The Maturi deposit also consists of a large tonnage - low grade copper-nickel-PGE deposit, although PGE values are lower than for Birch Lake. Title to the federal lease containing the Maturi deposit is held by BBJV in trust for Franconia.

Currently, the major assets and facilities associated with the two deposits are:

- The Birch Lake deposit, consisting of disseminated Cu-Ni sulphides with associated Au and platinum group element (PGE) minerals and minor cobalt.
- The Maturi deposit consisting of disseminated Cu-Ni sulphides with minor cobalt and minor associated Au and PGE minerals.
- Underground infrastructure at Maturi, including an exploration shaft (332 m deep, capped, headframe removed), and some drifting on the 305 m level.
- Available drill core from both deposits is held at the Minnesota Department of Natural Resources core library in Hibbing, Minnesota.

- Access by highway and secondary roads, proximal to local power grid, railroad access at Babbitt, shipping access at Duluth.

Scott Wilson RPA has completed previous reports on the deposits, most recently for the Maturi deposit, dated June 30, 2006, and for the Birch Lake Zone, dated November 19, 2005 (see References). This Preliminary Economic Assessment incorporates the June 30, 2006 Maturi deposit resource estimate, and a new 3-D computer block model resource estimate for the Birch Lake Zone, updated with results from the 2005 diamond drilling campaign. Proposed production rates are 10,000 tpd from Birch Lake and 8,000 tpd from Maturi, to be processed at a concentrator and hydrometallurgical facility to be located at Birch Lake. Anticipated products include cathode copper, nickel-cobalt hydroxide, and a precious metals precipitate.

This report is considered by Scott Wilson RPA to meet the requirements of a Preliminary Assessment as defined in Canadian NI43-101 regulations. The economic analysis contained in this report is based on inferred resources, and is preliminary in nature. Inferred resources are considered too geologically speculative to have mining and economic considerations applied to them and to be categorized as Mineral Reserves. There is no certainty that the reserves development, production and economic forecasts on which this preliminary assessment is based, will be realized.

CONCLUSIONS AND RECOMMENDATIONS

The Project currently consists of two large tonnage - low grade copper-nickel-PGE deposits. Resource estimates are based on widely-spaced drilling, and classified as Inferred. The estimates are sensitive to NSR cut-off value. The Project Base Case has a pre-tax Net Present Value of $41 million at a 12.5% discount rate, and simple payback occurs after seven years of operation. At current metal prices, Project economics are attractive, and there is potential for a long mine life.

The Project is very sensitive to metal prices and establishing and maintaining a reasonable margin of NSR over operating costs is going to be a key to making it a

success. In preparing this Preliminary Assessment, Scott Wilson RPA has focussed on maximizing the revenue through high cut off grades and lowering the operating unit costs by selecting a high production rate. The focus for the next stages of advancement of the Project needs to be on optimization of these two fundamental factors.

Resource continuity at higher cut-offs is difficult to assess due to the widely-spaced and non-systematic drilling at Birch Lake. Wedge holes at Birch Lake indicate some abrupt lateral variation in grades due to heterogeneity of the host rocks. Faulting, which is not well located by drilling, has resulted in vertical offsets to the Birch Lake deposit. The Maturi deposit appears to have better grade continuity, however, there are no wedge holes and only a few underground holes to provide short distance grade continuity information. Both deposits are large enough that using the highest cut-off possible while maintaining continuity is likely to yield the most positive economic results. Given reasonable continuity, both deposits have size, configuration, and physical properties amenable to bulk mining methods with high rates of extraction. Low unit costs should be achievable.

Bench scale testwork has confirmed the amenability of Birch Lake material to flotation concentration and subsequent metal recovery via the Platsol process. Flotation recovery of nickel was lower than anticipated and may be improved through additional testwork. Current estimates of metallurgical recovery of Maturi material are based on response of similar deposits. Little testwork has been completed on samples from Maturi.

Environmental permitting activities have potential to be the critical path for project development. The Project is located in a well established mining area, however, it is also near to recreational land use areas. Although the footprint of two underground mines and a processing plant can be minimized, the tailings storage requirements for a high production, long life operation are significant. In Scott Wilson RPA's opinion, Franconia has done a good job in recognizing the permitting requirements and has assembled a team that is focussed on this critical aspect of the Project.

Should Franconia decide to advance the Project, Scott Wilson RPA recommends the following work be carried out. A summary program and budget of US$7.01 million is presented in Table 1-1. The program is divided into Phase 1 ($US1.585 million) and Phase 2 (US$5.425 million) with Phase 2 contingent on encouragement from Phase 1.

RESOURCES

- Diamond drilling on a systematic grid as per the current drill program should be continued to upgrade the Inferred Resources to Indicated Resources. Once sufficient drill core has been generated for metallurgical testing, the practice of drilling wedge offsets should be discontinued in favour of drilling more holes on a consistent pattern.

- Specific gravity (SG) testing should be performed for the individual rock types in the U3 unit and the hanging wall pegmatitic units. Such data will be useful to confirm the global SG used to date and for rock density modelling in future resource updates. SG tests should be carried out routinely (assay by assay) in mineralization for the resource upgrade drilling.

- A comprehensive QA/QC program, consistent with standards, should be initiated for future resource upgrade drilling programs at Birch Lake and Maturi. Past laboratory QA/QC data for Birch Lake should be compiled and evaluated as part of this program.

- A complete suite of analyses should be performed on the core samples in future drilling programs. This particularly important at Maturi where analytical data for PGEs, cobalt and gold is lacking at Maturi.

- Collar surveys should be checked at both projects. Elevations should be checked for 11 drill hole collars at Maturi for which the digital database entries differ from the MNDNR records. Collar and down hole surveying for resource upgrade drilling should be undertaken with the most accurate instrumentation available.

- The boundaries of both the Birch Lake and Maturi properties should be well established and surveyed if necessary.

MINING

- Geomechanics studies are needed to establish allowable spans and appropriate ground control requirements.

- Mine designs of a level of detail appropriate to a pre-feasibility study should be completed.

- A study of backfill options needs to be undertaken as this may have some benefit in minimizing surface tailings requirements.

METALLURGY

- Bench-scale flotation and hydrometallurgical testwork is required on Maturi samples to validate assumptions of similarity to nearby deposits.

- Additional bench scale flotation and hydrometallurgical testwork is required on Birch Lake samples to develop design information and to optimize process conditions.

- Because of the nature and complexity of the overall process, a pilot plant operation is required to confirm recoveries, to allow the development of detailed process design criteria, and to demonstrate product purity.

ENVIRONMENTAL CONSIDERATIONS

- Options for tailings disposal should be examined in greater detail, as there is potential for significant impact on the project, both in monetary terms, and in terms of permitting the Project.

- A continuing effort needs to be maintained on the permitting process to ensure that it does not delay the technical advancement of the Project.

TABLE 1-1 SUMMARY OF RECOMMENDED PROGRAM AND BUDGET
Franconia Minerals Corporation - Birch Lake Project

	Phase 1		
Drilling for Metallurgical Samples	m		
Birch Lake	2,720		$340,000
Maturi	3,000		$360,000
Subtotal			$700,000
Metallurgy Studies			$610,000
Geotechnical Studies			$25,000
Project Re-Evaluation			$10,000
Management, supervision, consulting (10%)			$135,000
Contingency (15% on drilling)			$105,000
Phase 1 Total			**$1,585,000**
	Phase 2*		
In-Fill Drilling to Upgrade Resources	m	Cost US$	
Maturi (200 m x 200 m grid)	3,900		$468,000
Birch Lake (200 m x 200 m grid)	21,280		$2,613,600
	25,180		$3,081,600
Compilation and Update Resource Estimate			$35,000
Permitting and Environmental			$1,558,000
Pre-Feasibility Study			$750,000
Phase 2 Total			**$5,424,600**
Project Grand Total			**$7,010,000**

* Contingent on encouragement from Phase 1

ECONOMIC ANALYSIS

A pre-tax Cash Flow Projection has been generated from the Life of Mine production schedule and capital and operating cost estimates, and is summarized in Table 1-2. The projection represents 100% of Project output, without factoring for ownership percentages. A summary of the key criteria is provided below.

PHYSICALS

- Mine life: 26 years for Birch Lake
  24 years for Maturi (Start-up in Year 3)

- Construction period: Two years

- Total millfeed: 154 million tonnes
  - 0.20% Ni
  - 0.59% Cu
  - 0.05% Co
  - 0.46 g/t Pd
  - 0.21 g/t Pt
  - 0.10 g/t Au

- Operations 350 days per year

- Underground production: 10,000 tpd, 3.5 Mtpa from Birch Lake
  8,000 tpd, 2.8 Mtpa from Maturi

- Mill throughput of 18,000 tpd, 6.3 Mtpa

- Average annual payable metal production:
  - 19 million lbs Ni
  - 74 million lbs Cu
  - 2.9 million lbs Co
  - 68,000 oz Pd
  - 33,000 oz Pt
  - 7,400 oz Au

REVENUE

- Metal prices:

Nickel	$6.00 per lb
Copper	$1.50 per lb
Cobalt	$10.00 per lb
Palladium	$300 per oz
Platinum	$800 per oz
Gold	$450 per oz

- Treatment charges: $7.21 per tonne of ore (Platsol process)

- Refining charges:

Nickel	$0.35 per lb
Copper	$0.00 per lb (saleable cathode)
Cobalt	$0.85 per lb
Palladium	$18.00 per oz
Platinum	$18.00 per oz
Gold	$12.00 per oz

- Operating cost: $18.66 per tonne milled
- Capital costs:
  - Pre-production capital: $616 million
  - Sustaining capital: $2.3 million per year
    $40 million to finish Maturi development
    $20 million for new TDF in Years 7-8.

- Closure costs: $10 million
- Total capital costs: $738 million

- Royalties – 5% NSR on Birch Lake production
  3.7% NSR equivalent on Maturi production
  5% NSR on first year production for Platsol licence

At Base Case cut-off values, the NSR is $41 per tonne of Birch Lake ore, and $33 per tonne of Maturi ore. The Base Case pre-tax cash flow using the above assumptions is estimated to total $1,891 million. Simple payback is achieved seven years after start of production. Pre-tax NPV's for various metal price scenarios are shown in the following table:

TABLE 1-2 PRE-TAX NPV

Franconia Minerals Corporation – Birch Lake Project

Discount Rate	Base Case NPV ($ millions)	+10% Price NPV ($ millions)	Current Price NPV ($ millions)
7.5%	365	618	3,132
10%	171	364	2,288
12.5%	41	193	1,704
15%	(48)	75	1,289

At current prices (September 2006) of:

- $14.00 /lb Ni
- $3.50/lb Cu
- $17.50 /lb Co
- $320 /oz Pd
- $1200 /oz Pt
- $600 /oz Au,

the NSR is $92 per tonne of Birch Lake ore, and $85 per tonne of Maturi ore. The Base Case pre-tax cash flow is estimated to total $9,411 million. Simple payback is achieved 2.4 years after start of production. Pre-tax NPV at a 12.5% discount rate is $1,704 million.

TABLE 1-3 BASE CASE PRE-TAX CASH FLOW
Franconia Minerals Corporation - Birch Lake Project

Birch Lake and Maturi Combined Feed			Year -3	Year -2	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 24	Year 25	Year 26	Total
PHYSICALS	Days Mined					350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	
Birch Lake	Ore Mined	tpd				10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	
		tpa				3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	1,022,058	88,522,058
	Ni	%		0.18		0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
	Cu	%		0.56		0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
	Pd	g/t		0.63		0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
	Pt	g/t		0.31		0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
	Au	g/t		0.14		0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
	Co	%		0.08		0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Maturi	Ore Mined	tpd						8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	
		tpa						2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	1,014,475	65,414,475
	Ni	%		0.23				0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
	Cu	%		0.62				0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.57
	Pd	g/t		0.23				0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.21
	Pt	g/t		0.09				0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.08
	Au	g/t		0.04				0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
	Co	%		0.02				0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Total Mill Feed		tpd				10,000	10,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	
		tpa				3,500,000	3,500,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	2,036,533	153,936,533
	Ni	%				0.18	0.18	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.20
	Cu	%				0.56	0.56	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
	Pd	g/t				0.63	0.63	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.43	0.46
	Pt	g/t				0.31	0.31	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.20	0.21
	Au	g/t				0.14	0.14	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.09	0.10
	Co	%				0.08	0.08	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
METAL RECOVERIES	Ni	%	Mill 68%	Platsol 96%	Total 66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
Birch Lake	Cu	%	97%	96%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%
	Pd	%	91%	86%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%
	Pt	%	91%	91%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%
	Au	%	90%	45%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
	Co	%			40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
Maturi	Ni	%	72%	96%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%
	Cu	%	92%	96%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%
	Pd	%	75%	86%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
	Pt	%	70%	91%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%
	Au	%	70%	45%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%
	Co	%			40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
METAL PRODUCTION	Ni	'000 lbs				9,338	9,338	19,219	19,219	19,219	19,219	19,219	19,219	19,219	19,219	19,219	19,219	19,219	19,219	19,219	6,307	467,029
	Cu	'000 lbs				40,366	40,366	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	24,053	1,811,820
	Pd	oz				54,980	54,980	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	20,917	1,704,071
	Pt	oz				28,329	28,329	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	10,119	835,578
	Au	oz				6,169	6,169	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	2,258	185,472
	Co	'000 lbs				2,449	2,449	2,888	2,888	2,888	2,888	2,888	2,888	2,888	2,888	2,888	2,888	2,888	2,888	2,888	874	72,194
PAYABLE METAL	Ni	'000 lbs		90.0%		8,404	8,404	17,297	17,297	17,297	17,297	17,297	17,297	17,297	17,297	17,297	17,297	17,297	17,297	17,297	5,676	420,326
	Cu	'000 lbs		100.0%		40,366	40,366	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	24,053	1,811,820
	Pd	oz		100.0%		54,980	54,980	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	20,917	1,704,071
	Pt	oz		100.0%		28,329	28,329	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	10,119	835,578
	Au	oz		100.0%		6,169	6,169	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	2,258	185,472
	Co	'000 lbs		90.0%		2,204	2,204	2,599	2,599	2,599	2,599	2,599	2,599	2,599	2,599	2,599	2,599	2,599	2,599	2,599	787	64,974
METAL PRICES	Ni	US$ / lb		6.00		6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
	Cu	US$ / lb		1.50		1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
	Pd	US$ / oz		300		300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
	Pt	US$ / oz		800		800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800
	Au	US$ / oz		450		450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450
	Co	US$ / lb		10.00		10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00

TABLE 1-3 BASE CASE PRE-TAX CASH FLOW

Franconia Minerals Corporation - Birch Lake Project

Birch Lake and Maturi Combined Feed			Year -3	Year -2	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 24	Year 25	Year 26	Total
GROSS REVENUE	Ni	US$'000				50,425	50,425	103,785	103,785	103,785	103,785	103,785	103,785	103,785	103,785	103,785	103,785	103,785	103,785	103,785	34,058	$ 2,521,958
	Cu	US$'000				60,550	60,550	111,328	111,328	111,328	111,328	111,328	111,328	111,328	111,328	111,328	111,328	111,328	111,328	111,328	36,079	$ 2,717,729
	Pd	US$'000				16,494	16,494	20,520	20,520	20,520	20,520	20,520	20,520	20,520	20,520	20,520	20,520	20,520	20,520	20,520	6,275	$ 511,221
	Pt	US$'000				22,663	22,663	26,741	26,741	26,741	26,741	26,741	26,741	26,741	26,741	26,741	26,741	26,741	26,741	26,741	8,095	$ 668,462
	Au	US$'000				2,776	2,776	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	1,016	$ 83,462
	Co	US$'000				22,040	22,040	25,991	25,991	25,991	25,991	25,991	25,991	25,991	25,991	25,991	25,991	25,991	25,991	25,991	7,868	$ 649,744
	TOTAL	**US$'000**				**174,948**	**174,948**	**291,708**	**291,708**	**291,708**	**291,708**	**291,708**	**291,708**	**291,708**	**291,708**	**291,708**	**291,708**	**291,708**	**291,708**	**291,708**	**93,391**	**$ 7,152,576**
CONCENTRATE CHARGES			fixed cost %			adjusted for lower rate																
Treatment Charges	Platsol Process	US$'000	57%	$ 7.21	US$/t ore	36,666	36,666	45,436	45,436	45,436	45,436	45,436	45,436	45,436	45,436	45,436	45,436	45,436	45,436	45,436	14,687	$ 1,133,038
Refining Charges	Ni	US$'000		$ 0.35	US$/lb	2,941	2,941	6,054	6,054	6,054	6,054	6,054	6,054	6,054	6,054	6,054	6,054	6,054	6,054	6,054	1,987	$ 147,114
	Cu	US$'000		$ -		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	$ -
	Pd	US$'000		$ 18.00	US$/oz	990	990	1,231	1,231	1,231	1,231	1,231	1,231	1,231	1,231	1,231	1,231	1,231	1,231	1,231	377	$ 30,673
	Pt	US$'000		$ 18.00	US$/oz	510	510	602	602	602	602	602	602	602	602	602	602	602	602	602	182	$ 15,040
	Au	US$'000		$ 12.00	US$/oz	74	74	89	89	89	89	89	89	89	89	89	89	89	89	89	27	$ 2,226
	Co	US$'000		$ 0.85	US$/lb	1,873	1,873	2,209	2,209	2,209	2,209	2,209	2,209	2,209	2,209	2,209	2,209	2,209	2,209	2,209	669	$ 55,228
	TOTAL	US$'000				**43,054**	**43,054**	**55,621**	**55,621**	**55,621**	**55,621**	**55,621**	**55,621**	**55,621**	**55,621**	**55,621**	**55,621**	**55,621**	**55,621**	**55,621**	**17,929**	**$ 1,383,320**
NET SMELTER RETURN		US$'000				131,894	131,894	236,087	236,087	236,087	236,087	236,087	236,087	236,087	236,087	236,087	236,087	236,087	236,087	236,087	75,463	$ 5,769,256
	Unit	US$/t milled				37.68	37.68	37.47	37.47	37.47	37.47	37.47	37.47	37.47	37.47	37.47	37.47	37.47	37.47	37.47	37.05	$ 37.48
OPERATING COSTS																						
	Mining - Birch Lake	US$'000				28,525	28,525	28,525	28,525	28,525	28,525	28,525	28,525	28,525	28,525	28,525	28,525	28,525	28,525	28,525	8,330	$ 721,455
	Mining - Maturi	US$'000				-	-	23,744	23,744	23,744	23,744	23,744	23,744	23,744	23,744	23,744	23,744	23,744	23,744	23,744	8,603	$ 554,715
	Definition Drilling	US$'000				1,750	1,750	3,150	3,150	3,150	3,150	3,150	3,150	3,150	3,150	3,150	3,150	3,150	3,150	3,150	1,018	$ 76,968
	Concentration	US$'000				22,946	22,946	30,870	30,870	30,870	30,870	30,870	30,870	30,870	30,870	30,870	30,870	30,870	30,870	30,870	9,979	$ 765,881
	Tailings	US$'000				796	796	1,433	1,433	1,433	1,433	1,433	1,433	1,433	1,433	1,433	1,433	1,433	1,433	1,433	463	$ 35,021
	G&A	US$'000				9,450	9,450	9,450	9,450	9,450	9,450	9,450	9,450	9,450	9,450	9,450	9,450	9,450	9,450	9,450	3,055	$ 239,305
	Contingency	US$'000				12,693	12,693	19,434	19,434	19,434	19,434	19,434	19,434	19,434	19,434	19,434	19,434	19,434	19,434	19,434	6,290	$ 478,669
	TOTAL	US$'000				76,161	76,161	116,607	116,607	116,607	116,607	116,607	116,607	116,607	116,607	116,607	116,607	116,607	116,607	116,607	37,737	$ 2,872,013
Unit Costs	Mining - Birch Lake	US$/tonne				8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15
	Mining - Maturi	US$/tonne				8.48	8.48	8.48	8.48	8.48	8.48	8.48	8.48	8.48	8.48	8.48	8.48	8.48	8.48	8.48	8.48	8.48
	Definition Drilling	US$/tonne				0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
	Concentration	US$/tonne				6.56	6.56	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.98
	Tailings	US$/tonne				0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
	G&A	US$/tonne				2.70	2.70	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.55
	Contingency	US$/tonne	20%			3.63	3.63	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.09	3.11
	TOTAL	US$/tonne				21.76	21.76	18.51	18.51	18.51	18.51	18.51	18.51	18.51	18.51	18.51	18.51	18.51	18.51	18.51	18.53	18.66
OPERATING CASH FLOW		US$'000				55,733	55,733	119,481	119,481	119,481	119,481	119,481	119,481	119,481	119,481	119,481	119,481	119,481	119,481	119,481	37,725	$ 2,897,243
				Stage 1 - Birch Lake		Stage 2 - Maturi																
CAPITAL COSTS	Pre-Construction	US$'000																				$ -
	Mine - Birch Lake	US$'000		58,500	58,500																	$ 117,000
	Mine - Maturi	US$'000			30,000	39,000	40,000	15,000	15,000													$ 139,000
	Concentrator	US$'000		40,000	40,000																	$ 80,000
	Hydromet Plant	US$'000		75,000	75,000																	$ 150,000
	Infrastructure	US$'000					8,646															$ 8,646
	Tailings	US$'000										10,000	10,000									$ 20,000
	Indirects	US$'000		38,378	46,464	8,627	11,060	3,318	3,318													$ 111,166
10%	Contingency	US$'000		17,350	20,350	3,900	4,865	1,500	1,500													$ 49,465
0.5%	Sustaining	US$'000						2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280		$ 52,440
	Reclamation	US$'000																			10,000	$ 10,000
	TOTAL	**US$'000**	**-**	**229,228**	**270,314**	**51,527**	**64,571**	**22,098**	**22,098**	**2,280**	**2,280**	**12,280**	**12,280**	**2,280**	**2,280**	**2,280**	**2,280**	**2,280**	**2,280**	**2,280**	**10,000**	**$ 737,716**
NET PRE-TAX CASH FLOW	Royalties	US$'000				2,372	5,267	9,032	14,681	9,032	12,928	13,763	14,111	14,111	14,111	10,414	10,414	10,414	10,414	10,414	3,283	$ 268,897
	Per Year	**US$'000**	**-**	**(229,228)**	**(270,314)**	**1,834**	**(14,105)**	**88,350**	**82,702**	**108,168**	**104,272**	**93,437**	**93,089**	**103,089**	**103,089**	**106,787**	**106,787**	**106,787**	**106,787**	**106,787**	**24,443**	**$ 1,890,630**
	Cumulative	**US$'000**	**-**	**(229,228)**	**(499,542)**	**(497,708)**	**(511,813)**	**(423,463)**	**(340,761)**	**(232,593)**	**(128,321)**	**(34,883)**	**58,206**	**161,295**	**264,384**	**371,171**	**477,958**	**584,745**	**1,759,400**	**1,866,187**	**1,890,630**	
NET PRESENT VALUE	**US$ Millions**	**7.5%**	**$365**																			
		10%	**$171**																			
		12.5%	**$41**																			
		15%	**($48)**																			

Note: Years 14 to 23 are hidden.
They are identical to Year 13.

SENSITIVITY ANALYSIS

Project risks can be identified in both economic and non-economic terms. Key economic risks were examined by running cash flow sensitivities:

- Metal Prices
- Head Grade
- Metallurgical Recovery
- Operating Costs
- Capital Costs

NPV sensitivity over the base case has been calculated for -30% to +30% variations. The sensitivities are shown in Figure 1-1 and Table 1-3.

FIGURE 1-1 SENSITIVITY ANALYSIS

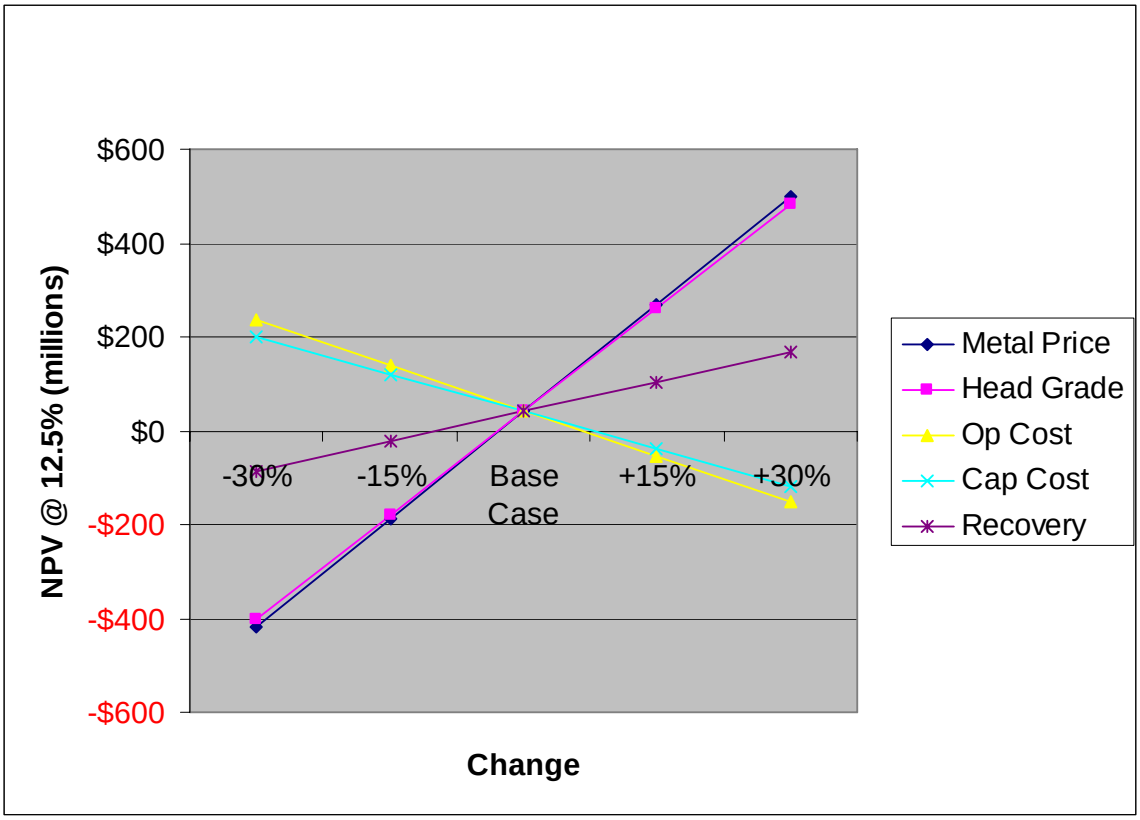


TABLE 1-4 SENSITIVITY ANALYSIS

Franconia Minerals Corporation – Birch Lake Project

Parameter Variables	Units	-30%	-15%	Base	+15%	+30%
Metal Price	US$/lb Cu	1.05	1.28	1.50	1.73	1.95
Head Grade	% Cu	0.29	0.43	0.59	0.78	1.00
Recovery	% Cu	85%	88%	91%	94%	97%
Operating Cost	US$/t	13.06	15.86	18.66	21.46	24.25
Capital Cost	$ millions	516	627	738	848	959

NPV @ 12.5%	Units	-30%	-15%	Base	+15%	+30%
Metal Price	$ millions	(417)	(188)	41	269	498
Head Grade	$ millions	(400)	(180)	41	261	482
Recovery	$ millions	(85)	(22)	41	103	166
Operating Cost	$ millions	234	138	41	(56)	(153)
Capital Cost	$ millions	200	120	41	(39)	(119)

Variation in copper parameters is shown in the table because copper accounts for the greatest amount of revenue in the Base Case (only slightly greater than nickel). Variations were applied to all metals, not just copper, to generate NPV sensitivities.

The Project is most sensitive to metal prices and head grade. Head grade variations represent effects of increased dilution or problems with ore continuity.

In order to remain within an achievable range, metallurgical recoveries have been varied by 3% increments, rather than factored by 15% increments. One of the aims of the current testwork program is to increase nickel recovery to typical industry levels. Increasing nickel recovery from 67% (Base Case average) to 75% would result in an NPV (at 12.5% discount rate) of $98 million.

Tailings options were evaluated for impact on Project NPV. Neither tailings used as backfill, nor lined TDFs generated positive results in comparison with the Base Case of establishing an unlined TDF on top of the Dunka Pit.

TECHNICAL SUMMARY

The Birch Lake and Maturi Zones are in Lake and St. Louis counties approximately 125 km north-northeast of Duluth, Minnesota. The Maturi and Birch Lake properties are located approximately five kilometers apart, at and near the base, respectively, of the Duluth Complex.

Birch Lake mineral title is held under 23 leases and permit agreements of which private leases account for 40% of the property and Minnesota State leases and Federal prospecting permits account for 60%. Title to the Federal Mineral Lease on the Maturi property is held by the BBJV in trust for Franconia.

Property infrastructure at Birch Lake is limited to diamond drill access roads. At Maturi, a 332 m deep exploration shaft has been capped, and the headframe removed.

HISTORY

The area has been prospected for iron since the mid 1800's and has witnessed the development of open pit iron ore mines in the Biwabik Iron Formation since 1884. Six iron ore mines continue to operate in the region. The abandoned Dunka open pit lies approximately one kilometer west of the Birch Lake property

Recent exploration of the Birch Lake property began in 1985 with prospecting by the Beaver Bay Joint Venture (BBJV) that was composed of Lehmann Exploration Management Inc. (LEM) and Connor Securities Company. To date some 44 pilot holes and 43 wedge offset holes (including some wedge offsets from old holes), have been drilled on the property, to bring the total footage drilled on the property by BBJV, joint venture partners and others to 37,002 m.

Exploration of the Maturi property began after sulphides were exposed during road construction through the neighbouring Spruce Road deposit area in 1948. Drilling began in 1966, and to date, 53 holes totaling 14,075 m have been drilled. In 1968, an exploration shaft was sunk, and a small underground bulk sample taken.

GEOLOGY

The Birch Lake Project lies within the Superior Province that is composed of Precambrian shield rocks. The Project is located in the southern portion of the Duluth Complex, a composite intrusion that occupies an area of approximately 6,500 $km^{2.}$ It extends some 240 km northeast-southwest from the City of Duluth almost to the Ontario border and attains a width of up to 50 km on surface.

The Duluth Complex is composed of anorthositic, troctolitic, gabbroic to ferrogranodioritic, and granitic/granophyric rocks. Footwall contacts on the west and north sides of the intrusive are sharply defined with the metagreywackes and slates of the Middle Precambrian Virginia Formation, the Biwabik iron formation of the Mesabi Range, and the Early Precambrian monzonites of the Giants Range Batholith. The contact and base of the complex dips shallowly to moderately to the southeast (-10˚ to -35˚).

The Birch Lake deposit is entirely underlain by the South Kawashiwi Intrusion (SKI), which has been simplified to seven principal units found on the property. The Cu-Ni bearing sulphides and associated PGE mineralization at Birch Lake occur consistently in the upper portion of the "U3" ultramafic unit. The U3 unit has been intersected at depths as shallow as 343 m and up to 915 m in 31 pilot holes on the property. Intercepts of the U3 range from 14.6 m to 114.3 m, and vertical thickness averages 53 m, based on statistics for 31 pilot holes.

Strong PGE enrichment is associated with late stage Cu-Ni sulphides, particularly with chalcopyrite, talnakhite, and bornite where they occur as replacement mineralization. Weaker PGEs are found where chalcopyrite and pyrrhotite are the primary sulphides.

The spatial distribution of faults on the property is such that the Birch Lake deposit is displaced laterally and vertically by the sub-vertical fault sets however, at the relatively wide spacing of the mostly vertical drill holes that test the deposit, the location of most of

the interpreted faults is not known with the degree of confidence generally required for reserve estimation and mine planning.

The Maturi deposit is also entirely underlain by the lower portion of the SKI. The limited drilling at Maturi provides for only simplified geologic interpretation; the mineralization at the base of the SKI appears fairly planar and parallel to the lower contact.

The Maturi deposit consists of a tabular sheet of disseminated copper-nickel-iron sulphide mineralization 70 m to 100 m thick that rests on or close to the SKI-granite contact. Dip varies from 35° to 55° and the zone plunges approximately N60°E along the contact. Higher grades are concentrated in the upper 30 m of the zone that strikes approximately two kilometers and extends one kilometer down dip. Mineralization has been traced by drilling down plunge approximately 3,500 m and is open to depth.

BIRCH LAKE MINERAL RESOURCES

The Birch Lake mineral resource estimate is based entirely on surface diamond drilling. The database consists of 44 pilot holes totalling 32,046.15 m and 43 wedge offset holes for 4,955.87 m or 37,002.02 m in all.

Drilling on the property and recorded in the drill hole database covers an area of 11 km by 6 km. Resource and limiting drill holes are irregularly spaced in an area 3,150 m north-south and 2,120 m east west. Scott Wilson RPA is of the opinion that the quality of diamond drill hole data is acceptable for inferred resource estimation.

Scott Wilson RPA estimated the mineral resource at Birch Lake by 3D computer block modelling and geostatistical methodologies. A wireframe outlining the potentially economic mineralization was constructed in order to constrain the resource estimate. Drill hole assays inside the wireframes were captured, and assay composites of equal two-metre lengths were generated to regularize sample support. Grade variogram models of Cu assay composites were graphed and interpreted. Block model search parameters

were established based on the variography results and the geometry of the deposit. Ordinary kriging (OK) was used for grade interpolation.

Owing to the polymetallic nature of the mineralization, Scott Wilson RPA used a net smelter return (NSR) approach to report resources at incremental US dollar NSR cut-offs. In Scott Wilson RPA's opinion, this approach best accounts for the impact of co-product metals on the potential project economics.

TABLE 1-5 SUMMARY OF BIRCH LAKE INFERRED MINERAL RESOURCES
Franconia Minerals Corporation - Birch Lake Project

NSR Cut-off (US$)	Tonnes (000's)	Cu% (cut)	Ni%	Co ppm	Pt ppb	Pd ppb	Au ppb
$10	163.00	0.469	0.152	70	240	500	111
$15							
$20	113.34	0.566	0.184	82	304	626	136
$25	100.43	0.585	0.191	82	317	651	141
$30	66.20	0.635	.0210	86	360	731	157
$35	44.89	0.670	0.229	89	399	793	172
$40	29.91	0.711	0.252	93	411	830	188

Notes:
1. CIM definitions were followed for Mineral Resources.
2. Mineral Resources are estimated at NSR cutoff grades.
3. Mineral Resources are estimated using an average long-term US$ metal prices of $6.00/lb Ni, $1.50/lb Cu, $10/lb Co, $800/oz Pt, $300/oz Pd and $450/oz Au.
4. A minimum mining width of 3 metres was used.

MATURI MINERAL RESOURCES

Scott Wilson RPA estimated Inferred Resources for the Maturi deposit as described in Routledge and Greenough (2006). The Maturi mineral resource estimate is based entirely on diamond drilling, consisting of 41 surface holes and 12 underground holes totalling 14,555 m. The wide drill hole spacing is adequate for classification as inferred resources. Scott Wilson RPA notes that analyses for cobalt, gold and the PGE's were not done by Inco and are mostly lacking in the drill hole database.

Scott Wilson RPA estimated the mineral resource at Maturi by 3D computer block modelling and geostatistical methodologies. A wireframe, outlining the potentially

economic mineralization at a 0.4% Cu contour cut-off, was constructed in order to constrain resource estimate. Drill hole samples inside the wireframes were captured, and assay composites of equal three-metre lengths were generated to regularize sample support. Grade variogram models of Cu and Ni assay composites were graphed and interpreted. Block model search parameters were established based on the variography results and the geometry of the deposit. A nearest neighbour (NN) block model was generated to decluster sample data for statistics, and ordinary kriging (OK) was used for grade interpolation.

Maturi resources are also reported using NSR cut-offs.

TABLE 1-6 SUMMARY OF MATURI INFERRED MINERAL RESOURCES

Franconia Minerals Corporation – Birch Lake Project

NSR Cut-Off (US$)	Tonnes (millions)	Cu%	Ni%	Co ppm	Pd ppb	Pt ppb	Au ppb
$25.00	167.87	0.62	0.24	20	230	80	40
$26.00	161.58	0.63	0.24	20	230	80	40
$27.00	155.17	0.63	0.24	20	240	80	40
$28.00	147.63	0.64	0.24	20	240	90	40
$29.00	139.26	0.65	0.25	20	240	90	40
$30.00	130.05	0.66	0.25	20	240	90	40
$31.00	119.15	0.67	0.25	20	250	90	40
$32.00	107.01	0.68	0.26	20	250	90	40
$33.00	95.09	0.69	0.26	20	260	90	50
$34.00	**83.07**	**0.70**	**0.26**	**20**	**260**	**100**	**50**
$35.00	72.68	0.71	0.27	20	260	100	50

Notes:
1. CIM definitions were followed for Mineral Resources.
2. Mineral Resources are estimated at NSR cutoff grades.
3. Mineral Resources are estimated using an average long-term US$ metal prices of $6.00/lb Ni, $1.50/lb Cu, $10/lb Co, $800/oz Pt, $300/oz Pd and $450/oz Au.
4. A minimum mining width of 3 metres was used.
5. Cobalt grade is assigned based on average of Co assays.
6. Pd grade estimated by correlation with average copper grade.
7. Pt and Au grades estimated by correlation with average palladium grade.

RESOURCES FOR PRELIMINARY ASSESSMENT

For the purposes of this Preliminary Assessment, Scott Wilson RPA has made the following assumptions to convert resources into a production forecast.

TABLE 1-7 BIRCH LAKE RESOURCE FOR PRELIMINARY ASSESSMENT

Franconia Minerals Corporation – Birch Lake Project

	Mt	Ni %	Cu %	Co %	Pd g/t	Pt g/t	Au g/t
Resource	100.4	0.19	0.59	0.08	0.65	0.32	0.14
Dilution	3.7%						
Extraction	85%						
Extracted Resource	88.5	0.18	0.56	0.08	0.63	0.31	0.14

Birch Lake resources are estimated at an NSR cut-off value of $25 per tonne, chosen to provide enough of a margin above operating costs to cover royalties and give a timely payback of capital. Dilution is based on 0.5 m over-break on an average deposit thickness of 13.6 m. Extraction is based on a typical room and pillar layout.

TABLE 1-8 MATURI EXTRACTED RESOURCE

Franconia Minerals Corporation – Birch Lake Project

	Mt	Ni %	Cu %	Co %	Pd g/t	Pt g/t	Au g/t
Resource	83.1	0.26	0.70	0.02	0.26	0.10	0.05
Dilution	12.5%						
Extraction	70.0%						
Extracted Resource	65.4	0.23	0.62	0.02	0.23	0.09	0.04

Maturi resources are estimated at an NSR cut-off value of $34 per tonne, chosen to match the Birch Lake mine life at Base Case production rates. Dilution is based on typical results from large open-stope mining. Extraction is based on a typical stope and pillar layout.

BIRCH LAKE MINING

The Birch Lake deposit is tabular, extending for over two kilometres along strike in a north-south direction and an average of approximately 400 m down-dip. The thickness ranges from three metres to 60 m and the dip is approximately 10% to 12%. The deposit lies approximately 500 m to 780 m below surface.

The limited drilling to date shows that the hanging wall and the deposit itself exhibit good physical properties, which should allow relatively wide span openings to be developed. Geomechanics investigation is needed to establish allowable spans and appropriate ground control requirements.

The size, depth, and configuration, combined with the relatively low grade of the deposit, calls for the application of a fully mechanized, underground bulk mining method having a low unit production cost. High production rates are required to generate low unit costs. The selected room and pillar method appears to be the most suitable mining method for the Birch Lake Zone. In areas where the deposit thickness exceeds 20 m, longhole open stoping without backfill appears to be suitable to increase mining extraction rate and improve efficiency.

The proposed production rate for the Birch Lake Zone is 10,000 tonnes per day, based on a nominal seven days per week operation. Assuming 350 days per year of operation, annual production would amount to 3,500,000 tonnes. Approximately 30% of ore production would come from panel and top lift development by jumbo, and the remaining 70% from more efficient benching and longhole stoping. In Scott Wilson RPA's opinion, the high production rate is achievable, given the configuration of the Birch Lake Zone.

The deposit would be developed with the use of two shafts. A main production-service shaft and an exhaust shaft, in combination with a number of ventilation raises, would be required to provide mine access and proper ventilation to the mining areas. The main shaft would perform a number of functions, providing access and delivery of materials to the mine, serving as a fresh air intake, and hoisting ore and waste rock during the mine development and production.

Access to workplaces will be via internal ramp systems in ore. Two parallel drifts below the deposit will provide definition drilling locations. Ore passes will be established from the internal ramps to the lower drifts, which will be equipped with conveyors to move ore to the shaft area.

Other underground infrastructure would include a crusher, maintenance shop, powder magazines, power distribution, mine dewatering system, and communications networks to support the mining operation.

A fleet of development-production jumbos, mechanical scalers, production drills, loaders, trucks, and auxiliary equipment would be used to keep the panel development on schedule to meet the production targets.

MATURI MINING

The Maturi deposit is tabular and extends over 1,200 m along strike in a northeast-southwest direction. It has an average 25 m thickness, and extends 600 m down-dip at angles of 35° to 52°. The top of the deposit is approximately 50 m below surface and it bottoms at approximately 600 m below surface.

The limited drilling to-date shows that the hanging wall and the deposit itself exhibit good physical properties, which should allow relatively large span openings with minimal ground support. Geomechanics investigation is needed to establish allowable spans and appropriate ground control requirements.

The size and configuration, combined with the relatively low grade of the deposit, calls for the application of a fully mechanized, underground bulk mining method, which has a low unit production cost. High production rates are required to generate low unit costs. The deposit could be exploited with the use of a long-hole transverse open stoping method, leaving appropriately-sized mineralized pillars. The mining extraction would be in the range of 65% to 75%, depending on stope and pillar dimensions necessary to maintain hanging wall stability. Dilution using this method is typically in the range of 10% to 15%.

Stoping would progress level by level from the top of the deposit downwards. Each stope would have a mucking level at the bottom, and a drilling sublevel in the middle. Vertical pillars would be left along the dip of the deposit between the stopes. These pillars would be left permanently in place for providing stability for the mine and the hanging wall. Based on an average 25 m thickness of the deposit, stopes of 30 m to 35 m width and 85 m vertical height may be appropriate, separated by 18 m to 20 m wide vertical pillars. Each stope would have a 15 m temporary sill pillar below the mucking level. Some of the temporary sill pillars could possibly be extracted at some later time. An average stope would yield approximately 220,000 tonnes. Stopes would be left open after the extraction process is completed.

Scott Wilson RPA considers a production rate of 8,000 tonnes per day to be appropriate for the size of this deposit with the application of the sublevel long-hole open stoping method described above. A single average size stope, including tonnage from the ongoing development, would meet monthly production requirements. Transverse stoping allows simultaneous access to multiple workplaces on each level.

The deposit would be developed with the use of a new production shaft and a ramp from surface. The new shaft and the ramp, in a combination with a number of ventilation raises and the existing shaft, would provide mine access and proper ventilation of the mining areas.

The deposit would be divided into four equal-length vertical blocks, each approximately 300 m along strike. Each block would have its own ore pass system with a storage bin and an automated discharge arrangement at its bottom for loading mine cars. Four exhaust raises would be excavated for effective ventilation of each mining block.

Block ore pass systems will terminate at rail haulage levels, where ore will be collected and hauled back to the production shaft. A gyratory crusher with a fine ore bin leading to shaft loading pockets would be installed at the bottom of the shaft.

A fleet of development jumbos, mechanical scalers, production drills, loaders, trucks, and auxiliary equipment would be used to keep the block development and stoping preparation on schedule to meet the production targets.

MINERAL PROCESSING

The proposed process for Birch Lake and Maturi involves flotation of a bulk sulphide concentrate containing copper, nickel, PGM's and gold and subsequent leaching and recovery of metals using the proprietary Platsol process. The Platsol process includes pressure leaching of concentrate under conditions suitable for simultaneously solubilising the base and precious metals. The pressure leach process will be followed by liquid/solid separation, recovery of platinum group metals and gold from the clarified solution by precipitation or adsorption, copper recovery using solvent extraction and electrowinning, and precipitation of a nickel-cobalt product from a bleed stream. This expected general process is illustrated in the following simplified flowsheet, and may be subject to change as the testwork proceeds.

There would be three final products – cathode copper, a nickel cobalt hydroxide, and a precious metals precipitate. The copper would be a direct saleable product, and the other two products will be shipped to refiners for processing.

Predicted metal extractions for Birch Lake are shown in the table below.

TABLE 1-9 BIRCH LAKE METALLURGICAL RECOVERIES

Franconia Minerals Corporation – Birch Lake Project

	Ni %	Cu %	Co %	Pd %	Pt %	Au %
Concentrator Recovery	68	97		91	91	90
Platsol Recovery	96	96		86	91	45
Total Recovery	66	93	40	78	82	40

Cobalt recovery was not followed in the testwork to date and the assigned recovery has been estimated based on available information from testwork on a generally similar material.

Predicted metal extractions for Maturi ore are shown in the following table. Concentrator recovery was taken from WGM (2000). Platsol recovery is based on Birch Lake testwork. It is emphasized that testwork on mineralized material from the Maturi deposit itself is required to confirm recoveries.

TABLE 1-10 MATURI METALLURGICAL RECOVERIES

Franconia Minerals Corporation – Birch Lake Project

	Ni %	Cu %	Co %	Pd %	Pt %	Au %
Concentrator Recovery	72	92		75	70	70
Platsol Recovery	96	96		86	91	45
Total Recovery	69	88	40	64	63	31

Bench scale testwork has confirmed the amenability of Birch Lake material to flotation concentration and subsequent metal recovery via the Platsol process. Flotation recovery of nickel was lower than anticipated and may be improved through additional testwork.

Additional bench scale testwork is required on both Birch Lake and Maturi samples to develop design information and to optimize process conditions. Because of the nature and complexity of the overall process, a pilot plant operation is required to confirm recoveries, to allow the development of detailed process design criteria, and to demonstrate product purity.

SURFACE INFRASTRUCTURE

Ore will be skipped to surface via production shafts, and stored in coarse ore bins at both the Birch Lake and Maturi Zones. Maturi ore will be processed in a crushing and

grinding circuit at the Maturi site before being pumped to the Birch Lake plant site via a slurry pipeline.

Process water will be supplied through reclaim from tailings, and from mine dewatering. If necessary, make-up water will come from Birch Lake.

In addition to the ore receiving area and processing plant, the Birch Lake site will include administration offices, a warehouse, maintenance shops, shaft headframe, dry facilities, explosives and cap magazines, and facilities providing basic infrastructure, including: ventilation, heat, water treatment and supply, and sewage treatment. The Maturi site will include a crushing/grinding/slurry process plant, a small office building, a warehouse, maintenance shops, shaft headframe, dry facilities, explosives and cap magazines, and facilities providing basic infrastructure.

Power will be supplied to both sites from the local grid. Each site will be equipped with a main substation and a power distribution network.

LIFE OF MINE PLAN

Construction will begin at the Birch Lake site in Year -2, with shaft-sinking and preparation for process buildings. In Year -1, construction will begin at the Maturi mine site, with shaft-sinking and ramp development. Birch Lake mine and the processing facilities will be ready for production of 10,000 tpd at the start of Year 1. An expansion of the concentrator and hydrometallurgical plant will be ready for an additional 8,000 tpd from Maturi mine in Year 3.

Before production begins, Birch Lake mine will require that the shaft be in place, along with associated infrastructure (loading pockets, conveyors, etc.). The lower drill drifts will extend below areas scheduled for initial production, and ore passes will be established. The internal ramp system will be developed sufficiently to provide an adequate number of workplaces to supply 10,000 tpd on a continuous basis. As mining progresses at Birch Lake, the lower drifts will be advanced ahead of production, for definition drilling and installation of conveyors and ore passes.

Pre-production work at Maturi would consist of dewatering and rehabilitation of the existing shaft and sinking of a new shaft concurrently with driving the ramp from the surface and initially developing the first two mining blocks and their infrastructure. Additionally, a number of essential underground infrastructure components would be excavated and equipped. The slurry pipeline to the Birch Lake processing facilities will be established.

For the Base Case, tailings will be deposited sub-aqueously in the nearby Dunka Pit, until Year 9, when below-surface capacity will be exhausted. Tailings from Year 9 forward will be deposited in a conventional tailings disposal facility constructed over top of the Dunka Pit footprint.

ENVIRONMENTAL CONSIDERATIONS

The primary wastes produced by the Project would be tailings and waste rock. With potential for a long mine life at high production rates, the Project will produce a large amount of tailings, and a tailings disposal strategy will likely involve a combination of the options discussed below. Small amounts of waste rock will be stockpiled on surface during mine construction, and in the early years of operation. Waste rock will be returned underground for permanent storage as mining progresses.

Some aspects of the Project suggest that environmental issues may be fairly straightforward. The underground mines will have a small surface footprint. Testwork to date suggests that the tailings will have very low sulphur levels, implying that they will be essentially inert, or non-acid-producing. Some tailings options have footprints confined entirely to areas disturbed by previous mining activities, and some options can be designed as zero-discharge facilities. The Project is located in an area of considerable ongoing and historical mining activity. Franconia reports that background work for environmental purposes has been initiated.

Polymet is currently preparing an Environmental Impact Statement (EIS) on the Northmet deposit, as part of a final feasibility study due in 2007. Successful permitting and initiation of commercial production at the Northmet deposit will have positive

implications for the Birch Lake Project in terms of establishing recent precedents for the approvals process.

Scott Wilson RPA recommends that options for tailings disposal be examined in more detail, to provide a more accurate evaluation of requirements, and impact on costs, permitting, and mine operations. Requirements such as liners, zero-discharge designs, and size and location of footprint should be clarified to assist in choosing the most appropriate scenario for the Project.

TAXES AND ROYALTIES

Scott Wilson RPA has evaluated the economics of the Project on a pre-tax basis.

Royalties on Birch Lake vary from lease to lease (state and private), with 5% NSR being used as an average. Royalties on Maturi are based on gross value of nickel and copper in ore, without deductions for concentrator or hydrometallurgical losses. The sum of the Maturi royalties is equivalent in magnitude to a 3.7% NSR royalty.

Both properties are subject to a Technology License Agreement between Franconia and International PGM Technologies Ltd. (IPGM), dated December 23, 2005, for use of the Platsol process. The agreement confers a 5% NSR royalty interest on first year Project production to IPGM.

Project royalties average $1.75 per tonne of ore.

CAPITAL COSTS

Pre-production capital costs of $616 million covers the work required to bring the Project into production, including underground development and shaft sinking at both mine sites, construction of infrastructure on surface and underground, processing plant construction (including concentration and hydrometallurgical facilities), and installation of services to support the mine sites. The estimate includes pre-production costs incurred over four years, with no allowance for escalation.

The estimate includes direct costs of equipment, materials, and labour, as well as indirect costs such as engineering, procurement, and construction management (EPCM); temporary construction services, owner's costs, and contingencies. Costs for advancing the Project to construction stage, such as resource upgrade drilling, project financing, land acquisition, permitting, environmental studies, and feasibility studies, are not included.

Table 1-10 provides a summary of capital costs. Estimates are considered to be at an order-of-magnitude level of accuracy, suitable for a Preliminary Economic Assessment.

TABLE 1-11 CAPITAL COST SUMMARY
Franconia Minerals Corporation – Birch Lake Project

Item	Units	Pre-Production	Ongoing	Total
Mine – Birch Lake	$ millions	117		117
Mine – Maturi	$ millions	109	30	139
Concentrator	$ millions	80		80
Hydromet Plant	$ millions	150		150
Infrastructure	$ millions	9		
Subtotal - Direct Costs	$ millions	465	30	495
Indirects	$ millions	105	6	111
Contingency	$ millions	46	3	49
Tailings	$ millions		20	20
Sustaining	$ millions		52	52
Reclamation	$ millions		10	10
Total	**$ millions**	**616**	**121**	**737**

OPERATING COSTS

Operating costs, averaging a total of $119 million per year, are presented in the following table:

TABLE 1-12 UNIT OPERATING COST SUMMARY
Franconia Minerals Corporation – Birch Lake Project

Item	Units	LOMP Average
Mine – Birch Lake	$/t mined	8.15
Mine – Maturi	$/t mined	8.48
Mine – Average	$/t milled	8.29
Definition Drilling	$/t milled	0.50
Concentration	$/t milled	4.98
Tailings	$/t milled	0.23
G&A	$/t milled	1.55
Contingency	$/t milled	3.11
Total	**$/t milled**	**18.66**

Mine costs at each site include development, drilling, blasting, mucking, haulage, and hoisting. Definition drilling costs cover requirements beyond exploration activities; drilling to confirm grade, continuity, and location of geological features such as local faulting. Concentration and Hydrometallurgical Plant costs include all direct processing costs from receipt of ore through to metal production and tailings disposal for a nominal mill throughput of 18,000 tpd. Hydrometallurgical Plant costs of $7.21 per tonne of ore have been included in the cash flow under Concentrate Charges, rather than under Operating Costs, to generate a conventional Net Smelter Return figure for use in royalty calculation. Tailings costs include pumping and maintenance for both sub-aqueous and conventional placement of tailings. G&A costs include labour and general expenses for Administration, Human Resources, Health & Safety, and Technical Services departments. A contingency allowance of 20% of operating costs has been included.

MANPOWER

The manpower requirement for the Birch Lake Project was estimated at 500 employees. This number includes staff and hourly employees. It does not include the contractor workforce required for construction.

TABLE 1-13 WORKFORCE SUMMARY

Franconia Minerals Corporation – Birch Lake Project

Department	Staff	Hourly	Total
Mine – Birch Lake	18	147	165
Mine – Maturi	22	146	168
Processing Plant	13	58	71
Maintenance	11	85	96
Technical Services	28		28
Admin (Mgt, HR, Safety, Purchasing)	24		24
Total	**116**	**436**	**552**

The estimation of manpower was based on proposed work schedules, and comparison to similar projects. Four crews would be required to maintain two 10-hour shifts per day, seven days per week.

2 INTRODUCTION AND TERMS OF REFERENCE

Scott Wilson Roscoe Postle Associates Inc. (Scott Wilson RPA) was retained by Franconia Minerals Corporation (Franconia) to prepare an independent Technical Report on the Birch Lake Project (the Project), located in Lake County, Minnesota, USA. The Project consists of the Birch Lake and Maturi deposits. The purpose of this report is to provide an updated resource estimate for the Birch Lake deposit, and to undertake a Preliminary Economic Assessment of an operation combining production from both deposits. This Technical Report conforms to NI 43-101 Standards of Disclosure for Mineral Projects.

Franconia is a publicly-held exploration company, focused on exploring and developing platinum-group and base metals deposits in the continental United States. The Birch Lake Zone is located 11 km east of the town of Babbitt, Minnesota and consists of a large tonnage - low grade copper-nickel-PGE deposit occurring near the base of the Duluth Intrusive Complex. Franconia can earn up to 82% interest from the Beaver Bay Joint Venture (BBJV) by completing a series of payments and expenditures. The Maturi Zone is located approximately five kilometres north-northeast of the Birch Lake Zone. The Maturi Zone also consists of a large tonnage - low grade copper-nickel-PGE deposit, although PGE values are lower than Birch Lake. Title to the federal lease containing the Maturi Zone is held by BBJV in trust for Franconia.

Currently, the major assets and facilities associated with the two deposits are:

- The Birch Lake Zone deposit, consisting of low grade, disseminated Cu-Ni sulphides with associated Au and PGE minerals and minor cobalt.
- The Maturi Zone deposit consisting of low grade, disseminated Cu-Ni sulphides with minor cobalt and minor associated Au and PGE minerals.
- Underground infrastructure at Maturi, including an exploration shaft (332 m deep, capped, headframe removed), and some drifting on the 305 m level.
- Available drill core from both deposits is held at the Minnesota Department of Natural Resources core library in Hibbing, Minnesota.

- Access by highway and secondary roads, proximal to local power grid, railroad access at Babbitt, shipping access at Duluth.

Scott Wilson RPA has completed previous reports on the deposits, most recently for the Maturi Zone, dated June 30, 2006, and for the Birch Lake Zone, dated November 19, 2005 (see References). This Preliminary Economic Assessment incorporates the June 30, 2006 Maturi Zone resource estimate, and a new 3-D computer block model resource estimate for the Birch Lake Zone, updated with results from the 2005 diamond drilling campaign. Proposed production rates are 10,000 tpd from Birch Lake and 8,000 tpd from Maturi, to be processed at a concentrator and hydrometallurgical facility to be located at Birch Lake. Anticipated products include cathode copper, nickel-cobalt hydroxide, and a precious metals precipitate.

This report is considered by Scott Wilson RPA to meet the requirements of a Preliminary Assessment as defined in Canadian NI43-101 regulations. The economic analysis contained in this report is based on inferred resources, and is preliminary in nature. Inferred resources are considered too geologically speculative to have mining and economic considerations applied to them and to be categorized as Mineral Reserves. There is no certainty that the reserves development, production and economic forecasts on which this preliminary assessment is based, will be realized.

SOURCES OF INFORMATION

Scott Wilson RPA Consulting Geologist Richard Routledge, M.Sc., P. Geo., examined Maturi drill core, and visited the Maturi property on May 17, 2006. Mr. Routledge visited the Birch Lake property and examined drill core in November 2003. He also visited the adjacent Maturi Extension property on May 18, 2006, and is familiar with the Duluth Complex geology.

Discussions were held with the following personnel:

- Mr. Ernest Lehmann, Chairman, Franconia
- Mr. Brian Gavin, President, Franconia
- Mr. Bill Rowell, Geologist, Franconia
- Mr. Leon Gladden, Geologist, Franconia
- Mr. Dale Buob, President, MTB Project Management Professionals, Inc. (MTB)
- Mr. Bill Spear, Vice-President, MTB
- Mr. John Borovsky, Vice-President, Barr Engineering Company (Barr)

MTB has been engaged by Franconia to manage the advancement of the Project. Barr has been engaged by Franconia to provide advice on permitting and to undertake environmental studies.

This report was prepared under the overall supervision of Graham Clow, P. Eng., Managing Director of Scott Wilson Mining Group. Geology and resource sections of the report were completed by Richard Routledge, P. Geo., Consulting Geologist. Mining aspects of the report were completed by Andrew Hara, P. Eng., Associate Consulting Mining Engineer, and Jason Cox, P. Eng., Senior Mine Engineer. Metallurgical aspects of the report were completed by Al Hayden, P. Eng., President of EHA Engineering.

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

LIST OF ABBREVIATIONS

The Birch Lake property is located in the U.S.A. where the Imperial System is used. Core logging and sampling records for the Project are Imperial. The SI (metric) system was used for earlier resource modelling and, in the course of that work, original drill log data in Imperial measure has been converted to SI. Consequently, RPA reports the various estimates and units of measure in SI with conversion to Imperial measure where appropriate. All currency in this report is US dollars (US$) unless otherwise noted.

μ	micron
°C	degree Celsius
°F	degree Fahrenheit
μg	microgram
A	ampere
a	annum
bbl	barrels
Btu	British thermal units
C$	Canadian dollars
cal	calorie
cfm	cubic metres per minute
cm	centimeter
cm^2	square centimeter
d	day
dia.	diameter
dmt	dry metric tonne
dwt	dead-weight ton
ft	foot
ft/s	foot per second
ft^2	square foot
ft^3	cubic foot
g	gram
G	giga (billion)
Gal	Imperial gallon
g/L	gram per litre
g/t	gram per tonne
gpm	Imperial gallons per minute
gr/ft^3	grain per cubic foot
gr/m^3	grain per cubic metre
hr	hour
ha	hectare
hp	horsepower
in	inch
in^2	square inch
J	joule
k	kilo (thousand)
kcal	kilocalorie
kg	kilogram
km	kilometre
km/h	kilometre per hour
km^2	square kilometre
kPa	Kilopascal
kVA	kilovolt-amperes
kW	Kilowatt
kWh	kilowatt-hour
L	liter
L/s	litres per second
M	metre
M	mega (million)
m^2	square metre
m^3	cubic metre
Min	minute
MASL	metres above sea level
Mm	millimetre
Mph	miles per hour
MVA	megavolt-amperes
MW	megawatt
MWh	megawatt-hour
m^3/h	cubic metres per hour
opt, oz/st	ounce per short ton
Oz	Troy ounce (31.1035g)
oz/dmt	ounce per dry metric tonne
Ppm	part per million
Psia	pound per square inch absolute
Psig	pound per square inch gauge
RL	relative elevation
S	second
St	short ton
Stpa	short ton per year
Stpd	short ton per day
T	metric tonne
Tpa	metric tonne per year
Tpd	metric tonne per day
US$	United States dollar
USg	United States gallon
USgpm	US gallon per minute
V	volt
W	watt
Wmt	wet metric tonne
yd^3	cubic yard
Yr	year

3 RELIANCE ON OTHER EXPERTS

This report has been prepared by Scott Wilson Roscoe Postle Associates Inc. (Scott Wilson RPA) for Franconia Minerals Corporation (Franconia). 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 Franconia and other third party sources.

For the purpose of this report, Scott Wilson RPA has relied on ownership information provided by Franconia. Scott Wilson RPA has not researched property title or mineral rights for the Birch Lake or Maturi and expresses no legal opinion as to the ownership status of the properties.

4 PROPERTY DESCRIPTION AND LOCATION

The Birch Lake and Maturi project areas are in Lake and St. Louis counties approximately 125 km north-northeast of Duluth, Minnesota (Figure 4-1). The Maturi and Birch Lake properties are located approximately five kilometers apart at and near the base, respectively, of the Duluth Complex. Detailed information on property description and location for Birch Lake is provided in Routledge (2004) and Clow and Routledge (2005). For Maturi this information is available in Routledge and Greenough (2006). Figures 4-2 and 4-3 show property maps.

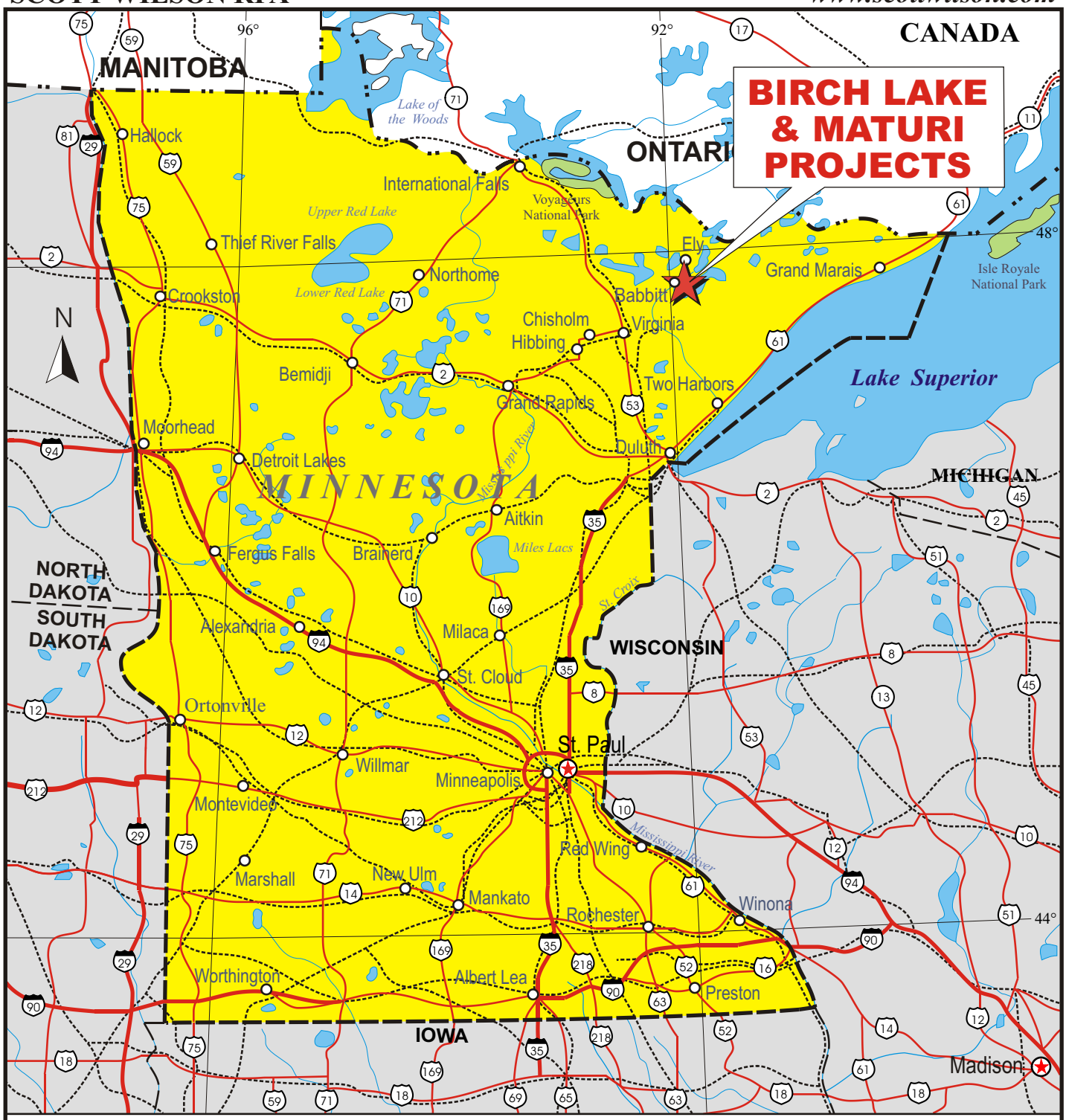


Figure 4-1

0 40 80 120 160 200
Kilometres

Legend:

- *Highway*
- *Railroad*

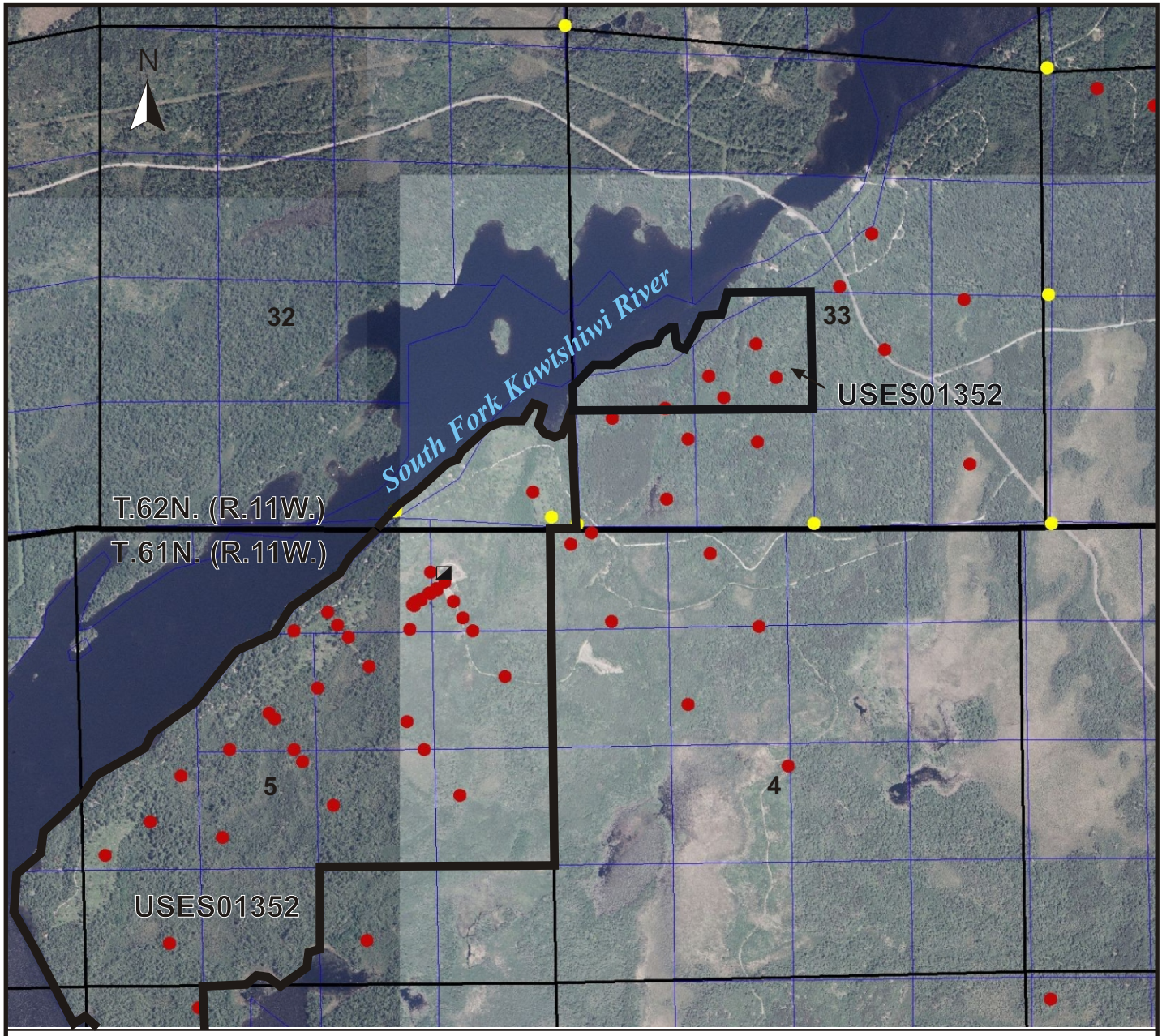
Franconia Minerals Corporation

Birch Lake & Maturi Projects

Minnesota, U. S. A.

Location Map

September 2006



Metres
0 400 800
0 1/4 1/2
Miles

Figure 4-2

Franconia Minerals Coporation

Birch Lake Project

Minnesota, U.S.A.

Location of Federal Lease and Drill Holes on the Maturi Property

Legend:

- *Drill Hole Collar*
- *Exploration Shaft*
- USES01352 *Franconia Lease Boundary & Number*

September 2006

Source: MNDNR

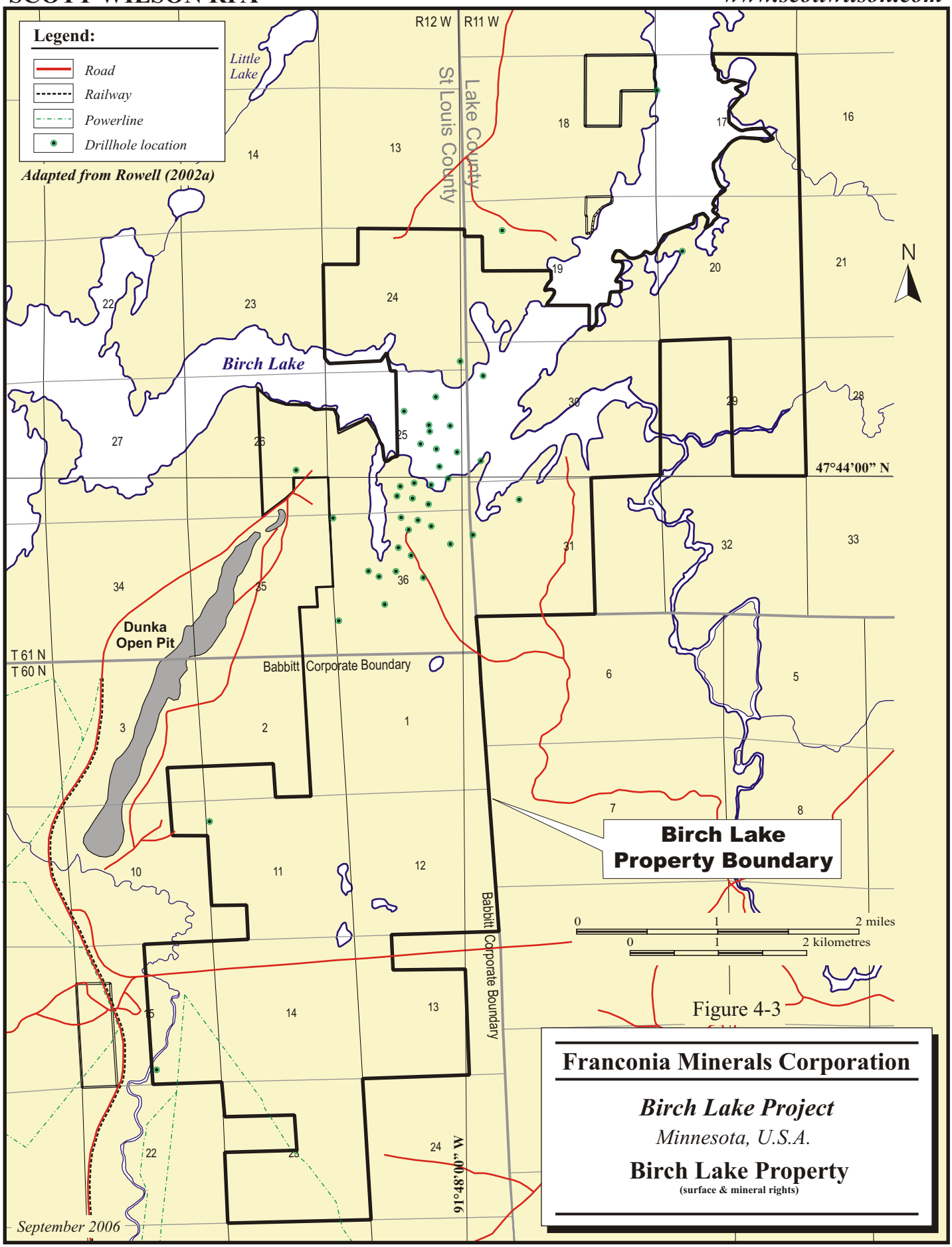


Figure 4-3

Franconia Minerals Corporation

Birch Lake Project

Minnesota, U.S.A.

Birch Lake Property

(surface & mineral rights)

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

Accessibility, climate, local resources, infrastructure, and physiography are described for the respective properties in Routledge (2004) and Clow and Routledge (2005) for Birch Lake, and Routledge and Greenough (2006) for Maturi.

6 HISTORY

The general history of the properties is described in Routledge (2004) and Routledge and Greenough (2006). Table 6-1 has been updated to reflect the history of the Birch Lake property subsequent to the Scott Wilson RPA 2004 report and Table 6-2 for Maturi is provided for reference.

TABLE 6-1 SUMMARY OF BIRCH LAKE EXPLORATION	
Franconia Minerals Corporation – Birch Lake Project	
Year	**Exploration**
1970-1975	Duval Corporation diamond drilled a fence of wide spaced holes to the base of the Duluth Complex
1985	BBJV undertakes prospecting in vicinity of property and acquires initial mineral permits for property. Under an earn-in agreement with Utah International Inc. to explore for PGM in Duluth Complex, BBJV carries out data compilation and stream sediment survey extending to the shore of Lake Superior. MNDNR samples Duval core and discovers 2 m of PGE mineralization in DU-15 associated with chromite rich oxides. LEM leased ground for Cascade Joint Venture and drilled wedged offset hole to confirm PGEs.
1985-1987	Mapping and geophysical surveys; BBJV joint venture with Utah and Inco on land under option from Inco north of Birch Lake.
1988	Hole C88-1 drilled west of Duval hole DU-15 intersected copper mineralization but no PGEs. Utah and Inco terminated their earn-in agreements with the BBJV. Joint venture earn-in agreement signed with International Platinum Company Inc. (IPCO).
1989	Holes 89-1 and 2 drilled under IPCO agreement.
1990	BL90-1 and 2 drilled south of Birch Lake and 90-3 to north for assessment on lands sub-leased from Inco. IPCO earn-in agreement terminated.
1995	BBJV reorganized with new partners; BL-95-1and BL95-1W drilled to test magnetic anomaly at the north edge of Birch Lake, no encouragement.
1997	MN Natural Resources Research Institute (NRRI) work suggests PGE's associated with Birch Lake fault zone; BBJV acquires State Lease for lake bottom, obtains funding from State and Amplats.
1998	BL98-1 and 1W from south shore west into Birch Lake and intersects PGE values. Preliminary metallurgical tests by Amplats. Earn-in joint venture agreement signed with Altoro Gold Corporation.
1999	BL99-1 and 2 and wedges drilled and property land package expanded. Altoro abandoned agreement with BBJV.
2000	Earn-in joint venture agreement signed with Impala Platinum Holding Ltd. Eleven holes and 25 wedges of BL00 series drilled (10,301 m) to delineate Cu-Ni-PGE mineralization.
2001	6,956 m in seven drill holes and 19 wedges drilled, five holes collared from barge in Birch Lake as step outs to further delineate mineralization. Drilled wedge hole off old Exxon hole D-5 south west of Birch Lake deposit.
2002	A wild cat hole drilled on boundary of property 600 ft. SW of old Exxon hole. Resource estimates by Snowden and LEM. Impala drops option late in year; property optioned to Franconia Minerals Corporation.
2004	Flotation and pilot plant PLATSOL hydrometallurgical testwork on Birch Lake core composites carried out at SGS Lakefield Research.
2005	Four holes and four wedge offset holes (3,969 m) diamond drilled on the Birch Lake property. Agreement to use PLATSOL technology arranged by BBJV on behalf of Franconia.
2006	Scott Wilson RPA commissioned to a carry out a preliminary assessment of the Birch Lake and Maturi projects. Maturi deposit resource estimate completed by Scott Wilson RPA in June and filed with OSC/SEDAR.

TABLE 6-2 SUMMARY OF MATURI EXPLORATION	
Franconia Minerals Corporation – Birch Lake Project	
Year	**Exploration**
1954-1957	Surface exploration, ACNC diamond drilled 84 holes totalling 23,958 m in the Spruce Road area. Exploration suspended when Federal Department of the Interior would not issue mining permits pending Congress enacting proposed wilderness legislation.
1966	ACNC granted two federal leases at Maturi and Spruce Road deposits;194 m in 48 holes were drilled and a 1,180 tonne bulk sample taken at Spruce Road.
1967	153 diamond drill holes for 24,902 m drilled at Maturi and Spruce Road. Exploration shaft sinking started at Maturi and Bechtel completed a scoping study for Maturi.
1968	Shaft sunk to 332 m, a 576 tonne bulk sample taken and underground exploration carried out on the 305 m level at Maturi. 2,440 tonnes from the drift were stockpiled on surface and the shaft capped. Fifteen holes were drilled from surface (6,523 m).
1969	ACNC drilled 16 holes for 5,326 m.
1973	Maturi buildings and headframe removed and site restored; exploration focused on Spruce Road. .
1975-1979	All ACNC work suspended because of State moratorium on copper-nickel exploration and mining.
1985	MNDNR samples 1970-1975 Duval core from Birch Lake area and discovers 2 m of PGE mineralization associated with chromite rich oxides.
1986	Since earlier drilling had not assayed for PGM and Au, ACNC investigates Maturi drill core and assays for PGM and gold; only anomalous values found.
1988	ACNC Joint venture with Lehmann Exploration Management Inc. and BHP Utah to explore for PGM mineralization; one hole diamond drilled.
1989	Joint venture dissolved and a new ACNC joint venture with Lehmann Exploration Management Inc. (LEM) was formed.
1990	LEM drilled one hole on ACNC property; seven others in the area (4,313 m total).
1992	LEM unable to obtain financing, LEM joint venture with ACNC dissolved.
1997	ACNC conducts down hole Crone Pulse EM surveys in two holes at Spruce Road, one anomaly at 375 m depth found.
1999	Wallbridge reviews ACNC data and drills hole WM-001 (535 m) for metallurgical samples tested at Lakefield Research and to test a PEM off-hole anomaly at Spruce Road. The anomaly appeared to be related to disseminated mineralization.
2000	1,400 coarse reject samples from 8,000 m in 26 holes were assayed by Wallbridge for Cu, Ni, Co, Pt, Pd, Au and S. Wallbridge commissions WGM to prepare a resource estimate under JORC code and assessment (scoping study) of the potential for economic mineralization. Hole 11526R (355.62 m) drilled to twin Inco hole 11526.
2005	In May Franconia acquired from ACNC, through its Beaver Bay Joint Venture partner, an interest in 2,105 hectares (5,201 ac) covering the Spruce Road and Maturi deposits.
2006	Scott Wilson RPA commissioned to a carry out a preliminary assessment of the Birch Lake and Maturi projects. Maturi deposit resource estimate completed by Scott Wilson RPA in June and filed with OSC/SEDAR.

HISTORIC RESOURCE ESTIMATES

Historic resource estimates for the Birch Lake project are discussed in Routledge (2004) and Clow and Routledge (2005). Routledge and Greenough (2006) discuss historic estimates for Maturi.

The latest Birch Lake estimate in 2005 was prepared by E. Lehmann using the polygonal method prior to the 2005 fill-in drilling campaign. This estimate (Table 6-3) was reviewed by Scott Wilson RPA in a technical report dated November 19, 2005 (Clow and Routledge, 2005).

TABLE 6-3 2005 BIRCH LAKE MINERAL RESOURCE ESTIMATE

Franconia Minerals Corporation – Birch Lake Project

		Ni %	Cu %	Co %	Pd	Pt	Au
Inferred Resource - Imperial	43,313,000 short tons	0.22	0.72	0.01	0.029 oz/st	0.014 oz/st	0.007 oz/st
Inferred Resource - Metric	39,294,000 tonnes	0.22	0.72	0.01	1.01 g/t	0.49 g/t	0.23 g/t

Scott Wilson RPA concluded that the 2005 Birch Lake Mineral Resources were appropriately classified as Inferred Resources.

The latest Maturi project resource estimate was prepared by Scott Wilson RPA is dated June 30, 2006 (Routledge and Greenough, 2006). Inferred Resources were reported at incremental US$/tonne net smelter return (NSR) cut-offs. Metal prices and cost inputs for the NSRs differ from those used in this report. Table 6-4 shows Inferred Resources at $20 and $25 NSR cut-offs from Routledge and Greenough (2006).

TABLE 6-4 2006 MATURI MINERAL RESOURCE ESTIMATE

Franconia Minerals Corporation – Birch Lake Project

NSR Cut-Off (US$)	Tonnes (millions)	Cu%	Ni%	Co%*	Pd** g/t*	Pt*** g/t	Au*** g/t
$20.00	121	0.67	0.25	0.02	0.247	0.090	0.043
$25.00	51.2	0.74	0.28	0.02	0.274	0.103	0.051

* Grade assigned based on average of assays
** Grade estimated by correlation with average copper grade.
*** Grade estimated by correlation with average palladium grade.

7 GEOLOGICAL SETTING

The geologic settings of Birch Lake and Maturi properties are described in Routledge (2004) and Routledge and Greenough (2006) respectively.

8 DEPOSIT TYPES

The deposit types of the Birch Lake and Maturi properties are described in Routledge (2004) and Routledge and Greenough (2006) respectively.

9 MINERALIZATION

The mineralization of Birch Lake and Maturi properties are described in Routledge (2004) and Routledge and Greenough (2006) respectively.

10 EXPLORATION

Franconia reports that a PQ core drilling program to collect metallurgical test samples is underway at the Birch Lake property where 11,000 ft. (3,350 m) in four holes and associated offset wedges is planned for completion in September 2006.

No exploration is being carried out on the Maturi property at the present time although exploration is active in the area. Duluth Metals Limited completed a seven hole drilling program on its east adjoining Maturi Extension property in May 2006.

Franconia is planning a drill program for both properties, with the aim of upgrading resources to the Indicated category, and to provide further material for metallurgical testing.

11 DRILLING

BIRCH LAKE DRILLING

Exploration and delineation of the resource has been entirely by surface diamond drilling dating from Duval Corporation drilling in the 1970's to Franconia's recent coring in 2005. The deposit has not been tested by underground sampling.

The coring has been N diameter wireline, NQ (47.6 mm) for older drilling, and, since 1999, NTW thin wall (56 mm) for pilot holes and NQ (47.6 mm) for wedge offset holes. Drilling by the BBJV prior to 2000 was contracted to Boart Longyear Company. Local contractor Idea Drilling of Virginia, MN, carried out the 2000, 2001, and 2005 campaigns. Nine holes during the latter campaigns were drilled from a barge on Birch Lake. A fill-in drilling program of four holes and six associated wedge offsets, totalling 4,022 m (13,197 ft.), was completed in August 2005 and data added to the Birch Lake digital database.

DRILLING DATABASE

Drilling and sampling data have been entered into various digital spreadsheets used for resource estimation (Lehmann, 2002) and by Snowden Associates in 2002. The drill hole database contains 40 holes and 49 wedge offsets totalling 33,339 m. Of these, 86 holes and wedges totalling 33,192 m were imported into Datamine software by Snowden Associates in 2002. Scott Wilson RPA compiled drilling statistics as summarized in Table 11-1 and shown in Figure 11-1. Scott Wilson RPA imported the Snowden database into Gemcom Software International Inc. (Gemcom) software for review and data verification.

FIGURE 11-1 Birch Lake Diamond Drill Hole Location Plan
Franconia Minerals Corporation Birch Lake Property, Minnesota, USA

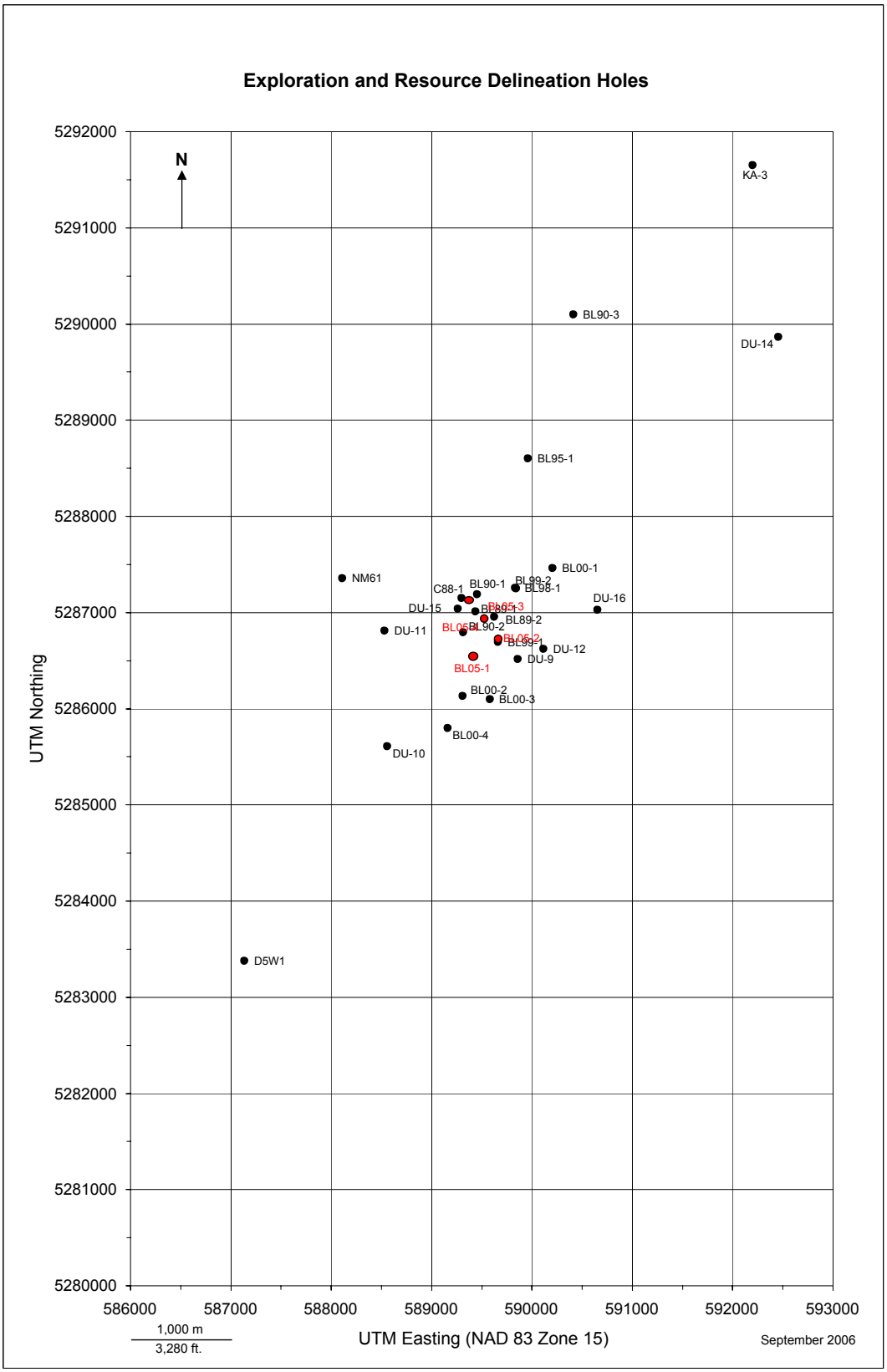


TABLE 11-1 Summary of Diamond Drilling on Property
Franconia Minerals Corporation Birch Lake Project, Minnesota

Drill Hole	UTM Easting	UTM Northing	Elevation AMSL (m)	Azimuth°	Dip°	From (m)	To (m)	Length (m)
DU-9	589860.0	5286515.0	449.6	0	-90	0.0	821.7	821.7
DU-9W						789.3	821.4	32.2
DU-10	588559.0	5285610.0	452.6	0	-90	0.0	678.2	678.2
DU-11	588532.0	5286811.0	446.5	0	-90	0.0	355.1	355.1
DU-12	590115.0	5286620.0	442.0	0	-90	0.0	1,022.3	1,022.3
DU-14	592455.0	5289865.0	434.3	0	-90	0.0	1,473.7	1,473.7
DU-15	589265.0	5287035.0	442.0	0	-90	0.0	853.4	853.4
DU-15W						665.1	746.8	81.7
DU-16	590655.0	5287024.5	446.5	0	-90	0.0	1,202.4	1,202.4
D5W1	587134.0	5283376.0	460.9	0	-90	0.0	501.4	501.4
KA-3	592200.0	5291650.0	434.3	0	-90	0.0	974.4	974.4
NM61	588113.0	5287353.0	461.8	0	-90	0.0	74.1	74.1
C88-1	589298.0	5287150.0	443.5	0	-88.5	0.0	732.1	732.1
BL89-1	589439.2	5287011.0	444.6	0	-90	0.0	783.0	783.0
BL89-2	589627.7	5286952.0	441.4	0	-90	0.0	824.8	824.8
BL90-1	589455.0	5287189.0	442.0	0	-90	0.0	771.4	771.4
BL90-2	589315.7	5286790.5	441.2	0	-90	0.0	788.2	788.2
BL90-3	590415.0	5290100.0	458.7	0	-90	0.0	413.6	413.6
BL90-3W						338.3	405.4	67.1
BL95-1	589962.4	5288603.5	447.5	0	-90	0.0	597.7	597.7
BL95-1W						405.4	560.9	155.5
BL98-1	589835.7	5287257.0	436.1	343	-75	0.0	780.0	780.0
BL98-1W						706.5	763.5	57.0
BL99-1	589662.8	5286694.0	438.5	0	-90	0.0	842.8	842.8
BL99-1W						759.6	797.1	37.5
BL99-2	589842.0	5287248.0	436.1	024	-60	0.0	793.4	793.4
BL99-2W						675.4	759.9	84.4
BL00-1	590205.0	5287460.0	437.4	0	-90	0.0	785.5	785.5
BL00-1-W1						647.1	694.0	46.9
BL00-1-W2						637.6	655.9	18.3
BL00-2	589310.0	5286133.0	454.2	291	-85	0.0	724.1	724.1
BL00-2-W1						649.8	733.7	83.8
BL00-2-W2						360.0	701.6	341.7
BL00-3	589583.0	5286100.0	452.6	0	-90	0.0	858.6	858.6
BL00-3-W1						687.9	709.3	21.3
BL00-4	589160.0	5285798.0	448.1	0	-90	0.0	735.5	735.5
BL00-4-W1						457.8	569.4	111.6
BL00-4-W2						446.8	462.2	15.4
BL00-4-W3						438.6	693.7	255.1
BL00-4-W4						653.5	695.2	41.8
BL00-5	590223.0	5288439.0	431.9	0	-90	0.0	551.4	551.4
BL00-5-W2						305.7	466.6	160.9
BL00-5-W3						299.6	457.2	157.6
BL00-6	589690.0	5288194.0	431.9	0	-90	0.0	615.4	615.4
BL00-6-W1						496.8	579.1	82.3
BL00-6-W2						405.4	561.1	155.8
BL00-6-W3						496.2	579.2	82.9
BL00-7	589626.0	5287791.5	431.9	0	-90	0.0	706.8	706.8
BL00-7-W1						585.5	634.0	48.5
BL00-7-W2						494.7	634.0	139.3
BL00-7-W3						590.1	627.3	37.2
BL00-8	589328.0	5288020.0	431.9	0	-90	0.0	484.3	484.3
BL00-8-W1						345.9	410.0	64.0
BL00-8-W2						257.6	416.1	158.5
BL00-8-W3						352.0	413.0	61.0
BL00-9A	588983.0	5286153.0	440.4	290	-86	0.0	575.2	575.2
BL00-9B	588983.0	5286153.0	440.4	110	-79	0.0	651.4	651.4
BL00-9B-W1						532.5	606.6	74.1
BL00-10	589289.0	5286441.0	445.0		-90	0.0	717.2	717.2
BL00-10-W1						631.9	701.0	69.2
BL00-11	586535.0	5280565.0	470.9	300	-80	0.0	815.9	815.9
BL00-11-W1						671.8	698.6	26.8
BL00-11-W2						654.1	699.4	45.3
BL01-1	589701.0	5287591.0	431.9	0	-90	0.0	715.7	715.7
BL01-1-W1						677.9	704.1	26.2
BL01-1-W2						590.4	703.5	113.1
BL01-1-W3						678.5	709.6	31.1
BL01-2	589522.0	5287648.5	431.9	0	-90	0.0	688.2	688.2
BL01-2-W1						613.9	657.8	43.9
BL01-2-W2						522.4	660.2	137.8
BL01-2-W3						614.2	657.8	43.6
BL01-3	589617.0	5287863.0	431.9	0	-90	0.0	685.2	685.2
BL01-3-W1						549.7	584.6	34.9
BL01-3-W2						465.7	584.6	118.9
BL01-3-W3						552.9	584.6	31.7
BL01-4	589859.0	5287859.0	431.9	0	-90	0.0	703.8	703.8
BL01-4-W1						233.0	682.1	449.1
BL01-4-W2						608.5	685.2	76.7
BL01-4-W3						604.4	639.5	35.1
BL01-5	589653.0	5287173.0	431.9	0	-90	0.0	804.1	804.1
BL01-5-W1						683.7	766.0	82.3
BL01-5-W2						651.1	799.5	148.4
BL01-5-W3						742.8	767.5	24.7
BL01-6	589387.0	5286678.0	440.1	040	-77	0.0	821.7	821.7
BL01-6-W1						762.6	806.5	43.9
BL01-6-W2						671.2	809.5	138.4
BL01-7	589435.0	5286350.0	446.5	0	-90	0.0	745.8	745.8
BL01-7-W1						585.5	748.6	163.1
BL01-7-W2						630.9	742.8	111.9
BL05-1	589397.0	5286590.0	434.1	090	-85	0.0	812.6	812.6
BL05-1-1W1						629.7	790.8	161.1
BL05-2	589661.0	5286785.0	442.0	090	-85	0.0	827.5	827.5
BL05-3	589436.0	5287165.0	443.5	040	-71	0.0	904.0	904.0
BL05-3-3W1						737.0	895.5	158.5
BL05-3-3W2						660.2	904.0	243.8
BL05-4	589512.0	5287011.0	442.9	045	-84	0.0	800.7	800.7
BL05-4-4W1						739.4	800.4	61.0
Total								**37,307.9**

SURVEYS

The method and accuracy of drill hole collar and downhole surveys has varied with time and purpose of drilling. Duval Corporation early reconnaissance drilling to explore to the base of the Duluth Complex in fences of wide spaced holes relied on pace and compass collar locations and only acid dip tests for down hole deviation except where wedging was used. Later drilling to delineate Cu-Ni-PGE mineralization employed Reflex Instruments EMS surveys to track azimuth and dip deviations downhole as well as handheld Global Positioning System 12-channel instrumentation (GPS) for collar locations, accurate to ±5 m.

The EMS downhole survey system determines azimuth deviation based on a magnetic compass readings and for areas of higher magnetic susceptibility, readings are not reliable. Therefore, for magnetic pyrrhotite and magnetite enriched segments of the U3 unit, readings are discarded. Where the U3 unit is thick, details on azimuth deviation are lost where tracking of such detail is important. Gyroscope-based downhole surveys are unaffected by magnetics, however, this instrumentation is not designed to work effectively in vertical holes.

Most holes used for resource estimation have been surveyed downhole with varying degrees of accuracy for collar location. Scott Wilson RPA notes that hole traces in plan for -90˚ (vertical) holes varies from relatively tight spirals for post 1995 holes to curvilinear vectors for older drilling that place the hole toe up to 70 m from the collar versus approximately 10 m for a spiral trace. This may suggest somewhat lower accuracy in the older downhole surveys.

ASSAY DATABASE

Table 11-3 summarizes the metal analyses, and their basic statistics, in the drill hole database and in the drill holes incorporated in the resource estimates for Snowden (2002) and Lehmann (2002c).

Analyzed intervals in the database range from 0.03 m (0.1 ft.) to an implausibly long 36.58 m (120 ft.) and average 0.65 m (2.13 ft.). Scott Wilson RPA has not investigated the longest and second longest (6.7 m in hole BL008) intervals in detail since they are not used in the resource estimates.

The 36.58 m interval is from DU-16 that was drilled and sampled by Duval in the 1970's and is possibly an assay for a metallurgical composite. The few very short 0.03 m intervals (0.1 ft.) appear to be real and not software wireframing artifacts since they are recorded in the drill hole summary spreadsheets.

Intervals exceeding 1.52 m (5 ft.) are mostly in 1998 series and older drilling including the Duval holes. Core from more recent drilling was generally sampled at 0.3 m to 1 m (<1 ft. to 3 ft.) intervals preserving good sampling control for resource estimation. Core sampled at 1 m (3 ft.) or less comprises 76% of the drill hole database by length and 91% by number of analyses. Co-efficient of variation of these lengths is low at 33% indicating that recent sampling used more consistent lengths.

Table 11-2 Summary Statistics of Birch Lake Analyses Database
Franconia Minerals Corporation - Birch Lake Project

Statistic	Length (m)	Cu%	Ni%	Co ppm	Pt ppb	Pd ppb	Au ppb	Ag ppm
Count	6,223	6,223	6,223	6,223	6,222	6,223	6,223	6,223
Sum (m)	4,050.04	-	-	-	4,049.95	-	-	-
Zeros*	-	165	164	775	437	105	285	1,358
Minimum	0.03	0	0	0	0	0	0	0
25th Percentile	0.46	0.17	0.06	54	43	94	23	0.20
Median	0.61	0.41	0.13	84	137	315	67	1.30
75th Percentile	0.67	0.65	0.20	116	318	699	142	2.40
Maximum	36.58	5.90	3.20	1,472	7,365	7,609	3,335	81.70
Arithmetic Mean	0.65	0.45	0.15	85	242	499	111	1.57
Weighted Mean	-	0.41	0.13	76	203	424	95	1.33
Standard Deviation	0.59	0.38	0.14	65	344	582	163	1.88
Coefficient of Variation	0.91	0.84	0.92	0.76	1.42	1.17	1.46	1.20
90th Percentile	0.92	0.91	0.27	147	587	1,241	258	3.40
95th Percentile	1.22	1.04	0.33	164	780	1,597	356	4.10
97th Percentile	1.52	1.17	0.36	178	935	1,892	428	4.70
98th Percentile	1.53	1.32	0.40	189	1,110	2,146	499	5.10
99th Percentile	2.56	1.55	0.52	218	1,482	2,651	695	6.10

* Includes non-assayed

The basic statistics (medians versus means) of Table 11-3 indicate that the frequency distributions for the Cu, Ni, Au, Pt, Pd, Ag and Co individual analyses are somewhat positively skewed. The co-efficient of variations, although somewhat elevated for Au, Pt and Pd, are generally not high enough to consider grade capping to reduce the possible bias on average grade arising from high values.

The sample lengths, overall, approach normal distribution. Scott Wilson RPA notes that the length-weighted grades are lower than their arithmetic means indicating that longer intervals have been taken in lower grade mineralization.

MATURI DRILLING

DATABASE

Inco originally provided the resource drill hole data to WGM in three digital text files:

- collars.txt: locations, depth, azimuth, and dip of the drill holes in the New Minnesota co-ordinate system.
- surveys.txt: down hole survey data
- bholes.txt: assay and geology data

These ASCII files had been exported from the Inco Mines Exploration Borehole System (MEBS) in “New Minnesota” coordinates. The latter coordinate system is an INCO system, parallel to UTM NAD27, in Imperial units, with its origin at 540,000E and 5,200,000N, similar to what has been done in the Sudbury camp.

Computer printed drill logs and copies of hand plotted sections were also made available to WGM for compilation. This data had been collected from various Inco drilling campaigns in the area from 1954 to 1973.

Scott Wilson RPA obtained the digital drill hole database in Datamine and Gemcom formats from Wallbridge. The database has 280 drill holes totalling 56,874.13 m, which includes holes on the Franconia Maturi property, holes from the Spruce Road deposit,

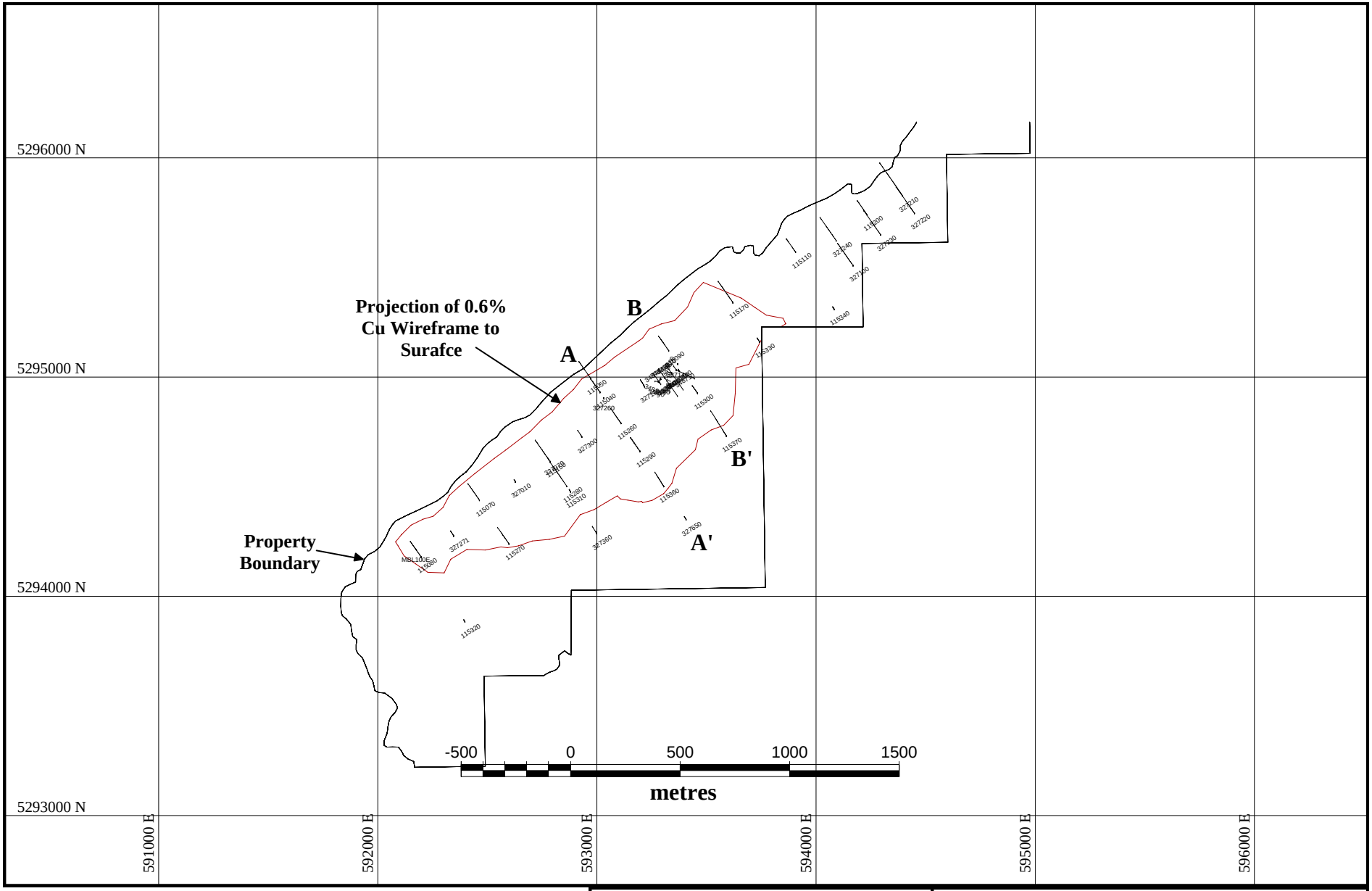
holes on the Wallbridge Maturi Extension property east of the Maturi property, as well as exploration holes located between the Maturi and Spruce Road deposits. There are 53 holes (14,075.38 m) in the database that are collared on the Maturi property. These include 41 surface holes totalling 13,576.11 m and 12 underground holes totalling 499.27 m. Early holes are 11500 series and later holes are 32700 series and 40900 series. The drill holes cover approximately 3,300 m (10,827 ft.) of deposit strike length from UTM 592,000E to UTM 593,399E, NAD27. Drilling is generally sparser towards the ends of the Maturi deposit. The resource estimate at Maturi is based on 50 of the total 53 diamond drill holes (the number of holes captured with the mineralization envelope for resource modeling) totalling 13,580 m (44,554 ft.).

The Maturi holes were drilled on nine cross sections spaced at nominal 365 m (±1,200 ft). At the north and south ends of the deposit, a few single holes test the deposit near surface on nominal 183 m (±600 ft) sections. Collar spacing on section varies from ±60 m (±200 ft) to ±240 m (±800 ft) and up to ±370 m (±1,200 ft). Figures 11-2 to 11-5 show selected cross sections and a vertical longitudinal section.

SURVEYS

WGM converted drill hole collar surveys from the Inco New Minnesota grid system to NAD27, which required a 20.42 m shift west and 42.0 m south and a grid origin correction to 539,980.4E, 5,199,956.8N.

Down hole surveys for deviation were limited to dip tests and as such the position of the toe and analyzed intervals is uncertain. This uncertainty, however, is not important in context with the wide spacing of the holes. Dip tests were taken at 15 m (50 ft.) depth (6%), at 30.48 m (100 ft.) depth (32%), at 60.9 m (200 ft.) depth (32%) and up to 121 m (400 ft.). The short underground holes appear to have a survey entry at 0.3 m (one foot) depth but have no change in azimuth or dip. These are likely unsurveyed. Scott Wilson RPA examined dip deviations for possible problems or bad readings.

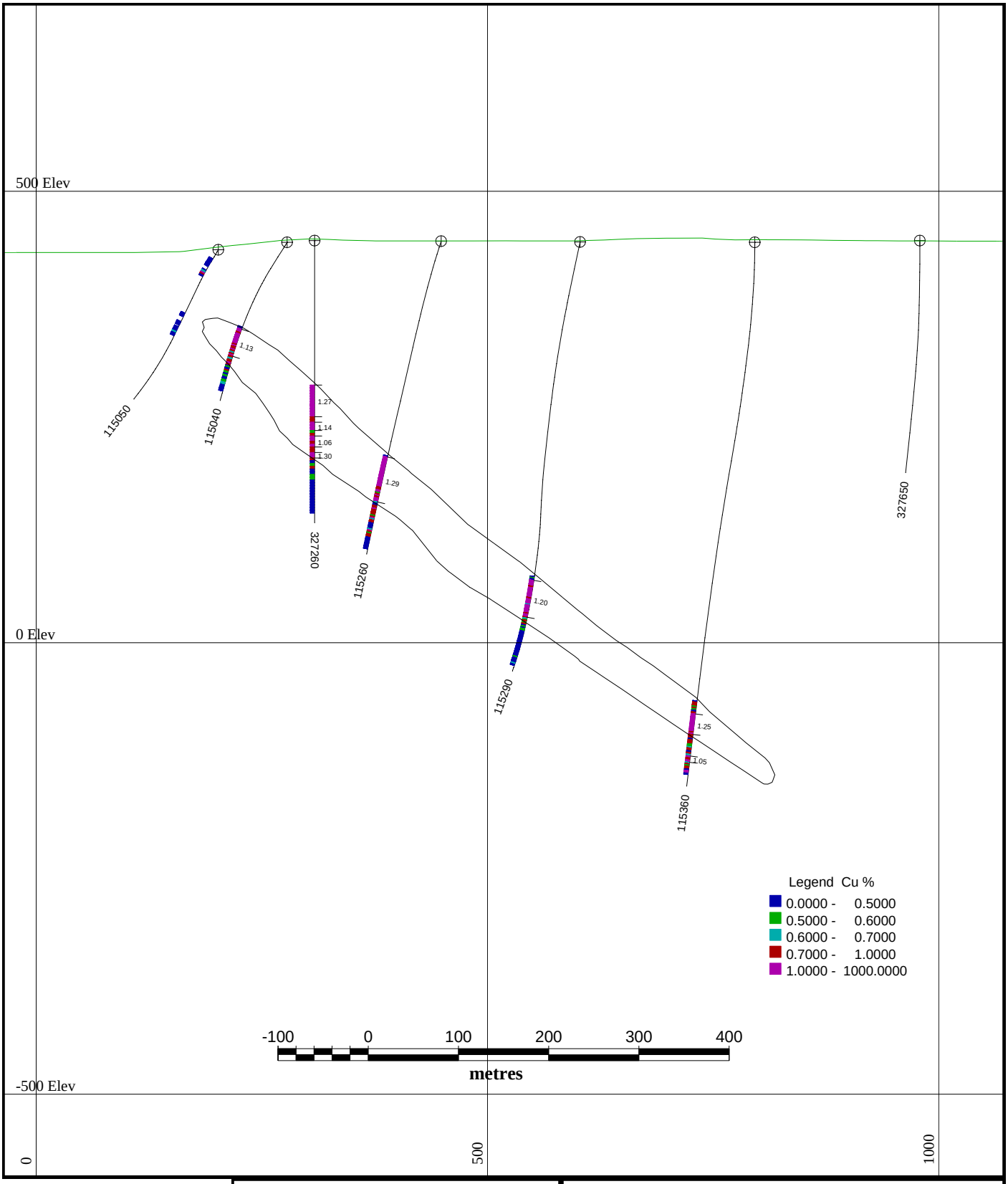


SCOTT WILSON RPA
GEOLOGICAL AND MINING CONSULTANTS
55 University Avenue, Suite 501
Toronto, Ontario M5J 2H7

Figure 11-2
Franconia Minerals Corporation
Maturi Project
Drill Hole Location Plan

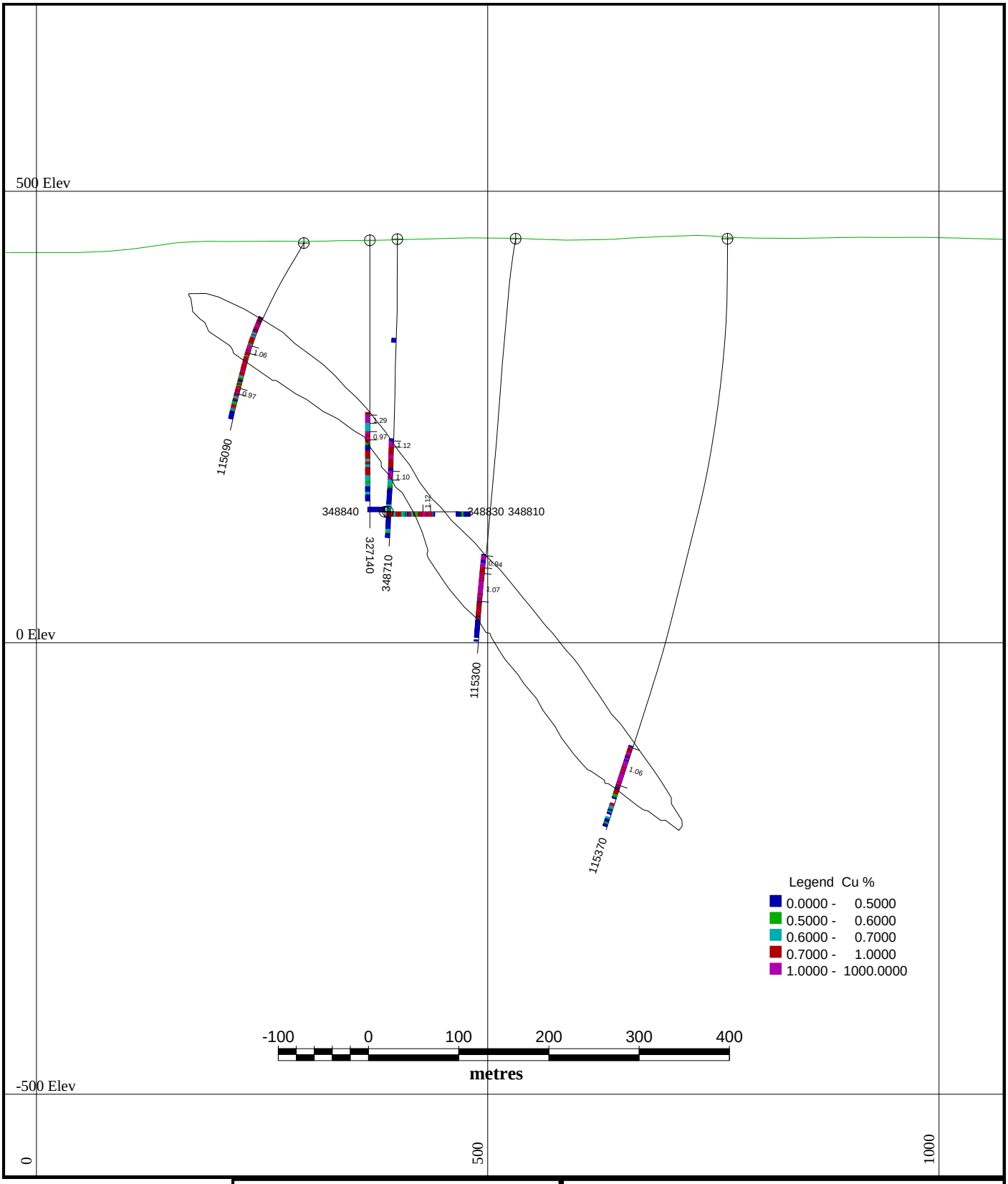
SCOTT WILSON RPA

www.rpacan.com
www.scottwilson.com



SCOTT WILSON RPA
GEOLOGICAL AND MINING CONSULTANTS
55 University Avenue, Suite 501
Toronto, Ontario M5J 2H7

Figure 11-3
Franconia Minerals Corporation
Maturi Project
Drill Hole Cross Section A - A'
Looking NE



SCOTT WILSON RPA
GEOLOGICAL AND MINING CONSULTANTS
55 University Avenue, Suite 501
Toronto, Ontario M5J 2H7

Figure 11-4
Franconia Minerals Corporation
Maturi Project
Drill Hole Cross Section B - B'
Looking NE

FIGURE 11-5 MATURI VERTICAL LONGITUDINAL SECTION

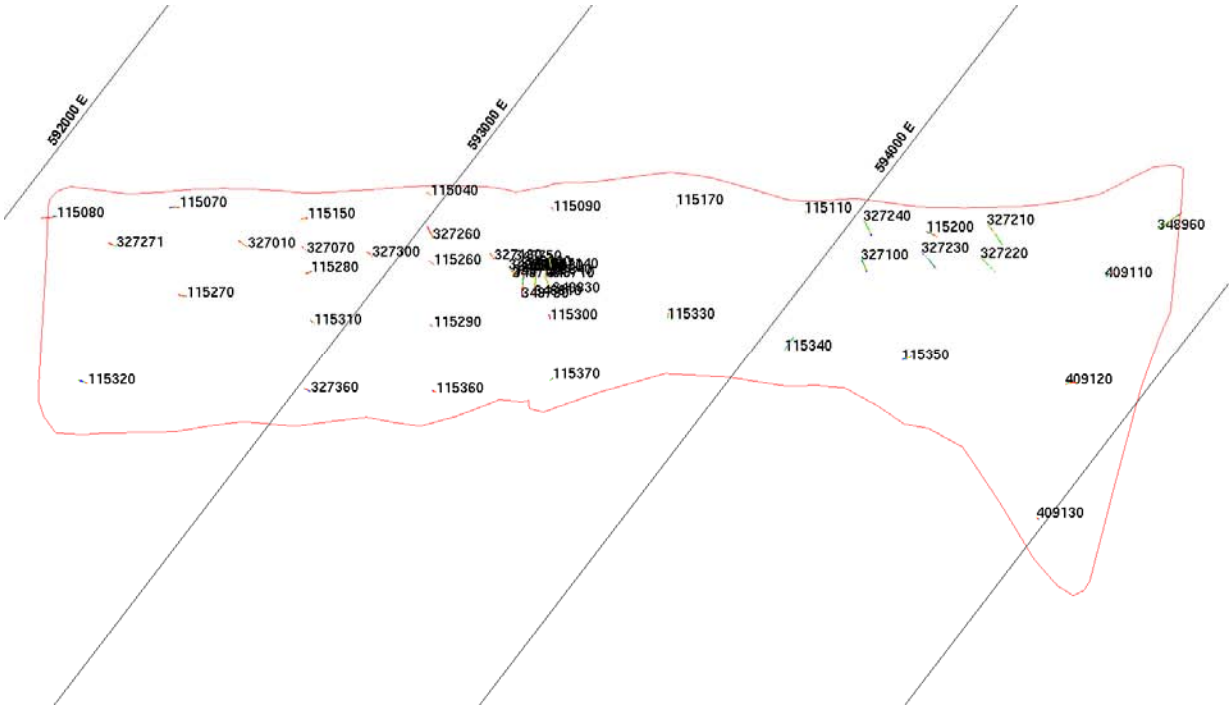


Figure 11-5, looking north, illustrates the drill hole density in the Maturi deposit.

The table below indicates that there are five holes with eight readings that deviate more than usual and should be checked.

Deviation	Count	Holes
2°/30m	47	14
3°/30m	28	10
5°/30m	8	5

These holes are:

5°/30m	3°/30m	2°/30m
115050	115040	115040
115090	115050	115050
115150	115090	115070
348710	115150	115090
409130	115170	115110
	115290	115150
	348710	115170
	348930	115280
	409120	115290
	409130	327240
		348710
		348930
		409120
		409130

SAMPLING AND ASSAYING

In early holes (11500 series) mineralized drill core was sampled over nominal 5 ft. (1.52 m) intervals through mineralization and later holes in the 32700 series at nominal 10 ft. to 15 ft. (3 m to 4.5 m) intervals up to 6.1 m. Sample lengths were adjusted to conform to geologic features or mineralization (Soever, 2000). Sample lengths are for the most part independent of grade. Sample length statistics are shown in Figures 11-6 and 11-7. These figures illustrate that most of the core sampling for the Maturi deposit mineralization was in 5 ft. (approx. 1.5 m) and 10 ft. (approx. 3 m) intervals.

FIGURE 11-6 RAW ASSAY SAMPLE LENGTHS

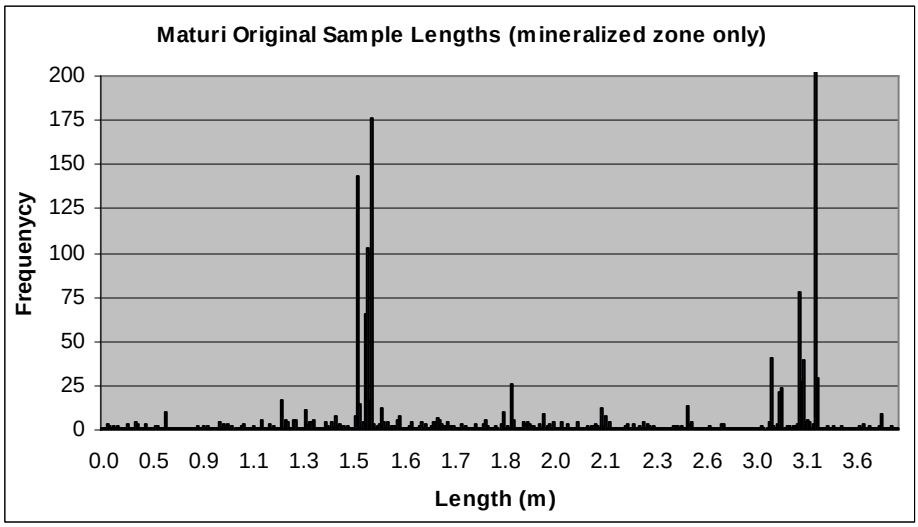
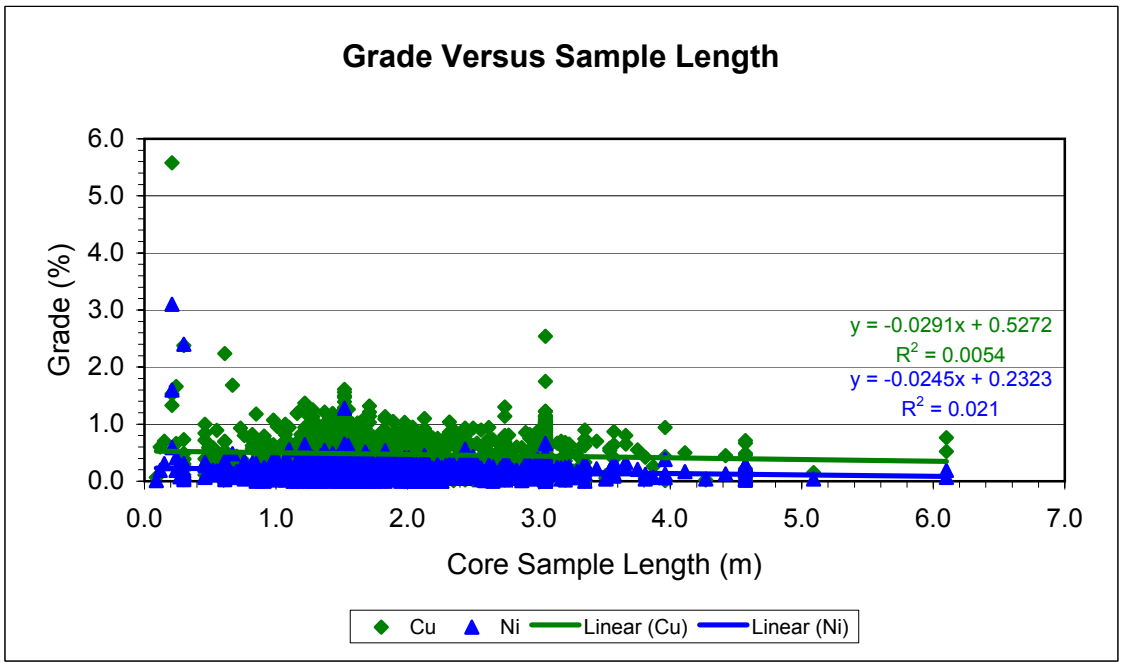
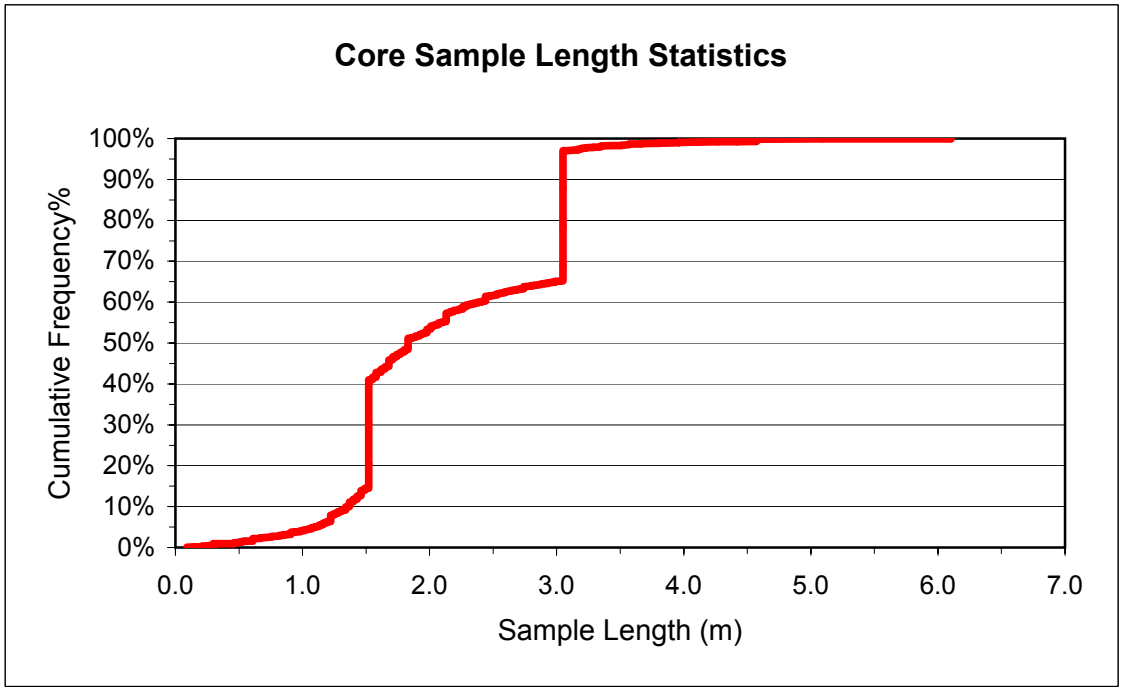


Figure 11-7 Maturi Core Sample Length Statistics
Franconia Minerals Corporation Birch Lake Project, Minnesota





Length (m)	%Sampled
0 - 1.52	16.5%
1.52	25.1%
1.52 - 3.0	25.1%
3.0	30.4%
>3.0	2.9%

Samples from the early drilling (11500 series and most of 13600 and 32700 series) were analyzed for copper and nickel only. Starting in 1967, the samples were also analyzed for cobalt (322 analyses). Cobalt analyses are recorded only to two decimal places and are therefore of little utility, since grades are very low (maximum 0.08%). The cobalt detection limit is unknown. Table 11-4 shows statistics for analyses in the Maturi drill hole database. The database also contains 519 intervals totalling 9,181 m that represent casing and non-analyzed intervals.

TABLE 11-4 STATISTICS OF ANALYSES IN MATURI DATABASE

Franconia Minerals Corporation – Birch Lake Project

Statistic	Length (m)	Cu%	Ni%	Co%
Count	2,070	2,070	2,070	322
Sum (sample length)	4,442.98	-	-	808.44
Minimum	0.09	0.00	0.00	0.00
25th Percentile	1.52	0.22	0.09	0.01
Median	1.83	0.45	0.17	0.01
75th Percentile	3.05	0.65	0.24	0.02
Maximum	6.10	5.58	3.10	0.08
Mean	2.15	0.46	0.18	0.01
Weighted Mean	-	0.46	0.17	0.01
Standard Deviation	0.82	0.33	0.14	0.01
Coefficient Variation	0.38	0.70	0.77	0.51
90th Percentile	3.05	0.85	0.31	0.02
95th Percentile	3.05	0.98	0.36	0.02
97th Percentile	3.05	1.07	0.39	0.03
98th Percentile	3.35	1.13	0.42	0.03
99th Percentile	3.96	1.25	0.50	0.03

Some 1,400 core rejects from in excess of 8,000 m in parts of 26 holes at Maturi were later analyzed by WGM for copper, nickel, cobalt, platinum, palladium, gold, and sulphur. WGM's spot checks of the results showed good correlation with the original copper and nickel analyses (Soever, 2000). WGM performed linear regression for Pd on Cu for the reject analyses and found generally good correlation (R^2=66%). Similarly,

correlation was done for Pt on Pd and Au on Pd with correlations of R^2=72%) and R^2=55%), respectively.

On the basis of this correlation, WGM applied the metal correlation formulas to the resource copper average grade, as estimated by WGM, to successively estimate PGM and gold average grades for the resource.

12 SAMPLING METHOD AND APPROACH

BIRCH LAKE

The logging and sampling of drill core used for the resource estimate followed standard industry practices. Core destined for analysis was cut in half by diamond saw and bagged and tagged for shipment to the Bondar Clegg mineral laboratory. For pre-1999 drill core, some was diamond sawn and some was halved manually using impact core splitters.

Logging recorded rock quality designation (RQD) and recovery percentages followed by geologic description and setting out intervals for sampling. Drill log data was entered into LogPlot software by RockWare, Inc. that displays columns for downhole footage, RQD, core recovery, sample number, a graphic column for lithology, geologic description, and assays/analyses. Owing to the number of drilling campaigns on the property since the 1970's, core logging has been done by various geologists. Consequently, older core has been relogged by only two geologists, William Rowell and Leon Gladden of Lehmann Exlporation management, resulting in standardized geologic descriptions.

Samples have taken geologically (observing contacts, sulphide mineral concentration, etc.) where possible but intervals are characteristically short averaging approximately 0.6 m (2 ft.).

MATURI

Although Scott Wilson RPA has not seen reports describing the sampling methods for the historic Inco drilling on the property, it is assumed that major mining companies would follow standard industry practices. Inco core was destroyed by fire and is not available for examination.

Wallbridge collected duplicate samples of old core at the Hibbing MNDNR and them prepared and analyzed by Swastika Laboratories (Swastika) in Swastika, Ontario. In addition, core for twin hole 11526R drilled by Wallbridge in 2000 has been sampled conventionally, with quartered core samples analyzed by Swastika.

13 SAMPLE PREPARATION, ANALYSES AND SECURITY

BIRCH LAKE

Core samples have been analyzed at various independent commercial mineral laboratories over time. Facilities include the Ottawa, Ontario, Vancouver, British Columbia and Sparks, Nevada laboratories of Bondar Clegg & Company (now ALS Chemex), Acme Analytical Laboratories Ltd. of Vancouver and ALS Chemex Labs Inc. of Sparks Nevada for sample preparation and ALS Chemex Vancouver for analyses. Theses companies are ISO 9000/9002 accredited mineral laboratories. Multi-element analyses were performed for core samples in 1999 and onward. Prior to this, only selected elements (Cu, Ni, Pt, Pd, Au, Ag, Cr, ±Co and ±V) were analyzed.

A 32 element ICP-AES (inductively coupled plasma-atomic emission spectroscopy) geochemical package was used at ALS Chemex for 1998 and 1999 samples. Pt, Pd, and Au were analyzed by fire assay-lead collection-ICP fluorescence spectroscopy (FA-ICP-AFS).

Bondar Clegg analyzed 35 elements by HCL:HNO_3 acid digestion and ICP including sulphur for 2000-2001 samples. Elevated copper was also analyzed by atomic absorption spectroscopy (AA). For some 1989 holes only Au, Pt, Pd, Cu, Ni, and Cr were analyzed; the precious metals by the FA-DCP (direct coupled plasma emission method), hot acid extraction-AA for Cu and Ni and by X-ray fluorescence (XRF) for Cr.

Sample preparation for both Chemex and Bondar Clegg consisted of crushing and splitting, with a split of the crushed material ring pulverized to -150 mesh (-106 micron).

Table 13-1 lists detection limits for the elements of economic importance.

TABLE 13-1 ANALYTICAL METHODS AND DETECTION LIMITS
Franconia Minerals Corporation – Birch Lake Project

Element	Analytical Method	Detection Limit
Cu	HCL:HNO_3 Digestion/ICP	1 ppm
Cu	HF:HCL:HNO_3:$HCLO_4$/AA	0.01%
Ni	HCL:HNO_3 Digestion/ICP	1 ppm
Pt	FA/ICP	5 and 15 ppb
Pd	FA/ICP	1 and 2 ppb
Au	FA/ICP	1 and 2 ppb
Ag	HCL:HNO_3 Digestion/ICP	0.2 and 0.5 ppm
Co	HCL:HNO_3 Digestion/ICP	1 ppm

Shipment to the mineral laboratories in Nevada was by reputable courier services including UPS and FEDEX. For Bondar Clegg work in Canada, samples were driven to the U.S. border for direct pick up by laboratory personnel. Transfer of results for the 2000 and later campaigns was electronic directly from the laboratory. Results for earlier core analyses were received by conventional facsimile and mail delivery.

Core is now stored at a secure MNDNR core library in Hibbing, Minnesota. With company permission, core may be released for public examination. Birch Lake core from the 1999 to 2005 campaigns is not yet released.

MATURI

Detailed information in connection with laboratory sample preparation and analytical methods, and any quality assurance/quality control procedures implemented for Inco were unavailable to WGM for its work in 2000. Scott Wilson RPA assumes that Inco, Duval Mining Corporation, Newmont Mining Corp., and Kennecott followed standard industry practices in their sample preparation methods and analyses. However, no information or data were available for review.

The core samples from twin hole 11526R and duplicate samples from historic core collected by Wallbridge were sealed in plastic bags and then in cardboard boxes and

shipped to Swastika Laboratories where the samples were prepared and assayed. Swastika's seven step routine sample preparation is:

1. Dry samples
2. Crush total sample to ½ inch with a jaw crusher
3. Crush total sample to 10 mesh with a rolls crusher
4. Split approximately 350 g using a Jones riffle
5. Remaining reject is placed in a plastic bag and packed in cartons with sample numbers on the outside
6. Pulverized the 350 g sample
7. Homogenize the pulp and it is ready for assay.

Sample preparation quality is ensured by regular inspection and maintenance of crushing equipment. Swastika prepared and analyzed second pulps from stored rejects. The resulting data is compared with original results to verify sample sequence and also that repeatability is within acceptable limits. Dust loss is kept at a minimum to ensure there is no dilution or concentration of various minerals. To prevent cross contamination, the equipment is cleaned with wire brushes and compressed air jets between samples and barren abrasive material is crushed between batches.

Pulps for nickel and copper assaying are digested by HF-HNO_3-$HClO_4$ and HCl leach then analyzed by atomic absorption spectrometry (AAS).

Gold assays begin with a fusion using a flux mixture of litharge, sodium carbonate, borax, silica fluorspar and further oxidants (nitre) or reductants (flour) added as required. The relative concentrations of the fluxing materials are adjusted to suit the type of sample being analyzed. An aliquot of silver is added as a final collection agent. The resultant lead button containing the precious metals is reduced to PbO_2 and absorbed into a cupel in a cupellation furnace. The precious metal collected in the silver aliquot are not ready for either geochemical analysis using an atomic absorption spectrometer or a gravimetric assay finish. The geochemical method involves dissolving the precious metal and analyzing by atomic absorption. Gravimetric assays are completed by dissolving the

silver of the doré bead in nitric acid and leaving the gold to be weighed on a micro balance.

Quality control consists of using in-house or Canmet (Natural Resources Canada, Mineral Technology Branch) standards and blanks in each batch and reassaying at least 10% of all the samples. The fire assay supervisor evaluates all results and additional checks, reassaying pulps prepared from rejects may be run on anomalous values. All values obtained are reported.

Platinum and Palladium analyses use the same type of fusion and cupellation process as gold assaying. The resulting bead is dissolved using nitric and hydrochloric acids and is determined by atomic absorption. Blanks, standards, and duplicates are included in each furnace batch.

Swastika has found that samples containing high sulphides and particularly high nickel cause lower recovery of Pt and Pd during the fusion and cupellation process. The lab overcomes this by using a smaller aliquot. This method is also used to get beyond quoted threshold, since samples containing high Pt and Pd usually also contain high sulphides and some nickel. Inter-element interferences are controlled by using a solution of Cu and La in all samples and standard solutions.

14 DATA VERIFICATION

BIRCH LAKE

The Birch Lake Zone drill hole data was digitized by Snowden Associates in 2002 (Routledge, 2004) for Snowden's preliminary resource estimate prepared for Impala Platinum Holding Ltd. (Impala). Snowden reported at that time that it carried out considerable verification work to make the database acceptable for resource estimation.

Snowden originally entered the wedge holes into the digital data base as independent holes with collars placed so as to have the wedge departure point XYZ coinciding with the pilot hole. When plotted on screen in 3-D, the traces of some of these wedge holes do not appear to be reasonably positioned with respect to the pilot holes. This is likely due to differing software algorithms used to plot hole traces, the differences in trace positioning magnified by the long holes. Scott Wilson RPA entered the 2005 holes as continuations of the pilot holes with identical collars and above-wedge survey data and similarly re-formatted the other wedge holes. The wedge holes as displayed by Gemcom Software now have better spatial representation of their assay intervals with respect to the pilot holes. This is important since Gemcom software is used for the 3-D resource estimate which relies on the spatial relationship of assays for grade interpolation weighting.

Scott Wilson RPA's review of assays disclosed that sample BL00-11-18 (hole BL00-11) at 688.73 m to 689.34 m (2,259.6 ft. to 2,261.6 ft.) has 69.6962% Cu (696,962 ppm) entered in the database. This implausible assay was corrected to 0.6962% Cu (6,962 ppm).

Scott Wilson RPA used Gemcom routines to validate the drill hole database for out of sequence/overlapping assay intervals, inconsistent down hole survey records, missing assay intervals etc. Scott Wilson RPA noted several out of sequence/overlapping assay intervals and instances of down hole survey records exceeding posted hole lengths. These errors were addressed and the database repaired.

Sampling and assaying, quality assurance and quality control were reviewed in Routledge (2004). In Scott Wilson RPA's opinion the drilling and assay data were acceptable for resource estimation at that time and only minor data (2005 drilling) has been added to the database since then. The 2005 drilling employed the same protocols as previously. In Scott Wilson RPA's opinion the current drilling and assay database is acceptable for resource estimation.

QUALITY ASSURANCE/QUALITY CONTROL

A program to check analytical results as part of the Project assaying quality control and assurance program (QA/QC) has been carried out with an in-house report prepared in June 2001. Scott Wilson RPA reviewed this report and used data in the report to conduct its own validation of conclusions reached in this report. The Lehmann/Impala program consisted of compositing pulps or rejects from better grade intersections over 2.7 m (9 ft.) to 4.3 m (14 ft.) in 21 holes. The samples were split and analyzed at Bondar Clegg (Vancouver) and Genalysis Laboratory Services Pty. Ltd. (Genalysis) in Maddington, Western Australia. Samples were analyzed for Cu, Ni, Au, Pt, Pd, Rh, Ir, Os, and Ru. The latter four elements were not routinely analyzed in the drilling campaigns. A total of 692 samples were combined into 102 composites. The results from the two labs were compared as well as to the original individual analyses. In addition, 33 individual pulps from hole BL00-7 were sent to Genalysis to directly check original Bondar Clegg values. Splits from four composites were also analyzed by Impala in South Africa.

In general there is good agreement between the results for the composites and the analyses' weighted averages for the individual sample pulps. Correlation between Bondar Clegg and Genalysis is good for the 33 individual samples but Bondar Clegg is consistently lower for Cu, Ni, Au, Pt, and Pd. In part the difference may be explained by the use of different fire assay collection (Bondar Clegg Pb versus more efficient Genalysis NiS) methods for the precious metals, however, this does not account for the bias in Cu and Ni that are determined by acid digestion methods. Calibration differences for the ICP/AA units may account for the difference in analyses between the labs. This limited work confirms that the Bondar Clegg analyses are reasonably accurate.

A comprehensive QA/QC program that includes field duplicates, blank control and standard reference samples as well as review of internal laboratory QA/QC was not carried for drilling programs. Scott Wilson RPA noted that Bondar Clegg has routinely appended its QA/QC data, analyses of pulp duplicates, reference standards, and analytical blanks, to its analytical certificates. Scott Wilson RPA reviewed analyses for blanks and reference standards and compiled a limited amount of the pulps duplicate analysis data for Cu, Ni, Pt, Pd, and Au to assess analytical precision. Table 14-2 summarizes Scott Wilson RPA's interpretation of duplicate pulps analysis results. Routledge (2004) provides detailed graphical analysis of QA/QC work.

TABLE 14-2 SUMMARY OF DUPLICATE PULP ANALYSES
Franconia Mineral Corporation - Birch Lake Project

Metal	Linear Correlation Coefficient (R^2)	T&H Dispersion about Mean Analysis Value	%Difference at 95% Confidence Interval
Cu	0.9970	±5%	±8%
Ni	1.000	-5% ,+11%, most ±5%	±11
Au	0.9568	-35%, +15%, most ±10%	±35%
Pt	0.9731	-12%, +20%, most ±10%	±25%
Pd	0.9901	±6%	±11%

Based on this limited review, Scott Wilson RPA concludes that the precision and accuracy for the Bondar Clegg analyses fall within accepted industry limits and are reasonable for resource estimation. Scott Wilson RPA recommends that the past laboratory QA/QC data be compiled and evaluated during future resource updates and that a comprehensive QA/QC program be initiated in the event of further resource delineation drilling.

MATURI

Data verification was carried out by WGM for the Wallbridge work in 2000. WGM obtained results from University of Minnesota (UMN) surveys of one drill hole at Maturi, 25 holes at Spruce Road, and the vent pipe at the Maturi shaft. WGM validated data for its 2000 resource estimate by the following work:

- WGM located and surveyed hole 11526 on site.
- The converted NAD27 coordinates (i.e., New Minnesota to NAD27) were compared to surveyed locations and then the New Minnesota grid origin was adjusted to 539,980.4E and 5,199,956.8N based on the average shift in the plotted coordinates. The plot of surveyed holes for Spruce Road showed good correspondence to the adjusted locations to ±5 m east-west and ±10 m north-south (Soever, 2000). However, the one surveyed hole, 11526, at Maturi did not correspond.
- WGM used a mathematical transform, using the Maturi baseline of 55.92° azimuth tied to hole 11526, to transform all coordinates to NAD27 and then compared them to MNDNR surveyed locations and the adjusted NAD27 locations derived from the Inco New Minnesota grid. Soever (2000) reports that resulting locations show generally good correspondence with the values provided by Inco, except for at Maturi:
    - There were significant errors in hole locations in the northeast part of the Maturi grid.
    - Hole 327270/1 reported to be at Spruce Road is at Maturi.
    - Errors were found in underground drill hole elevation data. Errors appear to be related to confusing drift level with elevation on logs, i.e., the use of negative elevation with respect to the shaft collar. Two other implausible elevations were considered as error and all were corrected by WGM.
- WGM spot-checked assay data with computer drill logs and hand drawn sections. No discrepancies were noted between the assay database and the drill logs or sections. The geology on the hand drawn sections, however, did not agree with the geology as depicted on the drill sections. It appears a reinterpretation of the geology has been carried out, subsequent to the plotting of the drill sections.
- Error checking routines in Gemcom software were used to find, check, and correct overlapping, out of sequence, and missing intervals.

For further independent verification, Scott Wilson RPA cross-referenced the Maturi resource database collar coordinates and lengths for 38 drill holes that could be matched with the MNDNR database. The MNDNR located and surveyed a number of holes on the property in UTM NAD27, UTM NAD83, and the State Plane Coordinate grid systems. For other holes on file that the MNDNR could not locate in the field, the original Inco exploration grid coordinates were converted to UTM based on vector relationships between the hole collars and the MNDNR surveyed holes. Scott Wilson

RPA notes that the resource database hole numbers have had zeros added to them and are 6-digit compared to the MNDNR and original numbers, which are generally 5-digit (wedges and deepened holes carry an extra digit).

Scott Wilson RPA's cross-referencing confirmed that the resource database collar coordinate eastings and northings are in UTM NAD27 after conversion by WGM in 2000. Collar coordinates and hole lengths agreed to ±0.3 m in the two databases. Collar elevations have no variation except for 11 surface holes, of the 38 cross-referenced, where differences are +3.05 m to -3.66 m, with one hole at -17.38 m. Scott Wilson RPA recommends that elevations be checked for these holes.

During Scott Wilson RPA's site visit, the Inco shaft vent, and the collar of Wallbridge hole 11526R, adjacent to Inco hole 11526, was located by a hand held GPS instrument (Garmin eTREX). The shaft coordinates agree to ±6 m, the limit of accuracy for the GPS instrument in open ground. The hole collar is ±14 m to ±20 m, again the limit of accuracy for the GPS instrument in partial tree cover.

15 ADJACENT PROPERTIES

Ten, mostly low grade disseminated copper-nickel bearing polymetallic mineral deposits occur at the base of the Duluth Complex over a strike distance of 35 km. The deposits are located northwest, west, and southwest of the Birch Lake Project. According to the MNDNR/MNGS, the Duluth Complex contains approximately 3.63 billion tonnes (4.4 billion tons) of mineralization grading approximately 0.66% Cu and 0.2% Ni. From northeast to southwest, the deposits are: Spruce Road, South Filson Creek, Maturi and Maturi Extension, Dunka Pit, Serpentine, Babbitt/Minnamax/Mesaba, Dunka Road/NorthMet, Wetlegs, and Wyman Creek. Table 15-1 summarizes the status of the more significant of the adjacent properties.

TABLE 15-1 ADJACENT PROPERTY STATUS
Franconia Minerals Corporation – Birch Lake Project

Deposit	Owner	Tonnage/Grade	Development
Mesaba (Babbitt)	Teck Cominco American Inc.	700 million tonnes at 0.46% Cu, 0.12% Ni (OP). 300 m tonnes (UG)	Surface drilling, 520 m shaft, UG development, UG drilling, bulk sampling, metallurgical testing, pre-feasibility studies.
NorthMet (Dunka Road)	Polymet/Nerco Expl.	487 million tonnes at 0.30% Cu, 0.08% Ni, 0.08 g/t Pt, 0.29 g/t Pd, 0.04 g/t Au (OP)	Surface drilling, bulk sampling, metallurgical testing, pre-feasibility study.
Maturi Extension	Wallbridge Mining Company	Du-4 Zone (UG)	Surface drilling. Advanced exploration.
Spruce Road	Franconia Minerals Corporation/Beaver Bay **	236 million tonnes at 0.46% Cu, 0.16% Ni (OP)	Surface drilling, bulk sampling, metallurgical testing, pre-feasibility study.

* OP: open pit; UG: underground

** Acquired surface & mineral rights to 5,200 acres covering deposit from American Copper & Nickel Co in May 2005.

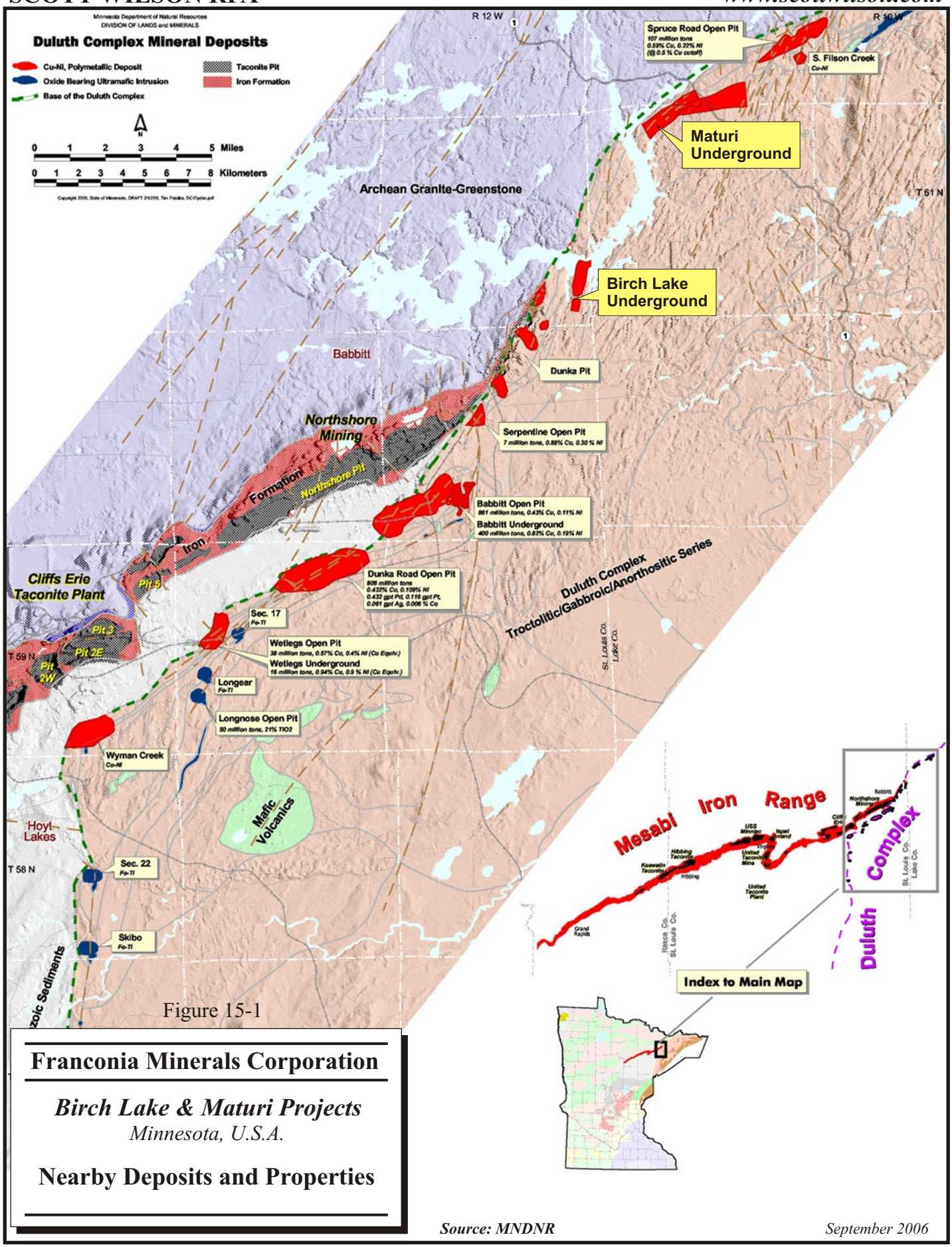


Figure 15-1

Franconia Minerals Corporation

Birch Lake & Maturi Projects
Minnesota, U.S.A.

Nearby Deposits and Properties

Source: MNDNR

September 2006

Polymet Mining Corporation (Polymet) completed a pre-feasibility study in 2001. In late 2005, Polymet purchased the Cliffs Erie, LLC (Cleveland Cliffs) taconite plant and tailings basin near Hoyt Lakes, Minnesota, and is currently preparing an Environmental Impact Statement (EIS) as part of a final feasibility study due in 2007. Polymet plans to start open pit development in 2008. The initiation of commercial production at the Northmet deposit will have positive implications for Birch Lake and Maturi in terms of government and local acceptance of mining that should speed the approvals process for these projects and demonstrate commercial viability of the PLATSOL process.

Duluth Metals Limited, a subsidiary of Wallbridge Mining Company, has just completed drilling seven holes to test Cu-Ni-PGE mineralization down dip of the Maturi deposit on the Maturi Extension property east adjacent to Franconia's US ES01352 lease.

16 MINERAL PROCESSING AND METALLURGICAL TESTING

BIRCH LAKE METALLURGICAL TESTWORK

Bench scale flotation testwork on a composite sample of drill core from the Birch Lake deposit was undertaken at SGS Lakefield Research (Lakefield). The primary objective was to establish general amenability to flotation recovery of base and precious metals and to produce concentrate for testing of metal recovery by hydrometallurgical (pressure leaching) means.

Pressure leaching testwork was limited to a preliminary evaluation of the proprietary "Platsol®" process, developed at Lakefield by International PGM Technologies Ltd. It is considered the preferred option for treatment of Birch Lake material. The Platsol process is based on a conventional high pressure, high temperature acid leach, but incorporates the use of chloride to solubilise gold and platinum group metals (PGM).

SAMPLES

Testwork was conducted on a composite sample from the Birch Lake property, comprising approximately 200 kg of quartered NQ drill core. The core was drilled primarily in 2001, with some samples taken from year 2000 drilling. Some surface oxidation of the core was noted but the degree was not considered important for the planned study. The list of samples is detailed in the Lakefield report and is reproduced (with a minor correction) in the table below. The composite sample approximates the average grade and mineralogy of the Inferred Resource at Birch Lake.

TABLE 16-1 DRILL CORE COMPOSITE SAMPLE
Franconia Minerals Corporation – Birch Lake Project

Drill Hole	Interval (ft)
BL01-4W2	2038.2-2091.8
BL01-4W2	2177.2-2194.1
BL01-6W1	2518.2-2569.2
BL01-4W1	2038.9-2088.0
BL01-2W3	2021.2-2158.0
BL01-3W1	1826.8-1857.0
BL01-3W1	1897.8-1913.3
BL01-3W2	1829.8-1853.3
BL01-2W1	2023.9-2158.0
BL00-6W1	1651.4-1698.9
BL00-7W2	1963.4-2022.1
BL00-2W1	2013.7-2234.7

Head analyses of the composites are reproduced from the Lakefield report in the following tables:

TABLE 16-2 CHEMICAL ANALYSES – HEAD GRADE
Franconia Minerals Corporation – Birch Lake Project

Element	%	Element	g/t
Cu	0.78	Au	0.15
Ni	0.23	Pt	0.31
Fe	10.2	Pd	0.87
Co	<0.02	Ag	3
St	0.99	Rh	<0.02
S=	0.95	Hg	0.6

TABLE 16-3 ICP ANALYSES – HEAD GRADE
Franconia Minerals Corporation – Birch Lake Project

Element	g/t	Element	g/t
Al	78000	Na	14000
As	<30	P	340
Ba	100	Pb	100
Bi	<0.07	Sb	<10
Be	<20	Se	<30
Ca	51000	Sn	<20
Cd	<2	Sr	240
Cr	900	Ti	4600
Fe	110000	Tl	<30
Li	<5	V	73
Mg	80000	Y	6.3
K	1100	Zn	250

TABLE 16-4 WHOLE ROCK ANALYSES – HEAD GRADE
Franconia Minerals Corporation – Birch Lake Project

Compound	%	Compound	%
SiO_2	40.8	TiO_2	0.79
Al_2O_3	14.8	P_2O_5	0.08
Fe_2O_3	15.8	MnO	0.14
MgO	12.9	Cr_2O_3	0.14
CaO	6.81	V_2O_5	0.01
Na_2O	1.83	LOI	1.81
K_2O	0.34		

MINERALOGY

Limited mineralogical work was conducted in conjunction with the testwork, primarily to determine the deportment of nickel mineralization. A significant observation was that about one third of the nickel found in rougher tail is present as Mackinawite, which is a sulphide mineral and potentially recoverable by flotation.

GRINDING

No grinding testwork was undertaken.

FLOTATION

The testwork program included kinetic flotation tests to establish grind and flotation rates, batch cleaner flotation tests to develop grade/recovery and recovery/concentrate relationships, and locked cycle tests to confirm performance and to generate concentrate for downstream work.

Because the expected process will involve hydrometallurgical (pressure leaching) treatment of a flotation concentrate rather than conventional smelting, the grade of concentrate produced is of secondary importance to recovery, provided that the sulphide sulphur level in the concentrate is sufficient to maintain a satisfactory heat balance in the autoclave. The testwork indicates that a concentrate comprising about 9% of the ore weight is appropriate. At this concentration ratio, and subject to more definitive testwork, expected metal recoveries are 95% to 97% for copper, 68% to 70% for nickel, and approximately 88% to 90% for platinum group metals and gold.

The relatively low nickel recovery is believed to be due to partial oxidation of the pentlandite to mackinawite (a slow-floating sulphide nickel mineral). SGS Lakefield estimated that one third of the un-recovered nickel is in mackinawite and two-thirds in silicates. Using fresh un-oxidized ore and with changes in the flotation circuit, Franconia's next testwork program may recover a significant portion of the nickel that was in mackinawite in the test sample.

PRESSURE LEACHING

The pressure leach testwork program included four batch and one semi-continuous pressure leach tests to establish preliminary metal extractions and to confirm general amenability of the Birch Lake flotation concentrate to the Platsol process. Batch pressure leach tests are considered adequate to demonstrate gold and PGM behaviour under Platsol conditions, while semi-continuous test results are better used to establish base

metal leach rates. The results show that high base metal and PGM extractions can be obtained with the process, while gold extraction is less favourable.

The following tables summarize analyses of the flotation concentrate derived from cycle flotation tests and used in the pressure leach program.

TABLE 16-5 CHEMICAL ANALYSES – FLOTATION CONC.
Franconia Minerals Corporation – Birch Lake Project

Element	%	Element	g/t
Cu	14.7	Au	3.58
Ni	2.94	Pt	7.55
Fe	23.8	Pd	17.0
Co	0.09	Ag	25.3
St	18.7		
S=	17.9		

TABLE 16-6 ICP ANALYSES – FLOTATION CONC.
Franconia Minerals Corporation – Birch Lake Project

Element	g/t	Element	g/t
Al	30000	Mo	<5
As	110	Na	4100
Ba	30	P	<200
Bi	<40	Pb	<80
Be	<0.08	Sb	<10
Ca	20000	Se	83
Cd	<2	Sn	<20
Cr	270	Sr	84
Fe	240000	Ti	1000
K	680	Tl	<30
Li	<20	V	26
Mg	38000	Y	4.4
Mn	460	Zn	400

MATURI METALLURGICAL TESTWORK

Little testwork has been completed on Maturi samples, and recoveries used for Preliminary Economic Assessment are based on results from the Birch Lake and Spruce Road deposits.

The University of Minnesota conducted concentration tests on Maturi samples for Inco in 1967 and found that about 70% of the chalcopyrite occurs as discrete grains and compound grains with pyrrhotite, the compound grains varying from 100 µm to 1,800 µm and averaging 500 µm. Chalcopyrite also occurs as minute inclusions in olivine, pyrrhotite, and magnetite. Pentlandite was reported to occur as compound grains with pyrrhotite and chalcopyrite or included in pyrrhotite.

Inco conducted extensive testwork on the nearby Spruce Road deposit in 1973 and processed a 9,500 tonne bulk sample at the Creighton mill in Ontario (Soever, 2005). Inco noted other copper minerals and native copper in addition to chalcopyrite and reported that some of the nickel is bound in olivine and is not recoverable by flotation. Inco's flotation work produced a bulk concentrate grading 13.4% copper and 2.8% nickel, with recoveries of 89% for copper, 63% for nickel, 28% Co, 65% to 71% for gold and silver, and approximately 65% for PGMs.

Soever (2000) reports that more recent Lakefield flotation work on Spruce Road samples yielded similar data to that obtained by Inco. Similar flotation results on Duluth Complex Cu-Ni mineralization were experienced by the University of Minnesota and the USBM in the past (Lehmann 2002a, 2003, 2005).

FUTURE TESTWORK

Future testwork on the Birch Lake and Maturi deposits includes laboratory and pilot plant programs on fresh drill core samples. Laboratory testwork will include evaluation of the degree to which nickel recovery may be improved on Birch Lake material by minimizing oxidation and/or by variation of flotation conditions. More definitive bench

scale flotation testwork on both deposits is planned, as well as grindability and other work required for preliminary process design. Assuming that the flotation response of Birch Lake and Maturi are generally similar and mutually compatible, additional testwork will be undertaken to prove the flotation flowsheet on a combined feed. Concentrate from this latter testwork will be used as feed for further bench scale Platsol testwork to obtain data suitable for planning a pilot plant campaign. A bulk tonnage sample of both Birch Lake and Maturi will provide feed for pilot plant flotation testwork to generate concentrate for an integrated Platsol program to prove the process at pilot scale, and to generate process design data.

MINERAL PROCESSING

The proposed process for Birch Lake and Maturi involves flotation of a bulk sulphide concentrate containing copper, nickel, PGM's, and gold and subsequent leaching and recovery of metals using the proprietary Platsol process. The Platsol process includes pressure leaching of concentrate under conditions suitable for simultaneously solubilising the base and precious metals. The pressure leach process will be followed by liquid/solid separation, recovery of platinum group metals and gold from the clarified solution by precipitation or adsorption, copper recovery using solvent extraction and electrowinning, and precipitation of a nickel-cobalt product from a bleed stream. This expected general process is illustrated in the following simplified flowsheet, and may be subject to change as the testwork proceeds.

There would be three final products – cathode copper, a nickel cobalt hydroxide, and a precious metals precipitate. The copper would be a direct saleable product, and the other two products will be shipped to refiners for processing.

The Platsol process has undergone extensive testwork at Lakefield, using material from Polymet's Northmet deposit, however, it has not been commercially proven. Franconia obtained a licence to use the Platsol process from International PGM Technologies Ltd. of Peterborough, Ontario in December 2005.

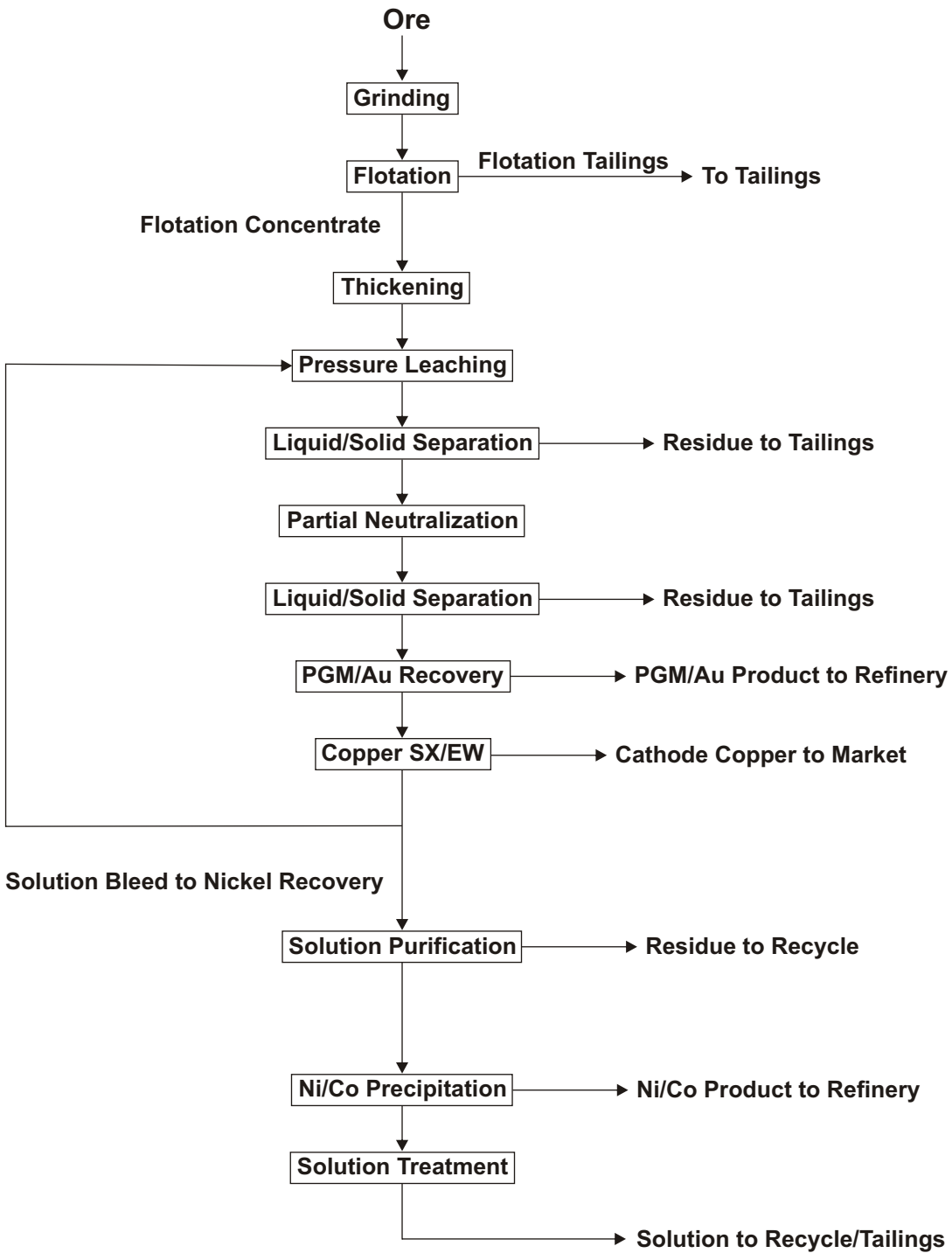


Figure 16-1

Franconia Minerals Corporation

Birch Lake Project

Minnesota, U. S. A.

Simplified Process Flow Sheet

September 2006

Based on a selected nominal autoclave retention time of 120 minutes, predicted metal extractions for Birch Lake are shown in the table below.

TABLE 16-7 BIRCH LAKE METALLURGICAL RECOVERIES
Franconia Minerals Corporation – Birch Lake Project

	Ni %	Cu %	Co %	Pd %	Pt %	Au %
Concentrator Recovery	68	97		91	91	90
Platsol Recovery	96	96		86	91	45
Total Recovery	66	93	40	78	82	40

The Birch Lake concentrate also contains some rhodium and silver, which are expected to be substantially lost to the residue. Cobalt recovery was not followed in the testwork to date and the assigned recovery has been estimated based on available information from testwork on a generally similar material.

Predicted metal extractions for Maturi ore are shown in the following table. Concentrator recovery was taken from WGM (2000). Platsol recovery is based on Birch Lake testwork. It is emphasized that testwork on mineralized material from the Maturi deposit itself is required to confirm recoveries.

TABLE 16-8 MATURI METALLURGICAL RECOVERIES
Franconia Minerals Corporation – Birch Lake Project

	Ni %	Cu %	Co %	Pd %	Pt %	Au %
Concentrator Recovery	72	92		75	70	70
Platsol Recovery	96	96		86	91	45
Total Recovery	69	88	40	64	63	31

CONCLUSIONS AND RECOMMENDATIONS

Bench scale testwork has confirmed the amenability of Birch Lake material to flotation concentration and subsequent metal recovery via the Platsol process. Flotation

recovery of nickel was lower than anticipated and may be improved through additional testwork.

Additional bench scale testwork is required on both Birch Lake and Maturi samples to develop design information and to optimize process conditions. Because of the nature and complexity of the overall process, a pilot plant operation is required to confirm recoveries, to allow the development of detailed process design criteria, and to demonstrate product purity.

17 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

BIRCH LAKE MINERAL RESOURCES

DATABASE AND APPROACH

The Birch Lake mineral resource estimate is based entirely on surface diamond drilling. The database consists of 44 pilot holes totalling 32,046.15 m and 43 wedge offset holes for 4,955.87 m or 37,307.9 m in all. The diamond coring has been N diameter wireline; NQ (47.6 mm) for older drilling and since 1999, NTW thin wall (56 mm) for pilot holes and NQ (47.6 mm) for wedge offset holes. Nine holes during the later campaigns were drilled from a barge on Birch Lake.

Drilling on the property and recorded in the drill hole database covers an area of 11 km by 6 km. Resource and limiting drill holes are irregularly spaced in an area 3,150 m north-south and 2,120 m east west. Most holes consist of pilot holes with up to three wedge offset holes. The wide drill hole spacing is adequate for classification as inferred resources. Scott Wilson RPA revised the digital drill hole database that had been prepared by Snowden Mining Industry Consultants (Pty.) Ltd. (Snowden) in 2002 by re-digitizing the wedge holes and added data for four holes and wedge offsets diamond drilled in 2005. The four pilot holes totalled 3,344.35 m and the four wedge offsets totalled 519.07 m for a 2005 program total of 3,863.92 m. The 2005 campaign totalled 934 analyses (assays) over 612.18 m.

Scott Wilson RPA is of the opinion that the quality of diamond drill hole data is acceptable for inferred resource estimation.

Scott Wilson RPA estimated the mineral resource at Birch Lake by 3D computer block modelling and geostatistical methodologies available in Gemcom Software International Inc. V. 4.02. A wireframe outlining the potentially economic mineralization was constructed in order to constrain resource estimate. Drill hole assays inside the wireframes were captured, and assay composites of equal two-metre lengths were generated to regularize sample support. Grade variogram models of Cu assay composites

were graphed and interpreted. Block model search parameters were established based on the variography results and the geometry of the deposit. Ordinary kriging (OK) was used for grade interpolation.

Owing to the polymetallic nature of the mineralization, Scott Wilson RPA used a net smelter return (NSR) approach to report resources at incremental US dollar NSR cut-offs. In Scott Wilson RPA's opinion, this approach best accounts for the impact of co-product metals on the potential project economics.

For determination of cut-off cost ranges, Scott Wilson RPA assumed a project scenario consisting of room and pillar bulk underground mining and processing by conventional crushing, grinding and flotation to produce a bulk Cu-Ni-PGM concentrate, followed by hydrometallurgical recovery of saleable metals and precipitates utilizing the patented PLATSOL process. Concentrator and PLATSOL plants are assumed to be located on site or nearby and no freight charges were incorporated in the NSR. Such costs are included in cash flow analysis for preliminary assessment.

Fundamental NSR assumptions are metal prices, concentrator and PLATSOL metal recoveries metal, plant treatment costs and refining costs, and applicable sales deductions (Table 17-1). PLATSOL recoveries are derived from metallurgical testing of mineralized material from Birch Lake (Hayden, 2005a, b). There are no deductions or charges for copper, as the final product is cathode copper, which is assumed to be saleable.

Sale of the products to consumers or distributors for copper and to refiners for the Ni-Co and precious metals products will not be subject to penalties for impurities, and there will be no hindrance in selling the products other than normal market conditions that apply to most metal producers.

Table 17-1 Birch Lake NSR Assumptions and Payable Metals
Franconia Minerals Corporation Birch Lake Project, Minnesota

Metal	Unit	Long Term Price	Mill Recovery	Platsol HydroMet Recovery	Total Recovery	Metal Refining $/unit	Price Deduction	Sales Discount	Accountable Metal $/unit	Unit	% of Price	$/Grade Unit	Grade Unit
Copper	lb	$1.50	96.0%	95.3%	91.5%	$0.00	$0.00	0%	$1.37	lb	91.5%	$30.25	%
Nickel	lb	$6.00	69.0%	95.7%	66.0%	$0.35	$0.00	10%	$3.25	lb	54.2%	$71.67	%
Cobalt	lb	$10.00	37.5%	95.7%	35.9%	$0.85	$0.00	10%	$2.46	lb	24.6%	$54.34	%
Gold	oz	$450	89.0%	44.5%	39.6%	$12.00	$0.00	0%	$166.22	oz	36.9%	$5.34	g/t
Platinum	oz	$800	89.0%	90.5%	80.5%	$18.00	$2.00	0%	$624.75	oz	78.1%	$20.09	g/t
Palladium	oz	$300	89.0%	85.5%	76.1%	$18.00	$1.50	0%	$209.14	oz	69.7%	$6.72	g/t

Hydromet Conc. Treatment ($/ton)	$105
Average Concentrate Ratio (Cu)	17
Average Treatment Cost/ROMtonne	$7.21
Concentrate Freight $/tonne	$0.00
Concentrate Freight/ROMtonne	$0
Royalties	$0

Notes:
1) All dollars in US currency
2) Mill recoveries from Hayden (2005) and Lakefield Research
3) Average Concentrate Ratio from Lehmann (2002)
4) Platsol hyrdrometallurgical recoveries and treatment costs from Hayden/EHA Engineering
5) Refining costs and sales discounts from Lehmann (2002)

NSR CUT-OFFS

NSR cut-offs are based on project operating costs (Table 17-2) that Scott Wilson RPA estimates to be ±30%. Mining costs assume bulk underground room and pillar mining and have been compared to other hard rock mining operations that exploit deposits with similar physical characteristics to the Birch Lake deposit. Costs have also been examined for large room and pillar mining operations in the central US. The project envisions a Birch Lake mine producing 10,000 tonnes per day and a concentrator at Birch Lake that processes 18,000 tonnes feed per day from the Maturi and Birch Lake deposits for 350 days per year, or a total of 6.53 million tonnes mill feed per year. Direct mine operation costs for Birch Lake are estimated at US$18/tonne including 20% contingency.

BULK DENSITY

A bulk density of 3.04 tonnes/m^3 was globally applied to convert volume to tonnage. Lehmann (2002c), used this value (0.0948 tons/ft^3) and 3.04 was accepted by Routledge (2004), Clow and Routledge (2005).

Density testing was performed during a check analysis program (Routledge, 2004). Gas displacement pycnometer tests were done on approximately 134 composited pulps and approximately 89 tests were completed on composite pulps by the wet pycnometer method. Some duplicate tests were also done for quality control. Impala determined specific gravity (SG) for four samples. The wet pycnometer results are consistently lower than the gas displacement tests. Rowell (2001a) reports an average SG of 2.6 for 17 long intervals combined from the composites analyzed by wet pycnometer; SG of 3.037 for 20 composite samples by gas displacement pycnometer and an SG of 2.923 for four samples determined by Impala. The four Impala samples compare to the same samples done by gas displacement pycnometer (2.92) and by wet pycnometer (2.75).

The disparity in SG values between the wet and gas displacement pycnometer methods is 10% to 16% which is a large error to incorporate in volume-tonnage conversion. The wet pycnometer SGs appear to be too low for mafic rocks when compared to published SG ranges of 2.9 to 3.1 for gabbros, a lower density rock. As a check Scott Wilson RPA calculated the SG for various rock types (melatroctolite to anorthosite) using modal mineralogy adjusted to include 1% to 5% sulphides and 2% to

5% oxides This calculated SG ranges from 2.9 to 3.5 and supports the 3.04 global value used in the resource estimate.

For future drilling programs on the property, Scott Wilson RPA recommends that SG testing be performed for the individual rock types in the U3 unit and the hanging wall pegmatitic units. Such data will be useful to confirm the global SG used to date and for rock density modelling in future resource updates.

ESTIMATION METHOLOGY

GEOLOGICAL INTERPRETATION AND WIREFRAMES

The disseminated mineralization shows reasonable continuity hole to hole within the U3 stratigraphic interval at and below the pegmatitic unit. However the grain size of the copper minerals, and consequently copper grade, varies with the grain size of host rocks and these are texturally heterogeneous resulting in some grade discontinuity over short distances e.g. between pilot and wedge holes.

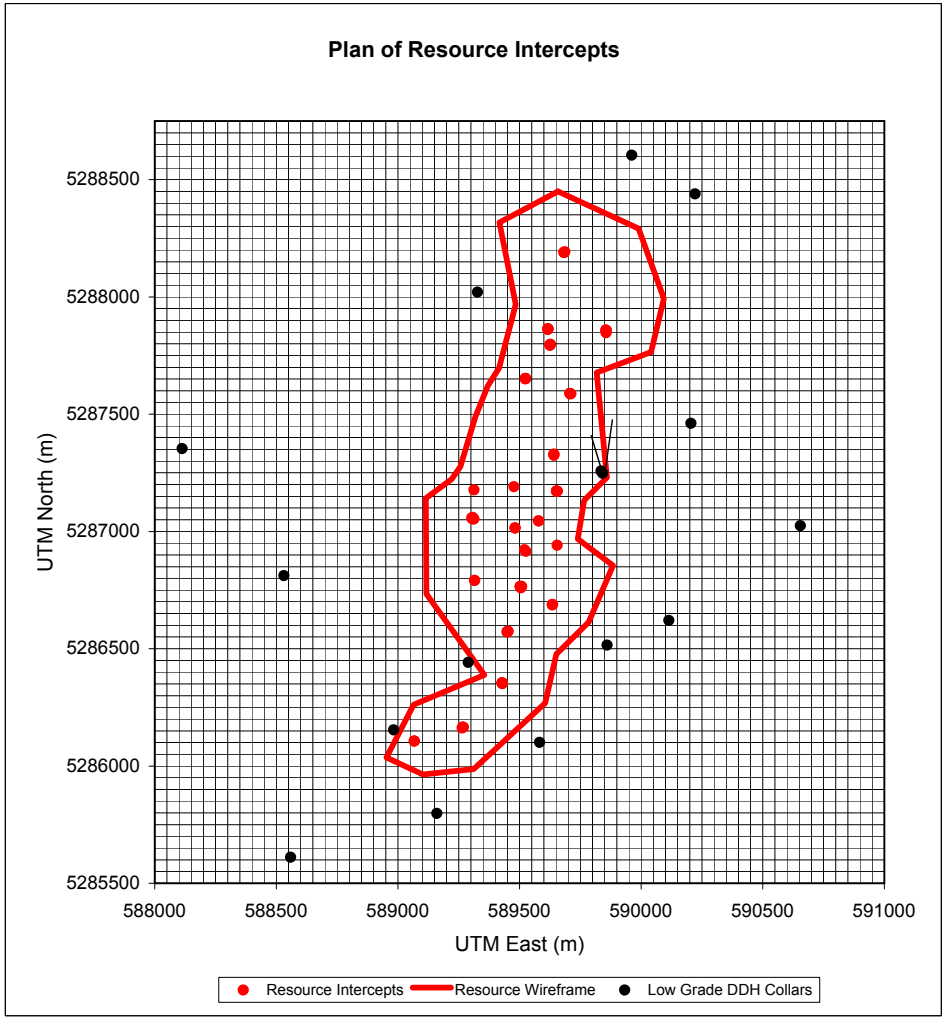
The diamond drill hole data was used initially to construct a wireframe of the mineralization. The abrupt changes in the wireframe that would be needed to honour pilot and adjacent wedge hole assay intercepts at a selected cut-off are impractical from a modelling and mining standpoint. The assay intervals were consequently averaged as horizontal slices between the clustered holes and the composite intercepts applied to the individual holes to guide the “snapping” of poly lines for construction of the wireframe. This averaging approach is the same as that used for the polygonal estimate by Lehmann (2003, 2005) as described in Routledge (2004 and 2005). Scott Wilson RPA constructed the wireframe of the mineralization intercepts using a cut-off grade of $16/tonne NSR ($15/short ton) as an incremental cut-off that allows for good continuity and incorporates some waste to account for short distance grade discontinuity.

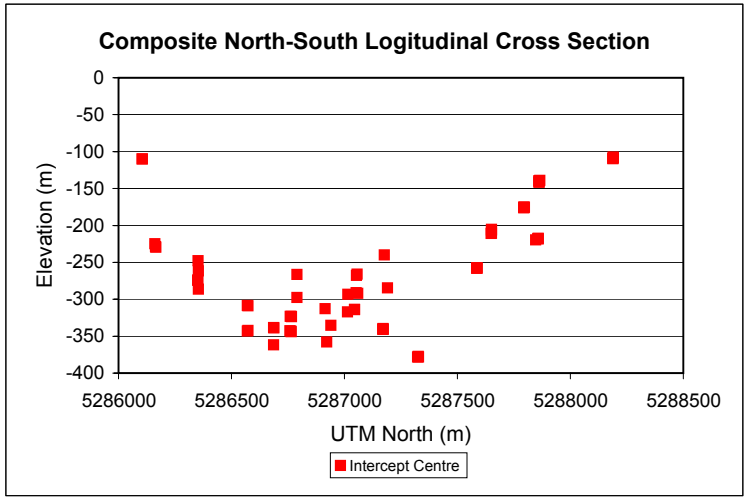
The resources intercepts (Figure 17-1) are located from 5,286,105 N to 5,288,190 N (2,085 m); 589,067E to 589,857E (790 m) with center of the intercepts ranging from -100 m to -379 m elevation (approximately 540 m to 820 m depth

The wireframe envelope was generally interpreted as a simple, sub horizontal broad zone with inflections to account for elevation changes interpreted as generalized northeasterly cross faulting. Two parallel zones were modelled at the US$16 NSR/tonne cut-off for 300 m within the deposit where a waste interval ≥3 m separated intercepts above cut-off. There are a total of 22 holes that intercept the resource in the two zones. The upper zone averages approximately 31 m thick and the lower zone (seven intercepts) is approximately 9 m thick. In several instances, waste separating multiple mineralization intercepts was included in the model and in one instance the model was extended through a waste intercept to preserve continuity of the wireframe. The wireframe therefore includes some internal dilution. The limits of the wireframe were established in plan with extrapolation half way between adjacent holes.

Figure 17-2 shows 3-D isometric views of the wireframe.

Figure 17-1 Location of Resource Intercepts
Franconia Minerals Corporation Birch Lake Project, Minnesota





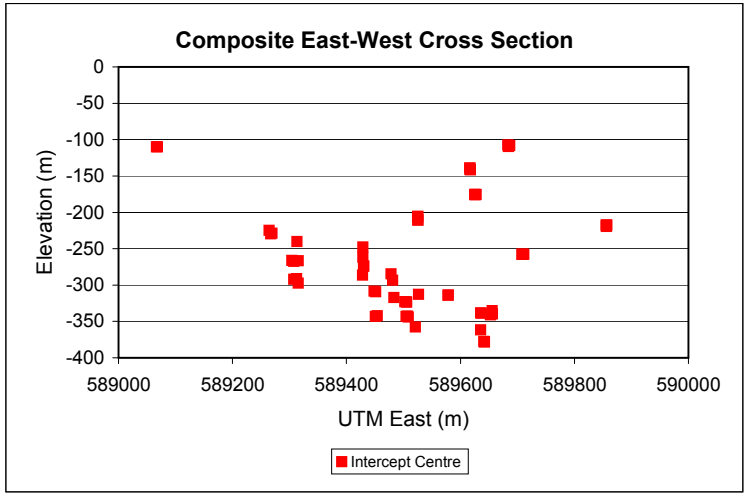
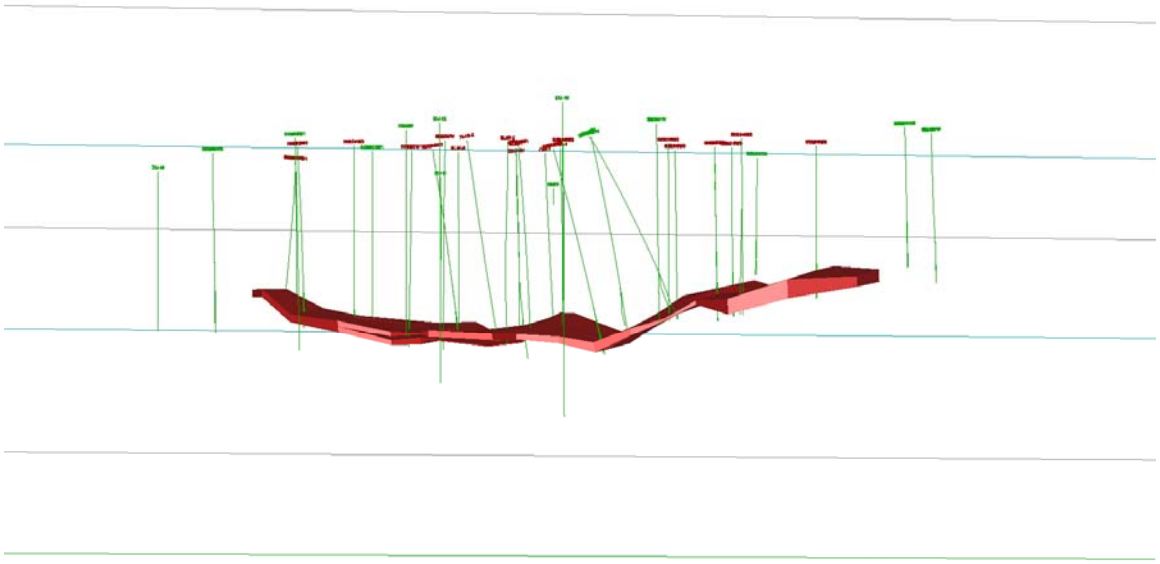


FIGURE 17-2 ISOMETRIC VIEWS OF THE BIRCH LAKE DEPOSIT WIREFRAME

Plan View (north up)

Looking West



In the opinion of Scott Wilson RPA, the wireframe of the Birch Lake deposit is a reasonable representation of the geology for this type of deposit.

The mineralization envelope was used to capture the sample assays for use in assay compositing, statistical analysis, and grade estimation as well as to generate the block model.

ASSAY AND COMPOSITE STATISTICS

Prior to block modelling, Scott Wilson RPA conducted a statistical review of the drill hole database raw assays. The log-probability distribution of copper assays in Figure 17-3 shows an inflection at 2% indicating an outlier high grade population (1.5% of the data). Highest grade is 5.9% copper and is clearly atypical of the disseminated mineralization and likely reflects the rare aggregates or clots of coarse chalcopyrite seen in core. The high grades of the aggregated chalcopyrite could locally influence block grades disproportionately to its limited continuity. The copper assays were capped at 2%. The capping has minimal impact on the average grade of the assays and resource blocks.

The assays in the wireframe were composited on a 2 m interval. This length was based on the distribution of sample lengths (see Figure 17-4), and consideration of the drilling density and block vertical dimension. The 2 m length incorporates all of the individual assay lengths within the wireframe. Statistics of raw assays and 2 m composites (as well as resource blocks) contained in the wireframe are summarized in Table 17-2.

In Scott Wilson RPA's opinion, the sample compositing is done correctly and the sample composites are valid for use in block model estimation.

Table 17-2 Comparison of Grade Statistics for Assays, Composites and Resource Blocks
Franconia Minerals Corporation Birch Lake Project, Minnesota

Statistics for Assays in Wireframes

Statistic	Length (m)	Cu%	Cu% Cut	Ni%	Co ppm	Pt ppb	Pd ppb	Au ppb
Count	3,221	3,221	3,221	3,221	3,221	3,221	3,221	3,221
Sum	2,033.05	-	-	-	-	-	-	-
Zeros	247.99*	1	1	1	150	37	11	12
Minimum	0.03	0	0	0	0	0	0	0
Median	0.58	0.56	0.56	0.17	98	260	580	117
Maximum	1.99	5.90	2.00	2.15	1,051	4,932	5,895	3,335
Average	0.63	0.60	0.59	0.19	102	363	758	166
Weighted Average	-	0.52	0.51	0.16	86	302	638	139
Variance	0.04	0.14	0.11	0.02	3,033	141,042	394,759	38,015
Standard Deviation	0.20	0.38	0.34	0.12	55	376	628	195
Coefficient of Variation	0.32	0.63	0.57	0.66	0.54	1.03	0.83	1.17
90th Percentile	0.74	0.99	0.99	0.31	156	729	1,525	325
95th Percentile	0.91	1.15	1.15	0.35	172	934	1,927	428
97th Percentile	0.94	1.30	1.30	0.38	185	1,141	2,251	542
98th Percentile	1.05	1.43	1.43	0.41	191	1,438	2,595	658
99th Percentile	1.22	1.79	1.79	0.55	207	1,813	2,928	830
99.5th Percentile	1.52	2.21	2.00	0.74	279	2,166	3,451	1,245

* Length of unassayed material in wedge/pilot holes included in wireframe

Statistics for 2 m Composites in Wireframe

Statistic	Length (m)	Cu%	Cu% Cut	Ni%	Co ppm	Pt ppb	Pd ppb	Au ppb
Count	1,047	1,047	1,047	1,047	1,047	1,047	1,047	1,047
Sum	2,033.04	-	-	-	-	-	-	-
Zeros	0	99	99	101	163	99	99	99
Minimum	0.01	0.00	0.00	0.00	0	0	0	0
Median	2.00	0.52	0.52	0.16	90	234	521	114
Maximum	2.00	1.96	1.58	1.21	457	2,774	2,999	1,611
Average	1.94	0.51	0.51	0.16	85	296	627	137
Variance	0.07	0.09	0.09	0.01	2,854	71,272	249,688	15,075
Standard Deviation	0.26	0.31	0.30	0.11	53	267	500	123
Coefficient of Variation	0.14	0.60	0.59	0.67	0.63	0.90	0.80	0.90
95th Percentile	2.00	0.98	0.97	0.31	164	767	1,554	362
97th Percentile	2.00	1.07	1.04	0.35	178	894	1,774	412
98th Percentile	2.00	1.13	1.08	0.37	184	1,031	1,897	446
99th Percentile	2.00	1.37	1.23	0.48	198	1,175	2,247	540
99.5th Percentile	2.00	1.55	1.38	0.56	240	1,277	2,495	633

Statistics for Resource Blocks

Statistic	Cu%	Cu% Cut	Ni%	Co ppm	Pt ppb	Pd ppb	Au ppb
Count	8,773	8,773	8,773	8,773	8,773	8,773	8,773
Zeros	55	55	57	55	55	55	55
Minimum	0.00	0.00	0.00	0	0	0	0
Median	0.49	0.49	0.15	80	234	485	113
Maximum	1.17	1.17	0.60	251	1,066	2,120	487
Average	0.49	0.48	0.16	72	255	524	114
Variance	0.04	0.04	0.01	1,647	31,554	100,188	4,504
Standard Deviation	0.19	0.19	0.08	41	178	317	67
Coefficient of Variation	0.40	0.39	0.49	0.57	0.70	0.60	0.59
90th Percentile	0.72	0.70	0.24	116	486	935	194
95th Percentile	0.79	0.77	0.31	136	616	1,078	228
97th Percentile	0.84	0.82	0.32	158	706	1,206	269
98th Percentile	0.88	0.86	0.39	169	734	1,265	305
99th Percentile	0.93	0.92	0.41	171	828	1,425	330
99.5th Percentile	0.99	0.98	0.45	174	950	1,434	375

FIGURE 17-3
Franconia Minerals Corporation Birch Lake Project, Minnesota
Cumlative Frequency % Log Probability Plot - Copper

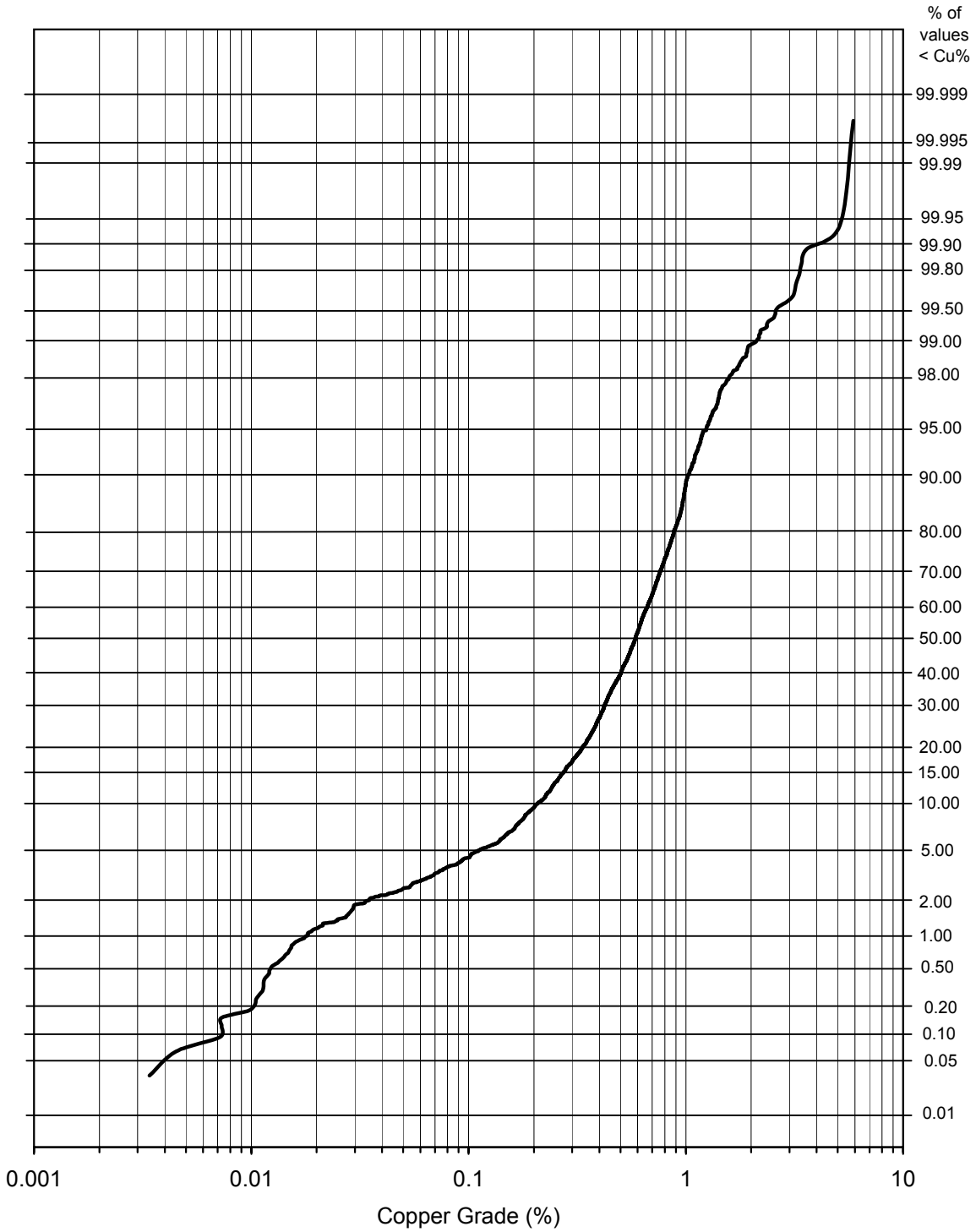
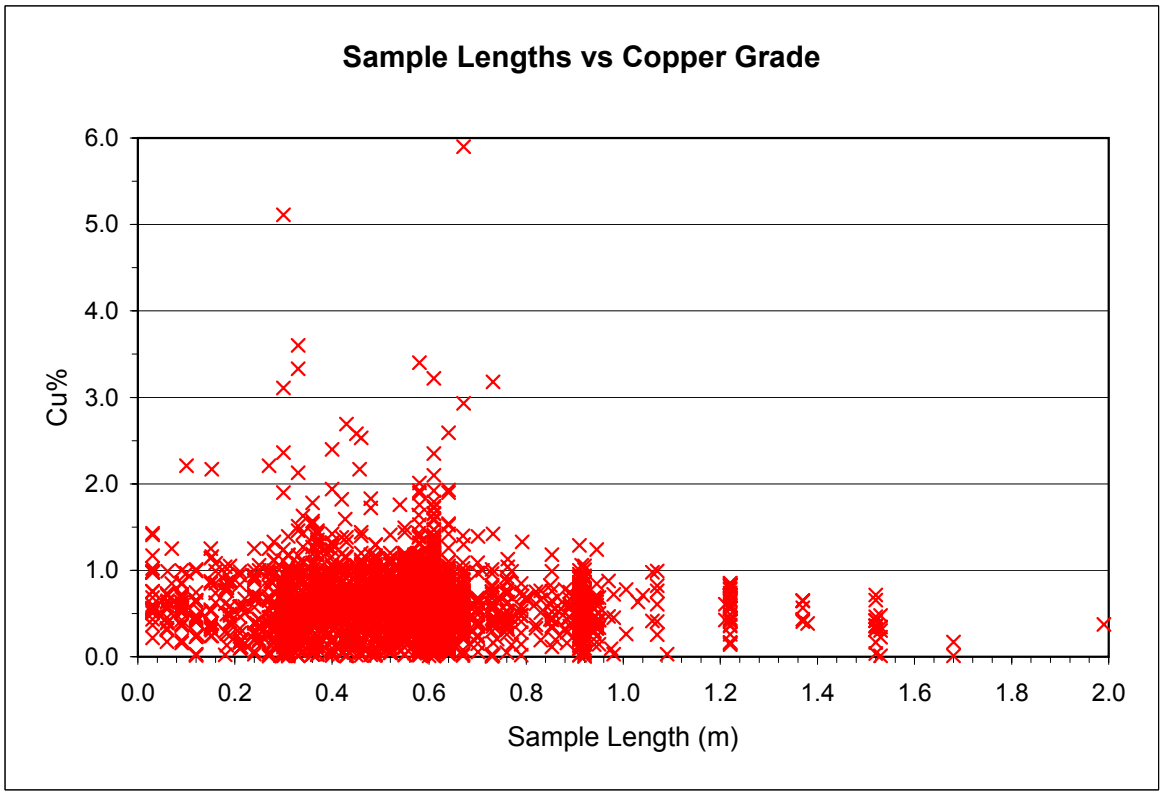


Figure 17-4 Sample Length Statistics
Franconia Minerals Corporation Birch Lake Project, Minnesota



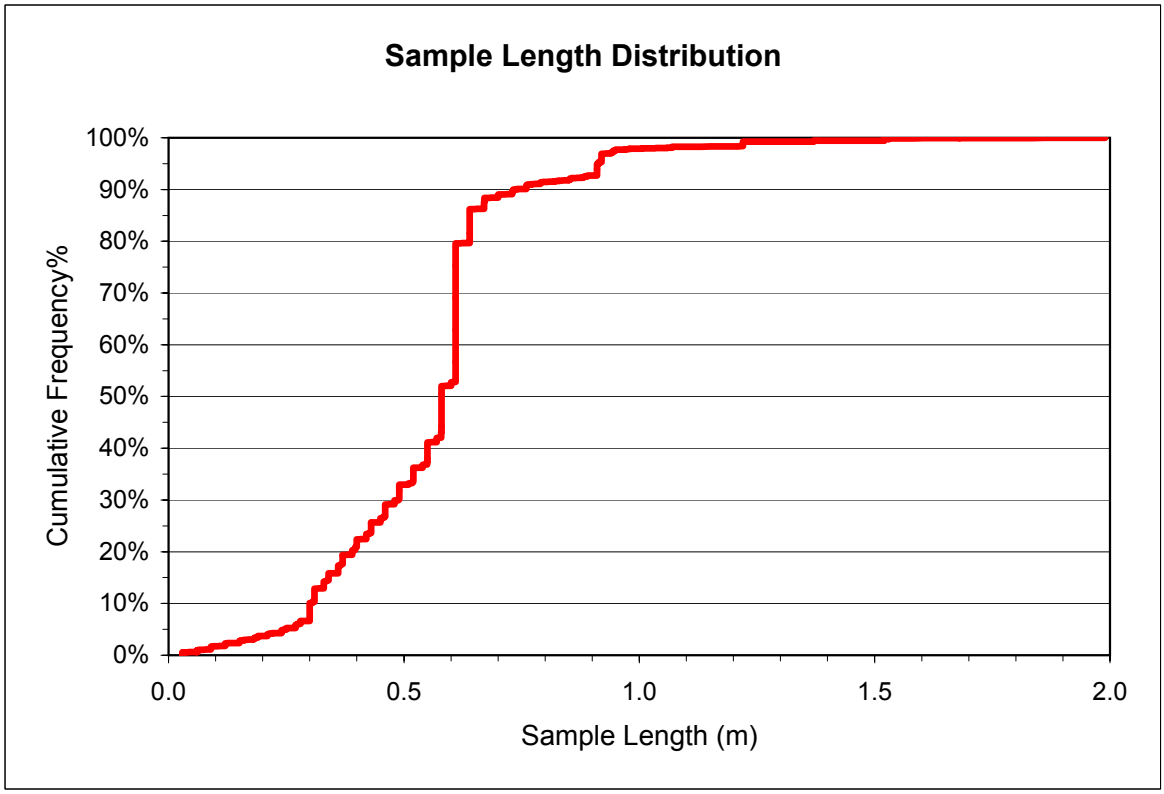
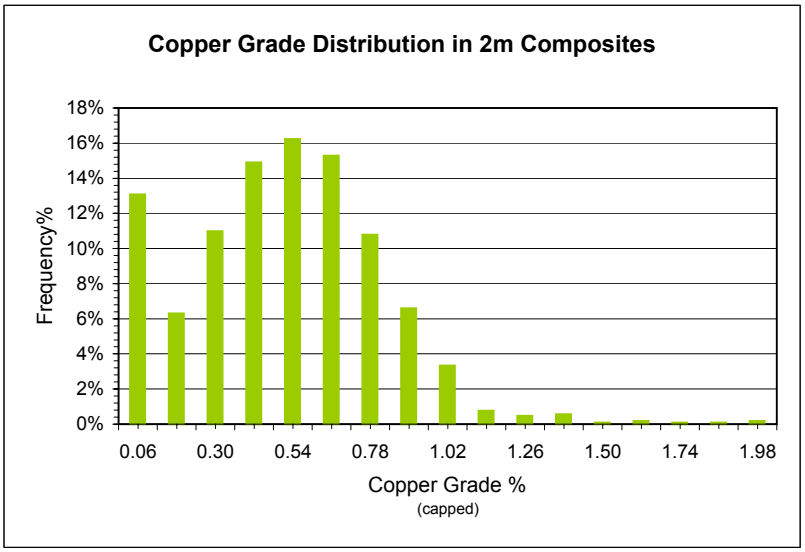
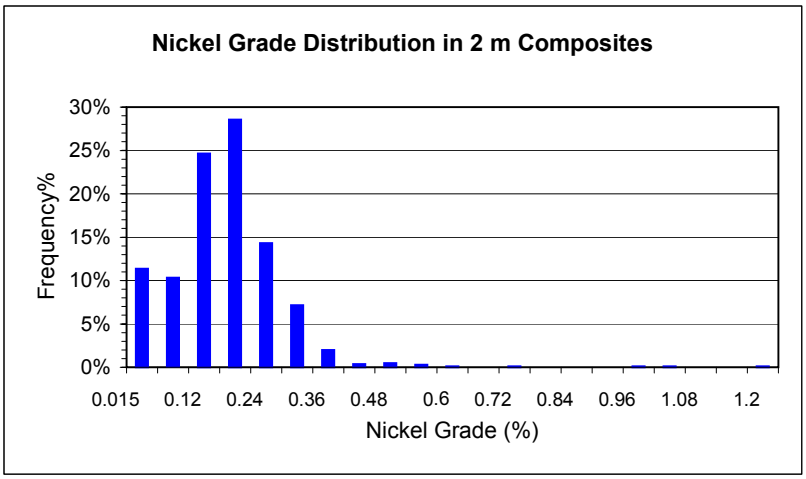
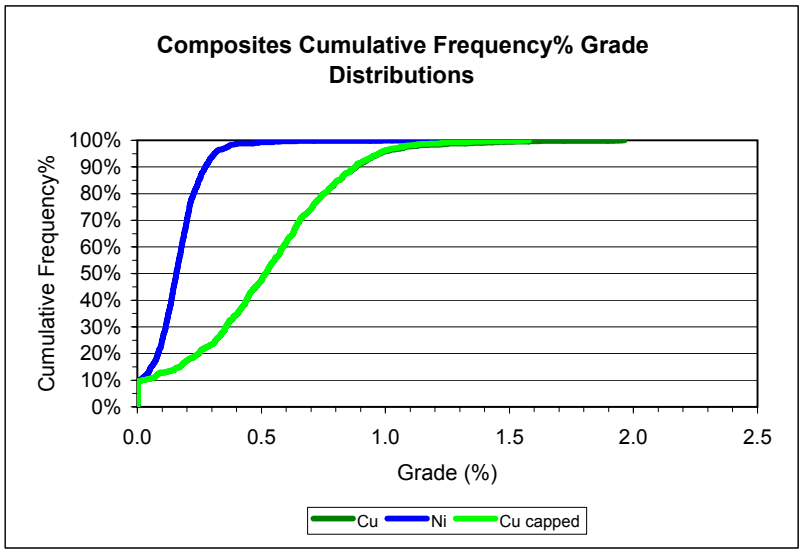


Figure 17-5 Distribution of Cu and Ni Grades in Birch Lake Composites
Franconia Minerals Corporation Birch Lake Project, Minnesota







Although there is some positive skew by a very small percentage of outliers, the composite grade distributions are relatively normal for Cu and Ni and consequently Scott Wilson RPA determined that ordinary kriging (OK) would be an appropriate method for block model grade estimation. The Ni distribution is slightly more positively skewed, but with low Ni grades contributing little to the value, the same estimation method was used as for Cu. Grade capping was not considered necessary for Ni and was not carried out.

BLOCK MODEL

The block model was created in the UTM coordinate system. The axis of the mineralization is north-northeast and the model was rotated N25.7ºE. The model origin is at 587,450.6 east, 5,286,163.8 north and 500 masl elevation.

The appropriate block size for the block model was determined by examination of the drill hole intercept spacing in the deposit and with respect to potential bulk mining methods. A block size of 50 m (X) x 50 m (Y) x 4 m (Z) vertical was used to represent the smallest mining unit that will have reasonable grade resolution. At the maximum extents, the model comprises 56 blocks (X) by 68 blocks (Y) by 250 blocks (Z). The model contains a total of 952,000 blocks, for an enclosed volume of 9,520,000,000 m^3. The wireframe volume used to generate the resource block model and capture the assays has a volume of 53,763,630 m^3

VARIOGRAPHY AND SEARCH ELLIPSE

Semi-variograms were prepared for Cu composites using Gemcom software. The irregular intercept spacing did not allow for ready modelling and large lag distances, population variance normalization, and large apertures were necessary to produce spherical nested models that were interpretable. The nugget (35%) was determined by downhole linear variography. Owing to difficulties with modelling the copper, variography for nickel, cobalt, palladium, platinum, and gold was not undertaken. Copper variograms are shown in Appendix 1.

These models were used to determine the search ellipse dimensions and apply ordinary kriging weights in grade interpolation. Table 17-3 outlines variography and search distances.

TABLE 17-3 COPPER VARIOGRAM AND SEARCH PARAMETERS
Franconia Minerals Corporation - Birch Lake Project

Population Variance Normalized Variography Profiles

Vector	Nugget	C1	Range 1 (m)	C2	Range 2 (m)
Strike 025º	0.35	0.34	75	0.31	267
Dip/Plunge 115º/-10º	0.35	0.34	117	0.31	231
Thickness 295º/80º	0.35	0.48	30	0.17	44

Search	Pass 1 (m)	Pass 2 (m)	Pass 3 (m)
Strike/Major Axis	270	405	540
Dip/Intermediate Axis	235	353	470
Thickness/Minor Axis	45	68	90

Composites for Interpolation

Minimum	Maximum
1	8

GRADE INTERPOLATION

Ordinary kriging (OK) was selected for grade interpolation because it has advantages with respect to other linear estimation methods such as polygonal and inverse distance in that it includes sample declustering. The close distance wedge holes make declustering necessary to avoid over influencing block grades where high or low composites grades are grouped in space.

OK can generate negative interpolation weights resulting in negative grades where samples are clustered and mask one another. The negative weighting can be eliminated by the software, however, for the Birch Lake resource estimation, Scott Wilson RPA allowed negative weights since the drilling is mostly wide spaced. The block grades were examined for negative grades and none found.

The search ellipsoids, and multiples of the search distances to fill the wireframe, (Table 17-5) were used to capture composites and interpolate Cu, Ni, Co, Pt, Pd, and Au grades into resource blocks. A minimum of 1 and maximum of 8 composites within the wireframe and search distance were used to interpolate grade to the resource blocks.

RESOURCES AT INCREMENTAL NSR CUT-OFFS

A Net Smelter Return (NSR) value was applied interpolated grades in the Birch Lake block model using the following formula:

NSR (US$) =$30.25*Cu%+$71.66*Ni%+$0.0054*Co ppm+$0.0053*Au ppb+$0.0201*Pt ppb+$0.0067*Pd ppb - $7.21

The estimated resources at incremental US$5 NSR cut-offs from US$10 to US$40 are presented in Table 17-4.

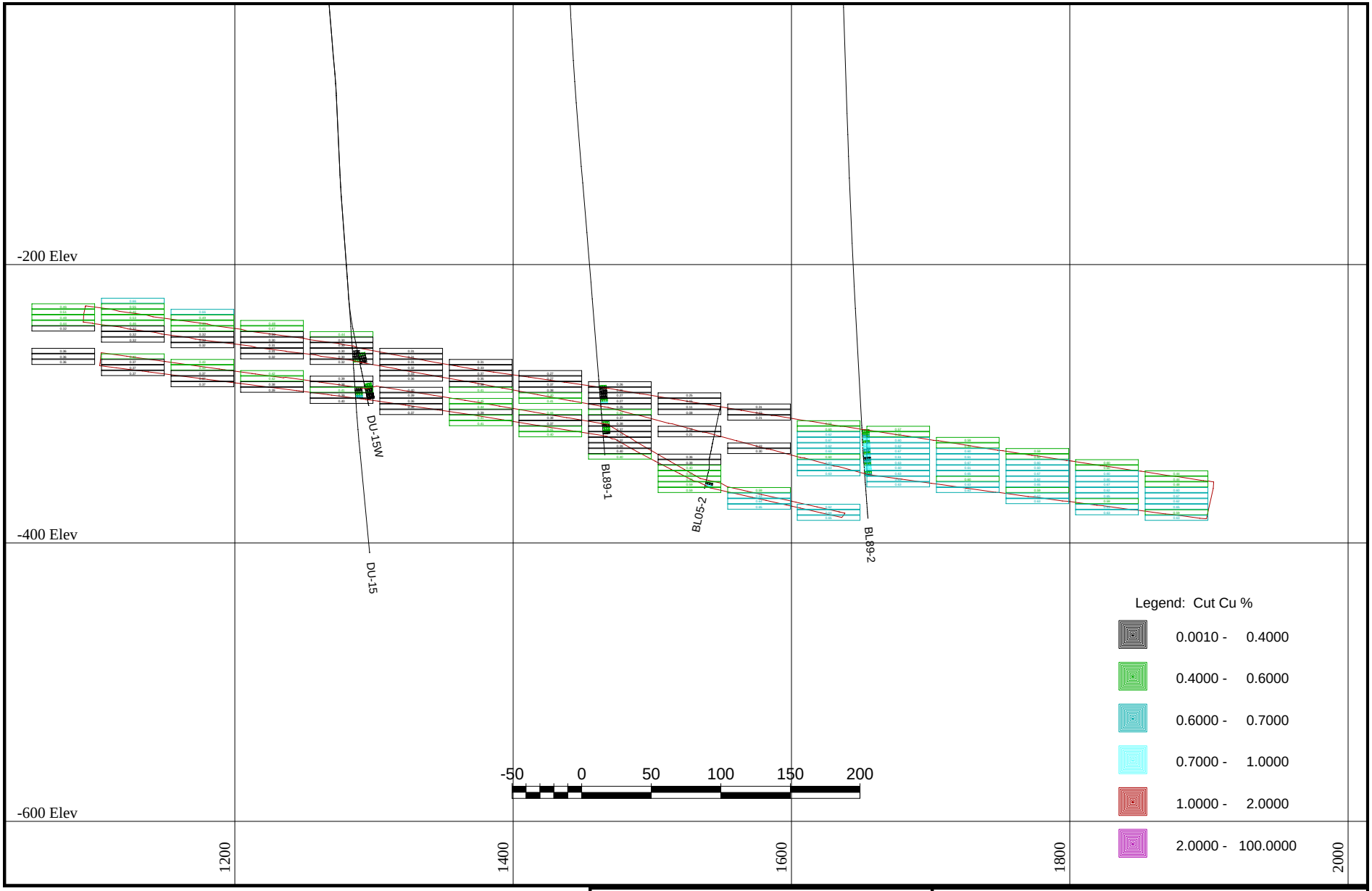
Based on Scott Wilson RPA's review of current economic factors, including operating costs, metallurgical recovery, metal prices and revenue criteria, the US$25 NSR cut-off is reasonable for resource estimation at the Birch Lake deposit at this time.

TABLE 17-4 SUMMARY OF BIRCH LAKE INFERRED MINERAL RESOURCES
Franconia Minerals Corporation - Birch Lake Project

NSR Cut-off (US$)	Tonnes (000's)	Cu% (cut)	Ni%	Co ppm	Pt ppb	Pd ppb	Au ppb
$10	163.00	0.469	0.152	70	240	500	111
$15							
$20	113.34	0.566	0.184	82	304	626	136
$25	100.43	0.585	0.191	82	317	651	141
$30	66.20	0.635	0.210	86	360	731	157
$35	44.89	0.670	0.229	89	399	793	172
$40	29.91	0.711	0.252	93	411	830	188

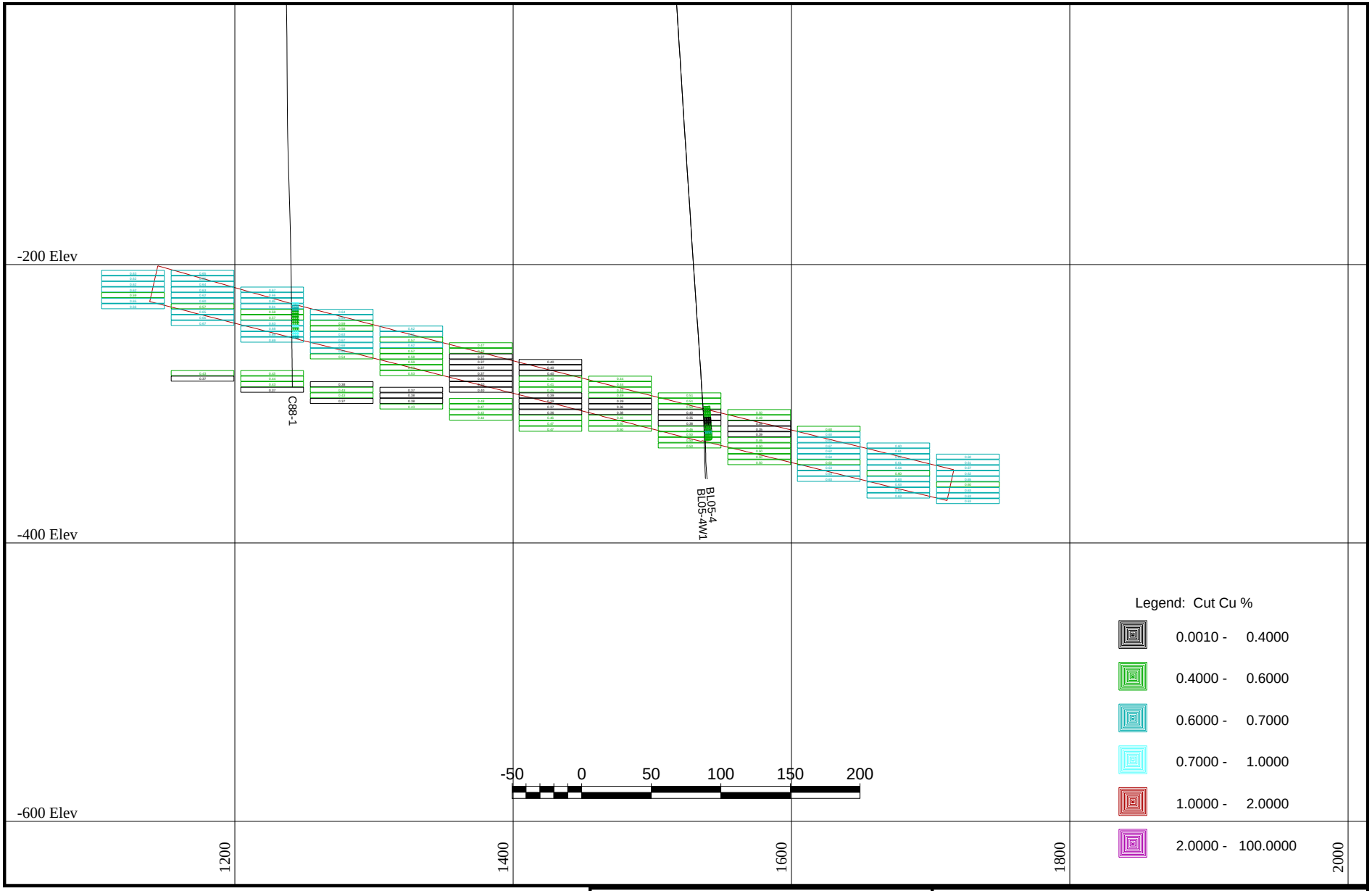
Notes:
1. CIM definitions were followed for Mineral Resources.
2. Mineral Resources are estimated at NSR cutoff grades.
3. Mineral Resources are estimated using an average long-term US$ metal prices of $6.00/lb Ni, $1.50/lb Cu, $10/lb Co, $800/oz Pt, $300/oz Pd and $450/oz Au.
4. A minimum mining width of 3 metres was used.

Selected cross sections of the resource block model are shown in Figures 17-6 and 17-7. Figure 17-8 illustrates grade-tonnage relationships with NSR cut-offs.



SCOTT WILSON RPA
GEOLOGICAL AND MINING CONSULTANTS
55 University Avenue, Suite 501
Toronto, Ontario M5J 2H7

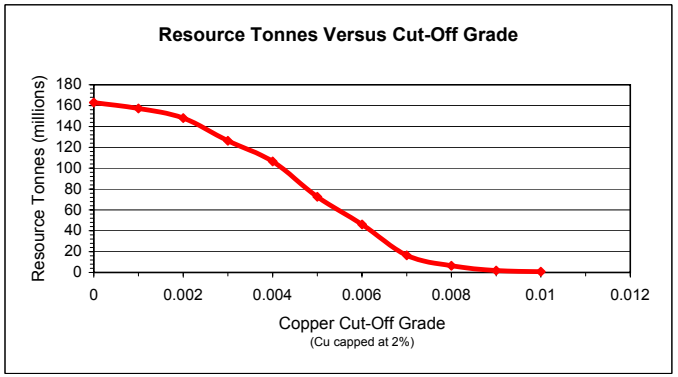
Figure 17-6
Franconia Minerals
Birch Lake Project
Cross Section 1600NE
Resource Block Model

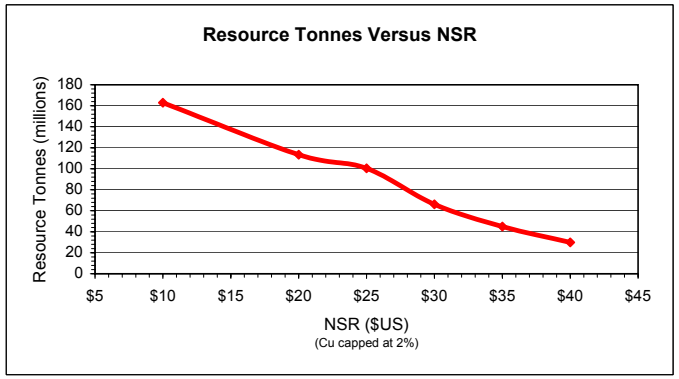


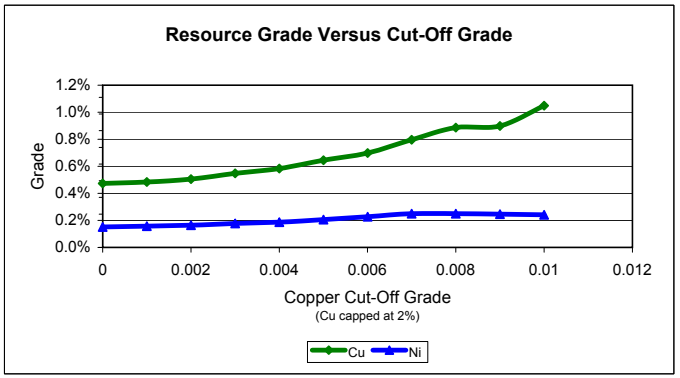
SCOTT WILSON RPA
GEOLOGICAL AND MINING CONSULTANTS
55 University Avenue, Suite 501
Toronto, Ontario M5J 2H7

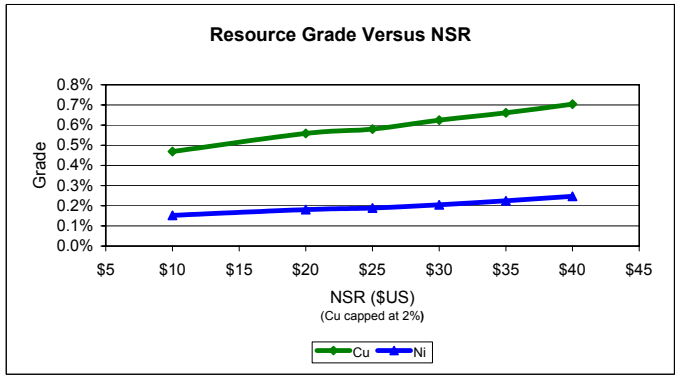
Figure 17-7
Franconia Minerals
Birch Lake Project
Cross Section 1700NE
Resource Block Model

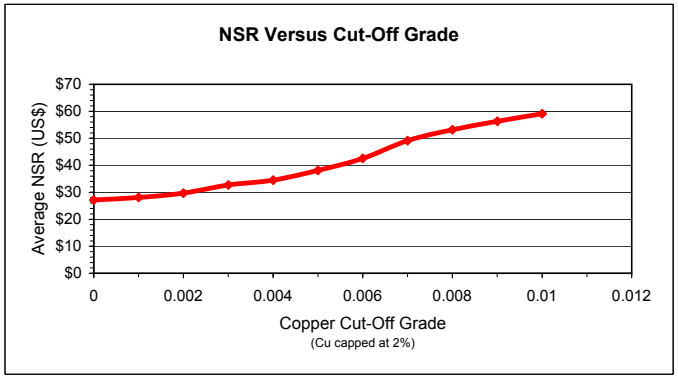
Table 17-8 Inferred Resource Tonnage Grade Profiles
Franconia Minerals Corporation Birch Lake Project, Minnesota

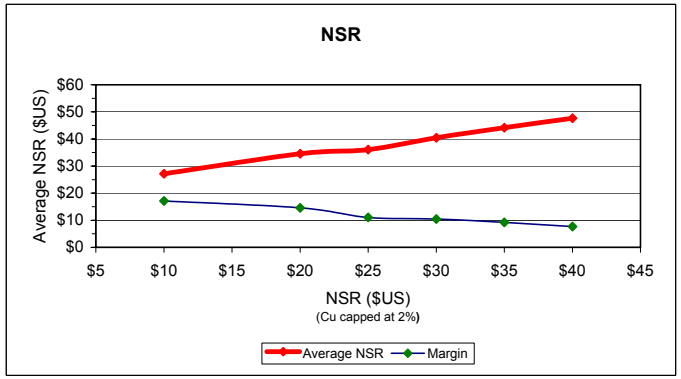












RESOURCE CLASSIFICATION

The estimated resources are based on fairly wide and irregular spaced drilling. While zone continuity between holes is generally acceptable, short distance grade variability is evident in wedge holes and subvertical basement structures offset the mineralized zone and their locations are not well established. The use of PLATSOL process hydrometallurgy underpins the NSR assumptions and, while this has been successful at the pilot stage, commercial use is unproven. Pending confirmation by additional drilling, Scott Wilson RPA classifies the resource as an Inferred Resource.

MODEL VALIDATION

There has been no underground development or previous mining, so no reconciliation studies or data are available for the Birch Lake deposit. As such, estimated tonnages, grades and contained metal cannot be compared to actual production or to gauge the sensitivity of the grade estimate to drill hole density.

Scott Wilson RPA conducted visual and statistical checks to validate the block model. A visual comparison was made of assay and composite grades in drill holes to the surrounding resource block grades on cross section and plan. Cu and Ni block grades show reasonable distribution with respect to the drill hole information.

Scott Wilson RPA compared the kriged block model results to the statistics for the assays and composites (Table 17-5; Figure 17-9). The mean Cu and Ni grades are in agreement and the variances indicate some smoothing, as is expected with kriged estimates. Results of inverse distance squared interpolation (ID^2) of uncut copper grades were compared to OK results (Figure 17-10). The block grades show good general agreement between interpolation methods with the ID^2 slightly higher than OK for grades of 0.9 % Cu to 1.1% Cu. No declustering was done for the ID^2 check estimate and this may account for the slight difference at higher grades.

In Scott Wilson RPA's opinion, the Birch Lake deposit block model is adequately validated and is reasonable for mineral resource reporting.

FIGURE 17-9
Franconia Minerals Corporation
Birch Lake Project, Minnesota
Box and Whisker Plots of Assay, Composite and Resource Block Grades

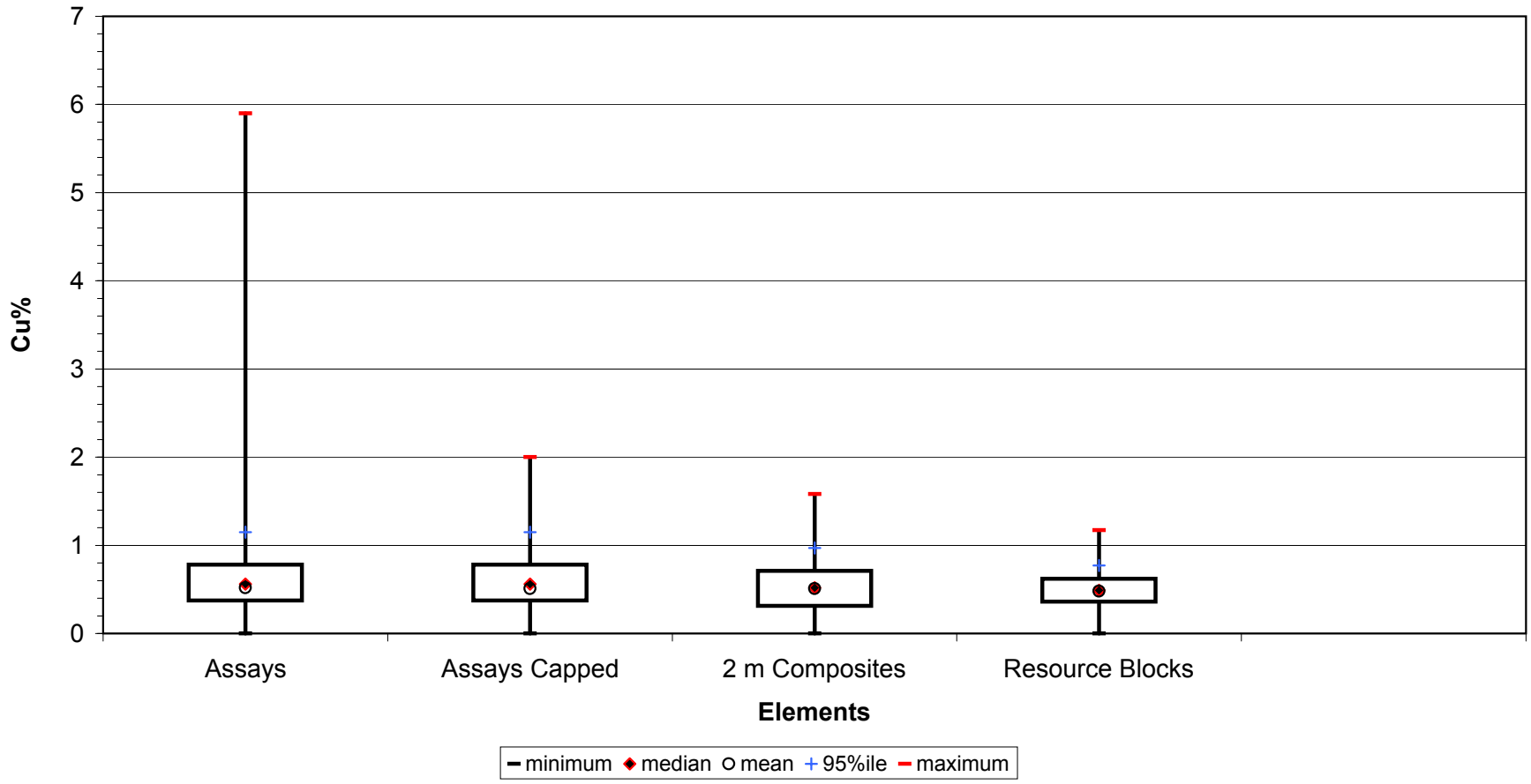


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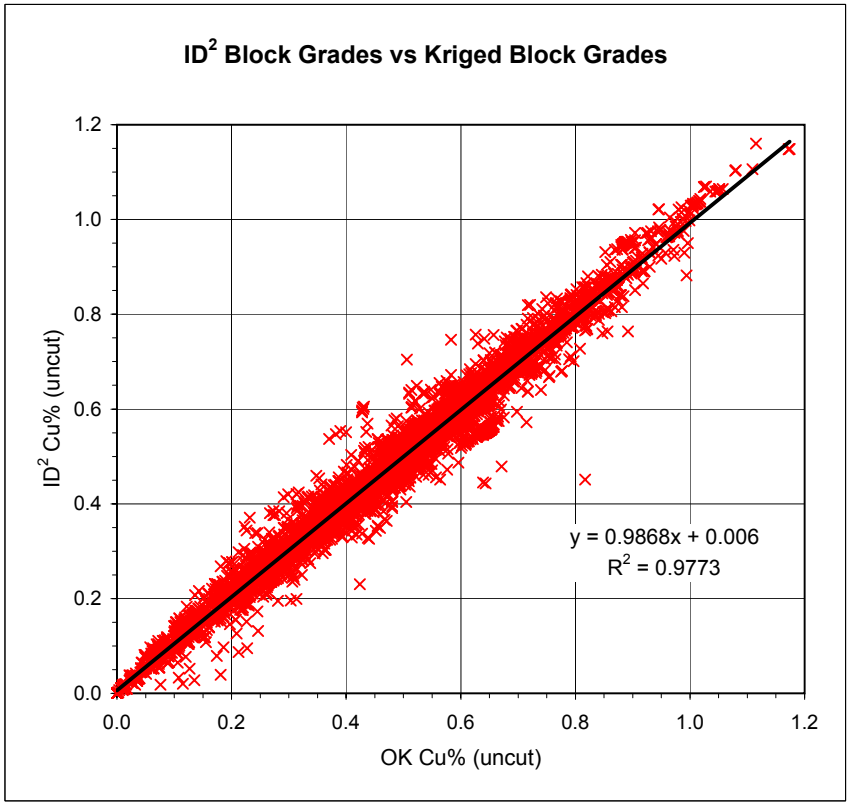
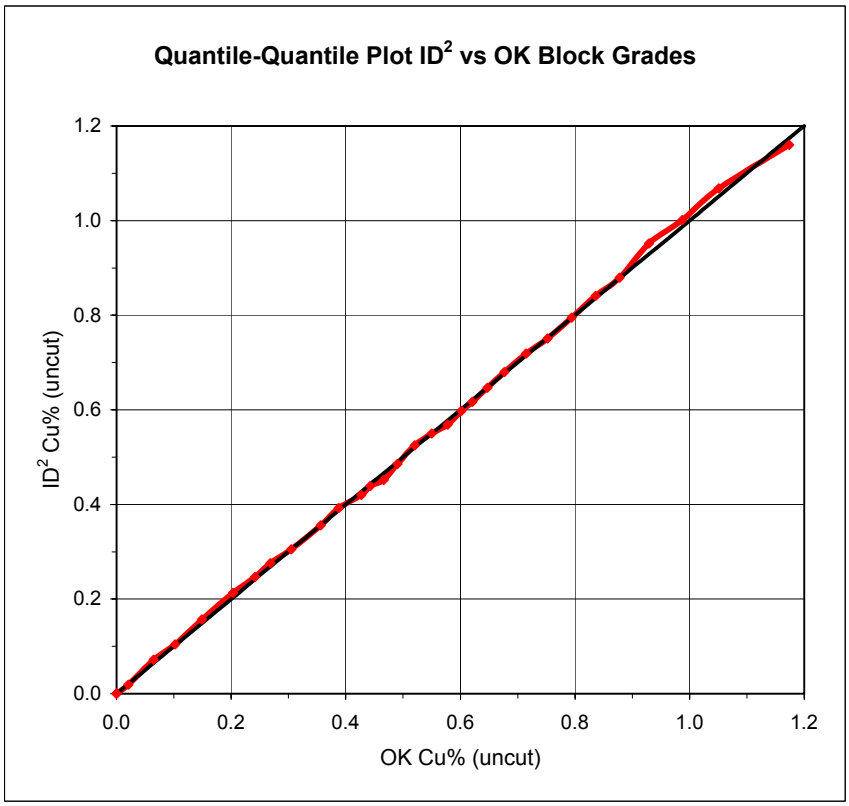
Figure 17-10 Comparison of ID^2 and OK Resource Block Grades
Franconia Minerals Corporation Birch Lake Project, Minnesota





MATURI MINERAL RESOURCES

Scott Wilson RPA estimated Inferred Resources for the Maturi deposit as described in Routledge and Greenough (2006). This report was filed with the OSC on July 21, 2006 and is available on SEDAR. The Maturi mineral resource estimate is based entirely on diamond drilling (mostly Inco), consisting of 41 surface holes and 12 underground holes totalling 14,555 m. The wide drill hole spacing is adequate for classification as inferred resources. Scott Wilson RPA verified and accepted a digital drill hole database that was obtained from Wallbridge Mining Company, a previous operator on the property, since no new drilling has been done on the deposit subsequent to Walbridge's preliminary assessment in 2000. Scott Wilson RPA is of the opinion that the quality of diamond drill hole data is acceptable for inferred resource estimation. Scott Wilson RPA notes that analyses for cobalt, gold and the PGE's were not done by Inco and are mostly lacking in the drill hole database.

Scott Wilson RPA estimated the mineral resource at Maturi by 3D computer block modelling and geostatistical methodologies available in Datamine Studio® Version 1 software. A wireframe, outlining the potentially economic mineralization at a 0.4% Cu contour cut-off, was constructed in order to constrain resource estimate. Drill hole samples inside the wireframes were captured, and assay composites of equal three-metre lengths were generated to regularize sample support. Grade variogram models of Cu and Ni assay composites were graphed and interpreted. Block model search parameters were established based on the variography results and the geometry of the deposit. A nearest neighbour (NN) block model was generated to decluster sample data for statistics, and ordinary kriging (OK) was used for grade interpolation. Since the smoothing ratios for both Cu and Ni were close to 1, no volume variance corrections to the block model were applied. The block model was validated by comparison of resource block and composite grade statistics, nearest neighbour grade interpolation of the model and reference to a polygonal estimate prepared by Wallbridge in 2000.

In Scott Wilson RPA's opinion, the Maturi deposit block model is adequately validated and is reasonable for mineral resource reporting.

Owing to the polymetallic nature of the mineralization, Scott Wilson RPA used a net smelter return (NSR) approach to report resources at incremental US dollar NSR cut-offs. In Scott Wilson RPA's opinion, this approach best accounts for the impact of co-product metals on the potential project economics.

For determination of cut-off cost ranges, Scott Wilson RPA assumed a project scenario consisting of bulk underground mining by sublevel caving and processing by conventional crushing, grinding and flotation to produce a bulk Cu-Ni-PGM concentrate, followed by hydrometallurgical recovery of saleable metals and precipitates utilizing the patented PLATSOL process. Concentrator and PLATSOL plants are assumed to be located at the Birch Lake property.

Fundamental NSR assumptions are metal prices, concentrator, and PLATSOL metal recoveries metal, plant treatment costs and refining costs, and applicable sales deductions (Table 17-5). PLATSOL recoveries are derived from metallurgical testing of mineralized material from Franconia's nearby Birch Lake Cu-Ni-PGM deposit (Clow and Routledge, 2005; Lehmann, 2005; Hayden, 2005a, b). There are no deductions or charges for copper, as the final product is cathode copper, which is assumed to be saleable.

Sale of the products to consumers or distributors for copper and to refiners for the Ni-Co and precious metals products will not be subject to penalties for impurities, and there will be no hindrance in selling the products other than normal market conditions that apply to most metal producers. Scott Wilson RPA acknowledges that the PGM content of the Maturi mineralization is lower than that of Birch Lake and PGM recoveries may vary from those used in this report. Scott Wilson RPA recommends that Franconia carry out flotation work to optimize metal recoveries of mineralized material from the Maturi deposit and hydrometallurgical (PLATSOL) recovery tests similar to what was done by Franconia for its Birch Lake deposit.

Table 17-5 Maturi NSR Assumptions and Payable Metals
Franconia Minerals Corporation Birch Lake Project, Minnesota

Metal	Unit	Long Term Price	Maturi Mill Recovery	Platsol HydroMet Recovery	Total Recovery	Metal Refining $/unit	Price Deduction	Sales Discount	Accountable Metal $/unit	Unit	% of Price	$/Grade Unit	Grade Unit
Copper	lb	$1.50	92.0%	95.3%	87.7%	$0.00	$0.00	0%	$1.32	lb	87.7%	$28.99	%
Nickel	lb	$6.00	72.0%	95.7%	68.9%	$0.35	$0.00	10%	$3.41	lb	56.8%	$75.08	%
Cobalt	lb	$10.00	45.0%	95.7%	43.1%	$0.85	$0.00	10%	$3.11	lb	31.1%	$68.58	%
Gold	oz	$450	70.0%	44.5%	31.2%	$12.00	$0.00	0%	$128.18	oz	28.5%	$4.12	g/t
Platinum	oz	$800	70.0%	90.5%	63.4%	$18.00	$2.00	0%	$487.53	oz	60.9%	$15.67	g/t
Palladium	oz	$300	75.0%	85.5%	64.1%	$18.00	$1.50	0%	$173.41	oz	57.8%	$5.58	g/t

Hydromet Conc. Treatment ($/ton)	$105	
Average Concentrate Ratio (Cu)	16	(Lakefield Research)
Average Treatment Cost/ROMtonne	$7.21	
Concentrate Freight $/ton	$0.00	
Concentrate Freight/ROMton	$0	
Royalties	$0	

Notes:
1) All dollars in US currency
2) Maturi mill recoveries from Lakefield Research in Soever (2000)
3) Average Concentrate Ratio derived for copper from Lakefield Research in Soever (2000)
4) Platsol hyrdrometallurgical recoveries and treatment costs from Hayden/EHA Engineering
5) Refining costs and sales discounts from Lehmann (2005)

Scott Wilson RPA prepared a technical report that more fully describes the Maturi deposit resource estimate (Routledge and Greenough, June 30, 2006). For the purpose of preliminary assessment, metal prices were updated and additional information used to refine Scott Wilson RPA's estimate of mining and process costs taking into account the combining of the two projects for preliminary assessment. These prices and costs were used to develop a revised grade to NSR conversion formula that was applied to the grade model. The new formula is:

NSR (US$) =28.99*Cu% + 75.08*Ni% + 68.58*Co% + 4.12*Au g/t+ 15.67*Pt g/t + 5.58*Pd g/t-$7.21

The estimated resources at incremental NSR cut-offs from US$25 to US$35 are presented in Table 17-6.

Based on Scott Wilson RPA's review of current economic factors, including operating costs, metallurgical recovery, metal prices and revenue criteria, the US$34 NSR cut-off is reasonable for the preliminary assessment of Maturi resources at this time.

TABLE 17-6 SUMMARY OF MATURI INFERRED MINERAL RESOURCES
Franconia Minerals Corporation – Birch Lake Project

NSR Cut-Off (US$)	Tonnes (millions)	Cu%	Ni%	Co ppm	Pd ppb	Pt ppb	Au ppb
$25.00	167.87	0.62	0.24	20	230	80	40
$26.00	161.58	0.63	0.24	20	230	80	40
$27.00	155.17	0.63	0.24	20	240	80	40
$28.00	147.63	0.64	0.24	20	240	90	40
$29.00	139.26	0.65	0.25	20	240	90	40
$30.00	130.05	0.66	0.25	20	240	90	40
$31.00	119.15	0.67	0.25	20	250	90	40
$32.00	107.01	0.68	0.26	20	250	90	40
$33.00	95.09	0.69	0.26	20	260	90	50
$34.00	**83.07**	**0.70**	**0.26**	**20**	**260**	**100**	**50**
$35.00	72.68	0.71	0.27	20	260	100	50

Notes:
1. CIM definitions were followed for Mineral Resources.
2. Mineral Resources are estimated at NSR cutoff grades.
3. Mineral Resources are estimated using an average long-term US$ metal prices of $6.00/lb Ni, $1.50/lb Cu, $10/lb Co, $800/oz Pt, $300/oz Pd and $450/oz Au.
4. A minimum mining width of 3 metres was used.
5. Cobalt grade is assigned based on average of Co assays.
6. Pd grade estimated by correlation with average copper grade.
7. Pt and Au grades estimated by correlation with average palladium grade.

RESOURCES FOR PRELIMINARY ASSESSMENT

For the purposes of this Preliminary Assessment, Scott Wilson RPA has made the following assumptions to convert resources into a production forecast (see Section 18 – Life of Mine Plan for more detail).

TABLE 17-7 BIRCH LAKE RESOURCE FOR PRELIMINARY ASSESSMENT

Franconia Minerals Corporation – Birch Lake Project

	Mt	Ni %	Cu %	Co %	Pd g/t	Pt g/t	Au g/t
Resource	100.4	0.19	0.59	0.08	0.65	0.32	0.14
Dilution	3.7%						
Extraction	85%						
Extracted Resource	88.5	0.18	0.56	0.08	0.63	0.31	0.14

Birch Lake resources are estimated at an NSR cut-off value of $25 per tonne, chosen to provide enough of a margin above operating costs to cover royalties and give a timely payback of capital. Dilution is based on 0.5 m over-break on an average deposit thickness of 13.6 m. Extraction is based on a typical room and pillar layout.

TABLE 17-8 MATURI RESOURCE FOR PRELIMINARY ASSESSMENT

Franconia Minerals Corporation – Birch Lake Project

	Mt	Ni %	Cu %	Co %	Pd g/t	Pt g/t	Au g/t
Resource	83.1	0.26	0.70	0.02	0.26	0.10	0.05
Dilution	12.5%						
Extraction	70.0%						
Extracted Resource	65.4	0.23	0.62	0.02	0.23	0.09	0.04

Maturi resources are estimated at an NSR cut-off value of $34 per tonne, chosen to match the Birch Lake mine life at Base Case production rates. Dilution is based on typical results from large open-stope mining. Extraction is based on a typical stope and pillar layout.

18 OTHER RELEVANT DATA AND INFORMATION

This Preliminary Economic Assessment incorporates the June 30, 2006 Maturi Zone resource estimate (updated with new metal prices and treatment costs as detailed in Section 17), and a new resource estimate for the Birch Lake Zone, updated with results from the 2005 diamond drilling campaign. Proposed production rates are 10,000 tpd from Birch Lake and 8,000 tpd from Maturi, to be processed at a concentrator and hydrometallurgical facility to be located at Birch Lake. Products include cathode copper, nickel-cobalt hydroxide, and a precious metals precipitate.

This report is considered by Scott Wilson RPA to meet the requirements of a Preliminary Assessment as defined in Canadian NI43-101 regulations. The economic analysis contained in this report is based on inferred resources, and is preliminary in nature. Inferred resources are considered too geologically speculative to have mining and economic considerations applied to them and to be categorized as Mineral Reserves. There is no certainty that the reserves development, production and economic forecasts on which this preliminary assessment is based, will be realized.

BIRCH LAKE MINING

DEPOSIT CONFIGURATION

The Birch Lake deposit is at the delineation drilling stage with the resource area and vicinity explored by widely-spaced exploration drill holes. The deposit is tabular, extending for over two kilometres along strike in a north-south direction and an average of approximately 400 m down-dip. The thickness ranges from three metres to 60 m and the dip is approximately 10% to 12%. The deposit lies approximately 500 m to 780 m below surface.

The limited drilling to date shows that the hanging wall and the deposit itself exhibit good physical properties, which should allow relatively wide span openings to be

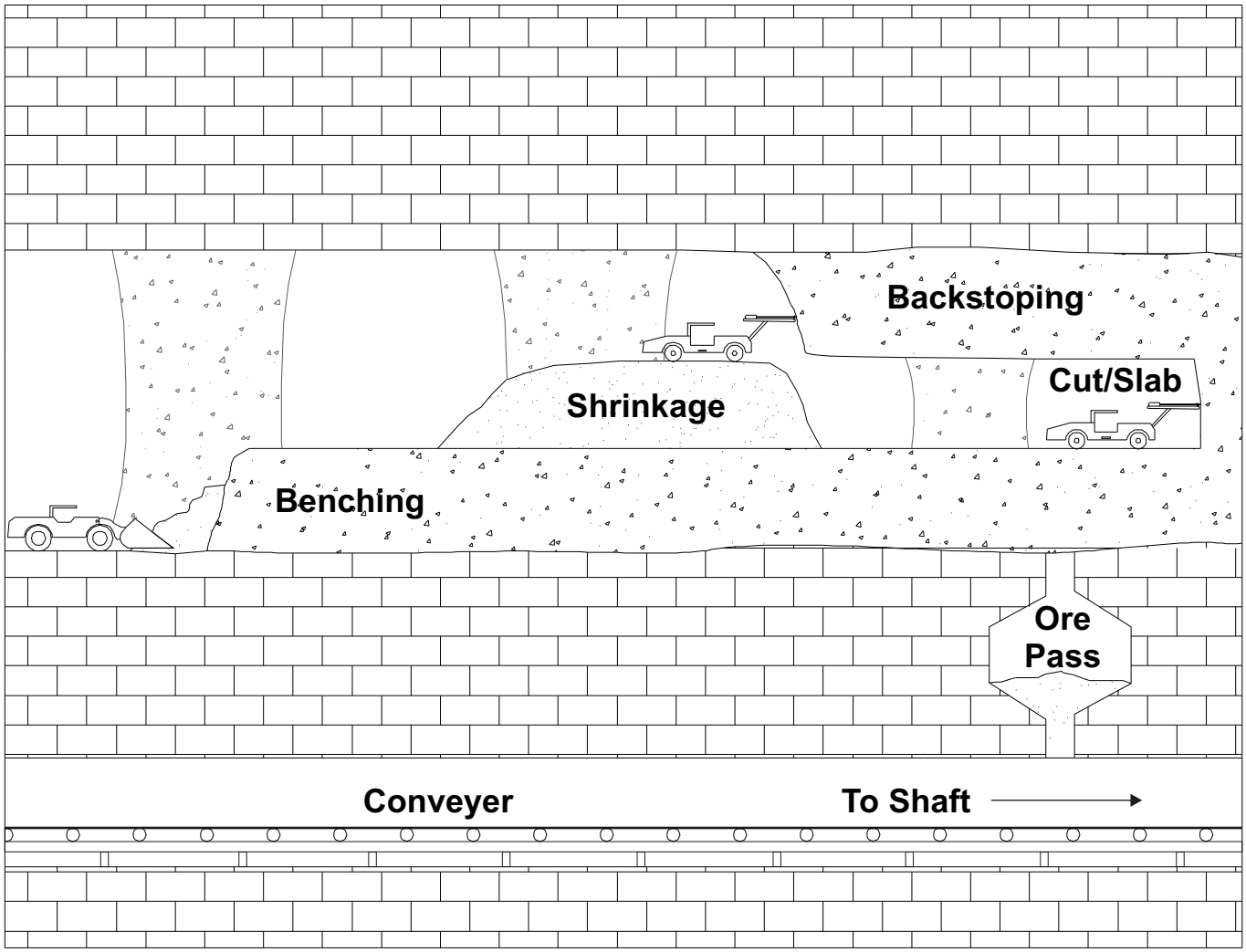
developed. Geomechanics investigation is needed to establish allowable spans and appropriate ground control requirements.

DESIGN CONSIDERATIONS

The size, depth, and configuration, combined with the relatively low grade of the deposit, calls for the application of a fully mechanized, underground bulk mining method having a low unit production cost. High production rates are required to generate low unit costs. The selected room and pillar method appears to be the most suitable mining method for the Birch Lake Zone (Figure 18-1). In areas where the deposit thickness exceeds 20 m, longhole open stoping without backfill appears to be suitable to increase mining extraction rate and improve efficiency.

The proposed production rate for the Birch Lake Zone is 10,000 tonnes per day, based on a nominal seven days per week operation. Assuming 350 days per year of operation, annual production would amount to 3,500,000 tonnes. Approximately 30% of ore production would come from panel and top lift development by jumbo, and the remaining 70% from more efficient benching and longhole stoping. In Scott Wilson RPA's opinion, the high production rate is achievable, given the configuration of the Birch Lake Zone.

The room and pillar method has been widely used in similar deposits in North America and around the world. In North America, a relatively low grade copper orebody was mined at Noranda's Gaspe Operations in the late sixties and seventies. Other similar operations would be the Nanisivik Mine, the Asarco Tennessee Zinc Mines, the Missouri operations of Doe Run, and some limestone operations in the US Midwest. Overseas, Polish Copper Mines employs room and pillar methods to mine relatively low copper grade orebodies. The largest mine, "Rudna", produces over 30,000 tonnes of ore per day. Another example is the McArthur River Mine in Australia, where, with application of a room and pillar method, the mine produces over 6,000 tonnes per day.



NOT TO SCALE

Figure 18-1

Franconia Minerals Corporation

Birch Lake Project
Minnesota, U.S.A.

Birch Lake Mining Method

September 2006

INFRASTRUCTURE

The deposit would be developed with the use of two shafts. A main production-service shaft (eight metres in diameter) and an exhaust shaft (six metres in diameter), in combination with a number of ventilation raises, would be required to provide mine access and proper ventilation to the mining areas. Fresh air requirements will be on the order of 375 m^3/s to 475 m^3/s.

The main shaft would perform a number of functions, providing access and delivery of materials to the mine as well as serving as a fresh air intake to ventilate the mine. Additionally, this shaft would be used for hoisting ore and waste rock during the mine development stage. The mine would need a second egress for mine personnel in case of an emergency, which would be provided through a ventilation raise.

Access to workplaces will be via internal ramp systems in ore. Two parallel drifts below the deposit will provide definition drilling locations. Ore passes will be established from the internal ramps to the lower drifts, which will be equipped with conveyors to move ore to the shaft area.

Other underground infrastructure would include a crusher, maintenance shop, powder magazines, power distribution, mine dewatering system, and communications networks to support the mining operation.

EQUIPMENT

A fleet of development-production jumbos, mechanical scalers, production drills, loaders, trucks, and auxiliary equipment would be used to keep the panel development on schedule to meet the production targets. Equipment utilization has been assumed to be 80%.

TABLE 18-1 BIRCH LAKE MOBILE EQUIPMENT
Franconia Minerals Corporation – Birch Lake Project

Type	Number
Jumbos	5
Bolters	3
Bar and Arm Drills	2
Longhole Drill	2
Grader	1
Scalers	2
Production Loaders	8
Auxiliary and Development Loaders	2
Trucks	6
Scissor Lifts and Boom Basket Trucks	3
Fuel truck	1
Small Crane Truck	1
Explosives Carrier-Charger	2
Other Auxiliary Vehicles and Man Carriers	20

MATURI MINING

DEPOSIT CONFIGURATION

The Maturi deposit is tabular and extends over 1,200 m along strike in a northeast-southwest direction. It has an average 25 m thickness, and extends 600 m down-dip at angles of 35° to 52°. The top of the deposit is approximately 50 m below surface and it bottoms at approximately 600 m below surface.

The limited drilling to-date shows that the hanging wall and the deposit itself exhibit good physical properties, which should allow relatively large span openings with minimal ground support. Geomechanics investigation is needed to establish allowable spans and appropriate ground control requirements.

DESIGN CONSIDERATIONS

The size and configuration, combined with the relatively low grade of the deposit, calls for the application of a fully mechanized, underground bulk mining method, which

has a low unit production cost. High production rates are required to generate low unit costs. Past studies proposed a transverse sub-level caving method, which appears to be a suitable mining method for the Maturi Zone. It would be difficult to apply, however, due to the need to protect the surface (with nearby lakes and cottages) from subsiding. To meet this restriction, the deposit could be exploited with the use of a long-hole transverse open stoping method, leaving appropriately-sized mineralized pillars (Figures 18-2 to 18-4). The mining extraction using the above method would be in the range of 65% to 75%, depending on stope and pillar dimensions necessary to maintain hanging wall stability. Dilution using this method is typically in the range of 10% to 15%.

Stoping would progress level by level from the top of the deposit downwards. Each stope would have a mucking level at the bottom, and a drilling sublevel in the middle. Vertical pillars would be left along the dip of the deposit between the stopes. These pillars would be left permanently in place for providing stability for the mine and the hanging wall. Based on an average 25 m thickness of the deposit, stopes of 30 m to 35 m width and 85 m vertical height may be appropriate, separated by 18 m to 20 m wide vertical pillars. Each stope would have a 15 m temporary sill pillar below the mucking level. Some of the temporary sill pillars could possibly be extracted at some later time. An average stope would yield approximately 220,000 tonnes. Stopes would be left open after the extraction process is completed.

The above assumptions require validation by geotechnical investigations and modelling of the stope-pillar dimensions and sequencing. The safety of mining extraction and long-term stability of the hanging wall must be verified.

Scott Wilson RPA considers a production rate of 8,000 tonnes per day to be appropriate for the size of this deposit with the application of the sublevel long-hole open stoping method described above. A single average size stope, including tonnage from the ongoing development, would meet monthly production requirements. Transverse stoping allows simultaneous access to multiple workplaces on each level.

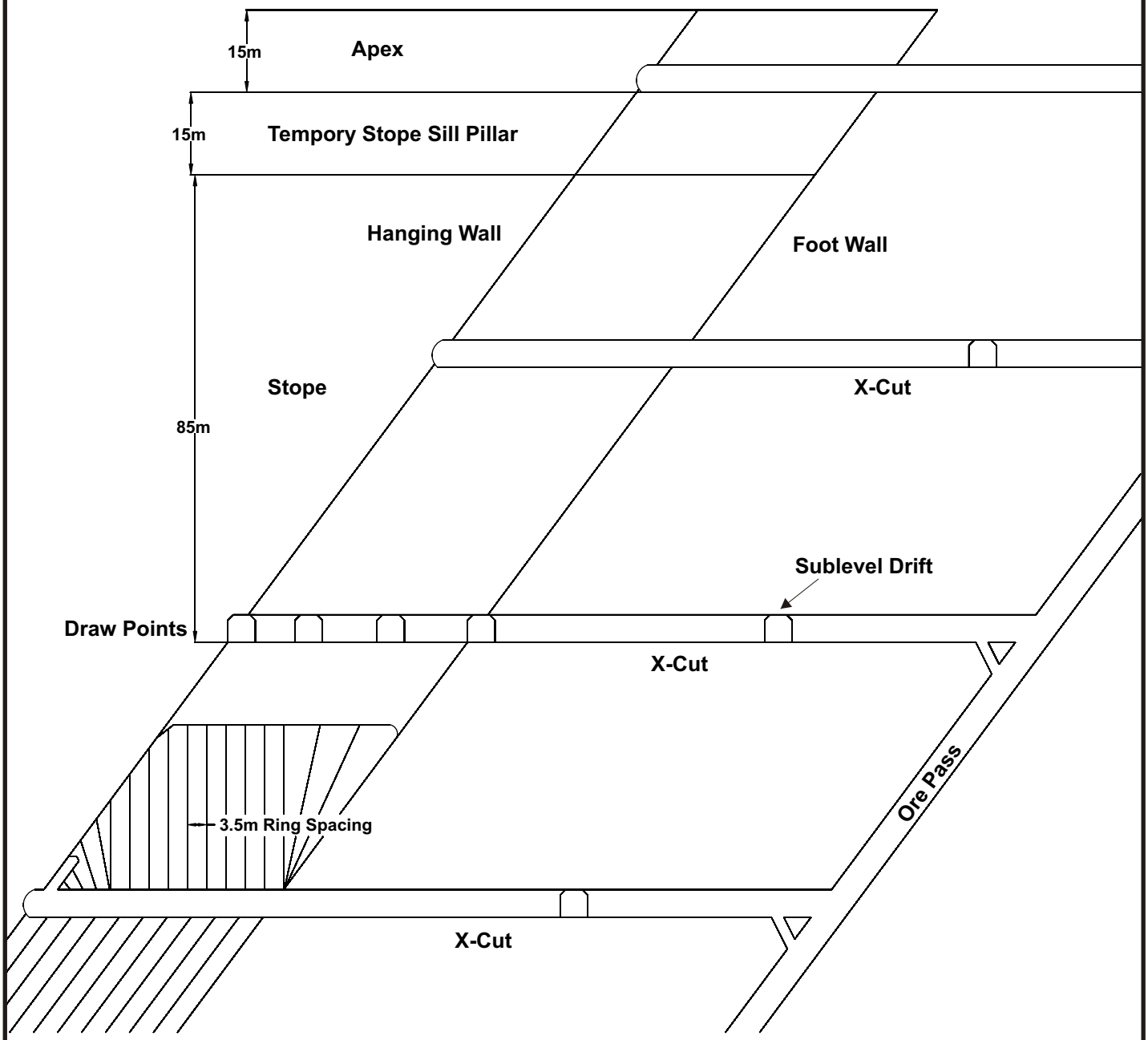


Figure 18-2

Franconia Minerals Corporation

Maturi Project
Minnesota, U.S.A.

Maturi Mining Method Cross Section

September 2006

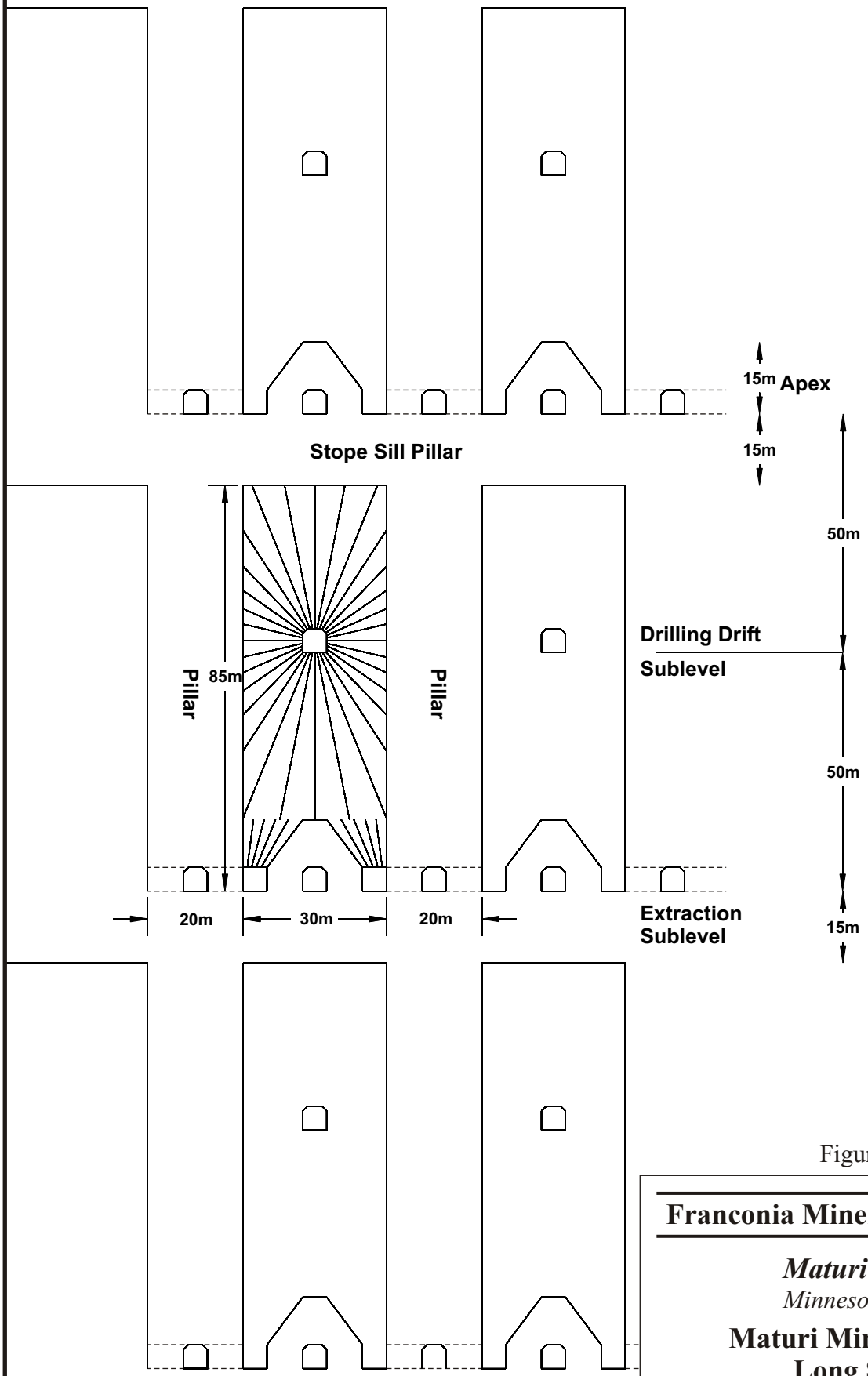


Figure 18-3

Franconia Minerals Corporation

Maturi Project
Minnesota, U.S.A.

Maturi Mining Method
Long Section

September 2006

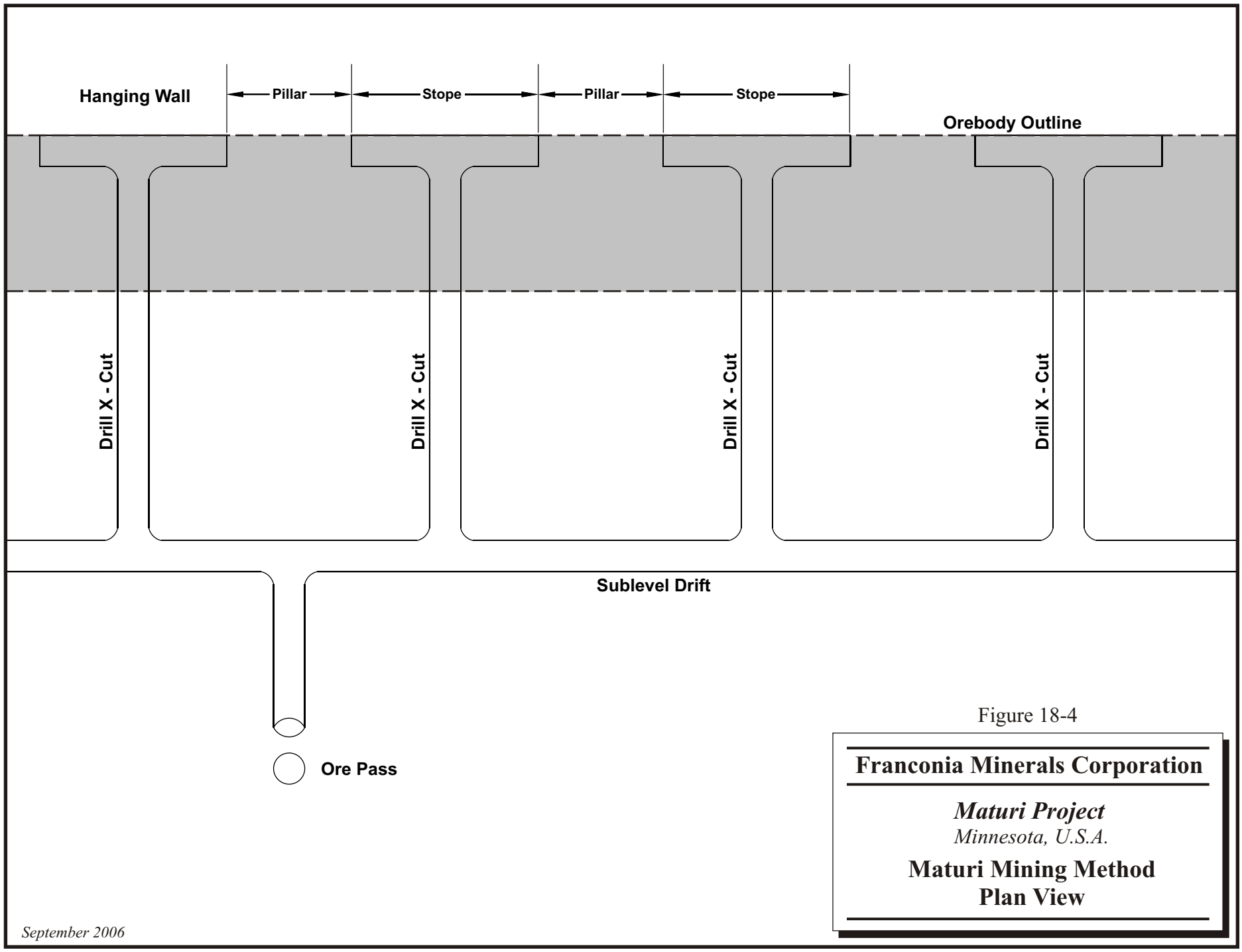


Figure 18-4

Franconia Minerals Corporation

Maturi Project
Minnesota, U.S.A.

Maturi Mining Method
Plan View

September 2006

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INFRASTRUCTURE

The deposit would be developed with the use of a new production shaft, most likely from six and half to seven metres in diameter, and a ramp. The new shaft and the ramp, in a combination with a number of ventilation raises and the existing shaft, would provide mine access and proper ventilation of the mining areas. The underground ramp could be connected with the surface due to a relatively shallow deposit setting. This would bring many benefits to the operation, including a second access-egress to and from the mine, an additional ventilation route, and fewer bottlenecks for moving supplies and equipment underground.

The shaft would perform a number of functions. In addition to hoisting muck, it would provide access for personnel, delivery of materials, and serve as a fresh air ventilation intake. Additionally, the shaft could be used for hoisting development waste.

The deposit would be divided into four equal-length vertical blocks, each approximately 300 m along strike. Each block would have its own ore pass system with a storage bin and an automated discharge arrangement at its bottom for loading mine cars. Four exhaust raises would be excavated for effective ventilation of each mining block. Total ventilation requirements will be on the order of 300 m^3/s to 375 m^3/s.

The block sublevel development would be spaced at 50 m vertical intervals. The sublevels would be located relatively close to the footwall (15 m to 20 m). The block sublevel drifts, when fully developed, would be about 1,100 m along strike on average and extend through all four mining blocks. Sublevels would be connected with the ramp, and provide access to the ore via cross-cuts. Each mining block would have 11 to 12 drilling or mucking cross-cuts, spaced 25 m apart. Ore pass accesses would be located at the mid-point of each block. There would be approximately 12 sublevels in each block.

Block ore pass systems will terminate at rail haulage levels, where ore will be collected and hauled back to the production shaft. A gyratory crusher with a fine ore bin leading to shaft loading pockets would be installed at the bottom of the shaft.

EQUIPMENT

A fleet of development jumbos, mechanical scalers, production drills, loaders, trucks, and auxiliary equipment would be used to keep the block development and stoping preparation on schedule to meet the production targets. Production blast holes would be drilled up and down in a fan formation from the drill sublevels, with each fan spaced from 3.2 m to 3.5 m. The drill hole size would be 115 mm for up-holes and 165 mm for down-holes.

TABLE 18-2 MATURI MOBILE EQUIPMENT
Franconia Minerals Corporation – Birch Lake Project

Type	Number
Development Jumbos	3
Bolters	2
Cable Bolter	1
Block Holing Rig	1
Longhole Drill	2
Grader	1
Scalers	2
Loaders	6
Trucks	4
Scissor Lifts	3
Fuel-lube truck	1
Crane Truck	1
Explosives Carrier-Charger	1
Shotcrete Applicator Truck	1
Shotcrete Mixer Truck	1
Locomotive, 30 t	2
Rail Cars 45 t	14
Auxiliary Vehicles and Man Carriers	17

SURFACE INFRASTRUCTURE

Ore will be skipped to surface via production shafts, and stored in coarse ore bins at both the Birch Lake and Maturi Zones. Maturi ore will be processed in a crushing and

grinding circuit at the Maturi site, before being pumped to the Birch Lake plant site via a slurry pipeline.

The proposed process for Birch Lake and Maturi involves flotation of a bulk sulphide concentrate containing copper, nickel, PGM's and gold, and subsequent leaching and recovery of metals using the proprietary Platsol process. The Platsol process includes pressure leaching of concentrate under conditions suitable for simultaneously solubilizing the base and precious metals. The pressure leach process will be followed by liquid/solid separation, recovery of platinum group metals and gold from the clarified solution by precipitation or adsorption, copper recovery using solvent extraction and electrowinning, and precipitation of a nickel-cobalt product from a bleed stream. Tailings will be deposited in the nearby Dunka Pit. More detail on the process can be found in Section 16.

Process water will be supplied through reclaim from tailings, and from mine dewatering. If necessary, make-up water will come from Birch Lake.

In addition to the ore receiving area and processing plant, the Birch Lake site will include administration offices, a warehouse, maintenance shops, shaft headframe, dry facilities, explosives and cap magazines, and facilities providing basic infrastructure, including: ventilation, heat, water treatment and supply, and sewage treatment. The Maturi site will include a crushing/grinding/slurry process plant, a small office building, a warehouse, maintenance shops, shaft headframe, dry facilities, explosives and cap magazines, and facilities providing basic infrastructure.

Power will be supplied to both sites from the local grid. Each site will be equipped with a main substation and a power distribution network.

LIFE OF MINE PLAN

The Birch Lake Project will be comprised of two mines and a combined concentration and hydrometallurgical processing facility. Construction will begin at the Birch Lake site

in Year -2, with shaft-sinking and preparation for process buildings. In Year -1, construction will begin at the Maturi mine site, with shaft-sinking and ramp development. Birch Lake mine and the processing facilities will be ready for production of 10,000 tpd at the start of Year 1. An expansion of the concentrator and hydrometallurgical plant will be ready for an additional 8,000 tpd from Maturi mine in Year 3. For simplicity of modeling, no production ramp-up periods have been included for either mine or for the processing facilities. Production is summarized in Table 18-3.

Before production begins, Birch Lake mine will require that the shaft be in place, along with associated infrastructure (loading pockets, conveyors, etc.). The lower drill drifts will extend below areas scheduled for initial production, and ore passes will be established. The internal ramp system will be developed sufficiently to provide an adequate number of workplaces to supply 10,000 tpd on a continuous basis. As mining progresses at Birch Lake, the lower drifts will be advanced ahead of production, for definition drilling and installation of conveyors and ore passes.

Pre-production work at Maturi would consist of dewatering and rehabilitation of the existing shaft and sinking of a new shaft concurrently with driving the ramp from the surface and initially developing the first two mining blocks and their infrastructure. Additionally, a number of essential underground infrastructure components would be excavated and equipped. The slurry pipeline to the Birch Lake processing facilities will be established.

For the Base Case, tailings will be deposited sub-aqueously in the nearby Dunka Pit, until Year 9, when below-surface capacity will be exhausted. Tailings from Year 9 forward will be deposited in a conventional tailings disposal facility constructed over top of the Dunka Pit footprint. Other scenarios for tailings disposal are detailed below.

TABLE 18-3 LIFE OF MINE PRODUCTION

Franconia Minerals Corporation - Birch Lake Project

Life of Mine Plan			Year -3	Year -2	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 25	Year 26	Total
PHYSICALS	Days Mined					350	350	350	350	350	350	350	350	350	350	350	350	
Birch Lake	Ore Mined	tpd				10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	
		tpa				3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	1,022,058	88,522,058
	Ni	%		0.18		0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
	Cu	%		0.56		0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
	Pd	g/t		0.63		0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
	Pt	g/t		0.31		0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
	Au	g/t		0.14		0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
	Co	%		0.08		0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Maturi	Ore Mined	tpd						8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	
		tpa						2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	1,014,475	65,414,475
	Ni	%		0.23				0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
	Cu	%		0.62				0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.57
	Pd	g/t		0.23				0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.21
	Pt	g/t		0.09				0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.08
	Au	g/t		0.04				0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
	Co	%		0.02				0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Total Mill Feed		tpd				10,000	10,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	
		tpa				3,500,000	3,500,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	2,036,533	153,936,533
	Ni	%				0.18	0.18	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.20
	Cu	%				0.56	0.56	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
	Pd	g/t				0.63	0.63	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.43	0.46
	Pt	g/t				0.31	0.31	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.20	0.21
	Au	g/t				0.14	0.14	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.09	0.10
	Co	%				0.08	0.08	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
			Mill	Platsol	Total													
METAL RECOVERIES	Ni	%	68%	96%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
Birch Lake	Cu	%	97%	96%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%
	Pd	%	91%	86%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%
	Pt	%	91%	91%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%
	Au	%	90%	45%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
	Co	%			40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
Maturi	Ni	%	72%	96%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%
	Cu	%	92%	96%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%
	Pd	%	75%	86%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
	Pt	%	70%	91%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%
	Au	%	70%	45%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%
	Co	%			40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
METAL PRODUCTION	Ni	'000 lbs				9,338	9,338	19,219	19,219	19,219	19,219	19,219	19,219	19,219	19,219	19,219	6,307	467,029
	Cu	'000 lbs				40,366	40,366	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	24,053	1,811,820
	Pd	oz				54,980	54,980	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	20,917	1,704,071
	Pt	oz				28,329	28,329	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	10,119	835,578
	Au	oz				6,169	6,169	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	2,258	185,472
	Co	'000 lbs				2,449	2,449	2,888	2,888	2,888	2,888	2,888	2,888	2,888	2,888	2,888	874	72,194
TAILINGS																		
	Tailings Produced	t ('000s)		91%		3,185	3,185	5,733	5,733	5,733	5,733	5,733	5,733	5,733	5,733	5,733	1,853	140,083
	Sub-aqueous Disposal	t ('000s)				3,185	3,185	5,733	5,733	5,733	5,733	5,733	4965					40,000
	Capacity	t ('000s)	40,000			36,815	33,630	27,897	22,164	16,431	10,698	4,965	-					
	Conventional Disposal	t ('000s)											768	5,733	5,733	5,733	1,853	100,082
	Capacity	t ('000s)	100,000										99,232	93,499	87,766	1,771	-	

Note: Years 11 to 24 are hidden to fit the page. Totals include all years.

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CONTRACTS

With the exception of a Technology License Agreement for use of the Platsol process, this Preliminary Assessment does not consider the use of contracted services for operation of mines, concentration, smelting, refining, or other aspects of production. The Platsol license is discussed in more detail below, in the Royalties Section.

ENVIRONMENTAL CONSIDERATIONS

Franconia has retained Barr Engineering Company (Barr) to advise on environmental aspects of advancing the Project. Barr has considerable experience with permitting of similar projects in the area.

The primary wastes produced by the Project would be tailings and waste rock. With potential for a long mine life at high production rates, the Project will produce a large amount of tailings, and a tailings disposal strategy will likely involve a combination of the options discussed below. Small amounts of waste rock will be stockpiled on surface during mine construction, and in the early years of operation. Waste rock will be returned underground for permanent storage as mining progresses.

Some aspects of the Project suggest that environmental issues may be fairly straightforward. The underground mines will have a small surface footprint. Testwork to date suggests that the tailings will have very low sulphur levels, implying that they will be essentially inert, or non-acid-producing. Some tailings options have footprints confined entirely to areas disturbed by previous mining activities, and some options can be designed as zero-discharge facilities. The Project is located in an area of considerable ongoing and historical mining activity. Franconia reports that background work for environmental purposes has been initiated.

Polymet is currently preparing an Environmental Impact Statement (EIS) on the Northmet deposit, as part of a final feasibility study due in 2007. Successful permitting and initiation of commercial production at the Northmet deposit will have positive

implications for the Birch Lake Project in terms of establishing recent precedents for the approvals process.

TAILINGS

Tailings are estimated to be produced at a rate of 91% of mill feed, totaling approximately 140 Mt over the 26-year mine life. Tailings could potentially be deposited in the Dunka Pit, above the Dunka Pit, underground as backfill, in other pits or disturbed land in the area, in a new Tailings Disposal Facility (TDF), or in some combination thereof.

DUNKA PIT

The Dunka Pit is located adjacent to the Birch Lake property. Currently full of water, the pit could serve as a sub-aqueous tailings disposal. Barr estimates that pit capacity for this use is approximately one billion cubic feet, which could hold approximately 40 Mt of tailings.

Once the 40 Mt sub-aqueous capacity is exhausted, placement could continue in a conventional manner up to and above the surface of the pit. Scott Wilson RPA has assumed that sufficient capacity to cover the remaining mine life can be generated within the footprint of the pit and surrounding area. A capital allowance of $20 million to establish the conventional TDF includes dam costs, permitting, and wetlands mitigation. Operating costs of $0.25 per tonne for pumping and maintenance have been assumed for both sub-aqueous and conventional placement of tailings.

From the point of view of permitting, the Dunka Pit has the advantage of using previously disturbed ground, i.e. no expansion of the mining footprint in the area. The Dunka Pit is not, however, a zero-discharge facility, nor can it be lined, which may cause difficulties in permitting.

BACKFILL

Tailings can be combined with cement for use as paste fill underground. The ratio of ore density to paste fill density, multiplied by a factor of 75% for amount of underground

void available for filling, results in 0.49 tonnes of tailings capacity per tonne of ore mined. Tailings production exceeds underground tailings capacity generation, indicating that this option can only be considered in combination with other options.

Adding 2% cement by weight will stabilize the tailings, preventing liquefaction, however, it is likely not enough to stand up to exposure (i.e. pillar mining). Higher levels of cement incur costs that are not justified by pillar recovery revenue. Backfill costs include fixed costs for paste plant operation, and unit costs for labour, cement, materials (bulkheads, piping, etc.), and pumping tailings to Maturi. Backfill operating costs total approximately $6 per tonne of fill. Comparable (smaller) operations have backfill costs in the range of $6 to $9 per tonne of fill. A capital cost allowance of $20 million was included to cover paste fill plants at each mine site, plus a tailings pipeline from Birch Lake to Maturi.

Using tailings as backfill has the advantage of having no surface footprint at all, however, capacity is insufficient to be used as the sole disposal method, and costs are prohibitive.

SURFACE TAILINGS FACILITIES

It is assumed that a new, green-fields site can be located nearby for tailings disposal of any required capacity. Capital costs for a new TDF include a liner ($200,000 per acre), dam-building, wetlands mitigation, and an allowance for permitting. Operating costs of $0.50 per tonne were included for pumping of tailings from the plant site.

A TDF as outlined above would be lined, and designed as a zero-discharge facility, both attractive features from the perspective of permitting, however, it would greatly increase the footprint of the mine. There is some potential for locating a TDF in the existing pits or previously disturbed land of formerly-producing taconite mines in the area, however, more information is required to evaluate options.

TAILINGS DISPOSAL SCENARIOS

Scott Wilson RPA evaluated several scenarios for tailings disposal, involving combinations of the options described above. The evaluation is of order-of-magnitude accuracy. The scenarios are as follows:

1. Dunka Pit (sub-aqueous) disposal alone for Years 1 to 5.
   Pit plus underground disposal as backfill, in ratios such that sub-aqueous capacity and underground capacity at both mines run out simultaneously.
   End operations early in Year 16.

2. Dunka Pit (sub-aqueous) disposal alone for Years 1 to 5.
   Pit plus underground disposal as backfill, in ratios such that sub-aqueous capacity and underground capacity at both mines run out simultaneously (Years 6 to 16).
   A new, 25 Mt capacity, lined TDF takes tailings in excess of that which can be placed underground as mining progresses (Years 16 to 26).

3. Dunka Pit (sub-aqueous) disposal alone until full (Years 1 to 8).
   Switch to new, 100 Mt capacity, lined TDF (Years 8 to 26).

4. Dunka Pit (sub-aqueous) disposal alone until full (Years 1 to 8).
   Switch to conventional, 100 Mt capacity, unlined TDF on Dunka Pit footprint (Years 8 to 26).

Scenario 4 was the only one yielding a positive Project NPV (at a 10% discount rate), and therefore, was used as the Base Case for Preliminary Economic Assessment.

Scott Wilson RPA recommends that options for tailings disposal be examined in more detail, to provide a more accurate evaluation of requirements, and impact on costs, permitting, and mine operations. Requirements such as liners, zero-discharge designs, and size and location of footprint should be clarified to assist in choosing the most appropriate scenario for the Project.

TAXES AND ROYALTIES

Scott Wilson RPA has evaluated the economics of the Project on a pre-tax basis.

Royalties on Birch Lake vary from lease to lease (state and private), with 5% NSR being used previously as an average. Franconia reports that state authorities have agreed

to model net smelter return by deducting hydrometallurgical costs (with an allowance of 15% for profit) from gross revenue. 15% of hydrometallurgical capital costs are also allowed as a deduction.

With the permission of the MNDNR Commissioner, half of the royalty payments for the first five years can be deferred, repayable at a 6% interest rate.

Royalties on Maturi are based on gross value of nickel and copper in ore, without deductions for concentrator or hydrometallurgical losses. There is a 1.5% gross value royalty, payable to the federal government. The federal government also charges royalty on associated products equal to 0.1% of the gross value of copper and nickel in ore. Private royalty interests held by Whiteside & Childers, and by Longyear, require payment equal to half the federal royalty. The sum of the Maturi royalties is equivalent in magnitude to a 3.7% NSR royalty.

Both properties are subject to a Technology License Agreement between Franconia and International PGM Technologies Ltd. (IPGM), dated December 23, 2005, for use of the Platsol process. The agreement confers a 5% NSR royalty interest on first year Project production to IPGM.

Project royalties average $1.75 per tonne of ore.

CAPITAL AND OPERATING COST ESTIMATES

CAPITAL COSTS

Pre-production capital costs of $616 million covers the work required to bring the Project into production, including underground development and shaft sinking at both mine sites, construction of infrastructure on surface and underground, processing plant construction (including concentration and hydrometallurgical facilities), and installation of services to support the mine sites. The estimate includes pre-production costs incurred over four years, with no allowance for escalation.

The estimate includes direct costs of equipment, materials, and labour, as well as indirect costs such as engineering, procurement, and construction management (EPCM); temporary construction services, owner's costs, and contingencies. Costs for advancing the Project to construction stage, such as resource upgrade drilling, project financing, land acquisition, permitting, environmental studies, and feasibility studies, are not included.

Table 18-4 provides a summary of capital costs. Estimates are considered to be at an order-of-magnitude level of accuracy, suitable for a Preliminary Economic Assessment.

TABLE 18-4 CAPITAL COST SUMMARY
Franconia Minerals Corporation – Birch Lake Project

Item	Units	Pre-Production	Ongoing	Total
Mine – Birch Lake	$ millions	117		117
Mine – Maturi	$ millions	109	30	139
Concentrator	$ millions	80		80
Hydromet Plant	$ millions	150		150
Subtotal - Direct Costs	$ millions	465	30	495
Indirects	$ millions	105	6	111
Contingency	$ millions	46	3	49
Tailings	$ millions		20	20
Sustaining	$ millions		52	52
Reclamation	$ millions		10	10
Total	**$ millions**	**616**	**121**	**737**

MINE CAPITAL

Mine capital costs have been estimated using in-house reference data, and comparisons to similar projects. Recent prices for mobile equipment, cement, and fuel have been used. Current contractor rates for shaft-sinking, raising, and development were applied. Mine capital costs are detailed in the following tables:

TABLE 18-5 BIRCH LAKE MINE CAPITAL

Franconia Minerals Corporation – Birch Lake Project

Description	Cost Estimate ($ millions)
Production Shaft & Infrastructure	28
Exhaust Shaft (including an emergency escape hoist)	15
Ventilation Raises	18
U/G Infrastructure (shops, ore handling, magazines etc)	3
Crusher and Conveyor	5.5
Orebody Access and Ramps	20
Ventilation	2.5
Electrical	2
Dewatering	1
Compressors and Compressed Air Distribution System	1
Equipment	18
Miscellaneous	3
Total	**117**

Some capital costs at Maturi are deferred until after production begins. Block development of the central two blocks will be completed before Year 3 production start-up, while infrastructure (vent raises, ore passes, etc.) for the outer two blocks will be completed during Years 3 and 4.

TABLE 18-6 MATURI MINE CAPITAL

Franconia Minerals Corporation – Birch Lake Project

Description	Cost Estimate ($ millions)
Production Shaft & Infrastructure	28
Rehabilitation and Dewatering of the Existing Shaft	4.5
Ventilation Raises	4
U/G Infrastructure (shops, ore handling, magazines etc)	3.5
Ore Passes	7.2
Crusher and Infrastructure	3.5
Ramp and Main Levels Development	15
Sublevel and Stope Access Development	35
Rail Haulage Levels	7
Ventilation	4
Electrical	3.5
Dewatering	1.5
Compressors and Compressed Air Distribution System	1.5
Equipment	18
Miscellaneous	3
Total	**139**

PROCESSING FACILITIES

Direct costs for ore receiving through flotation concentrate have been estimated using in-house reference cost data and factoring by process area. The hydrometallurgical facilities direct cost from concentrate through metal production has been estimated by factoring of overall estimated costs for a similar plant, adjusting for metal content and throughput differences.

Capital costs are estimated for an initial plant capacity of 10,000 tpd of Birch Lake material, and an incremental cost for expansion to 18,000 tpd when Maturi is developed in Year 3.

The following costs are included in the estimate:

- All process equipment costs

- Site development costs, based on general site conditions expected for the project and normal site services.
- All direct costs related to the process
- Serviced process building

TAILINGS

As detailed previously, Tailings Scenario 4 has been used for the Base Case. An allowance has been made to provide for establishing a new tailings disposal facility on the footprint of the Dunka Pit. The $20 million allowance includes dam costs, permitting, and wetlands mitigation. Construction is to be completed by Year 9, when the pit is projected to be filled to near-surface level with tailings.

Scott Wilson RPA recommends that options for tailings disposal be examined in greater detail, as there is potential for great impact on the project, both in monetary terms, and in terms of permitting the Project.

INDIRECT COSTS

Indirect costs have been estimated using factors and allowances, and include EPCM, first fills, construction spares, freight, insurance, and owner's costs.

Engineering, procurement, and construction management (EPCM) is included by an allowance of 15% of the direct costs.

First Fills consumables cover initial stocking of plant and mine warehouses. An allowance of $1.75 million has been made for First Fills.

Construction Spares are included at 3% of direct equipment costs (equipment costs are estimated to be 12% of total direct costs).

Freight has been included as an allowance of 3% of heavy goods and equipment, estimated to be 37% of total direct costs.

Project Insurance for the construction period has been included by an allowance of 0.75% of the total direct costs.

Owner's costs include a manpower buildup period for recruiting, relocating, and training the employees. Owner's costs are estimated as 4.9% of total direct costs.

CONTINGENCY

Scott Wilson RPA defines contingency as monies that will be spent, but are not specifically allocated, rather than an allowance for risk or unforeseen events. For this project, contingencies have been estimated at 10% of direct costs.

SUSTAINING CAPITAL

Sustaining capital costs totalling $2.3 million per year were applied using a factor of 0.5% of pre-production mine and processing facility costs. Sustaining capital covers mobile equipment replacement, extension of mine infrastructure, and processing equipment replacement.

Reclamation costs have been assessed at the end of production in Year 26. A somewhat arbitrary allowance of $10 million, representing the net of closure costs and salvage value, has been applied.

OPERATING COST ESTIMATE

Operating costs, averaging a total of $119 million per year, are presented in the following table:

TABLE 18-7 UNIT OPERATING COST SUMMARY
Franconia Minerals Corporation – Birch Lake Project

Item	Units	LOMP Average
Mine – Birch Lake	$/t mined	8.15
Mine – Maturi	$/t mined	8.48
Mine – Average	$/t milled	8.29
Definition Drilling	$/t milled	0.50
Concentration	$/t milled	4.98
Tailings	$/t milled	0.23
G&A	$/t milled	1.55
Contingency	$/t milled	3.11
Total	**$/t milled**	**18.66**

Mine costs at each site include development, drilling, blasting, mucking, haulage, and hoisting, as detailed in Table 18-8. Development unit rates range from $1,000 per m to $1,500 per m, depending on size of heading. Explosives consumption has been estimated at $0.50 per tonne. Fuel, lubricants, and propane consumption has been estimated at $0.62 per tonne.

TABLE 18-8 UNIT MINE OPERATING COSTS
Franconia Minerals Corporation – Birch Lake Project

Item	Birch Lake ($/tonne)	Maturi ($/tonne)
Development	4.20	3.60
Production Drilling	0.70	1.00
Blasting	0.70	1.00
Mucking	0.60	0.60
Trucking	0.40	0.40
Crushing & Conveying	0.35	
Crushing & Rail Haulage		0.55
Hoisting & Ventilation	1.20	1.33
Total	**8.15**	**8.48**

Definition drilling costs cover requirements beyond exploration activities; drilling to confirm grade, continuity, and location of geological features such as local faulting.

Concentration and Hydrometallurgical Plant costs include all direct processing costs from receipt of ore through to metal production and tailings disposal for a nominal mill throughput of 18,000 tpd. Labour and power costs are based on correlations derived from similar estimates. Reagent prices are based on factoring costs from a similar project and adjusting for differing metallurgy. Maintenance costs are based on a percentage of capital costs and other costs are factored from an estimate for a similar project.

TABLE 18-9 UNIT PROCESSING OPERATING COSTS
Franconia Minerals Corporation – Birch Lake Project

Item	Concentration ($/tonne)	Hydrometallurgical Plant ($/tonne)
Operating Labour	1.15	2.04
Operating Supplies	0.02	0.02
Reagents & Consumables	1.78	1.56
Power	1.03	1.03
Maintenance	0.50	0.94
Environmental	0.02	0.02
Mill G&A	0.40	0.40
Total	**4.90**	**6.01**

The mine life average unit rates in Table 18-7 include Years 1 and 2, when the plant is scheduled to process 10,000 tpd from Birch Lake alone. Labour, maintenance, environmental, and G&A costs have been held as fixed, resulting in higher unit costs for those years (and small changes to the mine life average cost).

Hydrometallurgical plant costs have been included in the cash flow under Concentrate Charges, rather than under Operating Costs, to generate a conventional Net Smelter Return figure for use in royalty calculation. Costs as detailed in Table 18-9 have been used, with a 20% contingency applied.

Operating costs of $0.25 per tonne for pumping and maintenance have been assumed for both sub-aqueous and conventional placement of tailings.

An allowance of $9.5 million per year for G&A costs has been included, based on comparable projects and operations. G&A costs include labour and general expenses for Administration, Human Resources, Health & Safety, and Technical Services departments.

A contingency allowance of 20% of operating costs has been included.

MANPOWER

The manpower requirement for the Birch Lake Project was estimated at 500 employees. This number includes staff and hourly employees. It does not include the contractor workforce required for construction.

TABLE 18-10 WORKFORCE SUMMARY
Franconia Minerals Corporation – Birch Lake Project

Department	Staff	Hourly	Total
Mine – Birch Lake	18	147	165
Mine – Maturi	22	146	168
Processing Plant	13	58	71
Maintenance	11	85	96
Technical Services	28		28
Admin (Mgt, HR, Safety, Purchasing)	24		24
Total	**116**	**436**	**552**

The estimation of manpower was based on proposed work schedules, and comparison to similar projects. Four crews would be required to maintain two 10-hour shifts per day, seven days per week. Labour costs have been estimated using average wages of $60,000 per year, from U.S. Bureau of Labor Statistics, October 2005 (Average Minnesota Mining Wages $56,801/year).

MARKETS AND METAL PRICES

Sale of the products will be to consumers or distributors for copper and to refiners for the Ni-Co and precious metals products. Scott Wilson RPA has assumed that the products will not be subject to penalties for impurities and that there will be no hindrance in selling the products, other than normal market conditions that apply to most metal producers.

TABLE 18-11 BASE CASE METAL PRICE ASSUMPTIONS
Franconia Minerals Corporation – Birch Lake Project

Ni	Cu	Co	Pd	Pt	Au
$6.00/lb	$1.50/lb	$10.00/lb	$300/oz	$800/oz	$450/oz

ECONOMIC ANALYSIS

A pre-tax Cash Flow Projection has been generated from the Life of Mine production schedule and capital and operating cost estimates, and is summarized in Table 18-12. The projection represents 100% of Project output, without factoring for ownership percentages. A summary of the key criteria is provided below.

PHYSICALS

- Mine life: 26 years for Birch Lake
  24 years for Maturi (Start-up in Year 3)
- Construction period: Two years
- Total millfeed: 154 million tonnes
  - 0.20% Ni
  - 0.59% Cu
  - 0.05% Co
  - 0.46 g/t Pd
  - 0.21 g/t Pt
  - 0.10 g/t Au
- Operations 350 days per year

- Underground production: 10,000 tpd, 3.5 Mtpa from Birch Lake
  8,000 tpd, 2.8 Mtpa from Maturi

- Mill throughput of 18,000 tpd, 6.3 Mtpa

- Average annual payable metal production:
  - 19 million lbs Ni
  - 74 million lbs Cu
  - 2.9 million lbs Co
  - 68,000 oz Pd
  - 33,000 oz Pt
  - 7,400 oz Au

REVENUE

- Metal prices – see Table 18-11, above

- Treatment charges: $7.21 per tonne of ore (Platsol process)

- Refining charges:

Nickel	$0.35 per lb
Copper	$0.00 per lb (saleable cathode)
Cobalt	$0.85 per lb
Palladium	$18.00 per oz
Platinum	$18.00 per oz
Gold	$12.00 per oz

- Operating cost: $18.66 per tonne milled

- Capital costs:
  - Pre-production capital: $616 million
  - Sustaining capital: $2.3 million per year
    $40 million to finish Maturi development
    $20 million for new TDF in Years 7-8.
  - Closure costs: $10 million
  - Total capital costs: $738 million

- Royalties – 5% NSR on Birch Lake production
  3.7% NSR equivalent on Maturi production
  5% NSR on first year production for Platsol licence

At Base Case cut-off values, the NSR is $41 per tonne of Birch Lake ore, and $33 per tonne of Maturi ore. The Base Case pre-tax cash flow using the above assumptions is estimated to total $1,891 million. Simple payback is achieved seven years after start of production. Pre-tax NPV's at various rates are shown in the following table:

TABLE 18-12 PRE-TAX NPV

Franconia Minerals Corporation – Birch Lake Project

Discount Rate	Base Case NPV ($ millions)	+10% Price NPV ($ millions)	Current Price NPV ($ millions)
7.5%	365	618	3,132
10%	171	364	2,288
12.5%	41	193	1,704
15%	(48)	75	1,289

At current prices (September 2006) of:

- $14.00 /lb Ni
- $3.50/lb Cu
- $17.50 /lb Co
- $320 /oz Pd
- $1200 /oz Pt
- $600 /oz Au,

the NSR is $92 per tonne of Birch Lake ore, and $85 per tonne of Maturi ore. The Base Case pre-tax cash flow is estimated to total $9,411 million. Simple payback is achieved 2.4 years after start of production. Pre-tax NPV at a 12.5% discount rate is $1,704 million.

TABLE 18-13 BASE CASE PRE-TAX CASH FLOW

Franconia Minerals Corporation - Birch Lake Project

Birch Lake and Maturi Combined Feed			Year -3	Year -2	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 24	Year 25	Year 26	Total
PHYSICALS	Days Mined					350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	
Birch Lake	Ore Mined	tpd				10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	
		tpa				3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	1,022,058	88,522,058
	Ni	%		0.18		0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
	Cu	%		0.56		0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
	Pd	g/t		0.63		0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
	Pt	g/t		0.31		0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
	Au	g/t		0.14		0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
	Co	%		0.08		0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Maturi	Ore Mined	tpd						8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	
		tpa						2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	2,800,000	1,014,475	65,414,475
	Ni	%		0.23				0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
	Cu	%		0.62				0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.57
	Pd	g/t		0.23				0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.21
	Pt	g/t		0.09				0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.08
	Au	g/t		0.04				0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
	Co	%		0.02				0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Total Mill Feed		tpd				10,000	10,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	
		tpa				3,500,000	3,500,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	6,300,000	2,036,533	153,936,533
	Ni	%				0.18	0.18	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.20
	Cu	%				0.56	0.56	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
	Pd	g/t				0.63	0.63	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.43	0.46
	Pt	g/t				0.31	0.31	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.20	0.21
	Au	g/t				0.14	0.14	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.09	0.10
	Co	%				0.08	0.08	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
METAL RECOVERIES	Ni	%	Mill 68%	Platsol 96%	Total 66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%	66%
Birch Lake	Cu	%	97%	96%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%
	Pd	%	91%	86%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%
	Pt	%	91%	91%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%
	Au	%	90%	45%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
	Co	%			40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
Maturi	Ni	%	72%	96%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%	69%
	Cu	%	92%	96%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%	88%
	Pd	%	75%	86%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
	Pt	%	70%	91%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%
	Au	%	70%	45%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%
	Co	%			40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
METAL PRODUCTION	Ni	'000 lbs				9,338	9,338	19,219	19,219	19,219	19,219	19,219	19,219	19,219	19,219	19,219	19,219	19,219	19,219	19,219	6,307	467,029
	Cu	'000 lbs				40,366	40,366	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	24,053	1,811,820
	Pd	oz				54,980	54,980	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	20,917	1,704,071
	Pt	oz				28,329	28,329	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	10,119	835,578
	Au	oz				6,169	6,169	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	2,258	185,472
	Co	'000 lbs				2,449	2,449	2,888	2,888	2,888	2,888	2,888	2,888	2,888	2,888	2,888	2,888	2,888	2,888	2,888	874	72,194
PAYABLE METAL	Ni	'000 lbs		90.0%		8,404	8,404	17,297	17,297	17,297	17,297	17,297	17,297	17,297	17,297	17,297	17,297	17,297	17,297	17,297	5,676	420,326
	Cu	'000 lbs		100.0%		40,366	40,366	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	74,219	24,053	1,811,820
	Pd	oz		100.0%		54,980	54,980	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	68,400	20,917	1,704,071
	Pt	oz		100.0%		28,329	28,329	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	33,426	10,119	835,578
	Au	oz		100.0%		6,169	6,169	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	7,429	2,258	185,472
	Co	'000 lbs		90.0%		2,204	2,204	2,599	2,599	2,599	2,599	2,599	2,599	2,599	2,599	2,599	2,599	2,599	2,599	2,599	787	64,974
METAL PRICES	Ni	US$ / lb		6.00		6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
	Cu	US$ / lb		1.50		1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
	Pd	US$ / oz		300		300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
	Pt	US$ / oz		800		800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800
	Au	US$ / oz		450		450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450
	Co	US$ / lb		10.00		10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00

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TABLE 18-13 BASE CASE PRE-TAX CASH FLOW

Franconia Minerals Corporation - Birch Lake Project

Birch Lake and Maturi Combined Feed			Year -3	Year -2	Year -1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 24	Year 25	Year 26	Total
GROSS REVENUE	Ni	US$'000				50,425	50,425	103,785	103,785	103,785	103,785	103,785	103,785	103,785	103,785	103,785	103,785	103,785	103,785	103,785	34,058	$ 2,521,958
	Cu	US$'000				60,550	60,550	111,328	111,328	111,328	111,328	111,328	111,328	111,328	111,328	111,328	111,328	111,328	111,328	111,328	36,079	$ 2,717,729
	Pd	US$'000				16,494	16,494	20,520	20,520	20,520	20,520	20,520	20,520	20,520	20,520	20,520	20,520	20,520	20,520	20,520	6,275	$ 511,221
	Pt	US$'000				22,663	22,663	26,741	26,741	26,741	26,741	26,741	26,741	26,741	26,741	26,741	26,741	26,741	26,741	26,741	8,095	$ 668,462
	Au	US$'000				2,776	2,776	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	3,343	1,016	$ 83,462
	Co	US$'000				22,040	22,040	25,991	25,991	25,991	25,991	25,991	25,991	25,991	25,991	25,991	25,991	25,991	25,991	25,991	7,868	$ 649,744
	TOTAL	**US$'000**				**174,948**	**174,948**	**291,708**	**291,708**	**291,708**	**291,708**	**291,708**	**291,708**	**291,708**	**291,708**	**291,708**	**291,708**	**291,708**	**291,708**	**291,708**	**93,391**	**$ 7,152,576**
CONCENTRATE CHARGES			fixed cost %			adjusted for lower rate																
Treatment Charges	Platsol Process	US$'000	57%	$ 7.21	US$/t ore	36,666	36,666	45,436	45,436	45,436	45,436	45,436	45,436	45,436	45,436	45,436	45,436	45,436	45,436	45,436	14,687	$ 1,133,038
Refining Charges	Ni	US$'000		$ 0.35	US$/lb	2,941	2,941	6,054	6,054	6,054	6,054	6,054	6,054	6,054	6,054	6,054	6,054	6,054	6,054	6,054	1,987	$ 147,114
	Cu	US$'000		$ -		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	$ -
	Pd	US$'000		$ 18.00	US$/oz	990	990	1,231	1,231	1,231	1,231	1,231	1,231	1,231	1,231	1,231	1,231	1,231	1,231	1,231	377	$ 30,673
	Pt	US$'000		$ 18.00	US$/oz	510	510	602	602	602	602	602	602	602	602	602	602	602	602	602	182	$ 15,040
	Au	US$'000		$ 12.00	US$/oz	74	74	89	89	89	89	89	89	89	89	89	89	89	89	89	27	$ 2,226
	Co	US$'000		$ 0.85	US$/lb	1,873	1,873	2,209	2,209	2,209	2,209	2,209	2,209	2,209	2,209	2,209	2,209	2,209	2,209	2,209	669	$ 55,228
	TOTAL	US$'000				**43,054**	**43,054**	**55,621**	**55,621**	**55,621**	**55,621**	**55,621**	**55,621**	**55,621**	**55,621**	**55,621**	**55,621**	**55,621**	**55,621**	**55,621**	**17,929**	**$ 1,383,320**
NET SMELTER RETURN		US$'000				131,894	131,894	236,087	236,087	236,087	236,087	236,087	236,087	236,087	236,087	236,087	236,087	236,087	236,087	236,087	75,463	$ 5,769,256
	Unit	US$/t milled				37.68	37.68	37.47	37.47	37.47	37.47	37.47	37.47	37.47	37.47	37.47	37.47	37.47	37.47	37.47	37.05	$ 37.48
OPERATING COSTS																						
	Mining - Birch Lake	US$'000				28,525	28,525	28,525	28,525	28,525	28,525	28,525	28,525	28,525	28,525	28,525	28,525	28,525	28,525	28,525	8,330	$ 721,455
	Mining - Maturi	US$'000				-	-	23,744	23,744	23,744	23,744	23,744	23,744	23,744	23,744	23,744	23,744	23,744	23,744	23,744	8,603	$ 554,715
	Definition Drilling	US$'000				1,750	1,750	3,150	3,150	3,150	3,150	3,150	3,150	3,150	3,150	3,150	3,150	3,150	3,150	3,150	1,018	$ 76,968
	Concentration	US$'000				22,946	22,946	30,870	30,870	30,870	30,870	30,870	30,870	30,870	30,870	30,870	30,870	30,870	30,870	30,870	9,979	$ 765,881
	Tailings	US$'000				796	796	1,433	1,433	1,433	1,433	1,433	1,433	1,433	1,433	1,433	1,433	1,433	1,433	1,433	463	$ 35,021
	G&A	US$'000				9,450	9,450	9,450	9,450	9,450	9,450	9,450	9,450	9,450	9,450	9,450	9,450	9,450	9,450	9,450	3,055	$ 239,305
	Contingency	US$'000				12,693	12,693	19,434	19,434	19,434	19,434	19,434	19,434	19,434	19,434	19,434	19,434	19,434	19,434	19,434	6,290	$ 478,669
	TOTAL	US$'000				76,161	76,161	116,607	116,607	116,607	116,607	116,607	116,607	116,607	116,607	116,607	116,607	116,607	116,607	116,607	37,737	$ 2,872,013
Unit Costs	Mining - Birch Lake	US$/tonne				8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15
	Mining - Maturi	US$/tonne				8.48	8.48	8.48	8.48	8.48	8.48	8.48	8.48	8.48	8.48	8.48	8.48	8.48	8.48	8.48	8.48	8.48
	Definition Drilling	US$/tonne				0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
	Concentration	US$/tonne				6.56	6.56	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.98
	Tailings	US$/tonne				0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
	G&A	US$/tonne				2.70	2.70	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.55
	Contingency	US$/tonne	20%			3.63	3.63	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.09	3.11
	TOTAL	US$/tonne				21.76	21.76	18.51	18.51	18.51	18.51	18.51	18.51	18.51	18.51	18.51	18.51	18.51	18.51	18.51	18.53	18.66
OPERATING CASH FLOW		US$'000				55,733	55,733	119,481	119,481	119,481	119,481	119,481	119,481	119,481	119,481	119,481	119,481	119,481	119,481	119,481	37,725	$ 2,897,243
				Stage 1 - Birch Lake		Stage 2 - Maturi																
CAPITAL COSTS	Pre-Construction	US$'000																				$ -
	Mine - Birch Lake	US$'000		58,500	58,500																	$ 117,000
	Mine - Maturi	US$'000			30,000	39,000	40,000	15,000	15,000													$ 139,000
	Concentrator	US$'000		40,000	40,000																	$ 80,000
	Hydromet Plant	US$'000		75,000	75,000																	$ 150,000
	Infrastructure	US$'000					8,646															$ 8,646
	Tailings	US$'000										10,000	10,000									$ 20,000
	Indirects	US$'000		38,378	46,464	8,627	11,060	3,318	3,318													$ 111,166
10%	Contingency	US$'000		17,350	20,350	3,900	4,865	1,500	1,500													$ 49,465
0.5%	Sustaining	US$'000						2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280		$ 52,440
	Reclamation	US$'000																			10,000	$ 10,000
	TOTAL	**US$'000**	**-**	**229,228**	**270,314**	**51,527**	**64,571**	**22,098**	**22,098**	**2,280**	**2,280**	**12,280**	**12,280**	**2,280**	**2,280**	**2,280**	**2,280**	**2,280**	**2,280**	**2,280**	**10,000**	**$ 737,716**
NET PRE-TAX CASH FLOW	Royalties	US$'000				2,372	5,267	9,032	14,681	9,032	12,928	13,763	14,111	14,111	14,111	10,414	10,414	10,414	10,414	10,414	3,283	$ 268,897
	Per Year	**US$'000**	**-**	**(229,228)**	**(270,314)**	**1,834**	**(14,105)**	**88,350**	**82,702**	**108,168**	**104,272**	**93,437**	**93,089**	**103,089**	**103,089**	**106,787**	**106,787**	**106,787**	**106,787**	**106,787**	**24,443**	**$ 1,890,630**
	Cumulative	**US$'000**	**-**	**(229,228)**	**(499,542)**	**(497,708)**	**(511,813)**	**(423,463)**	**(340,761)**	**(232,593)**	**(128,321)**	**(34,883)**	**58,206**	**161,295**	**264,384**	**371,171**	**477,958**	**584,745**	**1,759,400**	**1,866,187**	**1,890,630**	
NET PRESENT VALUE	**US$ Millions**	**7.5%**	**$365**																			
		10%	**$171**																			
		12.5%	**$41**																			
		15%	**($48)**																			

Note: Years 14 to 23 are hidden.
They are identical to Year 13.

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SENSITIVITY ANALYSIS

Project risks can be identified in both economic and non-economic terms. Key economic risks were examined by running cash flow sensitivities:

- Metal Prices
- Head Grade
- Metallurgical Recovery
- Operating Costs
- Capital Costs

NPV sensitivity over the base case has been calculated for -20% to +20% variations. The sensitivities are shown in Figure 18-5 and Table 18-14.

FIGURE 18-5 SENSITIVITY ANALYSIS

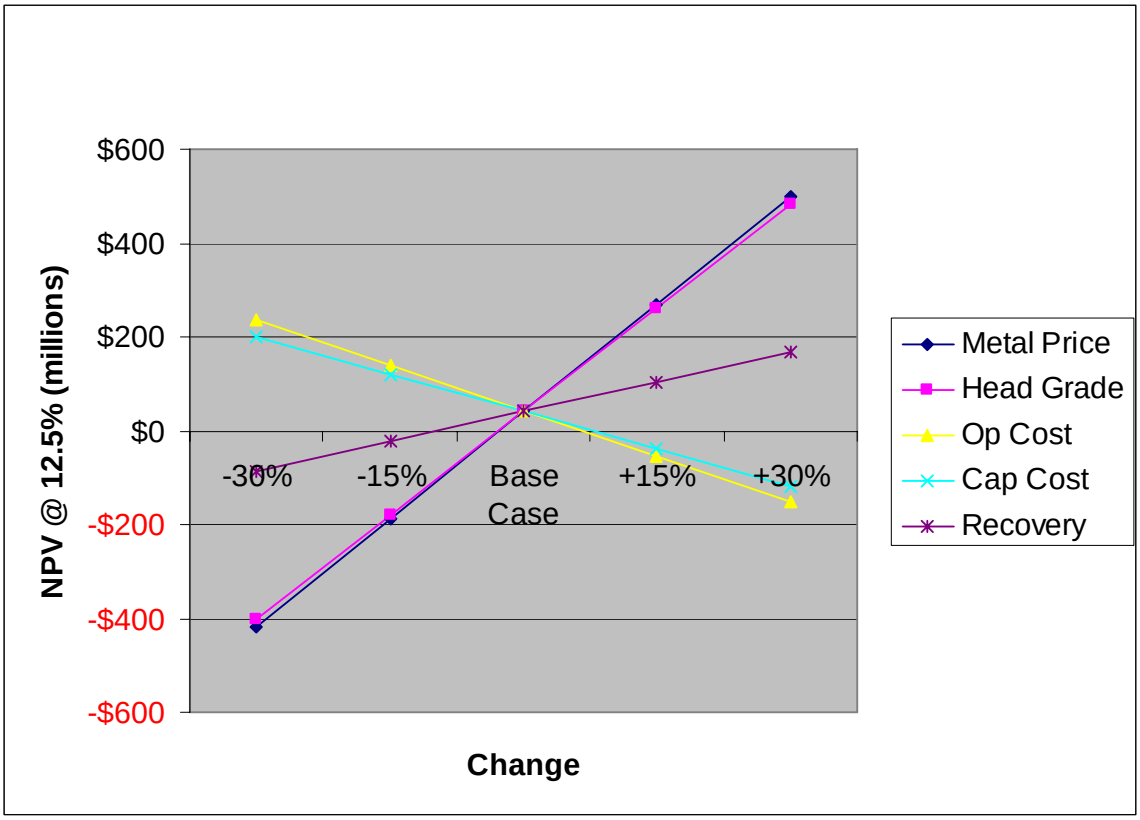


TABLE 18-14 SENSITIVITY ANALYSIS

Franconia Minerals Corporation – Birch Lake Project

Parameter Variables	Units	-30%	-15%	Base	+15%	+30%
Metal Price	US$/lb Cu	1.05	1.28	1.50	1.73	1.95
Head Grade	% Cu	0.29	0.43	0.59	0.78	1.00
Recovery	% Cu	85%	88%	91%	94%	97%
Operating Cost	US$/t	13.06	15.86	18.66	21.46	24.25
Capital Cost	$ millions	516	627	738	848	959

NPV @ 12.5%	Units	-30%	-15%	Base	+15%	+30%
Metal Price	$ millions	(417)	(188)	41	269	498
Head Grade	$ millions	(400)	(180)	41	261	482
Recovery	$ millions	(85)	(22)	41	103	166
Operating Cost	$ millions	234	138	41	(56)	(153)
Capital Cost	$ millions	200	120	41	(39)	(119)

Variation in copper parameters is shown in the table because copper accounts for the greatest amount of revenue in the Base Case (only slightly greater than nickel). Variations were applied to all metals, not just copper, to generate NPV sensitivities.

The Project is most sensitive to metal prices and head grade. Head grade variations represent effects of increased dilution or problems with ore continuity.

In order to remain within an achievable range, metallurgical recoveries have been varied by 3% increments, rather than factored by 10% increments. One of the aims of the current testwork program is to increase nickel recovery to typical industry levels. Increasing nickel recovery from 67% (Base Case average) to 75% would result in an NPV (at 12.5% discount rate) of $98 million.

Tailings options were evaluated for impact on Project NPV. Neither tailings used as backfill, nor lined TDFs generated positive results in comparison with the Base Case of establishing an unlined TDF on top of the Dunka Pit.

19 INTERPRETATION AND CONCLUSIONS

The Project currently consists of two large tonnage - low grade copper-nickel-PGE deposits. Resource estimates are based on widely-spaced drilling, and classified as Inferred. The estimates are sensitive to NSR cut-off value. The Project Base Case has a pre-tax Net Present Value of $41 million at a 12.5% discount rate, and simple payback occurs after seven years of operation. At current metal prices, Project economics are attractive, and there is potential for a long mine life.

The Project is very sensitive to metal prices and establishing and maintaining a reasonable margin of NSR over operating costs is going to be a key to making it a success. In preparing this Preliminary Assessment, Scott Wilson RPA has focussed on maximizing the revenue through high cut off grades and lowering the operating unit costs by selecting a high production rate. The focus for the next stages of advancement of the Project needs to be on optimization of these two fundamental factors.

Resource continuity at higher cut-offs is difficult to assess due to the widely-spaced and non-systematic drilling at Birch Lake. Wedge holes at Birch Lake indicate some abrupt lateral variation in grades due to heterogeneity of the host rocks. Faulting, which is not well located by drilling, has resulted in vertical offsets to the Birch Lake deposit. The Maturi deposit appears to have better grade continuity, however, there are no wedge holes and only a few underground holes to provide short distance grade continuity information. Both deposits are large enough that using the highest cut-off possible while maintaining continuity is likely to yield the most positive economic results. Given reasonable continuity, both deposits have size, configuration, and physical properties amenable to bulk mining methods with high rates of extraction. Low unit costs should be achievable.

Bench scale testwork has confirmed the amenability of Birch Lake material to flotation concentration and subsequent metal recovery via the Platsol process. Flotation recovery of nickel was lower than anticipated and may be improved through additional

testwork. Current estimates of metallurgical recovery of Maturi material are based on response of similar deposits. Little testwork has been completed on samples from Maturi.

Environmental permitting activities have potential to be the critical path for project development. The Project is located in a well established mining area, however, it is also near to recreational land use areas. Although the footprint of two underground mines and a processing plant can be minimized, the tailings storage requirements for a high production, long life operation are significant. In Scott Wilson RPA's opinion, Franconia has done a good job in recognizing the permitting requirements and has assembled a team that is focussed on this critical aspect of the Project.

20 RECOMMENDATIONS

Should Franconia decide to advance the Project, Scott Wilson RPA recommends the following work be carried out. A summary program and budget of US$7.01 million is presented in Table 20-1. The program is divided into Phase 1 ($US1.585 million) and Phase 2 (US$5.425 million) with Phase 2 contingent on encouragement from Phase 1.

RESOURCES

- Diamond drilling on a systematic grid as per the current drill program should be continued to upgrade the Inferred Resources to Indicated Resources. Once sufficient drill core has been generated for metallurgical testing, the practice of drilling wedge offsets should be discontinued in favour of drilling more holes on a consistent pattern.

- Specific gravity (SG) testing should be performed for the individual rock types in the U3 unit and the hanging wall pegmatitic units. Such data will be useful to confirm the global SG used to date and for rock density modelling in future resource updates. SG tests should be carried out routinely (assay by assay) in mineralization for the resource upgrade drilling.

- A comprehensive QA/QC program, consistent with standards, should be initiated for future resource upgrade drilling programs at Birch Lake and Maturi. Past laboratory QA/QC data for Birch Lake should be compiled and evaluated as part of this program.

- A complete suite of analyses should be performed on the core samples in future drilling programs. This particularly important at Maturi where analytical data for PGEs, cobalt and gold is lacking at Maturi.

- Collar surveys should be checked at both projects. Elevations should be checked for 11 drill hole collars at Maturi for which the digital database entries differ from the MNDNR records. Collar and down hole surveying for resource upgrade drilling should be undertaken with the most accurate instrumentation available.

- The boundaries of both the Birch Lake and Maturi properties should be well established and surveyed if necessary.

MINING

- Geomechanics studies are needed to establish allowable spans and appropriate ground control requirements.

- Mine designs of a level of detail appropriate to a pre-feasibility study should be completed.

- A study of backfill options needs to be undertaken as this may have some benefit in minimizing surface tailings requirements.

METALLURGY

- Bench-scale flotation and hydrometallurgical testwork is required on Maturi samples to validate assumptions of similarity to nearby deposits.

- Additional bench scale flotation and hydrometallurgical testwork is required on Birch Lake samples to develop design information and to optimize process conditions.

- Because of the nature and complexity of the overall process, a pilot plant operation is required to confirm recoveries, to allow the development of detailed process design criteria, and to demonstrate product purity.

ENVIRONMENTAL CONSIDERATIONS

- Options for tailings disposal should be examined in greater detail, as there is potential for significant impact on the project, both in monetary terms, and in terms of permitting the Project.

- A continuing effort needs to be maintained on the permitting process to ensure that it does not delay the technical advancement of the Project.

TABLE 20-1 SUMMARY OF RECOMMENDED PROGRAM AND BUDGET
Franconia Minerals Corporation - Birch Lake Project

	Phase 1		
Drilling for Metallurgical Samples	m		
Birch Lake	2,720		$340,000
Maturi	3,000		$360,000
Subtotal			$700,000
Metallurgy Studies			$610,000
Geotechnical Studies			$25,000
Project Re-Evaluation			$10,000
Management, supervision, consulting (10%)			$135,000
Contingency (15% on drilling)			$105,000
Phase 1 Total			**$1,585,000**

	Phase 2*		
In-Fill Drilling to Upgrade Resources	m	Cost US$	
Maturi (200 m x 200 m grid)	3,900		$468,000
Birch Lake (200 m x 200 m grid)	21,280		$2,613,600
	25,180		$3,081,600
Compilation and Update Resource Estimate			$35,000
Permitting and Environmental			$1,558,000
Pre-Feasibility Study			$750,000
Phase 2 Total			**$5,424,600**
Project Grand Total			**$7,010,000**

* Contingent on encouragement from Phase 1

21 REFERENCES

REFERENCES

Amplats (1998): The mineralogy and metallurgical response of Boreholes BL98-1 and BL98-1W from Birch Lake, Duluth Complex, Minnesota. Unpublished report, August 26, 1998, 9 p.

Bonnichsen, Bill (1972): Southern part of the Duluth Complex ***in*** Sims, P. K. and Morey, G. B. ***eds*** Geology of Miinnesota: A Centennial Volume, Minnesota Geological Survey, 1972, p. 361-387.

Bonnichsen, Bill (1972): Sulfide minerals in the Duluth Complex ***in*** Sims, P. K. and Morey, G. B. ***eds*** Geology of Minnesota: A Centennial Volume, Minnesota Morey, G. B. ***eds*** Geology of Minnesota: A Centennial Volume, Minnesota Geological Survey, 1972, p. 388-393.

Cabri, Louis J. (2002): A mineralogical study of samples from the Birch Lake PGE-Cu-Ni prospect in the Duluth Complex, Northeastern Minnesota. Unpublished report, April 20, 2002, 49 p.

Cole, Steve (2002): Scoping flotation program. Unpublished Lakefield Research Limited letter report, 10 p.

Cargill, D. George (2005a): Technical report on the Maturi Extension property, Minnesota, U.S.A. prepared for Wallbridge Mining Company Limited. Roscoe Postle Associates Inc. NI 43-101 report filed on SEDAR, December 30, 2005, 52 p.

Cargill D. George (2005b): Maturi Extension property, Minnesota U.S.A. valuation report. Unpublished report prepared by Roscoe Postle Associates Inc. for Wallbridge Mining Company, June 20, 2005, 38 p.

CIM (2000): CIM standards on Mineral Resources and Reserves – definitions and guidelines prepared by the CIM committee on reserve definitions. CIM Bulletin Vol. 93, No. 1044, p. 53-60.

Clow, Graham G. and Routledge, Richard E. (2005): Preliminary assessment of the mineral resources of the Birch Lake property prepared for Franconia Mineral Corporation. SEDAR published NI 43-101 technical report by Roscoe Postle Associates Inc., November 19, 2005, 90 p.

Cole, Steve (2002): Scoping flotation program. Unpublished Lakefield Research Limited letter report, 10 p.

Ferron, C. J., Flemming, C. A., O'Kane, P. T. and Dreisinger, D. (2002): Pilot plant demonstration of the PLATSOL process for the treatment of the NorthMet copper-nickel-PGM deposit. Mining Engineering Vol. 54, No. 12, December 2002, p.33-39.

Gavin, Brian (2005): Drilling reveals higher grade copper-nickel-PGM results at Birch Lake project, Minnesota. Public Release (SEDAR), November 3, 2005, 3 p.

Hauck, Steven A. 2003: Facsimile letter listing drill holes surveyed in the Birch Lake area by the Natural Resources Research Institute, Center for Applied Research and Technology Development, University of Minnesota, November 21, 2003, 1 p.

Hayden, A. S. (2005a): Franconia Minerals Corporation Birch Lake Project review of bench scale pressure leaching testwork and preliminary estimates of capital and operating costs. Unpublished EHA Engineering Ltd. report, April 2005, 12 p.

Hayden, A. S. (2005b): Birch Lake Project review of bench scale flotation testwork. Unpublished EHA Engineering Ltd. report, April 2005, 11 p.

Impala Platinum Holdings Limited (2002): Birch Lake Project geology report. Unpublished Impala Platinum Holdings Ltd. company report, July 2002.

Independent Mining Consultants, Inc. (2001): NorthMet Project, Minnesota pre-feasibility study volume 1 project summary prepared for PolyMet Mining Corporation. Published SEDAR technical report, April 2001, 222 p.

Isaaks, Edward H. and Srivastava, Mohan R. (1989): Introduction to applied geostatistics. Oxford Press. Inc., New York, New York p. 303-305.

Jones, David and Moore, Rachel (2002): CESL process: application to a bulk copper nickel concentrate. Paper published at ALTA 202 COPPER-7 Technical Proceedings, Perth, Australia, May 2002, 15 p.

Kuck, Peter H. (2003): Mineral industry surveys: nickel in August 2003. U.S. Geological Survey paper, November 2003, 2 p.

Lehmann Ernest K. (2005): The Birch Lake Project Lake and St. Louis Counties, Minnesota resource estimate prepared for Franconia Minerals Corporation (US) Inc., Operator and Beaver Bay Joint Venture. Unpublished Lehmann Exploration Management Inc. report, July 2005, 26 p.

Lehmann Ernest K. (2003): The Birch Lake Project; a plan for development of a major platinum-palladium-copper-nickel resource in northern Minnesota. Unpublished Lehmann Exploration Management Inc. report, June 17, 2003, 44 p.

Lehmann Ernest K. (2002a): The Birch Lake Project Lake and St. Louis Counties, Minnesota supplement to 2002 resource estimate prepared for Beaver Bay Joint Venture. Unpublished Lehmann Exploration Management Inc. report, October 28, 2002, 13 p.

Lehmann Ernest K. (2002b): Comments on Birch Lake Project review reports. Unpublished memorandum , July 30, 2002, 8 p.

Lehmann Ernest K. (2002c): The Birch Lake Project Lake and St. Louis Counties, Minnesota 2002 resource estimate prepared for Impala Platinum Holdings Ltd. and Beaver Bay Joint Venture. Unpublished Lehmann Exploration Management Inc. report, February 20, 2002 revised March 20, 2002, 23 p.

Lehmann Exploration Management Inc. (2001): The Birch Lake Project review and summary of mining environmental review and permitting in Minnesota prepared for Impala Platinum Holdings Ltd. and Beaver Bay Joint Venture. Unpublished report, February 20, 2001, 88 p.

Marma, John C., Brown, Phil E. and Hauck, Steve A. (2002): magmatic and hydrothermal PGE mineralization of the Birch Lake Cu-Ni-PGE deposit in the South Kawishiwi Intrusion, Duluth Complex, northeast Minnesota. Paper No.52-2 presented at the 2002 Denver Annual GSA meeting, October 27-30, 2002.

Milbourne, Joe, Tomlinson, Marcus and Gormely, Lynton (2003): Use of hydrometallurgy in direct processing of base metal/PGM concentrates ***in*** Young, C. A., Alfantazi, A. M., Anderson, C. G., Dreisinger, D. B., Harris, B. and James, A. ***eds.*** Hydrormetallurgy 2003-Fifth International Conference in Honor of Professor Ian Ritchie, Volume 1: Leaching and Solution Purification, The Minerals, Metals & Materials Society, 2003, p. 617-630.

Parker, Jack (2000): Mineability of the Birch Lake Cu-Ni-PGE deposit, Northeastern Minnesota. Unpublished letter report (rock mechanics) prepared by Jack Parker and Associates, July 19, 2000, 4 p.

Peterson, Dean M. (2002): Shaded relief map of the basal contact surface of the South Kaswishiwi Intrusion Duluth Complex, northeastern Minnesota. Natural Resources Research Institute, March 2002,

Peterson, Dean M. (2001): Development of conceptual models for Cu-Ni-PGE mineralization in the South Kawishiwi Intrusion, Duluth Complex, Minnesota. NRRI paper, 3 p.

Potter, Steve and Haren, E. (2002): Impala Platinum Limited Birch Lake Project Review. Unpublished Snowden Mining Industry Consultants (Pty) Ltd. report, June 2002, 48 p.

Reflex Instrument AB (2000): Reflex EMS downhole survey results. Unpublished survey results for drill hole BL009. October 21, 2000, 4 p.

Routledge, Richard E. (2004): Review of the mineral resources of the Birch Lake property, Minnesota, U.S.A. prepared for Franconia Minerals Corporation. NI 43-101 technical report filed on SEDAR. January 22, 2004, 92 p.

Rowell, William F. (2002a): Summary of 2001 drilling program on the Birch Lake platinum-group element–Cu-Ni prospect Northeastern Minnesota, USA June-November 2001 Part 1 geology and geochemistry for Impala Platinum Holding Ltd.

and the Beaver Bay Joint Venture. Unpublished Lehmann Exploration Management Inc. report, February 2002, 119 p.

Rowell, William F. (2002b): Summary of 2001 drilling program on the Birch Lake platinum-group element-Cu-Ni prospect Northeastern Minnesota, USA June-November 2001 Part 2 geology and geochemistry for Impala Platinum Holding Ltd. and the Beaver Bay Joint Venture. Unpublished Lehmann Exploration Management Inc. report, March 2002, 26 p.

Rowell, William F. (2001a): Birch Lake PGE-Cu-Ni prospect Northeastern Minnesota summary of program to check analytical results and determine specific gravity. Unpublished Lehmann Exploration Management Inc. report, June 2001, 53 p.

Rowell, William F. (2001b): Summary of 2000 drilling program on the Birch Lake platinum-group element-Cu-Ni prospect Northeastern Minnesota, USA March-December 2000 Part 1 summary of drill holes for Impala Platinum Holding Ltd. and Beaver Bay Joint Venture. Unpublished Lehmann Exploration Management Inc. report, February 2001, 119 p.

Rowell, William F. (2001c): Summary of 2000 drilling program on the Birch Lake platinum-group element-Cu-Ni prospect Northeastern Minnesota, USA March-December 2000 Part 2 geology and geochemistry for Impala Platinum Holding Ltd. and Beaver Bay Joint Venture. Unpublished Lehmann Exploration Management Inc. report, February 2001, 15 p.

SGS Lakefield Research Limited (2005a): The recovery of Cu, Ni, Au and PGM's from a Birch Lake flotation concentrate prepared for Franconia Minerals Corporation (US) Inc. Unpublished report LR 10854-003-Report 1, July 27, 2005, 8 p. and appendices.

SGS Lakefield Research Limited (2005b): Copper/nickel PGE flotation on Birch Lake samples prepared for Franconia Minerals Corporation (US) Inc. and Beaver Bay Joint Venture. Unpublished report LR 10854-002-Final Report, April 6, 2005, 23 p. and appendices.

SGS Lakefield Research Limited (2005): A preliminary investigation into the applicability of the PLATSOL process to Birch Lake Cu-Ni-PM's concentrate samples submitted by Lehman Exploration". Unpublished SGS Lakefield Project 10854-003 – final report, July 2005.

Soever, Alar T. (2000): Mineral resource estimate and assessment of the potential for economic mineralization within the existing resource at the Maturi and Spruce Road deposits, Lake County, Minnesota for Wallbridge Mining Company Limited. SEDAR published report by Watts, Griffis and McQuat Limited. April 26, 2000, 98 p.

Toronto Stock Exchange and Ontario Securities Commission (1999): Setting new standards, recommendations for public mineral exploration and mining companies, Mining Standards Task Force final report. Published report, January 1999, 141 p.

Wallbridge Mining Company (1998-2005): Annual reports.

Weiblen, P.W. and Morey, G.B. (1980): A summary of the stratigraphy, petrology and structure of the Duluth Complex. American Journal of Science, v. 280-A, p. 88-133.

22 SIGNATURE PAGE

This report titled "Technical Report on the Preliminary Assessment of the Birch Lake and Maturi Projects" and dated October 20, 2006, was prepared by and signed by the following authors:

(Signed and sealed)

Dated at Toronto, Ontario
October 20, 2006

Graham G. Clow, P. Eng.
Consulting Mining Engineer

(Signed and sealed)

Dated at Toronto, Ontario
October 20, 2006

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

(Signed and sealed)

Dated at Toronto, Ontario
October 20, 2006

Jason J. Cox, P.Eng.
Senior Mining Engineer

(Signed and sealed)

Dated at Toronto, Ontario
October 20, 2006

A. S. Hayden, P. Eng.
EHA Engineering Ltd.
Consulting Metallurgical Engineer

23 CERTIFICATE OF QUALIFICATIONS

GRAHAM G. CLOW

I, Graham G. Clow, P.Eng., as an author of this report entitled "Technical Report on the Preliminary Assessment of the Birch Lake and Maturi Projects, Minnesota, USA", prepared for Franconia Minerals Corporation, and dated October 20, 2006, do hereby certify that:

1. I am Principal Mining Engineer 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 1972 with a Bachelor of Science degree in Geological Engineering and in 1974 with a Bachelor of Science degree in Mining Engineering.

3. I am registered as a Professional Engineer in the Province of Ontario (Reg.# 8750507). I have worked as a mining engineer for a total of 32 years since my graduation. My relevant experience for the purpose of the Technical Report is:
   - Review and report as a consultant on numerous mining operations and projects around the world for due diligence and regulatory requirements
   - Senior Engineer to Mine Manager at seven Canadian mines and projects
   - Senior person in charge of the construction of two mines in Canada
   - Senior VP Operations in charge of five mining operations, including two in Latin America
   - President of a gold mining company with one mine in Canada
   - President of a gold mining company with one mine in Mexico

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 Birch Lake or Maturi properties.

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 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 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 20th day of October, 2006

(Signed and sealed)

Graham G. Clow, P. Eng

RICHARD E. ROUTLEDGE

I, Richard E. Routledge, M.Sc., P.Geo., as an author of this report entitled "Technical Report on the Preliminary Assessment of the Birch Lake and Maturi Projects, Minnesota, U.S.A.", prepared for Franconia Minerals Corporation and dated October 20, 2006, (the Technical Report) do hereby certify that:

1. I am 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 Sir George Williams (now Concordia) University, Montreal, Quebec, Canada in 1971 with a Bachelor of Science degree in Major Geology and McGill University, Montreal, Quebec, Canada in 1973 with a Master of Science degree in Applied Mineral Exploration.

3. I am a Practising Member of the Association of Professional Geoscientists of Ontario (#1354) and I am registered as a licensed Professional Geologist in the Northwest Territories, Canada (L744). I have worked as a geologist for a total of 32 years since my graduation. My relevant experience for the purpose of the Technical Report is:
    - Review and report as a consultant on numerous exploration and mining projects around the world for due diligence and regulatory requirements, including:
        - Tonnage-grade estimate for B4-7 nickel-copper-PGE zone, Armstrong, Ontario.
        - Resource estimate for the Offset Zone (palladium, platinum, nickel, copper, cobalt deposit) at the Lac des Iles Mine, Ontario.
        - Resource and reserves audits for McCready West and Levack nickel and copper mines, Sudbury, Ontario.
        - Previous resource audits and a preliminary assessment for the Birch Lake copper, nickel and PGE deposit, Duluth Complex, Minnesota.
        - Resource audit for Onaping Depth nickel and copper deposit, Sudbury, Ontario.
        - Previous resource estimate for the Maturi copper, nickel and PGE deposit, 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 in charge of evaluation of advanced properties/projects and 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" for the purposes of NI43-101.

5. I visited the Maturi property on May 17-18, 2006 and the Birch Lake property in November 2003. I have also visited the Maturi Extension property of Duluth Metals Limited (May 17-18, 2006) west adjacent to the Maturi property. I am familiar with the Duluth Complex geology and the area and have carried out mineral potential evaluations in Minnesota, Wisconsin and the upper peninsula of Michigan.

6. I am responsible for all or parts of items 1 to 15, 17 and 19 to 21 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 Maturi and Birch Lake properties, that are the subject of this Technical Report, other than the preparation of independent technical reports on the properties.

9. I have read National Instrument 43-101F1, and the Technical Report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1.

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 20th day of October, 2006

(Signed and sealed)

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

JASON J. COX

I, Jason J. Cox, P.Eng., as an author of this report entitled "Technical Report on the Preliminary Assessment of the Birch Lake and Maturi Projects, Minnesota, USA", prepared for Franconia Minerals Corporation, and dated October 20, 2006, do hereby certify that:

1. I am a Senior Mining Engineer with Scott Wilson Roscoe Postle Associates Inc. of Suite 501, 55 University Ave Toronto, ON, M5J 2H7.

2. I am a graduate of the Queen's University, Kingston, Ontario, Canada, in 1996 with a Bachelor of Science degree in Mining Engineering.

3. I am registered as a Professional Engineer in the Province of Ontario (Reg.# 90487158). I have worked as a Mining Engineer for a total of 10 years since my graduation. My relevant experience for the purpose of the Technical Report is:
    - Review and report as a consultant on more than twenty mining operations and projects around the world for due diligence and regulatory requirements.
    - Planning Engineer to Senior Mine Engineer at three North American mines
    - Contract Co-ordinator for underground construction at an American mine

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 Birch Lake or the Maturi properties.

6. I am responsible for all or parts of all items 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 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 20th day of October, 2006

(Signed and sealed)

Jason J. Cox, P.Eng.

ALFRED S. HAYDEN

I, Alfred S. Hayden, P.Eng., as an author of this report entitled "Technical Report on the Preliminary Assessment of the Birch Lake and Maturi Projects, Minnesota, USA", prepared for Franconia Minerals Corporation, and dated October 20, 2006, do hereby certify that:

1. I am a Consulting Metallurgical Engineer and President of EHA Engineering Ltd., Box 2711 Stn B, Richmond Hill, Ontario, L4E 1A7.

2. I am a graduate of the University of British Columbia, Vancouver, B. C. in 1967 with a Bachelor of Applied Science in Metallurgical Engineering.

3. I am registered as a Professional Engineer and Designated Consulting Engineer in Ontario. I am a Member of the Canadian Institute of Mining, Metallurgy and Petroleum. I have worked as a metallurgical engineer for a total of 39 years since my graduation. My relevant experience for the purpose of the Technical Report is:
    - Mill Engineer to Chief Metallurgist, Eldorado Nuclear Ltd., 1966 – 1976
    - Associate and Senior Associate, A. H. Ross & Associates, Consulting Metallurgical Engineers, 1976 – 1985
    - Partner, E. H. Associates, and President, EHA Engineering Ltd., Consulting Metallurgical Engineers, 1985 to Present.

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 Birch Lake or the Maturi properties.

6. I am responsible for Item 16 and parts of Item 18 (pertaining to process capital and operating costs) 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 provided previous consulting services to Franconia Minerals relative to metallurgical processing and testwork for the Birch Lake property.

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 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.

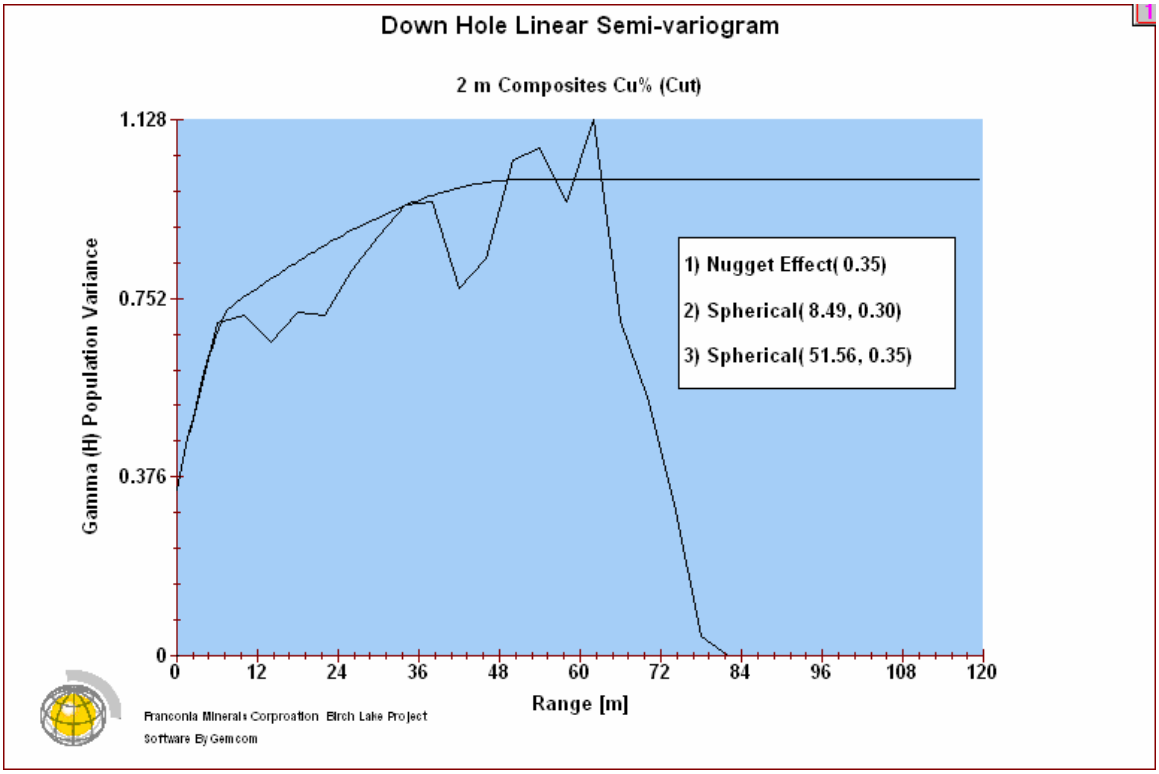
Dated 20th day of October, 2006

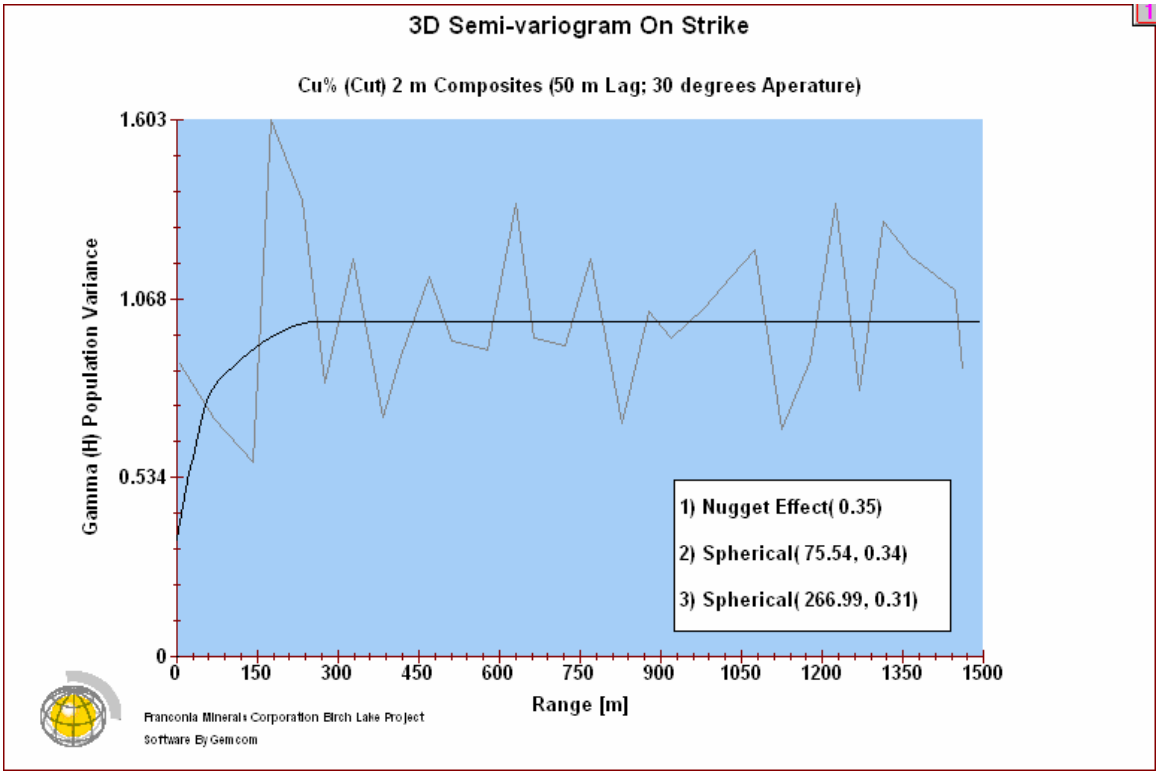
(Signed and Sealed)

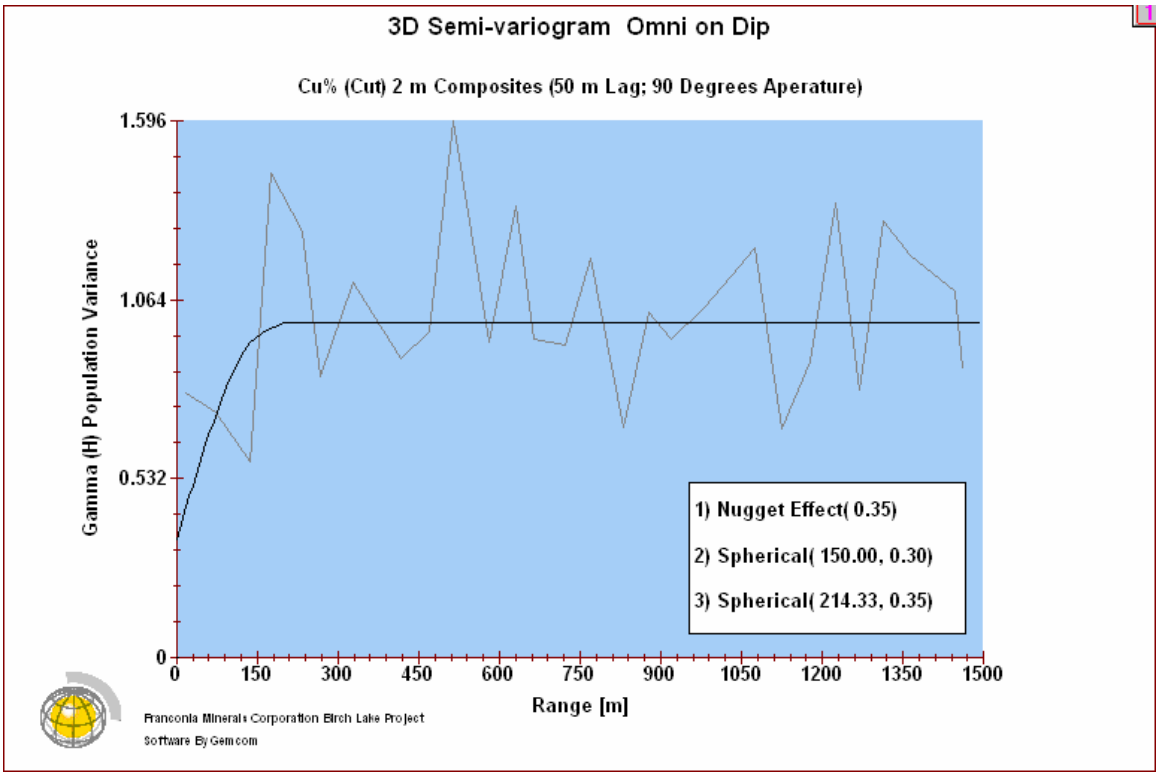
Alfred S. Hayden, P.Eng.

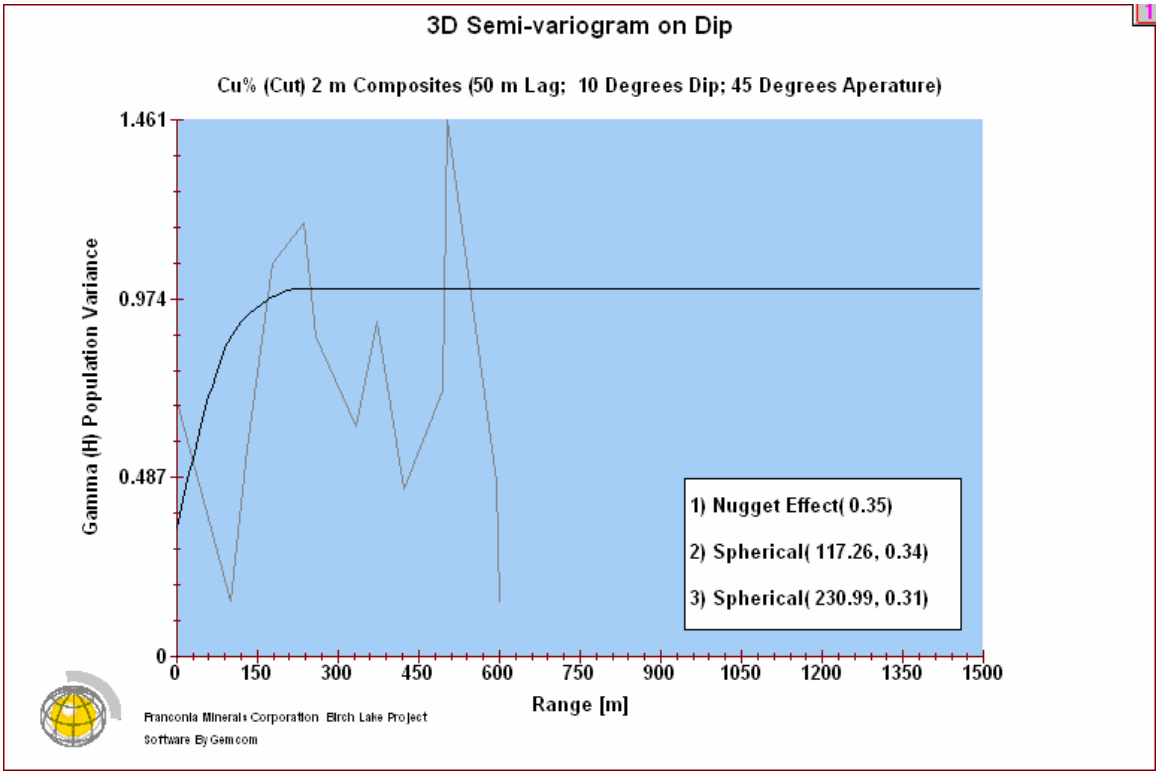
24 APPENDIX 1

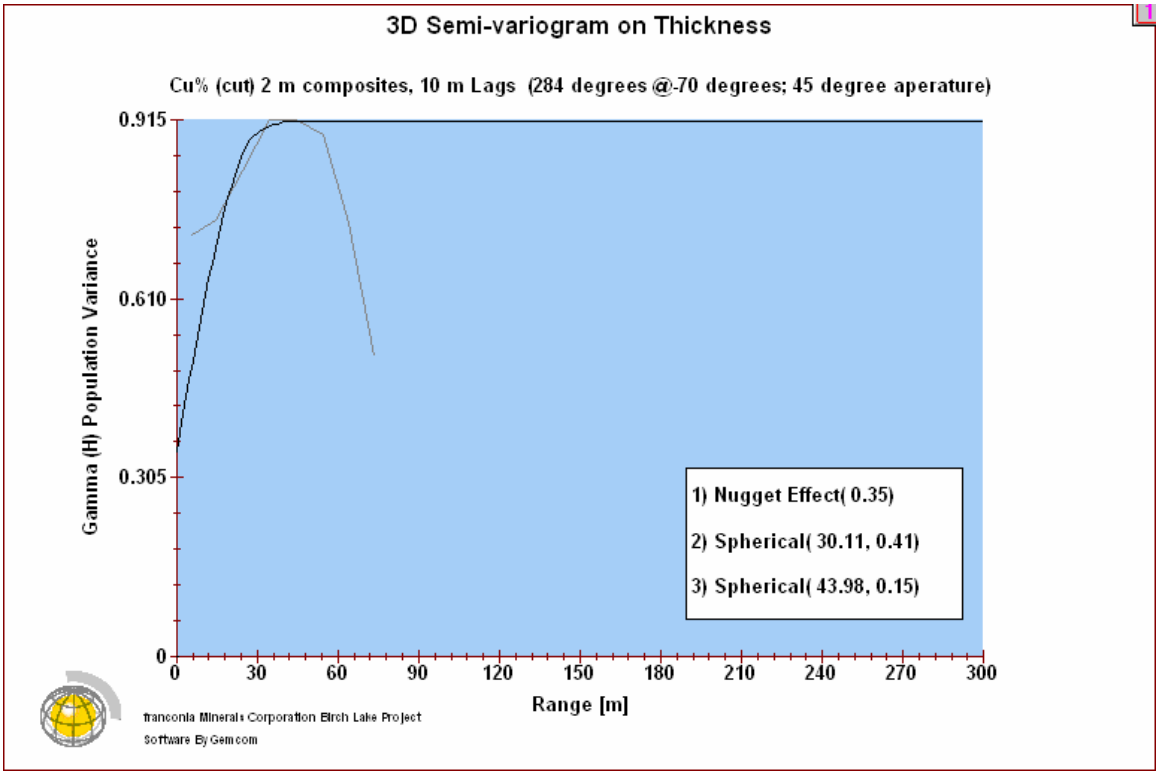
BIRCH LAKE POPULATION VARIANCE NORMALIZED 3 D SEMI-VARIOGRAMS




3D Semi-variogram On Strike
Cu% (Cut) 2 m Composites (50 m Lag; 30 degrees Aperature)
Gamma (H) Population Variance
1.603
1.068
0.534
0
0
150
300
450
600
750
900
1050
1200
1350
1500
Range [m]
1) Nugget Effect(0.35)
2) Spherical(75.54, 0.34)
3) Spherical(266.99, 0.31)
Franconia Minerals Corporation Birch Lake Project
Software By Gemcom


3D Semi-variogram Omni on Dip
Cu% (Cut) 2 m Composites (50 m Lag; 90 Degrees Aperature)
Gamma (H) Population Variance
1.596
1.064
0.532
0
0
150
300
450
600
750
900
1050
1200
1350
1500
Range [m]
1) Nugget Effect(0.35)
2) Spherical(150.00, 0.30)
3) Spherical(214.33, 0.35)
Franconia Minerals Corporation Birch Lake Project
Software By Gemcom


3D Semi-variogram on Dip
Cu% (Cut) 2 m Composites (50 m Lag; 10 Degrees Dip; 45 Degrees Aperature)
Gamma (H) Population Variance
1.461
0.974
0.487
0
0
150
300
450
600
750
900
1050
1200
1350
1500
Range [m]
1) Nugget Effect(0.35)
2) Spherical(117.26, 0.34)
3) Spherical(230.99, 0.31)
Franconia Minerals Corporation Birch Lake Project
Software By Gemcom


3D Semi-variogram on Thickness
Cu% (cut) 2 m composites, 10 m Lags (284 degrees @-70 degrees; 45 degree aperature)
Gamma (H) Population Variance
0.915
0.610
0.305
0
0
30
60
90
120
150
180
210
240
270
300
Range [m]
1) Nugget Effect(0.35)
2) Spherical(30.11, 0.41)
3) Spherical(43.98, 0.15)
franconia Minerals Corporation Birch Lake Project
Software By Gemcom