TECHNICAL REPORT,
UPDATED MINERAL RESOURCE ESTIMATE
AND
PRELIMINARY ECONOMIC ASSESSMENT
OF THE
GOLDEN HIGHWAY PROJECT
WINDJAMMER, SOUTHWEST, GAP AND 55 ZONES
MICHAUD AND GARRISON TOWNSHIPS
NORTH-EASTERN ONTARIO, CANADA

Latitude 48°28' N Longitude 80°02' W

FOR
MONETA PORCUPINE MINES INC.

NI-43-101F1
TECHNICAL REPORT

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P&E Mining Consultants Inc.
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1.0 SUMMARY

Moneta Porcupine Mines Inc. (Moneta) retained P&E Mining Consultants Inc. (P&E) to complete an independent National Instrument 43-101 ("NI 43-101") compliant Technical Report updating an earlier (2011) Resource Estimate and prepare a Preliminary Economic Analysis ("PEA") on the Golden Highway Project (the "Property" or the "Project"), located in Garrison and Michaud Townships, approximately 95 km east of Timmins, Ontario, Canada. The PEA considers the development of the Windjammer (South/Central/North), Gap, Southwest, and 55 Zone pits, and the underground resources on the Southwest Zone.

P&E's updated NI 43-101 compliant mineral resource estimate includes Indicated Resources of 31.1 Mt at a grade of 1.09 g/t Au plus Inferred Resources of 83.3 Mt at a grade of 1.20 g/t Au with an open pit cut-off grade of 0.37 g/t gold, and an underground cut-off grade of 2.00 g/t gold (Moneta press release, October 25, 2012). The PEA results released on November 1, 2012 estimate potentially economic portions of the mineral resources, before dilution and mine extraction, that include combined open-pit and underground Indicated Resources of 27.1 Mt at a grade of 1.15 g/t Au totalling 1.0 Moz and Inferred Resources of 68.4 Mt at a grade of 1.27 g/t Au totalling 2.8 Moz. Potentially economic resources are at cut-off grades of 0.40 g/t and 2.0 g/t Au for open-pit and underground resources respectively.

Previously, P&E completed an independent NI 43-101 compliant Technical Report and Resource Estimate that was released in December 2011 and filed on SEDAR in January 2012. The current report provides an independent PEA on the Project for open-pit and underground mining based on an updated Resource Estimate that incorporates 21,000 m of drilling since the previous Resource Estimate. The updated Resource Estimate that was released in October 2012 and documented in the current report encompasses the Windjammer (South, Central and North), Gap, Southwest, and 55 Zones. All prior Resource Estimates are now superseded by the current P&E Resource Estimate. The PEA considers a combined open pit and underground mining operation at 25,000 tpd that could recover 3.3 M ounces of gold over a 10.7 year mine life. In the proposed mine plan, maximum annual production of approximately 344,000 recovered ounces is achieved in Year 4.

The PEA and updated Resource Estimate have been prepared in compliance with NI 43-101 and Form 43-101F1 which require that all estimates be prepared in accordance with the "CIM Definition Standards on Mineral Resources and Mineral Reserves as prepared by the CIM Standing Committee on Reserve Definitions" and in effect as of the effective date of this report.

1.1 MINERAL RESOURCE ESTIMATE

The PEA incorporates P&E's recent NI 43-101 estimate of Indicated Resources of 31.1 Mt at a grade of 1.09 g/t Au plus Inferred Resources of 83.3 Mt at a grade of 1.20 g/t Au (press release October 25, 2012). Table 1.1 summarizes the NI 43-101 Mineral Resource Estimate in the Indicated and Inferred Resource categories for an open pit cut-off grade of 0.37 g/t gold, and an underground cut-off grade of 2.00 g/t gold. As noted above the Resource Estimate encompasses the Windjammer (South, Central and North), Gap, Southwest, and 55 Zones.

TABLE 1.1 MINERAL RESOURCE ESTIMATE							
Mining	**Cut-off Grade**	**Indicated**			**Inferred**		
	(g/t)	**Tonnes**	**Au (g/t)**	**Au (oz)**	**Tonnes**	**Au (g/t)**	**Au (oz)**
Open Pit	0.37	30,000,000	1.01	977,000	71,627,000	0.86	1,971,000
Underground	2.00	1,080,000	3.29	114,000	11,684,000	3.28	1,233,000
Combined		**31,080,000**	**1.09**	**1,091,000**	**83,311,000**	**1.20**	**3,204,000**

Notes:

(1) The mineral resources in the October 25, 2012 press release and this Report were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council.

(2) Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the estimated Mineral Resources will be converted into Mineral Reserves.

(3) Assay composites were capped up to 35 g/t based on geo-statistical support for each zone.

(4) A modeling cut-off grade of 0.25 g/t Au was only used to create a three-dimensional wireframe for subsequent interpolation.

(5) A block model was created with 10x10x10 m blocks using inverse distance cubed grade interpolation.

(6) Indicated Mineral resources were classified with a 35 m search radius and a minimum of two drill holes.

(7) A bulk density of 2.79 t/m³ was used for all tonnage calculations.

(8) A gold price of US$1,200/oz and an exchange rate of US$0.95 = CDN$1.00 was utilized in the Au cut-off grade calculations of 0.37 g/t for open pit and 2.0 g/t for out of pit.

(9) Open pit mining costs were assumed at C$1.60/t for mineralized material, C$1.60/t for waste rock and C$1.25/t for overburden, while out of pit mining costs were assumed at C$62/t, with process costs of C$11/t, G&A of C$2.00/t, and a 93% metallurgical recovery.

(10) Totals in the table may not sum due to rounding.

1.1.1 Potentially Economic Portion of the Mineral Resources

A Potentially Economic Portion of the Mineral Resources was estimated as a basis for this Preliminary Economic Assessment of the Property. The Potentially Economic Portion of the Mineral Resources, before dilution and mine extraction, is summarized in Table 1.2.

TABLE 1.2 POTENTIALLY ECONOMIC PORTION OF THE MINERAL RESOURCES BEFORE DILUTION & EXTRACTION							
Mining	**Cut-off Grade (g/t)**	**Indicated**			**Inferred**		
		Tonnes	**Au (g/t)**	**Au (oz)**	**Tonnes**	**Au (g/t)**	**Au (oz)**
Open Pit	0.40	25,859,000	1.050	873,000	56,909,000	0.890	1,628,000
Underground	2.00	1,279,000	3.150	130,000	11,510,000	3.150	1,166,000
Combined		**27,138,000**	**1.150**	**1,003,000**	**68,419,000**	**1.270**	**2,794,000**

Notes:

(1) Potentially Economic Portions of the Mineral Resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.

(2) The quantity and grade of reported Inferred resources in this estimation are uncertain in nature and there has been insufficient exploration to define them as an Indicated or Measured mineral resource and it is uncertain if further exploration will result in upgrading them to an Indicated or Measured mineral resource category.

(3) The Potentially Economic Portion of the Mineral Resources were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions

and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council.

(4) Mineral resources are reported in relation to conceptual pit shells. All composites have been capped where appropriate.

(5) Potentially economic open pit portions of the mineral resources are undiluted and reported at a cut-off grade of 0.40 g/t gold. Potentially economic underground portions of the mineral resources are undiluted and reported at a cut-off grade of 2.00 g/t gold. Optimized cut-off grades are based on a gold price of US$1,350 per ounce and a foreign exchange rate of US$0.95 = CDN$1.00. Metallurgical recoveries are 92%.

The Potentially Economic Portion of the Mineral Resources contains Inferred Mineral Resources which have not been sufficiently drilled to confidently demonstrate economic viability. In addition, the work undertaken to date on the potential mining and milling operation at the Property is considered to be at conceptual levels of study only. As such, and according to the NI 43-101 Regulations, it is not possible to declare a mineral reserve of any kind.

The underground Potentially Economic Portion of the Mineral Resources was diluted by 20% and has a 75% mine extraction factor applied. The open pit Potentially Economic Portion of the Mineral Resources was diluted by 8.3% and has a 98% mine extraction factor applied. The Potentially Economic Portion of the Mineral Resources, after dilution and mine extraction, is summarized in Table 1.3.

TABLE 1.3
POTENTIALLY ECONOMIC PORTION OF THE MINERAL RESOURCES AFTER DILUTION & EXTRACTION

Mining	Indicated			Inferred		
	Tonnes	Au (g/t)	Au (oz)	Tonnes	Au (g/t)	Au (oz)
Open Pit	27,453,300	1.003	885,200	60,417,600	0.855	1,661,300
Underground	1,151,100	2.721	100,700	10,358,700	2.721	906,100
Combined	**28,604,400**	**1.072**	**985,900**	**70,776,300**	**1.128**	**2,567,400**

Notes:

(1) Potentially Economic Portions of the Mineral Resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.

(2) The quantity and grade of reported Inferred resources in this estimation are uncertain in nature and there has been insufficient exploration to define them as an Indicated or Measured mineral resource and it is uncertain if further exploration will result in upgrading them to an Indicated or Measured mineral resource category.

(3) The Potentially Economic Portion of the Mineral Resources was estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council.

(4) Mineral resources are reported in relation to conceptual pit shells. All composites have been capped where appropriate.

(5) Potentially Economic Portions of the Mineral Resources which are Open Pit mineable are reported at a cut-off grade of 0.40 g/t gold. Potentially Economic Portions of the Mineral Resources which are mined by underground mining methods are reported at a cut-off grade of 2.00 g/t gold. Optimized cut-off grades are based on a gold price of US$1,350 per ounce and a foreign exchange rate of US$0.95 = CDN$1.00 Metallurgical recoveries are 92%.

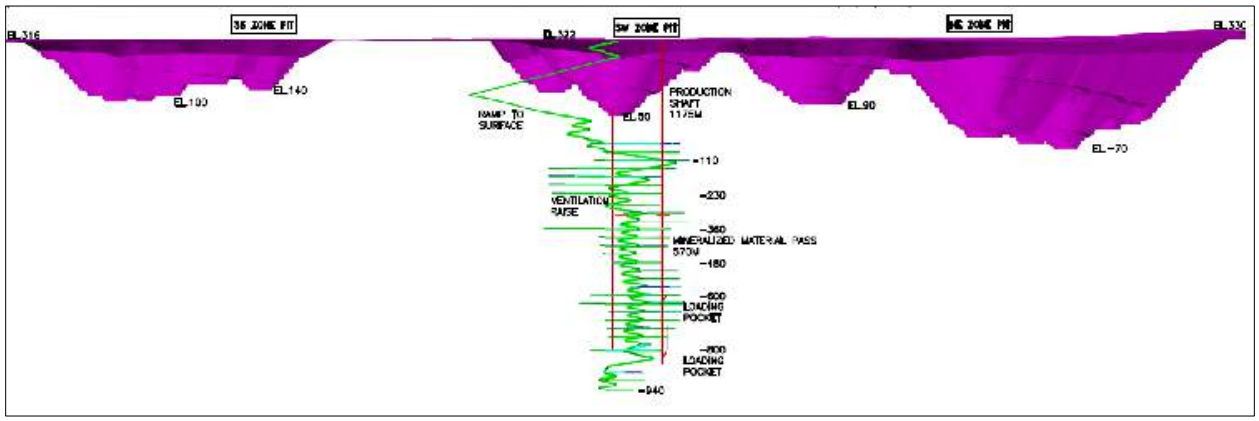
(6) The Potentially Economic Portion of the Mineral Resources which are Open Pit mineable were diluted by 8.3% and have a 98% mine extraction factor applied. The Potentially Economic Portion of the Mineral Resources which are which are mined by underground mining methods have been diluted by 20% and have a 75% mine extraction factor applied.

The diluted and extracted Potentially Economic Portion of the Mineral Resources was used as the basis for this Preliminary Economic Assessment of the Property.

1.2 CONCEPTUAL MINING PLAN

The mineralized deposits of the Moneta`s Golden Highway Project will be mined by a combination of conventional open pit methods applied to mineralization located closer to surface, and underground retreat long-hole methods for mineralization located at depth (Figure 1.1).

Figure 1.1 Longitudinal Section Though Mining Areas



The mining methods and production capacity have been chosen to match an ultimate milling throughput rate of 25,000 tpd. This total will be composed of 22,000 tpd from the open pit and 3,000 tpd from the underground mine.

1.3 OPEN PIT

There will be three conventional open pits, namely the 55 Zone Pit, the SW Zone Pit and the NE Zone Pit, each utilizing proven open pit mining equipment and drill/blast/load/haul technologies. The open pits are scheduled to produce approximately 22,000 tpd.

The ultimate 55 Zone Pit would measure approximately 1.2 km long by 0.6 km wide and have an ultimate depth of approximately 220 m. The ultimate SW Zone Pit would measure approximately 0.9 km long by 0.8 km wide and have an ultimate depth of approximately 273 m. The ultimate NE Zone Pit would measure approximately 2.3 km long by 1.1 km wide and have an ultimate depth of approximately 396 m. A section and plan of the pits are presented in Figure 1.1. The northeast open pit would be developed in three phases. The two other open pits will be developed as single phases.

Figure 1.2 Ultimate Open Pits Longitudinal Cross Section

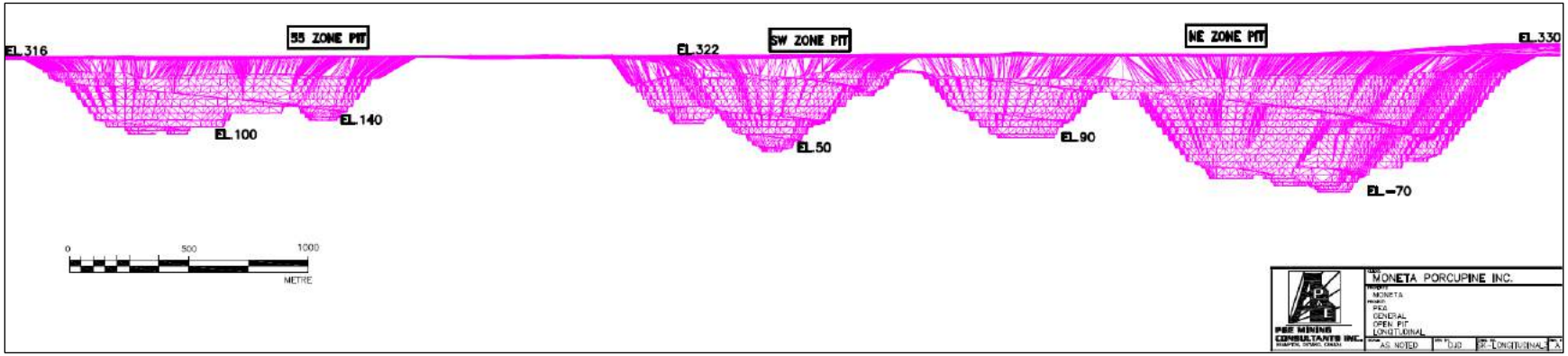
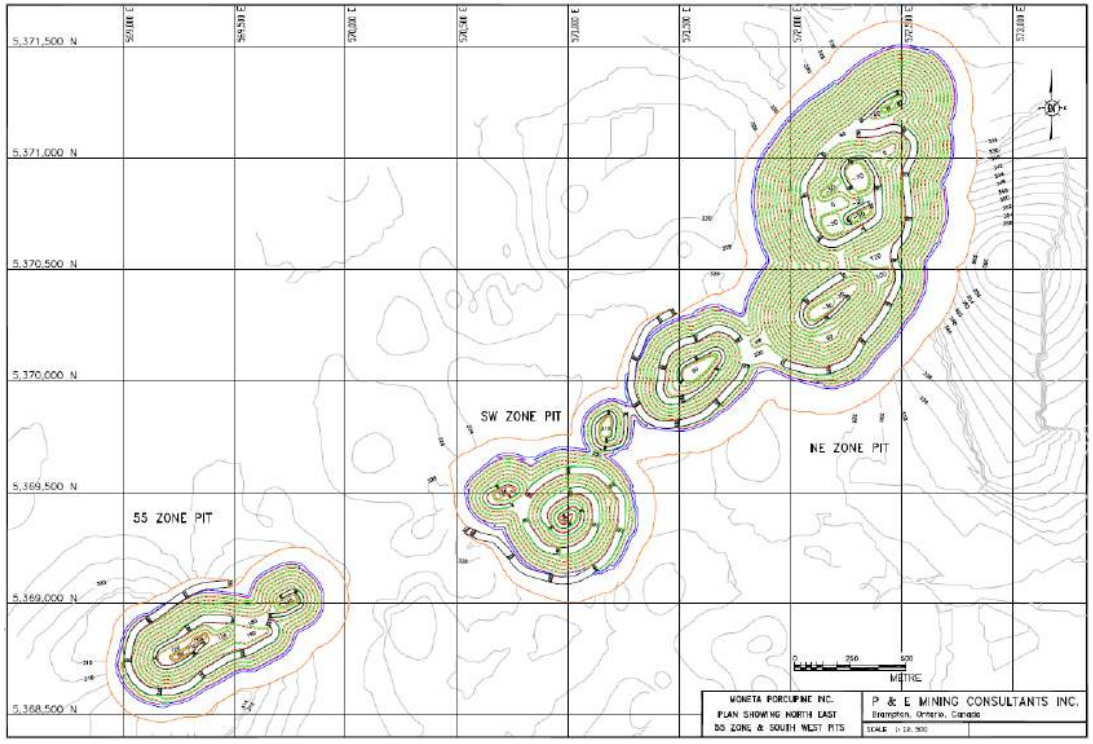


Figure 1.3 Ultimate Open Pits Plan



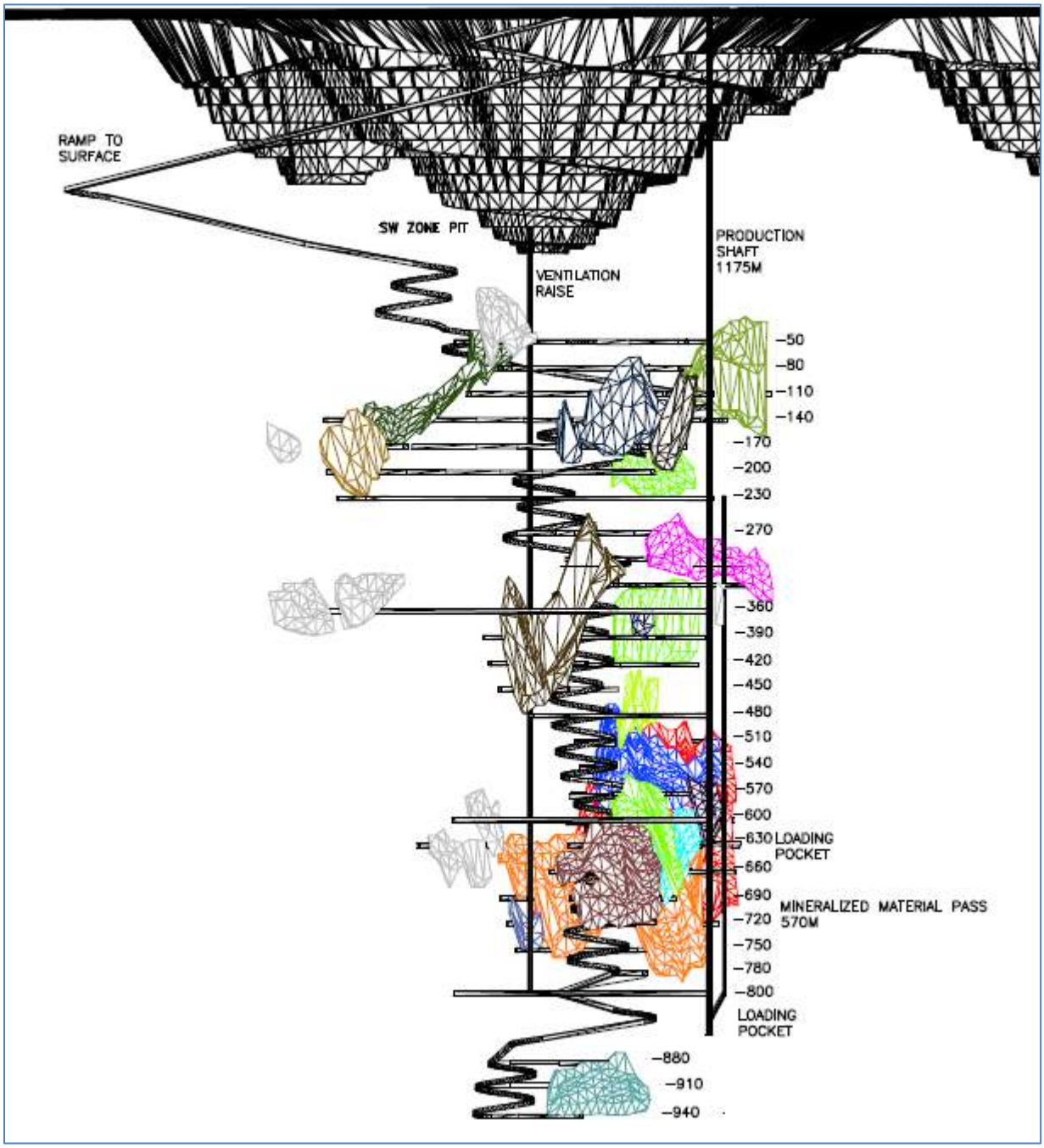
The open pit mine would be an owner-operator enterprise, which would have the assistance of a licensed explosives and blasting accessories supplier and contractor. The blasted rock would be excavated and hauled using the mine owner's labour and equipment. The waste rock would be hauled to the mine waste rock disposal areas and the Potentially Economic Portion of the Mineral Resources would be hauled to the primary crusher.

The key mining equipment would include three 45 cubic metre diesel-powered hydraulic excavators, fifteen 320 tonne capacity haulage trucks and four track mounted diesel powered drill rigs. The proposed ancillary mobile equipment includes a road grader, a water/sander truck, bulldozers, a wheel dozer, a fuel/lubrication truck, field service trucks vehicles and pick-up trucks.

1.4 UNDERGROUND MINE

An underground mining operation would access and extract the Potentially Mineable Portion of the Mineral Resources located at depth and below the proposed SW Zone open pit (Figure 1.4).

Figure 1.4 Longitudinal Section through the Underground Mine



The reference surface elevation in the vicinity of underground mine has been designated by the Project owner as +320 m above sea level. Level designations for the underground mine are based on the vertical distance of the levels from sea level.

Initial access to the underground deposit will be via a portal and decline with an inclination of -15%. This decline will connect with the -230 m level, at a total vertical depth of 550 m. Mining of the potentially mineable mineral resources located above this elevation will be via the decline for access and haulage of material to surface. Concurrent with production from the decline, a circular, concrete lined vertical shaft measuring approximately 6.5 m in diameter, will be constructed from surface down to a depth of 1,170 m. It is expected that this shaft and its

associated hoisting and support facilities will be commissioned in Year 3, allowing production to commence down to the -940 m level. The shaft facility is envisaged to have two loading pocket stations: one below the -600 m level; and a second below the -800 m level (1,120 m below surface). Material mined between this level and the bottom of the ramp at the -940 m level, will be hauled up the main ramp to the loading pocket on the -800 m level.

A conceptualized mining plan has been developed using mechanized trackless mining equipment. The primary mining method envisaged for the underground mining operation is conventional longitudinal longhole retreat with paste backfill Sub-levels will be driven 30 m vertically apart. Sublevel drifts would be developed to the full width of the Potentially Economic Portion of the Mineral Resources. These drifts would provide access for the successive operations of slot raise development; blasthole drilling and blasting, load/haul/dump ("LHD") mucking, and backfill placement. The stopes would be backfilled primarily with cemented paste backfill, supplemented with development waste rock.

Initially mineralized rock will be mined above the -230m level and hauled to surface via the decline. Shaft development and sinking will start at the beginning of the production period. The shaft will be commissioned 30 months later. Once the shaft is commissioned, both the -600m and -800m level loading pocket levels will be established and the shaft will become the primary route for delivering materials to surface.

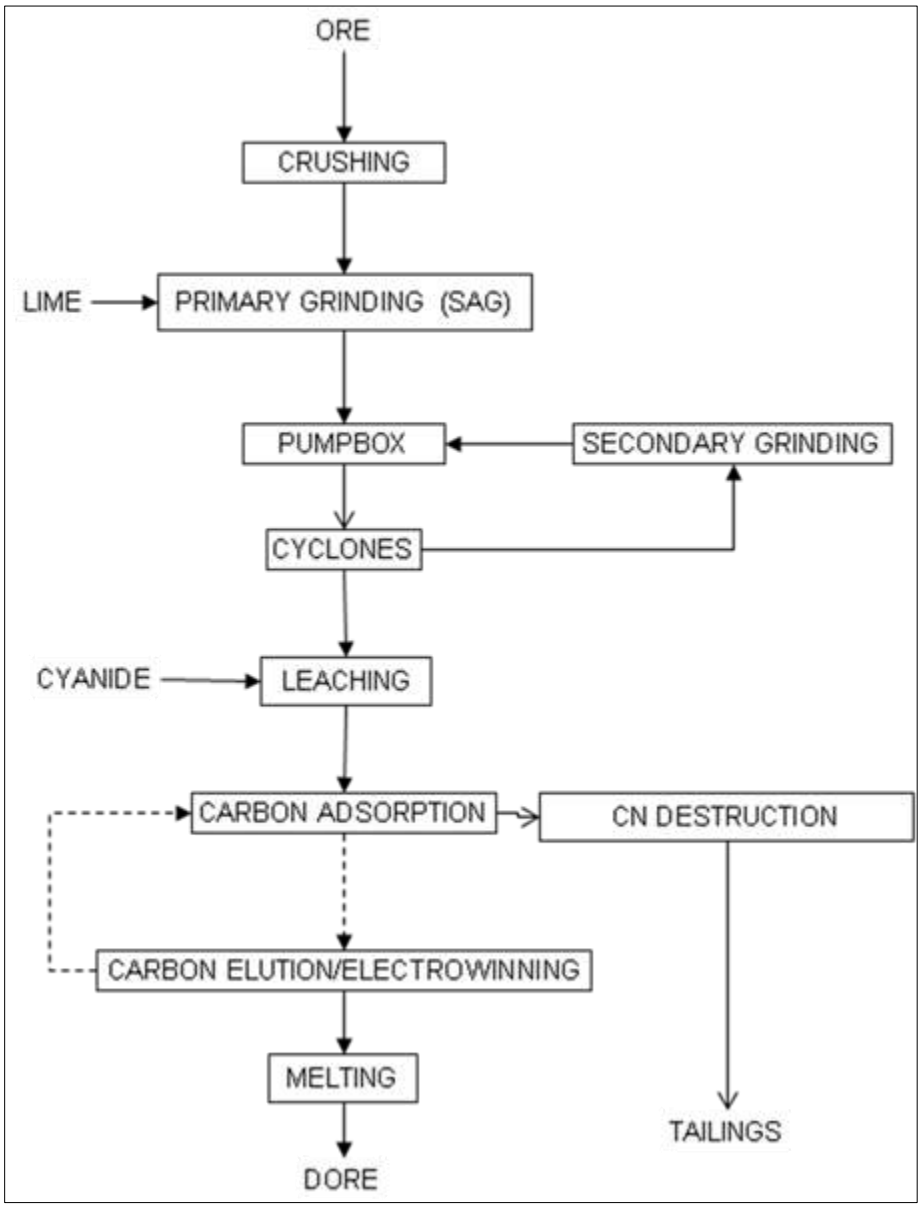
It is estimated that approximately 289 stopes would be mined over the mine life.

1.5 PROCESS PLANT

The results from the SGS testwork are the basis for the preliminary process design and preliminary economic assessment. The testwork indicates that the deposit is amenable to conventional cyanidation processing and that gravity concentration is not likely to be required.

A conventional process plant flowsheet consisting of cyanidation followed by a carbon-in-pulp circuit (CIP) was selected including crushing and grinding to a 100 micron grind at an annual rate of 8.75 million tpa (25,000 tpd) (Figure 1.5).

Figure 1.5 Process Flow Sheet



Mineralized development rock extraction and processing commences in the 31st month following the commencement of project development with full production starting during the 43rd month at a production rate of 25,000 tpd.

Selected design parameters for the study are shown in Table 1.4.

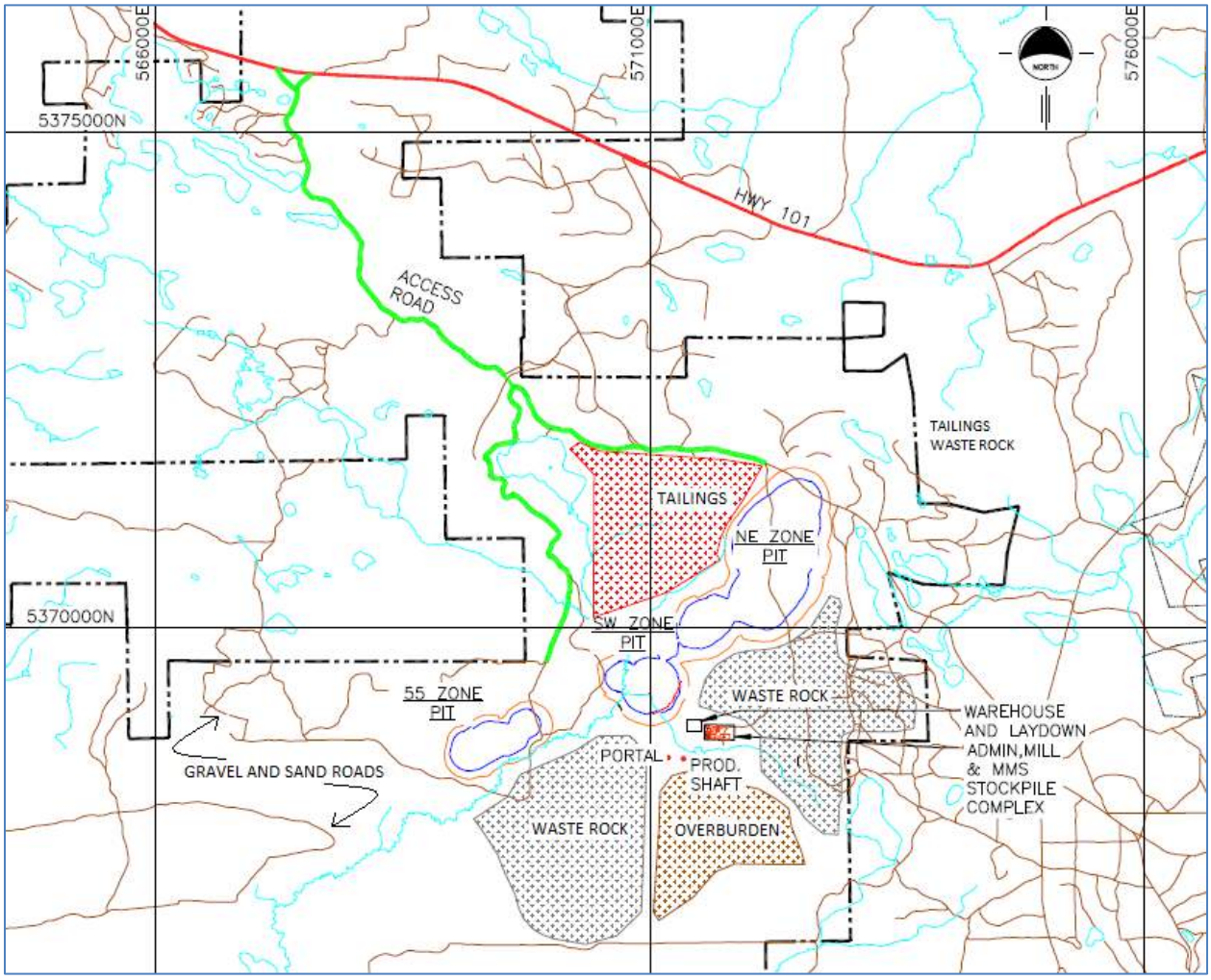
TABLE 1.4 PROCESS PLANT - SELECTED DESIGN PARAMETERS		
Parameter	**Value**	**Units**
Bond ball mill index	17.4	kWh/t
Grind (K80)	74	microns
Gold recovery (overall)	92	%
Total cyanidation time	**24**	**h**

Crushed ore is ground to a K80 of 74 microns in a two stage grinding circuit at an average rate of approximately 25,000 tpd (8,750,000 tpa). Ground product from the grinding circuit is fed to a cyanidation/CIP circuit for gold extraction. A conventional carbon elution circuit recovers gold which is smelted to yield a doré product.

1.6 SITE INFRASTRUCTURE

The Project has access to the substantial infrastructure, services and skilled labour in the Timmins mining area, located approximately 95 km to the west, as well as from the mining town of Kirkland Lake, located approximately 85 km to the South. The project site is accessible year-round from the paved provincial Highway 101 and a network of gravel and sand logging roads. The proposed mill complex area is located south of the central area of the open pits and near the underground mine shaft and portal. Waste rock storage areas and the overburden storage pile are conveniently located adjacent to the open pits. Esker ridges form natural containment dykes for at least two sides of the proposed tailings management facility. These and other nearby eskers contain significant quantities of coarse gravel and small boulder material which can be used for road upgrades and as infrastructure construction materials.

Figure 1.6 Site Plan



The site facilities will include a shaft headframe and hoist room/compressor building; a process plant; a paste backfill plant and distribution system; the tailings storage facility, waste rock disposal sites; site roads; surface parking areas; fuel, lubricates and oil storage facilities; surface explosive magazines; yard piping; the fire prevention and fighting system; the potable water treatment plant and storage tanks; the tailings water treatment plant and pond and the water management pond building and site run-off. Electrical power would be supplied by a 10 km long transmission line (from the property site to a point two km south of the intersection of Highways 101 and 672) connecting to the provincial grid. Overburden from the eastern Windjammer pit will be suitable for certain construction purposes such as building and raising tailings dams.

Approximately 9% of mill tailings would be used in the production of underground paste backfill. The remainder would be disposed in the TS.

1.7 ENVIRONMENTAL IMPACT AND REHABILITATION

Moneta has not yet commenced formal discussions with regulatory authorities in regard to environmental assessment and permitting requirements necessary for production. The environmental assessment and permitting process for mines in Ontario is well-established.

Rehabilitation measures will be designed to ensure the long-term physical and chemical stability of the site in accordance with Ontario's closure plan approval process. The rehabilitation measures would return the site to a productive land use status.

Moneta has started to develop an environmental baseline database and anticipates that it will commence initial consultations with regulators, and progress with First Nation communities and other interested people in the near future. The terms of reference for the environmental assessment of the proposed producing mine and mill have yet to be established. The Project would be developed, operated and closed in accordance with environmental and health and safety regulatory requirements.

1.8 CAPITAL COSTS

All costs during the pre-production period are capitalized except for some underground operating and service costs, process plant operating costs and G&A costs. The pre-production period begins with the start of the process plant construction and lasts for approximately 3.2 years until the open pit is being mined at a combined 75 M tonnes of overburden, waste rock and mineralized rock per year, and the underground mine is mining at a planned 875,000 tpy (2,500 tpd). The total capital cost of the project is estimated to be approximately $1,014 M. This is composed of $607 M in pre-production capital and $407 M in sustaining capital.

Pre-production capital costs include the cost of all surface buildings, structures and related facilities; open pit pre-stripping; open pit equipment leasing; mine and stope development between the 0 m and -140 m levels; ramp development from surface to the -140 m levels (460 m vertical); some underground mining equipment; surface mobile equipment and electrical power supply infrastructure and some underground infrastructure. A summary of pre-production capital costs is presented in Table 1.5.

TABLE 1.5
PRE-PRODUCTION CAPITAL COSTS (M$)

Description	Year				Total
	-4	-3	-2	-1	
Open Pit Overburden & Waste Stripping			68.8	144.2	213.0
Open Pit Equipment Down Payment			8.6	11.2	19.8
U/G Mining Cost			0.0	9.2	9.2
Underground Development		4.8	16.4	12.3	33.6
Underground Equipment			10.4	12.8	23.2
Process Plant	29.2	131.4	131.4		291.9
Surface Infrastructure			2.0	13.8	15.8
U/G Infrastructure				0.6	0.6
Total Capital	**29.2**	**136.2**	**237.6**	**204.1**	**607.1**

Note: *Some values have been rounded. The totals are accurate summations of the columns and rows of data.*

The production period starts once the open pit mines reach a combined steady-state production of 75 M tonnes of overburden, waste rock and mineralization per year, and the underground mine reaches a production of 2,500 tpd mineralized rock. Sustaining capital costs during this period include open pit overburden stripping; open pit equipment leasing; underground development; some underground mining equipment; the underground shaft, some underground infrastructure, a salvage credit and closure costs. A summary of sustaining capital costs is presented in Table 1.6.

TABLE 1.6
SUSTAINING CAPITAL COSTS (M$)

Description	Year											Total
	1	2	3	4	5	6	7	8	9	10	11	
Open Pit Overburden Stripping	20.8	33.8	15.4	7.2		9.4	36.6	17.9	2.1			143.1
Open Pit Equipment Leasing	26.9	26.9	26.9	26.9	26.9							134.6
Underground Development	8.9	20.8	11.7	17.1	17.9	7.4	7.9	8.8	16.6	10.6	3.6	131.4
Underground Equipment	2.4											2.4
Shaft	27.6	27.6	13.8									69.0
U/G Infrastructure	5.6											5.6
Salvage											-89.1	-89.1
Closure											10.0	10.0
Total Capital	**92.2**	**109.1**	**67.8**	**51.2**	**44.9**	**16.8**	**44.6**	**26.7**	**18.7**	**10.6**	**-75.5**	**407.0**

Note: *Some values have been rounded. The totals are accurate summations of the columns and rows of data.*

1.9 OPERATING COSTS

Operating costs include open pit and underground operating and service costs, process plant operating costs and G&A costs. Operating costs include the cost of operating labour, maintenance labour, electrical power, operating materials and supplies, reagents and fuel. The yearly operating cost varies from $13.22 per tonne milled in Year -1 to $27.46 per tonne milled in Year 10. A summary of the average operating costs for the Project is provided in Table 1.7. Note that the underground and open pit mining costs have each been prorated to an average cost per tonne milled by spreading the costs over the combined open pit and underground feeds to the mill.

Not all costs are capitalized during the pre-production period. Some underground operating and service costs, process plant operating costs and G&A costs are excluded and included in the operating cost summary.

TABLE 1.7
SUMMARY OF AVERAGE OPERATING COST PER TONNE MILLED

Description	$/t Milled	
	P&P Tonnes[3]	P Tonnes[4]
Open Pit -Waste	6.93	7.43
-Mineralization	1.24	1.33
Total Open Pit	8.17	8.75
Underground Stope Mining	3.23	3.33
U/G Truck Haulage -U/G to Surface	0.06	0.05
U/G Truck Haulage – Surface to Mill	0.06	0.06
U/G Hoisting Services	0.11	0.11
Process Cost	10.34	10.34
G&A Cost	0.52	0.50
Total Operating	**22.49**	**23.15**

(1) Some values have been rounded. The totals are accurate summations of the columns and rows of data
(2) Underground and open pit mining costs have each been prorated to an average cost per tonne milled by spreading the costs over the combined open pit and underground feeds to the mill.
(3) 'P&P Tonnes'= all pre-production and production period tonnes;
(4) 'P Tonnes'= production period tonnes only

1.10 FINANCIAL EVALUATION

The project was evaluated on a pre-tax cash flow basis which generates a net cash flow of $1,398.9 million. This results in a pre-tax Internal Rate of Return (IRR) of 24.4% and a pre-tax Net Present Value (NPV) of $747.7 million when using a 5% discount rate. In the base case (US$1,350/oz Au) scenario, the project has a payback period of 3.1 years from the start of commercial production (end of pre-production period). The average life-of-mine cash cost is $680 per oz of gold, at an average operating cost of $22.49 per tonne of mineralized rock processed.

There is no guarantee that Moneta will be successful in obtaining any or all of the requisite consents, permits or approvals, regulatory or otherwise for the Project to be placed into production. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

The summary of the results of the cash flow analysis is presented Table 1.8.

TABLE 1.8
BASE CASE (US$1,350/OZ AU)CASH FLOW ANALYSIS

Description	Discount Rate	Units	Value
Non Discounted Pre-Tax CF		(M$)	1,398.9
Internal Rate of Return		%	24.4%
NPV at	0%	(M$)	1,398.9
	5%	(M$)	747.7
	7%	(M$)	578.6
	10%	(M$)	388.0
Project Payback Period in Years		Years	3.1

1.11 CONCLUSIONS AND RECOMMENDATIONS

P&E recommends that Moneta advance the project with:

- Infill drilling to upgrade Mineral Resources;
- Exploration drilling to extend Mineral Resources;
- Geological and mineralogical studies (including acid base accounting), metallurgical and geotechnical testwork to advance technical aspects of the project toward prefeasibility requirements;
- Environmental programs including aquatic, terrestrial, hydrology, and groundwater to provide data for permitting;
- First Nation and stakeholder consultation.

An infill drilling program of 30,000 m is recommended to improve confidence in the mineral resources with the primary objective of improved definition of zones and upgrading Inferred to Indicated Resources. A 60,000 m exploration drilling program is recommended to expand the mineral resources. Drilling should be allocated to the following target areas: undrilled areas within the conceptual pits; down dip extensions of known zones especially the 55, Gap, and Windjammer Zones; and strike extensions of known zones along the mineralized trend. The expansion potential for higher grade resources of the Southwest Zone both to depth and laterally also warrants drill testing.

This PEA is preliminary in nature as it includes Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves and there is no certainty that this PEA will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

TABLE 1.9
RECOMMENDED PROGRAM AND BUDGET

Program	Units (m)	Unit Cost ($/m)	Budget
Mine Property General			
Infill Drilling Program	60,000	$135	$8,100,000
Exploration Drilling	30,000	$135	$4,050,000
Metallurgical Testwork			$250,000
Geological & Mineralogical Studies			$50,000
Environmental Study Work-Aquatic, Terrestrial, Hydrology, Ground Water, Water Quality			$325,000
First Nation Consultation and Archaeological Study			$85,000
Geotechnical and Condemnation Drilling	3,000	$250	$750,000
Total			**$13,610,000**

2.0 INTRODUCTION AND TERMS OF REFERENCE

2.1 TERMS OF REFERENCE

Moneta Porcupine Mines Inc. (Moneta) retained P&E Mining Consultants Inc. (P&E) to complete an independent NI 43-101 compliant Technical Report, updated Resource Estimate and to prepare a Preliminary Economic Analysis (PEA) on the Golden Highway Project (the Property' or 'the Project'), located in Garrison and Michaud Townships, approximately 95 km east of Timmins, Ontario, Canada. The PEA considers the development of the Windjammer (South/Central/North), Gap, Southwest, and 55 Zone pits, and underground resources.

The current P&E Resource Estimates presented in this report have been prepared in full conformance and compliance with the "CIM Standards on Mineral Resources and Reserves – Definitions and Guidelines" as referred to in National Instrument (NI) 43-101 and Form 43-101F, Standards of Disclosure for Mineral Projects and in force as of the effective date of this report.

This report was prepared by P&E Mining Consultants Inc., at the request of Mr. Ian C. Peres, President and CEO of Moneta, an Ontario registered company trading under the symbol of "ME" on the TSX Exchange with its corporate office at

Moneta Porcupine Mines Inc.
65 Third Avenue
Timmins, ON
P4N 1C2

This report is considered current as of November 1, 2012.

Mr. Antoine Yassa, P.Geo., a qualified person under the terms of NI 43-101, conducted a site visit of the Property on November 26, 2011 and August 23, 2012. A data verification sampling program was conducted as part of the on-site review. Mr. Eugene Puritch, P.Eng., a qualified person under the terms of NI 43-101 conducted a site visit on October 9, 2012.

This PEA is preliminary in nature as it includes Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves and there is no certainty that the PEA will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

2.2 SOURCES OF INFORMATION

This report is based, in part, on internal company technical reports, and maps, published government reports, company letters and memoranda, and public information as listed in the "References" section at the conclusion of this report. P&E has not conducted detailed land status evaluations, and has relied upon existing reports, public documents, and statements by previous owners regarding the property tenure and status, third party agreements, and legal title to the Property. Additional details of the topic can be found in the public filings of Moneta, available on SEDAR at www.sedar.com

The present Technical Report is prepared in accordance with the requirements of National Instrument 43-101 (NI 43-101) and in compliance with Form NI 43-101F1 of the Ontario Securities Commission (OSC) and the Canadian Securities Administrators (CSA). The Resource Estimate is prepared in compliance with the CIM Definitions and Standards on Mineral Resources and Mineral Reserves, which are in force as of the effective date of this report.

2.3 UNITS AND CURRENCY

Unless otherwise stated all units used in this report are metric. Gold assay values (Au) are reported in grams of metal per tonne ("g/t Au") unless troy ounces per short ton ("oz/T Au") are specifically stated. The conversion factor from oz/T to g/t is 34.285. The CDN$ is used throughout this report unless the US$ is specifically stated. In this report an exchange rate of US$0.95=CDN$1.00 was used for the Resource Estimate along with a gold price of US$1,200/oz. Potentially economic portions of the resource were evaluated at an exchange rate of US$0.95=CDN$1.00 with a gold price of US$1,350/oz. This PEA has been evaluated at US$1,350/oz gold to reflect the higher trailing average in the price of gold since the resource was initially estimated in December 2011.

2.4 GLOSSARY AND ABBREVIATION OF TERMS

The following list shows the meaning of the abbreviations for technical terms used throughout the text of this report.

Abbreviation	Meaning
"Ag"	silver
"As"	arsenic
"Au"	gold
"Barrick"	Barrick Gold Corporation
"BIF"	banded iron formation
"CDN" or "C"	Canadian
"CIL"	carbon-in-leach processing
"CIM"	Canadian Institute of Mining and Metallurgy and Petroleum
"cm"	centimetre(s)
"CSA"	Canadian Securities Administrators
"Cu"	copper
"DDH"	diamond drill hole
"Dfb"	warm summer continental climate zone (Koppen-Geiger climate classification)
"ft"	foot
"g/t"	grams per tonne
"ha"	hectare(s)
"HLEM"	horizontal loop electromagnetic geophysical survey
"ICPOES"	inductively coupled plasma – optical emission spectrometry
"IP/RES"	induced polarization / resistivity geophysical survey
"km"	kilometre(s)
"LOM"	the mine life or "life-of-mine"
"m"	metre(s)
"M"	millions
"Ma"	millions of years

"MAG"	magnetometer geophysical survey
"ML"	mining lease
"MNDM"	(Ontario) Ministry of Northern Development and Mines
"M$"	millions of Canadian dollars
"Newmont"	Newmont Mining Corporation
"NTS"	Not to Scale
"OSC"	Ontario Securities Commission
"oz"	Troy ounces
"P&E"	P&E Mining Consultants Inc.
"PEA"	Preliminary Economic Assessment
"SGS Vancouver"	SGS Minerals Services Geochemical Laboratory in Vancouver, Canada
"t"	metric tonne(s)
"T"	short ton
"tonne"	metric tonne(s)
"Tpd"	metric tonnes per day
"Tpy"	metric tonnes per year
"UTM"	Universal Transverse Mercator Coordinate System

3.0 RELIANCE ON OTHER EXPERTS

P&E has assumed that all of the information and technical documents listed in the References section of this report are accurate and complete in all material aspects. While we have carefully reviewed all of the available information presented to us, we cannot guarantee its accuracy and completeness. We reserve the right, but will not be obligated to revise our report and conclusions if additional information becomes known to us subsequent to the date of this report.

Although copies of the licenses, permits and work contracts were reviewed P&E has not verified the legality of any underlying agreement(s) that may exist concerning the licenses or other agreement(s) between third parties but has relied upon the efficacy of the legal due diligence process conducted by the legal counsel(s) to Moneta. An independent verification of land title and tenure was performed using the Ministry of Ontario's CLAIMaps III website (for unpatented and leased claims only, patented claim information is not available).

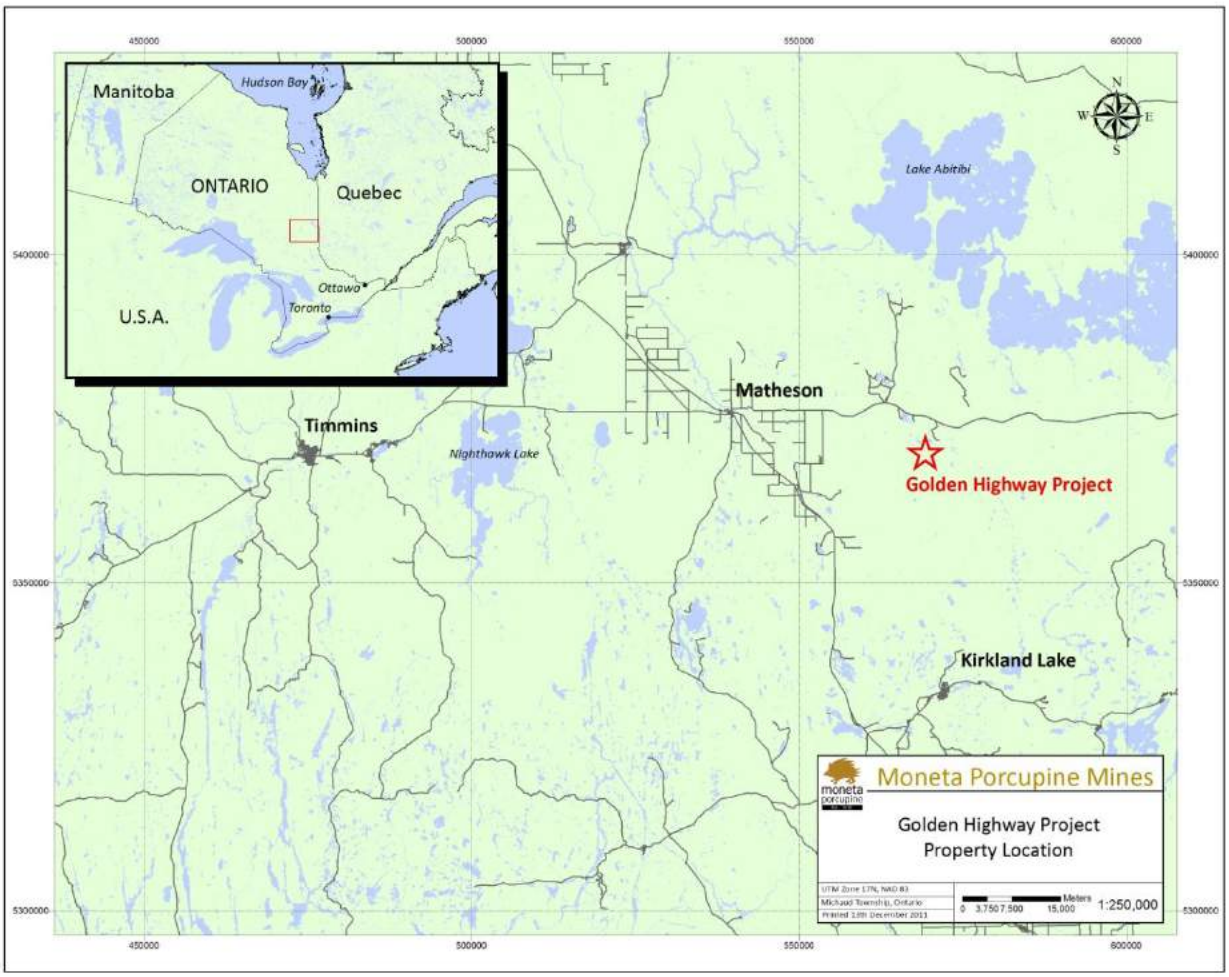
A draft copy of the report has been reviewed for factual errors by Moneta. Any changes made as a result of these reviews did not involve any alteration to the conclusions made. Hence, the statement and opinions expressed in this document are given in good faith and in the belief that such statements and opinions are not false and misleading at the date of this report.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 GOLDEN HIGHWAY PROPERTY LOCATION

The Golden Highway Project is located within the District of Cochrane, in the eastern part of Northern Ontario, Canada (Figure 4.1). The approximate geographic centre of the Golden Highway Property is 48° 28' North Latitude and 80° 02' West Longitude. The Property is located approximately 540 km north of Toronto, 92 km east of Timmins, and 40 km north of Kirkland Lake. The Property co-ordinates used in this report are located relative to the NAD83 UTM coordinate system.

Figure 4.1 Property Location Map



*(**Source:** Moneta, 2011)*

4.2 PROPERTY DESCRIPTION AND TENURE

The Golden Highway Property is located in northeast Ontario within NTS 42 A/09 and consists of a large mining claims package (676 claim units) concentrated in Guibord, Michaud, Barnet, and Garrison Townships with scattered property interests in Hislop, Guibord, Holloway, and Marriott Townships. For the purposes of this report only the main contiguous portion of the Property is detailed. This current Property has been expanded since the original Michaud patents were granted in 1947 and 1951 through staking, option and joint venture earn-ins, and purchases.

It currently totals 546 claim units in the form of patents (patented mining rights), mining leases, and staked mining claims.

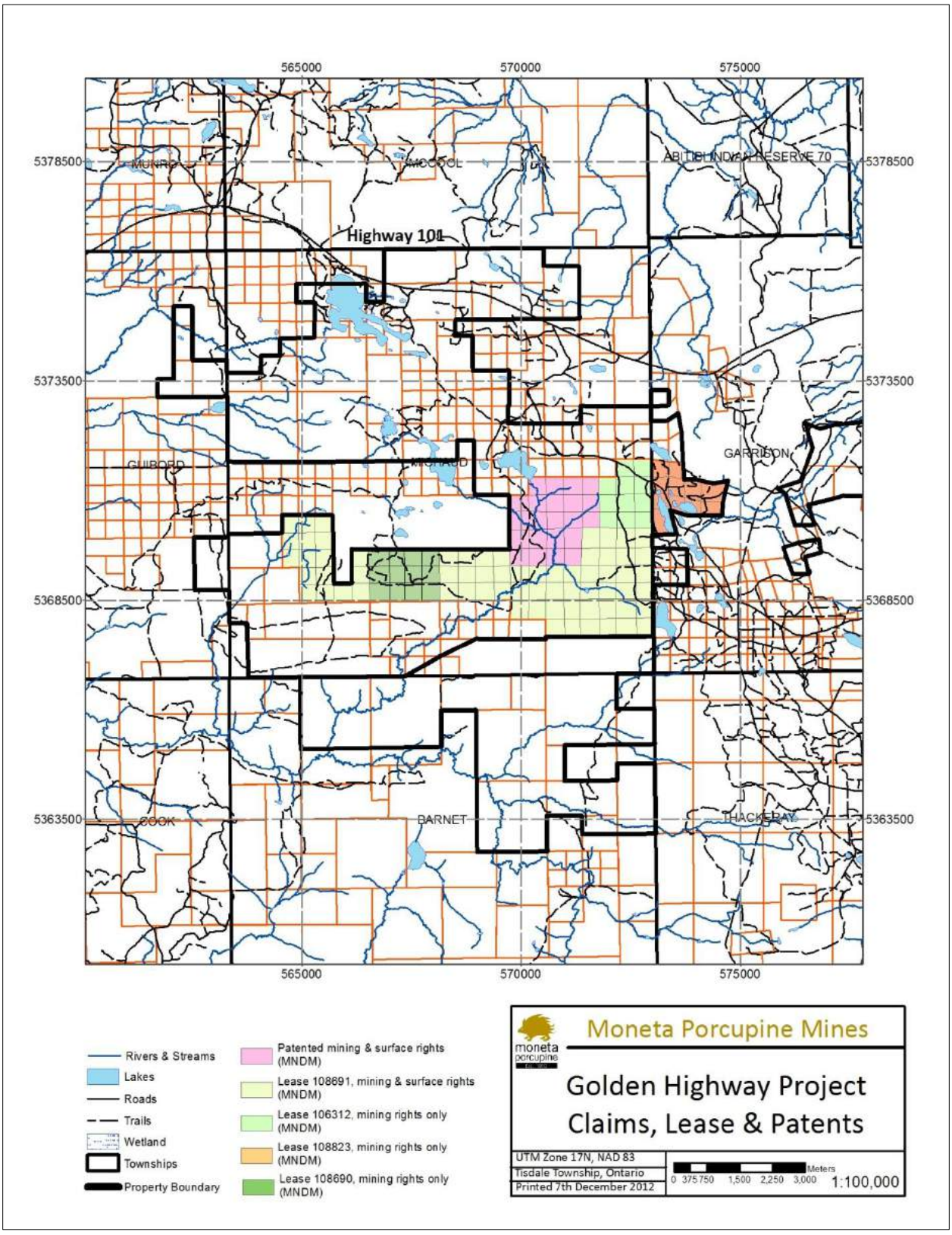
4.3 LEASES

There are four mining leases on the Property with three in Michaud (MLs 108690, 108691, 106312) and one in Garrison Townships (ML 108823) covering a total of 101 claim units or 1653.2 hectares. Mining leases ML 108690 and 108691 (79 claim units) include surface rights and all are subject to mining taxes. These leases are valid for 21 years and renewable under several criteria as outlined in the Ontario Mining Act. Three leases (Michaud: 2, Garrison: 1) have recently been renewed for 21 years. The fourth renewal, ML 106312 (Michaud), has been approved by the MNDM and is in the process of Land Titles registration. All leases are 100% Moneta owned.

TABLE 4.1
LEASES

Claim No.	Lease	Type	Parcel	Twp.	Area (ha)
Golden Highway					
Windjammer	ML 106312	MR	1665 LC	MICHAUD	175.13
Windjammer	ML 108823	MR	1599 LC	GARRISON	180.91
Nufort Main	ML 108691	S MR	1588 LC	MICHAUD	1,102.060
Nufort Small	ML 108690	S MR	1589 LC	MICHAUD	195.103
				Total	**1,653.203**

Figure 4.2 Claim, Lease & Patent Map



(***Source:*** *Moneta, 2011)*

4.4 PATENTS

The Property contains a contiguous block of 22 patents (355.97 hectares) for both mining (MR) and surface rights (S). Each patent covers approximately 40 acres or 16 hectares as shown in Table 4.2 and is subject to annual mining taxes. These are 100% Moneta owned.

TABLE 4.2
PATENTS

Claim No.	Type	Twp.	Lot	Con.	Half	Quarter	Area (ha)
Michaud							
L 38490	S MR	Michaud	4	3	S	SE	16.236
L 38491	S MR	Michaud	4	2	N	NE	16.491
L 38492	S MR	Michaud	4	3	S	NE	16.236
L 38493	S MR	Michaud	3	3	S	NW	16.238
L 38494	S MR	Michaud	3	3	S	SW	16.238
L 38495	S MR	Michaud	3	2	N	NW	16.086
L 38497	S MR	Michaud	3	3	S	NE	16.238
L 38498	S MR	Michaud	3	3	S	SE	16.238
L 38499	S MR	Michaud	3	2	N	NE	16.086
L 38500	S MR	Michaud	2	3	N	SW	15.479
L 38501	S MR	Michaud	2	3	S	NW	15.479
L 38502	S MR	Michaud	2	3	S	SW	15.479
L 38503	S MR	Michaud	4	3	S	NW	16.697
L 38504	S MR	Michaud	4	3	S	SW	16.39
L 38505	S MR	Michaud	4	2	N	NW	16.491
L 38928	S MR	Michaud	3	3	N	SE	16.238
L 38929	S MR	Michaud	3	3	N	SW	16.238
L 38930	S MR	Michaud	4	3	N	SE	16.236
L 47191	S MR	Michaud	4	2	N	SE	16.491
L 47192	S MR	Michaud	4	2	N	SW	16.491
L 47193	S MR	Michaud	3	2	N	SW	16.086
L 47194	S MR	Michaud	3	2	N	SE	16.086
						Total	**355.968**

4.5 STAKED CLAIMS

The Property includes 143 staked mining claims totalling 423 claim units. Staked claims range in area from single to a maximum of 16 claims units with each unit having an average area of 40 acres or 16 hectares. Mining claims remain valid as long as the required amount of eligible assessment work continues to be applied at the rate of $400 per claim unit per annum.

The staked claims are subdivided on the basis of operator and ownership percentages that reflect various joint ventures. A contiguous group consisting of 140.75 claims units in Barnet (116) and southeast Michaud Townships (24.75) is subject to a 50:50 joint venture with St Andrew Goldfields Ltd. (operator). Three claim units (Dyment 3) in Michaud Township are under a joint venture between Moneta (75%, operator) and St Andrew Goldfields Ltd. (25%). The remaining 279.25 claim units are 100% Moneta. Details of Moneta's staked claims are shown in Table 4.3.

TABLE 4.3
STAKED CLAIMS

Township/Area	Claim Number	Recording Date	Status	Percent Option	Work Required	Total Applied	Claim Due Date	Year
Barnet	1217512	1996-Jul-10	A	50%	$800	$12,800	2014-Jul-10	2014
Barnet	1218684	1996-Jul-10	A	50%	$1,600	$25,600	2014-Jul-10	2014
Barnet	1218685	1996-Jul-10	A	50%	$6,400	$102,400	2014-Jul-10	2014
Barnet	1218686	1996-Jul-10	A	50%	$1,600	$25,600	2014-Jul-10	2014
Barnet	1218687	1996-Jul-10	A	50%	$3,200	$51,200	2014-Jul-10	2014
Barnet	1218688	1996-Jul-10	A	50%	$800	$12,800	2014-Jul-10	2014
Barnet	1218689	1996-Jul-10	A	50%	$3,200	$51,200	2014-Jul-10	2014
Barnet	1218690	1996-Jul-10	A	50%	$6,400	$102,400	2014-Jul-10	2014
Barnet	1218691	1996-Jul-10	A	50%	$6,400	$102,400	2014-Jul-10	2014
Barnet	1225144	1997-Apr-15	A	50%	$6,400	$96,000	2014-Apr-15	2014
Barnet	1225145	1997-Apr-15	A	50%	$3,200	$48,000	2014-Apr-15	2014
Barnet	1225146	1997-Apr-15	A	50%	$6,400	$96,000	2014-Apr-15	2014
Garrison	3001162	2002-Aug-20	A	100%	$400	$3,600	2013-Aug-20	2013
Garrison	643683	1982-Aug-27	A	100%	$400	$12,000	2013-Aug-27	2013
Garrison	643684	1982-Aug-27	A	100%	$400	$12,000	2013-Aug-27	2013
Garrison	643685	1982-Aug-27	A	100%	$400	$12,000	2013-Aug-27	2013
Garrison	643686	1982-Aug-27	A	100%	$400	$12,000	2013-Aug-27	2013
Garrison	653659	1982-Sep-15	A	100%	$400	$12,400	2014-Sep-15	2014
Garrison	653660	1982-Sep-15	A	100%	$400	$12,400	2014-Sep-15	2014
Garrison	653661	1982-Sep-15	A	100%	$400	$12,400	2014-Sep-15	2014
Garrison	653662	1982-Sep-15	A	100%	$400	$12,400	2014-Sep-15	2014
Guibord	1166919	2001-Jul-24	A	100%	$2,400	$24,000	2013-Jul-24	2013
Guibord	3003825	2006-Sep-27	A	100%	$400	$2,000	2013-Sep-27	2013
Guibord	3013806	2004-May-20	A	100%	$1,200	$8,400	2013-May-20	2013
Guibord	3015388	2004-May-20	A	100%	$1,600	$11,200	2013-May-20	2013
Guibord	4261890	2011-Mar-24	A	100%	$800	$800	2014-Mar-24	2014
Michaud	1129845	1995-Mar-30	A	100%	$800	$13,600	2014-Mar-30	2014
Michaud	1167280	2001-Jun-14	A	75%	$236	$4,564	2014-Jun-14	2014
Michaud	1199892	2002-Jul-26	A	75%	$400	$4,000	2014-Jul-26	2014
Michaud	1199994	2002-Mar-22	A	100%	$400	$3,600	2013-Mar-22	2013
Michaud	1206790	1995-Sep-26	A	100%	$400	$6,400	2013-Sep-26	2013
Michaud	1207486	1995-Sep-26	A	100%	$1,600	$25,600	2013-Sep-26	2013
Michaud	1218683	1996-Jun-11	A	50%	$4,800	$76,800	2014-Jun-11	2014
Michaud	1219657	1997-Apr-09	A	100%	$3,200	$44,800	2013-Apr-09	2013
Michaud	1225544	1998-Sep-22	A	75%	$400	$6,000	2015-Sep-22	2015
Michaud	1226673	1998-Mar-31	A	50%	$400	$6,000	2015-Mar-31	2015
Michaud	1226789	1998-Mar-31	A	100%	$400	$5,200	2013-Mar-31	2013
Michaud	1226791	1998-Mar-31	A	100%	$400	$5,200	2013-Mar-31	2013
Michaud	1235305	1998-Mar-31	A	100%	$400	$5,200	2013-Mar-31	2013
Michaud	1235308	1998-Mar-31	A	100%	$400	$5,200	2013-Mar-31	2013
Michaud	1235309	1998-Mar-31	A	100%	$400	$5,200	2013-Mar-31	2013
Michaud	1235311	1998-Mar-31	A	50%	$400	$6,000	2015-Mar-31	2015
Michaud	1235312	1998-Mar-31	A	50%	$400	$6,000	2015-Mar-31	2015
Michaud	1235314	1998-Mar-31	A	100%	$400	$5,200	2013-Mar-31	2013
Michaud	1238680	2001-May-31	A	100%	$2,400	$24,000	2013-May-31	2013
Michaud	1240788	2000-Jun-27	A	100%	$800	$8,800	2013-Jun-27	2013
Michaud	1240789	2000-Jun-27	A	50%	$4,400	$52,800	2014-Jun-27	2014
Michaud	1240790	2000-Jun-27	A	100%	$400	$4,400	2013-Jun-27	2013
Michaud	1240793	2000-Jun-27	A	100%	$2,400	$26,400	2013-Jun-27	2013
Michaud	1240794	2000-Jun-27	A	100%	$800	$8,800	2013-Jun-27	2013
Michaud	1240795	2000-Jun-27	A	100%	$800	$8,800	2013-Jun-27	2013
Michaud	1243890	2001-May-03	A	100%	$800	$8,000	2013-May-03	2013
Michaud	1243891	2001-May-03	A	100%	$4,800	$48,000	2013-May-03	2013
Michaud	1243892	2001-May-03	A	100%	$400	$4,000	2013-May-03	2013
Michaud	1247515	2001-May-31	A	100%	$2,400	$24,000	2013-May-31	2013
Michaud	1247523	2001-May-03	A	100%	$400	$4,000	2013-May-03	2013
Michaud	1247524	2001-May-31	A	100%	$400	$4,000	2013-May-31	2013
Michaud	1247525	2001-May-31	A	100%	$800	$8,000	2013-May-31	2013
Michaud	1247526	2001-May-31	A	100%	$1,600	$16,000	2013-May-31	2013

TABLE 4.3
STAKED CLAIMS

Township/Area	Claim Number	Recording Date	Status	Percent Option	Work Required	Total Applied	Claim Due Date	Year
Michaud	1247527	2001-May-31	A	100%	$1,600	$16,000	2013-May-31	2013
Michaud	1248401	2001-Jun-05	A	100%	$3,200	$32,000	2013-Jun-05	2013
Michaud	1248402	2001-Jun-05	A	100%	$2,000	$42,000	2013-Jun-05	2013
Michaud	1248410	2001-Aug-01	A	100%	$6,000	$60,000	2013-Aug-01	2013
Michaud	3002169	2002-May-06	A	100%	$800	$8,000	2014-May-06	2014
Michaud	3004007	2002-Sep-30	A	100%	$800	$7,200	2013-Sep-30	2013
Michaud	3013403	2003-Nov-06	A	100%	$400	$3,200	2013-Nov-06	2013
Michaud	3015290	2004-May-20	A	100%	$400	$2,800	2013-May-20	2013
Michaud	3015379	2004-May-20	A	100%	$6,400	$44,800	2013-May-20	2013
Michaud	3015380	2004-May-20	A	100%	$6,400	$44,800	2013-May-20	2013
Michaud	3015381	2004-May-20	A	100%	$4,800	$33,600	2013-May-20	2013
Michaud	3015382	2004-May-20	A	100%	$3,200	$22,400	2013-May-20	2013
Michaud	3015384	2004-May-20	A	100%	$400	$2,800	2013-May-20	2013
Michaud	3015385	2004-May-20	A	100%	$400	$2,800	2013-May-20	2013
Michaud	3015386	2004-May-20	A	100%	$1,600	$11,200	2013-May-20	2013
Michaud	3015387	2004-May-20	A	100%	$800	$5,600	2013-May-20	2013
Michaud	3016589	2005-Feb-18	A	100%	$2,000	$12,000	2013-Feb-18	2013
Michaud	3019466	2003-Nov-06	A	100%	$2,000	$16,000	2013-Nov-06	2013
Michaud	4205463	2006-Jun-05	A	100%	$1,200	$6,000	2013-Jun-05	2013
Michaud	4205464	2006-Jun-05	A	100%	$400	$2,000	2013-Jun-05	2013
Michaud	4209618	2006-Jun-05	A	100%	$800	$4,000	2013-Jun-05	2013
Michaud	4211425	2006-Jun-05	A	100%	$1,600	$8,000	2013-Jun-05	2013
Michaud	4220423	2008-Feb-13	A	100%	$1,200	$4,800	2014-Feb-13	2014
Michaud	4246023	2009-Feb-17	A	100%	$1,600	$3,200	2013-Feb-17	2013
Michaud	4254578	2011-May-18	A	100%	$400	$0	2013-May-18	2013
Michaud	4257846	2010-Nov-30	A	100%	$400	$400	2013-Nov-30	2013
Michaud	4257847	2010-Nov-30	A	100%	$400	$400	2013-Nov-30	2013
Michaud	4257848	2010-Nov-30	A	100%	$400	$400	2013-Nov-30	2013
Michaud	4257849	2010-Nov-30	A	100%	$400	$400	2013-Nov-30	2013
Michaud	4263033	2011-May-05	A	100%	$400	$0	2013-May-05	2013
Michaud	4263034	2011-May-05	A	100%	$400	$0	2013-May-05	2013
Michaud	643687	1982-Sep-20	A	100%	$400	$12,000	2013-Sep-20	2013
Michaud	643688	1982-Sep-20	A	100%	$400	$12,000	2013-Sep-20	2013
Michaud	643837	1982-Sep-20	A	100%	$400	$12,000	2013-Sep-20	2013
Michaud	643838	1982-Sep-20	A	100%	$400	$12,000	2013-Sep-20	2013
Michaud	678858	1983-Feb-09	A	100%	$400	$11,600	2013-Feb-09	2013
Michaud	678859	1983-Feb-09	A	100%	$400	$11,600	2013-Feb-09	2013
Michaud	843891	1985-Jun-13	A	100%	$400	$11,200	2014-Jun-13	2014
Michaud	843892	1985-Jun-13	A	100%	$400	$11,200	2014-Jun-13	2014
Michaud	843893	1985-Jun-13	A	100%	$400	$11,200	2014-Jun-13	2014
Michaud	843894	1985-Jun-13	A	100%	$400	$11,200	2014-Jun-13	2014
Michaud	843895	1985-Jun-13	A	100%	$400	$11,200	2014-Jun-13	2014
Michaud	843896	1985-Jun-13	A	100%	$400	$11,200	2014-Jun-13	2014
Michaud	843897	1985-Jun-13	A	100%	$400	$11,200	2014-Jun-13	2014
Michaud	843898	1985-Jun-13	A	100%	$400	$11,200	2014-Jun-13	2014
Michaud	843899	1985-Jun-13	A	100%	$400	$11,200	2014-Jun-13	2014
Michaud	843900	1985-Jun-13	A	100%	$400	$11,200	2014-Jun-13	2014
Michaud	843901	1985-Jun-13	A	100%	$400	$11,200	2014-Jun-13	2014
Michaud	843902	1985-Jun-13	A	100%	$400	$11,200	2014-Jun-13	2014
Michaud	849657	1985-Apr-29	A	100%	$400	$10,800	2013-Apr-29	2013
Michaud	849658	1985-Apr-29	A	100%	$400	$10,800	2013-Apr-29	2013
Michaud	849660	1985-Apr-29	A	100%	$400	$10,800	2013-Apr-29	2013
Michaud	849661	1985-Apr-29	A	100%	$400	$10,800	2013-Apr-29	2013
Michaud	849662	1985-Apr-29	A	100%	$400	$10,800	2013-Apr-29	2013
Michaud	849663	1985-Apr-29	A	100%	$400	$10,800	2013-Apr-29	2013
Michaud	849664	1985-Apr-29	A	100%	$400	$10,800	2013-Apr-29	2013
Michaud	849665	1985-Apr-29	A	100%	$400	$10,800	2013-Apr-29	2013
Michaud	849666	1985-Apr-29	A	100%	$400	$10,800	2013-Apr-29	2013
Michaud	849667	1985-Apr-29	A	100%	$400	$10,800	2013-Apr-29	2013

TABLE 4.3
STAKED CLAIMS

Township/Area	Claim Number	Recording Date	Status	Percent Option	Work Required	Total Applied	Claim Due Date	Year
Michaud	949282	1986-Oct-24	A	100%	$400	$10,800	2014-Oct-24	2014
Michaud	949283	1986-Oct-24	A	100%	$400	$10,800	2014-Oct-24	2014
Michaud	949284	1986-Oct-24	A	100%	$400	$10,800	2014-Oct-24	2014
Michaud	949285	1986-Oct-24	A	100%	$400	$10,800	2014-Oct-24	2014
Michaud	949286	1986-Oct-24	A	100%	$400	$10,800	2014-Oct-24	2014
Michaud	949287	1986-Oct-24	A	100%	$400	$10,800	2014-Oct-24	2014
Michaud	949288	1986-Oct-24	A	100%	$400	$10,800	2014-Oct-24	2014
Michaud	949289	1986-Oct-24	A	100%	$400	$10,800	2014-Oct-24	2014
Michaud	949290	1986-Oct-24	A	100%	$400	$10,800	2014-Oct-24	2014
Michaud	949291	1986-Oct-24	A	100%	$400	$10,800	2014-Oct-24	2014
Michaud	949292	1986-Oct-24	A	100%	$400	$10,800	2014-Oct-24	2014
Michaud	949293	1986-Oct-24	A	100%	$400	$10,800	2014-Oct-24	2014
Michaud	949294	1986-Oct-24	A	100%	$400	$10,800	2014-Oct-24	2014
Michaud	949295	1986-Oct-24	A	100%	$400	$10,800	2014-Oct-24	2014
Michaud	949296	1986-Oct-24	A	100%	$400	$10,800	2014-Oct-24	2014
Michaud	949683	1986-Nov-06	A	100%	$400	$10,800	2014-Nov-06	2014
Michaud	949688	1986-Nov-06	A	100%	$400	$10,800	2014-Nov-06	2014
Michaud	949689	1986-Nov-06	A	100%	$400	$10,800	2014-Nov-06	2014
Michaud	959276	1987-Mar-31	A	100%	$400	$10,400	2014-Mar-31	2014
Michaud	959277	1987-Mar-31	A	100%	$400	$10,400	2014-Mar-31	2014
Michaud	968418	1987-Mar-31	A	100%	$400	$10,400	2014-Mar-31	2014
	75% Moneta (Dyment 3 JV with St Andrew Goldfields Ltd. 25%)							
	50% Moneta (Barnet JV with St Andrew Goldfields Ltd. 50%)							

Several claim blocks are subject to underlying encumbrances as detailed below.

- 10% NPI on 12 claim units in Michaud Township
- Advance royalty of $5,000 (annual) on 10 claim units (Turner Lake in Michaud and Garrison Twps.)
- 0.5% NSR on 27 claim units in Michaud Township
- 0.5% NSR on 76 claim units in Barnet Township (50% Moneta, 50% St Andrew Goldfields Ltd., JV)
- 2% NSR and advance royalty $1,200 (annual) on Dyment 3 (75% Moneta, 25% St Andrew Goldfields Ltd.)

The current Resources are covered by patents and mining leases with no underlying encumbrances.

Moneta is not aware of any environmental liabilities within the Golden Highway Project area or of any restrictions beyond those covered by existing legislation and regulation with respect to potential mine sites and tailings and disposal sites should future development take place.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 ACCESS

The Golden Highway Project is accessed by logging and drilling roads that extend south from Highway 101. The intersection for the main logging access road (Tower Road) is 32 km east of Matheson, Ontario on Highway 101. The mineral deposits are located approximately 4 km south of Highway 101 and accessed locally by a network of logging and drilling roads of varying quality.

5.2 CLIMATE

The Property is near the northern limit of the warm summer continental climate zone with a Koppen-Geiger climate classification of Dfb. The climate is typical of north-eastern Ontario. Based on records for Kirkland Lake, located 40 km south, mean average July temperatures are 17.8^{o}C and mean average January temperatures are -17.1^{o}C. Precipitation averages 883.3 mm/year, with peak precipitation in the summer and a substantial portion of precipitation falling in the form of snow, averaging 2.9 m per year.

5.3 LOCAL RESOURCES

There are excellent local resources and infrastructure to support exploration and mining activities in the region which has a long history of both activities. Mining equipment and personnel are readily available in Ontario from the towns of Matheson, Kirkland Lake and Timmins. Timmins and Kirkland Lake are also major supply and service centers for the mining industry. Based on the 2011 census, the populations are: Timmins – 43,165; Kirkland Lake – 8,113; Black River-Matheson – 2,410.

5.4 INFRASTRUCTURE

Communications and power are available along Highway 101 and Highway 672. Water resources are locally available. Cell phone coverage extends to the property.

5.5 PHYSIOGRAPHY

The Property is dominated by flat terrain at an elevation of approximately 330 m above sea level with relief of generally less than 15 m. The northern part of the Property is overlain by sands and outwash from an esker systems and local dunes with up to 45 m of relief. The Property has very limited outcrop. There are areas of swamp in the southern part of the Property.

6.0 HISTORY

6.1 EARLY REGIONAL HISTORY

The area between Matheson and the Quebec border has a long history of prospecting, exploration, and gold mining dating back to the beginning of the 20th Century. Production from mines in the area began in 1911.

6.2 PROPERTY HISTORY

Claim staking in the area increased in 1944 as a consequence of an Ontario Department of Mines report which suggested that the Destor Porcupine Fault Zone passed through the original Moneta patented claims in Michaud Township. These patents had been staked as claims in 1939 and optioned to Moneta Porcupine Mines Ltd. (a predecessor company) in 1945. Since that time various portions of the Property have been held and explored by a succession of companies. Moneta's current land position was primarily acquired through staking and by a series of joint venture agreements dating from the late 1980's onward.

In 1986, Moneta reactivated exploration on its patents in Michaud Township and optioned the immediately adjacent Nahanni Mines claim group. This claim group was taken to lease and later became known as the Nufort leases. In 1988-1989, Unocal Canada Ltd. optioned the Property and completed the Nahanni (Nufort) 50% earn-in on behalf of Moneta for total expenditures of $1 million and payments of $100,000. Unocal dropped its option in 1989 due to a corporate decision to terminate exploration in Canada and the Property was returned to Moneta.

Independence Mining Company Inc. optioned the Property in 1991 and completed its minimum expenditure commitment of $400,000 before returning the Property. The agreement called for exploration expenditures of $4 million and payments of $290,000 for a 50% Property interest.

Lac North America Ltd. (later a subsidiary of Barrick Gold Inc.) optioned the Property from Moneta in 1994 including Moneta's interest in the Nufort Leases. The agreement called for total expenditures of $3.5 million including payments of $225,000 for a 60% interest on the 100% Moneta ground. Lac also optioned the Nufort lease interests in 1995 under a separate agreement that required total expenditures of $3.0 million and payments of $200,000 for an overall 70% interest. The combined Property was returned to Moneta in 1998 following the downsizing of Lac's exploration activities.

In 1998, Moneta acquired the remaining 50% interest in the Nufort leases for a 100% interest, extinguishing all underlying encumbrances.

In 2001, an option agreement was entered into with Acrex Ventures Ltd. covering a significant portion of the southern staked claims and larger Nufort lease, as well as several patents. Acrex vested in a portion of the option in 2004 by meeting earn-in requirements and both companies formed the Michaud Joint Venture. In 2009 Moneta acquired the 50% Acrex ownership interest in the Michaud Joint Venture ground for $1 million terminating the joint venture.

St Andrew Goldfields Ltd., optioned the southern portion of the Property in Barnet and south-eastern Michaud Township in 2001 with a 50% earn-in expenditure level of $200,000 and staged option payments, satisfied in 2009 as part of a property exchange agreement. In this property exchange Moneta was granted a 100% interest in 29 claim units in Cody Township, a 100%

interest in 3 claim units in Guibord Township, and a $50,000 cash payment from St Andrew Goldfields Ltd. In return, and, in order to address expenditure commitments, the Agreement granted St Andrew Goldfields Ltd., a 75% vested interest in the Guibord Property and 50% vested interest and operatorship in the Barnet Joint Venture.

In 2004, the Perry Lake property was staked (68 claim units) and the Turner Lake (10 claim units) and Dyment 3 (3 claim units) properties were optioned. In 2006, an additional 10 claim units were staked adjoining the Perry Lake block to the north.

In November 2007, Moneta entered into an agreement with a subsidiary of Newmont Mining Corporation to acquire Newmont's 50% interest and operatorship in a joint venture known as the Windjammer Property comprised of two mining leases (22 claim units) in Garrison and Michaud Townships. Moneta issued 4,380,000 common shares to Newmont as consideration for the acquisition. A subsequent February 2009 vesting order from the Mining Commissioner increased Moneta's interest to 100% in the Windjammer Property.

Moneta also staked 3 claim units in 2008. A total of 8 claim units were acquired in Michaud Township by purchase (4 claims) and staking (4 claims) in 2010. In 2011 Moneta staked an additional 2 claim units in Michaud Township.

6.3 HISTORIC EXPLORATION

This section of the report and Table 6.1 summarize the exploration history of the overall Property. Exploration work conducted within the immediate resource area is summarized in Section 6.4. Table 6.1 is a general listing of exploration records available for the current Golden Highway Project property primarily sourced from government assessment files and reports.

TABLE 6.1
GOLDEN HIGHWAY – SUMMARY OF HISTORICAL EXPLORATION AND DEVELOPMENT ACTIVITIES

Year	Company	Exploration	Township
1945	Koulomzine	Mag survey, Hole 6, 8, 9, 12	Michaud
1946	Clodan	Mag survey	Michaud
1946	Moneta	Holes 1 to 18, Geological report	Michaud
1966	Dalhousie Oil and Gas	DM66-1 and 2	Michaud
1967	Amax	MR/H/W-1 to 40, Overburden drilling	Michaud
1968	Amax	KX25-67 and KX26-68	Michaud
1970	Renzy Mines	Holes 1 to 12	Michaud
1972	Hollinger Mines	Mag survey	Guibord, Michaud
1979	Amax	Geological survey	Michaud
1980	Redstone	Mag survey, horizontal loop	Michaud
1980	Windjammer Power	Summary report, Holes 1 & 2	Michaud, Garrison
1981	Lacana	Geophysical surveys	Michaud
1981	Nahanni	Mag and VLF survey	Michaud
1981	Redstone	Mag survey	Michaud
1981	Tesluk	Drill hole 81-1	Michaud
1982	Gold Fields	Mag and VLF survey	Michaud, Guibord
1982	Nahanni	Drill holes M-82-1 to 4 &	Michaud

TABLE 6.1
GOLDEN HIGHWAY – SUMMARY OF HISTORICAL EXPLORATION AND DEVELOPMENT ACTIVITIES

Year	Company	Exploration	Township
		Geological mapping	
1982	Selco	Geophysical surveys (IP and Mag)	Michaud
1983	Moses	Drill holes JM-3 and 4	Michaud, Garrison
1983	Nahanni	Mag and VLF survey	Michaud
1983	Nahanni	Drill holes M-83-5 to 7, Mag and VLF survey, Geological mapping, R83-1 series, Overburden drilling, exploration report	Michaud
1983	OGS – Abitibi Project	Airborne Mag Survey	Michaud, Barnet
1984	Asarco	Geological mapping, Drill hole DPL-1	Michaud
1985	Falconbridge	Drill holes 659-04 to 6 , IP survey	Michaud
1985	Meunier	Geological report	Michaud
1985	Noranda	Mag and VLF survey, drill holes WJ-85-1 and 2	Barnet, Michaud
1985	St Joe	Drill holes PR85-05 to 11	Guibord, Michaud
1986	Hennessey	Mag survey	Michaud
1986	Kidd Creek	Mag and VLF survey	Michaud
1987	Goldfields/Lacana	MPH Ground Mag Survey, IP	Michaud
1986	Lacana	Drill holes MD-1-86 and 2	Michaud
1986	Nahanni	Drill holes NM-86-8 to 13	Michaud
1986	Noranda	Geological mapping, drill holes GR-86-01 and 2	Michaud
1986	Moneta	MPH Ground Mag Survey, IP Various interpretations over time, drill hole M-86-01	Michaud
1986	St Joe	Mag survey	Guibord, Michaud
1987	Asarco	Drill holes PL87-01 to PL87-11	Michaud
1987	Falconbridge	Mag and VLF survey	Michaud
1987	Moneta	Mag and VLF survey, drill holes M-87-02 to 8,15, M-87-17 to 26, M-87-50 and MJB87-01 to 27, Overburden drilling	Michaud
1987	Nahanni	IP survey	Michaud
1987	Noranda	NBR87-01 to 29, drill holes BT-87-01 and 2	Barnet, Michaud
1988	Asarco	Drill holes PL87-12 to PL88-16	Michaud
1988	Falconbridge	Drill hole MI54-01	Michaud
1988	Golden Range	Drill holes GRM-88-1 to 4B	Michaud
1988	Lacana	Drill holes MD-88-3 to 7	Michaud
1988	Mid-North	Drill holes PT88-1 to 3	Michaud
1988	Noranda	Drill hole WJ-88-44	Michaud, Garrison

TABLE 6.1
GOLDEN HIGHWAY – SUMMARY OF HISTORICAL EXPLORATION AND DEVELOPMENT ACTIVITIES

Year	Company	Exploration	Township
1988	Stellar	Mag and VLF survey	Michaud
1989	Corona	Mag survey	Michaud
1989	Falconbridge	Drill holes MI55-01 and 2	Michaud
1989	Golden Range	Mag survey	Michaud
1989	Moneta/Unocal	MU89 drill holes series	Michaud
1989	Moneta	Drill hole MPM-89-01	Michaud
1990	Corona	Drill hole PL-90-1B	Michaud
1990	Lacana	Drill holes MD-90-08 to 11	Michaud
1990	Moneta	Mag survey, geological mapping	Michaud
1991	Independence	Ground Mag Survey, IP, drill holes MI-91-139 to 150	Michaud, Guibord
1993	Moses	Drill hole JM-5	Michaud
1994	Hawley	Mag and VLF survey	Michaud
1994	Lac Minerals	IP survey	Michaud, Barnet, Guibord
1994	Noranda	Geophysical survey	Guibord
1994	Tandem	TM series, Overburden drilling	Michaud, Guibord
1995	Battle Mountain	Ground Mag / IP Survey,	Michaud, Guibord
1995	Lac Minerals	Drill holes PR-95-01 to 04	Michaud, Barnet
1995	St Andrew Goldfields Ltd.	Airborne Mag Survey	Michaud, McCool
1996	Barrick	MN96 series drill holes, Geophysical interpretations, Mag survey	Michaud
1996	Battle Mountain	Geophysical surveys (IP and MAG), geological report, preliminary, drill holes PL96-1 and 2	Michaud
1996	Lac Exploration	Drill hole MM94 and MM95 series	Michaud
1996	Moneta	IP survey	Michaud
1996	Tandem	Drill holes 96-01 to 96-04	Michaud
1997	Battle Mountain	Drill holes PL96-1-2, PL97-3 to 5	Michaud
1997	Beagan	Mag and VLF survey	Michaud
1997	Lac Exploration	Drilling report, MN97 series	Michaud
1997-1998	Moneta	IP surveys	Michaud
1998	Totem	Exploration summary	Michaud, Garrison
1999	Hagen	IP survey	Michaud
1999	Kidston	Mag survey	Michaud
2000	Moneta	IP survey	Michaud
2000	Moses	OPAP, Soil geochemistry survey	Michaud

6.3.1 Zone Relevant Historic Exploration

Section 6.3 summarizes exploration prior to 2001 in the immediate area of the 55 Zone, Southwest Zone, and Windjammer Zone, for which the resource estimation has been undertaken.

In 1947-48, Wright-Hargreaves Mines Ltd. drilled 4 holes totalling 1,346 m on the Windjammer property (WH series). This program completed a section across the main iron formation east of the current Windjammer South zone with a best value of 6.9 g/t Au over 0.32 m reported.

In 1966, also on Windjammer, Dalhousie Oil and Gas completed two drill holes in the northern part of the property with no assays reported.

In 1980 Windjammer Power and Gas completed two diamond drill holes in iron formation on the Windjammer property (WJMPH series), with a best result of 36.6 g/t Au over 0.32 m.

From 1983 to 1989, after optioning the Windjammer portion of the property, Noranda Exploration Co. Ltd. carried out considerable work. One diamond drill hole was completed in 1983 in the southeast section, with a best assay of 1.38 g/t Au over 1.23 m. In 1985 two holes were drilled through the Destor-Porcupine Fault Zone intersecting green carbonate, felsic tuff and basalt with a best result of 4.3 g/t Au over 0.60 m. The 1987 program included a 41 km grid with magnetometer and IP surveys and followed by a Phase One 30 drill hole program totalling 9,626.70 m. Phase Two was completed in 1988 with 5 holes (2,404.50 m) in the South Zone and 11 holes (4,287.30 m) in the North Zone. Later that year two additional holes were drilled in South Zone (823.20 m) and 1 hole in the North Zone (395.67 m). This program was continued into 1989 with 2 holes each in the South Zone (958.90 m) and North Zone (1,019 m). These drill holes comprise the WJ series in the database.

In 1986 -1987, Moneta carried out magnetometer, induced polarization and VLF - EM surveys which were followed by diamond drilling as well as reverse circulation drilling. By 1988, 93 diamond drill holes (M-87 series) and 132 RC holes had been completed. As a result of this work, Moneta discovered the Southwest Zone gold mineralization. MPH Consulting Ltd. compiled and interpreted the geophysical data in a report written in March 1988.

In 1989, UNOCAL Canada Ltd. optioned the Property and completed two phases of drilling comprising 9,246 m in 44 holes primarily along the Destor (MU series). A total of five drill holes (1,178.20 m) were completed on the Southwest Zone as part of this drill program. UNOCAL dropped its option in the same year.

In 1991 a geophysical data compilation and interpretation was undertaken for Independence Mining Company Inc. utilising existing ground magnetics and IP geophysical data.

From December 1994 to April 1995, Lac North America Ltd. (a subsidiary of Barrick Gold Inc.) drilled 4,583 m in 11 holes (MM series). Three were drilled on mineralized zones (North Zone) associated with the Destor, and eight on the Southwest Zone. In 1995-1996 additional drilling took place for a total of 11,534 m in 23 drill holes. Ten holes were drilled on the Southwest Zone, nine holes on the Last Chance Zone, and four holes were exploration holes on what is now the Far West Block (former the 04 Extension Zone). In 1997, Lac drilled an additional 44 holes (22,270 m) on the greater Southwest Zone (MN series). Additional work during the option period included detailed ground magnetics on local grids (1996), GPS surveying, internal resource

calculations, and preliminary metallurgical testing. The Property was returned to Moneta in 1998.

6.3.2 Historic Resource Estimates

In 1996, Barrick Gold Inc. ("Barrick") prepared a preliminary internal historical resource estimate for the Southwest Zone. This resource predates NI 43-101 and is not compliant. The resource was estimated at 2.4 million tonnes averaging 6.07 g/t gold for a total of 468,400 ounces of gold. The estimate was based on information from approximately 65 drill holes from Moneta's 1987 drilling and Barrick's drilling in 1995 and 1996.

Initial metallurgical tests indicated that gold recoveries to 95% were possible and that the free gold and minor low-sulphide ore could be readily processed at Barrick's former (now St Andrew Goldfields Ltd.'s) Holt–McDermott Mill nearby.

In late 2003, Moneta reviewed additional project files received from Barrick which contained an updated internal resource calculation based on a re-interpretation of the Southwest Zone and incorporating relevant data from the last phase of drilling completed in 1997. Using the similar methodology and modified parameters reflecting an alternative interpretation, Barrick calculated a total historical resource of 3.25 million tonnes @ 5.98 g/t or 624,500 oz.

The Mineral Resources completed by Barrick are historic in nature and therefore not NI 43-101 compliant and should not be relied upon.

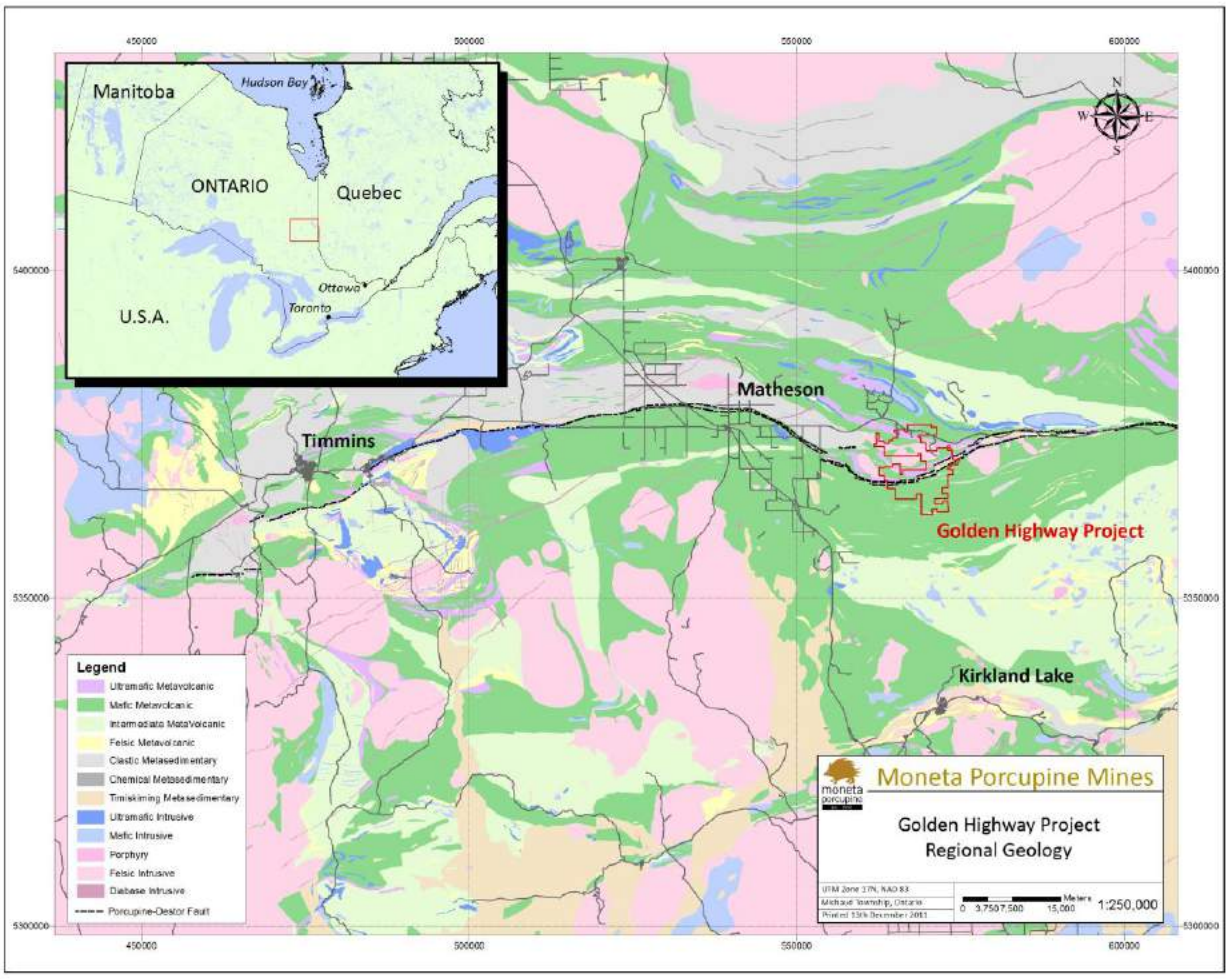
In 2008, and updated in 2009 a near-surface NI 43-101 compliant resource calculation was completed by D. George Cargill, Ph.D. P.Eng., of Cargill Consulting Geologists Limited, on the Windjammer South Zone. This resource estimate included an Indicated Resource of 7,786,000 t at a grade of 1.22 g/t Au (305,379 ounces gold) and Inferred Resources of 5,834,000 tonnes at a grade of 1.13 g/t gold (211,951 ounces gold). The resource is based on a cut-off grade of 0.7 g/t Au. This resource was based on 26 drill holes (8,875 m) completed by Noranda (1983-1989) and 21 drill holes (7,097 m) drilled by Moneta from 2007-2008.

7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 REGIONAL GEOLOGY

Moneta's Golden Highway Project (Figure 7.1) is located within the southern part of the Archean (ca. 2.7 Ga) Abitibi greenstone belt of the Superior Province in north-eastern Ontario. The Abitibi greenstone belt consists of Neoarchean supracrustal rocks divided into tectonic-stratigraphic assemblages that include metavolcanic rocks, synvolcanic intrusions, metasedimentary rocks, calc-alkaline and alkaline intrusive rocks, and Late Proterozoic dykes. The dominant regional structures of interest are the Destor-Porcupine and Pipestone Fault Zones with their associated gold deposits and mineralization. More thorough discussions of the Superior Province Archean geology are provided by Jackson and Fyon (1991) as well as Ayer et al. (2001/2005).

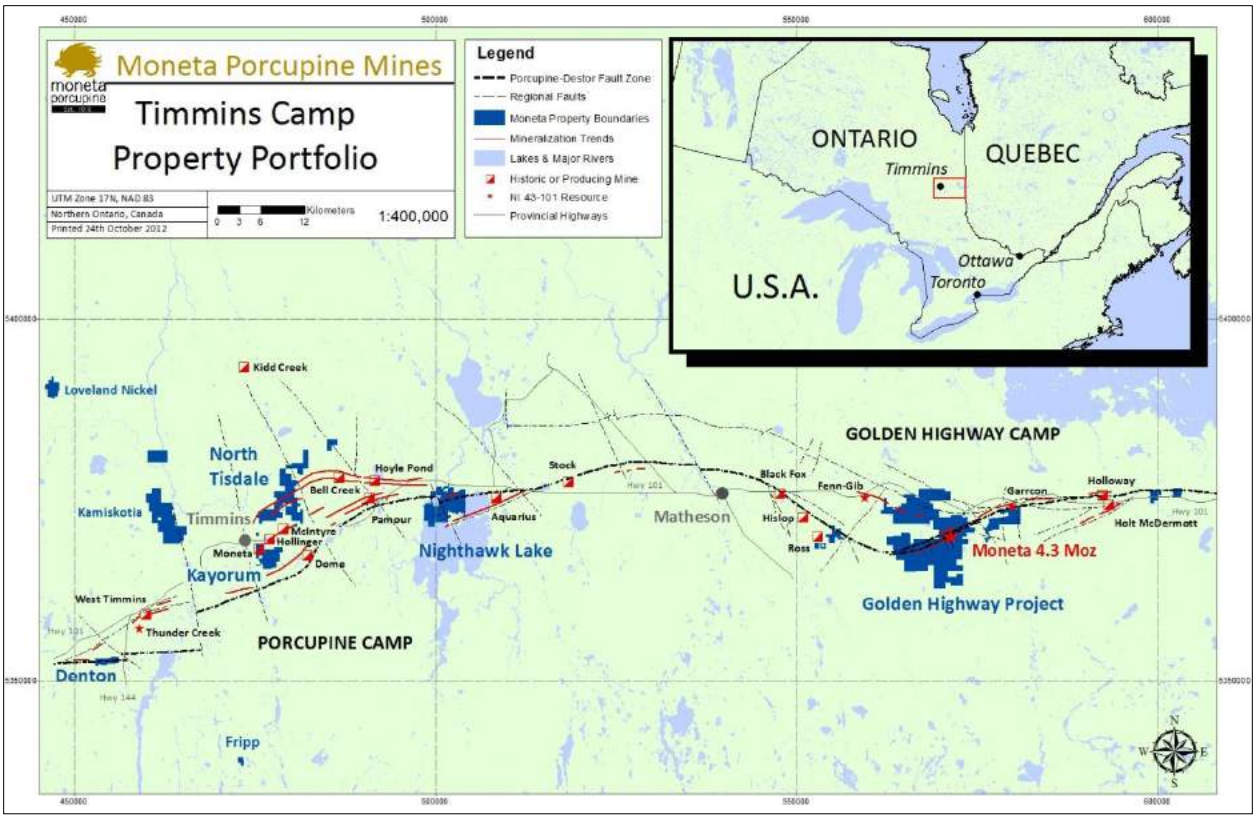
Figure 7.1 Regional Geology



*(**Source:** Moneta, 2011: Data MNDM OGS Geology GIS shapefiles)*

Moneta's Golden Highway Project is located on the Destor Porcupine Fault Zone (DPFZ), a major gold mineralized regional fault structure. Figure 7.2 shows the location of the DPFZ and several prominent gold deposits including the Black Fox (Glimmer) Mine, Ross Mine, Holloway Mine and Holt-McDermott Mine that are located within an approximately 25 km radius of the Golden Highway property.

Figure 7.2 Location of the Destor Porcupine Fault Zone and Associated Gold Deposits in Timmins – Matheson Area



Source: *Moneta, 2011*

7.2 LOCAL GEOLOGY

More specific to the local geology of the Golden Highway Project is Berger's (2002) geological synthesis of the Highway 101 corridor from Matheson east to the Province of Quebec provincial boundary. Which he summarizes as follows (Table 7.1).

TABLE 7.1
SUMMARY OF SOUTHERN ABITIBI GREENSTONE BELT SUPRACRUSTAL ASSEMBLAGE NAMES, AGES, BASAL CONTACTS, ROCK TYPES AND CHEMICAL AFFINITIES

Assemblage Name (Age in Ma)	Includes all or parts of Volcanic Chemical assemblages from Jackson and Fyon (1991)	Basal Contact Relationships	Dominant Rock Types Affinity
Timiskaming (2687 to 2675)	Garrison, Hearst, Midlothian, Natal, Ridout, Timiskaming,	Unconformable	Conglomerate, sandstone, mafic to intermediate volcanic
Three Nations	Alkalic to calc-alkalic		
Porcupine (2696 to 2690) formation	Hoyle, Porcupine, Scapa, Whitney None observed	Unconformable	Turbidite, minor conglomerate and iron
Blake River (2701 to 2697)	Blake River, Halcrow Swayze, Krist, Skead, Watabeag	Conformable to disconformable	Mafic to felsic volcanic
Kinojevis (2702 to 2701)	Tholeiitic and calc-alkalic Geike, Kinojevis (North and South), Watabeag	Conformable	Mafic and minor felsic volcanic
	Tholeiitic		

Tisdale (2710 to 2703) Kamiskotia, Garnet Tooms, Geike, Halcrow Swayze, Halliday, Horwood, Larder Lake, McElroy, Shining Tree, Tisdale, Watabeag	Boston, Bowman, Cabot Kevin, Komatiitic, tholeiitic and Duff Rand, Eldorado, calc-alkalic	Conformable to disconformable	Ultramafic, mafic, intermediate to felsic volcanic and iron formation
Kidd Munro (2719 to 2711) Kidd Munro, Shining Tree formation	Cabot Kevin, Carscallen, Duff Komatiitic, tholeiitic and Rand, Hong Kong, Kamiskotia, calc-alkalic	Conformable to disconformable	Ultramafic, mafic, intermediate and felsic volcanic and iron
Stoughton Roquemaure (2723 to 2720)	Catherine Pacaud, Komatiitic, tholeiitic and Kinojevis North, calc-alkalic Stoughton Roquemaure	Conformable to disconformable	Ultramafic, mafic, intermediate and felsic volcanic
Deloro (2730 to 2724) Hanrahan, Hong Kong, Marion, Stoughton Roquemaure, Shining Tree	Adair, Bartlett, Cabot Kevin, Tholeiitic and calc-alkalic Carscallen, Deloro, Eldorado,	Disconformable	Mafic, intermediate and felsic volcanic and iron formation
Pacaud (2750 to 2735) Sinclair	Catherine Pacaud, Hong Kong, Komatiitic, tholeiitic and Peterlong, Marion, Shining Tree, calc-alkalic	Unknown removed by batholith intrusions	Ultramafic, mafic and felsic volcanic

*(**Source:** Ayer and Trowell 2001)*

Berger's (2002) description of the geology of the Golden Highway Project area is as follows:

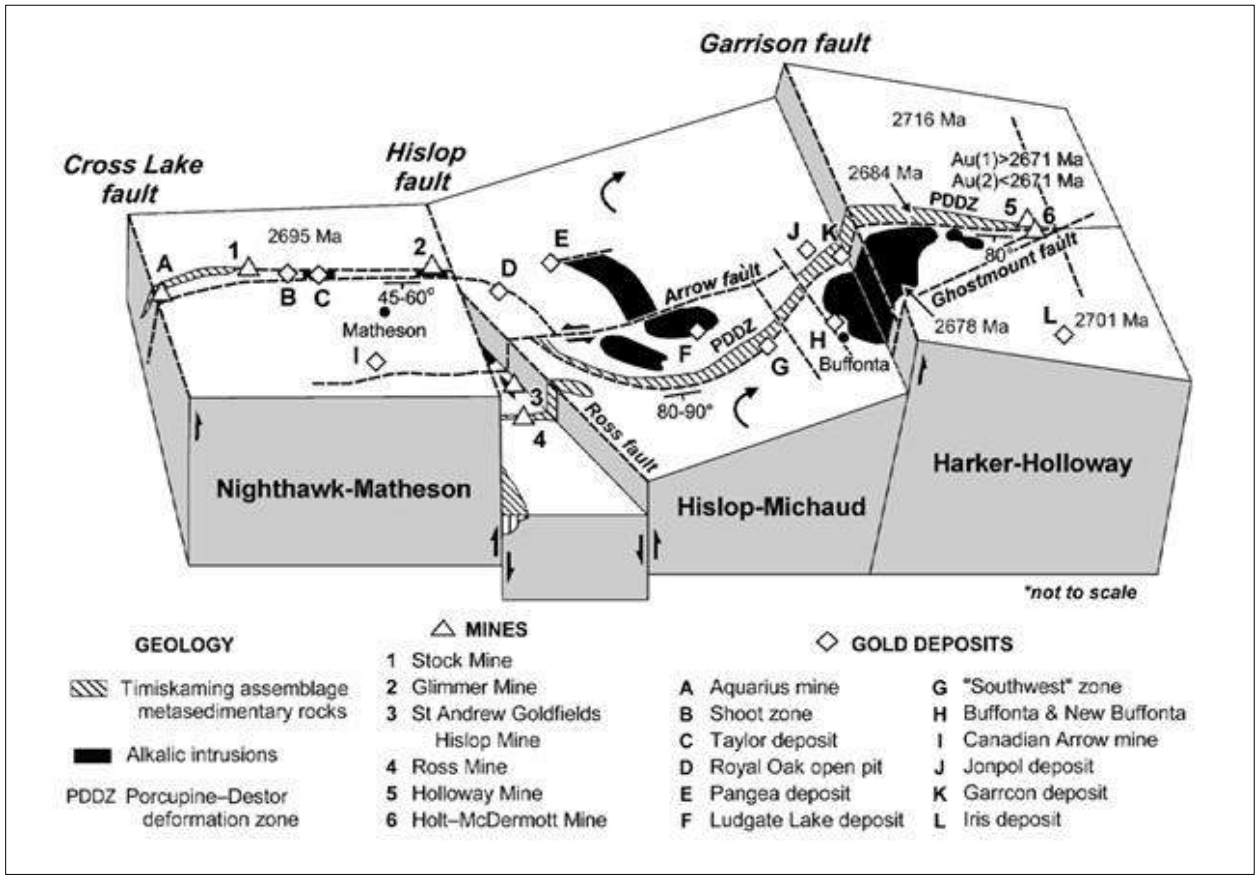
"The study area is underlain by Neoarchean supracrustal and intrusive rocks that are subdivided into 5 lithotectonic assemblages. The Kidd-Munro assemblage underlies the north part of the study area and is composed of a tholeiitic metavolcanic member and a calc-alkalic metavolcanic member. Ultramafic to mafic layered sills intrude the metavolcanic rocks. The Tisdale assemblage is composed of tholeiitic metavolcanic rocks and subordinate amounts of calc-alkalic metavolcanic rocks. The distribution of the assemblage is poorly constrained because of the Porcupine-Destor deformation zone and related splay faults transect the assemblage in several places. The Kinojevis assemblage underlies the south part of the study area and is composed of predominantly mafic tholeiitic metavolcanic rocks that are intercalated with thin units of tholeiitic rhyolite and calc-alkalic metavolcanic rocks. The Porcupine assemblage underlies the northwest part of the study area and is composed of greywacke, argillite, and rare conglomerate that are intruded by small alkalic intrusions. The Timiskaming assemblage is composed of clastic and chemical metasedimentary rocks and rare alkalic metavolcanic rocks that are distributed within and near to the Porcupine-Destor deformation zone. Ultramafic to felsic alkalic intrusive rocks are also correlated with the Timiskaming assemblage and occur as dikes, small single-phase intrusions and large multi-phase intrusions throughout the area. Paleoproterozoic quartz-diabase dikes, Keweenawan-age olivine diabase dikes and Jurassic kimberlite dikes and diatremes intrude the Neoarchean rocks.

The Porcupine-Destor deformation zone is a crustal-scale structure that transects the study area and is characterized by south-side-up vertical movement. The fault zone and related northeast striking splay faults such as the Ghostmount fault and McKenna fault, are the loci for gold mineralization. Northeast-striking faults with dominant vertical displacement transect the Porcupine-Destor deformation zone. Two of these faults, the Hislop fault and Garrison fault, are

major structural features that act as the boundaries to different metallogenic segments. Gold mineralization occurs in different structural settings, different styles, and different types of alteration patterns in each segment."

The distribution of gold deposits in relation to major faults and the Timiskaming assemblage is shown in Figure 7.3.

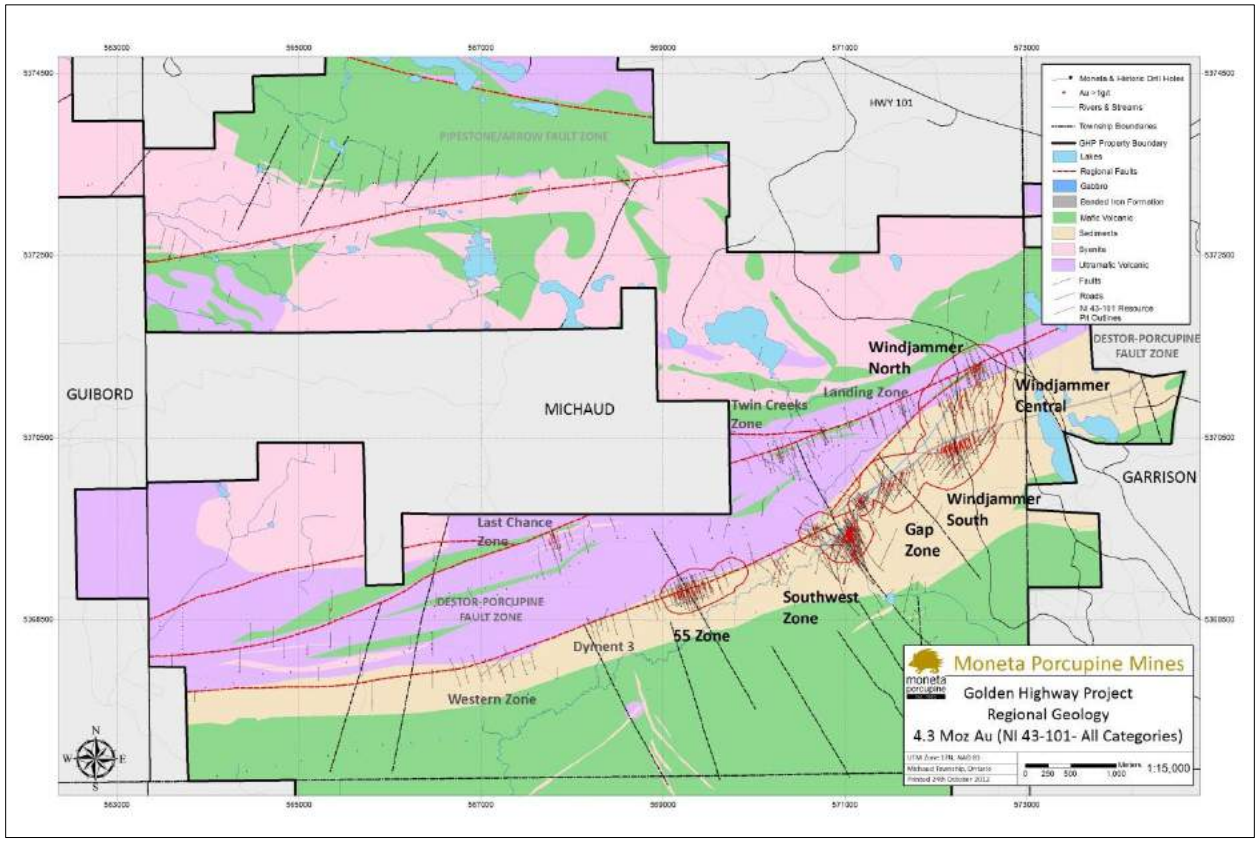
Figure 7.3 Regional Schematic Model Showing Distribution of Gold Deposits in Relation to Major Structures and the Distribution of Timiskaming Assemblage Rocks



*(**Source:** Berger, 2002)*

The DPFZ remains the most prolific gold–bearing structure with several gold deposits discovered along its strike length and within splays and extensive alteration zones. In the general area of the Property production is underway from St Andrew Goldfield Ltd.'s Holloway-Holt mine complex (Holloway Township) and Brigus Gold Corp.'s Black Fox mine (Hislop Township) approximately 25 km east and 15 km west of the Property respectively. St Andrew Goldfield Ltd.'s has also commissioned the open pit Hislop mine (Hislop Township). Additional gold prospects, former producers, and more significant gold occurrences in various stages of exploration are also present Figure 7.4 including from west to east the Ross Mine and Fenn–Gib, Ludgate, 55/Southwest/Windjammer, Jonpol and Garrcon deposits. These and additional occurrences throughout the area attest to the potential for future discoveries, including the potential for platinum group metal (PGM) mineralization in ultramafic to mafic layered intrusions and ultramafic phases of alkalic intrusions (Berger, 2002). Diamonds are also known from some of the kimberlite intrusions (Berger, 2002).

Figure 7.4 Golden Highway Project Property Geology



*(**Source:** www.monetaporcupine.com)*

7.3 DEPOSIT GEOLOGY

The geology of Michaud and Garrison Townships was mapped by Satterly (1949) with more recent refinement by Berger (2002). The area is largely covered with overburden consisting mainly of sands associated with the Munro Esker complex. A few outcrops are located in the centre of the Michaud Parcel (Miller Zone area) and more extensively on the southeast portion of the Nufort Leases south of the Pike River valley. Most of the geological information and interpretation is based on drilling and information on structural geology is limited.

The central portion of the Property is the main area of exploration work and can be divided into a North and South corridors that together define the DPFZ and Timiskaming assemblage as they crosses Michaud and western Garrison Townships. These distinct mineralization corridors contain the bulk of known gold mineralization discovered to date. The North corridor contains the historical DPFZ trace in a sequence of mafic and ultramafic metavolcanics. The Timiskaming metasedimentary rocks, iron-formation and associated rocks are contained in the South corridor.

The Northern corridor consists of a variably altered and deformed/sheared sequence of intercalated komatiites and tholeiitic basalts, generally bounded by talc-chlorite schists. This belt of volcanics thins both westerly and easterly. Several gold occurrences and zones have been discovered along the main trace of the DPFZ, including the Twin creeks and Windjammer North Zones.

In the northern portion of the Property, the Kidd-Munro metavolcanic rocks are associated with the Arrow, Pipestone and Munro Faults. Limited drilling has established a sequence of tholeiites in contact to the south by phases of the Emens Lake (Central Michaud) syenite complex. The Arrow and a portion of the Pipestone Faults, a regional east-west structure, follow this contact. Only minor and scattered gold mineralization has been discovered to date.

The Southern Corridor is well defined by the belt of Timiskaming sediments that parallels the DPFZ and includes the main gold zones discovered to date on the Property. This corridor has a strike length of approximately 12 km crossing Michaud and continuing north-easterly into Garrison Townships hosting the Western, 55 Zone, Dyment 3, Southwest, and Windjammer South gold zones.

The Timiskaming metasediments consist of a series of alternating sandstone and greywacke units with subordinate argillite and conglomerate. Greywacke is generally fine to medium grained with minor sections of very fine and coarser grained conglomeratic material. The greywacke is typically green-grey, massive to well-bedded and can be locally pyritic.

Conglomerate typically consists of a grey to pink-grey and medium to coarse grained sandstone matrix containing pebble to cobble sized angular to sub-rounded clasts ranging in size from several millimetres to rarely greater than 10 cm. Clasts include greenish black to grey mafic volcanics, less common iron formation and rare massive sulphide fragments. Conglomerate is typically found along the south contact of iron formation where it may represent a disconformity.

The oxide facies iron-formation (bedded jasper, magnetite, or hematite) ranges in thickness from 10 to 100 m, generally strikes 070^{o} with a steep 80^{o} southeast dip. It is much more magnetite rich and massive to the east while to the west it thins quickly and is dominated by hematite. The iron formation is well bedded, shows locally changing dips and soft sediment deformation and displacement features. Fracturing and deformation is usually parallel to the bedding. Pyrite is present from trace to 0.5 % both along bedding and in fractures. Fractures contain calcite and locally traces of specular hematite. Local variations in thickness are attributed to overall thickening and thinning, facies changes, and poorly defined isoclinal folding.

The metasediments are bounded to the north by the dominantly ultramafic volcanics sequence of the Kidd Munro assemblage (Northern corridor) and to the south by the Kinojevis metavolcanics. The sedimentary sequence is from 500 to 900 m thick.

Figure 7.5 Photograph of Typical Iron Formation

*(**Source:** www.monetaporcupine.com)*

In addition to the DPFZ and its associated splays, northwest to north trending cross faults and related structures have been identified. Many of the recently drilled significant quartz and quartz carbonate veins and vein zones reflect similar orientations to the north to northwest structures suggesting a significant role in localizing gold mineralizing systems.

7.4 MINERALIZATION

Gold mineralization has been found throughout the Property by diamond drilling, ranging from widely spaced and scattered intercepts to well defined zones in a variety of geological settings. The bulk of the recent exploration drilling has focused on follow-up of mineralization judged to have zone potential.

7.4.1 Northern Corridor

Gold mineralization in the northern corridor is found in the sheared and altered mafic and ultramafic metavolcanics that define the northern DPFZ as it crosses the Property. Gold mineralized zones include Twin Creeks and Windjammer North with numerous occurrences between them along 3 km of the DPFZ. Windjammer North is one of six gold zones included in this updated resource and PEA report and is located immediately north of Windjammer Central. Additional mineralization is associated with altered syenite bodies within and in contact with the DPFZ (Last Chance zone) further to the west southwest along strike.

Gold mineralization in mafic volcanics is typically in individual quartz-carbonate veins, breccia zones, and stockworks of quartz veinlets with 2–5% very fine pyrite and occasional visible gold. Veining is accompanied by often pervasive ankerite, silica, sericite, chlorite, hematite, and fuchsite alteration of wall rocks.

The Last Chance Zone is a syenite hosted gold zone found in porphyritic syenite intrusives in contact with sheared and locally altered ultramafic and mafic of the Destor. The fault contact has generated fracture/breccia zones in the syenite with gold mineralization in quartz-carbonate stringers and hematite alteration with up to 5% pyrite with some local overlap into altered ultramafic rocks.

7.4.2 Southern Corridor

Gold mineralization is widespread throughout the Southern corridor reflecting an extensive gold mineralizing system in the Timiskaming assemblage meta-sediments. To date widespread gold mineralization has been defined on the south (hanging wall) side of the SE dipping banded iron formation (BIF) and the south footwall and contact of the northern volcanics of the Destor. The main host rocks for mineralization include conglomerate, followed by a thick sequence of interbedded greywacke with local sandstone and argillite.

Five of the six gold zone resources have been defined in the southern corridor to date and are the primary focus of this report. The mineralization in the 55 Zone, Southwest Zone, Gap Zone and Windjammer South have a combined strike length of 4 km strike length along the south (hanging wall) side of the iron formation. In this setting additional gold mineralization occurs south-westerly along strike from the 55 Zone (Dyment 3 and Western Zone). Windjammer Central is the fifth gold zone resource located immediately north of the Windjammer South iron formation and is also within the southern corridor Timiskaming meta-sediments that form the footwall to the steep northerly dipping Destor volcanics of Windjammer North.

The 55 Zone mineralization has been traced over a strike of 1,000 m, a depth of 250 m and reaches a width of 200 m. The Southwest zone consists of three fault displaced blocks over a strike of 1,200 m, with a width of 10 to 100m and depths ranging from 250 to 1,200 m. A separate deeper vein zone is located 225 m in the hanging wall of the BIF. The Gap bridges the area over 500 m along the iron formation between the Southwest Zone and Windjammer South with no change in mineralization style. It has been traced over 450 m strike, a depth of 400 m and width of 200 m into the hanging wall sediments. Windjammer South has been traced by drilling for 650 m along strike, to depth approximately 450 m and locally extends into the BIF hanging wall sediments for 300 m. Windjammer Central has been tested over 750 m of strike along the volcanic contact, to a depth of 450 m and into the sediments for 350 m.

Most of the gold mineralization occurs in altered sediments (ankerite + silicification) with locally disseminated pyrite. Stockwork veining is the most common style across all the sediment hosted zones and consists primarily of flat extensional quartz-ankerite-pyrite veins. Less common are sub-horizontal to shallow dipping quartz-feldspar veins, quartz-ankerite-chlorite veins in multiple orientations and quartz carbonate chlorite tension gash veins. Veining and fractures are associated with variably intense ankerite–pyrite haloes. Stockwork veins are typically narrow (0.5-3.0 cm), but may reach 0.30 to 1.50 m. The majority of thicker veins are often brecciated and found proximal to the BIF contact. Mineralized intervals range from 5-40 m in thickness and are often closely stacked.

Narrow often higher grade laminated (shear veins) and steeper northeast, north, and west to southwest dipping veins are found throughout the zones. These may carry minor graphite, black chlorite or tourmaline along laminae and/or vein margins. Less common are discrete quartz vein zones on a larger several m to tens of m scale such as the 267 Vein Zone. This is a multiple vein zone which is a northwest striking and moderately southwest dipping in ankerite altered greywacke with a chlorite-quartz fracture network, southwest-dipping quartz-ankerite-pyrite (stockwork) veins and north-northeast striking, steeply dipping quartz-ankerite-graphite (laminated) shear veins. Wider veins commonly contain wallrock breccia fragments and coarser grained pyrite.

In all zones, the BIF when present may be sulphidized with local replacement of magnetite along bedding at the sedimentary contact especially when brecciated and in contact with veining. Veins and fractures may continue into the iron formation with additional sulphidation. This mineralization is localized but can show significant grade enrichment.

Detailed examination of polished sections by Lac Minerals (Barrick 1996) of Southwest Zone gold mineralization indicated that gold occurs primarily (80%) as native and free gold grains within and along edges of quartz-carbonate (ankerite)-pyrite veins in the stockworks as well as coatings on euhedral pyrite grains within their ankeritized and silicified alteration envelopes. The gold grains are typically arrayed along vein margins and vary in size from 1 to 15 microns with the 1 to 5 micron range being the most prominent. Visible gold is rare and fine grained and has been observed in all zones.

The predominant alteration consists of ankeritization, silicification, sericitization, hematization and pyritization. The greywackes are also carbonatized and chloritized along fracture planes. The most intense alteration is associated with quartz and quartz-ankerite veins and stringers in the form of buff brown alteration envelopes with fine to medium coarse disseminated pyrite generally 2-5% but locally to 10%.

Figure 7.6 Photograph of Typical Mineralization

*(**Source:** www.monetaporcupine.com)*

7.4.3 55 Zone

The 55 Zone is the most westerly of the six gold zones with resources. The higher grade gold mineralization is found in a series of high grade generally centimetre to sub m series of stacked quartz veins within a broad 150-200 m wide corridor bounded by the main iron-formation unit to the north and a wide mixed hematitic iron formation and greywacke sequence to the south. These veins are often associated with narrow breccia zones and dip moderately to the north-northwest. Additional mineralization is generally lower grade in the form of quartz ankerite stockworks. Veins have caused local sulphidation of the iron formation both in its sediment contact area and within the iron formation resulting in significant grade enrichment.

7.4.4 Southwest Zone

The Southwest Zone is the central of the three zones and divided into three main blocks offset by north-westerly trending faulting. The bulk of the mineralization is of the stockwork type and iron formation sulphidation. Both have been intersected to depths of 1,200 m in the Central block (CB) with gold mineralized alteration zones along the BIF and further into the immediate sedimentary rocks south of the BIF. At depth additional high grade mineralization occurs 225 m into the iron formation hanging wall as the 267 vein zone, distinguished primarily by the larger scale veining, the overall mineralization style remains the same. A variably developed iron formation horizon is also found 300 m southerly of the main iron formation as part of the hanging wall sedimentary sequence. Drilling targeting deeper mineralization has intersected locally sulphidized iron formation with gold mineralization.

Figure 7.7 Core Photograph of the 267 Vein Zone

*(**Source:** www.monetaporcupine.com)*

7.4.5 Gap Zone

The Gap Zone gold mineralization bridges the gap along the iron formation between the Eastern Block of the Southwest Zone and Windjammer South. As with the flanking zones mineralization consists primarily of stockwork style gold mineralization with a central NW striking fault and breccia zone and vein zone similar to the 267 style vein zone. A significant higher grade intercept contains abundant coarser pyrite mineralization devoid of veining and with strongly elevated gold values.

7.4.6 Windjammer South

Windjammer South gold mineralization defines the most eastern zone consisting primarily of stockwork style gold mineralization with minor occurrences of sulphidized iron formation and rare larger sub-m scale quartz veins. The bulk of the mineralization occurs in the 150 m wide corridor forming the immediate iron formation sedimentary hanging wall. Locally mineralization extends approximately 200 m into the BIF hanging wall sediments.

7.4.7 Windjammer Central

Windjammer central mineralization is similar to that of Windjammer South with a moderately reduced gold tenor and more variable ankerite alteration intensity. Mineralization is found tracking the volcanic contact over 750 m as well as in a series of stacked and variably thick, shallow to moderately south-westerly dipping zones. This mineralization has been extended approximately 350 m southerly from the volcanic contact.

7.4.8 Windjammer North

Windjammer North Zone in the volcanics exhibits quartz carbonate veining in high strain zones usually silicified and carbonatized with subordinate hematite, sericite, and albite. Calcite is commonly replaced by ankerite which can also define an alteration halo enclosing the main structures. Gold values may be erratic and are typically associated with 2% to 5% very fine pyrite and occasional visible gold. Mineralization is found tracking the Destor Porcupine Fault Deformation Zone over 600 m, in two parallel sheets 10 to 50 metres in width dipping steeply to the north.

8.0 DEPOSIT TYPES

The Windjammer (3), Gap, Southwest and 55 Zone Deposits of the Golden Highway Property can be classified as mesothermal lode gold deposits in an Archean greenstone belt setting. This deposit type is a significant source of gold mined in the Superior and Slave provinces of the Canadian Shield. Dubè and Gosselin (2007) have recently published an overview of greenstone-hosted gold deposits in Canada. These deposits are typically quartz-carbonate vein hosted and are distributed along crustal-scale fault zones that mark convergent margins between major lithological boundaries such as those between volcano-plutonic and sedimentary domains.

The greenstone-hosted quartz-carbonate vein deposits are structurally controlled, epigenetic deposits characterized by simple to complex networks of gold-bearing, laminated quartz-carbonate fault-fill veins. These veins are hosted by moderately to steeply dipping, compressional, brittle-ductile shear zones and faults with locally associated extensional veins and hydrothermal breccias. The host rocks are greenschist metamorphic rocks of dominantly mafic to ultramafic metavolcanic rocks intruded by intermediate to felsic porphyry. Larger deposits are typically spatially associated with fluvio-alluvial conglomerate (Timiskaming conglomerate) distributed along major and deep seated crustal fault zones (Destor Porcupine Fault Zone). The deposits are typically associated with iron-carbonate (ankerite) alteration with gold usually occurring in the quartz-carbonate vein network. Significant gold can also occur within the iron-rich, sulphidized, wallrock selvages or within silicified and arsenopyrite-rich replacement zones.

In the Superior Province, mesothermal gold deposits are spatially associated with large scale regional deformation zones such as the Destor Porcupine zone. These large scale structures and the associated Timiskaming-type sediments are interpreted as zones of transpressive terrain accretion (Kerrich and Wyman 1990). Colvine et al.'s (1988) study of gold deposits in Ontario concluded that Archean lode gold deposits are formed at deeper crustal levels (2 to 10 km) than younger epithermal deposits.

There is a general consensus that greenstone-hosted quartz-carbonate vein deposits are related to metamorphic fluids and generated by prograde metamorphism with fluid channelling along major crustal deformation zones and thermal re-equilibration of subducted volcano-sedimentary terranes.

Auriferous quartz veins cut many different rock types in the Timmins-Kirkland Lake area including late intrusive rocks and late deformation zones such as the Destor Porcupine fault. As a consequence it is likely that gold mineralization formed late in the Archean geological history of the Timmins area (Fyon and Green, 1991). In the Timmins area, Corfu et al. (1989) have documented auriferous quartz veins cutting 2691 to 2688 Ma quartz-feldspar porphyry intrusions and a 2673 +6/-2 Ma albitite dike.

Figure 8.1 Idealized Composite Depositional Model for Archean Lode Gold Deposits

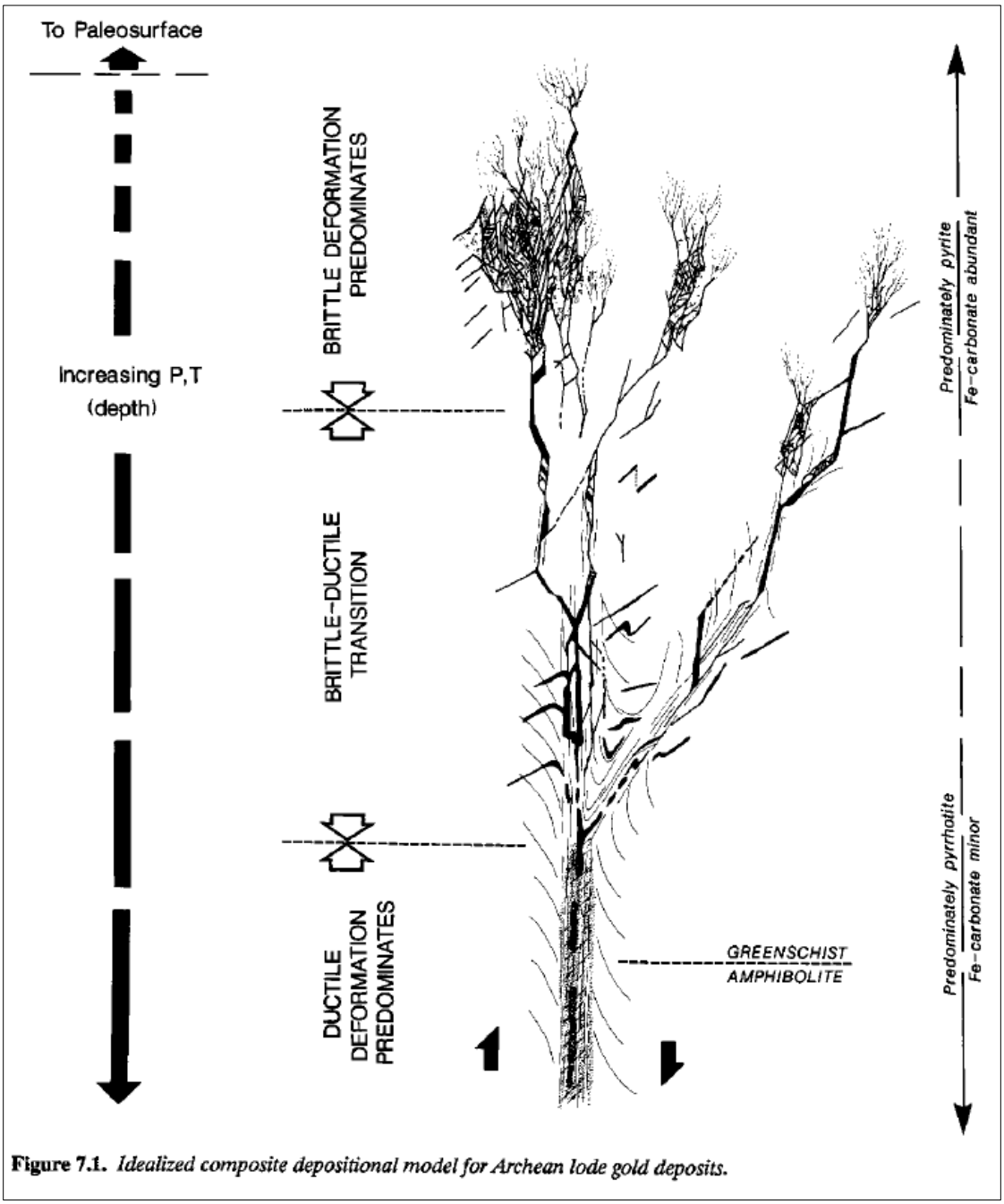


Figure 7.1. *Idealized composite depositional model for Archean lode gold deposits.*

Note: *(Colvine et al. 1988). Structures in the Golden Highway Project are consistent with the brittle/ductile transition in this model.*

9.0 EXPLORATION

Exploration work on the Property and in the immediate vicinity of the three main zones is documented in Section 6. Since discovery of the mineralized zones additional exploration work has primarily been diamond drilling that focused on the expansion and better definition of known gold mineralization. This includes the ongoing and systematic testing of the primary geological setting of the gold mineralization in the sediments along the iron formation. These programs have generally superseded previous ground geophysical surveys that targeted specific exploration areas.

Drilling may be guided by changes observed in the magnetic patterns of the host stratigraphy especially iron formation and more magnetic and peripheral volcanics. These features may be indicative of both structures (offsets) and areas of potential alteration (loss of magnetite). Data evaluated includes compiled historical ground magnetic surveys as well as both government and industry flown airborne magnetic surveys. These have been used to generate both regional and property scale structural interpretations that have been found by drilling within the zones and applying data from orientated core drilling.

Additional information has been obtained from IP surveys where both chargeability and resistivity can indicate areas of alteration (silicification, pyritization) and map changes in lithology. Several IP (Induced Polarization) surveys were completed since 2001 on the Southwest Zone, Windjammer South Zone, and 55 Zone to potentially focus drilling and discover new gold mineralization.

9.1 SOUTHWEST ZONE

In 2010 Abitibi Geophysics carried out a hole-to-hole or 3D Resistivity / IP survey combined with borehole InfiniTEM® over the Southwest Zone. The primary objective was to assess the responses and potential for identifying gold mineralization related to areas of increased pyrite associated with ankerite alteration in sediments and sulphidation of the iron formation. A total of 4 holes were surveyed with InfiniTEM® targeting areas of conductivity. Three independent pairs of receiver holes were surveyed with hole-to-hole Resistivity / IP configuration.

The most defined InfiniTEM® off-hole anomalies were modelled using Maxwell software and assessed and identified based on known geology. The geological targets such as areas of significant pyrite enrichment close to Iron formation and fault and shear zones, showed very little conductivity contrast with the background and no priority targets were identified.

The IP survey results were processed using a three-dimensional image3D MD inversion that identified a large, complex shaped IP anomaly reaching to depths of at least 300 m. The strong responses of delineated chargeability's were found to be generally associated with the iron formation. The high chargeability caused by iron formation appears to be masking the response of potential disseminated pyrite associated with alteration zones. A weak chargeable and conductive response is believed to reflect argillaceous sediment. Few minor and shallow IP sources were also detected with unknown sources and poorly defined geometry. No further work was undertaken.

9.2 55 ZONE

In 2002 Quantec Geoscience Inc. completed a ground magnetometer 26.3 line km survey covering an area of about 1,900 m x 600 m over the 55 Zone area. Line separation was 200 feet with 100 foot picket spacing and sampling intervals of 50 feet. The survey outlined the ENE trending mafic volcanics and metasediments, their contact, and several potentially northerly local cross faults. Also completed was a 6.1 line km pole-dipole IP survey (chargeability and resistivity) on the central part of the magnetometer survey with the same grid spacing.

The drill testing of magnetics with IP chargeability anomalies resulted in intersecting gold mineralization at depth within slightly pyritized and altered metasediments.

9.3 WINDJAMMER SOUTH AND WINDJAMMER CENTRAL

A detailed Insight Geophysics tuned gradient IP survey was undertaken in 2009 to map the Windjammer South mineralization along strike and to depth by providing a high density of apparent resistivity and apparent chargeability data from near surface to a depth in excess of 600 m (Figure 9.2). Additional surveying was completed north of the main iron formation bridging the sedimentary gap between Windjammer South and Windjammer North now known as Windjammer Central. For the purpose of this survey the historical 1985 Noranda metric 100 m grid was refurbished and merged with the then immediately west and adjacent historical Moneta 400 foot imperial grid. Both grids are based on 70^0 baselines. Sampling and dipole intervals were 25 m.

A series of four tuned gradient arrays or sections, including one across Windjammer South, Central, and North, were completed. Tuned gradient surveying was completed on lines between these sections. Surveying was along grid north-south lines with supplemental grid east-west tie lines.

The gradient array IP/resistivity survey was successful in delineating the known Windjammer South Zone and as well the moderate response of the Windjammer Central and North Zones. Additional geophysical targets were defined proximal to Windjammer South in particular north of the iron formation and not closed off to the east. Chargeability responses of the iron formation indicate a change in the polarizabilty from surface to depth potentially reflecting subtle changes in composition. All the sections except the most western one display this phenomenon. Results also provided some indication of overburden depth with a general increase south of the iron formation.

10.0 DRILLING

All drilling prior to the 2001 drill programs is summarized in section 5.0 of this report.

Drilling from 2001 to 2012 has been carried out by Norex Drilling based in Timmins, Ontario and Bradley Bros. Diamond Drilling based in Timmins and Rouyn-Noranda, PQ.

With very few exceptions, core size has been NQ. Early Acrex Venture holes were HQ (MA-02-01 to 03), and in some cases since 2001, size reduction to BQ has been necessary due to ground conditions (M08-259) or when deepening historical BQ holes (WJ88-18).

Drill collars have been setup in the field referenced by grids, existing drill hole collars (surveyed), and GPS surveying. Final drill hole collars (position, dip, and azimuth) were surveyed during and towards the end of the drilling programs by Talbot Surveys, Timmins, using a differential GPS system.

Drilling since 2001 is summarized under Property drilling, exploration in the immediate resource area and 2012 drilling. Table 10.1 details the drill holes advanced on the Property and Table 10.2 outlines drill holes advanced within the resource area.

10.1 PROPERTY DRILLING

TABLE 10.1
PROPERTY DRILLING

Year	Company	Exploration Work	Township
2001	Moneta	Drill holes M-01-225 and 226	Michaud
2002	Moneta/Acrex	Drill holes MA02-01 to 09	Michaud
2003	Moneta/Acrex	Drill holes MA03-10X to 14	Michaud
2003	Moneta	Drill holes M-03-236 to 239	Michaud
2004	Moneta/Acrex	Drill holes MA04-15 to 26	Michaud
2004	Moneta	Drill holes M-04-257 and 258	Michaud
2005	Moneta/Acrex	Drill holes MA05-27 to 32	Michaud
2006	Moneta/Acrex	Drill holes MA06-33 to 37A	Michaud
2007	Moneta/Acrex	Drill holes MA07-38 to 42	Michaud
2007	Moneta	Drill holes MWJ07-01 to 03	Garrison
2008	Moneta	Drill holes MWJ08-05 to 22	Michaud
2008	Moneta/Acrex	Drill holes MA08-43 to 50	Michaud
2008	Moneta	Drill holes M-08-259	Michaud
2009	Moneta	Drill holes MWJ09-23 to 31	Michaud
2010	Moneta	Drill holes MSW10-162A,B,D,G, MM97-203X and MSW10-260 to 276	Michaud
2010	Moneta	Drill holes M55-10-01 to 36	Michaud
2010	Moneta	Drill holes MWJ10-32 to 33	Michaud
2011	Moneta	Drill holes MPL11-01 to 09	Michaud
2011	Moneta	Drill holes MWJ11-34 to 59	Michaud
2011	Moneta	Drill holes MSW11-277 to 294	Michaud
2012	Moneta	Drill holes MSW295, 296, 299 to 309	Michaud
2012	Moneta	Drill holes M55-12-37 to 39	Michaud
2012	Moneta	MWJ12-60 to 79	Michaud

In 2001, Moneta completed two diamond drill holes totalling 385 m on the Twin Creek and Landing Zones, both within the North Zone. Gold mineralization was intersected in both holes.

In 2002, three historical drill holes in the North Zone were extended into areas believed to hold additional potential for gold mineralization, either at depth and/or along the southern contact of the North Zone against talc-chlorite schist for a total of 350 m. One extension discovered additional gold mineralization south of the Landing Zone.

In 2003, a follow-up drill phase was completed in the North Zone consisting of four drill holes totalling 1,250 m with two south of the Landing Zone area and two on the 1946 Miller drilling area, located between the Twin Creek and Landing Zones.

In 2004, two diamond drill holes (545 m) were completed targeting a west-northwest trending magnetic low from north of the Far West Block iron formation and ending at the intersection of the north branch of the Destor some 1.2 km to the west-northwest. Brecciated and pyritic syenite was intersected (Last Chance Extension).

From 2005 to 2007 Moneta drilled 1,039 m in two holes and a drill hole extension on the Turner Lake property completing the earn-in.

In 2006 Moneta/Acrex began a 7 hole drill program on the Dyment 3 ground that was completed in 2007 for a total of 1935 m of which 1548 m were attributed to the Dyment 3 earn-in under an option agreement with St Andrew Goldfields Ltd.

In 2011 Moneta drilled 2,475 m in 9 holes within the vicinity of the Pipestone and Arrow faults. By December 1st 2011, additional drilling was completed in the Gap area east of the Southwest Zone (11 holes totalling 5,300 m), the area south of the Southwest zone (3 holes totalling 1,600 m), MWJ11-34 (460 m) approximately 1,500 m east close to the Property boundary in Garrison Township along strike of Windjammer South, and in the Windjammer Central and North area in sediments along the southern volcanic contact.

10.2 ZONE RELEVANT DRILLING

TABLE 10.2
ZONE RELEVANT DRILLING

Year	Company	Exploration Work	Zone
2002	Moneta-Acrex	Drill holes MA-02-01 to 07	Southwest, 55 Zone
2003	Moneta/Acrex	Drill holes MA03-10 and 11	55 Zone
2004	Moneta/Acrex	Drill holes MA04-24 to 26	55 Zone
2005	Moneta/Acrex	Drill holes MA05-27 to 32	55 Zone
2006	Moneta/Acrex	Drill holes MA06-36 and 37	55 Zone
2007	Moneta	Drill holes MWJ07-01 to 03	Windjammer South
2008	Moneta	Drill holes MWJ08-06 to 22	Windjammer South
2008	Moneta/Acrex	Drill holes MA08-43 to 50	55 Zone
2009	Moneta	Drill holes MWJ09-23 to 25, 31	Windjammer South
2010	Moneta	Drill holes M55-10-01 to 36	55 Zone
2010	Moneta	Drill holes MWJ10-32 and 33	Windjammer South
2010	Moneta	Drill holes MSW10-162A,B,D,G,	Southwest

TABLE 10.2 ZONE RELEVANT DRILLING			
Year	**Company**	**Exploration Work**	**Zone**
		MM97-203X and MSW10-260 to 273	
2011	Moneta	Drill holes MWJ11-35 to 50	Windjammer South
2011	Moneta	Drill holes MSW11-278 to 282, 284 and 285	Southwest
2012	Moneta	Drill holes MSW295, 296, 299 to 309	Gap Zone
2012	Moneta	Drill holes M55-12-37 to 39	55 Zone
2012	Moneta	MWJ12-60 to 79	Windjammer Central

In 2002 the Moneta/Acrex drill program consisted of 9 drill holes for a total of 3,038.5 m. Holes were drilled into several zones; four in the three blocks of the Southwest Zone, one into the Far West block area, two into the 55 Zone, and two north of the Southwest Zone Central Block.

In late 2003 and continuing into 2004, three new drill holes were completed by Moneta/Acrex in the "55 Zone" and one was deepened. An additional 13 holes were drilled approximately 2 km to the west. In total 4,940 m were drilled of which 793 m were drilled in the 55 Zone, with the remaining 4147 m on the newly discovered Western Zone.

From 2005 to 2006 the Moneta/Acrex JV completed 6 infill drill holes totalling 2,142 m on the 55 Zone including a 800 m westerly stepout.

In 2007, Moneta acquired Newmont's operating interest the Windjammer property and completed three drill holes totalling 988 m on Windjammer South.

In 2008, a drill program totalling 6,914 m in 21 holes, was completed by Moneta on the Windjammer South Zone.

Also in 2008, the Moneta/Acrex Joint Venture completed an 8-hole, 2,449 m drill program, on the 55 Zone increasing drill data density for potential resource modelling.

In 2009 Moneta completed a 9 hole drill program totalling 4,753 m and 2 drill hole extensions (281 m) in the Windjammer South, Central, and North zone area.

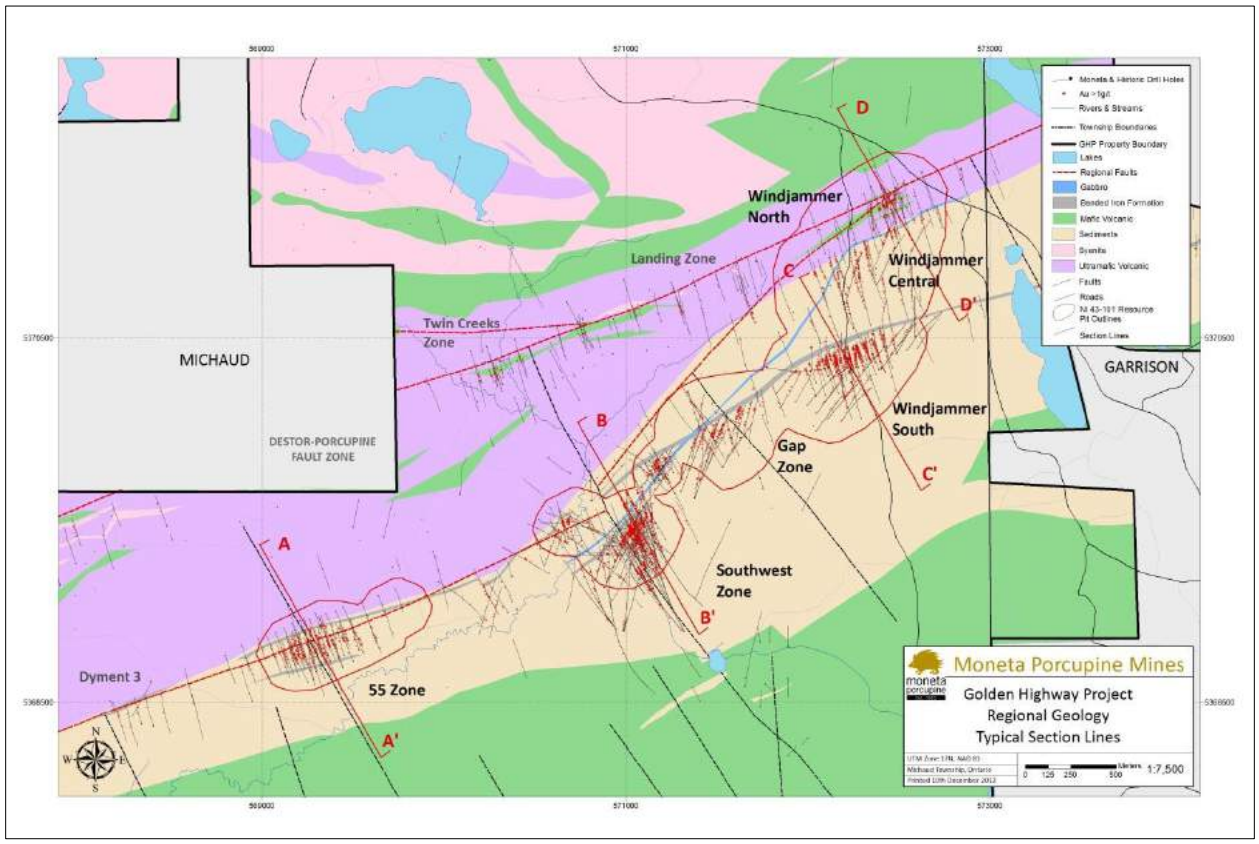
2010 saw a significant increase in the drilling program with drilling taking place in all three zones. In the 55 Zone drill holes M55-01 to 36 were completed. In Windjammer South holes MWJ10-25 and 29 to 32 were completed for a total footage of 1,475 m. Drill holes MWJ10-29 and 30 as well as the extension of MWJ10-25 profiled the area that is now part of Windjammer Central. MWJ10-26 to 28 were drilled in the Windjammer North area. Southwest Zone drilling included MSW10-260 to 273 for a total of 7,375 m and included numerous wedges from several deeper motherholes.

2011 drilling focused on Windjammer South and the eastern and deeper portions of the Southwest Zone. Windjammer South drilling consisted of holes MWJ11-35 to 50 for 6,400 m. Southwest Zone drilling completed the deeper phase of drilling with holes MSW11-278 to 282, 284 and 285 for a total of 4,375 m.

Figure 10.1 shows the drill hole locations relative to the Golden Highway Project geology and location of representative section lines for the 55 Zone, Southwest Zone, Windjammer South

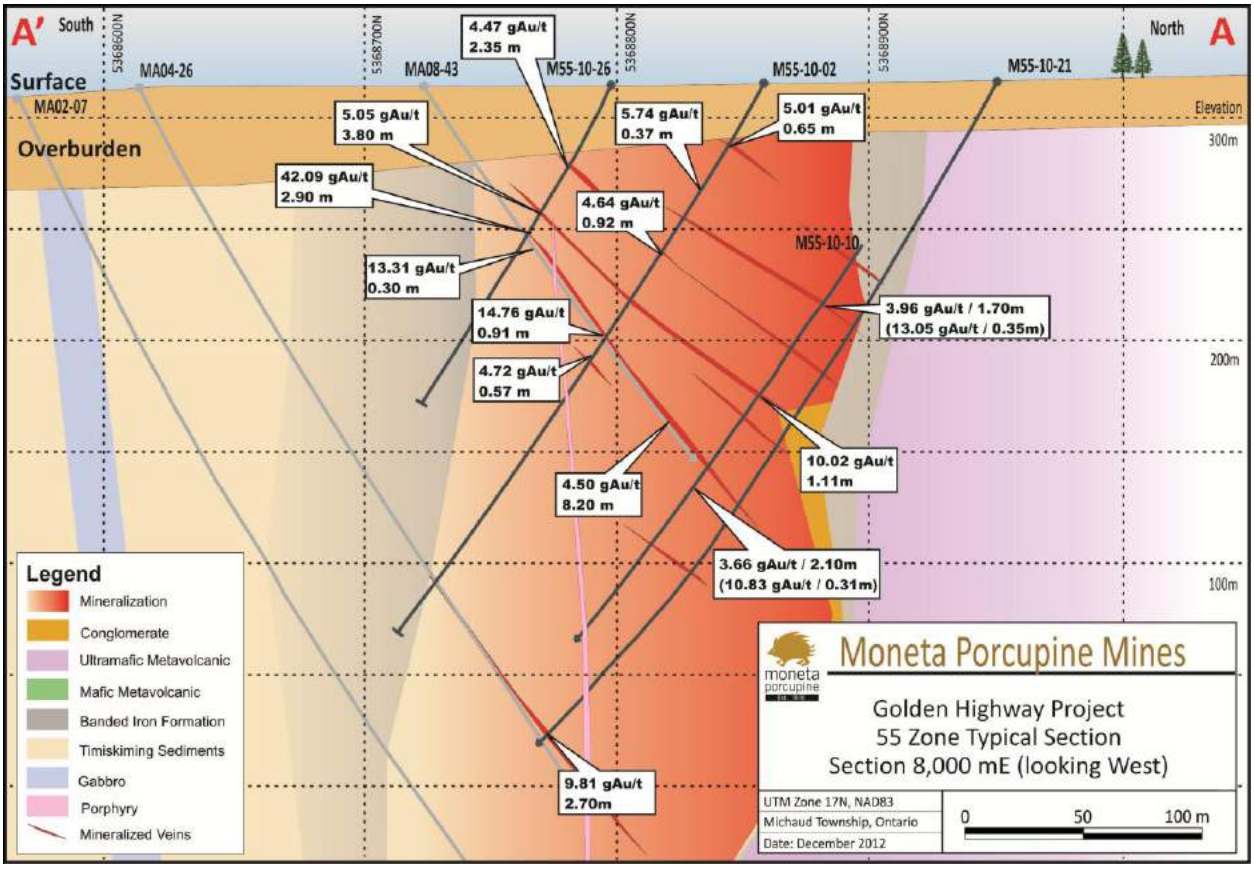
Zone and Windjammer Central and North Zones. Figure 10.2 through Figure 10.5 show typical sections through the 55, Southwest, Windjammer South and Windjammer Central and North Zones respectively.

Figure 10.1 Golden Highway Project Property Geology Showing Borehole Locations and Location of Typical Section Lines



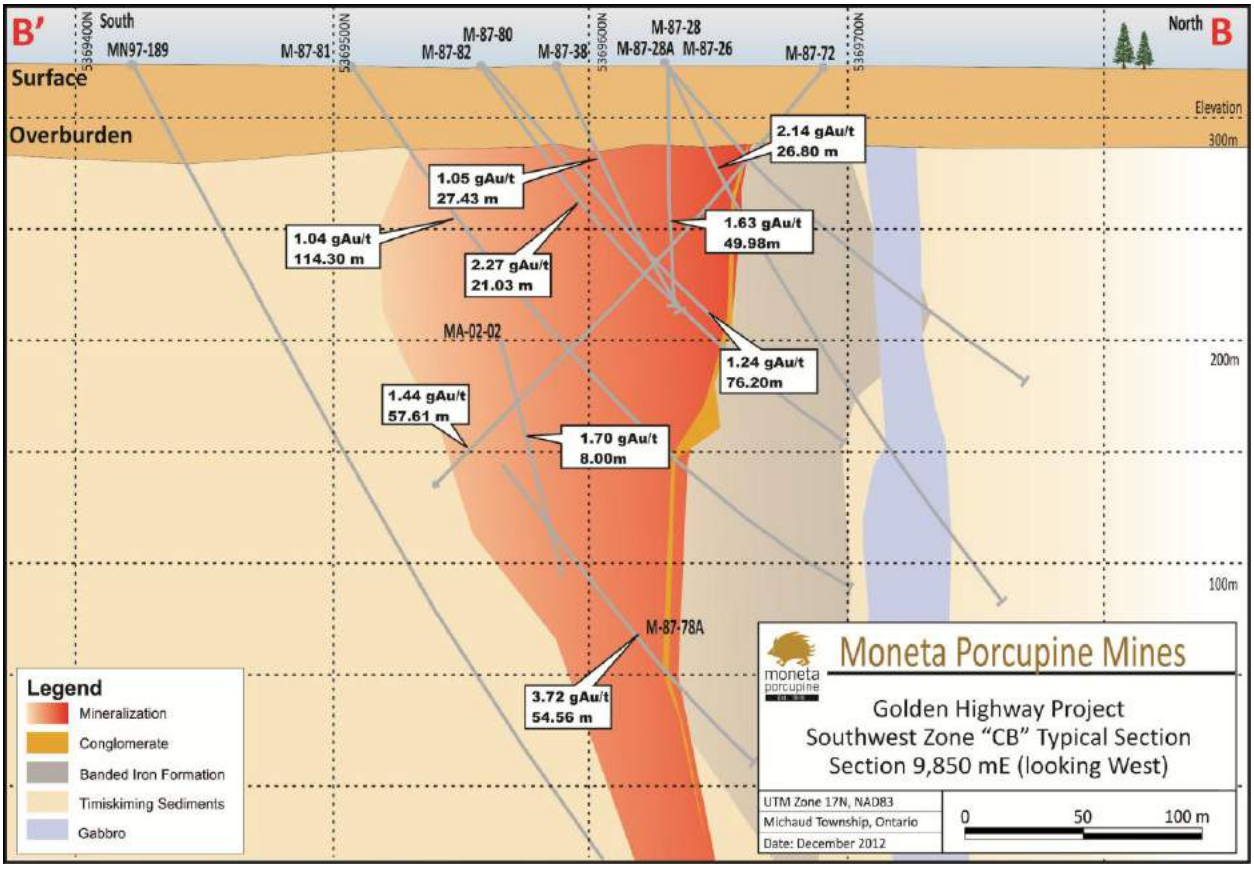
*(**Source:** Moneta, 2012)*

Figure 10.2 55 Zone Typical Section



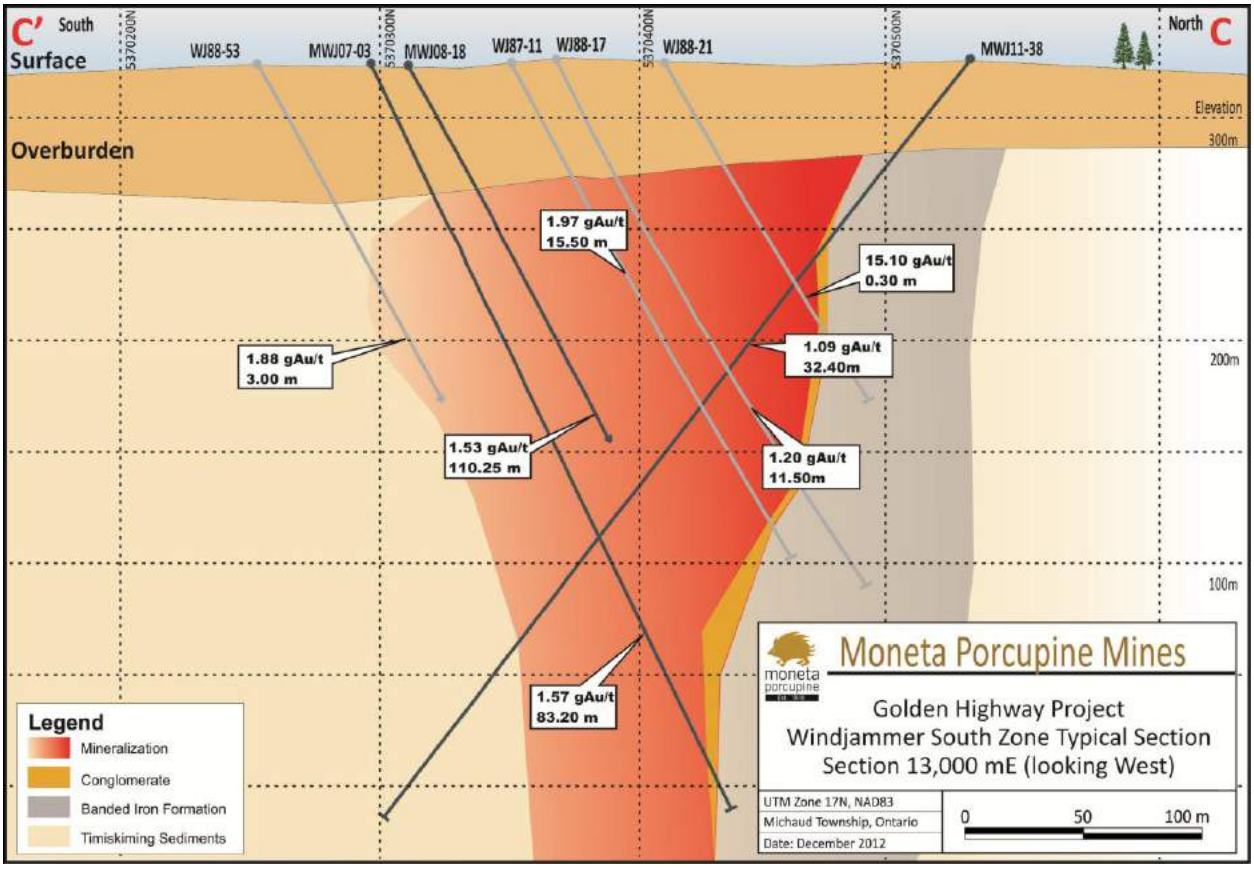
*(**Source:** Moneta, 2012)*

Figure 10.3 Southwest Zone Typical Section



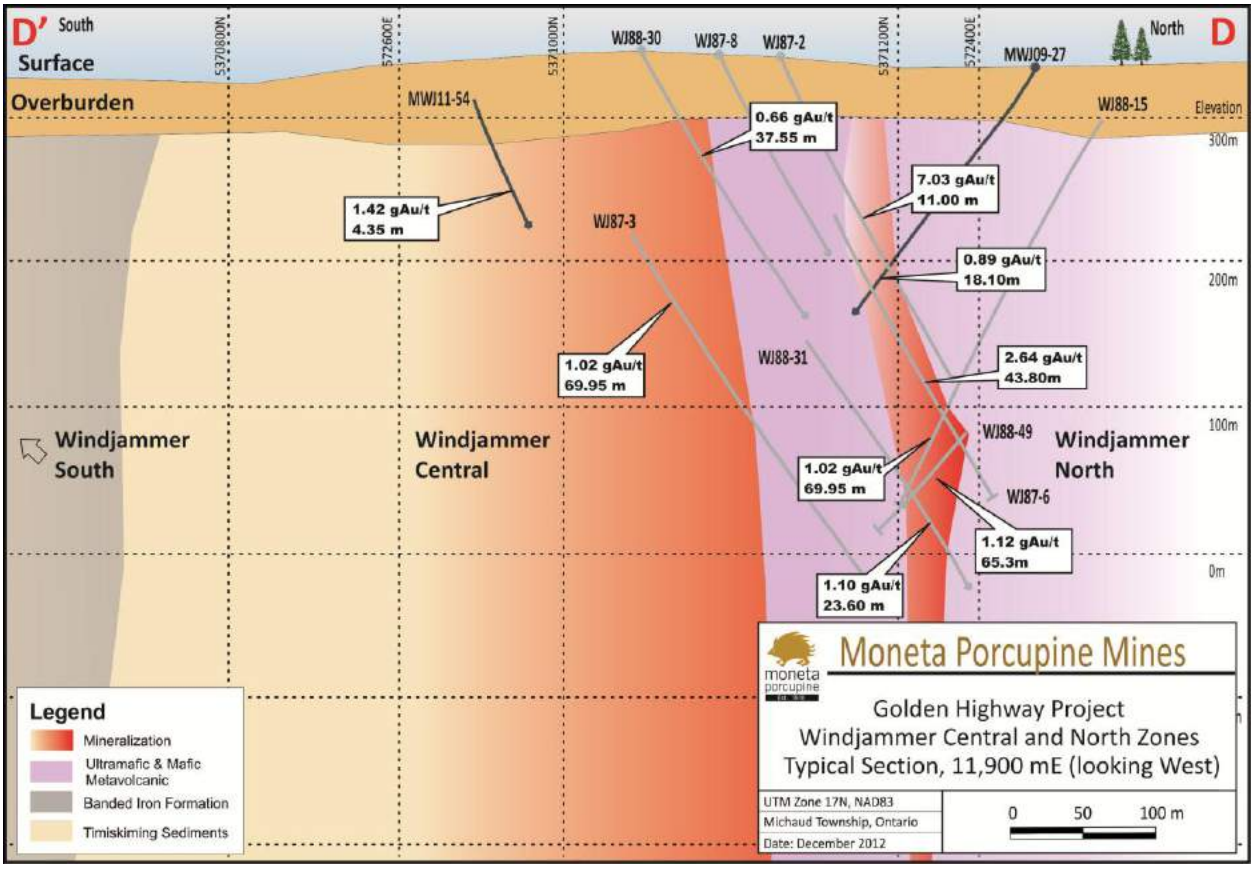
*(**Source:** Moneta, 2012)*

Figure 10.4 Windjammer South Zone Typical Section



*(**Source:** Moneta, 2012)*

Figure 10.5 Windjammer Central and North Zones Typical Section



*(**Source:** Moneta, 2012)*

10.3 2012 DRILLING

Drill location data is presented on Table 10.3.

TABLE 10.3
DRILL HOLE LOCATION DATA

Drill Hole	Easting (UTM)	Northing (UTM)	Elevation (m)	Length (m)	Azimuth	Dip	Zone
M55-12-37	569580	5368965	325	315.00	160	-50.00	55 Zone
M55-12-38	569675	5368995	325	218.84	160	-50.00	55 Zone
M55-12-39	569575	5368980	325	303.00	160	-60.00	55 Zone
MSW12-295	571437	5369865	322	60.00	19	-51.50	GAP
MSW12-295A	571437	5369865	322	332.70	19	-51.50	Gap Zone
MSW12-296	571395	5369375	325	383.87	340	-50.00	Gap Zone
MSW12-299	570551	5369247	322	107.00	340	-50.00	Gap Zone
MSW12-300	571233	5370166	320	348.20	141	-52.71	Gap Zone
MSW12-301	571577	5369930	325	294.07	15	-50.81	Gap Zone
MSW12-302	570675	5369000	325	417.03	15	-50.00	Gap Zone
MSW12-303	571392	5369994	321	326.44	11	-51.52	Gap Zone
MSW12-304	571645	5369980	324	287.30	16	-50.85	Gap Zone
MSW12-305	571590	5369870	325	395.98	15	-50.00	Gap Zone
MSW12-306	571349	5370159	322	357.11	138	-51.39	Gap Zone
MSW12-307	571617	5370020	323	167.53	11	-51.53	Gap Zone
MWJ12-67	572684	5370954	337	392.94	342	-51.79	WJCZ

TABLE 10.3 DRILL HOLE LOCATION DATA							
Drill Hole	**Easting (UTM)**	**Northing (UTM)**	**Elevation (m)**	**Length (m)**	**Azimuth**	**Dip**	**Zone**
MWJ12-68	572756	5371080	327	318.55	340	-62.18	WJCZ
MWJ12-69	572203	5370907	327	377.88	344	-49.67	WJNZ
MWJ12-70	572620	5371420	331	393.00	162	-52.23	WJNZ
MWJ12-71	572791	5371132	327	213.00	335	-59.72	WJCZ
MWJ12-72	572373	5370797	337	399.02	347	-52.64	WJCZ
MWJ12-73	572888	5371159	326	231.30	335	-59.56	WJCZ
MWJ12-74	572164	5370515	327	413.56	337	-54.67	WJCZ
MWJ12-75	572346	5370565	332	540.58	346	-51.36	WJCZ
MWJ12-76	572550	5370603	357	462.07	350	-50.64	WJCZ
MWJ12-77	572313	5370669	330	513.70	345	-50.03	WJCZ
MWJ12-78	572410	5370686	339	423.27	343	-51.83	WJCZ
MWJ12-79	572412	5370685	339	406.12	31	-50.18	WJCZ

10.4 WINDJAMMER CENTRAL ZONE DRILLING

A total of 4,563 m of drilling over 13 drill holes was completed on the Windjammer Central Zone. The objective of the drill program was to test the area for near surface mineralization potential. Gold mineralization, similar to that found in the adjacent Windjammer South Zone, was encountered along the volcanic/sedimentary contact. Mineralization was traced over a 750 m strike length, extending up to 350 m southerly in the footwall and to a depth of 350 m.

A table of significant intersections is presented in Table 10.4 and the new mineralized envelop between the Windjammer North Zone and Windjammer South Zone are presented in Figure 10.5.

TABLE 10.4 2012 DRILL PROGRAM SIGNIFICANT INTERSECTIONS				
Hole-ID	**From (m)**	**To (m)**	**Width (m)***	**Au (g/t)**
MWJ11-51	144.00	154.00	10.00	0.70
including	144.00	159.00	4.60	0.96
	291.00	300.00	9.00	1.05
including	295.00	298.00	3.00	1.69
	412.00	468.60	56.60	0.72
including	412.00	434.00	22.00	0.97
MWJ11-52	107.00	109.00	2.00	3.26
	181.00	182.00	1.00	6.74
	208.00	209.00	1.00	5.86
	302.00	313.00	11.00	0.79
	318.00	330.00	12.00	0.89
including	327.00	330.00	3.00	2.13
MWJ11-53	211.00	351.00	140.00	0.76
including	211.00	220.00	9.00	1.34
and	270.00	343.00	73.00	1.02
including	296.00	320.00	24.00	1.15
including	328.00	343.00	15.00	0.96
MWJ11-54	133.70	137.52	3.82	1.56

TABLE 10.4 2012 DRILL PROGRAM SIGNIFICANT INTERSECTIONS				
Hole-ID	**From (m)**	**To (m)**	**Width (m)***	**Au (g/t)**
	368.00	376.00	17.00	0.71
including	368.00	369.00	1.00	5.83
MWJ11-55	139.00	145.00	6.00	0.78
	212.00	265.55	53.55	0.94
including	239.42	265.55	26.13	1.42
including	265.00	265.55	0.55	27.67
MWJ11-57	261.00	316.00	55.00	0.72
including	294.00	316.00	22.00	1.06
including	315.00	316.00	1.00	6.61

**True widths are not known due to complex folding of the vein systems.*

10.5 GAP ZONE DRILLING

The Gap Zone is located between the Southwest Zone and the Windjammer South Zone. While it was not included in the December 2011 Resource Estimate, it is included in the present one.

A total of 1,019 m of drilling over 14 drill holes was completed on the Gap Zone. The drilling targeted the eastern extension of the Gap Zone to test the limits of mineralization and checked for potential connectivity to the Windjammer South Zone. The drilling expanded and confirmed the continuity of the Gap Zone mineralization.

A table of significant intersections is presented in Table 10.5.

TABLE 10.5 2012 DRILL PROGRAM SIGNIFICANT INTERSECTIONS				
Hole-ID	**From (m)**	**To (m)**	**Width (m)***	**Au (g/t)**
MSW12-295A	183.00	238.00	55.00	1.04
including	183.00	190.00	7.00	1.38
And	227.00	231.00	4.00	5.52
	276.00	283.00	7.00	1.49
	321.00	327.65	6.65	1.21
MSW12-301	169.00	169.66	0.66	20.64
	193.00	232.00	39.00	1.14
including	212.00	218.00	6.00	1.99
	240.00	286.00	46.00	1.17
MSW12-303	231.75	246.00	14.25	0.99
including	231.75	238.00	6.25	1.75
MSW12-304	84.09	96.38	12.29	0.82
including	91.10	96.38	5.28	1.35
	173.65	188.80	15.15	0.70
including	177.50	180.12	2.62	1.52
	204.88	223.00	18.12	0.69
including	204.88	211.50	6.62	1.11
	234.00	268.69	34.69	0.89
including	253.18	253.60	0.42	29.11

**Drilled width*

10.6 CORE RECOVERY AND SAMPLING

Core recovery was greater than 99% (averaged) in all sections sampled allowing all samples to be truly representative of the encountered mineralization. No factors that could materially impact the accuracy and reliability of the samples were identified.

Rock types and geological controls were described in detail in the drill logs as were samples and true widths, where known.

11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

A master assay database has been completed by Moneta incorporating all available records and then used for the purposes of this resource estimation. Data entries have been verified and scans of paper drill logs and assay certificates are available.

11.1 HISTORICAL SAMPLES

Historical drilling and geological data is sourced from government assessment and company files and considered indicative of geology and mineralization. Older (pre 1980) assay results may not be reliable. Core sizes range from AQ to NQ.

More recent drill programs since 1986 have primarily used BQ and NQ sized core with some HQ as determined by drilling situations and program design. Results from these programs are believed reliable with the inclusion of extensive duplicates and metallic analyses when warranted. Moneta drill results from 1986-1987 have been tested and confirmed by Lac Minerals (Barrick 1994/5) resampling. Noranda drill results to 1989 have also been verified by resampling and twinning of 2 drill holes as detailed by Cargill (2008). Significant drilling within the historical drill patterns in the zones has generated similar results.

A variety of analytical laboratories have been used over the course of the drill programs. Moneta drill programs from 1986 to 1987 used Bell-White Analytical Laboratories Ltd. (Haileybury) and only later in the programs Swastika Laboratories Ltd. (Swastika) and Bondar Clegg (Ottawa, now ALS Chemex). Lac Minerals (Barrick) also used Swastika Laboratories. Moneta currently uses Laboratoire Expert (Rouyn-Noranda, Quebec) and Actlabs (Timmins).

Past programs, in particular the Lac Minerals (Barrick) and Unocal drill programs used offsite facilities to log and process core. In the case of Lac Minerals it was the Holt-McDermott mine site approximately 25 km to the east along Highway. 101, while Unocal used the Perry Lake Lodge also on Highway.101 and adjacent to the current Property. Moneta's drill core samples have routinely been prepared at the company's core logging and storage facility, a gated area outside Timmins where all core, pulps and rejects from post 1986 drilling is stored. A permanent insulated building, suitable for winter operations, is available for core logging and sample preparation including diamond saws, office area and core logging and display areas. Drill core samples were typically picked up by lab personnel or delivered directly to the lab for preparation and analysis, or to a secure lockup to be shipped by bus as required.

In 1996 Lac samples were first fire assayed and then analyzed by atomic absorption with a 5 ppb detection limit. Samples with values greater than 500 ppb were re-analyzed using a standard gravimetric fire assay technique including check assays.

From 2002 to 2004 Moneta core samples were assayed at Swastika Labs using a 30 g fire assay portion for NQ core and 2 x 30 g portions for HQ core giving a representative 1 assay ton sample portion. Samples were analyzed by atomic absorption with a 2 ppb detection limit. Gold values greater than 1.0 g/t Au, were re-assayed by standard gravimetric fire assay with a detection limit of 0.03 g/t Au. Metallics were completed on any samples with visible gold observed in core and a random 41 samples were sent to Bondar Clegg as checks. Also in 2004 additional duplicate assays from reject were completed on all assays over 5 g/t Au. Later metallics were performed on samples defining zones from both geological and gold content considerations. Thus flanking or low grade samples were included. Internal duplicates from pulps were completed by Swastika

on a regular basis and up to 15% of the pulps representing a range of results were submitted to ALS Chemex as checks for quality control.

Standards and blanks were routinely assayed and reported by the lab for at least every 30 samples. Samples containing visible gold may have been subjected to a metallic sieve assay and a check-assay, should repeated check samples show significant variability.

11.2 RECENT SAMPLING METHOD AND APPROACH

The methods described in this section have been utilised by Moneta since 2007.

In the course of the drill program core runs are made to the drill site by pickup truck on an as needed basis but generally daily or after two productive drill shifts.

Moneta's drill core samples are prepared at the company's core logging and storage facility. Lithological, structural, alteration and mineralogical features of the drill core are observed and recorded during the geological logging procedure. Photos and Rock Quality Designation (RQD) calculations are completed on all drill core as part of the routine logging procedure. All logging is recorded directly to laptop computers and completed drill logs and sample tables are stored offsite on a company server which is routinely backed up.

Figure 11.1 Photograph of the Moneta Core Logging and Storage Facility

*(**Source:** www.monetaporcupine.com)*

All mineralized sections of drill core considered significant are marked and tagged to be split using a diamond saw with continuous fresh water flushing. One core-half is retained as a reference sample while the other is bagged and shipped for assay as directed by the project geologist and "Qualified Person". Sample intervals and corresponding sample numbers are entered into the standardized core log sheets by computer. Sample lengths are determined by the geological logging with samples ranging from 0.20 to 1.5 m in length. Typical sample lengths are 0.5 to 1.0 m. The samples selected for assay are batched with standards and blanks included, to be shipped to appropriate laboratories by bonded commercial carrier from secure lockups.

Results are first reported electronically for direct database entry, followed by certified assay certificates.

11.3 SAMPLE PREPARATION AND ANALYSIS

Swastika Laboratories Ltd., Laboratoire Expert, and Actlabs participate regularly in the Proficiency Testing Program for Mineral Analysis Laboratories ("PTP-MAL") administered by the Standards Council of Canada, and maintain Certificates of Successful Participation in Proficiency Testing for gold, and other elements.

At Swastika the samples were dried and crushed to approximately six (6) mesh. A Jones riffle splitter was used to take a 400g sub sample for pulverizing with the reject portion bagged and stored. After reducing the 400g sample to 80% -100 mesh, the sample was thoroughly blended and a 29.17 g portion (one assay ton) used for fire-assaying. Assayed samples were finished by Atomic Absorption, those with a returned value of greater than 2 g/t were re-assayed and finished gravimetrically. Repeat or check assays were run by the lab on at least one in every 10 samples on the original pulp or on a second pulp prepared from the reject. Additional checks were provided in a number of instances when an assay was greater than 2 g/t.

Laboratoire Expert Inc. (Rouyn-Noranda, Quebec) has undertaken primary analytical work since 2009 with check/duplicate analyses by Activation Labs (Timmins/Ancaster). Prior to 2009 Swastika Laboratories Ltd. undertook the primary analytical work with check/duplicate analyses by Laboratoire Expert Inc. A summary of the values for commercial standards are included in the Appendix. Blank material utilized is commercial landscaping marble.

One standard and blank are included within every batch of 24 samples sent to Laboratoire Expert, the primary lab.

Typically core samples are dried, crushed by jaw crusher and further reduced to approximately 6 to 10 mesh using a rolls crusher. The jaws and rolls are cleaned with a wire brush and air jet and processing barren material. A Jones riffle is used to take a 300-400-g sub-sample for pulverizing. The remaining reject portion is bagged and stored. After reducing a nominal –100 or -200 mesh with a pulverizer, the sample is thoroughly blended and sent to the fire assay department. A 1-assay ton portion (29.166 g) is used for fire assaying. This process results in a particle of gold that, in the normal assay method, is weighed (gravimetric). For metallic gold assays, the total sample is dried if necessary, crushed and pulverized, then screened using a 100 mesh screen. The -100 mesh portion is mixed and assayed in duplicate by fire assay gravimetric finish as well as all of the +100 mesh portion. All individual assays are reported as well as the final calculated value. For geochemical analysis or where lower detection is required, the gold is dissolved and determined by Atomic Absorption Spectrophotometry. This is done after collecting the precious metals with a fire assay fusion.

Repeat or check assays are done regularly on original pulp and occasionally on second pulp prepared from the stored reject. Standard pulps and blanks are also used for control samples. Selected samples, determined on the basis of showing significant variability, defining zones, or having noted visible gold during logging, are reprocessed using metallic assay methodologies. Up to 15% of pulps displaying a range of values are re-assayed by other laboratories (Activation Labs or Swastika) as checks using internal standards. Results are monitored and repeat analysis completed when required. Rejects and pulps are stored for any additional analytical work.

Results >1.0 g/t Au are automatically repeated using gravimetric FA methods, > 10 g/t Au are re-assayed as second cuts from the reject, and > 20 g/t are subject to metallic gold assays. Assay results are then reported using drilled widths and gold values that may include averaged initial and second cuts, or metallic assays.

12.0 DATA VERIFICATION

12.1 SITE VISIT AND INDEPENDENT SAMPLING

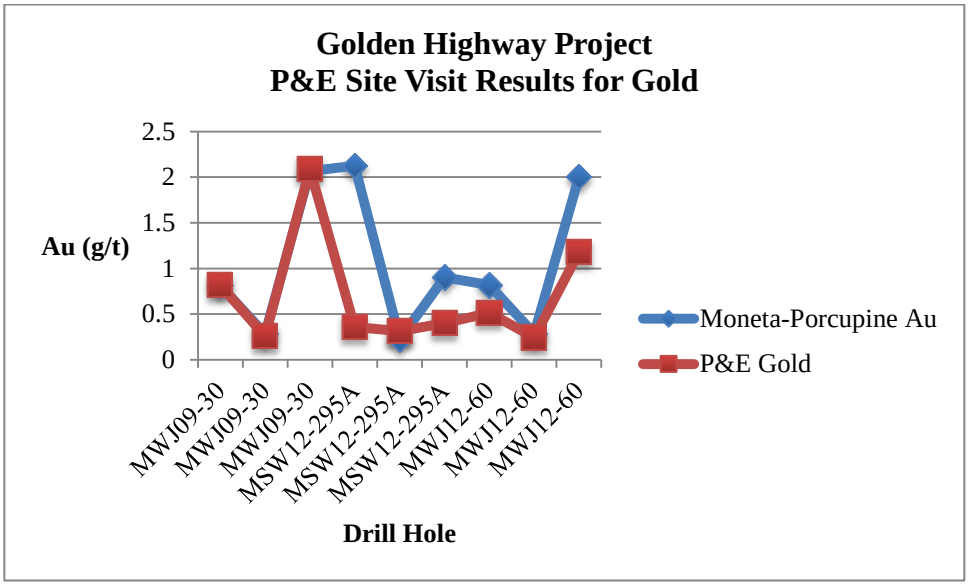
The Golden Highway Project was visited by Mr. Antoine Yassa, P.Geo., a qualified person as defined by NI 43-101, on September 23, 2012. Mr. Yassa reviewed the project with Moneta-Porcupine personnel, including drilling procedures, data collection, and quality control procedures. A total of nine samples were collected from three diamond drill holes, by ¼ sawing the remaining half core in the core box. Samples were placed in plastic bags with a unique tag, and once all nine samples were cut, they were place in a larger bag and taken by Mr. Yassa to Dicom courier in Rouyn-Noranda, QC. From there the samples were sent to AGAT Labs in Mississauga, ON for analysis.

AGAT has developed and implemented at each of its locations a Quality Management System (QMS) designed to ensure the production of consistently reliable data. The system covers all laboratory activities and takes into consideration the requirements of ISO standards.

AGAT maintains ISO registrations and accreditations. ISO registration and accreditation provide independent verification that a QMS is in operation at the location in question. Most AGAT laboratories are registered or are pending registration to ISO 9001:2000.

Gold was determined using fire assay with AA finish. Results of the independent site visit samples are presented in Figure 12.1.

Figure 12.1 P&E Independent Site Visit Sample Results for Gold



12.2 MONETA QUALITY ASSURANCE/QUALITY CONTROL REVIEW

Moneta-Porcupine implemented a quality assurance/quality control ("QA/QC" or "QC") program, which included the insertion of certified reference materials, blanks and duplicates into the sample stream.

There were five certified reference materials used for the 2011-2012 drilling. All reference materials were prepared by Ore Research and Pty. of Australia. Grades ranged from a low of 0.33 g/t Au to a high of 3.04 g/t Au.

12.3 PERFORMANCE OF CERTIFIED REFERENCE MATERIALS

There were 444 reference materials analyzed with the 2011-2012 drilling. All data were graphed and compared to the warning limits of +/- 2 standard deviations from the between-lab round robin mean and the tolerance limits of +/- 3 standard deviations from the mean.

All but three values fell within +/- two standard deviations from the mean.

12.4 PERFORMANCE OF BLANK MATERIAL

The blank material used by Moneta was sterile drill core or landscaping marble for the majority of samples. There were 455 blanks analyzed with the drilling and all were below the set threshold of five times detection limit.

12.5 PERFORMANCE OF PULP DUPLICATES

There were 350 pulp duplicate pairs analyzed as part of the drill program. Apart from a very few number of outliers, all pairs fell on a 1:1 line on a simple scatter graph, indicating excellent precision at the pulp level.

P&E declares the data acquired and analyzed by Moneta-Porcupine to be satisfactory for use in the current resource estimate.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 HISTORICAL TESTWORK

Preliminary metallurgical studies have been undertaken for two of the resource zones located on the Property. In 1996, Barrick completed some in-house preliminary metallurgical work on representative mineralization from the Southwest Zone ("the Barrick 1996 Study"), while in 2001 Newmont completed a similar study on the Windjammer South zone ("the Newmont 2001 Study").

The Barrick 1996 Study analysed three samples and gave the following results:

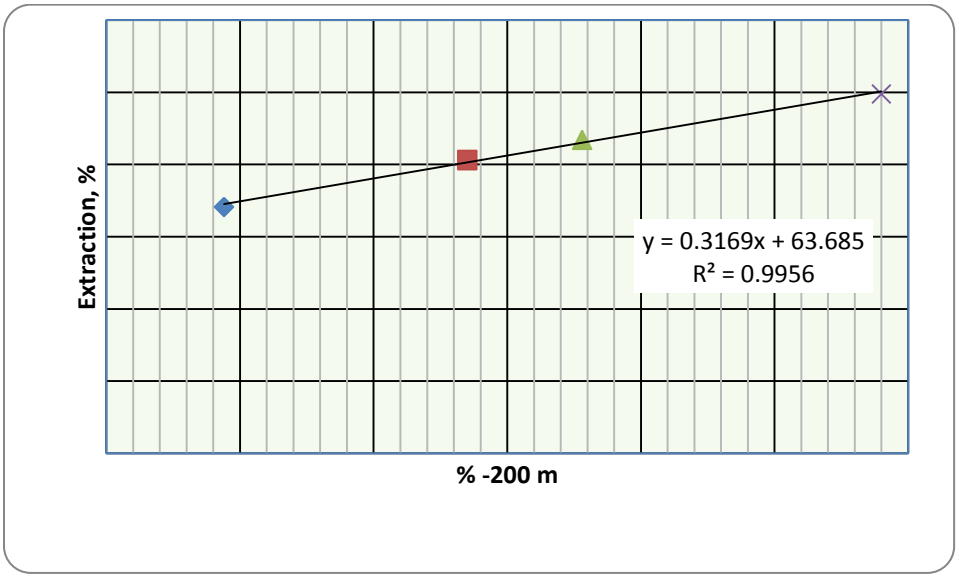
Preliminary grinding and cyanide leach tests were done on gold ore from an interval in diamond drill hole MM97-177, which averaged 8.0 g/t Au over 10.8 m.

Table 13.1 and Figure 13.1 summarize the results of Barrick's tests and show a substantial effect of grind. Cyanide consumptions were modest and lime consumptions somewhat elevated. There was no indication from the test-work that coarse gold was present.

TABLE 13.1
BARRICK LEACH TESTS

Leach time	Grind	Au Extraction	Consumption, kg/t	
h	% -200 m	%	NaCN	CaO
94	74.4	87.1	0.47	7.3
94	83.5	90.3	0.49	8.0
94	87.8	91.7	0.48	9.3
72	99.0	94.9	0.35	7.4

Figure 13.1 Effect of Grind on Gold Extraction



The Newmont 2001 Study report is based on results from four of six samples received from the Windjammer North and South Zones. Of the two rejected samples, one was determined to be

refractory (North Zone), based on a poor extraction from a cyanide based analytical procedure and the second sample was considered to be waste.

Gold extractions varied from between 31.5 % to 58.4 % for a 10 mesh crush and between 80.1 % to 93.8 % for an 80 % -200 mesh grind. Cyanide and lime consumptions ranged from between 0.07 to 0.36 and from 1.31 to 3.76 kg/t, respectively.

Table 13.2 summarizes the gold extraction results.

TABLE 13.2
GOLD EXTRACTION FROM WINDJAMMER SAMPLES

Composite	Leach Time	Head Grade (Calc)	Grind Size	Gold Extraction
Sample Number	**h**	**Au, g/t**		**(%)**
WJ 88 -8 WJN	96	5.14	<10 mesh	49.2
	24	4.94	80 % < 200 mesh	90.5
WJ 88-41 WJN	96	1.25	<10 mesh	53.0
	24	1.15	80 % < 200 mesh	91.5
WJ 88-4 WJS	96	1.42	<10 mesh	58.4
	24	1.65	80 % < 200 mesh	93.8
WJ 88 48A WJS	96	1.06	<10 mesh	31.5
	24	0.92	80 % < 200 mesh	80.1

Source: *Acar, 2001*

For all four samples analysed by bottle roll cyanidation, gold extraction significantly improved with finer grinding, indicating that gold extraction is size dependent. The results from these four samples indicated that the Windjammer mineralization would not likely be a heap leach project.

13.2 RECENT TESTWORK

In late 2012, SGS Vancouver conducted a series of cyanidation tests on composite samples from six zones and has measured a Bond Grindability index for an overall Master Composite sample. The individual samples are designated as follows:

- WJN -Windjammer North
- GAP -Gap Zone
- WJC -Windjammer Central
- WJS -Windjammer South
- SWZ -Southwest Zone
- 55 ZONE – 55 Zone

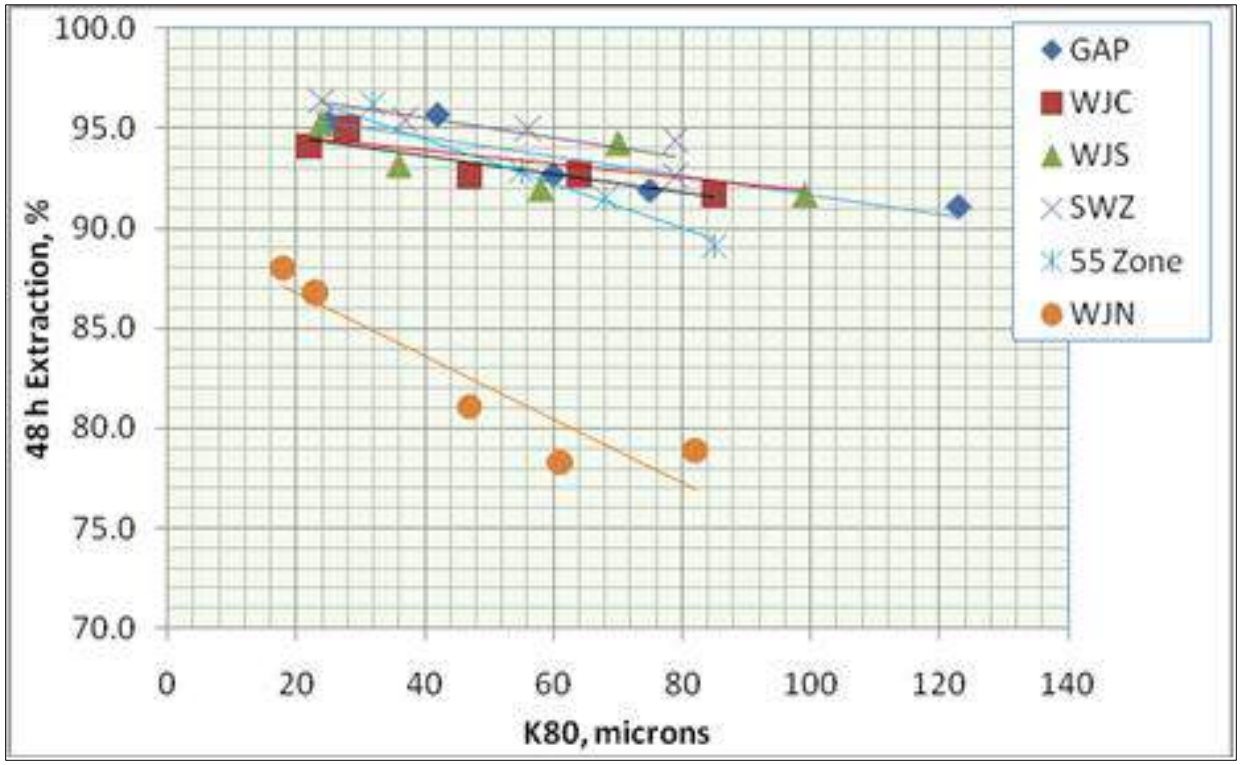
13.2.1 Grindability

A Bond ball mill index measurement on the Master Composites returned 15.8 kWh/T (17.4 kWh/t) at a P80 of 54 microns, indicating a material of medium hardness.

13.2.2 Cyanidation Testwork

A total of 25 standard kinetic cyanidation tests were conducted at 5 nominal grinds. Figure 13.2 summarizes the extraction performance with respect to grind size. Cyanide concentration was held at 0.5 g/L and the total leach time was 48 hours.

Figure 13.2 2012 Testwork -Effect of Grind



Sample WJN is somewhat refractory relative to the other composites. Three of the WJN tests were conducted as carbon-in-leach (CIL) tests (the three coarsest grinds on Figure 13.2). The results suggest that the refractory nature of the material in sample WJN is not due to "preg-robbing" by carbonaceous material. WJN is an insignificant contributor to the overall resource.

A complete summary of test data is presented in Table 13.3:

TABLE 13.3
2012 CYANIDATION TEST RESULTS

Test	Composite	Feed	Reagent Consumption		Residue	Calc.			
		K80	NaCN	CaO	Assay	Head	Au Extraction (%)		
		µm	kg/t	kg/t	Au (g/t)	Au (g/t)	8 h	24 h	48 h
L1	WJN	23	0.54	1.27	0.11	0.83	63.4	84.5	86.8
L2	GAP	42	0.03	0.00	0.04	0.82	79.9	89.6	95.7
L3	WJC	28	0.21	0.60	0.05	0.80	79.2	95.0	95.0
L4	WJS	36	0.07	0.68	0.04	0.74	61.6	94.8	93.2
L5	SWZ	37	0.11	0.42	0.04	0.87		74.7	95.4
L6	55 Zone	32	0.05	0.34	0.05	1.30		73.7	96.2
L7	WJS (dup)	36	0.06	0.08	0.03	0.60		94.9	95.0
L1(2)	WJN	18	0.22	1.11	0.10	0.84	83.6	86.0	88.0
L2(2)	GAP	25	0.05	1.30	0.03	0.64	76.8	95.2	95.3
L3(2)	WJC	22	0.07	1.65	0.04	0.68	78.4	93.6	94.1

TABLE 13.3
2012 CYANIDATION TEST RESULTS

Test	Composite	Feed	Reagent Consumption		Residue	Calc.			
		K80	NaCN	CaO	Assay	Head	Au Extraction (%)		
		µm	kg/t	kg/t	Au (g/t)	Au (g/t)	8 h	24 h	48 h
L4(2)	WJS	24	0.30	1.31	0.04	0.86	58.6	94.6	95.3
L5(2)	SWZ	24	0.18	1.42	0.03	0.84	58.1	92.2	96.4
L6(2)	55 Zone	25	0.12	1.85	0.04	0.83	86.5	96.0	95.2
L7(2)	WJS (dup)	26	0.31	1.57	0.04	0.70	48.5	91.8	94.3
L8 -CIL	WJN	61	0.23	1.60	0.17	0.85	-	-	78.3
L9	GAP	75	1.20	1.42	0.07	0.87	56.9	91.2	91.9
L10	WJC	64	0.19	0.80	0.07	0.89	81.4	92.1	92.7
L11	WJS	70	0.18	0.75	0.06	1.05	65.9	92.9	94.3
L12	SWZ	79	0.18	0.72	0.04	0.72	81.5	94.4	94.4
L13	55 Zone	68	0.14	0.71	0.08	0.94	90.9	90.9	91.5
L14 -CIL	WJN	47	0.23	1.27	0.17	0.95	-	-	81.1
L15	GAP	60	1.33	0.83	0.06	0.83	72.8	93.8	92.7
L16	WJC	47	0.13	0.82	0.06	0.81	73.1	95.6	92.6
L17	WJS	58	0.14	1.18	0.05	0.62	70.7	84.8	92.0
L18	SWZ	56	0.14	0.64	0.04	0.80	80.9	92.6	95.0
L19	55 Zone	55	0.14	0.97	0.07	0.98	80.8	90.8	92.9
L20 -CIL	WJN	82	0.29	1.15	0.18	0.93	-	-	78.9
L21	GAP	123	0.98	0.93	0.07	0.79	1.8	87.5	91.1
L22	WJC	85	0.17	0.97	0.08	0.90	66.1	87.6	91.7
L23	WJS	99	0.15	0.92	0.07	0.85	52.9	84.4	91.7
L24	SWZ	79	0.25	1.47	0.06	0.81	70.7	92.4	92.6
L25	55 Zone	85	0.19	1.05	0.10	0.92	72.0	90.2	89.1

For PEA study purposes, the average performance for the combined global composite (excluding WJN) was estimated by selecting "best" 24 and 48 hour extractions for each composite and averaging the results, which are presented below:

- 24 hour average: 91.8% extraction at a grind of 74.6 microns
- 48 hour average: 92.6% extraction at a grind of 86.2 microns
- WJN material returned substantially lower extractions of about 80% in 48 hours

For the purposes of the PEA study, the following extraction performance was recommended as appropriate:

- 92% extraction in 24 hours at a grind of 74 microns

14.0 MINERAL RESOURCE ESTIMATE

14.1 INTRODUCTION

The purpose of this report section is to estimate the Mineral Resources of the Golden Highway Deposit in compliance with NI 43-101 and CIM standards. This resource estimate was undertaken by Yungang Wu, P.Geo., Eugene Puritch, P.Eng. and Antoine Yassa, P.Geo. of P&E Mining Consultants Inc. of Brampton, Ontario. The effective date of this resource estimate is October 25, 2012.

14.2 DATABASE

All drilling data were provided by Moneta Porcupine Mines Inc. in the form of Excel data files. Ninety (90) drill cross sections were developed on a local grid looking Northeast on a 70^{o} azimuth and a 50 m spacing named from 100-NE to 190-NE.

The Gemcom database for this estimate was constructed from 417 surface diamond drill holes of which 349 were utilized in the resource estimate. All other drill holes were not in the area that was modeled. A drill hole plan is presented in Appendix I.

The database was verified in Gemcom with minor corrections made to bring it to an error free status. The Assay Table of the database contained 64,933 Au assays. All drill hole survey and assay values are expressed in metric units, while grid coordinates are in the NAD 83 UTM system.

14.3 DATA VERIFICATION

Verification of the assay database values was performed with original laboratory and electronically issued certificates from Swastika Laboratories and Lab Expert. Some minor errors were detected and corrected in the Gemcom database. The verification of 28,524 checked assays represents 50% of the constrained data used in the resource estimate and approximately 52.5% of the total exploration drill hole database in the immediate vicinity of the resource estimate domains.

14.4 DOMAIN INTERPRETATION

The constraining domain boundaries for the mineralization comprising the Golden Highway Deposit were determined from lithology, structure and grade boundary interpretation from visual inspection of drill hole sections. Fifteen domains were created named 55 Zone (55Z), SW Zone Central Block (SWZCB), SW Zone Central Block Lower (SWZLCB), SW Zone East Block (SWZEB), SW Zone East Block Lower (SWZLEB), SW West Block (SWZWB), Gap (GAP), Windjammer South Zone (WJSZ), Windjammer North (WJN), Windjammer North Foot Wall (WJN-FW), Windjammer Central Main (WJC-Main), Windjammer Central upper (WJC-UP), Windjammer Central Middle (WJC-MID), Windjammer Central Low (WJC-LOW) and Windjammer Central Sole (WJC-Sole). These domains were created using computer screen digitizing on drill hole sections in Gemcom by Antoine Yassa, P.Geo. The domain outlines were influenced by the selection of mineralized material above 0.25 g/t Au that demonstrated lithological and structural zonal continuity along strike and down dip. In some cases mineralization below 0.25 g/t Au was included for the purpose of maintaining zonal continuity. Smoothing was utilized to remove obvious jogs and dips in the domains and incorporated a

minor addition of inferred mineralization. This exercise allowed for easier domain creation without triangulation errors from solids validation.

On each section, polyline interpretations were digitized from drill hole to drill hole but not typically extended more than 50 m into untested territory. Minimum constrained true width for interpretation was approximately two metres. Interpreted polylines from each section were "wireframed" in Gemcom into 3-D domains. Some mineralization domains were clipped against the Gabbro and Iron Formation solids generated by client. The resulting solids (domains) were used for statistical analysis, grade interpolation, rock coding and resource reporting purposes. See Appendix II for domains.

14.5 ROCK CODE DETERMINATION

The rock code used for the resource model was assigned to each mineralized domain respectively. The rock codes and volume of domains are listed in Table 14.1.

TABLE 14.1
ROCK CODE DESCRIPTION

Rock code	Domain	Geometric Volume (m^3)
0	Air	
10	Overburden	
99	Waste	
100	55Z	18,229,645
200	GAP	8,892,424
210	SWZEB	2,958,396
220	SWZLEB	5,704,844
230	SWZLCB	4,967,760
240	SWZWB	4,759,215
250	SWZCB	33,800,401
300	WJSZ	44,149,452
310	WJN	3,529,825
320	WJN-FW	250,838
330	WJC-MAIN	18,576,977
340	WJC-UP	1,089,713
350	WJC-MID	3,056,447
360	WJC-LOW	4,795,172
370	WJC-SOLE	4,015,160

14.6 GRADE CAPPING

Grade capping was investigated on the raw Au assays in the database within the constraining domains to ensure that the possible influence of erratic high values did not bias the database. Point extraction files were created for the constrained Au assay data. From these extraction files, log-normal histograms were generated and capping values were determined. See histograms in Appendix III and capping details in Table 14.2.

TABLE 14.2 AU GRADE CAPPING						
Domain	**# of Assays**	**Cap Val Au g/t**	**Assays Capped**	**Raw CoV**	**Capped CoV**	**% Cap Level**
55Z	7,052	25	13	4.87	3.280	99.8
GAP	2,446	9	9	2.15	1.674	99.6
SWZCB	6,590	25	14	2.72	2.31	99.8
SWZEB	1,917	25	1	3.07	2.94	99.9
SWZLCB	695	25	2	3.08	1.52	99.7
SWZLEB	670	25	2	2.16	1.75	99.7
SWZWB	1,193	10	7	3.12	2.08	99.4
WJC-LOW	507	5	7	3.36	1.79	98.6
WJC-Main	3,206	10	3	2.19	1.60	99.9
WJC-MID	431	5	5	1.92	1.75	98.8
WJC-UP	173	No Cap	0	1.71	1.71	100.0
WJN	1,289	20	2	2.28	1.81	99.8
WJN-FW	114	No Cap	0	1.82	1.82	100.0
WJSZ	12,825	20	18	7.24	2.47	99.8

14.7 COMPOSITES

Length weighted composites were generated for the drill hole data that fell within the constraints of the above-mentioned domains. These composites were calculated for Au over one m lengths starting at the first point of intersection between assay data hole and hanging wall of the 3D zonal constraint. The compositing process was halted upon exit from the footwall of the aforementioned constraint. Un-assayed intervals were set to 0.15 g/t Au which was deemed to represent the prolific low grade background gold value in the deposit, but at the same time not to introduce any mineralization above the open pit resource cut-off grade. Any composites that were less than 0.25 m in length were discarded so as not to introduce any short sample bias in the interpolation process. The constrained composite data was transferred to Gemcom extraction files for variography and subsequent grade interpolation

14.8 SEMI-VARIOGRAPHY

Reasonable semi-variograms were developed for three major domains (55 Zone, SWZCB and WJSZ) respectively, all combined domains of SW Zone (5 domains) and combined Windjammer Zones (7 domains). The variogram ranges were used as the spherical search ellipse parameters for grade interpolation. See semi-variogram graphs in Appendix IV.

14.9 BULK DENSITY

The bulk density of 2.79 t/m^3 was used for the creation of a density block model, which was an average of 193 samples taken by Moneta Porcupine Mines Inc. and independently analyzed by Laboratoire Expert Inc. These were confirmed with independent samples taken by P&E Mining Consultants Inc. and analyzed at Agat Laboratories of Mississauga, Ontario.

14.10 BLOCK MODELING

The Golden Highway Deposit resource model was divided into a block model framework containing 22,715,680 blocks. The block model was rotated 27° counter clockwise which is oriented with the X axis at 63° azimuth parallel to the strike of the domains. The block model parameters are detailed in Table 14.3. Separate block models were created for rock type, density, percent, class, and Au.

TABLE 14.3
GOLDEN HIGHWAY DEPOSIT BLOCK MODEL DEFINITIONS

Direction	Origin	# of Blocks	Block Size
X	569,492	520	10
Y	5,366,950	326	10
Z	370	134	10
Rotation	27° Counter Clockwise		

All blocks in the rock type block model were initially assigned a waste rock code of 99, corresponding to country rocks. All mineralized domains were used to select all blocks within the rock block model that contain by volume 1 % or greater gold mineralization. These blocks were coded their appropriate individual rock codes as indicated in Table 14.1. The bedrock surface was subsequently employed to assign rock code 10, corresponding to overburden, to all blocks 50 % or greater above the bedrock surface. The Topographic surface was then utilized to code 0, corresponding to air, to all blocks 50 % or greater above that surface.

A percent block model was set up to accurately represent the volume and subsequent tonnage that was occupied by each block inside the constraining domain. As a result, the domain boundary was properly represented by the percent model ability to measure individual infinitely variable block inclusion percentages within that domain.

The bulk density model was initialized to 2.79t/m^3 for mineralized blocks, 2.90t/m^3 for waste blocks and 1.8t/m^3 for overburden blocks.

Inverse distance cubed ($1/d^3$) grade interpolation was utilized. The first grade interpolation pass was utilized for the Indicated classification and the second for Inferred. The resulting Au grade blocks can be seen on the block model cross-sections and plans in Appendix V. Grade blocks were interpolated using the following parameters in Table 14.4:

TABLE 14.4
AU BLOCK MODEL INTERPOLATION PARAMETERS

Classification	Down Dip Range (m)	Strike Range (m)	Across Dip Range (m)	Max # of Composites per Hole	Min # Of Composites	Max # Of Composites
Indicated	35	35	35	2	3	20
Inferred	120	120	120	2	1	20

14.11 RESOURCE CLASSIFICATION

Based on the semi-variogram performance and density of point data, P&E classified the mineral resources of the Golden Highway Deposit as Indicated and Inferred for domains of 55Z,

SWZCB, SWZWB, SWZEB, GAP, WJSZ, WJC-Main and WJN. The other seven domains were categorized as Inferred only. The ranges of the search ellipse employed for the grade interpolation are exhibited in Table 14.4. The search ellipse was rotated accordingly each domain's directional alignment. During the resource classification interpolation search ellipsoid passes, 46,732 grade blocks were classified as Indicated and 151,261 grade blocks as Inferred. Some orphaned Inferred blocks located between Indicated blocks were manually adjusted to Indicated resources. Classification block cross-sections and plans are attached in Appendix VI.

14.12 RESOURCE ESTIMATE

The resource estimate was derived by applying an Au cut-off grade to the block model and reporting the resulting tons and grade for potentially mineable areas. The following calculation demonstrates the rationale supporting the Au cut-off grade that determines the out of pit (underground) and open pit potentially economic portions of the mineralization.

Out of Pit (Underground) Au Cut-Off Grade Calculation CDN$

Au Price	US$1,200/oz (Approx. 60 month trailing average price Sep 30/12)
$US/$CDN Exchange Rate	US$0.95 = CDN$1.00
Au Recovery	93%
Mining Cost	$62.00/tonne mined
Process Cost (25,000 tpd combined with pit)	$11.00/tonne milled
General & Administration	$2.00/tonne milled

Therefore, the Au cut-off grade for the underground resource estimate calculated as follows:

Operating costs per ore tonne = ($62 + $11+ $2) = $75/tonne
[($75)/[($1,200/oz/31.1035 x 93% Recovery)] = 2.0g/t

Open Pit Au Cut-Off Grade Calculation CDN$

Au Price	US$1,200/oz (Approx. 60 month trailing average price Sep 30/12)
$US/$CDN Exchange Rate	US$0.95 = CDN$1.00
Au Recovery	93%
Process Cost (25,000 tpd)	$11.00/tonne milled
General & Administration	$2.00/tonne milled

Therefore, the Au cut-off grade for the open pit resource estimate calculated as follows:

Operating costs per ore tonne = ($11+ $2) = $13/tonne
[($13)/[($1,200/oz/31.1035 x 93% Recovery)] = 0.36g/t , used 0.37g/t.

The above data was derived from gold projects that are similar to the Golden Highway Project.

Pit Optimization

In order for the constrained open pit mineralization in the Golden Highway Deposit resource model to be considered potentially economic, a first pass Whittle 4X pit optimization was carried out to create a pit shell (See Appendix VII) utilizing the criteria below:

Waste mining cost per tonne	$1.60
Ore mining cost per tonne	$1.60
Overburden Mining cost per tonne	$1.25
Process cost per tonne	$11.00
General & Administration cost per ore tonne	$2.00
Process production rate (ore tonnes per year)	5,000,000
Pit slopes (overall wall angle)	50 degrees
Mineralized Rock Bulk Density	2.79t/m^3
Waste Rock Bulk Density	2.90t/m^3
Overburden Density	1.80t/m^3

Resource Estimate

The resulting resource estimate is tabulated in Table 14.5.

TABLE 14.5
MINERAL RESOURCE ESTIMATE

Classification	Indicated			Inferred		
Cut-Off Au g/t	**Tonnes**	**Au g/t**	**Au oz**	**Tonnes**	**Au g/t**	**Au oz**
In Pit 0.37 g/t	30,000,000	1.01	977,000	71,627,000	0.86	1,971,000
Out of Pit 2.0 g/t	1,080,000	3.29	114,000	11,684,000	3.28	1,233,000
Total	**31,080,000**	**1.09**	**1,091,000**	**83,311,000**	**1.20**	**3,204,000**

Notes:

(1) The mineral resources in the October 25, 2012 press release and this Report were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council.

(2) Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the estimated Mineral Resources will be converted into Mineral Reserves.

(3) Assay composites were capped up to 35 g/t based on geo-statistical support for each zone.

(4) A modeling cut-off grade of 0.25 g/t Au was only used to create a three-dimensional wireframe for subsequent interpolation.

(5) A block model was created with 10x10x10 m blocks using inverse distance cubed grade interpolation.

(6) Indicated Mineral resources were classified with a 35 m search radius and a minimum of two drill holes.

(7) A bulk density of 2.79 t/m³ was used for all tonnage calculations.

(8) A gold price of US$1,200/oz and an exchange rate of US$0.95 = CDN$1.00 was utilized in the Au cut-off grade calculations of 0.37 g/t for open pit and 2.0 g/t for out of pit.

(9) Open pit mining costs were assumed at C$1.60/t for mineralized material, C$1.60/t for waste rock and C$1.25/t for overburden, while out of pit mining costs were assumed at C$62/t, with process costs of C$11/t, G&A of C$2.00/t, and a 93% metallurgical recovery.

(10) Totals in the table may not sum due to rounding.

The resource estimate sensitivity to cut-off is presented in Table 14.6 for open pit and Table 14.7 for underground.

TABLE 14.6 OPEN PIT SENSITIVITY TO RESOURCE ESTIMATE						
Cut-off Grade (g/t)	Indicated			Inferred		
	Tonnes	Au (g/t)	Au (oz)	Tonnes	Au (g/t)	Au (oz)
0.80	12,708,000	1.65	673,000	26,853,000	1.37	1,185,000
0.60	18,518,000	1.35	802,000	41,724,000	1.13	1,516,000
0.50	22,672,000	1.20	875,000	52,702,000	1.01	1,708,000
0.40	28,144,000	1.05	954,000	66,689,000	0.89	1,910,000
0.37	30,000,000	1.01	977,000	71,627,000	0.86	1,971,000
0.35	31,160,000	0.99	990,000	74,954,000	0.83	2,010,000
0.30	34,853,000	0.92	1,029,000	84,038,000	0.78	2,105,000

TABLE 14.7 OUT OF PIT (UNDERGROUND) SENSITIVITY TO RESOURCE ESTIMATE						
Cut-off Grade (g/t)	Indicated			Inferred		
	Tonnes	Au (g/t)	Au (oz)	Tonnes	Au (g/t)	Au (oz)
2.50	670,000	3.94	85,000	7,401,000	3.89	925,000
2.20	880,000	3.56	101,000	9,805,000	3.51	1,106,000
2.00	1,080,000	3.29	114,000	11,684,000	3.28	1,233,000
1.80	1,277,000	3.07	126,000	13,889,000	3.06	1,367,000
1.50	1,789,000	2.67	153,000	18,801,000	2.69	1,626,000

14.13 CONFIRMATION OF RESOURCE ESTIMATE

The block model was validated using a number of industry standard methods including visual and statistical methods.

Visually examined composite and block grades on plans and sections on-screen and reviewed estimation parameters including:

- Number of composites used for estimation
- Number of holes used for estimation
- Distance to the nearest composite
- Number of passes used to estimate grade

As a test of the reasonableness of the resource estimates, the block models were queried at a 0.1 g/t Au cut-off grade with blocks in all classifications summed. The average is the average grade of all blocks within the mineralized domains. The values of the interpolated grades for the block model were compared to the average grades of capped assays and average grade of composites within the domains and Au at 0.1g/t or greater. See Table 14.8 for details.

TABLE 14.8 COMPARISON OF AVERAGE GRADE OF CAPPED ASSAYS AND COMPOSITES WITH AVERAGE GRADE OF THE BLOCK MODEL				
Data Type	**Au g/t**	**Variance**	**Standard Deviation**	**Coefficient of Variation**
Capped Assays	0.61	3.09	1.76	2.50
Composites	0.60	1.67	1.29	2.17
Block Model	0.59	0.63	0.79	1.35

The comparison above shows the average grade of the Au blocks in the constraining domains to be somewhat lower than the average of capped assays and composites used for grade estimation. This is believed to be due to the localized clustering of some higher grade assays which were smoothed by the compositing block modeling grade interpolation process. The block model Au values will be more representative than the assays or composites due to the block model's 3D spatial distribution characteristics.

A volumetric comparison was performed with the block model volume versus the geometric calculated volume of the domain solids and found 0.2% difference, as detailed below:

Block Model Volume = 158,493,414 m^3
Geometric Domain Volume = 158,776,269 m^3
Difference = 0.18%

14.14 POTENTIALLY ECONOMIC PORTION OF THE MINERAL RESOURCES

A Potentially Economic Portion of the Mineral Resources was estimated as a basis for this Preliminary Economic Assessment of the Deposit. The Potentially Economic Portion of the Mineral Resources, before dilution and mine extraction, is summarized in Table 14.9.

TABLE 14.9 POTENTIALLY ECONOMIC PORTION OF THE MINERAL RESOURCES							
Mining	**Cut-off Grade (g/t)**	**Indicated**			**Inferred**		
		Tonnes	**Au (g/t)**	**Au (oz)**	**Tonnes**	**Au (g/t)**	**Au (oz)**
Open Pit	0.40	25,859,000	1.050	873,000	56,909,000	0.890	1,628,000
Underground	2.00	1,279,000	3.150	130,000	11,510,000	3.150	1,166,000
Combined		**27,138,000**	**1.150**	**1,003,000**	**68,419,000**	**1.270**	**2,794,000**

Notes:

(1) Potentially Economic Portions of the Mineral Resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.

(2) The quantity and grade of reported Inferred resources in this estimation are uncertain in nature and there has been insufficient exploration to define them as an Indicated or Measured mineral resources and it is uncertain if further exploration will result in upgrading them to an Indicated or Measured mineral resource category.

(3) The Potentially Economic Portion of the Mineral Resources were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council.

(4) Mineral resources are reported in relation to conceptual pit shells. All composites have been capped where appropriate.

(5) Potentially economic open pit portions of the mineral resources are undiluted and reported at a cut-off grade of 0.40 g/t gold. Potentially economic underground portions of the mineral resources are undiluted and reported at a cut-off grade of 2.00 g/t gold. Optimized cut-off grades are based on a gold price of US$1,350 per ounce and a foreign exchange rate of US$0.95 = CDN$1.00. Metallurgical recoveries are 92%.

The Potentially Economic Portion of the Mineral Resources contains Inferred Mineral Resources which have not been sufficiently drilled to confidently demonstrate economic viability. In addition, the work undertaken to date on the potential mining and milling operation at the Property ("the Project") is considered to be at conceptual levels of study only. As such, and according to the NI 43-101 Regulations, it is not possible to declare a mineral reserve of any kind.

The Potentially Economic Portion of the Mineral Resources, after adding consideration for dilution and mine extraction, is summarized in Table 14.10.

TABLE 14.10
POTENTIALLY ECONOMIC PORTION OF THE MINERAL RESOURCES AFTER DILUTION & EXTRACTION

Mining	Indicated			Inferred		
	Tonnes	Au (g/t)	Au (oz)	Tonnes	Au (g/t)	Au (oz)
Open Pit	27,453,300	1.003	885,200	60,417,600	0.855	1,661,300
Underground	1,151,100	2.721	100,700	10,358,700	2.721	906,100
Combined	**28,604,400**	**1.072**	**985,900**	**70,776,300**	**1.128**	**2,567,400**

Notes:

(1) Potentially Economic Portions of the Mineral Resources which are not mineral reserves do not have demonstrated economic viability. The estimate of mineral resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.

(2) The quantity and grade of reported Inferred resources in this estimation are uncertain in nature and there has been insufficient exploration to define them as an Indicated or Measured mineral resource and it is uncertain if further exploration will result in upgrading them to an Indicated or Measured mineral resource category.

(3) The Potentially Economic Portion of the Mineral Resources were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council.

(4) Mineral resources are reported in relation to conceptual pit shells. All composites have been capped where appropriate.

(5) Potentially economic open pit portions of the mineral resources are reported at a cut-off grade of 0.40 g/t gold. Potentially economic underground portions of the mineral resources are reported at a cut-off grade of 2.00 g/t gold. Optimized cut-off grades are based on a gold price of US$1,350 per ounce and a foreign exchange rate of US$0.95 = CDN$1.00. Metallurgical recoveries are 92%.

(6) The open pit Potentially Economic Portion of the Mineral Resources was diluted by 8.3% and has a 98% mine extraction factor applied. The underground Potentially Economic Portion of the Mineral Resources was diluted by 20% and has a 75% mine extraction factor applied.

15.0 MINERAL RESERVE ESTIMATES

The Inferred mineral resources presented herein have not been sufficiently drilled to confidently demonstrate economic viability. In addition, the work undertaken on the Golden Highway Project deposits to date is considered to be at conceptual levels of study only. As such, and according to the NI 43-101 Regulations, it is not possible to declare a mineral reserve of any kind as of the effective date of this report.

16.0 MINING METHODS

The mineralized deposits at the Golden Highway Project will be mined by a combination of conventional open pit methods, which will be applied to mineralization located closer to surface and underground retreat long-hole methods for mineralization located at depth. The mining methods and production capacity have been chosen to match an ultimate milling throughput rate of 25,000 tpd. This total will be composed of 22,000 tpd from the open pit and 3,000 tpd from the underground mine.

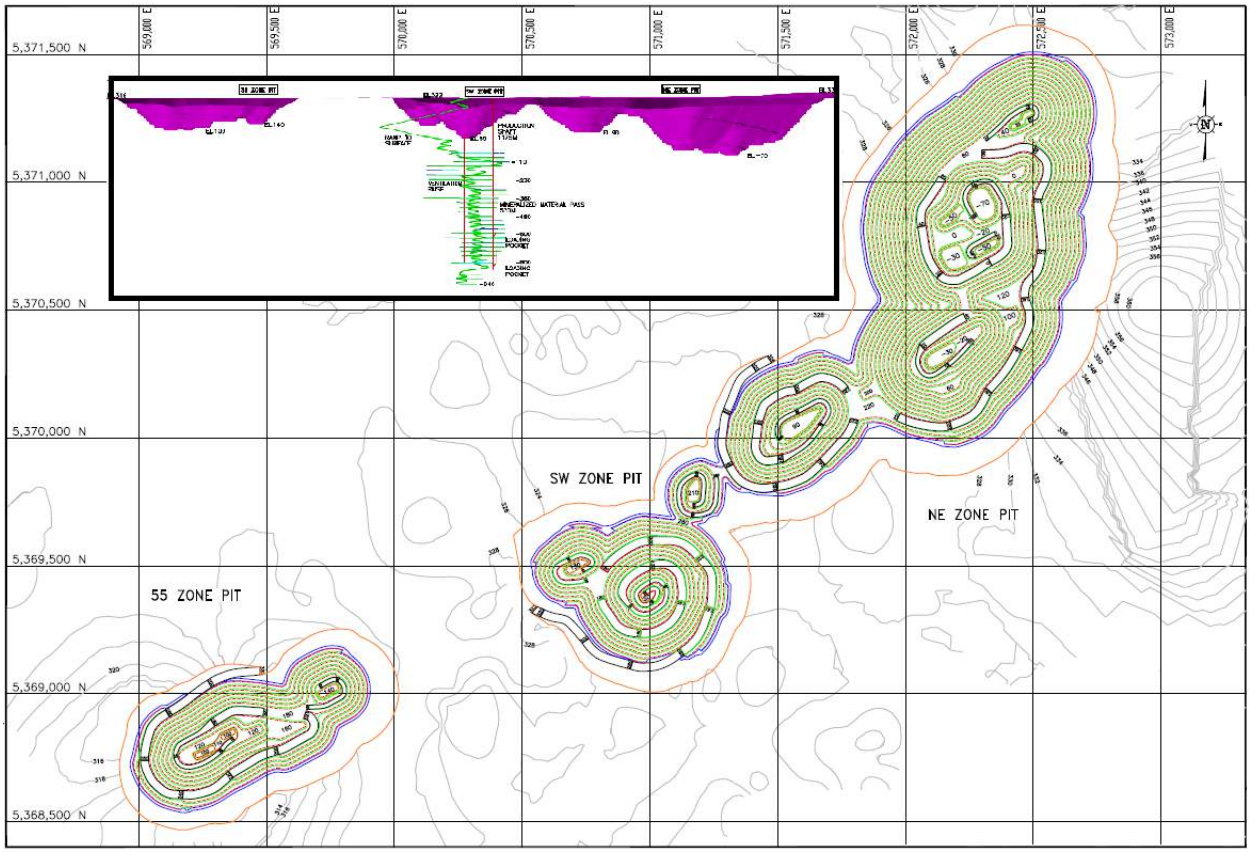
Open pit mining will extract the portion of the mineral resources located closer to surface. This operation will utilize conventional and well established open-pit mining practices, with successive drill and blast, load and haul cycles using a drill/shovel/truck mining fleet. The overburden and waste rock material will be hauled to overburden and waste disposal areas near the pit or use as backfill. The run-of-mine mineralization will be loaded by hydraulic shovels and delivered by mining haul trucks to the primary crusher or stockpile near the crusher.

Underground mining methods will be used to exploit the mineral resources located at depth. The underground mining operations will be accessed by an inclined ramp and a vertical shaft.

Both the open-pit and underground operations will deliver material to a centrally located gyratory crusher for primary crushing or to a stockpile area near the crusher. From the primary crusher, the material will be delivered to the processing plant.

A plan and section of the project site showing the relationship between the ultimate surface and underground excavations is provided in Figure 16.1.

Figure 16.1 Overall Mining Plan



16.1 OPEN PIT MINING

The proposed open pits would utilize conventional, open pit mining equipment and drill/blast/load/haul technologies. Open pit mining would proceed as a sequence of pits following the trend of the mineralized deposits. The 55 Zone pit would be located at the West end of the Property. Approximately 1.5 km to the East is the SW Zone pit which will be situated above the underground mine location. The SW Zone Pits and NE Zone Pits are somewhat interconnected pits which trend approximately 2.5 km in a North-Easterly direction.

These surface mineralized deposits are grouped into three designated open pit mining operations: the 55 Zone Pit, the SW Zone Pit and the NE Zone Pit. The open pits are scheduled to produce 22,000 tpd of mineralization and a total of 75 million tonnes per year of overburden, waste and mineralization combined.

The open pit production schedule is shown in Table 16.1.

TABLE 16.1
OPEN PIT MINING SCHEDULE

Description	Year													Total
	-2	-1	1	2	3	4	5	6	7	8	9	10	11	
Overburden (Mt)	54.9	23.4	19.0	30.9	14.0	6.6	0.0	8.6	33.5	16.4	1.9	0.0	0.0	209.1
Waste (Mt)	0.1	65.8	48.0	36.4	53.3	60.3	67.5	58.1	32.8	34.6	50.3	51.6	0.8	559.8
Mill Feed (Mt)	0.0	5.9	8.0	7.7	7.7	8.1	7.5	8.3	8.7	9.0	7.8	8.4	1.0	87.9
Grade (gr Au/t)	1.059	0.800	0.824	0.957	0.969	1.080	0.947	0.770	0.917	0.875	0.842	0.922	0.889	0.901
Total (Mt)	**55.0**	**95.0**	**75.0**	**75.0**	**75.0**	**75.0**	**75.0**	**75.0**	**75.0**	**60.0**	**60.0**	**60.0**	**1.8**	**856.8**

Figure 16.2 and Figure 16.3 show the series of open pits that trend along the strike of the mineralized geologic structures. The ultimate 55 Zone Pit would measure approximately 1.2 km long by 0.6 km wide and have an ultimate depth of approximately 220 m. The ultimate SW Zone Pit would measure approximately 0.9 km long by 0.8 km wide and have an ultimate depth of approximately 273 m. The ultimate NE Zone Pit would measure approximately 2.3 km long by 1.1 km wide and have an ultimate depth of approximately 396 m.

The NE Zone pit would be developed in three phases. The two other open pits would each be developed in a single phase.

Figure 16.2 Ultimate Open Pits Longitudinal Cross Section

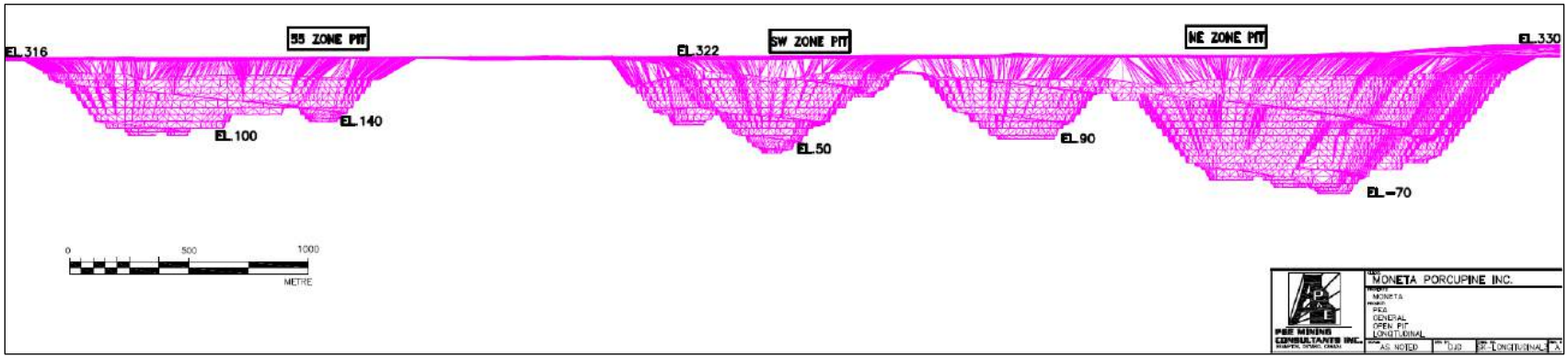
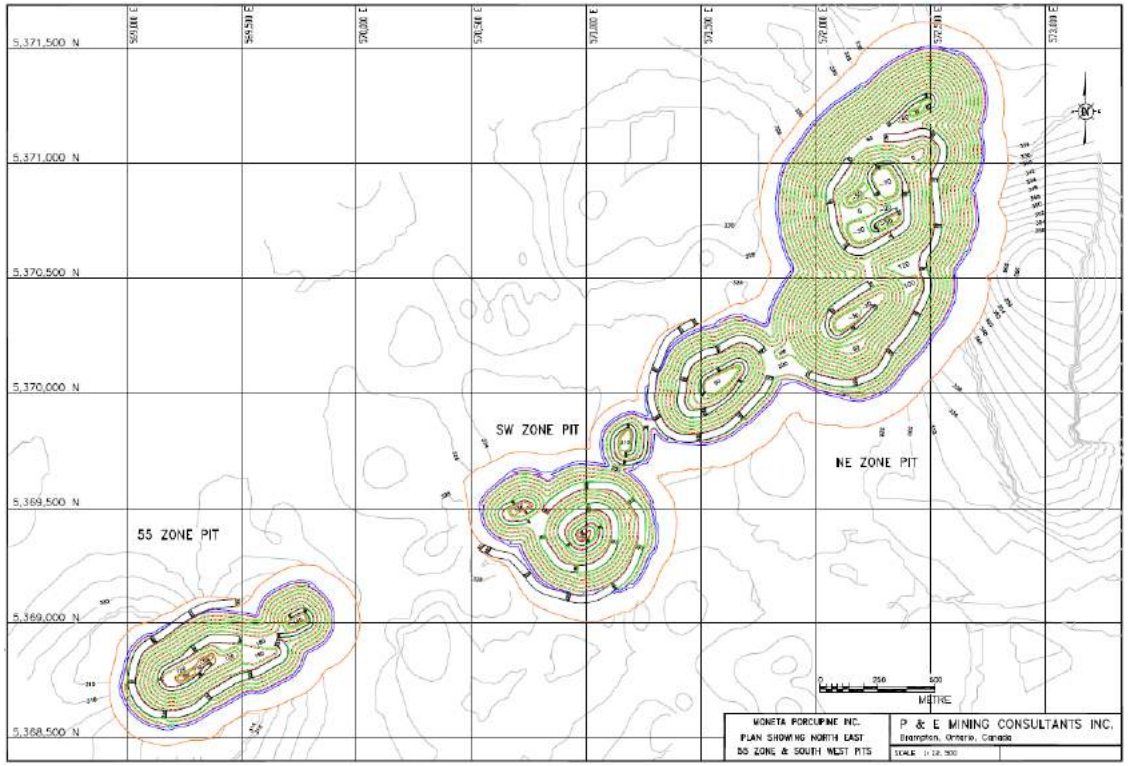


Figure 16.3 Ultimate Open Pits Plan



The mine would be an owner-operator enterprise, which would have the assistance of a licensed explosives and blasting accessories supplier and contractor. The blasted rock would be excavated and hauled using the mine owner's labour and equipment. The overburden and waste rock would be hauled to separate disposal areas and the Potentially Economic Portion of the Mineral Resources would be hauled to the primary crusher. Waste would be used to backfill pits whenever possible.

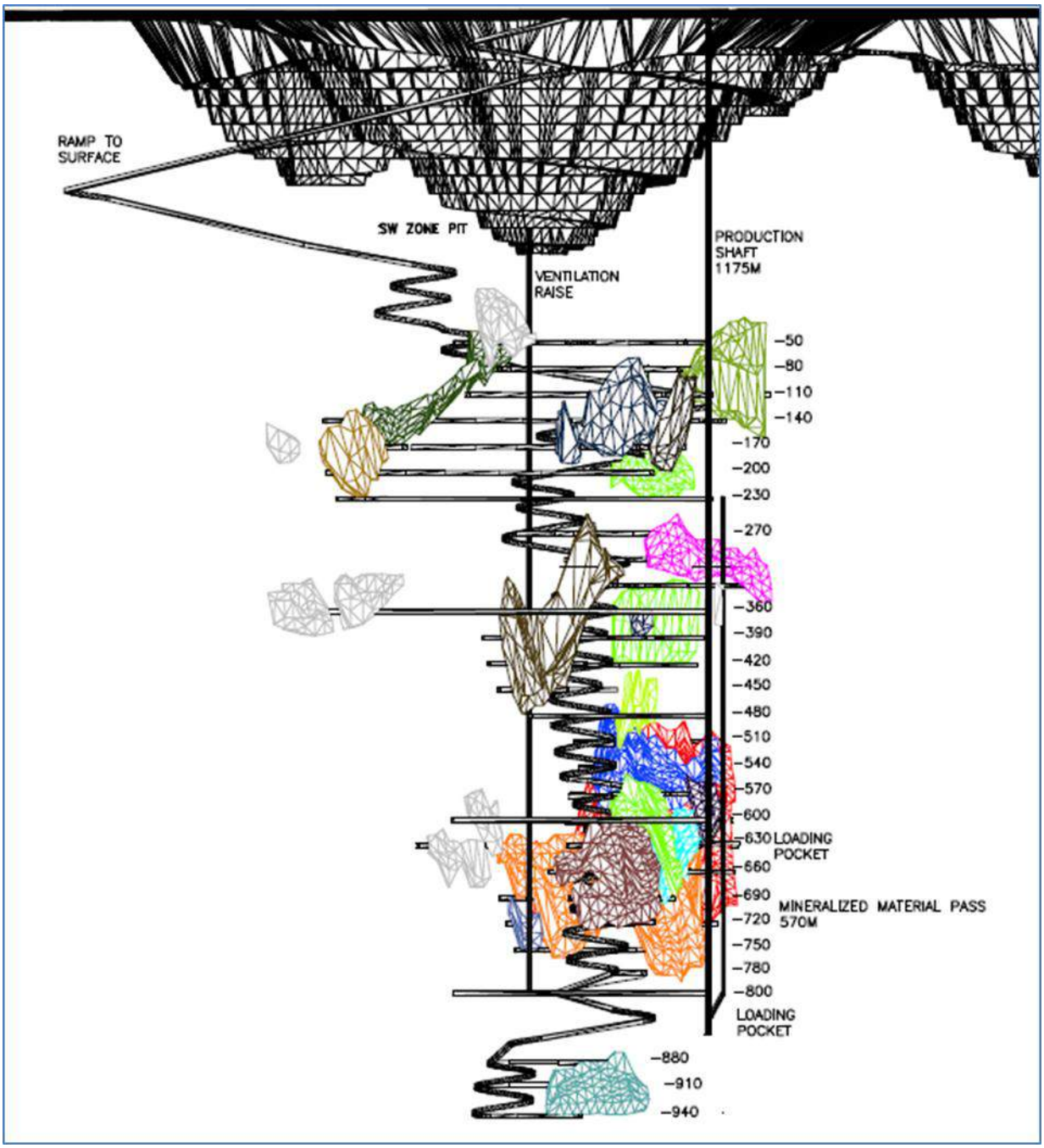
The mine owner-operator would also provide the pit supervisors, geology and engineering technical services, and grade control sampling and assaying and be responsible for haulage road maintenance and pit dewatering. The key mining equipment would include three 45 cubic m diesel-powered hydraulic excavators, fifteen 320 tonne capacity haulage trucks and four track mounted diesel powered drill rigs. The proposed ancillary mobile equipment includes a road grader, a water/sander truck, bulldozers, a wheel dozer, a fuel/lubrication truck, field service vehicles and pick-up trucks. The mine owner-operator's equipment would be maintained at the mine shop by the mine owner-operator's maintenance personnel.

16.2 UNDERGROUND MINE

An underground mining operation would access and extract the Potentially Mineable Portion of the Mineral Resources located at depth below the proposed SW Zone open pit location.

A longitudinal section of the proposed underground mine is shown in Figure 16.4.

Figure 16.4 Longitudinal Section through the Underground Mine



The surface elevation in the vicinity of underground mine has been designated by the Project owner as +320 m above sea level. Level designations for the underground mine are based on the vertical distances below sea level.

Initial access to the underground deposit will be via a portal and decline with an inclination of -15%. This decline will connect with the -230 m level, at a total vertical depth of 550 m. Mining of the potentially mineable portions of the mineral resources located above this elevation will be via the decline for access and haulage of material to surface. Concurrent with production from the decline, a circular, concrete lined vertical shaft measuring approximately 6.5 m in diameter, will be excavated from surface down to a depth of 1,170 m. It is expected that this shaft and its

associated hoisting and support facilities will be commissioned after four years of decline access mining, allowing production to commence down to the -800 m level.

The decline would eventually be extended to connect all of the levels between the -230 and the -940 m levels, which would facilitate the use of mechanized mining procedures between those levels and down to a vertical depth of 1,260 m below surface.

The shaft facility is envisaged to have two loading pocket stations: one below the -600 m level; and a second below the -800 m level (1,120 m below surface). Material mined between the -800 m level and the bottom of the ramp at the -940 m level, will be hauled up the ramp to the loading pocket on the -800 m level.

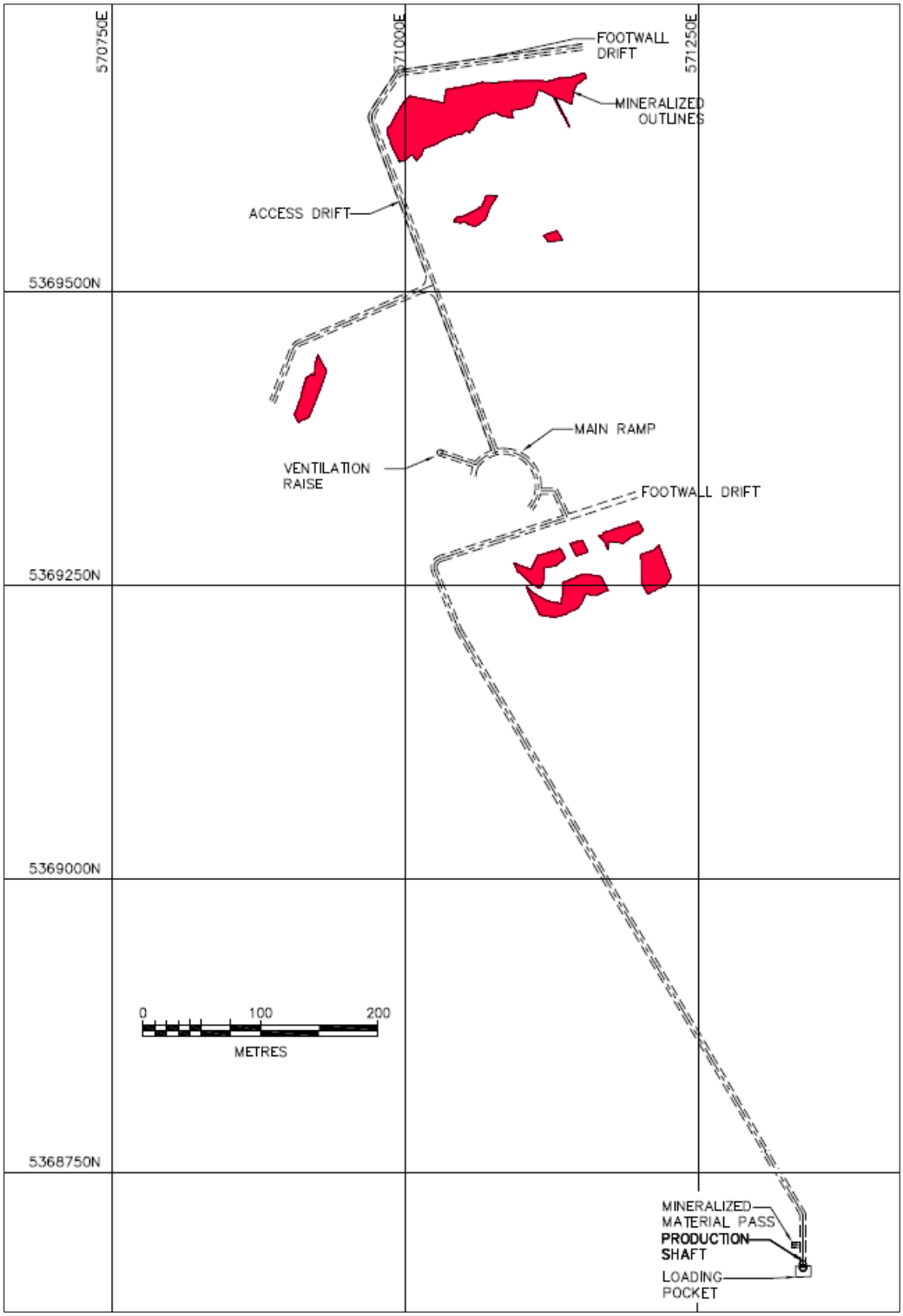
One shaft hoist will be connected to man-riding conveyance in the shaft that would be configured to transport workers and mining supplies between surface and the five shaft stations. A second hoist would be connected to two counter-balanced skips for transporting mineralized rock between the underground loading pockets and surface. All workers and mining supplies required for the working areas below the -800 m level would be transported in the shaft to the -800 m level and then down the decline to the working areas.

Initially, mineralized rock will be mined above the -230 m level and hauled to surface via the decline. Shaft development and sinking will start at the beginning of the production period and the shaft will be commissioned 30 months later. Once the shaft is commissioned, both the -600 m and -800 m level will be excavated, simultaneously. The development layout on the -600 m level is shown in Figure 16.5.

Initial pre-production mining from the underground will average 2,125 tpd of mineralized material. After 12 months of pre-production mining, an average 2,500 tpd of mineralization will be hauled up the decline. Once the shaft is commissioned, the shaft will hoist an average of 3,000 tpd of mineralized material. Stope mining will initially proceed downwards from the zero level to the -230 m level thorough the decline. Once the shaft facility is operational, mining will proceed upwards from the -600 m level and from the -800 m level, using their respective loading pockets. Mining below the -800 m level will proceed upwards from the -940 m levels via the main ramp to the -800 m level loading pocket.

A steady state production of 3,000 tpd of Potentially Mineable Portions of the Mineral Resources from development and stope production will begin during the 31st month, based on a schedule of 350 working days per year. It is estimated that approximately 289 stopes would be mined over the mine life.

Figure 16.5 - 600 m Level Development Plan



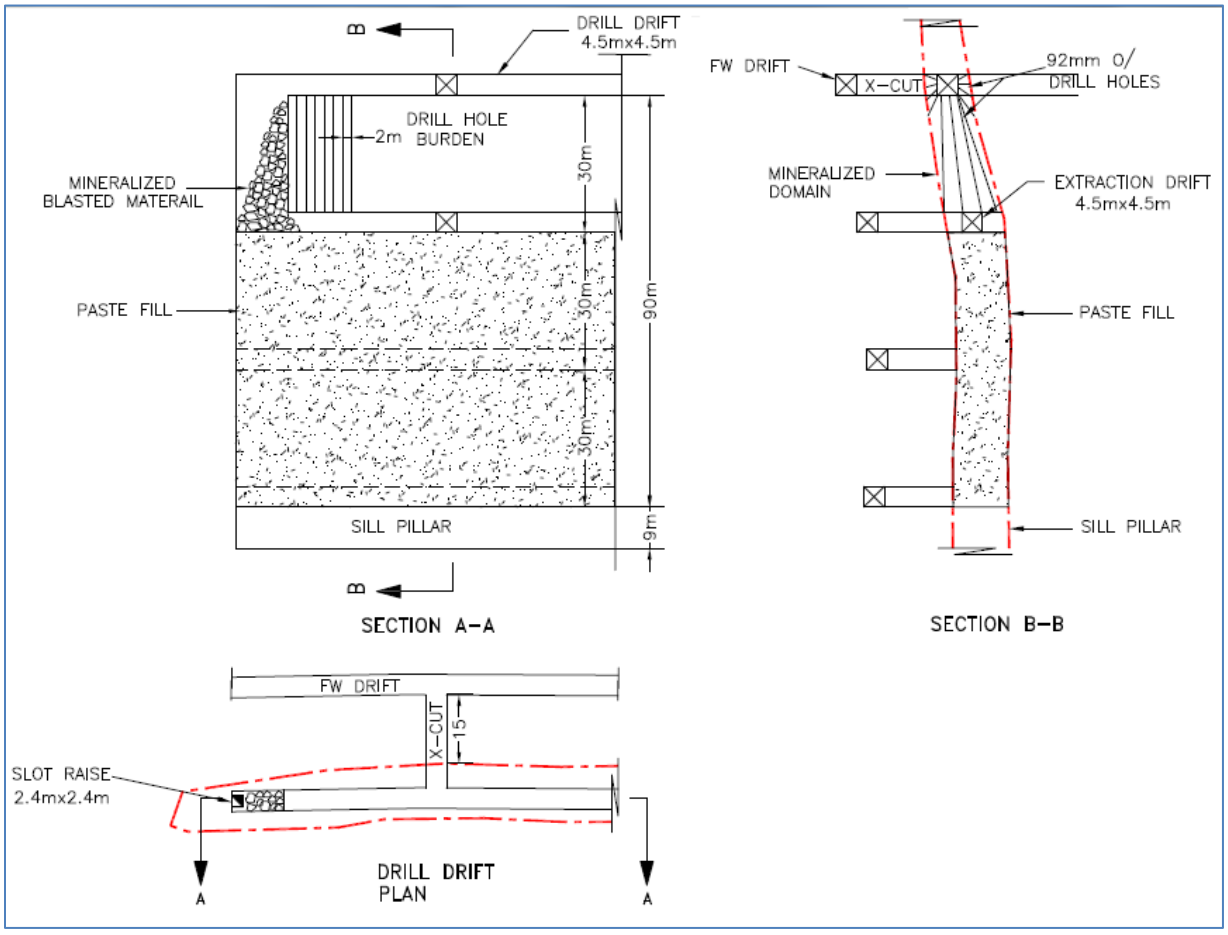
16.2.1 Long-hole Longitudinal Retreat Stoping Method

The primary mining method envisaged for the underground mining operation is conventional longitudinal longhole retreat with paste backfill (Figure 16.6).

Sub-levels (“undercuts” and “overcuts”) from the access cross-cuts will be located at 30 m vertical intervals. Sublevel drifts would be developed in the mineralized zones to the full width of the Potentially Economic Portion of the Mineral Resources. These drifts would provide access for the successive operations of slot raise development, blasthole drilling and blasting, load/haul/dump (“LHD”) mucking and backfill placement. A 1.8 m by 1.8 m slot / ventilation / backfill raise would be driven at the end of each stope.

Blastholes measuring 92 mm (3⅝ inches) in diameter would then be drilled from the sublevel either up or down to adjacent sublevels. These blastholes would typically be drilled on a 2.0 m burden and fan spacing, in order to break the rock into the open slot and stope. The blasting powder factor necessary to produce adequate fragmentation of the rock, using emulsion explosives, is estimated to be approximately 0.60 kg/t.

Figure 16.6 Typical Longhole Retreat Stope



Remotely operated LHD units would remove broken mineralization from the stope and from the excavated sublevel drifts. The stopes would be backfilled primarily with cemented paste backfill, supplemented with waste rock. A sill pillar will be left in place under mined out areas.

As the stope advances, paste backfill and development waste would be placed in the mined out area of the stopes from the level above.

16.3 MINE AND STOPE DEVELOPMENT

Accessing and opening up the stoping areas requires excavations in waste rock. These excavations are classified as mine development. All development in Potentially Mineable Portions of the Mineral Resources (which produces feed rock to the mill) is classified as stope development.

The life-of-mine ("LOM") schedule includes a total of 33,608 m of mine development (Table 16.2). In additional there would be 1,170 vertical m of shaft development, six shaft stations and 540 m of mineralized material and waste passes.

TABLE 16.2
SUMMARY OF UNDERGROUND MINE DEVELOPMENT

Description	Metres
Decline	8,540
Footwall Accesses	9,760
Footwall Drifts	7,728
Vent Raise Accesses	2,175
Vent Raises	1,175
Miscellaneous Excavations	4,230
Total	**33,608**

Stope development includes all undercut drifts, overcut drifts, and adjacent slashing in mineralization. There is an estimated 16,400 equivalent m of 4 m by 4 m stope development drifting required over the LOM.

Altogether, there is an estimated total of some 50,000 equivalent m of mine and stope development required over the life of the mine.

16.3.1 Shaft Sinking and Construction Schedule

P&E estimates that it will take 12 months to clear the site of the shaft collar, collar the shaft, install the headframe, establish an arrangement of shaft-sinking winches and related paraphernalia, construct the hoist room and install the hoists, commission these installations and start sinking. It is anticipated that it will take an additional 18 months to sink and commission the shaft.

16.3.2 Decline from Surface

The decline from surface will be driven at a -15% grade, ultimately to the -940 m level which is 1,260 m vertically from surface. This access ramp will allow underground mobile equipment, personnel and supplies to travel between levels, as well as to and from surface.

Initially the access decline will be driven to a vertical depth of 370 m from surface. It is estimated that it will take 1.5 years to complete this work. Continued development of the decline below this point will start during the last year of the pre-production period, on an 'as-required'

basis. It is estimated the bottom of the decline will be completed to the -940 m level by the end of Year 4.

16.3.3 Mine Level and Sublevel Development

Mine level and sublevel development includes all footwall accesses, footwall drifts, ventilation raise accesses and ventilation raises driven in waste. Pre-production mine development will start on the -50 m level during Year -2. Level development will proceed from the -80 m level and the -230 m level as the decline advances downward. Mine development on the -230 m level is scheduled to be completed during Year 2.

Once the shaft has been commissioned in Year 3, development crews will proceed to develop the -600 m and the -800 m levels simultaneously. Ramp and lateral mine development work will proceed upwards to the -240 m levels and the -610 m levels from those levels, respectively, on an as-required basis.

Mine development on the -940 m level will start during the fourth year. Mine development will proceed up from the -940 m level to the -880 m level during Year 4. A summary of the mine development schedule is presented in Table 16.3.

TABLE 16.3
MINE DEVELOPMENT SCHEDULE (METRES)

Level	Year												Total
	-2	-1	1	2	3	4	5	6	7	8	9	10	
-50L	992												992
-80L	727												727
-110L	186	770											956
-140L		1,134											1,134
-170L			783										783
-200L				858									858
-230L				855									855
-270L											473		473
-300L											438		438
-330L											898		898
-360L										999			999
-390L									766				766
-420L								617					617
-450L							565						565
-480L							1,031						1,031
-510L							652						652
-540L						646							646
-570L					925								925
-600L				1,394									1,394
-630L												1,523	1,523
-660L											1,410		1,410
-690L							1,361						1,361
-720L						1,264							1,264
-750L					548								548
-780L				355									355
-800L				698									698

TABLE 16.3 MINE DEVELOPMENT SCHEDULE (METRES)													
Level	Year												Total
	-2	-1	1	2	3	4	5	6	7	8	9	10	
-880L						280							280
-910L						312							312
-940L						330							330
Total	1,904	1,904	783	4,160	1,472	2,832	3,608	617	766	999	3,219	1,523	23,787

16.3.4 Stope Development

Stope development includes both drifting and drift slashing in mineralized rock. Stope development will start on the -50 m level (370 m vertical depth) during the pre-production period in Year -1. Development crews will then proceed down to develop the -80 m, -110 m, -140 m, -170 m, -200 m and -230 m levels as the main ramp reaches those levels during Years -1 to 3. Once the shaft has been commissioned and the -50 m to -230 m development work has been completed, development crews will proceed to develop the -780 m and -600 m levels and the sublevels up to the -630 m and -270 m levels, respectively.

A summary of the stope development schedule is presented in Table 16.4.

TABLE 16.4 STOPE DEVELOPMENT SCHEDULE (METRES)													
Level	Year												Total
	-1	1	2	3	4	5	6	7	8	9	10	11	
-50L	259												259
-80L	441												441
-110L	362	625											987
-140L		625	530										1,156
-170L			720										720
-200L				553									553
-230L				170									170
-270L											36		36
-300L											317		317
-330L										156	383		539
-360L									96	594			690
-390L								217	654				871
-420L								465					465
-450L							231	68					299
-480L							159						159
-510L							161						161
-540L						255	200						454
-570L					201	495							696
-600L				316	549								865
-630L											59	1,025	1,084
-660L									343	750	704		1,797
-690L							243	750	407				1,400
-720L					220	426	507						1,153
-750L				61	530								591
-780L				255									255

TABLE 16.4 STOPE DEVELOPMENT SCHEDULE (METRES)													
Level	**Year**												**Total**
	-1	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	
-800L													
-880L													
-910L						92							92
-940L						233							233
Total	**1,063**	**1,250**	**1,250**	**1,355**	**1,499**	**1,500**	**1,500**	**1,500**	**1,500**	**1,500**	**1,500**	**1,025**	**16,442**

16.3.5 Stoping

Stope production will start on the -50 m (370 m vertical depth) level during the Year -1 pre-production period, preceded by stope development on that level. Stope development and stope tonnes will average 2,125 tpd in Year -1, and 2,500 tpd during Years 1 and 2, prior to the shaft being commissioned. During Year 3 there will be a transition from 2,500 tpd hauled up the decline to 3,000 tpd hoisted up the shaft to surface. Stope development and stope tonnes will average 2,711 tpd during Year 3. Once the shaft is commissioned in Year 3, stope development and stope tonnes will average 3,000 tpd.

A summary schedule of the stope development and stope production tonnes is presented in Table 16.5.

TABLE 16.5 STOPE DEVELOPMENT & STOPING TONNES (000'S)													
Level	**Year**												**Total**
	-1	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	
-50L	181												181
-80L	309												309
-110L	253	437											691
-140L		438	371										809
-170L			504										504
-200L				387									387
-230L				119									119
-270L											25		25
-300L											222		222
-330L										109	268		377
-360L									67	416			483
-390L								152	458				610
-420L								325					325
-450L							162	48					209
-480L							111						111
-510L							113						113
-540L						178	140						318
-570L					141	347							487
-600L				221	384								606
-630L											42	717	759
-660L									240	525	493		1258

TABLE 16.5
STOPE DEVELOPMENT & STOPING TONNES (000'S)

Level	Year												Total
	-1	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	
-690L							170	525	285				980
-720L					154	298	355						807
-750L				43	371								414
-780L				178									178
-800L				1									1
-880L						1							1
-910L						63							63
-940L						163							163
Total	**744**	**875**	**875**	**949**	**1050**	**1050**	**1050**	**1050**	**1050**	**1050**	**1050**	**717**	**11,510**
Grade (g/t Au)	2.63	2.73	2.83	2.88	2.87	3.17	2.89	2.64	2.45	2.47	2.39	2.73	2.72

Note: *Some values have been rounded. The totals are accurate summations of the columns and rows of data.*

17.0 RECOVERY METHODS

Process Selection and Design Parameters

- The available metallurgical testwork indicates that the deposit is amenable to conventional cyanidation processing and that gravity concentration is not likely to be required.
- For purposes of this scoping study, a flowsheet consisting of cyanidation followed by a carbon-in-pulp circuit (CIP) is selected.

Selected design parameters for the study are shown in Table 17.1.

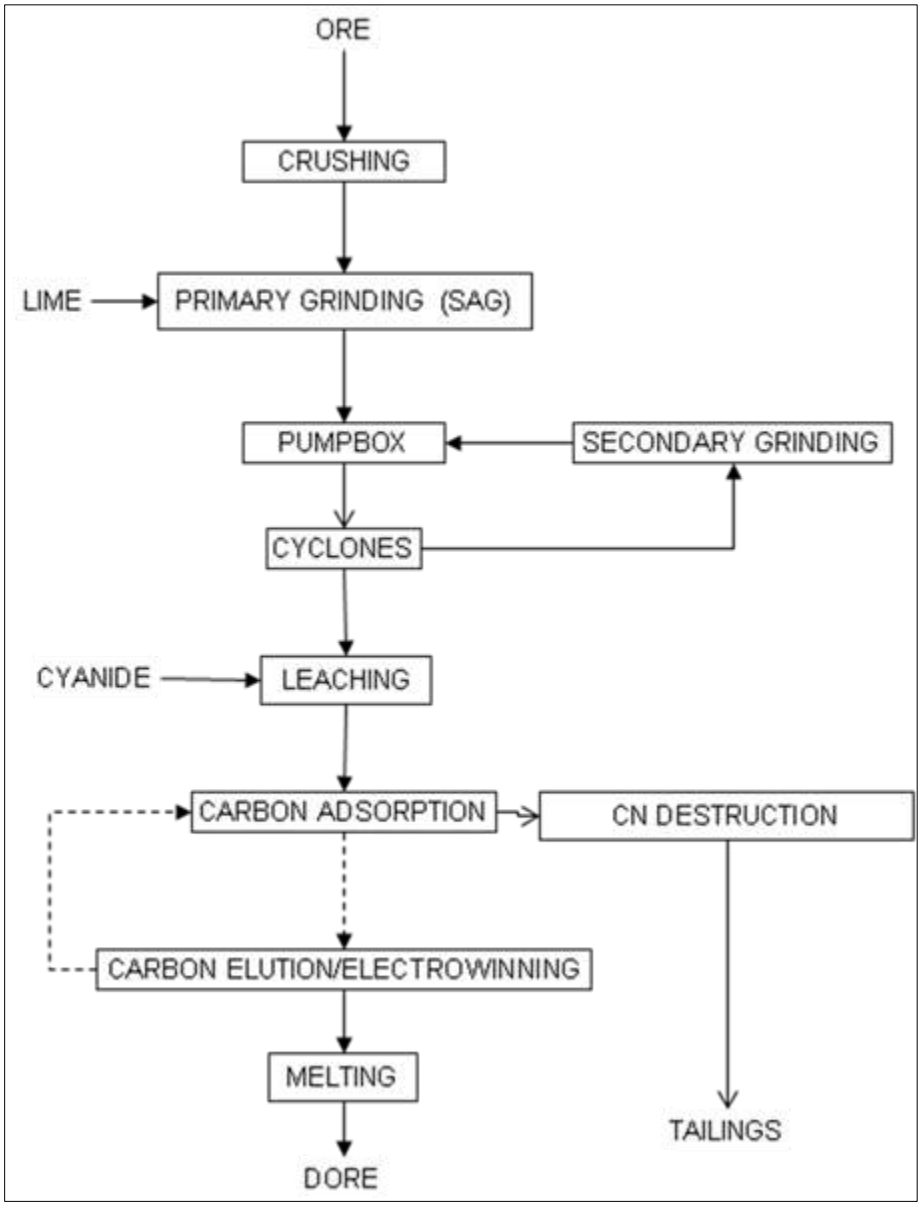
TABLE 17.1
PROCESS PLANT -SELECTED DESIGN PARAMETERS

Parameter	Value	Units
Bond ball mill index	17.4	kWh/t
Grind (K80)	74	microns
Gold recovery (overall)	92	%
Total cyanidation time	**24**	**h**

17.1 PROCESS DESCRIPTION

A simplified flow sheet of the process is shown in Figure 17.1. Crushed ore is ground to a K80 of 74 microns in a two stage grinding circuit at an average rate of approximately 25,000 t/d (8,750,000 t/a). Ground product from the grinding circuit is fed to a cyanidation/ CIP circuit for gold extraction. A conventional carbon elution circuit recovers gold which is smelted to yield a doré product.

Figure 17.1 Process Flow Sheet

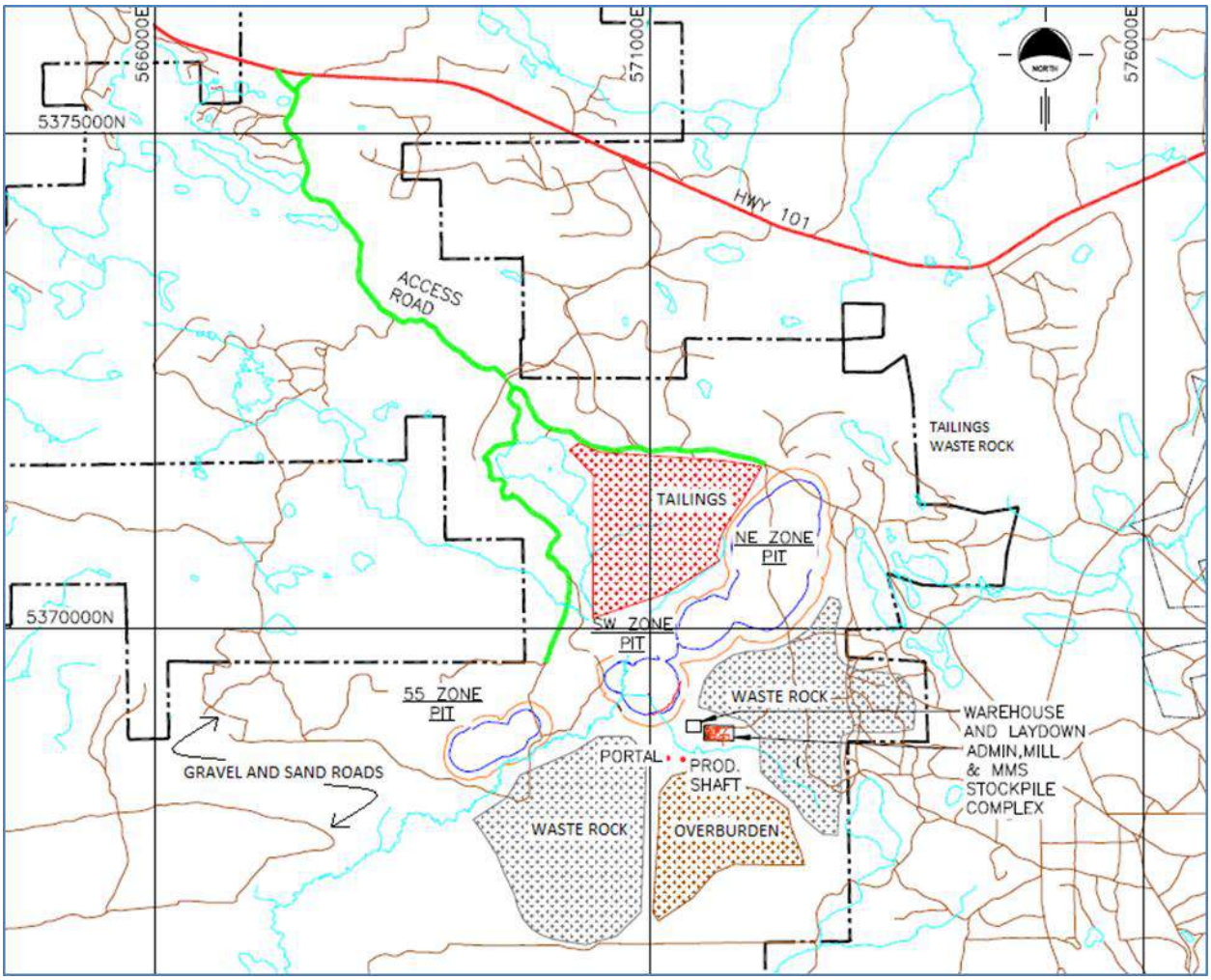


18.0 PROJECT INFRASTRUCTURE

18.1 INTRODUCTION

The mine plan for the Golden Highway Project has an approximate 11.4 year mill production life with a total mill feed to a single mill on the Project of approximately 8.8 Mt per year. The Project consists of three different deposits identified as the 55 Zone, SW Zone and the NE Zone (Gap and Windjammer Zones). These deposits are separated roughly east west by a total distance of about 5 km. See Figure 18.1 for a plan of the project site and area.

Figure 18.1 Site Plan



The Project has access to the substantial infrastructure, services and skilled labour in the Timmins mining area, located approximately 95 km to the west, as well as from the mining town of Kirkland Lake, located approximately 85 km to the South. The project site is accessible year-round from the paved provincial Highway 101 and a network of gravel and sand logging roads. The proposed mill complex area is located south of the central area of the open pits and near the underground mine shaft and portal. Waste rock storage areas and the overburden storage pile are conveniently located adjacent to the open pits. Esker ridges form natural containment dykes for at least two sides of the proposed tailings management facility. These and other nearby eskers

contain significant quantities of coarse gravel and small boulder material which can be used for road upgrades and as infrastructure construction materials.

18.1.1 Site Surface Infrastructure

The site facilities at the Project will include a headframe/hoist house arrangement and compressor room associated with the underground mine. Also included will be the mill complex and all associated supporting infrastructure, a paste backfill plant and distribution system; the tailings / waste rock co-disposal basin and dam; backup power generating facilities, fuel and explosives storage and laydown areas. Indirect support facilities would include electrical transformer stations and distribution, administration/engineering building, a changehouse/dry, a warehouse and an equipment maintenance shop. Surface mobile equipment would include a road grader; a service truck; a garbage truck; a personnel bus; an ambulance; a fire/rescue truck and pickup trucks.

Electrical power would be supplied by a 10 km long transmission line (from the property site to a point two km south of the intersection of Highways 101 and 672) connecting to the provincial grid. Overall site power consumption is estimated to be approximately 40 MW.

18.1.2 Processing Facility

A processing facility with a nominal design throughput of 25,000 tpd will be constructed on site. It will be composed of crushing, grinding and a carbon-in-pulp circuit for gold extraction. A conventional carbon elution circuit recovers gold which is smelted to yield a doré product.

18.1.3 Underground Mine Access

The primary access route to the underground mine will be via a vertical shaft. A double drum hoisting facility and compressor plant will be located adjacent to the headframe. The second means of access to the underground mine will be via an underground ramp which connects to surface at a portal.

18.1.4 Mine Haul Road and Services Roads

The project site is accessible year-round from paved provincial Highway 101 and a network of gravel and sand logging/exploration roads. The access roads from Highway 101 will need to be upgraded to accommodate highway transport trucks in the construction phase. New service roads connecting the process plant, the office/maintenance/warehouse complex and the TSF will be required. The open pit mine haul roads will need to be able to accommodate 320 t capacity haulage trucks carrying blasted rock from the pit to the primary crusher, waste rock storage facilities and to the tailings storage area to build dams.

18.1.5 Tailings and Waste Rock Management

The mill tailings would be used to produce paste backfill for mine stope filling. The tailings are combined with certain additives which act as a binding agent to develop cohesion. Only a portion of the tailings is used for this purpose. The remainder is placed in a tailings storage facility. The mine waste rock would be hauled to the waste rock storage facilities or used to backfill portions of the open pits and underground mine. Overburden will be stored in a designated overburden

storage area. Overburden from the eastern Windjammer pit will be suitable for certain construction purposes such as building and raising tailings dams.

18.2 MAINTENANCE GARAGE, WAREHOUSE AND ADMINISTRATION COMPLEX

The maintenance shop and administration complex will be located adjacent to the processing plant. The maintenance shop will be used to service the open pit and underground mine equipment and other mobile equipment. A warehouse building and a laydown area will be constructed adjacent to the complex.

The complex will include office space for administration, geology and engineering, general services, environmental services, health and safety, human resources, training and other support personnel as well as the mine and plant operations and maintenance superintendents and supervisors. The complex will also include men's and women's changehouse /dry areas, a training room, a mine rescue room and first aid facilities.

18.2.1 Mobile Equipment

A summary of required surface mobile equipment is presented in Table 18.1.

TABLE 18.1
PROCESS PLANT SELECTED DESIGN PARAMETERS

Description	Qty
Motor Grader -Volvo G960 (Reconditioned)	1
FEL -Cat 930H	1
Flatbed Truck -Sterling (Used)	1
Garbage Truck w/dumpsters (used)	1
Bus -30 Person (Used)	2
Ambulance	1
Fire/Rescue Truck	1
Pickup Truck -Ford F150	6
SUV	1

18.2.2 Fuel Storage Facilities

Diesel fuel would be stored in commercially available double wall steel tanks.

18.2.3 On-Site Accommodations

Moneta anticipates the Golden Highway Project workers will live in the local area. A temporary camp will be constructed to accommodate temporary workers during the construction phase of the Project.

18.2.4 Waste Management

It is expected that the mine will have a waste management program in place to ensure that waste materials are recycled or otherwise disposed in compliance with federal, provincial and local legislation.

Storage facilities for materials such as lubricants, explosives and process chemicals have not been detailed at this preliminary study level. These facilities would be designed to meet relevant codes and regulations in order to protect employees, the public and the environment.

18.2.5 Regional Resources

The labour force for the construction and operation of this project are anticipated to be drawn from Kirkland Lake, Timmins, Matheson and nearby Quebec communities.

19.0 MARKET STUDIES AND CONTRACTS

There were no market studies completed or contracts in place to support this Technical Report. The product from the process plant will be a gold doré bars. This will be shipped to any of several available refiners. Prices for this gold doré will be based on the then-current gold prices, less respective refining charges.

20.0 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

The proposed Project includes open pit and underground mining operations, a 25,000 tpd processing plant, waste management facilities, a 10 km long power transmission line (from the property site to a point two km south of the intersection of Highways 101 and 672) and associated infrastructure. The tailings would be disposed in a tailings storage facility. The mine waste rock would be placed in waste rock storage facilities or used to backfill the pits and underground workings.

Moneta's focus has been to explore and assess the potential economic viability of the deposit. It has not yet commenced formal discussions with regulatory authorities in regards to environmental assessment and permitting requirements which are well-established in Ontario. Under current legislation, the environmental assessment process for the Project would be federally and provincially coordinated and encompass additional stakeholder consultation requirements that come into effect in 2013. Information on the environmental assessment and permitting process for mines is available on Federal and Provincial government websites such as the Canadian Environmental Assessment Agency (www.ceaa-acee.gc.ca), Ontario Ministry of Northern Development and Mines (www.mndm.gov.on.ca), and the Ontario Ministry of the Environment (www.ene.gov.on.ca). Moneta has started to develop an environmental baseline database and anticipates that it will commence initial consultations with regulators, advanced discussions with First Nation communities and other interested people in the near future.

Mine development proponents in Ontario are required to engage with First Nation communities to help identify and consider potential concerns and issues and provide the communities with opportunities to receive information and provide valued input. First Nation communities' local knowledge and values are incorporated into the environmental assessment process.

Provincial-issued permits that may be required include but not limited to: environmental compliance approval for air emissions, waste and industrial sewage under the Environmental Protection Act, permits to take water under the Ontario Water Resources Act; approvals for tailings and water storage facilities under the Lakes and Rivers Improvement Act, aggregate permits under the Aggregate Resources Act, and an approved closure plan under the Mining Act. Federal permits and authorizations that may be required include without being limited to a license for an explosives factory under the Explosives Act, HADD (harmful alteration, disruption or destruction of fish habitat) authorization and Metal Mining Effluent Regulations requirements under the Fisheries Act, and approval for works in navigable waters under the Navigable Waters Protection Act which may be amended to become the Navigation Protection Act.

The preliminary design of the Project as described in the present PEA includes several environmental protection aspects including cost allowances for cyanide destruction, environmental monitoring, and mine closure.

The topography in the project area is characterized by swamp and spruce bog areas, isolated tree stands, and alder bush areas. The topography is generally flat with esker and dune relief. The Pike River meanders through the project area. A portion of the river would need to be temporarily diverted around the west end of the SW Zone Pit based on the preliminary pit limits. It is expected that Moneta will continue to add to its knowledge of the environmental and social aspects of the project as the project advances through its technical study stages and the

environmental monitoring, environmental assessment and community consultation, closure planning and permitting processes, and there is a possibility that some aspects of the proposed project may be modified as it is further evaluated.

The reader is directed to the environmental recommendations contained in Section 26 of this report.

The Project would be closed out in accordance with a required and yet-to-be-developed closure plan. Progressive closure works would be carried out during the operating life of the project, and the project would be closed out at the completion of operations. The underground mine openings to surface would be sealed and allowed to flood. The open pit slopes and the rock and tailings stockpile areas would also be left in a physically stable and safe condition. The effectiveness of the closure works would be assessed using a post-closure environmental monitoring program. P&E has included a closure cost allowance in the cash flow.

It is expected that Moneta will collect additional environmental information on aspects such as the acid generation and metal leaching potential of the mine materials, the possible need for additional environmental protection measures, traditional knowledge and site-specific closure planning requirements. The project has not yet entered into the environmental assessment and permitting process and based on the current state of knowledge regarding the Project, there does not appear to be any insurmountable obstacles to further advancing the project to the next technical study stage and initiating discussions with regulatory authorities and advancing discussions with First Nation communities and other interested people.

21.0 CAPITAL AND OPERATING COSTS

The estimated capital and operating costs for the Project are described in this section.

All capital and operating costs are shown in Canadian dollars, unless otherwise stated.

21.1 CAPITAL COSTS

All costs, except for some underground operating and service costs, process plant operating costs and G&A costs, are capitalized during the pre-production period (years -4, -3, -2 and -1).The production period commences once the open pit mines reach a combined steady-state production of 75 M tonnes of overburden, waste rock and mineralization per year, and the underground mine reaches a production of 2,500 tpd mineralized rock at the beginning of Year 1.The total capital cost of the project is estimated to be approximately $1,014 M. This is composed of approximately $607 M in pre-production capital and $407 M in sustaining capital.

21.1.1 Preproduction Capital Costs

Pre-production capital costs include the cost of: all surface buildings, structures and related facilities; open pit pre-stripping; open pit equipment leasing; ramp development from surface to the -140 m level (460 m vertically below surface);mine and stope development from the 0 m elevation to the -140 m level (320 m and 460 m vertically below surface, respectively); some underground mining equipment; the initial complement of surface mobile equipment; electrical power supply infrastructure and some underground infrastructure. A summary of the estimated pre-production capital costs is presented in Table 21.1.

TABLE 21.1
PRE-PRODUCTION CAPITAL COSTS (M$)

Description	Year				Total
	-4	-3	-2	-1	
Open Pit Stripping			68.8	144.2	213.0
Open Pit Equipment Down Payment			8.6	11.2	19.8
U/G Mining Cost				9.2	9.2
Underground Development		4.8	16.4	12.3	33.5
Underground Equipment			10.4	12.8	23.2
Process Plant	29.2	131.4	131.4		292.0
Surface Infrastructure			2.0	13.8	15.8
U/G Infrastructure				0.6	0.6
Total Capital	**29.2**	**136.2**	**237.6**	**204.1**	**607.1**

Note: *Some values have been rounded. The totals are accurate summations of the columns and rows of data.*

The pre-production period starts with site clearing and process plant construction in Year -4 followed by collaring of the decline portal in Year -3 and open pit pre-stripping in Year -2. The pre-production period ends when the underground mine reaches a production rate of 2,500 tpd and the open pit is producing at a steady-state rate of 22,000 tpd.

Additional pre-production capital cost information is presented in the following subsections.

21.1.1.1 Open Pit Pre-production Stripping

During Years -2 and -1, a total of 78.2 M tonnes of overburden, 65.9 M tonnes of waste rock and 5.9 M tonnes of mineralized material, for a total of 150 M tonnes of material (55.0 M in Year -1 and 95.0 M in Year -2), is removed from the Golden Highway Project open pits. Further details of pre-production open pit stripping tonnages are provided in Table 21.2.

TABLE 21.2
PRE-PRODUCTION OPEN PIT STRIPPING

Description	Year		Total
	-2	-1	
Overburden (Mt)	54.9	23.4	78.2
Waste Rock(Mt)	0.1	65.8	65.9
Mineralized Material (Mt)	0.0	5.9	5.9
-Grade (g/t)		0.800	0.800
Total (Mt)	**55**	**95**	**150**

Note: *Some values have been rounded. The totals are accurate summations of the columns and rows of data.*

The capital costs of drilling, blasting, mucking and hauling this material from the open pits to the various stockpiles or mill primary crusher, is summarized in Table 21.3.

TABLE 21.3
PRE-PRODUCTION OPEN PIT STRIPPING CAPITAL COSTS (M$)

Description	Unit Cost/t	Year		Total
		-2	-1	
O/P -Overburden	$1.25	68.6	29.2	97.8
-Waste Rock	$1.60	0.2	105.2	105.4
-Mineralized Material	$1.66	0.0	9.7	9.7
Open Pit Stripping		68.8	144.2	213.0

Note: *Some values have been rounded. The totals are accurate summations of the columns and rows of data.*

21.1.1.2 Open Pit Pre-production Equipment Down Payment

It is projected that four blasthole drills, three shovels, and fifteen open pit haul trucks would be required during the preproduction period along with ancillary equipment. P&E has assumed that a 15% down payment would be made on this equipment. A scheduled summary of these down payments is presented in Table 21.4.

TABLE 21.4 PRE-PRODUCTION OPEN PIT EQUIPMENT DOWN PAYMENT (M$)			
Description	**Year**		**Total**
	-2	**-1**	
O/P -Trucks	5.6	5.6	11.2
-Shovels	1.8	3.6	5.4
-Drills	0.3	0.8	1.1
-Ancillary Equipment	0.9	1.2	2.0
Total Open Pit Equipment Down Payment	**8.6**	**11.2**	**19.8**

Note: *Some values have been rounded. The totals are accurate summations of the columns and rows of data.*

21.1.1.3 Underground Pre-production Mining Cost

A total of 743,750 tonnes of mineralized material grading 2.631 g/t gold, is scheduled to be mined in Year -1 at a combined development and stope production rate of 2,125 tpd. Of this total, 424,887 tonnes are considered to be an operating expense and 318,863 tonnes is capitalized at $28.70/t. This results in $9.2 M being pre-production capital costs and $12.2 M being operating costs in Year -2.

21.1.1.4 Underground Pre-production Development

The pre-production underground development will be completed by a contractor. A total of 8,094 m of mine development will be completed during the pre-production period. This estimate includes a 15% allowance for miscellaneous excavations such as underground shops, lunchrooms, explosive magazines, etc. Stope development includes both drifting and drift slashing in mineralized rock. P&E has equated this stope development into equivalent m of 4 m by 4 m drifting in mineralization. A total of 1,063 equivalent m of stope development will be completed during the pre-production period. Details of the estimated pre-production development quantities are presented in Table 21.5.

TABLE 21.5 PRE-PRODUCTION UNDERGROUND DEVELOPMENT QUANTITIES (METRES)				
Description	**Year**			**Total**
	-3	**-2**	**-1**	
Mine Development				
Ramp				
-Surface (324) TO -50L	967	1,934		2,901
-50L to -230L			1,384	1,384
-230L to -801				
-800 to -940L				
Footwall Access		645	681	1,326
Footwall Drift		680	1,033	1,712
Ventilation Raise Access		187	158	345
Ventilation Raise		370	55	425
Mine Development Subtotal	967	3,816	3,311	8,094
Stope Development			1,063	1,063
Total Development	**967**	**3,816**	**4,373**	**9,156**

Note: *Some values have been rounded. The totals are accurate summations of the columns and rows of data.*

The estimated pre-production development capital cost totals $33.6 M. Details and schedule of this estimate are summarized in Table 21.6.

TABLE 21.6
PRE-PRODUCTION UNDERGROUND DEVELOPMENT CAPITAL COST (M$)

Description		Year			Total
		-3	-2	-1	
Mine Development	Ramp				
	-Surface (324) TO -50L	4.8	9.7		14.5
	-50L to -230L			1.8	1.8
	-230L to -801				
	-800 to -940L				
	Footwall Access		2.3	2.4	4.6
	Footwall Drift		2.4	3.6	6.0
	Ventilation Raise Access		0.7	0.6	1.2
	Ventilation Raise		1.5	0.2	1.7
	Mine Development Subtotal	4.8	16.4	8.6	29.9
Stope Development				3.7	3.7
Total Development		**4.8**	**16.4**	**12.3**	**33.6**

Note: *Some values have been rounded. The totals are accurate summations of the columns and rows of data.*

21.1.1.5 Underground Pre-production Equipment Capital Cost

All of the underground mining equipment required to complete the pre-production ramp, as well as the mine and stope development, will be purchased in Year -2 and -1. A summary of the capital cost of this pre-production underground equipment is presented in Table 21.7.

TABLE 21.7
PRE-PRODUCTION UNDERGROUND MINE EQUIPMENT CAPITAL COST (M$)

Description	Unit Cost ($)	Qty Required	Year		Total
			-2	-1	
Sandvik Axera 7-260 Devel Jumbo -2 Boom	1,084,000	2	1.1	1.1	2.2
Cubex ITH Drill	1,000,000	2	1.0	1.0	2.0
Getman Scissor Lift	340,000	1	0.3		0.3
Sandvik T9 -6.1 cu.m. LHD	1,225,000	3	1.2	2.5	3.7
50T Haul Trucks	1,200,000	2		2.4	2.4
TH430 – 30T Mine Trucks	911,000	3	0.9	1.8	2.7
MCU 2700 UG Blasting Tractor	550,000	1	0.6		0.6
Getman ANFO Loader	430,000	1	0.4		0.4
Cable Bolter	750,000	1	0.8		0.8
Getman Lub Service Vehicle	330,000	1	0.3		0.3
M40 Fuel truck	375,000	1	0.4		0.4
Mechanics Vehicle	55,000	1	0.1		0.1
Electrician Vehicle	55,000	1	0.1		0.1
Getman Boom Truck	325,000	1	0.3		0.3

TABLE 21.7 PRE-PRODUCTION UNDERGROUND MINE EQUIPMENT CAPITAL COST (M$)					
Description	**Unit Cost ($)**	**Qty Required**	**Year**		**Total**
			-2	**-1**	
Grader	370,000	1	0.4		0.4
Toyotas	55,000	3	0.1	0.1	0.2
Alimak	300,000	1		0.3	0.3
Shotcrete Machine	100,000	1		0.1	0.1
Getman Personnel Carrier	300,000	1	0.3		0.3
Misc. Underground Equipment		Lot	1.0	1.1	2.1
Misc. Surface Equipment		Lot	1.3	2.5	3.7
Total Underground Equipment			**10.4**	**12.8**	**23.2**

Note: *Some values have been rounded. The totals are accurate summations of the columns and rows of data.*

21.1.1.6 Pre-production Process Plant Capital Cost

The capital costs of the process plant include direct costs such as site development, all concrete work, all structural work, process plant equipment and installation, piping, and all electrical equipment and instrumentation. Indirect process plant capital costs include field supervision and expenses, construction equipment, engineering design and layouts, spare parts and commissioning costs. A summary of the estimated process plant direct and indirect capital costs in third quarter 2012 Canadian dollars is presented in Table 21.8. This estimate is considered accurate to +/- 30%.

TABLE 21.8 PROCESS PLANT CAPITAL COST (M$)	
Description	**Total**
Direct Costs	174.3
Indirect Costs	
Construction Indirect	35.0
Engineering	23.5
Freight	7.0
Spare Parts	2.6
Startup	0.9
Indirect Cost Subtotal	69.0
Direct and Indirect Total	243.3
Contingency (20%)	48.7
Total Cost	**291.9**

Note: *Some values have been rounded. The totals are accurate summations of the columns of data*

21.1.1.7 Pre-production Surface Infrastructure Capital Cost

Pre-production surface infrastructure capital costs include site facilities, buildings, buildings furnishings and surface mobile equipment.

The capital cost of site facilities includes the cost of: the electric power line, substation, and switchgear; the paste backfill plant and distribution system; the tailings disposal basin and dam; waste rock disposal area; site roads; surface parking areas; the fuel storage; lubrication and oil storage facilities; surface explosive magazines; yard piping; the fire prevention and fighting system; the potable water treatment plant and storage tanks; the tailings water treatment plant and pond and the water management pond building and site run-off.

Buildings capital costs include; the main gate building; the mobile equipment maintenance facility; the warehouse and warehouse equipment; the office building and the dry/changehouse. The buildings furnishings include; the surface mine shop equipment and tools; the office furniture, computers, etc.; environmental equipment; dry/changehouse equipment; site communications and medical centre equipment.

The surface mobile equipment capital costs include; a road grader; a front-end loader, a service truck; a garbage truck; a personnel bus; an ambulance; a fire/ rescue truck and pickup trucks. The pre-production surface infrastructure capital cost summary is presented in Table 21.9.

TABLE 21.9
SUMMARY OF PRE-PRODUCTION SURFACE INFRASTRUCTURE CAPITAL COST (M$)

Description	Year		Total
	-2	-1	
Site Facilities	0.8	10.1	10.9
Buildings	0.7	1.7	2.4
Buildings Furnishings	0.5	0.8	1.3
Surface Mobile Equipment	0.0	1.2	1.2
Total	**2.0**	**13.8**	**15.8**

Note: *Some values have been rounded. The totals are accurate summations of the columns and rows of data.*

21.1.1.8 Pre-production Underground Infrastructure Capital Cost

Preproduction underground mine infrastructure capitals costs include expenditures for: one main sump; an initial underground backfill distribution system; one lunchroom / refuge station; one latrine; one powder magazine, and one detonator magazine. A summary of the preproduction underground mine infrastructure capital costs is presented in Table 21.10.

TABLE 21.10
UNDERGROUND INFRASTRUCTURE PRE-PRODUCTION CAPITAL COSTS ($)

Description	Qty	Cost
Sump	1	200,000
Backfill Distribution System	Lot	180,000
Refuge Station	1	150,000
Latrine	1	40,000
Powder Magazine	1	50,000
Detonator Magazine	1	20,000
Total		**640,000**

21.1.2 Sustaining Capital Cost Estimates

Once the open pit mines reach a combined steady-state production of 75 M tonnes of overburden, waste rock and mineralization per year, and the underground mine reaches a production of 875,000 tpy (2,500 tpd) mineralized rock, the operation is considered to be in production. The Production period commences at the start of year 1.

Sustaining capital refers to ongoing capital expenditures during production. Sustaining capital costs include some open pit overburden stripping; open pit equipment leasing; some underground development; underground mining equipment; the underground shaft complex, some underground infrastructure including ventilation raises and equipment, a salvage credit at the end of the mine life and closure costs. A summary of sustaining capital costs is presented in Table 21.11.

TABLE 21.11
SUSTAINING CAPITAL COSTS (M$)

Description	Year											Total
	1	2	3	4	5	6	7	8	9	10	11	
Open Pit Overburden Stripping	20.8	33.8	15.4	7.2		9.4	36.6	17.9	2.1			143.1
Open Pit Equipment Leasing	26.9	26.9	26.9	26.9	26.9							134.6
Underground Development	8.9	20.8	11.7	17.1	17.9	7.4	7.9	8.8	16.6	10.6	3.6	131.4
Underground Equipment	2.4											2.4
Shaft	27.6	27.6	13.8									69.0
U/G Infrastructure	5.6											5.6
Salvage											-89.1	-89.1
Closure											10.0	10
Total Capital	**92.2**	**109.1**	**67.8**	**51.2**	**44.9**	**16.8**	**44.6**	**26.7**	**18.7**	**10.6**	**-75.5**	**407.0**

Note: *Some values have been rounded. The totals are accurate summations of the columns and rows of data.*

Additional sustaining capital cost information is presented in the following subsections.

21.1.2.1 Open Pit Overburden Stripping Capital Cost

As required throughout the mine life, the remaining overburden is removed, hauled and stockpiled. This sustaining capital cost summary is presented in Table 21.12.

TABLE 21.12
OPEN PIT OVERBURDEN STRIPPING SUSTAINING CAPITAL COSTS

Description	Unit Cost/t	Year									Total
		1	2	3	4	5	6	7	8	9	
Tonnes (M)		19.0	30.9	14.0	6.6	0.0	8.6	33.5	16.4	1.9	130.8
Capital Cost (M$)	$1.09	20.8	33.8	15.4	7.2	0.0	9.4	36.6	17.9	2.1	143.1

Note: *Some values have been rounded. The totals are accurate summations of the columns and rows of data.*

21.1.2.2 Open Pit Equipment Leasing Capital Costs

The projected open pit equipment requirements and lease costs are presented in Table 21.13. P&E has assumed that a 15% down payment on this equipment will be made during the pre-production period totalling $19.8 M, as summarized previously in Table 21.4.The balance is capitalized as lease payments over the first five years of production. These lease payments include a 20% interest payment on the outstanding balance. A scheduled summary of those lease payments is presented in Table 21.14.

TABLE 21.13
OPEN PIT EQUIPMENT REQUIREMENTS (M$)

Description	Unit Cost	Units	Total
Haul Trucks	5.0	15	75.0
Excavators	12.0	3	36.0
Blast Hole Drills	1.8	4	7.2
Ancillary Equipment		Lot	13.8
Total Cost			**132**

Note: *Some values have been rounded. The totals are accurate summations of the columns and rows of data.*

TABLE 21.14
OPEN PIT EQUIPMENT LEASE PAYMENTS (M$)

Description	Year					Total
	1	2	3	4	5	
Haul Trucks	15.3	15.3	15.3	15.3	15.3	76.5
Excavators	7.3	7.3	7.3	7.3	7.3	36.7
Blast Hole Drills	1.5	1.5	1.5	1.5	1.5	7.3
Miscellaneous Open Pit Equipment	2.8	2.8	2.8	2.8	2.8	14.1
Total Cost	**26.9**	**26.9**	**26.9**	**26.9**	**26.9**	**134.6**

Note: *Some values have been rounded. The totals are accurate summations of the columns and rows of data.*

21.1.2.3 Underground Capital Development Cost

Underground development capital costs include the cost of all underground development in both waste rock and mineralized rock, excluding all slot raises (which are included in the mine operating costs), the shaft and the shaft related excavations. This includes: the cost of all cross-cuts; drifting and slashing in mineralization; sumps, electrical rooms, lunchrooms, muckbays, garages and ventilation raises.

A total of 25,515 m of mine development will be completed during the production period. This estimate includes a 15% allowance for miscellaneous excavations such as underground shops, lunchrooms, explosive magazines, etc. Stope development includes both drifting and drift slashing in mineralized rock. P&E has converted this stope development into equivalent m of 4 m by 4 m drifting in mineralization. An estimated total of 15,380 equivalent m of stope mine development will be completed during the production period. Details of the estimated pre-production development quantities are presented in Table 21.15.

TABLE 21.15
DEVELOPMENT QUANTITIES (METRES)

Description	Year											Total
	1	2	3	4	5	6	7	8	9	10	11	
Mine Development												
Ramp												
-50L TO -230L	17											17
-230L TO -801	1,367	1,384	1,384	288								4,423
-800 TO -940L				1,096								1,096
Footwall Access	431	2,757	613	1,040	1,884	224	403	771	1,280	497		9,898
Footwall Drift	236	822	627	1,211	1,259	276	247	113	1,474	910		7,175
Ventilation Rse Access	86	431	173	431	345	86	86	86	345	86		2,156
Ventilation Raise	30	150	60	150	120	30	30	30	120	30		750
Mine Development Subtotal	2,167	5,544	2,856	4,216	3,608	617	766	999	3,219	1,523		25,515
Stope Development	1,250	1,250	1,355	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,025	15,380
Total Development	**3,417**	**6,794**	**4,211**	**5,716**	**5,108**	**2,117**	**2,266**	**2,499**	**4,719**	**3,023**	**1,025**	**40,895**

The estimated production underground development capital cost is $131.4 M. Details and schedule of this estimate are summarized in Table 21.16.

TABLE 21.16
UNDERGROUND DEVELOPMENT CAPITAL COST (M$)

Description	Year											Total
	1	2	3	4	5	6	7	8	9	10	11	
Mine Development												
Ramp												
-50L to -230L	0.0											0.0
-230L to -801	1.8	1.8	1.8	0.4								5.8
-800 to -940L				1.4								1.4
Footwall Access	1.5	9.6	2.1	3.6	6.6	0.8	1.4	2.7	4.5	1.7		34.6
Footwall Drift	0.8	2.9	2.2	4.2	4.4	1.0	0.9	0.4	5.2	3.2		25.1
Ventilation Raise Access	0.3	1.5	0.6	1.5	1.2	0.3	0.3	0.3	1.2	0.3		7.5
Ventilation Raise	0.1	0.6	0.2	0.6	0.5	0.1	0.1	0.1	0.5	0.1		3.0
Mine Development Subtotal	4.6	16.5	7.0	11.8	12.7	2.2	2.7	3.5	11.3	5.3		77.6
Stope Development	4.4	4.4	4.7	5.3	5.3	5.3	5.3	5.3	5.3	5.3	3.6	53.8
Total Development	**8.9**	**20.8**	**11.7**	**17.1**	**17.9**	**7.4**	**7.9**	**8.8**	**16.6**	**10.6**	**3.6**	**131.4**

Note: *Some values have been rounded. The totals are accurate summations of the columns and rows of data.*

21.1.2.4 Underground Equipment Capital Cost

Most of the underground mining equipment required to complete the production ramp, mine and stope development was purchased during the pre-production period in Year -2 and -1. Two additional 50 tonne underground ramp haulage trucks will be purchased in Year 1 for a total sustaining capital cost of $2.4 M.

21.1.2.5 Shaft Capital Cost

Shaft collaring will start at the beginning of the production period in Year 1. Once the shaft collar has been excavated to approximately 60 m below surface (to accommodate the shaft sinking arrangement and headframe foundations in potentially deep overburden) and the headframe and hoist and hoist room have been installed and commissioned, shaft sinking will begin. Note that design location of the shaft will depend on conditions such as water, geotechnical, and other considerations. A vertical 6 m to 6.5 m diameter concrete lined shaft would be sunk conventionally from the bottom of the collar to the -850 m level, 1,170 m below surface. There will be two loading pockets installed, one below the -600 m level station and the other below the -800 m level station. It will take approximately 18 months to sink and commission the shaft. A summary the shaft development capital cost and schedule is presented in Table 21.17.

TABLE 21.17
SHAFT CAPITAL COST (M$)

Description	Unit Cost ($)	Units	Year			Total
			1	2	3	
Headframe, Hoistroom, Hoists(2)	12,474,000	1	12.5			12.5
Loading Pocket	250,000	2		0.3	0.3	0.5
Grizzly / Rockbreaker	250,000	12			3.0	3.0
Subtotal			12.5	0.3	3.3	16.0
Collar (m)	50,000	60	3.0			3.0
Shaft (m)	40,000	1,110	12.1	24.7	7.6	44.4
Station	540,000	5		2.2	0.5	2.7
Mineralized Material Pass (m)	2,000	270			0.5	0.5
Waste Pass (m)	2,000	270			0.5	0.5
Install Loading Pocket	500,000	2		0.5	0.5	1.0
Loading Pocket Raise	62,500	4			0.3	0.3
Remove Sinking Gear & Commission Shaft	550,000	1			0.6	0.6
Total			**27.6**	**27.6**	**13.8**	**69.0**

***Note:** Some values have been rounded. The totals are accurate summations of the columns and rows of data.*

21.1.2.6 Underground Infrastructure Capital Cost

Underground infrastructure sustaining capitals costs include expenditures for: two underground equipment repair shops, one main sump; the balance of the underground backfill distribution system; 12 pass dumps, five lunchroom / refuge stations; five latrines; five powder and detonator

magazine and 30 ventilation regulators. A summary of underground infrastructure sustaining capital costs is presented in Table 21.18.

TABLE 21.18
UNDERGROUND INFRASTRUCTURE CAPITAL COSTS (M$)

Description	Qty	Cost
Underground Shop	2	2.0
Sump	1	0.2
Backfill Distribution System	Lot	0.6
Pass Dumps	12	0.6
Refuge Station	5	0.8
Latrine	5	0.2
Powder Magazine	5	0.3
Detonator Magazine	5	0.1
Ventilation Walls and Regulators	30	0.9
Total		**5.6**

Note: *Some values have been rounded. The totals are accurate summations of the columns and rows of data.*

21.1.2.7 Equipment Salvage Capital Credit

It is expected that at the start of mine closure the surface and processing plant, open pit and underground equipment will be salvaged from the Property in Year 11 and sold for cash. P&E estimates the net capital cost credit of this salvage operation to be $89.1 M. Details of this credit are summarized in Table 21.19.

TABLE 21.19
EQUIPMENT SALVAGE CAPITAL CREDIT (M$)

Description	Value
Surface and Process Plant	49.0
Open Pit Equipment	33.7
Underground Equipment	6.4
Total	**89.1**

Note: *Some values have been rounded. The totals are accurate summations of the columns and rows of data.*

21.1.2.8 Closure Capital Cost

Progressive closure works would be carried out during the operating life of the project, and the project would be closed out at the completion of operations. The underground mine openings to surface would be sealed and allowed to flood. The open pit slopes and the rock and tailings stockpile areas would also be left in a physically stable and safe condition. The effectiveness of the closure works would be assessed using a post-closure environmental monitoring program. P&E has included a $10 M capital cost allowance for closure in Year 11.

21.2 OPERATING COST ESTIMATES

Operating costs include open pit and underground operating and service costs, process plant operating costs and G&A costs. Operating costs include the cost of operating labour, maintenance labour, electrical power, operating materials and supplies, reagents and fuel. The yearly operating cost varies from $13.22 per tonne milled in Year -1 to $27.46 per tonne milled in Year 10. A summary of the average operating costs for the Project is provided in Table 21.20. Note that the underground and open pit mining costs have each been prorated to an average cost per tonne milled by spreading the costs over the combined open pit and underground feeds to the mill.

TABLE 21.20
SUMMARY OF AVERAGE OPERATING COST PER TONNE MILLED

Description	$/t Milled	
	P&P Tonnes[3]	P Tonnes[4]
Open Pit -Waste	6.93	7.43
Open Pit -Mineralization	1.24	1.33
Total Open Pit	8.17	8.75
Underground Stope Mining	3.23	3.33
U/G Truck Haulage -U/G to Surface	0.06	0.05
U/G Truck Haulage – Surface to Mill	0.06	0.06
U/G Hoisting Services	0.11	0.11
Process Cost	10.34	10.34
G&A Cost	0.52	0.50
Total Operating	**22.49**	**23.15**

(1) Some values have been rounded. The totals are accurate summations of the columns and rows of data.
(2) Underground and open pit mining costs have each been prorated to an average cost per tonne milled by spreading the costs over the combined open pit and underground feeds to the mill.
(3) 'P&P Tonnes'= all pre-production and production period tonnes.
(4) 'P Tonnes'= production period tonnes only.

Details of these estimates are provided in the following subsections.

21.2.1 Mining

21.2.1.1 Open Pit

The open pit operating cost estimates were developed using unit costs for staff, labour, consumables and equipment at similar sized open pit operations taking the mine location, schedule, anticipated haulage profiles and operating conditions, material properties, equipment capacities and performance, and other relevant factors into consideration. During the production period, 493.9 M tonnes of waste rock and 82 M tonnes of Potentially Mineable Portions of the Mineral Resources will be mined for an average waste-to-mineralization strip ratio of 6.0. The estimated operating costs per tonne milled are shown in Table 21.20.

The open pit operating cost estimates are based on projected labour rates and 35% payroll burdens, and a two 12 hour shift per day pit operation with rotating shifts. The projected costs for selected open pit personnel are shown in Table 21.21.

TABLE 21.21 SELECTED OPEN PIT LABOUR RATES		
Position	**Estimated Base Rate ($/hour)**	**Estimated Labour Cost $/person-year[(1)]**
Pit Superintendent		$180k
Shift Supervisor		$140k
Shovel Operator	$36	$122k
Haul Truck Driver	$31	$105k
Maintenance Superintendent		$175k
Heavy Equipment Mechanic	$36	$122k
Pit Engineer		$150k
Pit Geologist		$150k
Technician		$90k

(1) Cost includes projected base rate, overtime and 35% payroll burden allowance.

It is assumed that 152 mm (6 inch) diameter blastholes would typically be used and that the powder factors would be approximately 0.24 kg/t in waste rock and 0.28 kg/t in mineralized rock. The overburden is assumed to be free-digging material. It is assumed that the explosive supplier would load and initiate blasts. The diesel fuel cost is assumed to be $1/L. The projected costs of shovel consumables and maintenance and repair costs (excluding operating and maintenance labour costs) is typically about $1,100/shovel-hour. The projected haul truck operating cost (excluding operating and maintenance labour) is approximately $400/truck-hour.
It is assumed that waste rock and overburden would be disposed in mined-put sections of pits whenever possible. See also pit operating cost discussion in Section 25.

TABLE 21.22
SUMMARY OF OPEN PIT OPERATING COSTS[(1)(2)]

Description	Units	Year											Total/Avg.
		1	2	3	4	5	6	7	8	9	10	11	
Open Pit Waste	M$	56.3	40.1	63.7	73.7	70.3	81.3	45.8	65.0	94.4	96.9	1.5	688.9
O/P Mineralization	M$	9.9	8.8	9.6	10.4	8.2	12.2	12.8	17.8	15.3	16.5	1.9	123.3
Total O/P	M$	66.2	48.9	73.3	84.0	78.5	93.4	58.6	82.7	109.8	113.4	3.4	812.2
Open Pit Waste	$/t Waste	1.17	1.10	1.19	1.22	1.04	1.40	1.40	1.88	1.88	1.88	1.88	1.39
O/P Mineralization (Min)	$/t Min	1.23	1.15	1.25	1.28	1.09	1.47	1.47	1.97	1.97	1.97	1.97	1.50
Total O/P	**$/t Waste & Min**	**1.18**	**1.11**	**1.20**	**1.23**	**1.05**	**1.41**	**1.41**	**1.90**	**1.89**	**1.89**	**1.93**	**1.41**
Total O/P	**$/t Milled**	**7.72**	**5.71**	**8.47**	**9.61**	**8.97**	**10.68**	**6.70**	**9.46**	**12.55**	**12.96**	**0.60**	**8.75**

(1) Some values have been rounded. The totals are accurate summations of the rows of data.
(2) P&E assumes that waste rock and overburden would be used to backfill open pits whenever possible.

21.2.1.2 Underground Stope Mining

Stope mining operating costs include the cost of material, consumables and labour for stope drilling, blasting, mucking, pipe and accessories, and stope ventilation. The total mining cost also includes the paste backfill cost and mine air heating cost. The estimated operating cost of stope mineralized rock mined is summarized in Table 21.23. Note: The mine and stope development costs have been included in the capital cost summaries for the mine.

TABLE 21.23
UNDERGROUND STOPE MINING OPERATING COST

Description	Stope Tonne[2]	P&P Tonne[3]	P Tonne[4]
Underground and Open Pit Production	39,845	99,380,700	92,773,082
Consumables			
Drilling & Blasting	3.18	0.36	0.37
Slot Raise	0.23	0.03	0.03
Ground Support	0.56	0.06	0.06
Mucking	1.63	0.18	0.19
Pipe & Accessories	0.05	0.01	0.01
Stope Fan	0.05	0.01	0.01
Paste Backfill	7.00	0.79	0.81
Total Stoping Consumables	12.69	1.43	1.47
Services and Power	7.10	0.80	0.82
Staff Labour	3.54	0.40	0.41
Hourly Labour	5.36	0.60	0.62
Total Stoping	**28.70**	**3.23**	**3.33**

(1) Some values have been rounded. The totals are accurate summations of the columns and rows of data.
(2) The column labelled 'Stope Tonne' refers to the cost/t of mineralization in the underground stopes only.
3) The column labelled 'P&P Tonnes' is the stope mining cost divided by the pre-production and production underground and open pit period tonnes.
(4) The column labelled 'P tonnes' is the stope mining cost divided by the production underground and open pit period tonnes only.

21.2.1.3 Underground Haulage and Hoisting Services

All development and stope mineralized rock above the -230 m level will be hauled up the ramp to surface. All development and stope mineralized rock below the -230 m level will be hoisted up the shaft from either the -600 m or -800 m level loading pockets. A summary of the estimated cost for underground haulage and hoisting services is presented in Table 21.24.

TABLE 21.24
SUMMARY OF UNDERGROUND HAULAGE AND HOISTING SERVICES OPERATING COSTS (M$)

Description	Unit Cost ($/t)	P&P[2] Tonne ($/t)	P[3] Tonne ($/t)	Year												Total[4]	
				-1	1	2	3	4	5	6	7	8	9	10	11	P&P	P
Truck Haulage -U/G to Surface	$2.00	$0.06	$0.05	1.5	1.8	1.8	1									6	4.5
Truck Haulage -Surf to Mill	$0.50	$0.06	$0.06	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	5.8	5.4
Hoisting Services	$1.25	$0.11	$0.11				0.6	1.3	1.3	1.3	1.3	1.3	1.3	1.3	0.9	10.6	10.6

(1) Some values have been rounded. The totals are accurate summations of the columns and rows of data.
(2) The column labelled 'P&P Tonnes' is the cost divided by all pre-production and production underground and open pit period tonnes.
(3) The column labelled 'P tonnes' is the cost divided by all production underground and open pit period tonnes only.
(4) The column labelled 'Total P&P' refers to the pre-production and production period. The column labelled 'Total P' refers to the production period.

21.2.2 Mineral Processing

The average processing rate is approximately 25,000 t/d (8,750,000 t/a). The process operating costs include process electrical power requirements, reagents, operating and maintenance supplies and labour. A summary of process plant operating cost per tonne milled and total cost per year is presented in Table 21.25.

TABLE 21.25
PROCESS OPERATING COSTS

Item	$/t Milled	Annual (M$)
Operating Labour	1.78	15.6
Operating supplies	0.85	7.4
Reagents	4.61	40.4
Power	2.10	18.3
Maintenance Labour	0.60	5.3
Maintenance Supplies	0.40	3.5
Total	**10.34**	**90.5**

Note: *Some values have been rounded. The totals are accurate summations of the columns and rows of data.*

21.2.3 General and Administration Costs

The general and administration ("G&A") costs include costs for staff, general maintenance, office administration, safety equipment and personal protective equipment, and engineering tools and professional services cost. During the pre-production period this cost is estimated to be $0.75/t milled and during the production period $0.50/t milled. A summary of these costs per tonne milled is presented in Table 21.26.

TABLE 21.26
SUMMARY OF GENERAL AND ADMINISTRATION COSTS (M$)

Item	P&P[2] Tonne ($/t)	P[3] Tonne ($/t)	Year												Total[4]	
			-1	1	2	3	4	5	6	7	8	9	10	11	P&P	P
G&A Cost	$0.52	$0.50	5	4.3	4.3	4.3	4.4	4.4	4.4	4.4	4.4	4.4	4.4	2.9	51.3	46.4

(1) Some values have been rounded. The totals are accurate summations of the columns and rows of data.

(2) The column labelled 'P&P Tonnes' is the cost/t for all pre-production and production underground and open pit period tonnes. The column labelled 'P tonnes' is the cost/t for production underground and open pit period tonnes only. The column labelled 'P&P' refers to the pre-production and production period. The column labelled 'P' refers to the production period.

22.0 ECONOMIC ANALYSIS

This Report is considered by P&E to meet the requirements of a Technical Report as defined in Canadian NI 43-101 regulations.

This PEA is preliminary in nature and includes Inferred Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA will be realized. There is no guarantee that Moneta will be successful in obtaining any or all of the requisite consents, permits or approvals, regulatory or otherwise for the Project to be placed into production.

P&E prepared an economic evaluation of the Project as described in the PEA, based on a pre-tax financial model. The basis of this evaluation and the results are presented in this section.

22.1 ECONOMIC CRITERIA

Physicals

Mine life:	
Pre-production	39 months
Production Mining/Milling	Years 1 to 11 (for a total of 10.7 years)
Decommissioning	6 months in Year 11
Production rate	
Initial	19,250 tpd total; 16,750 tpd O/P; 2,500 tpd U/G in Year 1
Ultimate	25,000 t per day total; 22,000 tpd O/P; 3,000 tpd U/G
Total production:	
Total mineralized rock production	99.4 Mt at 1.112 g/t gold
Total recovered gold	3,285,200 ounces gold
Metallurgical parameters:	
Process recovery	92.4% gold
Total payable metal:	
Gold	3,285,200 ounces

Revenue

The commodity produced on site is a gold doré. Moneta will be paid once the doré has been delivered to an off-site refinery for further processing. The gold price used in this PEA is US$1,350/oz Au. Revenues are payable based on the following parameters.

Refining charges	$6.00/oz Au

The US$/CDN$ exchange rate used in the PEA is US$0.95 = CDN$1.00.

Net revenue:	
Gold:	$4,647.7 million

Costs

Operating costs:	
Total average cost:	$22.49 per t mineralized rock milled
Cash cost of production	$680.00/oz gold
Capital costs:	
Preproduction	$607.1 million
Sustaining	$407.0 million
Total capital costs	$1,014.1 million

These capital costs include the cost of; all open pit overburden stripping, pre-production open pit waste and mineral extraction, open pit equipment down payment and leasing, some pre-production underground stope mining, underground mine and stope development; the shaft headframe, hoists, hoist room, shaft stations and loading pockets; the surface power line; underground mine equipment; surface infrastructure; underground infrastructure; the process plant, a salvage credit and mine closure.

22.2 BASE CASE OPERATING CASH FLOW

A base case (US$1,350/oz Au) pre-tax operating cash flow model has been developed for the Project. This model does not include allowances for financing costs (other than interest included in capital lease rates), insurance and overhead costs related to a corporate office.

A cash flow summary is presented in Table 22.1. All costs are in 4th quarter 2012 Canadian dollars with no allowance for inflation over the life of the project.

All costs and revenues are assumed to occur at the end of each operating year.

TABLE 22.1
CASH FLOW SUMMARY

Item	Units	Year															Total
		-4	-3	-2	-1	1	2	3	4	5	6	7	8	9	10	11	
Mine Production																	
Open Pit																	
Overburden	M't			54.9	23.4	19.0	30.9	14.0	6.6	0.0	8.6	33.5	16.4	1.9	0.0	0.0	209.1
Waste Rock	M't			0.1	65.8	48.0	36.4	53.3	60.3	67.5	58.1	32.8	34.6	50.3	51.6	0.8	559.8
Mineralization	M't			0.0	5.9	8.0	7.7	7.7	8.1	7.5	8.3	8.7	9.0	7.8	8.4	1.0	87.9
Grade	gr/t Au			1.059	0.800	0.824	0.957	0.969	1.080	0.947	0.770	0.917	0.875	0.842	0.922	0.889	0.901
Total Material Moved	M't			55.0	95.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	60.0	60.0	60.0	1.8	856.8
Ramp Access U/G Mine	M't				0.7	0.9	0.9	0.5									3.0
Grade	gr/t Au				2.631	2.725	2.833	3.200									2.814
Shaft Access U/G Mine	M't							0.4	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.7	8.5
Grade	gr/t Au							2.519	2.867	3.173	2.886	2.636	2.445	2.469	2.385	2.725	2.688
Total Mineralization Processed	M't				6.6	8.6	8.6	8.6	8.7	8.7	8.7	8.7	8.7	8.7	8.7	5.7	99.4
Grade	gr/t Au				1.006	1.032	1.146	1.176	1.324	1.200	1.046	1.179	1.130	1.041	1.134	0.796	1.112
Recovered Oz Gold	Oz (000's)				197.5	263.1	292.0	302.3	344.2	312.1	272.1	306.5	293.8	270.7	294.9	136.1	3285.2
Revenue	M$				279.4	372.2	413.1	427.6	486.9	441.5	384.9	433.7	415.7	382.9	417.3	192.5	4,647.7
Total Operating Cost	M$				87.3	186.4	169.1	196.2	210.8	205.3	220.2	185.4	209.5	236.6	240.2	87.6	2,234.7
Total Capital (including credits)	M$	29.2	136.2	237.6	204.1	92.2	109.1	67.8	51.2	44.9	16.8	44.6	26.7	18.7	10.6	-75.5	1,014.1
Cash Flow	M$	-29.2	-136.2	-237.6	-12.0	93.6	134.8	163.6	224.9	191.4	147.9	203.7	179.5	127.7	166.5	180.4	1,398.9
Cumulative Cash Flow	M$	-29.2	-165.4	-403.0	-415.0	-321.4	-186.6	-23.1	201.8	393.2	541.1	744.8	924.3	1,052.0	1,218.5	1,398.9	
Pre-tax IRR	(%)	24.4%															
Pre-tax NPV @ 5%	M$	747.7															

22.3 BASE CASE CASH FLOW ANALYSIS

The following pre-tax operating cash flow analysis was performed:

- Net Present Value ("NPV") at 0%, 5% 7% and 10% discount rates;
- Internal Rate of Return ("IRR"); and
- Payback period

The summary of the results of the cash flow analysis is presented in Table 22.2.

TABLE 22.2
BASE CASE (US$1,350/OZ AU) CASH FLOW ANALYSIS

Description	Discount Rate	Units	Value
Undiscounted Pre-tax Cash Flow		(M$)	1,398.9
Internal Rate of Return		%	24.4%
NPV at	0%	(M$)	1,398.9
	5%	(M$)	747.7
	7%	(M$)	578.6
	10%	(M$)	388.0
Project Payback Period in Years		Years	3.1

It is estimated that the Project would generate a net cash flow of $1,398.9 million over its life. This corresponds to a pre-tax IRR of 24.4% and a pre-tax NPV of $747.7 million, at a 5% discount rate. On this basis, the Project would have a payback period of 3.1 years from the start of commercial production. The average life-of-mine cash cost is $680/oz gold at an average operating cost of $22.49 per mineralized rock tonne processed.

Note: This PEA is preliminary in nature and includes Inferred Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves, and there is no certainty that the PEA will be realized. There is no guarantee that Moneta will be successful in obtaining any or all of the requisite consents, permits or approvals, regulatory or otherwise for the Project to be placed into production.

22.4 SENSITIVITY ANALYSIS

A financial sensitivity analysis was conducted on the base case (US$1,350/oz Au) pre-tax cash flow NPV with a 5% discount rate. The following variables were adjusted by upwards and downwards by 10% and 20%: gold metal price; operational expenditures; capital expenditures; and discount rates. The adjusted values are listed in Table 22.3.

TABLE 22.3
SENSITIVITY PARAMETER VALUES

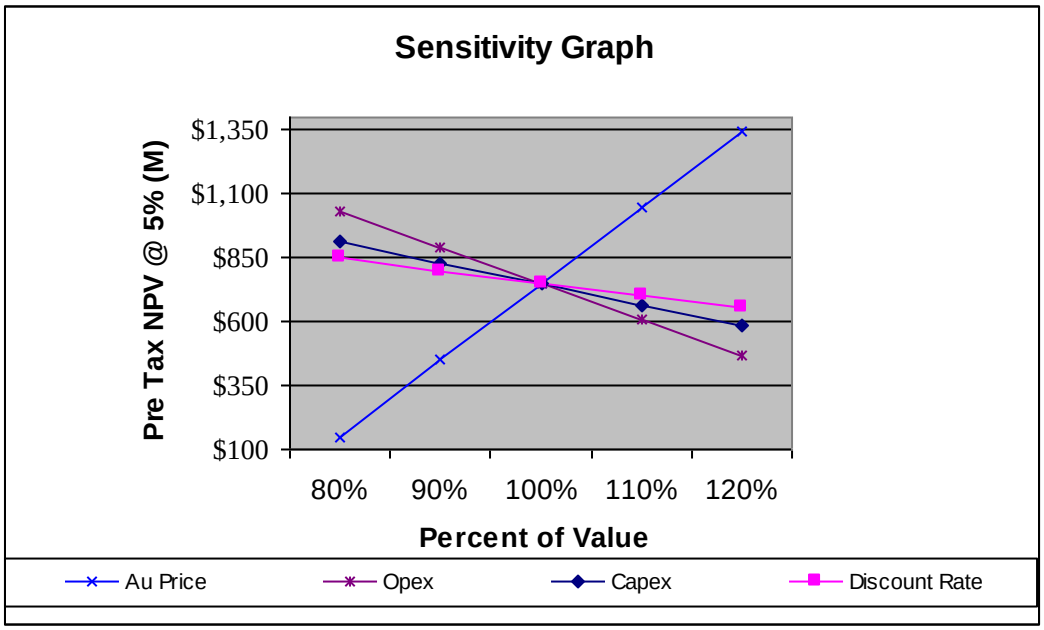
Parameter	80%	90%	100%	110%	120%
Au Price (US$/Oz)	$1,080	$1,215	$1,350	$1,485	$1,620
Opex ($/t)	$17.99	$20.24	$22.49	$24.74	$26.98
Capex (M$)	$811.3	$912.7	$1,014.1	$1,115.5	$1,216.9
Discount Rate (%)	4.0%	4.5%	5.0%	5.5%	6.0%

The resulting changes to the base case (US$1,350/oz Au) NPV for each of the sensitivity parameters is presented in Table 22.4 and graphically in Figure 22.1. The Project NPV is most sensitive to gold metal prices, followed by operating costs, capital costs and discount rate, in that order.

TABLE 22.4
TOTAL PRE-TAX NPV AT 5% DISCOUNT RATE (M$)

Parameter	80%	90%	100%	110%	120%
Au Price	149.9	448.8	747.7	1,046.6	1,345.5
Opex	1,029.2	888.5	747.7	606.9	466.1
Capex	911.7	829.7	747.7	665.7	583.7
Discount Rate	848.4	796.5	747.7	701.6	658.2

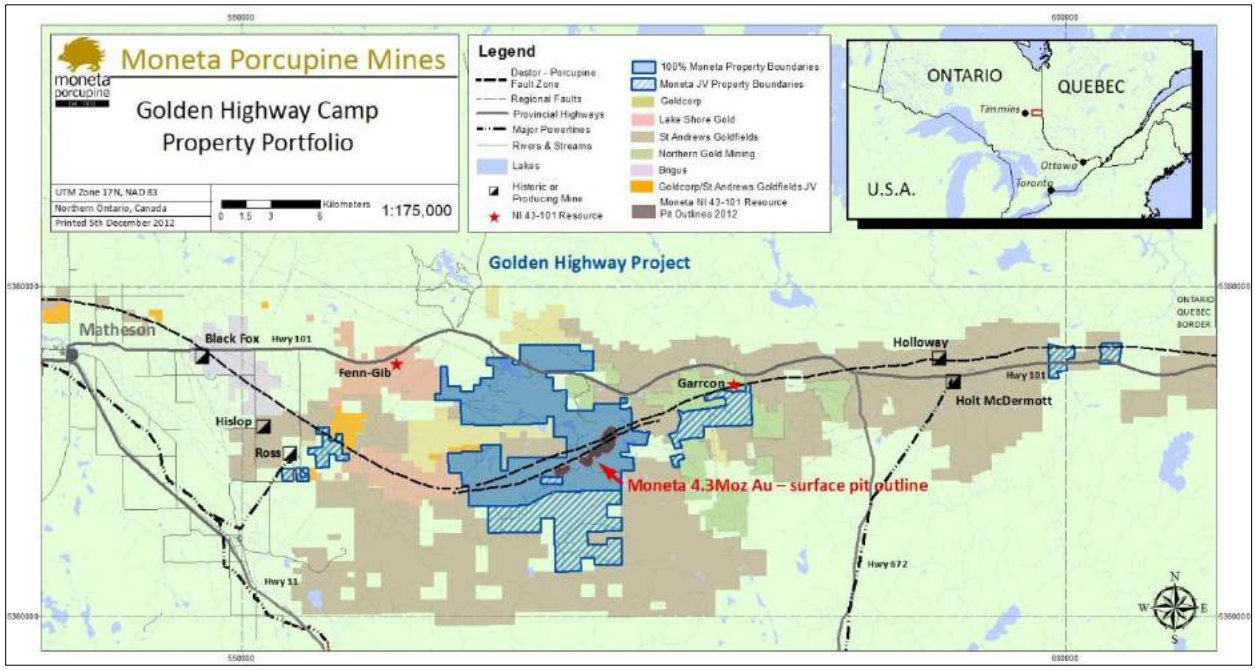
Figure 22.1 Sensitivity Graph



23.0 ADJACENT PROPERTIES

Moneta's Golden Highway Project is located on the Destor Porcupine Fault Zone (DPFZ), a major gold mineralized regional fault structure. Figure 23.1 shows the location of the DPFZ and several prominent gold deposits including the Black Fox (Glimmer) Mine, Ross Mine, Holloway Mine and Holt-McDermott Mine that are located within an approximately 25 km radius of the Golden Highway Property. The Golden Highway Property is surrounded by claims, mining leases, or patents held by other mining and exploration companies. The most active of the neighbouring companies are Lakeshore Gold Corporation, Northern Gold Mining Inc., and St Andrew Goldfields Inc.

Figure 23.1 Golden Highway Camp Property Portfolio

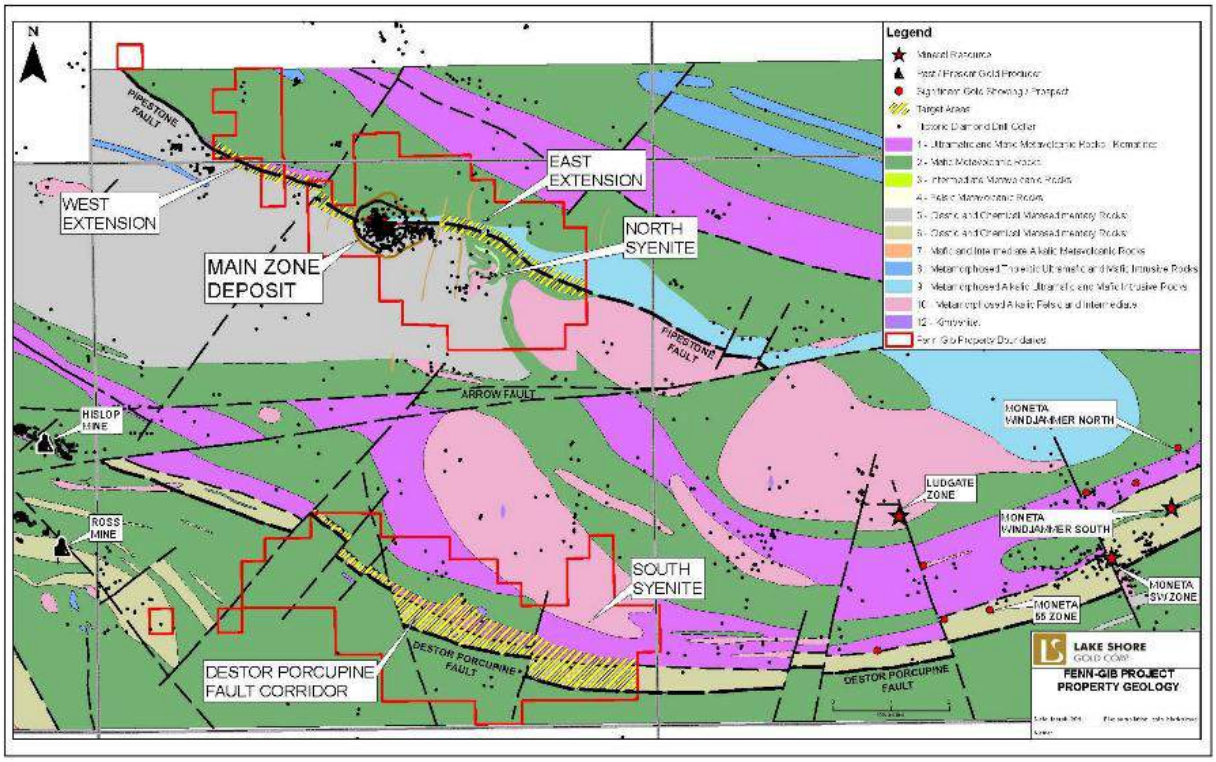


(***Source:*** *Moneta, 2012)*

In the following section, the current resources on the adjacent properties are taken from the corporate websites and SEDAR filings. This data has not been verified by P&E and the information is not necessarily indicative of the mineralization on the Property that is the subject of this technical report.

Lakeshore Gold recently acquired the Fenn-Gib property to the west northwest of Moneta's Property. SGS Canada Inc. completed a NI 43-101 resource estimate for the Fenn-Gib deposit in January 2012. The deposit is localized along the Pipestone Fault and the major contact between metasedimentary and metavolcanic rocks that strikes easterly and south-easterly through to the Perry Lake portion of Moneta's Golden Highway Project. Gold within the Fenn-Gib deposit is primarily associated with disseminated pyrite in syenites and basalts affected by albitization and silicification in proximity to the fault contact between the Hoyle and Kidd-Munro packages. There appears to be a close association of the mineralization with syenite dykes and intrusions.

Figure 23.2 Fenn-Gib Project Property Geology



*(**Source:** www.lsgold.com)*

TABLE 23.1
SUMMARY OF FENN-GIB RESOURCE ESTIMATE

Category	Type	Cut-off grade (g/t)	Tonnes (Mt)	Grade (g/t)	Ounces (millions)
Indicated	In Pit	0.5	40.8	0.99	1.3
Inferred	In Pit	0.5	23.3	0.9	0.67
Inferred	Out of Pit	1.5	1.2	1.9	0.08
Inferred	**Total**		**24.5**	**0.95**	**0.75**

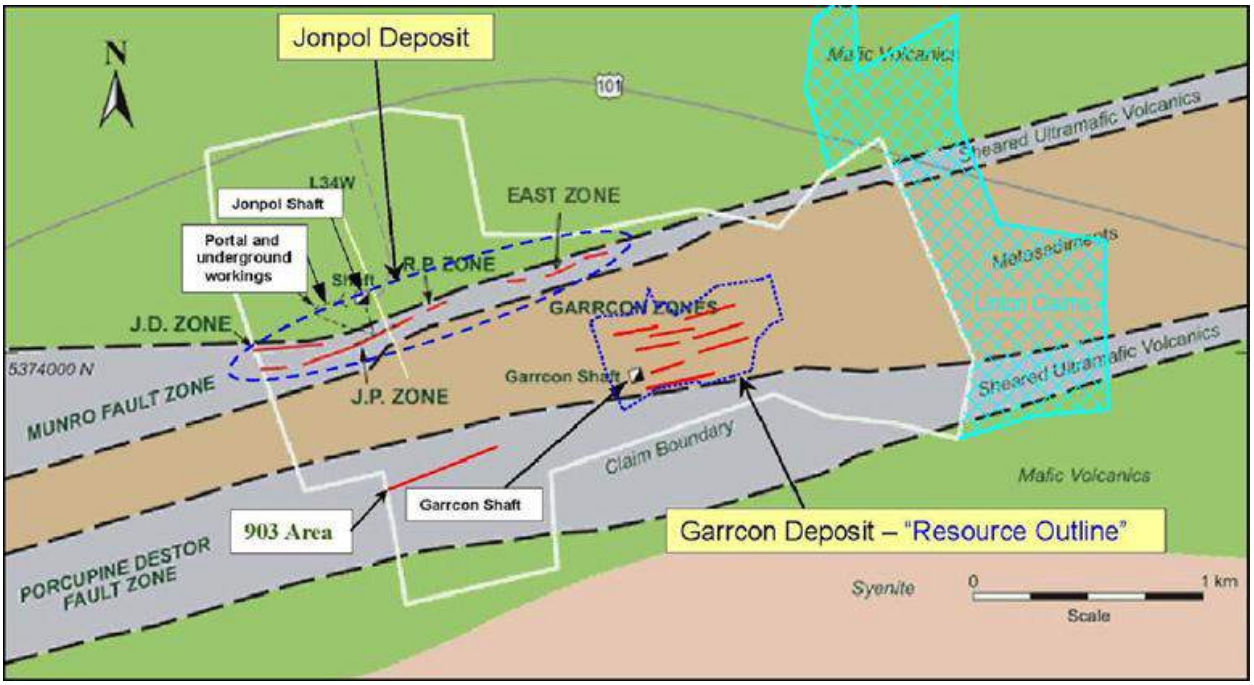
Northern Gold's Garrison Project is located to the northeast of Moneta's Property and contains several zones of gold mineralization. In April 2012, A.C.A. Howe International Limited (Howe) completed an NI 43-101 technical report on the Garrison Project that describes the mineralization and provides a resource estimate. The Garrison Project is underlain by the Kidd Munro Assemblage metavolcanic rocks that are in fault contact with or unconformably overlain by metasedimentary rocks of the Timiskaming assemblage. Banded magnetite-hematite iron formation is interbedded with and structurally interleaved with clastic metasedimentary rocks.

At the Garrison Project, gold mineralization occurs as gold bearing quartz veins and as disseminated sulphide bearing zones adjacent to the deformation zones. The Garrcon Deposit gold mineralization on the Garrison property is primarily associated with quartz-pyrite vein stockworks hosted in altered and metamorphosed Timiskaming metasediments along the northern edge of the DPFZ. The Jonpol Deposit, comprising the JD, JP, RP and East Zones, is associated with sulphide-rich (pyrite-arsenopyrite) mineralization in deformed ultramafic

metavolcanics in the Munro Fault Zone. The 903 zone has a similar type of mineralization and is located within the DPFZ south of the Garrcon deposit.

The style of mineralization at the Garrcon Deposit is similar to the gold mineralization on Moneta's Windjammer South, Southwest, and 55 Zones.

Figure 23.3 Garrison Project Overview Map



(***Source:*** *www.northerngold.ca)*

TABLE 23.2
GARRCON DEPOSIT RESOURCE ESTIMATE

Mineral Resource Category	Block Cut-Off Grade (g/tonne)	Tonnes Above Cut-off	Average Gold Grade (g/tonne)	Ounces
Indicated				
Less Than 150 m Deep	0.3	15,000,000	0.9	430,000
More Than 150 m Deep	0.3	9,900,000	0.9	290,000
Total Indicated	**0.3**	**24,900,000**	**0.9**	**720,000**
Inferred				
Less Than 150 m Deep	0.3	5,600,000	0.8	140,000
More Than 150 m Deep	0.3	13,100,000	0.7	290,000
Total Inferred	**0.3**	**18,600,000**	**0.7**	**430,000**

Notes:

1. Cut-off grade for mineralized zone interpretation was 0.1 g/tonne.
2. Block cut-off grade for defining Mineral Resources was 0.3 g/tonne.
3. No top-cut grade was used. In the author's opinion, the use of a top cut would not have significantly affected the results.
4. Gold price used was $US 1200 per troy ounce.
5. Zones extended up to 100 meters down-dip from the last intercept. Along strike, zones extended halfway to the next cross-section.
6. Minimum width was 5 meters, though in no place was the zone that narrow.
7. Non-diluted.
8. Mineral resources that are not mineral reserves do not have demonstrated economic viability.
9. Resource estimate prepared by Doug Roy, M.A.Sc., P.Eng.
10. A specific gravity (bulk density) value of 2.73 was applied to all blocks (a representative value based on a limited number of measurements.)
11. Ordinary block kriging ("OBK") was used for estimating block grades.
12. Indicated resources identified where sample intercept spacing was 50 meters or less (based on variography).
13. No measured mineral resources or mineral reserves of any category were identified.
14. The volume/tonnage of the historic Cominco shaft, drifts and crosscuts have not been deleted from the Howe mineral resource volume/tonnage. Howe estimates the tonnage extracted from the resource areas was less than 0.1% of the total indicated and inferred resource tonnage.

*(**Source:** www.northerngold.ca - press release June 23rd 2011)*

24.0 OTHER RELEVANT DATA AND INFORMATION

To the best of the authors' knowledge there is no other relevant data, additional information or explanation necessary to make the Report understandable and not misleading.

25.0 INTERPRETATION AND CONCLUSIONS

P&E concludes that the Golden Highway Project has economic potential as an underground and open pit mining operation with the processing plant producing a gold doré.

Note: This PEA is preliminary in nature and is based upon mineral resources that include Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves and there is no certainty that this PEA will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

P&E Mining Consultants Inc. offers the following interpretation and conclusions:

- P&E concludes that the combined deposits have economic potential as an open pit and underground mining and milling operation.
- This Report is considered by P&E Mining Consultants Inc. to meet the requirements of a Technical Report as defined in Canadian NI 43-101 regulations. The economic analysis contained in this Report is based on Measured, Indicated and Inferred resources. The mineral resources in this PEA were estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), CIM Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by the CIM Standing Committee on Reserve Definitions and adopted by CIM Council, December 11, 2005.
- There is no guarantee that Moneta will be successful in obtaining any or all of the requisite consents, permits or approvals, regulatory or otherwise for the Golden Highway Project development or that the Property will be placed into production.
- The envisaged underground longhole mining method is estimated to experience mining dilution in the order of 20% at a grade of 0.57 g/t Au. Mine recovery (extraction) is estimated to be 75%. The open pit Potentially Economic Portion of the Mineral Resources is diluted by 8.3% at a grade of 0.44 g/t Au and has a 98% mine extraction factor applied.
- P&E has assumed that the open pit operation would use 45 m^3 capacity excavators and 320 t capacity haul trucks and dispose waste rock and overburden in mined-out sections of the open pits to the greatest extent possible. This approach would be expected to reduce haulage requirements and open pit operating costs. This approach may be need to be modified in future technical studies as the mine planning and the pit development sequence and bench plans are detailed and as such there is a risk that the open pit operating costs could increase beyond the current estimates. In consideration of this possibility, P&E has assessed the effect of higher than projected open pit operating costs on the Project using the PEA pre-tax cashflow model and a scenario in which the estimated pit operating costs in years 1 to 11 increase by 10%, 20% and 30%. The results of this side assessment are shown in Table 25.1. See also the mine planning recommendation in Section 26.
- The project was evaluated on a pre-tax cash flow basis and generates a net cash flow of $1,398.9 million. This results in a pre-tax Internal Rate of Return (IRR) of 24.4% and a pre-tax Net Present Value (NPV) of $747.7 million when using a 5% discount rate. In the base case (US$1,350/oz Au) scenario, the project has a payback period of 3.1 years from start of commercial production. The average

life-of-mine cash cost is Cdn$680/oz gold, at an average operating cost of $22.49 per tonne of mineralized rock processed.

- The pre-tax base case (US$1,350/oz Au) NPV is most sensitive to gold metal price followed by operating costs, capital costs and discount rate.
- Some aspects of the project may be modified as additional environmental technical information is obtained and initial public consultation gets underway. The Project lands have been identified as being available for mining land use and no land use restrictions have been identified. Based on the preliminary pit limits at the west end of the SW Zone pit, a short section of the Pike River would need to be diverted around the west end of the pit. This envisaged approach should be further assessed in the next technical study for the project.

TABLE 25.1
PROJECTED EFFECT OF HIGHER OPEN PIT OPERATING COSTS

Parameter	PEA (base case)	Open pit operating costs increase by +10%	Open pit operating costs increase by +20%	Open pit operating costs increase by +30%
Pre-tax NPV(5%)	$748 M	$688 M	$628 M	$568 M
Pre-tax IRR	24.4%	23.2%	21.9%	20.6%

**Base Case = (US$1,350/oz Au)*

26.0 RECOMMENDATIONS

P&E recommends that Moneta advance the project with:

- Infill drilling to upgrade Mineral Resources;
- Exploration drilling to extend Mineral Resources;
- Geological and mineralogical studies (including acid base accounting), metallurgical and geotechnical testwork to advance technical aspects of the project toward prefeasibility requirements;
- Environmental programs including aquatic, terrestrial, hydrology, and groundwater to provide data for permitting;
- First Nation and stakeholder consultation.

An infill drilling program of 30,000 m is recommended to improve confidence in the mineral resources with the primary objective of improved definition of zones and upgrading Inferred to Indicated Resources. A 60,000 m exploration drilling program is recommended to expand the mineral resources. Drilling should be allocated to the following target areas: undrilled areas within the conceptual pits; down dip extensions of known zones especially the 55, Gap, and Windjammer Zones; and strike extensions of known zones along the mineralized trend. The expansion potential for higher grade resources of the Southwest Zone both to depth and laterally also warrants drill testing.

This PEA is preliminary in nature as it includes Inferred Mineral Resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves and there is no certainty that this PEA will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

It is recommended that Moneta characterize the acid generation/acid consuming and metal leaching potential of the geologic materials likely to be mined/exposed. In addition, the interface and design criterion for a diversion of a portion of the river around the west end of the Southwest zone pit should be assessed in detail in the next technical study for the Project.

It is recommended that the proposed use of waste rock and overburden to backfill pits whenever possible be assessed in detail in subsequent technical studies for the Project. Consideration should be given to the haul truck cycle times, haul truck requirements, haul road layouts/maintaining access to active workplaces, fill placement methodology, crown pillar aspects (where applicable), environmental aspects, safety, mine operating costs and mine scheduling.

26.1 RECOMMENDED PROGRAM AND BUDGET

P&E has reviewed the proposed work program and budget, prepared by Moneta, which is based in part on P&E recommendations (Table 26.1). In P&E's opinion, the program and budget are reasonable.

TABLE 26.1
RECOMMENDED PROGRAM AND BUDGET

Program	Units (m)	Unit Cost ($/m)	Budget
Mine Property General			
Infill Drilling Program	60,000	$135	$8,100,000
Exploration Drilling	30,000	$135	$4,050,000
Metallurgical Testwork			$250,000
Geological & Mineralogical Studies			$50,000
Environmental Study Work-Aquatic, Terrestrial, Hydrology, Ground Water, Water Quality			$325,000
First Nation Consultation and Archaeological Study			$85,000
Geotechnical and Condemnation Drilling	3,000	$250	$750,000
Total			**$13,610,000**

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28.0 CERTIFICATES

CERTIFICATE OF QUALIFIED PERSON

EUGENE J. PURITCH, P. ENG.

I, Eugene J. Puritch, P. Eng., residing at 44 Turtlecreek Blvd., Brampton, Ontario, L6W 3X7, do hereby certify that:

1. I am an independent mining consultant and President of P & E Mining Consultants Inc.
2. This certificate applies to the technical report titled "Technical Report, Updated Mineral Resource Estimate and Preliminary Economic Assessment of the Golden Highway Project Windjammer, Southwest, Gap and 55 Zones Michaud And Garrison Townships North-Eastern Ontario, Canada" (the "Technical Report"), with an effective date of November 1, 2012.
3. I am a graduate of The Haileybury School of Mines, with a Technologist Diploma in Mining, as well as obtaining an additional year of undergraduate education in Mine Engineering at Queen's University. In addition I have also met the Professional Engineers of Ontario Academic Requirement Committee's Examination requirement for Bachelor's Degree in Engineering Equivalency. I am a mining consultant currently licensed by the Professional Engineers of Ontario (License No. 100014010) and registered with the Ontario Association of Certified Engineering Technicians and Technologists as a Senior Engineering Technologist. I am also a member of the National and Toronto Canadian Institute of Mining and Metallurgy.

   I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.

   I have practiced my profession continuously since 1978. My summarized career experience is as follows:

   - Mining Technologist - H.B.M.& S. and Inco Ltd.,.....1978-1980
   - Open Pit Mine Engineer – Cassiar Asbestos/Brinco Ltd.,.....1981-1983
   - Pit Engineer/Drill & Blast Supervisor – Detour Lake Mine,.....1984-1986
   - Self-Employed Mining Consultant – Timmins Area,.....1987-1988
   - Mine Designer/Resource Estimator – Dynatec/CMD/Bharti, ...1989-1995
   - Self-Employed Mining Consultant/Resource-Reserve Estimator,.....1995-2004
   - President – P & E Mining Consultants Inc, ... 2004-Present
4. I have visited the Property that is the subject of this report on October 9, 2012.
5. I am responsible for co-authoring Sections 14, 16, 21, 22, 25 and 26 of the Technical Report along with those sections of the Summary pertaining thereto.
6. I am independent of the Issuer applying the test in Section 1.5 of NI 43-101.
7. I have had prior involvement with the project that is the subject of this Technical Report. The nature of my involvement is co-author of a Technical Report titled "Technical Report and Resource Estimates on the Windjammer South, Southwest Zone and 55 Zone, Golden Highway Project, Michaud and Garrison Townships, North-Eastern Ontario, Canada" (the "Technical Report"), dated January 13, 2012:
8. I have read NI 43-101 and Form 43-101F1. This Technical Report has been prepared in compliance therewith.
9. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: November 1, 2012
Signed Date: December 11, 2012

{SIGNED AND SEALED}
[Eugene Puritch]

Eugene J. Puritch, P. Eng.

KIRK RODGERS, P.ENG.

CERTIFICATE OF AUTHOR

I, Kirk H. Rodgers, P. Eng., residing at 378 Bexhill Rd., Newmarket, Ontario, do hereby certify that:

1. I am an independent mining consultant, contracted as Vice President, Engineering by P&E Mining Consultants Inc.
2. This certificate applies to the technical report titled "Technical Report, Updated Mineral Resource Estimate and Preliminary Economic Assessment of the Golden Highway Project Windjammer, Southwest, Gap and 55 Zones Michaud And Garrison Townships North-Eastern Ontario, Canada" (the "Technical Report") with an effective date of November 1, 2012
3. I am a graduate of The Haileybury School of Mines, with a Technologist Diploma in Mining. I subsequently attended the mining engineering programs at Laurentian University and Queen's University for a total of two years. I have met the Professional Engineers of Ontario Academic Requirement Committee's Examination requirement for Bachelor's Degree in Engineering Equivalency.

   I have been licensed by the Professional Engineers of Ontario (License No. 39427505), from 1986 to the present. I am also a member of the National and Toronto Canadian Institute of Mining and Metallurgy.

   I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.

   My relevant experience for the purpose of the Technical Report is:

   - Underground Hard Rock Miner, Denison Mines, Elliot Lake Ontario..... 1977-1979
   - Mine Planner, Cost Estimator, J.S Redpath Ltd., North Bay Ontario 1981-1987
   - Chief Engineer, Placer Dome Dona Lake Mine, Pickle Lake Ontario 1987-1988
   - Project Coordinator, Mine Captain, Falconbridge Kidd Creek Mine, Timmins, Ontario..... 1988-1990
   - Manager of Contract Development, Dynatec Mining, Richmond Hill, Ontario..... 1990-1992
   - General Manager, Moran Mining and Tunnelling, Sudbury, Ontario 1992-1993
   - Independent Mining Engineer 1993
   - Project Manager - Mining, Micon International, Toronto, Ontario ..... 1994 - 2004
   - Principal, Senior Consultant, Golder Associates, Toronto, Ontario ..... 2004 – 2010
   - Independent Consultant, VP Engineering to P&E Mining Consultants Inc, Brampton Ontario .. 2011 – present

4. I am responsible for authoring the Sections 15 and 19 of this Technical Report along with those sections of the Summary pertaining thereto.
5. I have not visited the Property that is the subject of this report.
6. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.
7. I am independent of the Issuer applying the test in Section 1.5 of NI 43-101.
8. I have had no prior involvement with the Property that is the subject of this Technical Report.
9. I have read NI 43-101 and Form 43-101F1 and this Technical Report has been prepared in compliance therewith.

Effective Date: November 1, 2012
Signed Date: December 11, 2012

{SIGNED AND SEALED}
{Kirk Rodgers}

Kirk Rodgers, P. Eng.

CERTIFICATE OF QUALIFIED PERSON

RICHARD SUTCLIFFE, Ph.D., P. GEO.

I, Richard Sutcliffe, Ph.D., P. Geo., residing at 100 Broadleaf Crescent, Ancaster, Ontario, do hereby certify that:

1. I am an independent geological consultant and Vice President Geology, P&E Mining Consultants Inc.
2. This certificate applies to the technical report titled "Technical Report, Updated Mineral Resource Estimate and Preliminary Economic Assessment of the Golden Highway Project Windjammer, Southwest, Gap and 55 Zones Michaud And Garrison Townships North-Eastern Ontario, Canada" (the "Technical Report"), with an effective date of November 1, 2012.
3. I am a graduate of the University of Toronto with a Bachelor of Science degree in Geology (1977). In addition, I have a Master of Science in Geology (1980) from University of Toronto and a Ph.D. in Geology (1986) from the University of Western Ontario. I have worked as a geologist for a total of 32 years since obtaining my M.Sc. degree. I am a geological consultant currently licensed by the Association of Professional Geoscientists of Ontario (License No 852).

   I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101. My relevant experience for the purpose of the Technical Report is:

   - Precambrian Geologist, Ontario Geological Survey 1980-1989
   - Senior Research Geologist, Ontario Geological Survey 1989-1991
   - Associate Professor of Geology, University of Western Ontario. 1990-1992
   - President and CEO, URSA Major Minerals Inc.. 1992-2012
   - President and CEO, Patricia Mining Corp..... 1998-2008
   - President and CEO, Auriga Gold Corp. 2010-2012
   - Consulting Geologist..... 1992-Present
4. I have not visited the Property that is the subject of this report.
5. I am responsible for authoring Section 2 and 23, and co-authoring Sections 3-8 and 24-26 of the Technical Report along with those sections of the Summary pertaining thereto.
6. I am independent of the Issuer applying the test in Section 1.5 of NI 43-101.
7. I have had no prior involvement with the Property that is the subject of this Technical Report.
8. I have read NI 43-101 and Form 43-101F1 and this Technical Report has been prepared in compliance therewith.
9. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: November 1, 2012
Signing Date: December 11, 2012

{SIGNED AND SEALED}
[Richard Sutcliffe]

Dr. Richard H. Sutcliffe, P.Geo.

JAMES L. PEARSON, P.ENG.

CERTIFICATE OF AUTHOR

I, James L. Pearson, P.Eng., residing at 5 Clubhouse Court, Bolton, Ontario, Canada, L7E 0B3, do hereby certify that::

1. I am an independent Mining Engineering Consultant, contracted by P& E Mining Consultants Inc.
2. This certificate applies to the technical report entitled "Technical Report, Updated Mineral Resource Estimate and Preliminary Economic Assessment of the Golden Highway Project Windjammer, Southwest, Gap and 55 Zones Michaud And Garrison Townships North-Eastern Ontario, Canada" (the "Technical Report") with an effective date of November 1, 2011.
3. I am a graduate of Queen's University, Kingston, Ontario, Canada, in 1973 with a Bachelor of Science degree in Mining Engineering. I am registered as a Professional Engineer in the Province of Ontario (Reg. No. 36043016). I have worked as a mining engineer for a total of 39 years since my graduation.

   I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101. 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;
   - Project Manager and Superintendent of Engineering and Projects at several underground operations in South America;
   - Senior Mining Engineer with a large Canadian mining company responsible for development of engineering concepts, mine design and maintenance;
   - Mining analyst at several Canadian brokerage firms

4. I have not visited the Property that is the subject of this Technical Report.
5. I am responsible for co-authoring Sections 14, 16, 18, 21, 22, 25 and 26 of the Technical Report along with those sections of the Summary pertaining thereto.
6. I am independent of the issuer applying all of the tests in Section 1.5 of NI 43-101.
7. I have had no prior involvement with the property that is the subject of the Technical Report.
8. I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that Instrument and Form.
9. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective date: November 1, 2012
Signing Date: December 11, 2012

{SIGNED AND SEALED}
[James L. Pearson]

James L. Pearson, P. Eng.

CERTIFICATE OF QUALIFIED PERSON

DAVID A. ORAVA, P. ENG.

I, David A. Orava, M. Eng., P. Eng., residing at 19 Boulding Drive, Aurora, Ontario, L4G 2V9, do hereby certify that:

1. I am an Associate Mining Engineer at P&E Mining Consultants Inc. and President of Orava Mine Projects Ltd.
2. This certificate applies to the technical report titled "Technical Report, Updated Mineral Resource Estimate and Preliminary Economic Assessment of the Golden Highway Project Windjammer, Southwest, Gap and 55 Zones Michaud And Garrison Townships North-Eastern Ontario, Canada", (the "Technical Report") with an effective date of November 1, 2012.
3. I am a graduate of McGill University located in Montreal, Quebec, Canada at which I earned my Bachelor Degree in Mining Engineering (B.Eng. 1979) and Masters in Engineering (Mining - Mineral Economics Option B) in 1981. I have practiced my profession continuously since graduation. I am licensed by the Professional Engineers of Ontario (License No. 34834119).

   I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.

   My summarized career experience is as follows:

   - Mining Engineer – Iron Ore Company of Canada.....1979-1980
   - Mining Engineer – J.S Redpath Limited / J.S. Redpath Engineering.....1981-1986
   - Mining Engineer & Manager Contract Development – Dynatec Mining Ltd. 1986-1990
   - Vice President – Eagle Mine Contractors.....1990
   - Senior Mining Engineer – UMA Engineering Ltd. 1991
   - General Manager - Dennis Netherton Engineering 1992-1993
   - Senior Mining Engineer – SENES Consultants Ltd. 1993-2003
   - President – Orava Mine Projects Ltd.....2003 to present
   - Associate Mining Engineer – P&E Mining Consultants Inc. .....2006 to present

4. I have not visited the Property that is the subject of this Technical Report.
5. I am responsible for authoring Section 20 as and co-authoring Sections 16, 18, 21, 25 and 26 of the Technical Report along with those sections of the Summary pertaining thereto.
6. I am an independent of the issuer applying all of the tests in Section 1.5 of NI 43-101.
7. I have not had prior involvement with the project that is the subject of this Technical Report.
8. I have read NI 43-101 and Form 43-101F1 and the Report has been prepared in compliance therewith.
9. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: November 1, 2012
Signed Date: December 11, 2012

{SIGNED AND SEALED}
[David Orava]

_____
David Orava, M. Eng., P. Eng.

CERTIFICATE OF QUALIFIED PERSON

ALFRED S. HAYDEN, P. ENG

I, Alfred S. Hayden, P. Eng., residing at 284 Rushbrook Drive, Ontario, L3X 2C9, do hereby certify that:

1. I am currently President of:
   EHA Engineering Ltd.,
   Consulting Metallurgical Engineers
   Box 2711, Postal Stn. B.
   Richmond Hill, Ontario, L4E 1A7

2. This certificate applies to the technical report titled "Technical Report, Updated Mineral Resource Estimate and Preliminary Economic Assessment of the Golden Highway Project Windjammer, Southwest, Gap and 55 Zones Michaud And Garrison Townships North-Eastern Ontario, Canada" (the "Technical Report"), with an effective date of November 1, 2012.

3. I graduated from the University of British Columbia, Vancouver, B.C. in 1967 with a Bachelor of Applied Science in Metallurgical Engineering. I am a member of the Canadian Institute of Mining, Metallurgy and Petroleum and a Professional Engineer and Designated Consulting Engineer registered with Professional Engineers Ontario. I have worked as a metallurgical engineer for a total of 42 years since my graduation from university.

   I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.

4. I have not visited the Property that is the subject of this report.

5. I am responsible for authoring of Sections 13 and 17 and co-authoring Sections 18 and 21 of the Technical Report along with those sections of the Summary pertaining thereto.

6. I am independent of the issuer applying the test in Section 1.5 of NI 43-101.

7. I have had no prior involvement with the Property that is the subject of this Technical Report.

8. I have read NI 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance therewith.

9. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: November 1, 2012
Signing Date: December 11, 2012

{SIGNED AND SEALED}
[Alfred Hayden]

_____
Alfred S. Hayden, P.Eng.

CERTIFICATE OF QUALIFIED PERSON

DAVID BURGA, P. GEO.

I, David Burga, P. Geo., residing at 3884 Freeman Terrace, Mississauga, Ontario, do hereby certify that:

1. I am an independent geological consultant contracted by P&E Mining Consultants Inc.
2. This certificate applies to the technical report titled "Technical Report, Updated Mineral Resource Estimate and Preliminary Economic Assessment of the Golden Highway Project Windjammer, Southwest, Gap and 55 Zones Michaud And Garrison Townships North-Eastern Ontario, Canada" (the "Technical Report"), with an effective date of November 1, 2012.
3. I am a graduate of the University of Toronto with a Bachelor of Science degree in Geological Sciences (1997). I have worked as a geologist for a total of 12 years since obtaining my B.Sc. degree. I am a geological consultant currently licensed by the Association of Professional Geoscientists of Ontario (License No 1836).

   I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.

   My relevant experience for the purpose of the Technical Report is:

   - Exploration Geologist, Cameco Gold..... 1997-1998
   - Field Geophysicist, Quantec Geoscience 1998-1999
   - Geological Consultant, Andeburg Consulting Ltd. 1999-2003
   - Geologist, Aeon Egmond Ltd. 2003-2005
   - Project Manager, Jacques Whitford 2005-2008
   - Exploration Manager – Chile, Red Metal Resources 2008-2009
   - Consulting Geologist..... 2009-Present

4. I have not visited the Property that is the subject of this report..
5. I am responsible for authoring Sections 9-11 and co-authoring Sections 3-8 of the Technical Report along with those sections of the Summary pertaining thereto.
6. I am independent of the Issuer applying the test in Section 1.5 of NI 43-101.
7. I have had prior involvement with the project that is the subject of this Technical Report. The nature of my involvement is co-author of a Technical Report titled "Technical Report and Resource Estimates on the Windjammer South, Southwest Zone and 55 Zone, Golden Highway Project, Michaud and Garrison Townships, North-Eastern Ontario, Canada" (the "Technical Report"), dated January 13, 2012.
8. I have read NI 43-101 and Form 43-101F1 and this Technical Report has been prepared in compliance therewith.
9. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: November 1, 2012
Signed Date: December 11, 2012

{SIGNED AND SEALED}
[David Burga]

David Burga, P. Geo.

CERTIFICATE OF AUTHOR

YUNGANG WU, P.GEO.

I, Yungang Wu, P. Geo., residing at 4334 Trail Blazer Way, Mississauga, Ontario, L5R 0C3, do hereby certify that:

1. I am an independent consulting geologist contracted by P&E Mining Consultants Inc.
2. This certificate applies to the technical report titled "Technical Report, Updated Mineral Resource Estimate and Preliminary Economic Assessment of the Golden Highway Project Windjammer, Southwest, Gap and 55 Zones Michaud And Garrison Townships North-Eastern Ontario, Canada" (the "Technical Report") with an effective date of November 1, 2012.
3. I am a graduate of Jilin University, China with a Master Degree in Mineral Deposits (1992). I am a geological consultant and a registered practising member of the Association of Professional Geoscientist of Ontario (Registration No. 1681). I am also a member of the Ontario Prospectors Association.

I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.

My relevant experience for the purpose of the Technical Report is as follows:

- Geologist –Geology and Mineral Bureau, Liaoning Province, China…….. 1992-1993
- Senior Geologist – Committee of Mineral Resources and Reserves of Liaoning, China… 1993-1998
- VP – Institute of Mineral Resources and Land Planning, Liaoning, China…….. 1998-2001
- Project Geologist–Exploration Division, De Beers Canada…….. 2003-2009
- Mine Geologist – Victor Diamond Mine, De Beers Canada…….. 2009-2011
- Resource Geologist– Coffey Mining Canada…….2011-2012
- Consulting Geologist……..Present

4. I have not visited the property that is the subject of this Technical Report.
5. I am responsible for co-authoring Section 14 of the Technical Report along with those sections of the Summary pertaining thereto.
6. I am independent of the Issuer applying the test in Section 1.5 of NI 43-101.
7. I have not had prior involvement with the property that is the subject of the Technical Report.
8. I have read NI 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance therewith.
9. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective date: November 1, 2012
Signing Date: December 11, 2012

{SIGNED AND SEALED}

[Yungang Wu]

Yungang Wu, P.Geo.

CERTIFICATE of AUTHOR

TRACY J. ARMSTRONG, P.GEO.

I, Tracy J. Armstrong, residing at 2007 Chemin Georgeville, res. 22, Magog, QC J1X 0M8, do hereby certify that:

1. I am an independent geological consultant contracted by P&E Mining Consultants Inc. and have worked as a geologist continuously since my graduation from university in 1982.
2. This certificate applies to the technical report titled "Technical Report, Updated Mineral Resource Estimate and Preliminary Economic Assessment of the Golden Highway Project Windjammer, Southwest, Gap and 55 Zones Michaud And Garrison Townships North-Eastern Ontario, Canada" (the "Technical Report") with an effective date of November 1, 2012.
3. I am a graduate of Queen's University at Kingston, Ontario with a B.Sc. (HONS) in Geological Sciences (1982). I am a geological consultant currently licensed by the Order of Geologists of Québec (License 566), the Association of Professional Geoscientists of Ontario (License 1204) and the Association of Professional Engineers and Geoscientists of British Columbia, (Licence No. 34720).

   I have read the definition of "Qualified Person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101. This report is based on my personal review of information provided by the Issuer and on discussions with the Issuer's representatives. My relevant experience for the purpose of the Technical Report is:

   - Underground production geologist, ...Agnico-Eagle Laronde Mine1988-1993
   - Exploration geologist, ...Laronde Mine 1993-1995
   - Exploration coordinator, ...Placer Dome 1995-1997
   - Senior Exploration Geologist, ...Barrick Exploration 1997-1998
   - Exploration Manager, ... McWatters Mining 1998-2003
   - Chief Geologist ..... Sigma Mine 2003
   - Consulting Geologist .....2003-to present
4. I have not visited the Property that is the subject of this Technical Report.
5. I am responsible for coauthoring Section 12 of this Technical Report along with those sections of the Summary pertaining thereto.
6. I am independent of issuer applying the test in Section 1.5 of NI 43-101.
7. I have had prior involvement with the project that is the subject of this Technical Report. The nature of my involvement is co-author of a Technical Report titled "Technical Report and Resource Estimates on the Windjammer South, Southwest Zone and 55 Zone, Golden Highway Project, Michaud and Garrison Townships, North-Eastern Ontario, Canada" (the "Technical Report"), dated January 13, 2012
8. I have read NI 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance therewith.
9. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: November 1, 2012
Signing Date: December 11, 2012

{SIGNED AND SEALED}
[Tracy J. Armstrong]

_____
Tracy J. Armstrong, P. Geo.

CERTIFICATE OF QUALIFIED PERSON

ANTOINE R. YASSA, P. GEO.

I, Antoine R. Yassa, P. Geo., residing at 3602 Rang des Cavaliers, Rouyn-Noranda, Quebec, J0Z 1Y2, do hereby certify that:

1. I am an independent geological consultant contracted by P&E Mining Consultants Inc.
2. This certificate applies to the technical report titled "Technical Report, Updated Mineral Resource Estimate and Preliminary Economic Assessment of the Golden Highway Project Windjammer, Southwest, Gap and 55 Zones Michaud And Garrison Townships North-Eastern Ontario, Canada" (the "Technical Report"), with an effective date of November 1, 2012.
3. I am a graduate of Ottawa University at Ottawa, Ontario with a B.Sc (HONS) in Geological Sciences (1977). I have worked as a geologist for a total of 30 years since obtaining my B.Sc. degree. I am a geological consultant currently licensed by the Order of Geologists of Québec (License No 224) and a practising member of the APGO (Registration Number 1890).

   I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.

   My relevant experience for the purpose of the Technical Report is:

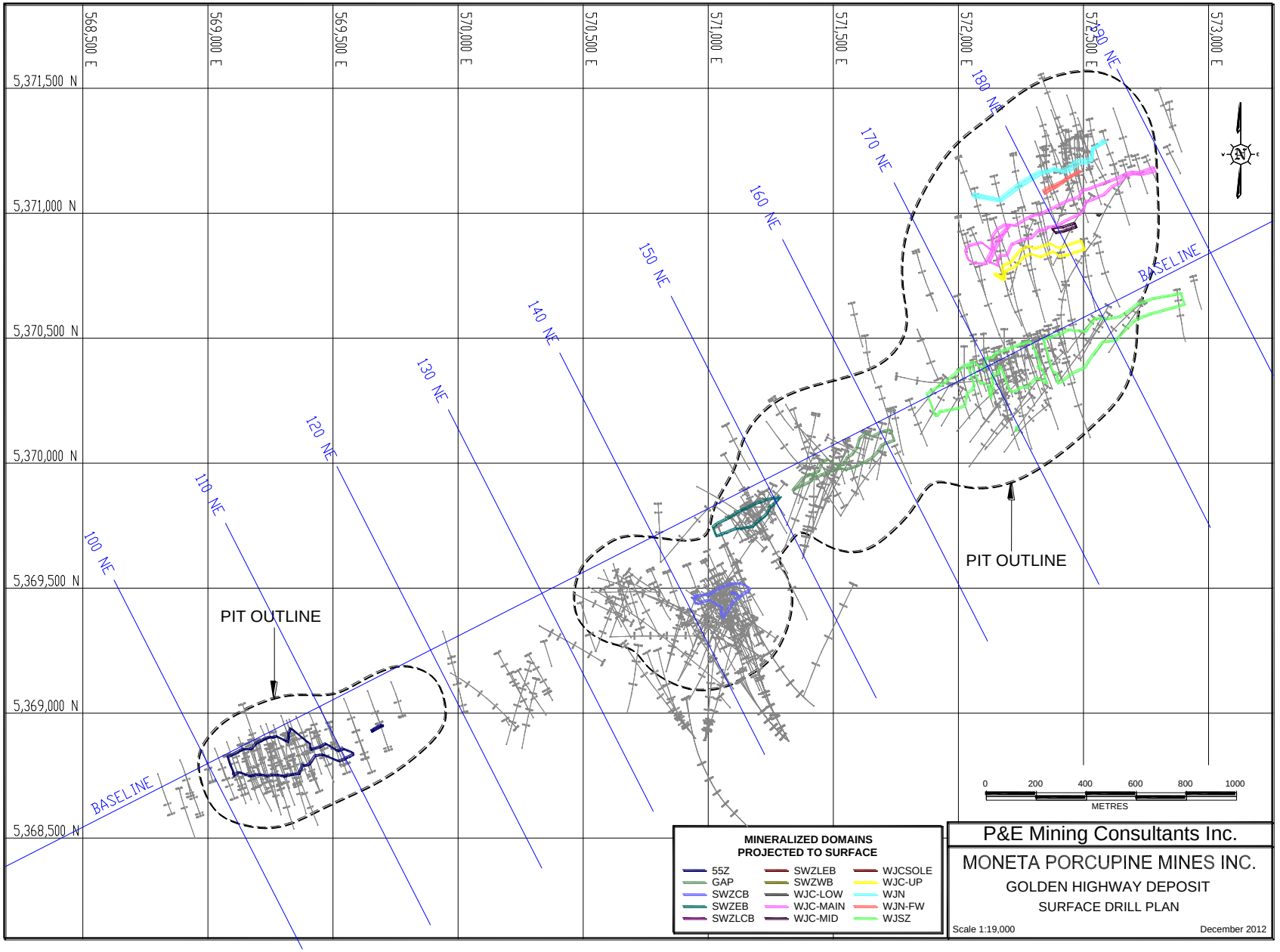
   - Minex Geologist (Val d'Or), 3D Modeling (Timmins), Placer Dome 1993-1995
   - Database Manager, Senior Geologist, West Africa, PDX 1996-1998
   - Senior Geologist, Database Manager, McWatters Mine 1998-2000
   - Database Manager, Gemcom modeling and Resources Evaluation (Kiena Mine) QAQC Manager (Sigma Open pit), McWatters Mines..... 2001-2003
   - Database Manager and Resources Evaluation at Julietta Mine, Far-East Russia, Bema Gold Corporation 2003-2006
   - Consulting Geologist ..... since 2006
4. I have visited the Property that is the subject of this Technical Report on Nov 26, 2011 and Aug 23, 2012.
5. I am responsible for co-authoring Sections 12 and 14 of the Technical Report along with those sections of the Summary pertaining thereto.
6. I am independent of the Issuer applying the test in Section 1.5 of NI 43-101.
7. I have had prior involvement with the project that is the subject of this Technical Report. The nature of my involvement is co-author of a Technical Report titled "Technical Report and Resource Estimates on the Windjammer South, Southwest Zone and 55 Zone, Golden Highway Project, Michaud and Garrison Townships, North-Eastern Ontario, Canada" (the "Technical Report"), dated January 13, 2012.
8. I have read NI 43-101 and Form 43-101F1 and this Technical Report has been prepared in compliance therewith.
9. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Effective Date: November 1, 2012
Signed Date: December 11, 2012

{SIGNED AND SEALED}
[Antoine Yassa]

Antoine R. Yassa, P. Geo.

APPENDIX I. SURFACE DRILL HOLE PLAN


5,371,500 N
5,371,000 N
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572,000 E
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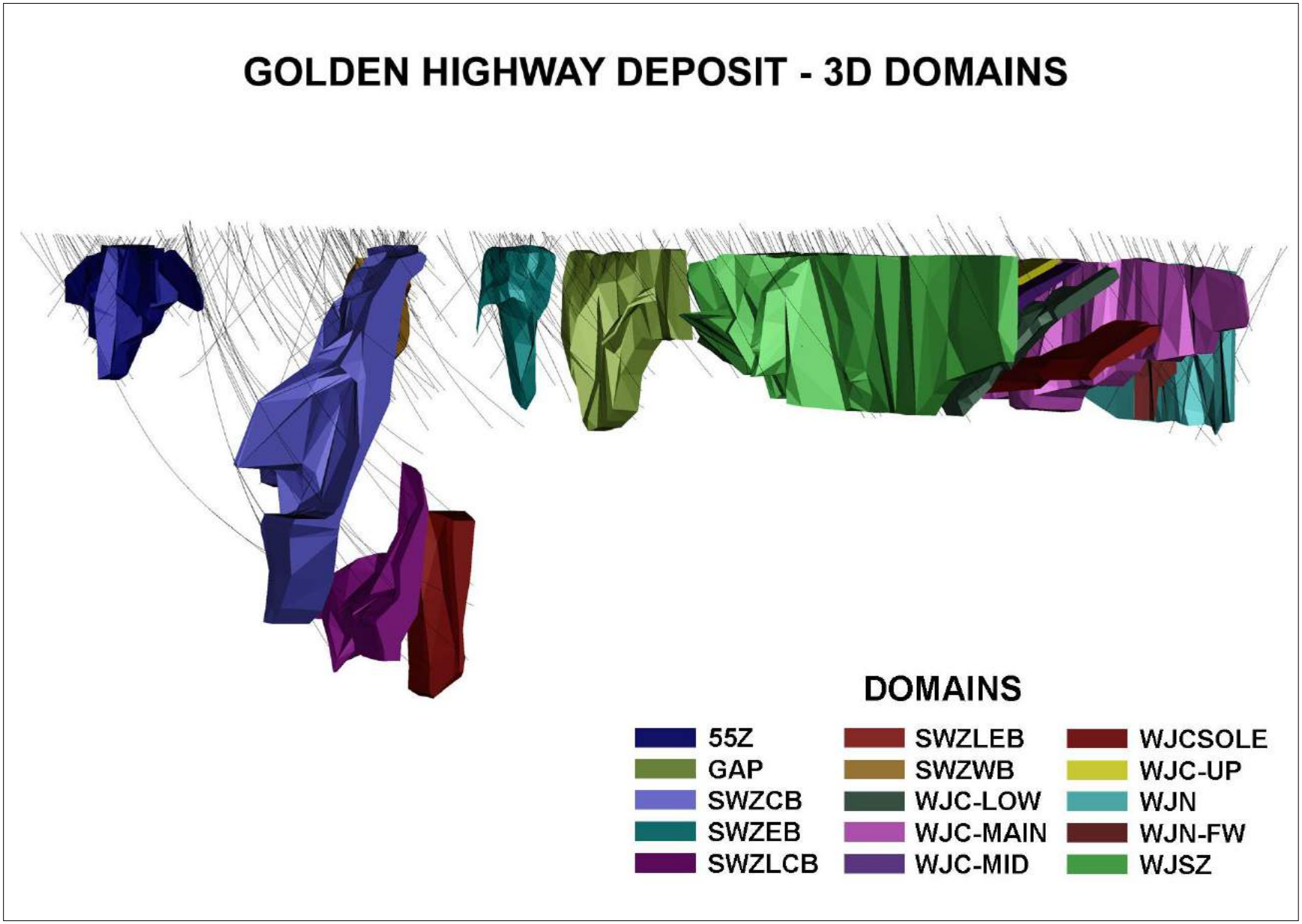
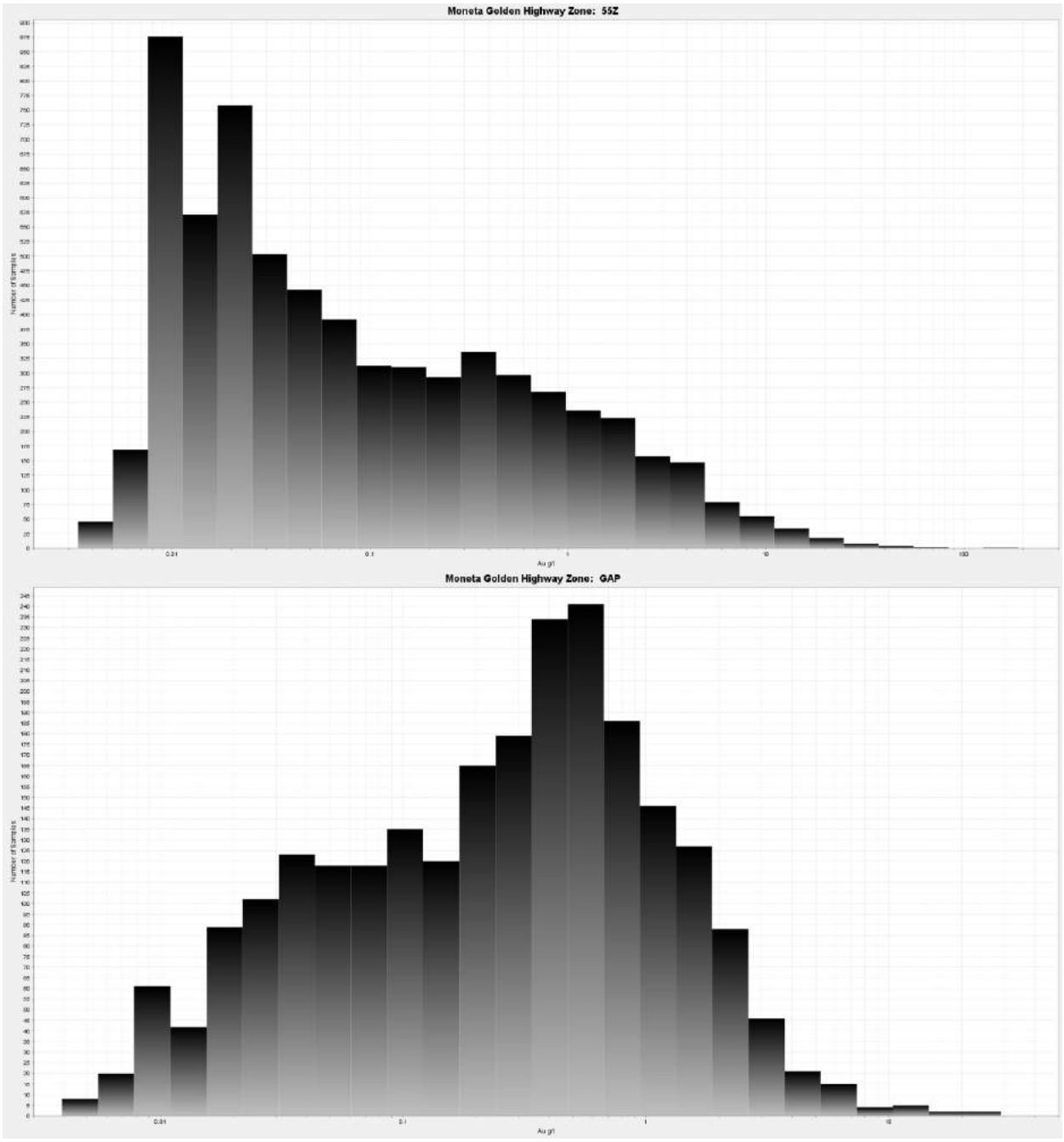
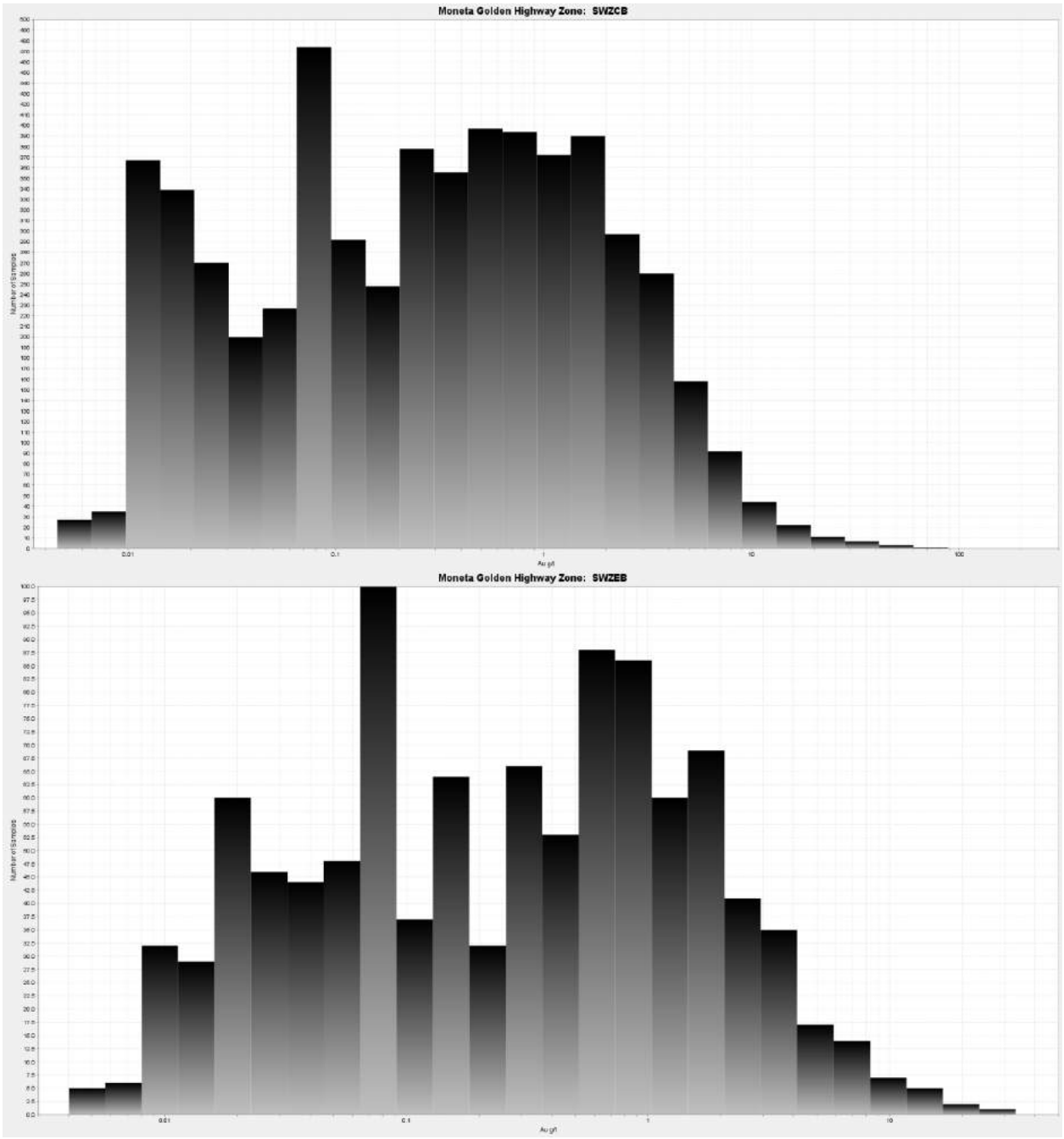
573,000 E
100 NE
110 NE
120 NE
130 NE
140 NE
150 NE
160 NE
170 NE
180 NE
190 NE
BASELINE
BASELINE
PIT OUTLINE
PIT OUTLINE
0 200 400 600 800 1000
METRES
MINERALIZED DOMAINS
PROJECTED TO SURFACE
55Z
GAP
SWZCB
SWZEB
SWZLCB
SWZLEB
SWZWB
WJC-LOW
WJC-MAIN
WJC-MID
WJCSOLE
WJC-UP
WJN
WJN-FW
WJSZ
P&E Mining Consultants Inc.
MONETA PORCUPINE MINES INC.
GOLDEN HIGHWAY DEPOSIT
SURFACE DRILL PLAN
Scale 1:19,000
December 2012

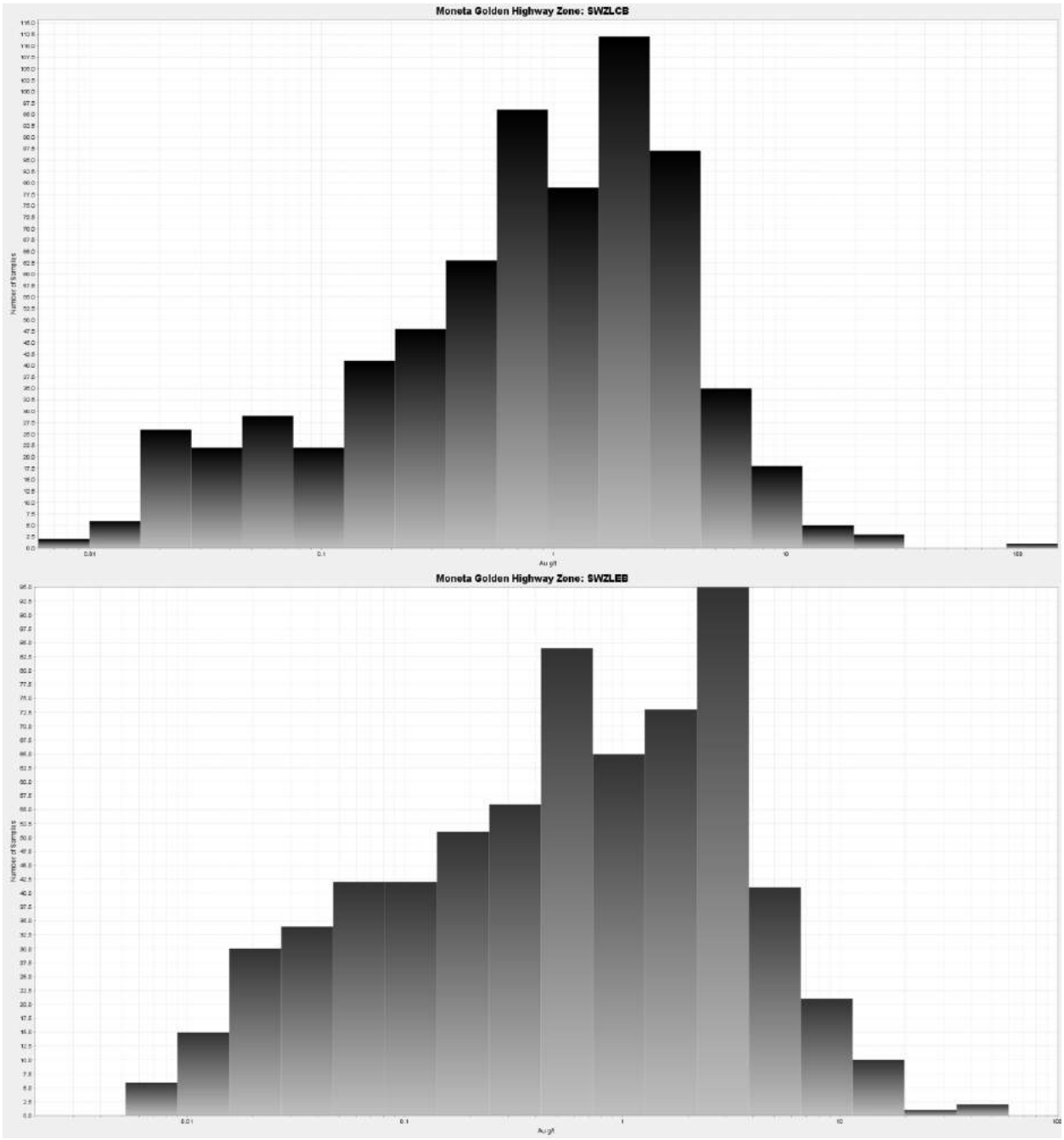
APPENDIX II. 3D DOMAINS

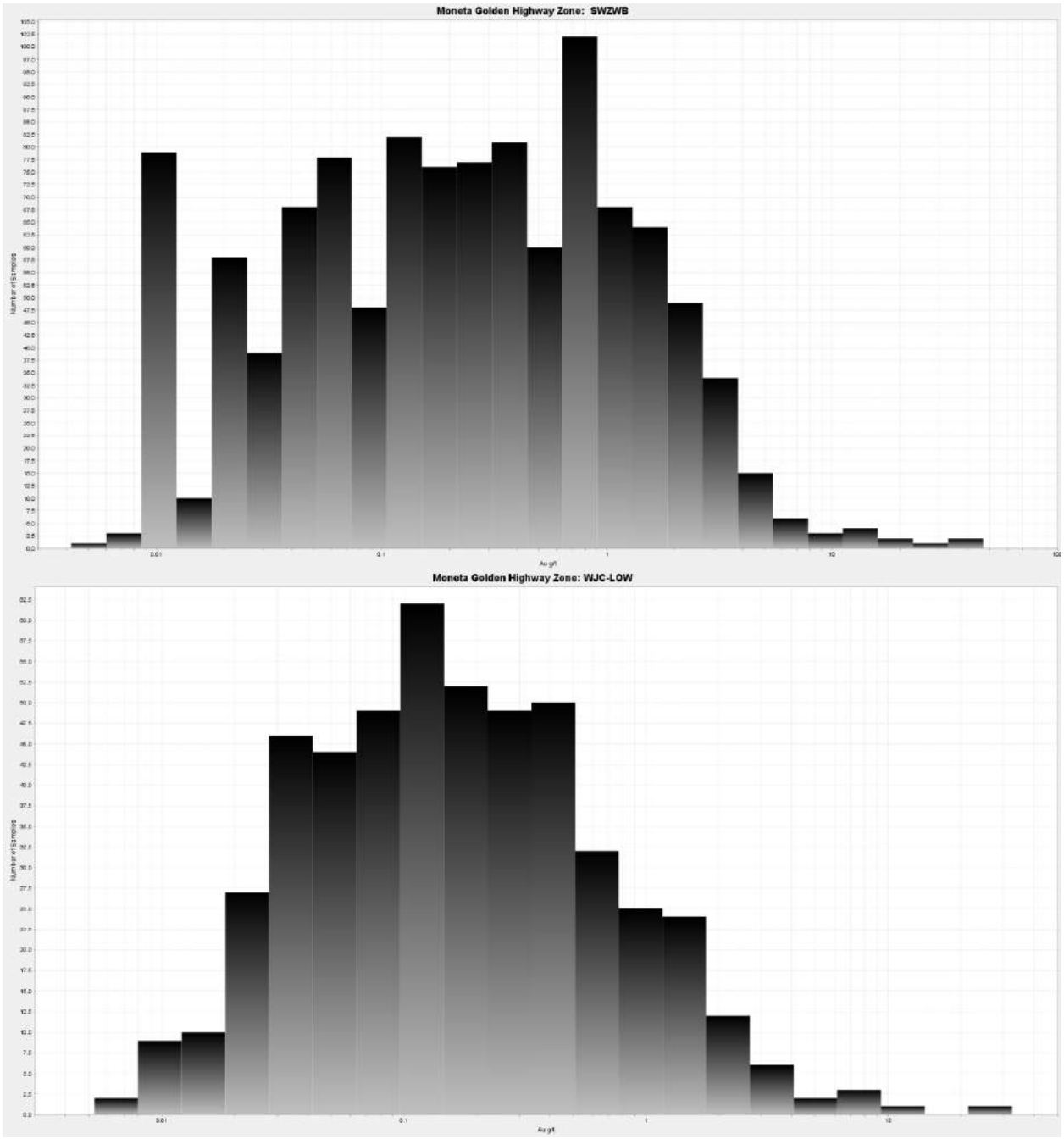

GOLDEN HIGHWAY DEPOSIT - 3D DOMAINS
DOMAINS
55Z
GAP
SWZCB
SWZEB
SWZLCB
SWZLEB
SWZWB
WJC-LOW
WJC-MAIN
WJC-MID
WJCSOLE
WJC-UP
WJN
WJN-FW
WJSZ

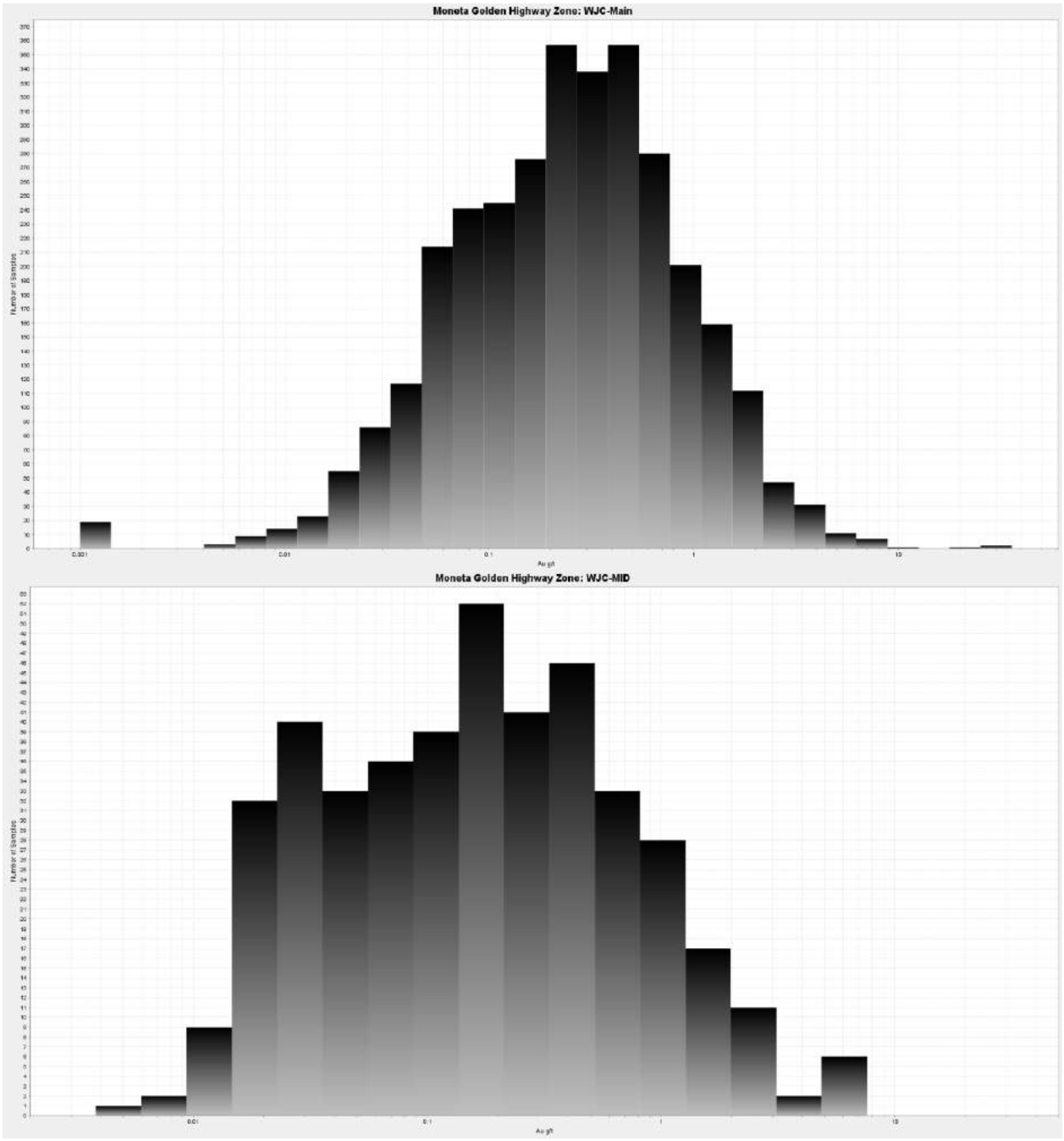
APPENDIX III. LOG NORMAL HISTOGRAMS

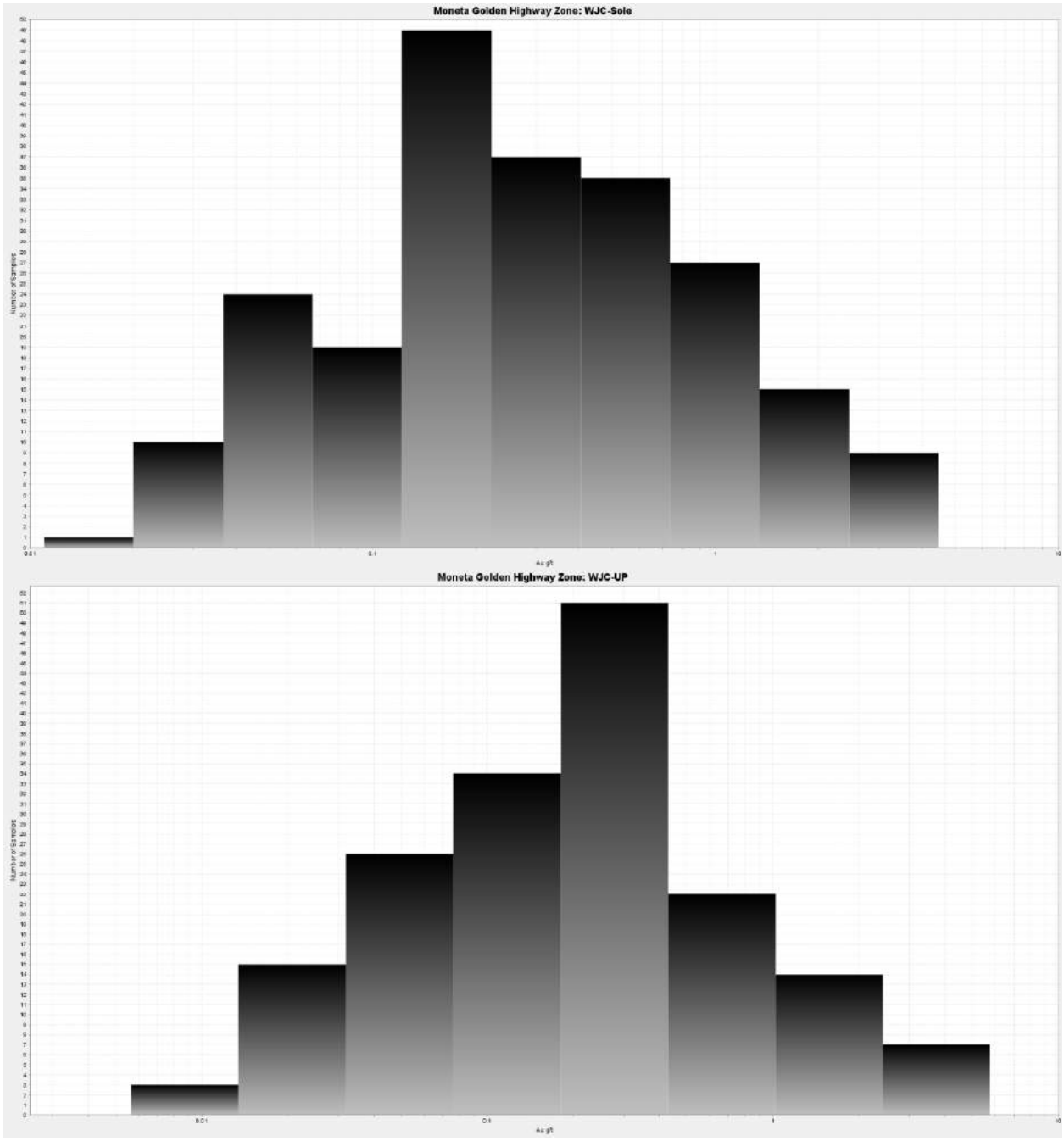

Moneta Golden Highway Zone: 55Z
Number of Samples
Au g/t
Moneta Golden Highway Zone: GAP
Number of Samples
Au g/t

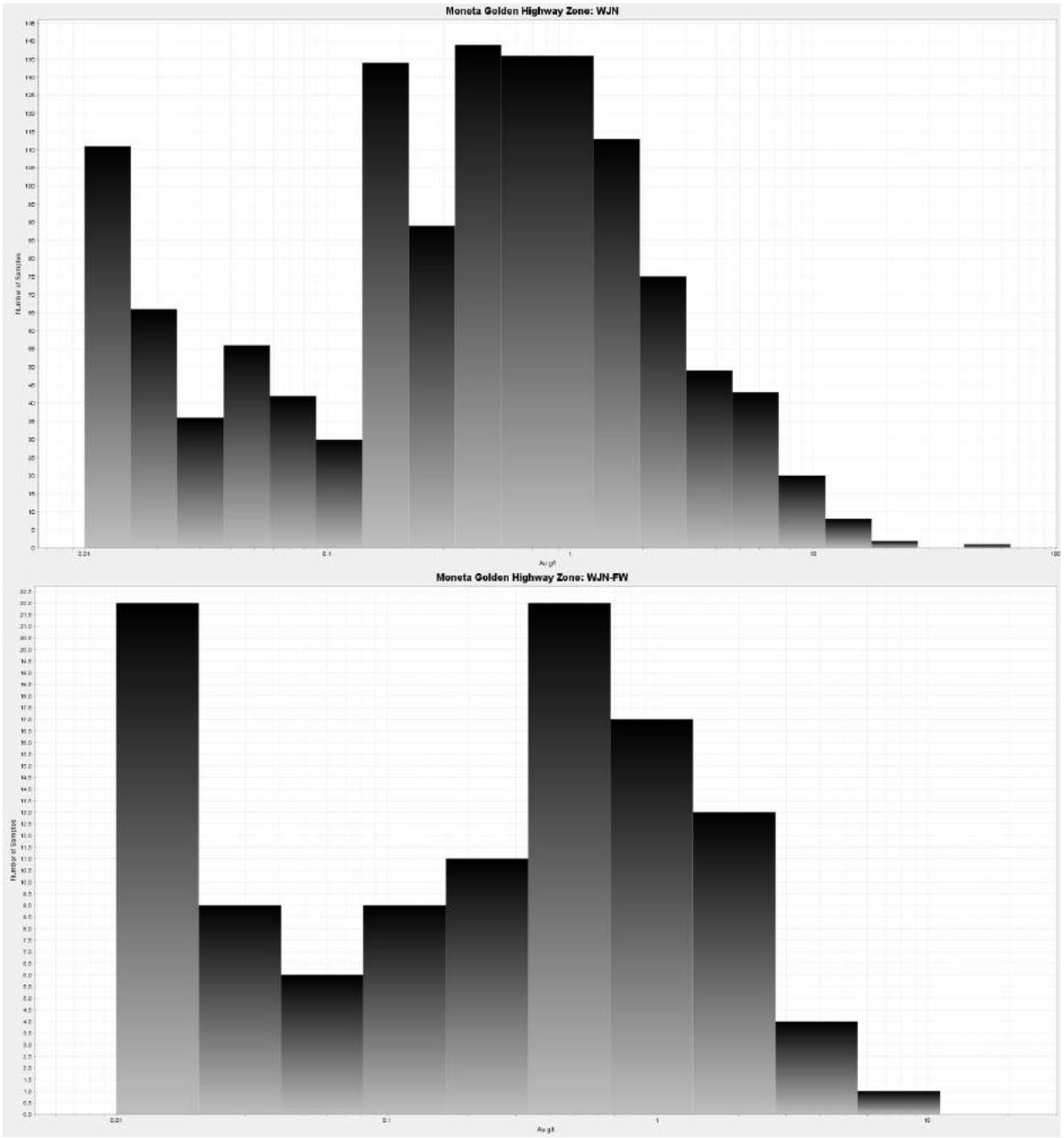

Moneta Golden Highway Zone: SWZCB
Number of Samples
Au g/t
Moneta Golden Highway Zone: SWZEB
Number of Samples
Au g/t

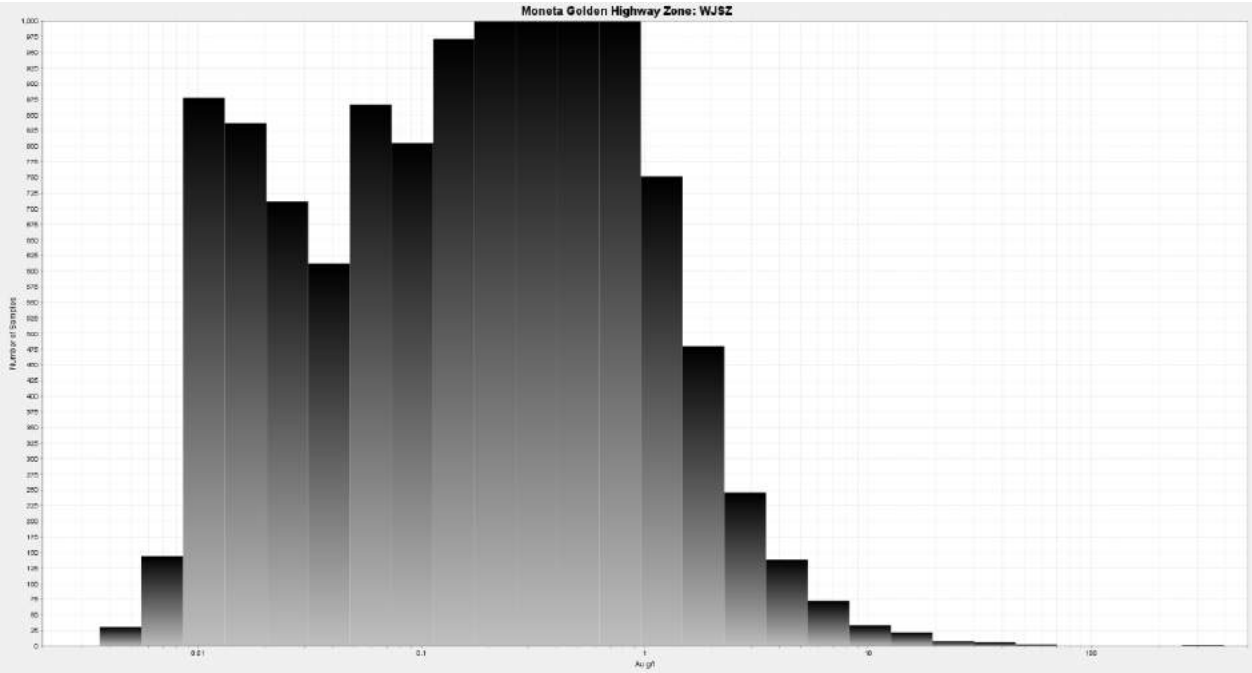

Moneta Golden Highway Zone: SWZLCB
Number of Samples
Au g/t
Moneta Golden Highway Zone: SWZLEB
Number of Samples
Au g/t


Moneta Golden Highway Zone: SWZWB
Number of Samples
Au g/t
Moneta Golden Highway Zone: WJC-LOW
Number of Samples
Au g/t

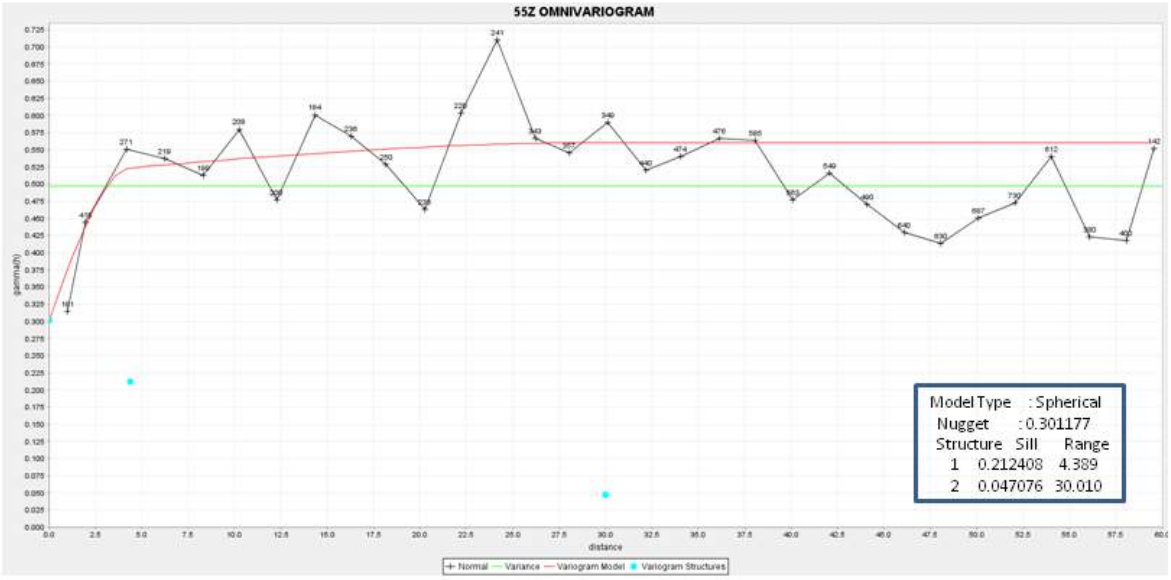

Moneta Golden Highway Zone: WJC-Main
Number of Samples
Au g/t
Moneta Golden Highway Zone: WJC-MID
Number of Samples
Au g/t

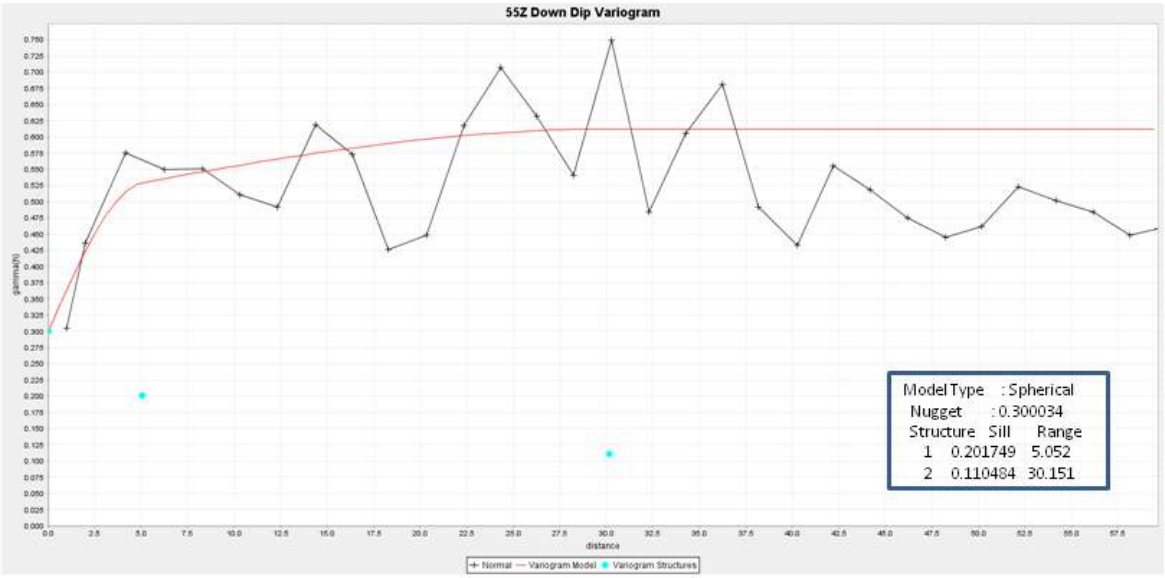

Moneta Golden Highway Zone: WJC-Solo
Number of Samples
Au g/t
Moneta Golden Highway Zone: WJC-UP
Number of Samples
Au g/t

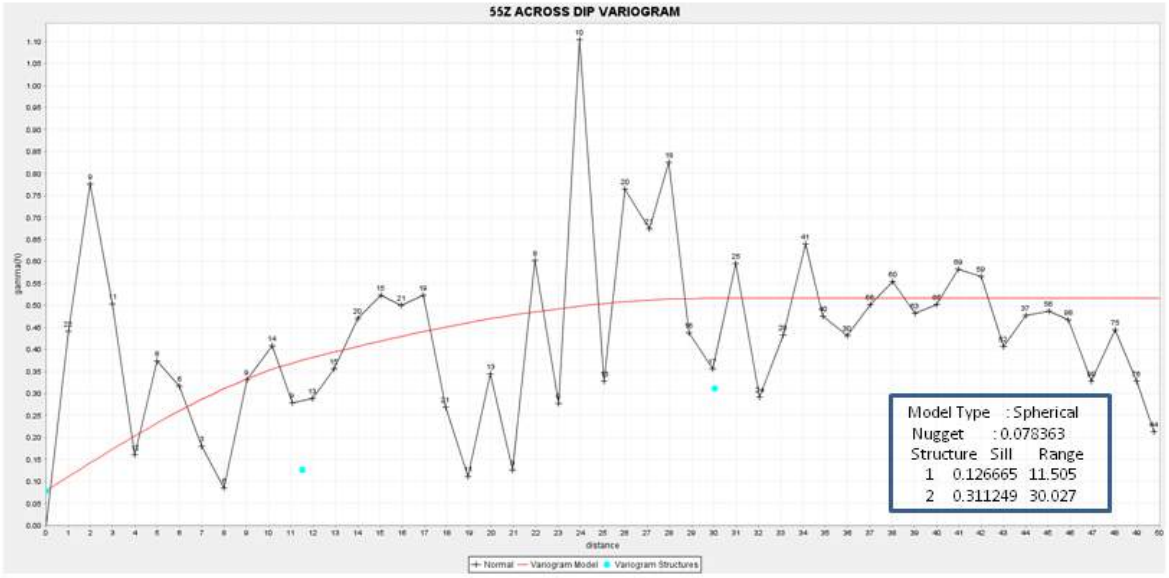

Moneta Golden Highway Zone: WJN
Number of Samples
Au g/t
Moneta Golden Highway Zone: WJN-FW
Number of Samples
Au g/t

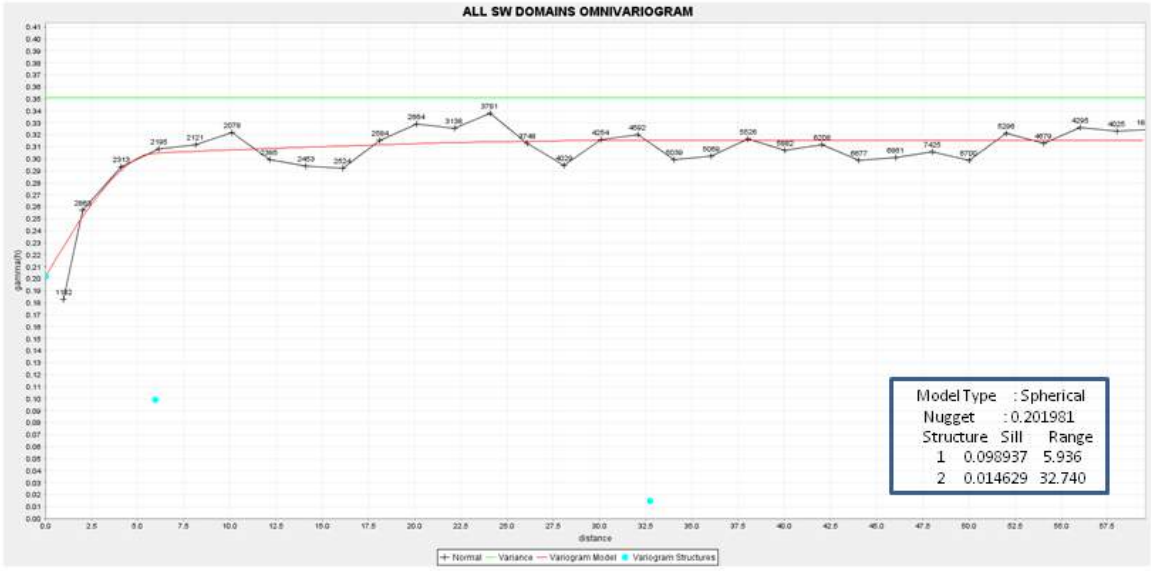

Moneta Golden Highway Zone: WJSZ
Number of Samples
Au g/t

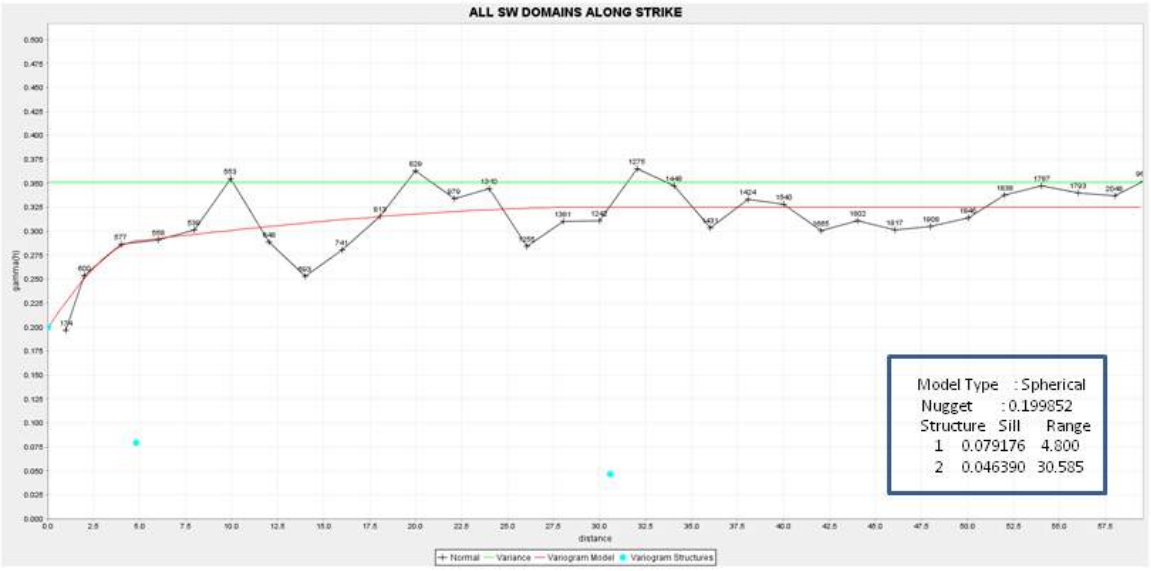
APPENDIX IV. VARIOGRAMS

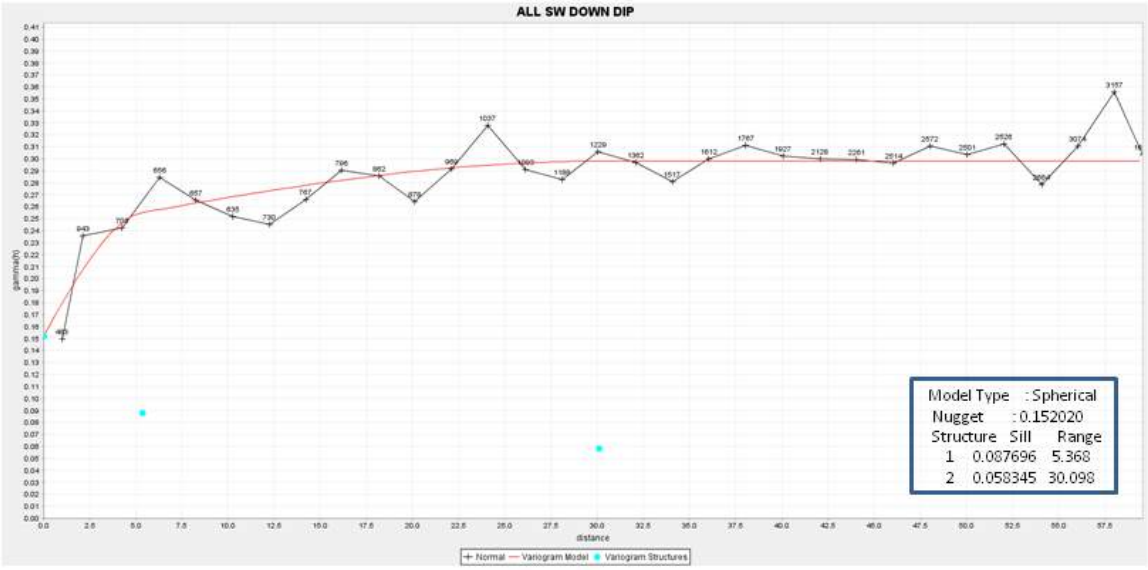

55Z OMNIVARIOGRAM
gamma(h)
distance
Model Type : Spherical
Nugget : 0.301177
Structure Sill Range
1 0.212408 4.389
2 0.047076 30.010
Normal
Variance
Variogram Model
Variogram Structures

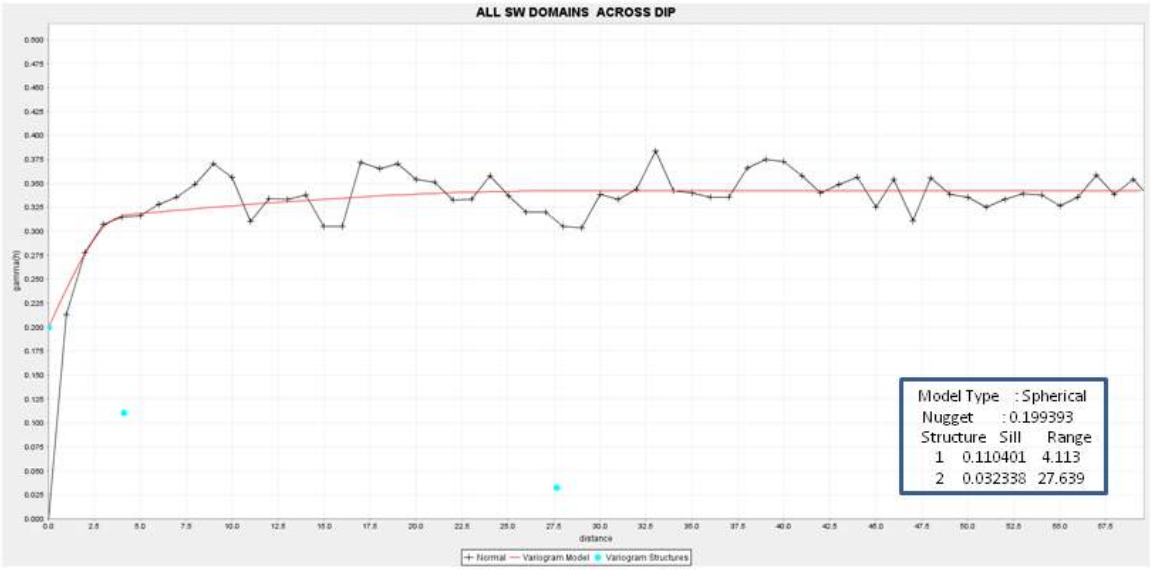

55Z Down Dip Variogram
gamma(h)
distance
Model Type : Spherical
Nugget : 0.300034
Structure Sill Range
1 0.201749 5.052
2 0.110484 30.151
Normal
Variogram Model
Variogram Structures


55Z ACROSS DIP VARIOGRAM
gamma(h)
distance
Model Type : Spherical
Nugget : 0.078363
Structure Sill Range
1 0.126665 11.505
2 0.311249 30.027
Normal
Variogram Model
Variogram Structures


ALL SW DOMAINS OMNIVARIOGRAM
gamma(h)
distance
Normal
Variance
Variogram Model
Variogram Structures
Model Type : Spherical
Nugget : 0.201981
Structure Sill Range
1 0.098937 5.936
2 0.014629 32.740


ALL SW DOMAINS ALONG STRIKE
gamma(h)
distance
Normal
Variance
Variogram Model
Variogram Structures
Model Type : Spherical
Nugget : 0.199852
Structure Sill Range
1 0.079176 4.800
2 0.046390 30.585


ALL SW DOWN DIP
gamma(h)
distance
Normal
Variogram Model
Variogram Structures
Model Type : Spherical
Nugget : 0.152020
Structure Sill Range
1 0.087696 5.368
2 0.058345 30.098


ALL SW DOMAINS ACROSS DIP
gamma(h)
distance
Model Type : Spherical
Nugget : 0.199393
Structure Sill Range
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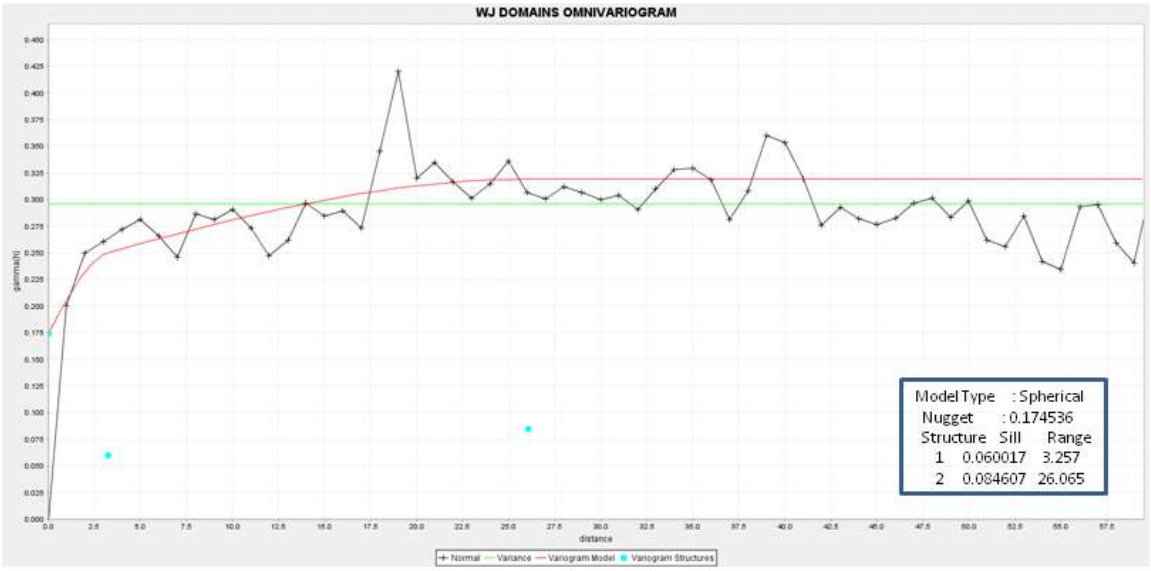
2 0.032338 27.639
Normal
Variogram Model
Variogram Structures


WJ DOMAINS OMNIVARIOGRAM
gamma(h)
distance
Model Type : Spherical
Nugget : 0.174536
Structure Sill Range
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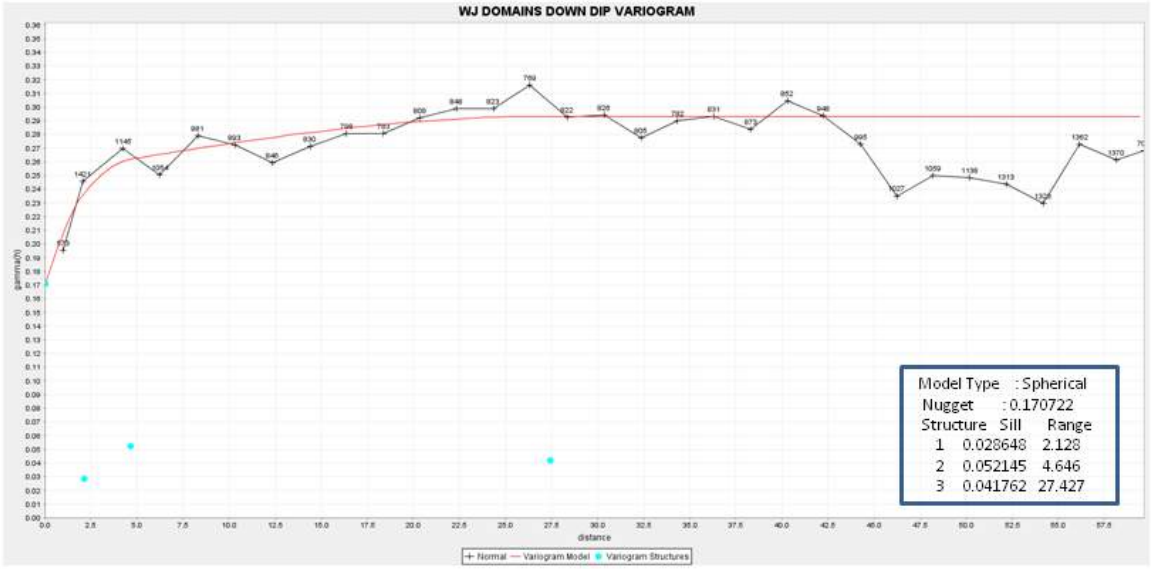
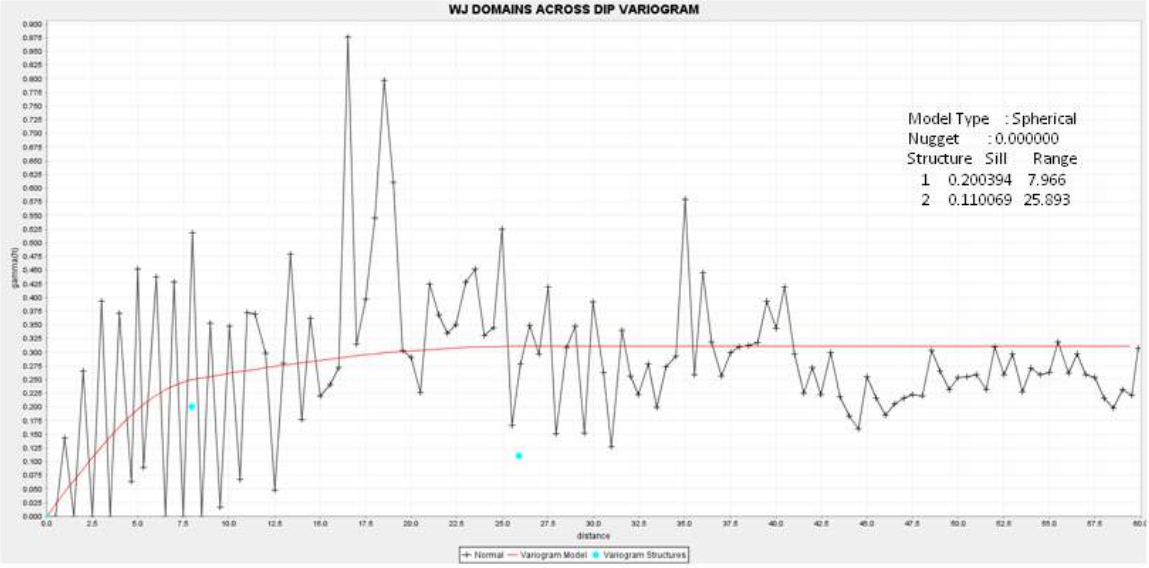
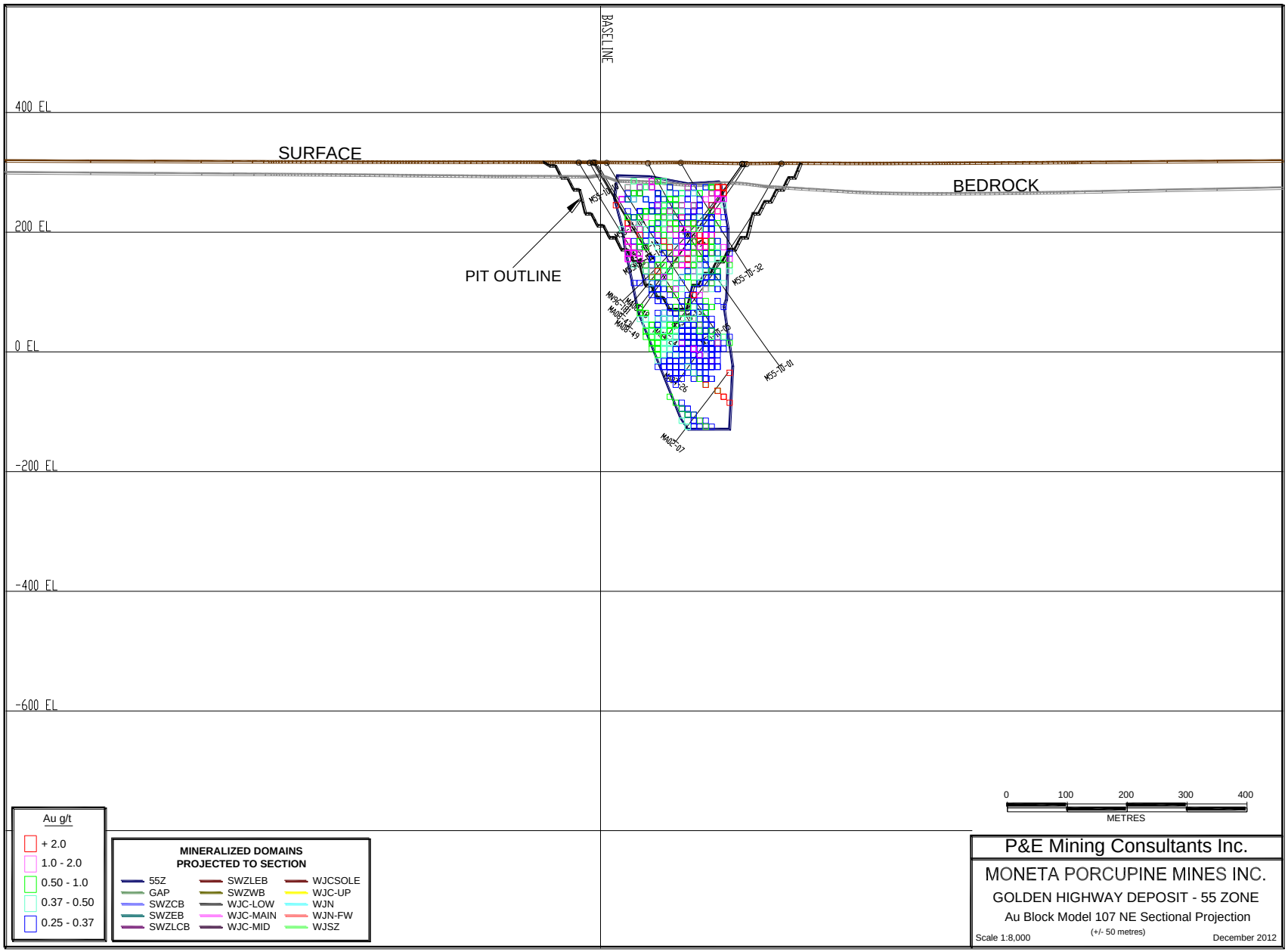
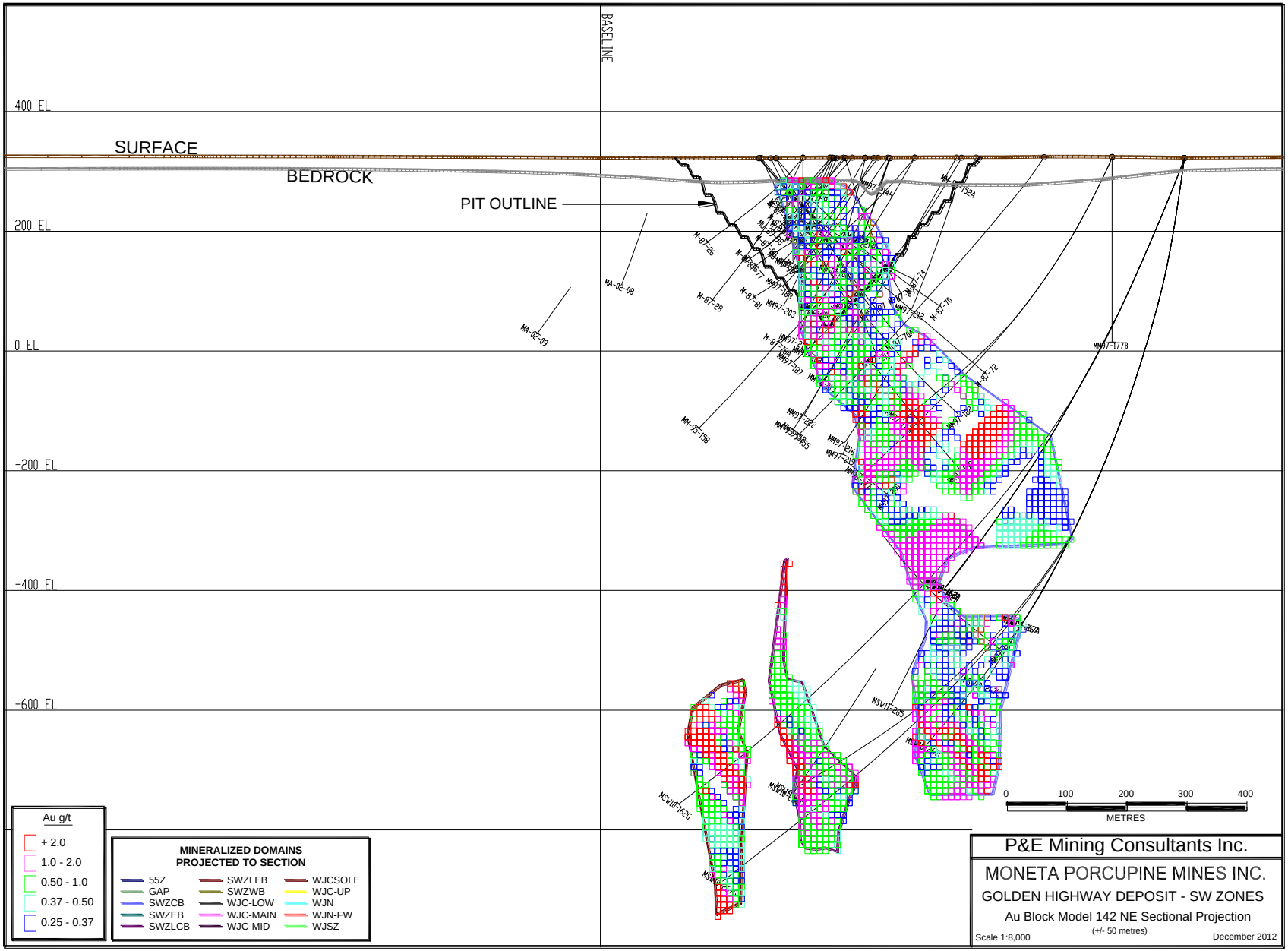
2 0.084607 26.065
Normal
Variance
Variogram Model
Variogram Structures

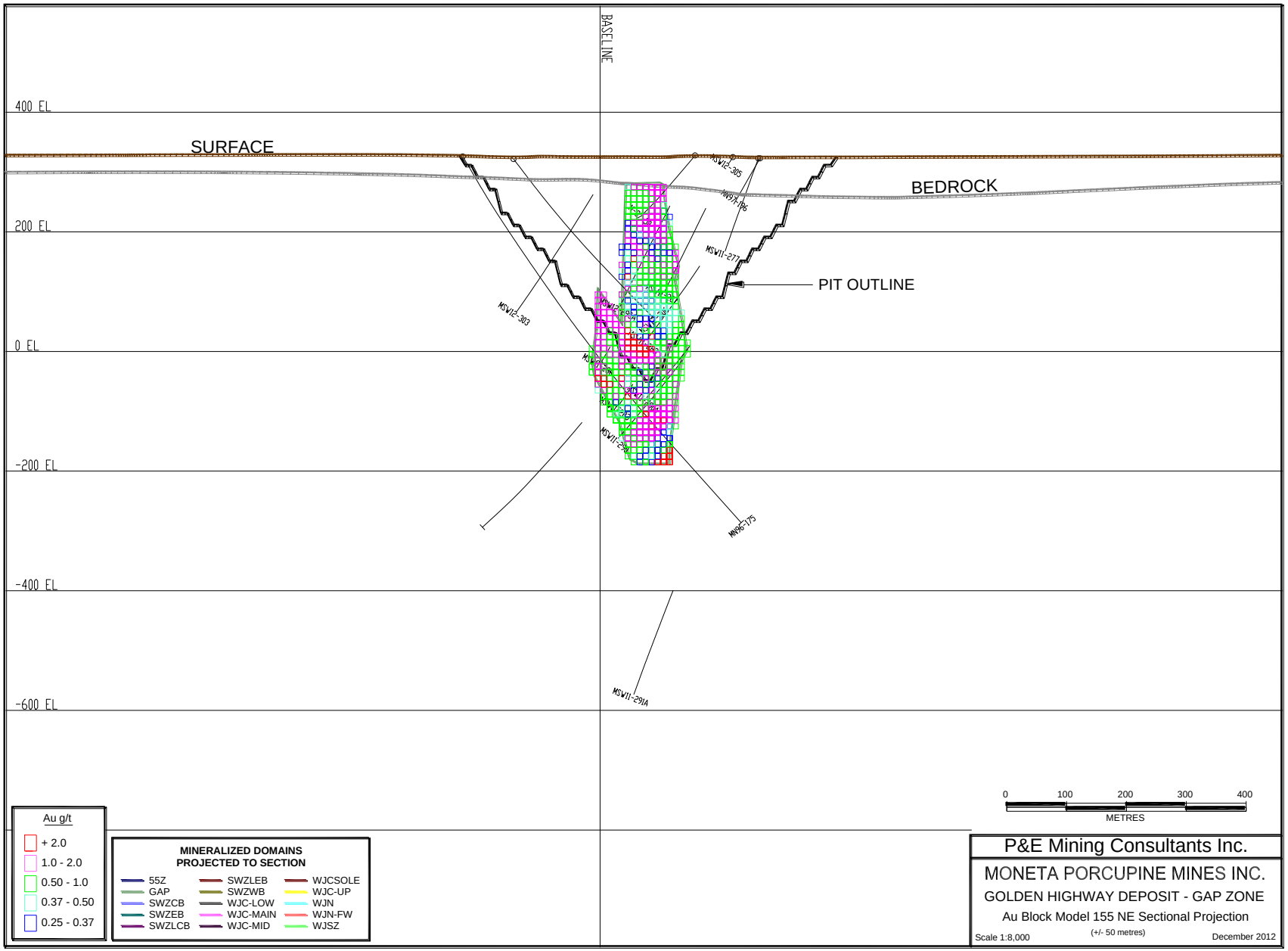

WJ DOMAINS DOWN DIP VARIOGRAM
gamma(h)
distance
Model Type : Spherical
Nugget : 0.170722
Structure Sill Range
1 0.028648 2.128
2 0.052145 4.646
3 0.041762 27.427
Normal
Variogram Model
Variogram Structures

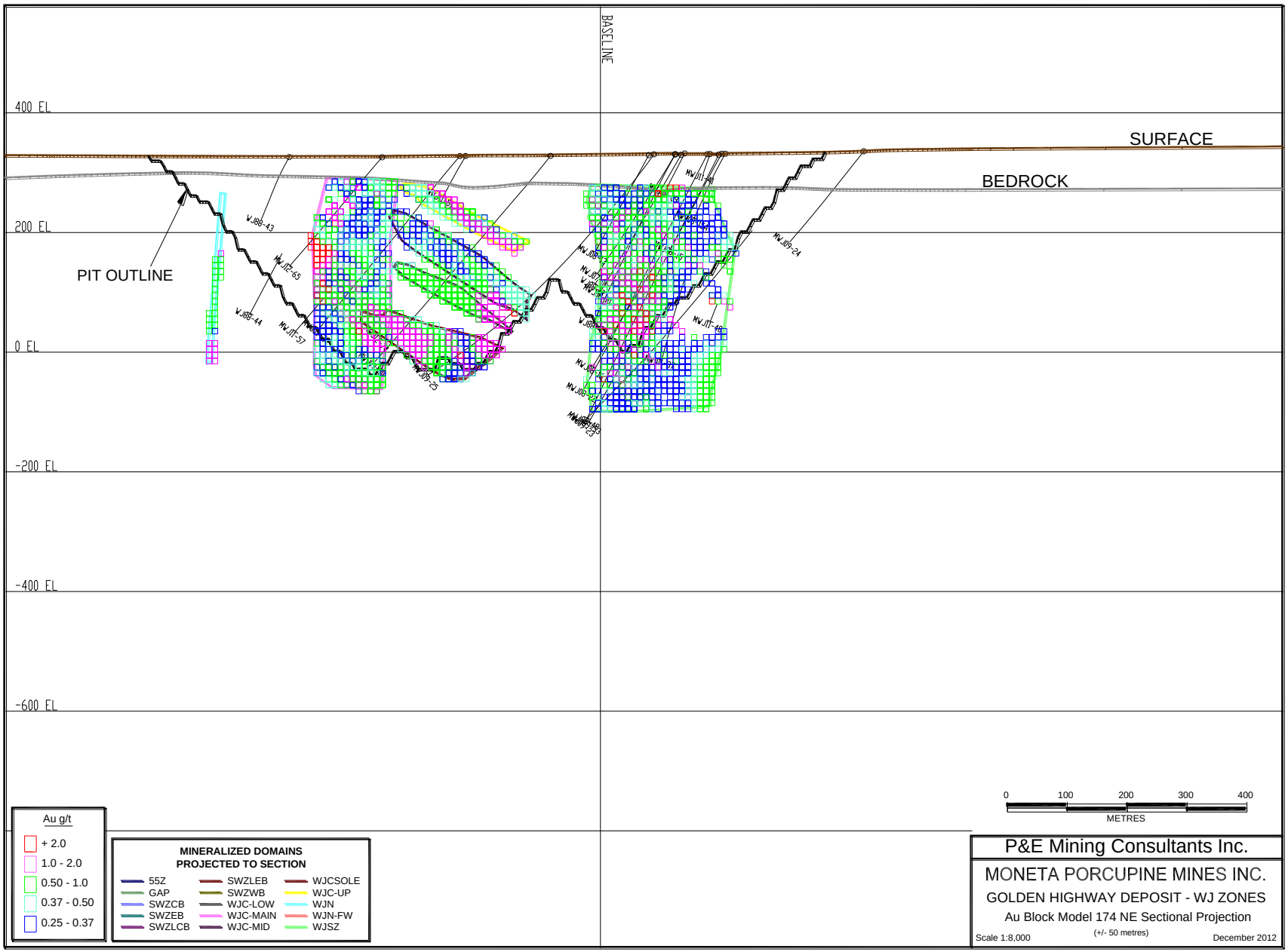

WJ DOMAINS ACROSS DIP VARIOGRAM
Model Type : Spherical
Nugget : 0.000000
Structure Sill Range
1 0.200394 7.966
2 0.110069 25.893
gamma(h)
distance
Normal
Variogram Model
Variogram Structures

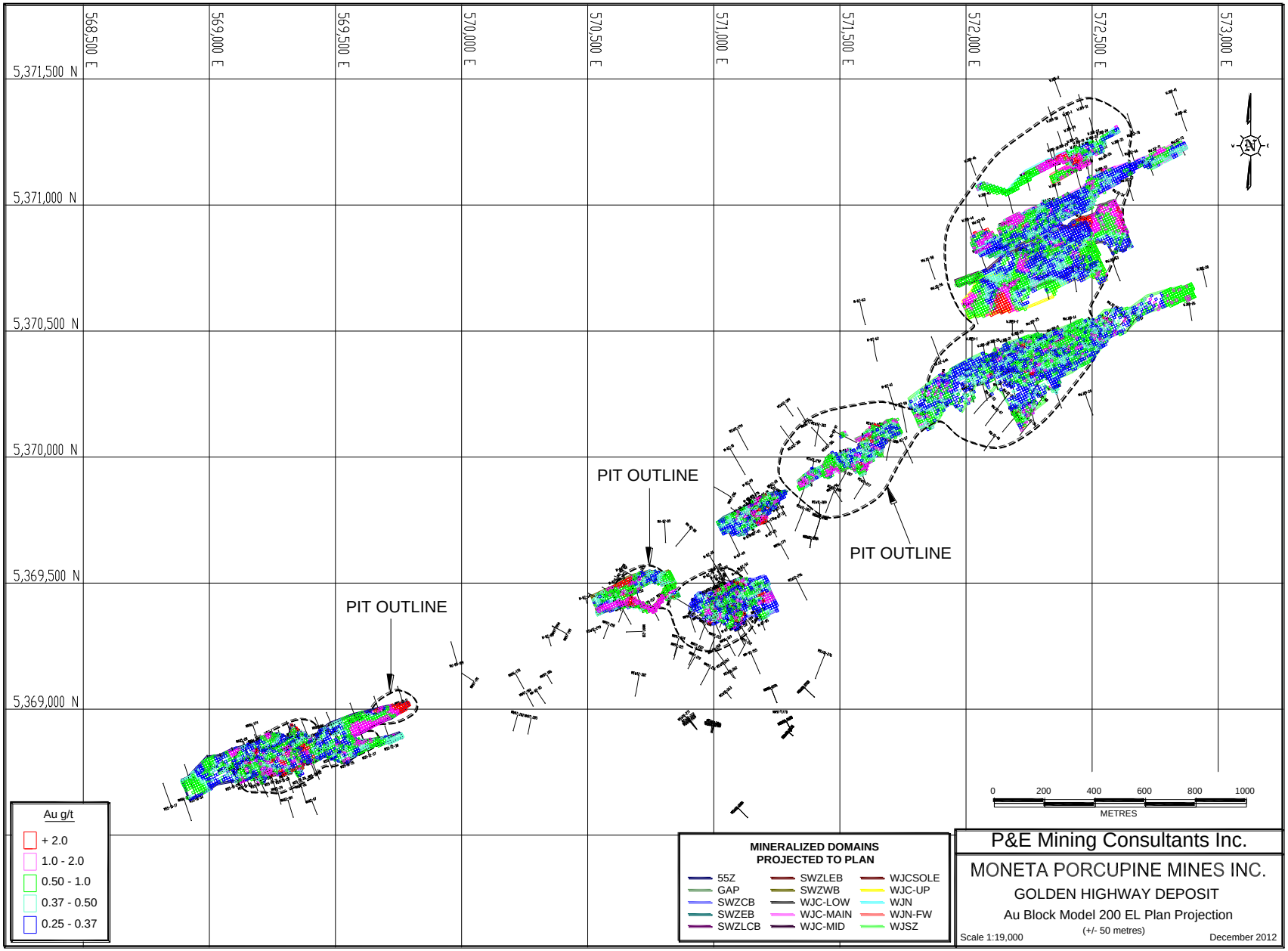
APPENDIX V. AU BLOCK MODEL CROSS SECTIONS AND PLANS


BASELINE
400 EL
SURFACE
BEDROCK
200 EL
PIT OUTLINE
0 EL
-200 EL
-400 EL
-600 EL
M55-16-32
M55-16-01
MAGE-07
0
100
200
300
400
METRES
Au g/t
+ 2.0
1.0 - 2.0
0.50 - 1.0
0.37 - 0.50
0.25 - 0.37
MINERALIZED DOMAINS
PROJECTED TO SECTION
55Z
GAP
SWZCB
SWZEB
SWZLCB
SWZLEB
SWZWB
WJC-LOW
WJC-MAIN
WJC-MID
WJCSOLE
WJC-UP
WJN
WJN-FW
WJSZ
P&E Mining Consultants Inc.
MONETA PORCUPINE MINES INC.
GOLDEN HIGHWAY DEPOSIT - 55 ZONE
Au Block Model 107 NE Sectional Projection
(+/- 50 metres)
Scale 1:8,000
December 2012


BASELINE
400 EL
SURFACE
BEDROCK
PIT OUTLINE
200 EL
0 EL
-200 EL
-400 EL
-600 EL
Au g/t
+ 2.0
1.0 - 2.0
0.50 - 1.0
0.37 - 0.50
0.25 - 0.37
MINERALIZED DOMAINS
PROJECTED TO SECTION
55Z
GAP
SWZCB
SWZEB
SWZLCB
SWZLEB
SWZWB
WJC-LOW
WJC-MAIN
WJC-MID
WJCSOLE
WJC-UP
WJN
WJN-FW
WJSZ
0
100
200
300
400
METRES
P&E Mining Consultants Inc.
MONETA PORCUPINE MINES INC.
GOLDEN HIGHWAY DEPOSIT - SW ZONES
Au Block Model 142 NE Sectional Projection
(+/- 50 metres)
Scale 1:8,000
December 2012


BASELINE
400 EL
SURFACE
BEDROCK
200 EL
PIT OUTLINE
0 EL
-200 EL
-400 EL
-600 EL
MSV12-305
MW97-196
MSV11-277
MSV12-303
MSV11-291
MW96-175
MSV11-291A
Au g/t
+ 2.0
1.0 - 2.0
0.50 - 1.0
0.37 - 0.50
0.25 - 0.37
MINERALIZED DOMAINS
PROJECTED TO SECTION
55Z
GAP
SWZCB
SWZEB
SWZLCB
SWZLEB
SWZWB
WJC-LOW
WJC-MAIN
WJC-MID
WJCSOLE
WJC-UP
WJN
WJN-FW
WJSZ
0
100
200
300
400
METRES
P&E Mining Consultants Inc.
MONETA PORCUPINE MINES INC.
GOLDEN HIGHWAY DEPOSIT - GAP ZONE
Au Block Model 155 NE Sectional Projection
Scale 1:8,000
(+/- 50 metres)
December 2012


BASELINE
400 EL
200 EL
0 EL
-200 EL
-400 EL
-600 EL
SURFACE
BEDROCK
PIT OUTLINE
Au g/t
+ 2.0
1.0 - 2.0
0.50 - 1.0
0.37 - 0.50
0.25 - 0.37
MINERALIZED DOMAINS
PROJECTED TO SECTION
55Z
GAP
SWZCB
SWZEB
SWZLCB
SWZLEB
SWZWB
WJC-LOW
WJC-MAIN
WJC-MID
WJCSOLE
WJC-UP
WJN
WJN-FW
WJSZ
0
100
200
300
400
METRES
P&E Mining Consultants Inc.
MONETA PORCUPINE MINES INC.
GOLDEN HIGHWAY DEPOSIT - WJ ZONES
Au Block Model 174 NE Sectional Projection
Scale 1:8,000
(+/- 50 metres)
December 2012


568,500 E
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569,500 E
570,000 E
570,500 E
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572,500 E
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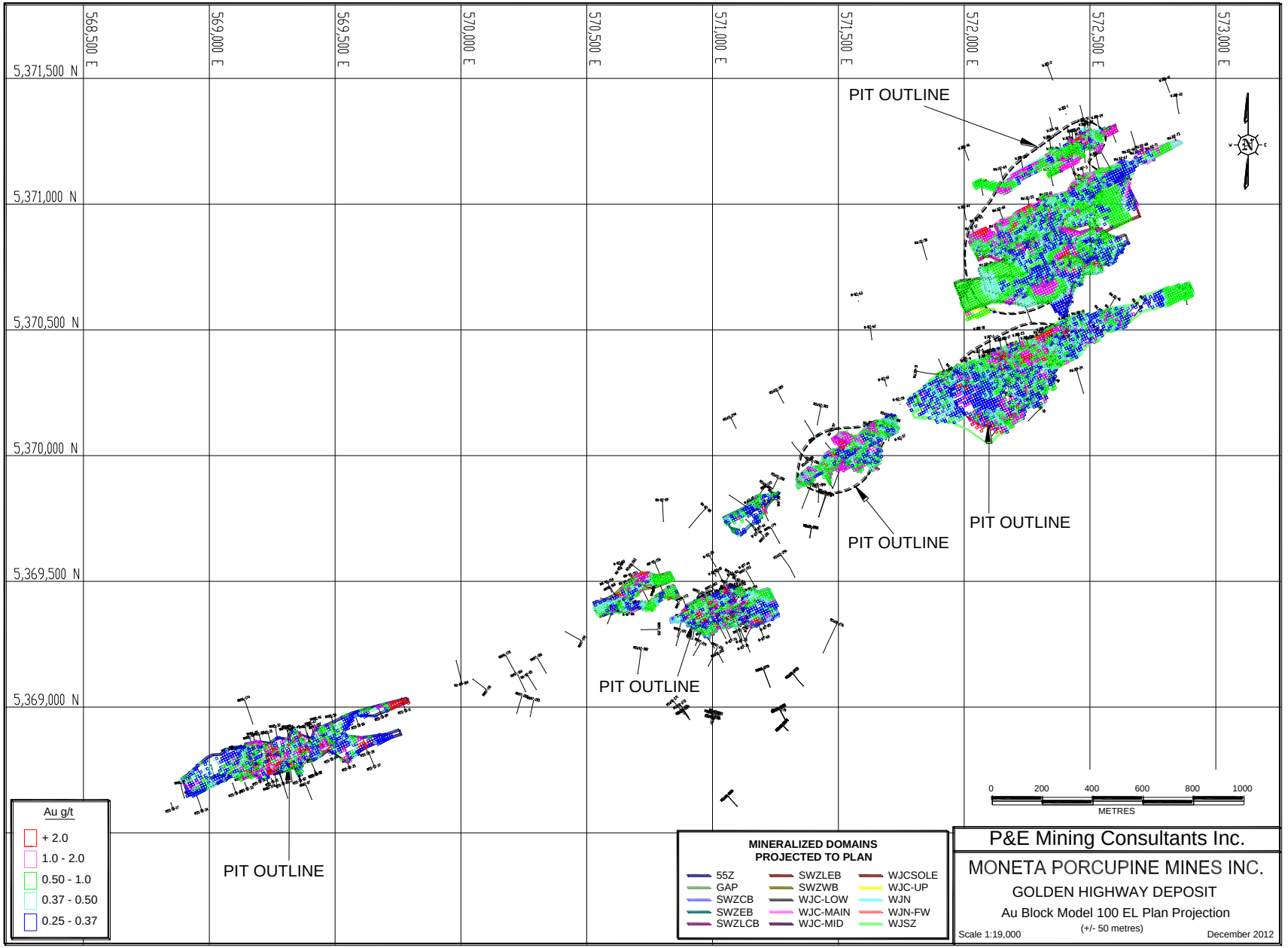
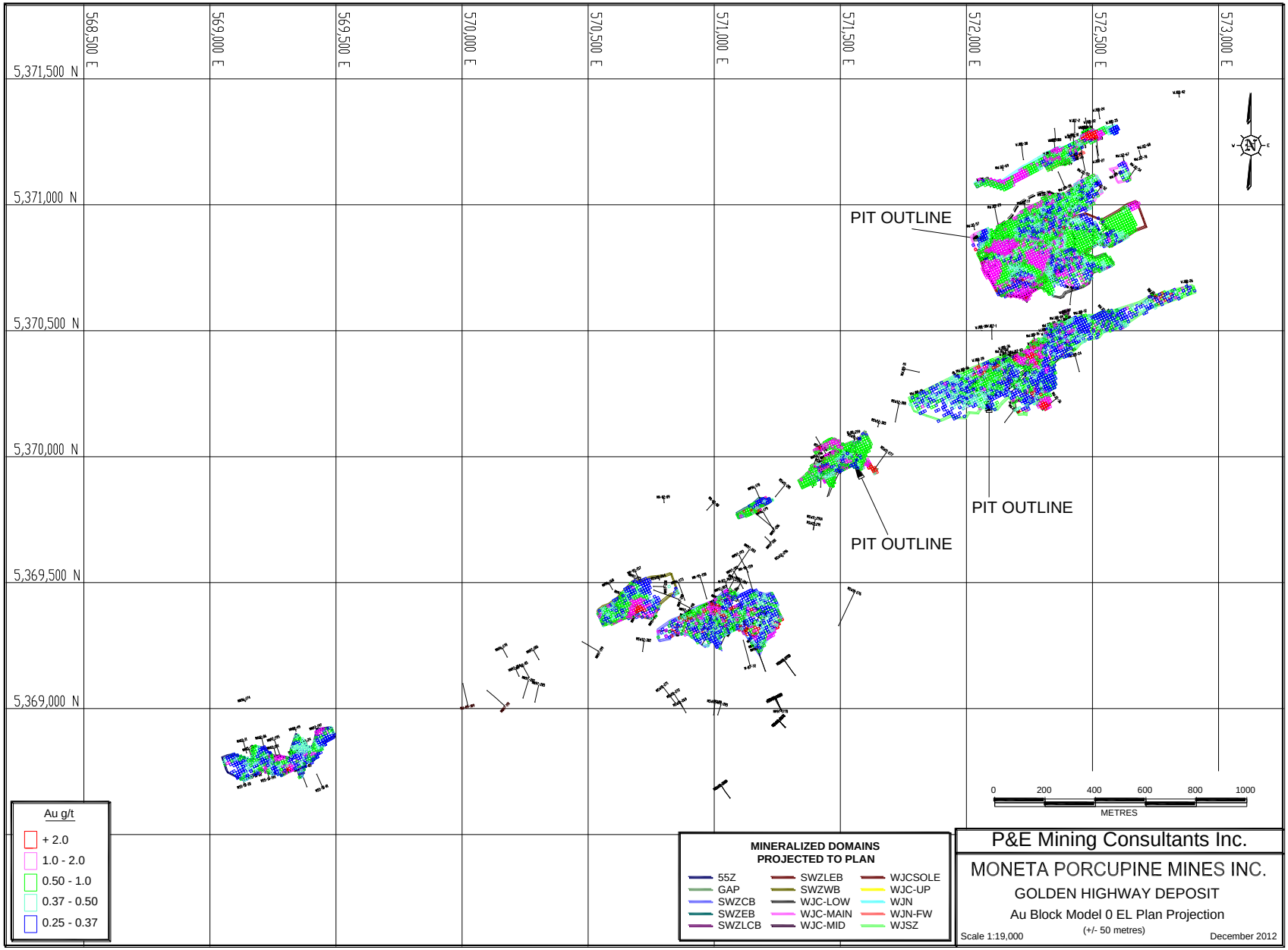
5,371,000 N
5,370,500 N
5,370,000 N
5,369,500 N
5,369,000 N
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
Au g/t
+ 2.0
1.0 - 2.0
0.50 - 1.0
0.37 - 0.50
0.25 - 0.37
MINERALIZED DOMAINS
PROJECTED TO PLAN
55Z
GAP
SWZCB
SWZEB
SWZLCB
SWZLEB
SWZWB
WJC-LOW
WJC-MAIN
WJC-MID
WJCSOLE
WJC-UP
WJN
WJN-FW
WJSZ
0 200 400 600 800 1000
METRES
P&E Mining Consultants Inc.
MONETA PORCUPINE MINES INC.
GOLDEN HIGHWAY DEPOSIT
Au Block Model 200 EL Plan Projection
(+/- 50 metres)
Scale 1:19,000
December 2012


568,500 E
569,000 E
569,500 E
570,000 E
570,500 E
571,000 E
571,500 E
572,000 E
572,500 E
573,000 E
5,371,500 N
5,371,000 N
5,370,500 N
5,370,000 N
5,369,500 N
5,369,000 N
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
Au g/t
+ 2.0
1.0 - 2.0
0.50 - 1.0
0.37 - 0.50
0.25 - 0.37
MINERALIZED DOMAINS
PROJECTED TO PLAN
55Z
GAP
SWZCB
SWZEB
SWZLCB
SWZLEB
SWZWB
WJC-LOW
WJC-MAIN
WJC-MID
WJCSOLE
WJC-UP
WJN
WJN-FW
WJSZ
0 200 400 600 800 1000
METRES
P&E Mining Consultants Inc.
MONETA PORCUPINE MINES INC.
GOLDEN HIGHWAY DEPOSIT
Au Block Model 100 EL Plan Projection
(+/- 50 metres)
Scale 1:19,000
December 2012


568,500 E
569,000 E
569,500 E
570,000 E
570,500 E
571,000 E
571,500 E
572,000 E
572,500 E
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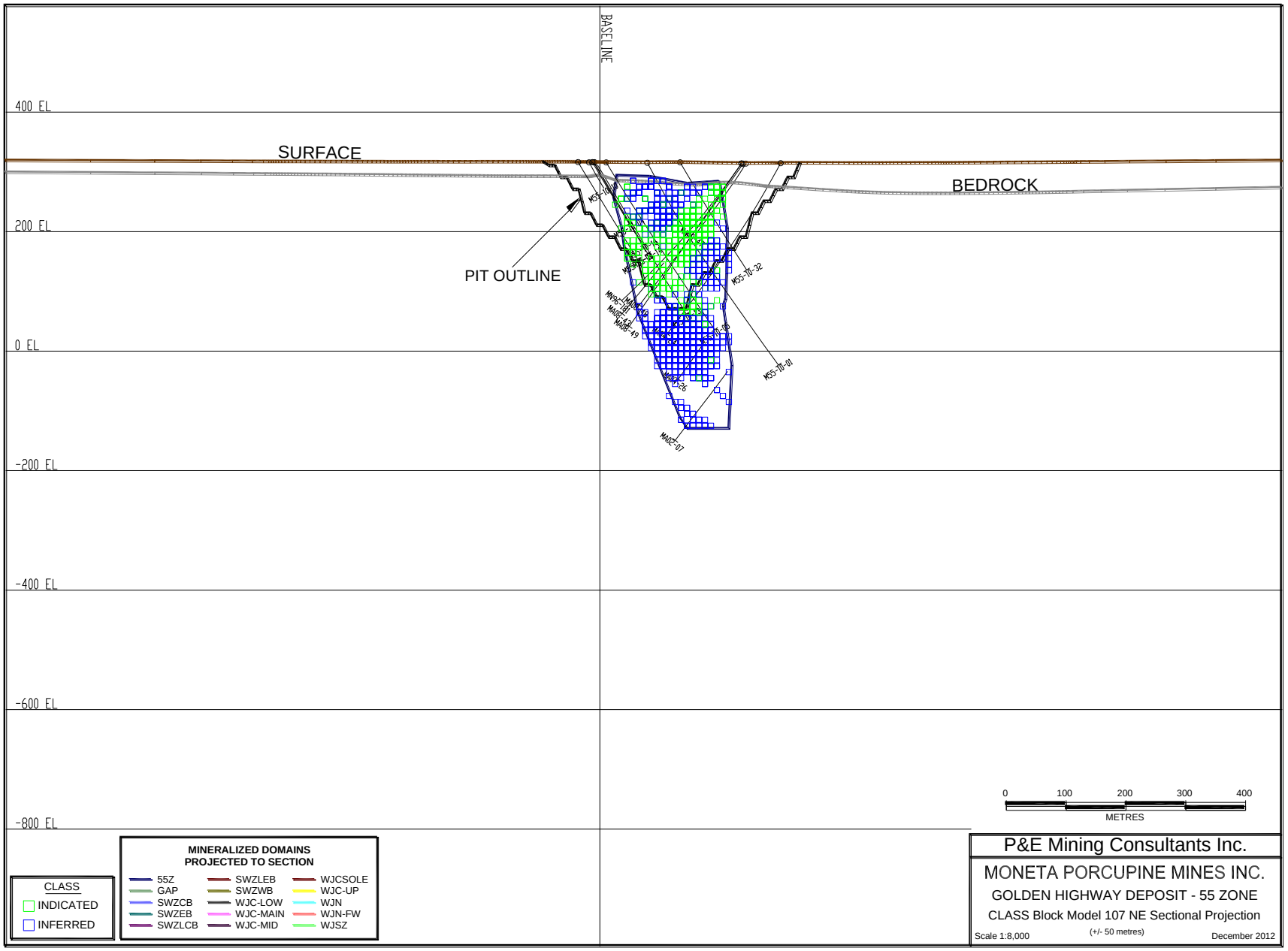
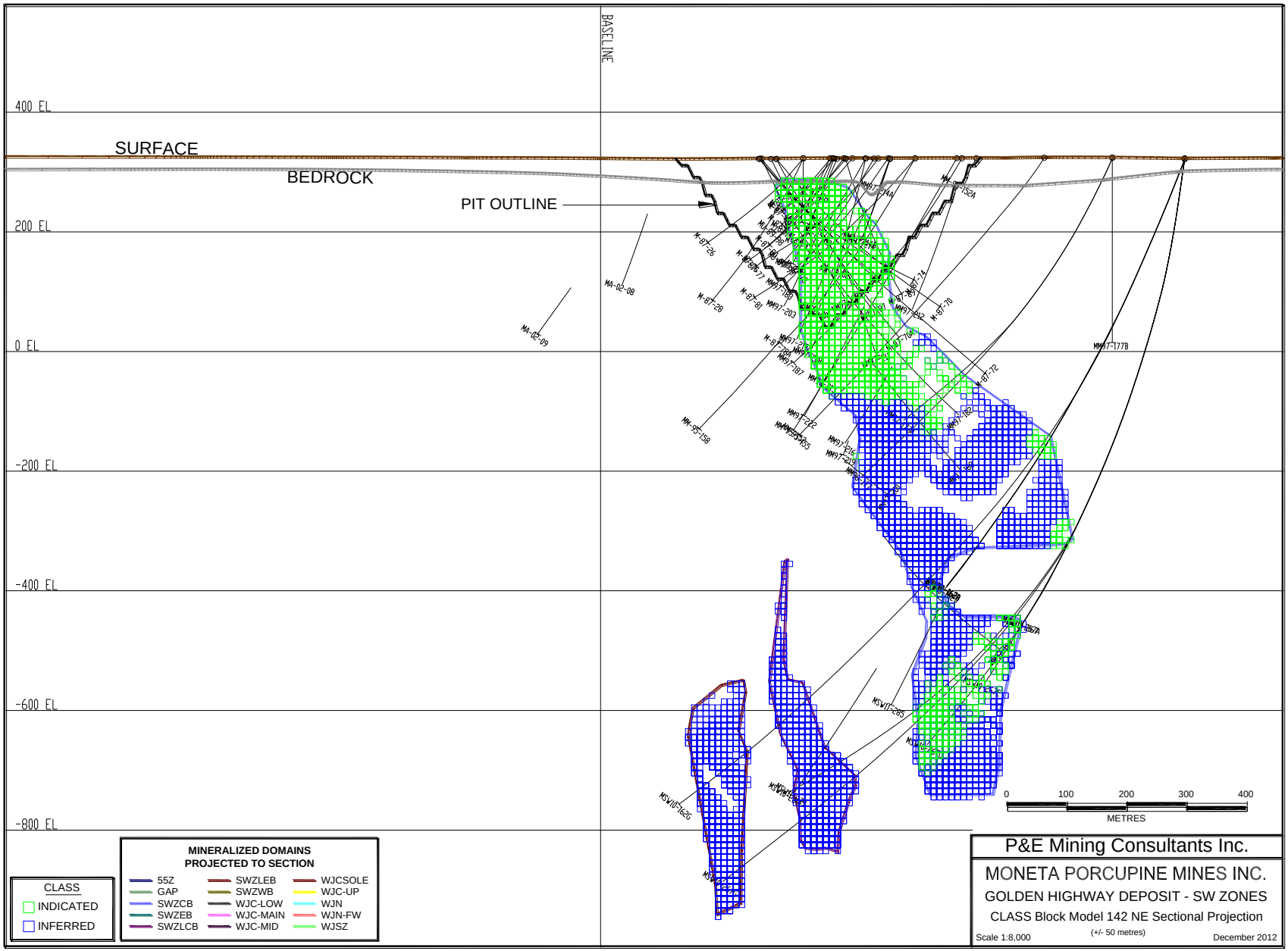
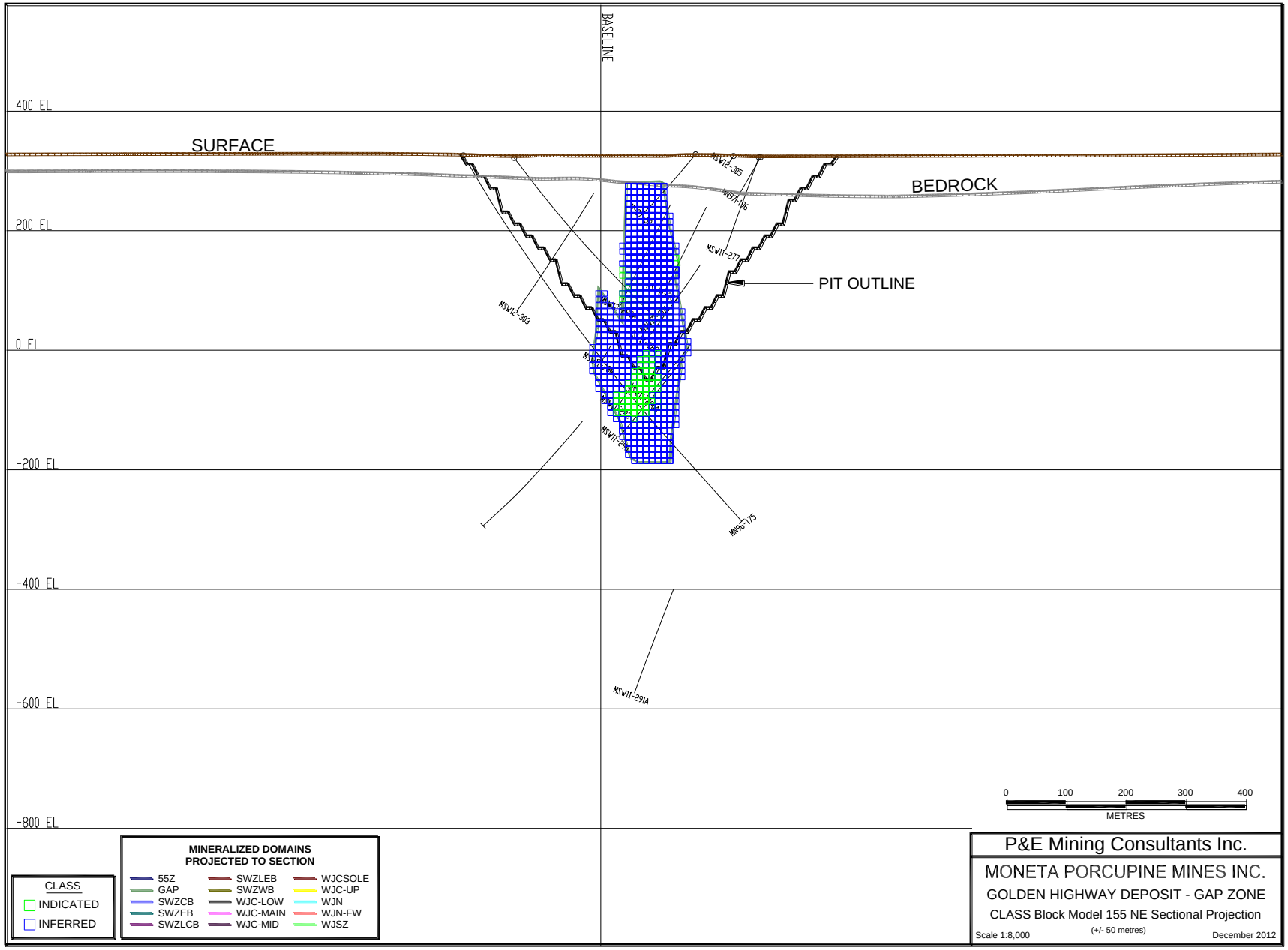
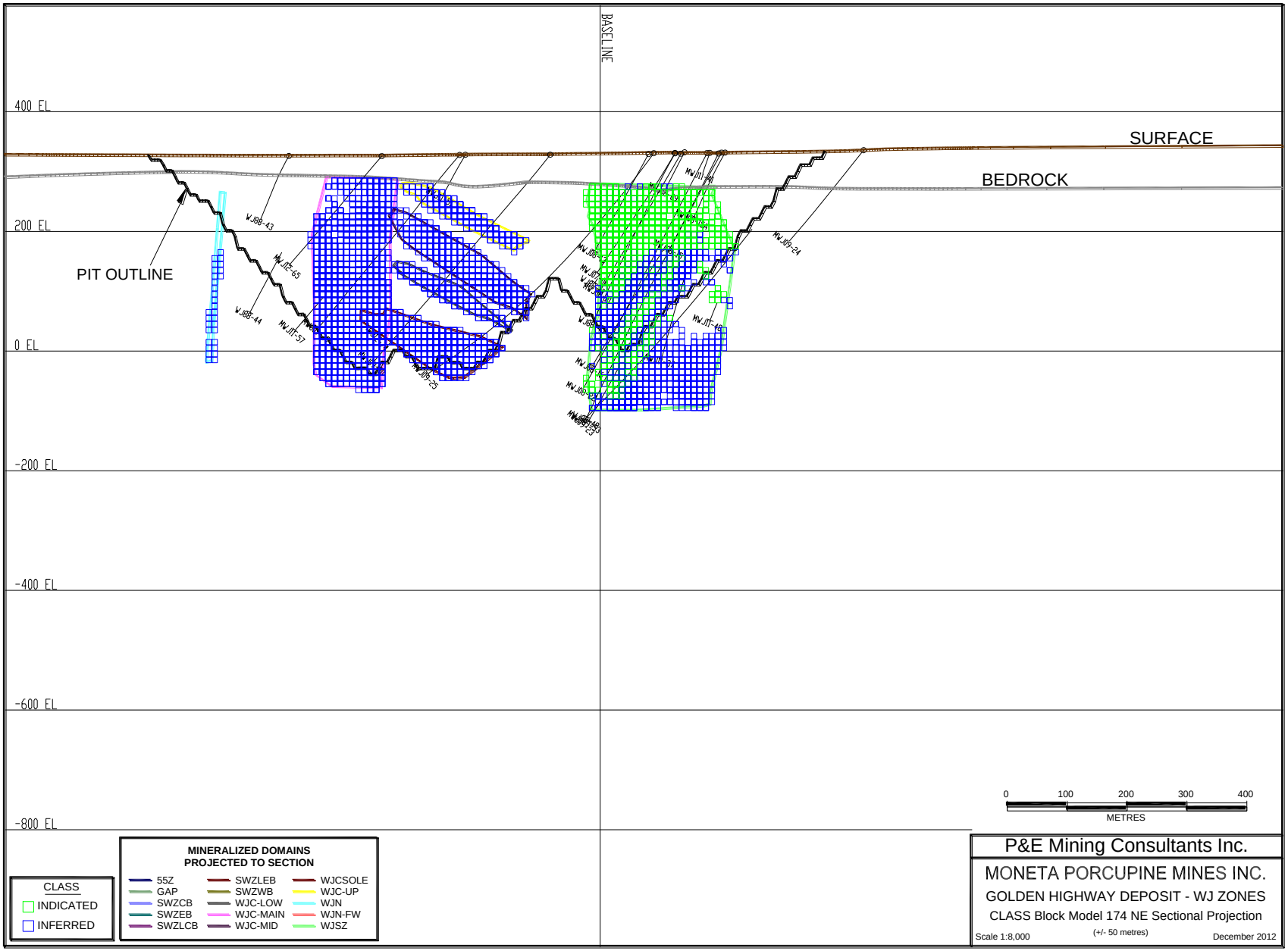
5,371,500 N
5,371,000 N
5,370,500 N
5,370,000 N
5,369,500 N
5,369,000 N
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
Au g/t
+ 2.0
1.0 - 2.0
0.50 - 1.0
0.37 - 0.50
0.25 - 0.37
MINERALIZED DOMAINS
PROJECTED TO PLAN
55Z
GAP
SWZCB
SWZEB
SWZLCB
SWZLEB
SWZWB
WJC-LOW
WJC-MAIN
WJC-MID
WJCSOLE
WJC-UP
WJN
WJN-FW
WJSZ
0 200 400 600 800 1000
METRES
P&E Mining Consultants Inc.
MONETA PORCUPINE MINES INC.
GOLDEN HIGHWAY DEPOSIT
Au Block Model 0 EL Plan Projection
(+/- 50 metres)
Scale 1:19,000
December 2012

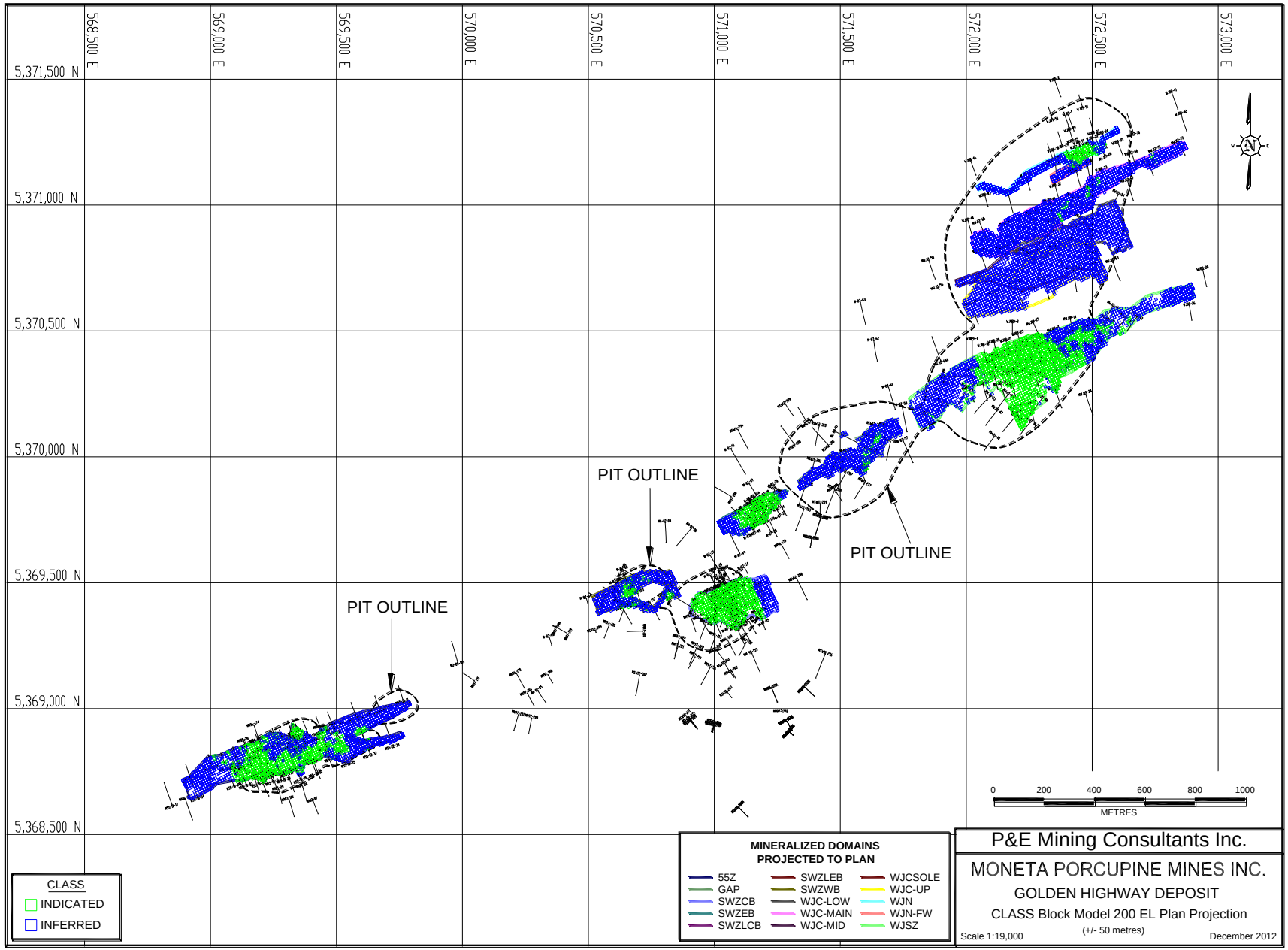
APPENDIX VI. CLASSIFICATION BLOCK MODEL CROSS SECTIONS AND PLANS


BASELINE
400 EL
SURFACE
BEDROCK
200 EL
PIT OUTLINE
0 EL
-200 EL
-400 EL
-600 EL
-800 EL
MS5-10-32
MS5-10-01
MWZ-07
0
100
200
300
400
METRES
MINERALIZED DOMAINS
PROJECTED TO SECTION
55Z
GAP
SWZCB
SWZEB
SWZLCB
SWZLEB
SWZWB
WJC-LOW
WJC-MAIN
WJC-MID
WJCSOLE
WJC-UP
WJN
WJN-FW
WJSZ
CLASS
INDICATED
INFERRED
P&E Mining Consultants Inc.
MONETA PORCUPINE MINES INC.
GOLDEN HIGHWAY DEPOSIT - 55 ZONE
CLASS Block Model 107 NE Sectional Projection
Scale 1:8,000
(+/- 50 metres)
December 2012


BASELINE
400 EL
SURFACE
BEDROCK
PIT OUTLINE
200 EL
0 EL
-200 EL
-400 EL
-600 EL
-800 EL
MA-02-08
MA-02-09
M-87-26
M-87-28
M-87-77
M-87-81
M-87-71
M-87-70
M-87-72
MM97-203
MM97-177B
MM-95-158
MSVIT-265
MSVIT-162G
0
100
200
300
400
METRES
MINERALIZED DOMAINS
PROJECTED TO SECTION
55Z
GAP
SWZCB
SWZEB
SWZLCB
SWZLEB
SWZWB
WJC-LOW
WJC-MAIN
WJC-MID
WJCSOLE
WJC-UP
WJN
WJN-FW
WJSZ
CLASS
INDICATED
INFERRED
P&E Mining Consultants Inc.
MONETA PORCUPINE MINES INC.
GOLDEN HIGHWAY DEPOSIT - SW ZONES
CLASS Block Model 142 NE Sectional Projection
Scale 1:8,000
(+/- 50 metres)
December 2012


BASELINE
400 EL
SURFACE
BEDROCK
200 EL
PIT OUTLINE
0 EL
-200 EL
-400 EL
-600 EL
-800 EL
MSW12-303
MSW12-305
MSW11-277
MSW11-291A
MW06-175
0
100
200
300
400
METRES
MINERALIZED DOMAINS
PROJECTED TO SECTION
55Z
GAP
SWZCB
SWZEB
SWZLCB
SWZLEB
SWZWB
WJC-LOW
WJC-MAIN
WJC-MID
WJCSOLE
WJC-UP
WJN
WJN-FW
WJSZ
CLASS
INDICATED
INFERRED
P&E Mining Consultants Inc.
MONETA PORCUPINE MINES INC.
GOLDEN HIGHWAY DEPOSIT - GAP ZONE
CLASS Block Model 155 NE Sectional Projection
Scale 1:8,000
(+/- 50 metres)
December 2012


BASELINE
400 EL
200 EL
0 EL
-200 EL
-400 EL
-600 EL
-800 EL
SURFACE
BEDROCK
PIT OUTLINE
0
100
200
300
400
METRES
CLASS
INDICATED
INFERRED
MINERALIZED DOMAINS
PROJECTED TO SECTION
55Z
GAP
SWZCB
SWZEB
SWZLCB
SWZLEB
SWZWB
WJC-LOW
WJC-MAIN
WJC-MID
WJCSOLE
WJC-UP
WJN
WJN-FW
WJSZ
P&E Mining Consultants Inc.
MONETA PORCUPINE MINES INC.
GOLDEN HIGHWAY DEPOSIT - WJ ZONES
CLASS Block Model 174 NE Sectional Projection
Scale 1:8,000
(+/- 50 metres)
December 2012


568,500 E
569,000 E
569,500 E
570,000 E
570,500 E
571,000 E
571,500 E
572,000 E
572,500 E
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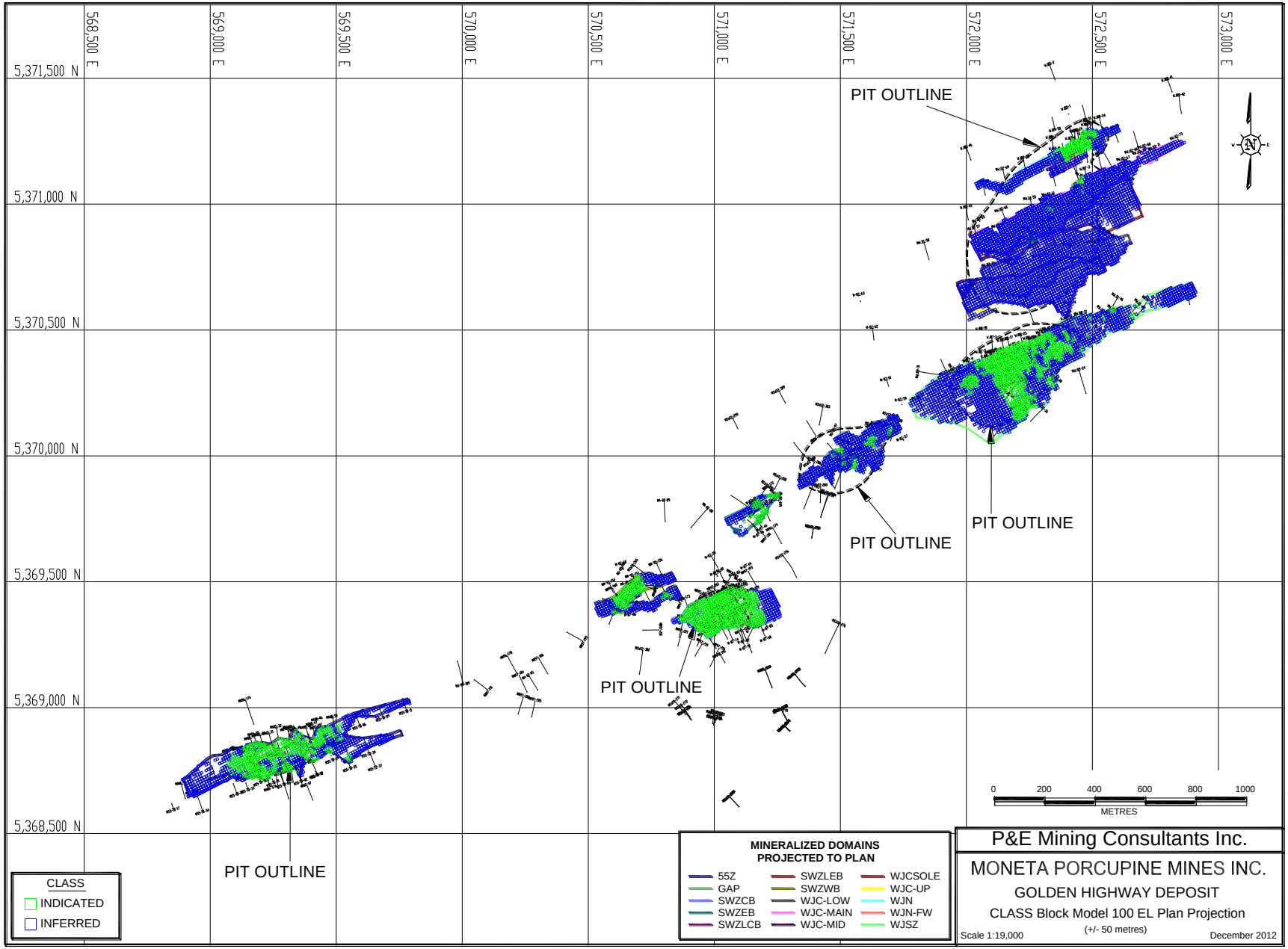
5,371,500 N
5,371,000 N
5,370,500 N
5,370,000 N
5,369,500 N
5,369,000 N
5,368,500 N
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
0 200 400 600 800 1000
METRES
CLASS
INDICATED
INFERRED
MINERALIZED DOMAINS
PROJECTED TO PLAN
55Z
GAP
SWZCB
SWZEB
SWZLCB
SWZLEB
SWZWB
WJC-LOW
WJC-MAIN
WJC-MID
WJCSOLE
WJC-UP
WJN
WJN-FW
WJSZ
P&E Mining Consultants Inc.
MONETA PORCUPINE MINES INC.
GOLDEN HIGHWAY DEPOSIT
CLASS Block Model 200 EL Plan Projection
(+/- 50 metres)
Scale 1:19,000
December 2012


568,500 E
569,000 E
569,500 E
570,000 E
570,500 E
571,000 E
571,500 E
572,000 E
572,500 E
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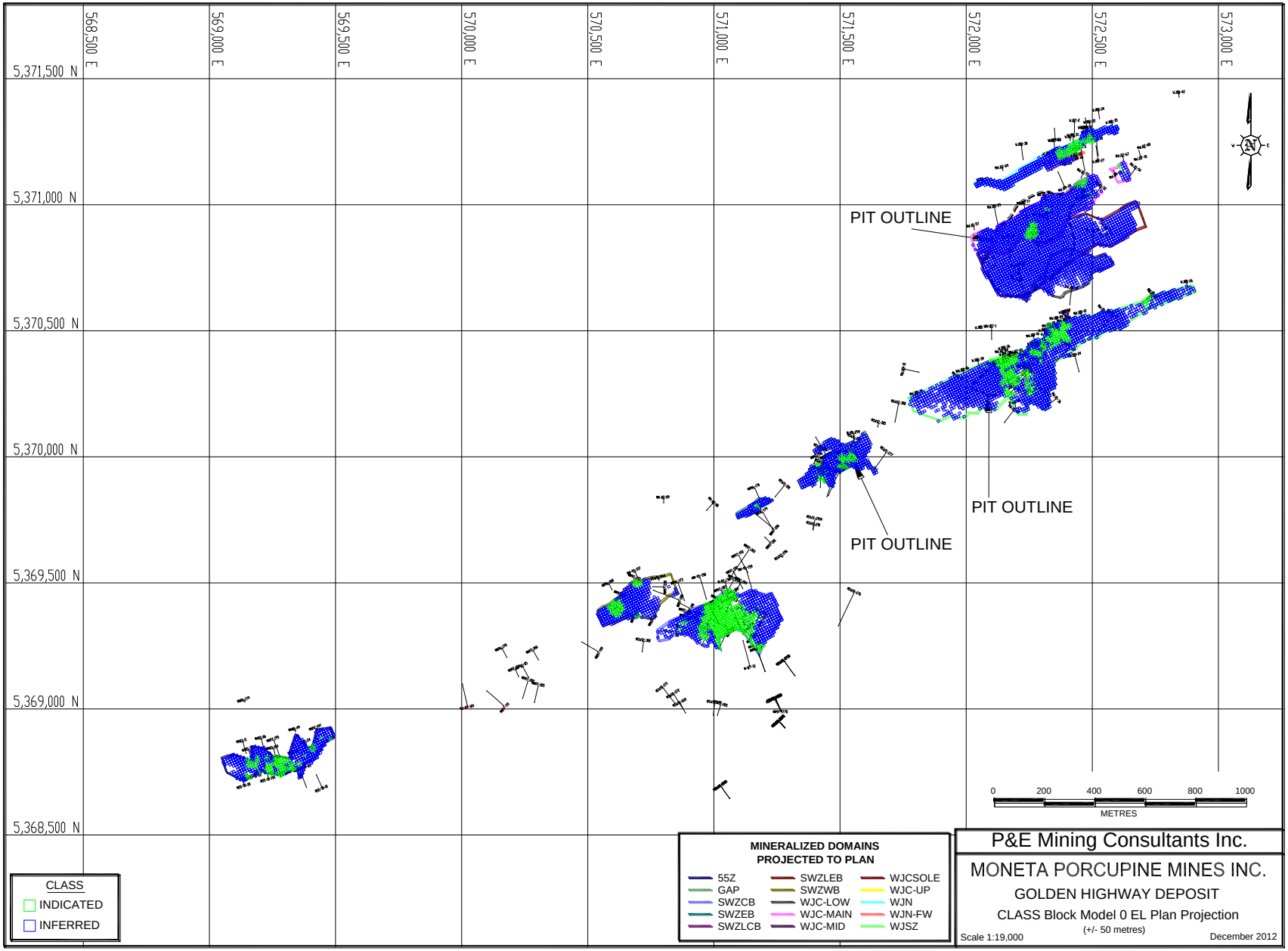
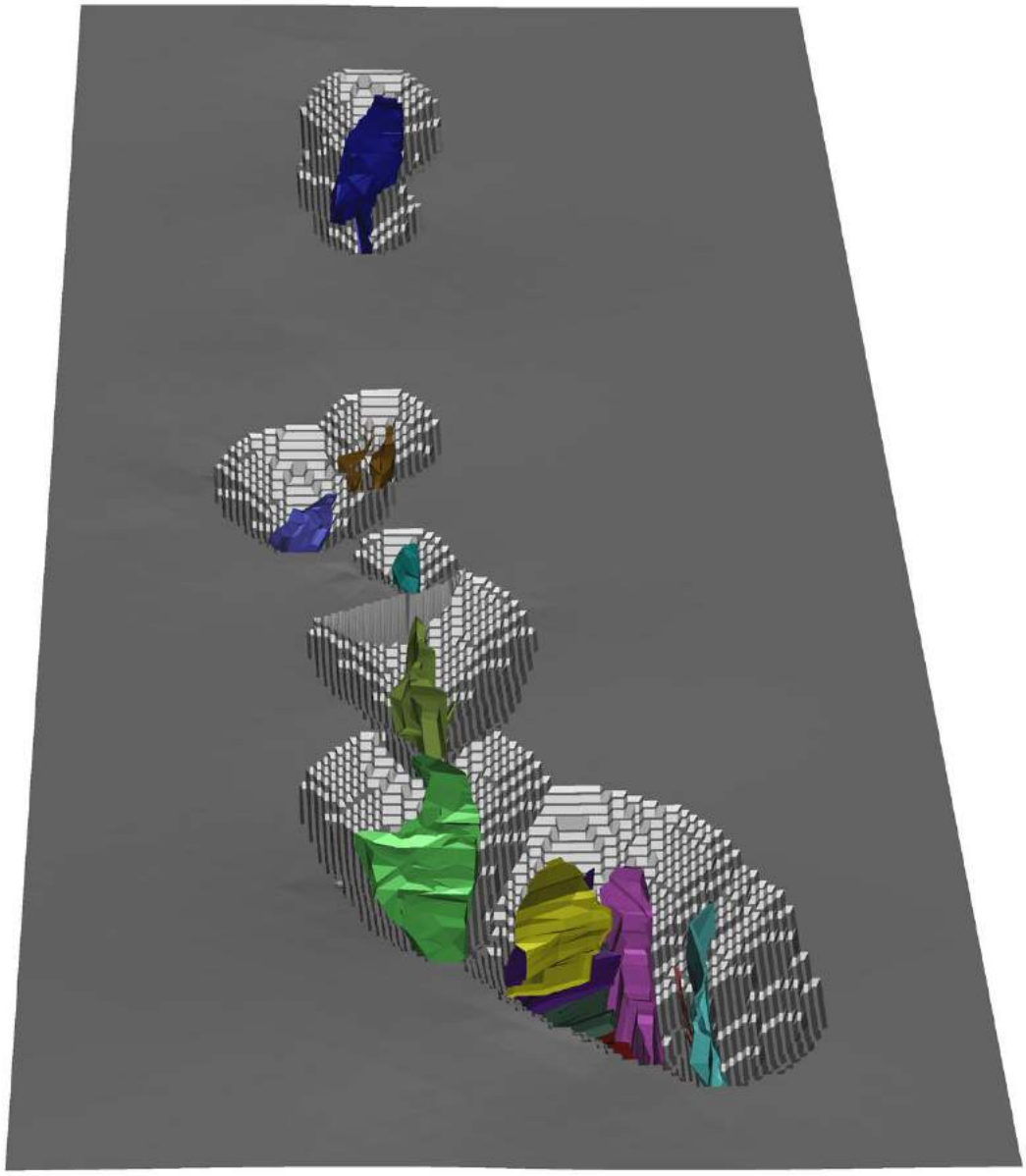
5,371,500 N
5,371,000 N
5,370,500 N
5,370,000 N
5,369,500 N
5,369,000 N
5,368,500 N
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
CLASS
INDICATED
INFERRED
MINERALIZED DOMAINS
PROJECTED TO PLAN
55Z
GAP
SWZCB
SWZEB
SWZLCB
SWZLEB
SWZWB
WJC-LOW
WJC-MAIN
WJC-MID
WJCSOLE
WJC-UP
WJN
WJN-FW
WJSZ
0
200
400
600
800
1000
METRES
P&E Mining Consultants Inc.
MONETA PORCUPINE MINES INC.
GOLDEN HIGHWAY DEPOSIT
CLASS Block Model 100 EL Plan Projection
(+/- 50 metres)
Scale 1:19,000
December 2012


568,500 E
569,000 E
569,500 E
570,000 E
570,500 E
571,000 E
571,500 E
572,000 E
572,500 E
573,000 E
5,371,500 N
5,371,000 N
5,370,500 N
5,370,000 N
5,369,500 N
5,369,000 N
5,368,500 N
PIT OUTLINE
PIT OUTLINE
PIT OUTLINE
0 200 400 600 800 1000
METRES
CLASS
INDICATED
INFERRED
MINERALIZED DOMAINS
PROJECTED TO PLAN
55Z
GAP
SWZCB
SWZEB
SWZLCB
SWZLEB
SWZWB
WJC-LOW
WJC-MAIN
WJC-MID
WJCSOLE
WJC-UP
WJN
WJN-FW
WJSZ
P&E Mining Consultants Inc.
MONETA PORCUPINE MINES INC.
GOLDEN HIGHWAY DEPOSIT
CLASS Block Model 0 EL Plan Projection
(+/- 50 metres)
Scale 1:19,000
December 2012

APPENDIX VII. OPTIMIZED PIT SHELL

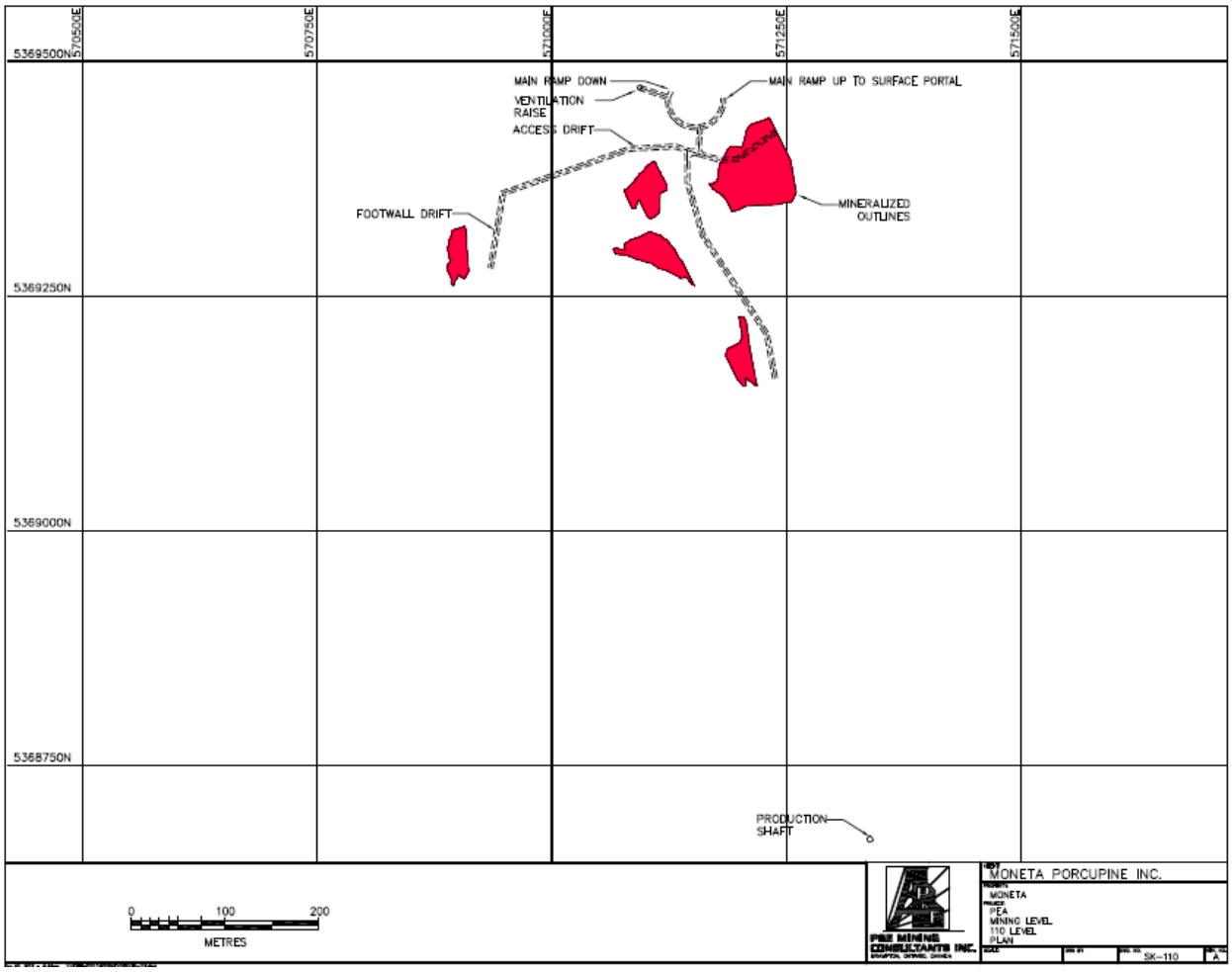
GOLDEN HIGHWAY DEPOSIT
OPTIMIZED PIT SHELL

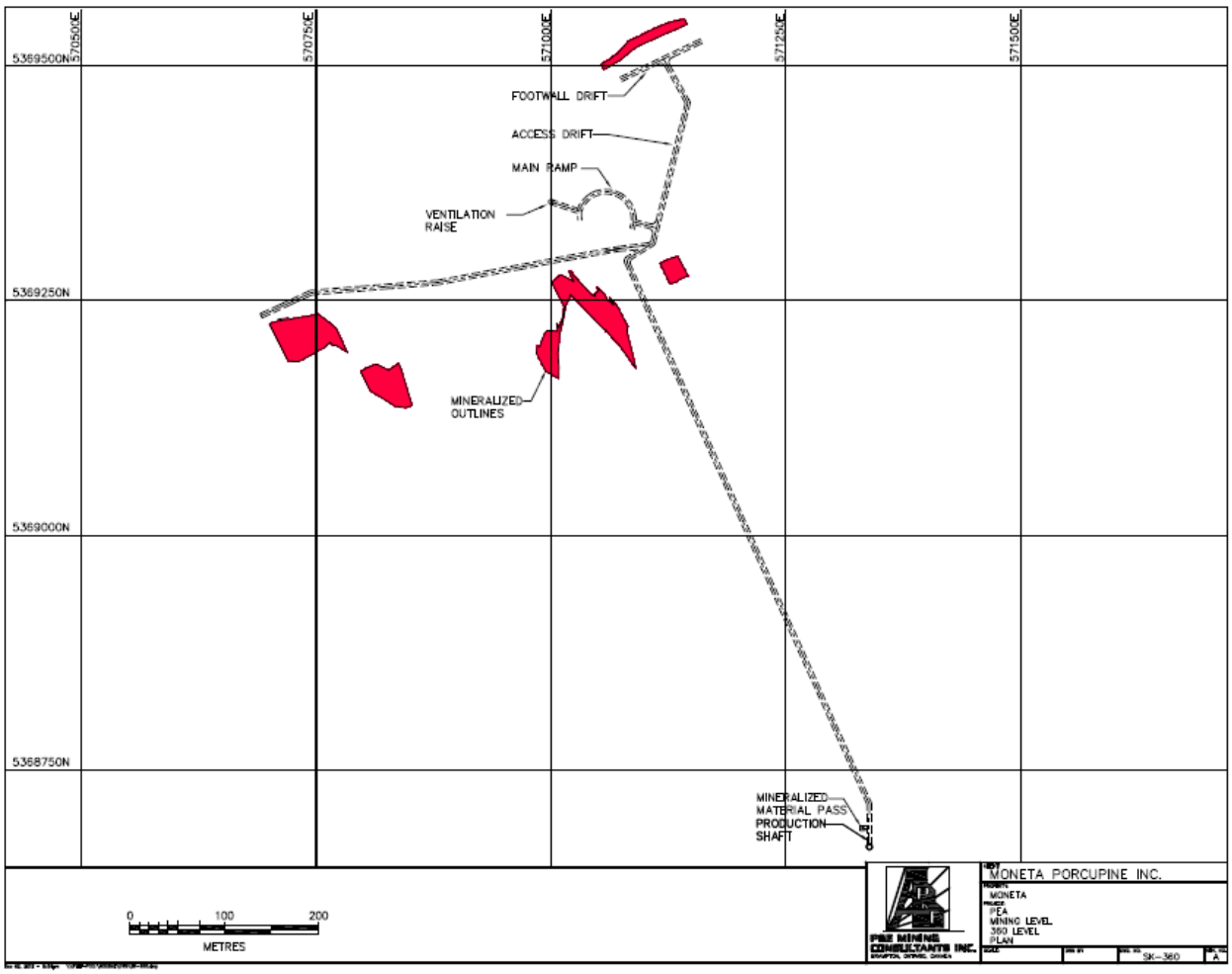


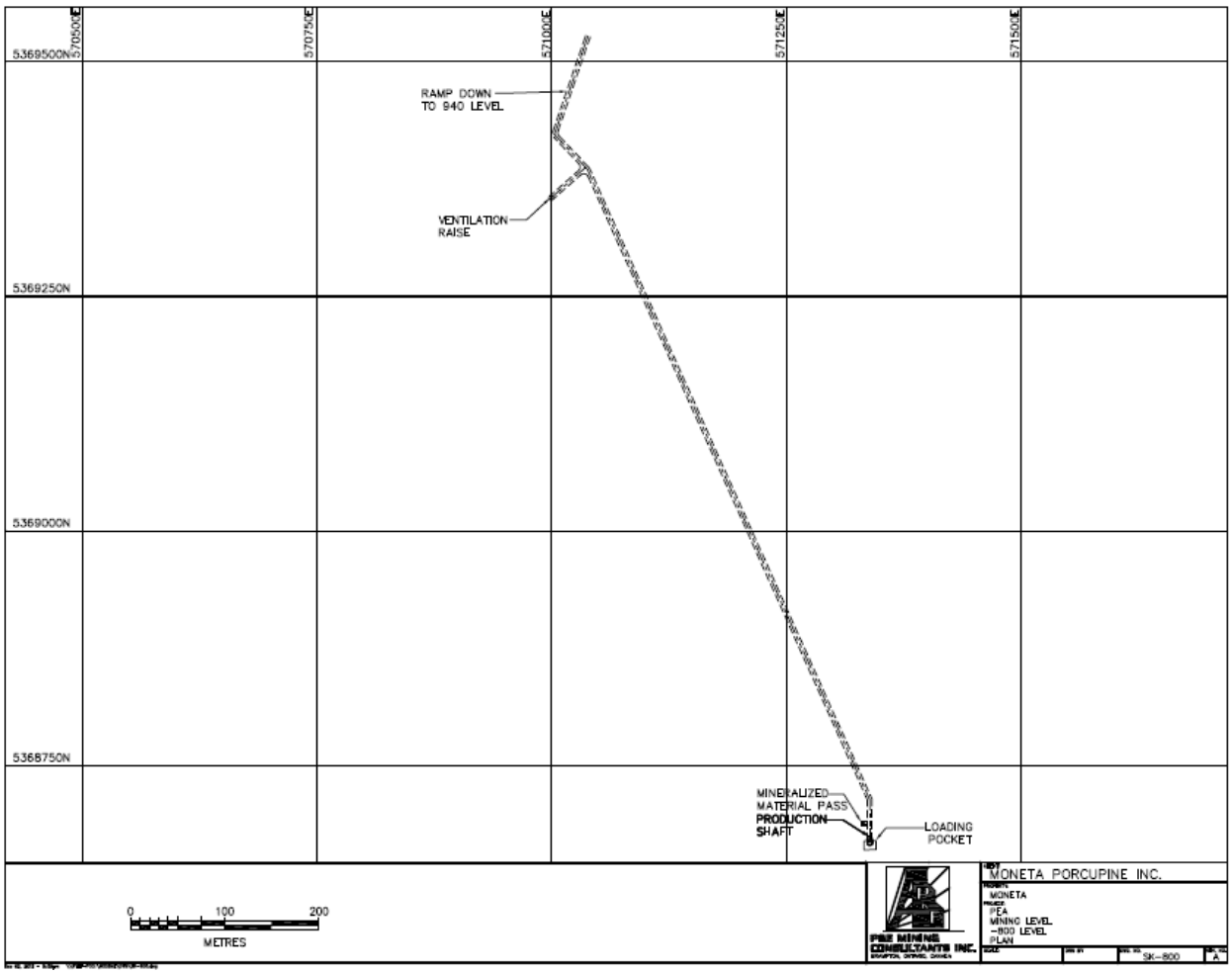
DOMAINS

55Z	SWZLEB	WJCSOLE
GAP	SWZWB	WJC-UP
SWZCB	WJC-LOW	WJN
SWZEB	WJC-MAIN	WJN-FW
SWZLCB	WJC-MID	WJSZ

APPENDIX VIII. ADDITIONAL DESIGN DRAWINGS


5705000E
5707500E
5710000E
5712500E
5715000E
5369500N
5369250N
5369000N
5368750N
MAIN RAMP DOWN
VENTILATION RAISE
ACCESS DRIFT
MAIN RAMP UP TO SURFACE PORTAL
FOOTWALL DRIFT
MINERALIZED OUTLINES
PRODUCTION SHAFT
0
100
200
METRES
P&E MINING CONSULTANTS INC.
MONETA PORCUPINE INC.
MONETA
PEA
MINING LEVEL
110 LEVEL
PLAN
SK-110
A


5369500N
5369250N
5369000N
5368750N
570500E
570750E
571000E
571250E
571500E
FOOTWALL DRIFT
ACCESS DRIFT
MAIN RAMP
VENTILATION RAISE
MINERALIZED OUTLINES
MINERALIZED MATERIAL PASS
PRODUCTION SHAFT
0
100
200
METRES
MONETA PORCUPINE INC.
MONETA
PEA
MINING LEVEL
350 LEVEL
PLAN
SK-360


5370500E
5370750E
5371000E
5371250E
5371500E
5369500N
5369250N
5369000N
5368750N
RAMP DOWN
TO 940 LEVEL
VENTILATION
RAISE
MINERALIZED
MATERIAL PASS
PRODUCTION
SHAFT
LOADING
POCKET
0
100
200
METRES
MONETA PORCUPINE INC.
MONETA
PEA
MINING LEVEL
-800 LEVEL
PLAN
SK-800