

**TECHNICAL REPORT
AND UPDATED RESOURCE ESTIMATES
ON THE
LARDER LAKE PROPERTY
LARDER LAKE, ONTARIO
Latitude 48°07'02" N, Longitude 79°39'50" W
For
BEAR LAKE GOLD LTD.**

**By
P & E Mining Consultants Inc.**

NI 43-101 & 43-101F1
TECHNICAL REPORT

Ms. Tracy Armstrong, P.Geo.
Mr. Eugene Puritch, P.Eng.
Mr. Antoine Yassa, P. Geo.

P & E Mining Consultants Inc.
Report No. 221

Effective Date: June 15, 2011
Signing Date: August 15, 2011

TABLE OF CONTENTS

1.0	SUMMARY	I
1.1	FLOW TYPE	III
1.2	CARBONATE TYPE	IV
1.3	SEDIMENTARY TYPE	IV
2.0	INTRODUCTION AND TERMS OF REFERENCE	1
2.1	TERMS OF REFERENCE	1
2.2	SOURCES OF INFORMATION	2
2.3	UNITS AND CURRENCY	2
2.4	GLOSSARY OF ABBREVIATIONS	2
3.0	RELIANCE ON OTHER EXPERTS	4
4.0	PROPERTY DESCRIPTION AND LOCATION	5
4.1	DESCRIPTION	5
4.2	LOCATION AND ACCESS	7
5.0	ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY	9
5.1	ACCESSIBILITY, CLIMATE AND PHYSIOGRAPHY	9
5.2	LOCAL RESOURCES AND INFRASTRUCTURE	9
6.0	HISTORY	10
6.1	PREVIOUS FEASIBILITY STUDIES	11
6.2	PREVIOUS METALLURGICAL TESTING	11
7.0	GEOLOGICAL SETTING AND MINERALIZATION	12
7.1	REGIONAL GEOLOGY	12
7.2	LOCAL GEOLOGY	14
7.3	MINERALIZATION	16
	7.3.1 Flow Type	16
	7.3.2 Carbonate Type	16
	7.3.3 Sedimentary Type	16
8.0	DEPOSIT TYPES	19
8.1	QUARTZ-CARBONATE VEIN GOLD	19
	8.1.1 Importance	19
	8.1.2 Size and Grade of Deposits	19
8.2	GEOLOGICAL FEATURES	20
	8.2.1 Geological Setting	20
	8.2.2 Clastic Sedimentary Terranes	20
	8.2.3 Volcano-Plutonic Terranes	20
	8.2.4 Distribution of Quartz-Carbonate Vein Districts and Deposits	22
	8.2.5 Age of Host Rocks and Mineralization	22
	8.2.6 Host Rock Associations	23
8.3	FORM AND STRUCTURE	24
	8.3.1 Veins in Faults and Shear Zones	24
	8.3.2 Veins in Extensional Fractures and Stockwork Zones	25
	8.3.3 Veins Associated with Folds	26
8.4	ORE AND GANGUE MINERALOGY	26
	8.4.1 Ore Mineralogy	26

	8.4.2	Gangue Mineralogy	27
	8.4.3	Hydrothermal Alteration	27
	8.4.4	Alteration Types.....	27
	8.4.5	Alteration Zoning Patterns.....	28
	8.4.6	Definitive Characteristics.....	29
	8.4.7	Genetic Models	29
	8.5	RELATED GOLD DEPOSIT TYPES.....	30
9.0		EXPLORATION.....	31
	9.1	HISTORICAL EXPLORATION ON THE LARDER LAKE PROPERTY	31
10.0		DRILLING.....	32
	10.1	HISTORICAL DRILLING.....	32
	10.2	DRILLING COMPLETED BY BEAR LAKE.....	32
11.0		SAMPLE PREPARATION ANALYSES AND SECURITY	34
	11.1	CHEMINIS MINE PROPERTY.....	34
	11.2	BEAR LAKE PROPERTY.....	34
12.0		DATA VERIFICATION	36
	12.1	SITE VISIT AND INDEPENDENT SAMPLING.....	36
	12.2	CHEMINIS MINE PROPERTY.....	36
		12.2.1 Quality Control on Most Recent Drilling	37
		12.2.2 P&E 2011 Validation Program for Historical Drilling	38
	12.3	BEAR LAKE DEPOSIT DATA VERIFICATION.....	39
		12.3.1 Bear Lake Deposit Quality Control Review	40
13.0		MINERAL PROCESSING AND METALLURGICAL TESTING	41
14.0		MINERAL RESOURCE ESTIMATES	42
	14.1	INTRODUCTION	42
	14.2	DATABASE	42
	14.3	DATA VERIFICATION	42
	14.4	DOMAIN INTERPRETATION	42
	14.5	ROCK CODE DETERMINATION	43
	14.6	COMPOSITES.....	43
	14.7	GRADE CAPPING.....	44
	14.8	VARIOGRAPHY	44
	14.9	BULK DENSITY.....	44
	14.10	BLOCK MODELING.....	44
	14.11	RESOURCE CLASSIFICATION	45
	14.12	RESOURCE ESTIMATE.....	45
	14.13	CONFIRMATION OF ESTIMATE.....	47
15.0		ADJACENT PROPERTIES	49
	15.1	ARMISTICE RESOURCES.....	49
	15.2	MISTANGO RIVER RESOURCES (FORMERLY GLR RESOURCES).....	50
	15.3	KIRKLAND LAKE GOLD.....	50
	15.4	YORBEAU RESOURCES	50
16.0		CONCLUSIONS AND RECOMMENDATIONS	52
	16.1	CONCLUSIONS.....	52
	16.2	RECOMMENDATIONS.....	52
17.0		REFERENCES	54

18.0	CERTIFICATES.....	57
APPENDIX I.	SURFACE & UNDERGROUND DRILL HOLE PLANS	60
APPENDIX II.	3D DOMAINS	63
APPENDIX III.	LOG NORMAL HISTOGRAMS	66
APPENDIX IV.	VARIOGRAMS.....	71
APPENDIX V.	AU BLOCK MODEL CROSS SECTIONS AND PLANS.....	73
APPENDIX VI.	CLASSIFICATION BLOCK MODEL CROSS SECTIONS AND PLANS	92

LIST OF TABLES

Table 1.1	2011 Resource Estimates	v
Table 4.1	List of Properties Comprising Larder Lake Gold Project	5
Table 6.1	Historical Work Completed on the Larder Lake Property	10
Table 10.1	Significant Drill Results from the 2008 Diamond Drill Program	32
Table 10.2	Significant Drill Results for 2009-2011 Diamond Drill Program.....	33
Table 12.1	List of Samples Chosen for Validation of Historical Drilling	38
Table 14.1	Grade Capping Values	44
Table 14.2	Au Block Model Interpolation Parameters All Domains	45
Table 14.3 2	011 Resource Estimates	46
Table 14.4 C	heminis Resource Estimate Sensitivity	47
Table 14.5	Bear Lake Resource Estimate Sensitivity	47
Table 14.6	Comparison of Weighted Average Grade of Capped Assays and Composites with Total Block Model Average Grades.....	47
Table 16.1	2011 Resource Estimates	52
Table 16.2	Recommended Budget for Larder Lake Property	53

LIST OF FIGURES

Figure 4.1	Larder Lake Gold Project Claims Location Map.....	6
Figure 4.2	Larder Lake Property	7
Figure 4.3	Detailed Location Map of Larder Lake Property.....	8
Figure 7.1	Regional Geology of Eastern Ontario	13
Figure 7.2	Detailed Property Geology of the Larder Lake Property	15
Figure 7.3	Composite Cross Section of the Cheminis Mine Area	17
Figure 7.4	Cross Section 600300E through the Bear Lake Deposit.....	18
Figure 12.1	P&E Independent Site Visit Verification Samples for Gold	37
Figure 12.2	Comparison of Historical Assays vs. Current Validation Program Assays.....	39
Figure 12.3	Bear Lake Deposit Independent Sample Results	40
Figure 15.1	Yorbeau Resources Geological Location Map for the Rouyn Property	51

1.0 SUMMARY

The following report was prepared for Bear Lake Gold Ltd. (“Bear Lake”) to support the mineral resources announced by Bear Lake on June 29, 2011 by providing a NI 43-101 compliant Technical Report and Updated Resource Estimates of the gold mineralization on the Larder Lake Property, Larder Lake area, Ontario (the “Property” or the “Project”). This report includes a previously released resource estimate for the Cheminis deposit, as well as a first resource estimate for the Bear Lake deposit, both of which are part of the Larder Lake Property package. The estimate of mineral resources contained in this report conforms to the CIM Mineral Resource and Mineral Reserve definitions (December, 2005) referred to in National Instrument (NI) 43-101, Standards of Disclosure for Mineral Projects.

Bear Lake has a 100% outright interest in both the Cheminis and Bear Lake deposits.

Mr. Antoine Yassa, P. Geo., a qualified person under the terms of NI 43-101, conducted several site visits to the Property between June 2010 to June 2011. Independent verification sampling programs were conducted in March and in June 2011 by Mr. Yassa.

The Larder Lake Property was consolidated by NFX Gold Inc., (“NFX”) on September 16, 2008, following the acquisition by NFX of all of the issued shares of Maximus Ventures Ltd., (“Maximus”). As part of the closing, NFX changed its name to Bear Lake Gold Ltd. Maximus is now a wholly-owned subsidiary of Bear Lake.

Bear Lake owns Patents, Leases and Licenses of Occupation within the McVittie/McGarry Townships area. Neither Licenses of Occupation nor Patents have expiries; they remain in good standing (provided that annual rents/taxes are paid) in perpetuity. Leases are good for 21-year renewable terms, again subject to payment of annual rents/taxes.

These contiguous land holdings cover approximately 2,168 hectares in McVittie and McGarry Townships, within the heart of the Larder Lake gold mining district, some seven km west of the formerly producing Kerr Addison gold mine, (11 million ounces of gold). The overall Larder Lake Property is typically referred to as six separate properties, namely the Barber Larder, Bear Lake, Cheminis, Cheminis North, Fernland and Swansea Properties.

The Larder Lake Property is located in northern Ontario, 35 km east of Kirkland Lake and six km west of Virginiatown. It can be accessed by Quebec Provincial Highway 117 (also the Trans-Canada Highway, “TCH”) west from Rouyn-Noranda, QC, which essentially becomes Highway 66. A direct route from North Bay, ON is north via Highway 101 to Highway 117, then west on Hwy 117 until it becomes Hwy 66.

All parts of the Larder Lake Property are accessible by truck or all-terrain vehicles on non-serviced roads and trails.

Climate is characterized by mild summers and cold winters with mean temperatures ranging from –15°C in January to +20°C in July. Mean annual precipitation ranges from 40 millimeters (“mm”) in February to 120 mm in September. The climate on the Property area is favourable for year-round exploration and mining.

The topography of the Property is essentially flat with the highest elevations between 335 and 350 m asl. Vegetation can be described as boreal, consisting mostly of black spruce, poplar and alders.

Kirkland Lake, located 35 km west is a comprehensive mining centre supplying personnel, contractors, equipment and supplies to a number of operations in the area. The TCH is located at the southern edge of the property and the Ontario Northland Transportation Commission railway is located approximately three km to the north. A power line also crosses the Property at the southern edge, parallel to the TCH.

The Larder Lake Property has been the subject of extensive past exploration work, beginning in 1937. From 1938 to 1940, Cheminis Gold Mines Ltd. sank a three-compartment shaft to a depth of 533 feet, with 4,929 feet of lateral work completed on levels 150, 275, 400 and 525 feet. In 1940 the Cheminis Mine was closed. In 1947, Amalgamated Larder Mines Ltd., the owner at that time, recommenced underground development with deepening of the shaft to 1,085 feet and development of the 1035 level. Underground drilling results were disappointing and the operation was closed without production. By 1990 Northfield had acquired a 78.5% interest in the Larder Lake Property. Northfield rehabilitated the mine, proceeded with development and began limited production, which began in November, 1991, and continued with brief periods of shutdown to allow further development, until July, 1996. Over the production period 260,000 tons were mined at a recovered grade of 0.104 oz Au/ton. Milling of the ore was done on a custom basis at the Holt-McDermott, Macassa and AJ Perron (former Kerr Addison) mills in the area.

The remainder of the work on the Larder Lake Property has been predominantly diamond drilling, with minor mapping, sampling and geophysical surveys completed as well.

The consolidated rocks in the area are of Precambrian age. They consist of tightly-folded Archean volcanic and sediment intruded by syenite and unconformably overlain by relatively flat-lying Proterozoic sediment of the Cobalt series. The economic mineral deposits are confined to the Archean rocks.

Most of the volcanic rocks are of Keewatin age. This is the oldest rock group, which consists of andesite interbedded with bands of tuff, agglomerate and rhyolite. These rocks are unconformably overlain by Temiskaming sediments and volcanics. The Temiskaming andesite which generally underlies the sediments is confined to a belt south of the Larder Lake Break.

The Temiskaming was followed by an orogenic period in which rocks were folded into tight synclines and anticlines, faulted, then intruded and altered by Algoman syenite and solutions. This orogeny caused the first movement on the Main Break. The carbonate solutions which permeated the fault zones were probably more or less contemporaneous with these intrusives. The combination of carbonatization and the release of free quartz produced brittle areas along the Main Break which fractured with a recurrence of movement along this fault. These fractures formed the passage ways for the quartz and gold solutions.

After an extended period of erosion the Cobalt sediments were deposited. The Cobalt greywacke, arkose and conglomerate are unsorted and show little disturbance.

There have been later movements both post ore and post Huronian on old faults.

The Larder Lake Break is the most important structural feature in the area. It forms part of the fault zone which extends from Kirkland Lake, Ontario to Val-d'Or, Quebec, along or adjacent to which are situated most of the gold mines in this area.

The Larder Lake Break marks the boundary between rocks of the Abitibi Geosyncline to the north and the rocks of the Temiskaming Supergroup to the south, and may be considered as a locus of major crustal adjustment during an early Precambrian period of geosynclinal collapse in the region.

In the Larder Lake district, the break area is strongly anomalous in gold content, with higher concentrations of the metal occurring in roughly tabular areas of considerable extent. To date, approximately 13 million ounces of gold have been produced from such systems in the Larder Lake district.

Across the Larder Lake Break, at least four dominantly sedimentary formations occur; these are marked by the presence of variably sheared green to gray carbonate rock, mudstone, sandstone and shale, which are often very highly auriferous. The Kerr formation, which is the most northerly and youngest of these, is also the largest, and has been the source of practically all of the gold production from the area. In the Kerr formation, the bulk of production was from heavily-veined green carbonate rock ("carbonate ore") and cherty pyritic mudstone ("flow ore"), which occur repetitively within it. Other less important ore types known from the Kerr Addison Mine include auriferous chert, veined pyrite rock and veined syenite.

The Kerr Addison Mine, and the Omega and Cheminis Mines, lie within the same geological formations and share common characteristics. The development of this highly productive formation is intermittent along the Larder Lake Break, and it should be kept in mind that the frequency, extent and tenor of gold zones within it may be expected to vary in different locations.

The Larder Lake Property mineralization fits broadly into the category of quartz-carbonate vein gold. This subtype of gold deposits consists of simple to complex quartz-carbonate vein systems associated with brittle ductile shear zones and folds in deformed and metamorphosed volcanic, sedimentary, and granitoid rocks. In these deposits gold occurs in veins or as disseminations in immediately adjacent altered wall rocks, and is generally the only or the most significant economic commodity. The veins occur in structural environments characterized by low- to medium-grade metamorphic rocks and brittle-ductile rock behavior, corresponding to intermediate depths within the crust, and by compressive tectonic settings. Deposits of this type have commonly been referred to as mesothermal gold quartz vein deposits, but they in fact encompass both mesothermal and hypothermal classes as initially defined by Lindgren (1933).

Quartz-carbonate vein deposits account for approximately 80% of the production from lode gold deposits in Canada. The Canadian Shield, and the Superior Province in particular, contains the most significant deposits and accounts for more than 85% of the gold production from quartz-carbonate veins in Canada.

The Larder Lake Property gold bearing zones may be grouped into three main types: flow, carbonate and sedimentary.

1.1 FLOW TYPE

Gold occurs with pyrite grains disseminated throughout volcano-sedimentary rocks having chemical composition of Fe-tholeiitic basalt. The host rocks generally consist of mixtures of detrital mud, fine to coarse mafic pyroclastic and basaltic flow-top material. Finely disseminated carbon and/or graphitic slips are usually present. Gold is quite homogeneously distributed. Visible gold is very rare. Usually gold concentration correlates positively with the degree of silicification, fineness of pyrite and concentration of pyrite. The term “flow ore” is a historical reference for this style of mineralization and has been retained for this report but placed in quotation marks to clarify that it is not necessarily ore in the reserve/economic sense. Examples at the Cheminis Mine are the “A”, “B”, “C” and “D” Zones.

1.2 CARBONATE TYPE

Gold occurs as erratically distributed native gold in quartz veinlets, usually part of quartz-carbonate stockwork in fuchsitic to chloritic altered ultramafic volcanic rocks. An example of this on the Bear Lake Property is the NCGZ. The term “carbonate ore” is a historical reference for this style of mineralization and has been retained for this report but placed in quotation marks to clarify that it is not necessarily ore in the reserve/economic sense.

1.3 SEDIMENTARY TYPE

Gold is found with fine-grained arsenopyrite and certain extremely fine-grained wispy masses of pyrite. Generally coarse pyrite is barren of gold. Gold is more erratically distributed in “flow ore”, but much less so than in “carbonate-ore”. Visible gold is rare. The host rock is intensely sericitized and silicified greywacke, or argillaceous siltstone. Examples on Bear Lake are the North Sediment Gold Zone and the South Sediment Gold Zone. The term “sedimentary-ore” is a historical reference for this style of mineralization and has been retained for this report but placed in quotation marks to clarify that it is not necessarily ore in the reserve/economic sense.

Fifteen samples were collected from the Cheminis deposit and 15 samples collected from the Bear Lake deposit, by Antoine Yassa, the independent QP during March 2011 and June 2011 site visits. All samples were sent to AGAT Labs in Mississauga, ON. Resampling results were consistent with original results.

The Cheminis deposit domain boundaries were determined from lithology, structure and grade boundary interpretation from visual inspection of drill hole sections. Five domains were created named NCB, SS, D, S-HW and DS. These domains were created with computer screen digitizing on drill hole sections in Gemcom by the authors of this report. The domain outlines were influenced by the selection of mineralized material above 2.5 g/t Au that demonstrated a lithological and structural zonal continuity along strike and down dip.

At the Bear Lake deposit, three domains were created named CARB, FLOW and UMA. These domains were created with computer screen digitizing on drill hole sections in Gemcom by the authors of this report. The domain outlines were influenced by the selection of mineralized material above 2.5 g/t Au that demonstrated a lithological and structural zonal continuity along strike and down dip.

The bulk density used for the creation of the density block models was derived from site visit samples taken by Antoine Yassa, P.Geo. and analysed at Agat Laboratories in Mississauga, Ontario. The average bulk density for the Cheminis resource was derived from 15 samples and

determined to be 2.68 tonnes per cubic metre. The average bulk density for the Bear Lake resource was derived from 17 samples and determined to be 2.79 tonnes per cubic metre.

The Cheminis and Bear Lake resource estimates were derived from applying an Au cut-off grade to the block models and reporting the resulting tonnes and grade for potentially mineable areas. The volumes of the existing underground workings were removed from the resource estimates.

TABLE 1.1			
2011 LARDER LAKE RESOURCE ESTIMATES			
April 2011 Cheminis Resource Estimate @ 2.5 g/t Au Cut-Off Grade⁽¹⁾⁽²⁾⁽³⁾			
Classification	Tonnes	Au g/t	Au oz.
Indicated	335,000	4.07	43,800
Inferred	1,391,000	5.22	233,400
June 2011 Bear Lake Resource Estimate @ 2.5 g/t Au Cut-Off Grade⁽¹⁾⁽²⁾⁽³⁾			
Classification	Tonnes	Au g/t	Au oz.
Inferred	3,750,000	5.69	683,600
2011 Total Resource Estimate @ 2.5 g/t Au Cut-Off Grade⁽¹⁾⁽²⁾⁽³⁾			
Classification	Tonnes	Au g/t	Au oz.
Indicated	335,000	4.07	43,800
Inferred	5,141,000	5.55	917,000

(1) 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 these inferred resources 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 mineral resources in this technical 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.

It is recommended that Bear Lake undertakes an approximate 20,000 metre diamond drill program with the objectives of expanding the resources on strike and at depth, and to fill in gaps in the block model with the possibility of upgrading the resource categories, as more particularly described in section 16.2. The approximate cost of the diamond drill program is \$CDN 2.5 million.

2.0 INTRODUCTION AND TERMS OF REFERENCE

2.1 TERMS OF REFERENCE

The following report was prepared to provide a NI 43-101 compliant Technical Report and Updated Resource Estimates of the gold mineralization on the Larder Lake Property, Larder Lake Area, Ontario (the “Property” or the “Project”). This report includes a previously released resource estimate for the Cheminis deposit, as well as a first resource estimate for the Bear Lake deposit, both of which are part of the Larder Lake Property package. The estimate of mineral resources contained in this report conforms to the CIM Mineral Resource and Mineral Reserve definitions (December, 2005) referred to in National Instrument (NI) 43-101, Standards of Disclosure for Mineral Projects.

Bear Lake Gold Ltd. (“Bear Lake”) has a 100% outright interest in both the deposits.

This report was prepared by P & E Mining Consultants Inc., (“P & E”) at the request of Mr. Francois Viens, President, Bear Lake to support the mineral resources announced by Bear Lake on June 29, 2011. Bear Lake is publicly listed company trading on the TSX Venture Exchange (TSX-V) under the symbol of “BLG”, with its corporate office at:

1111 St-Charles West
West Tower, Suite 411
Longueuil, QC J4K 5G4

Tel: 450-677-1009
Fax: 450-677-2601

The effective date of this report is June 15, 2011.

Mr. Antoine Yassa, P. Geo., a qualified person under the terms of NI 43-101, conducted several site visits to the Property from June 2010 to June 2011. An independent verification sampling program was conducted for the Cheminis deposit in March by Mr. Yassa, with the collection of 15 samples. An independent verification sampling program was conducted for the Bear Lake deposit in June by Mr. Yassa, with the collection of 15 samples.

In addition to the site visit, P & E carried out a study of all relevant parts of the available literature and documented results concerning the project and held discussions with technical personnel from the company regarding all pertinent aspects of the project. The reader is referred to these data sources, which are outlined in the “Sources of Information” section of this report, for further detail on the project.

The purpose of the current report is to provide an independent Technical Report and Updated Resource Estimates of the gold mineralization present on the Larder Lake Property, in conformance with the standards required by NI 43-101 and Form 43-101F. The estimate of mineral resources contained in this report conforms to the CIM Mineral Resource and Mineral Reserve definitions (December, 2005) referred to in National Instrument (NI) 43-101, Standards of Disclosure for Mineral Projects.

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 16.0 at the conclusion of this report. Several sections from reports authored by other consultants have been directly quoted in this report, and are so indicated in the appropriate sections. P&E has not conducted detailed land status evaluations, and has relied upon previous qualified reports, public documents and statements by Bear Lake regarding property status and legal title to the project.

2.3 UNITS AND CURRENCY

Unless otherwise stated all units used in this report are metric. Gold assay values are reported in g/t Au unless some other unit is specifically stated. The CDN\$ is used throughout this report.

2.4 GLOSSARY OF ABBREVIATIONS

In this document, in addition to the definitions contained heretofore and hereinafter, unless the context otherwise requires, the following terms have the meanings set forth below.

“\$” and “C\$”	means the currency of Canada.
“AA”	is an acronym for Atomic Absorption, a technique used to measure metal content subsequent to fire assay.
“asl”	means above sea level.
“Au”	means gold.
“Azi”	means azimuth.
“CIM”	means the “Canadian Institute of Mining, Metallurgy and Petroleum.”
“CSA”	means the Canadian Securities Administrators.
“DDH”	means diamond drillhole.
“E”	means east.
“el”	means elevation level.
“g/t”	means grams per tonne.
“g/t Au”	means grams of gold per tonne of rock
“ha”	means Hectare.
“IP”	means Induced Polarization.
“kg”	means kilogram.
“km”	means kilometre equal to 1,000 metres or approx. 0.62 statute miles.
“Larder Lake Gold Project”	means the Larder Lake Property, which is comprised of six separate properties.
“m”	means metric distance measurement equivalent to approximately 3.27 feet
“M”	means million.
“Ma”	means millions of years.
“mm/an”	means millimetres per annum.
“Mt”	means millions of tonnes.
“N”	means north.
“NE”	means northeast.
“NI 43-101”	means Canadian Securities Administrators National Instrument 43-101.
“NN”	means Nearest Neighbour.
“NTS”	means National Topographic System.

“NW”	means northwest.
“NSR”	is an acronym for “Net Smelter Return”, which means the amount actually paid to the mine or mill owner from the sale of ore, minerals and other materials or concentrates mined and removed from mineral properties, after deducting certain expenditures as defined in the underlying smelting.
“oz/T”	means ounces per ton.
“P&E	means P&E Mining Consultants Inc.
“ppm”	means parts per million.
“Project”	means Larder Lake Property or Project.
“Property”	means Larder Lake Property or Project.
“S”	means south.
“SE”	means southeast.
“SEDAR”	means the System for Electronic Document Analysis and Retrieval.
“SW	means southwest.
“t”	means metric tonne equivalent to 1,000 kilograms or approximately 2,204.62 pounds.
“T”	means Short Ton (standard measurement), equivalent to 2,000 pounds.
“US\$”	means the currency of the United States.
“UTM”	means Universal Transverse Mercator.

3.0 RELIANCE ON OTHER EXPERTS

The authors wish to make clear that they are qualified persons only in respect of the areas in this report identified in their “Certificates of Qualified Persons” submitted with this report to the Canadian Securities Administrators. The authors have relied, and believe that they have a reasonable basis to rely upon Mr. Francois Viens who has contributed the legal and environmental information stated in this report.

Although copies of the licenses, permits and work contracts were reviewed, an independent verification of land title and tenure was not performed. 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.

A draft copy of the report has been reviewed for factual errors by Bear Lake. 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 neither false nor misleading at the date of this report.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1 DESCRIPTION

The 100% ownership of the Larder Lake Gold Project, (apart from Swansea, which is 75% owned by Bear Lake and 25% owned by Newstrike Resources Inc.), was consolidated as a result of the completion of a business combination between NFX Gold Inc., (“NFX”) and Maximus Ventures Ltd. (“Maximus”) on September 16, 2008, by way of acquisition of all of the issued shares of Maximus by NFX. As part of the transaction, NFX changed its name to Bear Lake Gold Ltd. Maximus became a wholly-owned subsidiary of Bear Lake.

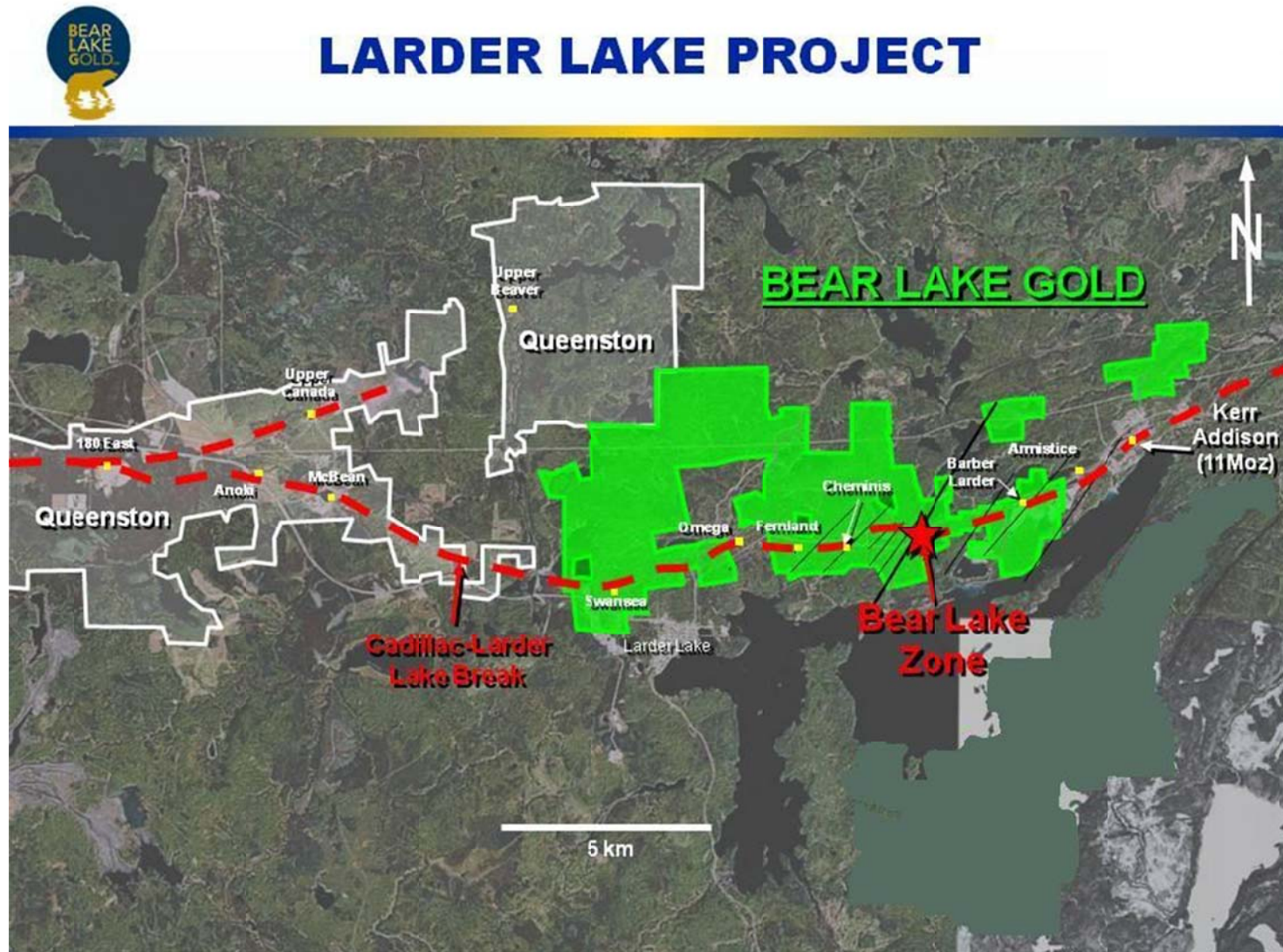
Bear Lake owns Patents, Leases and Licenses of Occupation within the McVittie/McGarry Townships area, (see Table 4.1). Neither Licenses of Occupation nor Patents have expiries; they remain in good standing (provided that annual rents/taxes are paid) in perpetuity. Leases are good for 21-year renewable terms, again subject to payment of annual rents/taxes.

TABLE 4.1	
LIST OF PROPERTIES COMPRISING LARDER LAKE GOLD PROJECT	
Property	Claims
Cheminis Property	8 patented
Cheminis North	10 patented
Bear Lake	26 patented
	2 Licences of Occupation
	1 claim surface rights only
Barber Larder	7 patented
	2 Licences of Occupation
Fernland	11 patented
Swansea	28 leased
Total	62 Patented claims with surface and mineral rights 1 patented claim with surface rights only 4 licences of occupation (underlain by water) 28 leased claims

These contiguous land holdings cover approximately 2,168 hectares in McVittie and McGarry Townships (Figure 4.1), within the heart of the Larder Lake gold mining district, some seven km west of the formerly producing Kerr Addison gold mine, (11 million ounces of gold). The overall Larder Lake Gold Project is typically referred to as six separate properties, namely the Barber Larder, Bear Lake, Cheminis, Cheminis North, Fernland and Swansea Properties. Five of the properties are owned 100% by Bear Lake Gold. The Swansea property is owned 75% by Bear Lake and 25% by Newstrike Resources Inc.

The Mining Lands Section of MNDMF confirmed that all of Bear Lake’s Rent/Tax accounts (T0005, LT0382 and LO0007) are in good standing as at the date of this report.

Figure 4.1 Larder Lake Gold Project Claims Location Map



4.2 LOCATION AND ACCESS

The Larder Lake Gold Project is located in northern Ontario, 35 km east of Kirkland Lake and six km west of Virginiatown (Figure 4.2 and Figure 4.3). It can be accessed by QC Provincial Highway 117 (also the Trans-Canada Highway, “TCH”) west from Rouyn-Noranda, QC, which essentially becomes Highway 66. A direct route from North Bay, ON is north via Highway 101 to Highway 117, then west on Hwy 117 until it becomes Hwy 66.

All parts of the Larder Lake Property are accessible by truck or all-terrain vehicles on non-serviced roads and trails.

The UTM NAD 83, Zone 17 coordinates for the Larder Lake Property are 601,000 East, 5,330,500 North.

Figure 4.2 Larder Lake Property



Figure 4.3 Detailed Location Map of Larder Lake Property



All permits necessary for diamond drilling were acquired prior to the commencement of work. Surface rights would have to be obtained prior to any mining.

To P&E's knowledge there are no known factors or risks that would affect access, title, or the right or ability to perform work on the property.

5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 ACCESSIBILITY, CLIMATE AND PHYSIOGRAPHY

The Larder Lake Property is accessible year-round via Québec Provincial Highway 117 (also the Trans-Canada Highway, “TCH”) west from Rouyn-Noranda, QC, which essentially becomes Highway 66. A direct route from North Bay, ON is north via Highway 101 to Highway 117, then west on Hwy 117 until it becomes Hwy 66.

Air Canada has daily flights from Montréal to Rouyn-Noranda, QC, and from there the Property is approximately 50 km to the west.

Climate is characterized by mild summers and cold winters with mean temperatures ranging from -15°C in January to $+20^{\circ}\text{C}$ in July. Mean annual precipitation ranges from 40 millimeters (“mm”) in February to 120 mm in September. The climate on the Property area is favourable for year-round exploration and mining.

The topography of the Property is essentially flat with the highest elevations between 335 and 350 m asl. Vegetation can be described as boreal, consisting mostly of black spruce, poplar and alders.

5.2 LOCAL RESOURCES AND INFRASTRUCTURE

Kirkland Lake, located 35 km west of the Property is a comprehensive mining centre supplying personnel, contractors, equipment and supplies to a number of operations in the area. The TCH is located at the southern edge of the property and the Ontario Northland Transportation Commission railway is located approximately three km to the north. A power line also crosses the Property at the southern edge, parallel to the TCH.

The Property itself covers over 2,100 hectares, providing ample space for potential tailings storage areas, potential waste disposal areas and potential processing plant sites.

6.0 HISTORY

The Larder Lake Property has been the subject of extensive past exploration work. The following Table 6.1 provides a brief exploration and ownership history up to and including Bear Lake's involvement.

TABLE 6.1
HISTORICAL WORK COMPLETED ON THE LARDER LAKE PROPERTY

Company	Year	Work Completed
Cheminis Gold Mines Ltd.	1937	Diamond drilling, sinking of 3 compartment shaft from 1939-40 to a depth of 533 ft. 4,929 feet of lateral development on levels 150, 275, 400 and 525 ft.
Amalgamated Larder Mines Ltd.	1940	Purchased property. In 1941 diamond drilling resumed. 1947 underground development recommenced. Shaft deepened to 1,085 ft and development of 1,035 level. Underground drilling turned up poor results for current Au price. Mine closed with no production.
CEMP Investments Ltd.	1970	Acquired property.
Patrick Harrison	1971	Rights transferred from CEMP.
Hanna Mining Company	1975	Optioned property from Patrick Harrison. Widely spaced diamond drilling completed and option dropped.
Kerr Addison Mines/Eldor Resources Ltd./Northfield Minerals Inc.	1978	Optioned property from Patrick Harrison. Northfield carried out widely spaced diamond drilling until 1987. Drilling led to discovery of "D" Zone, a "flow-ore" style mineralized zone in FW of known mineralization.
Golden Shield Resources Ltd.	1987	Assets of Kerr Addison, including Cheminis Mine were purchased. Diamond drilling was continued by Golden Shield.
Northfield Minerals Inc.	1990	acquired 78.5% of Larder Lake Property. Cheminis Mine rehabilitated, development recommenced. Limited production began in November 1991 to July 1996. 260,000 tonnes mined at 0.104 opt Au.
NFX Gold Inc.	1996	Assumed ownership of Northfield interest. Mine rehabilitation and 865 and 1,035 levels were extended. Underground drilling (10,878 ft) from 865 and 1,035 ft levels in 1997-98. Goal was to increase resources in the D Zone below 1,035 level. Drilling cross cuts were also excavated from the 1,035 level to drill upper portions of the D Zone. Best hole, 97-8 returned 5.5 g/t Au/8.1 m from S. Sediment Zone. Two deep holes drilled to test below and east of D Zone.
FNX Mining Company Inc.	1998	Joint ventured Property with NFX. Fence of holes drilled to complete a cross section of the Larder Lake Break at 200 m intervals. 12,596 m drilled.
	1999	Surface stripping and channel sampling completed on the North Carbonate Gold Zone, "NCGZ" on Bear Lake Property. Confirmed presence of mineralized zone along a strike length of 200 m. VG observed.
	2002	Lumber clearing on Cheminis Property exposed qtz-stockwork mineralization. Zone named Bear Lake West.
NFX	2003	Surface drilling to test NCGZ on Bear Lake Property. 1,491 m drilled.
	2003	NFX reacquired 25% joint venture interest in Larder Lake Property from FNX.
	2004	Data compilation, ground mag, 2,541 m drilling in 35 holes testing for near-surface shallow mineralization. Best result was NFX-08-04 returning 9.5 g/t Au/4 m.
Maximus Ventures Ltd.	2005	Maximus optioned Property with a right to acquire from NFX a 60% interest in the Larder Lake Property. Drilling of 3,047 m on Barber Larder.
	2006	13,878 m of diamond drilling in Cheminis Mine and Fernland shaft areas.
	2007-08	Diamond drilling on Bear Lake and Fernland Properties. No drilling on the Cheminis Property.
Bear Lake Gold/Maximus/NFX	2008	In June 2008, Maximus acquired a 60% interest in the Larder Lake Property and in September 2008, NFX acquired all shares of Maximus. NFX changed name to Bear Lake Gold Ltd.
	2008-2011	Drilling continues on Bear Lake Property. No drilling since 2006 on Cheminis.

From 1938 to 1940, Cheminis Gold Mines Ltd. sank a three-compartment shaft to a depth of 533 feet, with 4,929 feet of lateral work completed on levels 150, 275, 400 and 525 feet. In

1940 the Cheminis Mine was closed. In 1947, Amalgamated Larder Mines Ltd., the owner at that time, recommenced underground development with deepening of the shaft to 1,085 feet and development of the 1035 level. Underground drilling results were disappointing and the operation was closed without production. By 1990 Northfield had acquired a 78.5% interest in the Larder Lake Property. Northfield rehabilitated the mine, proceeded with development and began limited production, which began in November, 1991, and continued with brief periods of shutdown to allow further development, until July, 1996. Over the production period 260,000 tons were mined at a recovered grade of 0.104 oz Au/ton. Milling of the ore was done on a custom basis at the Holt-McDermott, Macassa and AJ Perron (former Kerr Addison) mills in the area.

The Fernland shaft is located approximately one mile to the west of the Cheminis Mine. This shaft was sunk in 1938 to a depth of 547 feet with 3 levels installed, and two small mineralized zones were outlined at the time containing reported values ranging from 0.10 to 0.30 oz. Au/ton. There was no production from this site.

In 1997 Armistice Resources Ltd., whose property adjoins the Bear Lake property to the west, initiated an underground exploration drift on the 2,250 foot (685 meter) level which included a short portion of the drift on the Bear Lake property.

6.1 PREVIOUS FEASIBILITY STUDIES

There have been no feasibility studies completed on the Larder Lake Property.

6.2 PREVIOUS METALLURGICAL TESTING

There has been no metallurgical testing completed on the Larder Lake Property.

7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 REGIONAL GEOLOGY

The consolidated rocks in the area are of Precambrian age. They consist of tightly-folded Archean volcanics and sediments intruded by syenite and unconformably overlain by relatively flat-lying Proterozoic sediments of the Cobalt series (Figure 7.1). The economic mineral deposits are confined to the Archean rocks.

Most of the volcanics are of Keewatin age. This is the oldest rock group, which consists of andesite interbedded with bands of tuff, agglomerate and rhyolite. These rocks are unconformably overlain by the Temiskaming sediments and volcanics. The Temiskaming andesite which generally underlies the sediments is confined to a belt south of the Larder Lake Break.

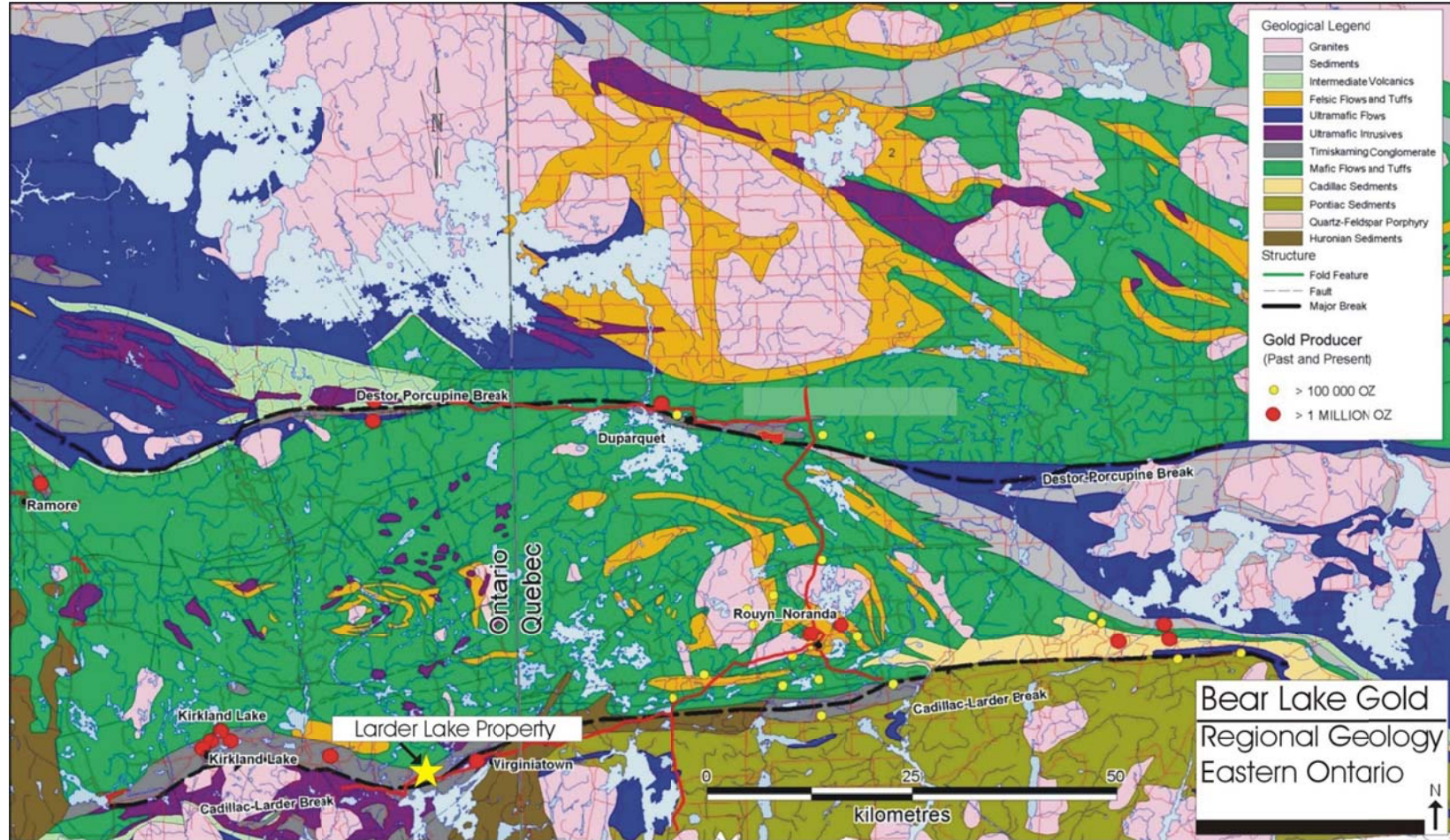
The Temiskaming was followed by an orogenic period in which rocks were folded into tight synclines and anticlines, faulted, then intruded and altered by Algonian syenite and solutions. This orogeny caused the first movement on the Main Break. The carbonate solutions which permeated the fault zones were probably more or less contemporaneous with these intrusives. The combination of carbonatization and the release of free quartz produced brittle areas along the Main Break which fractured with a recurrence of movement along this fault. These fractures formed the passage ways for the quartz and gold solutions.

After an extended period of erosion the Cobalt sediments were deposited. These Cobalt greywacke, arkose and conglomerate are unsorted and show little disturbance.

There have been later movements both post ore and post Huronian on old faults.

The Larder Lake Break is the most important structural feature in the area. It forms part of the fault zone which extends from Kirkland Lake, Ontario to Val-d'Or, Quebec, along or adjacent to which are situated most of the gold mines in this area.

Figure 7.1 Regional Geology of Eastern Ontario



7.2 LOCAL GEOLOGY

The most prominent geological feature of the Larder Lake district is the persistent lithostructural belt known as the Larder Lake Break which strikes across the area in a N70°E direction (Figure 7.2). This belt is highly disturbed, steeply-dipping, and is composed mainly of intercalated metasediment and mafic to ultramafic volcanics.

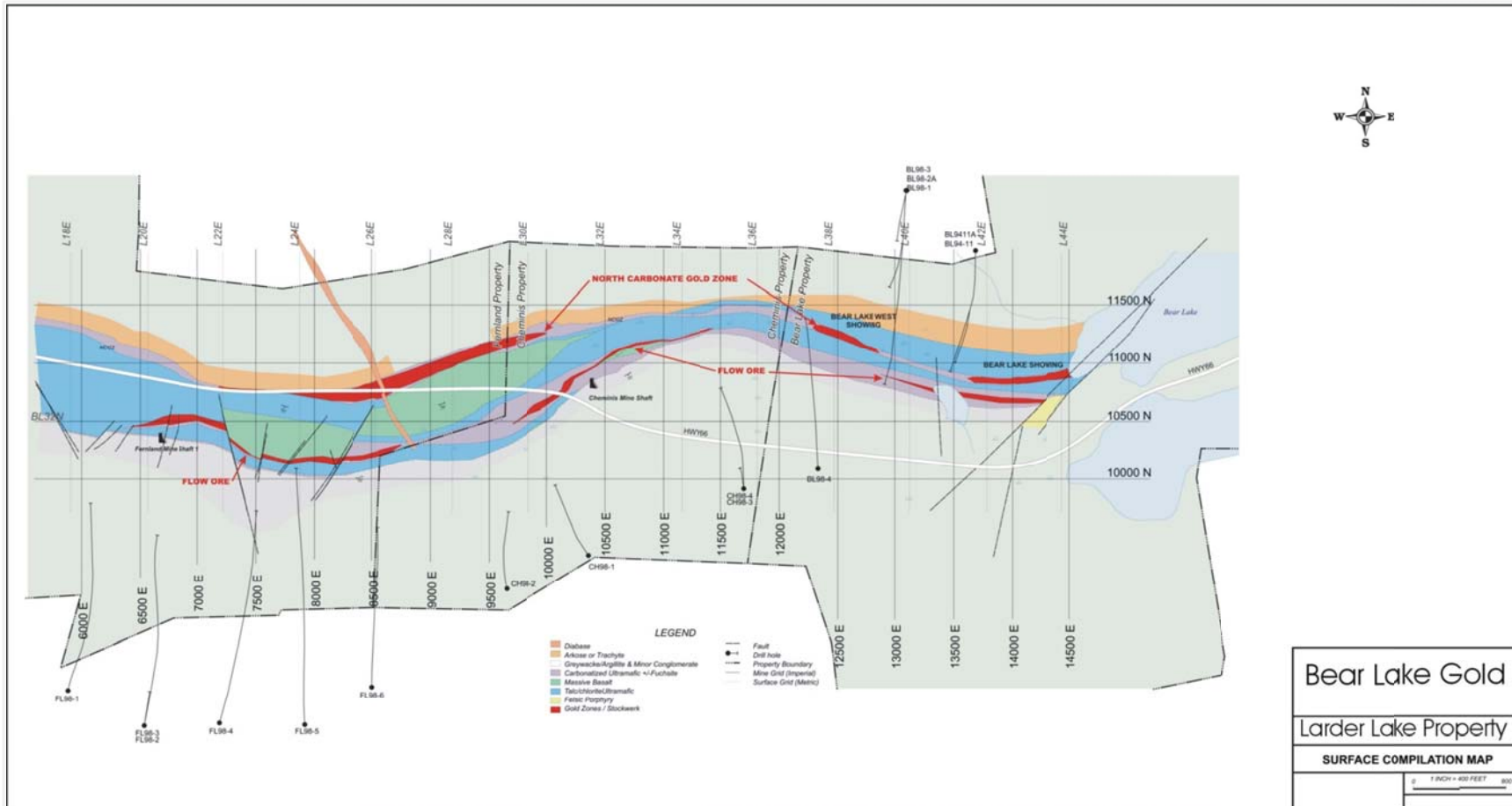
The Larder Lake Break marks the boundary between rocks of the Abitibi Geosyncline to the north and the rocks of the Temiskaming Supergroup to the south, and may be considered as a locus of major crustal adjustment during an early Precambrian period of geosynclinal collapse in the region.

In the Larder Lake district, the break area is strongly anomalous in gold content, with higher concentrations of the metal occurring in roughly tabular areas of considerable extent. To date, approximately 13 million ounces of gold have been produced from such systems in the Larder Lake district.

Across the Larder Lake Break, at least four dominantly sedimentary formations occur; these are marked by the presence of variably sheared green to gray carbonate rock, mudstone, sandstone and shale, which are often very highly auriferous. The Kerr formation, which is the most northerly and youngest of these, is also the largest, and has been the source of practically all of the gold production from the area. In the Kerr formation, the bulk of production was from heavily-veined green carbonate rock ("carbonate ore") and cherty pyritic mudstone ("flow ore"), which occur repetitively within it. Other less important ore types known from the Kerr Addison Mine include auriferous chert, veined pyrite rock and veined syenite.

The Kerr Addison Mine, and the Omega and Cheminis Mines, lie within the same geological formations and share common characteristics. The development of this highly productive formation is intermittent along the Larder Lake Break, and it should be kept in mind that the frequency, extent and tenor of gold zones within it may be expected to vary in different locations.

Figure 7.2 Detailed Property Geology of the Larder Lake Property



7.3 MINERALIZATION

The Larder Lake Property gold bearing zones may be grouped into three main types: flow, carbonate and sedimentary. Typical deposit cross sections for the Cheminis and Bear Lake deposits are presented in Figure 7.3 and Figure 7.4.

7.3.1 Flow Type

Gold occurs with pyrite grains disseminated throughout volcano-sedimentary rocks having chemical composition of Fe-tholeiitic basalt. The host rocks generally consist of mixtures of detrital mud, fine to coarse mafic pyroclastic and basaltic flow-top material. Finely disseminated carbon and/or graphitic slips are usually present. Gold is quite homogeneously distributed. Visible gold is very rare. Usually gold concentration correlates positively with the degree of silicification, fineness of pyrite and concentration of pyrite. The term “flow ore” is a historical reference for this style of mineralization and has been retained for this report but placed in quotation marks to clarify that it is not necessarily ore in the reserve/economic sense. Examples on the Bear Lake Property are the “A”, “B”, “C” and “D” Zones.

7.3.2 Carbonate Type

Gold occurs as erratically distributed native gold in quartz veinlets, usually part of quartz-carbonate stockwork in fuchsitic to chloritic altered ultramafic volcanic rocks. An example of this at the Cheminis mine is the NCGZ, as outlined on Figure 7.3. The term “carbonate ore” is a historical reference for this style of mineralization and has been retained for this report but placed in quotation marks to clarify that it is not necessarily ore in the reserve/economic sense.

7.3.3 Sedimentary Type

Gold is found with fine-grained arsenopyrite and certain extremely fine-grained wispy masses of pyrite. Generally coarse pyrite is barren of gold. Gold is more erratically distributed in “flow ore”, but much less so than in “carbonate-ore”. Visible gold is rare. The host rock is intensely sericitized and silicified greywacke, or argillaceous siltstone. Examples at Cheminis mine are the North Sediment Gold Zone and the South Sediment Gold Zone. The term “sedimentary-ore” is a historical reference for this style of mineralization and has been retained for this report but placed in quotation marks to clarify that it is not necessarily ore in the reserve/economic sense.

Figure 7.3 Composite Cross Section of the Cheminis Mine Area

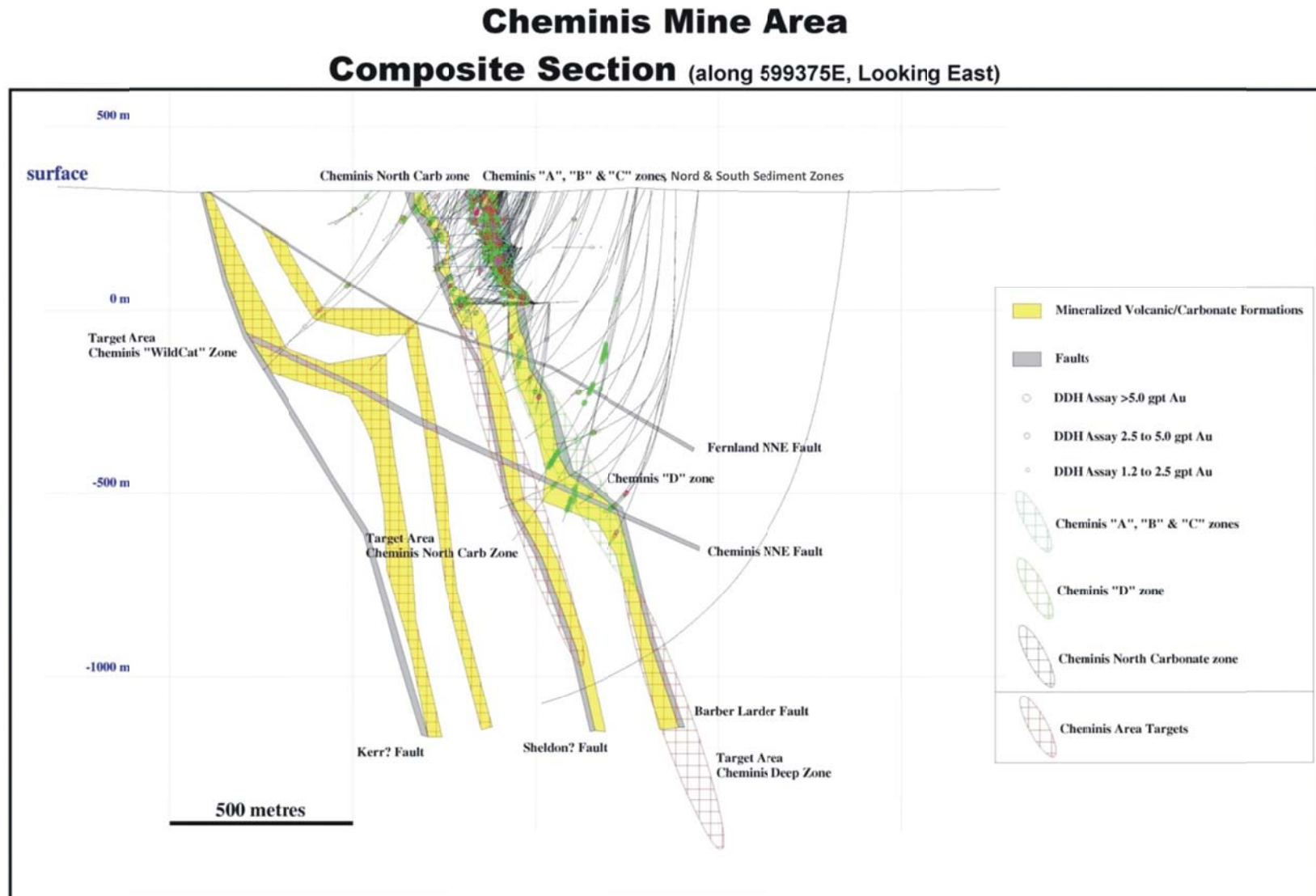
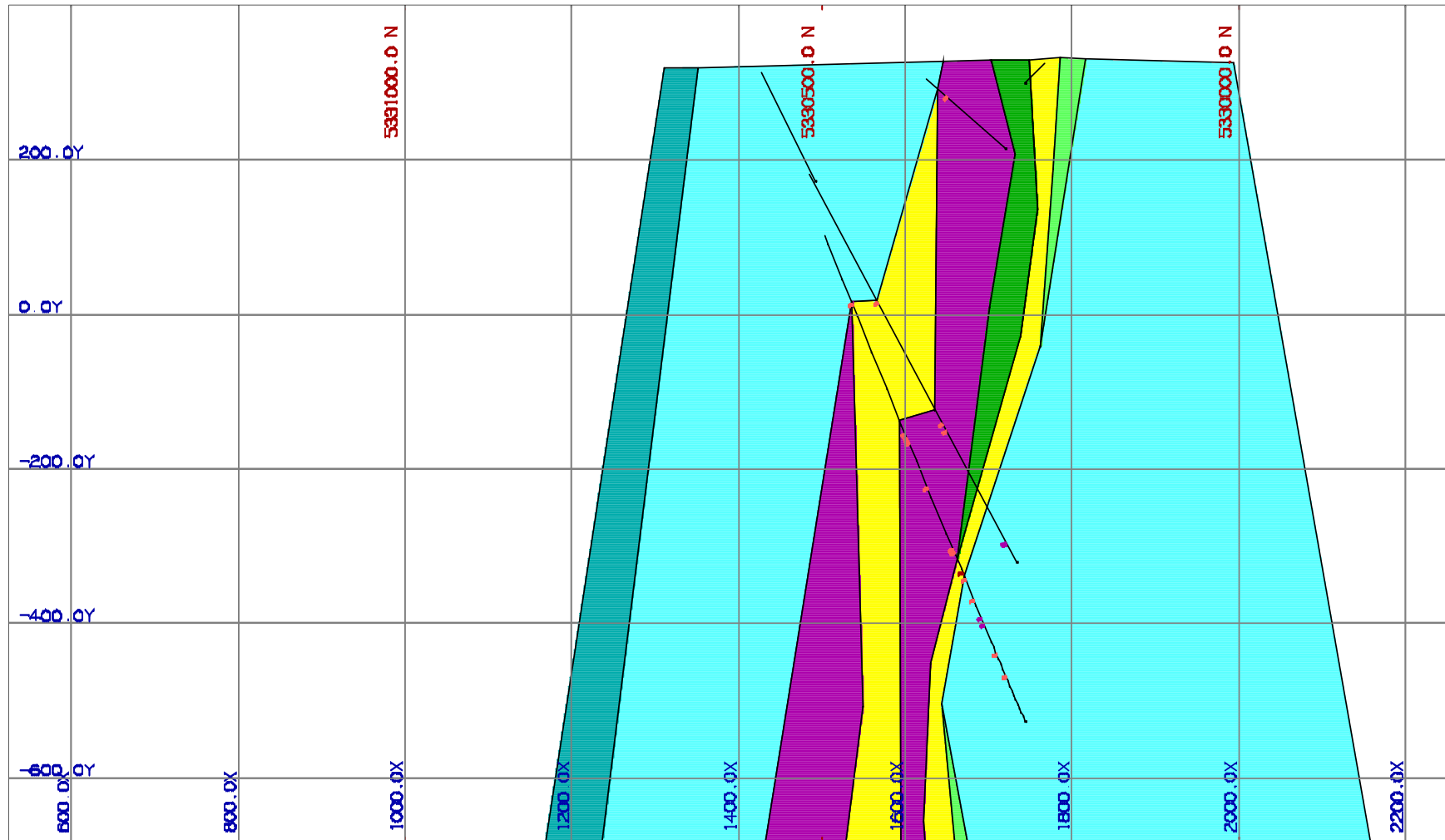


Figure 7.4 Cross Section 600300E through the Bear Lake Deposit



8.0 DEPOSIT TYPES

8.1 QUARTZ-CARBONATE VEIN GOLD

This section is derived from the “Geology of Canadian Mineral Deposit Types”, edited by O.R. Eckstrand, W.D. Sinclair, and R.I. Thorpe, 1995. This particular section on quartz-carbonate vein gold, which is a sub-type of lode gold deposits, was written by Francois Robert.

This subtype of gold deposits consists of simple to complex quartz-carbonate vein systems associated with brittle ductile shear zones and folds in deformed and metamorphosed volcanic, sedimentary, and granitoid rocks. In these deposits gold occurs in veins or as disseminations in immediately adjacent altered wall rocks, and is generally the only or the most significant economic commodity. The veins occur in structural environments characterized by low- to medium-grade metamorphic rocks and brittle-ductile rock behavior, corresponding to intermediate depths within the crust, and by compressive tectonic settings. Deposits of this type have commonly been referred to as mesothermal gold quartz vein deposits, but they in fact encompass both mesothermal and hypothermal classes as initially defined by Lindgren (1933).

Quartz-carbonate vein gold deposits are widely spread throughout Canada and they occur principally in the following geological areas: the greenstone belts of the Superior, Churchill, and Slave provinces, the oceanic terranes of the Canadian Cordillera, and the turbiditic Meguma terrane and the ophiolitic Baie Verte district in the Appalachians. The largest concentration of these deposits occurs in the greenstone belts of the south-central Superior Province. Typical Canadian examples of such deposits include: Goldenville, Nova Scotia; Sigma- Lamaque, O'Brien, and Casa-Berardi, Quebec; Kerr Addison, Macassa, Dome, Hollinger-McIntyre, Campbell Red Lake, and MacLeod-Cockshutt, Ontario; San Antonio, Manitoba; Star Lake, Saskatchewan; Giant Yellowknife, Camlaren, and Lupin, Northwest Territories; Bralorne-Pioneer and Cariboo Gold Quartz-Island Mountain, British Columbia. Other examples throughout the world include the following deposits or districts: Mother Lode and Grass Valley, California; Alaska-Juneau, Alaska; Homestake, South Dakota; Mt. Charlotte, Victory, Norseman, and Bendigo-Ballarat, Australia; Ashanti and Prestea, Ghana; and Passagem, Sao Bento and Crixas, Brazil.

8.1.1 Importance

Quartz-carbonate vein deposits account for approximately 80% of the production from lode gold deposits in Canada. The Canadian Shield, and the Superior Province in particular, contains the most significant deposits and accounts for more than 85% of the gold production from quartz-carbonate veins in Canada.

8.1.2 Size and Grade of Deposits

Quartz-carbonate vein gold deposits display a wide range of sizes, which can vary as a function of the price of gold, as it is possible in almost every case to selectively mine the higher grade portions of the deposits at times of lower gold prices, and lower grade material as well at times of higher prices. Deposits of Superior Province are the largest, typically containing between 6 and 60 t of gold to a maximum of 1000 t, those of Churchill Province between 5 and 10 t, and those of the Meguma terrane, less than 3 t. Typical tonnage and grade of quartz-carbonate vein deposits are a few million tonnes of ore at a grade of 6 to 10 g/t gold.

8.2 GEOLOGICAL FEATURES

8.2.1 Geological Setting

At the regional scale, quartz-carbonate vein gold deposits occur in two contrasting geological environments: deformed clastic sedimentary terranes and deformed volcano-plutonic terranes containing diverse volcanic assemblages of island-arc and oceanic affinities. Despite lithological and structural differences, these two types of environments share the following characteristics: greenschist to locally lower amphibolite metamorphic facies, brittle-ductile nature of the deformation, and geological structures recording compressional to transpressional tectonic settings. Quartz-carbonate vein gold deposits in these environments tend to occur in clusters, or districts, and they are by far more abundant in volcano-plutonic terranes than in clastic sedimentary terranes. Both types of environments are present in a number of districts, in which they are separated by major fault zones. However, in such cases auriferous quartz-carbonate veins preferentially occur in the volcano-plutonic domains. Key characteristics and examples of these two geological environments are presented below.

8.2.2 Clastic Sedimentary Terranes

Clastic sedimentary terranes mineralized with quartz-carbonate veins are not very common in Canada but, where present, they typically occupy extensive areas. These terranes include the Meguma terrane, Nova Scotia, the “Yellowknife basin” in the Slave Province, and sedimentary rocks of the Sheep Creek district and of the Barkerville terrane in the Cariboo district, both in British Columbia.

Most clastic sedimentary terranes are characterized by important thicknesses of well-bedded turbidites consisting of greywacke, mudstone, shale, and minor conglomerate. In the Meguma terrane, the turbidite sequence consists of vein-bearing quartz-rich greywacke and interbedded slate of the Goldenville Formation and overlying thinly laminated slate of the Halifax Formation (Graves and Zentilli, 1982). Some sequences, such as the Contwoyto Formation in the Slave Province, also contain significant proportions of interbedded iron-formation and mafic volcanic rocks. The presence of quartzite and/or limestone in the Cariboo (Sutherland-Brown, 1957) and Sheep Creek districts (Matthews, 1953) are indicative of continental margin environments. Clastic sedimentary sequences contain only small proportions of intrusive rocks, most of which form large, postfolding dioritic to granitic bodies such as the Devonian granodiorites and monzogranites in the Meguma terrane.

Gold-bearing clastic sedimentary sequences are invariably folded, and commonly in a complex manner. Folds range from open to isoclinal, and may be accompanied by a penetrative axial plane cleavage. In many cases, younger faults cut the folds at moderate to high angles. The Meguma terrane is characterized by a series of shallowly plunging, northeast-to east-northeast-trending upright folds which are cut by northwest-striking faults and intruded by Devonian granites. Most sequences have been metamorphosed to the greenschist facies, and in some regions, such as in the Contwoyto Lake area, to the lower and middle amphibolite facies.

8.2.3 Volcano-Plutonic Terranes

Volcano-plutonic terranes are the most important hosts to vein gold mineralization in Canada. They are represented by the abundant Precambrian greenstone belts of the Canadian Shield and by the Phanerozoic island arc-oceanic assemblages of the Canadian Cordillera and the

Appalachians. Representative districts include: Baie Verte, Newfoundland; Val-d'Or, Cadillac, and Casa-Berardi, Quebec, Larder Lake, Kirkland Lake, Timmins, Beardmore- Geraldton district, and Red Lake, Ontario; Rice Lake, Manitoba; La Ronge, Saskatchewan; and Coquihalla, Bridge River, and Cassiar, British Columbia.

Mineralized volcano-plutonic terranes form elongate belts bounded by, or transected by, crustal-scale fault zones. These belts typically comprise contrasting geological domains, which may include clastic sedimentary sequences, separated from the volcano-plutonic domains by the major fault zones. This is the case at Val d'Or and Beardmore-Geraldton, where volcano plutonic terranes to the north are separated from turbidite sequences to the south by the Larder Lake-Cadillac and Barton Bay fault zones, respectively. In other districts, such as Bridge River, major faults may separate contrasting volcanic assemblages: the Fergusson thrust fault separates the oceanic Bridge River Group from the Cadwallader Group of island arc affinity, (Leitch, 1990).

Volcano-plutonic terranes are lithologically more diverse than clastic sedimentary sequences. Volcanic supracrustal rocks dominate and typically include basaltic tholeiitic domains of oceanic affinity and mafic to felsic tholeiitic to calc-alkaline domains of island arc affinity.

Ultramafic rocks are volumetrically important in some Archean terranes where they form komatiitic volcanic domains. In Phanerozoic terranes, ultramafic rocks occur mostly as serpentinite bodies along fault zones, as in the Bridge River district, and may represent remnant ophiolite sequences. Narrow belts of clastic sedimentary rocks are also present in many volcano-plutonic terranes and include both flysch-like and molasse-like facies. The flysch-like facies consist of greywacke-mudstone with locally abundant conglomerate and iron-formation, as represented by the Cadillac Group at Val-d'Or and the Northern, Central, and Southern Metasedimentary Belts at Beardmore-Geraldton. Fluvial-alluvial sequences of polymictic conglomerate, arenite, and sandstone, referred to as Timiskaming-type in the Superior Province, are representative of the molasse-like facies and are present along major fault zones and unconformably overlie volcanic rocks in many Precambrian districts such as Kirkland Lake, Rice Lake, and La Ronge.

In the Bridge River district, ribbon chert and argillites overlie basalts of the oceanic Bridge River Complex. In contrast to clastic sedimentary sequences, volcano-plutonic terranes contain abundant associated intrusive rocks, including batholiths, stocks, sills, and dykes, emplaced at several stages during their volcanic and tectonic evolution. Early, synvolcanic intrusions include gabbro sills and dykes and subvolcanic diorite-tonalite plutons such as the Bourlamaque pluton at Val-d'Or and the Bralorne intrusions at Bridge River. Syn- to late tectonic intrusions evolve from commonly porphyritic diorite-tonalite stocks and dykes, to monzonitic to syenitic plutons, to late granitic batholiths.

Superimposed tectonic fabrics and folds in many volcano-plutonic terranes indicate complex structural evolutions linked with the history of associated major fault zones. In many areas, a dominant episode of compressional deformation, involving thrusting, folding, and development of upright penetrative fabrics subparallel to major faults, is followed by transcurrent deformation largely localized along the major faults (Card, 1990; Leitch, 1990). In addition to first-order major faults, these terranes are characterized by abundant higher-order subsidiary shear zones and faults, subparallel to the regional trend, any of which may host auriferous quartz-carbonate veins. Metamorphic grade is greenschist in most volcano-plutonic terranes but reaches lower amphibolite in some districts such as Red Lake, Ontario.

8.2.4 Distribution of Quartz-Carbonate Vein Districts and Deposits

A large number of quartz-carbonate vein gold districts, especially those in volcano-plutonic terranes, are spatially associated with crustal-scale fault zones, which are generally regarded as the major conduits for auriferous fluids. This association is particularly well illustrated by gold deposits of the Abitibi greenstone belt. Within districts, however, auriferous veins are in fact more closely associated with smaller subsidiary structures adjacent to major faults, resulting in a dispersion of deposits away from such faults, as in the Val-d'Or district.

Within volcano-plutonic terranes, quartz-carbonate veins may occur in any rock type present within a district, and deposits typically consist of simple to complex networks of veins and related shear zones. They are most common in parts of the districts that are dominated by mafic volcanic rocks, as in the Red Lake, Yellowknife, and Cassiar districts. Vein deposits also occur in areas dominated by iron-formation-bearing clastic sedimentary belts such as in the Beardmore-Geraldton district, and in large felsic plutons as illustrated by the Bourlamaque pluton at Val-d'Or.

8.2.5 Age of Host Rocks and Mineralization

Volcanic and sedimentary host rocks to quartz-carbonate vein gold deposits in Canada range in age from Archean to Jurassic. However, most veins occur in rocks of four main age groups: Late Archean, Early Proterozoic, Cambrian-Ordovician, and Triassic-Jurassic. Of these four groups, rocks of Late Archean age have yielded most of the Canadian gold production from deposits of this type. In a large number of volcano-plutonic terranes, field and geochronology studies show that the gold-bearing veins formed relatively late in the local structural evolution, after folding of supracrustal rocks and emplacement of the syn to late tectonic intrusions. At Val-d'Or, the Sigma-Lamaque vein system cuts a 2685 \pm 2 Ma tonalite stock and a swarm of 2694 \pm 2 Ma feldspar porphyry dykes that have both intruded 2705 \pm 2 Ma volcanic rocks (Wong et al., 1991). Deposits in the Kirkland Lake and Timmins districts, hosted in 2725-2700 Ma volcanic rocks, postdate Timiskaming sedimentation, bracketed between 2680 and 2676 Ma, and the intrusion of 2673 \pm 6-2 Ma albitite dykes at Hollinger-McIntyre (Corfu, 1993). In the Red Lake district, gold mineralization is bracketed between 2720 and 2700 Ma, corresponding to the last stages of tectonism and plutonism, and is much younger than the volcanism, which lasted from 3000 to 2730 Ma (Corfu and Andrews, 1987). Similar young relative ages are indicated for the Bralorne- Pioneer deposit: quartz-carbonate veins are hosted by 270 \pm 5 Ma diorite-tonalite and coeval volcanic rocks, but they cut albitite dykes dated at 91.4 \pm 1.4 Ma (Leitch, 1990). Thus, in most documented cases, quartz-carbonate veins are significantly younger than the host volcanic sequences and emplaced more or less synchronously with late magmatic activity within, and adjacent to the greenstone belts during the late Archean.

In clastic sedimentary terranes, two distinct relative ages of vein formation are recognized: (1) prefolding, such as in the sedimentary strata of the Meguma terrane of Nova Scotia, (Graves and Zentilli, 1982); and (2) postfolding, associated with fractures and faults oblique to fold axial surfaces, such as in the Cariboo and Sheep Creek districts in British Columbia (Matthews, 1953; Sutherland- Brown, 1957).

The absolute ages of quartz-carbonate vein deposits are not well constrained. In the southern Abitibi greenstone belt, direct dating of hydrothermal rutile, scheelite, and muscovite by U-Pb, Sm-Nd, and ⁴⁰Ar-³⁹Ar techniques, respectively, give ages 50-80 Ma younger than any known plutonic rock in the area (Corfu, 1993). At Val-d'Or, rutile and scheelite ages of ~2600 Ma from

quartz-tourmaline-carbonate veins at the Sigma deposit conflict with the 2682 Ma age of a hydrothermal zircon from the same sets of veins (Claoué-Long et al., 1990). The significance of such "young" ages is still unclear.

In the Canadian Cordillera, the age of the Bralorne- Pioneer deposit is bracketed between -90 and -85 Ma by premineral albitite dykes and intra- to postmineral hornblende-bearing dykes (Leitch, 1990). The K/Ar ages of vein-related white micas suggest mineralization ages of ~130 Ma in the Cassiar district (Sketchley et al., 1986) and ~140 Ma in the Cariboo district (Andrew et al., 1983).

Similar Lower Cretaceous mineralization has also been documented along the Mother Lode gold belt in California (Bohlke and Kistler, 1986). In some districts, there is growing evidence for the existence of multiple generations of auriferous quartz-carbonate veins. In the Rice Lake district, Brommecker et al. (1989) have documented two generations of gold-bearing quartz-carbonate veins related to two distinct deformation increments. At Val-d'Or, late quartz-tourmaline-carbonate veins crosscut dykes and are typically not deformed, whereas earlier quartz-carbonate veins are overprinted by deformation and commonly cut by dykes (Robert, 1994).

8.2.6 Host Rock Associations

In general, quartz-carbonate veins occur in any rock type present in a given district. However, there are a number of recurring deposit-scale lithological associations which are in part reflected in the geometric and/or hydrothermal characteristics of the deposits. These different lithological associations are best regarded as different facies, or styles, of quartz-carbonate vein deposits. They reflect variations in structural and chemical controls exerted by the host lithology on the development of the vein networks. Volcanic-hosted quartz-carbonate vein deposits are the most common. They occur most commonly in mafic volcanic rocks and associated ultramafic rocks and are represented by the Belleterre, Kerr Addison, Campbell Red Lake, Giant Yellowknife, and Erickson deposits. Characteristics common to this category of deposits include relatively wide, highly schistose host shear zones and wide haloes of carbonate alteration (fuchsite-bearing if hosted in ultramafic rocks), reflecting both the ductile and the Fe-Mg-rich nature of the host rocks. Several deposits of this group are centered on intrusive complexes comprising stocks, irregular bodies, and dykes of diorite, tonalite, and syenite, which are commonly porphyritic. This is the case at the Sigma-Lamaque, Macassa, Dome, Hollinger-McIntyre, and Bralorne-Pioneer deposits, which display relatively complex vein and shear zone patterns. Other deposits, represented by the San Antonio and Norbeau mines, occur in laterally extensive differentiated tholeiitic gabbro sills. They consist of relatively complex vein networks which are largely confined to the most differentiated, quartz-bearing or granophyric units within the sills. Veins may be confined to such units because of their more competent nature and because their Fe-rich nature is favourable for gold precipitation.

Volcanic-hosted deposits include many of the largest Canadian quartz-carbonate vein deposits. Some deposits of this subtype also have the greatest vertical extent, reaching 2 km or more in several mines, including Sigma.

Another group of deposits is tonalite-hosted and occurs in large diorite-tonalite and monzonite plutons within volcano-plutonic terranes. Examples include the Ferderber and other deposits in the Bourlamaque pluton at Val-d'Or, the Silidor and Pierre Beauchemin deposits in the Flavrian pluton at Noranda, and the Star Lake deposit and pluton in the La Ronge belt. The host intrusion may also lie immediately outside greenstone belts, as at Renabie. Deposits of this type are

characterized by relatively simple geometries and the quartz-carbonate veins and host shear zones are spatially associated with mafic dykes present in these intrusions.

Iron-formation-hosted quartz carbonate veins also form an important group of deposits in both clastic sedimentary sequences and volcano-plutonic terrane, represented by the Central Patricia, MacLeod-Cockshutt, and Lupin deposits. Orebodies in such deposits are within zones that contain abundant quartz-carbonate veins and that are generally restricted to the iron-formation layers. The veins in all cases postdate folding of the sedimentary layers and, in a number of cases, they are parallel to the axial planes of the folds.

Finally, other deposits are turbidite-hosted. In these, veins either occur in fold hinges as at Goldenville and at Camlaren (Boyle, 1979), or in fractures and faults cutting the folds at a moderate to high angle, as in the Cariboo and Sheep Creek districts. These deposits lack obvious spatial relationships to intrusive rocks and are characterized by poorly developed alteration halos. In some districts, specific sedimentary units are preferentially mineralized, such as the Upper Nugget and Upper Nevada quartzites in the Sheep Creek district (Matthews, 1953), or the Rainbow Formation in the Island Mountain deposit (Sutherland-Brown, 1957).

In several districts within volcano-plutonic terranes, there is one particular setting of quartz-carbonate veins which dominates, despite the presence of other rock types. For example, nearly all vein deposits in the La Ronge district occur within granitoid intrusions, whereas those in the Beardmore-Geraldton district are associated with iron formation.

8.3 FORM AND STRUCTURE

Quartz-carbonate vein gold deposits consist of networks of veins and related host structures. An important characteristic of a large number of vein deposits, especially in volcano-plutonic terranes, is their significant vertical extent, which exceeds 1 km in several deposits, and 2 km in a few deposits listed above. The networks display simple to complex geometries involving single to multiple sets of veins and host structures (Hodgson, 1989). They comprise veins in one or more of the following structural settings: (1) in faults and shear zones; (2) in extensional fractures and stockwork zones, including breccias; and (3) in association with folds. As illustrated by the Sigma-Lamaque deposit at Val-d'Or, a large number of networks combine veins in shear zones and in spatially associated extensional fractures. Veins and their different settings are described below. Vein networks in volcanic-hosted deposits commonly display complex geometries, especially those centred in intrusive complexes such as Bralorne-Pioneer and Sigma-Lamaque, whereas those in tonalite-hosted deposits generally consist of a single set of mineralized structures.

8.3.1 Veins in Faults and Shear Zones

Faults and shear zones probably represent the most common host structures to quartz-carbonate veins, and they are a component of almost every gold deposit. Veins hosted by these types of structures occur principally in volcanic-dominated terranes, where they are found in practically every rock type. The nature of the host shear zones ranges from ductile to most commonly brittle-ductile, correlating in part with the metamorphic grade of the host rocks (Colvine, 1989). These shear zones have moderate to steep dips, and can be traced for several hundred metres to a few kilometres along strike and down dip. They are typically high-angle reverse to reverse-oblique shear zones, and less commonly strike-slip.

The mineralized shear zones may occur individually, as parallel sets, or may form anastomosing, conjugate, or more complex arrays (Poulsen and Robert, 1989). These shear zones are generally discordant to the stratigraphic layering but, in a number of cases, they parallel bedding planes or intrusive contacts (such as along dykes), reflecting the influence of strength anisotropy on their development.

Quartz-carbonate veins in shear zones and faults, commonly referred to as shear veins, typically form tabular to lenticular bodies within the central parts of brittle-ductile shear zones, either parallel, or slightly oblique, to the host structure (Hodgson, 1989; Poulsen and Robert, 1989). The veins range in thickness from a few tens of centimetres to a few metres and may reach a few hundred metres in their longest dimension. Mineralized shear veins or portions of veins commonly occur at splays and intersections of shear zones, at bends in the general trend of the host structure, as well as at the intersection of the shear zone with a specific rock type.

Shear veins in shear zones are typically laminated. Laminations are defined by thin septa and slivers of altered and foliated wall rocks, incorporated into the vein by multiple-opening episodes. In several deposits, individual quartz-carbonate laminae are also bounded by striated slip surfaces, in some cases with hydrothermal slickenlines indicating vein development in active shear zones. With increasing proportion and thickness of wall rock slivers, laminated veins may also grade into sheeted veinlet zones.

In a number of deposits, shear veins display some degree of folding and boudinage due to postvein displacement along the host shear zone or to subsequent folding of the entire shear zone (Poulsen and Robert, 1989).

8.3.2 Veins in Extensional Fractures and Stockwork Zones

Veins in extensional fractures, or extensional veins, stockwork zones, and hydrothermal breccias occur principally in volcano-plutonic terranes and are present in a significant number of deposits. They are not as common as shear veins and represent a major source of ore in only a small proportion of deposits.

Extensional veins may form arrays of planar to sigmoidal veins within shear zones or at frontal and lateral terminations of shear veins (Robert, 1994), or form sets of regular tabular bodies extending outside shear zones in less deformed rocks, such as the subhorizontal extensional veins of the Sigma-Lamaque deposit. They also occur as sets of en echelon veins in relatively competent host lithologies such as small intrusions of intermediate to felsic composition. In most cases, extensional veins are spatially associated with shear veins and they have relatively shallow dips, which are consistent with the reverse to reverse-oblique movements along the associated shear zone.

Extensional veins within shear zones and stockwork zones are typically a few centimetres thick and a few metres long, whereas those outside shear zones are commonly several tens of centimetres thick and a few hundred metres in their longest dimensions. At the Sigma-Lamaque deposit, sub-horizontal extensional veins, less than one metre thick, commonly occupy areas as great as 5000 m² in extent (Robert and Brown, 1986a). The internal structure of extensional veins contrasts with that of shear veins and is commonly characterized by mineral fibres at high angles to vein walls, as well as by crack-seal and open-space filling textures.

Stockwork zones are important in a number of deposits; at San Antonio in the Rice Lake district, for example, they constituted a large proportion of the ore mined. Stockworks consist of several sets of extensional veins, which can grade into hydrothermal breccias in areas of intense veining. They are preferentially developed in competent lithologies, such as the granophyric facies of the differentiated gabbro sill hosting the San Antonio deposit. Other types of hydrothermal breccias also occur along shear veins: they include "jigsaw-puzzle" breccias, characterized by angular fragments of altered wall rock in a fine grained matrix of quartz and/or tourmaline, and by fault breccias, composed of crushed and rotated vein and wall rock fragments in a dominantly hydrothermal matrix.

8.3.3 Veins Associated with Folds

Veins associated with folds probably represent the least common structural setting of quartz-carbonate veins. Veins in such settings occur almost exclusively in folded clastic sedimentary rocks, in either volcano-plutonic or clastic sedimentary terranes.

Quartz-carbonate veins are associated with folds ranging from those of regional scale, as in the Meguma terrane, to deposit-scale asymmetric folds, as in the MacLeod-Cockshutt deposit. Veins display diverse geometric and age relationships to the folds. They may be folded along with their host rocks, as in the case of bedding-parallel veins in the Meguma terrane, which occur in anticlinal hinge areas where they are typically stacked and saddle-shaped. Veins may also be syn- to late folding and be either parallel to axial plane cleavage in hinge zones, as at MacLeod-Cockshutt, or in extensional veins perpendicular to fold axes (AC joints), as is the case in the Cariboo district (Sutherland-Brown, 1957). In other cases, laminated quartz veins occur in fractures and faults cutting obliquely across fold axial surfaces as at the Lupin deposit (Lhotka and Nesbitt, 1989) and in the Sheep Creek district (Matthews, 1953).

8.4 ORE AND GANGUE MINERALOGY

8.4.1 Ore Mineralogy

In most quartz-carbonate vein deposits, as at Sigma- Lamaque, gold mineralization occurs in both the veins and the adjacent altered wall rocks, in varying proportions. The bulk of the gold occurs within the veins in turbidite-hosted deposits but within altered wall rocks in iron-formation hosted deposits. In most cases, gold is intimately associated with sulphide minerals, both in the veins and altered wall rocks. The dominant sulphide mineral is pyrite, or arsenopyrite in sediment-hosted deposits, commonly accompanied by variable, but minor amounts of sphalerite, chalcopyrite, pyrrhotite, and galena. Trace amounts of molybdenite are also present in a number of deposits. The sulphide contents of the veins rarely exceed 5 volume per cent; within laminated veins, sulphide minerals are commonly distributed along thin, altered wall rock slivers, which thus indirectly control the distribution of gold within the veins.

The main ore mineral in most deposits is native gold, which typically contains some silver. Gold-to-silver ratios of the ore range from 5:1 to more than 9:1, and cluster around a ratio of ~9:1, distinct from that of most epithermal veins. Gold typically occurs as coatings on, or as inclusions and fracture-fillings within, sulphide grains, as well as isolated grains and fracture fillings in quartz. Other significant ore minerals in quartz-carbonate veins are tellurides, mostly petzite and calaverite, which are particularly abundant in deposits associated with felsic stocks such as Macassa (Thompson et al., 1950) and Sigma-Lamaque (Robert and Brown, 1986b).

8.4.2 Gangue Mineralogy

The most common gangue minerals in the vein deposits considered here are quartz and carbonate. Quartz typically accounts for more than 85% of the vein fillings. Carbonates, including calcite, dolomite, or ankerite in various combinations, typically comprise less than 10-15% of the vein fillings. Veins at the Campbell Red Lake deposit, which are dominated by dolomite and ferro-dolomite, represent a notable exception (Andrews et al., 1986). Other generally minor constituents of the veins include albite, chlorite, and white mica. Tourmaline and scheelite are also present in minor amounts in many quartz-carbonate veins. Tourmaline is particularly abundant in veins in the Val-d'Or district, where it may represent up to 15-20 volume per cent of the vein fillings (Robert and Brown, 1986b).

Host rock composition exerts some influence on the accessory gangue mineralogy of the veins. Arsenopyrite rather than pyrite is the dominant vein and altered wall rock sulphide mineral in deposits hosted by sedimentary rocks, such as Lupin and those of the Meguma terrane. The composition of carbonate minerals in the veins also reflects that of the host lithology: the Fe and Mg contents of Ca-carbonates increase proportionally with the Fe and Mg contents of the host rocks. Fuchsite normally occurs in veins which are in the vicinity of altered ultramafic rocks.

Quartz-carbonate vein deposits typically lack vertical mineralogical zoning, despite their significant vertical extent. A notable exception is the Sigma-Lamaque deposit, in which the tourmaline-pyrite assemblage gives way in some veins to a pyrrhotite-chlorite-biotite assemblage at depths in excess of 1.6 km (Robert and Brown, 1986b). In general, pyrite is the dominant sulphide mineral in deposits hosted by greenschist grade rocks, whereas pyrrhotite dominates in deposits hosted by amphibolite grade rocks (Colvine, 1989).

8.4.3 Hydrothermal Alteration

Wall rock hydrothermal alteration around auriferous quartz-carbonate veins varies in scale, intensity, and mineralogy as a function of host rock composition. Several fundamental types of alteration can be distinguished and these generally combine to form zoned alteration haloes at the vein or the deposit scales. In most documented cases, alteration assemblages have been superimposed on previously metamorphosed rocks, as is the case at Bralorne-Pioneer (Leitch, 1990) and at Sigma-Lamaque (Robert and Brown, 1986b). Two documented exceptions include the Campbell Red Lake and adjoining A.H. White (Dickenson) deposits, where wall rock alteration either predated or was synchronous with amphibolite grade metamorphism (Andrews et al., 1986), and the Eastmain River deposit in northern Quebec, where wall rock alteration is interpreted to have taken place during amphibolite grade metamorphism (Couture and Guha, 1990).

8.4.4 Alteration Types

The main types of alteration around quartz-carbonate veins include carbonatization, sulphidation, alkali metasomatism, chloritization, and silicification (Boyle, 1979). Carbonatization is the most common and most extensive type of alteration. Zones of carbonate alteration around individual veins and structures commonly coalesce to envelope the entire orebody. This type of alteration involves progressive replacement of Ca-, Fe-, and Mg-silicates by carbonate minerals and is characterized by additions of CO₂, accompanied by release of Al and Si, fixed in other alteration minerals or in veins. The amounts of introduced carbonates depend, in part, on the amount of Ca, Fe, and Mg present in the host lithology.

Sulphidation of wall rocks is common around veins and, in most cases, is restricted to their immediate proximity. Pyrite is the most common sulphide, followed by pyrrhotite, mostly present in amphibolite grade rocks. Arsenopyrite is also common around veins hosted by clastic sedimentary rocks. Sulphides generally comprise less than 10% of the altered rocks, except in oxide facies iron-formation, in which they make up as much as 75% of the altered rocks, as at McLeod-Cockshutt (Horwood and Pye, 1955).

Sodium and potassium metasomatism is observed in proximity to most quartz-carbonate veins. Potassium metasomatism is the most common and typically consists of sericitization of chlorite and plagioclase; fuchsite, rather than sericite, is generally present in altered ultramafic rocks, and K-feldspar and biotite are alteration products in a few deposits. Sodium metasomatism results largely in the formation of albite, and in some cases of paragonite. Chloritization of amphibole, biotite, and pyroxene (at constant Fe and Mg), commonly accompanies incipient carbonatization.

In some deposits, intense chloritization may be accompanied by addition of Fe and Mg to the rock. A distinction should be made between hydrothermal chlorite considered here and chlorite produced by metamorphism of the host rocks. Silicification, *sensu stricto*, i.e. the addition of silica, has been documented mostly in clastic sedimentary rocks (Boyle, 1979). A more common form of silicification in mafic and ultramafic host rocks, due to silica release from carbonatization reactions, is a local increase in the abundance of quartz, either as quartz-flooding of the rock matrix or as abundant quartz veinlets.

Gold is commonly enriched in intensely altered rocks adjacent to quartz-carbonate veins. In many cases, as at Sigma, these altered zones reach economic grades (Robert and Brown, 1986b). In fact, a significant proportion of the extracted gold in several deposits is derived from altered rocks adjacent to veins.

8.4.5 Alteration Zoning Patterns

The above different types of alteration commonly combine to form zoned alteration envelopes around veins or deposits (Robert, 1987). The resulting zoning patterns result largely from progressive carbonatization of wall rocks and accompanying alkali metasomatism. In igneous wall rocks of ultramafic to intermediate composition, outer alteration zones are characterized by replacement of metamorphic amphibole, epidote, and/or serpentine by calcite +/- dolomite and chlorite; those minerals are accompanied by talc +/- tremolite in ultramafic rocks and albite in mafic to intermediate rocks. With increasing intensity of alteration and proximity to veins, chlorite-calcite assemblages are replaced by dolomite-white mica assemblages with or without pyrite. Inner alteration assemblages consist of ankerite-albite-pyrite assemblages; magnesite and siderite are also present in Mg- and Fe-rich igneous host rocks. In general, the iron content of carbonate minerals increases towards the mineralized zones.

Veins in clastic sedimentary rocks typically lack well defined alteration envelopes. Where present, they tend to be narrow and are characterized by replacement of chlorite and biotite by carbonates, white mica, and albite, and by formation of arsenopyrite. Where veins intersect iron formation, the alteration is typically controlled by bedding and laminations: for example, layers of magnetite are selectively altered and replaced by sulphides, generally pyrite, over distances as great as several decimetres on either side of a vein.

8.4.6 Definitive Characteristics

Quartz-carbonate vein gold deposits consist of simple to complex vein and shear zone networks with significant vertical extents, hosted by rocks in deformed volcano-plutonic terranes, and less commonly in deformed clastic sedimentary terranes. The deposits occur in districts spatially associated with large-scale fault zones. The veins occupy shear zones, faults, stockwork zones, and extensional fractures, or are associated with folds: they are generally discordant, at least in part, to lithological units. The veins are composed mainly of quartz, with less abundant carbonate and pyrite. Commonly associated minerals include tourmaline, scheelite, fuchsite, and arsenopyrite. Hydrothermal alteration of wall rocks is dominated by carbonatization, and accompanied by alkali metasomatism and sulphidation of the rocks immediately adjacent to the veins.

8.4.7 Genetic Models

In contrast to many other deposit types, there is no real consensus on the origin of quartz-carbonate veins in deformed terranes and, as a result, a number of genetic models have been proposed for their formation (Roberts, 1987; Kerrich, 1989). Studies of fluid inclusions and hydrothermal alteration in several deposits points to a relatively uniform fluid composition and temperature, irrespective of their occurrence in volcano-plutonic or clastic sedimentary terranes (Kerrich and Wyman, 1990). The auriferous fluids are typically CO₂-bearing (5-15 mol % CO₂ +/- CH₄), low-salinity fluids, at 300-350°C, which underwent phase separation in a number of deposits.

Differences between districts in the Sr, Pb, C, and O isotope compositions of the auriferous fluids contrast with the relatively uniform bulk fluid composition and indicate multiple source regions for these fluid components, including sources external to, and underneath, the host supracrustal sequences (Kerrich, 1989). However, such isotopic tracers do not allow unequivocal discrimination of the nature and origin of the fluids. Among all the genetic models proposed for quartz-carbonate veins, the orthomagmatic model has historically been the most commonly advocated (e.g., Emmons, 1937).

According to this model, gold and the hydrothermal fluids are derived from ascending felsic magmas generated during tectonism and metamorphism. A variation on this model involves derivation of the gold from the host supracrustal sequences by their interaction with the magma and associated hydrothermal fluids. In the last two decades, a number of fluid-source models, based largely on fluid inclusion and isotopic tracer studies, have also been proposed and reviewed by Roberts (1987), Kerrich (1989), and others. In the metamorphic model, gold is considered to be leached from the underlying supracrustal rocks by a metamorphic fluid released during prograde metamorphism and focused into shear zones and related dilational zones. A variation on this model has been suggested by Graves and Zentilli (1982) for the origin of the folded veins of the Meguma terrane by which pore fluids, released by greenschist metamorphism during incipient folding and cleavage development, induced hydraulic fracturing and transported locally-derived gold and other vein constituents into these fractures. Nesbitt and Muehlenbachs (1989) developed a model involving deep circulation of meteoric waters in the vicinity of major fault zones for quartz-carbonate vein deposits of the Canadian Cordillera.

In the mantle degassing/granulitization model, upward streaming of mantle-derived CO₂ is thought to induce dehydration and granulitization of the lower crust, possibly accompanied by

magma generation; the resulting H₂O-CO₂ fluids, leaching gold from the lower crust, rise to higher crustal levels along major shear zones, where gold and other components are deposited.

In light of the recent recognition that many quartz-carbonate vein gold districts occur at transpressive accretionary plate margins, many authors relate the formation of these deposits to accretionary processes (e.g. Kerrich and Wyman, 1990). In this model, fluids are generated by thermal re-equilibration and metamorphism of subducted material following cessation of subduction. Such deep fluids, which may dissolve gold and other vein components anywhere along their path, are thought to be channelled upwards along crustal-scale faults.

8.5 RELATED GOLD DEPOSIT TYPES

A number of gold deposits that are primarily of quartz-carbonate vein type, contain orebodies typical of the disseminated-replacement subtype of gold deposits, which suggests a possible genetic link between the two subtypes. In the Cariboo district, for example, both quartz-carbonate veins and pyrite replacement (manto) orebodies in limestone were mined (Sutherland-Brown, 1957); the Campbell Red Lake-Dickenson deposit, apart from more abundant quartz-carbonate vein orebodies, also includes sulphidic orebodies of the East South "C" type (Andrews et al., 1986). In the Cariboo district, quartz-carbonate veins clearly overprint pre-existing pyrite replacement orebodies (Robert and Taylor, 1990) and the two styles of ore are not related to the same hydrothermal event. However, in most hybrid gold deposits, the temporal and possible genetic relationships between different styles of orebodies are not clearly established.

A similar problem exists for iron-formation-hosted gold deposits of the stratiform type: the relationships are not clearly established between finely disseminated gold in cherty sulphide-banded iron-formation and quartz-carbonate veins, with which at least some gold is spatially associated. In contrast, iron-formation-hosted gold deposits of the nonstratiform type simply represent a subset of the quartz-carbonate vein deposits considered here.

9.0 EXPLORATION

9.1 HISTORICAL EXPLORATION ON THE LARDER LAKE PROPERTY

Exploration work was almost exclusively diamond drilling undertaken by various operators. NFX Gold Inc. completed an extensive surface sampling program in 2004, the results of which were not available.

Previous exploration is described in more detail in the NI 43-101 technical report dated March 26, 2007 titled “Technical Report, 2006 Diamond Drilling Results, Larder Lake Property, Larder Lake, Ontario”, prepared for Maximus by Alex Horvath, P.Eng. and Martin Bourgoin, P.Geo. of MRB & Associates, Val-d’Or, Quebec (the “MRB Report”). The MRB report is available on SEDAR at www.sedar.com under Bear Lake’s profile. The MRB Report reviewed exploration on the Larder Lake Property with emphasis on the period 1998 through to the 2005-2006 drilling programs completed by Maximus. Maximus was the operator on the property from 2005 to 2008 when the company became a wholly-owned subsidiary of Bear Lake.

A second NI 43-101 report titled “NI 43-101 Technical Report, Larder Lake Property, Larder Lake Ontario”, dated June 4, 2008 and authored by John Wakeford, P. Geo. describes the 2007 and 2008 diamond drill programs completed by Maximus. This report is also available on SEDAR at www.sedar.com under Bear Lake’s profile.

10.0 DRILLING

10.1 HISTORICAL DRILLING

Drilling completed on the Larder Lake Property from 1996 to 2004 was done by NFX. From 2004 to 2008, drilling was completed by Maximus Ventures. The Larder Lake Gold Project was acquired by NFX on September 16, 2008, by way of acquisition of all of the issued shares of Maximus Ventures Ltd., (“Maximus”). As part of the closing, NFX changed its name to Bear Lake Gold Ltd. Maximus is now a wholly-owned subsidiary of Bear Lake.

NFX Gold Inc. completed 12,596 meters of surface diamond drilling in 1998, 1,491 metres of diamond drilling in 2003, and 2,541 metres of diamond drilling in 35 holes in 2004. Maximus drilled 3,047 meters in 11 holes in 2005, 13,878 meters in 27 holes in 2006, 12,387 meters in 24 holes in 2007 and 32,000 meters in 41 holes in 2008.

The 2007 and early 2008 drilling focused on two main target areas, Fernland and Bear Lake, and were successful in defining favourable alteration, mineralization and significant gold values down to 1,000 m on the Fernland Property and to 600 m vertical on the Bear Lake zone.

Table 10.1 below presents results of the 2008 diamond drilling program that were not previously reported on, as these holes were completed after the effective date of the June 4, 2008 technical report authored by John Wakeford.

TABLE 10.1
SIGNIFICANT DRILL RESULTS FROM THE 2008 DIAMOND DRILL PROGRAM

Hole Number	From (m)	To (m)	Core Length (m)	True Width (m)	Au (g/t)	Operator
NFX-08-24A	678.3	680.2	1.9	1.3	9.4	Maximus Ventures
NFX-08-24AW	716.3	722.9	6.6	4.7	1.6	Maximus Ventures
	854.2	860	5.8	4.1	3	Maximus Ventures
NFX-08-44W	689.5	702.5	13	10	2.6	Maximus Ventures
including	689.5	691	1.5	1.2	7.1	Maximus Ventures
including	697.3	700.5	3.2	2.5	5.1	Maximus Ventures
NFX-08-44W2	687	688.5	1.5	1.2	2.6	Maximus Ventures
	695	703.5	8.5	6.5	3.6	Maximus Ventures
including	695	698.5	3.5	2.7	5.1	Maximus Ventures
including	702.5	703.5	1	0.9	9.8	Maximus Ventures
NFX-08-45	564	569.6	5.6	4.4	2.1	Maximus Ventures
NFX-08-47	912.5	914.5	2	1.6	2.5	Maximus Ventures
NFX-08-49W2	1038	1040.2	2.2	2.1	1.3	Maximus Ventures
NFX-08-49W3	1017	1026.5	9.5	unknown	1.74	Maximus Ventures
including	1022.8	1025.5	2.7	unknown	4.75	Maximus Ventures
NFX-08-57A	1350	1353.5	3.5	2.3	4.6	Maximus Ventures
NFX-08-58W2	1066	1069.9	3.9	2.4	18.7	Maximus Ventures
including	1067.5	1068.6	1.1	0.7	66.2	Maximus Ventures

10.2 DRILLING COMPLETED BY BEAR LAKE

From September 2008 onward, all drilling was completed by Bear Lake, and hole names were changed to a “BLG” prefix. In 2009, there were 14,135 metres drilled in 21 holes. The 2010-11 program drilled 14,074 m in 12 holes and additional wedges in certain holes. Results of the most significant holes from the 2009-2011 drill programs are presented in Table 10.2.

TABLE 10.2
SIGNIFICANT DRILL RESULTS FOR 2009-2011 DIAMOND DRILL PROGRAM

Hole Number	From (m)	To (m)	Core Length (m)	True Width (m)	Au (g/t)
BLG08-59	1133	1136.5	3.5	2.1	1.7
	1405	1408	3.0	1.8	2.9
<i>including</i>	<i>1406</i>	<i>1407</i>	<i>1.0</i>	<i>0.6</i>	<i>8.4</i>
BLG08-59W	1451.5	1452.6	1.1	0.7	1.2
	1466.8	1469.6	2.8	1.7	2.5
BLG09-64	619.5	624.6	5.1	4.9	3.0
BLG09-65	676.2	680.2	4.0	3.4	2.1
BLG09-66	727.1	729.2	2.1	2.0	11.0
BLG09-67	719.7	727.2	7.5	6.5	4.0
BLG09-67W	718.7	723	4.3	3.7	36.0
<i>including</i>	<i>722</i>	<i>723</i>	<i>1.0</i>	<i>0.9</i>	<i>119.0</i>
BLG09-69	586	589	3.0	2.9	3.5
	672.5	674	1.5	1.4	20.6
	750.7	752.9	2.2	2.1	11.7
BLG09-72A	785.5	788.2	2.7	2.4	1.7
BLG09-73	663.7	667.2	3.5	3.2	1.1
	862.5	863.9	1.4	1.3	13.4
BLG10-78	696.5	701	4.5	undetermined	1.43
	735.5	738.6	3.1	undetermined	1.47
	819	823.5	4.5	undetermined	1.9
BLG10-79	736.5	738	1.5	undetermined	5.96
	747.2	748.5	1.3	undetermined	13.85
	754.5	761.3	6.8	undetermined	6.73
	786	790	4.0	undetermined	1.07
BLG10-79W3	806.1	808.1	2.0	undetermined	1.14
	997.9	1000.2	2.3	undetermined	3.25
BLG10-80	1004	1005	1.0	undetermined	7.63
BLG10-81AW2	1204	1206	2.0	undetermined	5.83
<i>including</i>	<i>1205</i>	<i>1206</i>	<i>1.0</i>	undetermined	9.48
	1227.3	1228.9	1.6	undetermined	1.39
BLG10-82	1289	1290	1.0	undetermined	2.66
BLG10-83W5	1027.8	1028.9	1.1	undetermined	2.89
BLG11-85W	1179	1180	1.0	undetermined	2.99
BLG11-86W2	788.4	790.4	2.0	undetermined	2.35
	795.5	799.0	3.5	undetermined	1.47
BLG10-87A	927.6	928.6	1.0	undetermined	3.70

11.0 SAMPLE PREPARATION ANALYSES AND SECURITY

11.1 CHEMINIS MINE PROPERTY

There are no details of the sample preparation, analyses and security prior to 2004.

In 2004, the diamond drill holes were logged, and any intervals believed by the geologist to be of merit were sampled. Sample intervals varied from 30 cm to 1 metre for narrow structures and up to 1.5 metres for wider structures. Core was sawn in half with a diamond saw or split with a hydraulic splitter with one half being sent to the lab for analysis and the other half retained in the box for witness purposes.

Samples were bagged, placed in a large nylon bag, tied and shipped to Swastika Laboratories in Swastika, Ontario and ALS Chemex in Val-d'Or, Quebec. Samples were analyzed using fire assay on a 30 gram aliquot sample, with an atomic absorption finish.

Swastika re-assayed every tenth sample, in addition to samples reporting higher gold values.

Swastika Labs has been in continuous business since 1928 and participates in the bi-annual round robin Proficiency Testing Program for Mineral Analysis Laboratories (PTP-MAL) through the Standards Council of Canada. P&E verified the most pertinent and recent (September, 2010) certificate which states that lab met the testing requirements.

ALS Chemex is an internationally recognized minerals testing laboratory operating in 16 countries and has an ISO 9001:2000 certification. The laboratory in Vancouver has also been accredited to ISO 17025 standards for specific laboratory procedures by the Standards Council of Canada (SCC).

There was a QA/QC program integrated into the 2004 drill program, details of which are presented in the 2008 Technical Report.

In 2006, sampling protocol remained the same, however samples were sent to Laboratoire Expert, ("Expert") in Rouyn-Noranda, Quebec. Expert is registered under ISO 9001:2000 quality standard and participates in the CANMET PTP-MAL Laboratory Proficiency testing.

Results of all drilling for the 2004 and 2006 programs at Cheminis were presented in the 2008 Technical Report.

11.2 BEAR LAKE PROPERTY

Diamond drill holes were logged, and any intervals believed by the geologist to be of merit were sampled. Sample intervals varied from 30 cm to 1 metre for narrow structures and up to 1.5 metres for wider structures. Core was half sawn with a diamond saw or split with a hydraulic splitter with one half being sent to the lab for analysis and the other half retained in the box for witness purposes.

Samples were bagged, placed in a large nylon bag, tied and shipped to Expert in Rouyn-Noranda, Quebec. Expert is completely independent of Bear Lake Gold.

Gold was determined by lead-collection fire assay with AA finish to an upper limit of 1 g/t. Values greater than 1 g/t Au were rerun using gravimetric and both the AA value and the gravimetric value were reported.

There was a QA/QC program set up by P&E for the 2010 and 2011 drill programs, and results were monitored by P&E, on a real-time basis.

Details and results of the QC program are presented in the following section.

P&E is of the opinion that the sample preparation, security and analytical procedures employed by Bear Lake have produced good quality results.

12.0 DATA VERIFICATION

12.1 SITE VISIT AND INDEPENDENT SAMPLING

Mr. Antoine Yassa, P. Geo., independent QP, visited the Larder Lake Property on several occasions, the last date being June 8, 2011.

12.2 CHEMINIS MINE PROPERTY

In order to estimate the resources on the Cheminis Mine Property to NI 43-101 standards for disclosure for mineral projects, P&E requested that Bear Lake resample roughly 10% of historical core that was stored at the mine site. A list of the constrained samples was given to the Bear Lake geologist, and ¼ splits were taken of the core.

Sixty-seven samples were collected, in addition to 15 samples collected by Mr. Yassa. Samples were assembled into batches of 24 samples, which included one certified reference material and one blank sample. Four batches were sent to Expert in Rouyn-Noranda. Results of the resampling program are presented below.

Mr. Yassa collected 15 samples from four holes by taking ¼ splits of the remaining ½ core in the core box. The samples were taken by Mr. Yassa to Dicom courier in Rouyn-Noranda where they were shipped to the offices of P&E in Brampton, Ontario. From there the samples were sent by courier to AGAT Labs in Mississauga for analysis. At no time were any officers or employees of Bear Lake advised as to the location of the samples to be collected.

AGAT Laboratories employs a quality assurance system to ensure the precision, accuracy and reliability of all results. The best practices have been documented and are, where appropriate, consistent with:

The International Organization for Standardization's ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories" and the ISO 9000 series of Quality Management standards";

All principles of Total Quality Management (TQM);

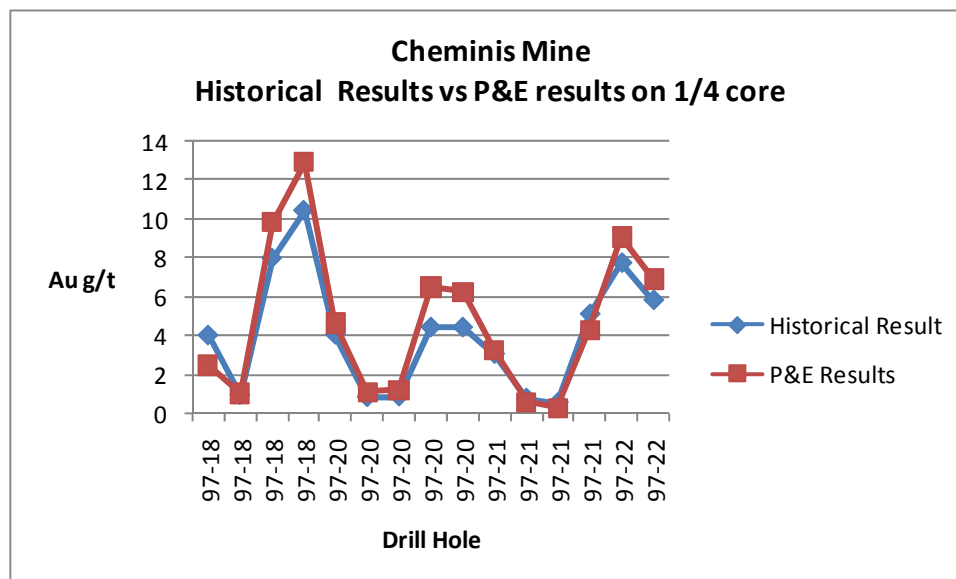
All applicable safety, environmental and legal regulations and guidelines;

Methodologies published by the ASTM, NIOSH, EPA and other reputable organizations;

The best practices of other industry leaders.

Samples were analyzed for gold using lead collection fire assay with an AA finish, and results are presented in Figure 12.1.

Figure 12.1 P&E Independent Site Visit Verification Samples for Gold



12.2.1 Quality Control on Most Recent Drilling

The holes drilled at Cheminis prior to 2004 did not have a quality control (“QC”) program in place.

Beginning in 2004, a QC program was implemented with one blank being inserted within the mineralized interval and two certified reference materials alternately inserted. The blank material was obtained from barren sediment zones in old holes from the Cheminis property. Two certified reference materials, G301-3 and G903-7 were obtained from Geostats Pty in Australia. Standard G301-7 had a gold grade of 1.96 g/t Au and G903-7 had a gold grade of 13.6 g/t Au. According to the 2004 Summary Report authored by Trent Eggeling of NFX, all grades reported from the blanks and the certified reference material fell within acceptable limits.

The next drill program at Cheminis after 2004 was in 2006. The QC program was maintained. A series of three varying grade certified reference materials were purchased from Rocklabs of New Zealand and introduced in the sample stream. Protocols were one standard per batch of samples assayed.

Quality control field blank samples were randomly and specifically inserted following samples suspected of containing gold mineralization to monitor for potential contamination during sample preparation and assaying. In addition, a duplicate sample of the drill core was also prepared on a regular basis to monitor precision.

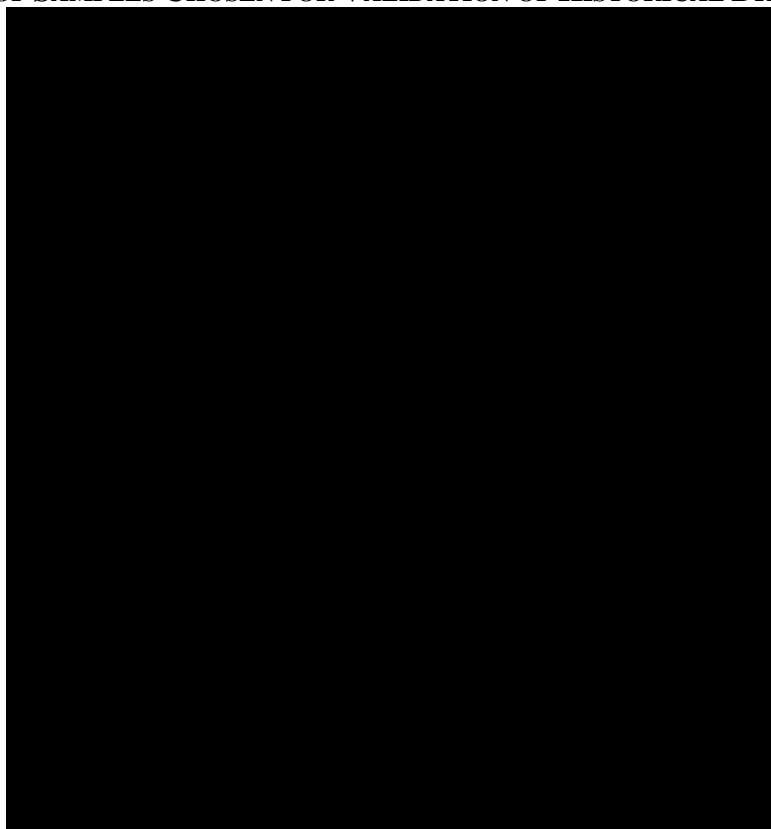
All diamond drill core was analyzed at Expert in Rouyn-Noranda, Québec.

An evaluation completed by P&E of the assay results and quality control samples, demonstrated the data to be of good integrity with good levels of accuracy and precision as determined from the duplicates and standards assay results.

12.2.2 P&E 2011 Validation Program for Historical Drilling

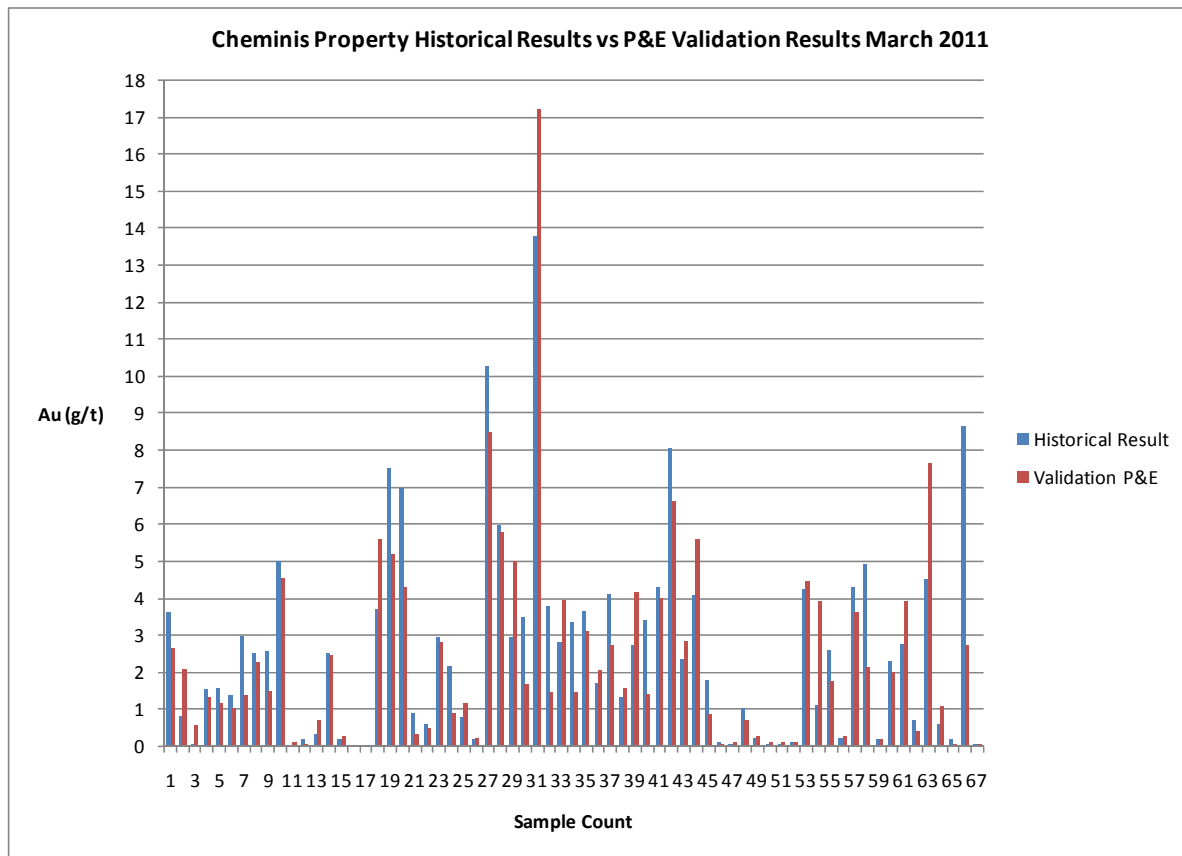
In order to validate the historical results for use in a NI 43-101 compliant resource estimate, 10% of the assays in the constrained model were checked by resampling $\frac{1}{4}$ splits of the remaining $\frac{1}{2}$ core in the box. Samples chosen for the validation program are presented in Figure 12.2. Samples were batched into 24 samples, including one blank and one certified reference material and were delivered to Expert in Rouyn-Noranda.

TABLE 12.1
LIST OF SAMPLES CHOSEN FOR VALIDATION OF HISTORICAL DRILLING



The author of this section reviewed the results of all the QC data, which were all within the norms. A graph of the original results versus current results was created and compared, and can be seen in Figure 12.2. Considering this is an Archean lode-gold deposit and the comparison is being made between $\frac{1}{2}$ core and $\frac{1}{4}$ core, the results demonstrate that the original results are reproducible and can be relied upon for use in the current resource estimate.

Figure 12.2 Comparison of Historical Assays vs. Current Validation Program Assays



12.3 BEAR LAKE DEPOSIT DATA VERIFICATION

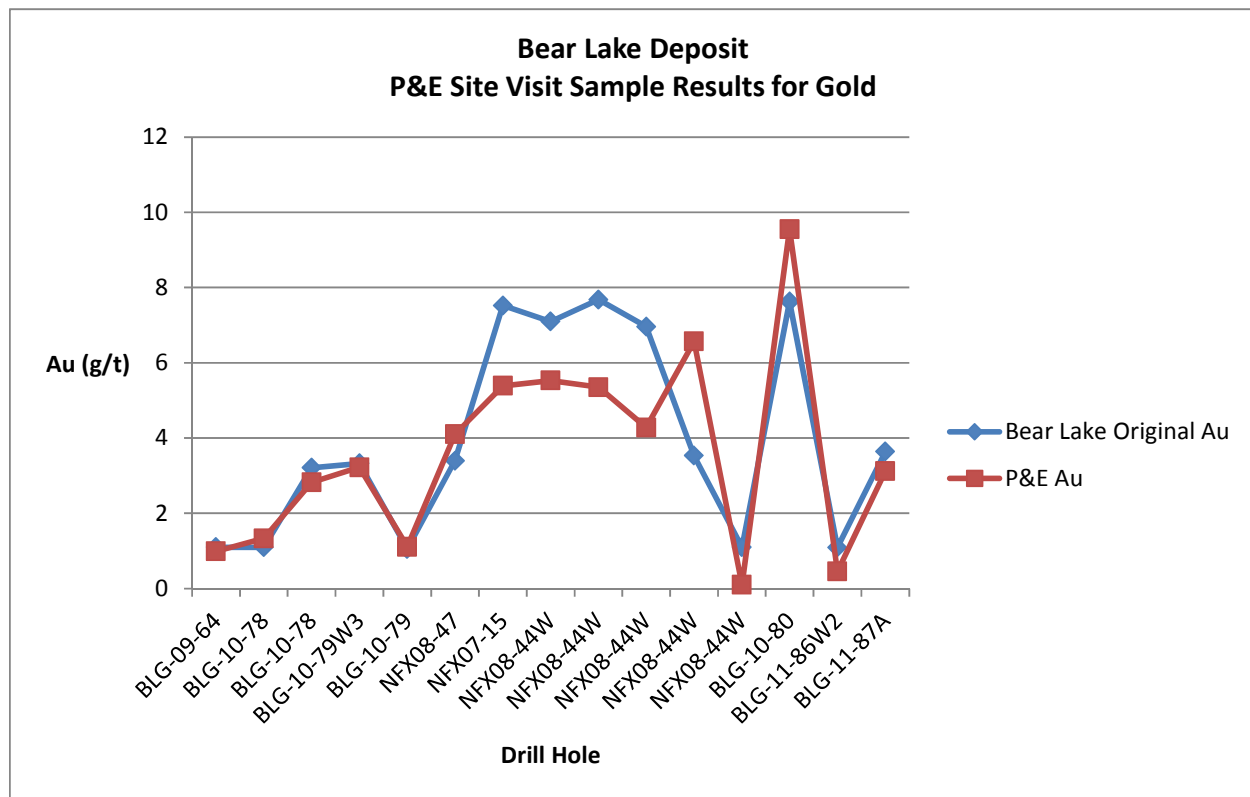
Mr. Antoine Yassa, P. Geo., visited the Bear Lake Property most recently on June 8, 2011 for the purpose of collecting independent samples for verification. Fifteen samples were collected in 10 holes. Approximately half the samples collected were pre-2010, (prior to P&E's involvement) and the other half were samples collected from the drill programs beginning in July 2010 and continuing throughout 2011.

Samples collected were quarter sawn by Mr. Yassa and placed into plastic sample bags with unique tags. The 15 samples were taken by Mr. Yassa to Dicom courier in Rouyn-Noranda, QC where they were shipped to the offices of P&E in Brampton, ON. From there, the samples were sent to Agat Labs in Mississauga, ON for analysis.

At no time prior to the time of sampling were any officers or employees of Bear Lake advised as to the location of samples to be collected.

The site visit sample results are presented in Figure 12.3.

Figure 12.3 Bear Lake Deposit Independent Sample Results



12.3.1 Bear Lake Deposit Quality Control Review

The quality control program for the 2010 and 2011 drill programs was set up and monitored on a real-time basis by P&E.

Samples were assembled into batches of 24 samples which included one certified reference material, one blank sample comprised of limestone pebbles, two pulp duplicates (prepared and analysed as part of Expert's internal QC), one coarse reject duplicate and one field (1/4 core) duplicate.

All samples were sent to Expert in Rouyn-Noranda, Quebec for sample preparation and analysis. Expert is registered under ISO 9001:2000 quality standard and participates in the CANMET PTP-MAL Laboratory Proficiency testing.

Gold was determined by lead-collection fire assay with AA finish to an upper limit of 1 g/t. Values greater than 1 g/t Au were rerun using gravimetric and both the AA value and the gravimetric value were reported.

Two certified reference materials were used for the drill programs, as well as a coarse blank which passed through all the stages of sample reduction.

P&E monitored the results as they arrived from the lab. All data imported into the master database were required to pass the strict QC protocols, and as such, all data used in the resource estimates in this report are of good quality.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Preliminary test work to investigate the recovery of gold by direct cyanidation and flotation was conducted by Lakefield Research on samples from the Cheminis A and C Zones. The study was commissioned by Golden Shield Resources in March 1988.

Settling and filtration characteristics of the ore were examined, Bond Work Indices were determined and mineralogical examinations were performed. Results of this preliminary test work can be found in the NI 43-101 technical report titled "Technical Report on the Cheminis Gold Property" dated November 20, 2003 prepared for NFX by Martin Bourgoin, P.Geo. of MRB & Associates, Val-d'Or Quebec, which is filed on the SEDAR website at www.sedar.com under Bear Lake's profile.

There has been no metallurgical test work completed for the Bear Lake Deposit.

14.0 MINERAL RESOURCE ESTIMATES

14.1 INTRODUCTION

The purpose of this report section is to estimate the Mineral Resources of the Bear Lake and Cheminis Deposits in compliance with NI 43-101 and CIM standards. These resource estimates were undertaken by Eugene Puritch, P.Eng. and Antoine Yassa, P.Geo. of P&E Mining Consultants Inc. of Brampton Ontario. The effective date of these resource estimates is June 15, 2011.

14.2 DATABASE

All Cheminis and Bear Lake deposit drilling data were provided by Bear Lake, in the form of Excel files and an MS-Access database. For the Cheminis deposit, thirty nine (39) drill cross sections were developed on a local grid looking Northeast on a 60o azimuth, on a 15 metre spacing named from 1-E to 39-E. For the Bear Lake Deposit, thirteen (13) drill cross sections were developed on a local grid looking West on a 50 metre spacing named from 600,100E to 601,200E.

The Gemcom database for the Cheminis resource estimate was constructed from 330 surface drill holes and 461 underground drill holes of which 25 surface drill holes and 92 underground drill holes were utilized in the resource calculation.

The Gemcom database for the Bear Lake resource estimate was constructed from 170 surface drill holes of which 30 were utilized in the resource calculation. All remaining data from either database were not in the areas that were modeled for the resource estimates. Drill hole plans are shown in Appendix-I.

The databases were verified in Gemcom with minor corrections made to bring them to an error free status. The Assay Tables of the database contained 24,903 Au assays for Cheminis and 12,936 Au assays for Bear Lake. Drill assay data grade values are expressed in metric units, while down hole interval data and grid coordinates are in the UTM system.

14.3 DATA VERIFICATION

Verification of 6,024 Cheminis assay database values was performed with original laboratory paper and electronically issued certificates from Swastika Labs, Spectrolab, Accurassay and ALS Chemex. Some minor errors were detected and corrected in the Gemcom database. The checked assays represent 86% of the data used in the resource estimate and approximately 21% of the total database.

Verification of 8,644 Bear Lake assay database values was performed with original laboratory paper and electronically issued certificates from Polymet Labs and Laboratoire Expert. Some minor errors were detected and corrected in the Gemcom database. The checked assays represent 79% of the data used in the resource estimate and approximately 67% of the total database.

14.4 DOMAIN INTERPRETATION

The Cheminis and Bear Lake Deposits domain boundaries were determined from lithology, structure and grade boundary interpretation from visual inspection of drill hole sections. At

Cheminis, five domains were created named NCB, SS, D, S-HW and DS. At Bear Lake, three domains were created named CARB, FLOW and UMA. These domains were created with computer screen digitizing on drill hole sections in Gemcom by the authors of this report. The domain outlines were influenced by the selection of mineralized material above 2.5 g/t Au that demonstrated a lithological and structural zonal continuity along strike and down dip. In some cases mineralization below 2.5 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 metres into untested territory. Minimum constrained true width for interpretation was approximately 2.0 metres. Interpreted polylines from each section were “wireframed” in Gemcom into 3-D domains. The resulting solids (domains) were used for statistical analysis, grade interpolation, rock coding and resource reporting purposes. See Appendix-II.

14.5 ROCK CODE DETERMINATION

The rock codes used for the resource models were derived from the mineralized domain solids. The list of rock codes used is as follows:

Cheminis Rock Code Description

0	Air
10	NCB Domain
20	SS Domain
30	D Domain
40	S-HW Domain
50	DS Domain
99	Waste

Bear Lake Rock Code Description

0	Air
10	CARB Domain
20	FLOW Domain
30	UMA Domain
99	Waste

14.6 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 1.0 metre lengths for Cheminis and 1.5 metre lengths for Bear lake starting at the first point of intersection between assay data hole and hanging wall of the 3-D zonal constraint. The compositing process was halted upon exit from the footwall of the aforementioned constraint. Un-assayed intervals were set to ½ assay detection limit values. Any composites that were less than 0.30 metres for Cheminis and less than 0.5 metres in length for Bear Lake were discarded so as not to introduce

any short sample bias in the interpolation process. The constrained composite data were transferred to Gemcom extraction files for the grade interpolation as X, Y, Z, Au, files.

14.7 GRADE CAPPING

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

TABLE 14.1					
GRADE CAPPING VALUES					
Cheminis Au Grade Capping Values					
Domain	Capping Value Au g/t	Number of Assays Capped	Cumulative % for Capping	Raw Coefficient of Variation	Capped Coefficient of Variation
NCB	20	2	98.9	1.34	1.22
SS	20	3	99.0	1.30	1.13
D	No Cap	0	100	1.02	1.02
S-HW	7	1	98.0	1.12	0.96
DS	No Cap	0	100	0.91	0.91
Bear Lake Au Grade Capping Values					
CARB	75	3	97.4	3.88	2.43
FLOW	No Cap	0	100	1.59	1.59
UMA	No Cap	0	100	0.98	0.98

14.8 VARIOGRAPHY

Reasonable omnivariograms were developed for the combined constrained composites from the five Cheminis and three Bear Lake 3D domains. Directional variography was not attainable for the composite datasets indicating that more drilling will be required to increase resource classification. See variograms in Appendix-IV.

14.9 BULK DENSITY

The bulk density used for the creation of the density block models was derived from site visit samples taken by Antoine Yassa, P.Geo. and analysed at Agat Laboratories in Mississauga, Ontario. The average bulk density for the Cheminis resource was derived from 15 samples and determined to be 2.68 tonnes per cubic metre. The average bulk density for the Bear Lake resource was derived from 17 samples and determined to be 2.79 tonnes per cubic metre.

14.10 BLOCK MODELING

The Cheminis Deposit resource model was divided into a block model framework containing 4,312,000 blocks that were 5m in the X direction, 5m in the Y direction and 5m in the Z direction. There were 140 columns (X), 140 rows (Y) and 220 levels (Z).

The Bear Lake Deposit resource model was divided into a block model framework containing 4,004,000 blocks that were 5m in the X direction, 5m in the Y direction and 5m in the Z direction. There were 140 columns (X), 110 rows (Y) and 260 levels (Z).

The Cheminis block model was rotated 30 degrees counter clockwise while the Bear Lake model was not rotated. Separate block models for each resource estimate were created for rock type, density, percent, class and Au.

The percent block models were 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 boundaries were properly represented by the percent model ability to measure individual infinitely variable block inclusion percentages within that domain.

The Au composites were extracted from the Microsoft Access database composite table into separate files. Inverse distance cubed (ID3) grade interpolation was utilized. The first grade interpolation pass was utilized for the Indicated classification and the second interpolation for the Inferred classification. 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:

TABLE 14.2									
AU BLOCK MODEL INTERPOLATION PARAMETERS ALL DOMAINS									
Cheminis Deposit									
Classification	Dip Dir.	Strike	Dip	Dip Range (m)	Strike Range (m)	Across Dip Range (m)	Max # per Hole	Min # Sample	Max # Sample
Indicated	150°	240°	-65°	30	30	15	2	3	20
Inferred	150°	240°	-65°	100	100	50	2	1	20
Bear Lake Deposit									
Classification	Dip Dir.	Strike	Dip	Dip Range (m)	Strike Range (m)	Across Dip Range (m)	Max # per Hole	Min # Sample	Max # Sample
Inferred	335°	65°	-85°	100	100	50	2	1	20

14.11 RESOURCE CLASSIFICATION

During the Cheminis classification interpolation search ellipsoid passes, 6,045 grade blocks were coded as Indicated and 22,397 as Inferred. During the Bear Lake classification interpolation search ellipsoid passes, 34,486 grade blocks were coded as Inferred. Classification block cross-sections and plans can be seen in Appendix VI.

14.12 RESOURCE ESTIMATE

The Cheminis and Bear Lake resource estimates were derived from applying a Au cut-off grade to the block models and reporting the resulting tonnes and grade for potentially mineable areas. The volumes of the existing underground workings were removed from the resource estimates.

The following calculation demonstrates the rationale supporting the Au cut-off grade that determines the underground potentially economic portions of the mineralization.

Underground Au Cut-Off Grade Calculation CDN\$

Au Price	US\$1,207/oz (24 month trailing average price May 31/11)
\$US/\$CDN Exchange Rate	\$0.95
Au Recovery	95%
Mining Cost (1,000tpd)	\$75.00/tonne mined
Process Cost (1,000tpd)	\$15.00/tonne milled
General/Administration	\$5.00/tonne milled

Therefore, the Au cut-off grade for the underground resource estimates is derived as follows:

$$\text{Operating costs per ore tonne} = (\$75 + \$15 + \$5) = \$95/\text{tonne}$$

$$[(\$95)/(\$1,207/\text{oz}/\$0.95/31.1035 \times 95\% \text{ Recovery})] = 2.5\text{g/t}$$

The above data were derived from similar gold projects to Cheminis and Bear Lake.

The resulting resource estimates can be seen in the following tables:

TABLE 14.3			
2011 LARDER LAKE RESOURCE ESTIMATES			
April 2011 Cheminis Resource Estimate @ 2.5 g/t Au Cut-Off Grade⁽¹⁾⁽²⁾⁽³⁾⁽⁴⁾			
Classification	Tonnes	Au g/t	Au oz.
Indicated	335,000	4.07	43,800
Inferred	1,391,000	5.22	233,400
June 2011 Bear Lake Resource Estimate @ 2.5 g/t Au Cut-Off Grade⁽¹⁾⁽²⁾⁽³⁾⁽⁴⁾			
Classification	Tonnes	Au g/t	Au oz.
Inferred	3,750,000	5.69	683,600
2011 Total Resource Estimate @ 2.5 g/t Au Cut-Off Grade⁽¹⁾⁽²⁾⁽³⁾⁽⁴⁾			
Classification	Tonnes	Au g/t	Au oz.
Indicated	335,000	4.07	43,800
Inferred	5,141,000	5.55	917,000

(1) 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, sociopolitical, 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 these Inferred resources 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 gold price used in this estimate was the May 31, 2011 two year trailing average of US\$1,207/oz. Process recovery was 95%. Mining costs were \$75/ tonne and Processing and G&A costs were \$20/tonne. Exchange rate used was \$0.95USD = \$1.00 CDN.

(4) The mineral resources in this technical 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.

TABLE 14.4
CHEMINIS RESOURCE ESTIMATE SENSITIVITY⁽¹⁾⁽²⁾⁽³⁾⁽⁴⁾

Cut-Off Au g/t	INDICATED			INFERRED		
	TONNES	Au g/t	Au oz	TONNES	Au g/t	Au oz
5.0	68,699	6.82	15,064	557,977	7.92	142,116
4.5	89,302	6.34	18,197	624,775	7.58	152,240
4.0	115,740	5.86	21,795	741,869	7.05	168,178
3.5	166,242	5.21	27,868	872,063	6.56	183,898
3.0	233,889	4.65	34,937	1,106,982	5.85	208,061
2.5	334,999	4.07	43,847	1,390,586	5.22	233,423
2.0	433,800	3.66	50,990	1,576,937	4.87	246,857
1.5	519,754	3.34	55,863	1,853,214	4.41	262,520
1.0	598,351	3.07	59,001	2,165,785	3.95	274,976
0.5	686,166	2.77	61,130	2,492,353	3.53	282,623
0.001	744,099	2.57	61,579	2,969,827	2.99	285,397

TABLE 14.5
BEAR LAKE RESOURCE ESTIMATE SENSITIVITY⁽¹⁾⁽²⁾⁽³⁾⁽⁴⁾

Cut-Off Au g/t	INFERRED		
	TONNES	Au g/t	Au oz
5.0	1,687,575	7.93	430,040
4.5	2,095,613	7.30	491,708
4.0	2,577,176	6.74	558,217
3.5	3,009,437	6.31	610,143
3.0	3,482,009	5.89	659,718
2.5	3,749,653	5.67	683,604
2.0	3,972,228	5.48	699,598
1.5	4,161,027	5.31	710,508
1.0	4,235,820	5.24	713,610
0.5	4,270,755	5.20	714,415
0.001	4,307,361	5.16	714,722

14.13 CONFIRMATION OF ESTIMATE

As a test of the reasonableness of the resource estimates, the Cheminis and Bear Lake block models were queried at a 0.1 g/t Au cut-off grade with blocks in all classifications summed and their grades weight averaged. This average is the average grade of all blocks within the mineralized domain. The values of the interpolated grades for the block model were compared to the length weighted capped average grades and average grade of composites of all samples from within the domains. See below.

TABLE 14.6 COMPARISON OF WEIGHTED AVERAGE GRADE OF CAPPED ASSAYS AND COMPOSITES WITH TOTAL BLOCK MODEL AVERAGE GRADES		
Data Type	Cheminis Au (g/t)	Bear Lake Au (g/t)
Capped Assays	2.59	5.59
Composites	2.54	5.75
Block Model	2.76	5.35

The preceding Cheminis and Bear Lake comparisons show the average grade of all the Au blocks in the constraining domains to be reasonably close to the weighted average of all capped assays and composites used for grade estimation. The block model Au values will be more representative than the capped assays or composites due to the block model's 3D spatial distribution characteristics.

In addition, a volumetric comparison was performed with the block model volume of the model blocks versus the geometric calculated volume of the domain solids.

	Cheminis	Bear Lake
Block Model Volume	=1,740,869 m ³	1,543,852 m ³
Geometric Domain Volume	=1,741,614 m ³	1,544,104 m ³
Difference	=0.04%	0.02%

15.0 ADJACENT PROPERTIES

The Kirkland Lake/Larder Lake area remains in 2011 a very active area for exploration and development. Several mining companies are active in the sector and the projects and companies are presented in the following paragraphs. All of the information below has been obtained directly from the companies' websites. Mineralization as described for each project is not necessarily indicative of the mineralization on the Larder Lake Property and it is not the authors' intention to suggest otherwise.

15.1 ARMISTICE RESOURCES

The McGarry Gold Project consists of 34 contiguous patented mining claims and licences of occupation covering a total area of approximately 484 hectares in the southwestern section of McGarry Township, Ontario. The Project is also host to a mining plant consisting of a three compartment vertical shaft to a depth of 2,290 feet below surface, a 10 foot double drum hoist capable of operating to depths of 4,200 feet, a 105 foot steel headframe, a hoist/compressor building, a dry/shop building and an electric power substation.

Situated within the highly prolific Larder Lake Mining Division, the McGarry Project adjoins the past-producing Kerr Addison Mine property to the west. Production from the Kerr Addison Mine totaled approximately 11 million ounces of gold from 41 million tons of ore over its 58-year operating life. Armistice has identified a mineralized system at a depth of 2,200 feet on the McGarry Project, which is geologically identical to that of the adjacent Kerr Addison property. The Company believes that the mineralized system on the Project represents either a duplicate of, or a downfaulted extension of the Kerr Addison system. As a result, Armistice believes that the McGarry Project has the potential of hosting an extensive gold bearing system similar to that occurring at the Kerr Addison Mine, but extending to greater depth.

From 1985 to 1989, Armistice spent in excess of \$30 million on exploration and development of the McGarry Project. This included the deepening of the shaft, enlargement and refurbishment of the shaft to bring it up to production capacity, installation of a mining plant to sustain production to 4,000 feet, the completion of approximately 10,000 feet of underground development and over 250,000 feet of exploration drilling. Based on the results of the exploratory underground diamond drilling programs, a total drill indicated resource of 433,981 tons grading 0.25 ounces of gold per ton, or 108,495 ounces of contained gold, has been estimated to a depth of 2,600 feet on the Project.

The McGarry Project is free and clear of all encumbrances and in good standing. Mineral and surface rights are included in the Project title, which is registered to Armistice. Title is maintained through the annual property tax payments to the township of McGarry and the Ministry of Northern Development and Mines. There are no assessment work requirements for continuing tenure.

On March 2, 2011 Armistice issued a news release announcing they expect to begin gold production in Q4-2011 from the McGarry Mine gold project. In addition, a major surface diamond drilling program with an initial 60,000 feet, estimated to cost approximately \$2.5 million was to begin in mid-March.

15.2 MISTANGO RIVER RESOURCES (FORMERLY GLR RESOURCES)

Mistango River Resources holds the Omega Mine property located slightly east-northeast of the town of Larder Lake, Ontario. The property consists of 17 contiguous leased and patented mining claims comprising some 635 acres. The latest news release issued by the company in December 2010 stated that data from the property are currently being reviewed and they expect to complete a NI 43-101 compliant resource at some time in the future.

15.3 KIRKLAND LAKE GOLD

Kirkland Lake Gold owns five former producing mines in the Kirkland Lake camp, and currently the Macassa Mine, located 35 km east of the Larder Lake Property is in production. In 2010, a mine and mill expansion were completed at Macassa in order to increase hoisting capacity from 1,000 tpd to 3,600 tpd. The current reserves and resources at Macassa stand at:

Proven and Probable:	1,397,000 oz. Au at 0.56 opt (19.2 g/t Au);
Measured and Indicated:	1,267,000 oz. Au at 0.47 opt (16.2 g/t Au);
Inferred:	1,002,000 oz. Au at 0.58 opt (19.9 g/t Au).

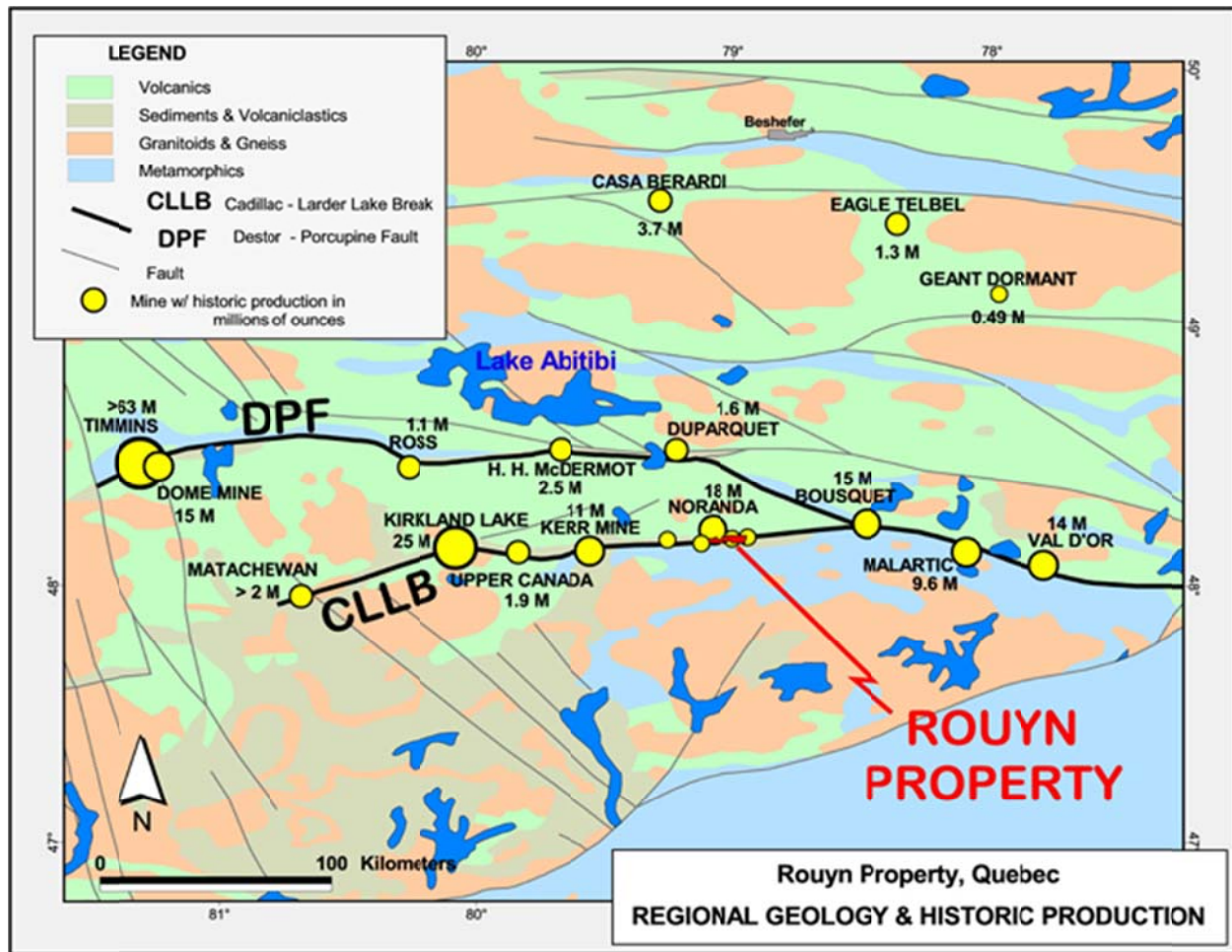
15.4 YORBEAU RESOURCES

Yorbeau Resources controls a 12 km segment of the Larder Lake–Cadillac Break, situated approximately 40 km south-east of Rouyn-Noranda, (see Figure 15.1). The Rouyn Property is divided into seven "Blocks": Augmitto, Cinderella, Durbar, Lake Gamble, Astoria, Wright-Rouyn and Lake Bouzan. Yorbeau's exploration work carried out on the contiguous Augmitto and Cinderella Blocks during 2005-2009 confirmed the presence of both sediment-hosted and carbonate type ores within the blocks. The geology and mineralization show many characteristics similar to the Kerr Addison Mine.

Yorbeau conducted an exploration program during 2009 on the mineralized corridor between the Augmitto and Astoria deposits that followed on the discovery of two gold zones in 2008 – the Cinderella and Lake Gamble zones.

Drilling continued in 2010 and continues in 2011, specifically on the Augmitto-Astoria corridor. On May 10, 2011 the company announced that the preparation of a NI 43-101 compliant resource estimate had been commissioned to Roscoe-Postle Associates Inc. for the Augmitto Deposit.

Figure 15.1 Yorbeau Resources Geological Location Map for the Rouyn Property



16.0 CONCLUSIONS AND RECOMMENDATIONS

16.1 CONCLUSIONS

The Cheminis deposit was modeled into five domains determined from lithology, structure and grade boundary interpretation from visual inspection of drill hole sections. The domain outlines were influenced by the selection of mineralized material above 2.5 g/t Au that demonstrated a lithological and structural zonal continuity along strike and down dip. The resulting resources were estimated using a two-year trailing average gold price of \$US 1,207/oz and a cut-off grade of 2.5 g/t Au. Resources were classed in both the Indicated and Inferred categories.

The Bear Lake deposit was modeled into three domains named CARB, FLOW and UMA, which were determined from lithology, structure and grade boundary interpretation from visual inspection of drill hole sections. The domain outlines were influenced by the selection of mineralized material above 2.5 g/t Au that demonstrated a lithological and structural zonal continuity along strike and down dip. The resulting resources were estimated using a two-year trailing average gold price of \$US 1,207/oz and a cut-off grade of 2.5 g/t Au. Resources were classed in the Inferred category.

TABLE 16.1			
2011 LARDER LAKE RESOURCE ESTIMATES⁽¹⁾⁽²⁾⁽³⁾			
April 2011 Cheminis Resource Estimate @ 2.5 g/t Au Cut-Off Grade⁽¹⁾⁽²⁾⁽³⁾			
Classification	Tonnes	Au g/t	Au oz.
Indicated	335,000	4.07	43,800
Inferred	1,391,000	5.22	233,400
June 2011 Bear Lake Resource Estimate @ 2.5 g/t Au Cut-Off Grade⁽¹⁾⁽²⁾⁽³⁾			
Classification	Tonnes	Au g/t	Au oz.
Inferred	3,750,000	5.69	683,600
2011 Total Resource Estimate @ 2.5 g/t Au Cut-Off Grade⁽¹⁾⁽²⁾⁽³⁾			
Classification	Tonnes	Au g/t	Au oz.
Indicated	335,000	4.07	43,800
Inferred	5,141,000	5.55	917,000

(1) 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 these inferred resources 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 mineral resources in this technical 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.

16.2 RECOMMENDATIONS

It is recommended that Bear Lake undertakes an approximate 20,000 metre diamond drill program on the areas with the goals outlined in Table 16.2. The approximate cost of this diamond drill program is CDN\$2.5 million.

TABLE 16.2
RECOMMENDED BUDGET FOR LARDER LAKE PROPERTY

Property	Activity	Goal	Cost
Cheminis	Diamond drilling	Expand resources on-strike and at depth; in-fill to potentially upgrade categories	\$ 1,000,000
Bear Lake	Diamond drilling	In-fill to increase confidence and potentially upgrade categories	\$ 1,000,000
Fernland	Diamond drilling	Follow up drilling of previous high grade intercepts	\$ 500,000
TOTAL			\$ 2,500,000

17.0 REFERENCES

Andrew, A., Godwin, C.I., and Sinclair, A.J. (1983) Age and genesis of Cariboo gold mineralization determined by isotopic methods; British Columbia Ministry of Energy, Mines and Petroleum Resources, Geological Fieldwork, Paper 1983-1, p. 305-313.

Böhlke, J.K., and Kistler, R.W. (1986) Rb-Sr, K-Ar, and stable isotope evidence for the ages and sources of fluid components in gold-quartz veins of the northern Sierra Nevada foothills metamorphic belt, California: *Economic Geology*, v. 81, p. 296–322.

Bourgoin, M. (October, 2002) Evaluation Report on the Cheminis Property North Carbonate Gold Zone.

Bourgoin, M. (November, 2003) Technical Report, Cheminis Gold Property, Larder Lake.

Bourgoin, M. and Armstrong, T. (February 2006) Technical Report, NI 43-101 & 43-101F1, Larder Lake Property, Larder Lake, Ontario prepared by Tracy Armstrong, P.Geo. and Martin Bourgoin, P.Geo. of MRB & Associates, Val d'Or, Quebec.

Bourgoin, M. & Horvath, A. S. (March 2007-2006) Diamond Drilling Results, Larder Lake Property. Larder Lake, Ontario, Prepared by Alex S. Horvath, P. Eng. & Martin Bourgoin, P. Geo. of MRB & Associates.

Boyle, R.W. (1979) The geochemistry of gold and its deposits; Geological Survey of Canada, Bulletin 280, 584 p.

Card, K.D. (1990) A Review of the Superior Province of the Canadian Shield; a Product of Archean accretion; *Precambrian Research* v. 48, pp 99-156.

Claoué-Long, J.C., King, R.W., and Kerrich, R., (1990) Archean hydrothermal zircon in the Abitibi greenstone belt: Constraints on the timing of gold mineralization: *Earth Planetary Science Letters*, v. 89, p. 109-128.

Colvine, A.C. (1989) An empirical model for the formation of Archean gold deposits: products of final cratonization of the Superior Province, Canada; & *The Geology of Gold Deposits: the Perspective in 1988*, (ed.) R.R. Keays, W.R.H. Ramsay, and D.I. Groves; *Economic Geology*, Monograph 6, p. 37-53.

Couture, J.F. and Guha, J. (1990) Relative timing of emplacement of an Archean lode-gold deposit in an amphibolite terrane: the Eastmain River deposit, northern Quebec in *Canadian Journal of Earth Sciences*, 1990, vol 27, pp. 1621-1636.

Eggeling, T. (December 2004) Report on Exploration Activities at the Cheminis Project, Larder Lake, Ontario.

Emmons, W.H. (1937) *Gold Deposits of the World*; McGraw-Hill, New York, 562 p.

Graves, M.C., and Zentilli, M., (1982) A review of the geology of gold in Nova Scotia, in Hodder, R.W., and Petruk, W., *Geology of Canadian Gold Deposits: Canadian Institute of Mining and Metallurgy*, Special Volume 24, p. 233-242.

Hodgson, C.J. and Hamilton, J.V. (1989) Gold mineralization in the Abitibi greenstone belt : end-stage results of Archean collisional tectonics, in *The Geology of Gold Deposits; the Perspective in 1988*. R.R. Keays, W.R.H. Ramsay and D.I., Groves, editors. *Economic Geology*, Monograph 6: 86-100.

Hogg, G.M. (May 27, 1998) Report on the Cheminis Project and other Holdings of NFX Gold Inc. in the Larder Lake Area, Ontario.

Horwood, and Pye, (1955) *Geology of Ashmore Township*, Annual report of the Department of Mines, v. 60, pt 5, Ontario Department of Mines.

Kerrick, R (1989) Geochemical evidence on the sources of fluids and solutes for shear zone hosted mesothermal Au deposits; mineralization and Shear Zones, (ed.) J.T. Bursnall; *Geological Association of Canada, Short Course Notes*, v. 6, p. 129-197.

Leitch, C.H.B. (1990) Bralorne: a mesothermal, shield-type vein gold deposit of Cretaceous age in south western British Columbia; *Economic Geology: CIM Bulletin*, v. 83, p. 53–80.

Lhotka P.G., Nesbitt B.E. (1989) - Geology of un-mineralised and gold-bearing iron formation, Contwoyto Lake - Point Lake region, Northwest Territories, Canada: in *Can. J. Earth Sci.* v26 pp 46-64.

Lindgren, W. (1933) *Mineral deposits*, 4th ed.: New York, McGraw-Hill, 930 p.

Mathew, W.H. (1953) *Bulletin 31 Geology of the Sheep Creek Camp*.

Maximus Ventures Ltd.-- Multiple Authors (2007) *Diamond Drilling Report*, with logs, survey data, assay data and assay certificates.

Maximus Ventures Ltd.-- Multiple Authors (2008) *Diamond Drilling Report*, with logs, survey data, assay data and assay certificates.

Maximus Ventures Ltd.-- Multiple Authors *Monthly updates, internal geological memos, budget proposals*.

Robert, F. and Brown, A.C. (1986a). Archean gold-bearing quartz veins at the Sigma Mine, Abitibi greenstone belt, Quebec; Part I, *Geologic relations and formation of the vein system*. *Economic Geology*; May 1986; v. 81; no. 3; p. 578-592.

Robert, F. and Brown, A.C. (1986b) Archean gold-bearing quartz veins at the Sigma Mine, Abitibi greenstone belt, Quebec; Part II, *Vein paragenesis and hydrothermal alteration*. *Economic Geology*; May 1986; v. 81; no. 3; p. 593-616.

Robert, F. and Taylor, B.E. (1990) *Structural evolution and gold remobilization at the Mosquito Creek Gold Mine, Cariboo district, British Columbia*; *Geological Association of Canada-Mineralogical Association of Canada, Joint Annual Meeting, Vancouver, 1990, Program with Abstracts*, v. 15, p. A112.

Robert, F. (1994) *Vein fields in Gold Districts: The example of the Val-d'Or, south-eastern Abitibi subprovince, Quebec*. *Canada Geological Survey Current Research 1994-C*, p. 295-302.

Robert, F. (1996) Quartz Carbonate Vein Gold, in *Geology of Canadian Mineral Deposit Types*, (ed.) O.R. Eckstrand, W.D. Sinclair, and R.I. Thorpe; Geological Survey of Canada, *Geology of Canada*, no. 8, p. 350-366.

Poulsen, K. Howard: (1995) Disseminated and Replacement Gold, in *Geology of Canadian Mineral Deposit Types*, (ed.) O.R. Eckstrand, W.D. Sinclair, and R.I. Thorpe; Geological Survey of Canada, *Geology of Canada*, no. 8, p. 323-328.

Sharpley, Fred J. (December 2003) Report on Diamond Drilling Program Bear Lake Property, McVittie Township, Ontario, Larder Lake Mining Division.

Siriunas, John M. Preliminary Assessment of Certain Mineral Properties of Northfield Inc. and NFX Gold Inc. Districts of Timiskaming and Cochrane, Ontario.

Sketchley, D.A., Sinclair, A.J. and Godwin, C.I. (1986) Early Cretaceous Gold-silver Mineralization in the Sylvester Allochthon, near Cassiar, North-central British Columbia *Canadian Journal of Earth Sciences*, Volume 23, pages 1455-1458.

Sutherland-Brown, A. (1957) *Geology of the Antler Creek area, Cariboo district, British Columbia*.

Tihor, Leslie A. (February, 1998) – Cheminis Mine Exploration Program; Geology Report prepared for the Northern Ontario Heritage Fund Corporation.

Tihor, Leslie A. (January, 1999) – NFX/FNX Option /J.V. – Cheminis Mine 1998 Exploration Program; Final Report prepared for NFX Gold Inc. & Fort Knox Gold Resources Inc.

Wakeford, J. (2008) NI 43-101 Technical Report on the Larder Lake Property, Larder Lake Ontario, prepared for Maximus Ventures Ltd. and NFX Gold Inc.

Zalnieriunas, R.V. (January, 1999) Underground Exploration Proposal Cheminis Mine “D-Zone” Larder Lake, Ontario.

18.0 CERTIFICATES

CERTIFICATE of AUTHOR

TRACY J. ARMSTRONG, P.GEO.

I, Tracy J. Armstrong, P.Geo., 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.
2. This certificate applies to the technical report titled "Technical Report and Updated Resource Estimates on the Larder Lake Property, Larder Lake, Ontario" (the "Technical Report") with an effective date of June 15, 2011.
3. I am a graduate of Queen's University at Kingston, Ontario with a B.Sc (HONS) in Geological Sciences (1982). I have worked as a geologist for a total of 25 years since obtaining my B.Sc. degree. I am a geological consultant currently licensed by the Order of Geologists of Québec (License No. 566), the Association of Professional Geoscientists of Ontario (License No. 1204) and the Association of Professional Engineers and Geoscientists of British Columbia (License 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, 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 production geologist, Agnico-Eagle Laronde Mine 1988-1993
- 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-present.

4. I have not visited the Larder Lake Property.
5. I am responsible for Sections 1 through 12, 14 and jointly responsible for Section 15, as well as the overall structuring of the Technical Report.
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 Property that is the subject of this Technical Report as co-author of a 2006 and 2011 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: June 15, 2011

Signing Date: August 15, 2011

{SIGNED AND SEALED}

Tracy J. Armstrong, P.Geo.

CERTIFICATE of AUTHOR

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 and Updated Resource Estimates on the Larder Lake Property, Larder Lake, Ontario" (the "Technical Report") with an effective date of June 15, 2011.
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 not visited the Larder Lake Property.
5. I am jointly responsible for Section 13 and co-authoring Section 15 of the Technical Report.
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: June 15, 2011

Signing Date: August 15, 2011

{SIGNED AND SEALED}

Eugene J. Puritch, P. Eng.

CERTIFICATE of AUTHOR

ANTOINE R. YASSA, P. GEO

I, Antoine R. Yassa, P. Geo., residing at 241 Rang 6 West, Evain, Quebec, 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 and Updated Resource Estimates on the Larder Lake Property, Larder Lake, Ontario" (the "Technical Report") with an effective date of June 15, 2011;
3. I am a graduate of Ottawa University at Ottawa, Ontario with a B.Sc (HONS) in Geological Sciences (1977). I am currently licensed by the Order of Geologists of Québec (License No 224) and the Association of Professional Geoscientists of Ontario (License No. 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 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:
 - 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 2006 to present.
4. I am responsible for all the site visits and independent sampling as well as co-authoring Section 13.0 of the Technical Report;
5. I visited the Larder Lake Property on many occasions, the last date being June 8, 2011;
6. I have had prior involvement with the Larder Lake Property as co-author on the May 2011 Technical Report on the Cheminis Gold Mine Property;
7. 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;
8. I am independent of the issuer applying the test in Section 1.5 of NI 43-101;
9. I have read NI 43-101 and Form 43-101F1 and the Report has been prepared in compliance therewith.

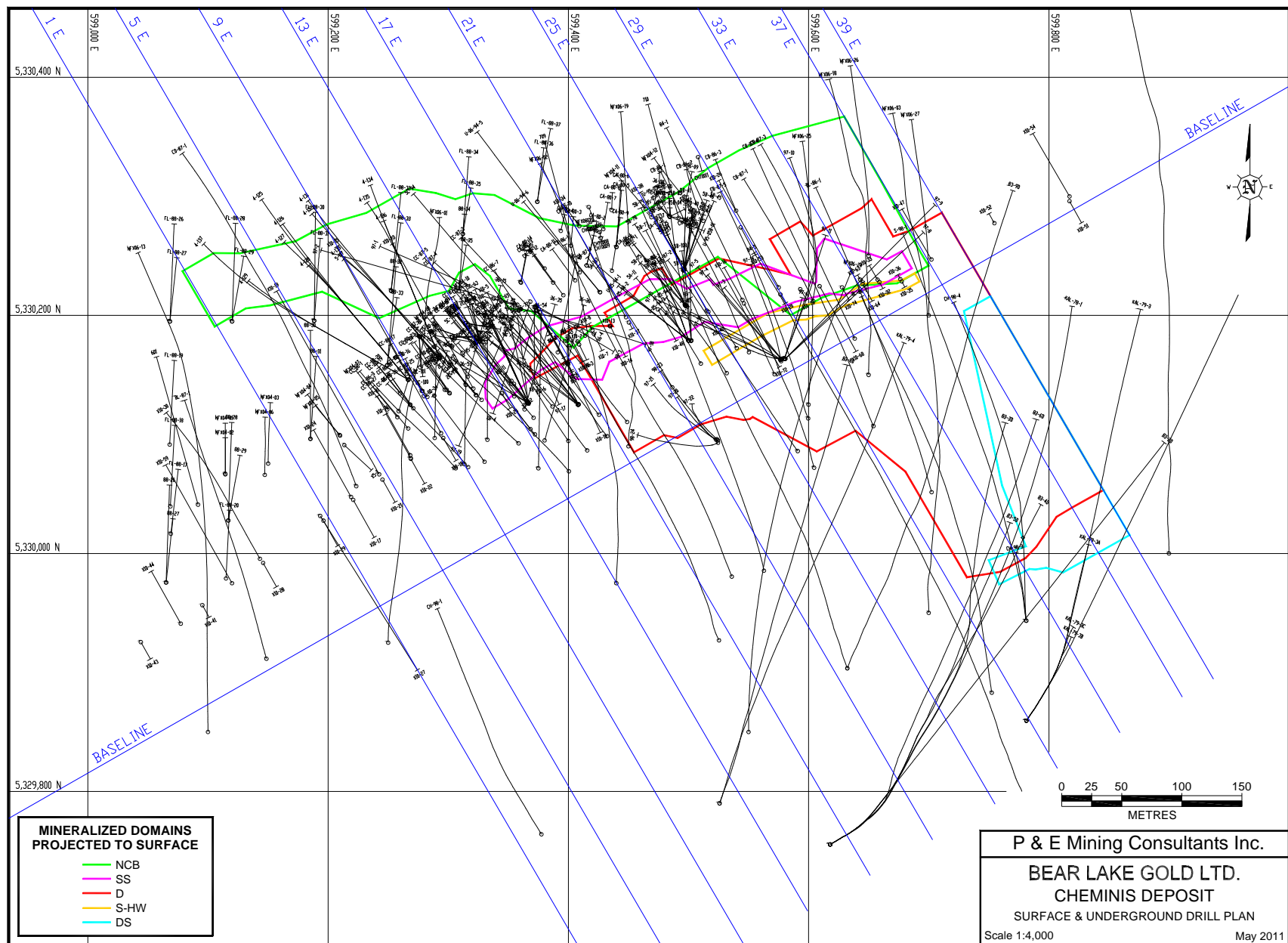
Effective date: June 15, 2011

Signing date: August 15, 2011

{SIGNED AND SEALED}

Antoine R. Yassa, P.Geo.
OGQ # 224

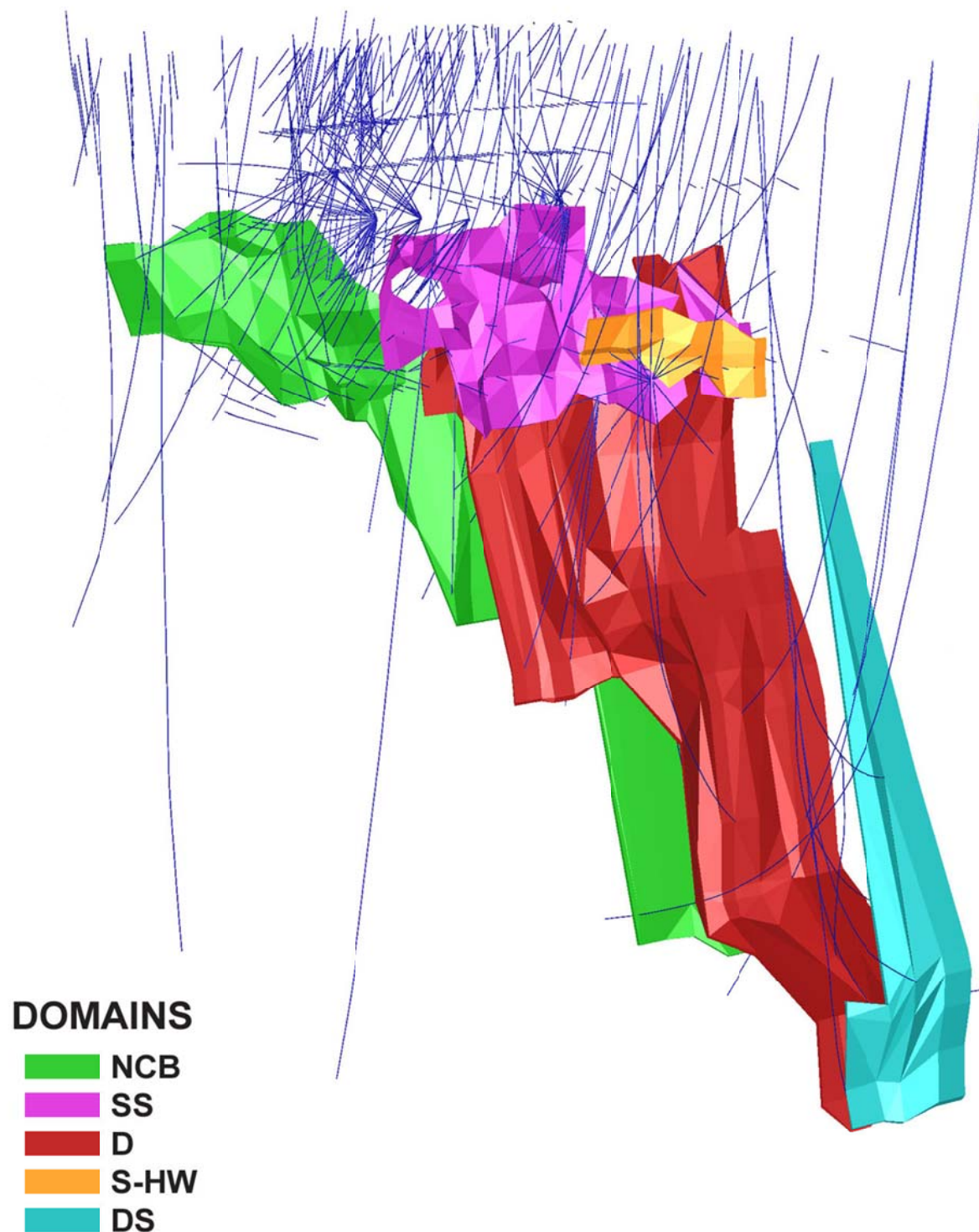
APPENDIX I. SURFACE & UNDERGROUND DRILL HOLE PLANS



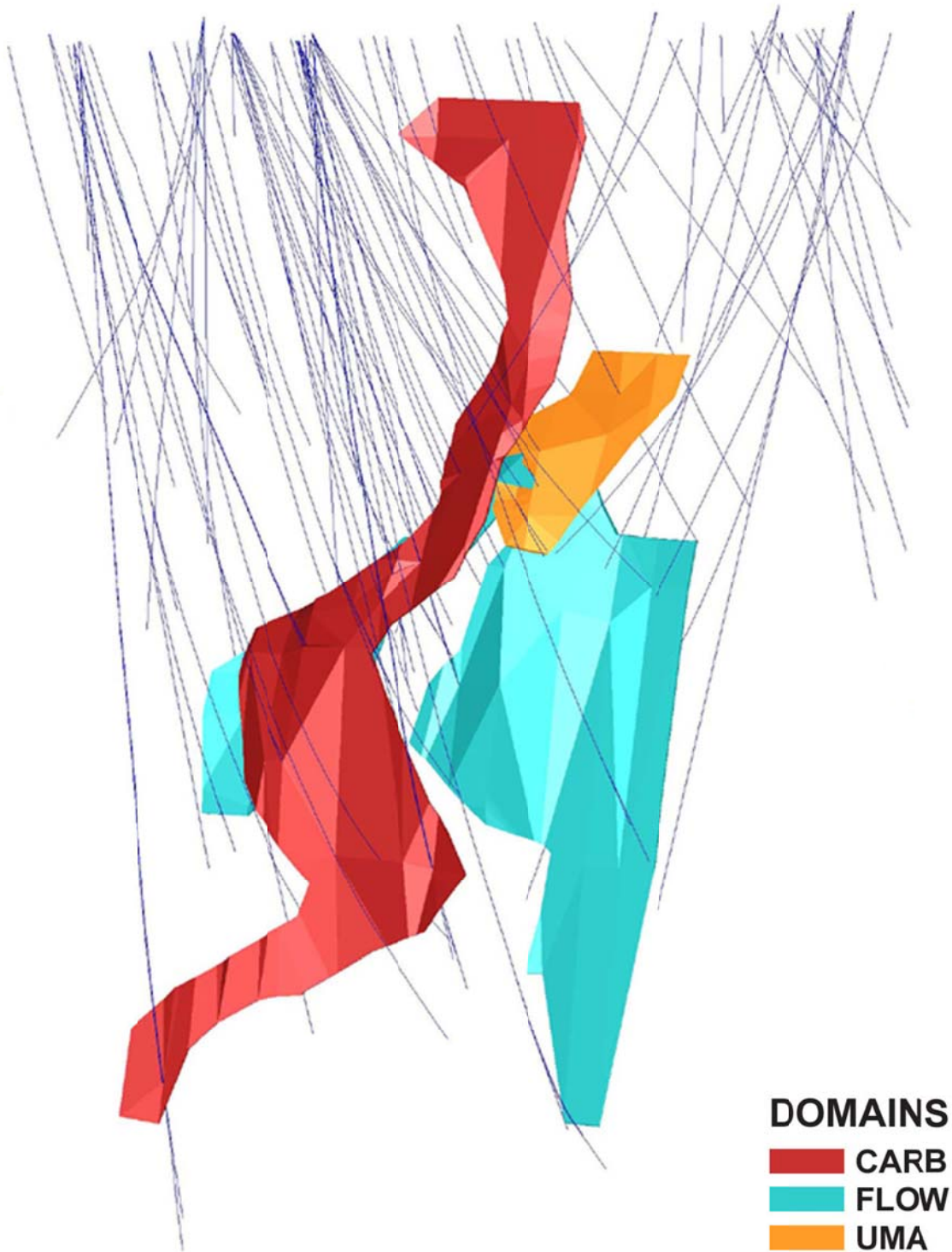
APPENDIX II. 3D DOMAINS

CHEMINIS DEPOSIT

3D DOMAINS

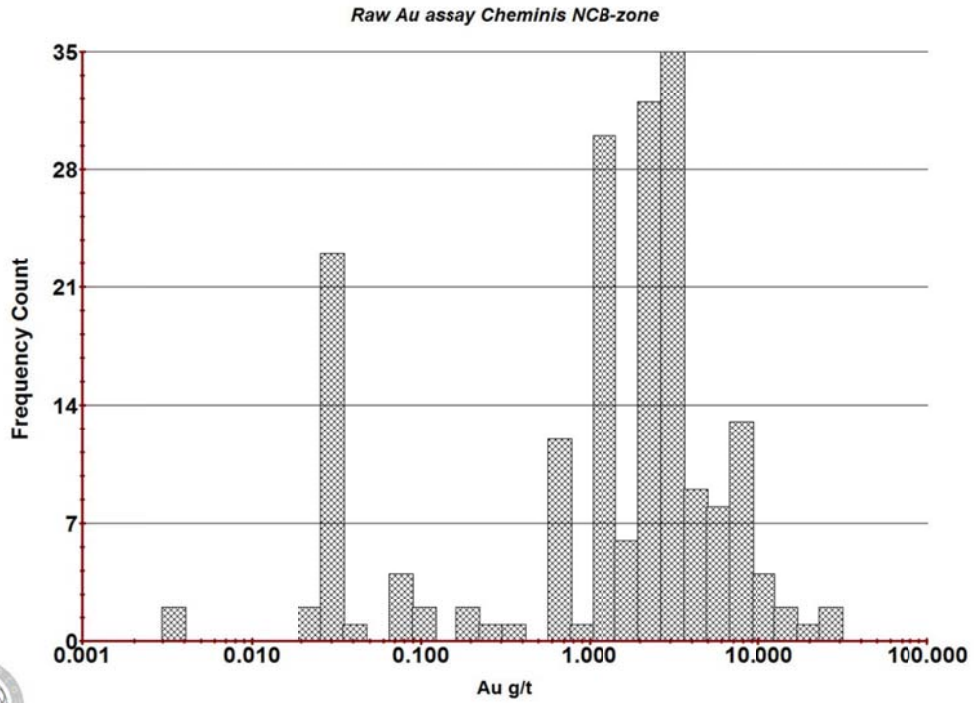


BEAR LAKE DEPOSIT 3D DOMAINS

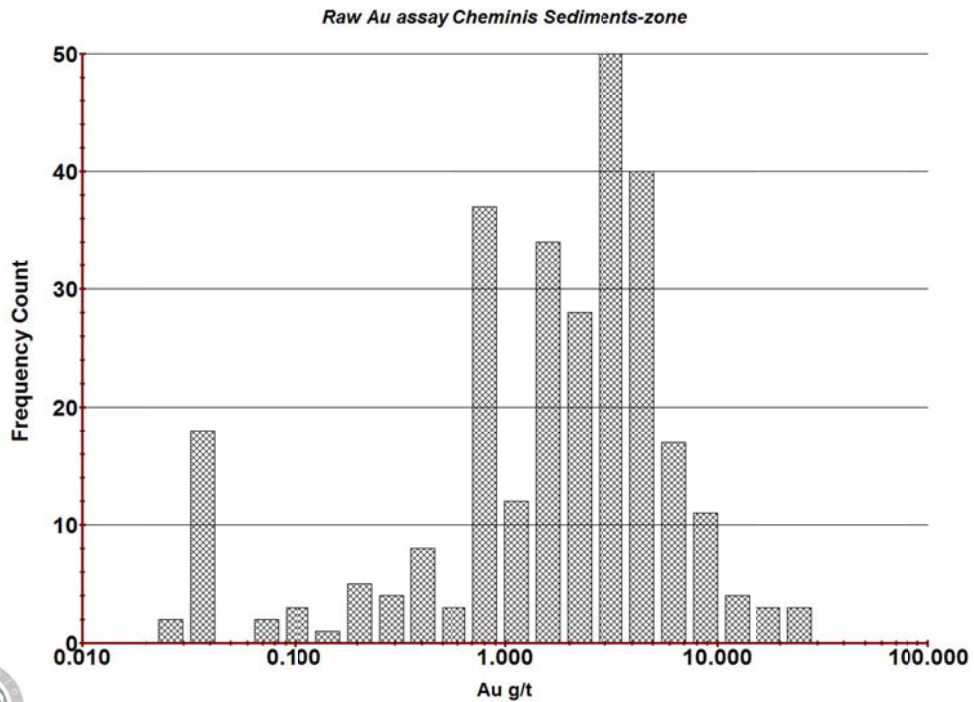


APPENDIX III. LOG NORMAL HISTOGRAMS

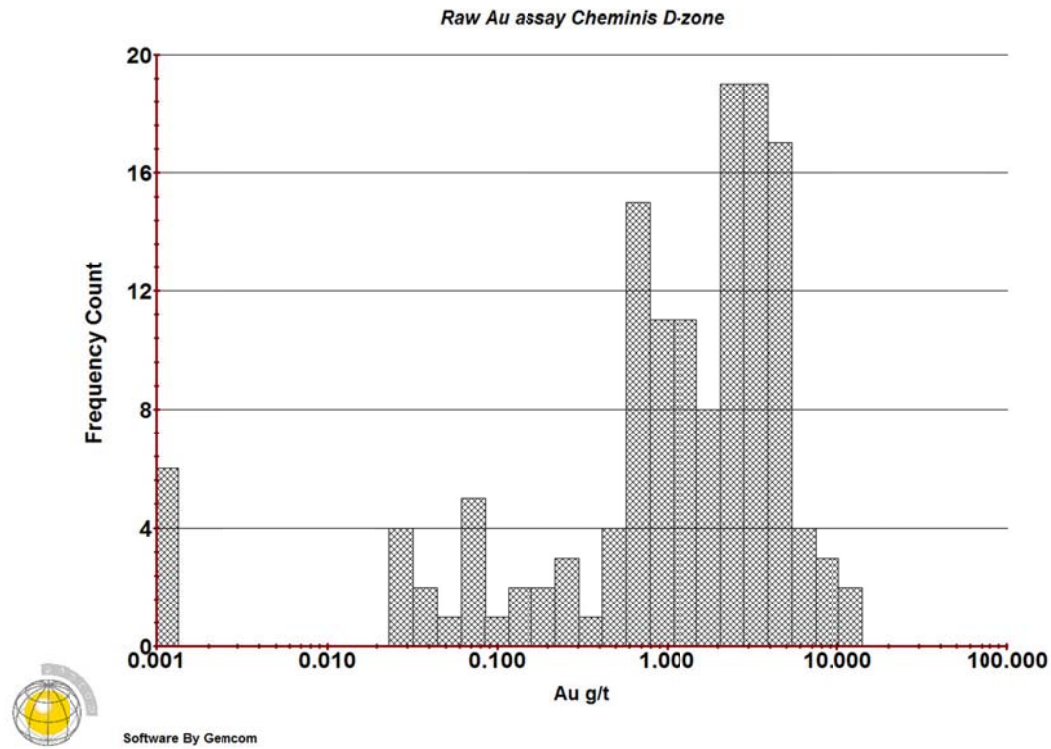
Cheminis Au raw LOG Normal Histogram



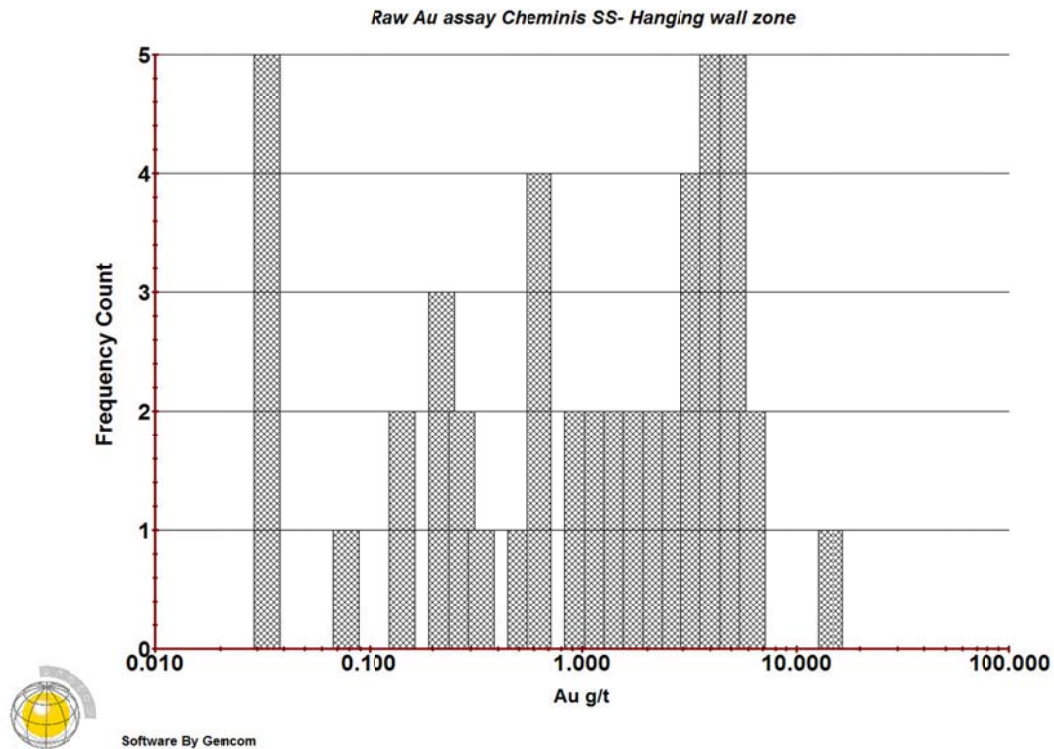
Cheminis Au raw LOG Normal Histogram



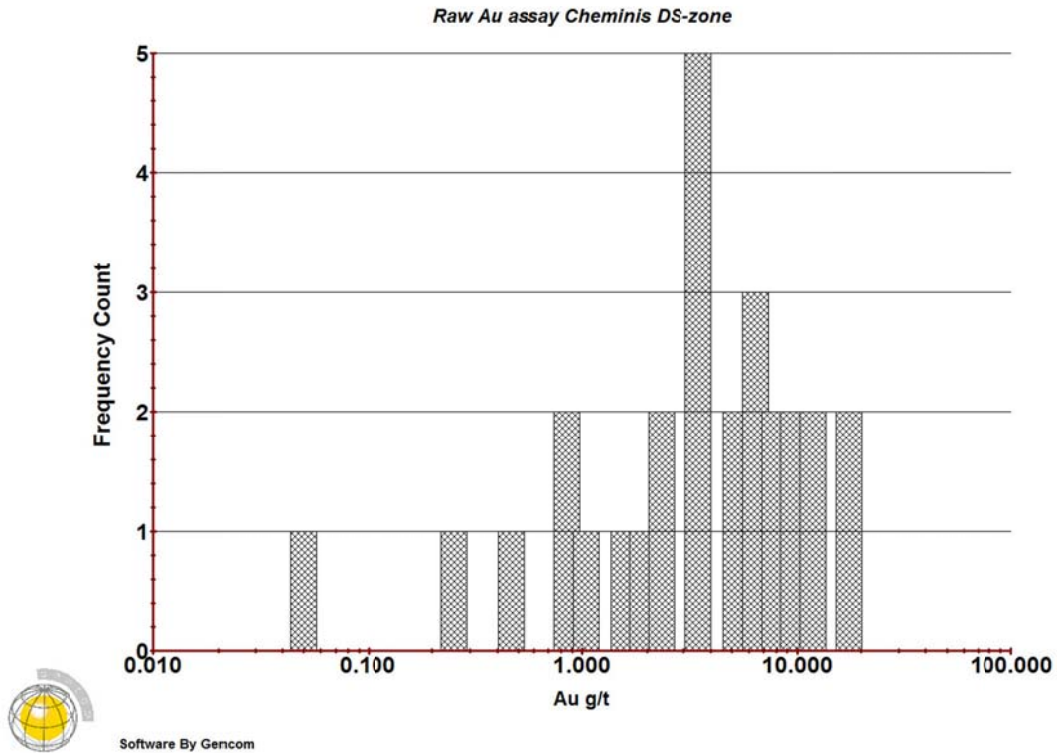
Cheminis Au raw LOG Normal Histogram



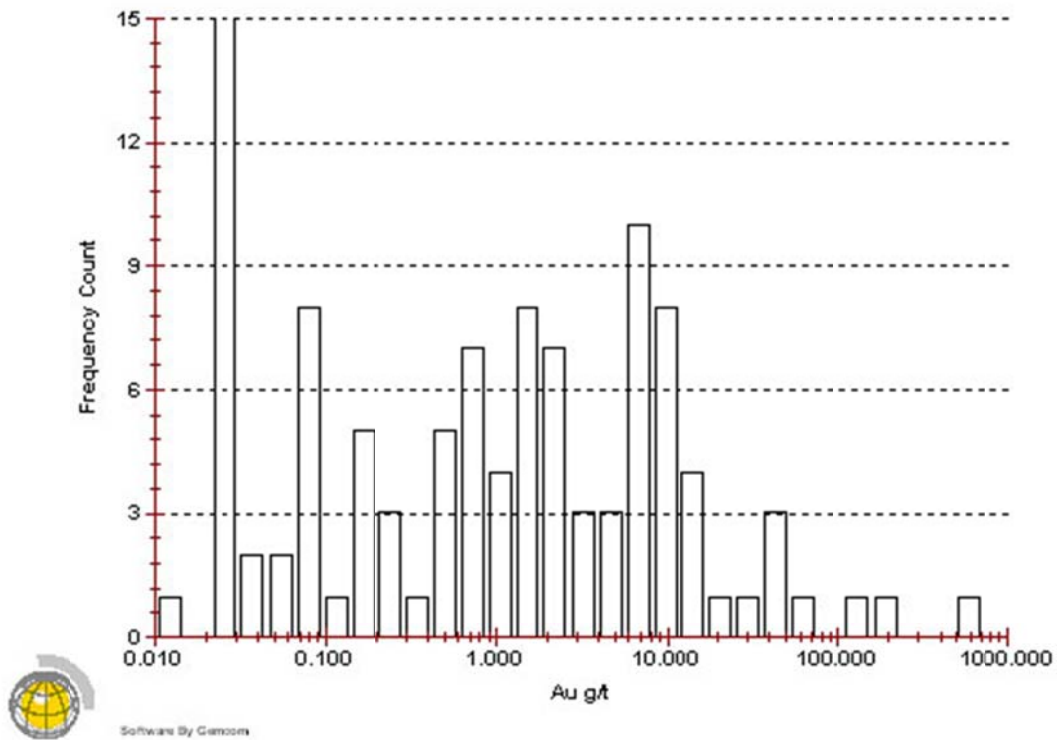
Cheminis Au raw LOG Normal Histogram



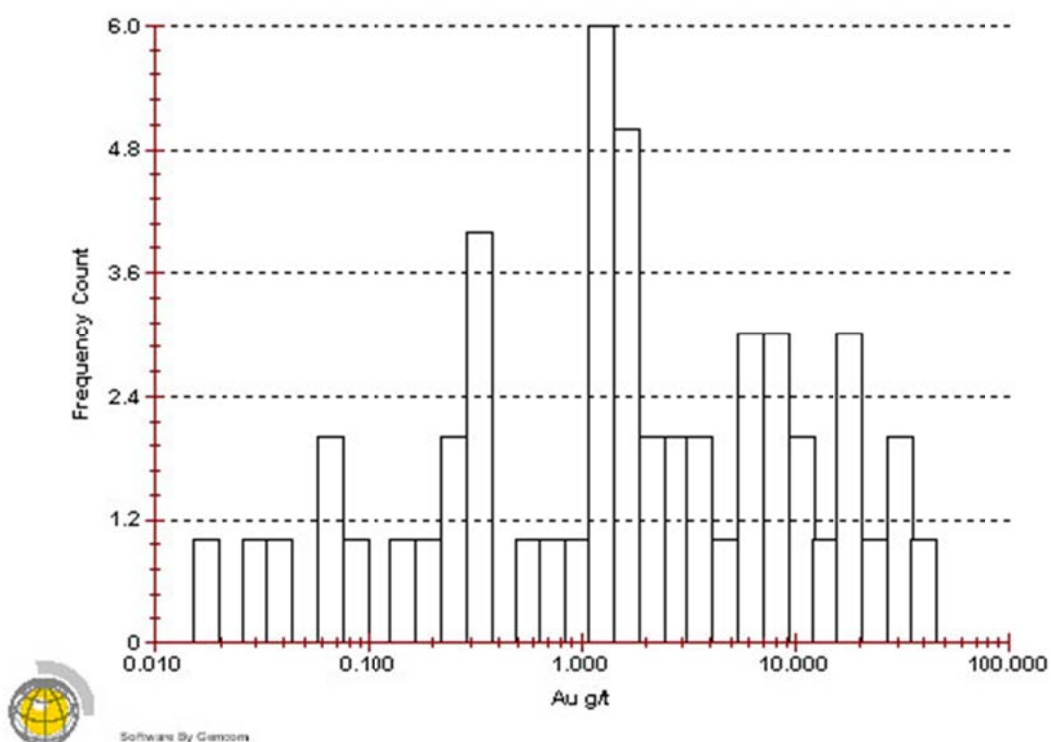
Cheminis Au raw LOG Normal Histogram



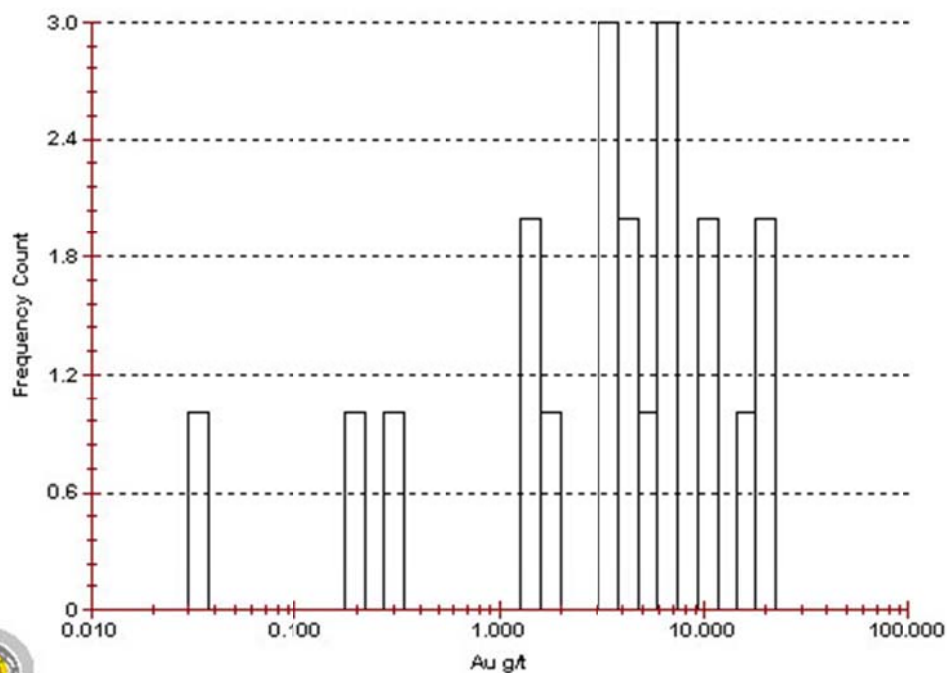
Bear Lake CARB Domain Au Log Normal Histogram



Bear Lake FLOW Domain Au Log Normal Histogram

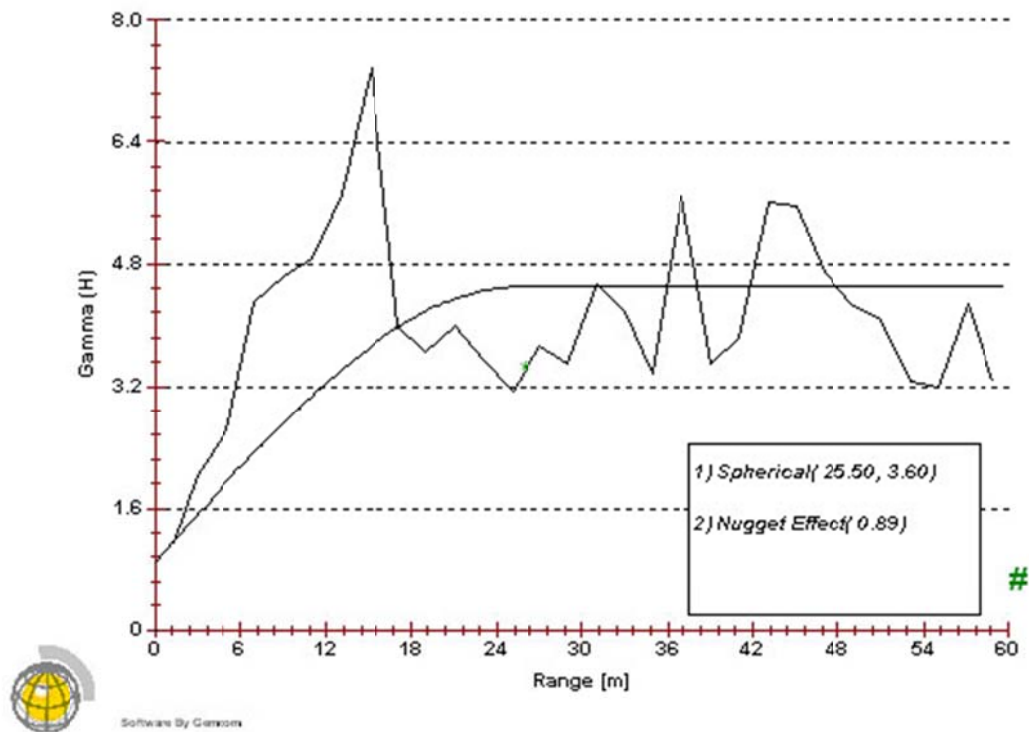


Bear Lake UMA Domain Au Log Normal Histogram

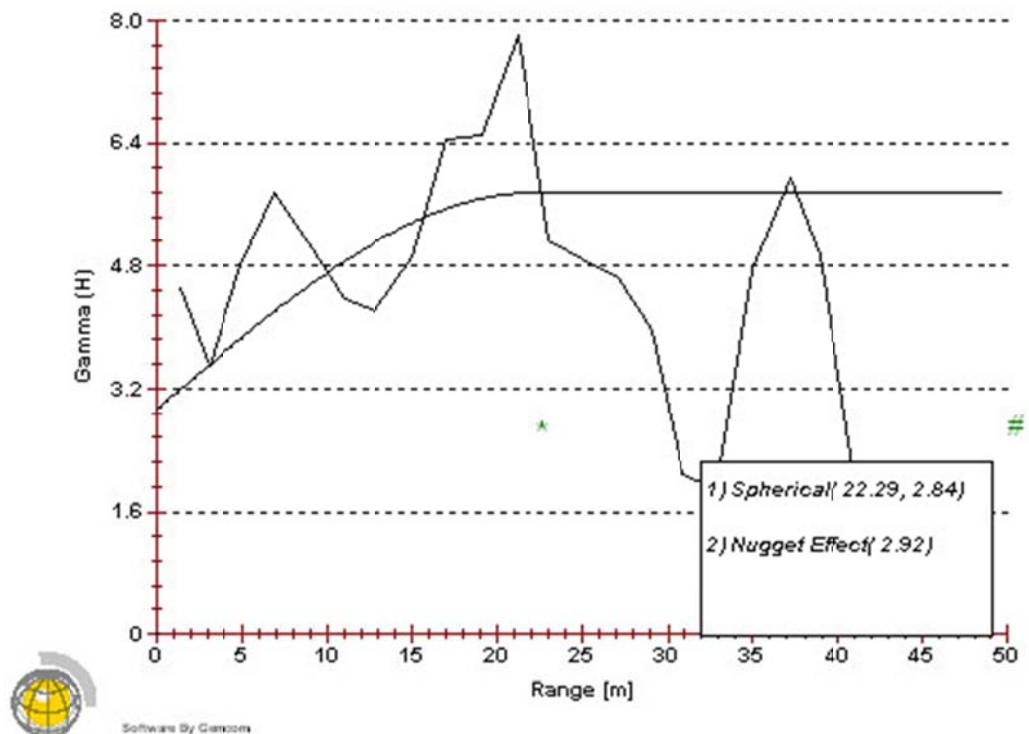


APPENDIX IV. VARIOGRAMS

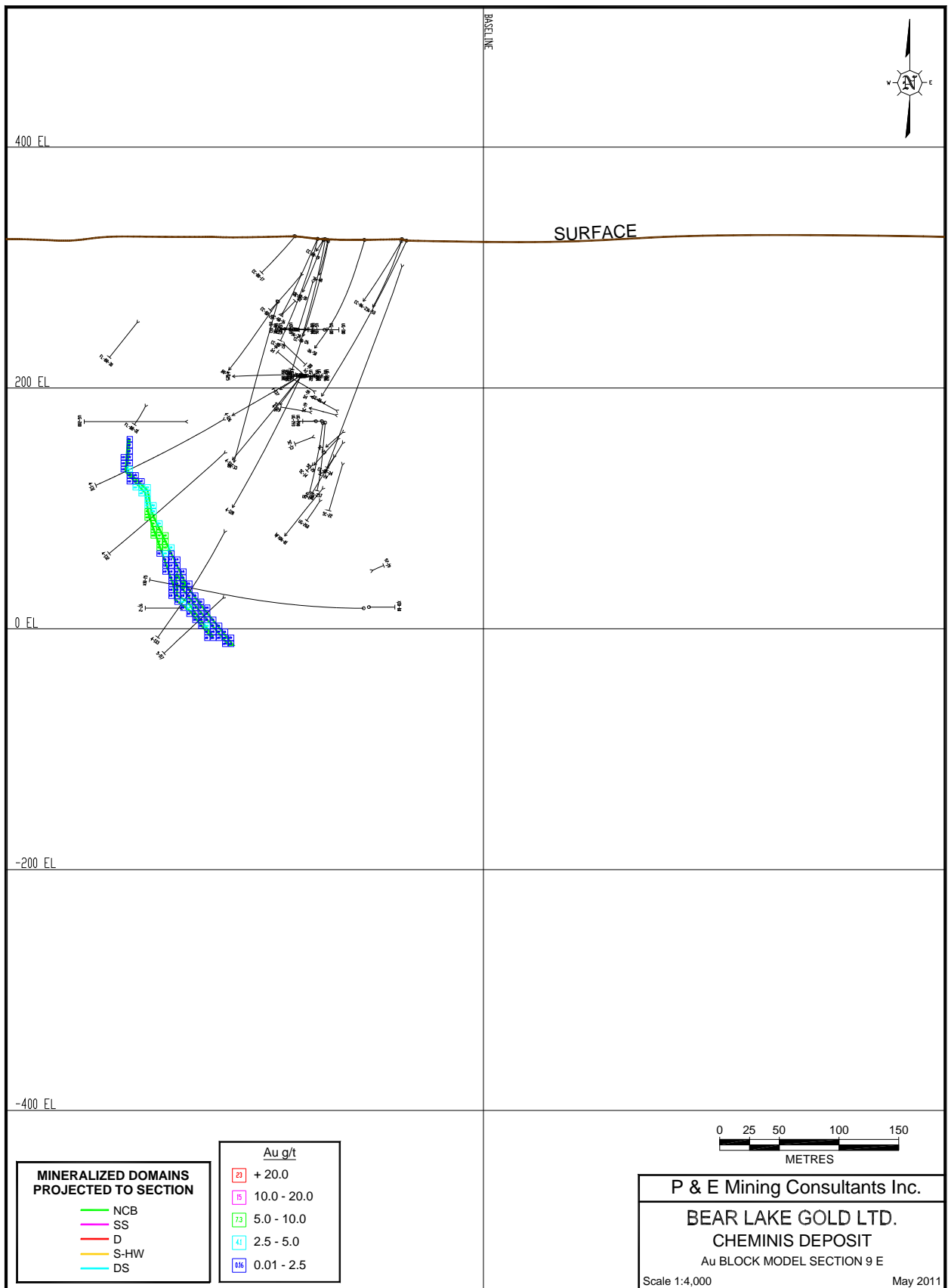
CHEMINIS Au ALL DOMAINS OMNIVARIOGRAM

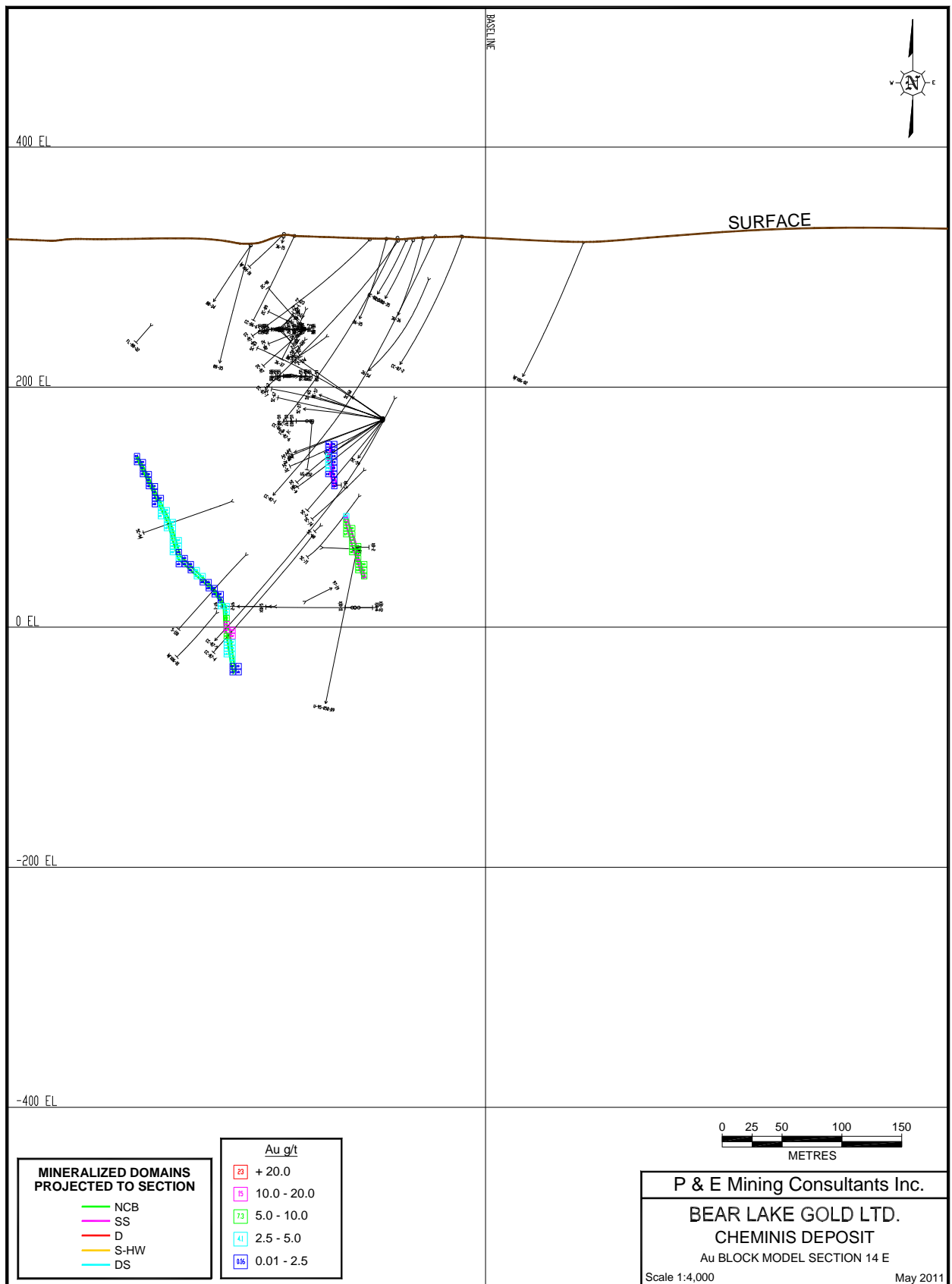


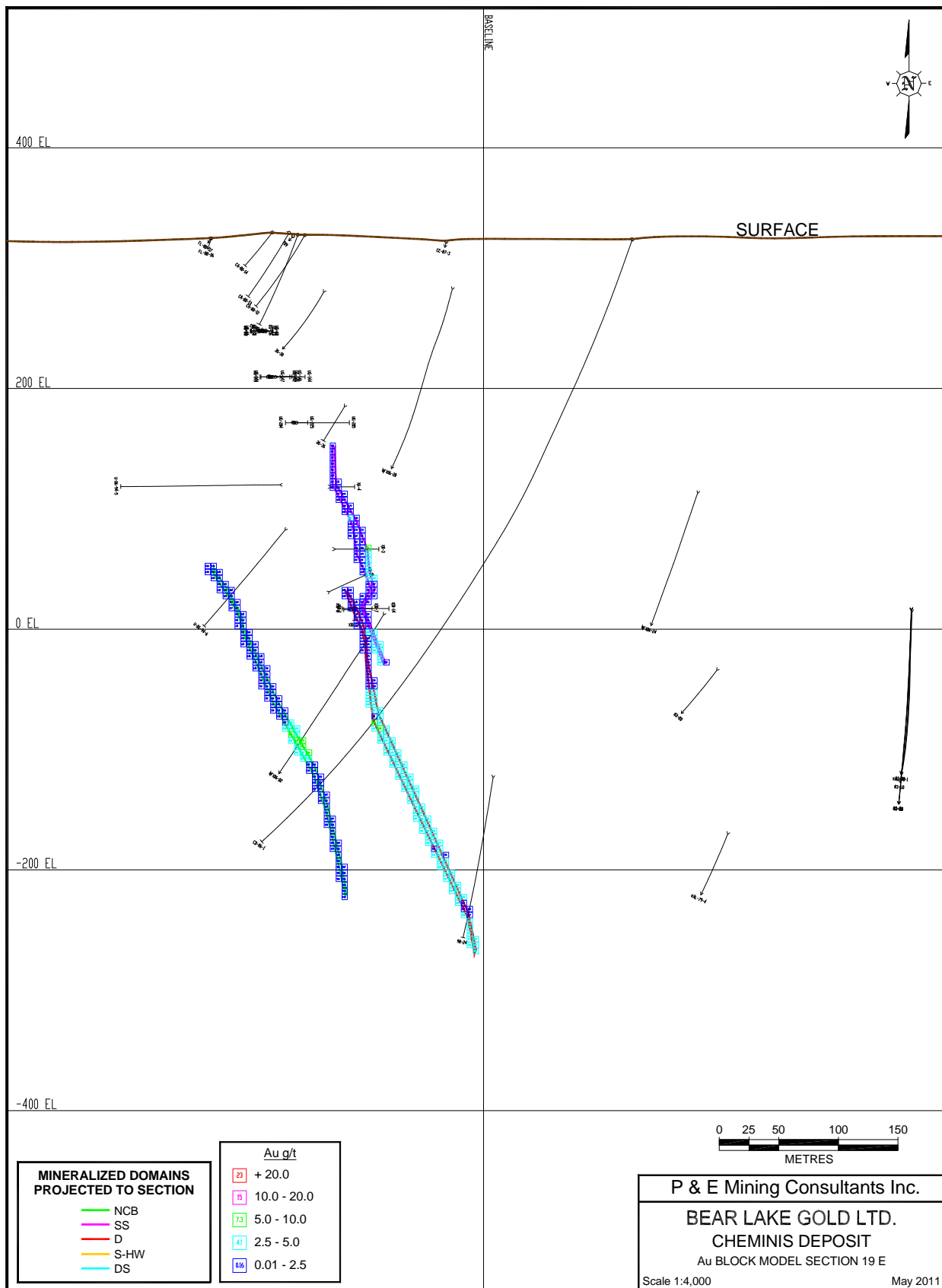
Bear Lake Au Omnivariogram

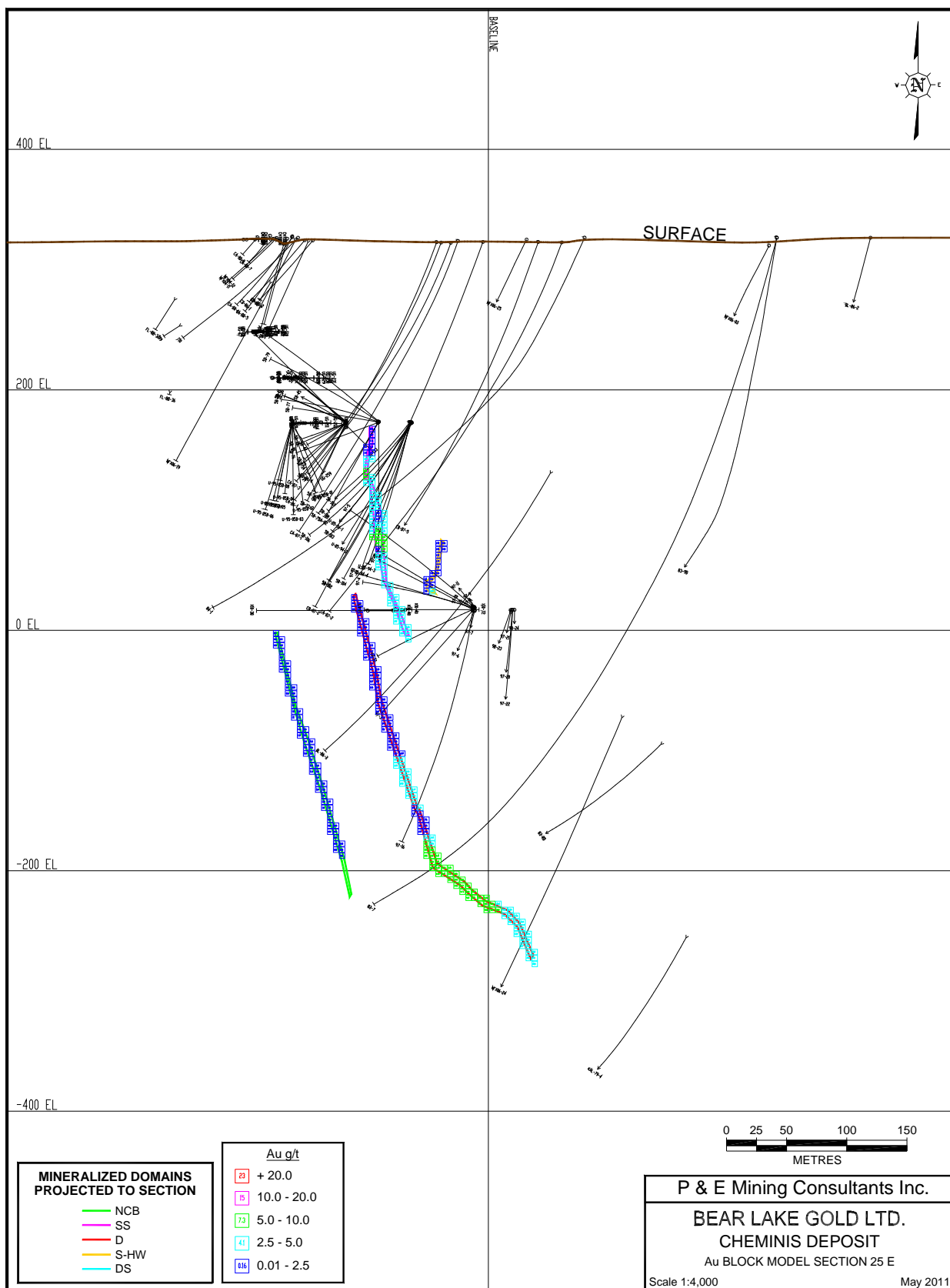


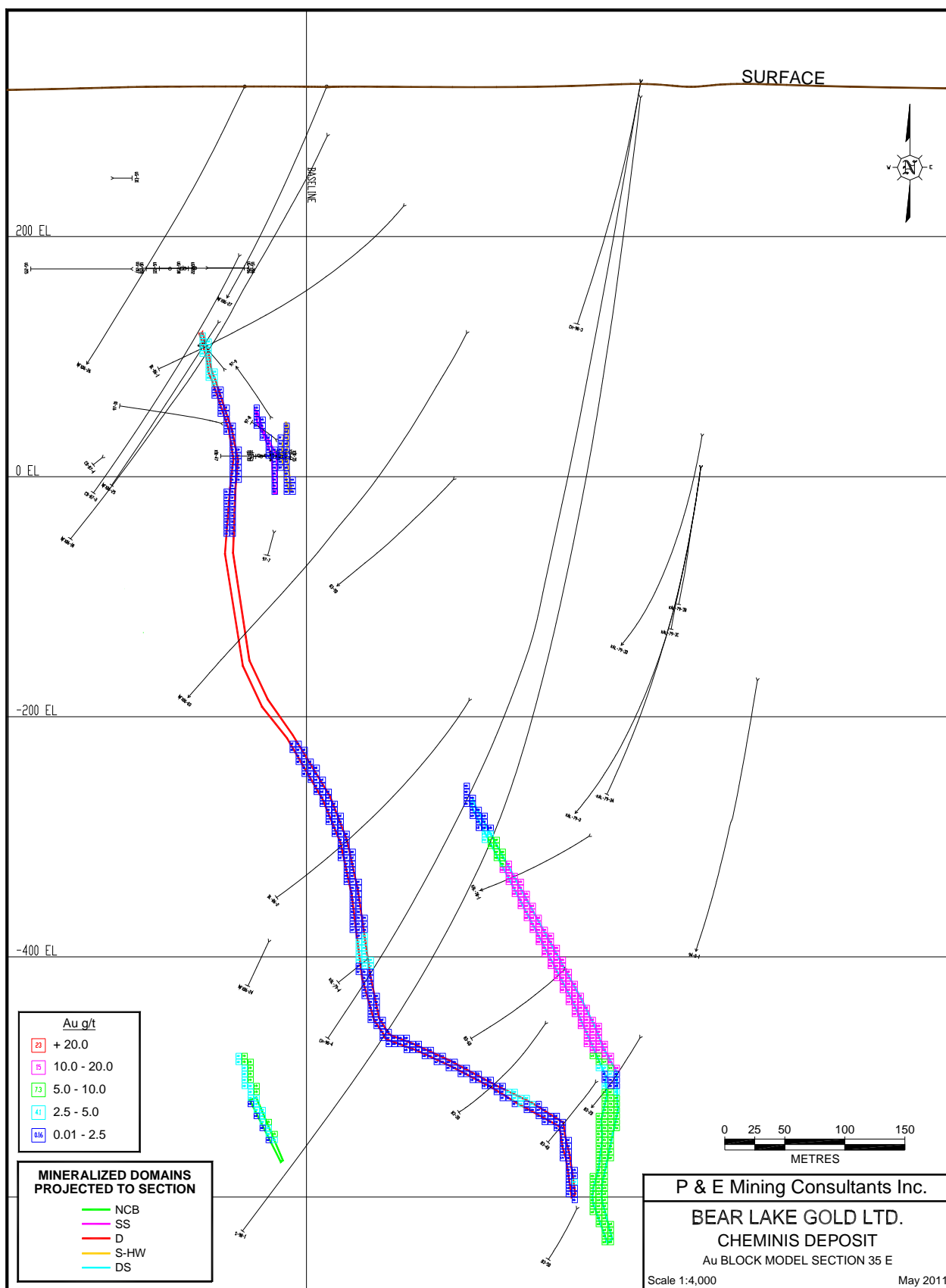
APPENDIX V. AU BLOCK MODEL CROSS SECTIONS AND PLANS

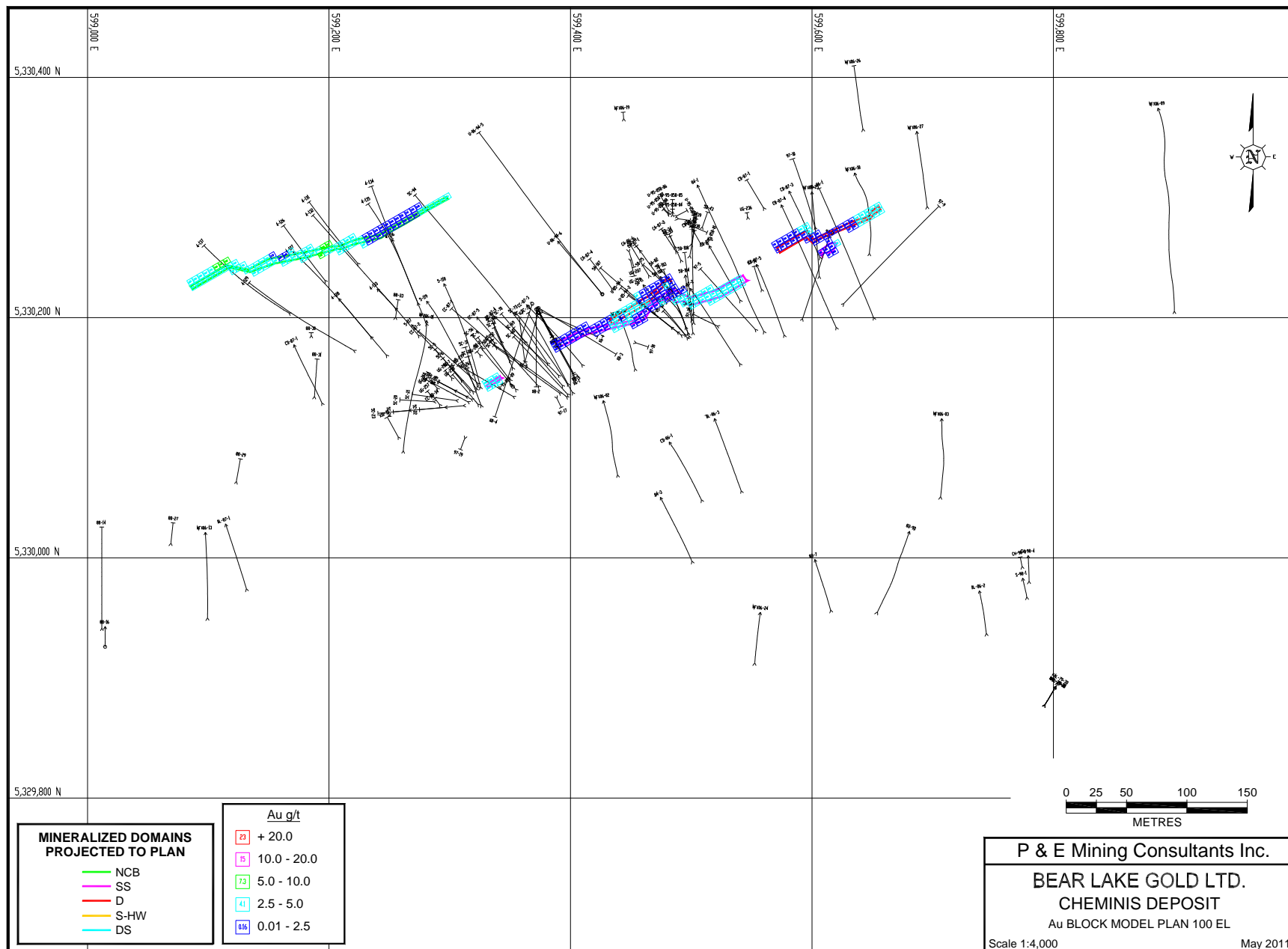


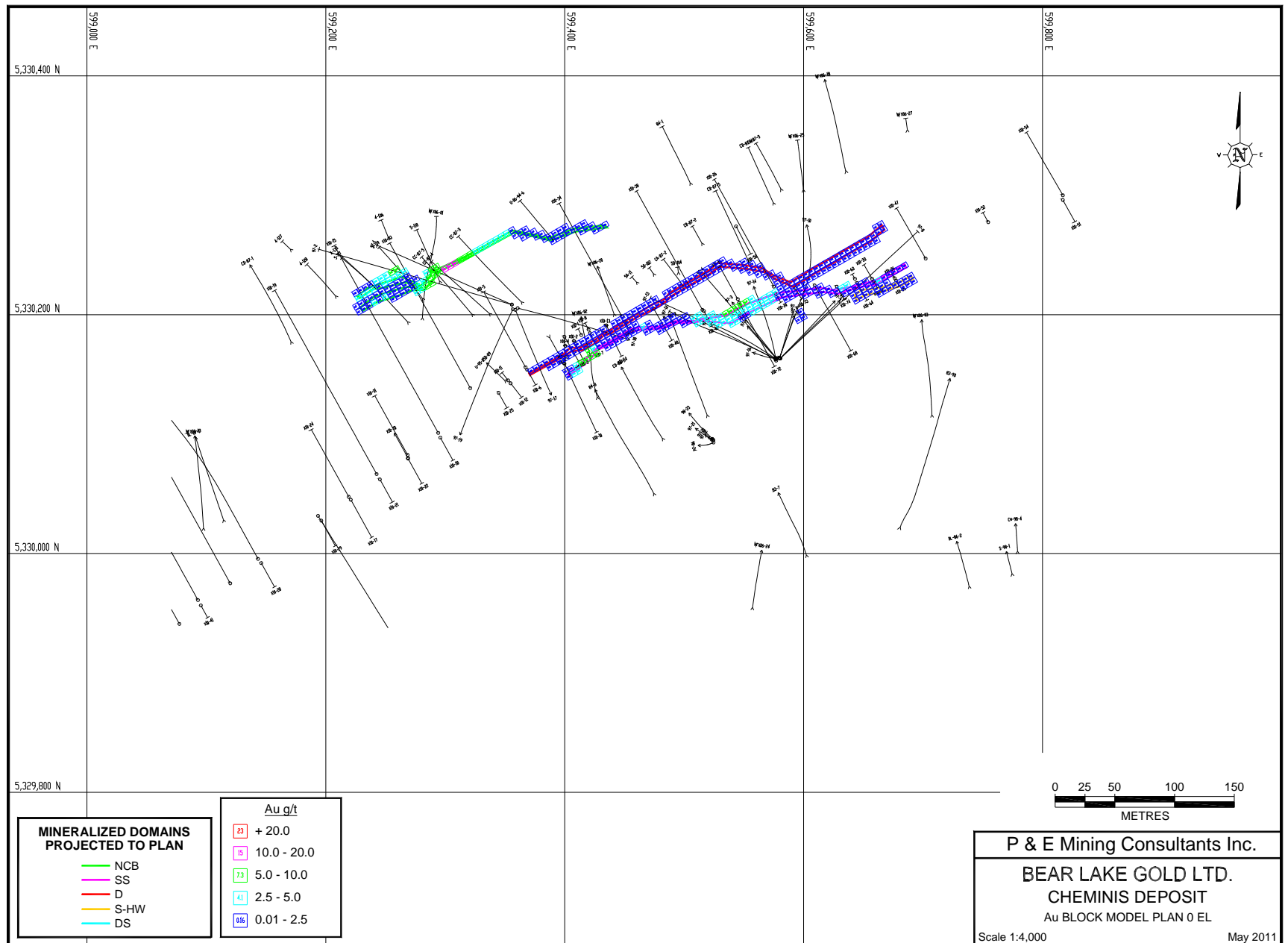


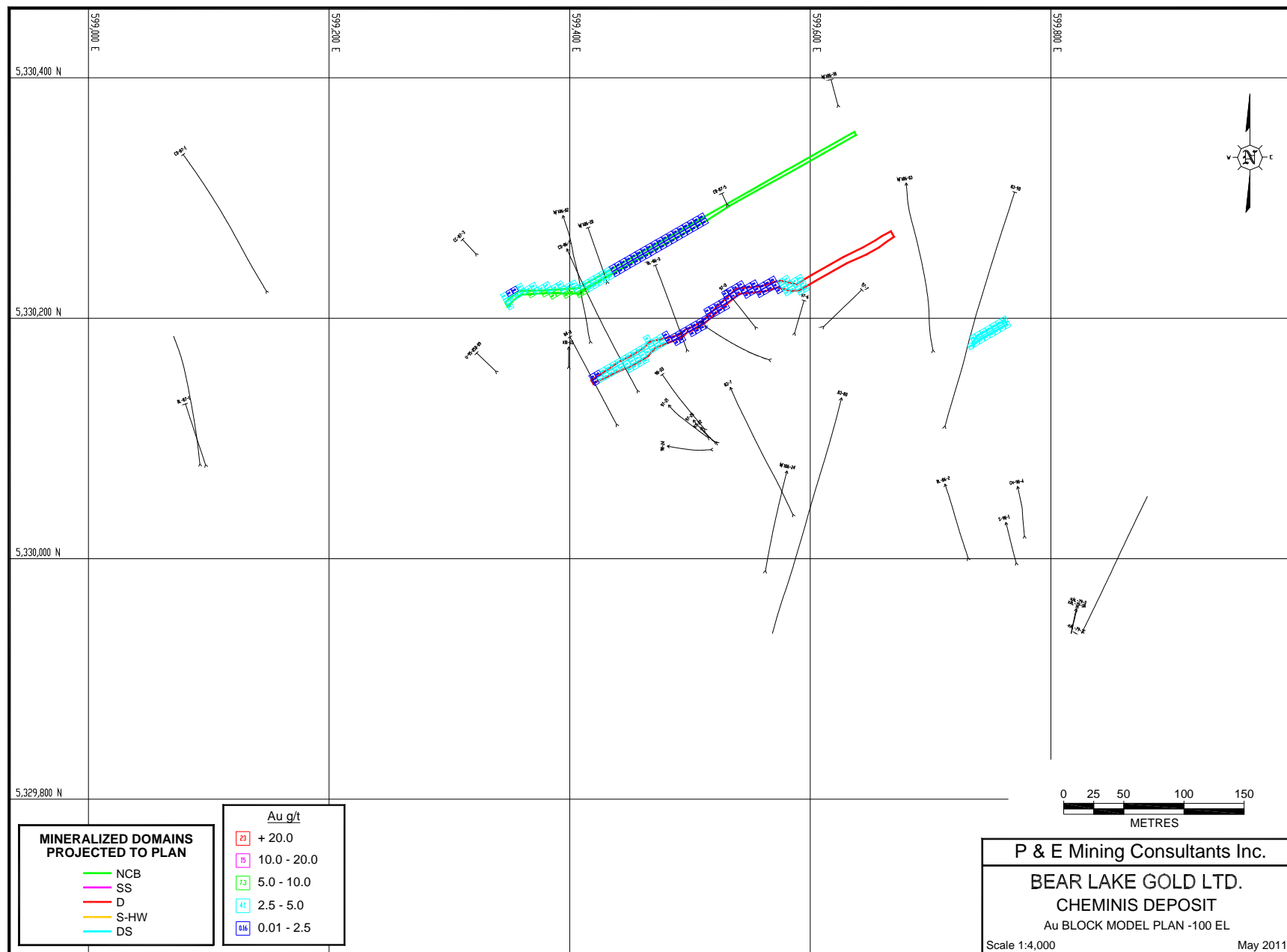


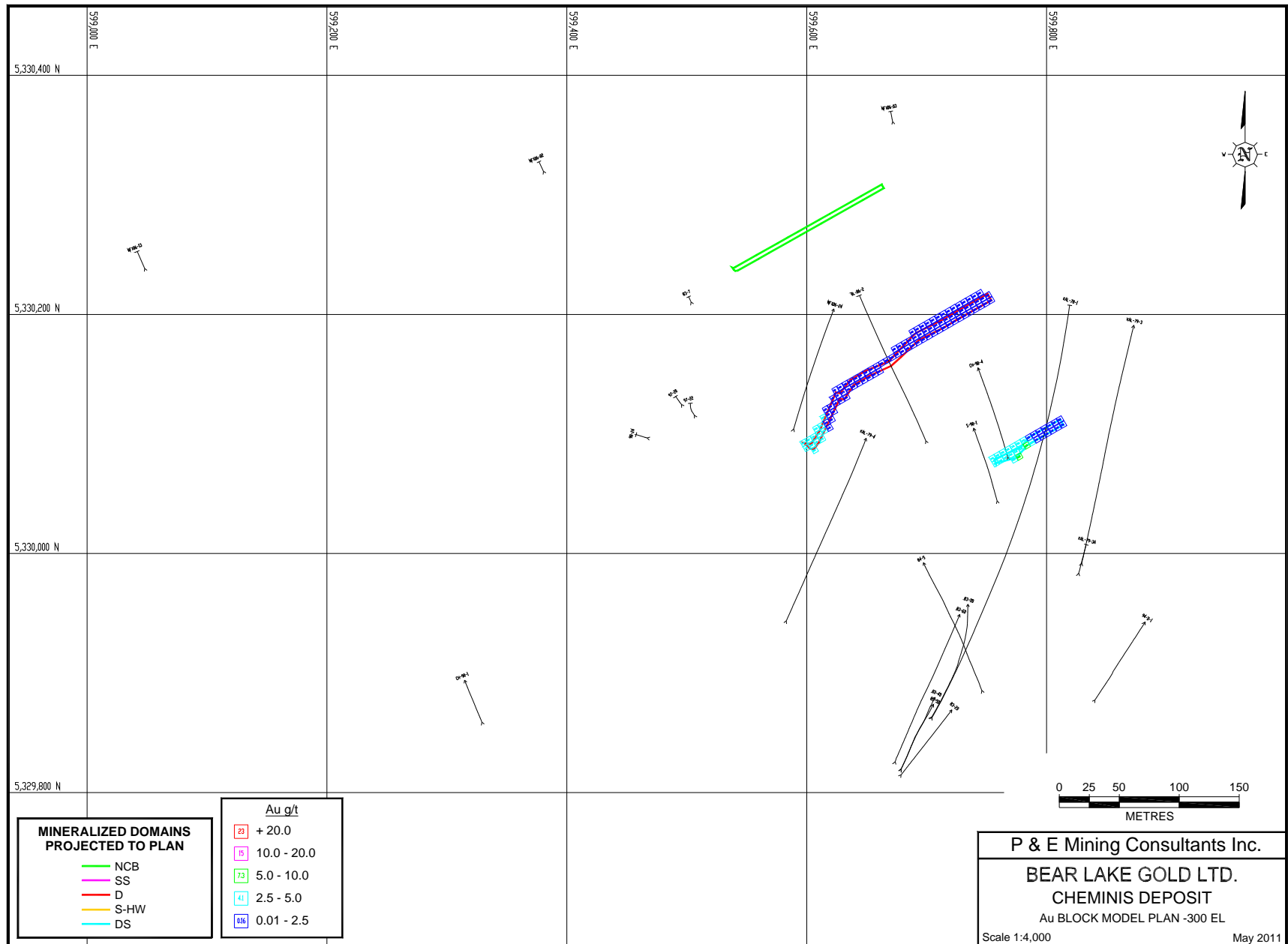


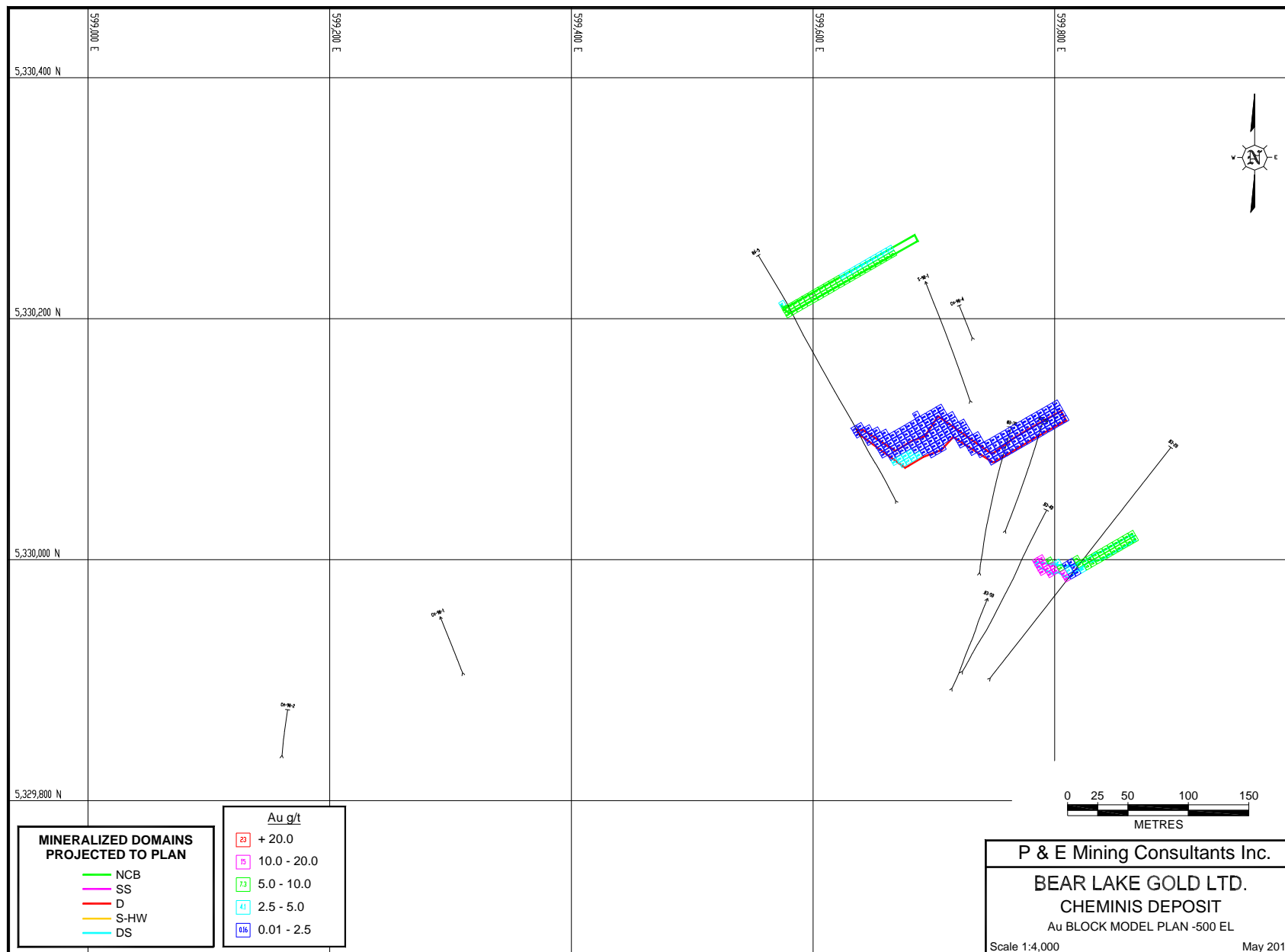


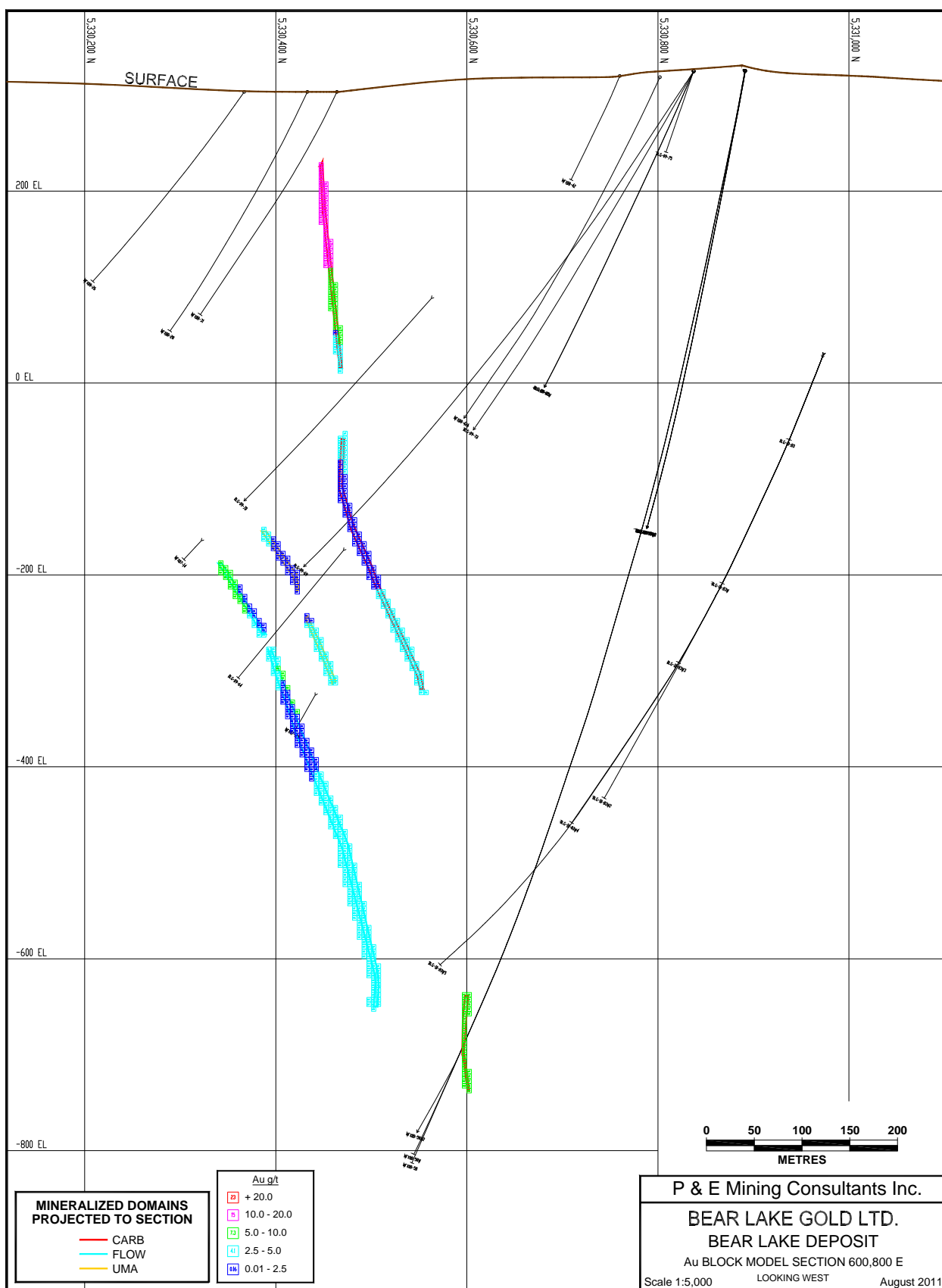


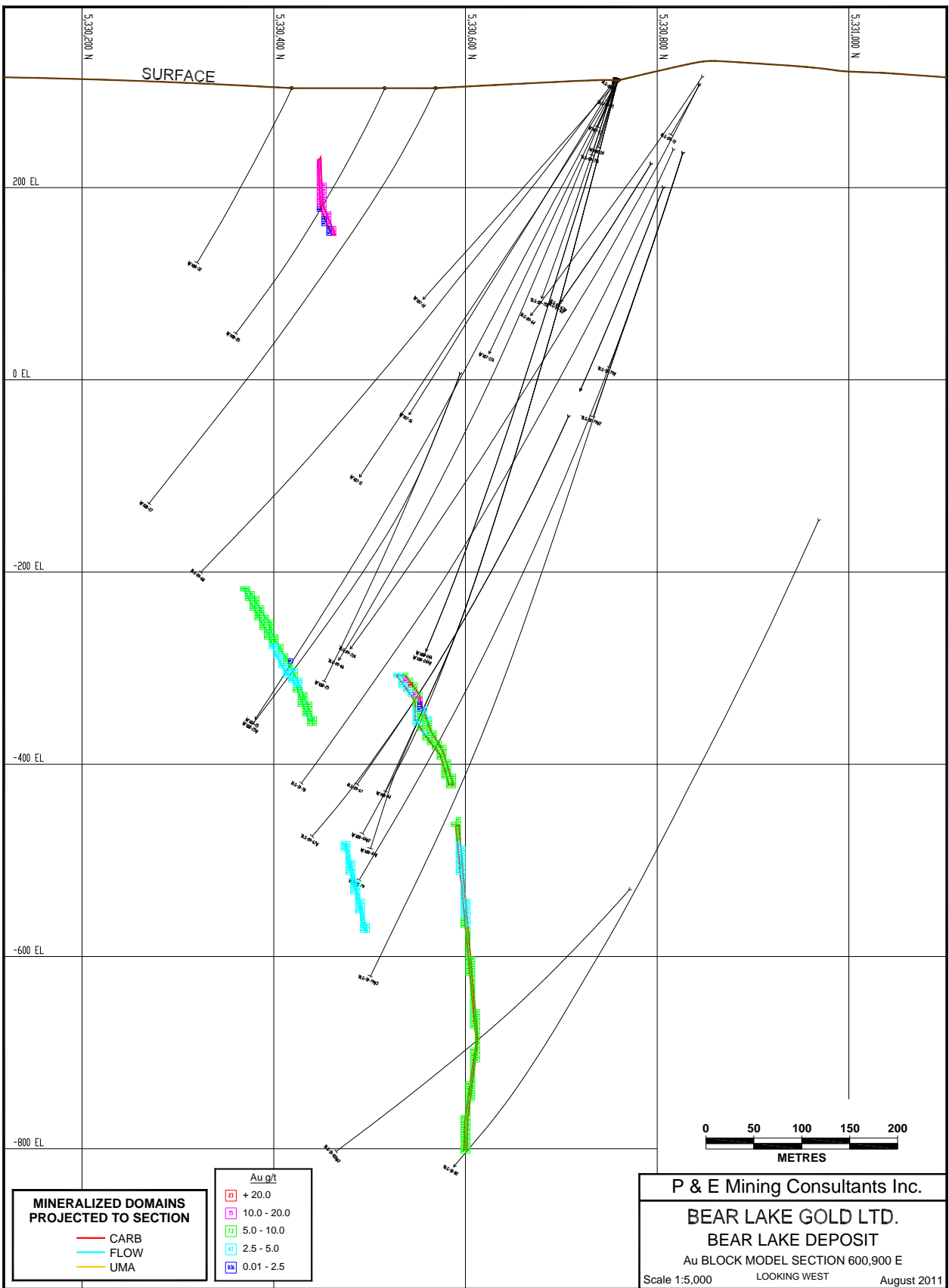


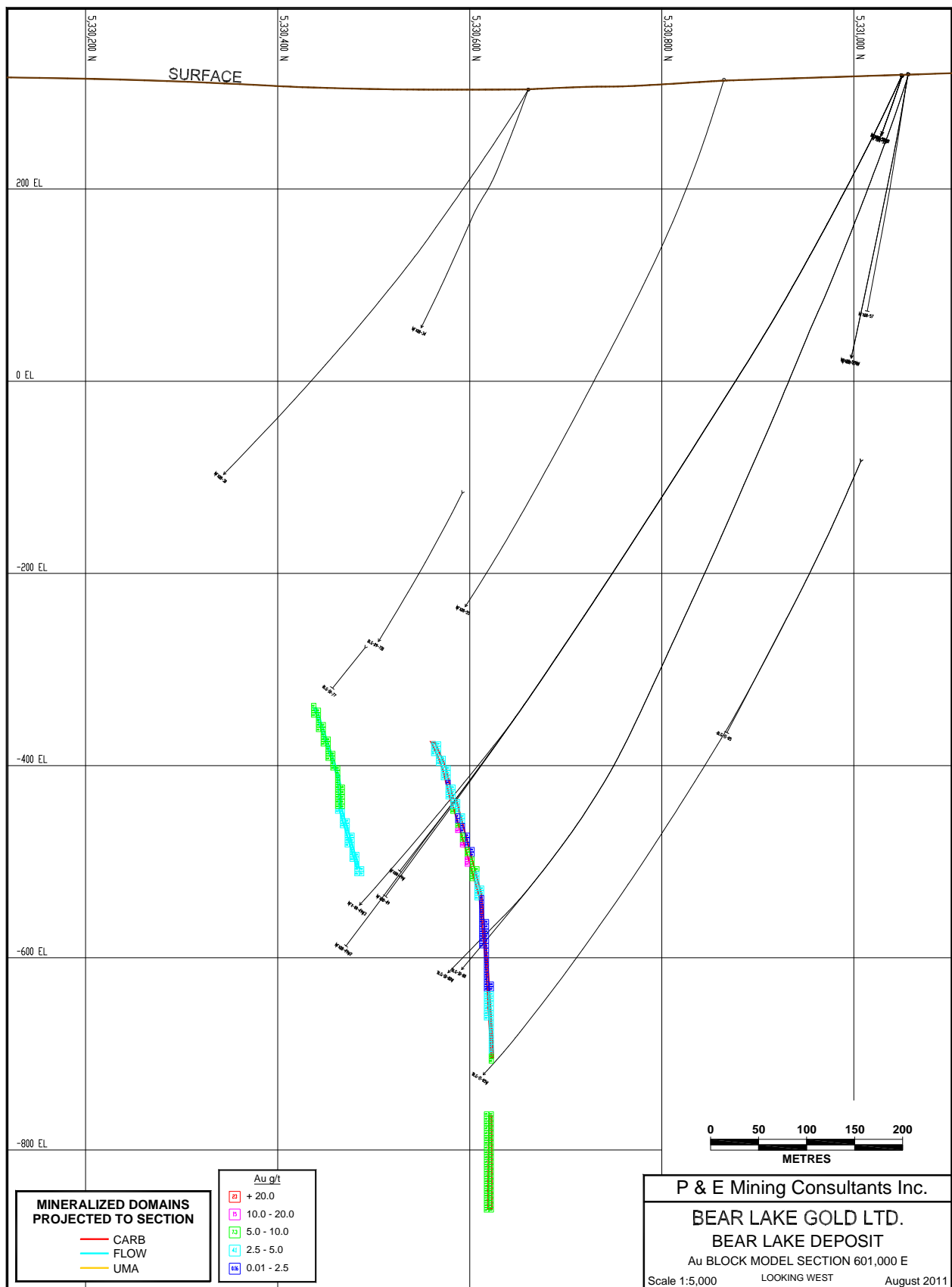


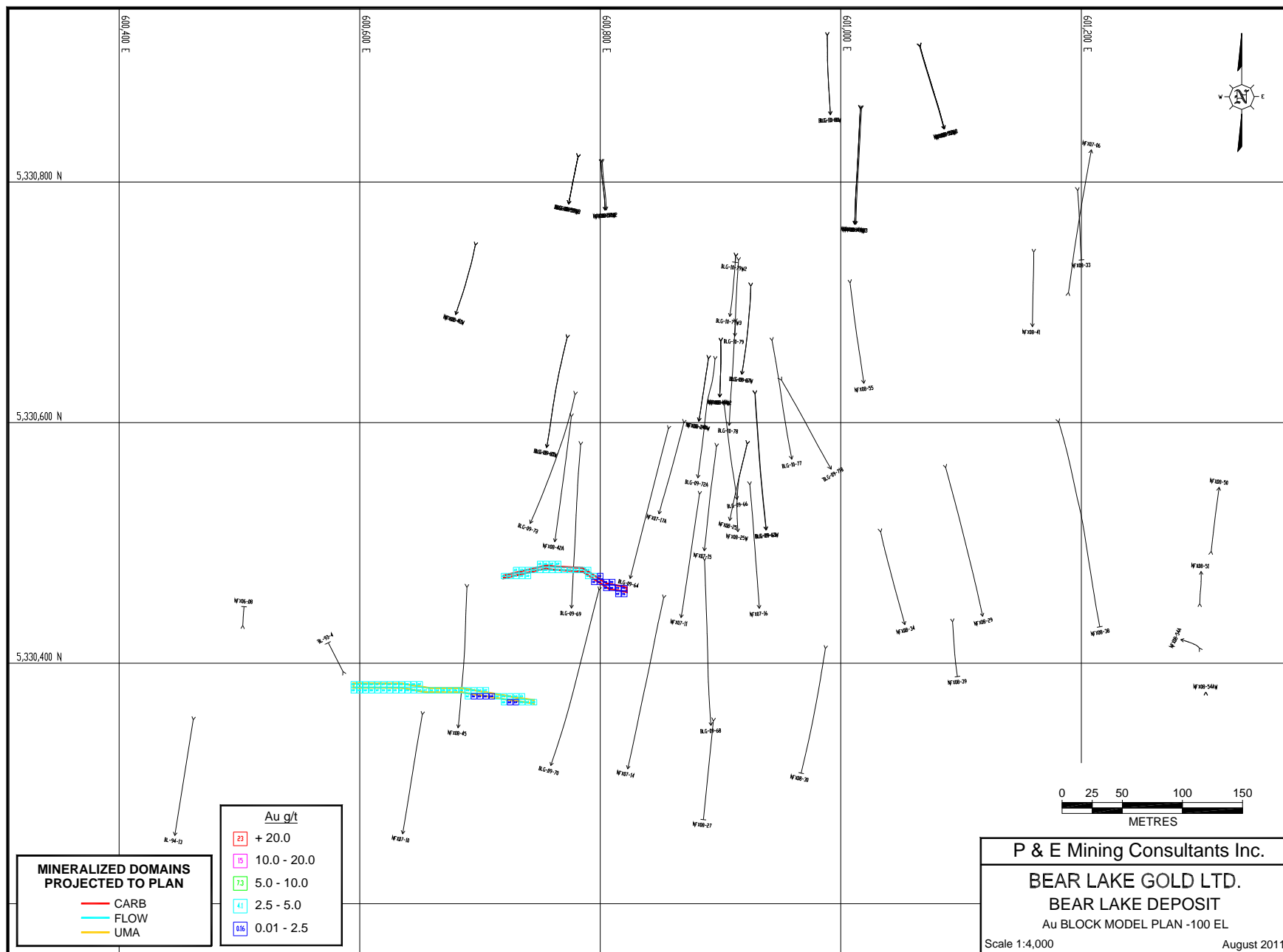


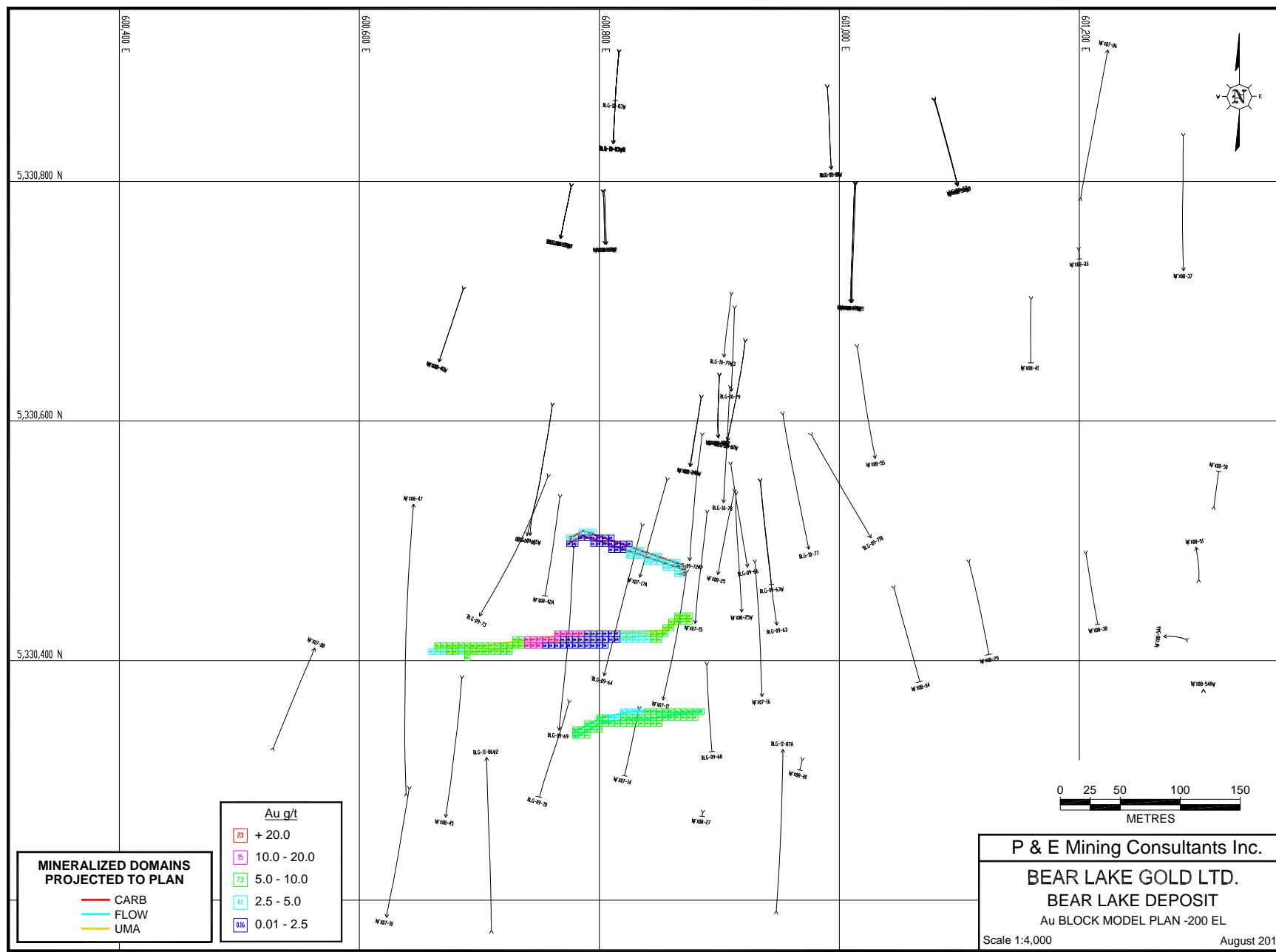


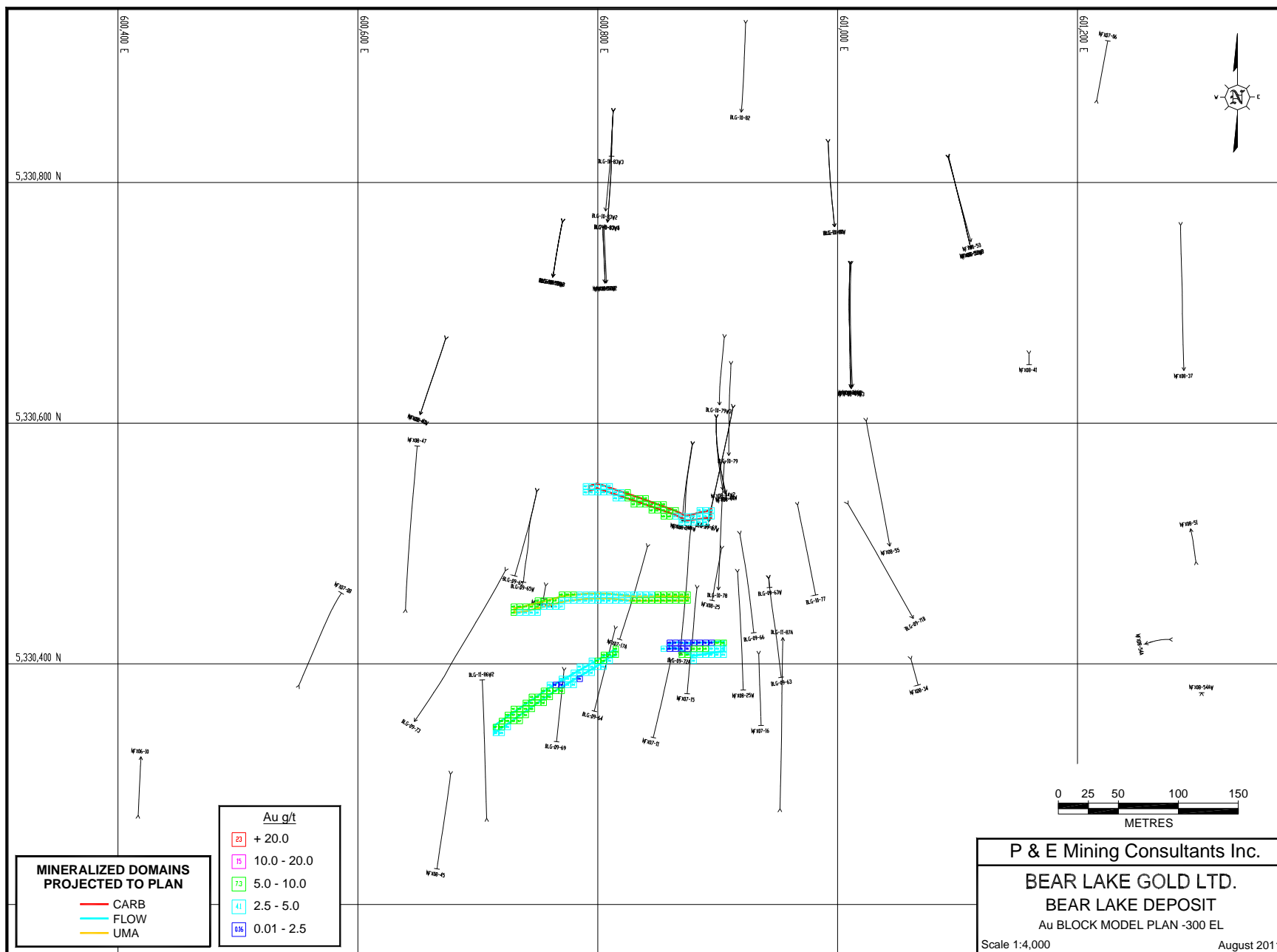


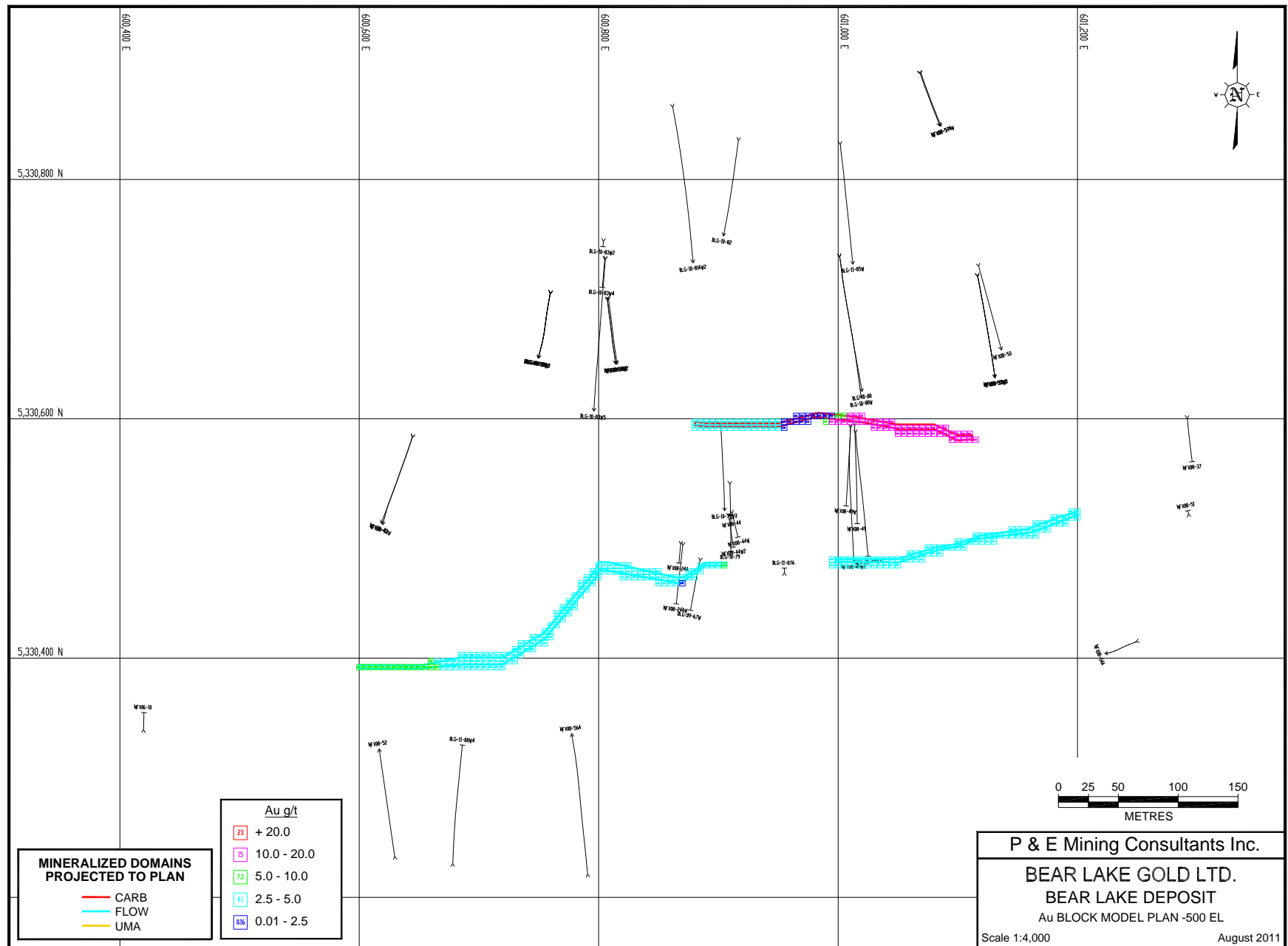


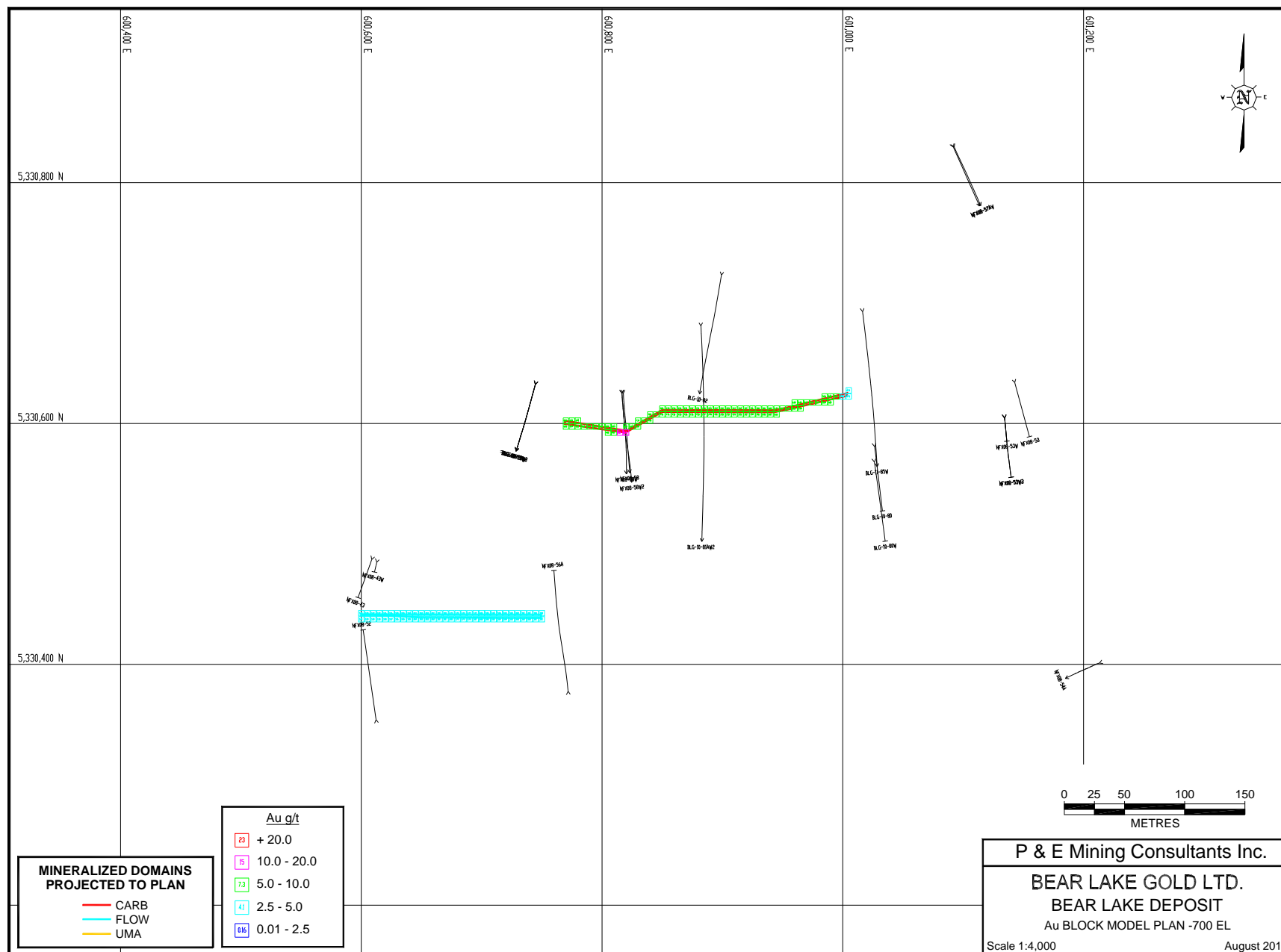












APPENDIX VI. CLASSIFICATION BLOCK MODEL CROSS SECTIONS AND PLANS

