

TECHNICAL REPORT ON THE  
UPDATED MINERAL RESOURCE ESTIMATE

ACADIAN MINING CORPORATION  
BEAVER DAM PROPERTY  
HALIFAX COUNTY, NOVA SCOTIA  
CANADA

Latitude: 45° 40' North  
Longitude: 62° 44' West

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\*Complete appendices are not included in the SEDAR filing but can be viewed in full at Acadian Mining Corporation's office in Halifax, Nova Scotia, Canada

## Summary

Mercator Geological Services Limited (Mercator) was retained by Acadian Mining Corporation (Acadian) to complete an Updated Mineral Resource Estimate of the Beaver Dam property in eastern Nova Scotia, in accordance with National Instrument 43-101 and in accordance with “Canadian Institute of Mining, Metallurgy and Petroleum Standards on Mineral Resources and Mineral Reserves Definition Guidelines”. The Beaver Dam property consists of 57 contiguous mineral exploration claims held by Acadian under two exploration licences 05896 and 05920. The properties are centred at 45°40' N, 62°44' W and cover approximately 1166.4 hectares of surface area in Halifax County, Nova Scotia, approximately 135 km east of the provincial capital city of Halifax.

The Beaver Dam property has been the focus of extensive past exploration including 238 surface diamond drill holes completed on the property since 1977, and underground development and bulk sampling completed in the late 1980's. In addition, the property has had a total of five historic mineral resource evaluations completed by companies including MPH Consulting, Redpath Mining Consultants and Westminer Canada Limited dating to the late 1980's, however, none of these were completed in accordance with the reporting standards of NI-43-101.

Underground development commenced in August of 1986 and continued until January 1988. Seven levels at the 1100, 1080, 1075, 1065, 1050, 1040 and 1025 elevations were worked. Eighteen crosscuts of various lengths were driven to intersect mineralized stratigraphy and sixteen drifts were developed along mineralized zones. Several ventilation raises were also completed, one of which was on a mineralized zone at the 1040 level. By the time mining ceased in 1989, 135,000 tonnes were mined in underground development from a total of 3,787 metres of advancement taken to a vertical depth of 105 metres. A total of 41,119 tonnes of material was milled at an average reconciled gold grade of 1.85 g/t.

Mercator completed a compilation and validation of historic exploration, development and mining data pertaining to the Beaver Dam property held by Acadian Mining Corporation in 2004. The purpose of these efforts was to create a digital data set for the Beaver Dam property upon which a mineral resource estimate could be established and further assessment of the property's economic viability could be assessed. This information formed the base for a Mineral Resource Estimate completed by Mercator in November 2004. Measured, Indicated, and Inferred Mineral Resources prepared in accordance with National Instrument 43-101 were estimated by Mercator for the Beaver Dam property, with an effective date of November 15, 2004.

Mercator also was retained in 2005 to complete an Updated Mineral Resource Estimate of the Beaver Dam property with an effective date December 20, 2005. The December 20, 2005 report was based on the results of the detailed compilation of historic diamond drilling completed in 2004 and the results of first 18 diamond drill holes completed by

Acadian. The 2004 and 2005 resource estimates were calculated via the polygonal method with a minimum gold grade threshold of 0.30 g/t over 3 meters for composite values to 200 metre below surface and 1.00 g/t over 3 metres for composite values beneath 200 metre elevation below surface, with an assigned a high grade block grade cutting factor of 12.75 grams per tonne.

The current Technical report, with an effective date of July 16, 2007, discloses an Updated Mineral Resource Estimate for the Beaver Dam deposit based all complied historical data and exploration and metallurgical results completed by Acadian during the 2005 and 2006 drill programs. This includes 133 diamond drill holes drilled by Acadian. Results for 6 NQ diamond drill holes from the 2007 drill program and metallurgical results for 3 PQ diamond drill holes from the 2006 drill program are still pending. A three dimensional block model was developed for the deposit using Gemcom Surpac 6.0 modelling software. Mineral Resources were estimated by inverse distance cubed methodology with a minimum block grade threshold of 0.30g/t and high grade capping of including composites at 14g/t or 25g/t depending on the spatial domain. Results of the resource estimation program are presented below and are considered compliant with Canadian Institute of Mining, Metallurgy and Petroleum Standards on Mineral Resources and Reserves *Definitions and Guidelines* as well as National Instrument 43-101.

#### Beaver Dam Resource Estimate 0.30 g/t Cutoff (Cut)

	Class	Tonnes*	Gold g/t	Ounces*
Main Zone Central	IN	6,870,000	1.74	384,000
Main Zone Envelope	IN	2,290,000	1.00	74,000
North Zone	IN	430,000	1.01	14,000
Mill Shaft Zone	IN	800,000	1.24	32,000
<b>Total Inferred</b>	IN	10,400,000	1.51	504,000
Main Zone Central	M + ID	9,080,000	1.53	446,000
<b>Total M+ID</b>	M + ID	9,080,000	1.53	446,000

\* Rounded

IF – inferred, ID – indicated, M - measured

Mercator was directly involved in planning the company's 2005, 2006 and 2007 drill programs and supervised the day to day drilling operations. In addition, Mercator geologists provided onsite supervision, core logging, database management, data processing and data interpretation services for the project. Mercator geologists supervised Acadian staff that completed all sampling and sample shipment procedures.

This report was prepared as an update to the previously disclosed technical report by Webster (2005) entitled TECHNICAL REPORT ON UPDATED MINERAL RESOURCE ESTIMATE, ACADIAN GOLD CORPORATION, BEAVER DAM PROPERTY, HALIFAX COUNTY, NOVA SCOTIA, CANADA”, with an effective date of December 20, 2005. The 2005 report was used as a base for the present document, with revisions and updates entered where necessary to provide disclosure of new information.

For the sake of completeness, certain report text sections that were not modified were also included in their original form and content.

## 1.0 Introduction and Terms of Reference

This report was prepared by Mercator Geological Services Limited (Mercator) for Acadian Mining Corporation (Acadian) to comply with provisions of National Instrument 43-101 and the Canadian Institute of Mining, Metallurgy and Petroleum Standards on Mineral Resources and Reserves *Definitions and Guidelines* (CIM Standards).

Mercator was retained in 2004 to complete a Mineral Resource Estimate, effective date November 15, 2004, and was retained in 2005 to complete an Updated Mineral Resource Estimate, effective date December 20, 2005, of the company's Beaver Dam gold property in eastern Nova Scotia. The work included a comprehensive review of pertinent Nova Scotia government assessment reports, government and industry technical reports, internal company reports, hard copy and digital government data (e.g. GIS database), published maps, and digital airborne geophysical data. A large collection of original hard-copy technical files from the 1985 to 1989 period, during which extensive surface and underground exploration programs were carried out by Seabright Resources Inc. (Seabright) and Westminer Canada Corporation (Westminer), proved to be the most important data sources included in the compilation. These files included an extensive database of original company documents received from Acadian and/or accessed through the assessment archives of the Nova Scotia Department of Natural Resources. The Updated Mineral Resource Estimate with an effective date of December 20, 2005 was based on the results of 18 diamond drill holes completed by Acadian during 2005 and the compiled historical database.

In addition to information sources noted above, senior author Peter Webster was employed by Seabright during the period 1985-1987 and was involved in early diamond drilling at the site, having logged several holes drilled through the mineralized mine sequence. In addition, he has visited the site and toured the underground workings on several occasions during the mining phase and was involved with a similar mining operation at other company sites. Although this author had no direct involvement with the day-to-day operation of the early exploration, he is familiar with drilling and sampling methodologies used by Seabright during this time. In particular, this applied to methodologies related to core logging, core handling, core sampling, underground chip and muck sampling, assaying, milling, property exploration and mining histories, property geology, and vein characteristics. Confidence in the integrity of past data was enhanced as a result of this author's insight.

This report provides an Updated Mineral Resources Estimate based on the results of 133 diamond drill holes completed by Acadian during 2005 and 2006, and based in part on recommendations made by Mercator. Furthermore, Gemcom Surpac 6.0 three dimensional resource modelling software and the compiled historical data were used in

developing the Updated Mineral Resource Estimate discussed herein. In addition, Mercator was responsible for 1) day to day management of drilling, including site supervision and core logging, 2) database management and data interpretation, 3) project management and administration 4) preparation of a Mineral Resources Estimate in November 2004 and December 2005, and 5) preparation of the updated Mineral Resource Estimated reported herein.

Reliance of data, results and conclusions discussed in this report may only be assessed after consideration of Mercator's full scope of work, as described herein. This report is intended to be read in whole, and sections removed from this context should therefore not be relied upon.

## 2.0 Disclaimer

This report was prepared by Mercator Geological Services Limited (Mercator) for Acadian Mining Corporation (Acadian), and the information, conclusions and estimates contained herein are based upon information available to Mercator at the time of report preparation. This includes data made available by both Acadian and third party sources. Information contained in this report is believed reliable but in part the report is based upon information not within Mercator's control. Mercator has no reason, however, to question the quality or validity of data used in this report. Comments and conclusions presented herein reflect Mercator's best judgment at the time of report preparation and are based upon information available at that time.

This report also expresses opinions regarding exploration and development potential for the project, and recommendations for further analysis. These opinions and recommendations are intended to serve as guidance for future development of the property, but should not be construed as a guarantee of success.

Mercator is not a Qualified Person with respect to comment on validity of surface rights titles and other issues of land ownership in the province of Nova Scotia.

## 3.0 Property Description and Location

The Beaver Dam property consists of 57 contiguous mineral exploration claims held by Acadian under exploration Licences 05896 and 05920 (Figures 1 and 2, Table 1). The properties cover approximately 1166.4 hectares of surface area in Halifax County, Nova Scotia, approximately 135 km east of the provincial capital city of Halifax. The claims are centred at 45°40' N, 62°44' W within NTS sheets 11E/02. Both licences, which were issued pursuant to the Mineral Resources Act (1990) of Nova Scotia, were originally acquired in 2002 by Tempus Corporation, which subsequently became Acadian Mining Corporation. Acadian holds 100% undivided interest in Licence 05896. Parts of Licence 05920 are subject to option agreements as described below.

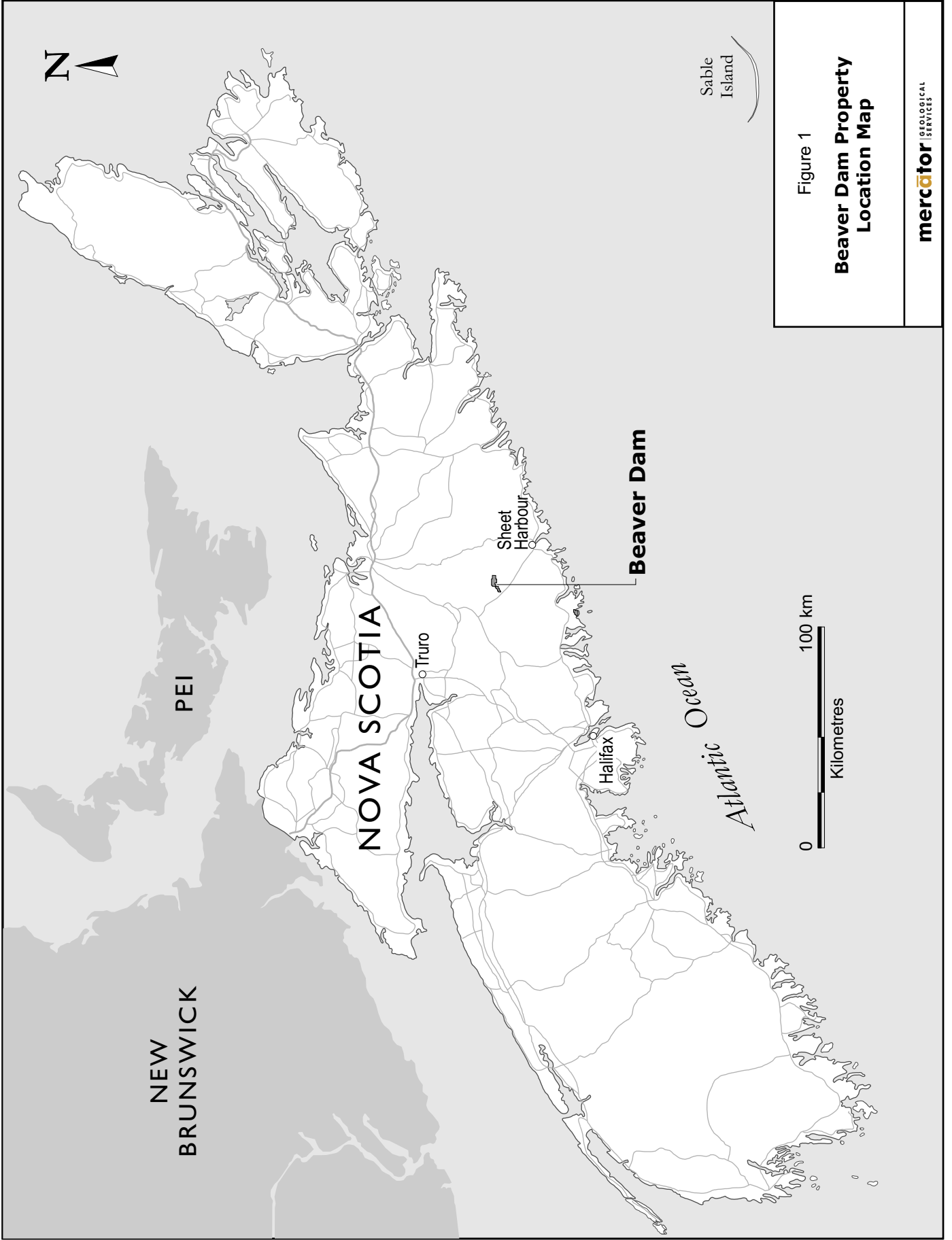


Figure 1

### Beaver Dam Property Location Map

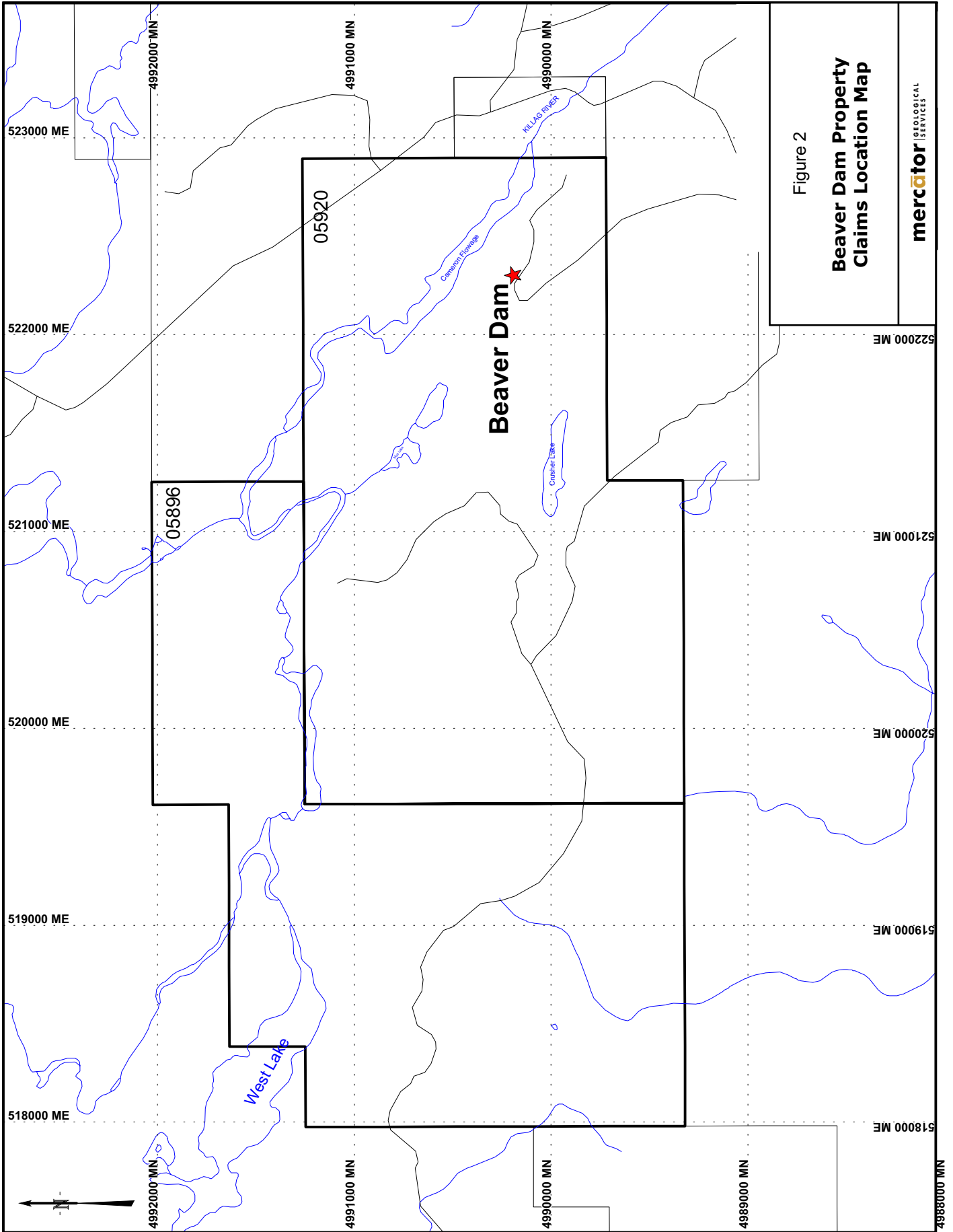


Figure 2  
Beaver Dam Property  
Claims Location Map



The 36 claims of Licence 05920 form the specific focus of this report as the bulk of most previous exploration and mining activities and all current diamond drilling were carried out within this claim block. This licence number has been reissued by the Nova Scotia Department of Natural Resources in 2005 and was regrouped from three pre-existing Licences: 00047, 04790 and 04516 in 2003.

Previous Licence 00047 was acquired from Westminer and subject to a pre-existing sliding scale royalty, payable to Acadia Mineral Ventures Limited (AMV), an unrelated company. This agreement provides for a Variable Return Net Smelter Royalty (NSR) payable to AMV dependant on average mined ore grade ranging from 0.6% (at 4.7g/t or less) to a maximum of 3.0% (at 10.9g/t or more). \$300,000 is available as credit against future royalties at a maximum of 50% per royalty payment, payable twice a year. For more details refer to Agreements between AMV and Seabright dated October 23, 1985 and February 12, 1986 in Appendix 2.

Previous Licence 04516 was purchased from Henry Schenkels and is also subject to a sliding scale Net Smelter Royalty. A 0.5% royalty is payable if gold is more than \$265.01 US per ounce, to a maximum of 2% when the price goes above \$320 US per ounce. Additional royalties exist for silver, copper, lead and zinc credits (Appendix 2).

Mineral exploration claims in Nova Scotia are issued under the province’s Mineral Resources Act (1990) (“the Act”) and its amendments. No equivalence to “patented claim status” exists under this Act and retention of claims in good standing from year to year requires payment of a renewal fee for each claim plus a minimum exploration expenditure. Table 1 presents a tabulation of fees and work commitments required under the Act to keep mineral exploration properties in good standing. Payment of cash in lieu of work on a claim can be made once in any five-year period after the first year of licence issue.

Table 1: Tabulation of Acadian Exploration Licences at Beaver Dam

Current Licence No.	Licence Prior to Regroup	NTS Sheet	Tract	Claims	No. Of Claims	Renewal Date
05896		11 E 2 A	61	JKLM NOPQ	21	25-Feb-08
		11 E 2 B	72	ABCD EFGH JKL		
		11 E 2 B	49	LMNO PQ		
05920	00047	11 E 2 A	59	JKLM NOPQ	36	22-Mar-08
	04790	11 E 2 A	60	EFGH JKLM NOPQ		
		11 E 2 A	61	ABCD EFGH		
	04516	11 E 2 A	62	ABCD EFGH		
<b>TOTAL</b>					<b>57</b>	

Table 2: Claim Renewal Fees and Work Requirements as of October 31, 2004

Year of Issue	Renewal Fee	Assessment Expenditure
1 through 2	\$5.00 per claim	\$200.00 per claim
2 through 10	\$10.00 per claim	\$200.00 per claim
11 through 15	\$20.00 per claim	\$400.00 per claim
16 through 25	\$80.00 per claim	\$800.00 per claim
26 and beyond	\$160.00 per claim	\$800.00 per claim

Review by Mercator of documents provided by the Registrar of Mineral and Petroleum Titles for the Province of Nova Scotia indicated that the mineral exploration licences referred to in Table 1 were in good standing at the July 16, 2007 the effective date of this report (Appendix 2).

Mercator has confirmed that Acadian does not hold surface title to any lands in the Beaver Dam area. The land is held partly by the Crown and by the logging company Neenah Paper Inc. These titles were verified from Nova Scotia Department of Natural Resources records as of June 2005. As previous workers had not experienced difficulties with landowners, it is not anticipated that any problems should arise in the development of a mine in the area. Land access to the property was granted by Neenah Paper Inc. for the purpose of completing Acadian's recent drilling programs.

Following the closure of the mine in 1989, all buildings and structures were removed. The mine portal was sealed and the open pit was filled. The site was completely landscaped, reforested and rehabilitated and the Province refunded all environmental bonds with no requirement for continued site monitoring. Based upon this action, the authors believe that no on-going environmental issues currently exist at the Beaver Dam site.

Jacques Whitford and Associates carried out a detailed series of hydrogeological and environmental assessments on the Beaver Dam property for Seabright as part of the application process for underground mine permitting in 1986. At the time it was concluded that the property was in a favourable topographic location relative to the Killag River watershed, and because all the mined material would be processed and tailings deposited offsite, the Beaver Dam mine wasn't expected to pose a significant threat to the local environment during the exploration or mining phase and the mitigation measures suggested were implemented (Jacques, Whitford & Associates, 1987).

Based upon review of the referenced environmental assessment reports, it would appear that site environmental conditions may not pose significant risk with respect to future exploration and mine permitting activities on the property. In anticipation of future permitting requirements, Acadian implemented a surface water monitoring program at the site, which has been ongoing since the summer of 2005.

Acadian has not legally surveyed the mineral exploration claims at Beaver Dam. If a Mining Lease were granted at some time in the future, a legal survey of the claims would be required under terms of the Mineral Resources Act (1990). Acadian had not applied for a Mining Lease at the time of report preparation.

Mine Permits no longer exist under the November 2004 amendment to the Act.

#### **4.0 Accessibility, Climate, Local Resources, Infrastructure and Physiography**

The Beaver Dam Property is located in east central Nova Scotia on N.T.S. 11E/2 about 80 km distance northeast of Halifax. Access from Halifax is by Highway 7 along the eastern coastline 100 kilometres to Sheet Harbour and then traveling northwest on Highway 224 between Sheet Harbour and Middle Musquodoboit for a distance of 18 kilometres. A gravel logging road runs northeast to Cameron Flowage, leading to the Beaver Dam property, a distance of 7 kilometres from Highway 224. The town of Sheet Harbour would be the nearest supply centre (Figure 1 and 2).

There is little evidence of the former mining activity at the site. As mentioned above, the site was completely rehabilitated by Westminer upon closure of the mine in 1989. The portal and open cut were filled with waste rock, backfilled with soil and contoured. Ore and waste storage pads were backfilled with soil, contoured and seeded. A water control structure still remains on the property and water outflow has been dammed by beavers. All non-bedrock waste material was removed from the site. A power line and an onsite generator utilized during the Seabright operations have been removed from the site so no utilities are currently available.

Beaver Dam is in an area of low topographic relief with most of the area being at 140 metres elevation and scattered drumlins reaching 160 metres in elevation. Drainage is to the southeast along a number of poorly drained streams and shallow lakes. There are a number of boggy areas within the property. Vegetation consists of spruce, fir and some hardwood. Logging has been widely carried out, more recently including clear-cutting in the immediate area of the deposit.

Eastern Nova Scotia is characterized by northern temperate zone climatic conditions moderated by proximity to the Atlantic Ocean. Distinct seasonal variations occur, with winter conditions of freezing and/or substantial snowfall expected from late November through late March. Spring and fall seasons are cool, with frequent periods of rain. Summer conditions can be expected to prevail from late June through early September, with modest rainfall and daily mean temperatures in the 15 to 20 degree Celsius range. Maximum daily summer temperatures to 30 degrees Celsius occur, with winter minimums in the minus 25 to minus 30 degrees Celsius range.

Mineral exploration field programs can be efficiently undertaken during the period May through late November, while winter programs can be readily accommodated with appropriate allowance for weather delays.

## 5.0 History

The following point-form summary of exploration and mining activities in the Beaver Dam area was assembled primarily through review of reports, memos, and other documents provided to the authors by Acadian, who acquired them from Westminer, as well as various assessment reports and yearly survey reports archived at the Nova Scotia Department of Natural Resources library in Halifax. Malcolm (1929) also provided very useful information pertaining to the very early history of mining in the area. The reader is directed to that reference as well as those noted above for more detailed consideration of the mining and exploration history of the Beaver Dam property. The Beaver Dam property was mined for gold on a sporadic basis between 1868 and 1940 and Table 3 below from Coates and Riddell (1986a) details gold production for this period.

Table 3: Summary of Historical Gold Production from Beaver Dam District

Year	Rock Crushed		Recovered Grade		Probable Source
	Tonnes	Tons	Au g/tonne	Au oz/ton	
1889	48	53	14.7	0.43	Austen Zone
1891	485	535	6.5	0.19	Austen Zone
1895	936	1032	3.8	0.11	Trenching
1897	73	80	7.9	0.23	Trenching
1899	15	17	74.7	2.18	Trenching
1911	27	30	13.7	0.4	Trenching
1912	63	69	28.5	0.83	Trenching
1913	11	12	9.3	0.27	Trenching
1921	50	55	15.8	0.46	Trenching
1922	23	25	23.1	0.68	Trenching
1929	597	658	4.6	0.13	Bulk Sampling (mainly B zone)
1930	163	180	35.3	1.03	Hi- grade mining (A Belt)
1931	138	152	34.3	1.00	Hi- grade mining (Whip Belt)
1936	243	268	6.5	0.19	Bulk Sampling (75' level Austen)
1937	168	185	7.5	0.22	Bulk Sampling (200' level Austen)
1938	107	118	4.8	0.14	Hi- grade mining (200' level)
1939	54	60	6.8	0.20	Samples from Mill shaft
1940	14	15	4.5	0.13	Surface work
Total to 1940	3215	3544	9.25	0.27	

(from Coates and Riddell, 1986a)

Year	Rock Crushed		Recovered Grade		Probable Source
	Tonnes	Tons	Au g/tonne	Au oz/ton	
1980's	41119	45326	1.85	0.05	Reconciled grade based on routine R.M.D; metallurgical accounting of concentrate, bullion, tailings and misc. slag products; gold allocated to Beaver Dam from gold recovered during final Gay's River mill cleanup.(WMC Feb,1990 Memo)

### 5.1 Pre-Seabright Resources Inc.

1868 - 1872: The first gold discovery in Beaver Dam was made in 1868 and in 1871 a 15-stamp mill was erected and two belts of veins were opened. Only minor attention was given to this area during this time and no development or production information is available.

1886 - 1904: In 1886 William Yeadon became interested in the area, carried out considerable prospecting and erected a 4- stamp mill. He continued to work the property until 1891 when the Beaver Dam Mining Company bought him out. The Beaver Dam Mining Company carried out limited exploration work and erected a 10- stamp mill. The property was then briefly leased to G.M. Christie and W. Tupper before being sold to J.H Austen in 1896, who erected an additional 10-stamp mill. The 29.9 meter (98 ft) Austen Shaft was sunk in 1902 on a belt 4.6 m (15 ft) wide and developed by crosscutting 18.9 m (62 ft) north and 11.9 m (39 ft) south to reveal a gold bearing belt of slate and quartz 22.6 m (74 ft) wide with an average grade of 6 g/tonne (0.175 oz/ton) gold. This same zone was located 121.9 m (400 ft) to the west. Many other veins, some auriferous, were exposed by surface trenches over 239.3 m (785 ft) of strata.

1911 – 1926: In 1911 the Redding shaft was sunk to 20.7 m (68 ft) by Gladwin Mining Company. The property was worked by various operators between 1911 and 1926 with only minor production recorded. While prospecting in 1926, William Papke discovered a mineralized belt immediately west of the Austen workings.

1927 - 1928: In 1927 the Austen shaft was pumped out and the south cross cut was extended to 89.6 m (294 ft). In 1928 further drifting and diamond drilling were carried out in the Austen Shaft area. By the end of 1928, the Austen Belt had been mined out for a length of 24.4 metres over a width of 3.7 metres and a height of 12.2 metres. Considerable visible gold in the Whip A belt was noted but mill tests failed to yield favourable results. High assay values were sporadic and work was discontinued.

1934 - 1941: In 1935 the Austen shaft was once again de-watered and 37.2 tonnes (41 tons) of ore were crushed. An incline was sunk from the 22.2 m (73 ft) level to the 61 m (200 ft) level. Trenching and drifting continued on the Austen structure and the Mill shaft area until 1941. Workers included John Crouse who carried out wide spread trenching along the Austen Belt between 1934 and 1941.

1954 - 1957: No other work was recorded until 1954 when the Lawrence Construction Company did some trenching and in 1957 a gold assay value of 47.3 g/ tonne (1.38 oz./ton) was returned for a 600.6 kg (1324 lb.) sample. A second sample of 103 kg (227 lbs.) of slate wall rock assayed at 10.25 g/tonne (0.299 oz/ton).

1965: A reassessment of the property was carried out for a combined silica-gold operation in 1965 by Atlantic Silica Ltd. They de-watered the Austen Shaft to the 22.2m (73 ft.) level and carried out channel sampling. The results were insignificant and the option on the property was not renewed.

1977 - 1983: The property was acquired by M.E.X. Explorations Limited (M.E.X.) in 1977 and in 1978 they entered into an agreement with Agassiz Resources Limited (Agassiz). Geological, geochemical and geophysical surveys and nine diamond drill holes totalling 643.9 metres (2112ft) were completed to test lateral extension of the Austen and Papke workings. Trenching exposed mineralized zones and numerous thin gold bearing quartz veins were discovered along the anticlinal structure between the Austen Shaft and the Papke Pit, a distance of 457 metres. Bulk testing results did not obtain definitive results. In 1980 Comiesa Corporation Ltd. (Comiesa), a subsidiary of Agassiz, drilled an additional nine holes and M.E.X. drilled two holes north of the Mill Shaft. A total of 1,216 m (3,989.5 ft) were drilled in eleven drill holes completed in 1980. Of the eighteen holes drilled in the main mineralized zone, fifteen of them contained visible gold. In 1983, Acadia Mineral Ventures Ltd. funded additional work by M.E.X including mapping, geophysical and geochemical surveys and the drilling of eleven holes, nine of which were drilled on the main mine grid and totalled over 710 m.

## **5.2 Seabright Resources Inc.**

Seabright Resources Inc. (Seabright) acquired an interest the main Beaver Dam property in 1985. Coxheath Gold Holdings (Coxheath) acquired the ground to the north (North Zone) and the west of the Seabright property in the area of the Mill Shaft (Mill Shaft Zone). Coxheath conducted reconnaissance work on a 5.5 km grid. They carried out prospecting, a VLF-EM electromagnetic survey and limited geochemical sampling before optioning their property to Seabright who combined the areas for further work.

Exploration work was also conducted west of the Seabright holdings during the period from 1985 to 1987 in an area now included within the Acadian licence. Four Seasons Resources Ltd. carried out a limited soil geochemistry and VLF-EM program, followed by drilling nine diamond drill holes totalling 3180 ft. (969.3 m).

Seabright carried out an extensive exploration program consisting of geological mapping, geophysical surveys and soil sampling over a large area, including the Beaver Dam mine site. A series of grids were established with 50 metre line spacing and 25 metre station spacing covering the main zones of interest.

### 5.2.1 Geochemical Survey

Soil geochemical surveys were completed by Seabright Resources personnel utilizing B horizon material collected at a 50 X 25 metre spacing. A well defined anomalous zone, 700 metres long and 200 metres wide was defined on the mine grid with anomalous gold values ranging from 10 to 650 ppb gold. This zone originates at subcropping mineralization in the mine area, widens outward to the southeast, which is down ice along the predominant glacial direction and it is described as representing a glacial dispersion pattern associated with the Beaver Dam auriferous mineralization. A similar anomalous gold dispersion halo was outlined in the Coxheath ground to the west, centred on the Mill shaft area. The strike distance between these geochemical fans is one kilometre. Additional scattered anomalous gold values of 10 to 25 ppb also occur between the two anomalies.

### 5.2.2 Magnetic Surveys

M.P.H. Consulting Ltd. conducted extensive magnetic surveys on behalf of Seabright Resources over the Beaver Dam mine grid as part of a much larger scale project. 40 km of total field and vertical gradient magnetics and VLF-EM surveys, a 30 km Horizontal Loop E.M and 17 km's of Induced Polarization and Apparent Resistivity Surveys were completed on the mine grid and Coxheath west grid.

The Induced Polarization (IP) and Apparent Resistivity (AR) were successful in defining distinct lithologies in the mine area. A low resistivity and high chargeability response delineated a broad argillite zone and the Papke and Crouse zones could also be identified. The Austen zone was outlined as a chargeability high, but did not give a well defined resistivity signature. The magnetic surveys confirmed conclusions based on the IP and AR surveys. The surveys also outlined the possible 350+m extension of the Beaver Dam deposit beyond the Mud Lake Fault where it was previously believed to end. Results suggest that the Austen belt potentially extends westward and may be the horizon encountered at the Mill Shaft. Also a repetition of the Beaver Dam Argillite may occur on the north limb of the anticline in the north central part of the grid.

### 5.2.3 Reverse Circulation Drilling

Seabright carried out reverse circulation drilling (RC drilling) in a number of areas on the Beaver Dam property. This includes 1650 metres of RC drilling in 205 holes over a 900 metre by 150 metre area centred on the main Beaver Dam grid (158 holes on the Main Section and 47 holes west of the MEX Pit Section). The tills were logged and bedrock

chips used to map lithological units.

In the main section the posted anomalous bedrock gold values were coincident with the interpreted east-west trend of the Beaver Dam anticline. Assay values ranging from 100 to 3560 ppb were reported in the vicinity of the Austen Shaft and in a cluster to the east near the Mud Lake Fault.

Screening, tabling and panning of the samples resulted in till concentrates, many with significant gold counts. Assays of panned concentrate samples produced several values in the concentrates of up to 6620 ppb. The survey was ended on line 1300 E at the Mud Lake Fault.

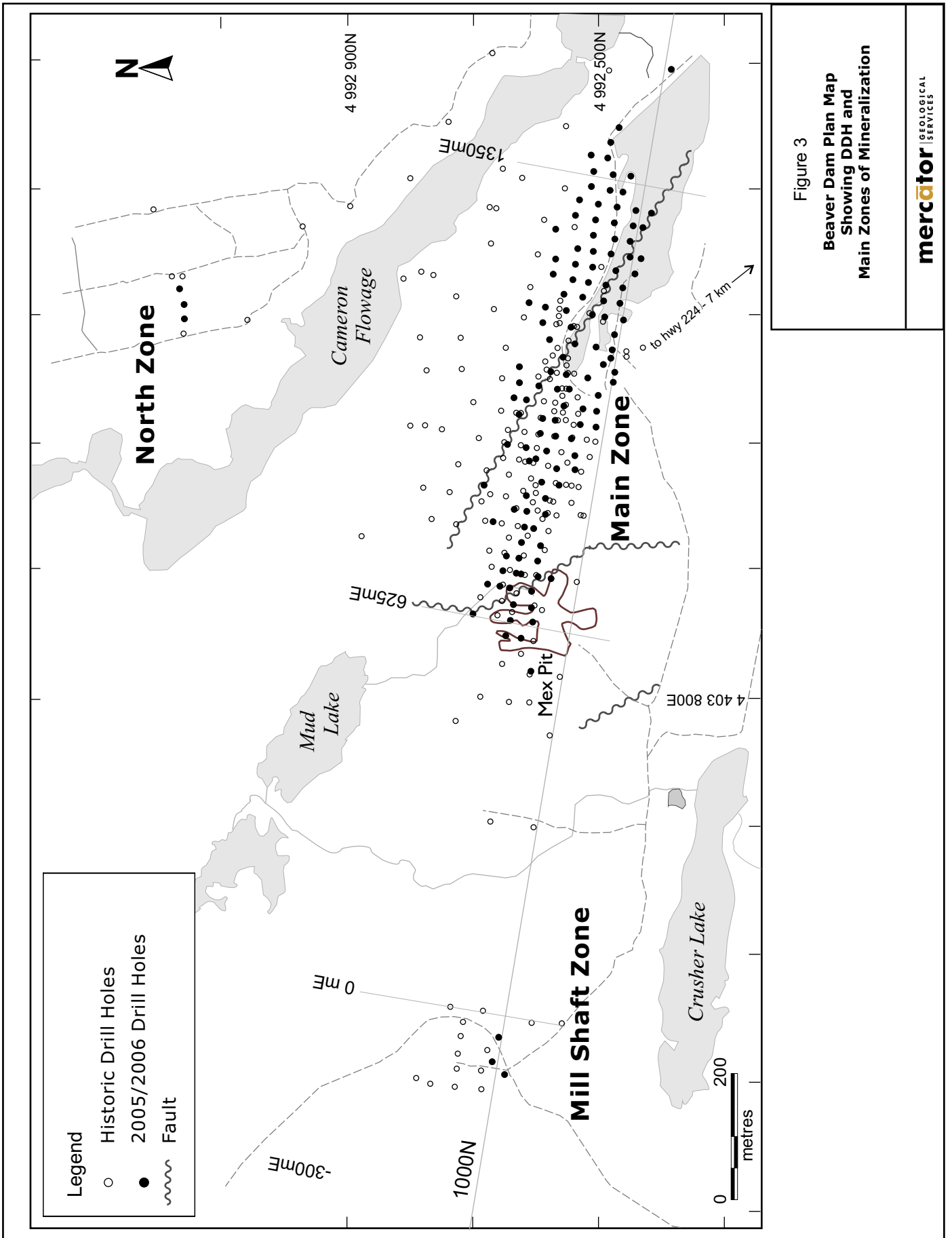
An additional 99 holes (569m) were drilled on other grids outside the main area including 35 at the Mill Shaft area (Mill Shaft Zone) and 64 on the Beaver Dam north area (Northern Zone) of the property, north-east of Cameron Dam flowage (Figure 2). Aside from minor pyrite, pyrrhotite and arsenopyrite observed in the till from drilling in the immediate vicinity of the Mill Shaft, there was no significant mineralization in any of the remaining holes drilled in the peripheral regions.

The tills from RC drilling were described as the same quartzite and clay rich tills encountered in soil sampling pits and road cuts during geochemical sampling. Of the 106 kraft size till samples collected from RC drilling only six were anomalous in gold with values ranging from 10 to 15 ppb (AR86-129). Duncan (1986) postulated that the thick clay intervals within the tills masked the dispersion of gold from local bedrock sources.

#### 5.2.4 Diamond Drilling

The preliminary exploration work was followed up by an extensive diamond drilling program at the mine site. Three zones, the Papke, Austen and Crouse argillite packages were identified as having potential for development. Coates and Riddell of MPH Consulting Ltd. carried out a number of reserve calculations for Seabright as new diamond drilling results became available.

Seabright commenced their drilling program in late 1985 and by February 1986 when a preliminary reserve estimate was carried out by Coates and Riddell, 60 diamond drill holes (8,000 m) of NQ coring were completed. Coates and Riddell used drilling results from the current programs as well as incorporating the results from the 29 M.E.X holes from 1977- 1983, to complete a reserve calculation to a depth of 200m. It was concluded that the Beaver Dam deposit was viable and the program was expanded to include underground exploration and mine planning was initiated. In April, they revised the reserve estimate based on an addition 5,461 m from 31 surface drill holes. Another 19,770.89 m of drilling in 124 holes was completed by July 1986 and provided the basis for a third reserve estimate completed in September by Coates (1986). Thirty-six additional surface holes were completed and incorporated into Coates and Riddell's



(January, 1987) final calculations. J.S. Redpath Mining Consultants carried out a concurrent mine feasibility study and based their “mineable reserves” estimate on Coates and Riddell’s calculations. Kilborn Engineering completed a final mine feasibility study in February 1987. A detailed discussion of the methodology and results of all reserve estimates can be found in Section 16.0: Mineral Resources and Mineral Reserve Estimates. **The author cautions that reserve estimates presented are not considered compliant with NI 43-101 or consistent in terminology with CIM Standards.**

Surface drilling continued until April of 1987 with a total of 189 diamond drill holes completed. Underground drilling was initiated in February 1987 and 34 holes were completed. All compiled surface and underground diamond drill holes used in this resource calculation appear in Appendix 3 (Figure 3).

The majority of Seabright’s surface diamond drilling was carried out at 25 m centres on 25 m line spacing over the main mine grid. Seabright also drilled a number of deep holes within the mine area and geological interpretation suggests that the mineralized Austen and Papke Zones reaches vertical depths of at least 668 m. This information, in conjunction with the probable westward extension of these zones into the Mill Shaft Zone drilling area (800 m to the west of the mine), suggests a sizable mineralized belt exists on the property. In addition, drilling 600m to the north (North Zone) is thought to represent the displaced continuation of the Beaver Dam mineralized structure (Duncan 1987).

#### 5.2.5 Underground exploration

Underground development commenced in August of 1986 and continued until January 1988. Seven levels at the 1100, 1080, 1075, 1065, 1050, 1040 and 1025 elevations were worked. Eighteen crosscuts of various lengths were driven to intersect mineralized stratigraphy and sixteen drifts were developed along mineralized zones. Several ventilation raises and one raise on a mineralized zone at the 1040 level were also completed. By the time mining ceased in 1989, 135,000 tonnes were mined in underground development from a total of 3,787 metres of advancement taken to a vertical depth of 105 metres. A total of 41,119 tonnes of material was milled at an average grade of 1.85 g/t (AR87-257). Little or no stoping was carried out on individual higher-grade zones until the final stages of mining, when samples from the Papke High Grade zone were included in the last two bulk sample tests and this block had reported a recovered grade of 11g Au/t (AR89-213).

#### 5.2.6 Open Pit Development

An assessment of the open pit development potential of near surface drill hole intercepts on the Austen and Papke zones was carried out in March of 1987. Channel sampling of the mineralized veins across the zone returned an average grade of 2.81 g/t Au. Between September and December of 1987 over 10,055 tonnes were removed from the pit of which 8,822 tonnes was milled at Gays River for a reconciled gold grade of 2.45 g/t Au.

Results of this limited program suggested that bulk mining could be effectively undertaken.

### **5.3 Westminer Canada Limited**

Westminer took over Seabright in February 1988 and continued work at Beaver Dam and other properties with the idea of bringing them into production. Difficulties in proving the MPH reserves at Beaver Dam resulted in Westminer initiating their own reserve calculation. Westminer undertook a new ore reserve calculation utilizing different parameters than the original MPH reserve estimate. They used results from underground bulk sampling, diamond drilling to a depth of 110 m and applied a smaller influence area to polygons around drill holes. As a result Westminer arrived at a substantially lower mineable reserve of 15,639 tonnes at 5.66 g/t proven and 25,639 tonnes at 5.42 g/t probable. Westminer subsequently filed a civil action against the Seabright directors for fraud but were unsuccessful with the lawsuit. The quality of technical data and the methodologies used by MPH and others was reviewed by Pearson Hoffman and Associates and Robertson and Associates, and were found to use industry best practice for the time. The authors have also reviewed this database and have no reason to question the quality of the Beaver Dam database.

### **5.4 RJZ Mining Inc.**

In 1996 Mercator performed compilation and exploration work for RJZ Mining Inc. on the area immediately east and west of the Acadian property, including re-establishing the grid, regional geophysical processing and interpretation, mapping, prospecting, biogeochemical surveys and diamond drilling. An aeromagnetic anomaly defined by this program is roughly 120m wide over a strike length of 1500m and is interpreted to represent the most western extent of the Fifteen-mile Stream Anticline. Although RJZ has not completed any new work since 1997, they currently hold the property immediately east of the Acadian property.

### **5.5 Acadian Mining Corporation**

In 2002 the property was acquired by Tempus Corporation, which subsequently became Acadian Gold Corporation. Acadian Gold Corporation effectively changed its name to Acadian Mining Corporation on June 28, 2007. Acadian undertook a surface diamond drilling program of 133 holes from 2004 to 2006, which are the primary basis for this report. Acadian also drilled 3 PQ diamond drill holes for metallurgical analyses, for which results are still pending, and is currently undergoing a new specific gravity analyses on the deposit. Details of this program are discussed later in this report. Acadian drilled an additional 6 diamond drill holes in 2007 targeting mineralization at depth, for which results are pending during the release of this report.

## 6.0 Geological Setting

### 6.1 Regional Geology

The Lower Paleozoic Meguma Group (Woodman, 1904) can be divided into two formations characterized by the presence of interbedded greywacke and slates. Woodman, (1904) and others (Taylor, 1967; Crosby, 1962 and Malcolm 1976) have suggested the formations to be of shallow marine origin. Campbell (1966), and Schenk (1970) concluded from sedimentary structures within the Meguma Group stratigraphy that deposition of the Goldenville Formation occurred within well defined, plunging, deep sea troughs, with bottom currents subsequently redepositing some of the finer sediments. The lower Goldenville Formation is dominated by greywacke strata which is estimated to be up to 5600 metres thick. This stratigraphy is conformably overlain by the slate dominated Halifax Formation (Ami, 1900) with a stratigraphic thickness of about 4400 metres. Together these two formations constitute more than 60% of the bedrock geology of southern Nova Scotia.

Subdivision of the stratigraphy at the Halifax/Goldenville contact was completed through a study in the Mahone Bay area (O'Brien, 1986,1988). The transitional contact between the Goldenville and Halifax Formations is in part manganese rich and it is known locally to host minor concentrations of gold, zinc and tungsten, in addition to other minerals (Graves and Zentilli, 1988b).

As referenced more completely in Section 6.1.3 below, a pervasive regional folding event affected Meguma Group strata during the Mid-Devonian Acadian Orogeny and resulted in development of a well developed northeast trending fold set with associated steeply dipping axial planar cleavage.

Large Mid-Devonian intrusions of granitic to granodioritic composition were emplaced within the Meguma Group after development of the F2 fold generation and these, as well as the host Meguma strata, have commonly been offset by northwest trending faults that can show apparent horizontal displacement components ranging from a few meters to more than 10 kilometers in dimension. These relatively late structures are responsible for the northwest trends exhibited by drainage systems developed over the Meguma Group and are also represented in the system of elongate bays and estuaries that mark the Atlantic coast of the Nova Scotia.

Gold mineralization in the Meguma Group is primarily confined to the Goldenville Formation, but some occurrences have been documented in the overlying Halifax Formation. Coarse grained gold (>100 mesh) with lesser amounts of finer gold is commonly found in association with (1) bedding parallel quartz veins, (2) complex and locally discordant fissure veins, vein arrays and vein stockworks and (3) wall rock slates immediately adjacent to gold bearing veins. In contrast, finer grained gold (<100 mesh) hosted by altered argillite and siltstone, but showing no direct quartz vein association, has

also been documented in Nova Scotia. The most notable example of such is the argillite-hosted Touquoy gold deposit at Moose River, described by Hudgins (1989). Additionally, Nova Scotia Department of Natural Resources geologists have shown that significant gold mineralization showing no quartz vein association can also occur in thick sequences of altered greywacke and be characterized by presence of electrum and certain inter-metallic compounds (Smith et.al. 1994).

### 6.1.1 Goldenville Formation

The Goldenville Formation forms the lowermost part of the Meguma Group, underlies most of the Acadian properties and is host to most of the known gold deposits in the province, including the Beaver Dam property. The formation generally consists of intercalated meta-greywacke and meta-siltstone (Faribault, 1898a; Malcolm, 1976) showing repetitious turbidite cycles. These typically consist of thick meta-greywacke units fining upward to thin metasilstone or black slate caps. At many deposits, black, sulphide rich slate and thinly banded, multi-colored siltstone are characteristic host rocks for gold mineralization (Smith and Kontak, 1987). Stratigraphic continuity is notable within the gold bearing host rocks where individual beds and quartz vein packages have commonly been traced for over one kilometer in strike length and in excess of 300 meters in dip extension.

### 6.1.2 Halifax Formation

The Halifax Formation forms the upper part of the Meguma Group and is generally comprised of thinly bedded dark grey to black, grey and locally light green slates and minor fine-grained, quartzitic, sandy siltstone (Faribault, 1898b; Malcolm, 1976). Locally the formation consists of fine grained, dark grey to black slate that carries 10% or more pyrite and/or pyrrhotite along with abundant arsenopyrite. Slates are commonly graphitic to chloritic and friable due to cleavage and bedding intersections. Lower units in the formation are carbonate rich with calcite and magnesite identified in veinlets and nodules (Smith, 1983). Halifax Formation lithologies, occurring in proximity to the Acadian claim holdings form narrow northeasterly trending packages, up to 2 km in width.

### 6.1.3 Structure

Mainland Nova Scotia represents the most southerly zone of the Canadian Appalachian structural province and the Minas Geofracture (Keppie, 1982; or Cobequid Chedabucto Fault System) separates the juxtaposed Meguma Terrane to the south from the Avalon Terrane to the north.

The Meguma Group described earlier bears evidence of a locally complex structural history that in some locations records up to five stages of deformation. Regional compression during the Devonian Acadian Orogeny (ca. 410 Ma) produced a pervasively

developed set of tight, northeasterly trending, non-cylindrical regional folds characterized by doubly-plunging fold axes and upright to locally overturned fold limbs. These are classified as F2 structures and post date a poorly developed, often bedding parallel, earlier deformation fabric of uncertain regional association. F2 folds impart a strong northeast structural grain to mainland Nova Scotia and are characterized by presence of well developed axial planar cleavage in slate and siltstone sections and spaced pressure solution or fracture cleavages in greywacke sections (Smith and Kontak, 1987). Most Nova Scotia gold deposits lie on the most steeply dipping or overturned limbs of doubly plunging F2 anticlinal folds, localized in various quartz vein settings that evolved prior to, during or subsequent to the F2 folding event.

#### 6.1.4 Metamorphism and Alteration

The Meguma Group was effected by pervasive greenschist to amphibolite facies regional metamorphism during the Devonian Acadian Orogeny. Alteration believed to be locally associated with gold mineralization is characterised by variably developed carbonate, sericite, chlorite and sulphide phases. Moderate to intense silicification and bleaching, especially within greywackes, has locally developed distinct “quartzites” that in some cases act as marker beds within the gold bearing stratigraphy (Smith and Kontak 1987). Smith, et. al. (1992) suggest that widespread hydrothermal alteration haloes are associated with gold and sulphide mineralization.

### 6.2 Property Geology

The Beaver Dam property has been mapped in various levels of detail in the past, but mapping by Seabright produced the best understanding of the property geology. The Beaver Dam gold deposit sits on the south limb of the overturned Beaver Dam anticline, which has a regional trend of  $100^{\circ}$ . The fold limbs are asymmetrical with the south limb dipping  $80^{\circ}$  to the north and the north limb, where apparent, dipping  $50^{\circ}$  north. The property is bound on the west by the River Lake Pluton and to the east by the northwest trending Mud Lake Fault, which displaces the Beaver Dam anticline to the north. Within the underground workings individual stratigraphic units are truncated to the east by the Mud Lake fault, which is represented by a 10-20m wide breccia zone with a 2-3m central gouge zone. Offset on this fault is thought to be in the order of 600m north (Duncan, 1987).

Detailed studies of drill core, underground faces and trench geology by Seabright resulted in the identification of a number of marker beds that allowed stratigraphic correlation across the property. Ten individual units were outlined and shown to have a strike extent in excess of 3 km. Duncan (1987) and others have described the stratigraphy as a series of Bouma turbidite fining sequences that generally consists of argillite and greywacke.

The property geology is defined by two main rock units that occur individually and as interbedded sequences. The greywacke is described as generally being light to medium

grey, very fine to medium grained and massive. Greywacke typically occurs as coarse grained massive greywacke at the base grading upward to fine and very fine grained silty greywacke. Alteration within the greywackes at Beaver Dam is primarily silicification that occurs in zones from 5 cm to 10 m in thickness. Silicified rocks display light colored alteration and are generally hard and massive. Calc-silicate bands and lenses were also noted to occur as 3-25 cm wide zones and locally act as distinct markers. Carbonate alteration has also been noted as 3-30 cm wide zones with poorly developed haloes and also occurs as infilling of micro-veins and fracture.

Argillites occur as dark grey to black zones that as noted above define the tops of individual fining sequences when associated with greywacke. These argillites host quartz veining, and sulphide mineralization which commonly occurs as disseminations and clots. The units also display slaty cleavage and bedding with sedimentary features. Argillite units range from a few centimetres when associated with greywacke units to over 70 m within the Austen Argillite sequence. The thick argillite sequences typically host significant amounts of quartz veining and are the principal auriferous stratigraphy of the deposit.

## 7.0 Deposit Type

Historic gold production from Nova Scotia has typically been from narrow quartz veins where coarse grain gold mineralization returned high grade gold values. However, exploration programs in the late 1980's, also noted low grade gold values within argillite sequence that show little or no quartz vein association such as at Beaver Dam, Moose River and Fifteen Mile Stream (AR 87-117, and AR 89-213). Results from both underground sampling and diamond drilling demonstrate that significant widths of low grade, quartz veined and slate hosted gold mineralization grading in excess of 2.5 g/t gold occurs at Beaver Dam.

### 7.1 Vein Hosted

Vein hosted gold mineralization can take several forms with veins often displaying complex textures that may be indicative of repeated fracturing and injection of fluids along bedding planes and zones of weakness. In contrast, a few veins show evidence of development by wallrock replacement and fracture filling. Bedding concordant or bedding parallel (BP) veins are the most widely known style, however, significant concentrations of gold also occur in semi-concordant and angular veins.

#### 7.1.1 Bedding Parallel Quartz Veins

Bedding parallel or stratiform veins are typically thin, measuring less than 30 centimetres in width, and show crack-seal layering or other internal structuring. This is an important gold hosting vein type at Beaver Dam and much of the gold is coarse grained. The veins range in size from 0.5 cm to 20 cm and are composed of finely laminated quartz with thin

argillite wallrock bands and are laterally consistent. Grade shoot controls on gold mineralization have not been well studied but physical irregularities of vein structure such as rolls, swells or impinging side veins often show direct spatial association with higher grade gold mineralization and imply a structural relationship. In some instances, bedding parallel veins show deformation features such as thickening, boudinage and crenulation features.

Sulphide mineralization is commonly associated at low levels with vein hosted native gold mineralization and includes 1- 8% pyrrhotite, 1-8% pyrite, trace-5% arsenopyrite, trace -2% chalcopyrite, trace-1% galena, and trace sphalerite. Rare loellingite, stibnite, tourmaline, fluorite, feldspar and molybdenite also occur locally (Smith and Kontak, 1987).

#### 7.1.2 Semi Concordant Veins

Semi-concordant quartz veins are also a primary source of gold mineralization at Beaver Dam and typically range in size from 1-20 cm. Veins are generally massive, white and locally contain wallrock fragments in various stages of assimilation. Veins are generally found within argillites at the top of a fining sequence but have also been noted to crosscut stratigraphy at a low angle. Veins can display folding, crenulation and step vein features where they crosscut stratigraphy. Sulphide mineralization also includes trace-8% pyrrhotite, trace-8% pyrite, trace-5% arsenopyrite, trace-2% chalcopyrite, trace-1% galena.

#### 7.1.3 Bull Veins and Angulars

Bull veins are defined as massive milky white quartz veins ranging in size that 50 cm to 3 m. They can be bedding concordant or can crosscut stratigraphy at various angles and are general considered have been deposited late in the veining sequence. Although not known to host gold themselves, gold enrichment has been noted where these crosscut concordant and semi-concordant veins. These veins are also poor in sulphide mineralization.

Quartz veins that cross cut strata for considerable distances are typically developed along fault zones that post date regional folding. Historically any vein that cuts stratigraphy at some angle is considered to be an “angular”. This is particularly true if the vein in question can also be shown to branch away from or intersect a bedding parallel vein. Such veins have been termed AC veins, based upon their orientation to an anticlinal fold axis. Comparatively small amounts of gold have been produced from angulars or AC veins.

## 8.0 Mineralization

Gold at Beaver Dam occurs as fine to coarse grained free visible particles, associated with sulphide mineralization that includes pyrrhotite, pyrite, chalcopyrite and arsenopyrite within quartz veins, and both argillite and greywacke sequences. The bulk of gold mineralization is associated with stratabound quartz veins that range in size from 0.5 cm to 20 cm. Individual veins and groups of veins are associated with wide argillite packages that range in thickness from 3 m to 25 m locally. Argillite packages have been traced by detailed underground mapping to extend along strike for over 350 m. Surface diamond drilling by Acadian and others has shown that these zones can be traced for over 800 m and may continue eastward along the faulted offset portion of the stratigraphy 600 m to the north. Deep drilling has also intersected the interpreted down dip extension of the mineralized zones at approximately 668 m below surface.

The current geological interpretation illustrates that the bulk (81 %) of the gold resources outlined by Acadian occur in the Main Zone Central, a 30 - 40 metre wide geological zone over a strike length of 800 metres. Current drill results suggest that the bulk of the gold mineralization is associated with quartz veined intervals, however, anomalous gold values have also been returned from non-quartz veined sections of both argillite and greywacke.

Results of drilling and bulk sampling undertaken by past workers at Beaver Dam also indicates the presence of broadly dispersed low grade gold mineralization within the altered meta-siltstones and slates. The Austen Open Pit zone was identified in drilling and opened for bulk sampling in September 1987. Channel sampling of the mineralized veins and wallrock across the zone resulted in an average grade of 2.81 g Au/tonne (Campbell and Armstrong 1989). A 10,055 tonne bulk sample was removed from the pit of which 8,822 tonnes was milled and returned average reconciled gold grade of 2.45 g/t. Additionally, a total of 41,119 tonnes of material was extracted from surface and underground bulk sampling over a number of parallel gold mineralized zones at Beaver Dam and returned a reconciled gold grade of 1.85 g/t (AR87-257). This preliminary review suggests that the combination of high grade and low grade auriferous zones supports a model for low grade gold mineralization over wide widths. Drilling completed by Acadian from 2005 to 2007 also supports this model.

Deep drilling was undertaken by Seabright to test the down dip extension of the gold mineralized zone. Two holes in particular (BD86-053 and BD86-053B) were drilled and wedged, and successfully intersected gold mineralization at vertical depths between 591 and 668 metres.

## 9.0 Exploration

Mercator completed an initial National Instrument 43-101 compliant Mineral Resource Estimate for Acadian in November 2004 with an effective date of November 15, 2004.

The information used to complete this estimate was compiled from the results past drilling and underground sampling undertaken prior to Acadian's involvement in the property.

Acadian initiated a diamond drilling program on the main Beaver Dam property (Licence 05542) in July 2005, under the direct supervision of the senior author and Mercator staff. This initial program consisted of 16 diamond drill holes. After a short break drilling resumed until the end of 2006, with total of 133 holes being drilled by the company. Results for these drill holes have been reported in a number of press releases. In addition, three PQ diamond drill holes, located on sections 800, 875, and 1100 East, were drilled as part of a metallurgical testing program. Material from the three PQ drill holes were utilized as a bulk sample to test for overall gold grade and gold recovery rates through cyanide leaching, and gravity concentration and floatation. Results for the metallurgical testing are still pending. Details of the drilling program can be found in Section 10.0 of this report. Drilling resumed for a short period of time in the spring of 2007 and an additional 6 diamond drill holes were targeted to test for gold mineralization at depth. Results for these drill holes are currently pending and are not included in this report.

## 10.0 Drilling

Acadian initiated a 16 hole diamond drilling program in July 2005 under the direct supervision of Mercator. After a short break a second drilling program was initiated in October 2005 and finished in December 2006. A total of 133 drill holes were completed on the Beaver Dam Property; 127 holes were drilled on the Main Zone, 3 holes were drilled on the Mill Shaft Zone, and 3 were holes drilled on the North Zone. Drill holes completed by Acadian were targeted to test previously outlined gold mineralized zones defined by drilling and underground mining completed by Seabright (1987) and to test the boundaries of the Main Zone along strike and across width. The drilling program focused on 1) validation of past drilling results, 2) infilling in areas where insufficient information exists to define near surface indicated and measured resources 3) re-drilling holes where sampling and assay procedures did not meet current reporting standards and 4) to extend the mineralized zone beyond the previously defined boundaries. As part of the 2006 drill program, 3 PQ sized (8.5 cm diameter) diamond drilled holes were drilled to provide a larger sample volume of material (similar to a bulk sample) for metallurgical testing and to test gold recovery through both cyanide leaching, and gravity concentration and floatation. Results of the metallurgical test work were pending at the time of this report. An additional 6 holes were completed on the property in 2007 bringing the total number of completed by Acadian to 139. These 6 drill holes were targeted to test the continuity of wide zones of gold mineralization and the trend of higher grade shoots at depth. Results for these 6 drill holes were pending at the time of this report and therefore will not be considered in this report.

Logan drilling of Stewiacke, Nova Scotia was contracted to complete drilling utilizing a skid mounted Longyear 38 unit equipped to capture NQ sized drill core (4.76 cm

diameter). Mercator was contracted to manage the day to day drilling operation and Mercator staff provided onsite supervision, transportation of core to a secure logging facility, the logging of drill core and supervision of core sampling. Core from the entire drill hole or the main mineralized zone is split in half using a diamond tipped saw blade and continuous half core sampling is carried out on a standardized 1 metre sample interval basis. One half of the core from each one meter sample interval is placed in a labelled sample bag, sealed, and placed in plastic buckets for shipment via courier to ASL Chemex for analysis. ASL Chemex was contracted to provide screen metallica preparation and analysis for all core samples. A registered land surveyor surveyed drill hole collar coordinates, and all drill holes were coordinated to a local mine grid system.

The 133 holes completed on the Main Zone and the satellite North Zone and Mill Shaft Zone form the focus of this Updated Mineral Resource Estimate. These holes tested previously outlined gold mineralization that occurs in association with quartz veins, argillite and greywacke units. Drilling was outlined to test the near surface (open pit) potential of the gold mineralization, generally focusing on the zone within 100 - 150m of surface. Past drilling by Seabright and others targeted individual veins within argillite and greywacke packages that have been described in detail by Duncan (1997). Underground mining also focused on these geological units but failed to establish continuity of individual veins over long strike lengths.

In contrast to past focus on narrow high grade intervals, the Acadian exploration approach has been to define wide zones of lower grade, near surface gold mineralization defined through weighted average grade intervals. These efforts have been successful in establishing continuity of a low grade gold zone for over 800m along strike. Wide zones of gold mineralization interpreted as the Main Zone Central were wireframed, composited, and block modeled in Gemcom Surpac 6.0 software following criteria established for the project, details of which are described in Section 16.0 of this report. Resources occurring adjacent to, but outside the interpreted Main Zone Central are identified as the Main Zone Envelop, and additional resources were identified by drilling within the satellite North Zone and Mill Shaft Zone. All resources were modelled in Gemcom Surpac 6.0 software following specified criteria further described in detail in Section 16.0. The continuity of gold mineralization is demonstrated by drilling and the orientation of gold mineralization shows parallelism to the dip of geology, which is approximate 80 degree to the north on the overturned south fold limb of the Beaver Dam anticline. Gold mineralization is confined to mixed argillite and greywacke sections that define the host stratigraphy and can be traced down dip for over 600m and along strike for over 800m.

The 133 drill holes completed by Acadian and included in this report are in addition to the 238 historic drill holes and have been tabulated below (Table 4). A complete set drill logs, assay results, and drill sections that incorporate all present and past drilling utilized in this resource estimate are available in Acadian's head office for viewing. Representative cross sections are presented in Appendix 5 of this report.

Table 4: Acadian Drill Hole Collars

Hole Id	Easting	Northing	Elevation	Azimuth	Dip	Depth
BD05-001	775.15	1081.42	1133.47	189.5	-45	82
BD05-002	850.27	1082.56	1133.67	180	-55	107
BD05-003	873.72	1057.83	1133.15	180	-45	73.2
BD05-004	899.94	1041.31	1133.18	175	-45	61
BD05-005	949.74	1083.34	1131.46	187.2	-45	101
BD05-006	1047.89	1019.52	1131.18	184.1	-70	110.2
BD05-007	1101.68	1007.96	1130.94	175.6	-70	80
BD05-008	1101.79	1006.93	1130.92	180	-41.7	83
BD05-009	1078.73	1007.36	1130.83	179.1	-42.2	80
BD05-010	1101.97	1078.73	1132.34	177.3	-42.9	113
BD05-011	1152.59	1068.34	1134.43	180.5	-46.1	140
BD05-012	1251.56	1040.25	1131.71	172.5	-45	135.25
BD05-013	749.84	1066.03	1132.79	174.1	-41.8	121
BD05-014	649.85	1095.44	1131.82	176.9	-45	112
BD05-015	974.45	1050.18	1131.44	181.6	-43.6	130
BD05-016	1024.96	1074.38	1131.38	178.1	-41.6	124
BD05-017	697.9	1083.45	1133.42	180	-45	120
BD05-018	724.14	1096.4	1133.85	180	-45	129
BD05-019	675.66	1098.04	1132.74	180	-45	98
BD05-020	875.13	1032.82	1132.88	175.5	-45	80
BD05-021	880.86	1097.4	1133.75	180	-45	130
BD05-022	898.12	1082.18	1132.67	186.1	-45.1	110
BD05-023	748.95	1094.83	1133.75	178.1	-46.2	110
BD05-024	800.19	1070.24	1134.2	182.8	-45	100
BD05-025	824.95	1075.61	1133.3	180	-46.3	100
BD05-026	924.97	1050.46	1132.67	180.4	-45	100
BD05-027	925.29	1075.46	1132.06	180	-45	80
BD05-028	948.18	1039.01	1132.36	180	-45	80
BD05-029	949.96	1110.49	1131.05	180	-45	140
BD05-030	997.78	1055.08	1130.88	188	-45	98
BD05-031	1175.24	1064.42	1134.52	184.7	-45	120.5
BD05-032	976.22	1070.29	1131.36	180	-46	93.8
BD05-033	900.96	1116.76	1132.4	182.1	-45	150.2
BD05-034	849.81	1057.04	1133.62	184.6	-45.9	80
BD05-035	824.95	1105.27	1135.27	183.2	-45.6	120
BD05-036	800.21	1101.21	1134.29	183.5	-42.4	120
BD05-037	725.53	1074.62	1133.84	184	-43.6	80
BD05-038	699.97	1067.11	1133.63	183.7	-45.1	92
BD05-039	674.86	1068.8	1134.88	181	-42	72.5
BD05-040	650.49	1066.84	1134.54	179	-42.7	83
BD05-041	542.74	1046.11	1139.7	182.2	-45.2	101
BD05-042	781.13	1152.35	1135.84	184.2	-46.4	150.2
BD05-043	803.6	1122.12	1136.39	180.8	-45.5	91.3

Hole Id	Easting	Northing	Elevation	Azimuth	Dip	Depth
BD05-044	1000.16	1083.68	1131.38	180	-46.8	125.2
BD05-045	998.21	1116.12	1131.1	176.8	-46	150
BD05-046	1025.93	1101.13	1131.31	182.3	-45.1	150
BD06-047	999.47	1145.77	1131.69	182.5	-46.1	200
BD06-048	975.28	1126.43	1131.26	182.2	-42.7	200
BD06-049	948.73	1137.84	1131.35	180	-46.8	200
BD06-050	900.01	1147.26	1132.28	185.2	-47.2	180.1
BD06-051	1149.79	1101.22	1134.94	179.6	-58.4	181
BD06-052	1249.66	1070.86	1133.46	178	-43.7	170
BD06-053	1275.04	1070.78	1132.84	182.1	-41.2	170
BD06-054	1300.54	1069.94	1131.35	180.8	-45.3	170
BD06-055	1299.99	1040.14	1131.76	183.7	-43.9	143
BD06-056	1274.74	1040.27	1132.42	180.2	-45	134
BD06-057	1199.33	1061.67	1133.85	180.5	-43.5	172
BD06-058	1524.56	999.26	1129.08	181.8	-42.2	214.2
BD06-059	879.65	1110.6	1134.03	180	-53.1	152
BD06-060	1224.24	1054.28	1133.52	180	-44.3	151
BD06-061	1324.39	1056.6	1131.58	178.6	-46.2	161
BD06-062	1348.65	1056.27	1131.71	181.7	-43.8	170
BD06-063	1370.75	1072.35	1132.63	180	-45.3	175
BD06-064	1398.92	1071.05	1131.88	179.4	-45.3	175
BD06-065	1424.27	1062.1	1131.69	180	-45	180
BD06-066	1200.6	1090.16	1134.74	180	-45	179
BD06-067	-90.79	1009.67	1135.95	181	-45	151
BD06-068	1175.13	1091	1134.67	179.7	-40.1	180
BD06-069	-75.59	1034.76	1134.71	183.2	-42.5	150
BD06-070	1124.67	1093.57	1134.8	180	-45	169.9
BD06-071	-38.15	1030.98	1137.77	180	-45	131
BD06-072	1226.13	1092.18	1134.32	188	-47	197
BD06-073	1055	1691	1135	160	-47.9	150
BD06-074	1025.28	1149.32	1131.69	179.6	-47	200
BD06-075	1030	1680	1135	160	-47	148.3
BD06-076	974.967	1149.5	1131.26	179.6	-46.4	209
BD06-077	1009	1677	1135	160	-46.9	161.3
BD06-078	1036.88	1001.32	1134.2	184.5	-70.8	73
BD06-079	1125.1	1125.38	1134.33	180	-50	209
BD06-080	1022.66	1037.93	1131.34	181.4	-45	100
BD06-081	774.21	1100.69	1134.28	180	-45	170
BD06-082	993.44	1021.19	1132.3	180	-45	116
BD06-083	974.88	1017.98	1132.23	180	-45	113.8
BD06-084	724.08	1119.82	1133.62	184.8	-45	161
BD06-085	951.37	1018.54	1132.53	185.7	-45	102
BD06-086	675.2	1118.67	1130.82	180	-41.6	153
BD06-087	724.16	1120.44	1133.54	182.8	-60	179
BD06-088	699.76	1120.71	1132.62	184.3	-55	170

Hole Id	Easting	Northing	Elevation	Azimuth	Dip	Depth
BD06-089	602.1	1068.95	1139.19	180	-45	112
BD06-090	699.89	1102.26	1133.08	181	-45	140
BD06-091	621.19	1061.96	1138.26	180	-45	99
BD06-092	623.94	1097.62	1134.51	180	-45	137
BD06-093	600.61	1098.82	1135.63	185.6	-45	140
BD06-094	675.47	1133.3	1130.82	178.6	-41.6	186
BD06-095	627.76	1154.46	1130.81	186.4	-45	197
BD06-096	1225	1037	1133.5	180	-45	136
BD06-097	1074.26	1033.53	1130.11	183.6	-45	101
BD06-098	1076.58	1070.4	1130.61	185.1	-45	129
BD06-099	1122.38	1035.45	1130.04	188.8	-44	101
BD06-100	1147.44	1008.23	1129.99	181.7	-45	89
BD06-101	1122.82	1052	1130.19	173.6	-45	122
BD06-102	1150.27	1040.11	1130.43	181.5	-45	120
BD06-103	1178.28	1039.05	1130.68	180	-45	124
BD06-104	1299.34	1010.88	1130.36	179.5	-45	110
BD06-105	1198.2	1033.6	1130.41	187.5	-45	122
BD06-106	1271.89	1008.44	1130.04	180	-45	110
BD06-107	1176.46	998.43	1129.73	180	-45	96
BD06-108	1024.81	1001.26	1134.13	180	-45	86
BD06-109	1190.3	993.45	1129.63	180	-45	68
BD06-110	1060.64	1008.9	1130.49	180	-45	80
BD06-111	1116.35	997.55	1130.51	188.4	-45	80
BD06-112	1078.44	1110.39	1134.55	180	-57.3	200
BD06-113	1100.33	1124.59	1135.26	180	-60.6	224
BD06-114	1124.05	1150.43	1133.1	180	-57.2	230
BD06-115	1174.82	1121.75	1134.56	180	-45	189
BD06-116	1200.23	1115.5	1134.41	180	-47.3	227
BD06-117	1223.44	1006.75	1129.99	180	-45	90
BD06-118	1251.81	1009.51	1129.55	183	-42.5	81
BD06-119	1240.82	1131.42	1132.7	180	-45	233
BD06-120	1276.37	1102.3	1132.46	180	-45	197
BD06-121	1301.499	1100.271	1131.34	181.5	-42	200
BD06-122	1326.16	1085.36	1133.081	178	-45	189.3
BD06-123	1350.208	1085.468	1133.612	180	-45	191.5
BD06-124	1375.052	1094.53	1132.809	180	-45	190
BD06-125	1274.714	993.791	1130.179	180	-45	92
BD06-126	1299.699	984.784	1130.402	180	-45	72.5
BD06-127	1225.648	989.054	1130.253	180	-45	70
BD06-128	1352.033	1027.006	1130.65	180	-45	102.5
BD06-129	1324.946	1034.655	1130.511	180	-45	110
BD06-130	1051.413	1084.237	1131.37	180	-45	134
BD06-131	925.666	1099.753	1131.833	180	-45	122
BD06-132	829.676	1173.484	1135.479	180	-45	167
BD06-133	701.022	1044.848	1135.616	180	-45	65

## 11.0 Sampling Method and Approach

Mineral resource estimates presented in this report are partly based upon the combined results of the various drilling and underground sampling programs carried out by companies who previously held the property as noted above in the historical section of this report. Details of sampling methodologies and approaches applicable to each company were previously presented in the original Mineral Resources Estimate entitled "Technical Report on the Mineral Resource Estimate Acadian Gold Corporation Beaver Dam Property Halifax County, Nova Scotia, Canada" (Webster 2004).

### 11.1 Acadian Mining Corporation

Acadian finished a diamond drilling program on its Beaver Dam property in December 2006. The primary focus was infill drilling, re-drilling specific historic holes, and strike extension to develop an indicated resource of the near surface component of the deposit. The 133 drill holes from this program have been incorporated in this Updated Mineral Resource Estimate. Metallurgical test work is being performed by SGS Minerals Services on 3 PQ diamond drill holes from the 2006 drill program and assay results from 6 NQ diamond drill holes from a drill program completed in 2007 were pending at the time of this report.

Mercator geologists logged all drill core from the 2005, 2006 and 2007 programs utilizing a Dell Axim handheld computer running Surpac Logmate software. Digital logs are produced for each drill hole and encoded lithological descriptions are stored in an Access database for incorporation directly into Gemcom Surpac 6.0 software. Core sample intervals are laid out by the geologists and sample intervals are recorded in a computer log. All sample intervals were also recorded on pre-numbered three tag sample books. Two tags were placed in the core box at the up-hole end of respective sample intervals and the third is retained in the sample book as a permanent record. Core boxes with marked sample intervals were taken to a secure core cutting facility for further processing. Samples were cut by Acadian staff using a diamond saw and one half of each interval was placed in a plastic sample bag along with one of the sample tags previously included with the core interval by the logging geologist. The sample bag was labelled with this tag number, sealed with a metal tie, and readied for shipment by courier to the analytical laboratory. Sample intervals were laid out at 1 metre intervals and drill holes were continuously sampled using successive sample numbers along the entire core length. Controlled blank half core samples of similar rock type are inserted into the sample stream at every 20<sup>th</sup> sample by core cutting staff and duplicate assays were performed on each -150 mesh fine fraction. Assay results from these blank samples and duplicates are monitored as part of the QA QC procedure.

The mineralized zone at Beaver Dam was previously identified through the detailed assessment of past exploration on the property, which included results of geophysical and geochemistry surveys, diamond drilling and underground mining and bulk sampling.

Detailed descriptions and discussions of this work can be found in the original resource estimate (Webster 2004, 2005). Past exploration by Seabright and others focused on individual veins and veined areas for the purpose of establishing continuity of gold mineralization. In many cases no sampling was completed of the intervening greywacke and argillites. Drilling by Acadian has found that gold mineralization is not only associated with quartz veins but also with non-veined intervals. In addition, it was also recognized that the gold mineralized zone can be greater than 50 metres in down-hole length and is amenable to open pit mining methods.

Acadian through consultation with Mercator developed a sampling methodology that reflects the open pit mining model that is currently being developed for the property. A one metre down-hole sample length was adopted, which allows for complete sampling across the mineralized zone. Wide-zones of weight averaged intercepts of assay data from half core samples for the Acadian drill programs, used in this resource estimate, outline the limits of the Main Zone mineralization. The block model developed in Gemcom Surpac 6.0 shows good continuity from section to section. Mineralization shows parallelism to the dip of geology and can be traced both down dip and along strike.

Down-hole composites were established for each drill intercept utilizing criterion developed for the project. Estimated block grades were interpolated from this data set within a specified set of constraints and criterion described in this report. Volumes and grades of the validated block are reported for the resource calculation. Block model estimation was performed with Gemcom Surpac 6.0 software.

## 12.0 Sample Preparation, Analyses and Security

### 12.1 Sample Preparation and Analyses - ALS Chemex

#### 12.1.1 Full Metallic Screen Procedure

All split core samples are recorded on sample shipment forms and placed in sealed plastic buckets for shipment to ALS Chemex in Val d'Or Quebec. The laboratory has ISO 9001:2000 accreditations and is internationally recognized. Samples were prepared and analyzed using internationally accepted assay methodologies for coarse grained gold samples. Gold levels were determined by a "Full Metallic Screen Procedure" where the entire core sample is crushed and processed through a 150 Mesh (105 micron) Tyler screen to create samples for both the coarse (+150) and fine gold fractions (-150). The ALS Chemex sample methodology is described in the following table and description.

Table 5: Separation & Full Metallic Screen Analysis on Entire Submitted

ALS Chemex Code	Description
LOG - 22	Log sample in tracking system and record received weight.

ALS Chemex Code	Description
CRU - 21	Coarse crushing of rock chip or drill core samples to 70% nominal -6 mm. Used when the entire sample is to be pulverized but the material is too coarse for introduction into the pulverizing mill.
PUL - 21	Pulverize entire sample to approximately 85% passing 75 micron (200 Mesh) to generate the plus and minus fractions for the 150 Mesh screen analysis.
SCR - 21	Dry screening to 105 micron (150 mesh) to produce plus and minus fractions for screen fire assay
PUL - 31s <sup>1</sup>	Pulverize excess plus fraction when required and screen.
Au-SCR21 <sup>2</sup>	Au (0.05-1000 ppm) by screen fire assay. Duplicate assays on undersize, and assay on entire oversize fraction ( <u>up to 30g</u> ). Calculate and report total gold content, individual assays and weight fractions.

<sup>1</sup> This procedure is undertaken when there is excess +150 Mesh (105 micron) material requiring additional pulverization. <sup>2</sup> Pricing based on 1 assay for the oversize fraction. If additional assays are required they will be charged at the discounted rate.

The final prepared pulp is passed through a 105 micron (Tyler 150 Mesh) stainless steel screen to separate the oversize fractions. Any +105 micron material remaining on the screen is retained and analyzed in its entirety by fire assay with gravimetric finish (Au-GRA21) and reported as the Au (+) fraction result. The -105 micron fraction is homogenized and two sub-samples are analyzed by fire assay with AAS finish (Au - AA25 and Au - AA25D). The average of the two AAS results is taken and reported as the Au (-) fraction result. All three values are used in calculating the combined gold content of the plus and minus fractions.

## 12.2 Analytical Quality Control – Reference Materials, Blanks & Duplicates

The Laboratory Information Management System (LIMS) at ASL Chemex inserts quality control samples (reference materials, blanks and duplicates) on each analytical run, based on the rack sizes associated with the method. The rack size is the number of sample including QC samples included in a batch. The blank is inserted at the beginning, standards are inserted at random intervals, and duplicates are analyzed at the end of the batch. Quality control samples are inserted based on the following rack sizes specific to the method (Table 6).

If necessary, laboratory staff may include additional quality control samples above the minimum specifications. All data gathered for quality control samples blanks, duplicates and reference materials are automatically captured, sorted and retained in the QC Database.

Table 6: ALS Chemex Rack Size and Methods

<b>Rack Size</b>	<b>Methods</b>	<b>Quality Control Sample Allocation</b>
20	Specialty methods including specific gravity, bulk density, and acid insolubility	2 standards, 1 duplicate, 1 blank
28	Specialty fire assay, assay-grade, umpire and concentrate methods	1 standard, 1 duplicate, 1 blank
39	XRF methods	2 standards, 1 duplicate, 1 blank
40	Regular AAS, ICP-AES and ICP-MS methods	2 standards, 1 duplicate, 1 blank
84	Regular fire assay methods	2 standards, 3 duplicates, 1 blank

Quality Control Limits for reference materials and duplicate analyses are established according to the precision and accuracy requirements of the particular method. Data outside control limits are identified and investigated and require corrective actions to be taken. Quality control data is scrutinised at a number of levels. Each analyst is responsible for ensuring the data submitted is within control specifications. In addition, there are a number of other checks.

Sample reject materials for the drilling programs has been returned to Acadian and is currently stored at the Scotia Mine site and will remain there until in permanent storage. Half core samples retained in core boxes are placed in secure storage in a secure facility at Acadian's Scotia Mine in Gays River, NS.

## 13.0 Data Verification

### Records and Data Verification

Mercator has implemented a quality control, sample handling and assay procedure for the diamond drill programs at Beaver Dam. Mercator provides exploration management including planning, drill core logging and sampling, sample preparation, sample security and monitoring of analytical results. Detailed records are kept of the procedures followed and the results are obtained in paper and digital form, which are stored and backed up in a standard format in hardcopy and CD or DVD disks. A program of data verification is in place to confirm the validity of exploration data that are entered into the database. All records are regularly reviewed by QP(s) from Mercator. The current protocol includes the analysis of duplicate laboratory sample splits, insertion of certified laboratory standards, insertion and analysis of blind sample blanks by Mercator.

At the request of Acadian, Mercator undertook an extensive compilation of available geoscientific information relating to the Beaver Dam property in 2004 and 2005. This work included detailed review and compilation of government assessment reports, government and industry technical reports, digital government data, published maps, diamond drill logs and review interpreted digital airborne geophysical data.

Sample records, lithologic logs, drill collar surveys and downhole survey data available for 238 surface and underground drill holes at Beaver Dam were reviewed, compiled, and each location and sample record was cross-checked. This information was entered into a digital project database in Excel and included all drill hole information. Underground workings outlines and underground sampling results were also compiled in MapInfo mapping software. Digital information was used as required to create digital geological cross sections and plan projections originally using Surpac Xplorpac (Ver.5.1b) software and later using Gemcom Surpac 6.0 software. Subsequently developed vein mineralized packages and stratigraphic correlations were used to develop cross sections for the mine that provided a geological and spatial framework for the mineral resource estimate reported herein. Gemcom Surpac 6.0 software was used to analyze the project database and generate block model estimates of the calculated composites, sections and plan projections, examples of which accompany this report (Appendix 5).

Validation of database entries was first carried out using automated routines within Gemcom Surpac 6.0. Error messages were followed-up by appropriate database corrections and adjustments. Acadian and Nova Scotia Department of Natural Resources assessment files supplied Mercator with copies of signed logs and original assay certificates for the majority of surface and underground drilling and chip samples carried out at Beaver Dam. In addition, copies of original plotted cross sections, sample records and analytical laboratory reports were also made available, which were reviewed and checked.

After review of compilation and data-verification results, the authors determined that the assembled database of drilling and underground chip sampling analytical data reflected procedures and methodologies consistent with industry standards of the time. This determination was more specifically based upon review of laboratory reports signed by appropriately certified laboratory personnel. The authors highlight the fact that use of the KMS concentrator by Seabright differs from typical screen metallics protocols but closely reflects metallurgical methodologies used for laboratory scale gold head grade determinations.

Based upon the above assessment, the authors consider the compiled Beaver Dam analytical data set comprised of drill core and chip sampling results to be acceptable for mineral resource estimation purposes.

## 14.0 Adjacent Properties

No adjacent properties as defined under NI 43-101 are dealt with in this report.

## 15.0 Mineral Processing and Metallurgical Testing

Six PQ diamond drill hole were completed in 2007 by Acadian and are in the process of being analyzed for grade and gold recovery through gravity concentration and floatation, and cyanide leaching techniques. Results are still pending for this analysis and are not included as part of this report. An overview of bulk sample milling results from the Seabright period was presented earlier in the original Mineral Resources Estimate (Webster 2004), and Armstrong and Campbell 1989 present a more detailed review of such information. Results of metallurgical work carried out by Seabright indicate that acceptable gold recoveries were expected from jig and flotation processing at the Gays River Mill for mineralized material from the Beaver Dam property. For a detailed account of this process see Campbell and Armstrong's Final Assessment Report on the Beaver Dam Property (AR89-213). A total of 135,000 tonnes of rock were removed and over 41,000 tonnes were milled at an average reconciled grade of 1.85g/t. Seabright reported an average recovery of 88.5% for milling carried out during the 1986 to 1989 period (AR89-213).

## 16.0 Mineral Resources and Mineral Reserve Estimates

### 16.1 General

Compiled and interpreted results from 271 historic surface and underground diamond drill holes, results of specific historic underground sampling programs, and 133 diamond drill holes completed by Acadian during the 2005 and 2006 drill programs were assessed for use in developing a mineral resource estimate for the Beaver Dam property. In the case where a drill hole from the Acadian drilling programs was intended to be a re-drill of a historic drill hole, data from the recent hole was given precedence and the relative historic data for the hole excluded. For report purposes, definitions of mineral resource and associated mineral resource categories are those set out in the Canadian Institute of Mining, Metallurgy and Petroleum Standards on Mineral Resources and Reserves *Definitions and Guidelines* (the CIM Standards) and further reflected in National Instrument 43-101.

Tables 7 and 8 below presents cut and uncut gold grade estimates and corresponding tonnage estimates prepared for the Beaver Dam property as at July 16, 2007, the effective date of this report. These reflect combined results from the Main Zone Central and Main Zone Envelop, the Mill Shaft Zone and the area 600 m to the north of the main mine area known as the North Zone. Assumptions, estimation parameters and methodologies associated with these estimates are discussed below under separate headings.

Table 7: Beaver Dam Resource Estimate 0.30 g/t Cutoff (Cut)

	Class	Tonnes*	Gold g/t	Ounces*
Main Zone Central	IN	6,870,000	1.74	384,000
Main Zone Envelope	IN	2,290,000	1.00	74,000
North Zone	IN	430,000	1.01	14,000
Mill Shaft Zone	IN	800,000	1.24	32,000
<b>Total Inferred</b>	IN	10,400,000	1.51	504,000
Main Zone Central	M + ID	9,080,000	1.53	446,000
<b>Total M+ID</b>	M + ID	9,080,000	1.53	446,000

Table 8: Beaver Dam Resource Estimate 0.30 g/t Cutoff (Uncut)

	Class	Tonnes*	Gold g/t	Ounces*
Main Zone Central	IN	6,810,000	2.51	550,000
Main Zone Envelope	IN	2,310,000	1.31	97,000
North Zone	IN	430,000	1.34	19,000
Mill Shaft Zone	IN	820,000	2.06	54,000
<b>Total Inferred</b>	IN	10,370,000	2.16	720,000
Main Zone Central	M + ID	9,090,000	2.01	589,000
<b>Total M+ID</b>	M + ID	9,090,000	2.01	589,000

\* Rounded

IF – inferred, ID – indicated, M - measured

## 16.2 Qualification of the Authors

Peter Webster P. Geo. is the senior author responsible for the preparation of this report and is a qualified person as defined by NI 43-101. He has been involved to a limited extent in the technical or geological works related to previous exploration at the Beaver Dam property, including diamond drill core logging and also has been underground on the property prior to Acadian's involvement. Mr. Webster has extensive experience with this style of gold deposits and was responsible for the preparation of a Mineral Resource Estimate and an Updated Mineral Resource Estimate completed on the property in 2004 and 2005 respectively. In addition, he has supervised all aspects of the current drilling programs and technical information relating to Acadian's Beaver Dam property contained herein has been reviewed by him. Mr. Webster is an independent third party geologist, consultant to Acadian Mining Corporation and President of Mercator Geological Services Limited.

## 16.3 Geological Interpretation Used in Resource Estimation

The nature of quartz vein hosted gold mineralization present at Beaver Dam was discussed previously in Sections 7.0 and 8.0 of this report and in the original Mineral Resource Estimate (Webster 2004, 2005), and is directly reflected in the geological interpretation used in the current mineral resource estimation. Seabright concluded that gold mineralization at Beaver Dam was generally associated with three main argillite packages known as the Austen, Papke and Crouse zones. These packages host gold

mineralized quartz veins that vary in width from millimetre scale to 20 cm. Underground mapping demonstrated that veining zones within these packages showed continuity both horizontally and vertically, and individual vein packages could reach 25 metres in width (Robertson 1987). Detailed mapping by Seabright allowed for the subdivision of the veins within these zones based on both veining and stratigraphy. The Papke High Grade Stope, the Papke Central, the Austen 6b, and the Austen 6b Large were highlighted based on the fact that they showed good correlation in diamond drilling and the underground workings (Campbell 1988).

The result of drilling completed by Acadian suggests that individual argillite packages and intervening greywacke can be group to form a single continuous mineralized zone. The distribution of gold mineralization has been found to be associated with both quartz veining and intervening, non-quartz veined rock. The selective sampling methods adopted by Seabright highlighted only intercepts associated with select quartz veins that were the focus of the underground mining methods. In contrast, the low grade (open pit) model being developed by Acadian has determined that wider zones of lower grade gold also exist. For this reason Acadian has adopted sampling methods that takes into account individual quartz veins, vein packages, and intervening argillite and greywacke. The entire core length of each drill hole was sampled at 1 metre sample intervals and analyzed using screen metallics procedures. This method focuses on the gold associated with all rock types in the mineralized interval rather than focusing only on individual higher grade quartz vein intervals.

Strike and dip continuity of the mineralized zone is well defined in the Main Zone where most historic drilling and all Acadian drilling was completed. Continuity of gold mineralization is recognized on a geological package scale rather than by individual vein or vein package level. The appended cross sections show that while the width of the Main Zone Central may change from hole to hole or section to section, the continuity of mineralization is apparent. As discussed later in this report, the Main Zone Central was block modelled with geologically and statistically derived criteria. The Main Zone Envelop, Mill Shaft Zone, and North Zone were subsequently block modelled with the same criteria developed in the Main Zone Central.

After consideration of available information, the authors consider that sufficient evidence of geological continuity is present to justify the resource estimation blocks presented in this report. Common occurrence of isolated resource blocks on specific longitudinal sections reflects both drill hole density and relative restriction of drill hole influence areas as set out herein. Unless otherwise indicated, these should not be interpreted as indicating limited vein continuity.

## 16.4 Methodology of Resource Estimation

### 16.4.1 Data Preparation and Analysis

#### Data Preparation

Mercator prepared and validated 238 historic drill holes and 457 historic chip samples for use in the Beaver Dam Resource Estimate. This included collar, survey, lithology, and assay data collected and digitized by Mercator during the 2004 compilation project and provides the source for the historic drilling and chip samples. Mercator provided direct supervision, core logging and sampling, interpretation, and compiled all data for the 133 Acadian drill holes representing 17840 metres which were used in the 2004, 2005 and 2007 Mineral Resources estimates.

#### Data Transformation

The drilling pattern is oriented on an east-west ( $110^{\circ}$  true azimuth (Az.)) local mine grid system. All Acadian drilling and the majority of historic surface drilling is orient at  $180^{\circ}$  Az., which is parallel to the north south grid lines. Historic underground drilling typically occurs in a fan pattern and is generally oriented grid north. Drill holes in the Mill Shaft Zone occur east of the origin of the local grid system and subsequently occur in negative easting grid space. Drill hole survey dips were entered by Mercator with a negative sign to conform to Gemcom Surpac 6.0 convention.

Chip samples from the historic underground program were converted to a format that allowed representation as a horizontal drill hole in order to correspond with other diamond drill hole results. Individual chip samples from underground face sampling were weight averaged to create one point with grade and length. A three dimensional coordinates was established at the centroid of the face sample to represent the centre position of the drill trace. If the continuous chip sample length was less then 2 metres a minimum length of 2 metres was established so that the chip samples would be suitable for 2 meter compositing as described below. The additional material was assigned zero grade. If the sample length was greater then 2 metres the length was not adjusted. Drill traces were oriented parallel to the chip sample face. Chip sample results were entered as standard drill hole assay results for the newly created drill hole trace. No dip component was applied to the traces.

#### Data Validation

Data validation was complete utilizing Gemcom Surpac 6.0 resource and mine modelling software and included checks for overlaps or missing data and inconsistencies in geological data, drill hole identifiers, and invalid field entries. The Beaver Dam project database was originally validated in 2004, and therefore has the benefit of several years of data assessment and validation.

Down-hole survey data was available for historic drilling. Acadian drill holes were surveyed at approximately 50 metre intervals down hole utilizing a FLEXIT down-hole survey tool. In circumstances where either historic or recent down-hole survey data was deemed unreliable it was discarded. The majority of drill holes dating 1983 or earlier were re-drilled as part of the Acadian drill program due to uncertainty in collar location and incomplete core sampling within mineralized intervals. All surface historic drill holes that have been deemed re-drilled, occur within 5 meters of a recent drill hole, and have been discarded from the database and only assay results from the re-drilled hole have been used.

### Data Domaining

Mercator interpreted and developed a three-dimensional wireframe model of the main mineralized zone of the Beaver Dam Property, identified as the Main Zone Central. The interpretation of the mineralized zone is not defined by a single limiting factor. Criteria contributing to the interpretation of this zone included lithology, quartz veining, mineralization present, structural features, and grade. The wireframe was not solely established based on a minimum grade criterion because of the influence of the nugget effect on grade variability, and because of the absence of continuous sampling across the entire mineralized interval in historic drilling. The geometry of the Main Zone Central wireframe model is defined by both recent and historic drilling, and has a strike length of over 800 meters (approx. 550 East to 1350 East), a vertical depth range from 100 meters to 650 meters and a width range of approx. 5 meters (1350 East) to 50 meters (1100 East).

The gold mineralization in the Main Zone has been differentiated into two sub zones, a higher grade zone referred to as the Main Zone Central and a lower grade zone referred to as the Main Zone Envelope. Data domaining was used to define samples occurring within the two zones and samples coded as Main Zone Envelope were excluded from the resource estimate of the Main Zone Central. Although both low and high grade gold intersections occur in the Main Zone Envelope, these intersections demonstrate little or no continuity and sometimes occur as isolated intersections. No wireframe was developed for the Main Zone Envelope. The Mill Shaft Zone and North Zone occur as two separate zones of mineralization. No wireframe was developed for the Mill Shaft Zone or North Zone.

Statistical analysis of drilling within the Main Zone Central resulted in the identification of sub-domains where density of drilling and underground sampling was sufficient to demonstrate the continuity of higher gold values. In the areas between 775E to 950E and 1050E to 1175E statistical analysis of gold grades support a high cutoff cap grade of 25g/t. In the areas defined between 650E to 775E, 950E to 1050E and 1175E to 1350E and all areas outside of these domains a high cutoff cap grade of 14 g/t was established. Probability plots, histograms and cutting factors for the sub-domains are further described in the High Grade Cutting Factor section (Figure 2).

## Sample Compositing

Acadian drill holes were sampled on consecutive 1m down-hole intervals, however historic drill holes and the transformed chip sample drill holes have inconsistent sample lengths due to selective sampling methods. Historic sampling lengths appear to reflect the presence of mineralized quartz veins, which range from centimetre to meter scale. As a result drill core sampling was not continuous across the Acadian defined mineralized zones. A two meter composite downhole length was chosen to normalize all historic and recent sample data and areas of no sampling were calculated at zero grade.

Composite files were created using the Gemcom Surpac 6.0 *Composite Downhole* function. The composite length was not truncated by the wireframe and always respected the 2m composite length. In order to calculate the variography a composite file was created for the Main Zone Central that excluded the transformed chip samples. It was felt that the restricted distribution and clustered nature of transformed chip samples could potentially skew the distributions and orientations interpreted in the variography.

A composite file was also developed using the Gemcom Surpac 6.0 *Composite Downhole* function for samples occurring outside the Main Zone Central wireframe and occurring in the Main Zone Envelop, Mill Shaft Zone, and North Zone. Composites were calculated at 2 meter down-hole intervals with no domain on drill holes or samples.

## High Grade Cutting Factor

The Beaver Dam deposit has a significant coarse grained gold component, which results in anomalously high grade values. The gold variability in the 2 meter composites within the Main Zone Central was examined to identify the presence and nature of anomalous high grade values. Histograms, probability plots, distribution statistics and the spatial location of values were all examined in determining top cut threshold values. Top cut thresholds were determined along with the observed effect of the cut on the mean, variance, and coefficient of variation (CV) of the sample population. Two top cuts for the Main Zone were selected, 14g/t and 25g/t, depending on the sub-domain of the deposit (Table 9). Histograms and probability plots for each domain are in Appendix 4.

Table 9: Composite and Top Cut Statistics for the Main Zone

Domain	Top Cut	Composited Data		Top Cut Data	
		Mean	CV	Mean	CV
Main Zone - All	Variable	2.43	4.99	1.81	2.02
Main Zone - West of 775E	14 g/t	3.64	6.60	2.11	1.56
Main Zone - 775E to 950E	25 g/t	1.96	4.58	1.92	2.12
Main Zone - 950E to 1025E	14 g/t	1.63	4.19	1.11	1.88
Main Zone - 1025E to 1175E	25 g/t	2.06	3.31	1.92	1.97
Main Zone - East of 1175E	14 g/t	1.54	2.58	1.39	1.85

A top cut of 14g/t was selected for the Main Zone Envelop, Mill Shaft Zone, and North Zone. Small sample populations and minimal sample continuity within these domains prohibits valid and reasonable statistical analyses, so the 14g/t top cut determined from the Main Zone was applied.

#### 16.4.2 Variography

##### Continuity Analysis

Continuity analysis is the analysis of sample pairs of a variable to determine the spatial correlation of similar values and to establish the primary direction of continuity, commonly referred to as the major axis. The Main Zone Central is a steeply dipping body elongated along both the strike and dip planes. It has an average strike of 105° with an average dip of 75°. To maintain true to the observed geological continuity only orientations parallel to the plane of the Main Zone Central were considered, which was summarized as -75° plane dip with a 5° dip direction to conform to Gemcom Surpac 6.0 convention. Directions of continuity were determined by examining normal experimental variograms and variogram maps from the uncut composited gold values, excluding the chip sample data, to prevent potential directional bias (Appendix 4).

##### Variogram Modelling

Variograms for the minor axis in the Main Zone Central were not able to be resolved; therefore the range of the minor axis was identified from the interpreted continuity in the minor axis direction and the suitable range for the block resolution. Once modelling was completed, orientations and ranges for the directions of continuity were derived for use in the estimation (Table 10, Appendix 4).

Variogram modeling was not performed on the Main Zone Envelop, Mill Shaft Zone, and North Zone. Orientations of continuity for the Main Zone Envelop were applied from the variography of the Main Zone Central and ranges were interpreted from the observed continuity of mineralization. Orientations of continuity and ranges for the Mill Shaft Zone and North Zone reflect the interpreted continuity in geology and mineralization defined by current drilling.

Table 10: Variogram model parameters for the Main Zone and interpreted orientations and ranges for the other domains.

Domain	Major Axis	Semi-Major Axis	Minor Axis	Ranges
Main Zone Central	11° -> 98°	55° -> 204°	-33° -> 180°	95,73,6
	Bearing	Plunge	Dip	Ranges
Main Zone Central	98°	11°	56.50°	95,73,6
Main Zone Envelop	98°	11°	56.50°	12.5,12.5,3
Mill Shaft Zone	5°	-75°	0°	25,25,3
North Zone	355°	-55°	0°	25,25,3

### 16.4.3 Estimation Parameters

#### Block Size

Block size parameters were selected by considering drill hole spacing, the geometry of the Main Zone domain, and continuity of mineralization. Drill hole spacing were typically 25m for surface hole within the Main Zone Central and does not including the spacing of underground drilling or chip sampling. Continuity of mineralization established in the variography demonstrates long range trends of mineralization in both the strike and dip planes. However, repeatability and continuity of individual assay results is extremely poor due to the coarse nature of gold within the Beaver Dam deposit. A standard block size of 12.5m east by 6m north by 12.5m elevation was selected based on these parameters. One unit of sub-blocking was allowed, resulting in a 6.25m east by 3m north by 6.25m elevation minimum block size, and blocks were discretised to 3 points east by 3 points north by 3 points elevation, which is further described below.

#### Sample Selection

A minimum of 3 samples and a maximum of 15 samples were used in the block grade estimation. A minimum of 3 samples insures that 3 qualifying composites need to be intersected by the ellipsoid to estimate grade for a block. A maximum of 15 samples reduces the potential of over-smoothing of grade and the influence of anomalous values on blocks. No drill hole restriction was applied for the number of including samples, however given ellipsoid geometry it is unlikely that more than 3 samples from a given drill hole would be included in a single point estimate.

#### Search Ellipsoid Parameters

The anisotropy developed through the variography defines the extents and orientation of the ellipsoid for the Main Zone (Table 10). Ellipsoid parameters for the other domains were taken from the interpreted orientations and ranges of mineralization (Table 10).

### 16.4.4 Block modelling

Gemcom Surpac 6.0 block model parameters are described in Table 11. The extents of the block model encompass all zones within the Beaver Dam deposit. One unit of sub-blocking was permitted to better respect the boundaries of the applied constraints, such as the Main Zone Central wireframe, wireframes of underground workings, and the overburden wireframe. Block estimates were made within parent cells. No rotation was applied to the model.

Table 11: Gemcom Surpac 6.0 block model parameters

	<b>Northing (m)</b>	<b>Easting (m)</b>	<b>Elevation (m)</b>
Minimum Coordinates	830	-150	425
Maximum Coordinates	1952	1550	1150
User Block Size	6	12.5	12.5
Min. Block Size	3	6.25	6.25
Rotation	0	0	0
Total Blocks	336912		

#### 16.4.5 Inverse Distance Cubed Estimation

Gold grade estimation for all blocks within the mineralized domains was performed through inverse distance cubed (ID3) methodology. Grade estimation was performed through Gemcom Surpac 6.0 resource modelling software. Estimation parameters were derived from the variography as previously discussed. Sample data was composited and treated as previously discussed. Block grade estimation was performed from all the including composites in a given domain for both cut and uncut data. Various constraints were applied in the estimation process to respect the boundaries of each domain and sample data that occurs in each domain.

Main Zone Central grade estimation was constrained within the Main Zone Central wireframe and restricted to all composites within this domain. Volumes intersecting underground workings wireframes and the overburden surface were removed or sub-blocked. Main Zone Envelop grade estimation was constrained outside the Main Zone Central wireframe, south of the 1400 north plane, east of the 200 east plane, and below the 1130 elevation plane. Included composites were all down-hole composites that occur outside the Main Zone Central wireframe and occur within the specified constraints. Volumes intersecting underground workings wireframes and the overburden surface were removed or sub-blocked. North Zone grade estimation was constrained north of the 1400 north plane and below the 1130 elevation plane and included all down-hole composites that occurred within the domain. Mill Shaft Zone grade estimation was constrained west of the 200 east plane and below the 1130 elevation plane and included all composites that occurred within the domain. 17981 down-hole composites were included in the estimation across the property in all domains. 4955 down-hole composites were included in the estimation constrained within the Main Zone Central domain.

The block model was discretised to 3 points east by 3 points west by 3 points elevation, providing block grade estimations rather than point estimates.

#### 16.4.6 Reporting

A minimum block grade of 0.30 g/t was selected as the minimum acceptable grade. Block volumes below the minimum acceptable grade were not reported and are not considered to be valid blocks.

Grade correlation and estimation parameters determined through variography, statistical analysis and geological interpretation is deemed to be logical and reasonable for the deposit defined by current drilling and sampling. However, validation of the block model through cross sections and level plans identified areas within the Main Zone Central in which it is reasonable to project grade where no sample data is present. It was determined that blocks are required to be less than 50 meters from a sample point above the 800m elevation level and less than 35 meters from a sample point below the 800m elevation level, to be considered valid. These ranges are determined from drilling density, sample density, presence of Acadian drilling, and visual validation of blocks in cross section and level plan. No distance constraint was applied to the reported blocks in the Main Zone Envelop, Mill Shaft Zone, and North Zone due to the limited range of the search ellipsoid for these domains.

#### 16.4.7 Specific Gravity Factor

A specific gravity factor of 2.73 g/cm<sup>3</sup> was used in preparation of the current mineral resource. Jacques Whitford and Associates (1986) determined this factor from laboratory determinations of specific gravity (SG) on Beaver Dam material and this value has been used in all previous resource calculations completed for the property. This SG value is also consistent with the value used in resource estimates completed by other company within Meguma style gold deposits. Acadian has initiated a detailed study of specific gravity for Beaver Dam as part of the metallurgical testing program. Results of this study were pending at the time of this report.

#### 16.4.8 Estimation Validation

The block model of the Beaver Dam deposit was validated by:

- A visual validation of block, composite, and sample grades through cross sections, level plans and Gemcom Surpac 6.0 3D viewer.
- A comparison of mean statistics of composite grades with block grades.
- A comparison to estimations using alternative grade interpolation methods.

#### Visual Validation

Good correlation is demonstrated between the input sample data and the estimate block grades. Block grades, composite grades, and raw sample grades were inspected in both cross sections and level plans and demonstrated good correlation. Grade distribution and continuity developed in the block model showed good correlation with the trends interpreted in sample data. The projection and distribution of blocks were observed to be reasonable and true to the geological interpretation and style of mineralization. No obvious discrepancies were noticed between the distribution and continuity of grade between sample data, composite data, and estimated grades.

## Statistical Validation

Mean grade and variance were compared between the estimated block grades and top cut composites for the Main Zone Central to determine if the estimated values reflect the grade and distributions of the input data (Table 12).

Table 12: Comparison of mean and variance between block grades and composite grades

	<b>Samples</b>	<b>Mean</b>	<b>CV</b>
Composite Grades	3517	1.81	2.02
Block Grades	5652	1.60	0.88

The mean of estimated block grades occurs in the same range of the mean of composite grades, decreasing by 0.21g/t. The coefficient of variation is significantly lower in estimated values than the composite values, indicating the estimated values have less variance and approximate the mean more closely. This transition was expected given the increase sample size of estimated values and the estimation parameters that developed average block grades from highly variable composite grades. Results from the statistical comparison are what was expected, and therefore determined to be acceptable and validate the block model.

## Validation with Estimates Using Alternative Interpolation Methods

Inverse distance cubed was selected as the estimation method. Other interpolation methods evaluated were inverse distance squared, inverse distance to the power six (approximating a nearest neighbour estimate), and ordinary kriging.

An ordinary kriging estimate was developed using the parameters developed in the variography (Table 13).

Table 13: Ordinary kriging parameters developed through variography

<b>Cumulative Sill</b>	<b>Nugget Effect</b>	<b>C Value</b>	<b>Range</b>	<b>Azimuth</b>	<b>Plunge</b>	<b>Dip</b>	<b>Semi-Major Ratio</b>	<b>Minor Ratio</b>
88	14	74	95	98	11	56.5	1.3	15

Ordinary kriging is a preferred interpolation method because of the declustering of data and the calculation of error margins and variance of the estimated grades. A comparison of total tonnes and grade in the Main Zone Central produced by ordinary kriging and inversed distance cubed proved to be very similar global estimates (Table 14).

Table 14: Global comparison of ID3 and OK grade estimates for the Main Zone (minimum grade threshold 0.30g/t)

	<b>ID3 Tonnes</b>	<b>ID3 Grade</b>	<b>OK Tonnes</b>	<b>OK Grade</b>
Inferred	6,697,589	1.74	6,465,359	1.77
Indicated	8,196,645	1.52	7,940,100	1.58
Measured	650,245	1.64	642,765	1.66

However, review of the distribution and projection of estimated grade in sections and plans as well as through grade-tonnage curves and statistics supported the ID3 model. The interpolation of grade in the ID3 model better correlated with the spatial continuity and distribution of mineralization.

Inverse distance squared and inverse distance to the power six were also evaluated. These methods were discarded because the interpolation method does not respect the interpreted trends and distributions in mineralization. Inverse distance squared places too much weight on values farther away from the estimated value and inverse distance to the power six does not respect the interpreted spatial continuity and distribution.

#### Significance of Cut and Uncut Estimates

The Beaver Dam Resource Estimate calculated herein is validated through the top cut resource estimate. The coarse-grained nature of the gold in the Beaver Dam deposit requires an evaluation of the extreme values, which was addressed by applying a top cut. Uncut resources were calculated for comparison purposes to demonstrate the necessity for extreme grade evaluation as well as to maintain true to the raw sample data. The projection and distribution of estimated grades for the uncut model was not validated and not supported as a resource estimate for the Beaver Dam deposit.

#### 16.4.9 Resource Definition Parameters

The Mineral Resource estimate presented in this report includes Inferred, Indicated and Measured resource categories as set out in the Canadian Institute of Mining, Metallurgy and Petroleum Standards on Mineral Resources and Reserves *Definitions and Guidelines* (the CIM Standards). These categories are defined as follows:

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

“An ‘Indicated Mineral Resource’ is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit.”

“An ‘Inferred Mineral Resource’ is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity.”

As referenced above, the distinction between classes reflects an increased confidence in definition of both grade and tonnage parameters. The authors recognize that presence of a coarse gold component in veins at Beaver Dam has the effect of increasing the gold grade variation coefficient and decreasing certainty of grade assignment within certain limits. Notwithstanding these points, sufficient continuity of grade trends is considered present at this time in core drilling, chip sampling and muck sampling results to support delineation of Inferred Mineral Resources, Indicated Mineral Resources and Measured Mineral Resources in specific areas.

The following parameters apply to the Inferred, Indicated and Measured Mineral Resource categories reported herein for the Beaver Dam property:

#### *Measured Mineral Resource*

Measured Mineral Resources were defined at Beaver Dam only in the Main Zone area where Seabright completed substantial underground development. In these locations development was completed on various quartz veins and results of continuous underground chip sampling were available. Resources in this class were based on composites from chip samples, surface drilling, and underground drilling. A vertical ellipsoid measuring (radius) 15m east by 3m north by 15m elevation was oriented along the underground workings and chips samples that occur within the Main Zone domain identifying the population of blocks most influenced by the chip sample data. Volumes from the underground workings were removed.

#### *Indicated Mineral Resources*

Indicated Mineral Resources were defined only in the Beaver Dam Main Zone. Resource blocks of this category were defined on the basis of 1) proximity to underground workings and chip sample data, 2) and where blocks were defined from closely spaced diamond drilling data with demonstrated grade continuity. The density of Acadian drilling was strongly considered in assigning indicated mineral resources as was historic drilling with good sampling and good correlation with Acadian drilling. A wireframe was developed in the Main Zone that identified the volume of resource that met the specified criteria. All blocks occurring within this wireframe were classified as indicated except for those blocks that fall under the measured classification. Indicated Mineral Resources within the Beaver Dam Resource Estimate includes most of the resources at surface in the Main Zone from 650 to 1350 East with a depth range of 100m to 200m.

### *Inferred Mineral Resources*

Inferred Mineral Resources were defined in areas tested by diamond drilling only and occur in areas with small sample density, poor demonstrated continuity, or absence of Acadian drilling to substantiate historic results. All validated resources that occur within the defined estimation parameters and reporting constraints that are not considered indicated and measured are classified as inferred. All resources in the Main Zone Envelop, Mill Shaft Zone and North Zone are classified as Inferred Mineral Resources. All resources at depth and resources not considered indicated or measured within the Main Zone are classified as Inferred Mineral Resources.

### 16.5 Previous Resource or Reserve Calculations

Five separate resource or reserve estimates have been documented on the Beaver Dam property and are summarized in Table 15. None have been prepared to meet the reporting standards of NI-43-101 or the associated mineral resource categories set out in the Canadian Institute of Mining, Metallurgy and Petroleum Standards on Mineral Resources and Reserves *Definitions and Guidelines* (the CIM Standards). In summary, Coates and Riddell of MPH Consulting carried out four separate ore reserve calculations for Seabright based on results of diamond drilling. MPH employed the cross sectional method with polygon grades assigned based on weighted high grade gold intercepts. The initial cutting factor for individual high grade samples was 34.28 g/t, which is equivalent to 1 oz/ tonne. A 50 g/t cutting factor was utilized in the September 1986 and January 1987 reserve calculations.

The final “Geological Reserve” reported in January 1987 included a combined proven and probable geological reserve of 1,535,716 tonnes averaging 9.2 g Au/t and possible reserves of 1,150,000 at 9.4 g Au/t for a grand total insitu figure of 2.7 million tonnes at 9.3 g Au/t. Using the 29% dilution at zero grade this translated to a mineable reserve of 1,594,900 tonnes at 6.86 g Au/t.

In January 1987, J.S Redpath Mining Consultants Ltd. verified that the MPH methodology was correct and prepared a mine feasibility study that included a mineable reserve estimate to the 800 m elevation of 989,177 tonnes at 10.51 g/t. In addition, they presented production planning and an estimated mining cost.

Kilborn Engineering Ltd. prepared a detailed mine feasibility study utilizing the Redpath estimates in 1987. Their data included a number of high individual assays, which were used uncut and applied to large areas of influence. These estimates did not include underground bulk samples in their calculations. The report assumed that 998,177 tonnes grading 10.51 gm/t and that ore would be trucked to the central processing plant at Gays River over a 6.8 year mine life. Kilborn’s production rate was anticipated to be 75,000 tonnes in the first year, rising to 175,000 tonnes in year four and remaining constant for the remaining life of the mine, with an initial production rate of 300 tonnes per day milled

rising to 700 tons per day in year four.

Subsequent to the take over of Seabright, Westminer carried out its own reserve calculation incorporating the underground bulk sampling as well as the diamond drilling to a depth of 110 m. Westminer used a cutting factor of 55 g/t on quartz vein samples and 5 g/t on wallrock samples and applied smaller resources blocks around individual drill hole intercepts. As a result this study had substantially lower mineable reserve of 15,639 tonnes at 5.66 g/t proven and 25,639 tonnes at 5.42 g/t probable. Campbell 1989 completed a direct comparison of the MPH and Westminer resource. This comparison demonstrated that the Westminer resource had a 25.89% reduction in tonnes at 51.01% of the grade over the MPH reserve.

**The authors caution that none of the estimates presented in Table 15 can be considered compliant with NI 43-101.**

Table 15: Historic Tonnage and Gold Grade Estimates for Beaver Dam Property

Date	Tonnes	Gold Grade g/Au/t	Category, Notes or Comments	Dataset used for calculations	Completed by
Feb, 1986	239,805	11.58g/t	<u>Geological Reserves:</u> probable insitu to 175 m depth as indicated by diamond drilling	29 M.E.X DDH (1977-1983) 60 Seabright DDH	Coates, H.J. and Riddell, W.J. MPH Consulting Ltd., 1986
	299,681	9.65g/t	<u>Mineable reserves:</u> based on 85% recovery with dilution factor of 20% at zero grade	<u>Cutting process of high assay results:</u> >34.28g/t cut to 34.28g/t. <u>Cutoff grade:</u> 3.1g/2m. <u>Polygonal area of influence:</u> 25m	
April 1986	249,377	10.64g/t	<u>Geological Reserves:</u> Proven Probable Possible	29 M.E.X DDH (1977-1983)	Coates, H.J., MPH Consulting Ltd., 1986
	361,340	10.60g/t		91 Seabright DDH	
	420,000	10.62g/t			
	600,000	9.23g/t	<u>Mineable reserves:</u> based on 85% recovery with dilution factor of 15% at zero grade	<u>Cutting process of high assay results:</u> >34.28g/t cut to 34.28g/t. <u>Cutoff grade:</u> 3.4g/2m. Minimum mining width: 1.5m <u>Polygonal area of influence:</u> 25m	
Sept 1986	366,456	11.80g/t	<u>Geological Reserves:</u> Proven Probable Possible	29 M.E.X DDH (1977-1983)	Coates, H.J. and Riddell, W.J. MPH
	383,447	12.31g/t		124 Seabright DDH	
	750,000	12.06g/t		<u>Cutting process of high assay results:</u>	

Date	Tonnes	Gold Grade g/Au/t	Category, Notes or Comments	Dataset used for calculations	Completed by
	733,000	10.49g/t	<u>Mineable reserves:</u> based on 85% recovery with dilution factor of 15% at zero grade	>50.0g/t cut to 50.0g/t <u>Cutoff grade:</u> 3.4g/2m. Minimum mining width: 1.5m <u>Polygonal area of influence:</u> 25m	Consulting Ltd.,1986
Jan 1987	322,205 1,203,510 1,150,000 1,594,900	11.57g/t 8.58g/t 9.4g/t 6.86g/t	<u>Geological Reserves:</u> to 430 m depth Proven Probable Possible  <u>Mineable reserves:</u> based on 85% recovery with dilution factor of 29% at zero grade	29 M.E.X DDH (1977-1983) 160 Seabright DDH <u>Cutting process of high assay results:</u> none. <u>Cutoff grade:</u> 3.4g/2m. Minimum mining width: 1.5m <u>Polygonal area of influence:</u> 25m	Coates, H.J. and Riddell, W.J. MPH Consulting Ltd.,1986
Jan 1987	987,177	10.51g/t	<u>Mineable reserves (above 800m):</u> based on geological reserves estimated by Coates and Riddell (1987) based on 90% recovery with dilution factor of 15% at zero grade	Coates, H.J. and Riddell, W.J. (1987)	J.S. Redpath Mining Consultants Ltd., 1987
No Date	15,260 25,639 54,691 39,979	5.65g/t 5.42g/t 5.37g/t 4.91g/t	<u>Geological Reserves:</u> to 110 m depth Proven Probable Possible  <u>Mineable reserves:</u> based on 85% recovery with dilution factor of 15% at zero grade	29 M.E.X DDH (1977-1983) 215 Seabright DDH, only to a depth 110m all underground face and drift assays, Mill discharge and bulk samples. <u>Cutting process of high assay results:</u> 55 g/t in quartz veins and 5 g/t in wall rock <u>Cutoff grade:</u> 3.0g/1.7m. <u>Polygonal area of influence:</u> 10m	Westminer Canada Limited, 1989

## 16.6 Previous Resource Estimates by Acadian Mining Corporation

Mercator prepared an initial Mineral Resource Estimate for the Beaver Dam property for Acadian with an effective date of November 15, 2004 (Webster 2004). Table 16 and Table 17 below presents results of that work, which were determined in accordance with requirements of National Instrument 43-101.

Table 16: Measured and Indicated Mineral Resource Estimate November 15, 2004

Category	Tonnes Uncut*	Gold Grade (g/t) Uncut	Gold Grade (g/t) 10g/t Cut
Measured	219,000	2.32	2.22
Indicated	1,111,000	2.39	2.23

Table 17: Inferred Mineral Resource Estimate November 15, 2004

Category	Tonnes Uncut*	Gold Grade (g/t) Uncut	Gold Grade (g/t) 10g/t Cut
Inferred	3,808,000	2.73	2.10

\*Rounded

This estimate was based upon compiled and interpreted results from 238 historic surface and underground diamond drill holes and results of specific historic underground sampling programs and did not include any new work completed by Acadian.

Mercator completed an Updated Mineral Resource Estimate on the Beaver Dam property with an effective date of December 20, 2005. Table 18 and Table 19 below presents results of that work, which were determined in accordance with requirements of National Instrument 43-101. This report was based on the results of the detailed compilation of historic diamond drilling completed in 2004 and the results of first 18 diamond drill holes completed by Acadian. The resource estimate was calculated via the end area polygonal method with a minimum gold grade threshold of 0.30 g/t over 3 meters for composite values to 200 metre below surface and 1.00 g/t over 3 metres for composite values beneath 200 metre elevation below surface, with an assigned a high grade block grade cutting factor of 12.75 grams per tonne.

Table 18: Measured and Indicated Mineral Resource Estimate December 20, 2005

Category	Tonnes Uncut*	Gold Grade (g/t) Uncut	Gold Grade (g/t) 12.75g/t Cut
Measured	210,000	2.37	2.37
Indicated	2,708,000	3.02	2.26

Table 19: Inferred Mineral Resource Estimate December 20 2005

Category	Tonnes Uncut*	Gold Grade (g/t) Uncut	Gold Grade (g/t) 12.75g/t Cut
Inferred	2,880,000	3.36	2.63

\*Rounded

## 17.0 Other Relevant Data and Information

### 17.1 Author Experience Relating To Beaver Dam Property

The senior author of this report (Peter Webster) was employed by Seabright between 1985 and 1987 and worked as a geologist and logged core at the Beaver Dam Mine in 1985. In addition, this author also visited the underground on several occasions and is familiar with the operation during the period of underground mining. Over the past 15 years this author has also gained a substantial experience base in exploration and assessment of Meguma Group gold deposits. This primarily reflects previous employment with Seabright Exploration Inc. and Westminer Canada Limited as well as numerous consulting assignments. The author was also involved in logging the 2005 drill core used in this report.

### 17.2 Surface Rights Access, Environmental Liabilities and Site Infrastructure

Acadian does not hold surface title to any lands in the Beaver Dam property area. It is understood that access to property areas for exploration purposes will require permission being granted by landowners, including the Nova Scotia government in the case of Crown lands. Notwithstanding the above, the authors confirm that they are not qualified persons with respect to issues of surface rights title in Nova Scotia. The site has been reclaimed and all bonds related to the underground activities of Seabright and Westminer have been returned. P. Webster P. Geo, has visited the property on numerous occasions prior to and during the 2005 drilling program and did not see any environmental conditions of concern. Acadian initiated a ground water monitoring program in the fall of 2005, which is under the supervision of Conestoga-Rovers & Associates Ltd. of Dartmouth NS.

## 18.0 Interpretations and Conclusions

In 2004, Mercator Geological Services Limited of Dartmouth, N.S. completed a compilation and validation of historic exploration, development and mining data pertaining to the Beaver Dam property held by Acadian Mining Corporation. Based upon this information, Measured, Indicated, and Inferred Mineral Resources considered compliant with National Instrument 43-101 were estimated by Mercator for the Beaver Dam property, with an effective date of November 15, 2004. Based upon the results of 18 diamond drill holes completed by Acadian a new Updated Mineral Resource Estimate has been completed with an effective date of December 20, 2005. A minimum gold grade threshold of 0.3 g/t over 3 m for samples above 200 m below surface and 1.0 g/t over 3 m for composite values below 200 m below surface were used, as well as an assigned high grade block grade cutting factor of 12.75 grams per tonne.

This Technical report, with an effective date of July 16, 2007, discloses an Updated Mineral Resource Estimate for the Beaver Dam deposit based on complied historical data and exploration completed by Acadian during the 2005 and 2006 drill programs. This

includes 133 diamond drill holes drilled by Acadian. A three dimensional block model was developed for the deposit using Gemcom Surpac 6.0 modelling software. Mineral Resources were estimated by inverse distance cubed methodology with a minimum block grade threshold of 0.30g/t and high grade capping of including composites at 14g/t or 25g/t depending on the spatial domain. Results are present in the table below.

Table 20: Beaver Dam Resource Estimate 0.30 g/t Cutoff (Cut)

	Class	Tonnes*	Gold g/t	Ounces*
Main Zone Central	IN	6,870,000	1.74	384,000
Main Zone Envelope	IN	2,290,000	1.00	74,000
North Zone	IN	430,000	1.01	14,000
Mill Shaft Zone	IN	800,000	1.24	32,000
<b>Total Inferred</b>	IN	10,400,000	1.51	504,000
Main Zone Central	M + ID	9,080,000	1.53	446,000
<b>Total M+ID</b>	M + ID	9,080,000	1.53	446,000

\* Rounded

IF – inferred, ID – indicated, M - measured

The classification of the mineral resource for the Beaver Dam property in all of the Measured, Indicated, and Inferred categories reflects a stage of exploration and development, providing a greater understanding of property geology and thus an increased confidence level of gold grade distribution. New drilling completed by Acadian has enhanced the understanding of gold distribution within the mineralized zone. The addition 133 drill holes has further enhance the understanding of gold distribution and contribute to the re-estimation of the mineral resource for the Beaver Dam property.

Gold mineralization typically occurs in the three main argillite zones but also include some isolated quartz vein intercepts and thinner argillite quartz vein associations within large greywacke units. The greatest continuity of mineralization occurs within the Main Zone Central between 550E and 1350E. In this area the resource block model shows good continuity from section to section and also up and down dip within the mineralized zone. In addition, resource blocks show good correlation within mineralized zones outlined from underground workings.

Strike and dip continuity of the gold mineralized zone has been clearly demonstrated by the Acadian 2005 and 2006 drilling programs and through the history of previous exploration, mining and stoping at Beaver Dam. The parallelism of the block model with interpreted geology, mineralized zone and underground workings provides a graphic representation of strike continuity.

Drilling by Acadian confirms gold distribution previously outlined in the original Acadian resource estimates (Webster 2004, Webster 2005) and the authors consider that continuity of mineralized argillite/greywacke and associated quartz vein structures has been sufficiently demonstrated to justify resource estimation blocks of the size and distribution presented in this report.

## 19.0 Recommendations

The authors recommend that Acadian Mining Corporation continue with their diamond drilling and exploration program at the Beaver Dam Property. Detailed metallurgical studies along with a trenching and bulk sampling program are recommended to better assess the actual grade of the deposit and further assess the open pit potential. A pre-feasibility study is recommended on the indicated and measured Beaver Dam Resource Estimate. The following recommendations specifically address these points:

1. Complete and continue ongoing metallurgical studies to assess the recoverable grade of the Beaver Dam Deposit and its amenability to open pit mining.
2. Complete a pre-feasibility/scoping study on the indicated and measured Beaver Dam Resource Estimate located in the near surface of the Main Zone Central to assess the open pit potential.
3. Complete detail and specific gravity/bulk density on selected samples of mineralized and non mineralized rock samples from the Beaver Dam Deposit.
4. Complete deep diamond drilling to test the continuity of mineralized zones at depth within the Main Zone Envelope and upgrade this resource to an Indicated Mineral Resource.
5. Complete additional drilling to test for the continuity of gold mineralization west of the Main Zone Central to the Mill Shaft Zone and to test for the possible displaced portion of the Main Zone Central east and north of the Mud Lake Fault, and in the area of the North Zone.
6. Complete a bulk sampling and trenching program through open pit mining methods to further test the grade and continuity of Main Zone Central.
7. These recommendations could be completed in a phased program.

Respectfully submitted,

*“Original signed by Peter Webster”*

*September 14, 2007*

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Peter C. Webster, President, P. Geo.

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Date

*“Original signed by Matthew Harrington”*

*September 14, 2007*

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Matthew Harrington, B.Sc. Geologist

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Date

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**Appendix I**  
**Statement of Qualification and**  
**Author Consent Letters**

I, Matthew D. Harrington, hereby certify that:

1. I am currently employed as Geologist with Mercator Geological Services Limited of Dartmouth, Nova Scotia, Canada;
2. I reside at 10 Commodore Rd of Lewis Lake, Nova Scotia, Canada;
3. I am a graduate of the Dalhousie University (2004) with Combined Honours B.Sc. in Geology and Biology with a concentration in Environmental Science.
4. I have been employed as a technical and field geologist for various mineral exploration projects in Canada in the past year;
5. I have worked as a geologist for a total of 3 years since my graduation from university;
6. My involvement in this report is as a professional consultant and reflects the information gained through (1) review of public record information in the form of assessment files and reports available at the Nova Scotia Department of Natural Resources and (2) review of original documents and sampling data generated from historical works done on this property.
7. I hold no personal interest, direct or indirect, in the subject property, associated companies and their related personnel. My compensation for this report is strictly on a professional fee basis.

Dated this 14<sup>th</sup> day of September 2007, in Dartmouth, Nova Scotia, Canada.

*“Original signed by Matthew Harrington”*

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Matthew D. Harrington, B.Sc.

# **Mercator Geological Services Limited**

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## **Consulting Geologists**

### CERTIFICATE of AUTHOR

I, Peter C Webster, P. Geo. do hereby certify that:

I am currently the President of:

Mercator Geological Services Limited  
65 Queen St.  
Dartmouth, Nova Scotia, Canada  
B2Y 1H1

1. I graduated with a Bachelor of Science (Geology) from Dalhousie University in 1981.
2. I received a Certificate of Environmental Management from the Technical University of Nova Scotia in 1996.
3. I am a registered member in good standing of the Association of Professional Geoscientists of Nova Scotia, registration number 047.
4. I am a Professional Geoscientist, licensed to practice by the Association of Professional Engineers and Geoscientists of Newfoundland, Registration No.: 03337.
5. I have worked as a geologist for a total of 24 years since my graduation from university.
6. 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.
7. I am responsible for the preparation of the technical report title

TECHNICAL REPORT ON  
UPDATED MINERAL RESOURCE ESTIMATE

ACADIAN MINING CORPORATION  
BEAVER DAM PROPERTY  
HALIFAX COUNTY, NOVA SCOTIA  
CANADA

# **Mercator Geological Services Limited**

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## **Consulting Geologists**

- dated September 14, 2007 relating to the Beaver Dam Property of Acadian Mining Corporation, located in Halifax County, Nova Scotia property. I visited the Beaver Dam property on numerous occasions with respect to supervision of the current drilling program and preparation of this report.
8. I have experience with surface and underground exploration relating to several gold mines within similar geological environments in Nova Scotia and was involved to a limited extent in the technical or geological work related to previous exploration on Beaver Dam property.
  9. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
  10. I am independent of the issuer applying all of the tests in section 1.5 of National Instrument 43-101.
  11. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
  12. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 14<sup>th</sup> day of September 2007

*“Original signed by Peter Webster”*

\_\_\_\_\_  
Signature of Qualified Person

Peter C. Webster, P. Geo.  
Print name of Qualified Person

# **Mercator Geological Services Limited**

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**Consulting Geologists**

CONSENT of AUTHOR

**TO:** TSX Venture Exchange, Toronto Stock Exchange and Securities Commission

I, Peter C. Webster, P. Geo., do hereby consent to the filing, with the regulatory authorities referred to above, of the technical report titled

TECHNICAL REPORT ON  
UPDATED MINERAL RESOURCE ESTIMATE

ACADIAN MINING CORPORATION  
BEAVER DAM PROPERTY  
HALIFAX COUNTY, NOVA SCOTIA  
CANADA

dated September 14, 2007, (the “Technical Report”) and to the written disclosure of the Technical Report and of extracts from or a summary of the Technical Report in the written disclosure in the news release of Acadian Mining Corporation being filed.

I also certify that I have read the written disclosure being filed and I do not have any reason to believe that there are any misrepresentations in the information derived from the Technical Report or that the written disclosure in the news release of Acadian Mining Corporation being filed contains any misrepresentation of the information contained in the Technical Report.

Dated this 14<sup>th</sup> day of September 2007

*“Original signed by Peter Webster”*

\_\_\_\_\_  
Signature of Qualified Person

Peter C. Webster, P. Geo.  
Print name of Qualified Person

CONSENT of AUTHOR

**TO:** TSX Venture Exchange, Toronto Stock Exchange and Securities Commission

I, Matthew D. Harrington, do hereby consent to the filing, with the regulatory authorities referred to above, of the technical report titled

TECHNICAL REPORT ON  
UPDATED MINERAL RESOURCE ESTIMATE

ACADIAN MINING CORPORATION  
BEAVER DAM PROPERTY  
HALIFAX COUNTY, NOVA SCOTIA  
CANADA

dated September 14, 2007, (the "Technical Report") and to the written disclosure of the Technical Report and of extracts from or a summary of the Technical Report in the written disclosure in the news release of Acadian Mining Corporation being filed.

I also certify that I have read the written disclosure being filed and I do not have any reason to believe that there are any misrepresentations in the information derived from the Technical Report or that the written disclosure in the news release of Acadian Mining Corporation being filed contains any misrepresentation of the information contained in the Technical Report.

Dated this 14<sup>th</sup> day of September 2007

*"Original signed by Matthew D. Harrington"*

\_\_\_\_\_  
Signature of Qualified Person

Matthew D. Harrington  
Print name of Qualified Person

**Complete appendices are not included in the SEDAR filing but can be viewed in full at Acadian Mining Corporation's office in Halifax, Nova Scotia, Canada**

## **Appendix 2**

### **Royalty and Claims Information**

**SCHEDULE "B"****ROYALTY INTEREST**

1. The Royalty Interest shall be a royalty payment based on Net Smelter Returns (as hereinafter defined) payable to the Vendor for gold, silver, copper, lead, zinc and all other Minerals produced from the Mineral Claims, on the following basis:

**1.1 GOLD**

<b>Gold Price US\$/oz.</b>	<b>Royalty Interest Payable to Vendor - %</b>
<\$265.01	0
\$265.01 - \$280.00	0.5
\$280.01 - \$290.00	1.25
\$290.01 - \$300.00	1.50
\$300.01 - \$320.00	1.75
>\$320	2.0

Gold price will be the average gold price calculated by averaging the daily closing price on the New York Exchange over calendar quarterly periods commencing on the date of commercial production.

**1.2 SILVER**

<b>Silver Price US\$/oz.</b>	<b>Royalty Interest Payable to Vendor - %</b>
<\$4.01	0
\$4.01 - \$4.50	0.5
\$4.51 - \$5.00	1.0
\$5.01 - \$6.00	1.5
>\$6.01	2.0

Silver price will be the average silver price calculated by averaging the daily closing price on the New York Exchange over calendar quarterly periods commencing on the date of commercial production.

**1.3 COPPER**

<b>Copper Price US\$/lb.</b>	<b>Royalty Interest Payable to Vendor - %</b>
<\$ .70	0
\$ .70 - \$ .80	0.5
\$ .81 - \$ .90	1.0
\$ .91 - \$1.00	1.5
>\$1.00	2.0

Copper price will be the average copper price calculated by averaging the daily closing price on the New York Exchange over calendar quarterly periods commencing on the date of commercial production.

**1.4 LEAD**

<b>Lead Price US\$/lb.</b>	<b>Royalty Interest Payable to Vendor - %</b>
<\$.25	0
\$.25 - \$.30	0.5
\$.31 - \$.35	1.0
\$.36 - \$.40	1.5
>\$.40	2.0

Lead price will be the average lead price calculated by averaging the daily closing price on the New York Exchange over calendar quarterly periods commencing on the date of commercial production.

**1.5 ZINC**

<b>Zinc Price US\$/lb.</b>	<b>Royalty Interest Payable to Vendor - %</b>
<\$.46	0
\$.46 - \$.50	0.5
\$.51 - \$.60	1.0
\$.61 - \$.65	1.5
>\$.65	2.0

Zinc price will be the average zinc price calculated by averaging the daily closing price on the New York Exchange over calendar quarterly periods commencing on the date of commercial production.

- 1.6 The royalty payable to the Vendor for all other Minerals excluding gold, silver, copper, lead and zinc will be one and three quarter percent (1.75%) of the Net Smelter Return.
2. "Net Smelter Returns" shall mean the total consideration received by the Purchasers for the conveyance of copper, lead, zinc, silver, gold and all other Minerals produced from the Mineral Claims pursuant to Commercial Production (as hereinafter defined) received from a purchaser thereof less the following deductions:
  - (i) all charges made by a refinery, smelter, mill (as hereinafter defined) or other purchaser including, without limiting the generality of the foregoing, treatment, sampling, marketing, any umpire charges, weighing, storage costs, and other charges, penalties and all other deductions;
  - (ii) all costs of transportation of Minerals and Mineral products from the Mineral Claims to the purchaser or otherwise as directed, and including all costs of insurance and security;
  - (iii) all excise, severance, sales and/or production taxes applicable to the Net Smelter Return Royalty Interest payments.
3. "Commercial Production" shall be deemed to have commenced when mining and/or treating of any Mineral from the Mineral Claims with a view to selling the eventual product is commenced. The extracting and treating of Minerals for the primary purposes of testing the Minerals shall be deemed not to be Commercial Production, unless such Minerals are subsequently sold or otherwise conveyed for value.
4. Mill is defined as a Mineral treatment facility belonging to a bona fide purchaser of Minerals or Mineral products produced from the Mineral Claims and for greater certainty, not a Mineral or ore treatment plant operated by either the Purchasers or a party providing custom Mineral or ore milling services on a toll basis.
5. The reasonably estimated amount of the Net Smelter Return Royalty Interest payment, if any, payable for each quarter year shall be paid within 60 days after the end of the quarter year to which such Royalty Interest payment relates, accompanied by a statement of the Net Smelter Return for the quarter year in question. The balance, if any, of the Net Smelter Return Royalty Interest payable for a full year shall be paid within 90 days after the end of such year, accompanied by a statement of the Net Smelter Return for such year. Any overpayment made in any year shall be deductible from payments due in any subsequent year.
6. The Vendor will be granted access to all production and shipping records of the Purchasers pertaining to its operations on the Mineral Claims for the purpose of verifying Royalty Interest payment statements and the Purchasers shall allow the Vendor, to have such records audited by an independent firm of chartered accountants, or other experts he deems appropriate.
7. This Royalty Interest shall be and be deemed to be an interest in land which runs with the land and Mineral Claims.

## **Appendix 3 Diamond Drilling Data**

Acadian Drill Hole Collars

Hole Id	Easting	Northing	Elevation	Azimuth	Dip	Depth
BD05-001	775.15	1081.42	1133.47	189.5	-45	82
BD05-002	850.27	1082.56	1133.67	180	-55	107
BD05-003	873.72	1057.83	1133.15	180	-45	73.2
BD05-004	899.94	1041.31	1133.18	175	-45	61
BD05-005	949.74	1083.34	1131.46	187.2	-45	101
BD05-006	1047.89	1019.52	1131.18	184.1	-70	110.2
BD05-007	1101.68	1007.96	1130.94	175.6	-70	80
BD05-008	1101.79	1006.93	1130.92	180	-41.7	83
BD05-009	1078.73	1007.36	1130.83	179.1	-42.2	80
BD05-010	1101.97	1078.73	1132.34	177.3	-42.9	113
BD05-011	1152.59	1068.34	1134.43	180.5	-46.1	140
BD05-012	1251.56	1040.25	1131.71	172.5	-45	135.25
BD05-013	749.84	1066.03	1132.79	174.1	-41.8	121
BD05-014	649.85	1095.44	1131.82	176.9	-45	112
BD05-015	974.45	1050.18	1131.44	181.6	-43.6	130
BD05-016	1024.96	1074.38	1131.38	178.1	-41.6	124
BD05-017	697.9	1083.45	1133.42	180	-45	120
BD05-018	724.14	1096.4	1133.85	180	-45	129
BD05-019	675.66	1098.04	1132.74	180	-45	98
BD05-020	875.13	1032.82	1132.88	175.5	-45	80
BD05-021	880.86	1097.4	1133.75	180	-45	130
BD05-022	898.12	1082.18	1132.67	186.1	-45.1	110
BD05-023	748.95	1094.83	1133.75	178.1	-46.2	110
BD05-024	800.19	1070.24	1134.2	182.8	-45	100
BD05-025	824.95	1075.61	1133.3	180	-46.3	100
BD05-026	924.97	1050.46	1132.67	180.4	-45	100
BD05-027	925.29	1075.46	1132.06	180	-45	80
BD05-028	948.18	1039.01	1132.36	180	-45	80
BD05-029	949.96	1110.49	1131.05	180	-45	140
BD05-030	997.78	1055.08	1130.88	188	-45	98
BD05-031	1175.24	1064.42	1134.52	184.7	-45	120.5
BD05-032	976.22	1070.29	1131.36	180	-46	93.8
BD05-033	900.96	1116.76	1132.4	182.1	-45	150.2
BD05-034	849.81	1057.04	1133.62	184.6	-45.9	80
BD05-035	824.95	1105.27	1135.27	183.2	-45.6	120
BD05-036	800.21	1101.21	1134.29	183.5	-42.4	120
BD05-037	725.53	1074.62	1133.84	184	-43.6	80
BD05-038	699.97	1067.11	1133.63	183.7	-45.1	92
BD05-039	674.86	1068.8	1134.88	181	-42	72.5
BD05-040	650.49	1066.84	1134.54	179	-42.7	83
BD05-041	542.74	1046.11	1139.7	182.2	-45.2	101
BD05-042	781.13	1152.35	1135.84	184.2	-46.4	150.2
BD05-043	803.6	1122.12	1136.39	180.8	-45.5	91.3
BD05-044	1000.16	1083.68	1131.38	180	-46.8	125.2
BD05-045	998.21	1116.12	1131.1	176.8	-46	150

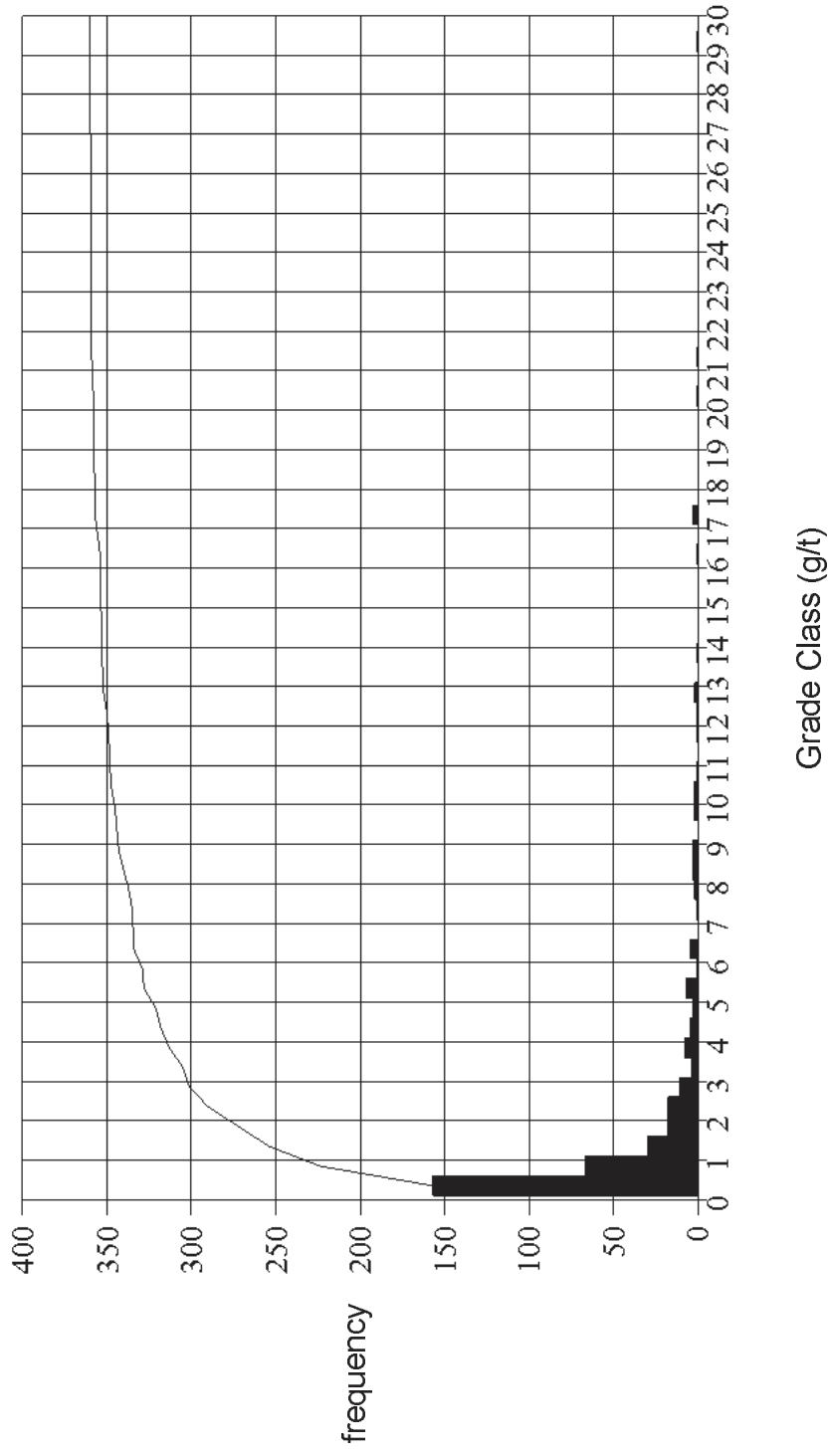
Hole Id	Easting	Northing	Elevation	Azimuth	Dip	Depth
BD05-046	1025.93	1101.13	1131.31	182.3	-45.1	150
BD06-047	999.47	1145.77	1131.69	182.5	-46.1	200
BD06-048	975.28	1126.43	1131.26	182.2	-42.7	200
BD06-049	948.73	1137.84	1131.35	180	-46.8	200
BD06-050	900.01	1147.26	1132.28	185.2	-47.2	180.1
BD06-051	1149.79	1101.22	1134.94	179.6	-58.4	181
BD06-052	1249.66	1070.86	1133.46	178	-43.7	170
BD06-053	1275.04	1070.78	1132.84	182.1	-41.2	170
BD06-054	1300.54	1069.94	1131.35	180.8	-45.3	170
BD06-055	1299.99	1040.14	1131.76	183.7	-43.9	143
BD06-056	1274.74	1040.27	1132.42	180.2	-45	134
BD06-057	1199.33	1061.67	1133.85	180.5	-43.5	172
BD06-058	1524.56	999.26	1129.08	181.8	-42.2	214.2
BD06-059	879.65	1110.6	1134.03	180	-53.1	152
BD06-060	1224.24	1054.28	1133.52	180	-44.3	151
BD06-061	1324.39	1056.6	1131.58	178.6	-46.2	161
BD06-062	1348.65	1056.27	1131.71	181.7	-43.8	170
BD06-063	1370.75	1072.35	1132.63	180	-45.3	175
BD06-064	1398.92	1071.05	1131.88	179.4	-45.3	175
BD06-065	1424.27	1062.1	1131.69	180	-45	180
BD06-066	1200.6	1090.16	1134.74	180	-45	179
BD06-067	-90.79	1009.67	1135.95	181	-45	151
BD06-068	1175.13	1091	1134.67	179.7	-40.1	180
BD06-069	-75.59	1034.76	1134.71	183.2	-42.5	150
BD06-070	1124.67	1093.57	1134.8	180	-45	169.9
BD06-071	-38.15	1030.98	1137.77	180	-45	131
BD06-072	1226.13	1092.18	1134.32	188	-47	197
BD06-073	1055	1691	1135	160	-47.9	150
BD06-074	1025.28	1149.32	1131.69	179.6	-47	200
BD06-075	1030	1680	1135	160	-47	148.3
BD06-076	974.967	1149.5	1131.26	179.6	-46.4	209
BD06-077	1009	1677	1135	160	-46.9	161.3
BD06-078	1036.88	1001.32	1134.2	184.5	-70.8	73
BD06-079	1125.1	1125.38	1134.33	180	-50	209
BD06-080	1022.66	1037.93	1131.34	181.4	-45	100
BD06-081	774.21	1100.69	1134.28	180	-45	170
BD06-082	993.44	1021.19	1132.3	180	-45	116
BD06-083	974.88	1017.98	1132.23	180	-45	113.8
BD06-084	724.08	1119.82	1133.62	184.8	-45	161
BD06-085	951.37	1018.54	1132.53	185.7	-45	102
BD06-086	675.2	1118.67	1130.82	180	-41.6	153
BD06-087	724.16	1120.44	1133.54	182.8	-60	179
BD06-088	699.76	1120.71	1132.62	184.3	-55	170
BD06-089	602.1	1068.95	1139.19	180	-45	112
BD06-090	699.89	1102.26	1133.08	181	-45	140
BD06-091	621.19	1061.96	1138.26	180	-45	99

Hole Id	Easting	Northing	Elevation	Azimuth	Dip	Depth
BD06-092	623.94	1097.62	1134.51	180	-45	137
BD06-093	600.61	1098.82	1135.63	185.6	-45	140
BD06-094	675.47	1133.3	1130.82	178.6	-41.6	186
BD06-095	627.76	1154.46	1130.81	186.4	-45	197
BD06-096	1225	1037	1133.5	180	-45	136
BD06-097	1074.26	1033.53	1130.11	183.6	-45	101
BD06-098	1076.58	1070.4	1130.61	185.1	-45	129
BD06-099	1122.38	1035.45	1130.04	188.8	-44	101
BD06-100	1147.44	1008.23	1129.99	181.7	-45	89
BD06-101	1122.82	1052	1130.19	173.6	-45	122
BD06-102	1150.27	1040.11	1130.43	181.5	-45	120
BD06-103	1178.28	1039.05	1130.68	180	-45	124
BD06-104	1299.34	1010.88	1130.36	179.5	-45	110
BD06-105	1198.2	1033.6	1130.41	187.5	-45	122
BD06-106	1271.89	1008.44	1130.04	180	-45	110
BD06-107	1176.46	998.43	1129.73	180	-45	96
BD06-108	1024.81	1001.26	1134.13	180	-45	86
BD06-109	1190.3	993.45	1129.63	180	-45	68
BD06-110	1060.64	1008.9	1130.49	180	-45	80
BD06-111	1116.35	997.55	1130.51	188.4	-45	80
BD06-112	1078.44	1110.39	1134.55	180	-57.3	200
BD06-113	1100.33	1124.59	1135.26	180	-60.6	224
BD06-114	1124.05	1150.43	1133.1	180	-57.2	230
BD06-115	1174.82	1121.75	1134.56	180	-45	189
BD06-116	1200.23	1115.5	1134.41	180	-47.3	227
BD06-117	1223.44	1006.75	1129.99	180	-45	90
BD06-118	1251.81	1009.51	1129.55	183	-42.5	81
BD06-119	1240.82	1131.42	1132.7	180	-45	233
BD06-120	1276.37	1102.3	1132.46	180	-45	197
BD06-121	1301.499	1100.271	1131.34	181.5	-42	200
BD06-122	1326.16	1085.36	1133.081	178	-45	189.3
BD06-123	1350.208	1085.468	1133.612	180	-45	191.5
BD06-124	1375.052	1094.53	1132.809	180	-45	190
BD06-125	1274.714	993.791	1130.179	180	-45	92
BD06-126	1299.699	984.784	1130.402	180	-45	72.5
BD06-127	1225.648	989.054	1130.253	180	-45	70
BD06-128	1352.033	1027.006	1130.65	180	-45	102.5
BD06-129	1324.946	1034.655	1130.511	180	-45	110
BD06-130	1051.413	1084.237	1131.37	180	-45	134
BD06-131	925.666	1099.753	1131.833	180	-45	122
BD06-132	829.676	1173.484	1135.479	180	-45	167
BD06-133	701.022	1044.848	1135.616	180	-45	65

## **Appendix 4**

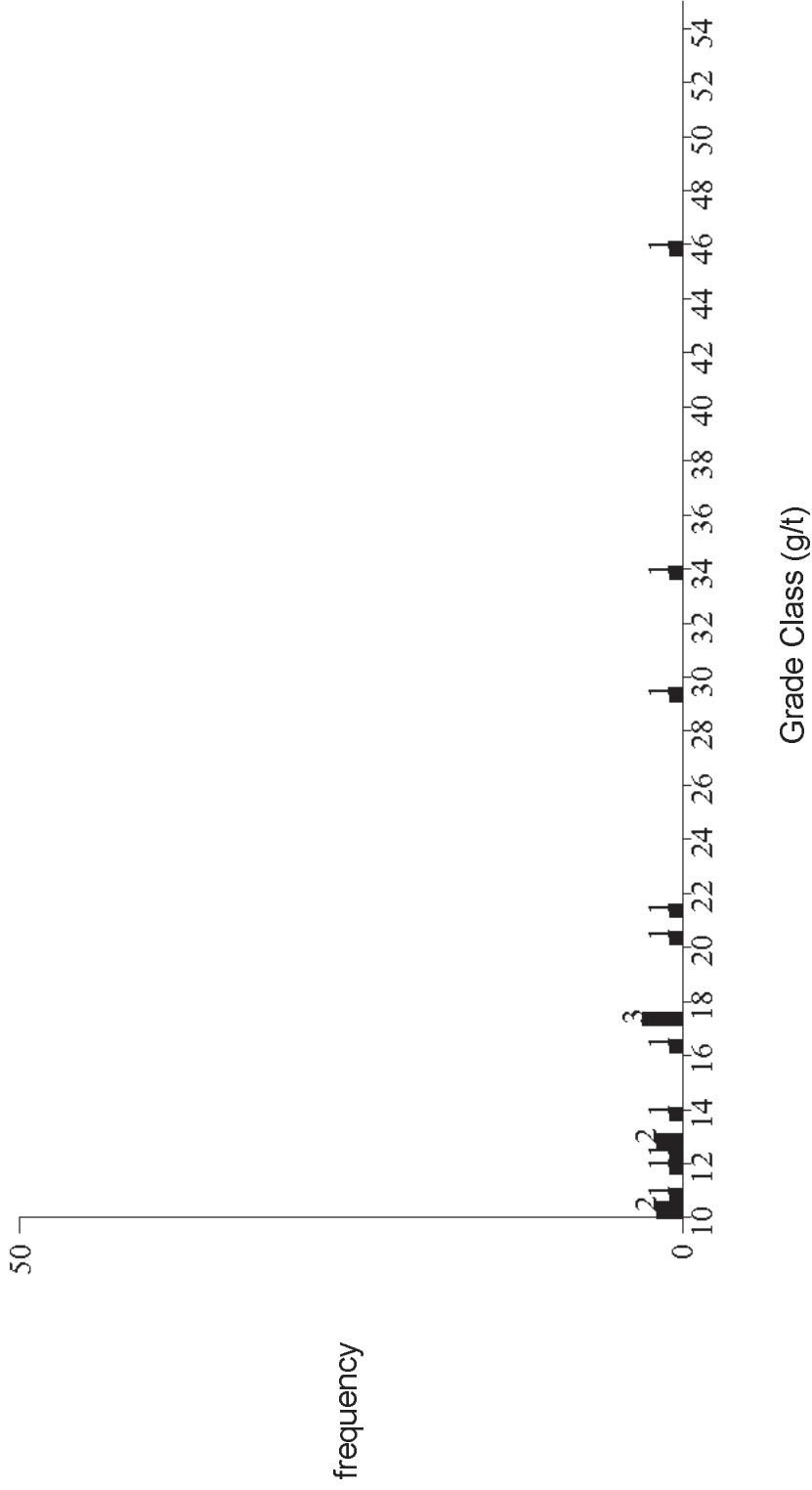
### **Grade Distribution Data**

# Cumulative Frequency of Au Composite Grades in Main Zone - West of 775E Domain



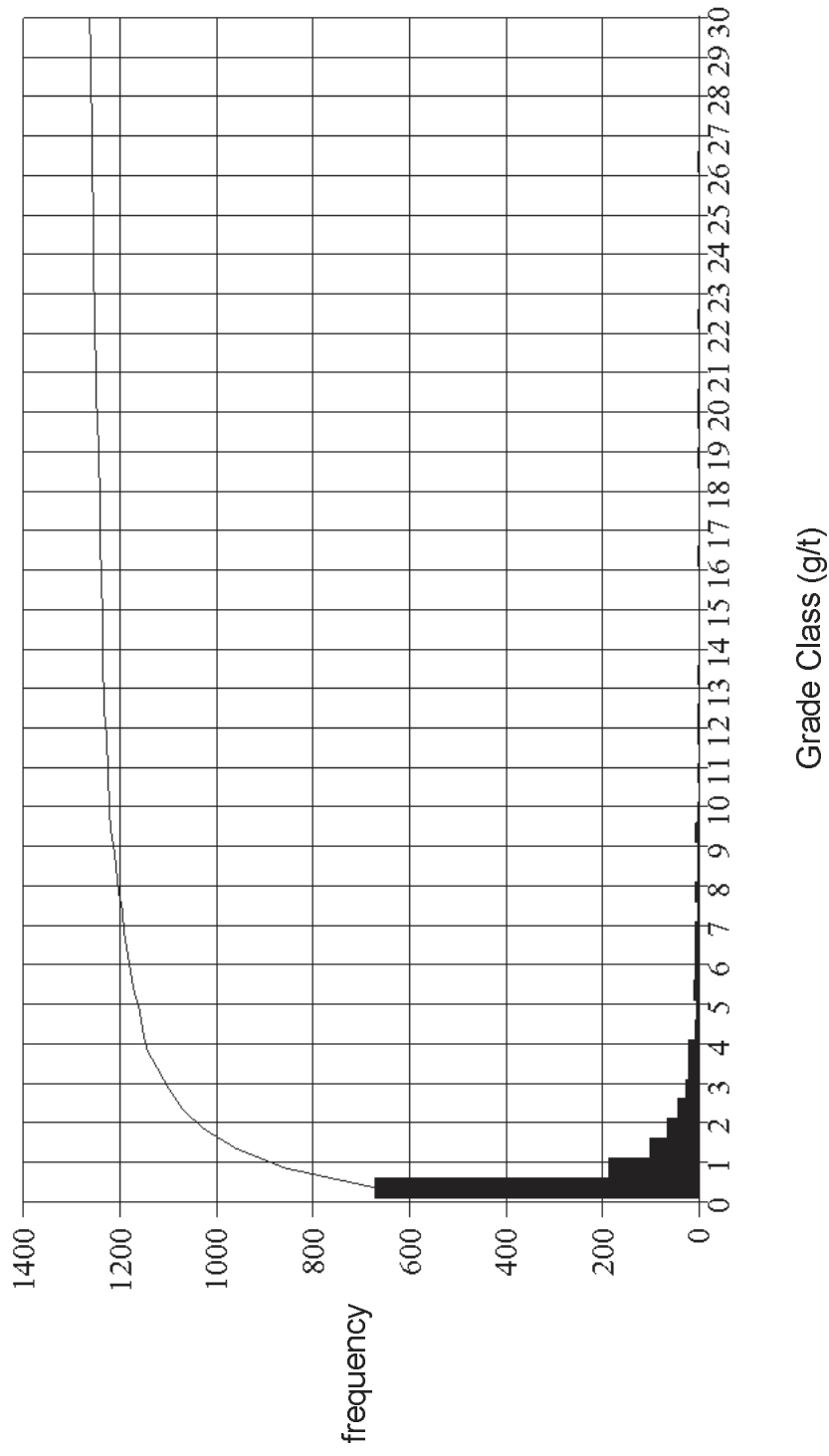
Au Composite Grade

# Histogram Frequency of Au Composite Grades (Range 10-55 g/t) in Main Zone West of 775E Domain



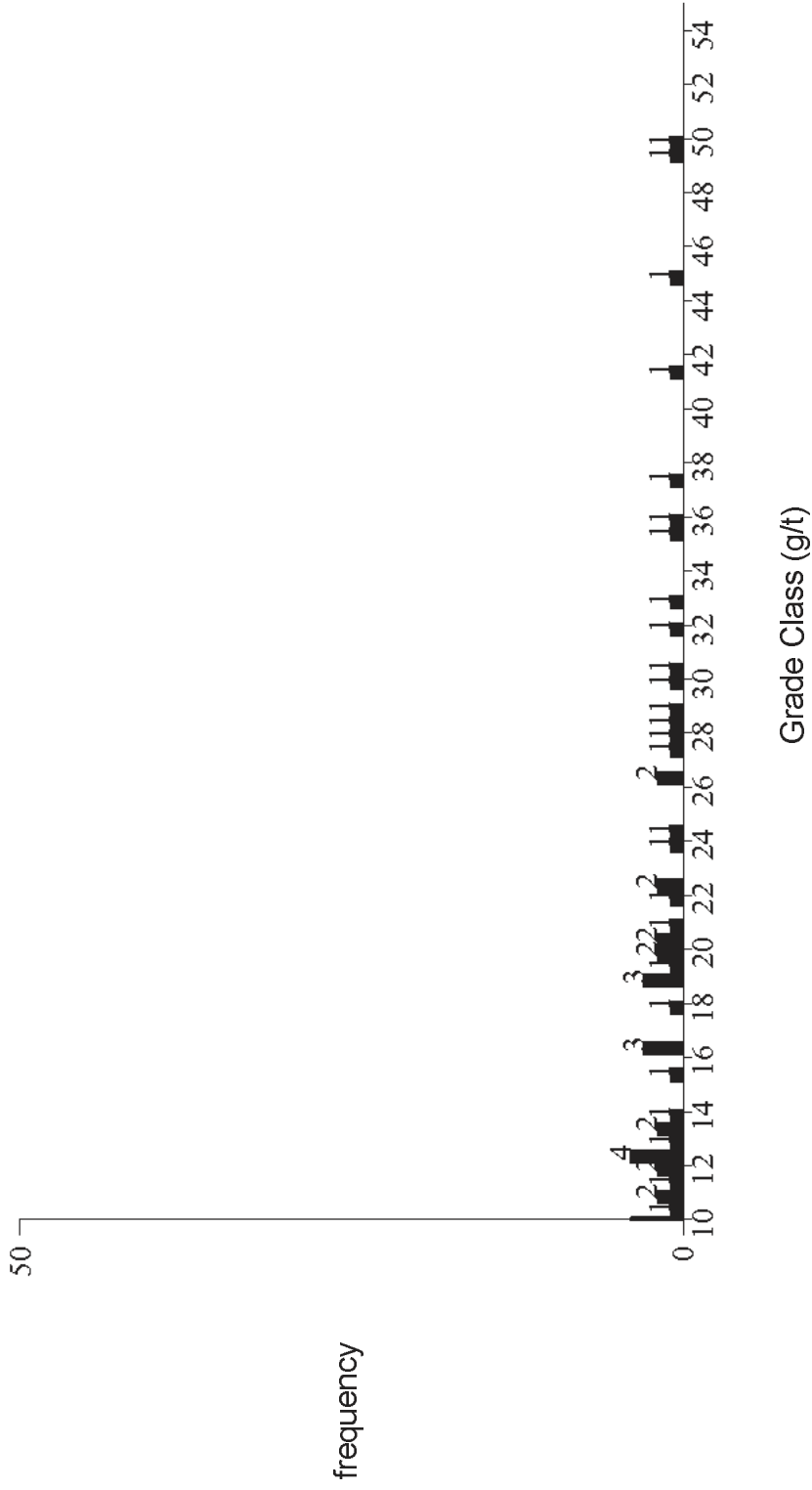
Au Composite Grade

# Cumulative Frequency of Au Composite Grades in Main Zone - 775E to 950E Domain



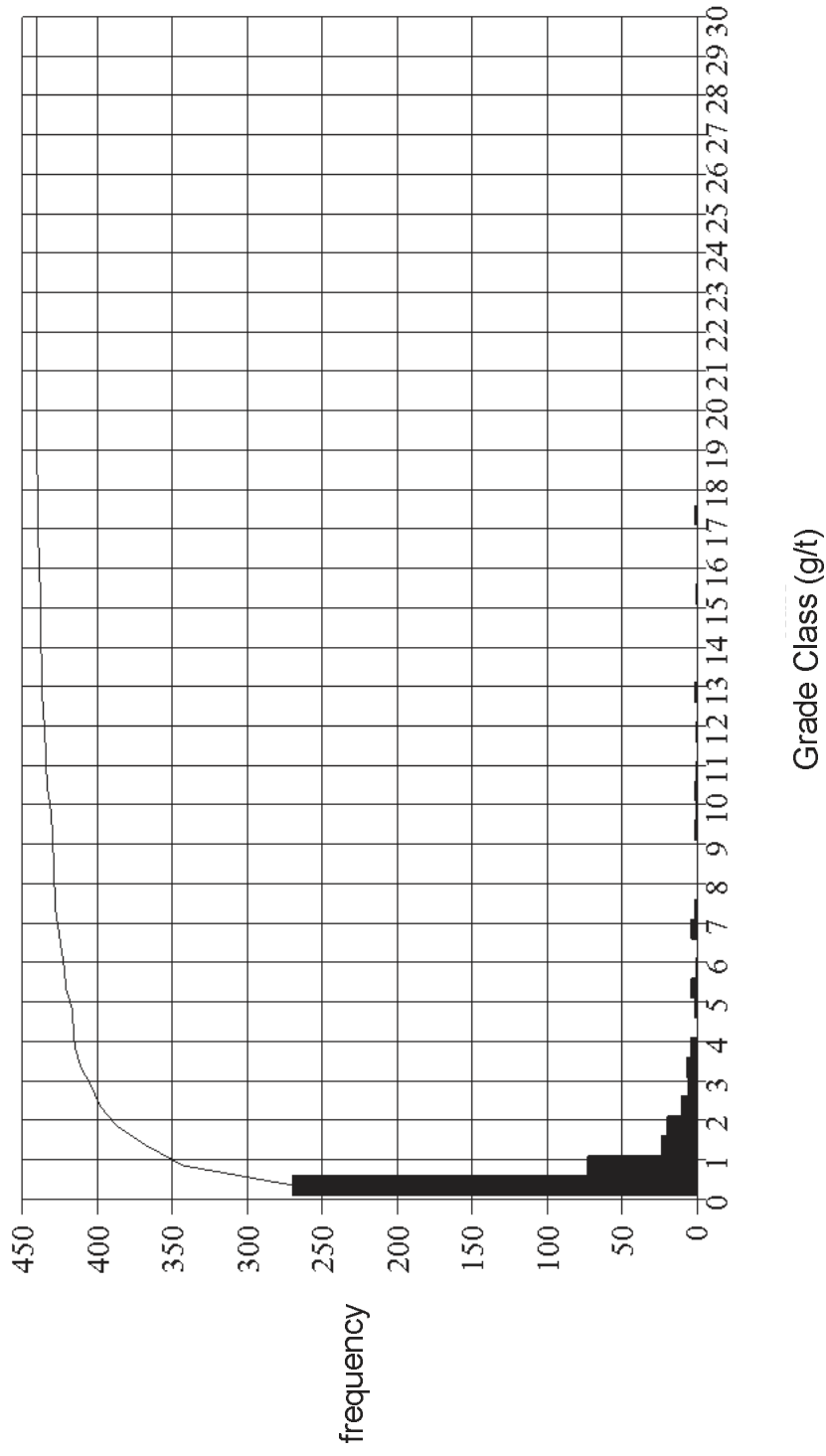
Au Composite Grade

# Histogram Frequency of Au Composite Grades (Range 10-55 g/t) in Main Zone 775E to 950E Domain



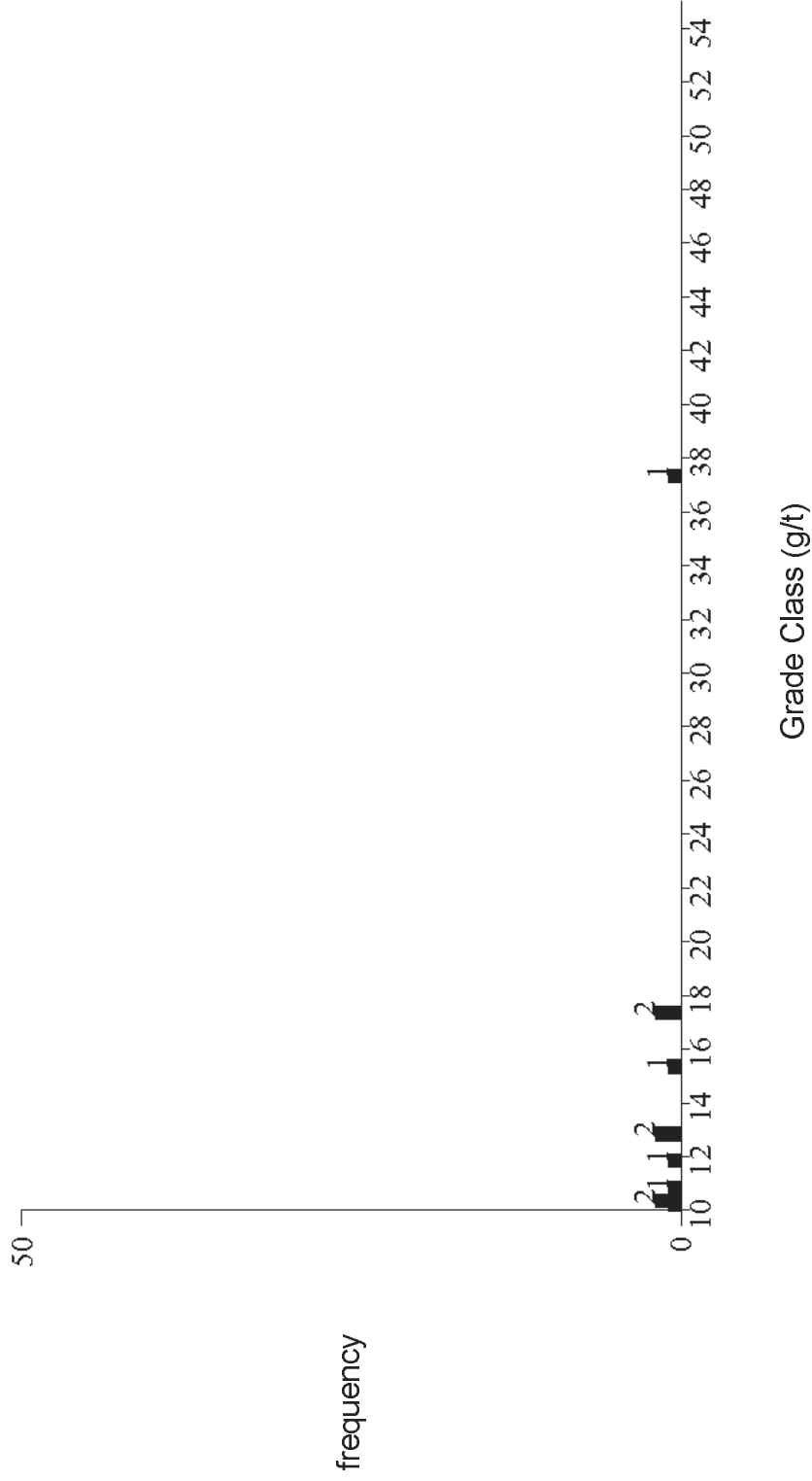
Au Composite Grade

# Cumulative Frequency of Au Composite Grades in Main Zone - 950E to 1025E Domain



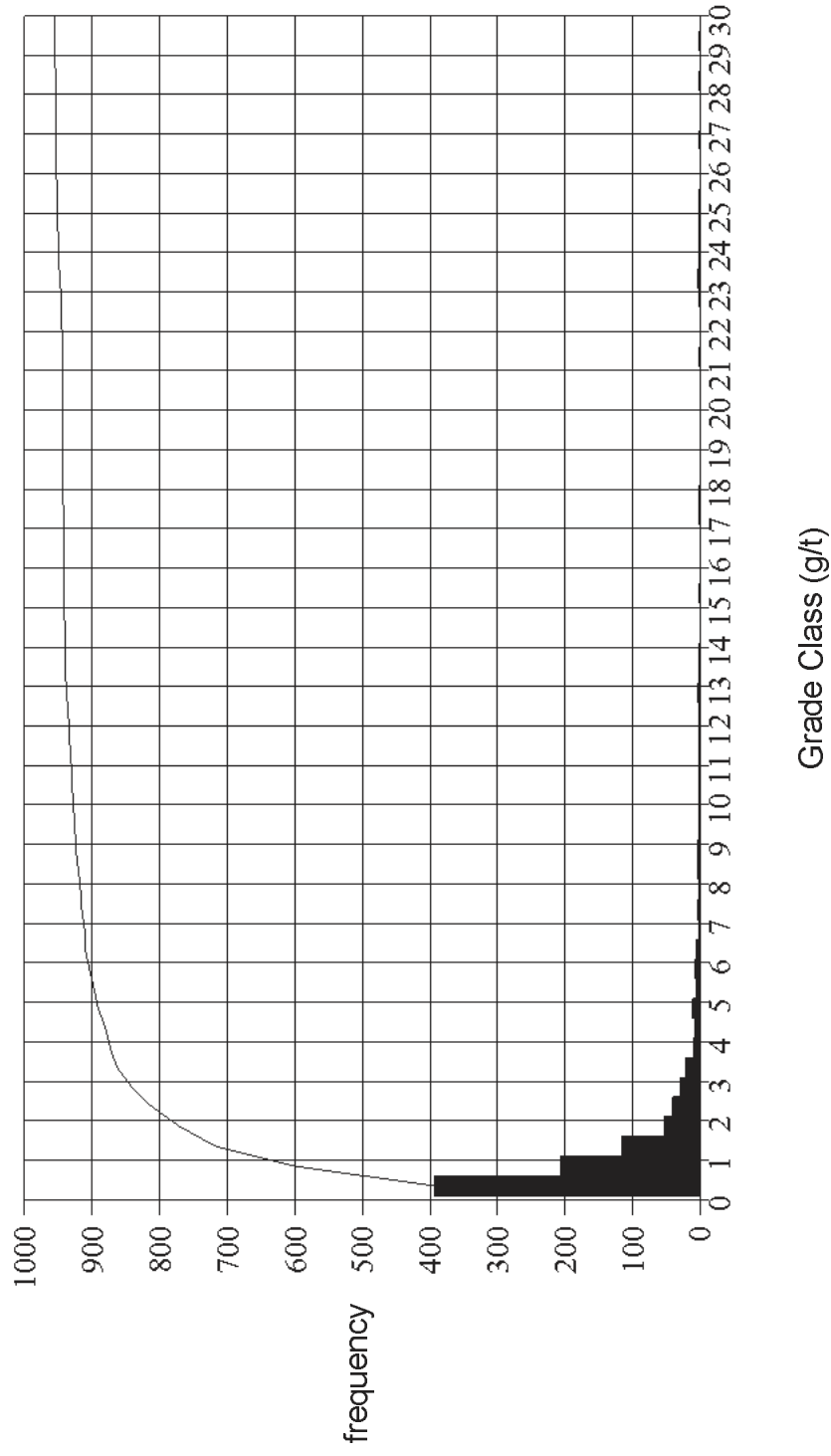
Au Composite Grade

# Histogram Frequency of Au Composite Grades (Range 10-55 g/t) in Main Zone 950E to 1025E Domain



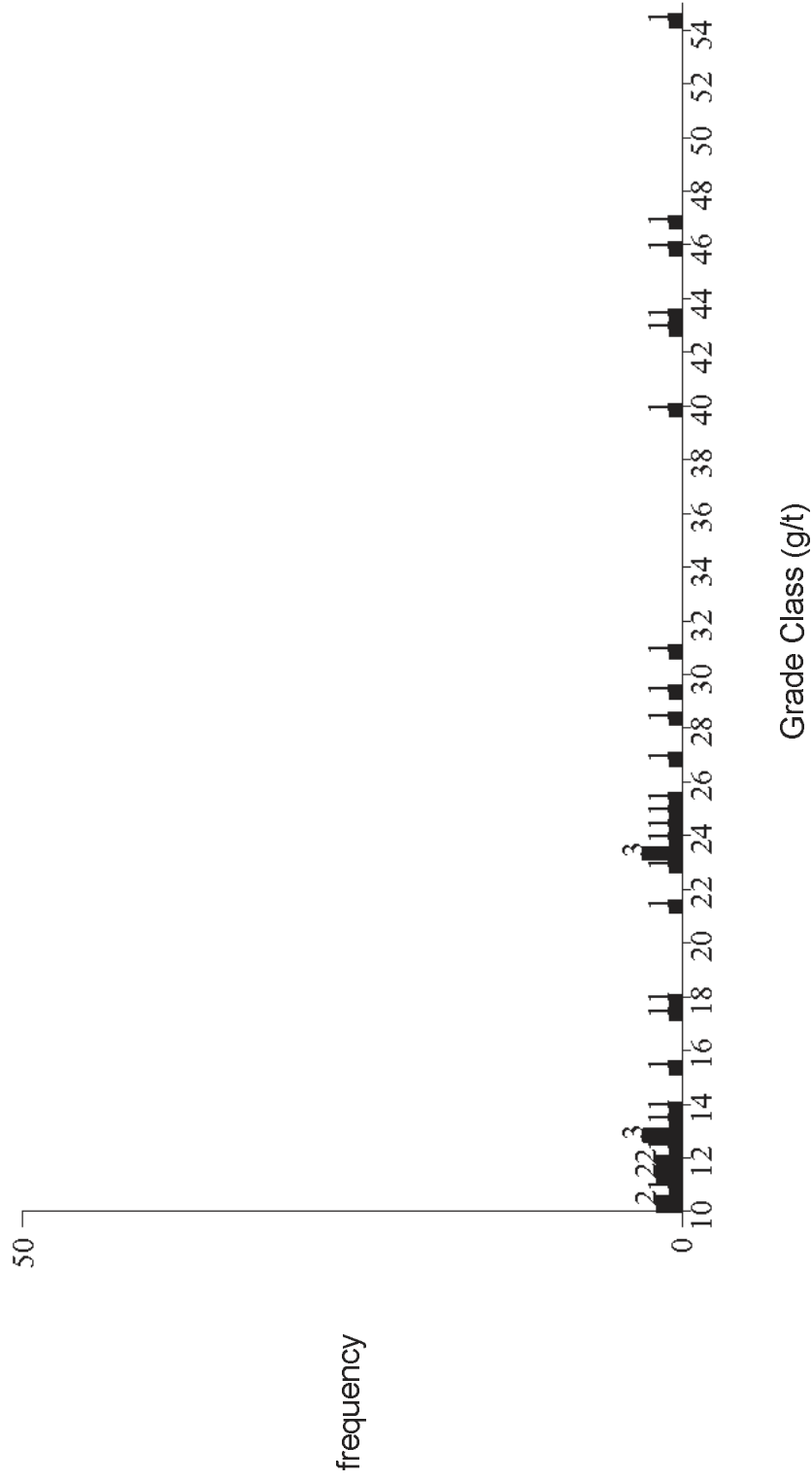
Au Composite Grade

# Cumulative Frequency of Au Composite Grades in Main Zone - 1025E to 1175E Domain



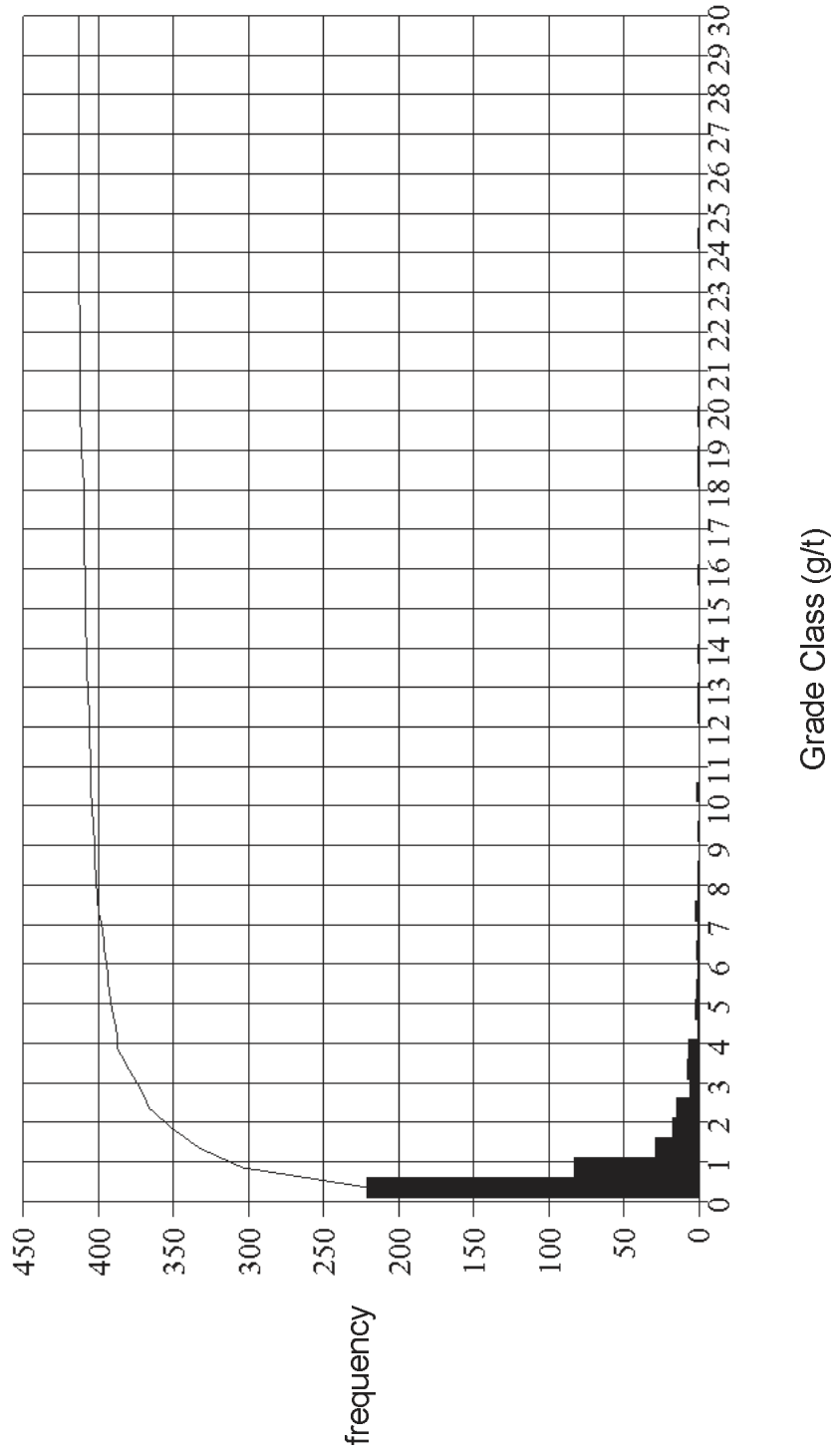
Au Composite Grade

Histogram Frequency of Au Composite Grades (Range 10-55 g/t)  
 in Main Zone 1025E to 1175E Domain



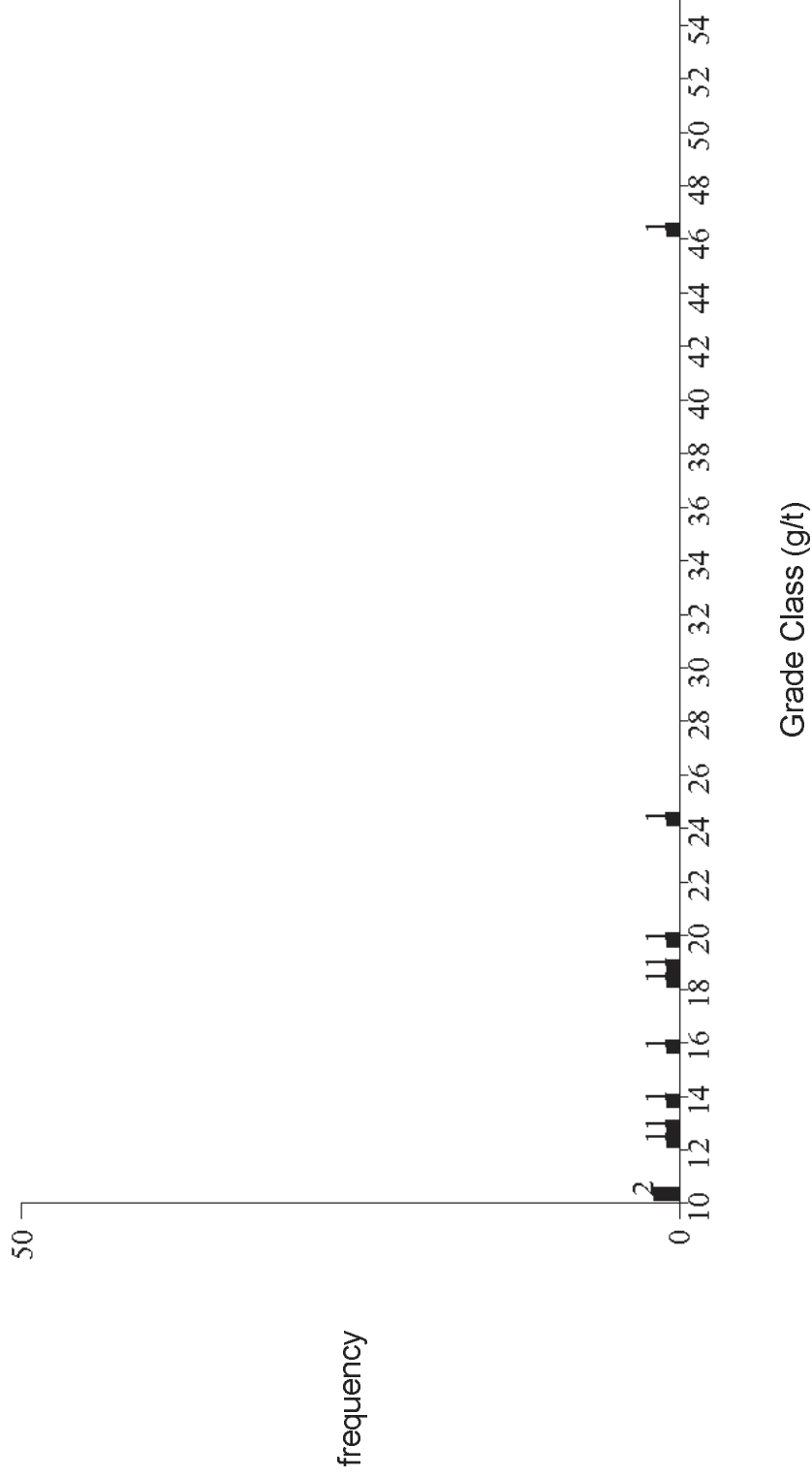
Au Composite Grade

# Cumulative Frequency of Au Composite Grades in Main Zone - East of 1175E Domain



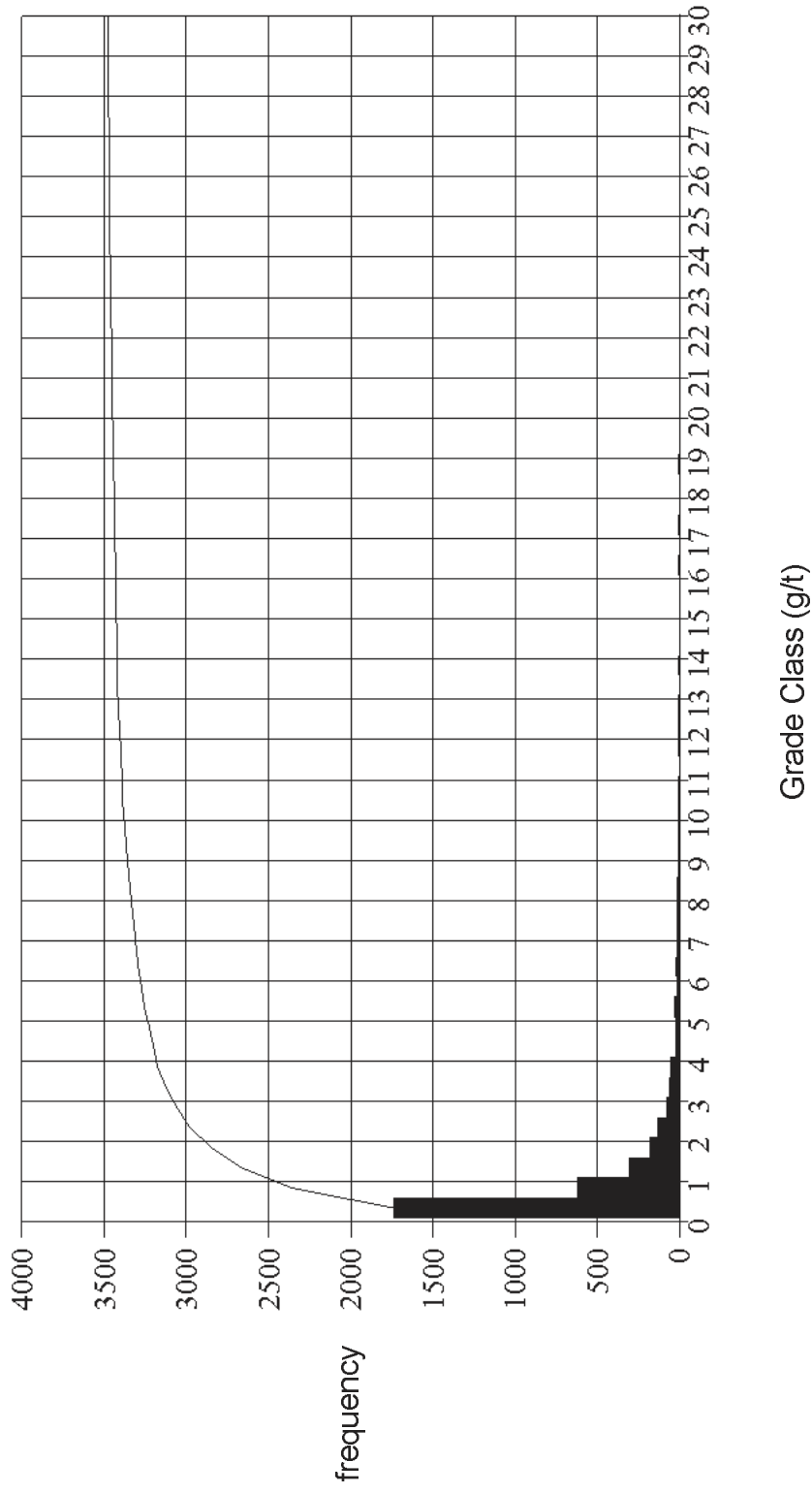
Au Composite Grade

# Histogram Frequency of Au Composite Grades (Range 10-55 g/t) in Main Zone East of 1175E Domain



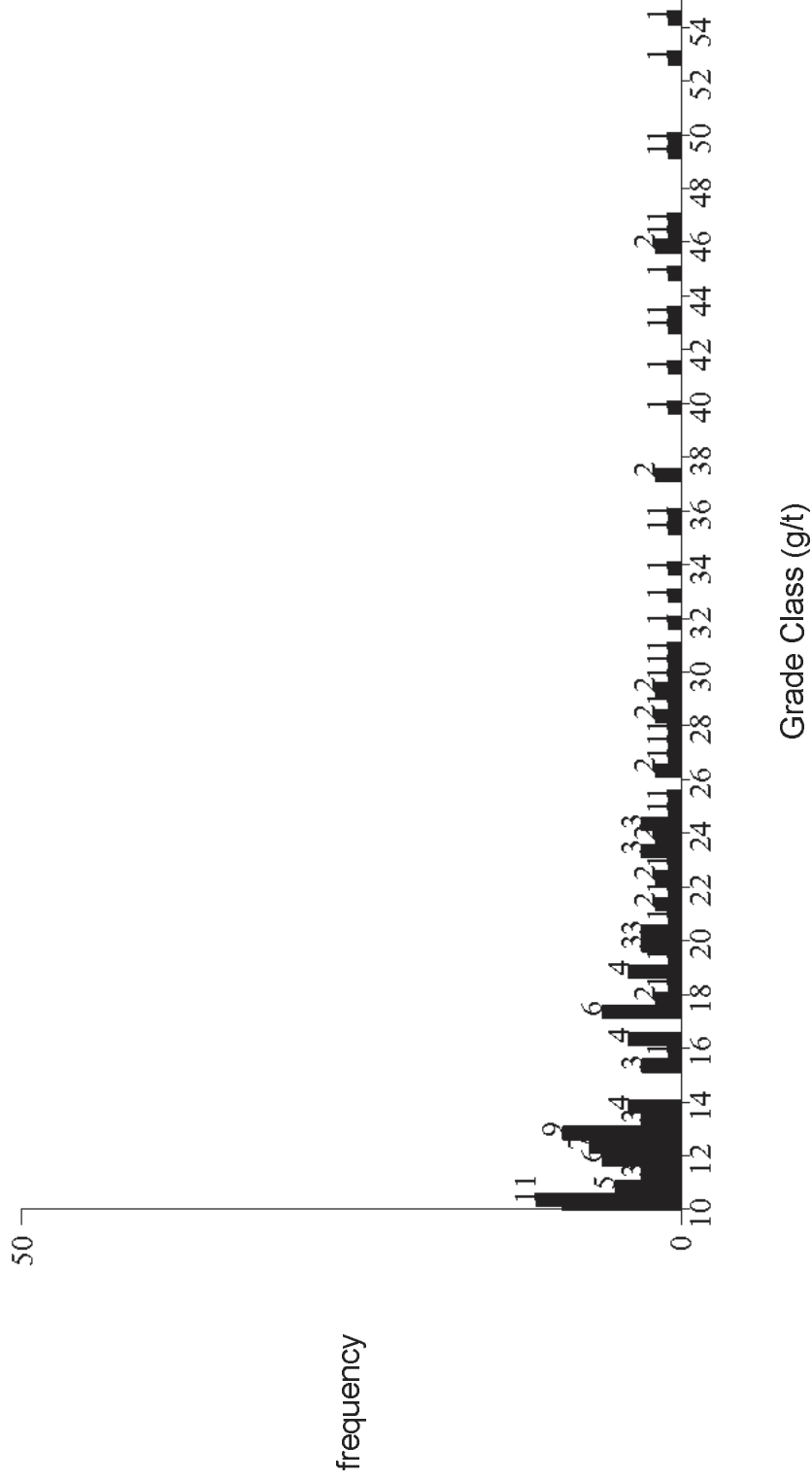
Au Composite Grade

# Cumulative Frequency of Au Composite Grades in the Main Zone Domain



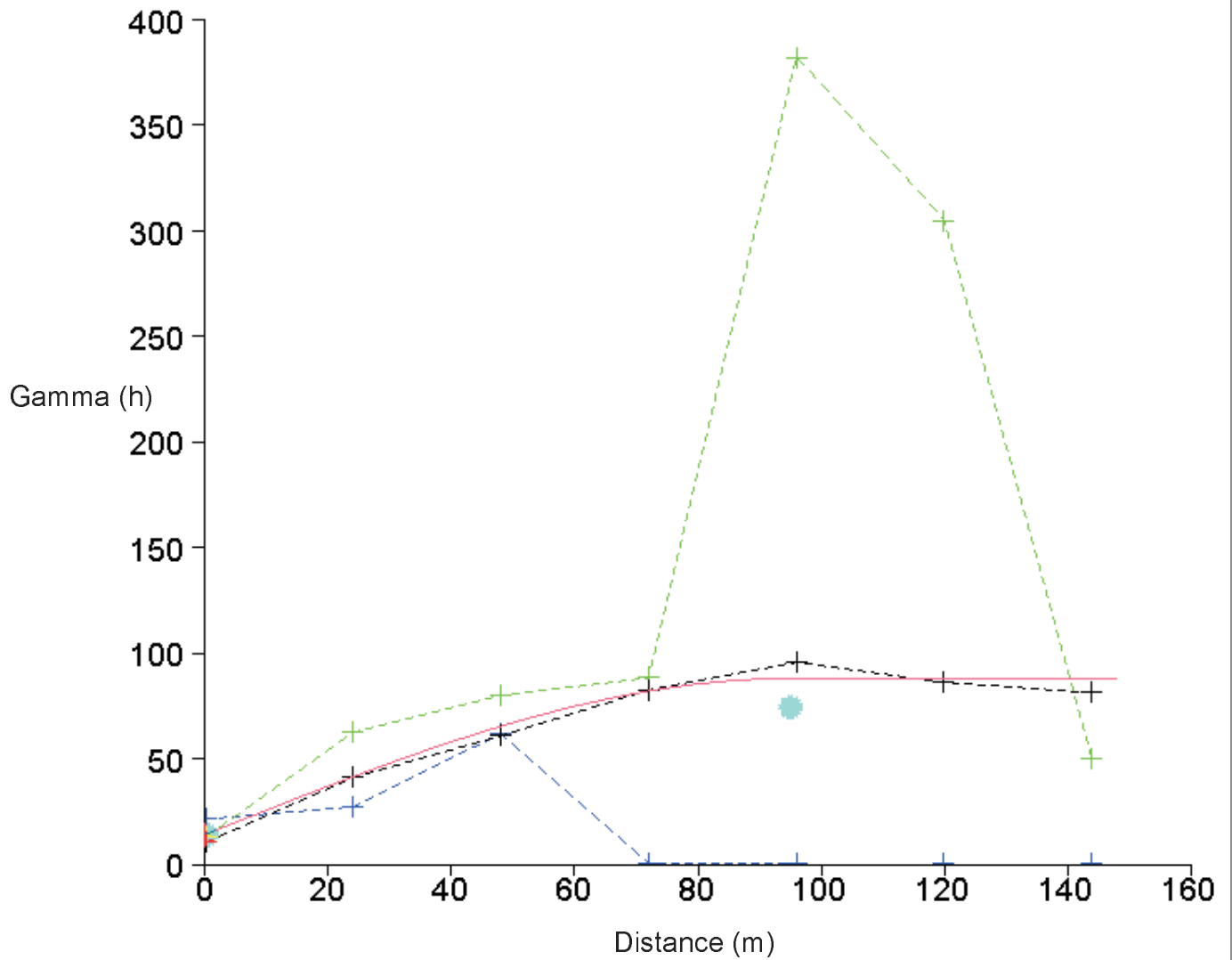
Au Composite Grade

# Histogram Frequency of Au Composite Grades (Range 10-55 g/t) in the Main Zone Domain



Au Composite Grade

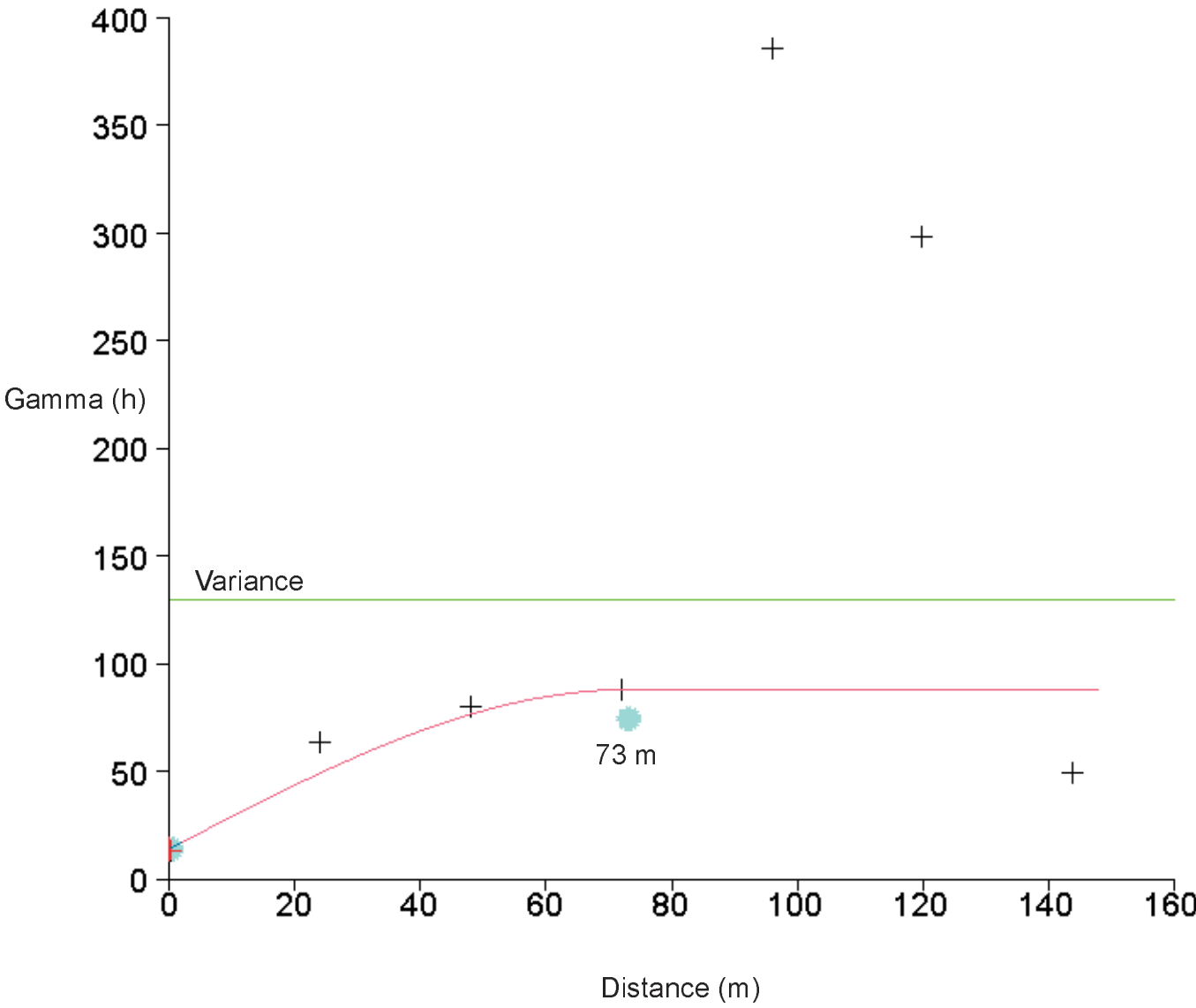
Normal Variogram  
All Orientations



Legend

- 11.1031 → 98.0142 (11.25) (major)
- 54.4413 → 203.948 (11.25) (semi-major)
- 33.2797 → 180.613 (11.25) (minor)

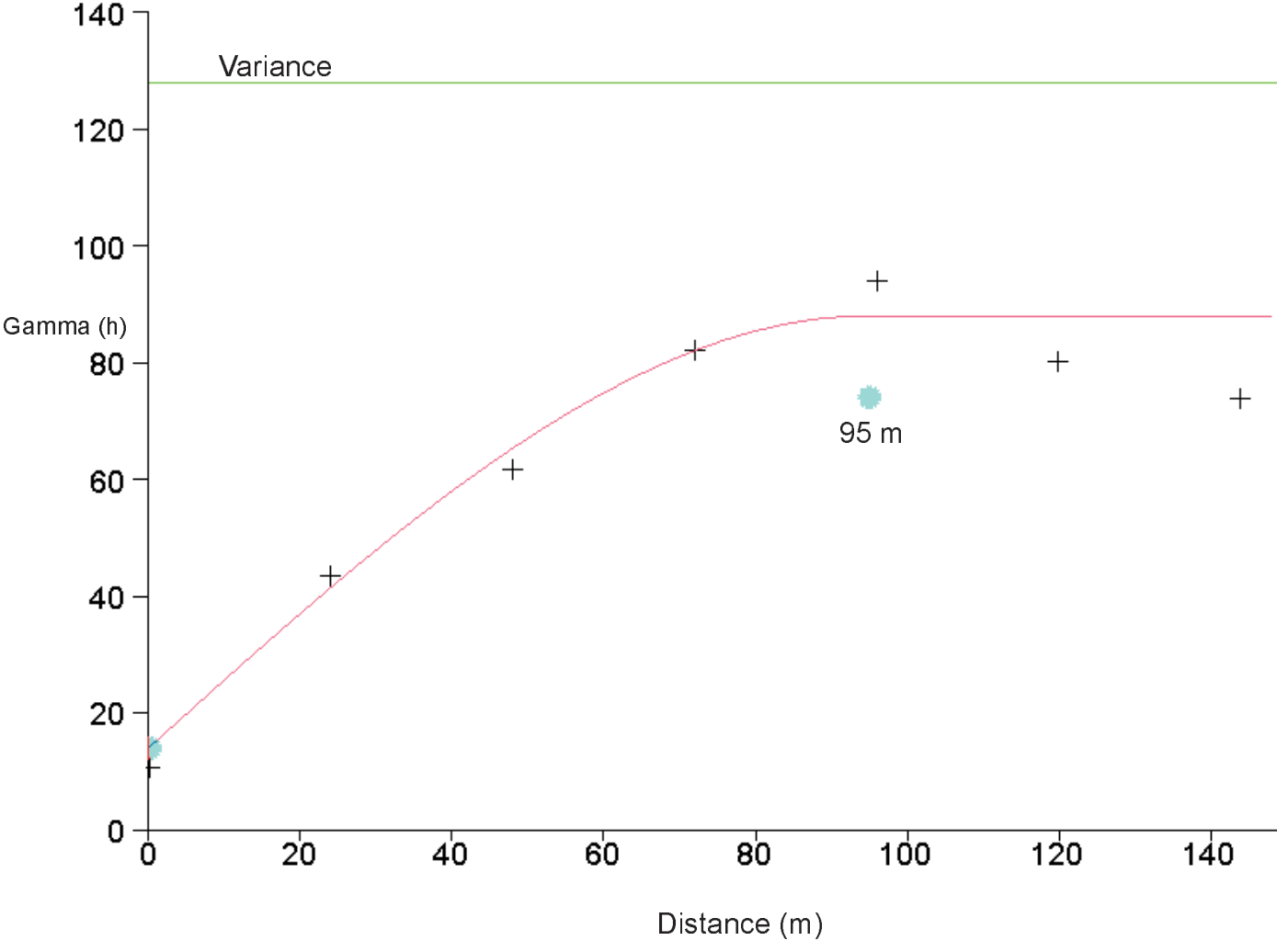
Normal Variogram  
Semi-Major Axis



Legend

Semi - Major Axis Orientation  
55° → 204°

Normal Variogram  
Major Axis

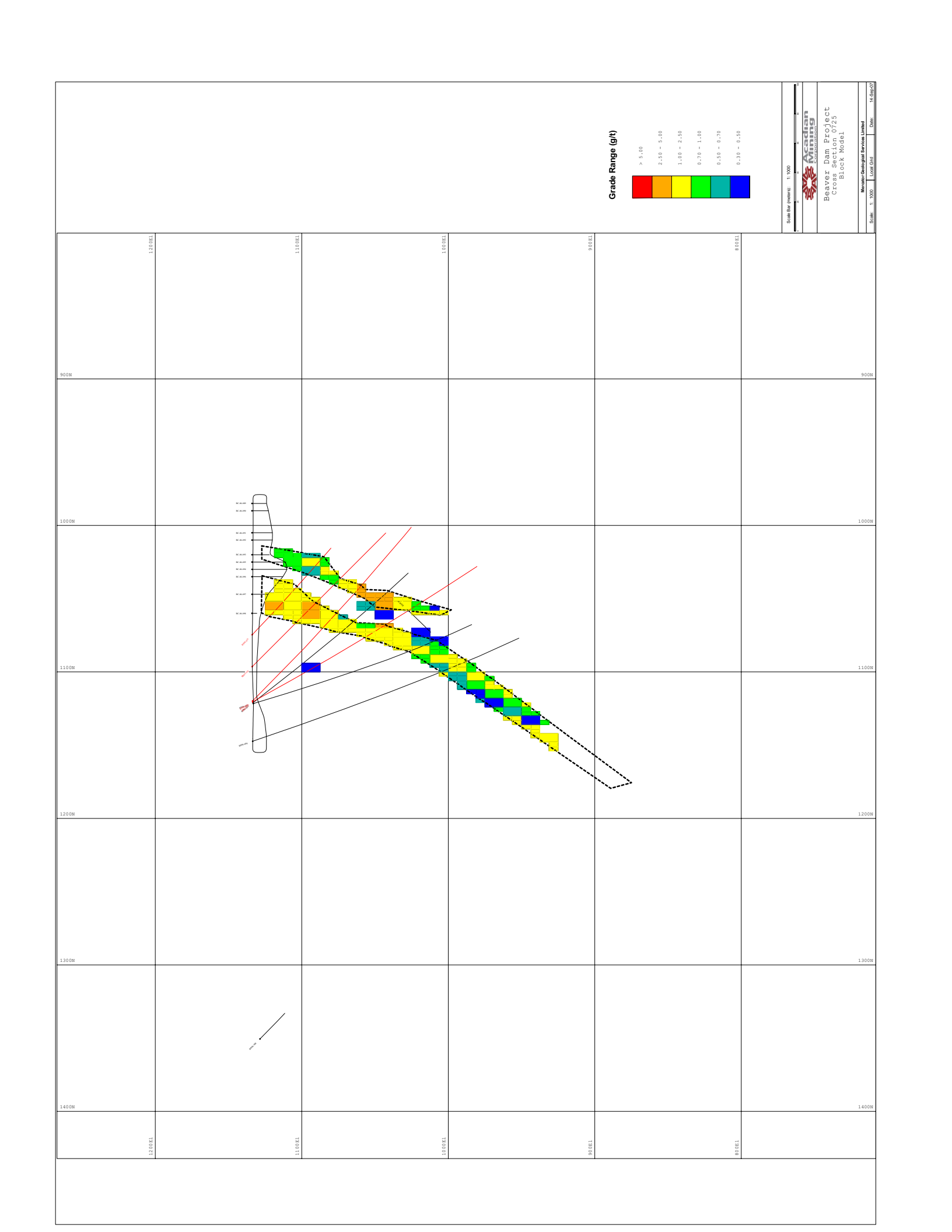


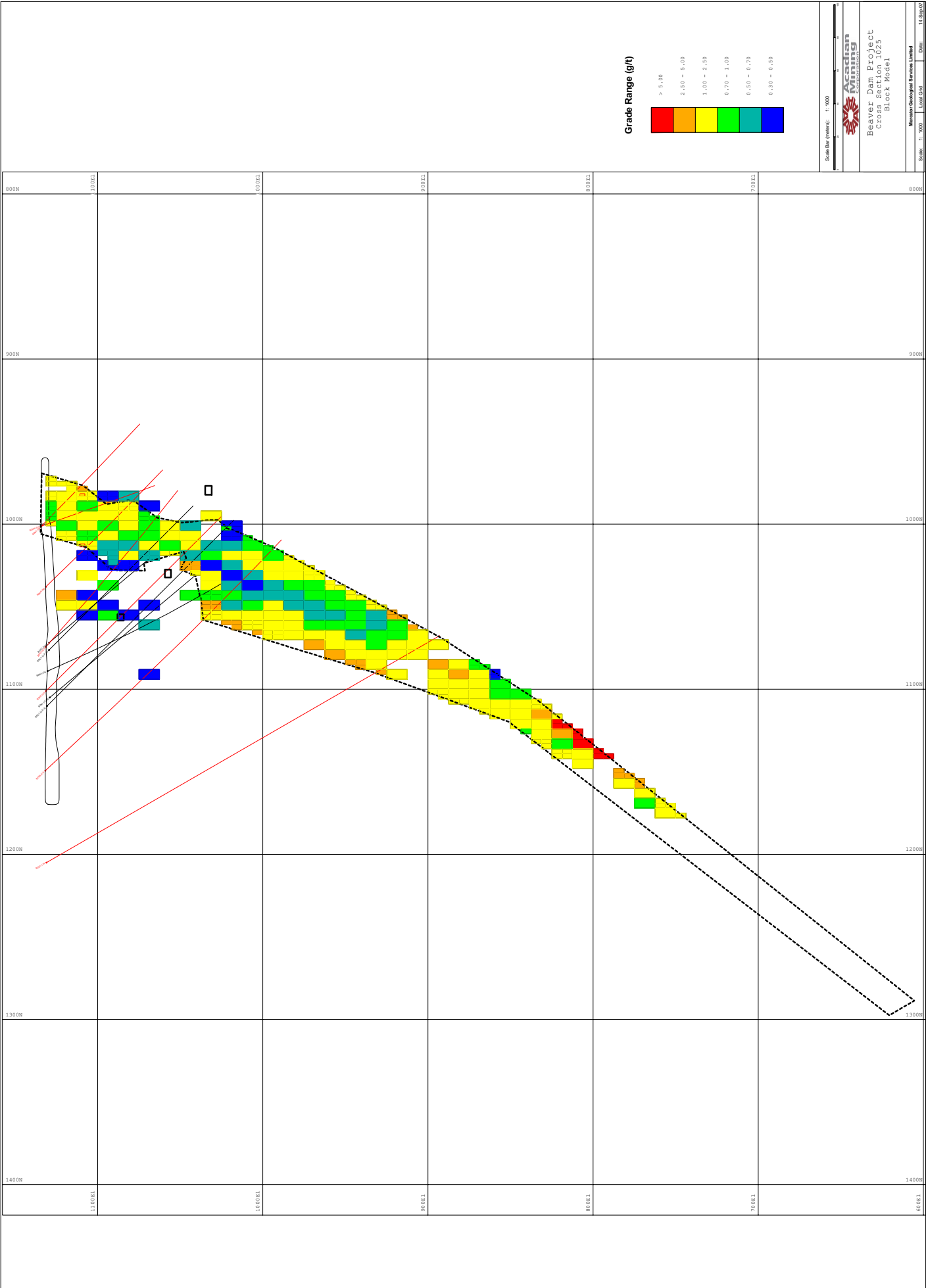
Legend

Semi - Major Axis Orientation  
11° → 98°

## **Appendix 5**

### **Selected Drill Hole Cross Sections and Resource Blocks**





Grade Range (g/t)

- > 5.00
- 2.250 - 5.00
- 1.500 - 2.250
- 0.750 - 1.00
- 0.50 - 0.75
- 0.25 - 0.50

Scale Bar (meters): 1:1000



ASSTON  
SPECIALISTS

Beaver Dam Project  
Cross Section 1025  
Block Model

Member Geological Services Limited

Scale: 1:1000  
Level: GSD  
Date: 14/09/2017

