

# ARCHER, CATHRO

& ASSOCIATES (1981) LIMITED

CONSULTING GEOLOGICAL ENGINEERS

1016-510 WEST HASTINGS STREET  
VANCOUVER, B. C. V6B 1L8

(604) 688-2568

REPORT ON  
DRILLING PROGRAM  
ANTONIUK PROPERTY  
MT. FREEGOLD, YUKON TERRITORY

Mayflower	Lease 2751
Baker	Lease 2765
Connie	Lease 2766
Jim	Lease 2768
Donalda 1-9	Lease 2773-81
Donalda 13	Lease 2782
Nat 1-29	YA86843-YA86871
Nat 30F-33F	YA93013-YA93016
Peggy 1	YA95146
Peggy 2F-4F	YA95147-YA95149
Peggy 5F	YA96268

Latitude 62°16'N      Longitude 137°06'W      NTS 115I/6

Whitehorse Mining District

EIP Designation Number 88016

BIG CREEK JOINT VENTURE

February, 1989

C.A. Main, B.Sc.

Work done between May 26 and September 18, 1988

## TABLE OF CONTENTS

	<u>PAGE</u>
SUMMARY AND RECOMMENDATIONS .....	1
INTRODUCTION .....	4
PROPERTY .....	5
LOCATION AND ACCESS .....	6
PHYSIOGRAPHY AND GEOMORPHOLOGY .....	7
HISTORY AND PREVIOUS WORK .....	8
1988 PROGRAM .....	11
GEOLOGY AND MINERALIZATION .....	12
MINERAL INVENTORY .....	14
FURTHER EXPLORATION .....	17

## APPENDICES

- One Recommended Exploration Diamond Drill Holes
- Two Drill Hole Statistics
- Three Statement of Qualifications
- Four List of Employees

## LIST OF TABLES

<u>NO.</u>	<u>DESCRIPTION</u>	<u>LOCATION</u>
1	SUMMARY: Drill Indicated, Open Pittable Reserves, Total Antoniuk Deposit, September, 1986, E.S. Holt, P.Eng. (amended to include 1987 and 1988 data) .....	Following Page 14
2	SUMMARY: Drill Indicated, Open Pittable Reserves, Test-Pad Deposit, 1988 Drill Program Data .....	Following Page 16
3	SUMMARY: Drill Indicated, Open Pittable Reserves, High grade, Test-Pad Deposit, 1988 Drill Program Data ....	Following Page 16
4	Calculation of Total Reserve Tonnage by E.S. Holt, P.Eng, 1986 data amended in 1987 and 1988 .....	Following Page 14
	1988 Drill Program, Cell Grade Calculations:	
5	Section 3S .....	Following Page 16
6	Section 2S .....	Following Page 16
7	Section 1S .....	Following Page 16
8	Section 0N .....	Following Page 16
9	Section 1N .....	Following Page 16
10	Section 2N .....	Following Page 16
11	Section 3N .....	Following Page 16
12	Section 4N .....	Following Page 16
	1988 Drill Program, Total Cell Tonnages:	
13	Cutoff of 0.0 g/t gold (all cells) .....	Following Page 16
14	Cutoff of 0.5 g/t gold .....	Following Page 16
15	Cutoff of 0.7 g/t gold .....	Following Page 16
16	Cutoff of 1.0 g/t gold .....	Following Page 16
17	1988 Drill Program, Cell Tonnage, High Grade Pit .....	Following Page 16
18	Inferred Reserves Within Preliminary Pit, Antoniuk Deposit .....	On Page 18

LIST OF FIGURES

<u>NO.</u>	<u>DESCRIPTION</u>	<u>LOCATION</u>
A-1	General Location Map .....	Follows Page 6
A-2	Property Location Map .....	Follows Page 6
A-3	Claim Location Map .....	Follows Page 6
A-4	Vertical Section 3S .....	Follows Page 16
A-5	Vertical Section 2S .....	Follows Page 16
A-6	Vertical Section 1S .....	Follows Page 16
A-7	Vertical Section 0N .....	Follows Page 16
A-8	Vertical Section 1N .....	Follows Page 16
A-9	Vertical Section 2N .....	Follows Page 16
A-10	Vertical Section 3N .....	Follows Page 16
A-11	Vertical Section 4N .....	Follows Page 16
A-12	Bench Plan 1233 m .....	Follows Page 16
A-13	Bench Plan 1240 m .....	Follows Page 16
A-14	Bench Plan 1247 m .....	Follows Page 16
A-15	Bench Plan 1254 m .....	Follows Page 16
A-16	Bench Plan 1261 m .....	Follows Page 16
A-17	Bench Plan 1268 m .....	Follows Page 16
A-18	Compilation Bench Plan .....	Follows Page 16
A-19	Mineral Inventory .....	Follows Page 17

### SUMMARY AND RECOMMENDATIONS

Gold mineralization was first discovered on the Antoniuk property about 1931 on the Rambler Vein, adjacent to the Antoniuk deposit. Gold was subsequently discovered 800 m west of the Rambler Vein on the G-3 Vein which was eventually developed as the LaForma Mine (currently under option by Discovery Mines Ltd. to Doron Exploration Corp). A soil geochemical survey in 1974 led to discovery of the Antoniuk mineralization, which was drilled in 1975, 1981, 1986 and 1988 and bulldozer trenched in 1985 and 1987. E.S. Holt, P.Eng., calculated ore reserves based on preliminary open pit designs in September, 1986.

The 1988 program was designed to prove up ore reserves in one of the richer parts of the proposed oxide pit and consisted of 1086.6 m of rotary drilling in 35 holes. The work was managed by Archer, Cathro & Associates (1981) Limited on behalf of Big Creek Joint Venture (Big Creek Resources Ltd. and Rexford Minerals Ltd.) which holds the property under option from Discovery Mines.

#### Total Antoniuk Reserves

Total drill indicated reserves, using Holt's data amended by the 1987 and 1988 results, are 3,548,804 tonnes grading 1.23 g/t Au which can be mined at a waste to ore ratio of 1.14:1. The total includes 1,613,171 tonnes of oxide material averaging 1.13 g/t Au and 1,231,875 tonnes of sulphide mineralization grading 1.41 g/t Au.

In addition to the drill indicated reserves, the proposed pit contains 1,020,000 tonnes inferred reserves of an unspecified grade. Exploration potential also exists for additional oxide mineralization peripheral to the

proposed pit and a substantial tonnage of sulphide mineralization below it that could be mined at a higher waste to ore ratio.

### Test Pit Reserves

The 1988 drill program was confined to a 160 by 160 m area containing the highest grade mineralization and consisted of 35 shallow holes (each 30 m deep) on a regular 20 by 20 m grid pattern. The work outlined 137,600 tonnes grading 1.62 g/t Au with a waste to ore ratio of 4.45:1, using a 1 g/t Au cutoff. The mineralization is situated near surface and can be mined from a small open pit situated within the proposed open pit for the total deposit. It would be suitable for a small scale test mining operation, especially one part containing 68,825 tonnes grading 2.02 g/t Au that could be mined with a waste to ore ratio of only 0.33:1.

### Further Exploration

The next phase of exploration should be directed toward the following objectives.

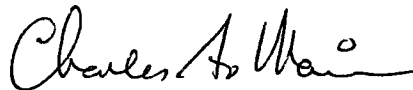
1. Metallurgical samples taken during 1988 should be processed, at an estimated cost of \$20,000.
2. Sampling should continue within the main Antoniuk deposit to identify and increase the indicated reserves. This will require:
  - i) 950 m of drilling in 11 holes at a budgeted cost of \$250,000; and,
  - ii) 250 hours of D8 bulldozer trenching at a budgeted cost of \$80,000.
3. Promising targets peripheral to the known reserves should be sampled, in particular to the south and southeast of the main deposit and the Theodore Vein to the southwest. This will require 150 hours of D8 bulldozer trenching at a budgeted cost of \$50,000.

The total estimated cost of the proposed program is \$400,000 which will be sufficient to complete the remaining work commitment of \$393,000 required by the Discovery Mines' option.

Opportunities for acquiring or developing additional reserves of similar mineralization in close proximity to the Antoniuk property should be aggressively pursued.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

A handwritten signature in cursive script that reads "Charles A. Main".

C.A. Main, B.Sc.

/mc

### INTRODUCTION

The Antoniuk property covers an oxidized heap leach gold target acquired by Archer; Cathro by option and staking in March, 1985. The option was assigned to Big Creek Resources Ltd. (formerly Nordac Mining Corporation) which explored by trenching, rotary percussion drilling and preliminary metallurgical testing later that year in a joint venture with Permian Resources Ltd. In 1986, a program of grid diamond drilling served as the basis for mineral reserve calculations and provided additional samples for metallurgical testing. Permian no longer has any interest in the Discovery Mines option. In 1987, Big Creek Resources formed Big Creek Joint Venture (BCJV) with Rexford Minerals Ltd. and conducted a program of bulldozer trenching and excavator test pitting. As Rexford wished to proceed with a small test mining operation, a rotary drilling program was conducted during 1988 on a limited portion of the proposed pit area to prove up a small but easily mineable body of higher grade mineralization. The program was managed by Archer, Cathro with C.A. Main as project manager. Geologist T. Becker was field supervisor and R. Hancox, G. Elcock, C. Blunden, G. McIntosh and N. Hachey were field assistants. S. Wettlaufer was cook.



PROPERTY

The Antoniuk property consists of fourteen surveyed and leased claims held under an option agreement and amending agreement dated March 12, 1985 and September 10, 1987, respectively, with Discovery Mines Ltd. of Toronto, Ontario and 38 adjoining mineral claims acquired by staking during 1985 and 1986, that are covered by the option agreements. Claim details are listed below.

Surveyed and Leased Claims

<u>Name</u>	<u>Number</u>	<u>Lease/Grant Number</u>	<u>Expiry Date</u>
Mayflower	1	2751	March 19, 2001
Baker	1	2765	March 19, 2001
Connie	1	2766	March 19, 2001
Jim	1	2768	March 19, 2001
Donalda 1-9	9	2773-81	March 19, 2001
Donalda 13	<u>1</u>	2782	March 19, 2001
	14		

Mineral Claims

<u>Name</u>	<u>Number</u>	<u>Lease/Grant Number</u>	<u>Expiry Date</u>
Nat 1-29	29	YA86843-YA86871	January 29, 1992
Nat 30F-33F	4	YA93013-YA93016	January 29, 1992
Peggy 1	1	YA95146	January 14, 1993
Peggy 2F-4F	3	YA95147-YA95149	January 14, 1993
Peggy 5F	<u>1</u>	YA96268	March 19, 1993
	38		

LOCATION AND ACCESS

The Antoniuk property is situated on Mt. Freegold, which lies at the southeast end of the Dawson Range (see Figures A-1 to 3), 65 km by all-weather road northwest of Carmacks, Yukon. It is located at latitude 62°16'N and longitude 137°06'W within NTS claim sheet 115I/6.

The 1987 program was conducted from a permanent campsite situated 700 m east of the former LaForma Mine and 900 m west of the road to Carmacks. Travel between camp and the deposit was by means of four-wheel drive vehicle.

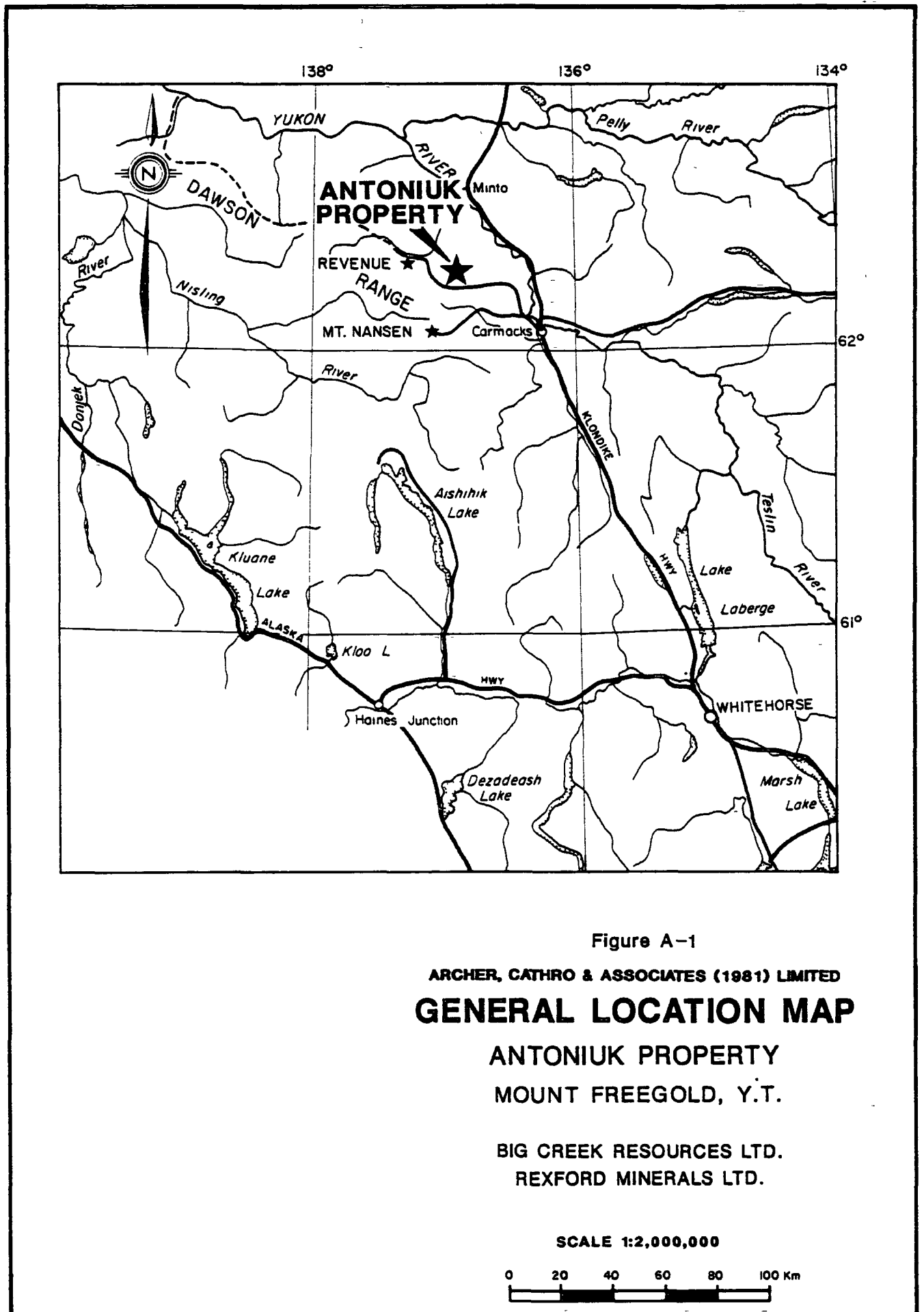


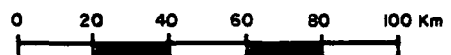
Figure A-1

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
**GENERAL LOCATION MAP**

ANTONIUK PROPERTY  
 MOUNT FREEGOLD, Y.T.

BIG CREEK RESOURCES LTD.  
 REXFORD MINERALS LTD.

SCALE 1:2,000,000



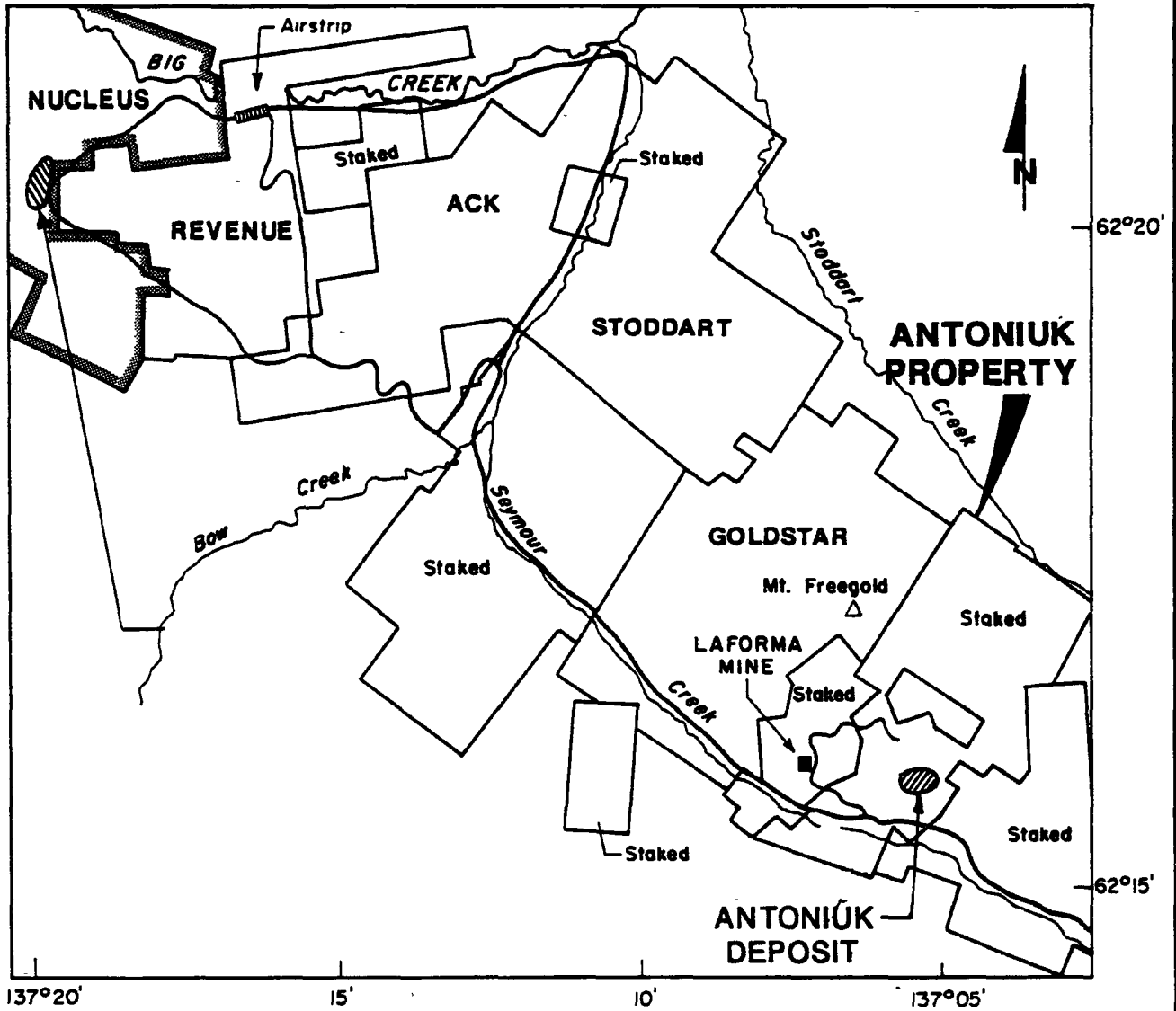


Figure A-2

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

## PROPERTY LOCATION MAP

ANTONIUK PROPERTY

MOUNT FREEGOLD, Y.T.

BIG CREEK RESOURCES LTD.

REXFORD MINERALS LTD.

SCALE 1:100,000



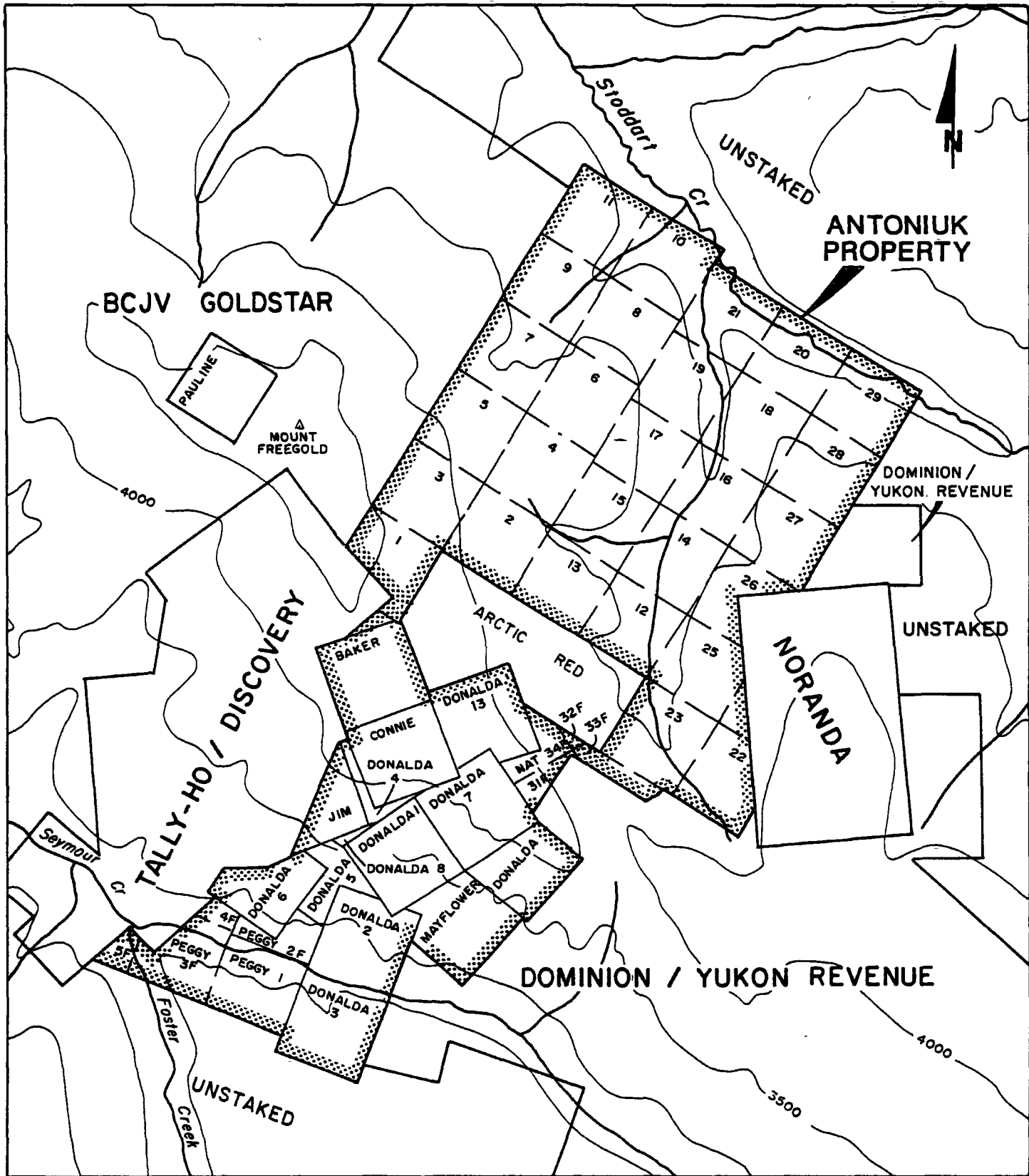


Figure A-3

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

## CLAIM LOCATION MAP

ANTONIUK PROPERTY

BIG CREEK RESOURCES LTD.

REXFORD MINERALS LTD.

SCALE 1 Inch = 1/2 Mile (1:31,680)

0 500 1000 1500 m

0 1500 3000 4500 ft

0 1500 3000 4500 ft

PHYSIOGRAPHY AND GEOMORPHOLOGY

The Antoniuk property lies east of Mt. Freegold and covers a broad, gentle sloping ridge separating Seymour Creek to the south and Stoddart Creek to the north. Seymour Creek has cut a deep V-shaped valley and the south-facing part of the property adjacent to it is much steeper than the rest of the property with slopes locally exceeding 30°. Local elevations range from 850 m on the floor of Seymour Creek Valley to 1300 m on the crest of the ridge. Vegetation ranges from spruce and poplar trees on south- and east-facing hills to stunted black spruce and thick moss on north- and west-facing slopes.

Soil profiles typically include 1 to 10 cm of "A" horizon organics, 0 to 100 cm of volcanic ash, 5 to 50 cm of "B" horizon soil and 100 to 300 cm of "C" horizon soil over deeply weathered bedrock. Glacial and fluvial deposits are rare except on the floor of Seymour Valley. Permafrost is extensive, particularly on north- and west-facing slopes. Outcrop and talus are restricted to ridge crests and steep southeast-facing slopes.

### HISTORY AND PREVIOUS WORK

The Antoniuk property has a long work history extending back to the discovery of the Rambler Vein in 1931 by Afe Brown and George Fairclough during the staking rush triggered by the discovery of gold on what is now BCJV's Goldstar property, 4 km to the west. After the initial claims lapsed, they were restaked as the Mayflower and Donalds claims in November, 1939. The G-3 Vein, located 800 m west of the Antoniuk deposit, was also located in 1931 and was developed as the LaForma Mine which was in production briefly in 1939 and 1965.

Exploration on the Rambler Vein between 1931 and 1974 was directed towards gold-bearing quartz veins resembling the G-3 Vein. It included four adits between 7 to 45 m long, ten diamond drill holes (+300 m) and approximately fifty hand and forty bulldozer trenches to bedrock. This early exploration gave disappointing results.

Commencing in 1965, Discovery Mines performed mapping on the property in conjunction with development of the LaForma Mine. A geochemical sampling program was conducted over the claims in 1974 under the direction of Terry Antoniuk that outlined a strong soil gold-arsenic anomaly over a 500 by 300 m area. This survey outlined poorly exposed porphyritic and brecciated intrusive rocks containing low grade gold mineralization, now called the Antoniuk deposit. Subsequent exploration included additional detailed mapping and soil sampling, plus geophysical surveys and ten diamond drill holes (1393 m) in 1975, and ten diamond drill holes (1193 m) in 1981. The 1981 work was managed by Archer, Cathro and financed by Arctic Red Resources Corp. It was performed in conjunction with a larger exploration program that covered all of Discovery

Mines' claims on Mt. Freegold, including the LaForma Mine. Arctic Red's interest in the Antoniuk portion of the option was terminated in 1982.

In 1985, the Antoniuk property was optioned by Archer, Cathro and assigned to Big Creek Resources and Permian Resources. Later that year, a program of systematic bulldozer trenching provided bedrock exposure for rock sampling and mapping. About 4950 m of trench length were excavated within an area approximately 1300 m long by 400 m wide. Some 1050 channel samples were collected at 4.6 m intervals and eight rotary percussion holes (607 m) were drilled within four of the better grade zones outlined by trenching.

Preliminary metallurgical testing was undertaken in 1985. Initial column leach tests were performed on surface material and rotary percussion drill cuttings by Coastech Research Inc., North Vancouver, followed by metallurgical and engineering studies later in the year by Witteck Development Inc., Mississauga, Ontario. The 1985 field work was summarized in two reports by R.J. Cathro and J.T. Dennett dated December 20, 1985 and February, 1986.

In 1986, twenty-two NQ and two HQ holes were drilled to systematically test the mineralized area outlined by previous bulldozer trenching and rotary drilling. The initial holes were drilled with vertical orientation but fracturing in the core was found to be steeply dipping and the remaining twenty holes were drilled at  $-50^\circ$  toward grid west at azimuth  $320^\circ$ , usually to a depth of 91 m. The two HQ holes were drilled vertically to 61 m to provide material for metallurgical testing of oxidized, partially oxidized, and unoxidized mineralization by Witteck. The 1986 field work is described in a report by R.J. Cathro and C.A. Main dated November, 1986. Reports on metallurgical work by Witteck were received in late spring, 1986 (Phase One) and March, 1987 (Phase Two).



In 1987, two bulldozer trenches were cut for geological purposes while two excavator pits were cut to test for supergene surface enrichment. The pits were situated adjacent to the vertical 1986 HQ diamond drill holes that produced the material for metallurgical testing by Witteck. The bulldozer trenches were oriented northeasterly, perpendicular to previous bulldozer trenches and diamond drill sections. The mineralization found in these trenches increased the ore reserves slightly. This work was described in a report by C.A. Main dated February, 1988.

1988 PROGRAM

A D8 Caterpillar bulldozer and Caterpillar 225 excavator were contracted from Ibex Contracting Limited of Whitehorse to build drill sites and access roads and to dig metallurgical test pits. Drill site preparation began in mid-June but was curtailed due to budget difficulties and recommenced in late August. Drilling was done using a track-mounted Shramm rotary percussion drill contracted from E. Caron Diamond Drilling Ltd. of Whitehorse. Sample processing required a further three weeks of crew time after the drilling finished and the field camp was abandoned on September 18, 1988. Samples of drill cuttings and bulk samples from excavator pits were sent to Vancouver for metallurgical testing but, because of budget constraints, this metallurgical work has not yet been completed.

### GEOLOGY AND MINERALIZATION

The geology of the Antoniuk deposit has been shown on maps in previous reports. Trenching and drilling has outlined a crudely elliptical, plug-like diatreme of heterolithic breccia that cuts an igneous complex near the centre of a geochemical gold-arsenic soil anomaly. Almost all the gold mineralization hosted within the breccia is composed of fragments of porphyry, porphyritic rhyodacite, syenite and granodiorite, all of which outcrop around the diatreme. The breccia is interpreted as having an intrusive, subvolcanic origin and is roughly coeval with Mid-Cretaceous Mount Nansen Group porphyry dykes and fine-grained intrusive rocks of rhyodacite composition that are common on Mt. Freegold. It is noteworthy that this is the only such breccia body presently identified on Mt. Freegold.

The axis of the breccia body trends west-northwest roughly parallel to major regional faults such as the Pal Fault and Camp Fault, which lie 700 and 900 m to the south, respectively. On the northeast side of the breccia body, quartz porphyry and quartz-feldspar porphyry dykes are abundant. They commonly trend northeast subparallel to the Rambler Vein which lies just west of the breccia body, the G-3 (LaForma) Vein that lies 800 m west and a series of weaker, unmineralized faults. On the southwest side of the breccia body, porphyritic rocks are uncommon and the small dykes that are present tend to strike north. This suggests the diatreme may have intruded along a zone of structural dislocation that also exerted some control on the emplacement of the porphyry bodies.

The gold-bearing zones at Antoniuk occur in or adjacent to the diatreme within altered and brecciated rocks that are usually heteroclastic but

occasionally homoclastic (porphyry or granodiorite). Fracturing is pervasive although no well defined mineralized vein structures have been recognized.

Weathering has removed most traces of sulphide mineralization from surface rocks leaving only occasional disseminated pyrite and limonitic staining. Mineralogical studies of the oxide material by Witteck have shown that gold occurs as free particles within limonite and, hence, probably had an original affinity with sulphides. Although quartz veins are not abundant, thin limonitic fractures are common and some of these contain quartz or carbonate veinlets.

Within the unoxidized hypogene zone, the principal sulphide mineral is pyrite occurring both as disseminations and in thin quartz veinlets. Heteroclastic breccia is the main host containing up to 3% pyrite. Small amounts of arsenopyrite and trace amounts of chalcopyrite are also present. Logs of 1975 and 1981 drill holes noted the presence of occasional patches of other sulphides, including stibnite, bornite, galena, sphalerite, and molybdenite. Of these, bornite was the only sulphide observed in 1986. Silver values increased toward the southeast end of the breccia body ("Southeast Area" on Figure A-19) and may be related to rare occurrences of copper sulphides (chalcocite and bornite) and sulfosalts (tetrahedrite?). Individual drill intersections from this area assay up to 90 g/t silver over 1.5 m.

## MINERAL INVENTORY

### A. Total Antoniuk Deposit

All data available in 1986 was reviewed by E.S. Holt, P.Eng., who calculated drill indicated, open pittable reserves. These reserves have been amended to include results from 1987 trenching and 1988 drilling. The up-dated reserve calculations are summarized on Table 1.

In his report, Holt classified the reserves as probable (i.e. drill indicated) with a significant portion bordering on the proven category. He said that additional sampling and more geological data would be required to upgrade the probable reserves into a proven (measured) category and the purpose of the 1988 drill program was to provide this more detailed sampling so that at least a portion of the total reserves would be in the proven category.

A summary of Holt's calculations, with amendments due to 1987 and 1988 work, is shown on Table 4. These calculations used uncut, undiluted assays and assume specific gravities of 2.4 for oxidized and 2.6 for unoxidized material. To calculate ore/waste ratios, a preliminary pit design was prepared by Archer, Cathro with the following criteria:

- a) pit walls were designed to have 6.9 m wide berms, 7.6 m high benches and a minimum inclined exit of 6° (a geotechnical study will be required to determine if these are optimum parameters);
- b) an optimization of pit shape with respect to topography was not attempted although the designated outlines are considered to be good preliminary estimates;
- c) two separate pits were outlined (called the "West Pit" and "East Pit") and each was designed for cutoff grades of both 0.5 and 0.7 g/t gold. Pit slopes were optimized for both configurations; and,

TABLE 1  
 DRILL INDICATED, OPEN PITTABLE RESERVES  
 ANTONIUK DEPOSIT - SEPTEMBER, 1986  
 E.S. Holt, P. Eng.  
 (Reserves modified to include 1987 and 1988 data)

(A) Using a 0.5 g/t (0.015 opt) gold cutoff:

	WASTE tonnes (tons)	"ORE" tonnes (tons)	GRADE g/t (opt)	CUMULATIVE Gold - gm (ozs)	WASTE/ ORE RATIO
OXIDE	951,771 1,039,051	2,978,329 3,251,451	1.01 .029	3,008,486 95,796	.32
SULPHIDE	2,342,825 2,557,669	1,256,875 1,372,134	1.39 .041	1,751,386 55,768	1.86
COMBINED	3,294,596 3,596,721	4,235,204 4,623,585	1.12 .033	4,759,873 151,564	.78

(A) Using a 0.7 g/t (0.020 opt) gold cutoff:

	WASTE tonnes (tons)	"ORE" tonnes (tons)	GRADE g/t (opt)	CUMULATIVE Gold - gm (ozs)	WASTE/ ORE RATIO
OXIDE	1,613,171 1,761,104	2,316,929 2,529,398	1.13 .033	2,610,202 83,114	.70
SULPHIDE	2,444,725 2,568,914	1,231,875 1,344,842	1.41 .041	1,738,244 55,349	1.98
COMBINED	4,057,896 4,430,017	3,548,804 3,874,240	1.23 .036	4,348,447 138,463	1.14

TABLE 4  
ANTONIUK DEPOSIT  
CALCULATION OF TOTAL RESERVE TONNAGE  
E.S. HOLT, P.ENG

O.5 CUTOFF  
OXIDE URE

SECTION	CELL	ORIGINAL DATA			AMENDED 1987			AMENDED 1988		
		TONNES	GRADE	GRAMS	TONNES	GRADE	GRAMS	TONNES	GRADE	GRAMS
16N	A	13,500	1.42	19,170				13,500	1.42	19,170
	B	35,500	.66	23,430				35,500	.66	23,430
	C	113,500	.72	81,720				113,500	.72	81,720
	D	65,500	.90	58,950				65,500	.90	58,950
	WASTE	48,000						48,000		
		228,000	.80	183,270	228,000	.80	183,270	228,000	.80	183,270
18N	A	60,400	1.23	74,292				60,400	1.23	74,292
	B	5,100	2.23	11,373				5,100	2.23	11,373
	C	42,100	1.04	43,784				42,100	1.04	43,784
	D	4,400	.91	4,004				4,400	.91	4,004
	E	22,700	1.80	40,860				22,700	1.80	40,860
	F	41,700	.59	24,603				41,700	.59	24,603
	G	87,900	.73	64,167				87,900	.73	64,167
	I	39,900	2.08	82,992				39,900	2.08	82,992
	J	7,300	1.42	10,366				7,300	1.42	10,366
	K	69,900	2.00	139,800				69,900	2.00	139,800
	L	34,800	.55	19,140				34,800	.55	19,140
	M	73,900	1.67	123,413				73,900	1.67	123,413
	N	9,500	.59	5,605				9,500	.59	5,605
	O	13,800	1.34	18,492				13,800	1.34	18,492
	WASTE	261,800						261,800		
		513,400	1.29	662,891	513,400	1.29	662,891	513,400	1.29	662,891
20N	A	24,500	.57	13,965				24,500	.57	13,965
	B	87,500	.87	76,125				87,500	.87	76,125
	C	38,400	1.68	64,512				38,400	1.68	64,512
	D	68,800	.91	62,608				68,800	.91	62,608
	E	56,400	1.18	66,552				56,400	1.18	66,552
	F	17,200	1.35	23,220				17,200	1.35	23,220
	H	57,800	.96	55,488				57,800	.96	55,488
	I	95,200	1.19	113,288				95,200	1.19	113,288
	J	20,100	.82	16,482				20,100	.82	16,482
	K	161,400	.52	83,928				161,400	.52	83,928
	L	27,500	.57	15,675				27,500	.57	15,675
	V				162,000	1.62	262,440	162,000	1.62	262,440
	WASTE	199,800			37,800			37,800		
			654,800	.90	591,843	816,800	1.05	854,283	816,800	1.05
22N	A	162,900	.64	104,256				162,900	.64	104,256
	B	37,300	.95	35,435				37,300	.95	35,435
	C	141,600	.71	100,536				141,600	.71	100,536
	D	46,500	.85	39,525				46,500	.85	39,525
	E	76,900	.69	53,061				76,900	.69	53,061
	F	27,500	.72	19,800				27,500	.72	19,800
	G	39,200	1.14	44,688				39,200	1.14	44,688
	H	68,100	.51	34,731				37,275	.94	35,039
	WASTE	86,300						117,125		
		600,000	.72	432,032	600,000	.72	432,032	569,175	.76	432,340
24N	A	67,700	.82	55,514				67,700	.82	55,514
	B	24,200	.98	23,716				24,200	.98	23,716
	C	76,100	.81	61,641				76,100	.81	61,641
	D	6,600	1.29	8,514				6,600	1.29	8,514
	E	35,100	2.39	83,889				28,088	1.04	29,212
	F	33,700	.78	26,286				62,108	.90	55,997
	G	13,900	1.03	14,317				14,490	1.24	17,968
	K	17,900	4.11	73,569				56,140	1.17	65,684
	L	25,600	.70	17,920				35,382	1.33	113,558
	M	8,400	3.08	25,372				19,898	1.34	26,663
	N	33,700	1.91	64,367				39,623	2.07	82,020
	R							31,045	1.11	34,460
	WASTE	326,100						157,626		
		342,900	1.33	455,605	342,900	1.33	455,605	511,374	1.12	574,846
26N	A	71,000	.97	68,870				71,000	.97	68,870
	B	86,700	.63	54,621				86,700	.63	54,621
	C	59,700	1.10	65,670				59,700	1.10	65,670
	D	51,200	.92	47,104				51,200	.92	47,104
	E							70,980	.91	64,592
WASTE	400,400						329,420			
		268,600	.88	236,265	268,600	.88	236,265	339,580	.89	300,857

SECTION	CELL	ORIGINAL DATA			AMENDED 1987			ORIGINAL DATA		
		TONNES	GRADE	GRAMS	TONNES	GRADE	GRAMS	TONNES	GRADE	GRAMS
16N	A	13,500	1.42	19,170				13,500	1.42	19,170
	C	113,500	.72	81,720				113,500	.72	81,720
	D	65,500	.90	58,950				65,500	.90	58,950
	WASTE	83,500						83,500		
		192,500	.83	159,840	192,500	.83	159,840	192,500	.83	159,840
18N	A	60,400	1.23	74,292				60,400	1.23	74,292
	B	5,100	2.23	11,373				5,100	2.23	11,373
	C	42,100	1.04	43,784				42,100	1.04	43,784
	D	4,400	.91	4,004				4,400	.91	4,004
	E	22,700	1.80	40,860				22,700	1.80	40,860
	G	87,900	.73	64,167				87,900	.73	64,167
	I	39,900	2.08	82,992				39,900	2.08	82,992
	J	7,300	1.42	10,366				7,300	1.42	10,366
	K	69,900	2.00	139,800				69,900	2.00	139,800
	M	73,900	1.67	123,413				73,900	1.67	123,413
	O	13,800	1.34	18,492				13,800	1.34	18,492
WASTE	347,800						347,800			
		427,400	1.44	613,543	427,400	1.44	613,543	427,400	1.44	613,512
20N	B	87,500	.87	76,125				87,500	.87	76,125
	C	38,400	1.68	64,512				38,400	1.68	64,512
	D	68,800	.91	62,608				68,800	.91	62,608
	E	56,400	1.18	66,552				56,400	1.18	66,552
	F	17,200	1.35	23,220				17,200	1.35	23,220
	H	57,800	.96	55,488				57,800	.96	55,488
	I	95,200	1.19	113,288				95,200	1.19	113,288
	J	20,100	.82	16,482				20,100	.82	16,482
	V				162,000	1.62	262,440	162,000	1.62	262,440
	WASTE	413,200			251,200			251,200		
		441,400	1.08	478,275	603,400	1.23	740,715	603,400	1.23	740,715
22N	B	37,300	.95	35,435				37,300	.95	35,435
	C	141,600	.71	100,536				141,600	.71	100,536
	D	46,500	.85	39,525				46,500	.85	39,525
	F	27,500	.72	19,800				27,500	.72	19,800
	G	39,200	1.14	44,688				39,200	1.14	44,688
	H				37,275	.94	35,339	356,925		
WASTE	394,200									
		292,100	.82	239,984	292,100	.82	239,984	329,375	.83	275,023
24N	A	67,700	.82	55,514				67,700	.82	55,514
	B	24,200	.98	23,716				24,200	.98	23,716
	C	76,100	.81	61,641				76,100	.81	61,641
	D	6,600	1.29	8,514				6,600	1.29	8,514
	E	35,100	2.39	83,889				28,088	1.04	29,212
	F	33,700	.78	26,286				62,108	.90	55,997
	G	13,900	1.03	14,317				14,490	1.24	17,369
	Y	17,900	4.11	73,569				56,140	1.17	65,684
	L	25,600	.70	17,920				85,382	1.33	113,558
	M	8,400	3.08	25,872				19,898	1.34	26,663
	N	33,700	1.91	64,367				39,623	2.07	82,020
	R							31,045	1.11	34,160
	WASTE	326,100						157,626		
		342,900	1.33	455,605	342,900	1.33	455,605	511,374	1.12	571,846
26N	A	71,000	.97	68,870				71,000	.97	68,870
	C	59,700	1.10	65,670				59,700	1.10	65,670
	D	51,200	.92	47,104				51,200	.92	47,104
	E							70,920	.91	64,517
	WASTE	487,100						416,120		
		181,900	1.00	181,644	181,900	1.00	181,644	252,980	.97	246,236



0.5 CUTOFF  
SULPHIDE ORE

TABLE 4 (CONT.)

SECTION	CELL	ORIGINAL DATA			AMENDED 1987			ORIGINAL DATA				
		TONNES	GRADE	GRAMS	TONNES	GRADE	GRAMS	TONNES	GRADE	GRAMS		
16N	WASTE	C	800	.72	576				800	.72	576	
			0						0			
			800	.72	576	800	.72	576	800	.72	576	
18N		A	9,100	1.23	11,193				9,100	1.23	11,193	
		D	74,100	.91	67,431				74,100	.91	67,431	
		F	4,000	.59	2,360				4,000	.59	2,360	
		G	70,600	.73	51,538				70,600	.73	51,538	
		H	21,400	1.55	33,170				21,400	1.55	33,170	
		K	4,000	2.00	8,000				4,000	2.00	8,000	
	WASTE	48,800						48,800				
			183,200	.95	173,692	183,200	.95	173,692	183,200	.95	173,692	
20N		B	2,000	.53	1,060				2,000	.53	1,060	
		D	16,200	.91	14,742				16,200	.91	14,742	
		E	9,900	1.18	11,682				9,900	1.18	11,682	
		F	18,200	1.35	24,570				18,200	1.35	24,570	
		G	20,200	.82	16,564				20,200	.82	16,564	
		J	45,200	.82	37,064				45,200	.82	37,064	
	M	17,800	.53	9,434				17,800	.53	9,434		
WASTE	57,900						57,900					
			129,500	.89	115,116	129,500	.89	115,116	129,500	.89	115,116	
22N	WASTE	A	1,200	.64	768				1,200	.64	768	
		F	2,000	.72	1,440				2,000	.72	1,440	
		G	128,900	1.14	146,946				128,900	1.14	146,946	
			132,100	1.13	149,154	132,100	1.13	149,154	132,100	1.13	149,154	
24N		C	800	.81	648				800	.81	648	
		F	92,000	.78	71,760				92,000	.78	71,760	
		G	84,100	1.03	86,623				84,100	1.03	86,623	
		H	121,800	2.19	266,742				121,800	2.19	266,742	
		I	75,700	.85	64,345				75,700	.85	64,345	
		J	34,100	1.59	54,219				34,100	1.59	54,219	
		K	55,500	4.11	228,105				55,500	4.11	228,105	
		N	2,400	1.91	4,584				2,400	1.91	4,584	
		O	51,500	2.32	119,480				51,500	2.32	119,480	
		P	84,900	2.45	208,005				84,900	2.45	208,005	
		Q	43,200	2.11	91,152				43,200	2.11	91,152	
		WASTE	641,400						641,400			
					646,000	1.85	1,195,663	646,000	1.85	1,195,663	609,275	1.62
	26N	WASTE	B	2,000	.63	1,260				2,000	.63	1,260
			775,100						775,100			
			2,000	.63	1,260	2,000	.63	1,260	2,000	.63	1,260	

SECTION	CELL	ORIGINAL DATA			AMENDED 1987			ORIGINAL DATA			
		TONNES	GRADE	GRAMS	TONNES	GRADE	GRAMS	TONNES	GRADE	GRAMS	
16N	WASTE	C	800	.72	576			800	.72	576	
				0					0		
			800	.72	576	800	.72	576	800	.72	576
18N	A	9,100	1.23	11,193			9,100	1.23	11,193		
	D	74,100	.91	67,431			74,100	.91	67,431		
	G	70,600	.73	51,538			70,600	.73	51,538		
	H	21,400	1.55	33,170			21,400	1.55	33,170		
	Y	4,000	2.00	8,000			4,000	2.00	8,000		
	WASTE	52,800					52,800				
		179,200	.96	171,332	179,200	.96	171,332	179,200	.96	171,332	
20N	B	2,000	.87	1,740			2,000	.87	1,740		
	D	16,200	.91	14,742			16,200	.91	14,742		
	E	9,900	1.18	11,682			9,900	1.18	11,682		
	F	18,200	1.35	24,570			18,200	1.35	24,570		
	G	20,200	.82	16,564			20,200	.82	16,564		
	J	45,200	.82	37,064			45,200	.82	37,064		
	WASTE	152,600					152,600				
		111,700	.95	106,362	111,700	.95	106,362	111,700	.95	106,362	
22N	F	2,000	.72	1,440			2,000	.72	1,440		
	G	128,900	1.14	146,946			128,900	1.14	146,946		
	WASTE	984,100					984,100				
		130,900	1.13	148,386	130,900	1.13	148,386	130,900	1.13	148,386	
24N	C	800	.81	648			800	.81	648		
	F	92,000	.78	71,760			92,000	.78	71,760		
	G	84,100	1.03	86,623			84,100	1.03	86,623		
	H	121,800	2.19	266,742			121,800	2.19	266,742		
	I	75,700	.85	64,345			75,700	.85	64,345		
	J	34,100	1.59	54,219			34,100	1.59	54,219		
	Y	55,500	4.11	228,105			55,500	4.11	228,105		
	V	2,400	1.91	4,584			2,400	1.91	4,584		
	O	51,500	2.32	119,480			51,500	2.32	119,480		
	P	84,900	2.45	208,005			84,900	2.45	208,005		
	Q	43,200	2.11	91,152			43,200	2.11	91,152		
	R						163,275	.71	115,925		
	WASTE	641,400					478,125				
		646,000	1.85	1,195,663	646,000	1.85	1,195,663	809,275	1.62	1,311,598	
26N	B	0	0.00	0			0	0.00	0		
	WASTE	777,100					777,100				
		0		0	0	.00	0	0		0	

OXIDE MINERALIZATION													
SECTION	WASTE TONNES	ORIGINAL DATA		GRAMS	WASTE /ORE	AMENDED 1987		GRAMS	WASTE /ORE	AMENDED 1988		GRAMS	WASTE /OFF
		TONNES	GRADE			TONNES	GRADE			TONNES	GRADE		
0.5 CUTOFF													
16N	48,000	228,000	.80	183,270	.21	228,000	.80	183,270	.21	228,000	.80	183,270	.21
18N	261,800	513,400	1.29	662,891	.51	513,400	1.29	662,891	.51	513,400	1.29	662,891	.51
20N	199,800	654,800	.90	591,843	.31	816,800	1.05	854,283	.05	816,800	1.05	854,283	.05
22N	86,300	600,000	.72	432,032	.14	600,000	.72	432,032	.14	569,175	.75	432,340	.21
24N	326,100	342,900	1.33	455,605	.95	342,900	1.33	455,605	.95	511,374	1.12	574,846	.31
26N	400,400	268,600	.88	236,265	1.49	268,600	.88	236,265	1.49	339,580	.89	300,857	.97
	1,222,400	2,607,700	.98	2,561,906	.51	2,769,700	1.02	2,824,346	.42	2,978,329	1.01	3,008,486	.37
								IMPERIAL UNITS:		3,251,451	.029	95,796	
0.7 CUTOFF													
16N	83,500	192,500	.83	159,840	.43	192,500	.83	159,840	.43	192,500	.83	159,840	.43
18N	347,800	427,400	1.44	613,543	.81	427,400	1.44	613,543	.81	427,400	1.44	613,543	.81
20N	413,200	441,400	1.08	478,275	.94	603,400	1.23	740,715	.42	603,400	1.23	740,715	.42
22N	394,200	292,100	.82	239,984	1.35	292,100	.82	239,984	1.35	329,375	.83	275,023	1.09
24N	326,100	342,900	1.33	455,605	.95	342,900	1.33	455,605	.95	511,374	1.12	574,846	.31
26N	487,100	181,900	1.00	181,644	2.68	181,900	1.00	181,644	2.68	252,880	.97	245,236	1.65
	2,051,900	1,878,200	1.13	2,128,891	1.04	2,040,200	1.17	2,391,331	.93	2,316,929	1.13	2,610,202	.77
								IMPERIAL UNITS:		2,529,398	.033	83,114	
SULPHIDE MINERALIZATION													
SECTION	WASTE TONNES	ORIGINAL DATA		GRAMS	WASTE /OFF	AMENDED 1987		GRAMS	WASTE /OFF	AMENDED 1988		GRAMS	WASTE /OFF
		TONNES	GRADE			TONNES	GRADE			TONNES	GRADE		
0.5 CUTOFF													
16N	0	800	.72	576	.00	800	.72	576	.00	800	.72	576	.00
18N	48,800	183,200	.95	173,692	.27	183,200	.95	173,692	.27	183,200	.95	173,692	.27
20N	57,900	129,500	.89	115,116	.45	129,500	.89	115,116	.45	129,500	.89	115,116	.45
22N	982,900	132,100	1.13	149,154	7.44	132,100	1.13	149,154	7.44	132,100	1.13	149,154	7.44
24N	641,400	646,000	1.85	1,195,663	.99	646,000	1.85	1,195,663	.99	809,275	1.62	1,311,588	.53
26N	775,100	2,000	.63	1,260	*****	2,000	.63	1,260	*****	2,000	.63	1,260	*****
	2,506,100	1,093,500	1.50	1,635,461	2.29	1,093,500	1.50	1,635,461	2.29	1,256,875	1.39	1,751,386	1.95
								IMPERIAL UNITS:		1,372,134	.041	55,763	
0.7 CUTOFF													
16N	0	800	.72	576	.00	800	.72	576	.00	800	.72	576	.00
18N	52,900	179,200	.96	171,332	.29	179,200	.96	171,332	.29	179,200	.96	171,332	.29
20N	152,600	111,700	.95	106,362	1.37	111,700	.95	106,362	1.37	111,700	.95	106,362	1.37
22N	984,100	130,900	1.13	148,386	7.52	130,900	1.13	148,386	7.52	130,900	1.13	148,386	7.52
24N	641,400	646,000	1.85	1,195,663	.99	646,000	1.85	1,195,663	.99	809,275	1.62	1,311,588	.53
26N	777,100	0	.00	0		0	.00	0		0	.00	0	
	2,608,000	1,068,600	1.52	1,622,319	2.44	1,068,600	1.52	1,622,319	2.44	1,231,975	1.41	1,738,244	1.99
								IMPERIAL UNITS:		1,344,842	.041	55,343	
TOTAL MINERALIZATION - OXIDE AND SULPHIDE													
SECTION	WASTE TONNES	ORIGINAL DATA		GRAMS	WASTE /OFF	AMENDED 1987		GRAMS	WASTE /OFF	AMENDED 1988		GRAMS	WASTE /OFF
		TONNES	GRADE			TONNES	GRADE			TONNES	GRADE		
0.5 CUTOFF													
16N	48,000	228,800	.80	183,846	.21	228,800	.80	183,846	.21	228,800	.80	183,846	.21
18N	310,600	696,600	1.20	836,583	.45	696,600	1.20	836,583	.45	696,600	1.20	836,583	.45
20N	257,700	784,300	.90	706,959	.33	946,300	1.02	969,399	.10	946,300	1.02	969,399	.10
22N	1,069,200	732,100	.79	581,186	1.46	732,100	.79	581,186	1.46	701,275	.83	581,494	1.57
24N	967,500	988,900	1.67	1,651,268	.98	988,900	1.67	1,651,268	.98	1,320,649	1.43	1,886,434	.49
26N	1,175,500	270,600	.88	237,525	4.34	270,600	.88	237,525	4.34	341,580	.88	302,117	3.27
	3,828,500	3,701,300	1.13	4,197,367	1.03	3,863,200	1.15	4,459,807	.95	4,235,204	1.12	4,759,973	.78
								IMPERIAL UNITS:		4,623,585	.033	151,564	
0.7 CUTOFF													
16N	83,500	193,300	.83	160,416	.43	193,300	.83	160,416	.43	193,300	.83	160,416	.43
18N	400,600	606,600	1.29	784,875	.66	606,600	1.29	784,875	.66	606,600	1.29	784,875	.66
20N	565,800	553,100	1.06	584,637	1.02	715,100	1.18	847,077	.56	715,100	1.18	847,077	.56
22N	1,378,300	423,000	.92	388,370	3.26	423,000	.92	388,370	3.26	460,275	.92	423,409	2.31
24N	967,500	988,900	1.67	1,651,268	.98	988,900	1.67	1,651,268	.98	1,320,649	1.43	1,886,434	.49
26N	1,254,200	181,900	1.00	181,644	6.95	181,900	1.00	181,644	6.95	252,880	.97	245,236	4.72
	4,659,900	2,946,800	1.27	3,751,210	1.58	3,108,300	1.29	4,013,650	1.45	3,549,804	1.23	4,343,447	1.14
								IMPERIAL UNITS:		3,974,240	.036	129,463	

d) Archer, Cathro categorized pit material as oxide, transition, or unoxidized based on a visual estimate of the oxidized condition of sulphides in drill core. It was assumed that oxide and transition material would leach equally well and were included together in an "Oxide Pit". Sulphide material, on the other hand, was included in a "Sulphide Pit" and calculated separately.

B. Test Pit (1988 Drill Program)

A higher grade portion of the East Pit is considered to have the greatest potential to contain a small and easily mineable deposit. Such a deposit would be ideally suited for a test pad, which would be needed to provide realistic estimates of mining costs and identify problems requiring study prior to a full mining operation.

The 1988 drill program consisted of thirty-five holes located along section lines spaced 20 m apart and individual holes were spaced 20 m along the section lines. All holes dip  $-50^\circ$  with an azimuth of  $150^\circ$ . This dip and direction was considered to provide the best test of the main body of mineralization expected to lie in the hanging wall of the northwesterly-dipping diatreme contact with the hosting syenite. Techniques and parameters used to calculate reserves in the Test Pit are described in the following paragraphs.

The volume tested by drilling was first divided into individual cells. Each cell is a rectangular solid extending one-half the distance between the vertical section lines, having a height of 7 m to correspond with a series of horizontal benches and, finally, extending one-half the distance between data points in the section. The grade of each cell is calculated as the average of all drill piercements or surface trench assays included in the cell weighted

by the linear interval of sampling. The proposed pit needed to mine the reserves has the same shape for material with a cutoff of 0.5, 0.7 or 1.0 g/t gold. The pit shape is designed with benches and berms of 7 m and an overall pit slope of 45°. The entire pit is within the oxidized zone and the density of all material was taken as 2.5.

The following pages contain these tables.

- a) Tables 2 and 3 which show the total tonnages in the test pit and in the "high grade" portion of that pit.
- b) Tables 5 to 12 show the derivation of the grade of each cell.
- c) Tables 13 to 16 show the tonnages including all cells (no cutoff) and the total cell tonnages using cutoffs of 0.5, 0.7 and 1.0 g/t gold. A summary of this data is shown on Table 2.
- d) Table 17 shows the tonnage of an even smaller pit in the center of the best grade material. A summary of this data is shown on Table 3.

The position and grade of cells is shown in vertical sections on Figures A-4 to A-11. The section which was previously called "24N" in the 1986 ore computation has been designated "0N" for this calculation and each section spaced 20 m to the north and south is called "1N", "2N" etc or "1S", "2S" etc., respectively. Each cell is uniquely identified by the name of the section, the level of the bench upon which the cell rests, and finally by a unique letter e.g. 2N1233B.

The horizontal distribution of mineralization is shown on bench plans on Figures A-12 to A-17 and a compilation of all the bench plans is shown at a larger scale in Figure A-18.

TABLE 2  
 1988 DRILL PROGRAM - TEST PIT  
 ANTONIUK DEPOSIT - FEBRUARY 1989  
 (all material is oxidized)

(A) Using a 0.5 g/t (0.015 opt) gold cutoff:

WASTE tonnes (tons)	"ORE" tonnes (tons)	GRADE g/t (opt)	CUMULATIVE Gold - gm (ozs)	WASTE/ ORE RATIO
477,250	272,300	1.20	326,760	1.75
521,015	297,271	.035	10,405	

(B) Using a 0.7 g/t (0.020 opt) gold cutoff:

511,550	238,000	1.29	307,020	2.15
558,461	259,825	.038	9,776	

(C) Using a 1.0 g/t (0.030 opt) gold cutoff:

611,950	137,600	1.62	222,912	4.45
668,068	150,218	.047	7,098	

TABLE 3  
 1988 DRILL PROGRAM - TEST PIT  
 "HIGH-GRADE" PIT  
 ANTONIUK DEPOSIT - FEBRUARY 1989  
 (all material is oxidized)

(A) Using a 0.5 g/t (0.015 opt) gold cutoff:

WASTE tonnes (tons)	"ORE" tonnes (tons)	GRADE g/t (opt)	CUMULATIVE Gold - gm (ozs)	WASTE/ ORE RATIO
18,650	72,850	1.95	142,058	.26
20,360	79,531	.057	4,523	

(B) Using a 1.0 g/t (0.030 opt) gold cutoff:

22,675	68,825	2.02	139,027	.33
24,754	75,136	.059	4,427	

TABLE 5  
1988 DRILL PROGRAM

Antoniuk Reserve Calculations  
SECTION 3S

Cell	Thick.	Depth	Length	Volume	Tonnes	Wt. Ave.	T.xAve.
210C	20.00	7.00	10.00	1400.00	3500.00	.18	621.25
233C	20.00	7.00	25.00	3640.00	9100.00	.19	1770.40
226C	20.00	7.00	24.50	3430.00	8575.00	.29	2501.04
226B	20.00	7.00	12.00	1680.00	4200.00	.50	
219A	20.00	7.00	23.50	3290.00	8225.00	1.17	9599.75

Intercepts	Hole No.	From	To	Interval	Grade	Wt Ave
TRENCH				4.57	.10	.26
				4.57	.27	1.23
				4.57	.24	1.10
				4.57	.10	.46
				18.29		3.21
88-30	0.00	3.05	3.05	.21		.64
	3.05	4.57	1.52	.38		.58
	4.57	6.09	1.52	.10		.15
	6.09	7.62	1.52	.10		.15
				4.57	.07	.32
				4.57	.31	1.42
				16.75		3.26
88-30	7.62	9.14	1.52	.10		.15
	9.14	10.67	1.52	.21		.32
	10.67	12.19	1.52	.72		1.09
		13.72	1.52	.27		.41
		15.24	1.52	.14		.21
		16.76	1.52	.31		.47
				9.12		1.46
88-31	0.00	3.05	3.05	.51		
		4.57	1.52	.51		
		6.09	1.52	.51		
		7.62	1.52	.51		
		9.14	1.52	.51		
		10.67	1.52	.41		
				10.65		
88-30	16.75	18.29	1.52	.55		.34
		19.81	1.52	3.53		5.37
		21.34	1.52	.69		1.05
		22.86	1.52	.65		.99
		24.38	1.52	1.34		2.04
		25.91	1.52	.38		.58
		27.43	1.52	1.03		1.57
				10.64		12.42



1988 DRILL PROGRAM

ANTONIUK RESERVE CALCULATIONS  
SECTION 2S

Cell	Thick.	Depth	Length	Volume	Tonnes	Wt. Ave.	T.xAve.
247A	20.00	7.00	11.00	1540.00	3850.00	.07	269.50
247A	20.00	7.00	15.50	2170.00	5425.00	.10	524.42
2408	20.00	6.00	16.50	1980.00	4950.00	.05	259.45
233A	20.00	7.00	14.00	1960.00	4900.00	.06	302.17
232B	20.00	7.00	17.00	2380.00	5950.00	.17	1011.50
232C	20.00	7.00	19.50	2730.00	6825.00	.28	1900.11

Intercepts					
Hole No.	From	To	Interval	Grade	Wt. Ave.
88-20	0.00	3.05	3.05	.07	.21
		4.57	1.52	.07	.11
		6.09	1.52	.07	.11
			6.09		.43
88-20	6.09	7.62	1.52	.14	.21
		9.14	1.52	.03	.05
		10.67	1.52	.10	.15
		12.19	1.52	.14	.21
		13.72	1.52	.07	.11
		15.24	1.52	.10	.15
88-19	0.00	3.05	3.05	-----	.00
		4.57	1.52	.14	.21
		6.09	1.52	.07	.11
			6.09		.32
88-20	15.24	16.76	1.52	-----	.00
		18.29	1.52	.03	.05
		19.81	1.52	.07	.11
		21.34	1.52	.10	.15
		22.86	1.52	.14	.21
		24.38	1.52	.03	.05
88-19	6.09	7.62	1.52	.03	.05
		9.14	1.52	.03	.05
		10.67	1.52	.03	.05
		12.19	1.52	.07	.11
		13.72	1.52	.21	.32
		15.24	1.52	.65	.79
88-29	0.00	3.05	3.05	.10	.31
		4.57	1.52	.07	.11
		6.09	1.52	.07	.11
		7.62	1.52	1.13	1.72
88-29	0.00	9.14	1.52	.38	.53
		10.67	1.52	.10	.15
			10.67		2.07

TABLE 7  
1988 DRILL PROGRAM

ANTONIUK RESERVE CALCULATIONS  
SECTION 15

Cell	Thick.	Depth	Length	Volume	Tonnes	Wt. Ave.	TxAve.	Intercepts		Interval	Grade	Wt.Ave.	
								Hole No.	From To				
241A	20.00	7.00	24.00	3360.00	8400.00	.15	1260.00	88-11	0.00	3.05	1.52	.14	.21
										4.57	1.52	.14	.21
										6.09	1.52	.17	.26
											4.56		.69
251A	20.00	7.00	31.50	4410.00	11025.00	.11	1194.38	88-11	6.09	7.62	1.52	.07	.11
										9.14	1.52	.07	.11
										10.67	1.52	.07	.11
										12.19	1.52	.10	.15
										13.72	1.52	.10	.15
										15.24	1.52	.24	.26
251B	20.00	7.00	11.50	1610.00	4025.00	.33	1320.26	88-16	0.00	3.05	3.05	.34	1.04
										4.57	1.52	.38	.69
										6.09	1.52	.24	.52
										7.62	1.52	.24	.26
247A	20.00	7.00	31.00	4340.00	10850.00	.17	1862.58	88-11	15.74	16.72	1.52	.14	.21
										18.29	1.52	.17	.26
										19.81	1.52	.14	.21
										21.34	1.52	.31	.47
										22.86	1.52	.10	.15
										24.38	1.52	.17	.26
											9.12		1.52
247B	20.00	7.00	18.50	2590.00	6475.00	.17	1100.75	88-16	7.62	9.14	1.52	.34	.52
										10.67	1.52	.24	.26
										12.19	1.52	.14	.21
										13.72	1.52	.10	.15
										15.24	1.52	.10	.15
										16.76	1.52	.10	.15
247C	20.00	7.00	13.00	1820.00	4550.00	.22	1000.52	88-21	0.00	3.05	3.05	.14	.43
										4.57	1.52	.34	.52
										6.09	1.52	.17	.26
										7.62	1.52	.31	.47
240A	20.00	7.00	32.00	4480.00	11200.00	.06	634.67	88-16	16.76	18.29	1.52	.07	.11
										19.81	1.52	.07	.11
										21.34	1.52	.03	.05
										22.86	1.52	.03	.05
										24.38	1.52	.07	.11
										25.91	1.52	.07	.11
240B	20.00	7.00	25.50	3570.00	8925.00	.35	3162.00	88-21	7.62	9.14	1.52	.14	.21
										10.67	1.52	.14	.21
										12.19	1.52	.24	.26
										13.72	1.52	.21	.26
										15.24	1.52	.34	.52
										16.76	1.52	.96	1.46
210D	20.00	7.00	15.00	2100.00	5250.00	0.00		NO DATA					
237C	20.00	7.00	33.00	4620.00	11550.00	0.00		NO DATA					

Antoniuk Reserve Calculations  
SECTION ON

Cell	Thick.	Depth	Length	Volume	Tonnes	Wt. Ave.	T.xAve.
268A	20.00	7.00	20.00	2800.00	7000.00	0.00	
261A	20.00	7.00	41.00	5740.00	14350.00	.25	3566.09

254A	20.00	7.00	34.50	4830.00	12075.00	.73	8865.06
------	-------	------	-------	---------	----------	-----	---------

254B	20.00	7.00	31.50	4410.00	11025.00	1.29	14210.84
254C	20.00	7.00	10.00	1400.00	3500.00	1.29	
247A	20.00	7.00	32.50	4550.00	11375.00	.76	8653.12

247B	20.00	7.00	28.50	3990.00	9975.00	.56	5618.14
------	-------	------	-------	---------	---------	-----	---------

Intercepts Hole No.	From To		Interval	Grade	Wt.Ave.		
	Interval						
NO DATA							
88-10	0.00	3.05	3.05	.45	1.37		
		4.57	1.52	.38	.58		
		6.10	1.52	.14	.21		
		7.62	1.52	.14	.21		
		9.15	1.52	.27	.41		
88-9	0.00	10.67	1.52	.51	.78		
		3.05	3.05	0.00	.00		
		4.57	1.52	0.00	.00		
88-13	0.00	6.10	1.52	.41	.62		
		7.62	1.52	.34	.52		
		3.05	3.05	.38	1.16		
85-07R	0.00	3.05	3.05	.27	.82		
		TRENCH					
TRENCH					4.57	.45	2.06
					4.57	.10	.46
					4.57	.10	.46
					4.57	.07	.32
					4.57	.14	.64
					4.57	.27	1.23
				4.57	.31	1.42	
				4.57	.41	1.87	
				60.95		15.15	

88-10	10.67	12.20	1.52	.96	1.46		
		13.72	1.52	.62	.94		
		15.24	1.52	.68	1.04		
		16.77	1.52	1.03	1.57		
		18.29	1.52	1.17	1.78		
88-9	7.62	19.82	1.52	.96	1.46		
		9.15	1.52	1.03	1.57		
TRENCH					10.67	1.52	1.10
					12.19	1.52	.27
					13.72	1.52	.27
					15.24	1.52	.34

88-13	3.04	4.57	1.52	0.00	.00		
		6.09	1.52	.21	.32		
		7.62	1.52	.21	.32		
		9.14	1.52	.17	.26		
		10.67	1.52	.14	.21		
85-07R	3.05	12.19	1.52	.14	.21		
		6.10	3.05	.17	.52		
86-11	.61	9.14	3.04	.24	.73		
		6.09	5.48	.14	.77		
		7.01	.92	.55	.51		
TRENCH					8.23	1.22	.31
					9.14	.91	.21
					4.57	.14	.64
					4.57	.10	.46
				4.57	1.61	7.36	
				4.57	1.61	7.36	
				4.57	5.69	26.00	
				4.57	4.32	19.74	
				51.18		65.97	

88-10	19.81	21.34	1.52	.41	.62		
		22.87	1.52	2.37	3.61		
		24.39	1.52	.52	.34		
		25.91	1.52	.34	.52		
		27.44	1.52	.45	.69		
85-07R	9.14	29.96	1.52	.38	.58		
		12.19	3.05	.34	1.04		
TRENCH					15.24	3.05	.17
					18.29	3.05	.27
					21.34	3.05	2.26
				21.34			16.24

88-13	12.20	13.72	1.52	.72	1.10		
		15.24	1.52	.58	.88		
		16.77	1.52	.27	.41		
		18.29	1.52	1.61	2.45		
		19.82	1.52	.65	.99		
86-11	9.14	21.34	1.52	.14	.21		
		10.67	1.53	.82	1.25		
TRENCH					14.02	3.35	.17
					14.63	.61	.10
					17.07	2.44	.72
					17.98	.91	.48
				17.98			10.13

TABLE B (CONT.)

247C	20.00	7.00	23.00	3220.00	8050.00	1.24	9962.71
247D	20.00	7.00	20.50	2870.00	7175.00	2.13	15253.84
247E	20.00	6.50	23.00	2990.00	7475.00	3.30	24689.51
247A	20.00	7.00	26.50	3710.00	9275.00	1.29	11964.75
240B	20.00	7.00	30.00	4200.00	10500.00	.92	9700.34
240C	20.00	7.00	7.00	980.00	2450.00	8.40	20587.91
240E	20.00	7.00	15.50	2170.00	5425.00	1.29	6997.84
240F	20.00	7.00	11.50	1610.00	4025.00	.81	3272.26
222A	20.00	7.00	21.00	2940.00	7350.00	.76	5610.50

85-08R	0.00	3.05	3.05	3.09	9.42
		6.10	3.05	.24	.73
		9.14	3.04	.38	1.16
			9.14		11.31
86-24	0.00	3.35	3.35	0.00	.00
		4.57	1.22	.10	.12
		5.49	.92	.58	.53
		6.10	.61	.34	.21
		7.32	1.22	11.80	14.40
86-23	0.00	3.05	3.05	0.00	.00
		5.79	2.77	.14	.39
		7.32	1.53	.24	.37
		9.14	1.82	.38	.69
88-23	0.00	3.05	3.05	3.26	9.34
		4.57	1.52	4.70	7.16
		6.10	1.52	2.78	4.24
		7.62	1.52	2.91	4.43
		9.15	1.52	2.74	4.18
TRENCH			4.57	1.44	6.58
			4.57	4.53	70.77
			4.57	1.16	5.00
			4.57	3.07	11.12
			13.72		22.76
88-24	0.00	3.05	3.05	3.05	9.20
		4.57	1.52	1.51	3.00
		6.10	1.52	2.02	3.09
		7.62	1.52	1.03	1.57
86-12	.61	6.10	5.49	3.19	17.51
TRENCH			4.57	3.15	14.40
			4.57	3.77	17.23
			4.57	6.65	29.31
			4.57	1.73	7.91
			31.39		102.69
85-07R	21.34	24.38	3.05	1.89	5.76
		27.43	3.05	.69	2.10
			6.10		7.87
88-13	21.34	22.87	1.52	.41	.62
		24.39	1.52	.17	.26
		25.91	1.52	.62	.94
		27.44	1.52	4.94	7.53
		28.96	1.52	.69	1.05
		30.49	1.52	1.13	1.72
86-11	17.98	21.03	3.05	.17	.52
		24.38	3.05	.47	1.43
			15.24		14.03
86-24	7.32	8.30	.99	5.49	5.38
		8.84	.54	14.98	8.09
		10.36	1.52	20.26	30.90
		11.60	1.24	4.05	5.02
		13.70	2.10	2.06	4.33
			6.38		53.61
86-23	9.14	12.19	3.05	.86	2.62
		15.24	3.05	.10	.31
		17.07	1.83	2.06	3.77
		17.98	.91	.38	.25
88-23	9.14	10.67	1.52	3.12	1.75
		12.19	1.52	2.95	4.50
		13.72	1.52	1.03	1.57
		15.24	1.52	.86	1.31
		16.77	1.52	1.54	2.35
		18.29	1.52	1.10	1.69
			17.98		23.20
86-12	6.10	10.06	3.96	1.13	4.17
		10.67	.61	.24	.21
		12.19	1.52	1.13	1.72
		15.24	3.05	1.03	3.11
88-24	7.62	9.14	1.52	.62	.94
		10.66	1.52	.69	1.05
		12.19	1.52	.89	1.36
		13.71	1.52	.24	.37
		15.24	1.52	.24	.37
			16.76		13.60
85-07R	27.43	30.48	3.05	.96	2.93
		33.53	3.05	.75	2.29
		36.58	3.05	.58	1.77
			9.15		6.09

TABLE 9  
1988 DRILL PROGRAM

ANTONIUK RESERVE CALCULATIONS  
SECTION 1N

Cell	Thick.	Depth	Length	Volume	Tonnes	Wt. Ave.	T.xAve.	Intercepts		Interval	Grade	Wt.Ave.		
								Hole No.	From To					
268A	20.00	7.00	26.00	3640.00	9100.00	.39	3567.42	88-8	0.00	3.05	3.05	.41	1.25	
										4.57	1.52	.38	.58	
										6.09	1.52	.31	.47	
										7.62	1.52	.45	.68	
											7.61		2.98	
261A	20.00	7.00	31.00	4340.00	10850.00	.47	5045.25	88-8	7.62	9.14	1.52	.55	.84	
										10.67	1.52	.86	1.31	
										12.19	1.52	.31	.47	
										13.72	1.52	.14	.21	
											6.10		2.83	
2518	20.00	7.00	18.50	2590.00	6475.00	.30	1953.87	88-12	0.00	3.05	3.05	.51	1.56	
										4.57	1.52	.14	.21	
										6.09	1.52	.17	.26	
										0.00	3.05	3.05	.24	.73
											9.14		2.76	
261C	20.00	7.00	20.00	2800.00	7000.00	0.00		NO DATA						
254A	20.00	7.00	30.50	4270.00	10675.00	.11	1174.25	88-8	13.72	15.24	1.52	.21	.32	
										16.76	1.52	.17	.26	
										18.29	1.52	.07	.11	
										19.81	1.52	.07	.11	
										21.34	1.52	.07	.11	
2548	20.00	7.00	16.50	2310.00	5775.00	.07	423.50	88-12	6.10	7.62	1.52	.07	.11	
										9.14	1.52	----	.00	
										10.67	1.52	.10	.15	
										12.19	1.52	.03	.05	
										13.72	1.52	.07	.11	
254C	20.00	7.00	15.50	2170.00	5425.00	.42	2278.50	88-15	6.09	7.62	1.52	.69	1.05	
										9.14	1.52	.86	1.31	
										10.67	1.52	.24	.37	
										12.19	1.52	.21	.32	
										13.72	1.52	.39	.58	
254D	20.00	6.50	18.00	2340.00	5850.00	.81	4738.38	88-17	0.00	3.05	3.05	.72	2.20	
										4.57	1.52	.65	.99	
										6.10	1.52	.82	1.25	
										7.62	1.52	.72	1.10	
										9.15	1.52	1.23	1.97	
254E	20.00	5.00	20.00	2000.00	5000.00	.19	970.02	88-18	0.00	3.05	3.05	.21	.64	
										4.57	1.52	.17	.26	
										6.09	1.52	.17	.26	
										7.62	1.52	.21	.32	
											7.62		1.48	
254F	20.00	5.00	23.50	2350.00	5875.00	2.10	12359.61	88-34	0.00	3.05	3.05	2.39	7.01	
										4.57	1.52	1.71	2.50	
254G	20.00	7.00	26.00	3640.00	9100.00	1.54	14923.74	88-33	0.00	3.05	3.05	1.51	4.61	
										4.57	1.52	1.75	2.57	
										6.10	1.52	.99	1.51	
										7.62	1.52	.79	1.20	
										9.15	1.52	3.29	5.01	
254H	20.00	7.00	22.00	3080.00	7700.00	0.00		NO DATA						
254A	20.00	7.00	45.00	6300.00	15750.00	.30	4682.05	88-12	15.24	16.76	1.52	----	.00	
										18.29	1.52	.14	.21	
										19.81	1.52	.17	.26	
										21.33	1.52	.07	.11	
										22.86	1.52	.07	.11	
										24.38	1.52	.21	.32	
										25.90	1.52	----	.00	
										27.43	1.52	.14	.21	
										28.95	1.52	.14	.21	
										30.48	1.52	2.02	3.09	
										32.00	1.52	.31	.47	
											16.76		4.98	

TABLE 9 (CONT.)

								88-15	12.20	13.72	1.52	.07	.11
										15.24	1.52	.17	.26
										16.77	1.52	.14	.21
										18.29	1.52	.10	.15
										19.82	1.52	.07	.11
										21.34	1.52	.07	.11
247B	20.00	7.00	16.00	2240.00	5600.00	.10	578.67				9.14		.94
								88-17	9.15	10.67	1.52	2.57	3.92
										12.19	1.52	.65	.99
										13.72	1.52	.48	.73
										15.24	1.52	.89	1.36
										16.77	1.52	1.13	1.72
247C	20.00	7.00	17.50	2450.00	6125.00	1.10	6747.71			18.29	1.52	.89	1.36
											9.14		10.07
								88-18	7.62	9.15	1.52	.34	.52
										10.67	1.52	.31	.47
										12.20	1.52	.27	.41
										13.72	1.52	.24	.37
										15.25	1.52	.17	.26
247D	20.00	7.00	19.50	2730.00	6825.00	.27	1865.50			16.77	1.52	.31	.47
											9.14		2.50
								88-34	4.57	6.09	1.52	.96	1.46
										7.61	1.52	2.64	4.02
										9.14	1.52	1.51	2.25
										10.66	1.52	.72	1.10
										12.19	1.52	1.31	2.04
247E	20.00	7.00	21.50	3010.00	7525.00	1.41	10622.79			13.71	1.52	1.77	2.74
											9.14		17.91
								88-33	9.14	10.67	1.52	2.30	3.51
										12.19	1.52	1.20	1.99
										13.72	1.52	1.59	2.41
										15.24	1.52	.99	1.51
										16.77	1.52	1.10	1.68
247F	20.00	7.00	13.00	1820.00	4550.00	1.21	5513.08			18.29	1.52		.70
											9.14		11.09
247G	20.00	7.00	27.00	3780.00	9450.00	0.00							
								88-15	21.34	22.86	1.52	.10	.15
										24.38	1.52	.14	.21
										25.91	1.52	.17	.26
										27.43	1.52	.17	.26
										28.96	1.52	.17	.26
247A	20.00	7.00	60.00	8400.00	21000.00	.16	3360.00			30.48	1.52	.21	.32
											9.14		1.15
								88-17	19.29	19.81	1.52	1.17	1.78
										21.34	1.52	.65	.99
										22.86	1.52	.34	.52
										24.39	1.52	.14	.21
										25.91	1.52	.31	.47
247B	20.00	7.00	17.00	2380.00	5950.00	.45	2657.67			27.43	1.52	.07	.11
											9.14		4.09
								88-18	16.76	18.29	1.52	.27	.41
										19.31	1.52	.17	.26
										21.34	1.52	.27	.41
										22.86	1.52	.48	.72
										24.39	1.52	.41	.62
247C	20.00	7.00	19.50	2730.00	6825.00	.30	2058.88			25.91	1.52	.21	.32
											9.14		7.76
								88-34	13.72	15.24	1.52	1.10	1.68
										16.76	1.52	1.10	1.68
										18.29	1.52	2.15	3.29
										19.81	1.52	2.47	3.76
										21.34	1.52	1.61	2.45
247D	20.00	7.00	22.00	3090.00	7700.00	1.73	13333.83			22.86	1.52	1.95	2.97
											9.14		15.37
								88-33	19.29	19.81	1.52	.62	.94
										21.33	1.52	.51	.78
										22.86	1.52	.51	.78
										24.38	1.52	.45	.69
										25.91	1.52	.63	.95
247E	20.00	7.00	27.00	3780.00	9450.00	.54	5087.25			27.43	1.52	.45	.69
											9.14		1.72

TABLE 10  
1988 DRILL PROGRAM

Antoniuk Reserve Calculations  
SECTION 24

Cell	Thick.	Depth	Length	Volume	Tonnes	Wt. Ave.	TxAve.	Intercepts		Interval	Grade	Wt. Ave.	
								Hole No.	From To				
259A	20.00	7.00	44.50	6230.00	15575.00	.46	7233.25	88-7	0.00	3.05	3.05	.24	.73
										4.57	1.52	.31	.47
										6.10	1.52	.31	.47
										7.62	1.52	.65	.99
										9.15	1.52	1.13	1.72
										88-5	0.00	3.05	3.05
4.57	1.52	.74	.52										
<hr/>													
251A	20.00	7.00	34.00	4750.00	11900.00	1.29	15404.41	88-7	9.14	10.67	1.52	.65	.99
										12.19	1.52	1.06	1.62
										13.72	1.52	.58	.98
										15.24	1.52	.93	1.42
										16.77	1.52	.21	.32
										75-05	7.92	9.14	1.22
								12.19	3.05	.51	1.56		
								13.71	1.52	.69	1.05		
								15.24	1.52	1.20	1.83		
								16.76	1.52	7.37	11.23		
								16.46			21.31		
								<hr/>					
261B	20.00	7.00	19.00	2660.00	6650.00	.65	4289.25	88-5	4.57	6.09	1.52	.24	.52
										7.61	1.52	.96	1.46
										9.14	1.52	.69	1.05
										10.66	1.52	.79	1.20
										12.19	1.52	.75	1.14
										13.71	1.52	.74	.52
<hr/>													
251C	20.00	7.00	16.00	2240.00	5600.00	.14	800.10	88-6	0.00	3.05	3.05	.24	.73
										4.57	1.52	.07	.11
										6.10	1.52	.21	.22
										7.62	1.52	.10	.15
										9.15	1.52	.07	.11
										10.67	1.52	.07	.11
<hr/>													
251D	20.00	5.00	31.00	3100.00	7750.00	.23	1797.87	88-14	0.00	3.05	3.05	.17	.52
										4.57	1.52	.31	.47
										6.10	1.52	.17	.26
										7.62	1.52	.34	.52
										7.62			1.77
										<hr/>			
254A	20.00	7.00	15.00	2100.00	5250.00	.86	4506.25	75-05	16.77	18.29	1.52	.51	.78
										19.82	1.52	.86	1.31
										21.34	1.52	1.03	1.57
										22.86	1.52	.69	1.05
										24.39	1.52	1.37	2.09
										25.91	1.52	.69	1.05
<hr/>													
251B	20.00	7.00	19.00	2520.00	6300.00	.76	4788.00	88-7	18.29	19.82	1.52	.24	.37
										21.34	1.52	.31	.47
										22.87	1.52	.93	1.42
										24.39	1.52	1.82	2.77
										25.91	1.52	.75	1.14
										27.44	1.52	.51	.78
<hr/>													
254C	20.00	7.00	19.00	2660.00	6650.00	.48	3180.92	88-5	13.72	15.24	1.52	.27	.41
										16.76	1.52	.55	.84
										18.28	1.52	.96	1.46
										19.80	1.52	.24	.32
										21.32	1.52	.44	.57
										22.81	1.52	.71	.97
<hr/>													
251D	20.00	7.00	15.00	2100.00	5250.00	.08	437.50	88-6	10.67	12.20	1.52	.21	.32
										13.72	1.52	.07	.11
										15.24	1.52	.10	.15
										16.77	1.52	.07	.11
										18.29	1.52	.02	.03
										19.82	1.52	.07	.11
<hr/>													
<hr/>													

TABLE 10 (CONT.)

							88-14	7.62	9.15	1.52	.62	.94
									10.67	1.52	.21	.32
									12.19	1.52	.17	.26
									13.72	1.52	.17	.25
									15.24	1.52	.14	.21
									16.77	1.52	.14	.21
247E	20.00	7.00	39.00	5460.00	13650.00	.24	3298.75			9.14		2.21
							88-5	22.84	24.37	1.52	.34	.52
									25.89	1.52	.17	.26
									27.42	1.52	.14	.21
									28.94	1.52	.14	.21
									30.46	1.52	.31	.47
247B	20.00	7.00	51.00	7140.00	17850.00	.22	3927.00			7.62		1.63
							88-6	19.80	21.32	1.52	.14	.21
									22.85	1.52	.03	.05
									24.37	1.52	.07	.11
									25.89	1.52	.03	.05
									27.42	1.52	.07	.11
									28.94	1.52	.07	.11
247C	20.00	7.00	15.00	2100.00	5250.00	.07	358.75			9.14		.62
							88-14	15.75	18.28	1.52	.17	.25
									19.80	1.52	.14	.21
									21.32	1.52	.14	.21
									22.85	1.52	.21	.32
									24.37	1.52	.27	.41
									25.90	1.52	.14	.21
247D	20.00	7.00	27.00	3780.00	9450.00	.18	1685.25			9.14		1.63



TABLE 11  
1988 DRILL PROGRAM

Antoniuk Reserve Calculations  
SECTION 3N

Cell	Thick.	Depth	Length	Volume	Tonnes	Wt. Ave.	T.xAve.	Intercepts		Interval	Grade	Wt.Ave.									
								Hole No.	From To												
268A	20.00	7.00	37.00	5180.00	12950.00	.17	2201.30	88-3	0.00	3.05	3.05	.10	.31								
										4.57	1.52	.14	.21								
										6.10	1.52	.10	.15								
										7.62	1.52	.17	.26								
										9.15	1.52	.41	.62								
						9.15						1.55									
268B	20.00	5.50	36.50	4015.00	10037.50	.44	4413.78	88-4	0.00	3.05	3.05	1.22	3.72								
										6.10	1.52	.10	.15								
										7.62	1.52	.48	.73								
										9.15	1.52	.10	.15								
								86-13	.61	3.05	2.44	.14	.34								
										4.57	1.52	.07	.11								
								TRENCH		7.62	3.05	.07	.21								
										4.57	4.57	.14	.64								
										4.57	4.57	.14	.64								
										4.57	4.57	.17	.78								
										4.57	4.57	.24	1.10								
										4.57	4.57	.17	.78								
										4.57	4.57	.45	2.06								
										4.57	4.57	.39	1.74								
										4.57	4.57	.24	1.55								
		4.57	4.57	.24	1.10																
		4.57	4.57	7.41	33.86																
				51.19	22.51																
268C	20.00	4.00	16.00	1280.00	3200.00	.85	2720.00	TRENCH		4.57	4.57	.14	.64								
										4.57	4.57	.31	1.42								
										4.57	4.57	.14	.64								
										4.57	4.57	.21	.96								
										4.57	4.57	.17	.78								
										4.57	4.57	.24	1.10								
										4.57	4.57	.17	.78								
										4.57	4.57	.45	2.06								
										4.57	4.57	.39	1.74								
										4.57	4.57	.24	1.55								
										4.57	4.57	.24	1.10								
										4.57	4.57	7.41	33.86								
												54.84	46.61								
								261A	20.00	7.00	35.00	4900.00	12250.00	.37	4560.51	88-3	9.14	10.66	1.52	.55	.84
																		12.18	1.52	.31	.47
		13.71	1.52	.34	.52																
		15.23	1.52	.17	.26																
		16.76	1.52	.17	.26																
		18.28	1.52	.21	.32																
86-13	7.62	9.14	1.52	.14	.21																
		10.06	.92	.01	.01																
		11.26	1.22	.14	.17																
		11.89	.61	1.23	.75																
		15.24	3.35	.65	2.19																
		16.49	1.22	.58	.71																
				17.98	6.70																
261B	20.00	7.00	40.00	5600.00	14000.00	.14	2006.67									88-4	7.61	9.14	1.52	.31	.47
																		10.66	1.52	.07	.11
										12.19	1.52	.17	.26								
										13.71	1.52	.07	.11								
										15.23	1.52	.17	.26								
										16.76	1.52	.07	.11								
										9.14	1.52	.07	.11								
								86-13	16.49	17.98	1.52	.01	.02								
										21.34	3.35	1.41	4.74								
										25.21	4.87	1.06	5.16								
											9.75		9.32								
								254A	20.00	7.00	23.00	3220.00	8050.00	1.02	8186.23	88-3	18.29	19.80	1.52	.62	.94
																		21.32	1.52	1.13	1.72
																		22.85	1.52	1.37	2.09
																		24.37	1.52	3.91	5.96
		25.89	1.52	1.68	2.56																
		27.42	1.52	2.40	3.66																
		9.14			16.93																
86-13	16.49	17.98	1.52	.01	.02																
		21.34	3.35	1.41	4.74																
		25.21	4.87	1.06	5.16																
			9.75		9.32																
254B	20.00	7.00	13.00	1820.00	4550.00	1.85	8425.08									88-4	16.75	18.29	1.52	.17	.26
																		19.80	1.52	.10	.15
																		21.32	1.52	.27	.41
																		22.85	1.52	.31	.47
										24.37	1.52	1.17	1.79								
										25.90	1.52	.14	.21								
										9.14			3.29								
								86-13	25.21	28.96	2.75	1.37	3.77								
										32.31	3.35	.21	.70								
										34.73	2.42	1.65	3.99								
											8.52		9.46								
								247A	20.00	7.00	50.00	7000.00	17500.00	.99	17384.98						

TABLE 12  
1988 DRILL PROGRAM

Antoniuk Reserve Calculations  
SECTION 4N

Well	Thick.	Depth	Length	Volume	Tonnes	Wt. Ave.	T.xAve.	Intercepts		Interval	Grade	Wt.Ave							
								Hole No.	From To										
258A	20.00	6.50	32.50	4225.00	10562.50	.11	1197.05	88-1	0.00	3.05	3.05	.10	.31						
										4.57	1.52	.14	.21						
										6.10	1.52	.14	.21						
										7.62	1.52	.10	.15						
										9.15	1.52	.10	.15						
						9.15						1.04							
259B	20.00	4.00	51.00	4080.00	10200.00	.22	2244.17	88-2	0.00	3.05	3.05	.27	.92						
										4.57	1.52	.17	.26						
										6.10	1.52	.17	.26						
														6.10					1.24
251A	20.00	7.00	30.50	4270.00	10675.00	.56	5960.21	88-1	9.14	10.66	1.52	.41	.62						
										12.18	1.52	.68	1.04						
										13.71	1.52	.62	.94						
										15.23	1.52	.72	1.10						
										16.76	1.52	.51	.79						
						18.28	1.52	.41	.62			5.11							
251B	20.00	7.00	41.00	5740.00	14350.00	.15	2128.58	88-2	6.09	7.61	1.52	.24	.37						
										9.14	1.52	.17	.26						
										10.66	1.52	.14	.21						
										12.19	1.52	.14	.21						
										13.71	1.52	.10	.15						
						15.23	1.52	.10	.15			1.26							
254A	20.00	7.00	29.50	4130.00	10325.00	.91	9361.33	88-1	18.28	19.80	1.52	.34	.52						
										21.32	1.52	1.47	2.34						
										22.85	1.52	2.19	3.31						
										24.37	1.52	.79	1.20						
										25.89	1.52	.38	.58						
						27.42	1.52	.27	.41			8.29							
254B	20.00	7.00	29.00	4060.00	10150.00	1.06	10750.73	88-2	15.23	16.75	1.52	.10	.15						
										18.28	1.52	.07	.11						
										19.80	1.52	.10	.15						
										21.32	1.52	.10	.15						
										22.84	1.52	.17	0.95						
						24.36	1.52	.17	.26			9.63							

TABLE 13  
TOTAL CELL TONNAGE  
ANTONIUK DEPOSIT

ALL CELLS - NO CUTOFF

CELL NO.	THICKNESS (m)	DEPTH (m)	LENGTH (m)	VOLUME (cu.m)	TONNES	AV.GRADE (g/t)
SECTION 3S						
240C	20.0	7.0	10.0	1,400	3,500	.18
233C	20.0	7.0	26.0	3,640	9,100	.19
226B	20.0	7.0	12.0	1,680	4,200	.50
226C	20.0	7.0	24.5	3,430	8,575	.29
219A	20.0	7.0	23.5	3,290	8,225	1.17
					33,600	.49
SECTION 2S						
247A	20.0	7.0	11.0	1,540	3,850	.07
240A	20.0	7.0	15.5	2,170	5,425	.10
240B	20.0	6.0	16.5	1,980	4,950	.05
233A	20.0	7.0	14.0	1,960	4,900	.06
232B	20.0	7.0	17.0	2,380	5,950	.17
232C	20.0	7.0	19.5	2,730	6,825	.28
					31,900	.13
SECTION 1S						
261A	20.0	7.0	24.0	3,360	8,400	.15
254A	20.0	7.0	31.5	4,410	11,025	.11
254B	20.0	7.0	11.5	1,610	4,025	.33
247A	20.0	7.0	31.0	4,340	10,850	.17
247B	20.0	7.0	18.5	2,590	6,475	.17
247C	20.0	7.0	13.0	1,820	4,550	.22
240A	20.0	7.0	32.0	4,480	11,200	.06
240B	20.0	7.0	25.5	3,570	8,925	.35
240C	20.0	7.0	15.0	2,100	5,250	0.00
232C	20.0	7.0	33.0	4,620	11,550	0.00
					82,250	.14
SECTION 04						
269A	20.0	7.0	20.0	2,800	7,000	0.00
261A	20.0	7.0	41.0	5,740	14,350	.25
254A	20.0	7.0	34.5	4,830	12,075	.73
254B	20.0	7.0	30.0	4,200	10,500	1.29
254C	20.0	7.0	10.0	1,400	3,500	1.29
247A	20.0	7.0	32.5	4,550	11,375	.76
247B	20.0	7.0	28.5	3,990	9,975	.56
247C	20.0	7.0	23.0	3,220	8,050	1.24
247D	20.0	7.0	20.5	2,870	7,175	2.13
247E	20.0	6.5	23.0	2,990	7,475	3.30
240A	20.0	7.0	26.5	3,710	9,275	1.29
240B	20.0	7.0	30.0	4,200	10,500	.92
240C	20.0	7.0	15.5	2,170	5,425	1.29
247F	20.0	7.0	11.5	1,610	4,025	.81
240G	20.0	7.0	7.0	980	2,450	8.40
					7,350	.76
					130,500	1.17

## SECTION 1N

TABLE 13 (CONT.)

268A	20.0	7.0	26.0	3,640	9,100	.39
261A	20.0	7.0	31.0	4,340	10,850	.47
261B	20.0	7.0	18.5	2,590	6,475	.30
261C	20.0	7.0	20.0	2,800	7,000	0.00
254A	20.0	7.0	30.5	4,270	10,675	.11
254B	20.0	7.0	16.5	2,310	5,775	.07
254C	20.0	7.0	15.5	2,170	5,425	.42
254D	20.0	6.5	18.0	2,340	5,850	.81
254E	20.0	5.0	20.0	2,000	5,000	.19
254F	20.0	5.0	23.5	2,350	5,875	2.10
254G	20.0	7.0	26.0	3,640	9,100	1.64
254H	20.0	7.0	22.0	3,080	7,700	0.00
247A	20.0	7.0	45.0	6,300	15,750	.30
247B	20.0	7.0	16.0	2,240	5,600	.10
247C	20.0	7.0	17.5	2,450	6,125	1.10
247D	20.0	7.0	19.5	2,730	6,825	.27
247E	20.0	7.0	21.5	3,010	7,525	1.41
247F	20.0	7.0	13.0	1,820	4,550	1.21
247G	20.0	7.0	27.0	3,780	9,450	0.00
240A	20.0	7.0	60.0	8,400	21,000	.16
240B	20.0	7.0	17.0	2,380	5,950	.45
240C	20.0	7.0	19.5	2,730	6,825	.30
240D	20.0	7.0	22.0	3,080	7,700	1.73
240E	20.0	7.0	27.0	3,780	9,450	.54

---

195,575 .53

## SECTION 2N

269A	20.0	7.0	44.5	6,230	15,575	.46
261A	20.0	7.0	34.0	4,760	11,900	1.29
261B	20.0	7.0	19.0	2,660	6,650	.65
261C	20.0	7.0	16.0	2,240	5,600	.14
261D	20.0	5.0	31.0	3,100	7,750	.23
251A	20.0	7.0	15.0	2,100	5,250	.86
254B	20.0	7.0	18.0	2,520	6,300	.76
254C	20.0	7.0	19.0	2,660	6,650	.48
254D	20.0	7.0	15.0	2,100	5,250	.08
254E	20.0	7.0	39.0	5,460	13,650	.24
247B	20.0	7.0	51.0	7,140	17,850	.22
247C	20.0	7.0	15.0	2,100	5,250	.07
247D	20.0	7.0	27.0	3,780	9,450	.18

---

117,125 .44

## SECTION 3N

268A	20.0	7.0	37.0	5,180	12,950	.17
269B	20.0	5.5	36.5	4,015	10,038	.44
269C	20.0	4.0	16.0	1,280	3,200	.85
261A	20.0	7.0	35.0	4,900	12,250	.37
261B	20.0	7.0	40.0	5,600	14,000	.14
254A	20.0	7.0	23.0	3,220	8,050	1.02
254B	20.0	7.0	13.0	1,820	4,550	1.85
254C	20.0	7.0	28.0	3,920	9,800	.36
247A	20.0	7.0	50.0	7,000	17,500	.99

---

92,338 .58

## SECTION 4N

268A	20.0	6.5	32.5	4,225	10,563	.11
269B	20.0	4.0	51.0	4,080	10,200	.22
261A	20.0	7.0	30.5	4,270	10,675	.56
261B	20.0	7.0	41.0	5,740	14,350	.15
254A	20.0	7.0	29.5	4,130	10,325	.91
254B	20.0	7.0	29.0	4,060	10,150	1.06

---

66,263 .48

TOTAL OF ALL SECTIONS: 749,550 .57

TABLE 14  
TOTAL CELL TONNAGE  
ANTONIUK DEPOSIT

0.5 g/t GOLD CUTOFF

CELL NO.	THICKNESS (m)	DEPTH (m)	LENGTH (m)	VOLUME (cu.m)	TONNES	AV.GRADE (g/t)
SECTION 3S						
226B	20.0	7.0	12.0	1,680	4,200	.50
219A	20.0	7.0	23.5	3,290	8,225	1.17
					12,425	.94
SECTION 2S						
					0	
SECTION 1S						
					0	
SECTION 0N						
254A	20.0	7.0	34.5	4,830	12,075	.73
254B	20.0	7.0	30.0	4,200	10,500	1.29
254C	20.0	7.0	10.0	1,400	3,500	1.29
247A	20.0	7.0	32.5	4,550	11,375	.76
247B	20.0	7.0	28.5	3,990	9,975	.56
247C	20.0	7.0	23.0	3,220	8,050	1.24
247D	20.0	7.0	20.5	2,870	7,175	2.13
247E	20.0	6.5	23.0	2,990	7,475	3.30
240A	20.0	7.0	26.5	3,710	9,275	1.29
240B	20.0	7.0	30.0	4,200	10,500	.92
240E	20.0	7.0	15.5	2,170	5,425	1.29
240F	20.0	7.0	11.5	1,610	4,025	.81
240G	20.0	7.0	7.0	980	2,450	8.40
233A	20.0	7.0	21.0	2,940	7,350	.76
					109,150	1.37
SECTION 1N						
254D	20.0	6.5	18.0	2,340	5,850	.81
254F	20.0	5.0	23.5	2,350	5,875	2.10
254G	20.0	7.0	26.0	3,640	9,100	1.64
247C	20.0	7.0	17.5	2,450	6,125	1.10
247E	20.0	7.0	21.5	3,010	7,525	1.41
247F	20.0	7.0	13.0	1,820	4,550	1.21
240D	20.0	7.0	22.0	3,080	7,700	1.73
240E	20.0	7.0	27.0	3,780	9,450	.54
					56,175	1.30
SECTION 2N						
261A	20.0	7.0	34.0	4,760	11,900	1.29
261B	20.0	7.0	19.0	2,660	6,650	.65
SECTION 3N						
268C	20.0	4.0	16.0	1,280	3,200	.85
251A	20.0	7.0	23.0	3,220	8,050	1.02
254B	20.0	7.0	13.0	1,820	4,550	1.85
247A	20.0	7.0	50.0	7,000	17,500	.99
					33,300	1.10
SECTION 4N						
261A	20.0	7.0	30.5	4,270	10,675	.56
254A	20.0	7.0	29.5	4,130	10,325	.91
254B	20.0	7.0	29.0	4,060	10,150	1.06
					31,150	.84
TOTAL OF ALL SECTIONS:					272,300	1.20

TABLE 15  
TOTAL CELL TONNAGE  
ANTONIUK DEPOSIT

0.7 g/t GOLD CUTOFF

CELL NO.	THICKNESS (m)	DEPTH (m)	LENGTH (m)	VOLUME (cu.m)	TONNES	AV.GRADE (g/t)
SECTION 2S						
219A	20.0	7.0	23.5	3,290	8,225	1.17
					8,225	1.17
SECTION 2S						
					0	
SECTION 1S						
					0	
SECTION 0N						
254A	20.0	7.0	34.5	4,830	12,075	.73
251B	20.0	7.0	30.0	4,200	10,500	1.29
254C	20.0	7.0	10.0	1,400	3,500	1.29
247A	20.0	7.0	32.5	4,550	11,375	.76
247C	20.0	7.0	23.0	3,220	8,050	1.24
247D	20.0	7.0	20.5	2,870	7,175	2.13
247E	20.0	6.5	23.0	2,990	7,475	3.30
240A	20.0	7.0	26.5	3,710	9,275	1.29
240B	20.0	7.0	30.0	4,200	10,500	.92
240E	20.0	7.0	15.5	2,170	5,425	1.29
240F	20.0	7.0	11.5	1,610	4,025	.81
240G	20.0	7.0	7.0	980	2,450	8.40
233A	20.0	7.0	21.0	2,940	7,350	.76
					99,175	1.45
SECTION 1N						
254D	20.0	6.5	18.0	2,340	5,850	.81
254F	20.0	5.0	23.5	2,350	5,875	2.10
254G	20.0	7.0	26.0	3,640	9,100	1.64
247C	20.0	7.0	17.5	2,450	6,125	1.10
247E	20.0	7.0	21.5	3,010	7,525	1.41
247F	20.0	7.0	13.0	1,820	4,550	1.21
240D	20.0	7.0	22.0	3,080	7,700	1.73
					46,725	1.46
SECTION 2N						
261A	20.0	7.0	34.0	4,760	11,900	1.29
261B	20.0	7.0	19.0	2,660	6,650	.65
254A	20.0	7.0	15.0	2,100	5,250	.86
254B	20.0	7.0	18.0	2,520	6,300	.76
					30,100	.96
SECTION 3N						
268C	20.0	4.0	16.0	1,280	3,200	.85
254A	20.0	7.0	23.0	3,220	8,050	1.02
254B	20.0	7.0	13.0	1,820	4,550	1.85
247A	20.0	7.0	50.0	7,000	17,500	.99
					33,300	1.10
SECTION 4N						
254A	20.0	7.0	29.5	4,130	10,325	.91
254B	20.0	7.0	29.0	4,060	10,150	1.06
					20,475	.98
TOTAL OF ALL SECTIONS:					238,000	1.29

TABLE 16  
TOTAL CELL TONNAGE  
ANTONIUK DEPOSIT

1.0 g/t GOLD CUTOFF

CELL NO.	THICKNESS (m)	DEPTH (m)	LENGTH (m)	VOLUME (cu.m)	TONNES	AV.GRADE (g/t)
SECTION 3S						
219A	20.0	7.0	23.5	3,290	8,225	1.17
					8,225	1.17
SECTION 2S						
					0	
SECTION 1S						
					0	
SECTION 0N						
254B	20.0	7.0	30.0	4,200	10,500	1.29
254C	20.0	7.0	10.0	1,400	3,500	1.29
247C	20.0	7.0	23.0	3,220	8,050	1.24
247D	20.0	7.0	20.5	2,870	7,175	2.13
247E	20.0	6.5	23.0	2,990	7,475	3.30
240A	20.0	7.0	26.5	3,710	9,275	1.29
240E	20.0	7.0	15.5	2,170	5,425	1.29
240G	20.0	7.0	7.0	990	2,450	8.40
					53,850	2.00
SECTION 1N						
254F	20.0	5.0	23.5	2,350	5,875	2.10
254G	20.0	7.0	26.0	3,640	9,100	1.64
247C	20.0	7.0	17.5	2,450	6,125	1.10
247E	20.0	7.0	21.5	3,010	7,525	1.41
247F	20.0	7.0	13.0	1,820	4,550	1.21
240D	20.0	7.0	22.0	3,080	7,700	1.73
					40,875	1.55
SECTION 2N						
261A	20.0	7.0	34.0	4,760	11,900	1.29
					11,900	1.29
SECTION 3N						
254A	20.0	7.0	23.0	3,220	8,050	1.02
254B	20.0	7.0	13.0	1,820	4,550	1.85
					12,600	1.32
SECTION 4N						
254B	20.0	7.0	29.0	4,060	10,150	1.06
					10,150	1.06
TOTAL OF ALL SECTIONS:					137,600	1.62

TABLE 17  
TOTAL CELL TONNAGE  
ANTONIUK DEPOSIT  
"HIGH GRADE" PIT

ALL CELLS - NO CUTOFF

CELL NO.	THICKNESS (m)	DEPTH (m)	LENGTH (m)	VOLUME (cu.m)	TONNES	AV.GRADE (g/t)
SECTION ON						
254C	20.0	7.0	10.0	1,400	3,500	1.29
247C	20.0	7.0	23.0	3,220	8,050	1.24
247D	20.0	7.0	20.5	2,870	7,175	2.13
247E	20.0	6.5	23.0	2,990	7,475	3.30
240E	20.0	7.0	15.5	2,170	5,425	1.29
240F	20.0	7.0	11.5	1,610	4,025	.81
240G	20.0	7.0	7.0	980	2,450	8.40
					38,100	2.24
SECTION IN						
254E	20.0	5.0	20.0	2,000	5,000	.19
254F	20.0	5.0	23.5	2,350	5,875	2.10
254G	20.0	7.0	26.0	3,640	9,100	1.64
247D	20.0	7.0	19.5	2,730	6,825	.27
247E	20.0	7.0	21.5	3,010	7,525	1.41
247F	20.0	7.0	13.0	1,820	4,550	1.21
240C	20.0	7.0	19.5	2,730	6,825	.30
240D	20.0	7.0	22.0	3,080	7,700	1.73
					53,400	1.15
TOTAL OF ALL SECTIONS:					91,500	1.60

"HIGH GRADE" PIT

0.5 g/t GOLD CUTOFF

CELL NO.	THICKNESS (m)	DEPTH (m)	LENGTH (m)	VOLUME (cu.m)	TONNES	AV.GRADE (g/t)
SECTION ON						
254C	20.0	7.0	10.0	1,400	3,500	1.29
247C	20.0	7.0	23.0	3,220	8,050	1.24
247D	20.0	7.0	20.5	2,870	7,175	2.13
247E	20.0	6.5	23.0	2,990	7,475	3.30
240E	20.0	7.0	15.5	2,170	5,425	1.29
240F	20.0	7.0	11.5	1,610	4,025	.81
240G	20.0	7.0	7.0	980	2,450	8.40
					38,100	2.24
SECTION IN						
254F	20.0	5.0	23.5	2,350	5,875	2.10
254G	20.0	7.0	26.0	3,640	9,100	1.64
247E	20.0	7.0	21.5	3,010	7,525	1.41
247F	20.0	7.0	13.0	1,820	4,550	1.21
240D	20.0	7.0	22.0	3,080	7,700	1.73
					34,750	1.63
TOTAL OF ALL SECTIONS:					72,850	1.95



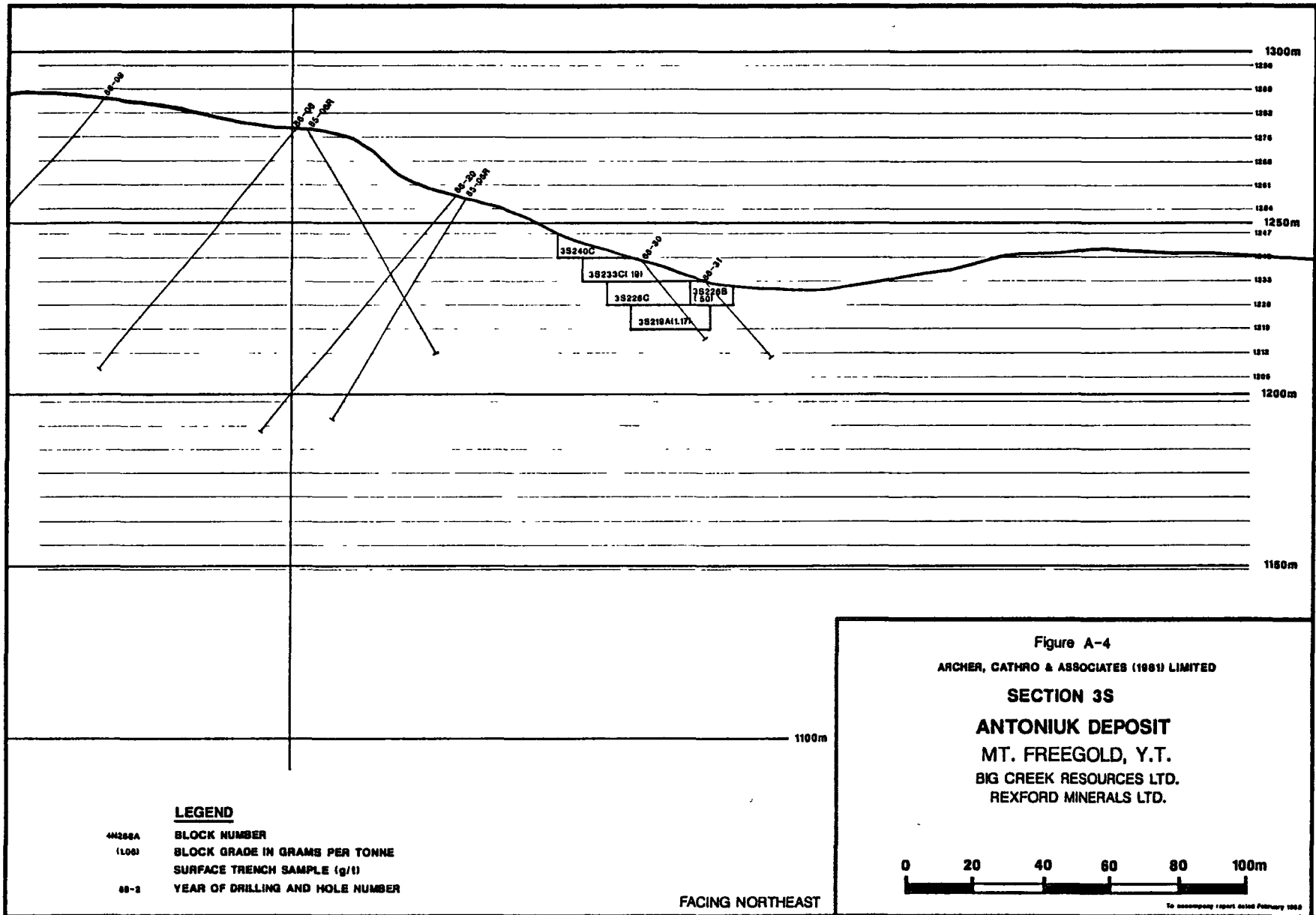
TABLE 17 (CONT.)

"HIGH GRADE" PIT

Page 1/2

1.0 g/t GOLD CUTOFF

CELL NO.	THICKNESS (m)	DEPTH (m)	LENGTH (m)	VOLUME (cu.m)	TONNES	AV.GRADE (g/t)
SECTION ON						
254C	20.0	7.0	10.0	1,400	3,500	1.29
247C	20.0	7.0	23.0	3,220	8,050	1.24
247D	20.0	7.0	20.5	2,870	7,175	2.13
247E	20.0	6.5	23.0	2,990	7,475	3.30
240E	20.0	7.0	15.5	2,170	5,425	1.29
240G	20.0	7.0	7.0	980	2,450	8.40
					34,075	2.41
SECTION IN						
254F	20.0	5.0	23.5	2,350	5,875	2.10
254G	20.0	7.0	26.0	3,640	9,100	1.64
247E	20.0	7.0	21.5	3,010	7,525	1.41
247F	20.0	7.0	13.0	1,820	4,550	1.21
240D	20.0	7.0	22.0	3,080	7,700	1.73
					34,750	1.63
TOTAL OF ALL SECTIONS:				68,825	2.02	



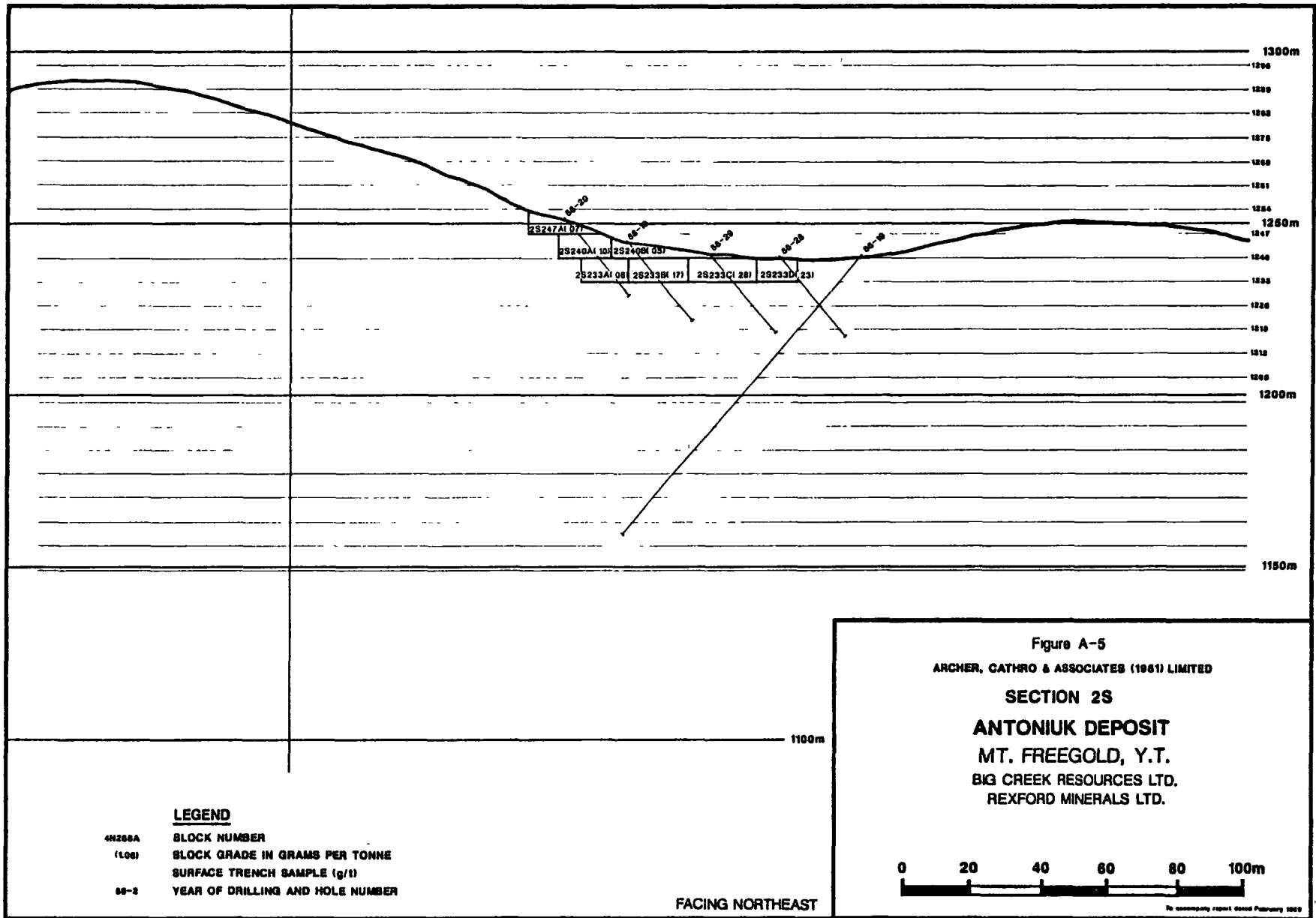
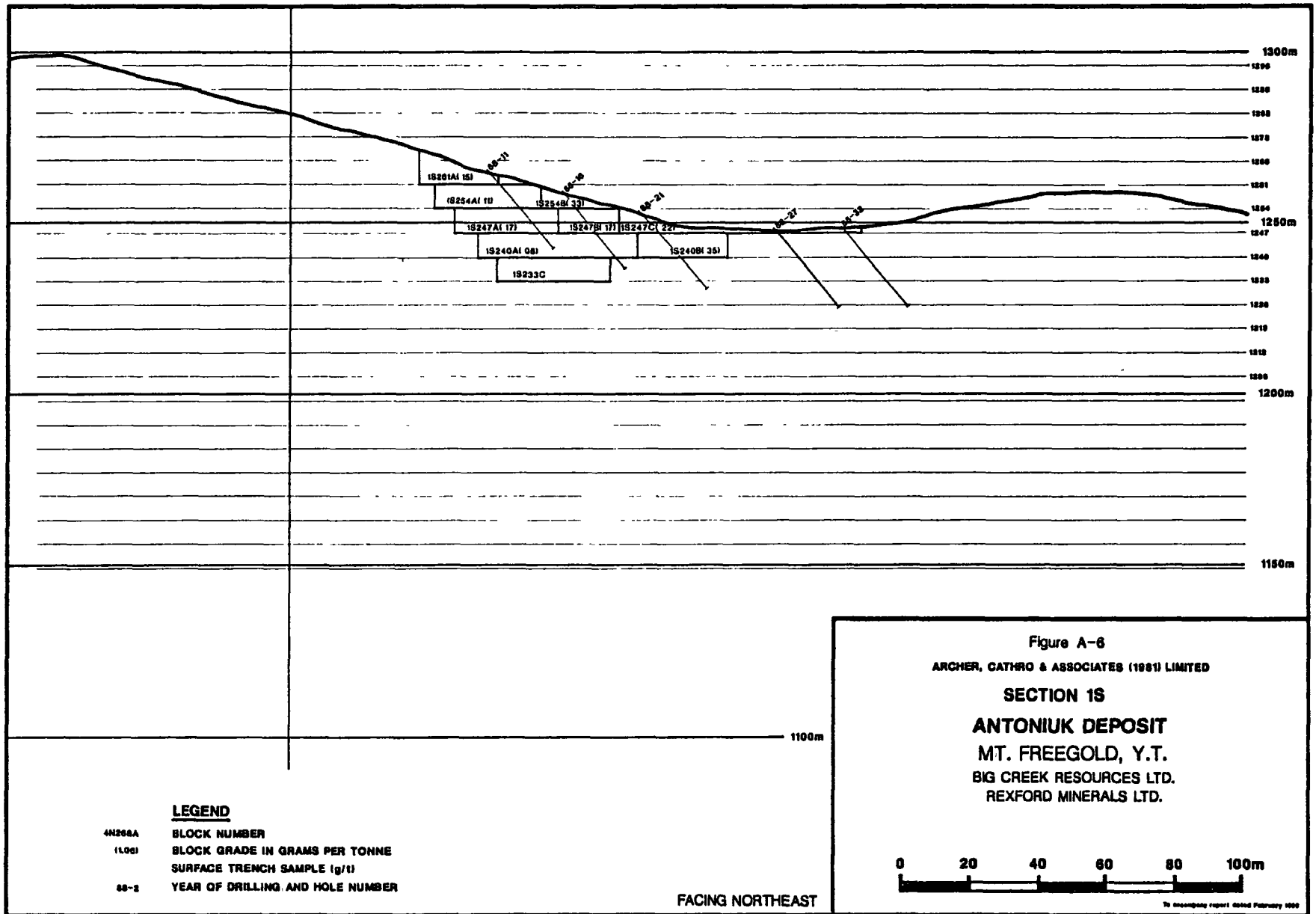
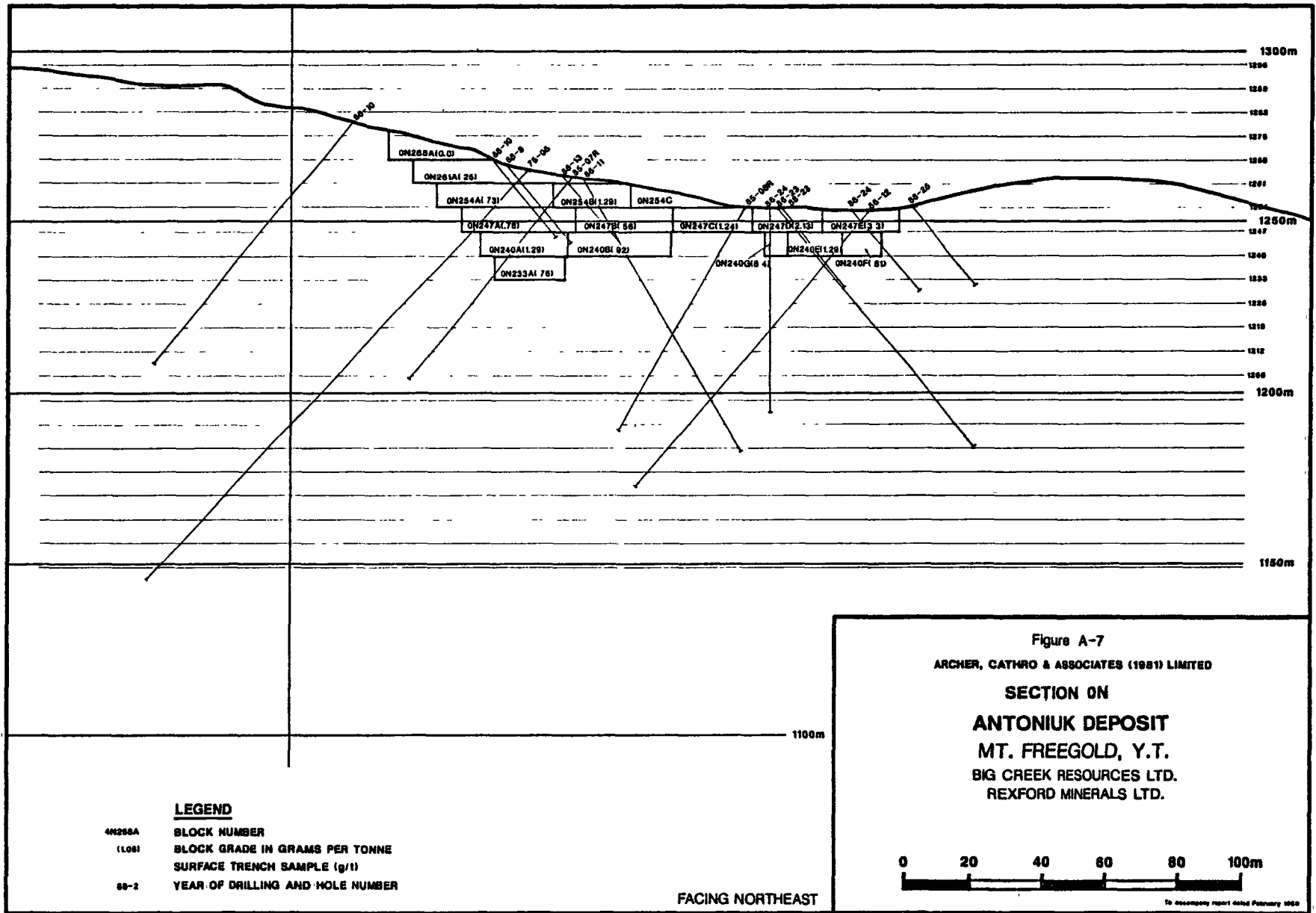
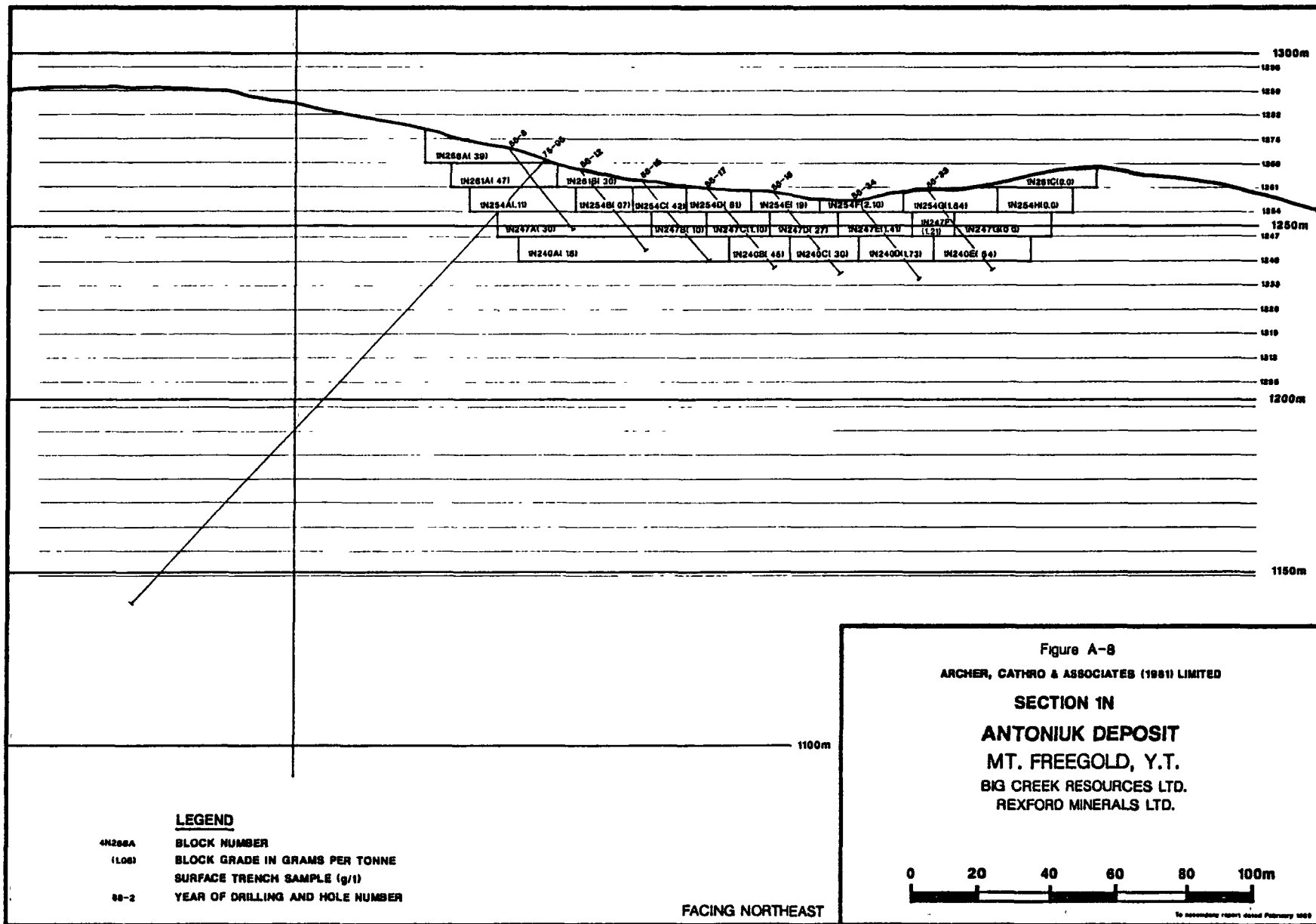


Figure A-5  
 ARCHER, CATHRO & ASSOCIATES (1961) LIMITED  
**SECTION 2S**  
**ANTONIUK DEPOSIT**  
 MT. FREEGOLD, Y.T.  
 BIG CREEK RESOURCES LTD.  
 REXFORD MINERALS LTD.







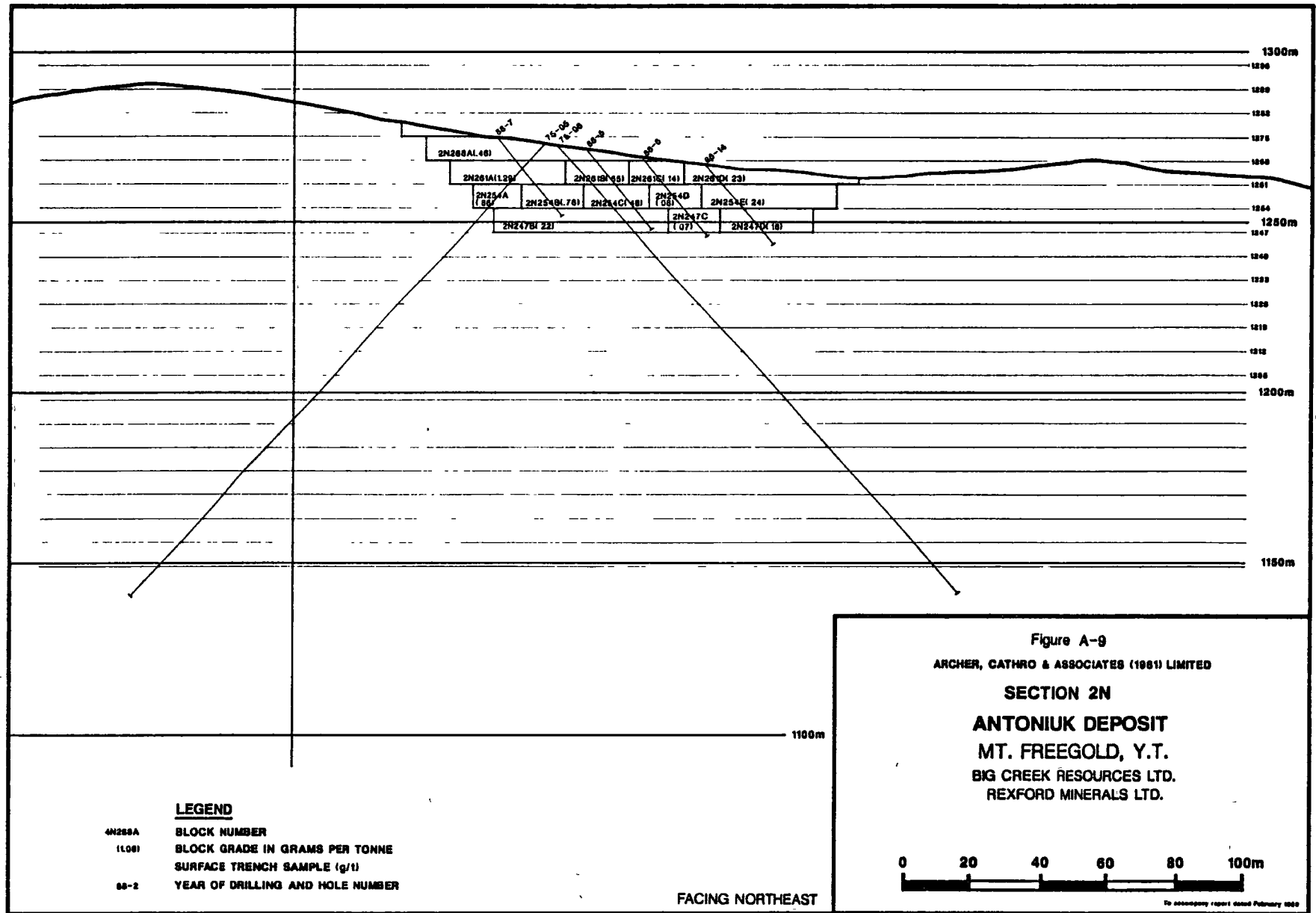
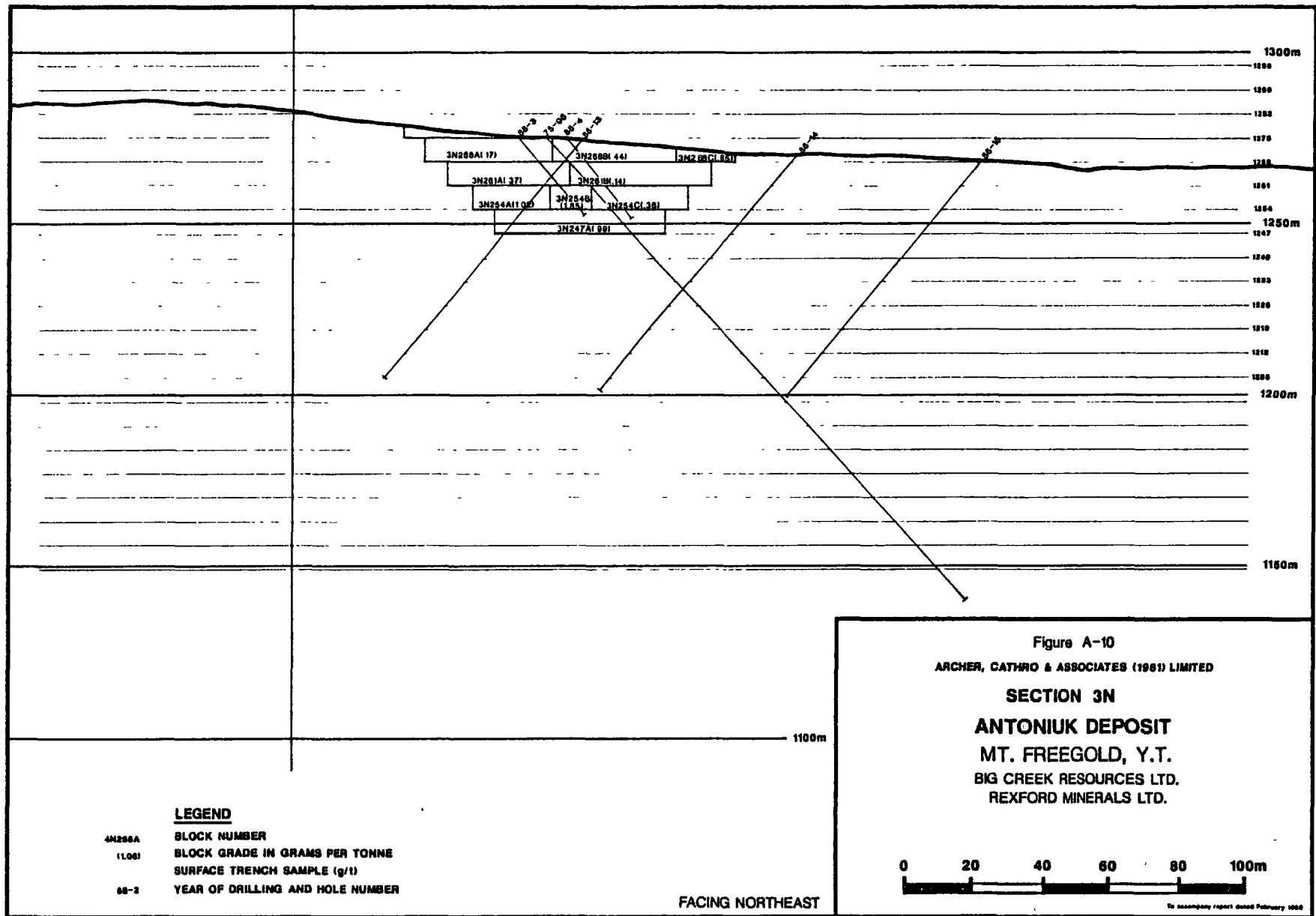
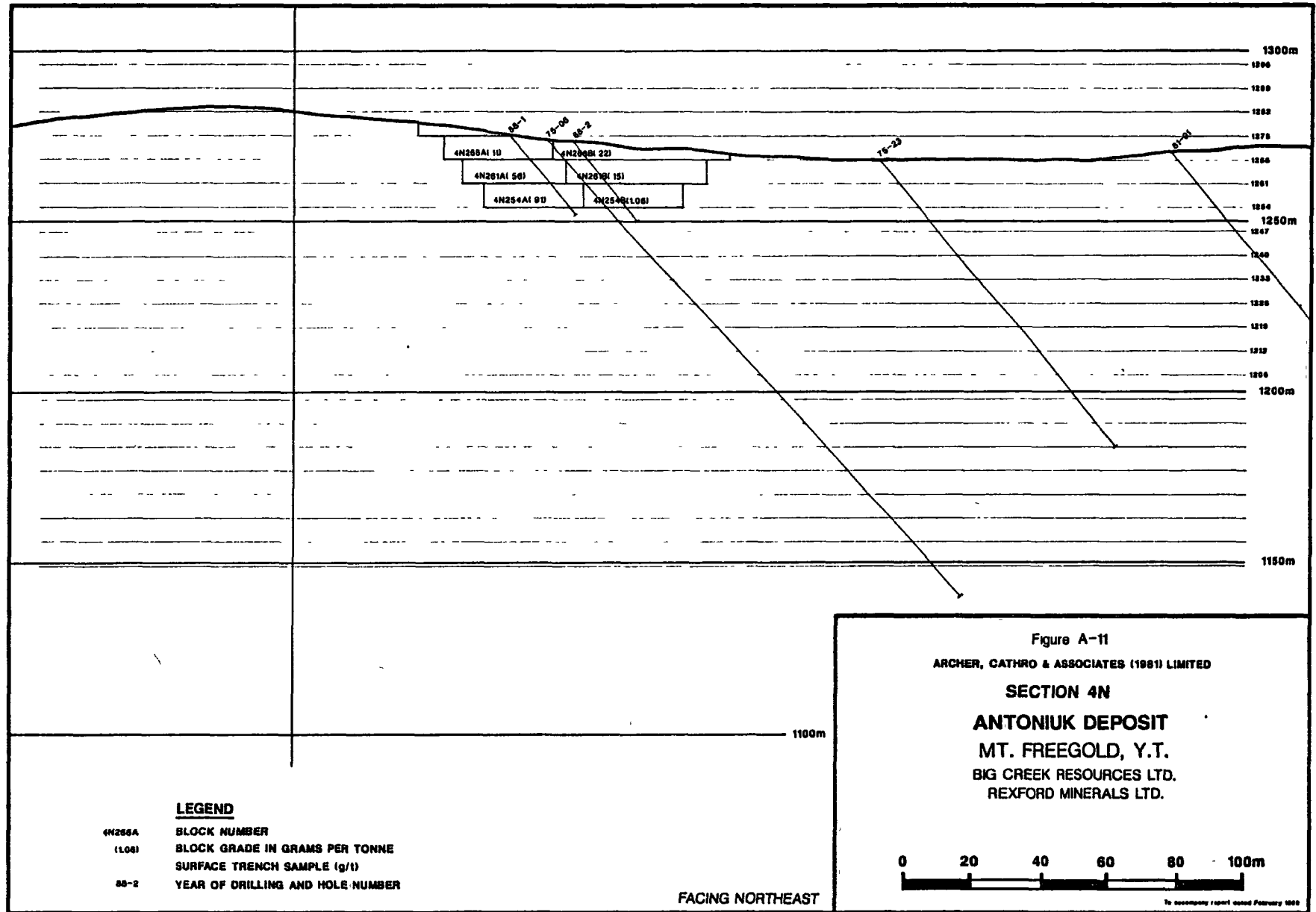


Figure A-9  
 ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
**SECTION 2N**  
**ANTONIUK DEPOSIT**  
**MT. FREEGOLD, Y.T.**  
 BIG CREEK RESOURCES LTD.  
 REXFORD MINERALS LTD.



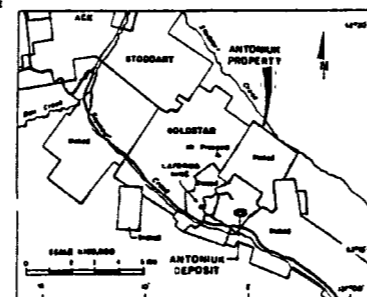
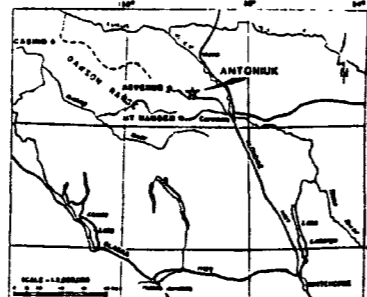
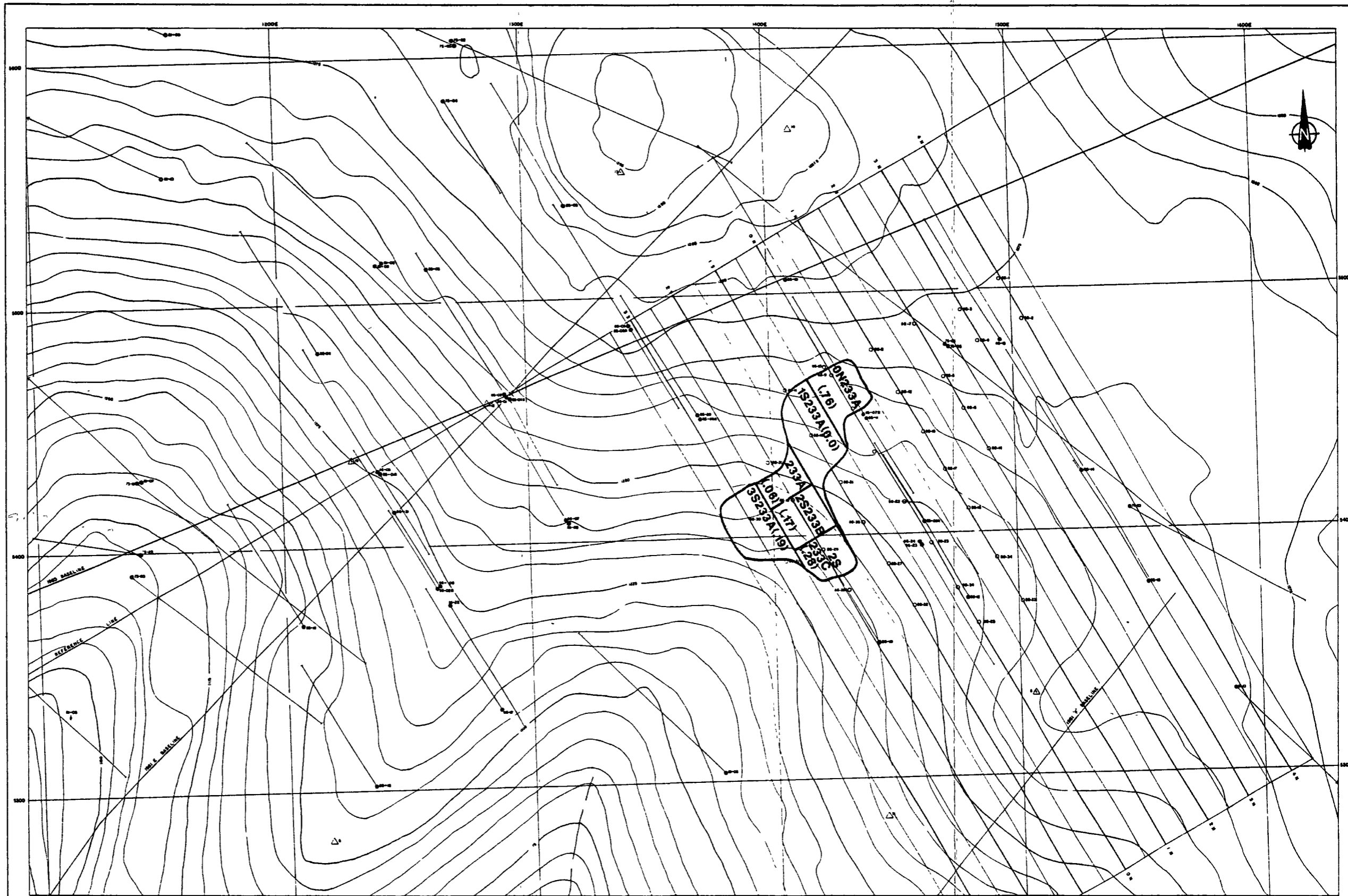




**LEGEND**

4N255A      BLOCK NUMBER  
(106)      BLOCK GRADE IN GRAMS PER TONNE  
            SURFACE TRENCH SAMPLE (g/t)  
88-2      YEAR OF DRILLING AND HOLE NUMBER

Figure A-11  
 ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
**SECTION 4N**  
**ANTONIUK DEPOSIT**  
 MT. FREEGOLD, Y.T.  
 BIG CREEK RESOURCES LTD.  
 REXFORD MINERALS LTD.



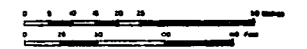
**LEGEND**

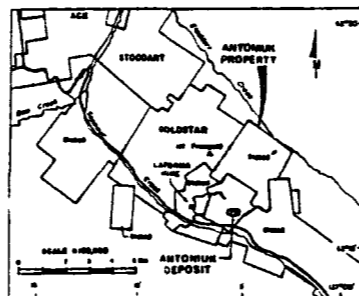
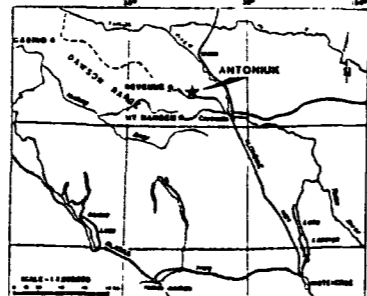
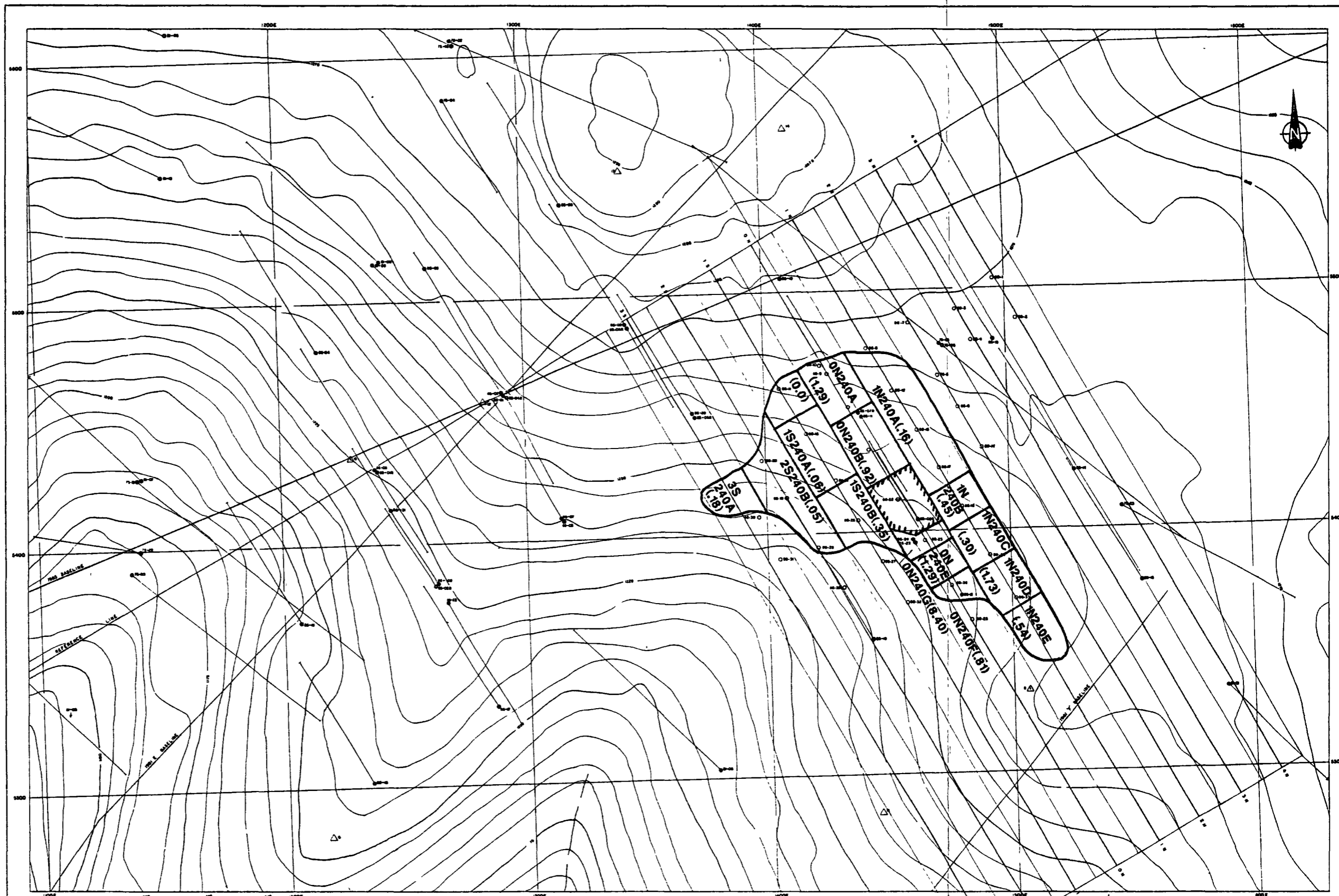
2N1242  
(0.0)

CELL NUMBER  
GRADE, GOLD g/t

**Figure A-12**  
**BENCH PLAN 1233 m**

ANTONUK PROPERTY  
MT FREEGOLD Y T  
BIG CREEK JOINT VENTURE  
REDFORD MINERALS LTD.  
BIG RESOURCES LTD.



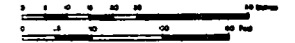


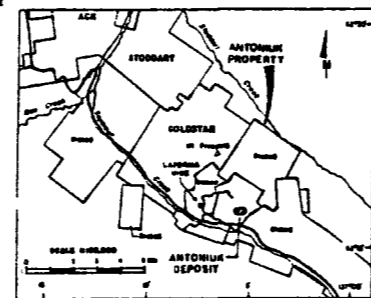
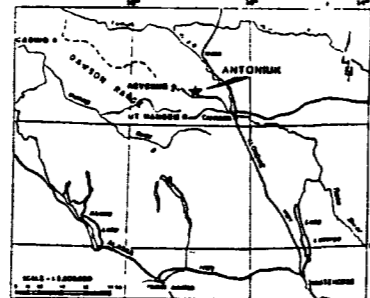
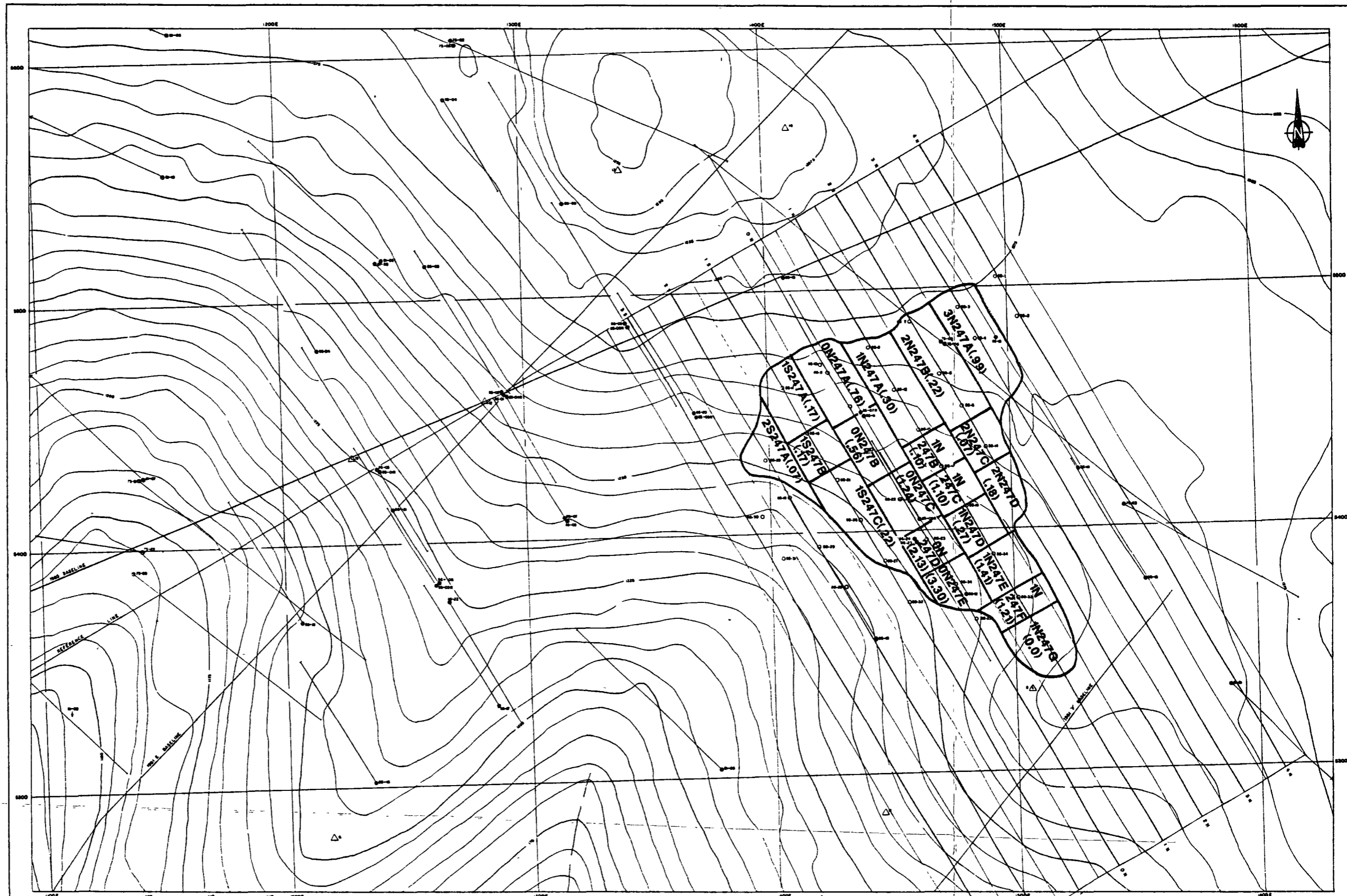
**LEGEND**

2N1242  
(0.0)

CELL NUMBER  
GRADE, GOLD g/t

**Figure A-13**  
MINERAL RESOURCES & ASSOCIATED PHYSICAL DATA  
**BENCH PLAN 1240 m**  
 ANTONIUK PROPERTY  
 MT FREEGOLD Y.T.  
 MCG CREEK JOINT VENTURE  
 REAFORD MINERALS LTD.  
 MCG RESOURCES LTD.

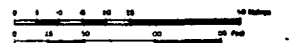


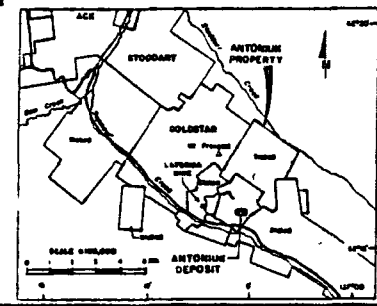
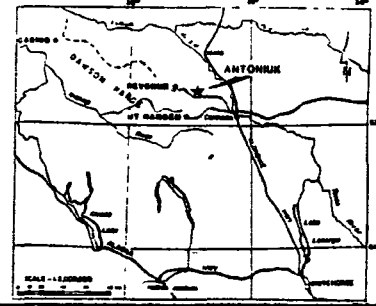
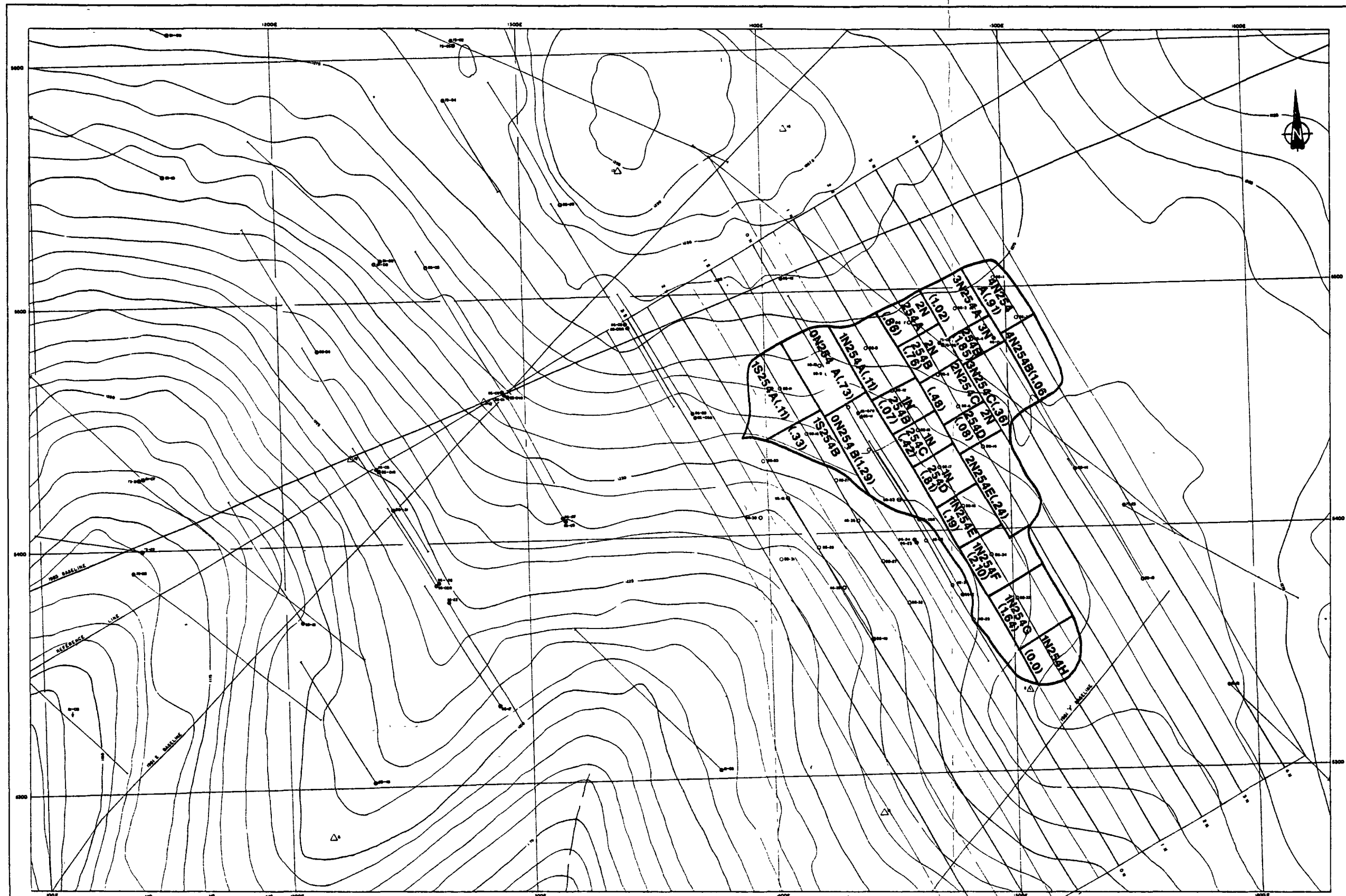


LEGEND

2N1242 (0.0)	CELL NUMBER GRADE, GOLD g/t
-----------------	--------------------------------

Figure A-14  
 BENCH PLAN 1247 m  
 ANTONLUK PROPERTY  
 MT FREEGOLD YT  
 BIG CREEK JOINT VENTURE  
 REEFORD MINERALS LTD.  
 SIG RESOURCES LTD.

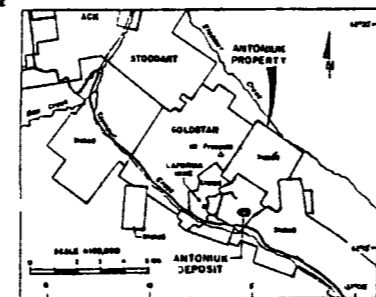
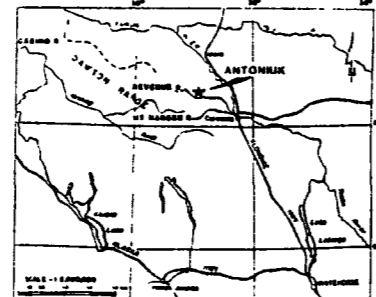
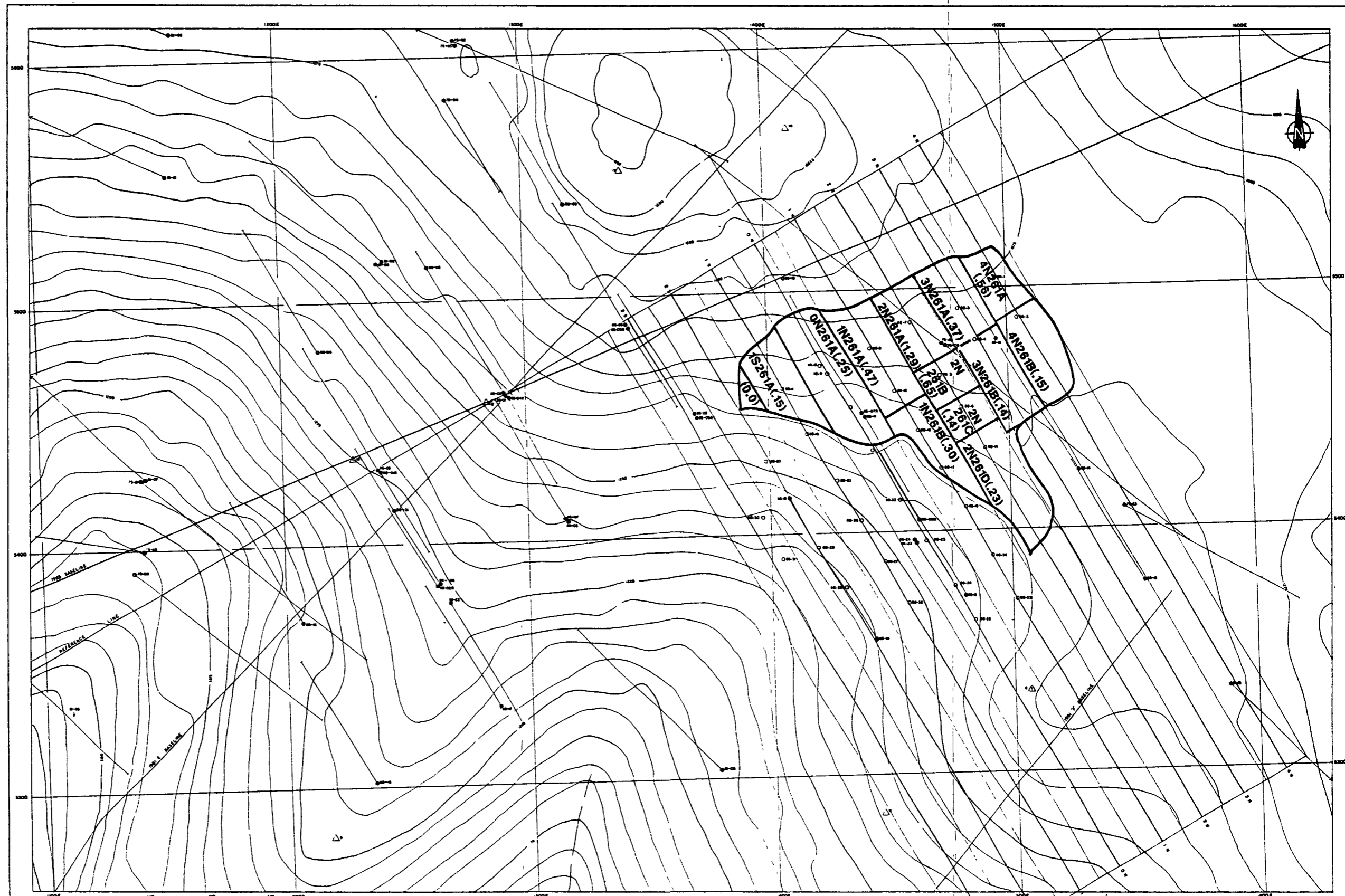




**LEGEND**

2N1242 (0.0)	CELL NUMBER GRADE, GOLD g/t
-----------------	--------------------------------

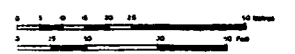
**Figure A-15**  
**BENCH PLAN 1254 m**  
 ANTONUK PROPERTY  
 MT FREEBOLD Y.T.  
 BIG CREEK JOINT VENTURE  
 REEFORD MINERALS LTD  
 BIG RESOURCES LTD.

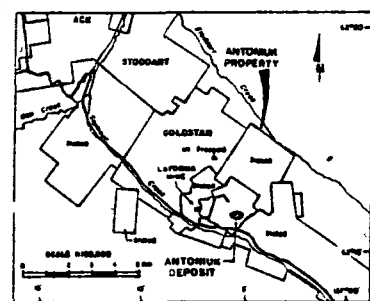
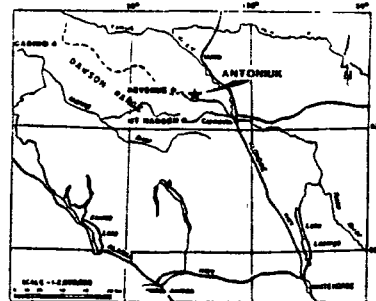
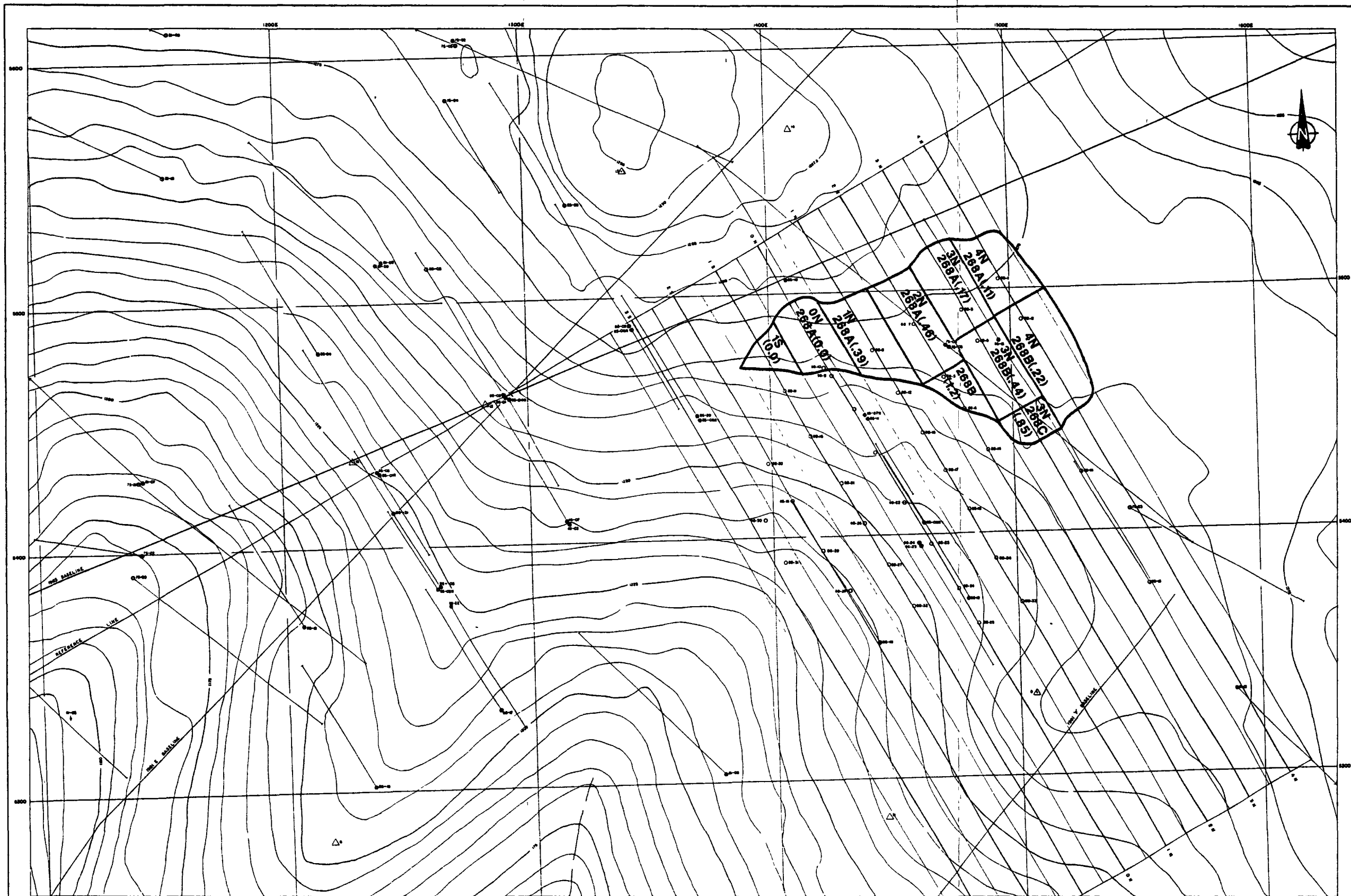


2N1242  
(0.0)

**LEGEND**  
CELL NUMBER  
GRADE, GOLD g/t

**Figure A-16**  
BENCH PLAN 1261 m  
ANTONLUK PROPERTY  
MT FREGOLD YT  
80 CREEK JOINT VENTURE  
REDFORD MINERALS LTD  
80 RESOURCES LTD.



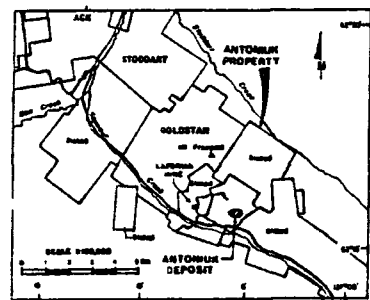
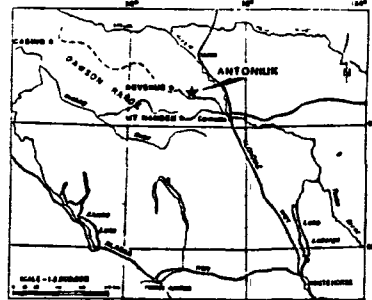
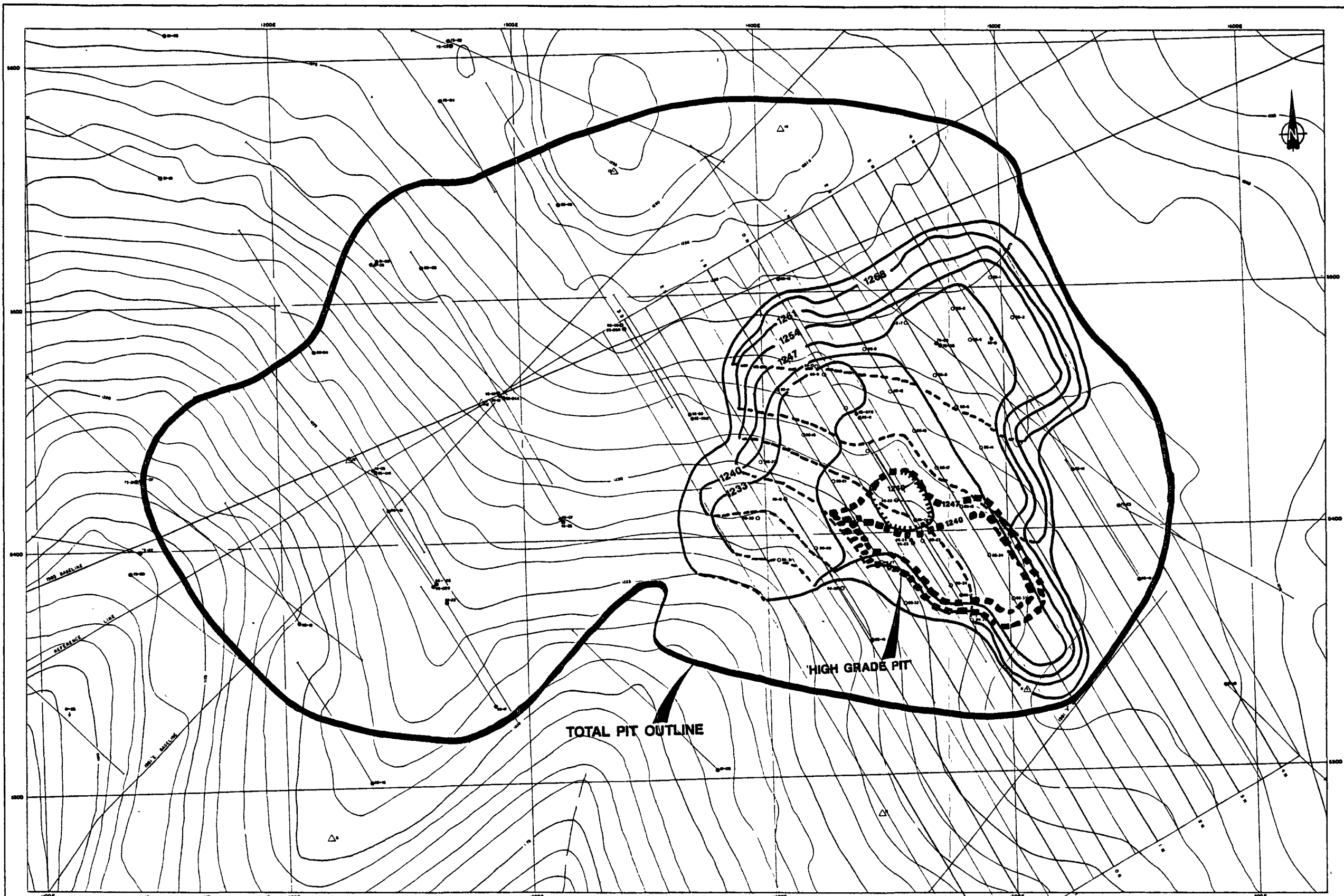


**LEGEND**

2N1242 (0.0)	CELL NUMBER GRADE, GOLD g/t
-----------------	--------------------------------

**Figure A-17**  
ANTONIK, STODDART & GOLDSTAR (1984) LIMITED  
**BENCH PLAN 1268 m**  
 ANTONIK PROPERTY  
 MT. FREEBOLD Y.T.  
 BIG CREEK JOINT VENTURE  
 REXFORD MINERALS LTD.  
 BIG RESOURCES LTD.



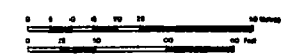


**LEGEND**

2N1242 (0.0)	CELL NUMBER GRADE, GOLD g/t
-----------------	--------------------------------

**Figure A-18**  
**COMPILATION BENCH PLAN**

ANTONLUK PROPERTY  
MT FREEGOLD Y T  
BIG CREEK JOINT VENTURE  
REDFORD MINERALS LTD.  
BIG RESOURCES LTD.





### FURTHER EXPLORATION

Adjacent to the drill indicated reserve blocks, there is potential for additional reserves within mineralized zones that have not received sufficient drilling. Any of these additional reserves that lie within Holt's preliminary pit are considered to be an "inferred reserve". The balance outside the pit walls is too poorly sampled at this time to be designated as more than good exploration targets. Figure A-19 is a compilation map showing the location of the inferred reserves and exploration targets.

The following exploration programs are recommended (in order of priority).

1. Metallurgical Testing

The samples collected during 1988 should be processed to determine their metallurgical characteristics. These samples were taken from a variety of material within the mineralized reserves and should provide a reasonable estimate of leachability. This work is budgeted to cost \$20,000.

2. Proving of Inferred Reserves

a) Diamond Drilling

The highest priority should be assigned to exploration of the inferred reserve block because it lies within Holt's proposed pit and was designated as waste in his calculations. Most of the area containing these reserves has not been trenched and little assay data is available. Table 18 below shows a breakdown of the inferred reserves by section line and lists the estimated amount of drilling required.

TABLE 18  
INFERRED RESERVES WITHIN PRELIMINARY PIT  
ANTONIUK DEPOSIT

A list of the diamond drill holes required to sample these inferred reserves is given in Appendix One. This program is budgeted to cost \$250,000.

<u>Section</u>	<u>Tonnes</u>	<u>Diamond Drill Holes (Number/Length)</u>
16N	50,000	1/100 m (310 feet)
18N	110,000	2/160 m (525 feet)
20N	220,000	4/290 m (955 feet)
22N	<u>640,000</u>	<u>4/400 m (1310 feet)</u>
TOTAL	<u>1,020,000</u>	<u>11/950 m (3100 feet)</u>

b) Trenching

The success of the 1987 trenching indicated additional trenching would be useful in locating new ore reserves and better defining existing reserves, particularly along the south margin of the deposit. The proposed trenching should be oriented northeasterly parallel to the 1987 trenches. About 3000 m of trenching would require 250 hours with a ripper-equipped Caterpillar D8 bulldozer at a budgeted cost of \$80,000.

3. Peripheral Targets

As shown on Figure A-19, good exploration potential exists in three areas peripheral to the proposed pit. These areas contain scattered trench and drill hole assays exceeding 0.7 g/t gold but have not been explored systematically and no reserve figures have been calculated. Exploration should consist of 2000 m of trenching in the three most promising areas, along the Theodore Vein

and south and southeast of the Antoniuk deposit. This would require 150 hours with a Caterpillar D8 at a budgeted cost of \$50,000.

a) Southwest Area (Theodore Vein)

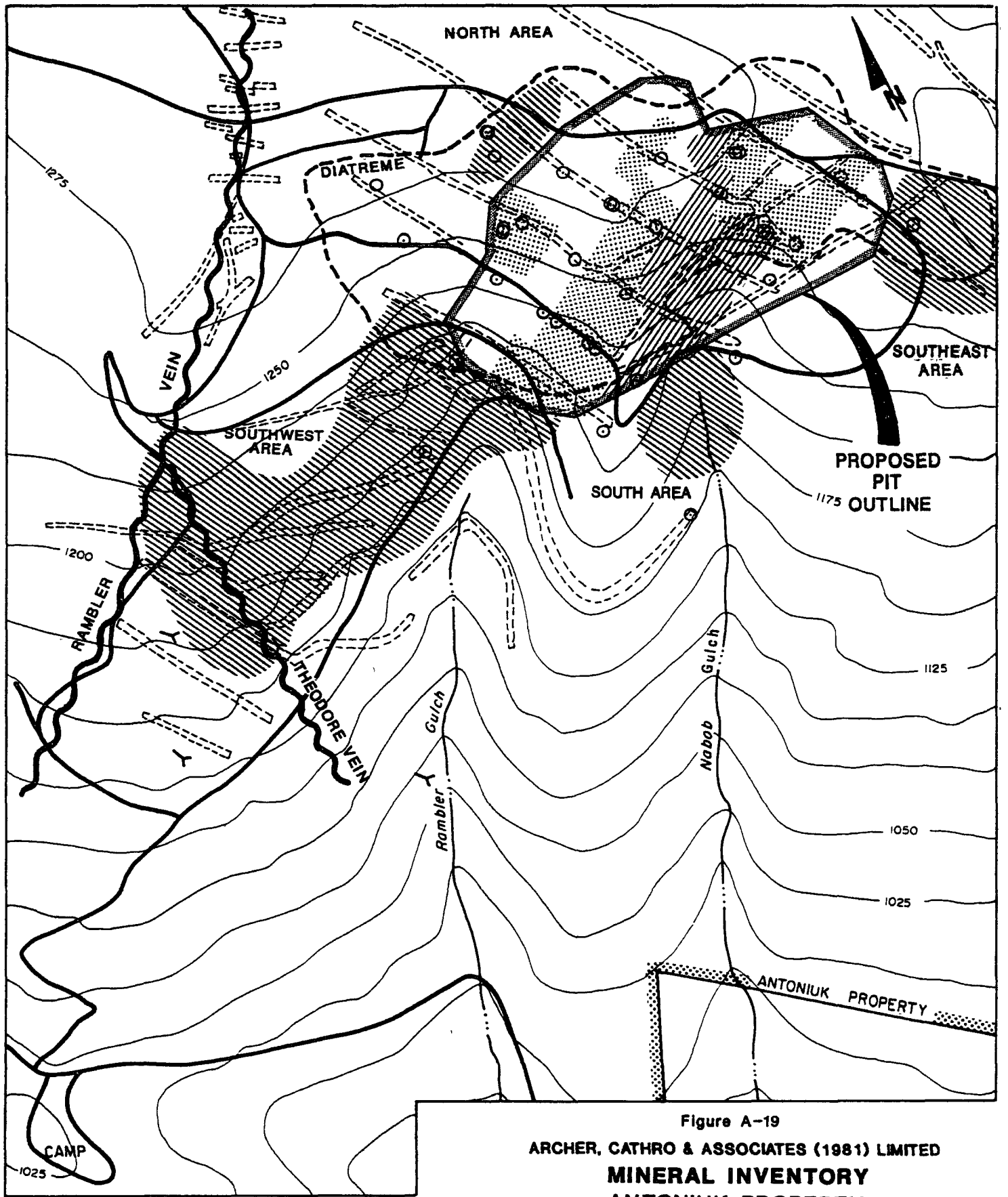
This area lies downhill from the proposed open pit and contains over twenty-five sample intervals with values exceeding 0.7 g/t gold, including up to 1.92 g/t gold over 13.7 m in a trench over the Theodore Vein and 2.33 g/t gold over 22.56 m in drill hole 75-22. Oxidation here is not expected to be as deep as it is higher on the mountainside.

b) South Area

Trenching in 1987 exposed mineralized northeasterly-trending structures that are open to the southwest where they strike out of the breccia diatreme into more competent granodiorite. The structures may change character to resemble the G-3 Vein once they enter granodiorite.

c) Southeast Area

The most easterly drill holes (81-01 and 75-23) intersected a favourable host rock consisting of intensely altered heteroclastic breccia. Unfortunately, these holes did not produce any significant gold assays but they do carry significant silver assays. Since the best gold values on the property occur in similarly altered rocks along the breccia contact 200 m to the west, it is felt the remainder of the breccia contact in this area should be tested. Oxidation here extends to depths of at least 75 m.











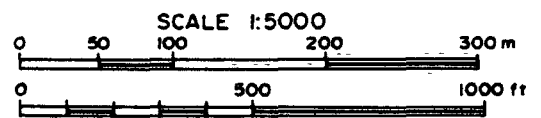
- |   |                          |   |                   |
|---|--------------------------|---|-------------------|
|  | DRILL INDICATED RESERVES |  | DRILL COLLAR      |
|  | DRILL INFERRED RESERVES  |  | ROAD              |
|  | EXPLORATION POTENTIAL    |  | ADIT              |
|   |                          |  | TRENCH            |
|   |                          |  | DIATREME BOUNDARY |

Figure A-19  
 ARCHER, CATHRO & ASSOCIATES (1981) LIMITED  
**MINERAL INVENTORY**  
**ANTONIUK PROPERTY**  
 Mt. Freegold, Y.T.  
 BIG CREEK RESOURCES LTD.  
 REXFORD MINERALS LTD.



d) North Area

Several drill and trench intersections occurring in this area appear to be related to minor structures that may be associated with the breccia contact. These warrant further investigation because the North Area is situated close to the top of the ridge where oxidation could extend to depths of 60 m or more.

**APPENDIX ONE**  
**RECOMMENDED EXPLORATION DIAMOND DRILL HOLES**

RECOMMENDED EXPLORATION DIAMOND DRILL HOLES - ANTONIUK DEPOSIT

<u>DDH</u>	<u>SECTION</u>	<u>METRES FROM REFERENCE LINE</u>	<u>AZIMUTH (°)</u>	<u>DIP (°)</u>	<u>LENGTH (m)</u>	<u>LENGTH (feet)</u>
1)	16N	40E	150	-50	100	310
2)	18N	30E	150	-50	108	360
3)	18N	100E	150	-50	50	165
4)	20N	30W	330	-50	76	250
5)	20N	40E	330	-50	40	130
6)	20N	45E	150	-50	125	410
7)	20N	110E	150	-50	50	165
8)	22N	35W	150	-50	108	360
9)	22N	115E	150	-50	108	360
10)	22N	60E	150	-50	108	360
11)	22N	115E	150	-50	<u>76</u>	<u>250</u>
					<u>950</u>	<u>3,120</u>

**APPENDIX TWO**  
**DRILL HOLES STATISTICS**



DRILL HOLE STATISTICS  
ANTONIUK 1988 DRILLING

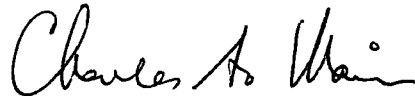
<u>DRILL HOLE</u>	<u>BEARING</u>	<u>DIST. (m)</u>	<u>NORTHING (m)</u>	<u>EASTING (m)</u>	<u>ELEV. (m)</u>	<u>DEPTH (m)</u>	<u>AZIMUTH (°)</u>
88-1	356°29'23"	171.02	6905503.90	391496.37	1275.54	100	150
88-2	359°28'26"	153.82	6905487.01	391505.43	1274.22	100	150
88-3	352°07'29"	161.52	6905493.20	391484.71	1275.34	100	150
88-4	352°16'50"	146.48	6905478.35	391487.16	1275.05	100	150
88-5	345°09'23"	135.73	6905464.40	391472.07	1271.74	100	150
88-6	347°15'44"	120.72	6905450.95	391480.22	1270.60	100	150
88-7	343°23'50"	159.53	6905486.08	391461.26	1275.06	100	150
88-8	336°10'38"	156.28	6905476.17	391443.72	1273.87	100	150
88-9	328°46'44"	155.04	6905465.79	391426.48	1271.33	65	150
88-10	328°45'32"	159.60	6905469.66	391424.07	1271.16	100	150
88-11	322°08'47"	162.21	6905461.28	391407.30	1268.69	100	150
88-12	336°45'41"	136.33	6905458.47	391453.05	1269.73	100	150
88-13	328°55'02"	138.68	6905451.97	391435.24	1266.93	100	150
88-14	350°25'05"	102.35	6905434.12	391489.80	1267.23	100	150
88-15	337°57'47"	117.10	6905441.75	391462.90	1265.81	100	150
88-16	320°34'41"	140.69	6905441.88	391417.50	1262.55	100	150
88-17	339°12'05"	99.60	6905426.31	391471.47	1262.72	100	150
88-18	341°25'41"	80.85	6905409.84	391481.09	1261.90	100	150
88-19	310°11'17"	127.87	6905415.71	391409.16	1250.29	100	150
88-20	312°34'23"	145.63	6905431.72	391399.60	1255.88	100	150
88-21	318°53'05"	118.27	6905422.30	391429.07	1255.52	100	150
88-22	327°08'08"	95.62	6905413.52	391454.95	1256.65	100	150
88-23	326°29'11"	75.80	6905396.40	391464.99	1255.16	100	150
88-24	325°18'47"	54.45	6905377.97	391475.85	1254.89	100	150
88-25	322°17'50"	38.16	6905363.39	391483.50	1255.14	100	150
88-26	316°24'11"	99.67	6905405.38	391438.11	1253.56	100	150
88-27	312°54'44"	80.87	6905388.26	391447.61	1251.54	100	150
88-28	300°39'35"	88.29	6905378.22	391430.89	1242.05	100	150
88-29	305°46'56"	105.83	6905395.08	391420.99	1242.71	100	150
88-30	302°27'53"	135.55	6905405.96	391392.47	1242.10	120	150
88-31	299°36'41"	116.65	6905390.84	391405.42	1238.93	120	150
88-32	307°08'17"	62.60	6905370.99	391456.94	1251.06	100	150
88-33	351°58'53"	39.38	6905372.20	391501.35	1258.92	100	150
88-34	345°04'59"	58.47	6905389.70	391491.79	1258.56	100	150
88-35	328°06'47"	119.76	6905434.89	391443.58	1262.00	100	150

APPENDIX THREE  
AUTHOR'S STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, Charles A. Main, geologist, with business addresses in Whitehorse, Yukon Territory and Vancouver, British Columbia and residential address in Vancouver, British Columbia, hereby certify that:

1. I graduated from the University of British Columbia in 1971 with a B.Sc. majoring in Geological Sciences and Chemistry.
2. I have been actively engaged as a geologist in mineral exploration since 1971 and as a partner of Archer, Cathro & Associates (1981) Limited since June 1, 1981.
3. I have personally participated in or supervised the field work reported herein.



---

Charles A. Main, B.Sc.

**APPENDIX FOUR**  
**LIST OF EMPLOYEES**

NAME

POSITION

C. Main

Project Manager

T. Becker

Geologist

C. Blunden

Field Assistant

G. Elcock

Field Assistant

N. Hachey

Field Assistant

R. Hancox

Field Assistant

G. McIntosh

Field Assistant

S. Wettlaufer

Cook