

LOG NO: 1110	RD.
ACTION:	
FILE NO:	

DIAMOND DRILL REPORT
on the
AJAX C.G.
Lot No. 4710
AJAX PROJECT

Kamloop Mining Division
NTS 92I/9W

Latitude: 50 35'N Longitude: 120 30'W

AFTON OPERATING CORPORATION
P.O. BOX 937
Kamloops, B.C.
V2C 5N4

FILMED

By
Lorne A. Bond
Senior Geologist

Kamloops, B.C.

October 6, 1988

GEOLOGICAL BRANCH
ASSESSMENT REPORT

17,965

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1. INTRODUCTION

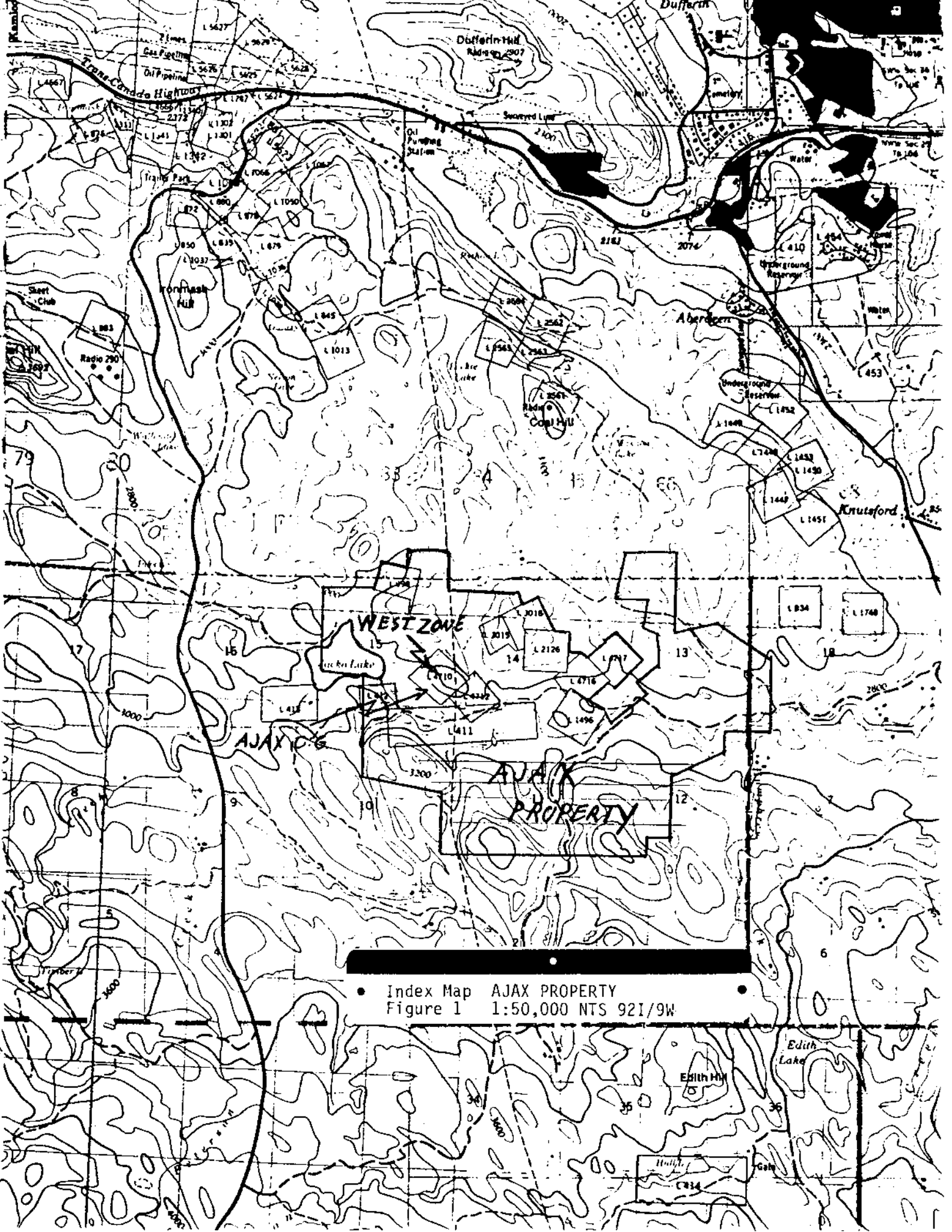
The Ajax property is located some ten kilometers southeast of the Afton minesite, and south of the City of Kamloops (Fig.1A). It is located in the Kamloops Mining Division at latitude 50 35'N and longitude 120 25'W on NTS Map 92I/9W. The property consists of eight crown grants, fifty-two located claims with seventy-four units, and the base metal rights on thirty-one parcels. Total surface area of the mineral claims amounts to some 1,600 hectares (Fig.1).

Much of the area is occupied by rolling grassland with timber only on the higher slopes. Relief is generally moderate with elevations between 800 and 1,100 metres above sea level. Extensive glacial action has created a topography of low rolling hills with local deep accumulations of glacial till on the southeast flanks of larger rock outcroppings.

The low annual precipitation level is reflected in the flora of the area. Bunchgrass, sagebrush, and cacti are abundant on the lower grassy slopes being joined by stands of ponderosa pine at higher elevations. Water is abundant in the spring in numerous small saline ponds and sloughs. However, year-round fresh water is restricted to the Jacko Lake and Edith Lake drainage systems and these sources are heavily committed to irrigation use.

Ranching is currently the predominant land use. Most of the surface rights are privately owned with grazing leases granted on much of the outstanding crown land. The area is close to all forms of infrastructure and is served by a network of roads including the all-weather gravel Goose Lake Road, which traverses the property.

During the period February 18-21, 1988, a diamond drill hole with a total length of 236.2 metres was drilled on the Ajax C.G. to test for the extension of ore grade mineralization below reserves established by previous drilling programs.



• Index Map AJAX PROPERTY
 Figure 1 1:50,000 NTS 921/9W

2. PROPERTY DESCRIPTION

The property designated as the Ajax-Neptune Claim Group consists of the following:

Claim Name	Record No.	Expiry Date
Ajax 6 (8 units)	1886	24 May, 1999
Ajax 7 Fr.	1887	24 May, 1999
Ajax Fr.	119141	25 May, 2000
Ajax 100 (4 units)	6047	15 Jan, 1999
Ajax 200 (10 units)	6048	15 Jan, 1999
Ajax 900 Fr.	6054	15 Jan, 1999
Ajax 1000 Fr.	6248	7 Jun, 1999
Fox 11 Fr.	41941	16 Apr, 1999
Fox 12 Fr.	41942	16 Apr, 1999
Clover 1 (4 units)	979	10 Aug, 1999
Jacko 4	13932	2 Sep, 2000
Jacko 6 Fr.	13934	2 Sep, 2000
Pam 18-21	41336-39	22 Jan, 1999
Pam 24	41342	22 Jan, 1999
Map 2 Fr.	92948	6 Nov, 1999*
Edith 100 (15 units)	1802	9 Apr, 1999
Tyler 1-4	2297-2300	29 Nov, 1999*
Hump 100 (8 units)	1799	19 Apr, 1999
Sam 1 Fr.	2296	29 Nov, 1999*
Ajax C.G.	Lot 4710	
Neptune C.G.	Lot 4712	

* Note: Upon approval of assessment work described in this report and covered in a Statement of Exploration and Development submitted in October 1988.

3. HISTORY AND PREVIOUS WORK

Exploration activity in the Iron Mask area is first noted in government reports in 1896, when over two hundred claims were recorded. By 1900, underground work had been done on several properties in the area including the Wheal Tamar claim. Trenching was carried out on the Ajax claim between 1904 and 1910 and additional underground development and sampling was done in the nineteen-twenties.

In 1929, the Consolidated Mining and Smelting Company trenched and sampled the area and drilled ten holes from surface. Berens River Mines Limited (Newmont) optioned the property in 1952 and drilled on a narrow high grade shear zone on the Monte Carlo claim.

In 1954, Cominco again optioned the four original crown grants together with adjacent crown grants and staked additional ground. Exploration work proceeded on an intermittent basis until 1980.

In 1980, under a joint venture agreement with E & B Explorations Limited, a major exploration program was initiated and continued through 1981. With these expenditures, E & B Explorations Limited acquired a thirty percent interest in the property. Results of the program indicated a large low grade deposit with open pit potential.

In 1986, an agreement was reached between Cominco, E & B Explorations, and Afton Operating Corporation under which Afton acquired controlling interest in the Ajax property in respect of certain expenditures and ultimately placing the property into production. During 1987, Afton carried out an extensive drilling and evaluation program.

The 1987 program is described in assessment report numbers 17198 and 17199. The net result of that program was the delineation of open pit reserves in two separate zones on the Ajax property. Open pit reserves of 20,200,000 tons at .47%Cu and .010 oz/t Au were outlined in the West Zone on the Ajax-Neptune Claim Group. On the Wheel Tamar Claim Group, 7,000,000 tons at .44% Cu and .010 oz/t Au were proven up in the East Zone.

4. CURRENT PROGRAM

The purpose of the 1988 drilling program on the Ajax-Neptune Claim Group was to test for the extension of ore grade mineralization beneath the open pit reserves outlined in the West Zone by previous work.

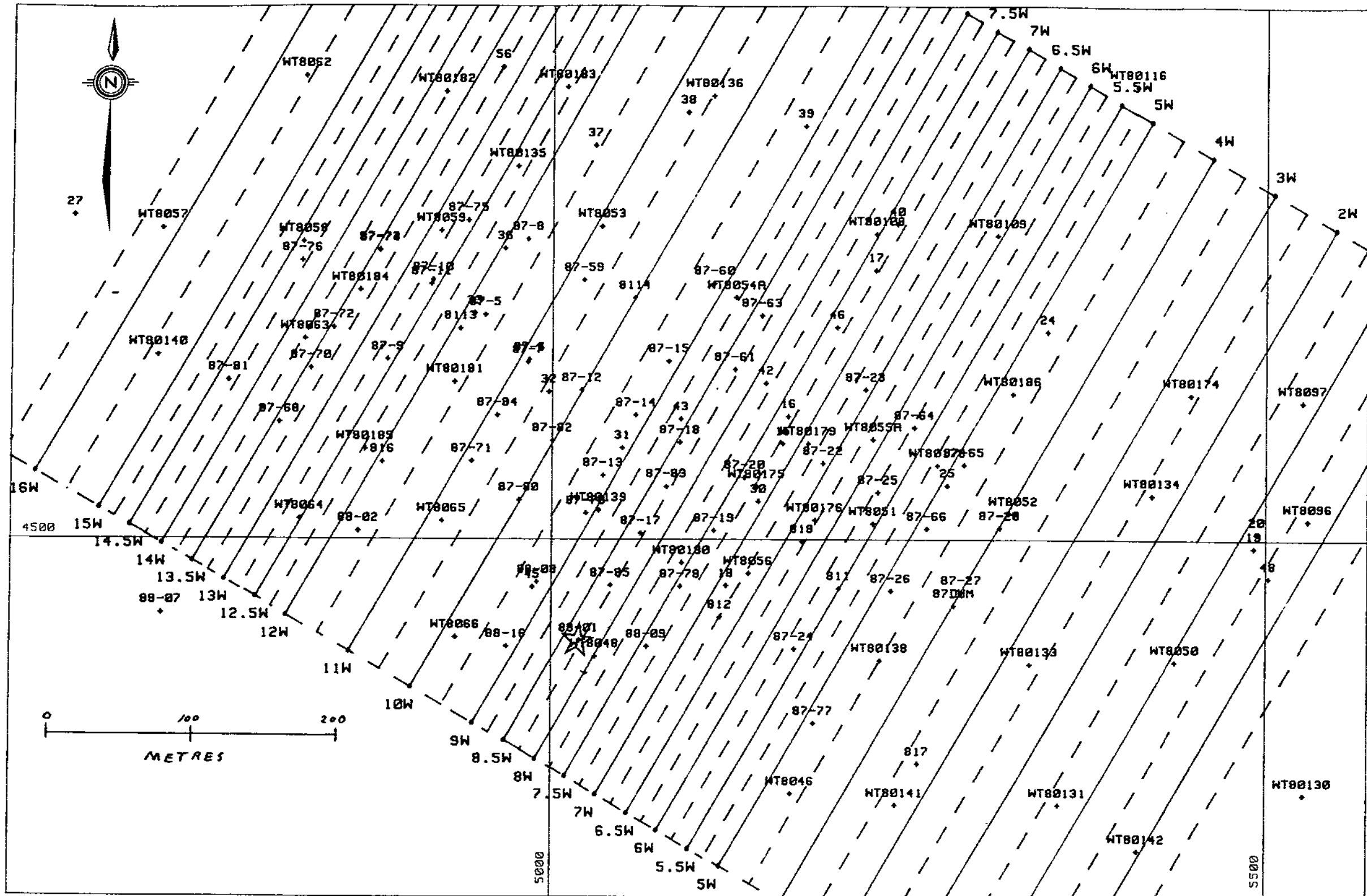
To that end, D.D.H. 88-1 was collared on Section 8.5W in the center of the West Zone and drilled under mineralization cut by D.D.H. 87-85 (Figure 2). The hole was drilled during the period February 18-21, 1988. Core size was NQ. Total length of the hole was 236.2 metres (775 feet). Copies of the geological log and assay results are included in the appendix.

Core from the program was transported to the Afton minesite for processing. All core was geologically logged. Recovery and RQD measurements were taken and the core photographed. Rock strength testing was performed on selected pieces of core from all rock types. The core was then split and one-half retained for core storage. The other half was bagged, generally in three metre samples, and sent to the property analytical lab for copper, gold, and silver assays. Some selective analyses for other elements were done as well. Afton personnel supervised the program, processed the core, and provided survey control in the field. All core from the program is stored at the Afton minesite. Connors Drilling Limited was the contractor for the drilling program.

In the lab, core samples were crushed in two stages utilizing a jaw crusher and a cone crusher. Sample volume was reduced to 250 grams using a Jones riffle. This smaller sample was then pulverized. Reject material from the splitter was bagged, labelled and stored.

Assays for copper were performed by dissolution followed by atomic absorption spectrophotometry analysis. Gold assays were performed by fire assaying with atomic absorption analysis of the resultant bead in a methyl isobutyl ketone medium. Silver assays were carried out by acid dissolution followed by atomic absorption spectrophotometry analysis.

Geological, assay and survey data from the program were stored on computer files using an in-house HP9000 Series computer and Geomin software. This data base was then available for computer generated plans and sections, statistical analyses, compositing, ore reserve modelling and pit optimizations.



AFTON OPERATING CORP.
 AJAX WEST ZONE
 SCALE 1 : 3000
 27 Sep 1988

FIGURE 2

5. RESULTS OF THE PROGRAM

The geology of the Ajax property and the West Zone are extensively described in Assessment Report No. 17199 submitted by Afton Operating Corporation.

Ajax property mineralization is hosted by intrusive units of the Triassic Iron Mask Batholith. The Sugarloaf Diorite unit is a younger intrusive phase of the batholith and is directly associated with emplacement of copper mineralization on the Ajax property.

In the Ajax West Zone, a linear body of Sugarloaf Diorite, with a northwest-southeast axis and steep southerly dip, has been emplaced along the contact between Nicola Volcanics and Hybrid Diorite (Figure 3). The Sugarloaf unit has stopped out and assimilated substantial areas of Hybrid Diorite creating a contact area with undulating embayment features. Hydrothermal solutions associated with the Sugarloaf intrusive have extensively altered both the host diorite and the bounding Hybrid Diorite. Both the Sugarloaf Diorite and fractured and altered sections of Hybrid Diorite are hosts for ore grade chalcopyrite mineralization. Drillhole 88-1 was collared to the south of the ore zone and drilled north easterly from hanging wall to footwall (Figure 4). The first 100 metres of the hole cut basaltic rocks and short sections of more andesitic volcanics which constitute the south contact or hanging wall of the intrusive units. Minor alteration and trace sulphides were noted in these rocks. The remainder of the hole was completed in varieties of the Sugarloaf Diorite or albitized equivalents.

The main mineralized zone was encountered at 119 metres down the hole. The host rock unit is an intensely albitized and brecciated Sugarloaf Diorite to 204 metres succeeded by fresher, less altered diorite to the end of the hole. Significant chalcopyrite mineralization was present from 119 metres to 212 metres. It was concluded that a mineralized, albitized and brecciated zone exists to depth under the center section of the West Zone.

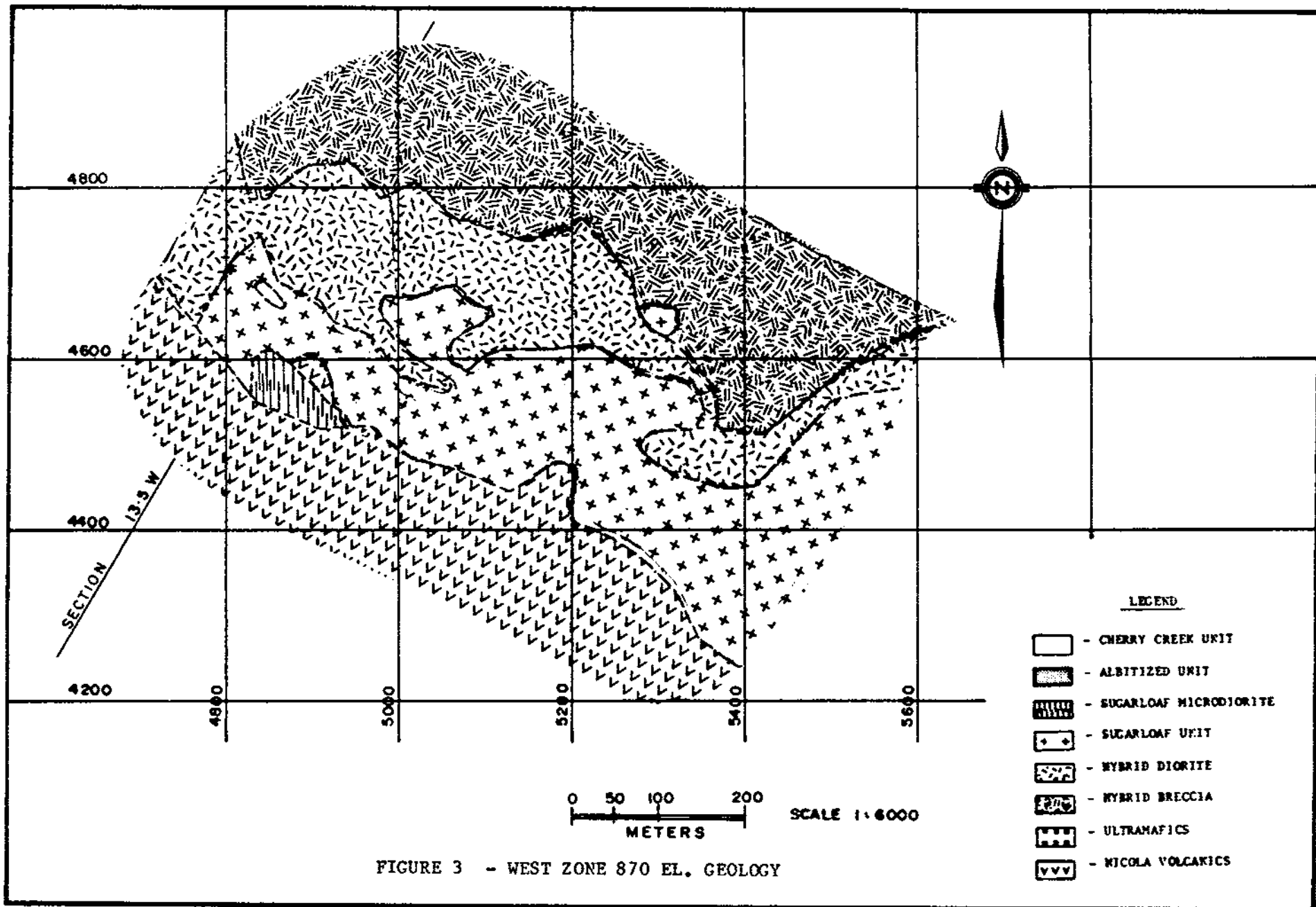
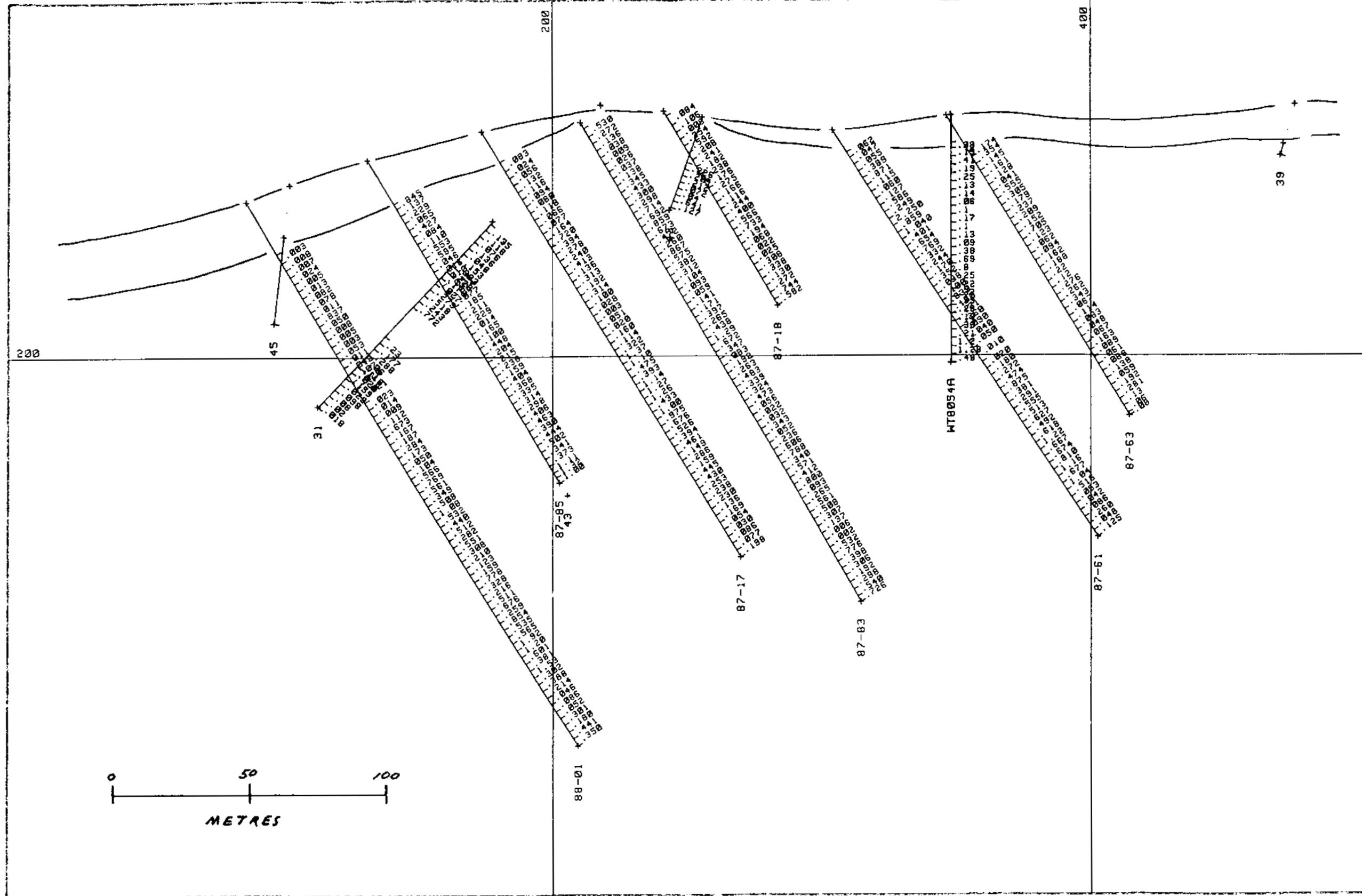


FIGURE 3 - WEST ZONE 870 EL. GEOLOGY



AFTON OPERATING CORP.

AJAX WEST ZONE

SCALE 1 : 1500

13 Oct 1988

SECTION 8.5W

REFERENCES

- Armstrong, W.P. (1973): Geology of the Ajax-Monte Carlo Property. Unpublished M.Sc. Thesis, University of British Columbia.
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STATEMENT OF COSTS

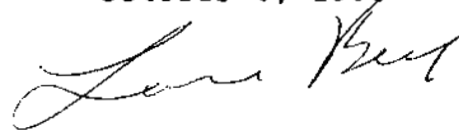
Diamond Drilling Connors Drilling Limited	\$ 9,832.92
Assay Costs 71 samples assayed for Cu and Au @ \$13.60 ea.	965.60
Truck Rental 5 days @ \$25 per day	125.00
Core Boxes 40 boxes @ \$5.35 ea	214.00
Personnel L. Tsang, Exploration Geologist, logging core, supervision 5 days @ \$185 per day	925.00
S. Porter, core splitter 3 days @ \$115 per day	345.00
L. Bond, Senior Geologist program planning, report writing 2 days @ \$225 per day	450.00
TOTAL COST	<u>\$12,857.52</u>

STATEMENT OF QUALIFICATIONS

I, Lorne Allan Bond, of the City of Kamloops, British Columbia do hereby certify that:

1. I am a qualified, practising Geologist.
2. I am a graduate of Loyola College (University of Montreal), with a B.Sc. (1967) in Geotechnical Sciences.
3. I have practised my profession since 1967 while employed with Sherritt-Gordon Mines Ltd., Cominco Ltd., and Afton Operating Corporation.
4. This report describes a diamond drilling program performed under my supervision from February 18 through February 21, 1988.

Lorne A. Bond
Senior Geologist
Afton Operating Corporation
October 6, 1988



STATEMENT OF QUALIFICATIONS

I, Louis Hee-Choi Tsang, of the City of Kamloops, British Columbia do hereby certify that:

1. I am a qualified, practising geologist.
2. I am a graduate of the University of British Columbia with a B.Sc. (1972) in Geology and Geophysics.
3. I have practised my profession since 1972 while employed with Granisle Copper Ltd., Highmont Operating Corporation and Afton Operating Corporation.
4. I have logged the drill core from the diamond drill holes in this program during the period February 18 through February 23, 1988.

Louis H.C. Tsang
Exploration Geologist
Afton Operating Corporation
October 6, 1988

APPENDIX

AJAX PROJECT
KEY TO GEOLOGICAL LOGS

Dist. - distance in feet
Rec. - recovery in percent
Rqd. - rock quality designation in percent

Cu grade - in percent
Au grade - oz. per short ton
Ag grade - oz. per short ton

ROCK

ALBU - Albitized Unit	OVBN - Overburden
CHCR - Cherry Creek Unit	SUGL - Sugarloaf Unit
HYBR - Hybrid Unit	ULMF - Ultramafic Unit
NICL (NVOL)	VOLC - Volcanics
- Nicola Group Volcanics	

LITHOLOGY

ALBT - Albitite	MDIO - Microdiorite
BREC - Breccia	MONZ - Monzonite
DIOR - Diorite	SYEN - Syenite
DYKE - Dyke	TILL - Till
HORN - Hornfels	VOLC - Volcanics

A1 - A4 ALTERATION MINERALS

AB - albite	KA - kaolinite
CH - chlorite	LM - limonite
CL - calcite	MG - magnetite
CY - clay	PF - pink feldspar
EP - epidote	QZ - quartz
GY - gypsum	
HM - hematite	

M1 - M5 ORE MINERALS

AZ - azurite	CU - native copper
BN - bornite	MC - malachite
CC - chalcocite	MO - molybdenite
CP - chalcopyrite	PY - pyrite

BASIC DRILL DATA FOR HOLE : 88-01

WELL # NORTH EAST FLWV LGTH OB1 DR2 INC LEASE CG
 0001 88-01 4429.312 5019.017 907.342236.2 19.1 1 1 BH

DIST AZIM DIP DIST AZIM DIP DIST AZIM DIP DIST AZIM DIP DIST AZIM DIP
 0002 0 030 60 117.3030 59 227.1030 57

DIST	Rcv	Rqd	Rock	Lith	A1	A2	A3	A4	M1	M2	M3	M4	M5	Fcu	Pit	Cu	Au	Ag	Hg	As	S
0003	22.1		DVBN	TILL																	
0004	26	65	PICR	ULMF	CH	CL										32000	.003				.0003
0005	29	65	PICR	ULMF	CH	CL										6400	.008				.0003
0006	32	91	PICR	ULMF	CH	CL										10880	.007				.0003
0007	35	53	PICR	ULMF	CL												.024				.0003
0008	38	93	SUGL	PYDI	EP	PF	CH										.005				.0003
0009	41	70	PICR	ULMF	EP	CL											.013				.0003
0010	44	80	PICR	ULMF	AB	CL				PY							.082				.0010
0011	47	92	PICR	ULMF	CL					PY						30400	.078				.0014
0012	50	100	PICR	ULMF	CL	CH				PY	CP						.011				.0003
0013	53	78	PICR	ULMF	CL	CH				PY	CP					14080	.837				.0071
0014	56	100	PICR	ULMF	CL	CH				PY	CP					13440	.050				.0003
0015	59	88	PICR	ULMF	CL	CH				PY						7680	.008				.0003
0016	62	91	PICR	ULMF	CL	CH				PY						16960	.005				.0003
0017	65	97	PICR	ULMF	CL	CH										26400	.003				.0003
0018	68	97	PICR	ULMF	CL	CH				PY						14560	.053				.0013
0019	71	87	PICR	ULMF	CL	CH	EP										.011				.0007
0020	74	95	PICR	ULMF	CL	CH	EP			CP						16960	.042				.0006
0021	77	98	SUGL	MDIO	CL	CH				CP	PY					7040	.107				.0017
0022	80	100	PICR	ULMF	CL	CH											.020				.0003
0023	83	93	PICR	ULMF	CL	CH										20320	.021				.0003
0024	86	93	PICR	ULMF	CL	CH				PY	CP					8480	.021				.0006
0025	89	90	PICR	ULMF	CL	CH				PY						5120	.023				.0005
0026	92	100	PICR	ULMF	CL	CH				PY						24320	.014				.0006
0027	95	99	PICR	ULMF	CL	CH				PY						11840	.009				.0008
0028	98	80	PICR	ULMF	CL	CH				CP	PY					3680	.112				.0030
0029	101	93	SUGL	DIOR	CL	EP	CH	PF		CP	PY						.673				.0067
0030	104	92	SUGL	DIOR	CL	EP	CH			PY	CP					7360	.167				.0014
0031	107	97	WICO	VOLC	EP	CH	CL	QZ		CP	PY					7680	.187				.0019
0032	110	92	WICO	VOLC	EP	CH	CL			CP	PY					13920	.284				.0028
0033	113		WICO	VOLC	EP	CH	CL			PY	CP					4160	.173				.0015
0034	116	88	WICO	VOLC	AB	CH	CL	EP		CP	PY					16320	.050				.0011
0035	119	93	WICO	VOLC	AB	CH	PF	EP		CP	PY						.104				.0013
0036	122	88	ALBU	ALBT	AB	EP	CY	CL	CP	PY						1600	.566				.0135
0037	125	87	ALBU	ALBT	AB	EP	CY	CL	CP	PY						6480	.769				.0102
0038	128	100	ALBU	ALBT	AB	EP	CY	CL	CP	PY						9440	.561				.0131
0039	131	93	62	ALBU	ALBT	AB	EP	CL	QZ	CP	PY					23840	.349				.0085
0040	134	93	75	ALBU	ALBT	AB	EP	CL		CP	PY					18560	.508				.0138
0041	137	98	80	ALBU	ALBT	AB	EP	CL		CP	PY					9120	1.08				.0246
0042	140	100	90	ALBU	ALBT	AB	EP	CL		CP	PY					15680	.532				.0126
0043	143	100	96	ALBU	ALBT	AB	EP	CL		CP	PY					15680	.440				.0119
0044	146	98	97	ALBU	ALBT	AB	EP	CL		CP	PY					8640	.512				.0138
0045	149	97	78	ALBU	ALBT	AB	EP	CL		CP	PY					9760	.282				.0082
0046	152	100	75	SUGL	ALBT	AB	EP	CL		CP	PY						.551				.0132
0047	155	100	62	SUGL	ALBT	AB	EP	CL		CP	PY						.308				.0084
0048	158	100	75	ALBU	ALBT	AB	EP	CL		CP	PY						.210				.0051
0049	161	100	52	ALBU	ALBT	AB	EP	CL		CP	PY						.123				.0031
0050	164	100	73	ALBU	ALBT	AB	EP	CL		CP	PY						.159				.0016
0051	167	97	58	ALBU	ALBT	AB	EP	CL		CP	PY						.778				.0244
0052	170	97	74	ALBU	ALBT	AB	EP	CL		CP	PY						.320				.0098
0053	173	99	80	ALBU	ALBT	AB	EP	CL		CP	PY					16640	.216				.0052
0054	176	95	65	ALBU	ALBT	AB	EP	CL		CP	PY					8160	.511				.0145
0055	179	100	97	ALBU	ALBT	AB	EP	CL		CP	PY					1440	.676				.0284
0056	182	93	73	ALBU	ALBT	AB	EP	CL		CP	PY					8000	.259				.0059
0057	185	83	44	SUGL	MDIO	AB	EP	CL		CP	NO	PY				28960	.854				.0156
0058	188	88	40	SUGL	MDIO	AB	EP	CL		EP	CH	CP	PY			11360	.535				.0076
0059	191	95	52	SUGL	MDIO	AB	EP	CL	PF	EP	CP	NO	PY			1440	.565				.0079
0060	194	99	77	ALBU	ALBT	AB	EP	CL		CP	PY					10560	1.92				.0241
0061	197	100	73	SUGL	MDIO	AB	EP	CL		CP	PY					6560	1.20				.0169
0062	200	100	92	SUGL	MDIO	AB	EP	CL	PF	CP	PY					1440	.601				.0117
0063	203	97	67	SUGL	MDIO	AB	EP	CL		CP	PY					1440	.381				.0046
0064	206	97	75	ALBU	ALBT	AB	EP	CL		CP	PY					7680	1.53				.0292
0065	209	93	93	SUGL	DIOR	AB	EP	CL	CH	PY	CP					1760	.302				.0034
0066	212	95	66	SUGL	DIOR	AB	EP	CL	CH	EP	CP	PY				30240	.388				.0049
0067	215	98	95	SUGL	DIOR	EP	AB			PY	CP					16160	.214				.0016
0068	218	98	97	SUGL	DIOR	EP	CH	AB		PY	CP					8000	.046				.0003
0069	221	100	93	SUGL	MDIO	EP	CL			PY						16320	.086				.0010
0070	224	98	93	SUGL	DIOR	EP	CL			PY						6240	.052				.0006
0071	227	99	80	SUGL	DIOR	EP	CL	AB		CP	PY	NO				32800	.301				.0040
0072	230	100	82	SUGL	DIOR	EP	CL			PY						34880	.180				.0018
0073	233	98	66	SUGL	DIOR	AB	EP	CL		CP	PY					6400	.441				.0057
0074	236.2	99	62	SUGL	DIOR	AB	EP	CL		CP	PY					22560	.350				.0052