MAGNETOMETER SURVEY REPORT 1990

ON THE

YAM 1-3, MAY 1-21 & KAREN CLAIMS

PINELODE PROPERTY

Atlin Mining District

NTS: 104 N/ 11 & 12

Latitude: 59 43'

Longitude: 133 29'

Author: R. Diment
Date : April, 1990

SUMMARY

The Pinelode property (Yam 1-3, May 1-21, Karen) consists of 85 contiguous units 12km east of Atlin B.C.. During February of 1990 a proton magnetometer survey was conducted over the bulk of the property to delineate possible linear magnetic low areas in conjunction with the margins of ultramafic bodies. These linear magnetic lows are likely areas of gold bearing listwanitic (quartz-carbonate-mariposite) alteration zones. Results from the magnetometer survey indicate that the property is underlain by a large ultramafic body associated with several linear magnetic breaks that bound and pass through it. Furthermore two regional structures, the Pine Creek Fault and a northeasterly trending thrust fault are delineated on the magnetometer survey map. These structures are believed to play a significant role in controlling gold mineralization at the nearby Yellowjacket property where drilling results have indicated grades of up to .5oz/ton au over 3m.

It is recommended that detailed prospecting and an electromagnetic or I.P. survey be conducted over the property in order to better delineate targets for drilling.

Province of British Columbia

RECEIPT

471313 J

THE SUM OF — Nil — DOLLARS $ —

ON ACCOUNT OF

Assessment Reports on Yam 1-3, May 1-21
& Karen claims (Athlin)
Rundell on Julia 6-7 (2179-80)

RECEIVED FROM

ON 3 May 19 90

ISSUING OFFICE Vanc.

ISSUING OFFICER'S SIGNATURE

FIN 48 REV 85/6 (QP 78463) WHITE: CUSTOMER PINK: MINISTRY FILE CANARY: RETAIN IN BOOK FOR AUDIT

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CHAPTER ONE: INTRODUCTION

1-1: INTRODUCTORY STATEMENT

The Pinelode property consists of 85 contiguous units (May 1-21, Yam 1-3 and Karen claims) approximately 12km east of Atlin B.C.. The claims were staked at the heads of both the Pine Creek and Gold Run placer deposits targeting the possible lode gold source of the placers. In February of 1990 a ground magnetometer survey was conducted over the property to delineate possible gold bearing shear zones.

This report discusses the results of the magnetometer survey and how they relate to the economic geology of the property.

1-2: LOCATION & ACCESS

The property (NTS 104N/11 & 12, Lat. 59 43', Long. 133 29') is located 12km east of Atlin B.C.. The claims are accessible by the all-season Atlin-Surprise Lake gravel road, which traverses the property in an east-west direction. Numerous cat trails on the Yam 3 claims and the Birch Creek placer mining road on the Yam 2 claim give greater access to the bulk of the property in summer months.

1-3: PHYSIOGRAPHY & VEGETATION

The Atlin area is located just east of the coast mountains on the Teslin Plateau. This area is characteristic of broad U shaped valleys which strike northeast and northwest. Topography is moderately rugged with slopes up to 35 degrees rising from

NORANDA EXPLORATION

PINELODE PROPERTY

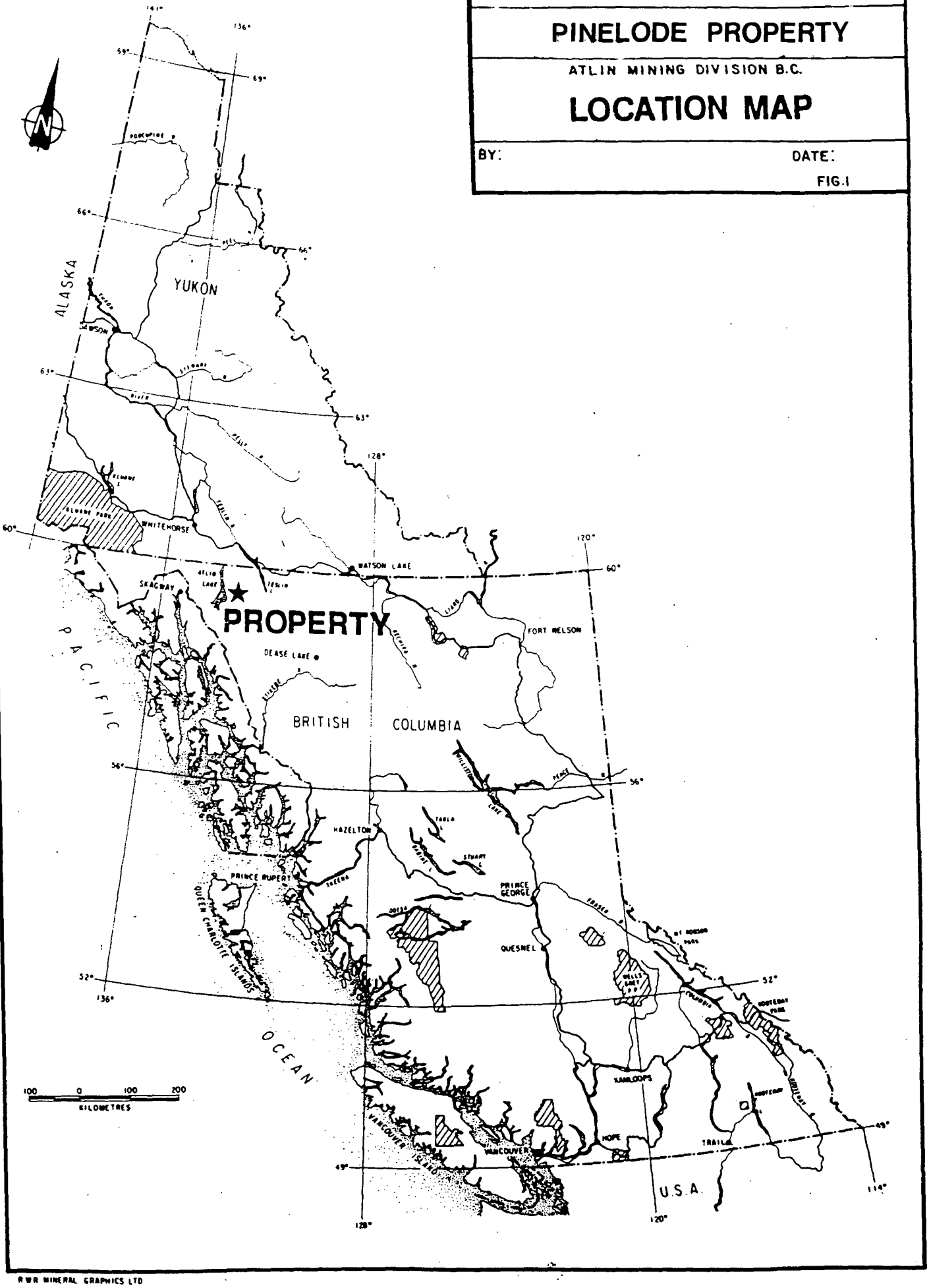
ATLIN MINING DIVISION B.C.

LOCATION MAP

BY:

DATE:

FIG.I



RWR MINERAL GRAPHICS LTD

TO WEST SEE MAP 104-N-12-W

PINELODE PROPERTY

CLAIM LOCATION MAP

NORANDA EXPLORATION

SURVEY BY: _____ DATE: NOV 1989

DRAWN BY: B.D. SCALE: 1:50,000

REVISED

DRG. No. 369

MAP No. 104N12

OWNER No. _____

valley floors at a 900m elevation to mountains over 1900m. Most of the property lies on the Pine Creek valley bottom where topography is very gentle (900-950m); however the southern edge of the claim block runs along the northwestern flank of Spruce Mountain where slopes are greater than 30 degrees and topography reaches a maximum of 1300m. On the valley bottom the property is covered by glacial till up to 100m thick. Glacial features such as terraces and kames are common south of Pine Creek on the Yam 3 claim.

The property is forested with lodgepole pine, black spruce, aspen and dwarf birch on the valley bottom. Alder and willow predominate near creeks and buckbrush on the higher topography.

1-4: CLAIM STATUS

CLAIMS	NO. UNITS	RECORD NO.	OWNER	EXPIRY DATE
Karen	10	2751	D.G.S. Purvis	Aug. 25/96
Yam 1	14	2342	Cream Silver	Aug. 10/97
Yam 2	20	2343	Cream Silver	Aug. 10/97
Yam 3	20	2344	Cream Silver	Aug. 10/97
May 1-21(2-Post)	21	2590-2610	D.G.S. Purvis	Apr. 28/95

1-5: PREVIOUS EXPLORATION

Gold was first discovered in the Atlin area by Fritz Miller in 1897. By 1898 3,000 people were camped near Atlin placer mining the nearby creeks. From 1898 to the present placer mining has produced an estimated 1,000,000 ounces of gold. Pine and

Spruce creeks were the richest streams accounting for almost 60% of the total gold extracted in the Atlin placer camp.

Gold bearing quartz veins were first discovered in 1899, and by 1905 most of the known showings had been discovered. Although the showings have been reworked several times there is no record of regional exploration in the Atlin area since 1905.

In 1981 Yukon Revenue Mines Ltd. acquired the old Lakeview property and reported an extensive area of low grade gold bearing quartz stockworks in silicified and carbonatized andesites in contact with a serpentinite intrusive. This discovery created a renewed interest in the area especially where silicified and carbonatized ultramafics were in the vicinity of major placer gold producing creeks. After the claims were allowed to lapse Cream Silver acquired the. acquired the property and adjoining ground by staking the GDC and Yam claims in 1984. The May and Karen claims were later staked D.G.S. Purvis. Later, the Yam May and Karen claims were combined forming the Pinelode property, jointly owned by Cream Silver Mines Ltd. (50%) and D.G.S. Purvis (Surprise Lake Exploration Ltd. 50%).

In 1984, Dighem Surveys and Processing Inc. conducted an airborne magnetometer survey over the Atlin Gold Camp. The survey outlined several magnetic anomalies on the Yam and May claims which were further delineated through ground magnetometer by Cream Silver Mines Ltd. in 1985 and 1986. Between 1987 and 1989 no further exploration work has been done on the property.

From 1986-1989 Homestake has drilled the Yellowjacket

property (2km west of the Pinelode Property) indicating intersections up to .5 oz/t Au over 3m. Gold values are associated with a quartz stockwork in carbonatized andesite and ultramafic rocks.

1-6: WORK PROGRAM

In February of 1990 Amerok Geophysics of Whitehorse contracted by Noranda Exploration placed 65km of grid line and conducted a 58 line km magnetometer survey over the Yam 2 and Yam 3 claims. Data taken by Amerok Geophysics was sent to Noranda Exploration in Vancouver for interpretation and construction of a 1:5,000 scale mag survey map.

CHAPTER TWO: GEOLOGY

2-1: REGIONAL GEOLOGY

The Atlin area lies within a northwest trending oceanic sequence of rocks called the Atlin Terrane. These rocks correlate with the Cache Creek Group rocks of southern and central British Columbia consisting of upper paleozoic cherts, argillites, carbonates and volcanics. These rocks are intruded by Mesozoic and early Tertiary granitic plutons and ultramafics. Tertiary and Quaternary basalts are found throughout the area.

2-2: PROPERTY GEOLOGY

Most of the property is overlain by a thick sequence of glacial till; therefore outcrop exposure is scarce and is confined to the steeper southern edge of the property. Large piles of placer tailings on the western portion of the property consists mainly of glacial till, gravels and miner fragments of local bedrock.

The claims are underlain by Cache Creek Group sediments and volcanics that have been intruded by Pennsylvanian and Permian ultramafics.

Cache Creek sediments outcrop along the southern edge of the claim block consisting of light grey fetid limestone, dark grey to black interbedded argillite and chert and light grey quartzite.

Small subcrops and angular float of Cache Creek volcanics

LEGEND

QUATERNARY
PLEISTOCENE AND RECENT

17	*Glacial drift; alluvium*

TERTIARY AND QUATERNARY

16	*Olivine basalt and scoria:* 16a, *Tertiary*; 16b, *Pleistocene*

TERTIARY (?)

15	15a, *quartz monzonite*; 15b, *granophyre*; 15c, *gabbro and diorite*

CRETACEOUS OR TERTIARY
SLOKO GROUP

14	*Andesite, basalt; albite trachyte, albite rhyolite, dacite, and related pyroclastic rocks; conglomerate, sandstone*

CRETACEOUS

13	13a, *alaskite*, 13b, *quartz monzonite*

JURASSIC (*May be in part older and younger*)
COAST INTRUSIONS

12	*Undifferentiated granitic rocks;* 12a, *Black Mountain body,* 12b, *Fourth of July Creek body;* 12c, *pink granite;* 12d, *Mount McMaster body;* 12e, *diorite;* 12f, *alkaline granite*

JURASSIC
LABERGE GROUP

11	*Volcanic greywacke, siltstone, mudstone, shale, conglomerate; minor concretionary sandy limestone*

TRIASSIC (?)

10	*Greywacke, chert, argillite, conglomerate, tuff, slate, greenstone, impure limestone, jasper*

PENNSYLVANIAN AND PERMIAN
ATLIN INTRUSIONS

Peridotite: meta-diorite and meta-gabbro; 9a, *serpentinite;* 9b, *carbonitized serpentinite;* 9c, *talc-bearing (steatitized) ultramafic rocks*

CACHE CREEK GROUP

6 8

6. *Chert, argillite, chert-pebble conglomerate and chert breccia; derived quartzite and schist; minor 7 and 8*
7. *Greenstone and volcanic greywacke; derived amphibolite; minor 6 and 8*
8. *Limestone and limestone breccia*

REVISED	PINELODE PROPERTY
	REGIONAL GEOLOGY
NTS 104N12	SURVEY BY: BD DATE: NOV 1989 SCALE: 1:250,000
OWG No.	NORANDA EXPLORATION

occur on the northwestern part of the property. These volcanics consist mainly of light green fine grained andesite with 1-2% disseminated pyrite.

Ultramafics outcrop on the southern edge of the property consisting of dark green-blue waxy serpentinite that has been weak to moderately carbonatized. Large angular fragments of quartz-carbonate altered serpentinite are common in the tailings pile from the Queenstake placer pit.

2-3: ECONOMIC GEOLOGY

Within the Atlin Terrane large ultramafic intrusives like the serpentinite on the Pinelode property form a northeasterly trending belt. These intrusive bodies commonly exhibit intense listwanitic alteration (silica-carbonate-mariposite) along their margins. This alteration is believed to be caused by northeasterly trending thrust faults that have emplaced these ultramafics within Cache Creek Group rocks. (C.H. Ash and R.L. Arskey, 1989)

The majority of known lode gold deposits in the Atlin area are associated with these quartz-carbonate altered ultramafics in contact with the Cache Creek Group volcanics. The alteration zones show up as distinct linear low magnetics in contrast to the relatively high magnetic response of the unaltered ultramafics.

CHAPTER THREE: GEOPHYSICS

3-1: MAGNETOMETER SURVEY

A Total Field Magnetics Survey was performed over the Yam 3 claim of the Pinelode Project Area during February 1990. The work was carried out by Amerok Geophysics of Whitehorse, Yukon. EDA Omni 4 Plus magnetometers were used along with a basestation magnetometer which enabled diurnal corrections to be made to within 1 nT. Line separation was 100m and readings were taken at 12.5m intervals on the lines. Data from the current survey was tied into 3 previous magnetometer surveys of the area by re-occupying stations of the previous surveys. One survey was performed (by Scott Geophysics) in 1987 on the adjacent Karen Claim while the other two surveys of 1985 and 1986 were done on parts of the adjoining claims. The results of the previous surveys were incorporated into the current survey to give an overall magnetics picture of the area and are presented as shown on the magnetic map.

3-2: DISCUSSION OF RESULTS

The geological model proposed for the prospect area is an structurally controlled system whereby alteration sources from depth along faults or shear zones have replaced or altered magnetic minerals such that areas of potential gold mineralization are marked by quiet and/or depressed magnetics.

The most pronounced magnetic signature shown on the

magnetics map is designed T.1 which is shown as an intense, narrow, and linear but discontinuous body. In view of the known geology, this body likely represents a peridotite unit that appears to have been thrusted upwards on its edge along the fault plane of Magnetic Break A (Yellowjacket Lineament?).

Cross-structures are evident in the area between Magnetic Breaks A and B and may be reflecting the transitional nature of the area between Magnetic Terrains T.1 and main body of Unit T.2. Unit T.2 exhibited intense values characteristic of ultramafics but unlike T.1 its signature appears jagged while its boundary is amorphous.

Unit T.3 to the north of T.2 exhibits a signature that is smoother than T.2 while displaying very local anomalies of which the majority are magnetic lows. T.3 may be related to the geology or operation of the local placer deposit and indeed the boundary of T.3 closely follows the placer pit outline.

Unit T.4 lies in the Karen Grid and displays moderate values which lie in a depressed area between Unit T.2 to the west and a gradational zone to the east.

North of Unit T.3, magnetic breaks C, D, and E are located as shown. Break C closely follows Pine Creek while Break D. parallels Break C for a distance. Break C and D along with B and F appears to separate and define the extent of the small bodies Unit T.2 from the main body. Break E is deduced from image processing and its tentative trend, if continued to the Karen Grid, would coincide with a magnetic shear zone identified by

Scott Geophysics in 1987. This break also coincides on a regional sense with the Pine Creek Fault which plays a significant role in controlling gold mineralization at the nearby Yellowjacket property.

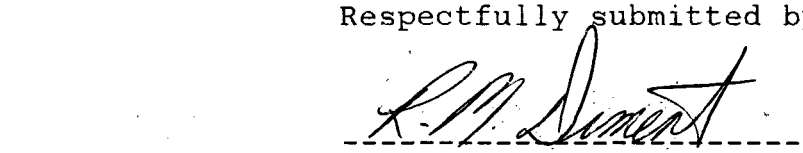
Inactive and\or low magnetic areas where magnetic breaks intersect would be zones of interest for potential mineralization. Such zones are identified on the map with the most large and interesting zone located near the southeast corner. Barring the E-W trend of the magnetic gradient bounded by Breaks D and G, the magnetic picture at locations D.H. 1 and 2 is similar to that at D.H. 3 and 4. Other high priority areas to be investigated are indicated by D.H. 5, 6, 7 and 8. Locations 9 and 10 are situated on speculative magnetic terrain (T.5) and should be considered as secondary target areas.

CHAPTER FOUR: CONCLUSION

Results from the magnetometer survey indicate that the property is underlain by a sequence of Cache Creek Group sediments and volcanics (low or subdued magnetics) that have been intruded by a large ultramafic body (high magnetic response). Several linear magnetic breaks (i.e. faults) bound and pass through the ultramafic body. Earlier exploration studies in the Atlin Area emphasize that these magnetic breaks and more importantly their intersections may represent gold bearing listwanitic alteration zones. Two regional structures, the Pine Creek Fault and the regional northeasterly trending thrust fault are delineated on the mag survey map. These structures are believed to play a significant role in controlling gold mineralization at the nearby Yellowjacket property.

Due to the fact that most of the property is covered by a thick sequence of glacial till future work such as detailed geochemical surveys and trenching would be ineffective. However, it is recommended that detailed prospecting and an electromagnetic or I.P. survey be conducted over the property in order to better delineate targets for the purpose of selecting drill sites.

Respectfully submitted by:



Richard M. Diment
Project Geologist

STATEMENT OF COSTS

LABOUR		
	70 person days @ $150/day	$10,530.
SUPPLIES & LODGING		
	54 person days @ $50/day	3,240.
	Equipment Rentals & Repairs	1,108.
	Ground Support	1,620.
CONTRACTOR		
Grid Installation	38 person days @ $200/day	7,600.
Magnetometer Survey	16 person days @ $200/day	2,800.
MISCELLANEOUS CHARGES		
	Supplies	75.
	Vehicle Rental	235.
	Computer Rental 20 days @ $25/day	500.
	EDA Omni IV Rental Charges 3 days @ $100/day	300.
Report Writing, Drafting, etc.		1,500.
	TOTAL	$29,508.

SELECTED REFERENCES

Aitken, J.D.

1960: Geology, Atlin, Cassiar District, British Columbia: Geological Survey of Canada Map 1082A, Scale 1:250,000.

Ash, C.H. and Arskey, R.L.

Tectonic Setting of Listwanite-Lode Gold Deposits in the Atlin Area NW. B.C., NTS 104N/12, B.C. Ministry of Energy Mines and Petroleum Resources, Open File 1990-22.

Bloodgood, M.A., Rees, C.J. and Lefebure, D.V.

Geology and Mineralization of the Atlin Area, Northwestern British Columbia (104N/11W and 12E), B.C. Ministry of Energy Mines and Petroleum Resources, Geologic Fieldwork, 1988, Paper 1989-1, pages 311-320.

Gonzalez, R.A.

1985: Magnetometer Survey Report on the Yam 3 Mineral Claim, Atlin Mining Division B.C..

STATEMENT OF QUALIFICATIONS

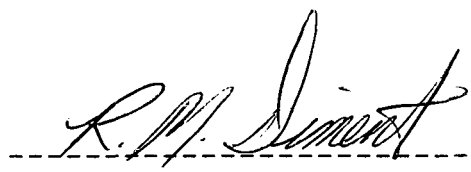
I, Richard M. Diment, do hereby certify that;

1) I have been employee of Noranda Exploration Company Limited (npl) in Whitehorse, Yukon since April 1989.

2) I am a graduate of the University of British Columbia with a B.Sc. in Geology.

3) I have practised my profession for the past three years in British Columbia and one year in the Yukon.

4) I supervised and participated in field work done in 1990.



Richard M. Diment

Geologist

LEGEND

- Road
- Trail
- 149° Line direction (unmarked lines - 145°)
- Claim post / boundary
- m Magnetic material
- ℄, L Baseline / tieline

BEAMA
YAM2

BEAMA
KAREN

KAREN ℄

L 23400E

8000E

YJ88 FRACTION

YAM3

8500E

9000E

9500E

10000E

10500E

11000E

11400E

L-55°

10500N

CAMP

CAMP

PINE

CK.

QUE ENS TAKE

PIT

SURPRISE LAKE ROAD

POND

10000N

DITCH

℄- 55°

9300N

L- 55°

YAM 2
YAM 3

28°-30°

0 100 200 300 400
metres

GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,944

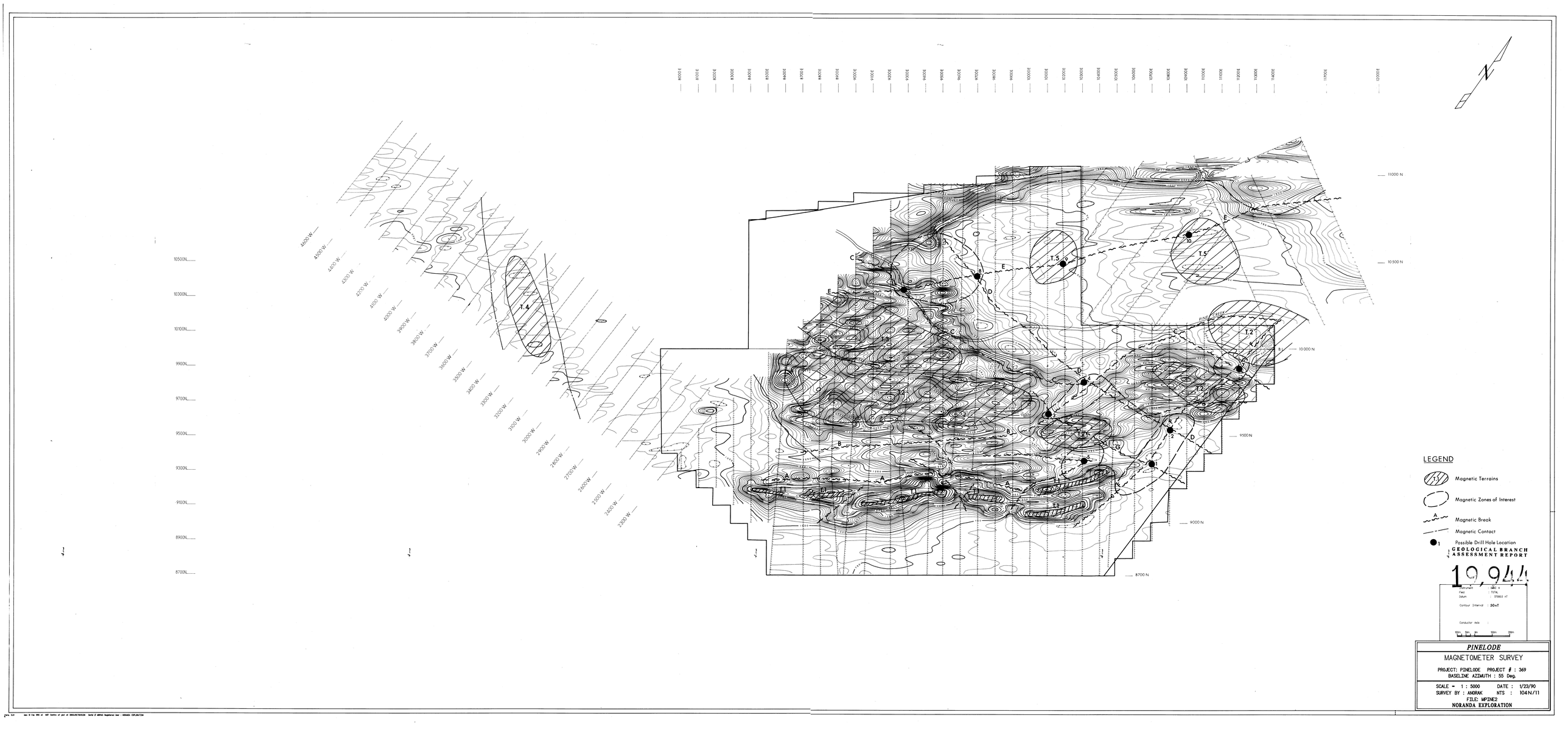
AMEROK GEOPHYSICS

NORANDA EXPLORATION

YAM Claims Total Magnetic Field Survey

Grid Map

Date: 12 Feb 90	Scale: 1:5,000
Project: 90-2	Drawn by: M.A.P.



LEGEND

- Magnetic Terrains
- Magnetic Zones of Interest
- Magnetic Break
- Magnetic Contact
- Possible Drill Hole Location

GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,944

Instrument : GEM-4
Field : 11014.
Datum : 57660.0 nT
Contour Interval : 50nT
Conductor Axis :
0m 50m 0m 100m 200m

PINELODE

MAGNETOMETER SURVEY

PROJECT: PINELODE PROJECT # : 369
BASELINE AZIMUTH : 55 Deg.

SCALE = 1 : 5000 DATE : 1/23/90
SURVEY BY : ANORAK NTS : 104N/11
FILE: MPINE2

NORANDA EXPLORATION