Assessment Report
on
1990 Geological Mapping and Sampling, and Soil Geochemistry
of the
Wart Group
near Merritt, B.C.

Similkameen Mining Division

NTS 92H/16

Latitude 49° 54'N Longitude 120° 20'W

Owner and Operator:

Minnova, Inc.
3rd Floor - 311 Water Street
Vancouver, B.C.
V6B-1B8

C.J. Clayton
February, 1991

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SUMMARY

The Wart Group is situated within the Similkameen Mining Division of south-central British Columbia, straddling the Okanagan Connector Highway approximately 36 kilometres southeast of Merritt, B.C.

The claims are underlain by Triassic Nicola Group intermediate rocks. These contain sedimentary interbeds in the south and southeast of the property. The Pennask Batholith intrudes Nicola Group just east of the claims, and is, in turn, intruded by granite of the Osprey Lake Batholith.

Two main fault zones (the Mugwump and Brew faults) are exposed along 2.0 km of the Okanagan Connector Highway. The Brew Fault is approximately 40m wide and trends 140° with a steep southwest dip It is traceable for 600m along strike. The Mugwump Fault trends 100° with a 60° south dip.

Gold values in rock samples taken from the northern part of the claims are generally low (<5 ppb). Samples taken from a splay of the Brew Fault, named the Annie Oakley Fault, returned values as high as 1.20 g/tonne Au (0.035 oz/ton) with associated anomalous As and Sb values. Silver values from this zone are also elevated with one sample returning a value of 19.4 ppm Ag. This fault is exposed in a roadcut along the clover leaf off-ramp to Elkhart Lake.

1.0 INTRODUCTION

1.1 General

This report describes the results of exploration completed on the Wart Group (Wart 1, 2, 3, and 4 claims) between June 15, 1990 and September 1, 1990. The group is comprised of 76 contiguous claim units located 36 km southeast of Merritt, B.C. along the Okanagan Connector Highway. The claims were staked in 1987 to cover two fault zones characterized by clay and carbonate alteration, pyritization and brecciation.

The 1990 exploration program continued work begun by Kerr Addison Mines Limited in 1988 and by Minnova, Inc in 1989. The program involved sampling of a clay altered fault/shear zone exposed in a roadcut near the Elkhart Lake clover leaf off-ramp, reconnaissance scale (1:10,000) mapping and sampling of available outcrop in the northwest part of the group, and contour soil sampling.

1.2 Property Location and Access

The Wart Group (Wart 1, 2, 3, and 4 claims) is situated within the Similkameen Mining Division of south-central British Columbia, and is centred at Latitude 49° 54' North, and Longitude 120° 20' West on NTS map sheet 92H/12 (Figure 1).

Access is via Phase III of the Okanagan Connector Highway from Merritt to Peachland which crosses the property roughly 36 km southeast from Merritt. Access is also gained via the Kentucky-Alleyne Lakes turnoff from Highway 5A, 5 km south of Aspen Grove, followed by 14 km of gravel road travelling east to the Coquihalla Connector. The property is then reached by travelling another 13 km southeast along the Connector.

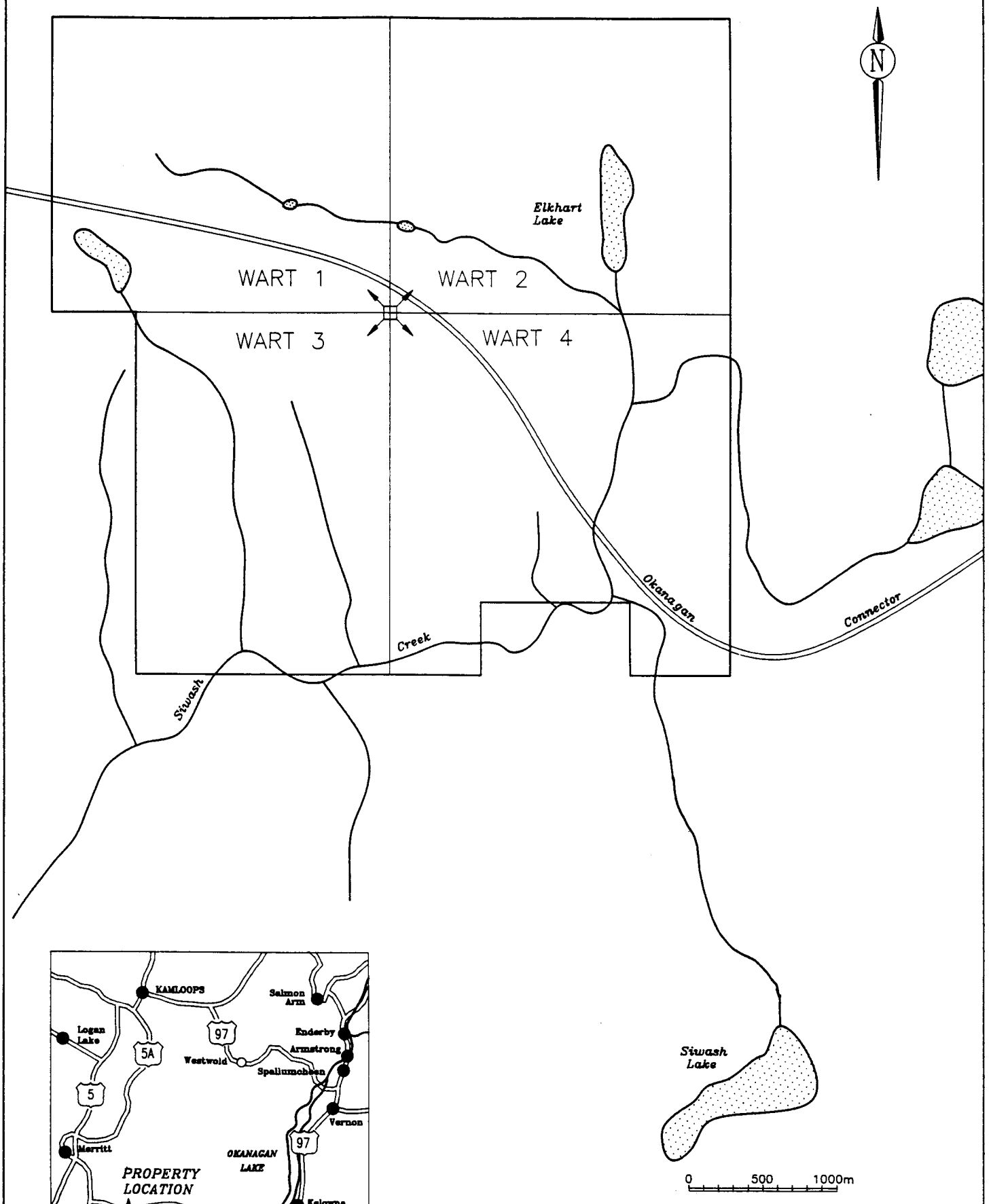


FIGURE 1
WART GROUP
PROPERTY LOCATION & CLAIM CONFIGURATION

MINNOVA Inc.

CJC/sg JANUARY 1991

FILE: WART.DWG

1.3 Topography, Vegetation, and Climate

The Wart Group is located on the gently rolling hills of the southern region of the Nicola Plateau. Elevations range from 1737m near the Wart mountain to 1432m at Siwash Creek near the southern edge of the claims. Vegetation consists of fairly open spruce and pine forest covering most of the property.

Climate is moderate with temperatures ranging from -25°C during winter to +30°C in summer. Precipitation is low to moderate and a snow free period exists from May to late October.

1.4 Property and Ownership

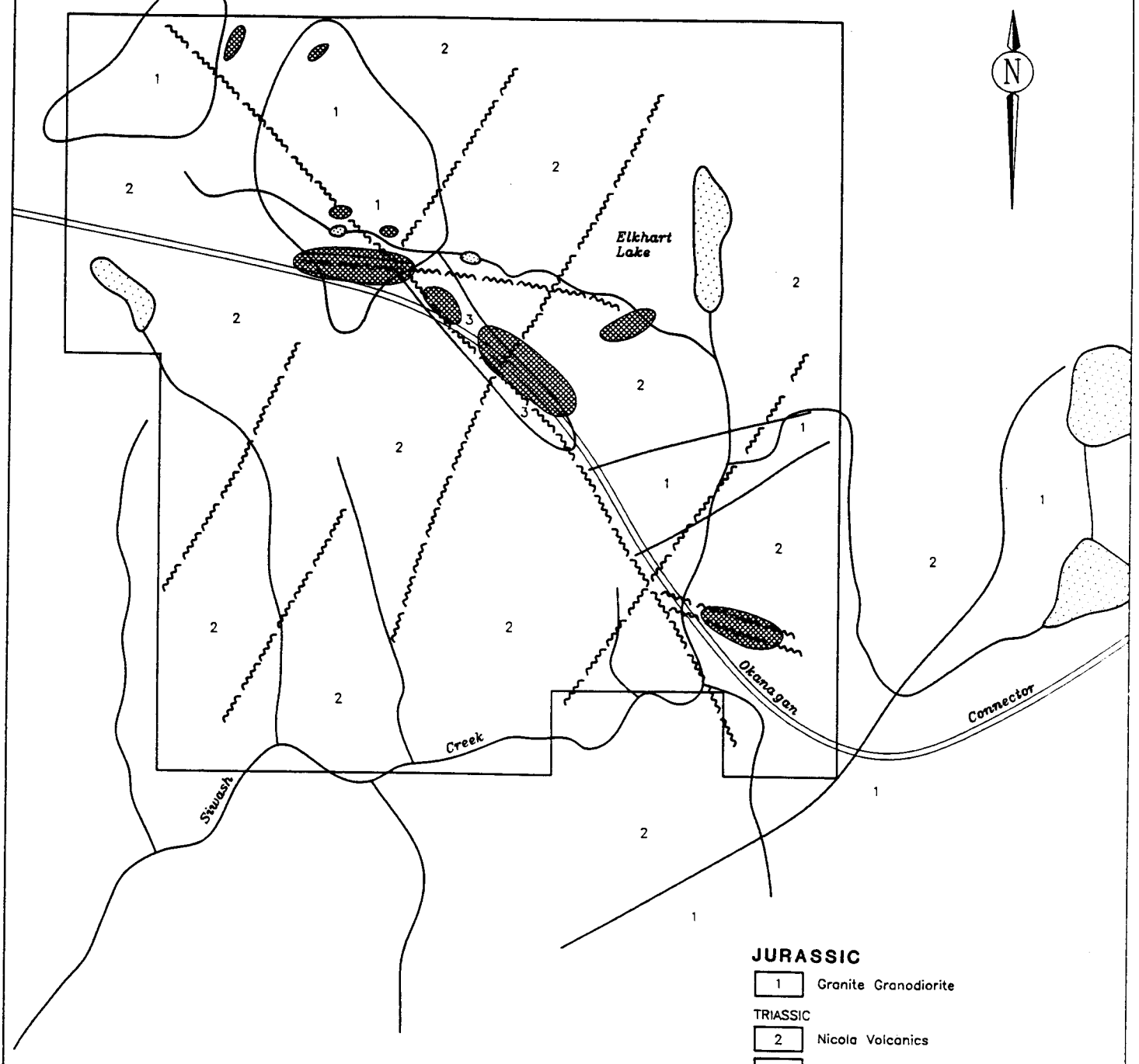
The Wart Group consists of 4 contiguous MGS mineral claims that total 76 units. The claims are located in the Similikameen Mining Division. The Group is wholly owned and operated by Minnova, Inc.

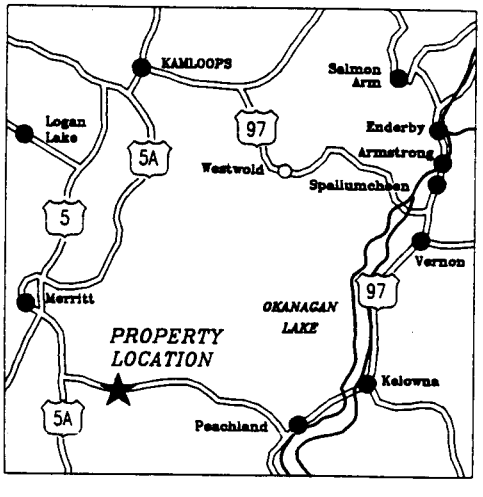
Claim configurations are shown in Figure 1 and claim data summarised in Table I.

TABLE I: SUMMARY OF CLAIM STATUS - WART GROUP

CLAIM NAME	RECORD #	UNITS	EXPIRY DATE	GROUP
Wart 1	3070	20	27/11/91*	Wart
Wart 2	3071	16	27/11/91*	Wart
Wart 3	3072	20	27/11/91*	Wart
Wart 4	3073	20	27/11/91*	Wart
	TOTAL	**76 UNITS**		

* Assuming acceptance of this report.





JURASSIC

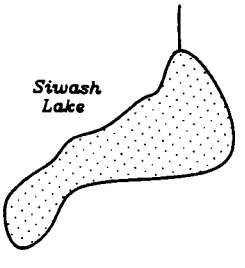
1 Granite Granodiorite

TRIASSIC

2 Nicola Volcanics

3 Nicola Sediments

Alteration + Mineralization



0 500 1000m

FIGURE 2

WART GROUP

G E O L O G Y

MINNOVA Inc.

FILE: WART.DWG

CJC/sg

JANUARY 1991

1.5 Property History

Prior to 1988 there is no record of work on the Wart claims. During the 1960's the volcanic/intrusive contact to the north was explored without success. Work by Kerr Addison Mines Limited during 1988 on the Wart claims consisted of 1:10,000 reconnaissance scale mapping and rock sampling, pan concentrate sampling of creeks, and construction of the Okedoke Grid for soil geochemistry and 1:5000 scale grid mapping and sampling. This work is described in detail by Pautler (1988).

Government airborne geophysical surveys flown in the area indicate a cluster of aeromagnetic highs to the north. These have been interpreted as being associated with a gabbroic body that has been metamorphosed to an agmatite near its contact with the Pennask Batholith (Pautler, 1988). A second aeromagnetic high occurs within magnetic granodiorite of the Pennask batholith. It is thought the batholith may be contaminated by xenoliths of the gabbro (Pautler, 1988).

Work by Minnova, Inc during 1989 consisted of reconnaissance traverses over the southern part of the property to identify possible structures trending onto the property from the adjacent Elk claims, and to sample new outcrops along the Coquihalla Connector. In addition to this, 12 heavy mineral samples were taken from drainages on the property. Only 1 rock sample returned anomalous results (30.3 ppm Ag, 1619 ppm As, 760 ppm Cu, 105 ppm Pb, 34 ppm Sb, 140 ppm Zn, and 400 ppb Au). This was taken from fault gouge in andesite over a width of 30 cm.

1.6 Summary of 1990 Assessment Work - Wart Group

Geology

- sampling of clay altered fault/shear zones exposed in new roadcuts.
- reconnaissance scale (1:10000) mapping and sampling of available outcrop in the north west part of the group.

Geochemistry

- 19 rock samples were taken; 18 were analyzed for a 12 trace element ICP and Au, 1 for trace elements and major oxides.
- 106 contour soil samples analyzed for Ag, As Cu, K, Mn, Mo, Na, Ni, Pb, Sb, Zn, Cr, and Au.

2.0 GEOLOGY

2.1 Regional Geology

The Wart property is located near the contact of Triassic Nicola Group and granitic rocks of the Jurassic Coast Intrusions (Figure 2). Nicola Group rocks are generally volcanic with minor interbedded limestone, argillite and conglomerate that may be equivalent to Upper Triassic Whistle Creek Formation of the Hedley area. They occupy the western limb of an anticline (Pautler, 1988).

Grey hornblende granodiorite of the Pennask Batholith is exposed east of the property and north of Boulder Lake. Osprey Lake granite which underlies much of the area immediately southeast of the claim group intrudes the batholith. The granite occurs as a massive and coarse grained unit containing pink K-spar megacrysts.

Gold prospects such as Swakum Mountain and Mineral Hill-Stump Lake are hosted in Nicola volcanics. The Brenda porphyry molybdenum deposit 22 km east of the Wart is hosted in Pennask Batholith of the Coast Intrusions.

2.2 Property Geology and Structure

Nicola Group volcanics underlie most of the property (Figure 3). These are primarily basaltic andesites to fine grained diorite hornblende-augite porphyry (Pautler, 1988). According to Pautler (1988), gradational features at outcrop scale suggest the fine grained diorite may be the subvolcanic equivalent of the andesite. Less common on the property are andesite feldspar porphyry flows which locally grade into augite (+/- olivene) phyric basalt porphyry flows. Outcroppings of vesicular to amygdaloidal basalt flows are found along Siwash Creek.

Andesite flows and lapilli tuffs and agglomerate occur south of the claims and along the eastern half of the property, and east of the Okedoke Grid.

The Okedoke Grid is underlain by andesitic pyroclastic rocks interbedded with mudstone, siltstone and shale, rare sandstone, and varieties of carbonate rocks (limestone, marble, marble pebble conglomerate). Local hornfelsing of sediments is a result of small intrusions along the Brew Fault. This sequence may correlate with the upper part of the Nicola which is more prevalent in tuffs (Pautler, 1988).

Quartz diorite and granodiorite dykes possibly related to the Pennask Batholith underlie the west end of the Okedoke Grid. A granite sill of the Osprey Lake Batholith intrudes andesites to the northwest of the main intrusive contact (Pautler, 1988).

The Brew Fault is the most extensive fault zone bisecting the property. It trends 140° and dips steeply to the SW. This fault is traceable for 600 metres along the Coquihalla Connector and is up to 40 metres wide. The fault zone is cut by gouge, fracture, and shear zones trending 100° - 120°.

The Mugwump Fault may be related to structures cutting the Brew Fault zone. This fault is exposed for almost 400 metres along the Coquihalla Connector just west of the Brew Fault. It trends 100° and dips 60° to the south. The width of the fault is estimated at 30 to 40 cm.

The newly named Annie Oakley Fault may be a splay of the Brew Fault. This fault is located along the clover leaf off-ramp to Elkhart Lake and strikes roughly 130° and dips shallowly (20°) to the south.

Mineralization and Alteration

Propylitic alteration appears wide spread throughout the property. The most intense alteration and Au mineralization is associated with quartz veining and/or pyrite (+/- marcasite) within exposed fault zones, however minor disseminated pyrite (+/- pyrrhotite) occur locally within the andesite to diorite porphyry. Mineralization in the porphyry unit is most common in the vicinity of an aeromagnetic high located in the northern part of Wart 1. Malachite occurs in trace amounts. Carbonate alteration in the form of calcite veins and veinlets, occasionally with quartz, is common in these areas.

Alteration along the Mugwump Fault is represented by a strong orange gossan resulting from weathering of Fe-carbonate alteration of the andesite/diorite porphyry host. Clay alteration and gouge are common in the fault zones. Pyrite is found locally to 2%. Occasional quartz and quartz-calcite stringers are present.

Clay and carbonate alteration and brecciation in the Brew Fault occur predominantly at its western extent. The eastern extent is cut by gouge, fracture, and shear zones oriented at roughly 100° - 120°. A 20 metre section of the Brew Fault known as the "Vintage" section contains significantly more mineralization

than other areas of the fault. In this area massive 5 to 10 cm wide marcasite (+/- pyrite) veins occur along fracture sets. Pautler (1988) notes the 100° trending, southerly dipping fracture set is most common and best mineralized. Sulphide vein/stringer zones reach 30 cm in width generally, and swell at fracture intersections. Hornfelsed sediments also contain disseminations of pyrite and/or marcasite in areas proximal to major fracture zones. Fracture density and mineralization decrease away from the "Vintage" section, but a similar zone appears 200 m to the west.

Silicification along the Brew Fault is weak with occasional quartz (+/- calcite) stringers and blebs occurring.

3.0 RESULTS OF 1990 FIELD WORK

Field work between June 15 and September 1, 1990, consisted of reconnaissance mapping and sampling of the northern portion of the claim group as well as reconnaissance soil sampling in other areas. The northern part of the property is underlain by andesite and andesite porphyry intruded by diorite and granodiorite. As well, a fault/shear splay associated with the southern extension of the Brew Fault zone was sampled. Sample locations and anomalous results for both rock sampling and soil sampling are shown on Figure 3.

3.1 Mapping, Rock Sampling, and Geochemistry

A total of 19 rock samples were collected and sent to Min-En Laboratories of North Vancouver for analysis. Copies of analytical certificates are contained in Appendix III.

Rock samples collected were representative of the outcrop from which they were taken. Eighteen of the 19 samples were analyzed for Ag, As, Cu, K, Mn, Mo, Na, Ni, Pb, Sb, Zn, Cr, and Au. The remaining sample was analyzed for major oxides (Al_2O_3, BaT, CaO,

Fe_2O_3, K_2O, MgO, MnO_2, Na_2O, P_2O_5, SiO_2, TiO_2, LOI, and S) and trace elements.

Both major and trace elements were analyzed by ICP methods using a lithium borate fusion and aqua regia digestion. Au was analyzed by fire assay with an AA finish.

Following are field descriptions by Rod Young of samples sent for analysis.

SAMPLE	**DESCRIPTION**
16941	Andesite; bulk sample taken from outcrop above river; trace amounts of pyrite.
16942	Andesite; bulk sample taken from outcrop; minor chalcopyrite, pyrite; hornblende phenocrysts to 1 mm in fine grained dark grey matrix. Fresh, non-carbonatized.
16943	Andesite; minor epidote alteration; hornblende phenocrysts; bulk sample taken from outcrop.
16944	Diorite; fine grained with minor hematitic staining on fracture surfaces; bulk sample taken.
16945	Quartz diorite; trace amounts of disseminated pyrite; rusty brown weathered surface; rocks are highly siliceous; bulk sample taken.
16946	Quartz diorite; minor epidote alteration; fracture surfaces weather brown in colour; bulk sample taken.
16947	Andesite; contains minor quartz lenses; fine grained disseminated pyrite in trace amounts.
16948	Diorite; fine to medium grained; trace fine grained disseminated pyrite.
16949	Diorite; trace fine grained disseminated pyrite; bulk sample taken.
16950	Granite; trace fine grained disseminated pyrite; bulk sample taken.
16951	Andesite; silicified with trace to 1% fine grained disseminated pyrite; pyrite also occurs along fractures; float sample.

16952 Diorite; trace amounts of fine grained disseminated pyrite; fracture surfaces weather rusty brown; bulk sample taken.

16953 Andesite?; strongly silicified with minor quartz veining; epidote, calcite alteration; trace pyrite, chalcopyrite; bulk sample taken; Annie Oakley Fault zone.

16954 Annie Oakley Fault zone; zone contains clay and quartz veining which weathers rusty brown; fault cuts silicified andesite.

16955 Annie Oakley Fault zone; zone cuts andesite; abundant clay alteration; outcrop weathers rusty brown.

16956 Annie Oakley Fault zone; zone cuts andesite; strong clay alteration; weathers rusty brown.

16957 Annie Oakley Fault zone; zone cuts andesite; strong clay alteration; quartz veining; weathers rusty brown.

16958 Altered Andesite; silicified; trace amounts of fine grained pyrite; bulk sample taken; Annie Oakley Fault zone.

16961 Quartz vein; 10 cm thick in shallow fault; trace to 1% pyrite mineralization; bulk sample taken from road cut; Annie Oakley Fault zone.

Analytical results from sampling are tabulated in Table II. As only 19 samples were collected and analyzed, elementary statistics were not calculated. Figure 3 shows sample locations and visually estimated anomalous results for Ag (> 1.5 ppm), Au (>= 5 ppb), Cu (>= 300 ppm), As (> 1 ppm), and Sb (> 1 ppm). A separate table is included on Figure 3 for results of sampling of the Annie Oakley Fault zone.

TABLE II: WART PROPERTY 1990 ROCK SAMPLE ANALYTICAL RESULTS

WART GROUP 1990 RECONNAISSANCE ROCK SAMPLING RESULTS

SAMPLE BCS	AG PPM	AS PPM	CU PPM	K PPM	MN PPM	MO PPM	NA PPM	NI PPM	PB PPM	SB PPM	ZN PPM	CR PPM	AU PPB
16941	1.8	1	477	17650	679	1	3080	31	27	1	67	82	2
16942	1	1	104	3040	204	1	4640	20	23	1	20	103	1
16943	1.2	1	40	950	481	1	530	3	23	1	40	53	1
16944	1.1	1	98	4810	356	1	970	4	24	1	27	50	2
16945	1.3	1	45	800	436	2	370	1	19	1	29	40	2
16946	1.2	1	228	1700	508	1	540	1	23	1	41	35	3
16947	1.4	1	119	5770	308	3	1770	7	23	1	35	77	2
16948	1.6	1	202	1330	478	1	1960	23	22	1	61	79	1
16949	1.3	1	135	5820	760	3	850	1	30	1	49	62	1
16950	0.8	1	13	960	464	1	5030	1	26	1	39	44	1
16951	1.7	1	77	11150	407	1	6070	29	26	1	44	77	5
16952	1.3	1	182	2400	237	1	7390	11	26	1	34	75	1

WART GROUP 1990 ANNIE OAKLEY FAULT ROCK SAMPLING RESULTS

SAMPLE BCS-	AG PPM	AS PPM	CU PPM	K PPM	MN PPM	MO PPM	NA PPM	NI PPM	PB PPM	SB PPM	ZN PPM	CR PPM	AU PPB
16953	2.5	1	173	N/A	N/A	N/A	N/A	N/A	23	1	46	N/A	5
16954	0.4	12	81	2840	176	6	390	24	36	1	78	126	2
16955	1.3	7	100	3560	361	1	1070	35	29	1	50	22	1
16956	19.4	9857	397	3460	1004	1	70	42	110	46	405	55	1110
16957	4.3	4235	92	3630	243	2	260	26	80	18	88	68	750
16958	2.8	337	162	4250	456	3	3140	91	30	1	36	250	64
16961	0.7	6151	5	340	1048	1	60	12	25	28	26	141	1175

SAMPLE	AU g/ton	AU oz/ton
16956	1.17	0.034
16961	1.20	0.035

Gold values from samples taken in the northern part of the claims are not encouraging. A maximum of 5 ppb Au, close to detection limits, was returned from a sample of andesite porphyry (#16951). Copper values within the andesite and nearby diorite and

granodiorite intrusions are slightly elevated with a maximum of 477 ppm from a sample of andesite taken near Siwash Creek to the south (#16941). Potassium in this sample returned a value of 17650 ppm with associated Na of 3080 ppm.

Results obtained from the Annie Oakley Fault zone are more encouraging. Anomalous Au values are associated with quartz veining or pyrite (+/- marcasite) in strongly clay altered fault zones. Figure 3 shows the location of this fault in a roadcut near the Elkhart Lake off-ramp from the Connector. This zone may be a splay off the Brew Fault striking roughly 090° and dipping 20° south. Sample # 16956 reported 1.17 g/tonne Au (0.034 oz/ton), 19.4 ppm Ag, 9857 ppm As, 397 ppm Cu, 110 ppm Pb, 405 ppm Zn and 46 ppm Sb. This sample was of faulted and clay altered andesite. Sample # 16961, a 10 cm wide quartz vein, returned values of 1.20 g/tonne Au (0.035 oz/ton), 6151 ppm As, and 28 ppm Sb. Arsenic and Au results correlate well. Antimony, too, shows a good correlation with Au and with As.

3.2 Soil Geochemistry

A total of 106 soil samples were taken along 4 contour soil lines traversing the Wart Group. Three lines were along the 1524 metre contour, and 1 along the 1585 metre contour. Sample locations and anomalous results are plotted on Figure 3.

In all cases an attempt was made to sample well developed 'B' horizon soil. Sample depths ranged from 5 cm to 25 cm averaging approximately 10 cm. Samples collected were placed in brown Kraft sample bags and allowed to dry before shipping. Sampling personnel were instructed to note sample parameters such as sample depth, soil colour, soil moisture content, soil texture, and slope direction.

Samples were sent to Min-En Labs of North Vancouver for a 12 element ICP analysis using aqua regia total digestion. The samples were analyzed for Ag, As, Cu, K, Mn, Mo, Na, Ni, Pb, Sb, Zn, and Cr. Gold was determined by atomic absorption.

Copies of analytical certificates are contained in Appendix IV. Table III lists arithmetic (normal) and geometric (log-transformed) statistics for each element. An anomalous response is defined as two or more contiguous values above the statistical threshold. A correlation matrix for the elements is located in Appendix V.

Gold geochemical response in soils is poor. A maximum of 40 ppb occurred in a single sample with no anomalous samples adjacent to it. No correlation exists between Au and other pathfinder elements in soil. Silver, As, and Sb values are low throughout, however Sb and As correlate strongly when anomalous. An As point anomaly (301 ppm) with a weak coincident Sb anomaly (10 ppm) occurs just south of the Brew Fault zone, but rapidly attenuates away from the fault (see Figure 3, soil sample #'s WMK011 and -013). Gold values in soil from this area are low despite anomalous As, Sb, and Au obtained from rock sampling of previous exploration programs. Arsenic and Sb in soils may therefore be the most effective pathfinder elements for discovering areas of Au mineralization.

TABLE III: SOIL SAMPLE ARITHMETIC AND GEOMETRIC SUMMARY STATISTICS

Variable	Ag		As		Cu	
	Arith	Geom	Arith	Geom	Arith	Geom
N=106						
Minimum	0.500	-0.301	1.000	0.000	16.000	1.204
Maximum	1.500	0.176	301.000	2.479	112.000	2.049
Mean	0.844	-0.088	5.208	0.236	31.792	1.470
Std.Dev.	0.226	0.114	29.131	0.398	16.096	0.156
Threshold	1.3 ppm		60 ppm		60 ppm	

Variable	K		Mn		Mo	
	Arith	Geom	Arith	Geom	Arith	Geom
N=106						
Minimum	300.000	2.477	74.000	1.869	N/A	N/A
Maximum	1230.000	3.090	1013.000	3.006	N/A	N/A
Mean	496.132	2.679	241.057	2.342	N/A	N/A
Std.Dev.	153.620	0.116	123.075	0.180	N/A	N/A
Threshold	780 ppm		460 ppm		N/A	

Variable	Na		Ni		Pb	
	Arith	Geom	Arith	Geom	Arith	Geom
N=106						
Minimum	160.000	2.204	2.000	0.301	17.000	1.230
Maximum	1370.000	3.137	22.000	1.342	31.000	1.491
Mean	430.283	2.572	6.708	0.783	22.387	1.346
Std.Dev.	266.813	0.220	3.400	0.190	3.051	0.058
Threshold	900 ppm		12 ppm		28 ppm	

Variable	Sb		Zn		Cr	
	Arith	Geom	Arith	Geom	Arith	Geom
N=106						
Minimum	1.000	0.000	20.000	1.301	7.000	0.845
Maximum	10.000	1.000	92.000	1.964	40.000	1.602
Mean	1.179	0.037	37.406	1.554	14.604	1.141
Std.Dev.	0.924	0.131	12.303	0.124	5.414	0.138
Threshold	3.0 ppm		60 ppm		43 ppm	

Variable	Au	
	Arithmetric	Geometric
N=106		
Minimum	5.000	0.699
Maximum	40.000	1.602
Mean	5.896	0.740
Std.Dev.	3.767	0.130
Threshold	13 ppb	

4.0 CONCLUSIONS AND RECOMMENDATIONS

Gold mineralization on the Wart Group of claims is associated with the prominent Mugwump and Brew Fault zones, as well as with the Annie Oakley Fault zone. The fault zones are characterised by strong clay alteration with associated pyrite (+/- marcasite). The highest gold values are associated with quartz veining within these fault zones. Anomalous As and Sb are characteristic of rock samples taken from these zones. Soil geochemistry in these areas shows poor Au geochemical response while As and Sb are elevated. Slightly elevated As and Sb values elsewhere on the property may be guides to gold mineralization nearby.

Sampling of andesite porphyry, diorite, and granodiorite in the northern portion of the claims showed little potential for porphyry style mineralization. Gold values, and associated elements, were low although K and Na were elevated in several samples. Copper showed weakly anomalous values in this area.

The Annie Oakley Fault zone near the Elkhart Lake exit exhibited the same characteristic anomalous Au and As, and to a lesser degree Ag and Sb results in rock samples as the Brew and Mugwump faults, sampled during previous exploration on the property. Again, high Au values were associated with areas containing quartz veining (+/- pyrite and marcasite).

Further exploration in the area should concentrate on defining and delimiting major structures by systematic griding, soil sampling, geological mapping, and geophysics. Arsenic and Sb may represent the most useful pathfinder elements in soil despite the seemingly poor response of the soils in the area to the geochemical methods used.

The presence of a large tonnage deposit in this area does not seem a likely prospect.

5.0 REFERENCES

Pautler, Jean. **Assessment Report - Geological and Geochemical Report on the Wart 1-4 Claims**, unpublished assessment report, Kerr Addison Mines Limited, 1988.

APPENDIX I

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, Cameron J. Clayton, of 1285 Bracknell Place, North Vancouver, B.C. do hereby certify that:

1. I am a graduate of Queen's University, Kingston, Ontario with a B.Sc. in Geological Engineering.
2. I have practised my profession for four years.
3. I am a contract geologist currently employed by Minnova, Inc.
4. I have personally reviewed all rock samples and analytical results presented in this report.

Date: Feb 21, 1991

Signature: C. Clayton

APPENDIX II

STATEMENT OF COSTS - WART GROUP

STATEMENT OF COSTS - WART GROUP

Geology

Rod Young	- geologist	7 days @ $300 per	= $ 2100

Geochemistry

G. Duso	- soil sampler	6 days @ $150 per	= $ 900

Min-En Laboratories, North Vancouver, B.C.

1 rock samples @ $15.00 (Litho-analysis)	= $ 15
18 rock samples @ $30.00 (Trace analysis)	= $ 540
106 soil samples @ $13.00	= $ 1378
Freight	= $ 80

Truck Rental and Fuel

7 days @ $ 65 per	= $ 455

Food and Accommodation

13 mandays @ $ 50 per	= $ 650

Drafting

2 mandays @ $ 300 per	= $ 600

Report Preparation

C.J. Clayton	- 3 mandays	@ $ 300 per	**= $ 900**

TOTAL EXPENDITURES = $ 7618

APPENDIX III

ROCK SAMPLING ANALYTICAL CERTIFICATES

COMP: MINNOVA INC.
PROJ: WART 643
ATTN: I.PIRIE/L.LEE

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0V-0850-RJ1
DATE: 90/07/16
* ROCK * (ACT:F31)

SAMPLE MBER	AG PPM	AS PPM	CU PPM	K PPM	MN PPM	MO PPM	NA PPM	NI PPM	PB PPM	SB PPM	ZN PPM	CR PPM	AU PPB
16941	1.8	1	477	17650	679	1	3080	31	27	1	67	82	2
16942	1.0	1	104	3040	204	1	4640	20	23	1	20	103	1
16943	1.2	1	40	950	481	1	530	3	23	1	40	53	1
16944	1.1	1	98	4810	356	1	970	4	24	1	27	50	2
16945	1.3	1	45	800	436	2	370	1	19	1	29	40	2
16946	1.2	1	228	1700	508	1	540	1	23	1	41	35	3
16947	1.4	1	119	5770	308	3	1770	7	23	1	35	77	2
16948	1.6	1	202	1330	478	1	1960	23	22	1	61	79	1
16949	1.3	1	135	5820	760	3	850	1	30	1	49	62	1
16950	.8	1	13	960	464	1	5030	1	26	1	39	44	1
16951	1.7	1	77	11150	407	1	6070	29	26	1	44	77	5
16952	1.3	1	182	2400	237	1	7390	11	26	1	34	75	1
16954	.4	12	81	2840	176	6	390	24	36	1	78	126	2
16955	1.3	7	100	3560	361	1	1070	35	29	1	50	22	1
16956	19.4	9857	397	3460	1004	1	70	42	110	46	405	55	1110
16957	4.3	4235	92	3630	243	2	260	26	80	18	88	68	750
16958	2.8	337	162	4250	456	3	3140	91	30	1	36	250	64
16961	.7	6151	5	340	1048	1	60	12	25	28	26	141	1175

MIN
• EN
LABORATORIES
(DIVISION OF ASSAYERS CORP.)

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
FAX (604) 980-9621

THUNDER BAY LAB.:
TELEPHONE (807) 622-8958
FAX (807) 623-5931

SMITHERS LAB.:
TELEPHONE/FAX (604) 847-3004

Assay Certificate

OV-0850-RA2

Company: MINNOVA INC.
Project: WART 643
Attn: I.PIRIE/L.LEE

Date: JUL-17-90
Copy 1. MINNOVA INC., VANCOUVER, B.C.
2. MINNOVA INC., GREENWOOD, B.C.

We hereby certify the following Assay of 1 ROCK samples submitted JUL-07-90 by L.LEE.

Sample Number	LOI %
16953	1.75

Certified by

MIN-EN LABORATORIES

COMP: MINNOVA INC.
PROJ: WART 643
ATTN: I.PIRIE/L.LEE

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: OV-0850-RJ2
DATE: 90/07/17
* ROCK * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	BA PPM	CU PPM	PB PPM	SB PPM	ZN PPM	AU PPB
16953	2.5	1	54	173	23	1	46	5

COMP: MINNOVA INC.
PROJ: WART 643
ATTN: I.PIRIE/L.LEE

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0V-0850-RL2
DATE: 90/07/17
* ROCK * (ACT:FIRE)

SAMPLE NUMBER	AL2O3 %	BAT %	CAO %	FE2O3 %	K2O %	MGO %	MNO2 %	NA2O %	P2O5 %	SIO2 %	TIO2 %	S %	TOT(%) %
16953	19.17	.060	12.25	7.65	2.37	4.27	.15	2.90	.54	46.81	.91	.02	97.12

MIN
• EN
LABORATORIES
(DIVISION OF ASSAYERS CORP.)

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
FAX (604) 980-9621

THUNDER BAY LAB.:
TELEPHONE (807) 622-8958
FAX (807) 623-5931

SMITHERS LAB.:
TELEPHONE/FAX (604) 847-3004

Assay Certificate

OV-0850-RA1

Company: MINNOVA INC.
Project: WART 643
Attn: I.PIRIE/L.LEE

Date: JUL-16-90

Copy 1. MINNOVA INC., VANCOUVER, B.C.
2. MINNOVA INC., GREENWOOD, B.C.

We hereby certify the following Assay of 2 ROCK samples submitted JUL-07-90 by L.LEE.

Sample Number	AU g/tonne	AU oz/ton
16956	1.17	.034
16961	1.20	.035

Certified by

MIN-EN LABORATORIES

APPENDIX IV

SOIL SAMPLING ANALYTICAL CERTIFICATES

COMP: MINNOVA INC.
PROJ: WART 643
ATTN: I.PIRIE/L.LEE

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0V-0850-SJ1+2
DATE: 90/07/16
* SOIL * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	CU PPM	K PPM	MN PPM	MO PPM	NA PPM	NI PPM	PB PPM	SB PPM	ZN PPM	CR PPM	AU PPB
WGD001	.7	1	21	390	225	1	200	6	20	1	35	10	5
WGD002	.7	6	19	330	131	1	170	4	21	1	32	9	5
WGD003	.5	1	19	340	208	1	200	4	18	1	32	8	5
WGD004	.6	1	20	350	181	1	220	5	17	1	30	9	5
WGD005	.5	5	18	310	195	1	160	3	19	1	27	8	5
WGD006	.5	1	17	330	155	1	220	5	20	1	29	10	5
WGD007	.5	3	19	360	126	1	170	5	19	1	26	10	5
WGD008	.7	1	16	370	158	1	230	5	19	1	30	10	5
WGD009	.7	1	20	320	185	1	220	6	19	1	30	9	5
WGD010	.7	2	60	730	578	1	290	13	23	1	54	16	5
WGD011	.6	1	24	340	115	1	220	5	17	1	52	12	5
WGD012	.6	4	19	410	171	1	260	7	19	1	30	10	5
WGD013	.6	9	24	430	248	1	280	7	21	1	41	12	5
WGD014	.5	1	27	310	120	1	220	5	19	1	36	14	10
WGD015	.9	5	112	690	279	1	270	13	24	1	38	28	15
WGD016	.7	6	37	380	145	1	200	5	21	1	37	12	5
WGD017	.7	1	27	380	300	1	200	7	20	1	43	12	5
WGD018	.7	1	24	370	240	1	200	5	20	1	32	14	5
WGD019	.9	5	32	420	217	1	270	6	22	1	42	17	5
WGD020	.8	1	21	350	214	1	530	3	23	1	33	12	40
WGD021	1.1	1	60	730	1013	1	350	20	30	1	52	31	5
WGD022	.9	1	38	640	437	1	290	13	23	1	44	24	5
WGD023	1.1	2	32	520	243	1	260	9	23	1	41	22	5
WGD024	.9	1	20	400	357	1	460	7	26	1	37	16	10
WGD025	.5	1	24	460	263	1	210	7	21	1	36	15	5
WGD026	.8	1	34	420	370	1	780	6	26	1	40	15	5
WGD027	1.0	6	29	390	210	1	210	12	24	1	34	19	5
WGD028	.9	1	37	470	189	1	320	10	21	1	37	17	5
WGD029	.8	3	22	300	115	1	720	3	26	1	28	10	5
WGD030	.9	10	35	370	270	1	790	11	31	1	35	16	5
WGD031	.5	1	27	400	256	1	290	4	23	1	38	8	5
WGD032	.6	1	20	480	168	1	310	3	19	1	32	11	5
WGD033	.7	1	21	420	160	1	280	6	19	1	33	13	10
WGD034	.9	1	84	610	403	1	420	9	25	1	35	12	5
WGD035	.8	1	25	390	169	1	460	3	18	1	39	11	5
WGD036	1.0	1	45	470	359	1	270	5	19	1	41	11	5
WGD037	.6	1	18	380	281	1	240	4	19	1	43	12	5
WGD038	.7	1	35	410	461	1	280	5	20	1	40	11	5
WGD039	.6	1	36	460	307	1	280	5	19	1	44	13	5
WGD040	.5	1	33	470	387	1	250	4	21	1	37	12	10
WGD041	.7	1	35	400	260	1	440	4	20	1	35	13	5
WGD042	.7	1	27	390	181	1	670	3	18	1	32	11	5
WGD043	.6	1	24	410	179	1	450	2	23	1	35	7	5
WGD044	.8	1	34	520	256	1	220	5	19	1	37	11	10
WGD045	.8	1	40	440	358	1	220	6	23	1	41	13	5
WGD046	.8	1	18	380	203	1	230	7	23	1	33	15	5
WGD047	1.0	1	33	520	174	1	270	8	18	1	29	16	5
WGD048	.7	1	27	480	249	1	260	6	20	1	41	11	10
WGD049	.7	1	31	420	189	1	250	5	23	1	42	12	5
WGD050	.6	1	28	400	431	1	820	4	25	1	42	9	5
WGD051	.7	1	31	480	528	1	720	7	25	1	49	13	5
WGD052	.8	1	29	350	221	1	290	4	22	1	48	10	5
WGD053	.9	1	33	370	201	1	280	7	21	1	44	11	5
WMK001	1.1	16	96	680	832	1	310	8	27	1	111	7	10
WMK002	.9	1	24	370	303	1	490	3	23	1	91	15	5
WMK003	.9	1	21	350	280	1	260	3	22	1	55	11	10
WMK004	.7	1	18	310	338	1	280	2	19	1	43	6	5
WMK005	.6	1	21	390	228	1	680	3	25	1	48	6	5
WMK006	.8	6	20	410	328	1	310	8	24	1	254	9	5
WMK007	.9	1	20	350	226	1	250	4	22	1	45	10	10

COMP: MINNOVA INC.
PROJ: WART 643
ATTN: I.PIRIE/L.LEE

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0V-0850-SJ3+4
DATE: 90/07/16
* SOIL * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	CU PPM	K PPM	MN PPM	MO PPM	NA PPM	NI PPM	PB PPM	SB PPM	ZN PPM	CR PPM	AU PPB
WMK008	.1	1	27	470	122	1	250	2	15	1	31	7	5
WMK009	.1	1	22	400	213	1	250	6	19	1	31	9	5
WMK010 MISSING	NO SAMPLE												
WMK011	1.2	301	63	830	367	1	1370	8	26	10	81	12	5
WMK012	.9	9	35	570	228	1	450	11	25	1	88	12	5
WMK013	1.3	17	39	760	372	1	270	9	25	2	72	13	5
WMK014	1.2	9	44	650	173	1	400	8	27	1	51	14	10
WMK015	1.1	1	43	720	295	1	1070	9	31	1	92	11	5
WMK016	.9	1	41	660	329	1	1060	9	27	1	63	13	5
WMK017	.6	4	34	590	236	1	440	5	20	1	47	12	5
WMK018	.7	1	24	570	202	1	1070	8	24	1	47	16	5
WMK019	.8	1	39	680	216	1	370	9	24	1	51	15	5
WMK020	.9	1	24	530	168	1	390	4	19	1	44	12	5
WMK021	.9	1	30	560	281	1	300	7	23	1	45	14	5
WMK022	.9	1	41	590	242	1	350	10	20	1	42	15	5
WMK023	.9	1	29	500	207	1	330	8	25	1	37	16	5
WMK024	.8	1	24	560	217	1	290	9	22	1	35	18	5
WMK025	.9	1	24	600	336	1	300	7	23	1	33	20	5
WMK026	.8	2	31	560	261	1	460	8	23	2	28	16	5
WMK027	.7	2	24	410	121	1	400	6	20	1	22	14	5
WMK028	1.1	3	29	670	268	1	500	8	26	1	29	23	5
WMK029	1.0	4	31	560	165	1	1110	8	26	2	34	19	5
WMK030	1.0	1	31	540	202	1	940	9	28	1	38	21	5
WMK031	.7	1	30	480	140	1	640	6	25	1	36	17	5
WMK032	1.5	6	48	1230	352	1	300	22	29	3	45	40	5
WMK033	.8	1	29	620	224	1	380	12	22	1	34	26	5
WMK034	.6	1	37	500	142	1	340	7	18	1	30	17	5
WMK035	.8	1	36	380	207	1	970	4	26	1	32	9	5
WMK036 MISSING	NO SAMPLE												
WMK037	.7	1	38	400	158	1	1300	3	28	1	36	9	5
WMK038	.9	1	31	520	175	1	380	5	24	1	27	13	5
WMK039	.9	1	21	460	154	1	450	5	22	1	26	11	5
WMK040	.7	3	26	430	232	1	300	6	21	1	25	15	10
WMK041	1.1	3	22	410	195	1	490	4	21	1	26	13	5
WMK042	.7	1	16	360	74	1	320	7	21	1	20	12	5
WMK043	.7	1	28	380	130	1	340	3	21	1	21	13	5
WMK044	.8	1	23	440	134	1	310	3	21	1	31	13	10
WMK045	.8	1	21	410	181	1	350	4	21	1	26	11	5
WMK046	.9	2	39	690	258	1	370	7	23	1	34	18	5
WMK047	1.0	3	53	690	301	1	470	6	27	1	37	27	5
WMK048	1.5	12	108	1170	568	1	540	19	27	2	46	34	5
WMK049	.8	1	23	500	235	1	350	5	21	1	44	12	5
WMK050	1.1	1	49	810	327	1	340	13	23	1	45	19	5
WMK051	1.0	1	24	590	190	1	330	6	22	1	27	17	5
WMK052	1.0	2	31	540	226	1	360	6	22	1	32	17	5
WMK053	1.0	3	32	490	223	1	320	7	21	1	25	18	5
WMK054	1.2	4	33	550	216	1	330	6	21	2	29	19	5
WMK055	1.5	7	28	540	190	1	350	4	22	2	26	19	5
WMK056	1.2	1	24	550	183	1	340	7	21	1	29	19	5
WMK057	1.3	2	27	510	241	1	330	6	21	2	31	18	5
WMK058	1.0	5	31	510	176	1	330	5	24	1	33	16	10
WMK059	.9	1	25	460	156	1	350	5	21	1	27	15	5
WMK060	.7	1	25	450	150	1	850	4	23	1	26	13	5
WMK061	1.1	4	25	460	113	1	740	6	22	1	22	12	5
WMK062	1.2	2	21	420	96	1	780	5	23	1	20	11	5
WMK063	1.2	8	22	470	135	1	970	6	26	2	22	13	5
WMK064	.9	1	23	400	145	1	1100	4	25	1	33	13	5

APPENDIX V

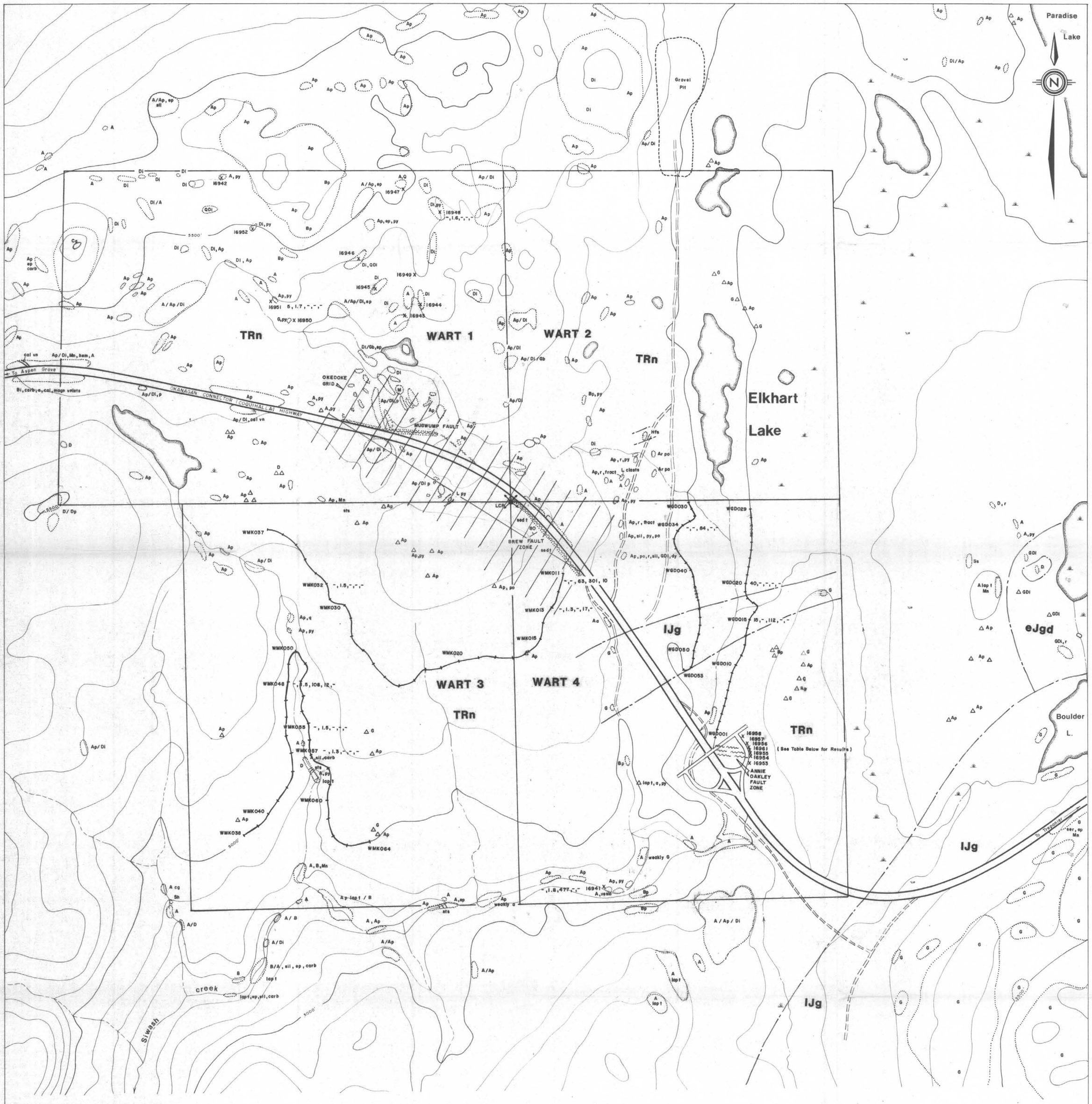
CORRELATION MATRIX - WART PROPERTY 1990 SOIL SAMPLING

LOGNI LOGPB LOGSB LOGZN LOGCR LOGAU

WART PROPERTY 1990 RECONNAISSANCE SOIL SAMPLING

CORRELATION MATRIX: (99.0 INDICATES COEFFICIENT COULD NOT BE CALCULATED)

	AG	AS	CU	K	MN	MO	NA	NI	PB	SB	ZN	CR	AU	
AG	1.000	0.194	0.388	0.642	0.199	99.000	0.230	0.490	0.491	0.345	0.159	0.586	-0.047	AG
AS	0.194	1.000	0.225	0.243	0.106	99.000	0.344	0.066	0.144	0.948	0.366	-0.026	-0.025	AS
CU	0.388	0.225	1.000	0.676	0.544	99.000	0.120	0.610	0.411	0.255	0.377	0.527	0.044	CU
K	0.642	0.243	0.676	1.000	0.491	99.000	0.148	0.766	0.490	0.377	0.442	0.736	-0.080	K
MN	0.199	0.106	0.544	0.491	1.000	99.000	0.001	0.581	0.388	0.132	0.437	0.417	-0.029	MN
MO	99.000	99.000	99.000	99.000	99.000	99.000	99.000	99.000	99.000	99.000	99.000	99.000	99.000	MO
NA	0.230	0.344	0.120	0.148	0.001	99.000	1.000	-0.015	0.603	0.352	0.222	-0.038	-0.042	NA
NI	0.490	0.066	0.610	0.766	0.581	99.000	-0.015	1.000	0.485	0.165	0.367	0.789	-0.095	NI
J	0.491	0.144	0.411	0.490	0.388	99.000	0.603	0.485	1.000	0.195	0.371	0.421	0.003	PB
SB	0.345	0.948	0.255	0.377	0.132	99.000	0.352	0.165	0.195	1.000	0.332	0.117	-0.047	SB
ZN	0.159	0.366	0.377	0.442	0.437	99.000	0.222	0.367	0.371	0.332	1.000	0.050	-0.044	ZN
CR	0.586	-0.026	0.527	0.736	0.417	99.000	-0.038	0.789	0.421	0.117	0.050	1.000	-0.006	CR
AU	-0.047	-0.025	0.044	-0.080	-0.029	99.000	-0.042	-0.095	0.003	-0.047	-0.044	-0.006	1.000	AU



LEGEND

JURASSIC

- lJg — Granite
- eJgd — Granodiorite

TRIASSIC

- TRn — Andesite Porphyry / Diorite / Minor Dacite and Basalt, Interbedded Siltstone, Volcaniclastics, Shale, Sandstone, Limestone and Marble, Locally Hornfelsed

A	Andesite	lapt	Lapilli Tuff
B	Basalt	carb	Carbonate
D	Dacite	sil	Silicified
L	Limestone	vn	Vein
Sts	Siltstone	py	Pyrite
Gdi	Granodiorite	q	Quartz
Di	Diorite	r	Rusty
M	Monzonite	hem	Hematite
G	Granite	a	Altered
Sh	Shale	Mn	Manganese
	Outcrop	p	Porphyry
△	Float		
	Shear Zone		

16958 X — 1990 Rock Sample Location
Sample Number with Anomalous Results
(Au ppb,Ag ppm,Cu ppm,As ppm,Sb ppm)

WMK048 — 1990 Contour Soil Sample Location
Sample Number with Anomalous Results
(Au ppb Ag ppm,Cu ppm,As ppm,Sb ppm)

WART GROUP 1990 ANNIE OAKLEY FAULT ROCK SAMPLING RESULTS

NO. BCS-	AG PPM	AS PPM	CU PPM	K PPM	MN PPM	MO PPM	NA PPM	NI PPM	PB PPM	SB PPM	ZN PPM	CR PPM	AU PPB
16953	2.5	1	173	N/A	N/A	N/A	N/A	N/A	23	1	46	N/A	5
16954	0.4	12	81	2840	176	6	390	24	36	1	78	126	2
16955	1.3	7	100	3560	361	1	1070	35	29	1	50	22	1
16956	19.4	9857	397	3460	1004	1	70	42	110	46	405	55	1110
16957	4.3	4235	92	3630	243	2	260	26	80	18	88	68	750
16958	2.8	337	162	4250	456	3	3140	91	30	1	36	250	64
16961	0.7	6151	5	340	1048	1	60	12	25	28	26	141	1175

NO. BCS	AU g/tonne	AU oz/ton
16956	1.17	0.034
16961	1.20	0.035

GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,994

FIG. 3

0 100 200 300 400 600 800
METERS

MINNOVA Inc.

WART GROUP

PROPERTY GEOLOGY, ROCK & SOIL SAMPLE LOCATIONS with ANOMALOUS RESULTS

SCALE - 1 : 10 000	DATE: FEB.1991
DRAWN BY: P.H.	DATA:
NTS: 92H/16	REVISED: