825645

MINNOVA Inc.

1992 ANNUAL REPORT

BRENDA JOINT VENTURE

BY DAVE HEBERLEIN

JANUARY 1993

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BRENDA – MINNOVA JV
1992 EXPENDITURES
Summary by Work Type

Project	*Geol*	*Geoph*	*Geoch*	*Drill*	*Line*	*Trench*	*Hotels*	**Options*	*Other*	*Total*	% of Budget
GENERAL	15102	0	0	0	0	0	78	0	0	15180	2.2%
RAINBOW TAM	50691	14430	4138	149544	4192	0	8261	0	2660	233916	34.7%
WILD ROSE	8632	792	3351	24344	0	0	1336	17500	1416	57371	8.5%
LEMARE	191701	55615	34281	66045	0	0	17395	0	3460	368497	54.6%
TOTALS	266126	70837	41770	239933	4192	0	27070	17500	7536	674964	
% of Budget	39.4%	10.5%	6.2%	35.5%	0.6%	0.0%	4.0%	2.6%	1.1%		

DIRECT EXPENDITURES	=	$674,964
ADMINISTRATION	=	$78,896
TOTAL	=	$753,860

Fig. 1

BRENDA GENERAL (PN 658)

D.R. Heberlein

INTRODUCTION

The Brenda General budget is designed to allow reconnaissance work and property examinations within the Brenda JV area.

Only two properties were reviewed in the JV area in 1992. Neither property was recommended for option.

SUMMARY OF PROPERTY SUBMITTALS

Property	Vendor	Summary
Ashnola	Guardman Resources Ltd.	Porphyry Cu-Au target associated with quartz monzonite intrusion 37 km SE of Princeton. Best intersections to date well below ore grade. Property declined.
Bar	Midas Management Ltd.	Deadwood Zone type and epithermal Au targets in Knob Hill Gp. sediments, 5 km NE of Rock Creek. Property declined.

PROJECT EXPENDITURE SUMMARY
1992

PROJECT NAME: BRENDA GEN. PROJECT NO. 658

GEOLOGY				
	Salaries	$11,961		
	Travel Expenses	$0		
	Contract Payments	$262		
	Field Expenses	$2,878		
	Analyses	$0	$15,102	99%
GEOPHYSICS				
	Salaries	$0		
	Travel Expenses	$0		0%
	Contract Payments	$0		
	Field Expenses	$0	$0	0%
GEOCHEMISTRY				
	Salaries	$0		
	Travel Expenses	$0		
	Contract Payments	$0		0%
	Field Expenses	$0		
	Analyses	$0	$0	0%
DRILLING				
	Salaries	$0		
	Travel Expenses	$0		
	Contract Payments	$0		
	Field Expenses	$0		
	Analyses	$0		
	Reclamation	$0	$0	0%
	Line Cutting		$0	0%
	Trenching		$0	0%
	Hotels and Meals		$78	1%
	Option Payments		$0	0%
	Property Maintenance		$0	0%
	TOTAL DIRECT EXPENDITURES		$15,180	

RAINBOW - TAM O'SHANTER (PN 661)

D. R. Heberlein

INTRODUCTION

Since the discovery of low grade, disseminated gold mineralization on the Tam and Buck claims in 1991, work has concentrated on defining the extent, grade and structural controls of mineralization at the Deadwood Zone.

1992 PROGRAM

The 1992 program consisted of detailed grid work over the Deadwood Zone. This included 1:2500 scale mapping, soil sampling, a gradient array IP orientation survey, and a magnetometer survey. Drilling programs were also carried out in the spring and late fall.

Drilling	-	15 holes, 2239.7 m
Line Cutting	-	10 km
Geophysics	-	IP - 2.3 km Mag - 9.5 km
Geochemistry	-	Soils - 330

RESULTS

The Deadwood Zone has been traced for a strike length of about 800 m to the northwest of the Wild Rose boundary. Drilling has shown that it consists of three subparallel zones of gold mineralization. Gold bearing quartz veins characterize the

western-most zone which is known as the Wild Rose vein (formerly the 20A Zone). It lies in a steep, east dipping reverse fault, the Wild Rose structure, that thrusts strongly silicified Knob Hill Gp. cherts and volcaniclastic sediments over younger Mt. Attwood Gp. conglomerates and siltstones. The fault contains discontinuous bodies of altered serpentinite.

Veins are composed predominantly of quartz and carbonate with variable amounts of pyrite, chalcopyrite and arsenopyrite. Assays exceeding 1 g/t Au over widths of more than 2 m occur in at least three drill holes (TM91-20a, 92-33 and 92-40) that intersect the vein. The structure has been traced northwest for over 800 m from the Wild Rose workings which lie just south of the claim boundary.

A central zone consisting of a broad halo of low grade Au mineralization (the 19 Zone) occurs in the hanging wall of the Wild Rose Fault. Mineralization is disseminated in nature, occurring in silicified and argillic altered diorite that intrudes the Knob Hill cherts. Best intercepts of this zone to date include TM91-27 (820 ppb Au /77.5 m) and TM92-37 (451 ppb Au /43.1 m).

The third and easternmost zone is the Contact Zone which occurs along a splay of the Wild Rose fault. Mineralization occurs in the form of quartz stockworks containing as much as 40% pyrite and traces of chalcopyrite. The hosting fault contains bodies of altered serpentinite that host some of the better grade gold mineralization. The best intercept of the Contact Zone to date is in TM91-16 which ran 1.5 g/t Au /11.0 m.

Although the Deadwood Zone is not of economic grade, it does represent a large body of highly anomalous gold values. There is excellent potential for economic grade mineralization along the strike of the zone, within parallel or splay zones, or in the Mt Attwood Gp sediments. Conglomerates and sandstones in the footwall of the Wild Rose structure are potentially an excellent host for gold mineralization. They are inherently

more permeable than the hanging wall diorites and more easily fractured. This potential will explored during the next exploration program.

RECOMMENDATIONS

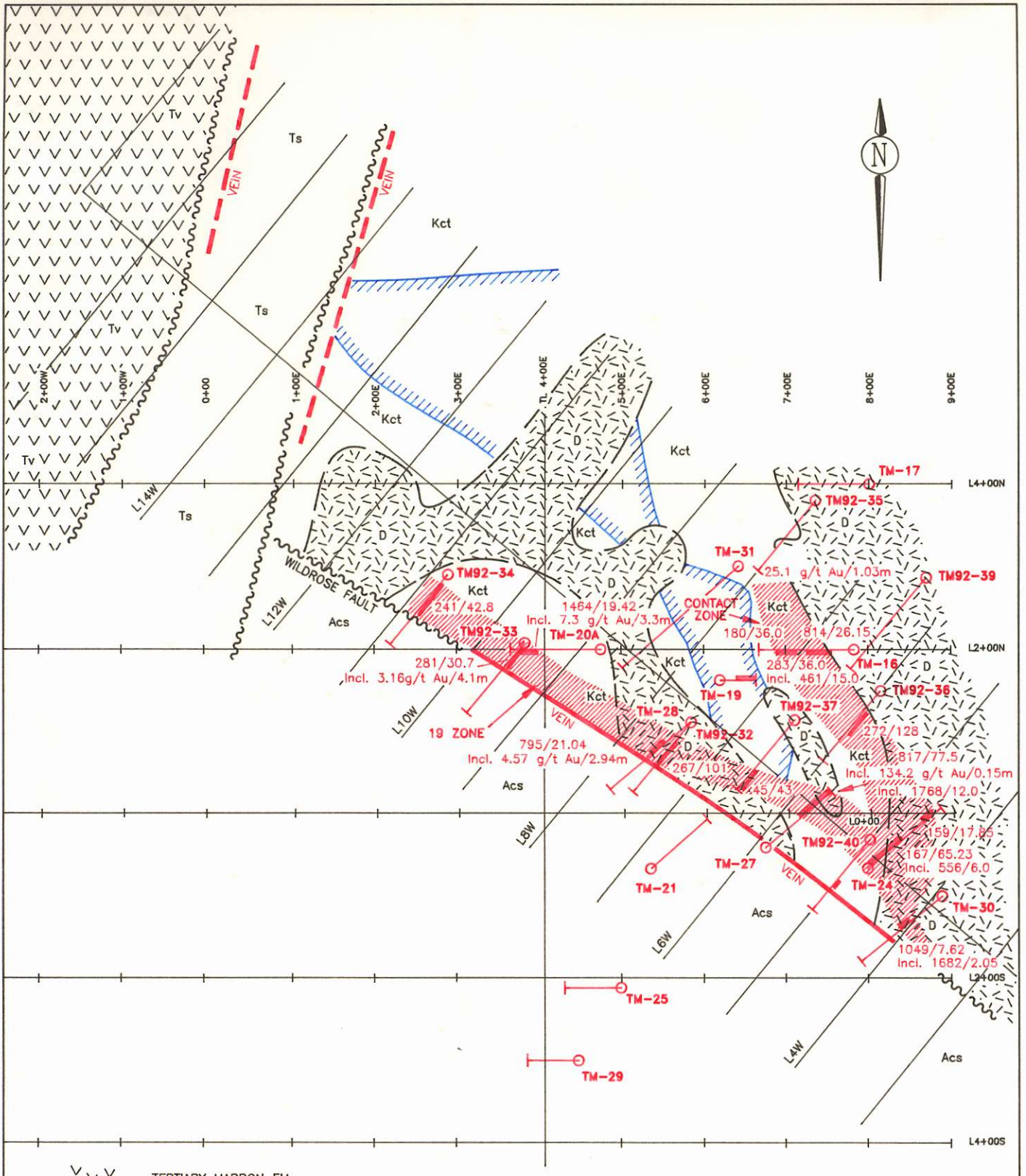
1. Explore the gold potential of the Mt Attwood Gp. sediments in the footwall of the Wild Rose structure.

PROJECT EXPENDITURE SUMMARY
1992

PROJECT NAME: RAINBOW-TAM O'SHANTER

PROJECT NO. 661

GEOLOGY					
		Salaries	$40,796		
		Travel Expenses	$828		
		Contract Payments	$5,015		
		Field Expenses	4052.00		
		Analyses	$0	$50,691	22%
GEOPHYSICS					
Mag Survey:		Salaries	$0		
1.9 km @ $417/km		Travel Expenses	$0		
		Contract Payments	$14,430		
		Field Expenses	$0	$14,430	6%
GEOCHEMISTRY					
Soils:		Salaries	$0		
396 @ $10.45/sample		Travel Expenses	$0		
		Contract Payments	$0		0%
		Field Expenses	$0		
		Analyses	$4,138	$4,138	2%
DRILLING					
15 holes,	2239 m	Salaries	$27,695		
cost/m	$66.77	Travel Expenses	$893		
contract	$39.47	Contract Payments	$88,400		
salaries	$12.37	Field Expenses	$7,214		
field exp	$ 3.22	Analyses	$23,788		
analyses	$10.62	Reclamation	$1,555	$149,544	64%
		Line Cutting		$4,192	2%
		Trenching		$0	0%
		Hotels and Meals		$8,261	4%
		Option Payments		$0	0%
		Property Maintenance		$2,660	1%
		TOTAL DIRECT EXPENDITURES		$233,915	



TERTIARY MARRON FM.

Ts TERTIARY KETTLE RIVER FM.

Acs ATTWOOD GP.—CONGLOMERATE & SANDSTONE

Kct KNOB HILL GP.—CHERT, CHERTY TUFF

D DIORITE

SILICIFICATION

Au ppb / metres

RAINBOW TAM O'SHANTER PROPERTY

DEADWOOD ZONE

COMPILATION MAP

DH/sg DECEMBER 1992

MINNOVA Inc.

FILE: DEADWOOD

WILD ROSE (PN 672)

S. Blower

INTRODUCTION

The Wild Rose property consists of 18 claims totalling 21 units in the Greenwood Mining Division of B.C.

The ground was optioned in 1991 after encouraging porphyry copper/gold results were obtained from diamond drilling on the adjacent Tam O'Shanter property.

Known mineralization on the property consists of structurally controlled quartz-sulphide veins that locally contain high gold values.

1992 PROGRAM

Work by Minnova in 1992 was directed primarily toward an evaluation of the gold potential of the southern strike extension of the Deadwood Zone. The Deadwood Zone is a series of discrete mineralized structures occurring within or in the hanging-wall of a major north-west trending, steeply dipping thrust fault (the Wild Rose fault).

This was accomplished through detailed geological mapping, geophysics, soil geochemistry and diamond drilling in the immediate vicinity of the Wild Rose fault.

Grid Preparation	-	2.25 km
Geology	-	2.25 km mapping at 1:500 and 1:2,500
Geophysics	-	1.9 km Mag

Geochemistry	-	310 soils
Diamond Drilling	-	330.6 m in 3 holes - Deadwood grid 467 core samples

RESULTS

Geological mapping at the Deadwood Zone correlated the Wild Rose vein and thrust fault with vein-type drill intersections on the adjacent Tam O'Shanter claims. The Wild Rose fault separates Mt. Attwood Gp. sediments (siltstone and chert pebble conglomerate) to the west from diorite and Knob Hill Gp. sediments (chert and cherty tuff) to the east. The fault localizes discontinuous slices of variably altered serpentinite.

The soil geochemistry defined a strong gold anomaly over the Wild Rose fault. As well, several other weaker anomalies were obtained in the hangingwall diorites and cherty tuffs.

Diamond drilling at the Deadwood Zone intersected the Wild Rose structure in two holes - TM92-40 and TM92-41. The intersection in TM92-40 is a 0.8 m. quartz vein that assayed 3.14 g/tonne Au. Hole TM92-41 intersected a 1.3 m. quartz vein that assayed 13.97 g/tonne Au (including a 0.3 m. portion grading 58.40 g/tonne Au).

The low grade gold mineralization located in the immediate hanging-wall of the Wild Rose fault (the "19" Zone) encountered on the Tam claims along strike to the west is not present on the Wild Rose property.

RECOMMENDATIONS

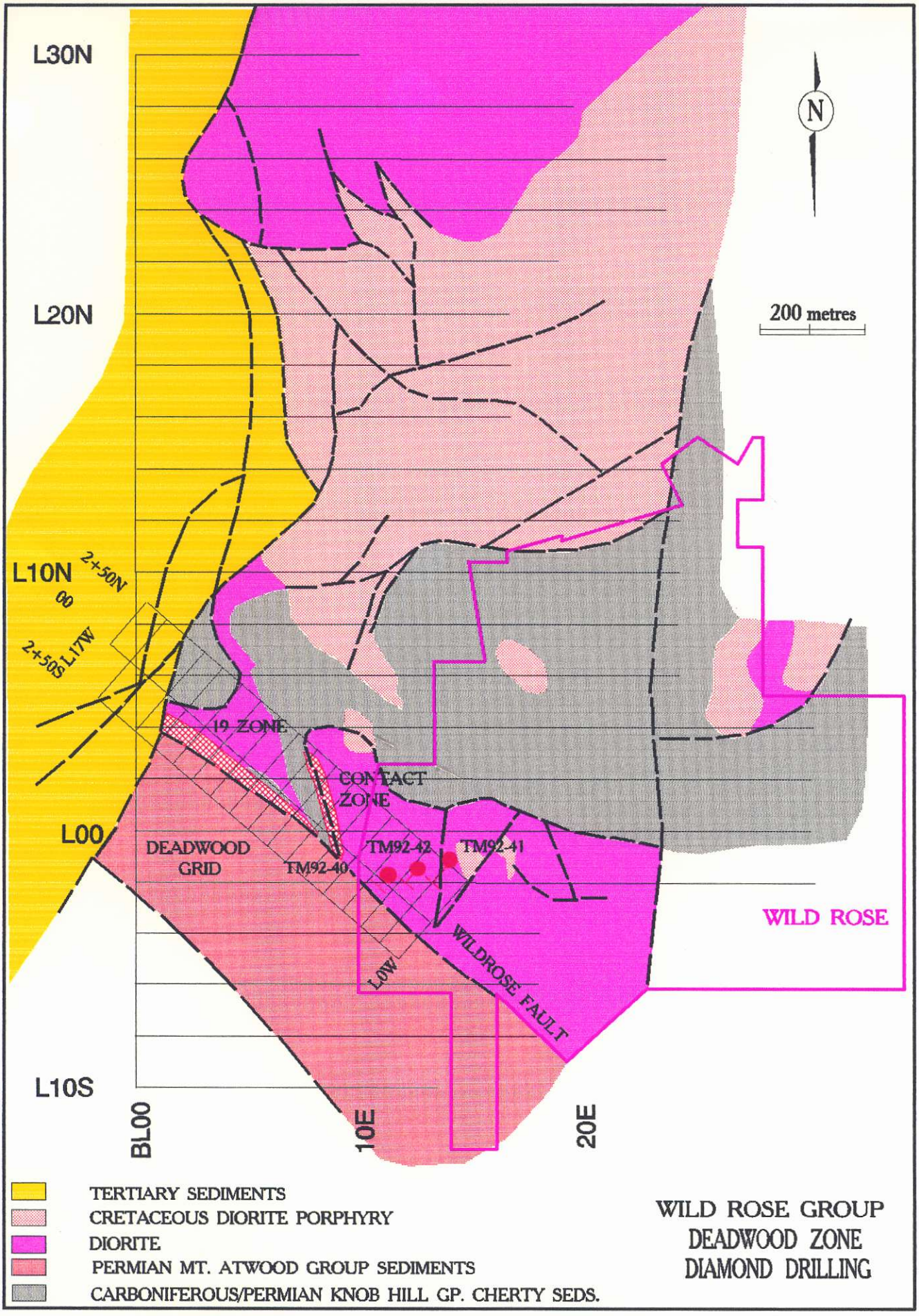
The narrow intersections obtained on the Wild Rose structure do not justify further expenditures on this property.

PROJECT EXPENDITURE SUMMARY
1992

PROJECT NAME: WILD ROSE PROJECT NO. 672

GEOLOGY				
	Salaries	$7,295		
	Travel Expenses	$135		
	Contract Payments	$0		
	Field Expenses	$1,202		
	Analyses	$0	$8,632	15%
GEOPHYSICS				
Mag Survey:	Salaries	$0		
1.9km @ $417/km	Travel Expenses	$0		
	Contract Payments	$792		
	Field Expenses	$0	$792	1%
GEOCHEMISTRY				
Soils:	Salaries	$0		
152 @ $10.45/sample	Travel Expenses	$0		
	Contract Payments	$0		0%
	Field Expenses	$0		
	Analyses	$3,351	$3,351	6%
DRILLING				
3 holes, 330.6 m	Salaries	$4,508		
cost/m $73.64	Travel Expenses	$145		
contract $43.53	Contract Payments	$14,391		
salaries $13.64	Field Expenses	$1,174		
field exp $ 3.55	Analyses	$3,872		
analyses $11.71	Reclamation	$253	$24,344	42%
	Line Cutting		$0	0%
	Property Acquisition		$966	2%
	Trenching		$0	0%
	Hotels and Meals		$1,336	2%
	Option Payments		$17,500	31%
	Property Maintenance		$450	1%

TOTAL DIRECT EXPENDITURES $57,370


L30N
L20N
L10N
2+50N
00
2+50S L17W
L00
L10S
BL00
10E
20E
N
200 metres
19 ZONE
CONTACT ZONE
DEADWOOD GRID
TM92-40
TM92-42
TM92-41
WILD ROSE
WILDROSE FAULT
L0W
TERTIARY SEDIMENTS
CRETACEOUS DIORITE PORPHYRY
DIORITE
PERMIAN MT. ATWOOD GROUP SEDIMENTS
CARBONIFEROUS/PERMIAN KNOB HILL GP. CHERTY SEDS.
WILD ROSE GROUP
DEADWOOD ZONE
DIAMOND DRILLING

LEMARE (PN 676)

D.R. Heberlein

INTRODUCTION

Lemare was optioned as part of the Brenda JV in February, 1992. The property is located on the northwest coast of Vancouver Island, about 30 km due west of Port Alice. It is underlain by felsic and mafic volcanic rocks of the Bonanza Supergroup.

Preliminary work on the property by Stow Resources Ltd. in 1991 identified two large areas of porphyry style alteration. The Culleet Creek zone located at the west end of Lemare Lake consists of a broad zone of silicification and potassic (K feldspar) alteration containing several areas of stringer and disseminated chalcopyrite mineralization. This alteration grades laterally into an extensive propylitic zone. The South Gossan Zone, located at the southwest end of Lemare Lake consists of a strongly pyritic argillic and advanced argillic alteration zone. It is similar to nature to the advanced argillic pipes at the Island Copper mine and at the Expo deposit near Port Hardy.

1992 PROGRAM

The 1992 exploration program consisted of 1:5000 scale alteration mapping and lithogeochemical sampling. Objectives of the program were to identify the most likely areas for blind porphyry Cu mineralization by mapping alteration patterns and identifying geochemical zonation. All of the main drainages on the property were moss mat sampled to evaluate the region for other mineralized systems. To facilitate the field program an airborne magnetic, resistivity and gamma ray spectrometer survey was flown over the entire property. The best targets generated by the field program were drill tested.

Geophysics	-	Aerodat survey - 400 line km
Geochemistry	-	Trace - 730 Lithos - 272 Soils - 96 Moss Mats - 72 Stream sediments - 55
Geology	-	1:10,000 and 1:5000 scale mapping
Drilling	-	Five holes, 901 m

RESULTS

Results of the 1992 program were not very good. Property mapping showed that there are no intrusive bodies related to the alteration system, at least near surface. Systematic outcrop sampling did not find any significant Cu or Au anomalies outside of the known zones. Nevertheless a strong alteration pattern defined by SiO_2 and K_2O addition was identified between Harvey Cove and Lemare Lake. Mineralization at Culleet Creek is contained within this area.

At the South Gossan zone no anomalies were produced by the rock sampling program. However, a strong depletion zone of K_20, Na_2O, CaO and MgO was identified. Much of the observed clay alteration and pyrite mineralization occurs within a highly vesicular rhyolite flow sequence that has undergone strong supergene argillic alteration caused by the weathering of pyrite. Advanced argillic alteration and silicification occurs along steeply dipping east-west striking faults. True widths of these zones is generally less than 10 m and none contain any significant metal values. The South Gossan zone is a relatively thin skin of supergene alteration that parallels the hill side.

The drill program designed to investigate potassic alteration and spotty copper mineralization in the Culleet Creek area, and argillic, advanced argillic alteration in the

South Gossan Zone. None of the holes penetrated and ore grade copper mineralization. Areas of low grade copper mineralization (<0.15% Cu) that were intersected close to the surface in two holes, diminished rapidly with depth. Alteration also decreases in intensity with depth. No evidence for a large mineralized intrusive system was found.

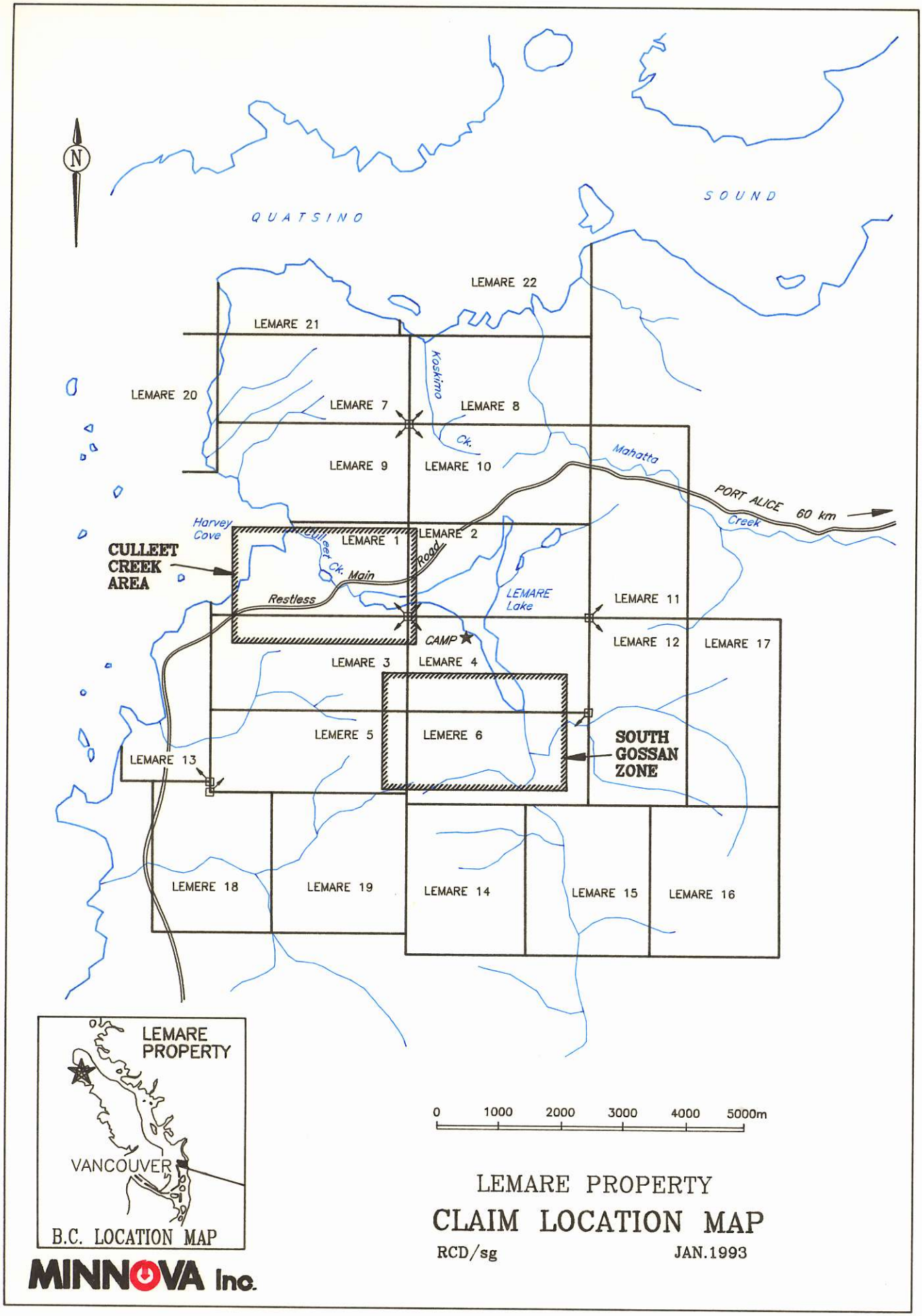
One hole into the South Gossan Zone showed that much of the alteration is supergene in nature, occurring in pyritized, vesicular rhyolite flows. None of the advanced argillic zones were intercepted.

No further work is warranted on the property.

PROJECT EXPENDITURE SUMMARY
1992

PROJECT NAME: LEMARE PROJECT NO. 676

GEOLOGY				
	Salaries	$122,428		
	Travel Expenses	$4,844		
	Contract Payments	$5,529		
	Field Expenses	$58,899		
	Analyses		$191,701	52%
GEOPHYSICS				
Airborne Survey:	Salaries	$0		
435km @ $125/km	Travel Expenses	$722		0%
VLF 3km @ $181/km	Contract Payments	$54,893		
	Field Expenses	$0	$55,615	15%
GEOCHEMISTRY				
Lithos	Salaries	$0		
Trace	Travel Expenses	$0		
	Contract Payments	$4,102		0%
	Field Expenses	$423		
	Analyses	$29,756	$34,281	9%
DRILLING				
5 holes, 901.2 m	Salaries	$8,721		
cost/m $73.30	Travel Expenses	$361		
contract $56.06	Contract Payments	$50,508		
salaries $ 9.61	Field Expenses	$2,539		
field exp $ 2.82	Analyses	$3,916		
analyses $ 4.35	Reclamation	$0	$66,045	18%
	Line Cutting		$0	0%
	Trenching		$0	0%
	Hotels and Meals		$17,395	5%
	Option Payments		$0	0%
	Property Maintenance		$3,460	1%
	TOTAL DIRECT EXPENDITURES		$368,497	



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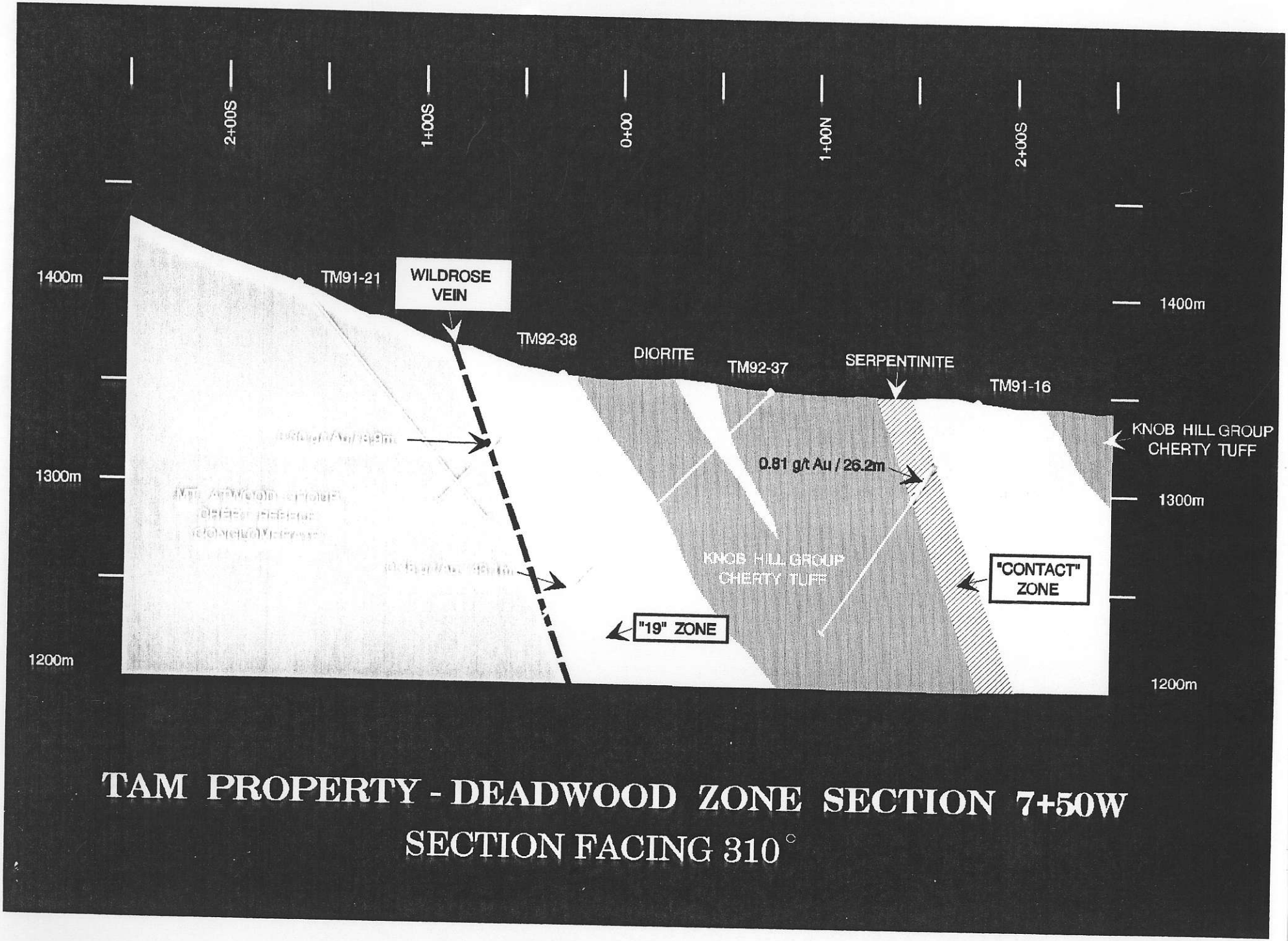
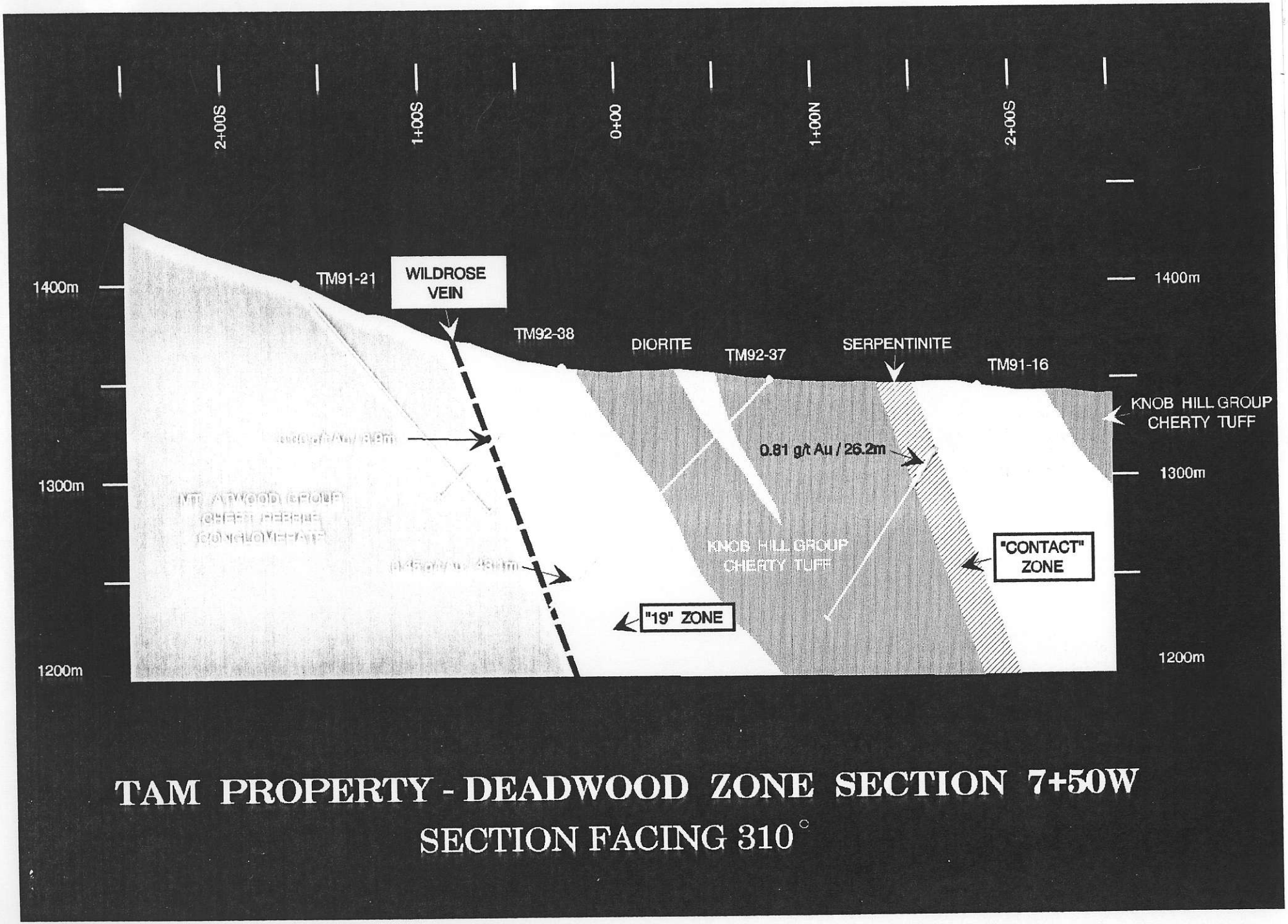
LEMARE PROPERTY
CLAIM LOCATION MAP

RCD/sg JAN.1993



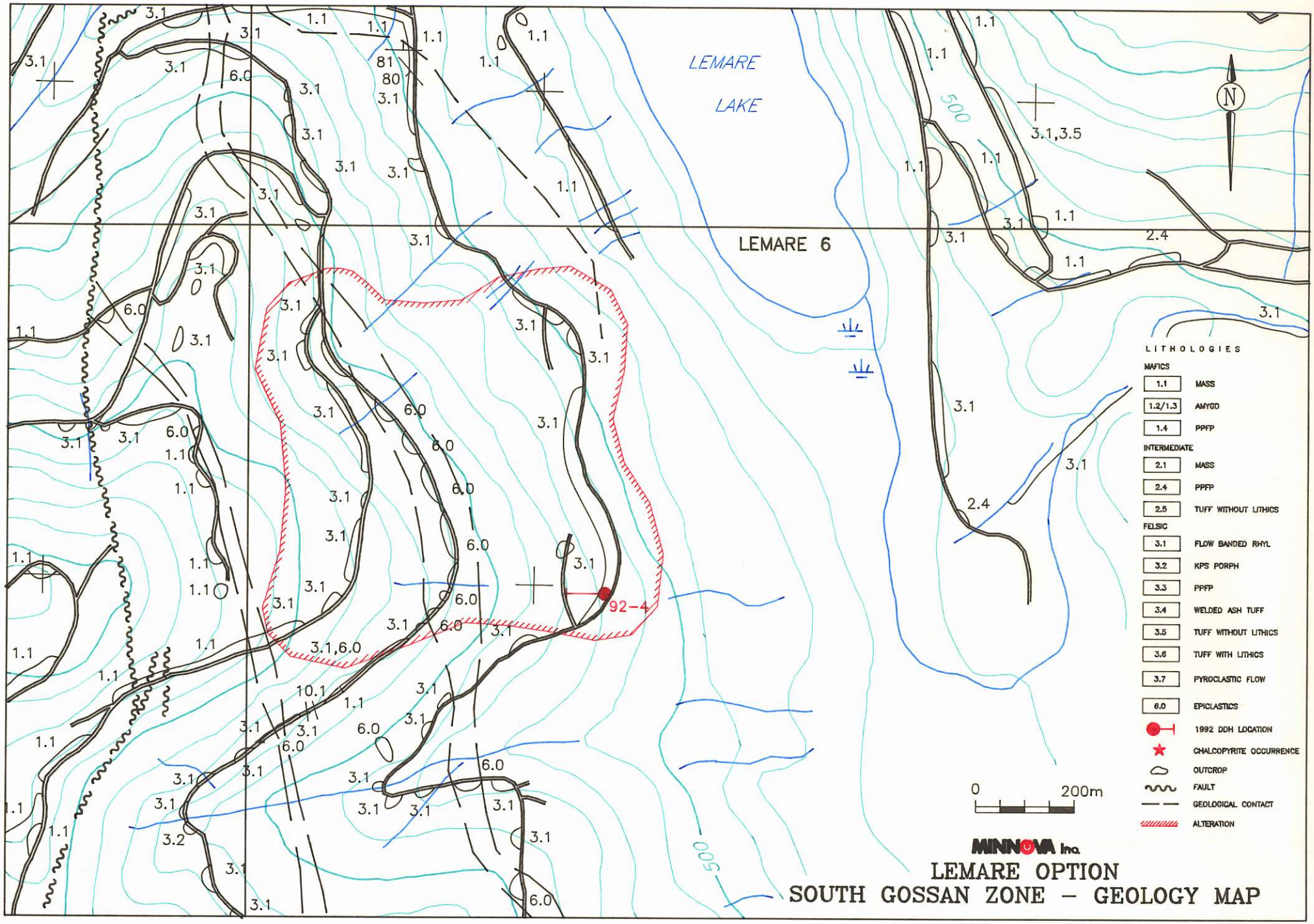
TAM PROPERTY - DEADWOOD ZONE SECTION 7+50W

SECTION FACING 310°



TAM PROPERTY - DEADWOOD ZONE SECTION 7+50W

SECTION FACING 310°



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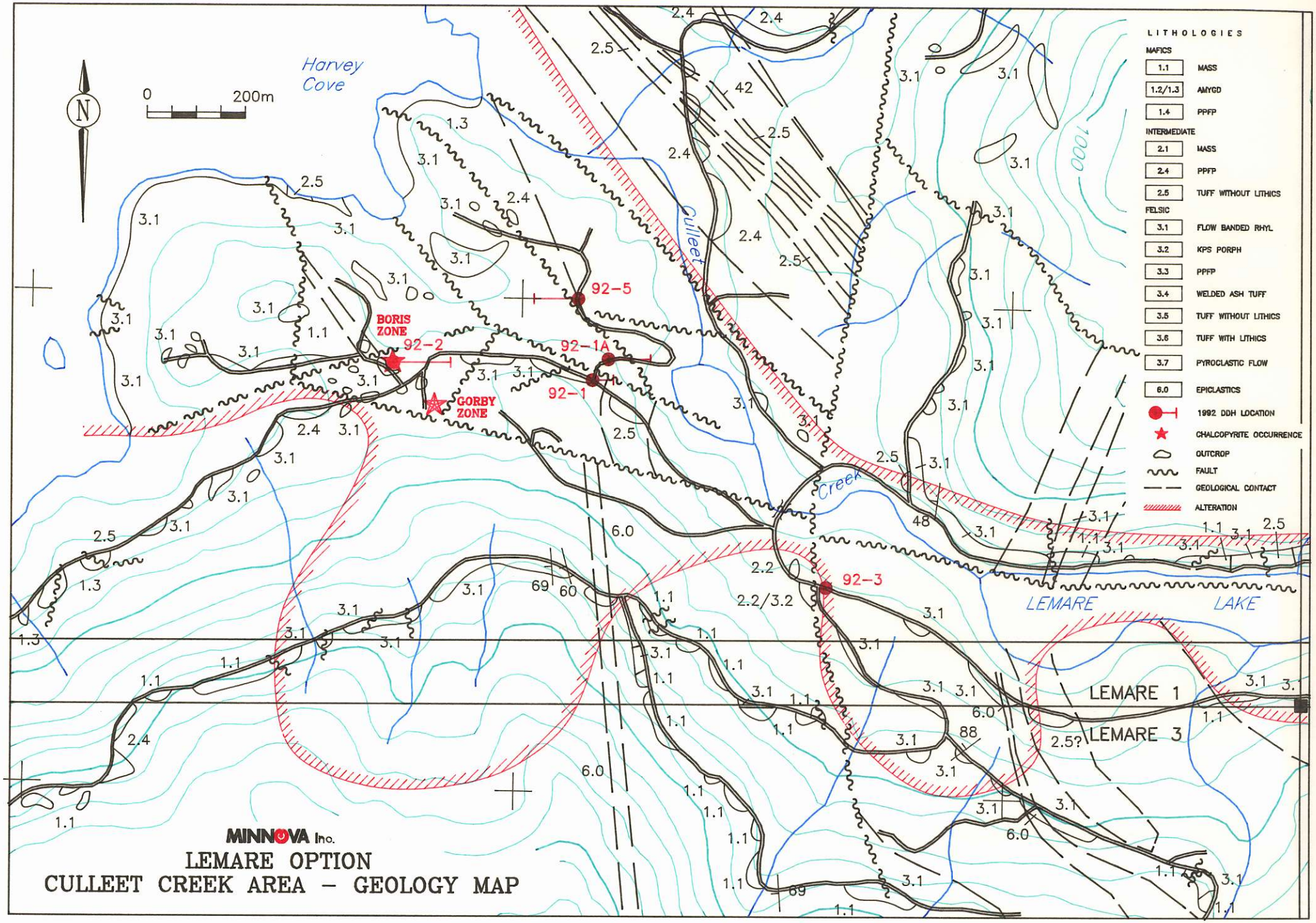
LEMARE OPTION
SOUTH GOSSAN ZONE – GEOLOGY MAP



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LEMARE OPTION
CULLEET CREEK AREA – GEOLOGY MAP