Assesment Report
on the
Diamond Drilling Program
on the
Tam A and Tam B Groups
near Greenwood, B.C.

Greenwood Mining Division
NTS 82E/2E,2W
Lat. 49° 02′ 00"N
Long. 118° 45′ 00"W

Owner:

Minnova, Inc.,
Dentonia Resources Ltd.
and
Kettle River Resources Ltd.

Operator:

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

SUMMARY

The Tam A and Tam B Groups consist of 9 contiguous MGS mineral claims comprising a total of 98 claim units, located in the Greenwood Mining Division (NTS 82E/2E,2W) of south central B.C., approximately 6 km west of Greenwood.

The claims are underlain by a sequence of chert, ash tuff and crystal tuff, and andesitic volcanics of the Permo-Triassic Knob Hill Group. These are intruded by diorites of probable Jurassic/Cretaceous age, and are overlain by Tertiary volcaniclastics and flows, arkosic sediments, congomerate and argillite of the Kettle River Formation. The general trend of units is north-south and dips vary from west to east at moderate angles. The property lies at the eastern margin of the Toroda Creek graben and is dissected by a number of extensional faults related to Tertiary graben formation.

The northern end of the Tam A and Tam B Groups (Buck claim) is located approximately 1 km south-southwest of the Motherlode and Greyhound skarn deposits. The Greenwood camp is well known as a past producer of Cu and Au from skarn mineralization and from smaller tonnage structurally controlled vein deposits.

Drilling intersected a sequence of fine grained chert, ash tuffs, andesites, diorites, and interbedded conglomerate, sandstone,and siltstone similar to units seen on surface. These units are crosscut by several brittle fault zones, hydrothermal breccias, and mylonitic shear zones. Several zones anomalous for Au, and in some cases Cu, were intersected in silicified, chloritized, and clay altered diorites. These are probably correlatable with Au anomalies intersected in diorites in previous drilling in this part of the claim group.

TABLE OF CONTENTS

LIST OF FIGURES

TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDICES

1.0 INTRODUCTION

1.1 General

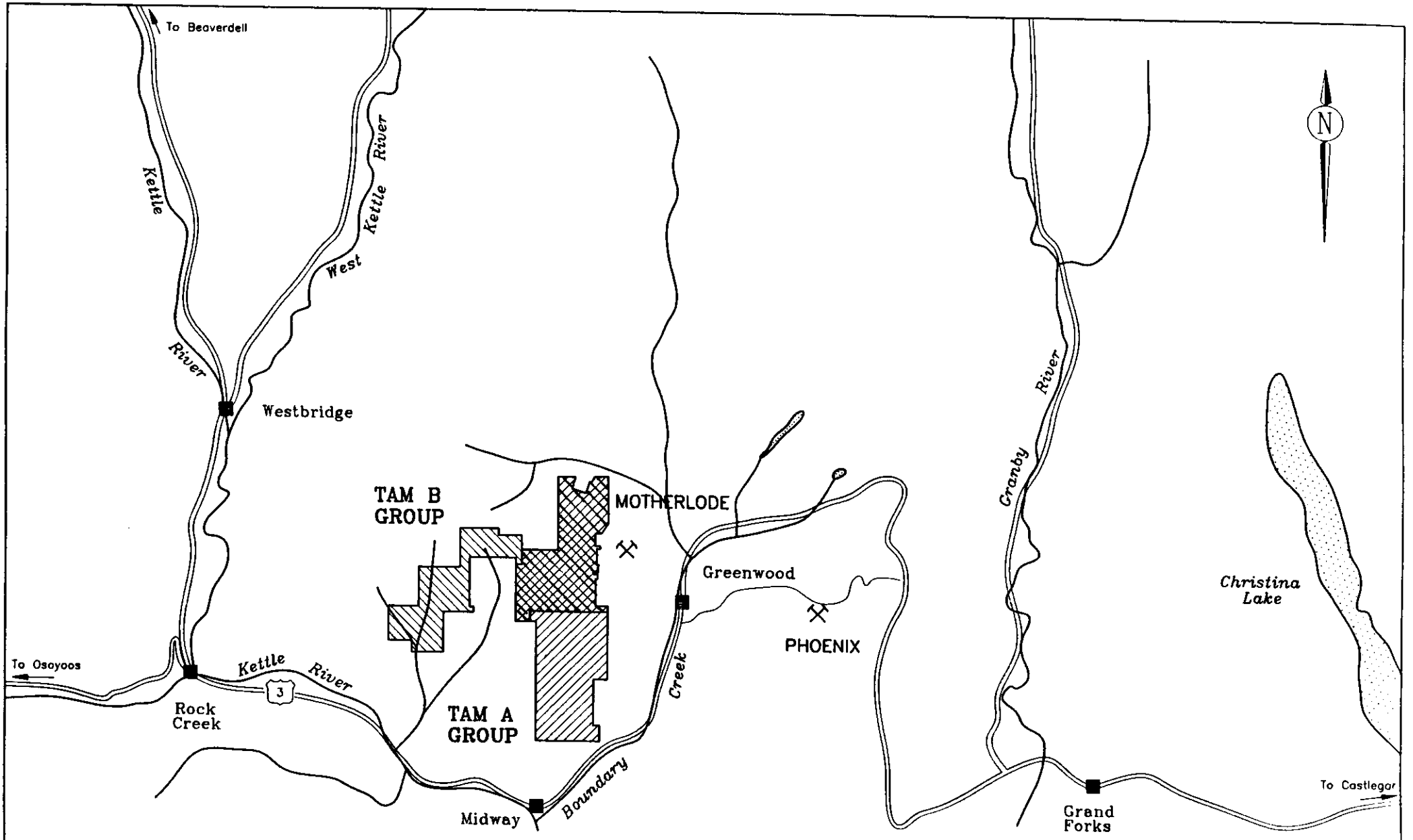
This report describes the results of DDH TM-24, DDH TM-25, DDH TM-27, DDH TM-28, and DDH TM-30, five "NQ" diameter diamond drill holes located on the Buck and Shanter claims of the Tam A and Tam B Groups. A total of 774.95 meters was drilled in these four holes. Drilling was carried out between March 22 and April 23, 1992 and these holes were part of a larger 7 hole drill program on the Buck and Shanter claims. The focus of the program was to assess the potential of the property for vein and disseminated Au mineralization, in particular to test the extent of a Au anomaly intersected in 1991 drilling.

1.2 Property Location and Access

The Tam A and B Groups are situated within the Greenwood Mining Division at Latitude 49° 02′ 00" North, and Longitude 118° 45′ 00" West on NTS 82E/2E+2W (Figure 1 and 2). This is approximately 6 km to the west/southwest of the city of Greenwood, B.C.. Access to the claims is via the Deadwood Road to the west of town. This road is kept in excellent repair as it is the road to the garbage dump. Approximately 2 km from town an old, well maintained logging road branches off from the Deadwood Road to the west-southwest. This road is followed for approximately 4 km until a fork is reached. From this junction the Tam A and B Groups may be accessed by taking the north or the south fork, leading to a network of old logging roads and skid trails (Figure 3). The southern part of the property may be accessed from the town of Midway via a network of ranch and logging roads that lead northerly from Highway 3 up Murray Gulch and Ingram Creek.

1.3 Topography, Vegetation, and Climate

Topographic relief is extreme in areas, generally ranging from 600



MINNOVA Inc.

FILE: D:\DWG\RAINLOC

FIGURE 1

TAM A & B GROUPS

LOCATION MAP

CJC/sg SEPT.1992

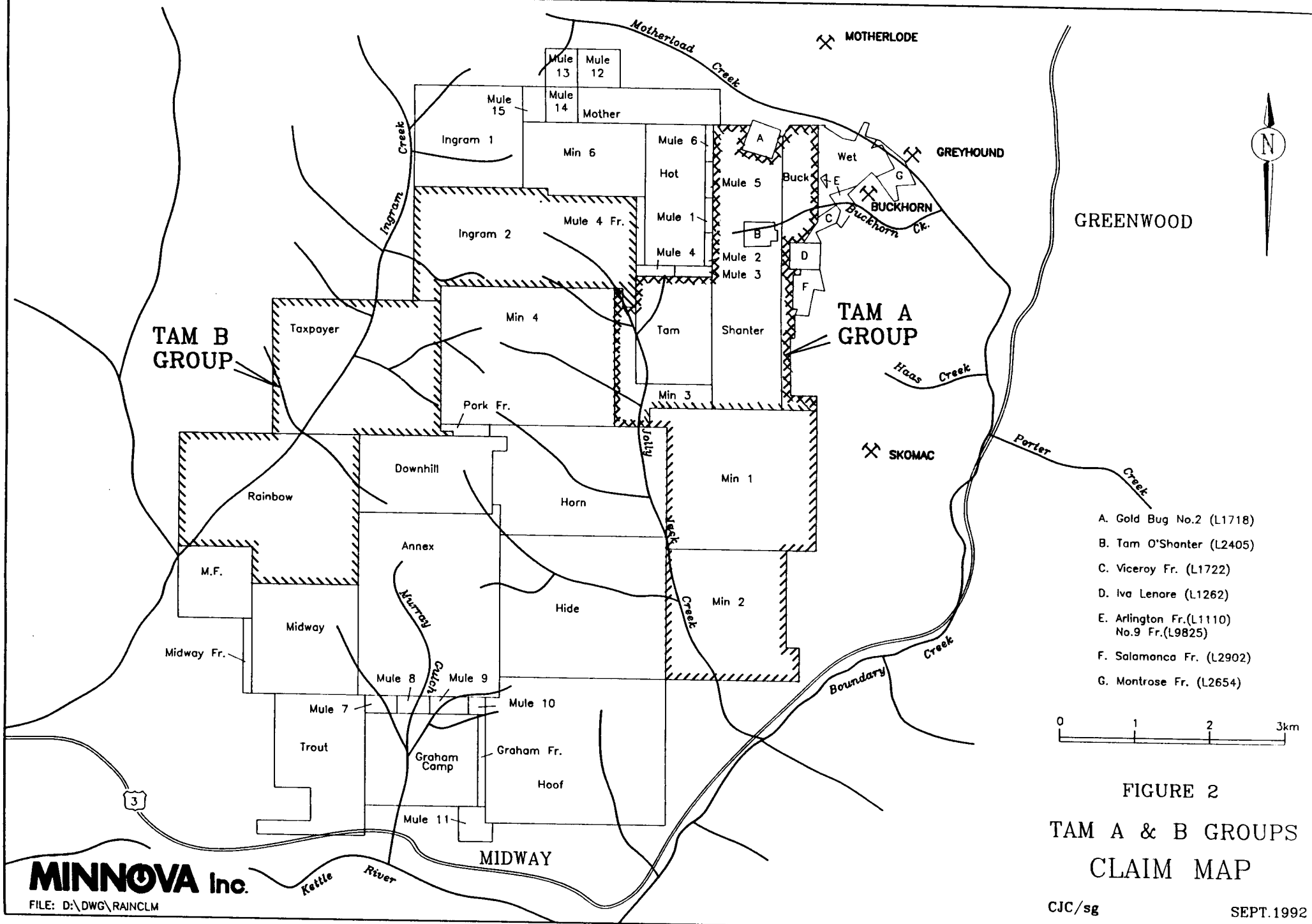


FIGURE 2

TAM A & B GROUPS

CLAIM MAP

MINNOVA Inc.

FILE: D:\DWG\RAINCLM

CJC/sg

SEPT.1992

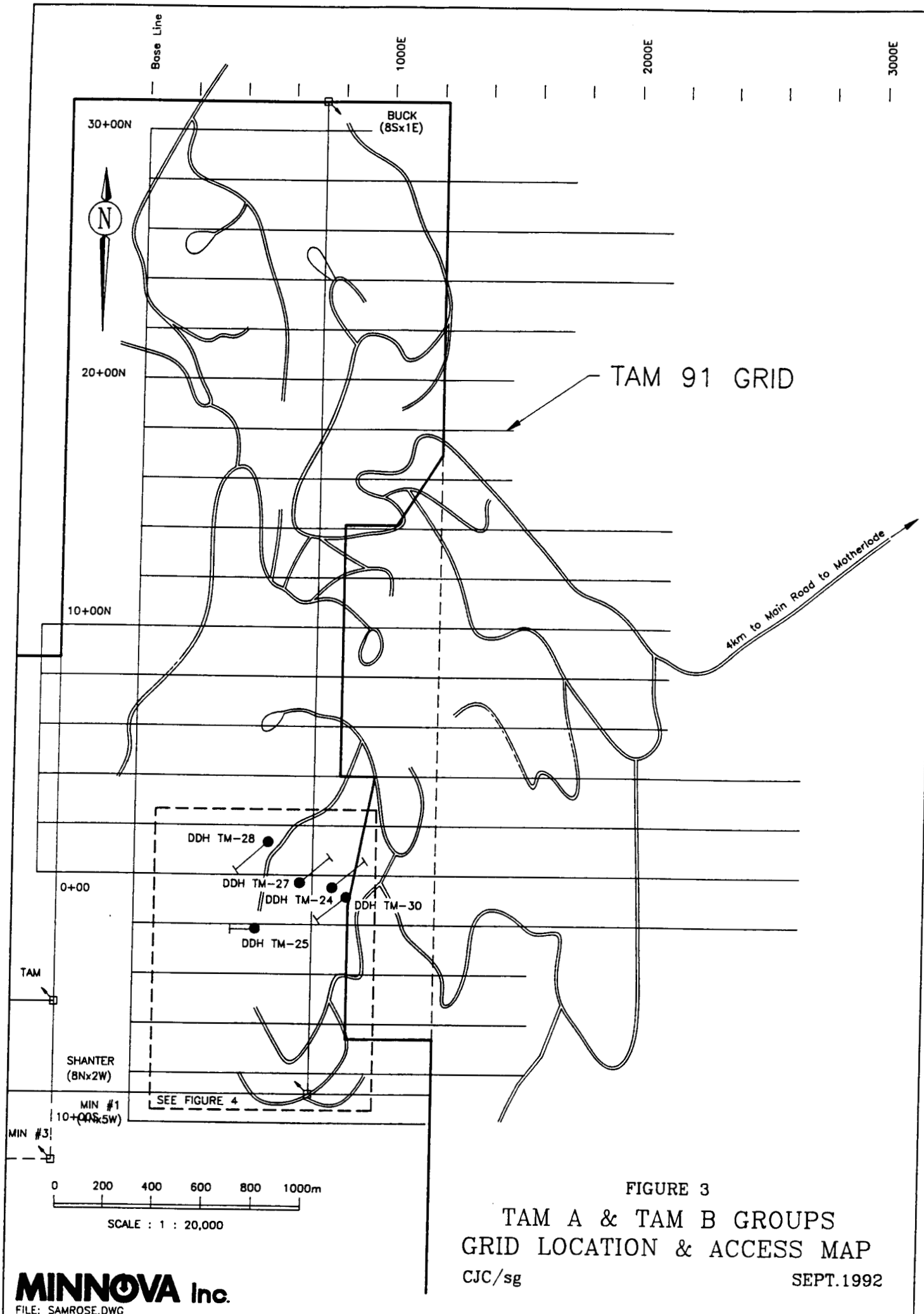


FIGURE 3

TAM A & TAM B GROUPS
GRID LOCATION & ACCESS MAP

CJC/sg

SEPT.1992

MINNOVA Inc.

FILE: SAMROSE.DWG

meters above sea level (A.S.L.) to approximately 1500 meters A.S.L.. The northern portions of the property have gentler relief. Vegetation consists predominantly of Lodgepole pine and Douglas fir. Areas near active drainages have dense alder. The southern portion of the property consists of rolling grassy hills with moderate forest cover. Climate is moderate with temperatures from -15° C in winter to 30° C in summer.

1.4 Property and Ownership

The Tam A and Tam B Group of claims consist of 9 contiguous MGS mineral claims comprising a total of 98 claim units. Claim information is summarised in the following tables:

Table 1: Summary of Claim Status- Tam A Group

CLAIM NAME	REC. NO.	NO. OF UNITS	EXP. DATE	NEW EXP. DATE
Buck	(214277) 1613	8	06/28/94	06/28/95
Min#1	(215479) 5615	20	12/22/93	12/22/95
Min#2	(215480) 5616	16	12/21/93	12/21/95
Min#3	(215481) 5617	12	12/23/93	12/23/95
Shanter	(214168) 1176	16	07/07/93	06/28/95
Tam	(214278) 1616	6	06/28/93	06/28/95

Table 2: Summary of Claim Status- Tam B Group

CLAIM NAME	REC. NO.	NO. OF UNITS	EXP. DATE	NEW EXP. DATE
Buck	(214277) 1613	8	06/28/94	06/28/95
Shanter	(214168) 1176	16	07/07/93	07/07/95
Tam	(214278) 1616	6	06/28/93	06/28/95
Min#3	(215481) 5617	12	12/23/93	12/23/95
Ingram2	(215200) 5335	18	01/08/93	01/08/95
Taxpayer	(215201) 5336	20	01/10/93	01/10/95
Rainbow	(214649) 3404	20	01/14/93	01/04/95

1.5 Property History

The Greenwood area is known for its Cu/Au skarn deposits within calcareous units of Triassic Brooklyn Formation, and for smaller tonnage precious metal vein deposits. Fairly extensive exploration has been undertaken near the claim area in the past, especially in the area of the Buck and Shanter claims. The first recorded work in the area is from the Buckhorn mine, east of the Buck claim. The discovery of the Motherlode skarn deposit (approximately 1 km north of the Buck claim) dates to the late 1800's.

Linda Lee (1990) summarized the history of work done on the claim group and in the immediate area, and part of this is reproduced here verbatim. Much of the work pertains to the Tam O'Shanter Crown Grant which is not contained in the Tam A or Tam B groupings. However, the Tam O'Shanter Crown Grant is located within the Shanter claim boundary and thus this information is a relevant part of the property history.

"...1904 - Bengal Crown Grant issued, L2375 (BCDM Annual Report-1904)

1921 - Work was recorded on the Tam O'Shanter. 2 old shafts (from the turn of the century?) and a recent cross-cut tunnel and an inclined shaft are documented. Work in 1921 included 300 feet of drifting and a 75 foot raise. (BCDM Annual Report-1921)

1922 - Work continued on the Tam O'Shanter. 208 feet of tunnel is driven as well as a 25 foot raise. The 'lead' is soft gangue and crushed country rock containing lenses of galena, chalcopyrite, and gold and silver values, in a quartz gangue. 3 tons were shipped averaging 0.4 oz/t Au and 0.66 oz/t Ag. (BCDM Annual Report-1922)

1964 - Silver Dome Mines did extensive work on 10 claims in the Iva Lenore and Tam O'Shanter area. 10 miles of road were built, 13,000 feet of stripping and 6,118 feet of diamond drilling done. Line cutting, magnetometry and soil sampling were also done. Assessment Report 562 covers the soil and magnetometer surveys. There is no record of drilling or trenching although a later report shows the locations.

1966-67 - Utah did a geophysical survey (IP, resistivity). Assessment Report 1067).

1966-67 - San Jacinto Exploration did an IP survey (see Assessment Report 881).

1969 - Consortium of companies including Silver Dome did aeromag survey (Assessment Report 1878).

1972 - Sun Oil did percussion drilling (Sun Oil, 1972).

1972 - Phelps Dodge did minor geological mapping and data compilation (Assessment Report 4125).

1973 - Mapletree Exploration had topo base of area surveyed and completed a geological mapping and percussion drilling program in the area (Dickinson and Simpson, 1973).

1973-74 - Mascot Mines drilled 27 percussion drill holes. Drill logs are available but no analytical results (Assessment Report 5023).

1975 - Oneida Resources acquired property.

1979 - Oneida drilled 3 diamond drill holes (1560 feet). Target was porphyry Cu-Mo mineralization. Discovered new zone of intense hydrothermal alteration (Assessment Report 8795).

1981 - G. Rayner completed detailed mapping around the Bengal Shaft area. Several old trenches elsewhere on the property were re-exposed using a backhoe (Rayner, 1982).

1982 - Oneida Resources amalgamated with three other companies to form New Frontier Petroleum.

1983 - 200 feet of backhoe trenching was done near the Bengal Shaft and about 100 feet of trenching was done about 1.5 km north of this to test copper staining exposed by a redent logging road. New Frontier Petroleum went into receivership, giving the Receiver an interest in the property. The remaining interest was transferred to a subsidiary of New Frontier Petroleum, Bulkley Silver Resources Inc..

1984 - H. Shear prepared a compilation of data on the Tam O'Shanter property for Bulkley Silver Resources (Shear,1984).

1984-85 - Geological mapping and interpretation was done in the Tam O'Shanter area for Kettle River Resources Ltd. by J. Fyles (Fyles, 1984-85).

1985-87 - Bulkley Silver Resources merged with several other companies to form Houston Metals. Houston Metals was rolled back to form Pacific Houston.

1987 - The property was examined by Echo Bay Mines and BP Selco. The 1979 drill core was relogged and a brief report was prepared (Fraser, 1987; Wong, 1987).

1988 - Pacific Houston had the present Tam grid established and an IP survey completed (Arnold, 1989a). Three diamond drill holes (2,645 feet) were drilled to test anomalies resulting from the above program (Arnold, 1989b)..."

In 1990 Minnova re-established the existing Tam grid and completed a program of geological mapping, rock and soil sampling, magnetometry and VLF-EM geophysics on the Tam 90 Group. This group includes several claims that are now included with the Tam A and Tam B groups (Min#1,Shanter,Buck). The Tam grid was extended in 1991 to the north, south, and east and a program of geological mapping, sampling, IP geophysics, and magnetometry was carried out. This was followed by a drill program that ran from October-December 1991 and which continued in the spring of 1992.

1.6 Summary of Assessment Work, March-April, 1992

Diamond Drill Hole TM-24:	Location	0+43S, 8+00E
	Elevation	1313m A.S.L.
	Length	158.5m
	Azimuth	050°
	Dip	-45°
	Samples	54 for geochem
		6 for lithogeochem
	Started	March 24, 1992
	Completed	March 27, 1992
Diamond Drill Hole TM-25:	Location	2+09S, 4+90E
	Elevation	1440m A.S.L.
	Length	96.47m

	Azimuth	270°
	Dip	-50 °
	Samples	32 for geochem
	Started	March 27,1992
	Completed	March 30, 1992
Diamond Drill Hole TM-27:	Location	0+28S, 6+65E
	Elevation	1360m A.S.L.
	Length	163.98m
	Azimuth	050°
	Dip	-50°
	Samples	60 for geochem
	Started	March 31,1992
	Completed	April 2, 1992
Diamond Drill Hole TM-28:	Location	1+25N, 5+35E
	Elevation	1362m
	Length	180.44m
	Azimuth	230°
	Dip	-45°
	Samples	60 for geochem
	Started	April 2, 1992
	Completed	April 4, 1992
Diamond Drill Hole TM-30:	Location	0+75S, 8+77E
	Elevation	1305m
	Length	175.56m
	Azimuth	230°
	Dip	-45°
	Samples	50 for geochem
	Started	April 13, 1992
	Completed	April 16, 1992

2.0 GEOLOGY

2.1 Regional Geology and Structure

Regional geology of the area consists of Late Palaeozoic and Mesozoic volcanic and sedimentary rocks metamorphosed to greenschist facies. These are intruded by Mesozoic plutons and unconformably overlain by Tertiary volcaniclastic and flow rocks.

Pre-Tertiary rocks are contained within north dipping thrust slices. These slices lie above high-grade metamorphic complexes which are exposed in northern Washington. Late Palaeozoic rocks consist of chert greenstone, diorite, and serpentinite of the Knob Hill Group, and dark grey argillite, limestone, and minor volcanic rocks (andesite) belonging to the Attwood Group. These rocks are unconformably overlain by Triassic Brooklyn Formation, a sequence of clastic sedimentary rocks, limestones, and submarine pyroclastic breccias and dioritic intrusions.

Early Tertiary tectonism included magmatic activity, horst and graben development, and thrusting. Tertiary rock distributions in the area are controlled by extensional faulting and three sets of faults are recognized in the area. From oldest to youngest these comprise gently east dipping faults at the base of the Tertiary, later west dipping listric normal faults causing rotation of Tertiary strata, and finally north to northeast trending steeply dipping faults.

The Tam A and B Groups are located along the eastern margin of the Toroda Creek graben flanking the Tenas Mary horst to the west. To the east of the horst is the Republic graben which extends south into the United States.

2.2 Property Geology

The most northerly part of the part of the claim group (Buck claim) is underlain by a dioritic intrusion of possible Jurassic or

Cretaceous age. Texturally this varies from fine grained microdiorite to coarse grained diorite, with local feldspar-crowded phases. Weak copper mineralization is common through much of the porphyry. To the south of the intrusion, geology consists primarily of a bedded sequence of Carboniferous to Permian cherty sediments, volcaniclastic rocks (ash to crystal tuff), and argillite, generally striking north/north-west and dipping 40-50 north-east. These are intruded locally by small sills and dykes of microdiorite, trachyte, and hornblende diorite. Past interpretation has grouped the microdiorite and trachyte with the Carboniferous Knob Hill Group; however, regional observations suggest the microdiorite may belong to the Jurassic/Cretaceous Nelson Plutonic Series.

In addition to the above units, a series of chert pebble conglomerate and sheared volcanic conglomerate occur on the property. The chert pebble conglomerate consists of fine chert pebbles 2-15mm in diameter within a sandy siliceous matrix. Volcanic conglomerate is a coarse collection of light to medium grey sandy material in a black siliceous matrix. Fyles (1990) suggests that these units belong to the Carboniferous or Permian Knob Hill Group while Little (1979) indicates they are of Triassic age, belonging to the Brooklyn Formation.

Further to the south and to the west, the main Deadwood Ridge Fault and smaller cross faults separate these older rocks from Tertiary volcanics, arkosic sediments, sandstones, and quartz pebble conglomerates. The unconformity at the base of the Eocene is represented by sandstone,shale, and conglomerate of the Kettle River Formation. Overlying these sediments are thick andesite, trachyte, and phonolite lava flows of the Marron Formation. Finally, the lavas are intruded by the Tertiary Coryell Intrusions, ranging from syenite to diorite in composition.

3.0 DIAMOND DRILL PROGRAM

DDH TM-24, DDH TM-25, DDH TM-27, DDH TM-28, and DDH TM-30 were part of a larger, seven hole drill program that was carried out in March and April of 1992. These holes were drilled to test for disseminated and vein Au mineralization in an area that had several anomalous Au intersections in 1991 drilling. DDH TM-24 was located on the Tam 91 grid at coordinates 0+43S, 8+00E at an elevation of 1313 meters. It was intended to test a gold zone encountered in a drillhole located approximately 200 meters to the northwest. This area also has a coincident IP anomaly (+20mV/V) and Au soil anomaly (to 94 ppb Au). DDH TM-25 was located at 2+09S, 4+90E, 1440 meters A.S.L.. This hole tested a broad soil geochemistry anomaly that had values to 170 ppb Au. DDH TM-27 was located at 0+28S, 6+65E, 1360 meters A.S.L. and tested the strike extension of Au mineralization intersected in drill holes 300 meters and 175 meters to the northwest. This area also had coincident magnetic and IP anomalies (chargeabilities to +20mV/V). DDH TM-28 was located at 1+25N, 5+35E, 1362 meters A.S.L.. This hole was intended to test an Au anomaly intersected in a previous drill hole located 100 meters to the northwest. Au soil anomalies occur to 110 ppb in this area. DDH TM-30 was located at 0+75S, 8+77E, 1305 meters A.S.L.. This hole was intended to test the along-strike extension of anomalous Au values intersected in DDH TM-24, located 75m to the northwest. DDH TM-30 was located in an area with coincident IP and Au soil geochemistry anomalies. The location of the holes with respect to the Tam 91 grid and to claim posts is shown on Figures 3 and 4. The detailed drill logs with analytical results are contained within Appendix III at the end of this report.

3.1 DDH TM-24 Results

DDH TM-24 collared in a diorite/hornblende diorite unit that varies texturally and compositionally throughout. It is fine to coarse

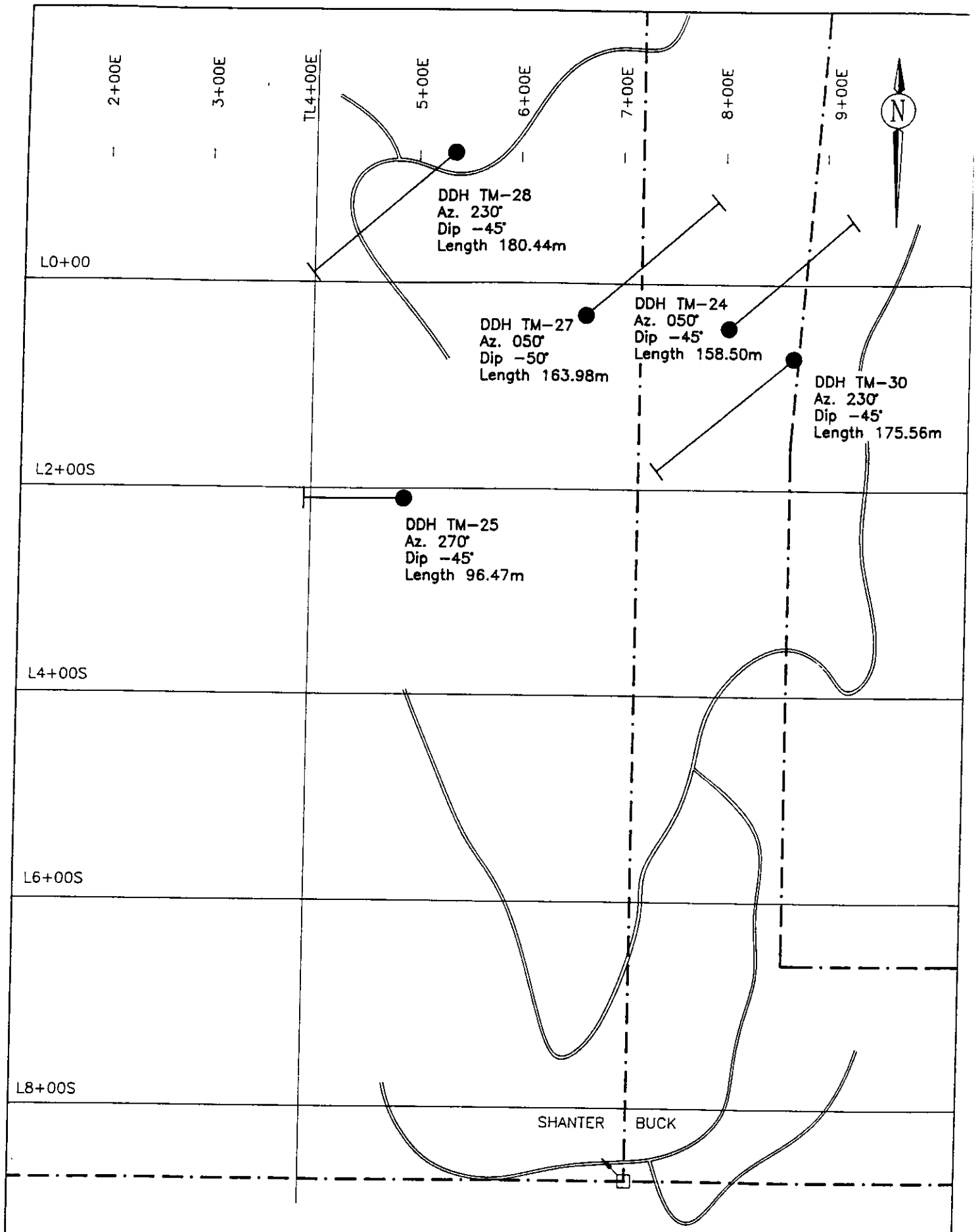


FIGURE 4

TAM A & B GROUPS

DDH TM-24,TM-25,TM-27,TM-28,TM-30

LOCATION MAP

CJC/sg SEPTEMBER 1992

MINNOVA Inc.

FILE: TAM91G.DWG

grained, light to dark green in colour, and hornblende/feldspar phyric. Alteration in this unit is variable and consists of silicification, chloritization, carbonitization, and local strong clay alteration with possible secondary leucoxene and albite. Sulphides occur as veinlets and disseminations from trace to 2%, locally to 5-10%. Pyrite is the main sulphide but trace amounts of chalcopyrite, pyrrhotite, and arsenopyrite occur. From 41.55-53.1m there is a shear zone occurring at 58° to the core axis. This contains well-comminuted fragments and has a texture typical of mylonite. Below the diorite, from 53.1-59.37m, is a fine grained, dark green, chloritized and silicified andesite flow. The bottom contact of this unit is sharp at 38° to the core axis and is parallel to banding seen within the andesitic unit itself. Below the contact is a narrow (0.75m) quartz vein with brecciated and resilicified vein fragments. This overlies a 2m wide zone of mylonite, which is followed by a zone of stockwork silicification with 20% pyrite, from 62.24-63.75m. The mylonite occurs again from 63.75-71.21m. From 71.21-108.5m is a unit of interbedded cherts and tuffs with fault and breccia zones throughout. The fault zones tend to be clay altered while the breccia zones are silicified. Crosscutting this unit is a dark grey to green, medium grained dyke. Below this, from 109.5-156.1m, the hole intersected a sequence of diorite intrusions that vary from fine to coarse grained, light grey to green in colour. Alteration is dominantly chloritization with lesser clays and silicification. Locally the interval is brecciated or sheared, with quartz-carbonate veining healing the breccias. Stockwork silicification occurs from 109.5-110.45m, 113.6-115.12m, and 151.49-156.1m. Mineralization is mainly pyrite which occurs as disseminations and along fractures to 2% and locally to 20% in the strongly silicified, stockworked, or brecciated areas. Patchy disseminated magnetite also occurs. From 156.1m to the end of the hole at 158.5m is an interbedded chert and cherty ash tuff unit which is fine to medium grained, grey-green in colour and chloritically altered. Pyrite occurs from trace to 2%, usually along fractures.

3.2 DDH TM-25 Results

DDH TM-25 collared in, and remained in interbedded tuffaceous sediments, sandstone, and quartz pebble conglomerate. The units are all well bedded, with bedding ranging from 32°-62° to core axis. Fining sequences suggest that tops are up hole. The tuffaceous sediments are fine grained, grey-green siltstones that have been chloritically altered. Sandstones are tuffaceous and chloritically altered, or white and quartz rich. The coarsest unit is a white quartz and chert pebble conglomerate that is locally oxidized. This unit varies from matrix supported to clast supported and fragments are white quartz grains, grey-green tuffaceous pebbles, and chert fragments. Fragments are generally subrounded to subangular and randomly oriented. Mineralization consists of pyrite which occurs mainly as veins and veinlets in the coarse grained, more permeable sandstone units. There is also some boxwork texture from 21.0-21.4m and 25.29-29.2m which is due to oxidation of disseminated cubic pyrite. From 46.4m to the end of the hole at 96.47m, the unit is highly broken up, brecciated, and rubbly and this is probably due to a number of small faults that are seen crosscutting the core at 90 to the core axis. The conglomeratic beds are generally strongly oxidized and Fe-stained. Pyrite content ranges from 2-20% throughout the hole but generally decreases in abundance after 62.4m. Manganese staining is seen on most fracture surfaces.

3.3 DDH TM-27 Results

DDH TM-27 collared in a brecciated fault zone and remained in it to 23.25m. The host rock is a medium grained leucocratic diorite. Brecciated diorite fragments are subrounded and range from sub-millimeter size to several centimeters. Structural fabric is oriented approximately 20° to the core axis and narrow fault gouge and shear zones are present. Alteration varies from clays and Fe-oxidation at the top of the interval, to strong silicification and chloritization at depth. Strongly silicified zones occur from 12.2-18.1m and a quartz vein oriented at 50° to core axis occurs

from 13.46-14.9m. Mineralization in this interval is dominantly pyrite, which occurs as veins and veinlets in silicified zones. Overall, the pyrite content is approximately 2-5% but it reaches 10-20% within silicified areas. Arsenopyrite and scorodite are seen in trace amounts in the interval from 12.2-17.07m. Below the brecciated diorite, from 23.25-88.4m, is a unit of green, fine to medium grained diorite. Several breccia zones in this interval are cemented by silica, carbonate, chlorite, and locally talc. Some of the silica cement is opaline and banded. Alteration of the wallrock consists of silicification, carbonatization, chloritization, and minor sericitization. Potassic alteration of feldspars occurs from 33.6-38.1m, and possible albitization occurs in a bleached zone from 40.3-44.17m. Mineralization occurs as disseminated pyrite throughout the interval to 10% and occasionally pyrite veinlets occur with carbonate veining. These veinlets occur at angles ranging from <10°-38° to core axis. Underlying this unit, from 88.4-100.82m, is a grey-green debris flow breccia unit. This is composed of rounded to angular quartz and diorite fragments ranging in size from mm-scale to several centimeters. Alteration consists of silicification, clays, chlorite, and carbonate. Pyrite occurs along stockwork veinlets and as fracture fillings to 3%. Trace amounts of chalcopyrite are seen. Below the debris flow breccia, from 100.82-160.7m is a diorite unit that varies from grey-green leucodiorite to dark green diorite. A brecciated interval ocurs from 145.51-146.9m. Alteration consists mainly of clays and silicification, with minor carbonatization of matrix and carbonate and talc veinlets crosscutting the unit. Sulphides in the interval consist of 1-5% pyrite, pyrrhotite, +/- chalcopyrite that occur as disseminations, stockwork veinlets, and amorphous masses. From 115.3-115.45m is a small silicified interval with 10% pyrite and chalcopyrite veinlets and possibly some dissseminated gold. Below this diorite unit, from 160.7m to the end of the hole at 163.98m, is a fine grained grey-green cherty ash tuff unit. This unit is silicified, with chloritic fractures and trace to 5% pyrite throughout.

3.4 DDH TM-28 Results

DDH TM-28 collared in diorite and remained in this unit to 34.14m. The diorite varies from fine to medium grained and is light to dark green in colour. Several sheared and brecciated zones occur throughout the interval. Silicification is associated with the brecciation. Other alteration consists of clay alteration of feldspars, and talc along fractures. Pyrite occurs as fine veinlets, veins, and disseminations commonly associated with silicification. Overall, its abundance averages 2-3%. In places pyrite has been completely oxidized, giving the core a boxwork texture. Beneath the diorite, from 34.14-57.6m, is a strongly altered breccia unit. The fragments appear to be fine grained chilled margin fragments of diorite as seen in the overlying unit. Open space fractures are lined with drusy quartz, and the breccia is healed with silica. Clay alteration is common in the diorite fragments. Mineralization consists of pyrite to 5%, as disseminations and in oxidized veinlets. From 57.6-80.47m is a diorite unit similar to that seen higher up in the hole. From 75.7m onward the diorite enters a wide zone of shearing and faulting. A 5m wide fault zone at 75.7m is oriented at 64° to core axis. Alteration consists of chloritization, clay alteration of feldspars, and silicification of brecciated zones. Fine grained leucoxene is seen in a silicified zone from 59.13-70.9m, and minor fuchsite occurs on chloritic fractures at 77.62m. Sulphide concentration ranges from 2-20%, generally disseminated and along fractures. This is mainly pyrite, but 10% chalcopyrite occurs from 77.62-77.82m. From 80.47 to the end of hole at 180.44m is a unit of interbedded quartz conglomerate, sandstone, and siltstone. Conglomerate is composed of quartz, chert, and fine grained chloritic ash tuff fragments and is strongly fractured. Pyrite occurs along these fractures and as disseminations to 3% and is strongly oxidized. Sandstones are grey and quartz rich. Siltstones are finer grained, grey-green, and may have a volcanic origin. Bedding is approximately 64° to core axis. Alteration is generally weak throughout the interval and consists mainly of

oxidation of the trace-3% pyrite that occurs throughout.

3.5 DDH TM-30 Results

DDH TM-30 collared in a grey-green brecciated shear zone, oriented 70° to core axis. Alteration consists of chloritization, silicification, and possible albitization of fragments. Pyrite occurs with silicification, and in veinlets, to 1%. From 11.24-14.36m is a narrow interval of diorite, strongly altered to clay and chlorite. Leucoxene is present, as well as weak silicification. Pyrite occurs to 1-2% and increases where silicification is stronger. From 14.26-19.55m is a quartz vein/silicified breccia unit. Silicification is pervasive, and some breccia is cemented by opaline silica. Chlorite occurs along fractures. Pyrite occurs in zones of strong fracturing, from 5-10% as veinlets along these fractures. From 19.55-23.65m and 39.9-52.73m is a unit of diorite. A fault oriented at 28° to core axis occurs at 43.1m. Alteration consists mainly of chlorite and clays with local carbonate, silica, leucoxene, and hematite. Pyrite is the only sulphide present and occurs finely disseminated and as veinlets from trace-5%. Interbedded with the diorite intervals is a debris breccia from 23.65-39.9m. This is grey-green in colour, with angular fragments occurring in a fine grained matrix. The interval is faulted throughout. Alteration is predominantly argillic and chloritic with occasional zones of silicification and quartz-carbonate stockworking. Pyrite usually occurs in trace amounts; locally up to 5%. From 52.73-60.35m a second shear and breccia zone occurs. Fabrics are oriented 56°-60° to core axis. Clay gouge and rubble occur locally, suggesting fault zones at 56.17m, 57.6m, and 60.35m. Alteration consists of chloritization, albitization, and silicification. Mineralization occurs with quartz veining or silicification. Pyrite is the main sulphide but arsenopyrite and chalcopyrite also occur (to 5-10%) as fine disseminations, in veinlets, and in veins. A fault contact occurs at 60.35m and a unit of interbedded sediments lies beneath it. These sediments vary from fine grained grey-green siltstone or tuff

to grey-white quartz rich sandstone, to white quartz pebble conglomerate. Alteration consists of chloritization and silicification. The interval is strongly fractured and faulted throughout. Mineralization consists of 1-2% disseminated and veinlet pyrite, with local chalcopyrite. The bottom comtact of this unit (at 93.57m) is a fault and from 93.57m to the end of the hole at 175.56m is a feldspar and pyroxene phyric dyke. This unit is faulted and locally quartz-carbonate veined and brecciated. Alteration consists of strong chlorite, clays, and carbonate. In places the core is pitted where phenocrysts have been weathered out. This unit is barren of mineralization.

4.0 DISCUSSION AND CONCLUSIONS

4.1 DDH TM-24

Several geochemical anomalies were seen in this hole. These are correlatable with zones of stockwork and disseminated sulphides seen in the drill core. From 29.21-35.21m, Au averaged 0.65g/T. From 50.1-53.1m, Au averaged 0.65g/T; Cu 2360 ppm. These values occurred in an 11.5m wide shear zone with strong clay and chlorite alteration, talc and carbonate veinlets, and pyrite and chalcopyrite veinlets and stockworking. It is likely that this is related to the Au zone encountered 200m along strike in 1991 drilling.

4.2 DDH TM-25

No significant geochemical anomalies are seen in DDH TM-25, although pyrite occurred to 20% in places. The highest Au value over a 3m interval was 32 ppb. These sediments are similar to those seen in DDH TM-28; however, there is a larger proportion of coarse grained conglomerate to finer grained sandstones and siltstones in this hole. The sediments are similar to interbedded sediments seen on surface.

4.3 DDH TM-27

Several geochemically anomalous zones were intersected in DDH TM-

27. The best intersection was 12 meters averaging 1768 ppb Au from 124.45-136.45m. Just above this interval, from 115.3-115.45m, a narrow silicified interval assayed 134.2g/T Au. The high value was due to traces of visible Au. Other samples with Au values greater than 0.5g/T occurred at 100.82m-103.82m (1.4g/T), 114.2-114.6m (0.57g/T), 145.57-146.9m (0.64g/T), 149.9-152.9m (0.53g/T), and 156.25-160.7m (0.52g/T). All of these anomalous intersections occurred in diorite, generally in areas with strong clay alteration and/or silicification. Visible mineralization is usually associated with carbonate veinlets. It is likely that these intersections are related to the Au mineralization intersected in 1991 drilling to the northwest, and correlatable with anomalous Au intersections in diorites in TM-24.

4.4 DDH TM-28

Several intersections in DDH TM-28 were anomalous for Au and Cu. As in DDH TM-24 and DDH TM-28, anomalous intersections occurred in diorites that have been variably silicified and/or clay altered. The best Au values from this hole were 0.36g/T from 12.05-15.05m, 1.52g/T from 34.14-37.14m, 0.46g/T from 60.6-63.6m, 6.26g/T from 75.7-77.62m, and 1.38g/T (with 3341 ppm Cu) from 77.62-78.64m. The interbedded sediments seen at the base of this hole are similar to and correlatable with sediments seen in TM-25, although there is a higher proportion of finer grained sediments and siltstones in TM-28.

4.5 DDH TM-30

Several intersections in DDH TM-30 were geochemically anomalous and assayed greater than 1.0g/T Au. From 56.17-57.6m, a zone of 5-10% pyrite in veinlets assayed 1580 ppb Au. From 58.3-58.7m, a zone of silicification with 40-50% pyrite, 5-10% arsenopyrite and trace chalcopyrite assayed 3300 Au. Below this, from 58.7-60.35m, 1290 ppb Au occurred in a strongly chloritized zone with 10% pyrite and arsenopyrite. These results all occur in a shear/breccia zone with quartz veining and silicification, and the highest Au results

correspond with highest sulphide concentration. This is probably the along-strike extension of the Au zone encountered in TM-24, located 75 meters to the northwest.

5.0 REFERENCES

Church, B.N., 1986.
Geological Setting and Mineralization in the Mount Attwood - Phoenix area of the Greenwoood Mining Camp. BCDM Paper 1986-2.

Clayton, C.J., 1991.
Assessment Report on 1991 Drilling on the Tam 91 Group near Greenwood, B.C., Greenwood Mining Division.

Fyles, J.T., 1990.
Geology of the Greenwood-Grand Forks Area, British Columbia, NTS 82E/1,2. B.C. Geological Survey Branch Open File 1990-25.

Lee, L., 1990.
Geological, Geochemical, and Geophysical Assessment Report on the Tam 90 Group, Greenwood Mining Division.

APPENDIX I: STATEMENT OF COSTS

STATEMENT OF COSTS
TAM GROUP A

Diamond Drilling:

Contractor Costs (Atlas Drilling Ltd.):
423.00m @ $48.45 / metre.....$20,494.35

Personnel:

Dave Heberlein (Senior Project Geologist):
1 days @ $250.00 / day.....$ 250.00
Cam Clayton (Project Geologist):
13 days @ $150 / day.....$ 1,950.00
Logan Kelly (Field Assistant):
13 days @ $110 / day.....$ 1,430.00

Logistics:

Meals and Accommodation:
26 mandays @ $25.00 / day.....$ 650.00
Vehicle Rental:
13 days @ $50.00 / day.....$ 650.00
Travel Expenses:.....$.. 285.21
Freight:.....$ 134.65
Equipment (Sample Bags etc).....$ 80.79

Analytical Costs (Minen Labs):

Trace geochem (Ag, As, Ba, Cu, Pb, Sb, Zn, Au)
161 @ $23.00.....$ 3,703.00
Assays (Au)
12 @ $8.50.....$ 102.00

Report Preparation:

Mary McDowell:
2 days @ 135 / day.....$ 270.00

TOTAL **$30,000.00**

STATEMENT OF COSTS
TAM GROUP B

Diamond Drilling:

Contractor Costs (Atlas Drilling Ltd.):
351.95m @ $48.45 / metre.....$17,051.98

Personnel:

Dave Heberlein (Senior Project Geologist):
2 days @ $250.00 / day.....$ 500.00
Cam Clayton (Project Geologist):
11 days @ $150 / day.....$ 1,650.00
Logan Kelly (Field Assistant):
11 days @ $110 / day.....$ 1,210.00

Logistics:

Meals and Accommodation:
22 mandays @ $25.00 / day.....$ 550.00
Vehicle Rental:
11 days @ $50.00 / day.....$ 550.00
Travel Expenses:.....$.. 388.23
Freight:.....$ 138.00
Equipment (Sample Bags etc).....$ 80.79

Analytical Costs (Minen Labs):

Trace geochem (Ag, As, Ba, Cu, Pb, Sb, Zn, Au)
101 @ $23.00.....$ 2,323.00
Assays (Au)
8 @ $8.50.....$ 68.00

Reclamation:

Logan Kelly:
2 days @ $110 / day.....$ 220.00
Grass Seed:.....$ 480.00

Report Preparation:

Mary McDowell:
2 days @ 135 / day.....$ 270.00
Drafting and Copying.....$ 220.00

TOTAL **$25,700.00**

APPENDIX II : STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, David Heberlein of 12221 Makinson Street, Maple Ridge, B.C. certify that:

1. I graduated from the University of Southampton, England with a B.Sc (Honours) Degree in Geology in 1980.

2. I graduated from the University of British Columbia with an M.Sc Degree in Geology in 1985.

3. I have practised my profession continuously since my graduation.

4. I am a Fellow of the Geological Association of Canada (F5050).

5. I am currently employed by Minnova Inc. as a Senior Project Geologist.

6. Work described in this report was carried out under my direct supervision.

Date: 09-25-1992

Signature: 

STATEMENT OF QUALIFICATIONS

I, Mary McDowell of 466 Hillcrest Street, West Vancouver, British Columbia hereby certify that:

1. I am a graduate of the University of British Columbia, Vancouver, B.C. with a Bachelor of Science degree in Geology.
2. I have practised my profession since graduation in 1991.
3. I am a contract geologist currently employed by Minnova, Inc.
4. I have worked on the Tam A and B Group of claims and have seen the drill core described in this report.

Date: September 25, 1992

Signature: Mary McDowell

APPENDIX III- DRILL LOGS

HOLE NUMBER: TM-24	MINNOVA INC. DRILL HOLE RECORD	IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME:	TAM O'SHANTER	PLOTTING COORDS GRID:		ALTERNATE COORDS GRID:		COLLAR DIP:	-45° 0' 0"
PROJECT NUMBER:	661	NORTH:	43.00S	NORTH:	0+ 0S	LENGTH OF THE HOLE:	158.50m
CLAIM NUMBER:		EAST:	800.00E	EAST:	0+ 0E	START DEPTH:	0.00m
LOCATION:		ELEV:	1313.00	ELEV:	1313.00	FINAL DEPTH:	158.50m
		COLLAR GRID AZIMUTH:	50° 0' 0"	COLLAR ASTRONOMIC AZIMUTH:	50° 0' 0"		

DATE STARTED:	March 24, 1992	COLLAR SURVEY:	NO	PULSE EM SURVEY:	NO	CONTRACTOR:	ATLAS DRILLING
DATE COMPLETED:	March 27, 1992	MULTISHOT SURVEY:	NO	PLUGGED:	NO	CASING:	
DATE LOGGED:	March 28, 1992	RQD LOG:	NO	HOLE SIZE:	NQ	CORE STORAGE:	GREENWOOD

PURPOSE: TEST GOLD ZONE IN 91-16, 200 METRES ALONG STRIKE TO SOUTHEAST

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
65.80	-	-45° 0'	ACID	OK		-	-	-	-	-	
106.38	-	-50° 0'	ACID	OK		-	-	-	-	-	
149.65	-	-47° 0'	ACID	OK		-	-	-	-	-	
158.50	-	-46° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 26.21	«DIOR/HBDR»	Colour: var. drk. to light green and beige Grain Size: var. v.f.gr. to m.gr. The interval consists of a diorite/hornblende diorite unit that varies compositionally and texturally throughout.		Alteration varies throughout from silicification and chlorite alteration to strong clay alteration with possible leucoxene and albite alteration	Sulphides vary in content from trace amounts to 5-10% in areas. This is primarily pyrite, but occasional trace amounts to 1% Cp are present. Sulphides occur as veinlets and dissem inations. In areas the core is weakly magnetic reflecting the presence of pyrrhotite, not magnetite	Recoveries: 1.52-2.44: 100% 2.44-4.57: 98% 4.57-6.1: 100% 6.1-7.95: 102% 7.95-9.14: 50% 9.14-10.67: 108% 10.67-11.89: 80% 11.89-14.02: 100% 14.02-17.07: 100% 17.07-20.12: 100% 20.12-23.16: 90% 23.16-26.21: 110% 26.21-29.26: 110% 29.26-32.31: 100% 32.31-35.36: 110% 35.36-38.4: 124% 38.4-39.6: 100% 39.6-41.45: 108% 41.45-44.5: 100% 44.5-45.72: 100%, rubbly core 45.72-47.55: 113% broken 47.55-50.6: 118% 50.6-53.65: 116%
		1.52-12.69 -the unit is generally dark green, fine grained to very fine grianed without any obvious internal structural fabric		1.52-12.69 -alteration is predominantly silica and chlorite. Occasional quartz carbonate veinlets cut across the interval	1.52-12.69 -pyrite occurs in trace amounts to 3% (+ As Py with scorodite) as fine grained disseminations and veinlets. Many fractures are rusty reflecting oxidation of pyrite	
		12.69-16.00 -the unit is coarser grained and lighter green to beige. Feldspar phenocrysts are up to 2 mm in size and randomly oriented. Upper contact @	38	12.69-16.00 -feldspars are str. altered to clays and leucoxene may be present. Some epidote is present in this interval. Chlorite veinlets are oriented at 18 deg to c.a.	12.69-14.8 -pyrite is absent, but from 14.8-16.0 a number of pyritic veinlets occur with chlorite vnlts at an angle of 18 deg. to c.a.	
		13.6-13.77 -brecciated, strongly clay altered zone @	40			
		16.00-23.81 -a finer grained dark green hornblende diorite unit. The upper contact appears gradational not sharp. Clay gouge at 20.0. At 21.82 is a 1 cm wide banded quartz vein oriented @ Immediately adjacent to this is a 1 cm wide py vein that parallels the qtz vn.	50	16.00-19.03 -a 1-2% calcite vein stockwork is present and the unit is silicified, chloritized with 5% carbonate alt'n of matrix 19.3-20.12 -chlorite vnlts and clay gouge	16.00-23.81 -trace to 1% dissem. and vnlt pyrite. At 21.82 is a 1 cm py vein.	
		23.81-26.21 -a medium grained slight greyish green, strongly altered diorite		23.81-26.21 -feldspars are strongly altered to cla minerals. Carbonate alteration of matrix is pervasive (10%). Minor quartz carbonate veinlets occur	23.81-26.81 -pyrite occurs in trace amounts to 2% dissem.	
26.21 TO 53.10	«DIOR»	Colour: green to lt. grey green Grain Size: m.gr. to f.gr. This interval may be a different phase of the overlying unit. It consists primarily of a green to light grey green feldspar phyric diorite. Grain size varies from m.gr. to f.gr. The		Alteration varies from str. chlorite and clay alteration to silicification and str. bleaching. Carbonate is pervasive through the matrix.	Sulphide content through this material ranges from trace amounts up to 5% locally as vnlts and f.gr. dissem. Chalcopyrite occurs only in trace	It is difficult to tell what the original protolith is in the areas that are bleached, however, the gradual transition to these zones suggests the

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		interval is strongly bleached in areas. The upper 40 cm of the interval consists of quartz carbonate fracturing. The dominant orientation is @	40	Chlorite forms stockwork veinlets. Bleaching may be carused by albite. Occasional banded quartz veins occur through the interval	amounts as does pyrrhotite.	rock type is diorite
		26.21-31.20 -intrusive textures are readily seen, after which alteration overprints textures		26.64-31.20 -clay and chlorite alt'n are dominant with minor silicification and carbonation		
		32.96 -a weak fabric is seen in the core oriented @	40	29.74 -a 5 cm wide banded qtz vn. occurs with at least 2 pulses evident. The vn. is oriented at 42 deg to c.a.	⟨34.2-34.28⟩ «5% py, tr cp»	
		33.65 -a 5 cm wide breccia occurs at right angles to c.a. This is bounded on either side by banded qtz. veining		29.74-35.26 -clay and carbonate alteration are dominant		
		35.9-36.14 -another brecciated interval. Stockwork fracturing occurs from 36.14-37.88		35.36-41.55 -alteration is primarily silica, chlorite and carbonate (10%). The interval is strongly bleached in areas	36.14-37.88 -pyrite and pyrrhotite occur to approx. 5% as a stockwork system associated with carbonate and chlorite veinlets	
		41.55-49.57 -the interval appears strongly sheared @ This appears to have happened at high pressures imparting what appears to be a mylonitic texture to the core. Shearing fragments appear very well comminuted	58	41.55-49.57 -very str. chlorite, clay and silica alteration occurs ⟨49.57-50.1⟩ «stkwrk sil» -complete overprinting by silica	41.55-49.57 -sulphide content increases to 5% to 10%. This is primarily pyrite, with trace amounts of cp and pyrrhotite ⟨48.32-48.42⟩ «8% py, tr. cp»	
		50.1-53.1 -the core is characterized by the shear/mylonitic fabric previously described. In places the fabric is @ only -the bottom contact is strongly fractured/sheared @ stockwork	10 38	⟨50.1-53.1⟩ «Talc, carb vnlts» -the dominant alteration is clay, chlorite and bleaching, with minor talc and carbonate veinlets associated with fabric	⟨51.87⟩ «py, cp vn» -this is a small (1 cm) py vein with minor cp at 40 deg to c.a. ⟨52.7⟩ «py, cp vn» -another small (1 cm) py vein with minor cp at 34 deg. to c.a. ⟨52.7-53.1⟩ «2-3% cpy stkwrk» -chalcopyrite occurs as stockwork vnlts near contact with underlying unit	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
53.10 TO 59.37	«SIL AND»	Colour: drk. green Grain Size: f.gr. This interval consists of a fine grained to aphanitic dark green chloritized and silicified andesite flow. Minor interbeds of greyish green tuffaceous material are seen. Flow banding is seen locally @ In areas chlorite filled vesicles, unstrained are visible. These are up to 2 mm in diameter. Minor bands of quartz carbonate vnlts occur through the interval with the most common orientation from 28-30 deg to c.a. These are commonly associated with small pyrite veinlets 54.3-54.57 -is a 2 cm wide quartz vein with banded selvages oriented @ 57.4-57.91 -core very broken, may be faulted The bottom contact of this interval has a slightly sheared fabric and is a sharp contact @	38 14 38	Alteration through the interval is dominantly silicification overprinting a strong chlorite alteration. Small quartz carbonate veinlets cross cut the interval and carbonate alteration of the matrix is minor. On some fracture surfaces a light manganese staining is visible. Chlorite occurs as veinlets along fractures and within the matrix.	Sulphide content ranges from trace amounts to 1% locally. Pyrite is the only visible sulphide occuring as disseminations and minor veinlets 54.3-54.57 -minor pyritic selvages are associated with 2 cm wide quartz vein	Recoveries: 53.65-56.69: 112% 56.69-57.91: 100%, broken core 57.91-59.74: 100% 59.74-61.57: 100% 61.57-62.79: 100% 62.79-64.62: 100% 64.62-65.84: 100% 65.84-68.88: 100% 68.88-71.93: 100% 71.93-74.10: 100% 74.10-75.59: 100% 75.59-77.27: 100% 77.27-78.03: 100% 78.03-81.08: 100% 81.08-84.13: 100% 84.13-86.56: 100%
59.37 TO 60.12	«QTZ VN BX/ SIL»	Colour: grey/white Grain Size: f.gr. A fine grained massive locally brecciate qtz vn with a sharp upper contact @ Brecciated fragments are subrounded varying in size from mm scale to 1 cm in dimension. 60.00 -.5 cm chlorite, carb, py vn occurs @	38 38	Intra-breccia spaces have been qtz-carb healed. This secondary silica and carb crosses bx fragments where these have been fractured. Chlorite vnlts and fracture fillings are also common, impartingf a greyish green colour to the interval	Py occurs only in tr. amounts along fractures and generally assoc. with chloritic areas.	
60.12 TO 62.24	«MYLONITE/S HEAR BX»	Colour: light grey green Grain Size: variable The top contact with the overlying qtz vn. bx unit is sharp @ The interval is light greyish green, brecciate and comminuted with a flowlike convoluted texture. Fragments and subrounded to angular with a preferred elongation along the shear fabric. Fragment size ranges from mm scale to several cm. The fragments are qtz, similar to previous	48	Chlorite alteration is dominant occuring, through matrix and as veinlets along shear fabric. This has been overprinted by silicification. Minor carbonate occurs along fractures	Py occurs in tr amounts to 1%, generally associate with the qtz frags within this shearing, along fracs within the frags. At 61.12 .5 cm pyrite vein occurs oriented @ 38 deg to c.a.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		interval described. The bottom contact is sharp oriented @	20			
62.24 TO 63.75	«STKWRK SIL »	Colour: grey/white Grain Size: f.gr. This is a zone of grey-white, fine grained stkwrk silicification stkwrk fracturing is approx. 70% The bottom contact is sharp oriented @	62	The interval has been completely silicified. Fractures have been filled by silica	Pyrite occurs along stkwrk fracturing up to 20% [62.24-63.75] «20% stkwrk py»	
63.75 TO 71.21	«MYLONIZED ANDESITE»	Colour: grey green Grain Size: variable This is a strongly sheared or mylonitized andesitic unit of variable grain size ranging from mm scale to cm scale. Various orientations to the fabric are seen, with the dominant orientation at 20 deg to the core axis. Generally however, the fabric is highly convoluted. The bottom contact for this interval is not distinctive or well defined		Chlorite alteration is strong through the interval. This occurs as linings along structural fabric and as linings along structural fabric and as replacement of fragments. Silicification overprints the chlorite alteration	Sulphide content is low through this interval, occuring only in trace amts. to 2%. The only sulphide visible is pyrite. 66.0-66.04 -.5 cm wide pyrite vein oriented at 40 deg to c.a.	
71.21 TO 89.20	«INTERBED C	Colour: buff to light grey green				
TO 89.21	HT & TUFF»	Grain Size: f.gr. to v.f.gr. This interval consists of very broken up core with no distinct contacts visible due to broken nature of the core. The cherty units are generally v.f.gr., massive and buff grey in colour. One possible bedding orientation is @ Those cherty units are generally weakly fractured (20%). Tuffaceous intervals are fine grained with occasional 1 mm size volcanic clasts. A number of possible fault zones and breccia zones are seen through the interval. 73.7-74.1 -a sheared and gouged zone @ 74.6-75.8 -a sheared zone	22 10	The dominant alteration through the interval is chlorite occuring along fractures. Minor carbonate veinlets are seen occasionally within fault zones clay gouge is common while bx zones are generally silicified 73.7-74.1 -silicification in fault zone	Only trace amounts of pyrite are seen through this interval as disseminations and veinlets	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		75.3-76.0 -a silicified bx zone 78.0-78.6 -a brecciated zone 81.98-82.84 -a small interval of m.gr. andesitic flow. Fabric is oriented @ 88.39-88.50 -a fault zone with clay gouge The bottom contact for this interval is sharp @	 38 24	75.3-76.0 -silicification of bx 81.7-81.98 -strong clay alteration 81.98-87.0 -minor talc is seen along fracture surfaces Occasional quartz veinlets seen in the interval have open cavities with euhedral crystal growth of qtz crystals 88.8-89.0 -a zone of silicification or qtz vein strongly fractured	 88.8-89.0 -pyrite occurs to 10% as fracture fillings and veinlets	
89.20 TO 105.46	«TERT DYKE»	Colour: drk. grey green Grain Size: m.gr. This is a dark grey green biotite - hornblende m.gr. tertiary dyke. Phenocrysts are generally subhedral to anhedral with occasional euhedral crystals 89.2-90.2 -a bleached margin of the dyke Fractures hosting chlorite veinlets occur every 2-5 cm oriented generally 38 deg. to c.a. 103.0-105.46 -qtz carb. vns oriented @	 48	Alteration throughout the unit is primarily weak carbonate alteration of feldspar phenocrysts 89.2-90.2 -the dyke is strongly bleached predom. clay alteration 89.2-91.9 -2-5% stkwrk carbonate vnlts. These die out abruptly after 91.9. Chlorite vnlts are abundant throughout (5%) occuring along fractures at semi-regular intervals (2-5 cm) 103.0-105.46 -qtz carb. vn increasing again to 5%. These vnlts have a greater periodicity (3-5 cm) and a more common orientation than those in the upper portion of the interval 105.2-105.46		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
				-strongly bleached clay altered intrusive margin		
105.46 TO 108.50	«CHERTY ASH TUFF»	Colour: grey green Grain Size: v.f.gr. This is a grey green, v.f.gr. cherty ash tuff unit 107.82-108.5 -the unit is moderately brecciated and fragmented		Chloritic alteration is present throughout in minor amounts, within matrix and as very small veinlets 107.82-108.5 -the chlorite content increases within brecciated fragments	Pyrite occurs only in trace amounts as veinlets 108.4-108.5 -a 1 cm wide pyritic qtz carbonate vein oriented @ 12 deg to c.a.	
108.50 TO 109.50	«DIORITE INTRUSION»	Colour: green Grain Size: f.gr. to m.gr. This is a green, f.-m.gr. diorite intrusion. Feldspars are 1-2 mm in length, subhedral and randomly oriented.		The interval has been strongly chloritically altered. As well fsp are altered to what may be leucoxene small patches of talc occur along fractures	Three very small pyrite vnlts occur from 108.89-109.07	
109.50 TO 110.45	«STKWRK SILICIFICATION»	Colour: grey white Grain Size: f.gr. The upper 20 cm of this interval is characterized by a number of open space fractures oriented @ The remainder of the interval is typical 70% stkwrk fracturing subsequently healed by silica	32	Complete silicification of interval	Overall sulphide (py) content is 5% occuring as vnlts within the fractures 110.1-110.3 -pyrite content increases to 10%	
110.45 TO 113.60	«DIOR»	Colour: green Grain Size: f.-m.gr. 110.45-111.80 -is a fine grained and green diorite intrusion. Feldspar phenocrysts are less than 1 mm in length and subhedral 111.80-112.47 -a small segment of cherty ash tuff 112.47-113.60 -the diorite is more leucocratic with fsp phenocrysts up to 2 mm, subhedral to anhedral The lower contact is @	18	110.45-111.80 -str. chlorite alteration occurs. A buff beige mineral which may be leucoxene is also present 112.47-113.60 -the diorite is more silicified, chlorite alteratin is still dominant. The buff beige mineral that may be leucoxene is also present 2-5%	110.45-111.80 -py occurs to 3% finely disseminated throughout 112.47-113.60 -py is disseminated in trace amounts to 2%	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
113.60 TO 115.12	«STKWRK SIL /CHT»	Colour: grey white Grain Size: f.gr. This is similar to the interval 109.5-110.45. The upper 30 cm is characterized by open space fracs. The bottom contact is sharp @	20	Stockwork fracturing and subsequent silica healing is dominant	Pyrite is present to 10% throughout as veinlets associated with fracturing	
115.12 TO 143.60	«LEUCO-DIOR ITE»	Colour: light grey green Grain Size: m. to c.gr Generally this is a light grey green m. to c.gr. leucodiorite. Feldspars comprise roughly 80% of matrix. Grain size varies throughout. Occasional shear zones occur throughout imparting a shear fabric to the core. A number of brecciated zones occur through the interval and these are cemented by silica and fluorite. 122.14-122.85 -a brecciated zone that has qtz and fluorite veins cementing the breccia 122.85-143.6 -the diorite becomes altered in a patchy pattern with 5 mm dark green to black patches comprising 15-20% of the matrix 122.85-143.6 -the diorite becomes altered in a patchy pattern in a patchy pattern with 5 mm dark green to black patches comprising 15-20% of the matrix 128.2-129.35 -weak shear fabric @ 129.5-130.5 -a silicified brecciated interval 137.5-137.80 -2 cm wide white qtz vn oriented @ At the bottom contact a strong shearing fabric develops and becomes strongly convoluted	40 5	Chlorite and clay alteration is dominant throughout. Banded and massive white, clear and cream coloured qtz veins are seen through the interval. Commonly chlorite vnlts occur with these vnlts Open space fluorite veins are seen locally with euhedral fluorite crystals growing into open spaces Large areas of patchy magnetite similar to that seen in hole TM-16 119.5-119.75 -a number of small banded qtz veins {122.14-122.85} «qtz, fluorite vns» {122.85-135.0} «<20% chl patch. alt'n» {135.0-143.6} «<20% Mt patch. alt'n» {128.35-128.97} «sil»	Pyrite occurs finely disseminated throughout in trace amounts. In some areas the pyrite ocntent is up to 20%. Locally 2 mm euhedral pyrite cubes are seen. 128.35-128.97 -pyrite occurs to 1% along fractures {130.5-132.89} «<20% py» -pyrite occurs along weak fabric in core	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
143.60 TO 151.49	«SIL, FLUORITE,FLT BX»	Colour: grey, green white Grain Size: variable This is a grey green white strongly brecciated fault zone. Silicification is pervasive throughout and locally areas of vuggy, drusy fluorite cavities occurs through the interval. Brecciated fragments vary in size from mm scale to cm scale. Secondary and tertiary silica envelope these fragments cementing them together. Local areas of intense silicification similar to distinct zones in core described previously but not fault related are stockwork fractured to 70%.		Silica veining is the dominant alt'n throughout the interval. At least two pulses are seen, indicated by some banded textures. In areas vuggy, qtz lined cavities area seen. Elsewhere similar cavities are seen to be later filled by silica. Fluorite lined cavities are seen locally. This fluorite is a translucent purple colour. Chlorite is common along some fracture surfaces. ⌊143.6-151.49⌋ «sil» ⌊145.9-146.45⌋ «2-3% fluorite»	Pyrite averages 10-15% throughout occuring as veinlets and fracture fillings ⌊143.6-151.49⌋ «10-15% py»	147.2-148.3 -broken core 149.3-150.57 -broken core
151.49 TO 156.10	«SILIC. DIORITE»	Colour: grey, green white Grain Size: f.gr to m.gr. This is quite likely a strongly silicified f. to m.gr. Intense silicification has destroyed most primary textures, but locally what appear to be relict fsp grains. Stkwrk fracturing is as high as 30% and generally these areas are the most silicified.		Silicification is pervasive throughout associated with areas of high fracture density. Chlorite is common along fractures giving a greenish colour to the core.	Pyrite ranges from trace amounts to 15-20% occuring as veinlets and fracture fillings. ⌊151.49-156.1⌋ «5-10% py»	
156.10 TO 158.50	«INTERBED. CHT/CHT. ASH TUFF»	Colour: grey green Grain Size: f.g. to m.gr. The interval consists of interbedded granular chert/silicification and fine grained light green ash tuff Chert intervals are medium grained granular with 5-10% fracturing lined by chlorite		Chlorite is common along fractures within the chert units and dominant within the fine grained ash tuff units	Pyrite occurs in trace to2% concentrations. This is generally assoc. with fractures and commonly with chlorite	

Sample	From (m)	To (m)	Length (m)	ASSAYS Ag ppm	GEOCHEMICAL As ppm	Ba ppm	Cu ppm	Fe ppm	Mo ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb	g/tAu g/t	S ppm	COMMENTS
BCD44426	1.52	4.52	3.00	0.1	11		118		1	18	1	43	100			
BCD44427	4.52	7.52	3.00	0.1	1	31	124	4980	1	15	1	86	123			
BCD44428	7.52	10.52	3.00	0.1	1	77	81	6083	1	1	1	83	23			
BCD44429	10.52	12.69	2.17	0.1	1	23	34	6346	1	1	1	63	16			
BCD44431	16.00	19.00	3.00	0.1	1	63	128	7329	1	11	1	48	81			
BCD44432	19.00	22.00	3.00	0.1	1	45	109	7150	1	14	1	58	148			
BCD44433	22.00	23.81	1.81	0.1	1	26	139	6779	1	6	1	48	97			
BCD44434	23.81	26.21	2.40	0.1	1	106	91	7786	1	14	1	83	107			
BCD44436	29.21	32.21	3.00	0.1	1	52	123	7800	1	25	1	84	696	0.87	0.0	
BCD44437	32.21	35.21	3.00	0.1	1	45	136	8349	1	16	2	67	416	0.44	0.0	
BCD44438	35.21	38.21	3.00	0.1	6	94	89	5593	1	10	1	47	148			
BCD44439	38.21	41.21	3.00	0.1	22	155	57	6489	1	15	2	57	64			
BCD44440	41.21	44.21	3.00	0.1	9	49	71	6917	1	18	1	58	46			
BCD44441	44.21	47.21	3.00	0.1	10	10	90	8221	1	15	2	67	113			
BCD44442	47.21	49.57	2.36	0.1	11	23	171	7068	1	15	3	47	130			
BCD44443	49.57	50.10	0.53	0.1	7	195	65	4023	1	15	2	27	46			
BCD44444	50.10	53.10	3.00	1.7	13	37	2360	6858	1	31	3	93	540	0.65	0.0	
BCD44445	53.10	56.10	3.00	0.4	1	23	133	7976	1	1	1	65	106			
BCD44446	56.10	59.37	3.27	0.2	1	23	78	7712	1	315	1	357	41			
BCD44447	59.37	60.12	0.75	0.2	3	21	42	3162	3	20	3	33	49			
BCD44448	60.12	62.24	2.12	0.1	1	48	210	6523	1	19	3	35	236			
BCD44449	62.24	63.75	1.51	4.2	21	7	269	3112	12	51	26	23	158			
BCD44450	63.75	66.75	3.00	0.1	1	35	105	6631	1	28	5	54	150			
BCD44452	69.75	71.21	1.46	0.9	1	29	46	5949	1	18	4	59	20			
BCD44453	71.21	74.21	3.00	0.4	14	32	61	4560	1	55	6	91	42			
BCD44455	77.21	80.21	3.00	0.2	143	10	28	5665	1	5	5	64	33			
BCD44456	80.21	83.21	3.00	1.3	118	14	33	6451	1	84	1	245	43			
BCD44457	83.21	86.21	3.00	0.1	57	86	117	6714	1	13	8	47	53			
BCD44458	86.21	89.20	2.99	0.1	55	47	114	6583	1	15	5	48	157			
BCD44459	89.20	92.20	3.00	0.6	6	128	37	4551	1	17	2	65	18			
BCD44461	95.20	98.20	3.00	1.1	1	186	26	4209	1	12	1	62	16			
BCD44462	98.20	101.20	3.00	0.9	1	217	23	4574	1	12	1	65	13			
BCD44463	101.20	104.20	3.00	0.9	5	172	18	4490	1	20	1	66	13			
BCD44464	104.20	105.46	1.26	0.4	15	60	15	4085	1	25	2	61	12			
BCD44465	105.46	108.50	3.04	0.1	40	79	70	5928	1	19	3	34	53			
BCD44466	108.50	109.50	1.00	0.1	42	31	185	8875	1	19	3	59	197			
BCD44467	109.50	110.45	0.95	1.2	45	12	69	2179	7	403	6 1	1207	59			
BCD44468	110.45	113.60	3.15	0.4	41	40	129	6374	1	138	6	399	72			

Sample	From (m)	To (m)	Length (m)	Ag ppm	As ppm	Ba ppm	Cu ppm	Fe ppm	Mo ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb	g/tAu g/t	S ppm
BCD44469	113.60	115.12	1.52	0.6	36	39	48	2893	7	30	5	49	32		
BCD44470	115.12	118.12	3.00	0.1	47	29	222	8766	1	11	2	55	102		
BCD44471	118.12	122.14	4.02	0.1	57	64	181	8327	1	3	2	63	73		
BCD44472	122.14	122.85	0.71	1.1	26	20	77	5040	1	1	5	55	56		
BCD44474	125.85	128.85	3.00	0.6	90	11	57	6981	1	63	4	415	186		
BCD44475	128.85	131.85	3.00	0.4	108	12	105	6292	1	1	5	43	132		
BCD44476	131.85	134.85	3.00	0.6	139	27	25	5999	1	1	5	24	175		
BCD44477	134.85	137.85	3.00	0.5	169	39	13	5609	1	1	4	26	79		
BCD44478	137.85	140.85	3.00	0.7	198	43	16	6255	1	1	5	36	259		
BCD44479	140.85	143.60	2.75	0.9	431	12	84	6923	1	1	13	51	123		
BCD44480	143.60	146.60	3.00	2.1	56	55	31	3641	7	40	9	118	41		
BCD44481	146.60	149.60	3.00	1.2	52	50	43	2840	4	38	9	72	31		
BCD44482	149.60	151.49	1.89	1	85	34	52	4993	5	39	10	93	65		
BCD44483	151.49	154.49	3.00	1.1	72	28	75	3547	4	43	9	113	48		
BCD44484	154.49	156.10	1.61	1	53	45	238	4362	2	30	15	37	26		
BCD44485	156.10	158.50	2.40	2.4	57	51	103	3343	4	145	11	361	97		

Sample	From (m)	To (m)	Length (m)	NA2O %	MGO %	AL2O3 %	SIO2 %	P2O5 %	K2O %	CAO %	TIO2 %	CR PPM	MNO %	FE2O3 %	RB PPM	SR PPM	Y PPM	ZR PPM	NB PPM	BA PPM	LOI %	SUM %
BCD44430	12.69	16.00	3.31																			
BCD44435	26.21	29.21	3.00																			
BCD44451	66.75	69.75	3.00																			
BCD44454	74.21	77.21	3.00																			
BCD44460	92.20	95.20	3.00																			
BCD44473	122.85	125.85	3.00																			

HOLE NUMBER: TM-25

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS:
METRIC UNITS: X

PROJECT NAME: TAM O'SHANTER
PROJECT NUMBER: 661
CLAIM NUMBER:
LOCATION:

PLOTTING COORDS GRID:
NORTH: 209.00S
EAST: 490.00E
ELEV: 1440.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0S
EAST: 0+ 0E
ELEV: 1440.00

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 96.47m
START DEPTH: 0.00m
FINAL DEPTH: 96.47m

COLLAR GRID AZIMUTH: 270° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 270° 0' 0"

DATE STARTED: March 27, 1992
DATE COMPLETED: March 30, 1992
DATE LOGGED: March 31, 1992

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: NO
HOLE SIZE: NQ

CONTRACTOR: ATLAS DRILLING
CASING:
CORE STORAGE: GREENWOOD

PURPOSE: TEST 1.4 KM LINEAR AU SOIL ANOMALY IN AREA OF HIGHEST VALUES, HOLE LOST AT 96.47 M

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
0.00	-	-45° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	

LOGGED BY: C. CLAYTON

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 0.61	«CASING»					
0.61 TO 1.52	«BROKEN CORE»					
1.52 TO 96.47	«INTERBED TUFF SEDS, SNDSTONE, QTZ, PEBBLE CONGLOM.	Colour: grey green to white Grain Size: variable This interval consists of interbedded f.gr. grey green tuffaceous siltstone and tuffaceous sandstone, white m.gr. qtz rich sandstones, and white and oxidized qtz/cht pebble conglom. All units are well bedded, and fining sequence suggest tops are up hole. Quartz rich sandstones have rounded qtz grains up to 1 mm. These are clast supported and cemented by siliceous matrix. Qtz-cht pebble conglomerate varies from matrix supported to clast supported. Pebble grains range from white qtz grains to grey green tuffaceous pebbles, to chert frags. These are generally subrounded to subangular and randomly oriented. 12.58 -bedding 19.61 -bedding/contact 30.00 -bedding 33.1-42.6	 38 60 32	Volcaniclastic units are chloritic, weathered out conglomerate units are generally strongly oxidized. Small pyritic open space filling qtz veinlets cross cut the core at irregular intervals. 7.37-8.82 -oxidation 8.82-9.24 -hematite -minor hematite vnlts 16.6-17.9 -oxidation 18.32-19.1 -oxidation 21.0-21.4 -oxidation -oxidation give rise to a boxwork texture in this interval 21.7-25.29 -str. oxidation Manganese staining is seen on most fracture surfaces 33.1-42.6 -str. oxidation of qtz/cht pebble conglomerate	Coarser grained sandstone units generally have pyrite contents of 5-10% These are strongly oxidized. Pyrite veinlets are common through these more permeable units 7.37-8.82: 5% py 16.6-17.9: 2% py 18.32-19.1: 2% py 21.0-21.4 -20% py -this occurs as veins and veinlets flooding the interval 21.7-25.29 -10-20% boxwork texture oxidized py veins, the core is very broken and rubbly 25.29-29.2 -5-10% boxwork texture oxidized py vnlts. 33.1-42.6 -10% oxidized pyrite 42.6-62.4 -2-3% pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-is an interval of qtz-cht pebble conglomerate. The upper 70 cm is strongly fractured and crosscut by pyrite vnlts that have been weathered out creating boxwork textures and open spaces				
		42.2 -bedding @	50			
		46.40-46.84 -the core is strongly broken with minor gouge indicating a small fault zone				
		48.17 -the core is strongly gouged @ approx.	90			
		50.60-50.90 -core is strongly broken and may be a fault zone				
		55.30-56.1 -strongly broken core				
		54.80 -bedding @	58			
		64.32-67.2 -core is broken, rubbly				
		69.9 -bedding @	56			
		68.5-68.6 -fault gouge	90			
		74.65-66.1 -core is weakly brecciated				
		66.7 -small fault				
		77.9-78.0 -fault gouge				
		80.16 -broken core, possible fault 82.05 -bedding @	62			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		86.48-86.7 -fault gouge 87.28-87.48 -fault gouge 91.73-91.87 -fault gouge				
	E.O.H.	92.47 -bedding @	54			

Sample	From (m)	To (m)	Length (m)	ASSAYS Ag ppm	GEOCHEMICAL As ppm	Ba ppm	Cu ppm	Fe ppm	Mo ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb	g/tAu g/t	S ppm	COMMENTS
BCD44486	1.52	4.52	3.00	0.1	15	154	42	4006	1	20	3	55	11			
BCD44487	4.52	7.52	3.00	0.1	16	71	43	5120	1	19	4	69	29			
BCD44488	7.52	10.52	3.00	0.3	23	69	45	3480	2	22	5	56	21			
BCD44489	10.52	13.52	3.00	0.1	36	72	56	4485	1	20	4	72	15			
BCD44490	13.52	16.52	3.00	0.1	17	99	40	4488	1	21	5	74	28			
BCD44491	16.52	19.52	3.00	0.1	28	50	39	3753	2	16	4	60	15			
BCD44492	19.52	22.52	3.00	0.1	100	83	63	4986	5	15	4	50	32			
BCD44493	22.52	25.52	3.00	0.1	53	210	27	3144	12	10	4	50	16			
BCD44494	25.52	28.52	3.00	0.1	44	127	40	3949	5	18	4	55	21			
BCD44495	28.52	31.52	3.00	0.1	33	129	46	4789	2	21	5	68	15			
BCD44496	31.52	34.52	3.00	0.1	101	356	45	5619	19	19	5	48	18			
BCD44497	34.52	37.52	3.00	0.1	63	315	51	3039	4	16	5	39	27			
BCD44498	37.52	40.52	3.00	0.1	23	151	37	4497	3	17	5	72	9			
BCD44499	40.52	43.52	3.00	0.1	10	272	41	3740	2	17	3	54	11			
BCD44500	43.52	46.52	3.00	0.1	18	218	30	3856	1	17	4	63	20			
BCD44501	46.52	49.52	3.00	0.3	12	129	35	3856	3	19	4	69	10			
BCD44502	49.52	52.52	3.00	0.1	13	170	39	3354	1	17	4	76	10			
BCD44503	52.52	55.52	3.00	0.1	19	251	42	4239	2	19	4	72	12			
BCD44504	55.52	58.52	3.00	0.1	10	141	45	4386	1	18	4	78	8			
BCD44505	58.52	61.52	3.00	0.1	12	154	37	3525	4	16	3	64	9			
BCD44506	61.52	64.52	3.00	0.1	11	412	36	3570	1	20	3	77	29			
BCD44507	64.52	67.52	3.00	0.2	17	139	26	2481	3	14	4	56	7			
BCD44508	67.52	70.52	3.00	0.1	15	430	35	3655	2	18	4	67	12			
BCD44509	70.52	73.52	3.00	0.1	17	341	31	3545	3	16	5	84	7			
BCD44510	73.52	76.52	3.00	0.1	14	152	31	3192	2	18	4	56	5			
BCD44511	76.52	79.52	3.00	0.1	20	135	43	2768	4	15	5	61	7			
BCD44512	79.52	82.52	3.00	0.2	16	476	35	2622	1	16	4	64	4			
BCD44513	82.52	85.52	3.00	0.1	18	239	57	3983	2	17	4	87	6			
BCD44514	85.52	88.52	3.00	0.1	25	309	48	3752	2	20	5	78	6			
BCD44515	88.52	91.52	3.00	0.1	28	249	42	4037	1	18	4	86	5			
BCD44516	91.52	94.52	3.00	0.1	24	244	44	3094	3	17	4	64	14			
BCD44517	94.52	96.47	1.95	0.2	23	163	37	2507	1	13	4	46	31			

HOLE NUMBER: TM-27

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: TAM O'SHANTER
PROJECT NUMBER: 661
CLAIM NUMBER:
LOCATION:

PLOTTING COORDS GRID:
NORTH: 28.00S
EAST: 665.00E
ELEV: 1360.00

ALTERNATE COORDS GRID: TAM91 GRID
NORTH: 0+ 0S
EAST: 0+ 0E
ELEV: 1360.00

COLLAR DIP: -50° 0' 0"
LENGTH OF THE HOLE: 163.98m
START DEPTH: 0.00m
FINAL DEPTH: 163.98m

COLLAR GRID AZIMUTH: 50° 0' 0"

COLLAR ASTRONOMIC AZIMUTH: 50° 0' 0"

DATE STARTED: March 31, 1992
DATE COMPLETED: April 2, 1992
DATE LOGGED: April 3, 1992

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: NO
HOLE SIZE: NQ

CONTRACTOR: ATLAS DRILLING
CASING:
CORE STORAGE: GREENWOOD

PURPOSE:

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
64.60	-	-51° 0'	ACID	OK		-	-	-	-	-	
162.15	-	-50° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 1.52	«CASING»					
1.52 TO 23.25	«BX FLT ZONE»	Colour: grey green Grain Size: variable This interval consists of extremely broken and rubbly core for the first 12.20 m after which it is more competent and silicified. A number of small fault gouges cut the interval as do some qtz veins. Pyrite veins and vnlts occur commonly with the qtz veins and silicified areas. The host rock for this zone appears to be a diorite, m.gr. and leucocratic Brecciated fragments are subrounded ranging in size from mm scale to several centimetres. Structural fabric is @ 1.52-12.20 -the core is extremely broken and rubbly. Intact core consists of fractured qtz veins, altered diorite and shear zones 12.20-17.07 -is a silicified breccia zone. This zone contains qtz frags to several cm in dimension 13.46-14.90 -is a qtz vein @ -the vein is fractured with a number of oxidized voids 17.07-18.1 -is a slightly brecciated but quite well preserved m.gr. light green diorite 18.1-19.75 -is a strong chlorite altered zone with occasional qtz vn frags in it. 19.75-21.85 -a strongly fractured qtz vn/py vn zone 20.5-20.7 -a 4 cm wide pyrite vein @ 20.77-20.9	20 50 20	Alteration varies from strong clay alteration and oxidation near the top of the interval to strong silica and chlorite alteration with oxidation along fractures and of pyrite veins. Chlorite occurs as fracture fillings and vnlts. Talc occurs in vnlts in trace amts. Fuchsite is seen in trace amounts 1.52-12.20 -intact core varies from qtz vns, silicified shear zones and strongly clay altered diorite. Oxidation is common. 12.20-17.07 -is strongly silicification (60%) and chlorite alteration. Silicification is pervasive while chlorite generally occurs as veinlets. 13.46-14.90 -open voids are oxidized and contain chlorite 17.07-18.1 -strong silicification 19.75-21.85 -20% chlorite along fractures	Pyrite is the dominant sulphide seen through the interval occurring as veins and vnlts within siliceous zones and qtz veins. Arsenopyrite is seen in tr amounts and serodite (arsenic oxide) 1.52-12.20 -pyrite content is 2-5% overall, but within qtz vn. intervals reaches 10-15% as stockwork vnlts along fractures. 12.20-17.07 -pyrite occurs as veinlets and open space fillings in trace to 2% concentrations. Arsenopyrite is seen in trace amounts 13.46-14.90 -py vnlts and open space fillings occur to 5% within a qtz vein 17.07-18.1 -2-5% disseminated pyrite 19.75-21.85 -20% vein pyrite	3.96-4.08: 20% core recovery This zone is probably related to structural control of hole TM91-20A

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-fault gouge 21.85-23.25 -sheared fabric @ 22.45-23.25 -gouge zone	 20	 21.85-23.25 -strong clay alteration and trace fuchsite		
23.25 TO 88.40	«DIORITE»	Colour: green Grain Size: f.gr. m.gr. This is a strongly altered interval which in areas looks possibly andesitic but overally appears dioritic. Textures range from fine grained phases to medium grained. Fsp are subhedral and randomly oriented. A number of breccia zones occur through the interval. Stockwork fracturing occurs through the interval 23.25-28.2 -the unit is strongly bleached 25.91-26.6 -a brecciated interval sealed by silica carbonate and chlorite. The bx is tight 27.25-27.6 -is a brecciated and veined interval oriented @ The bx is sealed by talc, chlorite carbonate 28.24-28.84 -a brecciated zone cemented by silica, carbonate and possibly sericite 44.5-47.0 -the core begins to develop a shear fabric @ -fine grained sulphides line this fabric	 10 38	Silica carbonate alteration occurs through the interval. Carbonate occurs to about 10% through the matrix, as does silica stockwork qtz carbonate vnlts occur along stockwork fractures Chlorite alteration in the form of vnlts and replacement is abundant (20%) 23.25-28.2 -strong silicification 28.24-28.84 -possible sericite with silica and carbonate 29.5 -minor epidote occurs 33.6-38.1 -feldspars are altered, a pinkish colour, possibly K fsp. 40.3-44.17 -the core is strongly bleached with clay, silica and possible albite alteration	Disseminated pyrite occurs through the interval to 10% and locally as high as 20% Occasional pyrite vns occur with carbonate veining 35.0 -a 1 cm wide pyrite vn with carbonate oriented @ 30 deg to c.a. 35.47 -1 cm wide pyrite and carbonate vn oriented at 22 deg to c.a. 44.5-47.0	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					-f.gr. sulphides along structural fabric	
		45.0 -quartz vein @	30			
		48.9-52.0 -is a qtz carbonate tight bx zone chlorite carbonate and silica fill spaces between brecciated fragments				
		55.30-55.68 -is a fault breccia				
		55.68-88.40 -diorite is chilled to a f.gr. to aphanitic interval 67.35 -2 cm wide qtz vein @ 76.22-78.17 -silicified bx zone. Fragments are angular and rotated	32	55.68-88.40 -primarily clay, chlorite + carbonate -chlorite occurs along stockwork fractures 76.22-78.17 -banded and opaline silica cement the bx	55.68-86.48 -trace py, occasional vnlts occur at low angles to c.a. (<10 deg) and these generally have chloritic vein selvages assoc. with them.	
		81.08-84.5 -silicified bx		81.08-84.5 -banded and opaline silica cement the bx, occasional qtz lined cavities are seen		
		86.48-88.40 -silicified bx -shear fabric developed @	40	86.48-88.40 -banded and opaline silica cement bx	86.48-88.40 -2% pyrite as vnlts.	
88.40 TO 100.82	«DEBRIX FLOW BX»	Colour: grey green Grain Size: variable This is a grey green debris flow breccia unit. Fragments in the interval range in size from mm scale to several cm and are either rounded or angular. Frags and qtz and diorite. The weak structural fabric developed is @	38	Silicification, clay, chlorite and carb alteration occurs through the interval. Diorite frags are either silicified or chloritized. A number of open spaced fractures occur through the interval and these are lined with fine grained euhedral qtz grains	Pyrite occurs to 3% throughout as stockwork veinlets and fractures fillings. Trace amounts of chalcopyrite are seen with pyrite locally Pyrite occurs to 10% locally	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
100.82 TO 140.50	«LEUCO DIORITE»	Colour: grey green Grain Size: m.gr. This interval consists of a grey green medium grained leucodiorite. Feldspars are subhedral in shape, comprising 60-70% of matrix. Some small finer grained intervals occur throughout. Some small open space fractures occur through		Alteration is generally clay and silica with minor carbonate alteration of matrix Occasional qtz carbonate vnlts are seen through the core. Some talc vnlts are present	Sulphides average 3-5% throughout as disseminations. Stockwork vnlts and as large 2-3 cm amorphous masses. These are generally associated with areas of silicification. Trace to 1% Cp occurs with py 115.3-115.45 -a small silicified interval with 10% py, cp vnlts and with what may be visible gold 114.2-114.6 -15% py, 3% cp	100.82-117.50 -sulphide content is approx. 5-10% with tr - 2% Cp.
140.50 TO 160.70	«F.GR. DIORITE»	Colour: dark green Grain Size: f.gr. This is a dark green, f.gr. diorite. Localised areas are medium grained with euhedral randomly oriented feldspar phenocrysts 145.51-146.90 -is a slightly altered, slightly brecciated interval, buff grey in colour 148.68 -1 cm wide qtz carbonate pyrite vn occurs oriented @ 156.25-160.7 -a buff coloured, m.gr. clay altered intrusive interval Bottom contact is distinct @	 60 22	Alteration of the f.gr. unit consists of strong silicification. The medium grained intervals are strongly altered to clay minerals 140.5-145.51 -strong silicification 145.51-146.90 -strong clay altered 146.90-156.25 -str. silicification, minor carbonate 156.25-160.7 -str. clay alteration	Pyrite and pyrrhotite are the only sulphides seen through the interval. These usually occur associated with carbonate vnlts and are seen only in the fine grained intervals. 140.5-145.51 -2% pyrite, pyrrhotite 146.9-156.25 -tr to 2% py, pyrrhotite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
160.70 TO 163.98	«CHTY ASH T UFF»	Colour: grey green Grain Size: v.f.gr. to aphanitic Grey green aphanitic to v.f.gr. cherty ash tuff Conchoidal fracture seen in areas 161.3-161.6 -a brecciated talc-carbonate veined interval a	20	This interval is silicified and from 161.3-161.6 is a talc carbonate vein interval, chlorite occurs along fractures 163.14-163.58 -a stkwrk silicified zone	Pyrite occurs as vnlts in trace amounts to 5% locally 163.14-163.59 -2-5% stkwrk pyrite	
	E.O.H.					

Sample	From (m)	To (m)	Length (m)	ASSAYS Ag ppm	GEOCHEMICAL As ppm	Ba ppm	Cu ppm	Fe ppm	Mo ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb	g/tAu g/t	S ppm	COMMENTS
BCD44518	1.52	4.52	3.00	0.1	25	81	58	4444	1	24	4	53	24			
BCD44519	4.52	7.52	3.00	0.1	40	58	47	3934	1	21	3	55	11			
BCD44520	7.52	10.52	3.00	0.1	16	120	233	4057	1	22	4	84	28			
BCD44521	10.52	13.46	2.94	0.1	18	186	58	4256	1	19	5	43	17			
BCD44522	13.46	13.90	0.44	0.1	36	44	60	3173	3	15	3	20	148			
BCD44523	13.90	16.90	3.00	0.1	15	40	48	4030	1	25	5	48	84			
BCD44524	16.90	19.75	2.85	0.1	10	38	139	6677	1	16	4	136	188			
BCD44525	19.75	21.85	2.10	0.9	98	24	319	5493	1	25	7	97	74			
BCD44526	21.85	23.25	1.40	0.8	64	38	35	4804	1	12	3	89	220			
BCD44527	23.25	26.25	3.00	0.6	61	45	31	5313	1	13	4	42	294			
BCD44528	26.25	29.25	3.00	0.1	35	37	29	5216	1	1	1	48	61			
BCD44529	29.25	32.25	3.00	0.1	1	23	27	6228	1	11	1	49	34			
BCD44530	32.25	35.25	3.00	0.1	6	37	28	6506	1	15	1	50	31			
BCD44531	35.25	38.25	3.00	0.1	17	274	38	7861	1	15	2	50	52			
BCD44532	38.25	41.25	3.00	0.2	10	44	30	5797	1	8	1	49	59			
BCD44533	41.25	44.25	3.00	0.1	24	95	41	6852	1	11	3	40	404			
BCD44534	44.25	47.25	3.00	0.1	31	174	50	7475	1	1	1	82	347			
BCD44535	47.25	50.25	3.00	0.1	43	99	44	6871	1	29	3	174	89			
BCD44536	50.25	53.25	3.00	0.2	21	65	33	6195	1	21	4	109	84			
BCD44537	53.25	56.25	3.00	0.1	34	70	74	6467	1	11	8	70	55			
BCD44538	56.25	59.25	3.00	0.1	28	41	48	4903	1	27	9	40	63			
BCD44539	59.25	62.25	3.00	0.1	33	79	70	5212	1	30	8	36	35			
BCD44540	62.25	65.25	3.00	0.1	25	168	59	4466	5	26	8	24	61			
BCD44541	65.25	68.25	3.00	0.1	31	184	43	5016	1	47	8	91	34			
BCD44542	68.25	71.25	3.00	0.1	35	67	30	4483	1	28	7	27	39			
BCD44543	71.25	74.25	3.00	0.1	28	79	54	4651	1	30	6	32	21			
BCD44544	74.25	76.22	1.97	0.1	22	38	111	4578	1	27	7	39	24			
BCD44545	76.22	78.19	1.97	0.8	27	41	81	3138	5	19	7	25	21			
BCD44546	78.19	81.08	2.89	0.2	25	46	49	4128	3	24	8	28	29			
BCD44547	81.08	84.50	3.42	0.1	39	143	85	5483	1	24	8	55	107			
BCD44548	84.50	86.48	1.98	0.1	40	214	64	6814	1	23	8	56	35			
BCD44549	86.48	88.40	1.92	6.6	66	42	184	7266	2	444	12	1549	614			
BCD44550	88.40	91.40	3.00	0.4	31	24	153	3667	2	19	5	23	169			
BCD44551	91.40	94.40	3.00	0.4	34	39	343	4717	4	38	10	75	219			
BCD44552	94.40	97.40	3.00	0.5	23	40	142	3513	18	17	7	20	60			
BCD44553	97.40	100.82	3.42	1.7	39	51	355	6399	3	47	11	77	256			
BCD44554	100.82	103.82	3.00	0.1	78	46	525	8588	1	66	14	180	1510	1.4	0.0	
BCD44555	103.82	106.82	3.00	0.4	44	60	560	7815	3	131	12	302	309	0.38	0.0	

Sample	From (m)	To (m)	Length (m)	Ag ppm	As ppm	Ba ppm	Cu ppm	Fe ppm	Mo ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb	g/tAu g/t	S ppm
BCD44556	106.82	109.82	3.00	1.8	50	47	628	8963	1	421	10 1	1390	240		
BCD44557	109.82	112.82	3.00	2.8	43	45	575	8333	14	46	11	113	152		
BCD44558	112.82	114.20	1.38	0.1	112	57	630	8385	1	22	9	27	146		
BCD44559	114.20	114.60	0.40	0.1	240	71	1261	11855	36	17	26	31	471	0.57	0.0
BCD44560	114.60	115.30	0.70	0.3	65	51	567	6952	26	19	12	27	178		
BCD44561	115.30	115.45	0.15											134.2	3.9
BCD44562	115.45	118.45	3.00	0.1	45	42	581	7569	6	43	13	108	216		
BCD44563	118.45	121.45	3.00	0.1	24	73	513	7757	2	24	9	27	132		
BCD44564	121.45	124.45	3.00	0.2	45	44	566	7201	1	24	2	36	216		
BCD44565	124.45	127.45	3.00	0.8	55	48	957	7092	1	21	2	36	505	0.63	0.0
BCD44566	127.45	130.45	3.00	1.6	33	42	1196	6724	1	94	2	350	1700	2.34	0.0
BCD44567	130.45	133.45	3.00	0.8	11	28	1007	5541	1	28	1	47	2090	2.82	0.0
BCD44568	133.45	136.45	3.00	0.7	25	28	539	5486	1	22	2	30	920	1.28	0.0
BCD44569	136.45	140.50	4.05	0.1	1	82	282	9534	1	20	1	85	333		
BCD44570	140.50	143.50	3.00	2.3	1	27	139	10389	1	3	1	47	346		
BCD44571	143.50	145.51	2.01	2.8	1	26	96	8290	1	1	1	47	168		
BCD44572	145.51	146.90	1.39	0.1	1	394	80	8697	1	14	1	100	624	0.64	0.0
BCD44573	146.90	149.90	3.00	2.2	1	22	51	8235	1	4	1	53	145		
BCD44574	149.90	152.90	3.00	2.7	1	24	116	9762	1	25	1	123	403	0.53	0.0
BCD44575	152.90	156.25	3.35	1.9	1	13	105	7959	1	4	1	45	289		
BCD44576	156.25	160.70	4.45	0.1	1	93	111	7826	1	38	1	186	454	0.52	0.0
BCD44577	160.70	163.98	3.28	0.1	4	151	132	5341	1	56	1	242	263		

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: TAM O'SHANTER
PROJECT NUMBER: 661
CLAIM NUMBER:
LOCATION:

PLOTTING COORDS GRID:
NORTH: 125.00N
EAST: 535.00E
ELEV: 1362.00

ALTERNATE COORDS GRID: TAM91 GRID
NORTH: 0+ 0N
EAST: 0+ 0E
ELEV: 1362.00

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 180.44m
START DEPTH: 0.00m
FINAL DEPTH: 180.44m

COLLAR GRID AZIMUTH: 230° 0' 0"
COLLAR ASTRONOMIC AZIMUTH: 230° 0' 0"

DATE STARTED: April 2, 1992
DATE COMPLETED: April 4, 1992
DATE LOGGED: April 5, 1992

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: NO
HOLE SIZE: NQ

CONTRACTOR: ATLAS DRILLING
CASING:
CORE STORAGE: GREENWOOD

PURPOSE:

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
84.13	-	-47° 0'	ACID	OK		-	-	-	-	-	
180.44	-	-48° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.05	«CASING»					
3.05 TO 18.46	«F.GR. DIORITE»	Colour: dark green Grain Size: f.gr. This is a fine grained, dark green diorite. The core is strongly broken, rubbly and oxidized along fracture surfaces. Approximately 10-15% v.f. stkwrk fractures occur through the intervals. These are generally lined by fine pyrite. Frequent small (<1 cm) wide pyrite veins and qtz veins cross the interval		The interval is strongly silicified throughout. Fracture surfaces are strongly oxidized.	Pyrite is the only sulphide seen through the interval. This occurs as fine vnlts along fractures, disseminations and larger (<1 cm) veins. The larger veins tend to be weathered with boxwork texture ┤3.05-18.46├ «10-15% py»	
18.46 TO 34.14	«DIORITE»	Colour: light green Grain Size: m.gr. The diorite through this interval is light grey greenish. with m.gr. subhedral to euhedral fsp phenocrysts that have been strongly altered to clay minerals. Several sheared and brecciated zones occur through the interval as do several zones of silicification associated with the brecciated intervals. 19.5 -clay fault gouge 22.10-22.3 -shear 2 -this small shear has small qtz veins along fabric with chlorite laminae	42	Diorite is strongly altered to clay minerals through the interval. ┤18.46-34.14├ «str. clay alt'n» Several small zones of intense silicification are seen through the interval Minor talc is seen along some fractures The upper 50 cm of the interval is stkwrk fractured and silicified. 20.0-20.1 -stkwrk silicification 20.47-20.9 -stkwrk silicification 23.9-24.55 -stkwrk silicification and brecciation -some oxidized open spaces show drusy qtz linings	Overall pyrite content averages 2-3% generally as vnlts and veins commonly with silicification. Pyrite veins are strongly oxidized with boxwork textures 20.0-20.1 -5% py 20.47-20.9 -5% py 23.44-23.5 -boxwork pyrite vein, oxidized, @ 90 deg to c.a. ┤24.75-25.47├ «20% py stkwrk» -py is strongly oxidized 29.76-29.80 -f.gr. pyrite vein at 48 deg to c.a.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
34.14 TO 57.60	«BX ALT'N ZONE»	Colour: var, grey green to white, buff Grain size: variable This zone is brecciated to a certain degree through the entire interval. Brecciated frags appear to be, in general, f.gr. chilled margin frags seen at the end of the previous interval. Open spaces fractures are common with f.gr. drusy quartz linings. Small sub-intervals are granular possibly clay altered diorite. These are stkwrk fractured with chlorite lining fractures Lower contact is oriented @	 38	Alteration varies widely throughout. Silicification is predominant, particularly as cement for the brecciated zones. Clay alteration is common in what may be large frags of diorite. Localized areas of str. oxid. reflect increases in pyrite content.	Pyrite occurs only in amounts commonly around 5% throughout. Minor oxidized py vnlts. are seen throughout 40.45-42.26 -5-10% disseminated and boxwork oxidized pyrite vnlts.	
57.60 TO 80.47	«DIORITE»	Colour: green Grain Size: m.gr. This is a light to dark green diorite. Fsp phenocrysts are generally of the order of 1-2 mm although some short, fine grained intervals are seen. From 57.6-59.13 the diorite is mod. bleached. Minor 1 cm wide qtz carbonate vnlts cut the core at, at irregular intervals 61.55 -a 5 cm wide qtz carbonate cemented bx occurs @ 75.70 -the hole begins entering a wide zone of shearing and faulting 75.7-75.97 -shear and brecciated fabric @ ┤75.7-80.47├ «Flt Zone» The brecciated frags range in size from 1 mm to 3 cm 75.7-77.62 -1-3 cm wide qtz veins cut the interval 77.62-78.64 -a qtz vein similar to that seen near the end of hole TM91-20A. The core is broken and rubbly through this interval	 10 38 64 64	57.6-59.13 -fsp are strongly altered to clays and matrix is strongly chloritized 59.13-70.9 -the core is silicified through this interval, f.gr. leucoxene is seen in concentrations of 2-3% 70.9-75.7 -weak to mod. clay alt'n 75.7-80.47 chloritic alteration of fault gouge and brecciated zones is dominant ┤77.62-78.64├ «chl frac, minor fuchsite »	57.6-75.7 -pyrite occurs disseminated in concen. of 2-5%. 75.0-75.7 -small laminae of v.f.gr. sulphide occurs from 5-10%. These occur along fractures 75.70-77.62 -pyrite occurs in concentrations of 5-7% generally associated with qtz veins and along fractures ┤75.7-77.62├ « 5-75 py, tr cp» -chalcopyrite occurs in tr. amounts ┤77.62-77.82├ «10% cp» ┤77.82-78.64├ «10-20% py» -from 77.67-77.82: chalcopyrite occurs along fractures with minor	Core recovery from 77.62-78.64: 60%

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		The vein itself is highly fractured with chlorite chalcopyrite and pyrite along these fractures 78.64-80.47 -diorite again, cut by two gouge zones ┤79.0-79.38├ «gouge» ┤79.7-80.10├ «gouge»			pyrite 77.82-78.64 -pyrite is seen from 10-20%, again along fractures. Trace amounts of chalcopyrite are seen	
80.47 TO 188.44	«INTERBED QTZ-CONGLOM SST, SLTST»	Colour: white, grey, grey-green Grain Size: var. c.gr. to f.gr. These sediments are similar to those described in hole TM-25 Conglomerate intervals are white in colour varying from clast supported to matrix supported. Clasts are quartz, chert, and f.gr. chloritic ash tuff. As with hole TM-25 the conglomerate units are fractured more than the finer grained units, and these fractures are oxidized. Sandstone units are grey in colour, quartz rich and clast supported. Fine grained siltstone units are grey green in colour and may be volcanic in origin. In comparison to hole TM-25, this interval has a larger proportion of finer grained sandstones and siltstones with respect to conglomerate units whereas hole TM-25 had a roughly 50:50 proportion between conglomerate and sandstones and siltstones 80.47-134.72 -beds are highly contorted, fragmented due to faulting ┤103.22-105.5├ «breccia» ┤112.45-114.45├ «breccia» 146.0 -bedding @ 165.3-174.9 -a wide interval of grey white qtz pebble conglom.	64	Alteration is not strong through the interval. It consists of weak oxidation of pyrite along fractures primarily in the conglomerate units. This oxidation is not nearly as strong as seen in TM-25 ┤103.22-105.5├ «strong oxid'n»	Pyrite occurs in trace amounts to 3% as veinlets cutting all units, or as disseminations associated with more permeable conglomerate units ┤103.22-105.5├ «5-10% py» 165.3-174.9 -5% diss. pyrite	

Sample	From (m)	To (m)	Length (m)	ASSAYS Ag ppm	GEOCHEMICAL As ppm	Ba ppm	Cu ppm	Fe ppm	Mo ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb	g/tAu g/t	S ppm	COMMENTS
BCD44578	3.05	6.05	3.00	2.2	1	87	128	7104	1	4	1	46	63			
BCD44579	6.05	9.05	3.00	3	1	152	242	7520	1	3	1	36	71			
BCD44580	9.05	12.05	3.00	2.8	1	22	325	8649	1	2	1	40	82			
BCD44581	12.05	15.05	3.00	1.6	1	28	209	9046	1	5	1	40	299	0.36	0.0	
BCD44582	15.05	18.46	3.41	1.5	1	33	149	7718	1	4	1	45	101			
BCD44583	18.46	21.46	3.00	0.1	21	10	169	6186	1	16	1	44	118			
BCD44584	21.46	24.46	3.00	0.1	20	58	251	8759	1	9	1	89	57			
BCD44585	24.46	27.46	3.00	0.1	5	267	392	8891	7	1	1	68	76			
BCD44586	27.46	30.46	3.00	0.1	10	35	304	9551	1	1	1	76	95			
BCD44587	30.46	34.14	3.68	0.1	1	34	256	9148	1	1	1	76	147			
BCD44588	34.14	37.14	3.00	0.2	21	27	396	6716	1	1	1	57	1645	1.52	0.0	
BCD44589	37.14	40.14	3.00	0.3	20	34	276	3760	3	4	1	36	54			
BCD44590	40.14	43.14	3.00	1.8	44	36	252	2720	12	12	2	34	78			
BCD44591	43.14	46.14	3.00	0.6	18	34	254	1375	5	6	1	15	40			
BCD44592	46.14	49.14	3.00	0.6	17	37	293	1721	5	5	1	17	68			
BCD44593	49.14	52.14	3.00	1.1	31	34	475	2967	9	10	1	26	91			
BCD44594	52.14	55.14	3.00	1.5	34	34	682	3220	4	7	2	18	246	0.22	0.0	
BCD44595	55.14	57.60	2.46	0.5	15	35	251	1699	3	5	1	19	70			
BCD44596	57.60	60.60	3.00	0.1	1	37	280	6280	1	1	1	53	143			
BCD44597	60.60	63.60	3.00	0.1	1	68	134	6143	1	1	1	38	464	0.46	0.0	
BCD44598	63.60	66.60	3.00	0.1	1	141	188	5821	1	1	1	45	80			
BCD44599	66.60	69.60	3.00	0.1	1	70	193	6555	1	1	1	41	128			
BCD44600	69.60	72.60	3.00	0.1	1	320	204	5894	1	1	1	31	161			
BCD44601	72.60	75.70	3.10	0.2	23	33	224	6514	1	1	1	60	126			
BCD44602	75.70	77.62	1.92	2.1	175	115	869	5044	1	1	1	68	6800	6.26	0.1	
BCD44603	77.62	78.64	1.02	7.4	399	8	3341	5213	9	13	10	110	1760	1.38	0.	
BCD44604	78.64	80.47	1.83	0.1	19	109	121	5234	1	1	1	85	80			
BCD44605	80.47	83.47	3.00	0.1	39	48	159	3751	1	2	2	38	105			
BCD44606	83.47	86.47	3.00	0.1	32	155	114	3540	1	1	1	30	82			
BCD44607	86.47	89.47	3.00	0.1	19	211	70	4792	1	1	1	47	111			
BCD44608	89.47	92.47	3.00	0.1	18	42	64	4570	1	1	1	34	96			
BCD44609	92.47	95.47	3.00	0.6	28	1	3	44	1	2	2	3	57			
BCD44610	95.47	98.47	3.00	0.1	15	118	66	4094	1	1	1	30	36			
BCD44611	98.47	101.47	3.00	0.1	13	51	44	4272	1	1	1	30	31			
BCD44612	101.47	104.47	3.00	0.1	10	58	46	3981	1	1	1	30	155			
BCD44613	104.47	107.47	3.00	0.5	26	67	78	3683	1	1	1	25	89			
BCD44614	107.47	110.47	3.00	0.1	34	231	151	4759	2	1	1	26	56			
BCD44615	110.47	113.47	3.00	0.1	22	210	141	4857	1	1	1	27	39			

Sample	From (m)	To (m)	Length (m)	Ag ppm	As ppm	Ba ppm	Cu ppm	Fe ppm	Mo ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb	g/tAu g/t	S ppm
BCD44616	113.47	116.47	3.00	0.1	17	227	67	4721	1	1	1	34	29		
BCD44617	116.47	119.47	3.00	0.1	30	123	75	4650	1	1	1	37	96		
BCD44618	119.47	122.47	3.00	0.1	28	50	130	4933	1	1	1	32	70		
BCD44619	122.47	125.47	3.00	0.1	28	110	145	5138	1	1	1	30	57		
BCD44620	125.47	128.47	3.00	0.1	29	68	224	4575	1	1	1	27	61		
BCD44621	128.47	131.47	3.00	0.1	32	88	235	4948	1	1	1	24	95		
BCD44622	131.47	134.47	3.00	0.1	36	92	107	5343	1	1	1	35	69		
BCD44623	134.47	137.47	3.00	0.1	26	66	130	5104	1	1	1	38	38		
BCD44624	137.47	140.47	3.00	0.1	25	69	106	4996	1	1	1	58	39		
BCD44625	140.47	143.47	3.00	0.1	28	50	194	5024	1	1	1	33	140		
BCD44626	143.47	146.47	3.00	0.1	21	53	131	4790	1	1	1	36	119		
BCD44627	146.47	149.47	3.00	0.1	33	87	123	4829	1	1	1	32	60		
BCD44628	149.47	152.47	3.00	0.1	25	68	97	3041	2	2	1	23	85		
BCD44629	152.47	155.47	3.00	0.1	29	97	212	4360	1	1	1	26	131		
BCD44630	155.47	158.47	3.00	0.1	33	279	153	4196	1	1	1	26	74		
BCD44631	158.47	161.47	3.00	0.1	52	889	56	3708	1	2	1	32	29		
BCD44632	161.47	164.47	3.00	0.1	55	406	100	4225	1	5	1	37	34		
BCD44633	164.47	167.47	3.00	0.1	39	423	129	2940	2	7	2	23	64		
BCD44634	167.47	170.47	3.00	0.1	23	320	66	1742	3	4	1	15	22		
BCD44635	170.47	173.47	3.00	0.1	22	755	51	1726	2	6	1	17	18		
BCD44636	173.47	176.47	3.00	0.1	37	553	80	3129	2	4	2	21	35		
BCD44637	176.47	180.44	3.97	0.1	37	829	44	3576	1	3	2	39	22		

HOLE NUMBER: TM-30

MINNOVA INC.
DRILL HOLE RECORD

IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: TAM O'SHANTER
PROJECT NUMBER: 661
CLAIM NUMBER:
LOCATION: GREENWOOD

PLOTTING COORDS GRID:
NORTH: 75.00S
EAST: 877.00E
ELEV: 1305.00

ALTERNATE COORDS GRID: TAM91
NORTH: 0+ 0N
EAST: 0+ 0E
ELEV: 1305.00

COLLAR DIP: -45° 0' 0"
LENGTH OF THE HOLE: 175.56m
START DEPTH: 0.00m
FINAL DEPTH: 175.56m

COLLAR GRID AZIMUTH: 230° 0' 0"

COLLAR ASTRONOMIC AZIMUTH: 230° 0' 0"

DATE STARTED: April 13, 1992
DATE COMPLETED: April 16, 1992
DATE LOGGED: April 16, 1992

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
PLUGGED: NO
HOLE SIZE: NQ

CONTRACTOR: ATLAS
CASING:
CORE STORAGE: GREENWOOD

PURPOSE:

DIRECTIONAL DATA:

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
78.03	-	-45° 0'	ACID	OK		-	-	-	-	-	
175.60	-	-46° 0'	ACID	OK		-	-	-	-	-	
-	-		-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 2.44	«CASING»					
2.44 TO 11.24	«BX, SHEAR ZONE»	Colour: grey green Grain Size: variable This interval consists of a grey green brecciated and sheared zone. A fine shear fabric formed is oriented @ Fragments in the interval are variably siliceous and albitic. Grain Size varies from v.f.gr. to several cm. Fragment shape varies from rounded to angular elongate oriented along fabric. Round to subround fragments appear strained/sheared with an anti-clockwise shearing motion	70	The predominant alteration through this interval is a wispy chloritic alt-ertion along structural fabric. Some brecciated frags are chloritized, others silicified and possibly albitized. Occasional qtz veins up to 2 cm wide occur oriented at 52 deg to c.a. The bottom 10 cm at the contact is silicified	Sulphide content through the interval si not more than 1%. Pyrite is the only identifiable sulphide. This generally occurs with altered primarily silicified fragments as well as in veinlets	
11.24 TO 14.36	«ALT DIORIT E»	Colour: «light green» Grain Size: m.gr. to f.gr. This is a strongly altered interval of m. to f.gr. diorite. Altered euhedral to subhedral fsp are randomly oriented comprising 60-70% of the matrix Occasional small (<1 cm) pyrite/qtz vnlts with chlorite altered HW selvages occur oriented @ ┤13.43-13.57├ «Quartz Vein» -this is a grey white strongly fractured (50-60%) qtz vein	40 42	The upper 30 cm of the interval has been strongly altered to clay and chlorite. A soft pinkish coloured alteration mineral is present as well (unidentified) 11.54-14.36 -clay and chlorite alteration is still dominant but this is overprinted by weak silicification Leucoxene is also present through the interval	Pyrite content is only in trace amounts to 1-2%. In areas where silica veining occurs the content increases to 10% generally occurring along fractures ┤13.43-13.57├ «10% py»	
14.36 TO 19.55	«QTZ VEIN S ILICF'D BX»	Colour: white grey Grain Size: f.gr to m.gr. This is similar to the qtz vein in previous interval but also similar to zones of silicif-ication described in previous holes (TM-16,19). Sections of the interval strongly fractured (50-60%) while others are massive, structureless. A small brecciated zone near the base of this interval and this is cemented by milky white opaline silica. The bottom contact is oriented @	30	Alteration through the interval is silicification and in areas that are strongly fractured chlorite occurs along fractures 16.5 -2 cm wide chlorite vein oriented at 28 deg to c.a. ┤14.36-17.0├ «5% chlorite vnlts»	Pyrite occurs associated only with zones of strong fracturing as vnlts along these fractures generally from 5-10% ┤14.36-17.0├ «5-10% py»	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
19.55 TO 23.65	«ALTERED DIORITE»	Colour: grey green Grain Size: m.gr. to c.gr. Similar to the diorite described from 11.24-14.36 but coarser grained. Fsp are euhedral, altered to clay and chlorite. A weak structural fabric is formed @	40	Chlorite and clay alteration is dominant throughout. This is weakly overprinted locally by silicification Leucoxene is present in trace amounts carbonate alteration of matrix occurs to 5%	Pyrite is present only in trace amounts with one small zone of 5-10% py from 20.36-20.7. Pyrite occurs as fine disseminations, vnlts and amorphous masses up to 6 cm in dimension. Pyrite is oxidized	
23.65 TO 39.90	«DEBRIS BX/ ALT. ZONE»	Colour: grey green Grain Size: variable Similar to debris breccia seen in hole TM-24. This is a grey green brecciated interval. Some sections contain angular frags in a f.gr. grey green matrix Other sections are frag. supported. Most frags are clay or chlorite altered. Stockwork qtz carbonate vnlts occur through the interval. Small intervals of fault gouge occur through the interval as do small intervals of silicification. 30.91-31.09 -broken core suggesting fault zone 31.7-32.00 -broken core suggesting fault zone 34.86-35.05 -clay fault gouge 36.8-36.9 -clay fault gouge Possible orientation of fault @	32	Alteration is predominantly clay and chlorite with occasional zones of silicification. Occasional stkwrk qtz carb vnlts crosscut the interval {26.9-27.02} «Sil» {27.9-28.04} «Sil» {28.6-29.54} «Silicif'd Bx» 30.3-30.43 -small milky white qtz vnlts at 10 deg to c.a. with hematite cores {33.4-33.80} «Silicif'd Bx» {35.9-39.49} «Silicif'n»	Pyrite content rarely exceeds 2% and more commonly occurs only in trace amounts where core is silicified. Pyrite occurs up to 5% as vnlts along stkwrk fractures	
39.90 TO 52.73	«DIORITE»	Colour: dark to light green Grain Size: f.gr. to m.gr. This diorite contains a greater proportion of mafic minerals to felsics in comparison with diorite seen from 19.55-23.65 39.9-41.0 -the diorite is leucocratic and m.gr. with randomly oriented fsp grains		39.9-43.7 -alteration is primarily clay, chlorite and carbonate. Chlorite occurs as vnlts	39.9-52.73 -pyrite occurs from 3-5% as vnlts and disseminations	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		40.55-41.0 -core is broken and rubbly suggesting a fault zone 41.0-43.7 -the unit is very f.gr. appearing chilled 42.5-42.57 «Calcite Vein» -the vein is 2 cm wide true width oriented @ -brecciated frags occur in the vein which is vuggy having euhedral calcite crystals growing into open cavities 43.1-43.59 -clay fault gouge @ 43.6-49.76 -diorite becomes dark green, fine grained 49.76-52.73 -the diorite becomes leucocratic and medium grained again	 10 28	43.05-43.1 -a zone of hematite alteration or vein oriented at 60 deg to c.a. 43.6-49.76 -chlorite alteration is common with silicification overprinting this 49.76-52.73 -chlorite, clay and carbonate alter'n becomes dominant again		
52.73 TO 60.35	«SHEAR BX VN ZONE»	Colour: grey to black Grain Size: variable This interval consists of a sequence of brecciated segments, sheared segments and veined segments some within brecciated zones 52.73-53.57 -a v.f.gr. to aphanitic stkwrk fractured altered segment. Alt'n may be albite. Stkwrk fracturing with silica infilling to 40% 53.57-54.5 -shear fabric oriented @ -this zone containing vein pyrite along fabric 54.5-56.17 -a strongly silicified f.gr. dyke 56.17 -clay fault gouge	 56	Alteration varies throughout from silicification in the form of stkwrk vnlts and massive vns to chloritic alteration and possible albite alteration and veining 52.73-53.57 -30-40% stkwrk silica vns and possible albite alteration 53.57-54.5 -silicification and chloritic alt'n 54.5-56.17 -strong silicification 56.17-57.6 -chlorite laminae	Sulphides occur throughout as f.gr. disseminations vnlts and vns assoc. with qtz vns or silica introduction. Arsenopyrite and pyrite are most common with minor cp 52.73-53.57 -5% stkwrk and disseminated pyrite 53.57-54.5 -30% py as veins along shear fabric with minor arsenopyrite 54.5-56.17 -5-10% f.gr. disseminated py 56.17-57.6 -5-10% vein pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		56.17-57.6 -a brecciated zone containing brecciated frags of a possible albite-qtz vein, fabric @ The core is broken and rubbly from 57.6-57.91 suggesting a fault zone 58.3-58.7 -a silica/sulphide vein @ approximately 60.05-60.35 -core is broken and rubbly suggesting fault zone at end of this interval	60 70	58.3-58.7 -silicification	58.3-58.7 -40-50% sulphide, primarily pyrite with 5-10% arsenopyrite and trace chalcopyrite	57.91-60.05 -60% core recovery 60.05-60.96 -50% core recovery
60.35 TO 93.57	«INTERBED SILTSTONE, SANDSTONE, CONGLOM»	Colour: white, grey, grey-green These sediments vary from v.f.gr. grey-green chloritic siltstone or tuff, to grey qtz rich sandstone to white qtz pebble conglomerate. The entire interval is strongly faulted and fractured throughout and both upper and lower contacts are faulted. These are similar to sediments intersected in hole TM-28 with the conglomerate units unoxidized 63.70 -fault 64.92-72.5 -broken, rubbly core most likely fault zone 73.46 -fault 76.50 -fault 85.65 -fault 86.56-87.48 -fault 92.96-93.57 -fault gouge		60.35-61.2 -strongly silicified (40%) Alteration of f.gr. units consists of chlorite. Conglomerate units have some secondary silica introduction	60.35-61.2 -2-3% dissem. pyrite, tr cp Pyrite to 2% and trace amounts of chalcopyrite occur as vnlts and disseminations throughout the interval most commonly associated with conglom. units	Extremely poor core recovery throughout 60.96-62.48: 95% 62.48-63.70: 100% 63.7-64.92: 50% 64.92-65.83: 33% 65.83-66.14: 100% 66.14-67.06: 29% 67.06-68.28: 30% 68.28-69.19: 0% 69.19-69.49: 100% 69.49-70.10: 50% 70.10-70.71: 50% 70.71-71.02: 100% 71.02-71.93: 55% 71.93-72.39: 100% Remainder of interval is moderate to good recovery

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
93.57 TO 175.56	«TERTIARY DYKE»	Colour: buff beige to dark green Grain Size: m.gr. This dyke is similar to the Tertiary dyke described in hole TM-24. 93.57-105.77 -dyke is buff to beige coloured 105.77- -dyke is dark grey green Compositionally the dyke is fsp and pyroxene phyric with aphanitic matrix. Pyroxene are altered to chlorite fsp to clays and carbonate. 93.57-107.59 -core is strongly pitted indicating weathering out of minerals. Strong faulting occurs through the upper 20-25 m 93.57-94.00 -fault 96.32-96.5 -fault 97.0-97.54 -fault 98.2 -fault 98.8 -fault 101.04 -fault 102.61-104.6 -fault 105.77-106.38 -fault 107.59 -fault 107.9 -fault 121.31-121.92 -fault 122.83 -fault 123.5-123.75 -fault 128.26 -fault 130.53-134.5		Alteration consists of strong chlorite clay and carbonate. Altered fsp are weatheredout giving pitted appearance. Occasional qtz carbonate vns cut the interval. Occasional banded qtz carbonate vns are sen through the interval. These are barren		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		-fault zone 140.9-141.12 -fault 151.25-151.57 -breccia	40			
		151.57-161.7 -a finer grained, chill zone and is strongly bleached and clay altered. A number of qtz carbonate veins cut the intervals		156.7-157.18 -a strongly oxidized zone 157.8-158.9 -a strongly oxidized zone		
		152.0 -fault				
		161.7-165.5 -an inclusion of qtz pebble conglomerate				
		165.5-175.56 -a number of banded qtz carbonate vns cut the interval				
		173.9 -fault zone				
	E.O.H.					

Sample	From (m)	To (m)	Length (m)	ASSAYS Ag ppm	GEOCHEMICAL As ppm	Ba ppm	Cu ppm	Fe ppm	Mo ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb	g/tAu g/t	S ppm	COMMENTS
BCD41653	2.44	5.44	3.00	0.1	28	74	238	6023	1	12	3	126	180			
BCD41654	5.44	8.44	3.00	0.1	59	33	110	5398	1	3	1	49	305			
BCD41655	8.44	11.24	2.80	0.1	46	26	169	5954	1	97	1	354	209			
BCD41656	11.24	14.36	3.12	0.1	1	171	73	6921	1	25	1	181	23			
BCD41657	14.36	17.36	3.00	0.1	36	53	89	3585	5	14	5	60	93			
BCD41658	17.36	19.55	2.19	0.1	18	51	31	1394	11	5	2	22	21			
BCD41659	19.55	22.55	3.00	0.1	32	126	130	8395	1	20	4	188	270			
BCD41660	22.55	23.65	1.10	0.1	5	82	35	6092	1	1	1	76	27			
BCD41661	23.65	26.65	3.00	0.1	14	74	38	4653	1	7	1	90	15			
BCD41662	26.65	29.65	3.00	0.1	11	21	94	6332	1	20	1	181	19			
BCD41663	29.65	32.65	3.00	0.1	15	38	63	7946	1	1	1	104	71			
BCD41664	32.65	35.65	3.00	0.3	25	281	54	4428	4	102	3	369	40			
BCD41665	35.65	39.90	4.25	0.1	21	62	106	5792	1	1	1	56	45			
BCD41666	39.90	42.90	3.00	0.1	12	56	124	7245	1	1	1	76	83			
BCD41667	42.90	45.90	3.00	2.5	1	77	66	7031	1	1	1	61	149			
BCD41668	45.90	48.90	3.00	2.5	1	64	81	8376	1	1	1	74	42			
BCD41669	48.90	51.90	3.00	0.1	4	73	79	7458	1	1	1	71	95			
BCD41670	51.90	52.73	0.83	0.1	11	33	165	8757	1	1	1	80	130			
BCD41671	52.73	56.17	3.44	0.1	80	70	552	7295	1	48	1	210	660			
BCD41672	56.17	57.60	1.43	0.6	396	38	341	8049	1	3	1	68	1580			
BCD41673	57.60	58.30	0.70	0.1	1	29	92	6573	1	1	1	105	43			
BCD41674	58.30	58.70	0.40	0.1	1519	9	1931	12767	1	4	10	57	3300			
BCD41675	58.70	60.35	1.65	0.1	3833	10	573	10143	1	1	1	127	1290			
BCD41676	60.35	63.35	3.00	0.1	97	63	81	5192	1	1	1	105	54			
BCD41677	63.35	66.35	3.00	0.1	59	75	60	5148	1	1	1	98	16			
BCD41678	66.35	69.35	3.00	0.1	35	85	149	5546	1	1	2	100	27			
BCD41679	69.35	72.35	3.00	0.1	54	97	203	5242	5	40	5	136	37			
BCD41680	72.35	75.35	3.00	0.1	44	70	115	4482	3	23	3	129	24			
BCD41681	75.35	78.35	3.00	0.1	43	61	128	4709	1	7	3	95	23			
BCD41682	78.35	81.35	3.00	0.1	42	25	124	3631	1	7	4	46	25			
BCD41683	81.35	84.35	3.00	0.1	61	82	89	4904	1	7	2	103	57			
BCD41684	84.35	87.35	3.00	0.1	92	76	100	4864	3		3	113	50			
BCD41685	87.35	90.35	3.00	0.1	42	71	124	4768	1		4	84	26			
BCD41686	90.35	93.57	3.22	0.2	38	69	36	2887	5		4	81	16			
BCD41687	93.57	96.57	3.00	0.1	18	81	31	7889	1		2	283	5			
BCD41688	96.57	99.57	3.00	0.1	15	110	30	3934	1		1	76	3			
BCD41689	99.57	102.57	3.00	0.2	16	109	30	3456	1		1	70	7			
BCD41690	102.57	105.57	3.00	0.1	1	510	32	5218	1		1	127	8			

Sample	From (m)	To (m)	Length (m)	Ag ppm	As ppm	Ba ppm	Cu ppm	Fe ppm	Mo ppm	Pb ppm	Sb ppm	Zn ppm	Au ppb	g/tAu g/t	S ppm
BCD41691	105.57	108.57	3.00	0.1	6	384	25	6126	1		1	227	6		
BCD41692	111.57	114.57	3.00	0.1	1	119	26	5258	1		1	125	10		
BCD41693	117.57	120.57	3.00	0.2	3	68	25	4243	1		1	84	4		
BCD41694	123.57	126.57	3.00	1.4	1	155	28	4129	1		1	70	2		
BCD41695	129.57	132.57	3.00	1.6	1	180	28	4681	1		1	74	5		
BCD41696	135.57	138.57	3.00	1.7	1	209	28	4780	1		1	75	6		
BCD41697	141.57	144.57	3.00	1.4	1	163	28	4784	1		1	72	2		
BCD41698	147.57	150.57	3.00	1.7	1	232	27	4766	1		1	73	4		
BCD41699	153.57	156.57	3.00	0.2	3	743	21	4062	1		1	78	2		
BCD41700	159.57	162.57	3.00	0.1	20	357	34	4414	1	46	1	189	1		
BCD41701	165.57	168.57	3.00	0.1	1	1353	29	4509	1	7	1	79	1		
BCD41702	171.57	174.57	3.00	0.5	1	491	29	4345	1	2	1	73	2		