GOLD FIELDS EXPLORATION PTY. LIMITED

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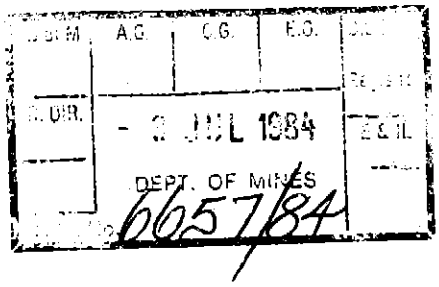
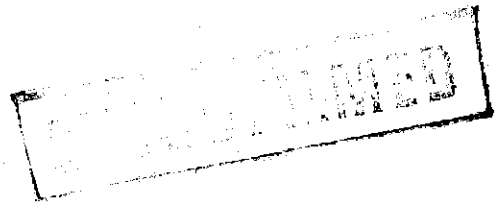


ST. DIZIER AREA

PROGRESS REPORT



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June, 1984

Circulation: RGC (1)
Apollo/Paringa (1)
Tasmanian Mines Department (1)

SUMMARY

A two hole diamond drilling program, totalling 727m, was completed at St. Dizier in March-May, 1983. The results of this program were disappointing, and indicated that no major extensions to the known mineralization remain untested within the St. Dizier Consolidated Mining Lease.

A program of re-assaying and petrological study was completed on mineralized intersections obtained by previous explorers, Placer and Minops, in the 1960's and early 1970's. This showed that the central block of mineralization, which outcrops in the old St. Dizier open cut, is higher in grade and cassiterite content than other mineralization known on the Mining Lease.

The economic potential of the property was re-assessed in view of the new data. A possible ore estimate of the central block of mineralization suggests that about 0.8 million tonnes of 0.7% Sn and 0.05% WO_3 is present there. Up to 100,000 tonnes of lower grade mineralization may exist in the western mineralized block. These two blocks are relatively shallow and may be extracted by a small open cut mining operation. In addition, the western and central mineralization may be amenable to conventional metallurgical treatment. Thus it might be possible to mine these two blocks economically in a small, "shoe-string" operation. Further drilling and metallurgical testwork would be required before the feasibility of such an operation could be established. The economic potential of the deeper, eastern block of mineralization is considered poor because it is both metallurgically difficult and relatively low in grade.

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GOLD FIELDS EXPLORATION PTY. LIMITED

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1. INTRODUCTION

The St. Dizier deposit is a stanniferous magnetite skarn which occurs within hornfelsed Precambrian sediments on the northern margin of the Devonian Heemskirk Granite. It is located in open, button grass country, 18 km WNW of Zeehan, West Tasmania (Figure 1).

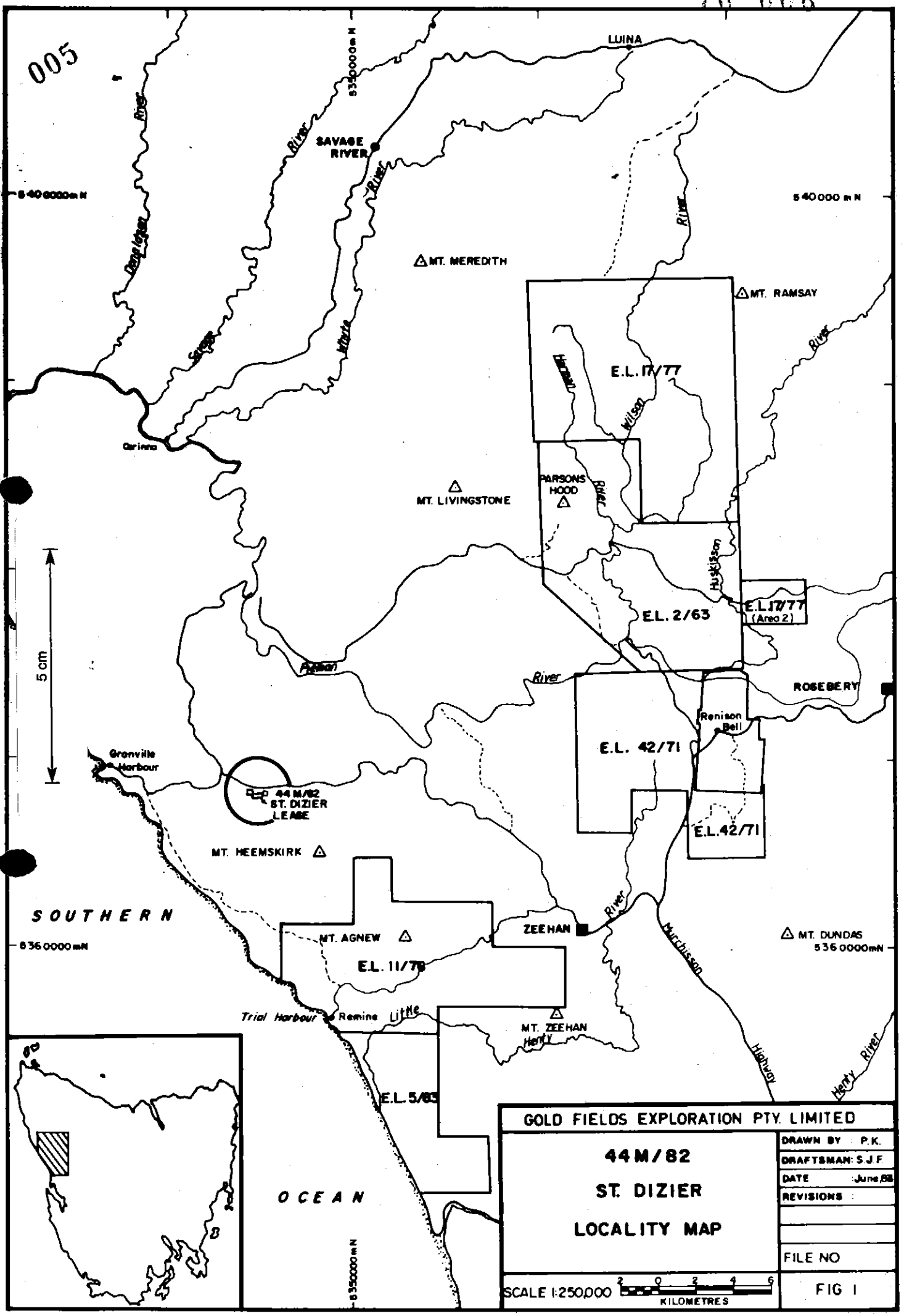
The property has been actively explored since the early 1960's, mainly by four companies, Placer Prospecting, Minops, Cominco Exploration and the current Renison-Apollo Joint Venture. The first three companies carried out a series of geochemical and geophysical surveys and completed 29 drill holes. Since 1979, when Renison entered the Joint Venture with Apollo, the two companies have completed 14 drill holes, as well as detailed petrological and metallurgical investigations on the mineralization.

The Joint Venture partners have now spent $499,000 on the property. In the 23 months to May, 1984, expenditure on the project amounted to $103,000 (Appendix 1).

2. LAND TENURE

The property comprises one Consolidated Mining Lease of 33 hectares, M.L. 44M/82. Prior to March, 1983, the area was covered by four Mining Leases, three of which were initially pegged by Mr. R. Laffer of Zeehan in 1959 and 1962. The fourth was acquired in 1981 by Apollo International Minerals N.L.

St. Dizier is covered by a Joint Venture Agreement between Renison Limited (51%) and Apollo International Minerals N.L. (49%). Apollo is currently transferring the title of M.L. 44M/82 and its beneficial interest in the property to Paringa Mining and Exploration Company P.L.C.



GOLD FIELDS EXPLORATION PTY. LIMITED

44M/82
ST. DIZIER
LOCALITY MAP

DRAWN BY	P.K.
DRAFTSMAN	S.J.F.
DATE	June, 82
REVISIONS	
FILE NO	
FIG 1	

SCALE 1:250,000 — 2 0 2 4 6 KILOMETRES

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At present, Gold Fields Exploration Pty. Ltd., is the operator on the Lease, acting on behalf of Renison Ltd.

The ground surrounding the lease is part of E.L. 47/71 held by Gippsland Minerals, and is currently subject to a Joint Venture Agreement between that company (30%) and Aberfoyle (70%).

3. WORK COMPLETED AND RESULTS 1983-1984

This report covers all the work completed since the last progress report was issued in July, 1982 (Kilpatrick and Roberts, 1982). However the first field work completed on the property since that date was in March, 1983.

3.1 Diamond Drilling

Two holes were completed on the property for a total of 727m between March and May, 1983.

The drilling program was designed to test for significant extensions to the known mineralization in the centre of the deposit and at depth, at the eastern end of the lease. In both cases, the results were disappointing.

As with the previous drilling programs, the holes were drilled HQ-NQ to ensure maximum core recovery in the generally broken ground present at St. Dizier.

Drill logs and assays are attached (Appendix 2) and drill hole localities are shown on Figures 2 and 3. Petrological descriptions of drill core samples are appended with the logs. Drilling details are as follows:

D.D.H. SD21 (Figure 4)

Collar co-ordinates (AMG) : 5,367,761 N, 345,575E.
Bearing (AMG) : 159°
Inclination: -75°
Length: 433.5m.

Abbreviated Log:
0.0 - 186.5m Sandstones, quartzites, minor siltstones.
- 261.2m Granite, lower contact at very shallow angle to c.a.
- 313.8m Quartzite.
- 433.5m Granite.

Comments:
This hole was designed to test for a deep extension of the skarn mineralization at the eastern end of the consolidated lease. The shape of the granite contact in this area is such that a deep "tongue" of the skarn-carbonate unit could have been present. Such a "tongue" could have added considerably to the potential for ore grade mineralization within the leases. Unfortunately the hole showed that this potential does not exist.

D.D.H. SD22 (Figure 5)

Collar co-ordinates (AMG) : 5,367,660N; 345,129E.
Bearing (AMG) : 182°
Inclination: -54°
Length: 293.3m.

Abbreviated Log:
0.0 - 108.6m Sandstone, quartzite, conglomerate, hornfels.
- 117.4m Partly greisenized granite.
- 140.9m Altered sediments

- 146.6m Brecciated skarn
- 156.4m Brecciated, altered conglomerate.
- 161.3m Skarn, serpentine-phlogopite rock.
- 190.6m Hornfels
- 213.4m Granite
- 227.8m Partly brecciated, phyllitic hornfels
- 255.6m Granite
- 260.4m Greisenized hornfels
- 293.3m Granite, including one hornfels xenolith(?).

Assays:
All of the skarn intersections together with some of the altered, clastic rocks and greisenized granite were assayed for tin and tungsten. Unfortunately, values for both elements were very low (individual assays are all less than 0.1%).

Comments:
This hole was designed to test for an eastern extension of the central block of mineralization underneath the old open cut in the near-hanging wall part of the skarn-carbonate unit. The hole intersected conglomerate, granite (dykes) and minor, magnetite-poor skarn in the interpreted position of the skarn unit. The conglomerate is part of a suite of sedimentary rocks which appear to form a clastic-rich wedge in this area. This hole showed that these rocks form the eastern limit of the ore grade mineralization in the central block. The abundant granitic dykes in this hole and SD10, nearby, may have been feeders for the hydrothermal fluids.

3.2 Re-assaying Program

Apart from the thin, deep mineralized intersection in SD9, all of the thickness and grade data on the central mineralized block at St. Dizier has been obtained

from early drilling by Placer and Minops in the 1960's and 1970's. Unfortunately neither company assayed for acid soluble tin, tungsten, zinc or other possible by-product or penalty elements that may be in the core. In addition, the Minops and Placer tin assays are regarded as suspect; experience at the Renison laboratory has shown that XRF determinations of tin are a particular problem on this property because the XRF analyser has to be calibrated differently for St. Dizier mineralization in comparison with other tin ore types.

All of the early mineralized intersections were therefore re-assayed at the Renison laboratory for the following suite of elements; Sn, acid soluble Sn, S, As, Cu, Zn, Fe, WO_3, Ag and Bi. The results are presented in Table 1 and Appendix 3. Special note should be made of the core recoveries recorded in the mineralized zone (Appendix 3); these were quite low in places, casting some doubt on the validity of regarding these assays as being completely accurate, especially as most of them were obtained from quarter core samples.

In addition, selected samples were collected from drill holes throughout the deposit and submitted for gold by fire assay at the Mt. Lyell laboratory. The results of this work are presented in Table 1.

This work indicated that:

(1) The Renison tin assays averaged out to essentially the same values as obtained by Placer.

(2) The Renison assaying of Minops core gave substantially higher tin values than the Minops assays.

TABLE 1 - ASSAYING RESULTS, ST. DIZIER DRILL CORE

RENISON ASSAYS (1980-83)													COMPARABLE PLACER/MINOPS ASSAYS (1966-1971)				
ole Details	m	Sn (%)	Acid Sol. Sn (%)	Cu (%)	As (%)	S (%)	Zn (%)	Bi (%)	WO_3 (%)	Ag (g/t)	Fe (%)	Au (g/t)	Hole Details	m	Sn (%)	Cu(%)	Au (g/t)
H1 18.6-83.6m	65.0	0.70	0.09	0.05	0.2	2.7	0.02	0.012	0.02	2	20.8	N.A.	H1 14.3-83.8	69.5	0.60	N.A.	N.A.
H3 58.5-94.2m	35.7	0.55	0.03	<0.01	0.3	0.6	0.04	0.013	0.02	1	30.2	N.A.	H3 53.3-88.7m	35.4	0.65	N.A.	N.A.
H4 59.0-61.0m	2.0	0.46	0.09	0.06	<0.1	4.1	0.01	0.012	0.01	2	26.9	N.A.	H4 59.0-60.5	1.5	0.32	N.A.	N.A.
H5 161.2-167.0m	5.8	0.12	0.12	0.01	<0.1	1.2	2.34	0.010	<0.01	2	18.5	N.A.	H5 161.8-167.3m	5.5	0.01	N.A.	N.A.
H6 178.6-181.3m	2.7	0.06	0.05	0.07	<0.1	0.2	0.32	0.004	<0.01	2	12.6	N.A.	H6 179.1-181.4m	2.3	0.14	N.A.	N.A.
H7 62.0-63.0m	1.0	0.46	0.48	0.01	<0.1	0.3	0.68	0.004	0.02	<1	44.8	N.A.	H7 62.2-63.2m	1.0	0.11	N.A.	N.A.
H8 74.0-76.0m	2.0	0.56	0.04	0.06	<0.1	2.8	0.02	0.016	0.02	<1	17.5	N.A.	H8 73.2-76.5m	3.3	0.18	N.A.	N.A.
H9 25.1-27.1	2.0	0.29	0.29	<0.01	<0.1	<0.1	0.02	0.016	0.01	2	15.8	N.A.	No Comparable assays				
H10 36.0-106.0m	70.0	0.64	0.07	0.09	0.1	2.4	0.10	0.090	0.10	2	19.9	N.A.	H10 36.0-105.8m	69.8	0.73	N.A.	N.A.
M1 1.8-102.8m	101.0	1.68	0.05	0.08	0.5	5.8	0.01	0.017	0.04	2	32.2	N.A.	M1 1.8-103.3m	101.5	1.21	0.09	<0.08 (a series of 15m composite samples all <0.08g/t
M2 32.0-75.0	43.0	0.01	<0.01	<0.01	<0.1	1.3	0.08	0.005	<0.01	2	13.6	N.A.	M2 49.4-75.3m	25.9	0.01	<0.01	N.A.
M3 24.0-30.0m	6.0	0.04	0.03	0.02	<0.1	12.5	0.18	0.039	<0.01	2	11.9	N.A.	M3 25.0-28.7m	3.7	0.05	0.02	N.A.
M4 97.0-123.0m	26.0	0.53	0.03	0.04	0.1	1.5	0.06	0.006	0.02	2	21.3	N.A.	M4 96.0-123.1m	27.1	0.41	0.02	N.A.
M5 3.7-19.7m	16.0	0.88	0.02	0.08	0.4	4.4	0.16	0.016	0.02	2	26.0	N.A.	M5 0.0-18.6m	18.6	1.01	0.19	N.A.
M6 5.0 -23.0m	18.0	0.30	0.17	0.02	<0.1	0.8	0.02	0.007	0.01	2	19.3	N.A.	M6 0.0-22.6m	22.6	0.26	0.02	N.A.

Hole Details	m	Sn (%)	Acid Sol. Sn (%)	Cu (%)	As (%)	S (%)	Zn (%)	Bi (%)	WO_3 (%)	Ag (g/t)	Fe (%)	Au (g/t)	Hole Details	m	Sn(%)	Cu(%)	Au (g/t
M8 28.0-34.0m	6.0	0.59	0.02	0.06	<0.1	4.1	0.06	0.007	0.01	<1	21.0	N.A.	M8 27.6-32.6m	5.0	0.45	0.05	N.A.
M9 10.0-18.3m	8.3	1.07	0.06	0.09	<0.1	12.6	1.92	0.009	0.01	3	10.2	N.A.	M9 8.5-17.1m	8.6	0.95	0.13	N.A.
												(Fire Assay at Mt. Lyell)					
SD9 164-167m	3.0	0.13	0.02	<0.05	0.05	0.4	0.52	0.240	0.03	4	N.A.	Trace (<0.1)					
170-172m 173-174m	3.0	0.98	0.13	<0.05	<0.1	1.0	0.08	0.085	0.02	3	N.A.	0.1					
209-211m	2.0	0.41	0.22	<0.05	<0.1	0.41	0.37	0.012	0.02	2	N.A.	Trace (<0.1)					
SD10 224-228m 229-230m	5.0	0.49	0.38	<0.05	<0.1	1.9	0.05	0.013	0.14	2	N.A.	Nil					
SD13 203-205m	2.0	0.59	0.51	0.06	0.1	0.6	0.05	0.005	0.14	2	N.A.	Nil					
208-209m 210-211m	2.0	0.66	0.21	0.05	0.4	2.1	0.02	0.011	0.05	3	N.A.	Nil					
214-218m	4.0	0.93	0.26	0.07	0.15	1.8	0.02	0.009	0.07	2	N.A.	Nil					
221-223m	2.0	0.26	0.22	0.04	<0.1	1.5	1.83	0.005	0.04	4	N.A.	0.1					
333-335m	2.0	0.16	0.08	0.03	<0.1	2.3	3.91	0.003	0.04	3	N.A.	Nil					
SD15 267-269m	2.0	0.70	0.07	<0.01	0.33	1.9	0.02	0.008	0.07	3	N.A.	Nil					
280-281m	1.0	0.49	0.02	0.28	<0.1	2.7	1.19	0.008	0.08	4	N.A.	Nil					
300-302m	2.0	0.39	0.05	0.17	0.45	4.6	<0.01	0.018	0.10	3	N.A.	Nil					
SD16 245-248m	3.0	0.55	0.41	0.06	<0.1	3.4	0.04	0.011	0.08	N.A.	N.A.	0.3					
229-230m	1.0	0.04	0.01	0.10	0.2	3.3	0.04	0.293	0.10	N.A.	N.A.	0.2					
SD18A 201-205m	4.0	0.11	0.11	0.02	0.05	1.3	1.94	0.003	0.01	<1	N.A.	Nil					
215-220m	5.0	0.55	0.26	0.22	<0.1	2.3	0.13	0.031	0.11	1	N.A.	Nil					

(3) The central mineralized block is characterized by:

(a) low acid soluble tin values (generally $<0.1\%$).

(b) minor tungsten values, ranging from 0.03 to 0.12% WO_3. Apart from the latter, there are no other elements known to be present in sufficient quantity to be potentially useful as by-products. However the very low levels of anomalous gold suggests that more extensive gold assaying might reveal areas with some by-product gold potential.

3.3 Re-assessment of the prospect's economic potential

The 1983 drilling program indicated that no major extensions to the known mineralization are present within the Consolidated Mining Lease. Examination of the longitudinal projection (Figure 6) reveals that some significant tonnage possibilities do exist at the eastern end of the skarn zone in between the existing drill intersections. However the economic potential of this area is considered quite limited, as will be explained below.

There are essentially three blocks of mineralization known within the Consolidated Mining Lease (Figure 7):

3.3.1 Western Block

This is a small, irregular block of low grade mineralization near the western limit of the skarn zone. Although the existing drilling has not defined the block well, previous tonnage calculations (Roberts, 1981) indicate that it contains less than 150,000 tonnes of 0.4% Sn.

Given the limited magnetic anomaly over this zone and the results of re-assaying drill hole M8, a more realistic, maximum potential figure is probably around 100,000 tonnes of similar grade. Although this mineralization could be extracted by open cut methods, its economic value is strictly limited because of the tonnage and grade restrictions.

3.3.2 Central Block

This is the body of relatively high grade, outcropping mineralization outlined by Placer in the 1960's. It forms a relatively thick lens between ground level and 120m below surface, thinning rapidly below that point to the 3m intersection of 0.82% Sn obtained in SD9 (Figure 7). The lens is cut off to the east by a wedge of clastic sediments within the carbonate horizon (conglomerates, sandstones, hornfelsed shales), which may represent a delta fan facies assemblage. This "clastic wedge" is intruded by granitic dykes, which may be the feeders to this mineralized body. On its western and southern sides the lens is bounded by relatively unaltered serpentinous marble. The shape of the lens is illustrated by the small structure contour plan below (Figure 8).

The mineralization in this block consists of cassiterite, magnetite, pyrrhotite, serpentine, tremolite, chlorite, talc, carbonate, minor arsenopyrite and traces of scheelite. The low levels of acid soluble tin probably represent schoenfliesite-group minerals (tin, iron, magnesium, manganese hydroxides), however this has not been established. Petrological work by C.M.S. (Appendix 4) has shown that the cassiterite has a grain size range of ultrafine (<3μm) to 500 μm. The bulk of the

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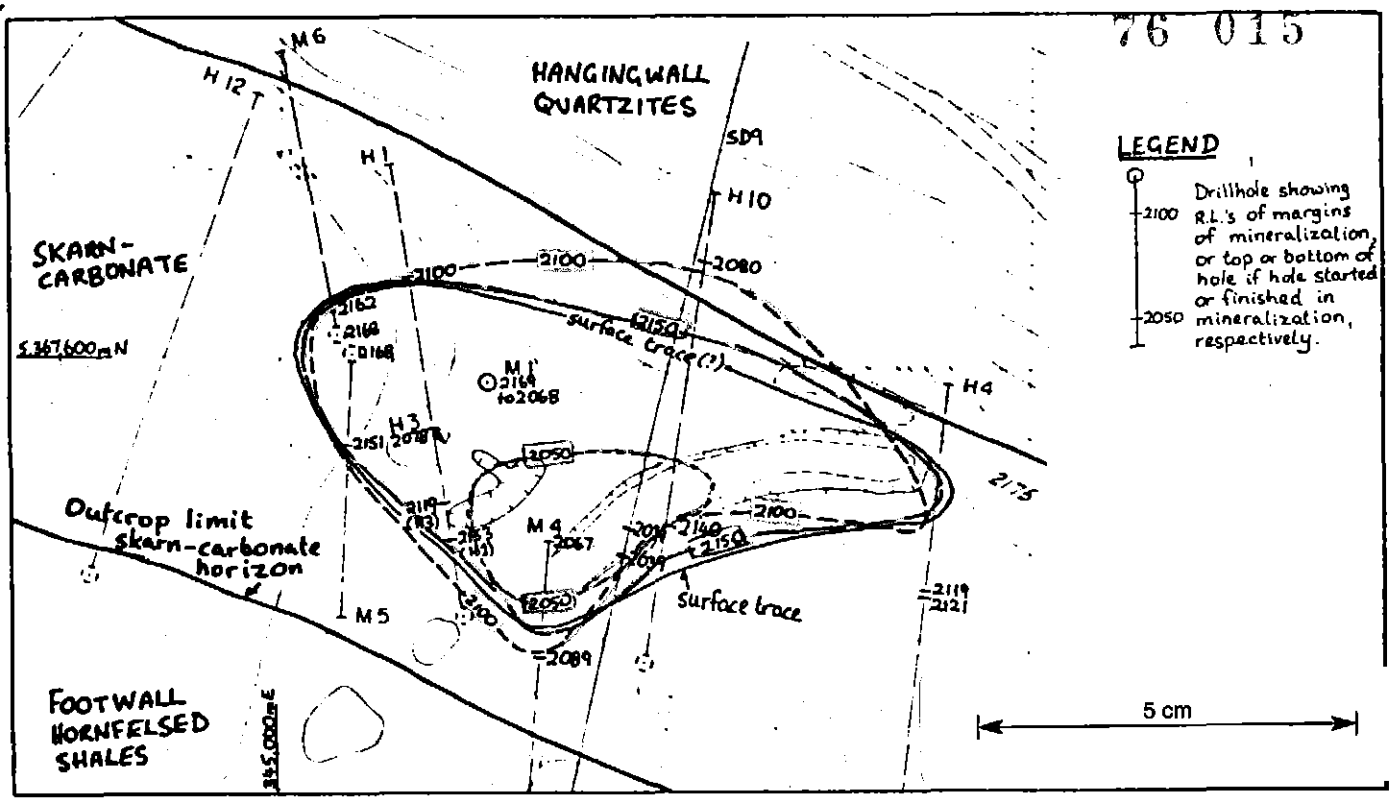

FIGURE 8: Structure Contour Plan Showing Contours of the Margin of the Central Mineralized Body. (Scale : 1:1,000).

cassiterite may well be extractable by conventional metallurgical techniques. No metallurgical testwork has been carried out by the Joint Venture to establish this; however limited testwork was undertaken in 1972 by the Mines Department on samples of outcropping mineralization (See Appendix 5). The latter work suggested that conventional ore dressing techniques including magnetic separation, sulfide flotation and gravity concentration might recover around 50% of the tin into a saleable concentrate. A modern mill with cassiterite flotation equipment might be expected to do better than this (perhaps about 60%), however this assumes that the samples tested in 1972 were representative.

Given the new assay data, a revised ore potential estimate was made for this mineralized block above the 2050m RL level (ie. 50m above sea level). The tonnage figure was derived from drill hole

data that is considered somewhat unreliable because of a combination of poor core recoveries and lack of downhole surveys. In addition, only two holes traversed the entire skarn zone. This estimate is therefore a possible ore figure only, as defined by the Aus. I.M.M. Joint Committee on Ore Reserves Report (1972). It is not an ore reserve estimate and should not be quoted as such. The methods used in obtaining this estimate are detailed below:

(1) The estimate was made using a longitudinal projection of the deposit (Figure 7). It can be easily demonstrated that a volume calculated by multiplying the horizontal thickness of a slab by its projected area on a longitudinal projection is the same as the true volume of the slab. Horizontal thicknesses of ore intersections were therefore calculated (Figures 6 and 7).

(2) The shape of the mineralized body was contoured in plan view (Figure 8), using drill hole intersection points, outcrop geology and ground magnetics data for control.

(3) The above interpretation was then used to construct contours of thickness on the longitudinal projection (Figure 7).

(4) The areas within each contour interval were measured and multiplied by the mean value of the two contours (e.g. 25m between the 20 and 30m contours).

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(5) The volumes calculated in step (4) were then multiplied by an s.g. of 3.3 to obtain tonnages. The s.g. figure was derived by assuming that the mineralization contains 50% serpentine (s.g. of 2.2), 30% magnetite (5.2), 10% "other silicates" (2.6), 5% siderite (3.9), 5% pyrrhotite/pyrite (4.8).

The calculated total amounted to 836,000 tonnes.

(6) As only two drill holes obtained complete intersections of the skarn zone (H1 and H10), it was more difficult to make an accurate grade estimate. Nevertheless, the general pattern of grades obtained both from those two holes and the other, partial intersections suggest that the grade of the block is about 0.7%Sn (0.08% acid soluble Sn) and 0.05% WO_3.

In summary, the possible ore estimate for the central mineralized block is 0.8 million tonnes of mineralization grading 0.7%Sn (0.08% acid soluble) and 0.05% WO_3 above 2050m RL.

This tonnage is potentially open-cuttable, however the waste:ore ratio would be quite high. Thus, for example, if the average open cut wall slope was 45°, the waste:ore ratio would be approximately 8:1.

3.3.3 Eastern Block

This is essentially all of the mineralization discovered by the Joint Venture. It appears to be a relatively continuous, irregular sheet of mineralization, 3 to 26m thick, extending from

about 100m below surface downwards for around 150m to the granite contact and along strike for at least 300m. It has an average grade of 0.5 to 0.6% Sn (0.2 to 0.3% acid soluble) and 0.05 to 0.1% WO_3.

The mineralization comprises cassiterite, schoenfliesite, magnetite, serpentine, tremolite, talc, carbonate, minor pyrrhotite and scheelite, and traces of wolframite.

Beneficiation of this mineralization remains a significant problem. The cassiterite is generally very fine grained ($\leq$10 μm) and intimately intergrown with magnetite. The schoenfliesite is somewhat coarser grained (10-100 μm). Unlike cassiterite, schoenfliesite is probably not amenable to gravity concentration techniques because it has a relatively low s.g. (3.5).

Metallurgical investigation of this mineralization type has always been based on the assumption that thermal upgrading (or fuming) would be an essential part of the metallurgical flowsheet. As a result, conventional metallurgical techniques should only be required for the production of a pre-concentrate sufficiently high in grade to make thermal upgrading economically attractive. Such a preconcentrate would have to contain more than 5% Sn. The metallurgical testwork undertaken at Renison (Kilpatrick and Roberts, 1982) has suggested possible routes for preconcentration, however these would probably involve considerable grinding costs.

Given the grade and metallurgical problems of this mineralization type, and the need to extract it by underground mining, it is most unlikely to be economic. For this reason, no tonnage potential estimate has been made. The possible ore estimate made in 1981 (Roberts, 1981) suggested a total of 1.7 million tonnes at 0.56% Sn. The drilling completed since that time has probably marginally reduced the potential grade and tonnage of this block.

4. DISCUSSION AND CONCLUSIONS

The St. Dizier deposit contains three distinct mineralized bodies. Their economic potential may be summarized as follows:

(1) The western block is small and low grade. It is potentially open-cuttable and apparently low in metallurgically difficult acid-soluble tin phases. If an operation was established at St. Dizier on the basis of other reserves, this block may be economic to mine.

(2) The central block contains a moderate tonnage of potentially open-cuttable mineralization. Although the grade and metallurgical characteristics of this block are poorly known, it may be possible to mine this resource economically with a small, "shoe-string" operation. The economics of such an operation would be improved significantly by a substantial increase in reserves of similar, open-cuttable mineralization, however there is no possibility of finding such reserves within M.L. 44M/82.

(3) The eastern block contains a moderate tonnage of metallurgically difficult, moderate grade mineralization. It could only be beneficiated by high cost metallurgical

techniques. The economics of this mineralization type appear to be very marginal, without significant improvements in the tin price and innovations in metallurgical techniques.

Although the St. Dizier property has been investigated in some detail now, the above conclusions are based on quite limited information. Should a definitive feasibility study be contemplated on any of the mineralized blocks, a program of HQ-NQ core drilling, careful metallurgical testwork and rock mechanics studies will be required.

Outside of the St. Dizier Mining Lease, there remains considerable untested potential for further magnetite-pyrrhotite skarn mineralization along the northern margin of the Heemskirk Granite. There is no doubt that mineralized bodies similar to the central block at St. Dizier may remain undiscovered there.

5. REFERENCES

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Roberts, P.A., 1981: St. Dizier Area. Progress Report to July, 1981.

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APPENDIX 1

Expenditure 1982-83, 1983-84

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ST. DIZIER EXPENDITURE 1982-84

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	1982/83	11 months to end May, 1984
GEOLOGY		
- Salaries	7,389	6,614
Salary On-Costs	2,509	2,315
Transport	48	21
Miscellaneous	61	354
Outside Contractors	3,756	744
Travel	249	210
Stores	1,047	167
	15,059	10,425
GEOCHEMISTRY		
- Assays	300	--
Outside Contractors	341	--
Stores	--	209
	641	209
DRILLING		
- Outside Contractors	54,175	--
Stores	1,546	--
Assays	--	6,053
	55,721	6,053
LAND ACQUISITION		
- Miscellaneous	155	--
SITE PREPARATION		
Outside Contractors	935	270
SURVEYING		
- Outside Contractors	150	217
MOTOR VEHICLE EXPENSES	2,420	1,288
ADMINISTRATION COSTS	7,951	1,846
TOTALS	83,032	20,308

APPENDIX 2

Diamond Drill Logs SD21 and SD22

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE RECORD

DEV. PRESS

HOLE NO : SD 21
STATE : TASMANIA

023

PROJECT	ST. DIZIER
DESIGNED BY	P. ROBERTS
LOGGED BY	P. ROBERTS
COMMENCED	21/3/83
COMPLETED	29/4/83

PURPOSE

To test for stanniferous skarn in a possible deep extension of the carbonate unit at the eastern end of the St. Dizier consolidated mining lease.

LOG SUMMARY

GENERAL COMMENTS

The hole failed to intersect the carbonate/skarn unit; it entered granite at 313.8m, at about the point it was expected to intersect skarn, and remained in granite to the bottom of the hole. The hole was initially set at -65° and the first 16m was drilled at that angle. When the hole was re-drilled, the first 16m was drilled with a roller bit. The hole was drilled BQ from 385.5-394.4m with a step bit in an attempt to lift the angle.

ASSAY SUMMARY

INTERVAL From	INTERVAL To													COMMENTS

LOCATION

NORTHING	5367760.5
EASTING	345574.9
R.L.	2204.8
GRID	A.M.G.
LENGTH	433.5m

HOLE CONDITION

SIZE Hole Size	SIZE Depth
HW	0.0-3.0
HQ	3.0-87.0
NQ	87.0-385.5
BQ	385.5-394.4
NQ	394.4-433.5

SIGNIFICANT CORE LOSS INTERVALS From	To	% Lost
0.0	11.2	71

POOR GROUND CONDITION ZONES From	To	Condition

HOLE CONDITIONS AFTER COMPLETION

Clean and open.

SURVEY DATA (Note: Bearing type must be same as Project Grid Type)

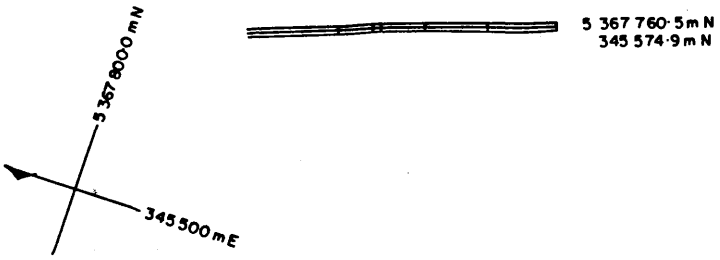
SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D. Sin. Dip	VERTICAL R.L.	HORIZONTAL D. Cos. Dip	HORIZONTAL Prog. Total
0.0	159°	-75°	0.0	21.3	21.3	20.6	2184.2	5.5	5.5
42.5	158°	-75°	21.3	51.3	30.0	29.0	2155.2	7.8	13.3
60.0	161°	-75.5°	51.3	82.5	31.2	30.2	2125.0	7.8	21.1
105.0	161°	-75.2°	82.5	139.5	57.0	55.1	2069.9	14.6	35.7
174.0	157°	-74.1°	139.5	201.0	61.5	59.1	2010.8	16.9	52.6
228.0	161°	-75°	201.0	258.0	57.0	55.1	1955.7	14.8	67.4
288.0	162°	-74,5°	258.0	302.0	44.0	42.4	1913.3	11.8	79.2
316.0	160°	-75.2°	302.0	332.0	30.0	29.0	1884.3	7.7	86.9
348.0	161°	-75°	332.0	366.0	34.0	32.8	1851.5	8.8	95.7
384.0	164°	-74.2°	366.0	394.5	28.5	27.4	1824.1	7.8	103.5
405.0	161°	-74°	394.5	418.5	24.0	23.1	1801.0	6.6	110.1

SURVEY Depth	SURVEY Bearing	SURVEY Dip	INTERVAL From	INTERVAL To	INTERVAL Distance	VERTICAL D. Sin. Dip	VERTICAL R.L.	HORIZONTAL D. Cos. Dip	HORIZONTAL Prog. Total
432.0	163°	-74.7°	418.5	433.5	15.0	14.5	1786.5	4.0	114.1

024

76 025

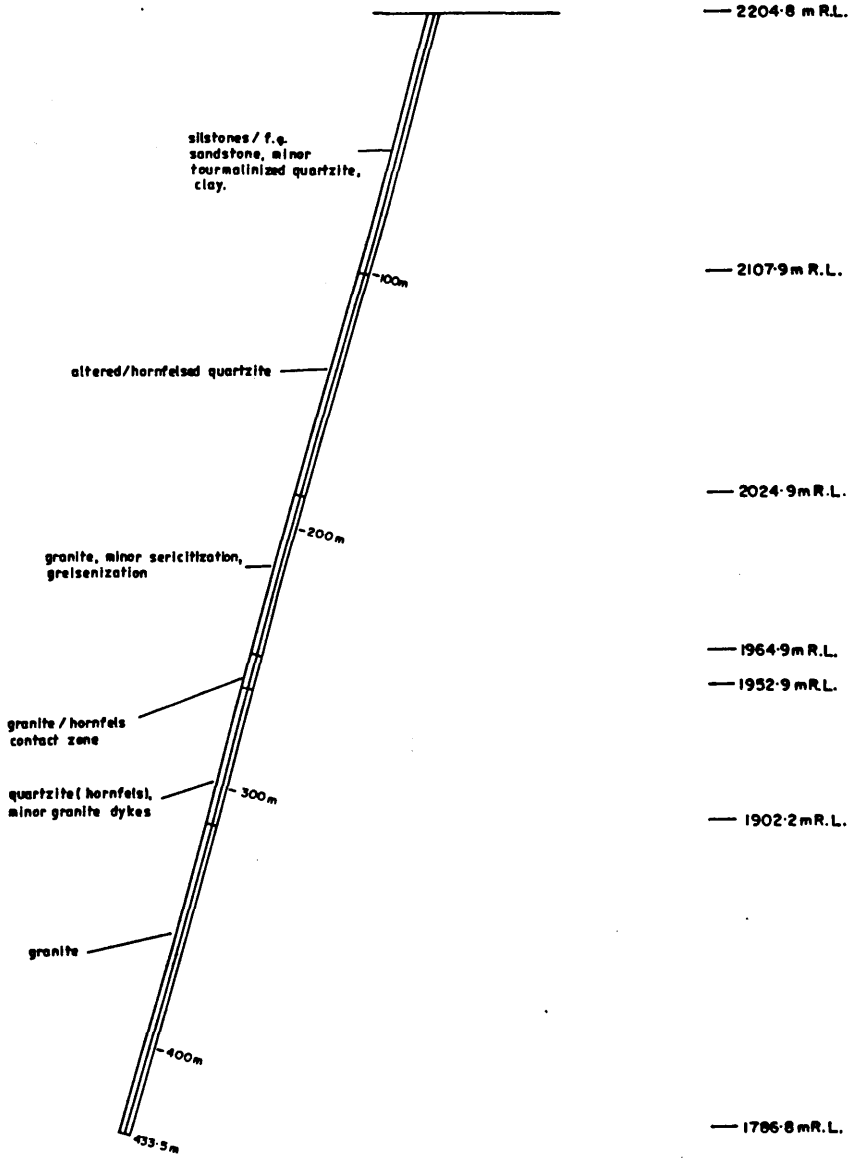
PLAN



HOLE NO. SD 21

GOLD FIELDS EXPLORATION PTY. LIMITED

DIAMOND DRILL HOLE PLOT



DIP PROFILE

SCALE 1:2,000

5 cm

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE LOG AND ASSAY DATA

PROJECT: ST. DIZIER HOLE NUMBER: SD 21 Page: 1

025

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION
0.0	0.5	0.2	40	PEATY SOIL
0.5	1.0	0.2	40	INDURATED SANDY SOIL? Grey-brown, comprising fragments of hornfels and quartzite ≤3cm in grey-brown dirty quartz sand matrix (0.5mm average grainsize).
1.0	5.8	1.1	23	WEATHERED SILTSTONE Mottled yellow-brown, white, partly soft and finely micaceous and partly harder and non-micaceous. Badly broken into rounded fragments, 4.8m core loss.
5.8	10.4	1.3	28	CLAY Yellow, white and grey. Incompetent pug. Finely micaceous. Grey clay also includes minor pyrite. Few geothite-hematite fragments at 7.4m, 4.6m core loss.
10.4	11.2	0.4	50	WEATHERED SILTSTONE White to pale grey and yellow-brown, finely micaceous and partly clayey. 0.4m core loss.
11.2	21.2	8.6	86	ALTERED SILTSTONE TO VERY FINE GRAINED SANDSTONE White to pale grey, largely unbedded (possible BCA of 45° at 16m). Down to 15m, brown tourmaline coats joint surfaces, below that point, very little tourmaline. Texture is generally finely mottled with 1-2mm white to pale grey spots enclosed by a "matrix" of pale brown micaceous(?) material. Very badly broken; 1.4m core loss, however generally fairly hard except at: 16.8 - 17.2m Clay, pale brown, minor disseminated pyrite crystals 18.8 - 19.7m Extremely badly broken, reduced in places to gravel. Minor brown tourmaline in spots. 20.0 - 20.9 Extremely badly broken, reduced to gravel. Minor disseminated and veinlet pyrite, which also present in preceding 3m.

ASSAY DATA Sample No.	From	To	Rec. %

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE LOG AND ASSAY DATA

PROJECT: ST. DIZIER

HOLE NUMBER: SD 21

026

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION
21.2	47.9	25.0	94	ALTERED/HORNFELSED SILTSTONE TO VERY FINE GRAINED SANDSTONE Pale grey,green-grey, brown spotty texture described above virtually throughout. Commonly finely micaceous. Rare thin veins/veinlets pyrite, brown tourmaline. Brown colour reflects fine grained brown tourmaline and/or Ti-biotite. Elongation of mottled texture suggests bedding, B.C.A.'s 30-40°. Core more competent cf. above but still broken along flat, mostly uncoated joints. 1.7m core loss in broken zones. 24.8 - 29.0m Very badly broken zone including 1.4m core loss. Includes quartz and altered siltstone fragments in clayey pug zone at 25.2m. Fragments of massive pyrite and altered siltstone in main core loss zone at 27.0 - 29.0m (0.6m recovered). Petrological sample: 38.4m.
47.9	49.8	1.9	100	TOURMALINIZED QUARTZITE Grey-brown, well banded quartz-muscovite-brown tourmaline rock interspersed with less altered quartzite similar to above unit. Minor vein pyrite and quartz. Banding (parallel bedding?) 25-30° to C.A. Broken on rough joints some of which are coated by mica or tourmaline.
49.8	59.2	9.0	96	ALTERED/HORNFELSED SILTSTONE TO VERY FINE GRAINED SANDSTONE Green-grey, spotty texture and similar to 21.2 - 47.9 except that well bedded (BCA's 30-35°). Broken to badly broken on flat joints which are either uncoated or coated with clay.
59.2	62.2	2.7	90	FINE GRAINED SANDSTONE Pale yellow-brown, pale mauve-brown, unbedded. Criss-crossed by numerous fractures filled with yellow clay and/or quartz. Broken on flat joints or irregular fractures. Joints uncoated or coated with yellow clay or brown tourmaline. Some shearing or brecciation evident 61.5 - 61.8m.

ASSAY DATA Sample No.	From	To	Rec. %

GOLD FIELDS EXPLORATION PTY. LIMITED

DEV. PRESS

PROJECT: ST. DIZIER

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: SD 21

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION
				61.8 - 62.2m Very badly broken. Sandstone pebbles in clayey matrix 0.3m core loss.
62.2	74.4	12.2	100	ALTERED QUARTZITE/HORNFELSED SANDSTONE/SILTSTONE Grey, grey-brown, mottled yellow and brown. Generally banded (bedding?), BCA's variable (some contortion), generally 10-40° (~25° average). Variable unit:in places completely tourmalinized converted to banded or tourmaline-spotted quartz-tourmaline rock. In places "bedding" disrupted by yellow clayey alteration veining. Some sections of grey, finely micaceous, "spotty" very fine grained sandstone similar to 49.8 - 59.2m. Minor patches of disseminated, veinlet pyrite generally with quartz or tourmaline alteration. Broken, rarely badly broken on rough joints.
74.4	100.3	25.2	97	ALTERED/HORNFELSED VERY FINE GRAINED SANDSTONE Grey-brown, grey,spotted texture - generally grey, quartz-rich(?) spots set in a yellow, grey or brown matrix. Well banded (?bedded), BCA's vary 10-30° (25° average). Rare veins of quartz(±pyrite), at 10-20° to C.A., are surrounded by Ti-biotite selvedge where biotite replaces matrix preserving spotted texture. Minor tourmalinization locally around quartz-tourmaline veinlets. Broken on numerous rough joints, some coated with pyrite or tourmaline. 96.1 - 97.1m. Includes four 1-2cm thick granitic veins, medium to coarse grained, at 30-75° C.A. Gradational change to:
100.3	129.5	26.8	92	ALTERED QUARTZITE *More siliceous and micaceous than above unit.* Retains spotty texture in most of core. More disseminated Ti-biotite as well as muscovite. Mostly banded (bedding) BCA's 5-30°. Minor tourmalinization in zones up to 20cm long, generally associated with veins of tourmaline ± quartz ± pyrite. Sparse patches of

ASSAY DATA Sample No.	From	To	Rec. %

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE LOG AND ASSAY DATA

PROJECT: ST. DIZIER HOLE NUMBER: SD 21 Page: 4.

028

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
				yellow, soft alteration generally with disseminated Ti-biotite. Zones of disseminated soft green lath-like minerals (av. dimensions 3x1mm^2) set in siliceous matrix at 106.3-107.1m, 114.9-115.9m, 119.9-121.4m. Rare thin granitic veins (generally ≤1cm thick, one approx. 10cm thick at 122.3m). More competent cf. above, broken on rough joints rarely coated by clays, tourmaline or pyrite. 2.4m core loss in badly broken zone 119.1-121.6m and where core dropped and ground away 121.6-125.2m.				
				Petrological sample: 106.9m				
129.5	186.5	57.0	100	ALTERED/HORNFELSED QUARTZITE				
				Green-grey, well banded (bedded) BCA's 20-45° (average 35°). Spotted texture throughout. Alteration less intense cf. previous unit and comprises minor tourmalinization around quartz-tourmaline ±pyrite veins and very minor yellow - Ti-biotite patches. Thin granitic veins throughout generally 0.5-2cm thick at 45-80° to C.A. (70° average); thicker granitic dyke at 163.0-163.4m. Fairly competent core, breaks on rough joints, often thinly coated with clay, rarely with pyrite or tourmaline coatings. Ti-biotite and tourmaline alteration increases towards granite contact.				
				Contact sharp, 65° to C.A				
186.5	194.5	8.0	100	GRANITE - CONTACT ZONE				
				Fine grained in first metre, grainsize average 1mm. Below that point a variety of textures including patches of biotite-rich granite in which flakes are predominantly edge on and commonly at a steep angle to C.A. and patches of micropegmatite (quartz and feldspar crystals up to 5cm across). Competent core-few rough breaks.				
				190.6 - 190.8m Greisenized granite with central veins of quartz and pyrite at 20° to C.A.				

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE LOG AND ASSAY DATA

PROJECT: ST. DIZIER

HOLE NUMBER: SD 21

Page: 5.

029

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
194.5	240.5	46.0	100	GRANITE White to greenish white, fresh to weakly altered (weak, green-yellow kaolinization/sericitization of feldspars). Porphyritic at top becoming progressively more equigranular with depth, however patches of porphyritic to "bimodal" granite interspersed with coarse grained equigranular granite. Quartz/feldspar grainsize in equigranular granite and phenocryst size in porphyritic phase 0.5-1.0cm. Minor irregular quartz-tourmaline nodules or clots, usually 1-3cm across. Very minor greisen alteration (grey quartz-muscovite assemblage) in zones generally less than 10 cm thick. Mica is biotite or chlorite after biotite generally < 5% of total. Broken on rough joints, rarely coated with clay or pyrite. 237.7 - 239.0 Finer grained granite, 1-3mm grainsize, weakly sericitized. Few thin (<10cm) grey greisen alteration zones. Gradational change to:				
240.5	248.7	8.2	100	MEDIUM/FINE GRAINED GRANITE Granisize averages 1-2mm. More biotite cf. above, again chloritized in places. Minor sericitization and greisen alteration as above. Minor quartz and pyrite in thin veinlets. Broken on joints/veinlets and rough fractures.				
248.7	261.2	12.5	100	GRANITE/HORNFELS-QUARTZITE CONTACT ZONE Granite as above but with less biotite, interspersed with blocks of hornfels-quartzite. The latter are generally grey, bedded (BCA's 0-15°) and consist of fine grained (≤0.5mm) quartz, muscovite and/or Ti-biotite, traces of pyrite and tourmaline. Granite/sediment contacts commonly near parallel to C.A. Broken on rough joints.				
261.2	313.8	51.7	98	QUARTZITE (-HORNFELS) Grey, pale grey, patches of mauve brown; bedded (BCA's 15-30°)				

GOLD FIELDS EXPLORATION PTY. LIMITED

DLV. PRESS

PROJECT: ST. DIZIER

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: SD 21

030

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
				to 286m, mostly massive below that point. Very hard. Grey areas comprise quartz, relatively abundant finely disseminated pyrrhotite and pyrite and lesser muscovite. Mauve brown areas contains abundant finely disseminated Ti-biotite. Below 286m, largely pale grey quartzite with minor vein-related mauve-brown patches, sulfide-poor. Minor quartz (± pyrite) veining particularly bottom 5m (near granite contact) where associated with Ti-biotite alteration. Rare pyrite veinlets. Broken on rough to smooth joints 0.9m core loss 292.5-295.7m (core barrel dropped?).				
				263.1 - 263.6m Granitic dyke, unaltered.				
				273.5 - 273.8m Granitic dykes, fine grained, unaltered.				
				287.9 - 292.0m Includes few veins and patches (1-5 cm thick) of tremolite (-actinolite). Also between 291.7 and 292.2m, "spotty" alteration with grey-green relatively soft spots, 2-3mm across set in quartzite matrix.				
				313.0 - 313.4m Granitic dyke, grainsize 1-3mm. Unaltered. Contacts roughly at 90° to C.A.				
				Contact approximately at right angles to C.A. Note difference with previous major granite contact further up the hole.				
313.8	318.1	4.3	100	FINE TO MEDIUM GRAINED GRANITE Pale, felsic granite, grainsize 0.5-3mm. Sub-porphyritic with sparse quartz phenocrysts. Few quartz-black tourmaline nodules (1-4cm across) and veins. Biotite-rich top 60cm, otherwise biotite-poor. Infrequent rough breaks and joints.				
				313.95 - 314.05m Partly resorbed hornfels xenolith.				
				Contact marked by 10cm sheared(?) greisenized granite band-badly broken.				

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: ST. DIZIER

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: SD 21

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031

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
318.1	433.5	113.6	98	GRANITE White to pale grey, generally medium to coarse grained (grain-size varies 2-8mm). Minor (≤5%) biotite, partly chloritized. Some feldspars (plagioclases?) weakly sericitized in places. Rare muscovite. Very sparse black tourmaline in quartz-tourmaline clots, nodules and veins. Rare grey greisen alteration zones. Broken on rough fractures and rarely in clayey/greisen broken (shear?) zones. 2.0m core loss 391.5-394.4m. 344.5 - 345.6m Microgranite white, grainsize mostly less than 0.5mm, rare quartz and feldspar phenocrysts. Minor finely disseminated and nodular tourmaline. Upper contact sharp at 70° C.A. lower contact diffuse. 389.1 - 399.8m Microgranite dyke very similar to 344.5 - 345.6m except more quartz-tourmaline nodules and no disseminated tourmaline. Relatively more development of grey quartz-rich greisen alteration, however still minor (<10%). Slightly diffuse upper and sharp lower contact, both approximately at right angles to C.A. END OF HOLE 433.5m				

SD21

REPORT CMS 83/6/39

St. Dizier Rocks

SD21 Two drill core samples were received for thin-section preparation and description. Both are believed to be contact-metamorphosed sediments which were subsequently greisenised.

334m. 2930 (T.S. 46399)
This rock may be termed a greisenised hornfels, i.e. a contact-metamorphosed aluminous sediment which was subsequently pervasively greisenised.

The rock consisted mainly of closely-packed ovoid spots, probably of cordierite, with fine interstitial quartz and micas (muscovite and biotite). The spots have been replaced by masses of matted muscovite flakes; the interstitial biotite is largely chloritised, and there are sporadic patches of finely granular orange-brown dravite tourmaline. Discontinuous quartz-sulphide veins cut the rock; the sulphides appear to be pyrrhotite and chalcopyrite.

106.9m. 2931 (T.S. 46400)
This is a greisen, or a greisenised contact-metamorphic rock of uncertain origin.

The grey-green lath-like minerals are subradiating groups of acicular tremolite crystals, very largely pseudomorphed by matted flakes of muscovite representing the greisening event. Quartz and minor sodic plagioclase form mosaics between the tremolite crystals, and much of the plagioclase has been replaced by muscovite. Poikiloblastic pale mottled brown-green tourmaline has formed sporadically. Other minerals scattered through the rock include leucoxene, sulphide patches (?pyrrhotite) and clusters of minute siderite crystals. There are isolated, relatively coarse apatite crystals.

Thus, the rock must have consisted mainly of radiating tremolite crystals and quartz, with minor plagioclase, representing a contact-metamorphic assemblage perhaps derived from a semi-calcareous rock.

H.W. Fander, M. Sc.

032

76 033

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE RECORD

HOLE NO:	SD22 03
STATE :	TASMANIA

DEV. PRESS

PROJECT	ST. DIZIER
DESIGNED BY	P.A. ROBERTS
LOGGED BY	P.A. ROBERTS
COMMENCED	3/5/83
COMPLETED	24/5/83

PURPOSE

To test for Eastern extension of the mineralized skarn lens outcropping in the St. Dizier "open cut".

LOG SUMMARY / GENERAL COMMENTS

The results of this hole were quite unexpected; near the skarn, a large proportion of the core is brecciated, suggesting that the hole was drilled near-parallel to a fault zone. The skarn itself is magnetite-poor, thin and interbanded with hornfels, and is "cut out" by granite at unexpectedly shallow depths. The granite may be a steeply dipping dyke also near-parallel to the drillhole.

ASSAY SUMMARY

INTERVAL From	INTERVAL To													COMMENTS

LOCATION

NORTHING	5367659.5
EASTING	345,129.0
R.L.	2198.7
GRID	AMG
LENGTH	

HOLE CONDITION

SIZE	
Hole Size	Depth
HW	0-11.2m
HQ	-158.8m
NQ	-293.3m

SIGNIFICANT CORE LOSS INTERVALS		
From	To	% Lost

POOR GROUND CONDITION ZONES		
From	To	Condition

HOLE CONDITIONS AFTER COMPLETION

Blocked. Stuck casing was blasted; 75m of it left down hole.

SURVEY DATA (Note Bearing type must be same as Project Grid Type)

SURVEY			INTERVAL			VERTICAL		HORIZONTAL		SURVEY			INTERVAL			VERTICAL		HORIZONTAL	
Depth	Bearing	Dip	From	To	Distance	D.Sin.Dip	R.L.	D.Cos.Dip	Prog.Total	Depth	Bearing	Dip	From	To	Distance	D.Sin.Dip	R.L.	D.Cos.Dip	Prog.Total
0.0	182.1°	-54°	0.0	19.5	19.5	15.8	2182.9	11.5	11.5										
39.0	181°	-55.8°	19.5	55.5	36.0	29.8	2153.1	20.2	31.7										
72.0	176°	-56.5°	55.5	91.5	36.0	30.0	2123.1	19.9	51.6										
111.0	181°	-58.0°	91.5	121.5	30.0	25.4	2097.7	15.9	67.5										
132.0	182°	-59.7°	121.5	148.5	27.0	23.3	2074.4	13.6	81.1										
165.0	178°	-58.9°	148.5	180.0	31.5	27.0	2047.4	16.3	97.4										
195.0	182°	-59.7°	180.0	220.0	40.0	34.5	2012.9	20.2	117.6										
245.0	185°	-59.5°	220.0	256.0	36.0	31.0	1981.9	15.7	133.3										
267.0	181.5°	-60.0°	256.0	293.3	37.3	32.3	1949.6	18.7	152.0										

034

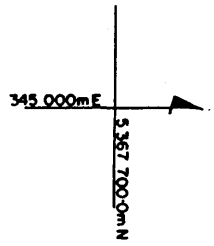
76 035

HOLE NO. SD 22

GOLD FIELDS EXPLORATION PTY. LIMITED

DIAMOND DRILL HOLE PLOT

PLAN



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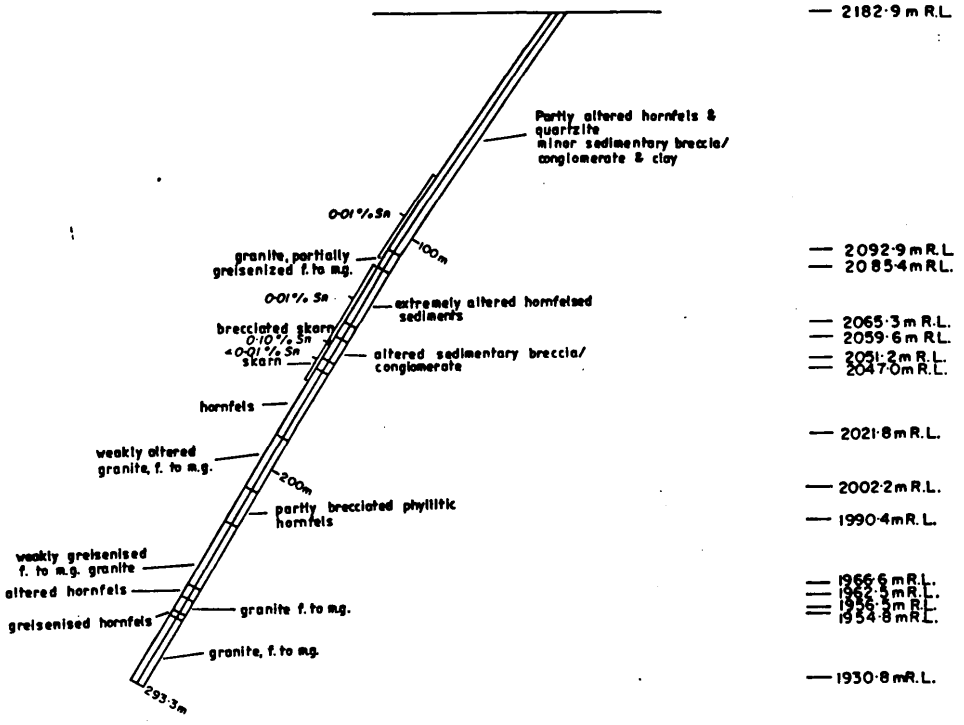
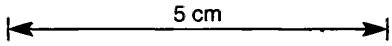
345 129·0mE



DIP PROFILE

SCALE 1:2,000



GOLD FIELDS EXPLORATION PTY. LIMITED

DEV. PRESS

PROJECT: St. Dizier

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: SD22

Page: 1.

035

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %	Sn (ppm)	WO_2 (ppm)
0.0	5.2	0	0	NO CORE (Drilled with HW casing advancer).						
5.2	61.4	49.5	88	BADLY BROKEN SANDSTONE Pale brown, grey, grey-brown, fine grained, largely unbedded (rare BCA's - contorted or 20-30° to c.a.), quartz veined throughout. Some quartz veins have minor pyrite, micas (including Ti-biotite) both within them and in an altered selvedge around them, occasionally with traces of sphalerite and ?chalcopyrite. Minor brown tourmaline in (banded) tourmalinized zones and tourmaline veinlets. Some grey sandstone is finely micaceous (muscovite) with a spotted texture (cf. SD21). Extremely badly broken on variously oriented joints and fractures, particularly 54.1-57.6m where only pebbles recovered and 1.6m core lost. 6.7m core loss overall.						
61.4	73.7	11.7	95	QUARTZITE Brown-grey, hard (silicified), banded (bedding? BCA's 25-50°, 30° average). Quartz veined throughout, irregular veins ±pyrite. Less broken cf. above but still badly broken on variously oriented joints and fractures some of which coated with brown tourmaline. Lower 1.0m is pale yellow-brown fine grained sandstone. 0.6m core loss.						
73.7	81.2	3.7	49	MICACEOUS CLAY Pale brown, very soft; in places so soft that it cannot maintain the core shape and has sunk into the channel filling it like a sediment! Very mica-rich - generally a pale brown variety. Minor disseminated fine grained pyrite, particularly 77.6-78.1m? (0.8m core loss 77.6-79.0m). Major core losses throughout which total 3.8m. Minor vein quartz ± pyrite.	3952 3953 3954	76.6 77.6 78.1	77.6 78.1 81.2		40 70 90	20 40 <10

GOLD FIELDS EXPLORATION PTY. LIMITED

DLV. PRESS

PROJECT: St. Dizier

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: SD22 Page: 2.

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %	Sn (ppm)	WO_3 (ppm)
81.2	88.0	4.7	69	ALTERED HORNFELS						
					3955	81.2	82.0		10	10
				Grey-green, mauve-brown, yellow-brown, irregularly banded	3956	82.0	83.0		30	20
				(bedding?-BCA's 20-40°). Alteration in grey-green patches	3957	83.0	84.0		10	<10
				is probably chloritic with pyrite (particularly 81.2-84.8m),	3958	84.0	85.0		<10	10
				in mauve patches probably very fine grained Ti-biotite. Minor	3959	85.0	86.0		10	10
				pyrite, very finely disseminated and in veinlets. Badly broken	3960	86.0	87.0		50	10
				throughout, extremely badly broken 83.6-88.0m, where there	3961	87.0	88.0		40	10
				is 1.8m core loss. Core soft as well as broken lower 1.5m.						
				Contact not clear because of very badly broken core above.						
88.0	98.1	10.0	99	CONGLOMERATE	3962	88.0	89.0		30	20
					3963	89.0	90.0		60	10
				Mauve brown, comprising Ti-biotized clasts of very fine grained	3964	90.0	91.0		30	20
				sandstone/quartzite set in a matrix composed of Ti-biotite	3965	91.0	92.0		20	10
				and quartz, minor pyrite. Quartz veinlets throughout. More	3966	92.0	93.0		30	20
				competent core cf. above - broken on rough joints and fractures.	3967	93.0	94.0		20	10
					3968	94.0	95.0		30	10
				92.2-92.3 Siliceous microgranite(?) dyke. 5cm thick crossing	3969	95.0	96.0		50	10
				core at 25° to c.a.	3970	96.0	97.0		40	<10
					3971	97.0	98.0		70	20
				Petrological Sample 93.2m						
				Gradational contact.						
					3972	98.0	99.0		20	20
98.1	108.6	9.8	93	ALTERED QUARTZITE	3973	99.0	100.0		10	10
					3974	100.0	101.0		10	20
				Similar to above but brecciated textures not apparent. Unbedded	3975	101.0	102.0		90	20
				mauve-brown, yellow-brown, largely Ti-biotitized. Irregular	3976	102.0	103.0		10	10
				quartz veins ± pyrite, trace ?tourmaline throughout. Becoming	3977	103.0	104.38		60	30
				increasingly broken downwards. Possibly brecciated at 101.0-	3978	104.38	104.50		160	550
				101.2m, 102.2-102.5m	3979	104.50	105.5		80	40
					3980	105.5	106.5		<10	30
				104.38-104.5. Massive sulfilde vein comprising pyrite, ar sen-						

GOLD FIELDS EXPLORATION PTY. LIMITED

DLV. PRESS PROJECT: St. Dizier

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: SD22 Page: 3.

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA (ppm) Sample No	From	To	Rec. %	Sn	WO_3
				opyrite, minor ?sphalerite.	3981	106.5	107.5		<10	30
					3982	107.5	108.5		80	20
				Minor clay pug, 0.4m core loss on contact.						
108.6	114.4	5.5	95	GREISENIZED GRANITE	3983	108.5	109.5		380	30
					3984	109.5	110.5		100	20
				Grey, green-grey. Top 2.2m is mostly grey, fine grained with few	3985	110.5	111.5		70	20
				quartz phenocrysts, latter increasingly abundant downwards,	3986	111.5	112.5		140	30
				feldspars partly converted to quartz(?) or sericite, plus	3987	112.5	113.5		150	40
				trace pyrite. Lower 2.3m is medium grained, comprising quartz	3988	113.5	114.4		300	30
				set in a green-yellow fine muscovite/sericite matrix. Several						
				thin pyrite veinlets. Minor black tourmaline in small clots						
				(≤1cm) and veinlets. Broken on few joints.						
				110.8-112.1m Medium grained, weakly altered granite. Peculiar						
				texture at 110.9m, where long thin laths of feld-						
				spar (≥8cm x 2.4mm) oriented near parallel to						
				one another at 10-30° to c.a. Thin (1.5cm) silic-						
				eous vein at 111.05m, 70° to c.a.						
114.4	117.4	3.0	100	GRANITE						
				Pale grey, weakly altered, medium grained. Minor (~ 10%) greis-						
				enized granite. Very felsic comprising quartz, feldspars (some						
				weakly sericitized), disseminated clots of black tourmaline,						
				trace chloritized biotite. Becomes fine grained near contact.						
				Broken on few joints - broken at contact. Trace disseminated						
				sulfide including one small grain galena(?).						
117.4	140.9	23.1	98	EXTREMELY ALTERED SEDIMENTS	3989	117.4	118.4		10	10
					3990	118.4	119.4		40	50
				Mauve-brown, green-brown, variable looking core. Ti-biotite	3991	119.4	120.4		50	20
				altered, particularly near granite contact. May include some	3992	120.4	121.4		50	10
				calc-silicates. Unbedded. Brecciated textures in places e.g.	3993	121.4	122.4		80	10
				120.0-120.8, 122.7-123.6, 125.5-125.8, 126.6-130.9, and 135.3-						

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE LOG AND ASSAY DATA

PROJECT: St. Dizier HOLE NUMBER: SD22 Page: 4.

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INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION
				136.6m. Some variously oriented banding - not bedding. Generally quite competent. Minor veinlet and disseminated pyrite.
				126.0-126.6m Greisenized medium grained granite dyke. Quartz, muscovite, minor tourmaline, fluorite assemblage. Lower contact approx. 60° to c.a.
				128.1m Thin (2cm) vein of quartz, sphalerite and galena at approx 10° to c.a.
				130.8-135.3m Siliceous altered zone in which small clots of Ti-biotite, green mineral, pyrite/pyrrhotite, tourmaline (0.5-1cm across) are surrounded by bleached haloes and set in a mottled, mauve-brown siliceous matrix.
				Petrological Samples: 121.8, 132.85m
140.9	146.6	5.6	98	BRECCIATED SKARN(?)
				Grey-green, yellow-green. Unbedded, mottled texture. Veined by black chlorite or serpentine(?) and carbonate ± silver-grey sulfides. The latter also occur on joint facings, where they are finely acicular and radiating (stibnite?), and more rarely, finely disseminated. Badly broken around thin (<5cm) quartz-sphalerite galena vein (VCA 15°?) top 0.5m, more competent but still broken on irregular fractures elsewhere. Identifiable breccia fragments are generally angular altered pieces of hornfels/quartzite.
				Petrological Sample: 142.4m
				Broken zone at contact.

ASSAY DATA

Sample No.	From	To	Rec. %	Sn(ppm)	SSn	Cu	Pb	Zn	Sb	WO_3(ppm)
3994	122.4	123.4		30						10
3995	123.4	124.4		30						<10
3996	124.4	125.4		80						10
3997	125.4	126.4		20						20
3998	126.4	127.4		110						30
3999	127.4	128.4		$10						60
4000	128.4	129.4		40						20
4240	129.4	130.4		70						10
4241	130.4	131.4		10						10
4242	131.4	132.4		20						10
4243	132.4	133.4		20						10
4244	133.4	134.4		50						10
4245	134.4	135.4		20						10
4246	135.4	136.4		40						10
4247	136.4	137.4		70						10
4248	137.4	138.4		40						10
4249	138.4	139.4		40						<10
4250	139.4	140.9		30						30
				%						%
4251	140.9	141.9		0.02	<0.01	0.01	0.02	0.17	0.70	0.02
4252	141.9	142.9		0.02	0.02	<0.01	<0.01	0.09	1.0	<0.01
4253	142.9	143.9		0.01	<0.01	<0.01	<0.01	0.03	0.02	0.01
4254	143.9	144.9		0.01	0.01	<0.01	<0.01	0.06	0.02	<0.01
4255	144.9	145.9		0.01	0.01	0.01	0.01	0.03	0.03	0.01
4256	145.9	146.9		0.02	0.01	0.02	0.07	0.19	0.10	0.01

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE LOG AND ASSAY DATA

PROJECT: St. Dizier HOLE NUMBER: SD22

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	Sample No.	From	To	Rec. %	Sn	SSn	Cu	Pb	Zn	Sb	WO_3
									ASSAY DATA (wt% unless otherwise stated)						
146.6	156.4	9.8	100	ALTERED QUARTZITE BRECCIA	4257	146.6	147.6		0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.01
					4258	147.6	148.6		<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.01
				Mauve brown thoroughly Ti-biotized quartzite breccia. Fragments	4259	148.6	149.6		0.10	0.01	<0.01	0.02	0.03	<0.01	0.01
				are generally small (<2cm), mauve-brown to white quartzite set	4260	149.6	150.6		<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.01
				in a matrix of quartz, Ti-biotite and pyrite (total sulfide	4261	150.6	151.6		0.01	<0.01	0.01	0.01	0.01	<0.01	<0.01
				<5%). Broken on rough, partly slickensided and serpentinous	4262	151.6	152.6		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
				joints.	4263	152.6	153.6		<0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.01
					4264	153.6	154.6		<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.01
				Contact distinct, slightly irregular at 60° to c.a.	4265	154.6	155.6		<0.01	<0.01	0.01	<0.01	<0.01	<0.01	0.01
					4266	155.6	156.4		<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
156.4	161.3	4.4	90	SKARN	4267	156.4	157.4		0.01	0.02	0.01	<0.01	0.04	<0.01	<0.01
					4268	157.4	158.4		0.01	0.01	0.01	<0.01	0.03	<0.01	<0.01
				Grey-green, veined (jostle brecciated?) top 1.1m by serpentine	4269	158.4	159.4		0.01	0.01	0.01	<0.01	0.02	<0.01	<0.01
				and pyrite/pyrrhotite. Below this comprises green-black serpen-	4270	159.4	160.4		<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01
				tine, coarse phlogopite minor pyrite/pyrrhotite. No magnetite	4271	160.4	161.3		0.01	<0.01	0.01	<0.01	0.02	<0.01	<0.01
				observed. Broken where veined at top, otherwise fairly competent											
				0.5m core loss.											
				Sharp contact, weakly slickensided at 80° to c.a.											
									Sn(ppm)						WO_3(ppm)
161.3	190.6	28.9	99	HORNFELS	4272	161.3	162.3		<10						<10
					4273	162.3	163.3		30						30
				Mauve-brown, mostly unbedded (faint bedding at 174.1m, 45°	4274	163.3	164.3		<10						10
				BCA). Altered, veined by quartz, pyrite/pyrrhotite and/or	4275	164.3	165.3		20						20
				calcite includes patchy visible Ti-biotite. Mostly competent											
				with few breaks except around carbonate or sulfide veins											
				and in lower 3.5m.											
				177.1-178.1m Brecciated. Brown hornfels fragments set in											
				a grey quartz, fine Ti-biotite?, pyrite matrix.											
				179.8m 2cm thick brecciated quartz-sphalerite galena vein											
				crossing core at 10-20° to c.a.											
				180.8-181.8m Brecciated zone similar to 177.1-178.1m.											

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE LOG AND ASSAY DATA

PROJECT: St. Dizier HOLE NUMBER: SD22

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION
				184.0-185.2m Irregular 1cm thick quartz/biotite/pyrite running parallel to c.a.
				185.2-187.0m Siliceous zone comprising quartz, pyrite and pyrrhotite, Ti-biotite. Altered zone or breccia matrix(?).
				Broken at contact, contact angle not apparent.
190.6	213.4	22.6	99	WEAKLY ALTERED FINE TO MEDIUM GRAINED GRANITE
				Pale green-grey. Comprises quartz, mostly weakly sericitized feldspars, minor (<3%) biotite or chlorite after biotite, minor tourmaline in quartz-tourmaline clots, thin veins and nodules up to 10 cm diameter muscovite. Top 30 cm is brecciated. Grainsize generally about 1mm, varies 0.5-3.0mm. Broken on rough joints.
				194.8-206.3m Partly, weakly greisenized. Includes possible sheared zone 199.1-199.6m.
				Contact irregular 10-20° to c.a.
213.4	227.8	14.2	99	PARTLY BRECCIATED PHYLLITIC HORNFELS
				Grey, grey-brown finely micaceous, in places small (≤10cm) masses of pure Ti-biotite. Bedding where visible is generally near-parallel BCA. Includes thin (≤1cm) veins and pods of carbonate-pyrrhotite and ?actinolite-tremolite. Mostly competent but broken very badly in places on very soft serpentinous shear zones, particularly lower 1m.
				209.3-210.3m Fine grained granite as above. Contacts at about 30° to c.a.

ASSAY DATA Sample No.	From	To	Rec. %

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE LOG AND ASSAY DATA

PROJECT: St. Dizier HOLE NUMBER: SD22 Page: 7.

041

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
227.8	255.6	27.0	97	WEAKLY GREISENIZED FINE TO MEDIUM GRAINED GRANITE				
				Green-grey, comprising quartz, sericitized fedlspar, minor chlor-itized/sericitized biotite and very minor muscovite, trace veinlet pyrite. Minor brown-black tourmaline in quartz-tourmaline nodules. Grainsize <1.0 to 5mm. Mostly weakly (but variably) greisenized down to 240m, alteration minor below that point. Rare coarser grained (micropegmatitic) patches with traces diss-eminated pyrrhotite. Core fairly competent except at				
				227.8-231.6m Extremely badly broken, including shear zone 230.0-230.3m (approx.) 0.8m core loss.				
				223.8-235.4m Badly broken zone.				
				Contact sharp but very irregular - no measurable contact angle.				
255.6	260.4	4.8	100	ALTERED (GREISENIZED?) HORNFELS				
				Dark grey, hard, comprising grey matrix of quartz and fine grained grey micas(?), elongated, rounded blebs of brown tour-maline (1-3mm), abundant disseminated and veinlet sulfides (pyrite, pyrrhotite, minor sphalerite), minor angular fragments of quartz (possibly extremely boudinaged vein quartz??). Banded (?bedding, BCA's 20-50°). Enriched in Ti-biotite near upper contact. Fairly competent-broken on slickensided graphitic joints.				
				Granite badly broken at contact, no contact angle visible - 0.5m core loss.				
260.4	271.8	5.9	80	FINE TO MEDIUM GRAINED GRANITE				
				White to pale greenish yellow. Comprises quartz, feldspars (?plagioclases commonly weakly argillized/sericitized), minor				

GOLD FIELDS EXPLORATION PTY. LIMITED

DEV. PROG.

PROJECT: St. Dizier

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: SD22

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA Sample No.	From	To	Rec. %
				(≤5%) biotite or chlorite after biotite. Minor black tourmaline ?vug-fillings (apparently open space-fillings), surrounded by a quartz-muscovite greisen selvedge. Minor micropegmatitic and myrmekitic textures (no biotite) lower 2m. Fairly competent except top 2m where badly broken and 1.5m core loss.				
				269.4-269.7m Fine grained grey greisen vein, VCA approx. 45°.				
				Irregular semi-gradational contact. Some assimilation of horn-fels?				
271.8	273.9	2.1	100	GREISENIZED HORNFELS				
				Very similar to previous intersection (255.6-260.4m). BCA's 0-20°.				
				Contact sharp at 30° to c.a.				
273.9	293.3	19.4	100	FINE TO MEDIUM GRAINED GRANITE				
				Essentially the same as previous intersection (260.4-271.8m) except no unusual textures and (chloritized) biotite abundant in places.				
				END OF HOLE 293.3m				

SD22

043

REPORT CMS 83/7/3

Samples 2932 - 2935 from St. Dizier

Four drill core samples were received for petrological examination; thin-sections were prepared and described, and the silver-grey sulphide in 2935, occurring as radiating aggregates on fracture-surfaces, was identified by X-ray powder diffraction, this being the cheapest and most positive method.

All the rocks show evidence of extensive metasomatism and there is some uncertainty concerning their origin. 2932 was a breccia or conglomerate; no granitic components as such were identified. 2933 is a skarn or calc-silicate assemblage, probably originating from a carbonate rock. 2934 and 2935 could have been minor intrusives, but may have originated as impure carbonates; they both contain dark serpentinous aggregates representing an easily decomposed Mg-silicate such as diopside or a member of the humite group (cp. other St. Dizier rocks). The occurrence of stibnite on fracture-surfaces is probably related to a late low-temperature alteration phase in 2935.

H.W. Fander, M. Sc.

SD22

CENTRAL MINERALOGICAL SERVICES

	Sample No.	Rock Type - Composition	Fabric	Minor Minerals	Comments
913.2m	2932 (T.S. 46405)	Metasomatised ?Conglomerate. Patches of finely granular quartz-feldspar-phlogopite, coarser mosaic quartz; matrix of quartz, phlogopite, clusters of acicular tremolite, sulphides.	Vague relict conglomeratic fabric; most minerals micro-granular. Relict textures absent.	Loose clusters of small dravite crystals. Sulphides are pyrrhotite, pyrite. Trace siderite, fluorite.	Pervasive, intensive metasomatism, perhaps overprinting an earlier, hornfelsing event, has masked primary rock details.
1218m	2933	Skarn. Coarse, intergrown prismatic tremolite crystals, partly replacing/ enclosing diopside. Scattered flakes of very pale phlogopite. No relict minerals.	Replacement textures; typical skarn-type fabric, medium- to coarsely-crystalline.	Irregular pyrrhotite patches. Siderite veinlets and impregnations.	Assemblage of Mg-Ca silicates suggests pyrometasomatism of a carbonate rock, possibly dolostone.
1328-1329m	2934	Metasomatic Rock. Mainly a mosaic of small poorly twinned plagioclase crystals; porphyroblasts of tremolite; Ti-biotite flakes; orange/blue tourmaline; sulphide grains.	Mostly medium-grained; poor relict textures, probably igneous.	Granular sphene throughout. Sulphide grains are pyrrhotite. Very minor quartz.	Original rock not known, but believed to have been minor felsic intrusive. Dark patch includes a serpentinised Mg-silicate, ?humite group.
1429m	2935 (T.S. 46408)	Altered Metasomatic Rock. Mosaic of untwinned plagioclase, patches of serpentinised Mg-silicate (?diopside/humite) and of chloritised/and sericitised tremolite. Sulphides on fractures.	Mostly medium-grained with coarse zones and random patches; no relict textures.	Scattered Ti-biotite/ phlogopite flakes. Pyrite and pyrrhotite grains. Carbonate patches.	Similar assemblage to 2934, but with younger phase of argillic alteration. Sulphide on fracture is stibnite (confirmed by XRD).

APPENDIX 3

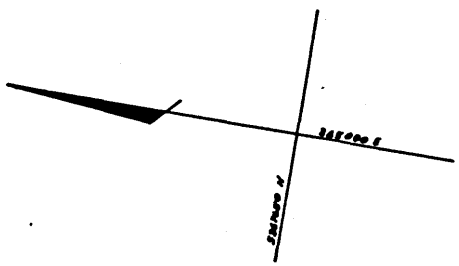
Diamond Drill Logs with additional assays,
old Placer and Minops Drillholes

HOLE NUMBER	H1	SURVEY			From – To	Distance D	VERTICAL		HORIZONTAL	
		Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
PURPOSE		Collar	350°AMG	-57°	0 -110.0	110.0	92.2	~~2077.8~~ ~2077.8	59.9	59.9
LOCATION	St Dizier									
COLLAR R.L.	2170.0m									
CO-ORDINATES	19944N 20222E Cominco Grid 5367567N 345025E AMG									
LENGTH	110.0m									
HOLE SIZE										
DATE DRILLED	26/11/65 - 3/2/66									
SIGNIFICANT CORE LOSS ZONES	Poor recovery at the beginning and end of the hole									
ORE ZONE GROUND CONDITIONS										
LOGGED BY	D. Simpson (Cominco) Feb'74									
COMMENTS										

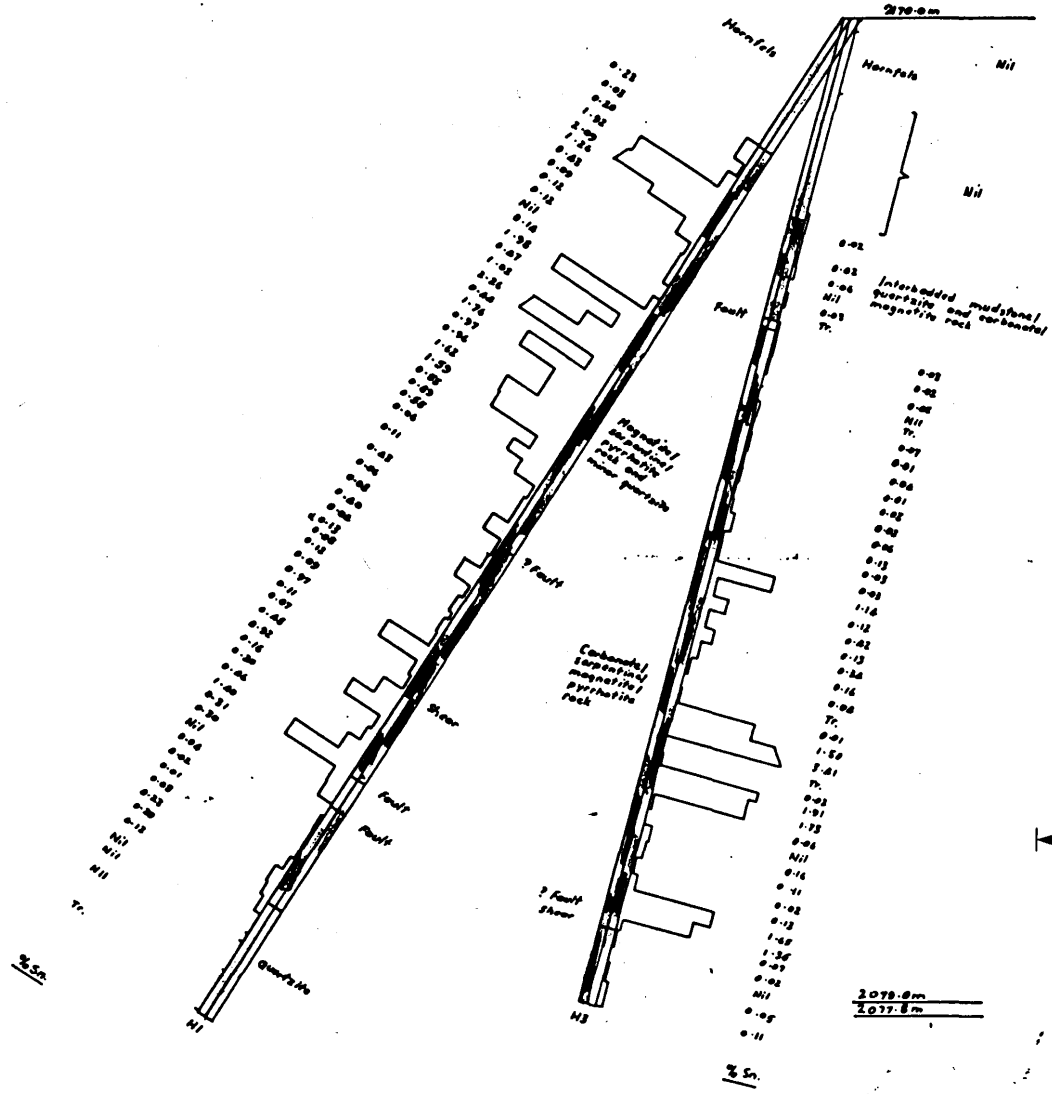
SUMMARY – ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS													B.C.A.
				Sn.	Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t	Fe			
Placer assays	14.3	52.2	37.9	0.84													
	14.3	83.8	69.5	0.60													
Renison assays: (1993)	18.6	83.6	65.0	0.70	0.09	0.05	0.2	2.7		0.02	0.012	0.02	2	20.8			
	including 18.6	52.6	34.0	0.99	0.07	0.06	0.4	3.4		0.04	0.011	0.03	1	26.6			

PLANS



DIP PROFILES



5 cm

LOGGED BY . D. Simpson

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0	?14.6	~0.6	3.9	HORNFELS													
				Fine grained siliceous hornfels containing minute													
(0	6.8		2.9)	sulphide grains. Sulphides follow bedding.													
(6.8	14.6		4.8)	Mineralisation up to 2% sulphides (pyrite, pyrrhotite).													
				Structure - BCA = 30°			NOTE : ASSAYS FROM PLACER DATA										
				Petrology 7.6m (T.S. 100980)													
				(Very poor recovery)													
?14.6	27.7	9.0	68.5	MAGNETITE-SERPENTINE ROCK		14.3	16.8	0.23									
						16.8	18.2	0.03									
				Fine grained. Groundmass is very fine grained and dark.		18.2	19.8	0.20									
				Occasional serpentinous patches. Rare bands of radia-		19.8	21.3	1.92									
				ting actinolite crystals.		21.3	22.9	2.09									
				Mineralisation - none observed		22.9	24.0	1.26									
				Structure - no clear banding		24.0	25.5	0.43									
				Petrology 18.0m (T.S. 100981)		25.5	27.0	0.09									
				Note - Core quartered between 17.7 and 25.9m.													
27.7	27.8	0.1	100	QUARTZITE													
				Pale grey fine grained quartzite.													
				No banding or mineralisation													
27.8	30.3	2.5	100	QUARTZITE WITH LOCAL PATCHES OF MAGNETITE ROCK		27.0	28.5	0.12									
						28.5	30.1	0.12									
30.3	30.8	0.5	100	MAGNETITE-CHLORITE-SERPENTINE ROCK (?)													
				Pale green fine grained soft groundmass													
				No mineralisation													
				Petrology 30.5m (T.S. 100982)													
30.8	31.7	0.9	100	AXINITE ROCK		30.1	31.6	NIL									
				With minor magnetite and pyrite. Andalorite is fairly													
				coarse grained up to 5mm.													
				Mineralisation - quartz pyrite veins up to 2mm thick													
				developed locally.													
				Structure - no distinct structure visible.													

DIAMOND DRILL RECORD

HOLE NUMBER . H1

LOGGED BY : D. Simpson

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
31.7	36.2	4.5	100	MAGNETITE-SERPENTINE(?) - PYRITE ROCK		31.6	33.1	0.14									
						33.1	34.6	1.98									
				Fine groundmass. Kaolinised in sections.		34.6	36.2	0.47									
				Mineralisation - disseminated pyrite up to 2mm grain size up to 10%.													
				Structure - shear at 33.2m - low angle 20°													
36.2	36.6	0.4	100	SERPENTINE-PYRRHOTITE ROCK (no magnetite)													
				Alternating with serpentine pyrite rock													
				Shear at 36.2m - CA = 30°.													
36.6	42.7	6.1	100	MAGNETITE-PYRRHOTITE-SERPENTINE ROCK		36.2	37.7	1.02									
						37.7	39.0	2.26									
				Fine grained, slightly kaolinitic locally		39.0	40.5	0.44									
				Mineralisation - rock contains 40% pyr.rhotite which is seen both disseminated and finely bedded (petrology - 38.4m T.S. 100984)		40.5	42.0	1.76									
				Structure banding (bedding?) C.A. = 20°													
				Slight shear at 37.5m - CA = 25°. Bedding very well developed between 39.0 and 42.1m.													
				(petrology 40.2m - T.S. 100985 - 1° or 2° sulphide relationship to Sn?)													
42.7	47.2	4.5	100	MAGNETITE-PYRRHOTITE-SERPENTINE ROCK		42.0	43.5	0.97									
						43.5	45.0	0.96									
				As above, but magnetite coarser grained in patches with little pyrrhotite e.g. 45.2 - 45.9m.		45.0	46.6	1.62									
47.2	51.5	4.3	100	MAGNETITE-SERPENTINE ROCK		46.6	48.1	1.59									
						48.1	49.6	0.55									
				Well banded with pyrrhotite distributed patchily.		49.6	50.6	0.89									
				Interbedded with fine grained dark rock (?slate)		50.6	52.2	0.55									
				Mineralisation - pyrrhotite patchy but where it occurs is usually in thin sheets parallel to banding.													
				Pyrrhotite 15% of the rock.													
				Structure - banding - CA = 40 - 60°													

LOGGED BY : D. Simpson

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
51.5	56.7	5.2	100	VARIED SEQUENCE OF SERPENTINE-PYRRHOTITE ROCKS,		52.2	53.7	0.06									
				MAGNETITE ROCK & CHLORITISED SERPENTINE (?) or EPIDOTE(?).		53.7	56.7	0.11									
				Rare veins of calcite, fluorite, antigorite usually parallel to banding.													
				Mineralisation - minor disseminated pyrite occurs to 1% in parts of the serpentine.													
				Structure - joint parallel to core axis between 54.9 and 56.1m.													
				Petrology - 52.7m T.S. 100986													
				55.8m T.S. 100987													
56.7	59.1	2.4	100	MAGNETITE-PYRRHOTITE-SERPENTINE ROCK		56.7	58.1	0.43									
						58.1	59.8	0.06									
				Finely banded with possibly very fine grained muscovite in the groundmass (Petrology T.S. - 100988 to check)													
				Rare vein carrying pyrrhotite, chrysotile, a soft radiating mineral and chalcopyrite.													
				Mineralisation - pyrrhotite to 15% follows banding.													
				Rare pyrite is disseminated.													
				Structure : sheer at 56.7m. CA = 45°													
				Slides - CA = 25° Banding - CA - 45°													
59.1	59.2	0.1	100	HEALED AND HEAVILY KAOLINISED BRECCIATED ZONE													
59.2	62.3	2.5	80	HORNFELS (?)		59.8	61.3	0.08									
				Siliceous and kaolinised containing minor epidote (?) with magnetite patches. Magnetite occurs as small aggregates up to 3mm across.													
				(Petrology 62.2 T.S. 100989)													
				Mineralisation - none visible													
				Structure - doubtful banding at 59.4m. CA = 40°													
62.3	62.8	0.4	92	QUARTZ-EPIDOTE ROCK		61.3	63.2	0.40									
				Fine grained containing mineralised veins and rare patches of magnetite.													
				Mineralisation - mineralised vein consisting of pyrrhotite-muscovite, arsenopyrite and quartz.													
				Structure - mineralised vein CA = 30°.													

DIAMOND DRILL RECORD

LOGGED BY : D. Simpson

050

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	Sn. FROM	Sn. TO	Sn. TOTAL	Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
62.8	69.5	5.2	77	SERPENTINE ROCK WITH MAGNETITE		63.2	64.7	0.04									
						64.7	66.3	0.13									
				Medium to dark green with a variable magnetite content		66.3	67.2	0.08									
				(i.e. 64.6 - 65.2m is about 40% magnetite)		67.2	68.7	0.12									
				This rock is well banded in places and heavily kaolin-		68.7	70.0	0.09									
				ised. Several minor shears contain muscovite-fluorite													
				(or antigorite?) check!!													
				Rare tremolite patches													
				Mineralisation - rare traces of pyrite close to shears.													
				Structure - shear (minor) at 63.6m - CA = 30°.													
				Slicks - LA = 60° Shear Ca = 60°. Slicks parallel to													
				core. Breccia at 65.2m in serpentine healed with													
				fluorite.													
69.5	77.4	7.7	98	CHLORITE-MAGNETITE ROCK		70.0	71.6	0.97									
						71.6	73.2	0.11									
				Rarely banded. Magnetite represents up to 30% of the		73.2	74.7	0.07									
				rock, more usually 10 - 20%. Fine sericite (~ 5%)		74.7	76.2	0.48									
				occurs locally.		76.2	77.7	0.92									
				Mineralisation - rare bands of pyrrhotite and pyrite													
				with quartz. Occasional muscovite aggregates. Bands													
				of pyrrhotite (10%) locally.													
				Structure. Banding CA = 40°. Occasional minor shears													
				at 71.2m and 72.8m CA = 10°.													
				Slickenslides 10° to LA. 75m 20° to CA. Slickenslides													
				20° to LA (minor shear).													
77.4	79.1	1.6	92	SERPENTINE ROCK		77.7	79.2	0.16									
				With occasional bands of fine grained pyrrhotite.													
				This section is faulted top and bottom.													
				Mineralisation - minor fine grained pyrite on quartz-													
				ose joint faces. Patches of fine grained pyrrhotite.													
				Only traces of magnetite in this section.													
				Structure - shear at 77.4m - CA = 60° (Banding 50°- 60°													
				is at right angles to shear) Slickenslides 80° to LA.													
				Quartz filled joints at various angles to CA.													
				Completely kaolinised rock last 6cm of section.													
				No attitude.													

DIAMOND DRILL RECORD

HOLE NUMBER : H1

LOGGED BY : D. Simpson

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
79.1	80.5	1.3	98	SERPENTINE ROCK		79.2	80.8	0.20									
				With occasional patches of quartzite													
				Mineralisation - pyrrhotite and pyrite developed on joint faces rarely.													
				Structure - possible sub vertical shear at 79.7													
				Indistinct banding - CA = 30°.													
80.5	83.5	2.9	95	SERPENTINE - MAGNETITE ROCK		80.8	82.3	0.46									
						82.3	83.8	1.40									
				Fine grained and slightly banded													
				Mineralisation - disseminated pyrrhotite to about 3%+													
				Rare veins of pyrite and pyrrhotite-arsenopyrite.													
				Rare chalcopyrite.													
				Structure - faint banding - Ca = 70° Opal filled shear at 81.4m - CA = 60°.													
83.5	86.9	1.3	38	WEATHERED CHLORITIC (?) ROCK		83.8	85.3	0.31									
						85.3	86.9	0.30									
				Pale yellowish-brown with thin stringers of magnetite.													
				Magnetite increases around 85.3m to ~ 30% of the rock.													
				Occasional veins of quartz (joint or shear filling)													
				Mineralisation - rare pyrite in quartz veins.													
				Structure - fault breccia at 84.1m. Wall of fault - 35° to CA. End of section on shear, quartz filled and 5° to CA.													
86.9	89.3	1.6	67	CHLORITIC (?) ROCK WITH BANDS OF QUARTZITE		86.9	88.4	NIL									
						89.3	89.9	0.04									
				Pale cream-yellow. Under hand lens, appears to be of radiating habit. (petrology 88.7m - T.S. 100990)													
				Clear chalcedony vein network throughout.													
				Mineralisation - traces of pyrite in chalcedony veins.													
				Structure - several small (15cm) sections of tough quartzite appear to have been faulted into section.													
				Shear 87.4m - 70° to CA. Slickenslides parallel to LA 87.5m. Fault breccia 3cm wide 20° to CA.													
				89.0m 70° to CA. Slickenslides parallel to LA; 89.1m 50° to CA. Slickenslides 10° to LA.													

DIAMOND DRILL RECORD

HOLE NUMBER : H1

LOGGED BY : D. Simpson

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
89.3	94.4	3.3	64	CHLORITIC ROCK		89.9	91.4	0.02									
						91.4	93.0	0.01									
				As previous unit with sections of serpentine and mag-		93.0	94.5	0.08									
				netite veins. Serpentine veins at 91.1 - 91.4m. Patch													
				of opal at 94.2m.													
94.4	97.8	1.4	42	MAGNETITE-KAOLIN ROCK		94.5	96.0	0.23									
						96.0	97.5	0.20									
				Fine grained, Magnetite ~ 40%.													
				Mineralisation - none visible.													
				Structure - shear at 97.2m, CA = 15°. Shear at 97.7m													
				in a patch of kaolin.													
97.8	99.3	0.6	42	OPAL		97.8	99.1	0.12									
				Bluish grey or pale green opal, slightly banded patch													
				of quartzite at 98.5m.													
				Mineralisation - trace of very fine pyrite disseminat-													
				ed locally.													
				End of Cominco's log as the rest of the core was													
				missing.													
						99.1	101.4	NIL									
						101.4	102.0	NIL									
						102.0	105.0	NIL									
				Last section taken from Placer's original log.		105.1	109.7	Tr.									
98.1	110.0	1.3	11.0	QUARTZITE				Sludges									
						0.0	3.0	0.05									
				Fine grained. Pale yellow-brown		3.0	4.0	0.02									
				Weathered appearance		4.0	5.5	0.01									
						5.5	6.7	0.02									
						6.7	7.6	0.05									
						7.6	9.1	0.03									
				END OF HOLE		9.1	12.2	0.03									
						12.2	15.5	0.07									
						15.5	17.3	0.06									
						17.3	17.9	0.06									
						17.9	18.5	0.04									
						18.5	19.1	0.09									

ASSAYED AT RENISON LABORATORY, 1983

GOLD FIELDS EXPLORATION PTY. LIMITED

76 014 053

DRILL CORE LOG AND ASSAY DATA

PROJECT: ST. DIZIER HOLE NUMBER: H1 Page: 1.

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION

ASSAY DATA (all wt% except Ag which is ppm)

Sample No.	From	To	Rec. %	Sn	S.Sn	S	As	Cu	Zn	WO_3	Fe	Ag	Bi
5001	14.6	16.6	85	0.15	0.03	2.0	<0.1	<0.01	0.02	0.01	12.3	1	.006
5002	16.6	17.6	90	0.20	0.04	0.3	0.1	<0.01	0.04	0.02	21.9	2	.009
5003	17.6	18.6	95	0.09	0.01	0.4	0.3	<0.01	0.03	0.02	23.6	2	.010
5004	18.6	19.6	80	1.59	0.13	0.9	0.4	<0.01	0.03	0.03	30.7	3	.011
5005	19.6	20.6	60	2.00	0.22	2.3	0.1	0.02	0.02	0.03	29.5	3	.012
5006	20.6	21.6	70	2.15	0.19	1.4	0.9	0.03	0.15	0.03	33.4	2	.016
5007	21.6	23.6	55	1.00	0.05	3.7	0.6	0.08	0.08	0.04	36.7	2	.014
5008	23.6	24.6	80	0.75	0.03	6.6	0.3	0.24	0.04	0.02	26.8	3	.016
5009	24.6	25.6	90	0.28	0.20	0.1	<0.1	0.01	0.09	0.03	12.7	1	.006
5010	25.6	26.6	100	0.31	0.27	0.3	<0.1	<0.01	0.08	0.04	14.9	1	.005
5011	26.6	27.6	90	0.47	0.26	<0.1	<0.1	<0.01	0.01	0.04	27.7	1	.006
5012	27.6	28.6	85	0.10	<0.01	<0.1	<0.1	<0.01	0.08	<0.01	11.8	<1	.002
5013	28.6	29.6	85	0.30	<0.01	1.7	<0.1	0.02	0.01	0.02	11.2	<1	.007
5014	29.6	30.6	80	0.04	<0.01	0.1	<0.1	<0.01	0.02	0.01	6.1	<1	.003
5015	30.6	31.6	100	0.20	<0.01	0.1	0.1	<0.01	0.01	0.01	22.2	1	.010
5016	31.6	32.6	60	0.59	0.10	1.2	0.2	0.01	<0.01	0.02	35.0	1	.011
5017	32.6	33.6	65	0.52	0.02	0.2	<0.1	0.02	0.01	0.02	21.6	1	.007
5018	33.6	34.6	80	1.83	0.06	1.3	0.6	0.01	<0.01	0.04	41.5	3	.011
5019	34.6	35.6	85	0.69	0.05	1.9	1.6	0.02	<0.01	0.03	28.6	2	.011
5020	35.6	36.6	95	1.80	0.05	8.3	0.6	0.13	<0.01	0.04	31.3	2	.012
5021	36.6	37.6	90	0.72	0.03	7.7	0.9	0.14	<0.01	0.03	36.6	1	.018
5022	37.6	38.6	75	2.83	0.05	3.5	<0.1	0.05	<0.01	0.04	37.3	1	.013
5023	38.6	39.6	80	0.54	0.03	8.3	2.2	0.10	0.01	0.03	33.1	2	.022
5024	39.6	40.6	100	1.07	0.03	5.6	0.3	0.09	0.01	0.04	34.8	1	.013
5025	40.6	41.6	90	1.78	0.04	6.2	0.2	0.07	<0.01	0.04	32.0	1	.013
5026	41.6	42.6	100	1.33	0.04	8.7	1.3	0.18	<0.01	0.03	36.0	2	.035
5027	42.6	43.6	70	1.38	0.03	3.1	<0.1	0.01	0.01	0.02	27.3	1	.008
5028	43.6	44.6	50	0.29	0.04	3.9	0.1	0.13	0.02	0.02	19.9	1	.011
5029	44.6	45.6	100	1.88	0.05	10.4	1.6	0.18	<0.01	0.03	35.9	1	.023
5030	45.6	46.6	90	1.76	0.06	8.6	<0.1	0.14	<0.01	0.03	29.0	<1	.014
5031	46.6	47.6	100	1.06	0.05	1.3	0.3	0.03	0.01	0.02	28.1	<1	.007
5032	47.6	48.6	100	0.27	0.04	3.9	0.3	0.04	0.01	0.02	16.9	<1	.009
5033	48.6	49.6	50	1.02	0.03	0.4	0.1	<0.01	0.01	0.02	26.4	<1	.005
5034	49.6	50.6	70	0.66	0.04	2.0	0.3	0.04	0.02	0.02	17.3	1	.007

ASSAYED AT RENISON LABORATORY, 1983

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE LOG AND ASSAY DATA

PROJECT: ST. DIZIER

HOLE NUMBER: 76 055 H1

054

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	Sample No.	From	To	Rec. %	Sn	S,Sn	S	As	Cu	Zn	WO3	Fe	Ag	Bi
									ASSAY DATA (all wt% except Ag which is ppm)									
					5035	50.6	51.6	90	0.62	0.02	4.0	0.3	0.04	<0.01	0.02	20.1	2	.021
					5036	51.6	52.6	90	0.91	0.01	3.6	<0.1	0.07	0.01	0.02	16.1	2	.011
					5037	52.6	53.6	65	0.07	0.04	0.3	0.1	<0.01	<0.01	0.02	10.6	2	.009
					5038	53.6	54.6	50	0.30	0.27	1.9	<0.1	0.04	0.01	0.04	12.9	2	.010
					5039	54.6	55.6	45	0.11	0.10	1.1	<0.1	0.01	<0.01	0.02	7.5	2	.009
					5040	55.6	56.6	40	0.29	0.02	2.9	<0.1	0.10	0.04	0.02	16.3	2	.013
					5041	56.6	57.6	100	0.22	0.07	1.6	<0.1	0.03	0.05	0.02	11.6	2	.010
					5042	57.6	58.6	70	0.13	0.04	2.3	0.2	0.06	0.01	0.01	12.8	2	.016
					5043	58.6	59.6	70	0.15	0.14	0.1	<0.1	<0.01	<0.01	0.01	11.2	2	.007
					5044	59.6	61.6	65	0.15	0.14	0.1	<0.1	<0.01	0.01	0.02	8.2	2	.007
					5045	61.6	62.6	85	0.47	0.06	2.5	0.2	0.05	0.01	0.03	13.0	2	.016
					5046	62.6	63.6	100	0.85	0.9	0.9	<0.1	0.03	0.01	0.02	17.3	2	.013
					5047	63.6	64.6	100	0.21	0.14	1.6	0.1	0.05	0.01	0.01	14.2	3	.039
					5048	64.6	65.6	90	0.63	0.6	2.3	<0.1	0.02	0.01	0.02	19.2	3	.023
					5049	65.6	66.6	80	0.19	0.03	0.4	<0.1	<0.01	0.01	0.02	11.9	3	.008
					5050	66.6	67.6	75	0.13	0.11	0.1	<0.1	<0.01	0.02	0.02	15.1	2	.007
					5051	67.6	68.6	50	0.12	0.11	0.8	<0.1	0.01	0.03	0.01	14.0	2	.008
					5052	68.6	69.6	90	0.12	0.10	0.1	<0.1	<0.01	0.02	0.02	15.0	2	.007
					5053	69.6	70.6	100	0.94	0.04	4.4	<0.1	0.04	0.01	0.02	18.9	2	.012
					5054	70.6	71.6	80	0.42	0.05	3.3	<0.1	0.04	<0.01	0.02	23.3	3	.013
					5055	71.6	72.6	80	0.05	0.01	2.5	<0.1	0.07	0.01	0.01	10.9	2	.007
					5056	72.6	73.6	85	0.24	0.02	1.1	<0.1	<0.01	0.01	0.01	17.8	2	.010
					5057	73.6	74.6	70	0.17	0.02	0.9	<0.1	<0.01	0.01	0.01	11.7	1	.007
					5058	74.6	75.6	90	0.67	0.04	2.3	<0.1	0.04	0.01	0.02	13.3	2	.007
					5059	75.6	76.6	90	0.53	0.03	5.0	0.6	0.08	0.01	0.02	21.9	3	.025
					5060	76.6	77.6	100	1.05	0.03	6.8	0.5	0.11	0.01	0.03	23.8	3	.022
					5061	77.6	78.6	100	0.45	0.04	2.2	<0.1	0.03	0.01	0.01	11.5	2	.011
					5062	78.6	79.6	100	0.22	0.03	0.6	<0.1	0.01	0.01	0.01	6.2	2	.013
					5063	79.6	80.6	40	0.33	0.02	2.1	<0.1	0.04	0.01	0.01	12.6	2	.011
					5064	80.6	81.6	31	0.43	0.03	3.2	<0.1	0.05	0.01	0.02	19.5	2	.010
					5065	81.6	82.6	30	1.12	0.03	4.8	<0.1	0.06	0.01	0.02	20.6	3	.012
					5066	82.6	83.6	30	0.73	0.02	2.7	<0.1	0.04	0.02	0.02	12.8	2	.008
					5067	83.6	85.6	16	0.34	0.03	3.6	<0.1	0.02	0.11	0.02	26.0	3	.021
					5068	85.6	87.6	50	0.19	0.01	0.8	<0.1	<0.01	0.01	0.01	14.1	2	.005

ASSAYED AT RENISON LABORATORY, 1983

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE LOG AND ASSAY DATA

PROJECT: ST. DIZIER

HOLE NUMBER: H1

76 056

Page: 3.

055

INTERVAL		RECOVERY		DESCRIPTION
From	To	m	%	

ASSAY DATA (all wt% except Ag which is ppm)													
Sample No.	From	To	Rec. %	Sn	S.Sn	S	As	Cu	Zn	WO_3	Fe	Ag	Bi
5069	87.6	88.6	53	<0.01	<0.01	<0.1	<0.1	<0.01	0.01	0.01	3.1	<1	.003
5070	88.6	89.6	53	0.01	0.01	<0.1	<0.1	<0.01	0.03	<0.01	7.1	1	.006
5071	89.6	90.6	26	<0.01	0.01	<0.1	<0.1	<0.01	0.02	<0.01	7.4	<1	.004
5072	90.6	91.6	20	<0.01	<0.01	<0.1	<0.1	<0.01	0.01	<0.01	4.2	<1	.004
5073	91.6	92.6	20	<0.01	<0.01	<0.1	<0.1	<0.01	0.01	<0.01	3.6	<1	.003
5074	92.6	93.6	22	0.02	0.02	<0.1	<0.1	0.01	<0.01	<0.01	10.7	1	.006
5075	93.6	94.6	30	0.11	0.11	<0.1	<0.1	<0.01	0.01	0.01	21.9	1	.008
5076	94.6	97.6	49	0.22	0.19	<0.1	<0.1	<0.01	0.01	<0.01	40.4	2	.012
5077	97.6	99.6	42	0.17	0.13	<0.1	<0.1	<0.01	0.01	<0.01	27.5	1	.008

AMDEL REPORT NO. MP 1618-66, JAN. 1966, by H.W. FANDER

Hole No: H 1

Each sample was examined in thin section and polished section. Some preliminary results were reported verbally to Mr. Watts on 7th January, 1966, by H.W. Fander because of the significant cassiterite. Descriptions of [redacted] mine samples, numbers 3517 to 3525 are given belo[redacted]

056

3517: T.S. 17059: PS9164 - 19.8m

In thin-section the rock consists of granular, crystalline carbonate, opaques, and occasional groups of cassiterite crystals. Individual crystals are up to 0.5 by 0.25mm in size. The rock is strongly magnetic.

In polished section, the opaques are seen to consist of large euhedral magnetite crystals (up to 1mm across), and a few aggregates of arsenopyrite euhedra. Fine flakes of graphite form networks in the carbonate, and pyrite, to marcasite, usually occurs as fern-like growths. Traces of probable chalcopyrite are also seen.

3518: T.S. 17060: PS9165 - 22.9m

This rock is a mineralised serpentinite. It consists of fine-grained members of the chlorite group (antigorite, serpentine etc.). The hand-specimen reacts strongly to a hand-magnet.

The main opaque mineral is coarse-grained, euhedral magnetite. Flakes of graphite are randomly distributes throughout the rock. Patches and veins of euhedral arsenopyrite crystals also occur. Occasional areas of pyrite altering to marcasite are seen.

3519: T.S. 17061: PS9166 - 30.1 - 31.6m.

This section of core consists of entirely of a dense aggregate of granular clinopyroxene crystals, (probably diopside) with limited alteration to chlorite and fibrous tremolite along small fractures.

The fractures also carry crystals of cassiterite (up to 0.25mm across) and opaques. The opaques consist of irregular small patches of pyrrhotite.

3520: T.S. 17062: PS9167 - 46.6m

This is a heavily-mineralised section, the original nature of the host-rock is difficult to ascertain. However, the presence of chloritic, serpentinous minerals indicates an original serpentinite. Opaques are very abundant, and clusters and lines of very small, granular cassiterite crystals are conspicuous in places.

The polished section shows that pyrrhotite is the main opaque mineral occurring as large, irregular masses. Euhedral crystals of arsenopyrite are embedded in the pyrrhotite and there are also small granular cassiterite crystals, generally less than 0.02mm in size, in many of the pyrrhotite masses. Poorly-defined patches of chalcopyrite also occur within the pyrrhotite.

3521: T.S. 17063: PS9168 - 47.2m

The rock consists of serpentinous minerals, opaques, and cassiterite.
The cassiterite occurs as subhedral crystals up to 0.15 by 0.18mm in size, and more commonly as clusters of small granular crystals which individually are usually less than 0.03mm (30 microns) across.

The opaque minerals consist of columnar or bladed pyrrhotite with small cassiterite inclusions and remnant magnetite. The pyrrhotite shows partial alteration to pyrite along cleavages.

3522: T.S. 17064: PS9169 - 46.6/48.1m

This rock may be altered serpentinite, and consists of contorted lenses and streaks of chlorites and talc, with masses of opaques. Occasional, irregular patches of cassiterite occur, as poorly-crystallized, cloudy aggregates up to 1.5mm across but usually much smaller.

The opaque minerals consist of magnetite, being replaced by cassiterite, and pyrrhotite with small amounts of chalcopyrite as irregular inclusions. The pyrrhotite also shows a replacive relationship towards magnetite, latter may have been primary.

3523: T.S. 17065: PS9170 ?depth

This is a heavily-mineralised section, consisting mainly of opaques, with abundant coarse-grained cassiterite, and some quartz, carbonate and chlorite.

The cassiterite occurs as individual crystals and aggregates. The crystals are up to 0.25mm across, though commonly 0.1-0.15mm across. Lenticular aggregates are up to 1cm long.

The main opaque mineral is pyrrhotite, which occurs as large irregular masses containing well-formed euhedra of pyrite and arsenopyrite with associated chalcopyrite. It appears that these minerals post-date and replace the pyrrhotite. Occasional small patches of tetrahedrite, galena and sphalerite are also encountered. Cassiterite crystals also occur with the pyrrhotite, generally 0.15mm or less in size, either singly or in clusters.

057

3524: T.S. 17066: PS9170 52.4m

This rock, more than all the others, shows the original structure of the serpentinised ultrabasic rock. It consists of small reticulate or polygonal interlocking areas of antigorite, reflecting the subhedral, semi-granular nature of the original rock. Small relict grains of pyroxene are visible. Poikiloblastic patches of opaque minerals are scattered through the rock.

Primary magnetite is abundant; it is partly replaced by pyrite. Small arsenopyrite crystals are also present in the pyrite.

3525: T.S. 17067: PS9172 - 24.0m

This is a layered rock, consisting of sub-parallel streaks of fine-grained sericite and chlorite, with radiating groups of tremolite crystals and porphyroblasts of muscovite. Layers or lenses of opaques are also present. Small, indistinct clusters of cassiterite crystals occur sporadically.

The lenses of opaque material consist of pyrrhotite with inclusions of euhedral arsenopyrite crystals, rare patches of sphalerite, and small grains of magnetite.

SUMMARY

Seven out of the nine cores contain cassiterite. In most samples the cassiterite is quite fine-grained and benefication may be problematical. Sample 3523 contains a very significant amount of cassiterite, most of which is relatively coarse-grained.

76 058

SCALE :

RENISON LIMITED

DIAMOND DRILL HOLE PLOT

PONTIFEX & ASSOCIATES, REPORT NO. 1526

14th JUNE, 1974

HOLE No. : D.D.H. #1

058

T.S. 100989: serpentinite, ?after metamorphic olivine.

62.2m. This rock consists of a fine irregular, patchy meshwork of serpentine (antigorite), average size is about 0.2mm but larger more or less continuous patches to 5mm appear to represent large former crystals.

The texture is similar to 100990 below and by comparison with other rocks in the suite (e.g. 94013) the serpentine is interpreted to replace an aggregate of former metamorphic olivine.

Fine amoeboidal shaped, and minor subhedral grains of magnetite to 1mm across have a random distribution and form some 5% of the rock. Finer magnetite dust vaguely outlines the meshwork texture.

The rock is a serpentinite after metamorphic olivine.

There is insufficient evidence to positively identify the origin of the olivine.

T.S. 100990: serpentinite, ?after metamorphic olivine, veins of chalcedony $\pm$ carbonate and pyrite.

88.7m. This rock consists of a fine, irregularly rectangular mesh of serpentine, essentially antigorite but partly altered to near isotropic, cloudy serpophite. There are no diagnostic relict textures, but comparisons with other rocks in the suite (e.g. 94013), indicate that it replaces metamorphic olivine ($\pm$ clinopyroxene).

Several veins of chalcopyrite silica $\pm$ accessory carbonate and fine pyrite crystals cut the rock. A vein of pyrite plus minor quartz, and of chlorite is also present.

Accessory skeletal grains of iron oxides occur in the serpentine mass.

DIAMOND DRILL RECORD

HOLE NUMBER :

LOGGED BY :

059

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				C.M.S. REPORT NO. 74/3/28													
				H.J. 25/3/74													
				T.S. No. 100984 38.4m													
				METASOMATISED SERPENTINITE													
				Fine matted flakes of antigorite random to grid orientation.													
				Abundant magnetite. Banded. Very rare small (<100μ) cloudy grains													
				of cassiterite in antigorite.													
				Opaques : banded distribution of zoned magnetite crystals.													
				Comments: Magnetite clearly post-serpentinisation. Concentric													
				shells magnetite antigorite euhedral.													
				Additional comments: Poorly mineralised (i.e. cassiterite) but													
				metasomatised by magnetite. There may be a useful correlation													
				between occurrence of abundant magnetite and potential mineralisation.													
				This is essentially iron metasomatism (similar to Savage River)													
				with cassiterite, as well as incidental apatite, pyrrhotite, carbon-													
				ate. The serpentinites do not seem to contain much magnetite i.e.													
				they were highly magnesian.													
				T.S. No. 100985 40.2m													
				BANDED METASOMATISED SERPENTINITE.													
				Coarse talc in some layers, pale fine phlogopite in others. Good													
				network textures (antigorite).													
				No cassiterite detected.													
				Opaques:- Replasive magnetite bands. Minor fine pyrrhotite.													
				Comments: Mineralogical banding probably reflects original variation													
				Possibly a finer rock (? near contact).													
				Additional Comments. More complex metasomatism involves replacement													
				of antigorite layers selectivity by talc, phlogopite magnetite.													
				Also traces of an isotropic phosphate (related to apatite).													

DIAMOND DRILL RECORD

HOLE NUMBER : 060

LOGGED BY :

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				T.S. NO. 100988 59.1m													
				BANDED METASOMATISED SERPENTINITE													
				Fine radiating aggregates of antigorite. Abundant magnetite traces carbonate. No cassiterite detected.													
				Opaques:- Fairly fine granular magnetite and pyrrhotite; banded distribution.													
				Comments:- Banding is probably a relict primary feature influencing distribution of metasomatic minerals.													
				Additional Comments: The rock before metasomatism was a fairly fine grained most probably banded serpentinite.													

061

PETROLOGY OF CRUSHED REJECT SAMPLES (Central Mineralogical Services, MB3)

REPORT Cms 83/11/30

CENTRAL MINERALOGICAL SERVICES

Sample No.	Cassiterite Grainsizes, Association	Rock Type	Minor Minerals	Comments
H 1 5005 (19.6-20.6m)	Mostly small (< 100 μ) cloudy/semi-opaque white aggregates of fine (< 20 μ) grains and needles. A few single crystals up to 300 μ, but irregular. Mainly in antigorite.	Serpentinite - antigorite, carbonate, magnetite.	Sulphides - arsenopyrite, pyrite.	Most, if not all cassiterite appears "secondary" and this very probably accounts for the higher soluble Sn figure.
5018 (33.6-34.6m)	Cloudy crystals 10-100 μ, often as loose clusters up to 800 μ; more compact cloudy masses up to 300 μ. Mostly associated with antigorite, but also in carbonate, magnetite.	Serpentinite - fine structureless antigorite, anhedral magnetite, carbonate.	Scattered pyrite, arsenopyrite.	Many of the more compact masses would probably behave as single crystals. Believed to be of secondary origin (released from silicates).
5065 (81.6-82.6m)	Small dark brown grains, 10-30 μ, generally in clusters. Also scattered euhedral crystals 50-100 μ, often with embedded small magnetite grains. In silicates.	Chlorite-talc-tremolite rock with magnetite, pyrite.	Antigorite, carbonate pyrrhotite.	Cassiterite appears "primary" and differs from white variety. Rock type is more typically metasomatic.

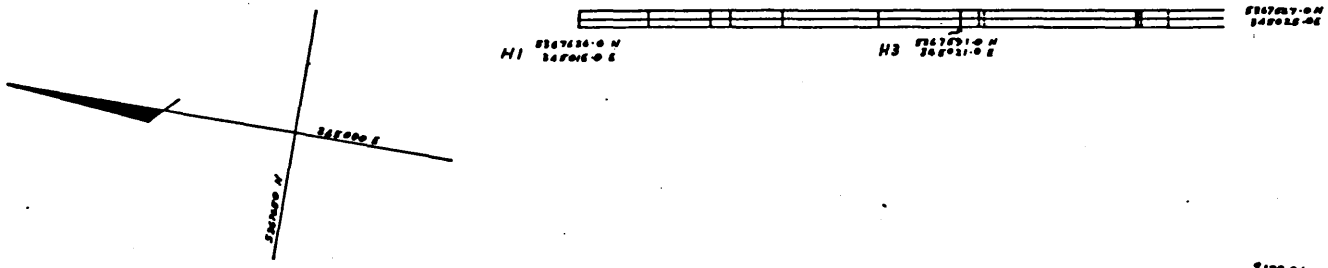
HOLE NUMBER	H3
PURPOSE	
LOCATION	St Dizier
COLLAR R.L.	2170.0m
CO-ORDINATES	19944N 20222E Cominco Grid 5367567N 345025E AMG
LENGTH	94.2m
HOLE SIZE	
DATE DRILLED	11/2/66 - 1/4/66
SIGNIFICANT CORE LOSS ZONES	
ORE ZONE GROUND CONDITIONS	
LOGGED BY	D. Simpson (Cominco) April 1974.
COMMENTS	Hole restarted twice, i.e. 0 - 10.4m, 8.5 - 24.6m, 19.5 - 94.2m.

SURVEY			From - To	Distance D	VERTICAL		HORIZONTAL	
Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
Collar	350°AMG	-75°	- 94.2	94.2	91.0	~~2079.0~~ ~2079.0	24.4	24.4

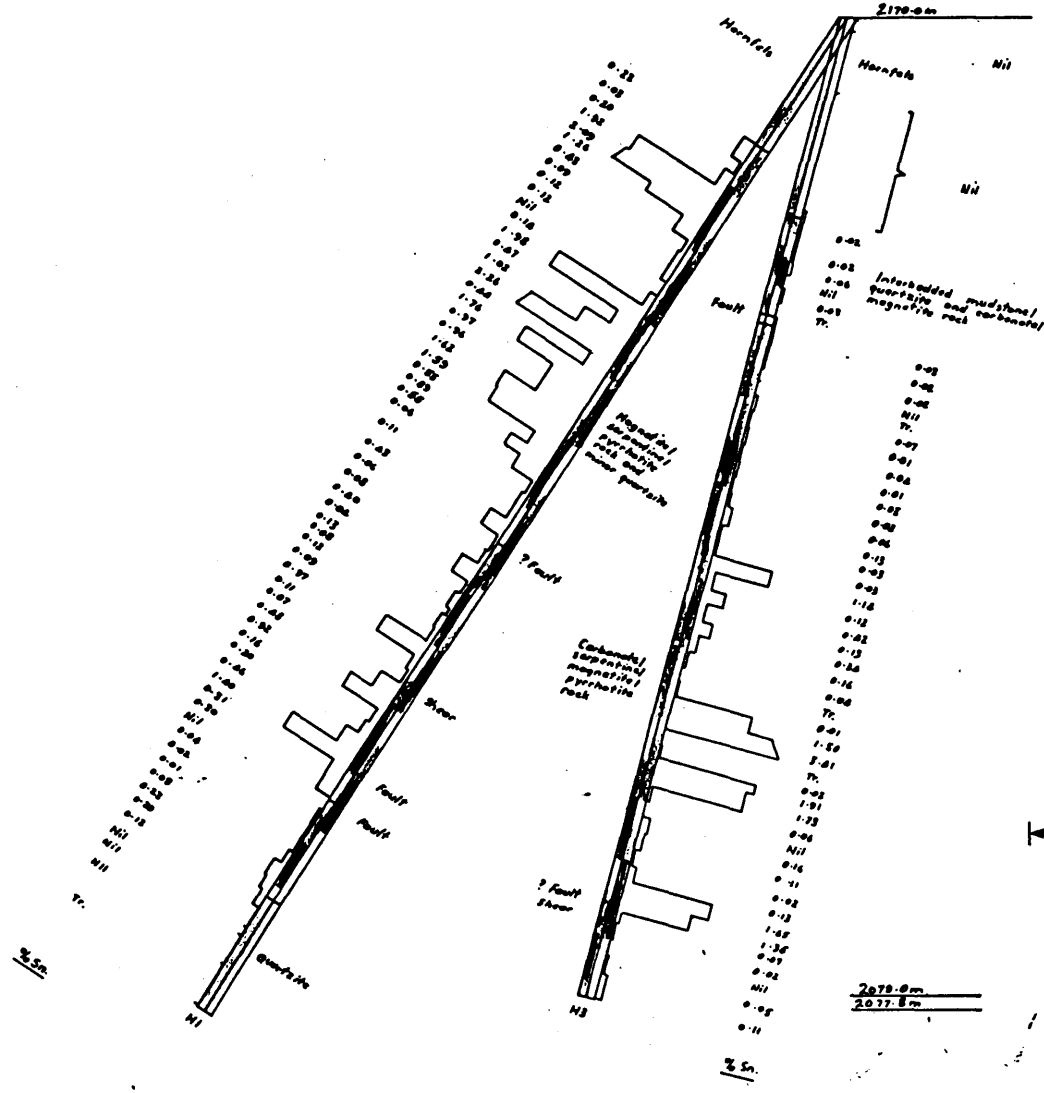
SUMMARY - ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS												B.C.A.
				Sn.	Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t	Fe		
	53.3	88.7	35.4	0.65												
Renison assays: (1983)	67.5	94.2	26.7	0.64												
	58.5	94.2	35.7	0.55	0.03	<0.01	0.3	0.6		0.04	0.015	0.02	1	30.2		

PLANS



DIP PROFILES



5 cm

DIAMOND DRILL RECORD

HOLE NUMBER : H3

LOGGED BY : D. Simpson

Note: Assay from Placer data.

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0	19.5	3.7	19	NO CORE - REPORTED BY PLACER AS BEING HORNFELS		0.0	1.2	NIL									
						7.0	7.9	NIL									
						7.9	9.7	NIL									
						8.5	10.2	NIL									
						10.2	13.6	NIL									
						13.6	17.9	NIL			Hole	restarted					
						17.9	18.6	NIL									
										From	To	%Sn					
19.5	22.3	1.7	61	KAOLIN-CARBONATE-MAGNETITE-ACTINOLITE ROCK		18.6	21.7	0.02		19.5	20.5	NIL					
										20.5	21.6	NIL					
				Carbonate forms crystals up to 1cm across, and has possible ophitic relation to magnetite. Actinolite is pale green and in short radiating crystals. Carbonate possibly dolomite (when finely ground reacts to acid). Magnetite 10 - 15% reducing to under 5% for lower part. Mineralisation - none observed Structure - banding - CA 10 - 15°. Possible carbonate filled shear at 21.6m.													
22.3	24.6	1.8	79	BLACK MUDSTONE, MAGNETITE ROCK AND KAOLIN MAGNETITE ROCK		21.7	23.4	0.02		21.6	24.6	Tr					
						23.4	24.6	0.06									
				Variable section. Ends in black resinous material (check !). Magnetite ~10%. Traces of actinolite locally. Mineralisation - none observed. Structure - doubtful banding 20° to CA.													
24.6	26.7	1.7	79	QUARTZITE		24.6	26.2	NIL									
				Tough pale pink to pale green quartzite No banding Mineralisation - none visible Structure - shear, CA 70°. Slickensides 60° to LA													

DIAMOND DRILL RECORD

HOLE NUMBER : H3

LOGGED BY : D. Simpson

Note: Assays from Placer data.

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
26.7	27.0	0.8	79	?FINE GRAINED SERPENTINE		26.2	27.7	0.03									
				Soft black rock with resinous centre - possibly fine grained serpentine. Traces of magnetite.													
				Mineralisation - none observed													
				Structure - contact with quartzite above - CA = 10°.													
27.0	28.0	0.8	75	MAGNETITE - KAOLIN ROCK													
				Friable.													
				Magnetite 60%													
				No mineralisation or distinct structure observed.													
28.0	29.1	0.8	70	MAGNETITE - KAOLIN ROCK		27.7	28.9	Tr									
				As above but less friable.													
29.1	29.9	0.6	76	SHEARED & BRECCIATED ROCK		28.9	30.7	0.03									
				Breccia fragments principally chloritic or serpentinitic material. Matrix quartzose													
				Mineralisation - none observed													
				Structure - shearing at CA of 60° at several points.													
				Slicken sides parallel to LA.													
29.9	31.2	1.1	88	CHLORITE (?) MAGNETITE ROCK		30.7	32.2	0.02									
				Fine grained with traces of carbonate (dolomite).													
				Mineralisation - traces of disseminated pyrite locally.													
				Structure - several small shears at low angle to CA.													
31.2	34.9	3.7	99	DOLOMITE-MAGNETITE ROCK		32.2	33.8	0.02									
						33.8	35.0	NIL									
				Medium grained. Magnetite 15%. 15cm patch of mudstone at 33.2m, faulted against lower serpentine patch which contain a trace of pyrrhotite.													
				Pyrrhotite vein at 34.6m.													
				Structure - shear at 32.9m ~ CA = 15°													
				Slickensides 30° to LA.													

Note : Assays from Placer data.

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
34.9	36.9	2.0	100	QUARTZITE		35.0	36.3	NIL									
				Pale green quartzite with patches of carbonate. This rock also contains five clear crystals, indeterminate under hand lens - ~1mm or less (for T.S.)													
				Mineralisation - trace of pyrrhotite disseminated locally.													
				Structure - shears at 34.9m (1) 45° to CA. Slickensides 70° to LA. (2) 20° to CA.													
34.9	48.2	11.3	100	CARBONATE-MAGNETITE ROCK		36.3	37.9	Tr									
						37.9	39.5	0.07									
				Medium grained with traces of pyrrhotite . Patches		39.5	41.1	0.01									
				of serpentinous material at 38.1m, 40.5m and 42.1m.		41.1	42.7	0.04									
				Mineralisation - traces of pyrrhotite disseminated		42.7	44.2	0.01									
				locally.		44.2	45.7	0.03									
				Structure - shear at 38.4 - CA 10° slicks 90° to LA.		45.7	47.2	0.02									
				Shear at 39.1m CA 35° slicks parallel to LA. Banding		47.2	48.8	0.06									
				at 41.1m - CA 30°.													
				Shear at 41.6 - 41.9m. CA = 5°. Slicks 60° to LA'													
				Magnetite content varies 1 - 10%.													
				Pyrrhotite disseminated throughout in lower part of													
				section (~42.7m on).													
48.2	54.1	4.4	75	KAOLIN-MAGNETITE ROCK AND SERPENTINE		48.8	50.0	0.13									
						50.0	51.8	0.03									
				Kaolin - magnetite rock alternating with bands of		51.8	53.3	0.03									
				serpentine which are granular (up to 2mm) in places		53.3	54.9	1.14	"								
				but generally aphanitic. Magnetite content variable,													
				locally developed up to 30%.													
				Traces of vivianite developed on minor shears.													
				Mineralisation -- minor disseminated pyrrhotite 48.8 -													
				50.3 (i.e. 1%). Traces of pyrrhotite developed in													
				serpentine.													
				Structure - no banding observable. Minor shears													
				developed in serpentine.													
54.1	54.6	0.3	59	SERPENTINE-MAGNETITE ROCK													
				Medium grained with coarse grained pyroxenes (?)													
				(dark brown). Magnetite 30%.													
				Mineralisation - trace of disseminated pyrite.													
				Structure - this section possibly slump brecciated.													

066

DIAMOND DRILL RECORD

HOLE NUMBER : H3

LOGGED BY : D. Simpson

Note : Assa[illegible] from Placer data.

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				Difficult to determine because of recrystallisation.													063
54.6	64.6	9.7	97	SERPENTINE-MAGNETITE-PYRRHOTITE ROCK		54.9	56.4	0.12									
						56.4	57.9	0.42									
				Pale green T.S. to confirm serpentine - (94009 at 62.2)		57.9	59.4	0.13									
				Patches of fine grained magnetite rock locally. Patch		59.4	61.0	0.34									
				of mudstone at 55.2m containing quartzite fragment.		61.0	62.5	0.16									
				Mineralisation - up to 5% pyrrhotite developed locally		62.5	64.0	0.04									
				Structure - occasional joint - CA 15°													
				Shear - CA 70° at 57.6m.													
64.6	65.5	0.8	95	SERPENTINE-MAGNETITE-PYRRHOTITE ROCK		64.0	65.5	Tr									
				As above but pyrrhotite up to 15%.													
65.5	73.5	7.7	96	SERPENTINE-MAGNETITE ROCK		65.5	67.0	0.01									
						67.0	68.6	1.5									
				Fine to medium grained (ie < 2mm) with variable		68.6	70.1	3.47									
				pyrrhotite. Magnetite averages 40%. Carbonate vein		70.1	71.6	Tr									
				73.2 - 73.5m - 5° CA.		71·6	72·5	0·02									
				Serpentine usually massive and variable - colour		72·5	74·1	1·91									
				possibly due to presence of other chloritic minerals.													
				Mineralisation - pyrrhotite disseminated to about 5%													
				(average) locally up to 10%. Locally it follows miner-													
				alogical banding (e.g. drag).													
				Structure - mineralogical banding 10° CA at 69.2m.													
				Shear at 70.1m healed by serpentine-carbonate. Minor													
				shear at 72.2m 40° CA.													
73.5	75.3	1.6	87	MAGNETITE -KAOLIN ROCK		74.1	75.6	1.73									
				Containing patches of sericite and traces of serpentine.													3
				Magnetite coarse grained (twinning seen occasionally)													3
				amounting to 50 - 80% of the rock.													
				Mineralisation - trace of pyrrhotite only (cf Placer													3
				assay 74.1 - 75.6 - 1.73% Sn) check assay from here.													3
				Structure - banding (mineralised) 15° CA.													8

DIAMOND DRILL RECORD

HOLE NUMBER . MJ

LOGGED BY : D. Simpson

068

Note : Assays from Placer data.

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
75.3	80.5	5.1	98	DOLOMITE ROCK		75.6	77.1	0.06	.5								
						77.1	78.6	NIL	.5								
				Medium grained (1 - 2mm) grey, saccharoidal dolomite		78.6	80.2	0.16	.6								
				rock (possibly dolomitic - effervesces only when													
				crushed), containing minor magnetite 5 - 10% and traces													
				of pyrrhotite.													
				Mineralisation - minor pyrrhotite < 1% disseminated.													
				Structure - no mineralogical observation.													
				Very badly broken and friable from 76.8 - 77.0m.													
80.5	81.9	0.9	63	VERY WEATHERED & FRIABLE ROCK		80.2	81.7	0.11	.5								
				Probably chloritised olivene rock.													
				Contains about 80% magnetite.													
				Mineralisation - none observed													
				Structure - none observed.													
81.9	82.4	0.4	79	SHEARED SERPENTINITE													
				Several sub parallel shear planes CA about 15°,													
				slickenslides parallel to LA.													
				21cm wide magnetite rich patch at 82.1m													
82.4	85.5	1.1	35	MAGNETITE CHLORITE KAOLIN ROCK		81.7	83.2	0.2	.5								
						83.2	84.7	0.13	.5								
				Fine grained, becoming banded at 84.7m.													
				Mineralisation - minor disseminated pyrrhotite < 0.5%.													
				Structure - banding (mineralogical) developed at 83.2													
				- 85.3m. CA 20°.													
85.5	85.6	0.07	67	?FAULT ZONE													
				Badly crumpled magnetite rock. Possibly fault zone.													
				Low recovery.													
85.6	86.3	0.7	100	MAGNETITE ROCK		84.7	86.2	1.65	.5								
				Fine grained. Kaolin developed locally													
				Mineralisation - trace of disseminated pyrrhotite.													
				Structure - shear at 85.6m - CA 85°. Slicks parallel													
				to LA.													

DIAMOND DRILL RECORD

HOLE NUMBER . H3

LOGGED BY : D. Simpson

069

Note : Ass[illegible] from Placer data.

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
86.3	87.0	0.6	90	SERPENTINITE		86.2	87.2	1.36									
				Greenish-brown. Generally massive and sheared. Patch of magnetite developed at 86.6m bounded by shears. Mineralisation - none observed Structure - shears developed in several places at 45° CA. Slickenslides at various angles to LA.													
87.0				STRONG SHEAR IN SERPENTINITE. CA 70°													
97.0	89.6	1.4	54	SERPENTINE-MAGNETITE ROCK		87.2	88.7	0.7									
						88.7	90.2	0.02									
				Grades into magnetite kaolin rock at 87.5m. Mineralisation - none observed. Structure - mineralogical banding 10° CA													
89.6	91.7	1.2	55	DOLOMITE-MAGNETITE ROCK		90.2	91.7	NIL									
				Medium grained and banded (contact gradational to above) Carbonate vein at 90.7m. This unit becomes kaolinitic towards end of section and grades into following section. Friable towards end of section Mineralisation - none observed. Magnetite 20 - 30% Structure - faint banding 5 - 10° CA													
91.7	94.2	1.0	40	KAOLIN-MAGNETITE ROCK		91.7	93.2	0.05									
						93.2	94.2	0.11									
				Friable. Magnetite averages 10% Serpentinous bands at 92.4 - 92.7m. Section ends in solid magnetite for 5cm Mineralisation - none observed Structure - mineralogical banding at 92.4m - 92.7m 5° CA.													
						Sludge sample											
						0.0	0.6	0.03									0.1
						0.9	1.8	0.02									0.0
						6.1	7.9	0.03									
				End of hole.													0.0
																	0.1
																	0.0

ASSAYED AT RENISON LABORATORY, 1983

GOLD FIELDS EXPLORATION PTY. LIMITED

76 071

070

PROJECT: ST. DIZIER

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H3

INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	Sample No.	From	To	Rec. %	Sn	SSn	S	As	Cu	Zn	WO_3	Fe	Ag	Bi
								ASSAY DATA (all wt% except Ag which is ppm)									
				5176	19.5	20.5	90	0.03	.04	0.7	<0.1	0.02	0.88	<0.01	23.9	1	.010
				5177	20.5	21.5	100	0.03	.03	<0.1	<0.1	<0.01	0.14	<0.01	17.1	<1	.013
				5178	21.5	22.5	65	0.02	.02	1.4	<0.1	<0.01	1.30	<0.01	11.5	2	.010
				5179	22.5	23.5	95	0.09	.02	1.0	<0.1	0.01	0.46	<0.01	13.9	1	.007
				5180	23.5	24.5	40	0.26	.03	0.1	<0.1	0.01	0.04	0.02	15.3	1	.008
				5181	24.5	25.5	75	0.07	<.01	<0.1	<0.1	<0.01	0.01	<0.01	2.8	<1	.004
				5182	25.5	26.5	70	0.04	<.01	<0.1	<0.1	0.01	0.01	<0.01	0.7	<1	.002
				5183	26.5	27.5	70	0.09	.06	0.1	<0.1	<0.01	0.03	0.03	14.5	<1	.012
				5184	27.5	28.5	100	0.07	.05	0.1	0.6	<0.01	0.01	0.03	29.6	2	.017
				5185	28.5	29.5	95	0.03	.03	0.8	<0.1	0.01	0.33	0.01	11.9	2	.010
				5186	29.5	30.5	100	0.03	.02	0.5	<0.1	0.01	0.01	0.01	12.3	1	.008
				5187	30.5	31.5	85	0.04	<.01	1.7	0.2	0.01	0.08	<0.01	13.2	2	.012
				5188	31.5	32.5	70	0.02	.02	0.3	0.1	0.01	0.04	<0.01	10.2	2	.010
				5189	32.5	33.5	80	0.02	.01	2.0	0.8	0.04	0.09	0.01	18.3	3	.014
				5190	33.5	34.5	100	0.03	<.01	0.5	0.2	0.02	0.05	<0.01	14.7	2	.014
				5191	34.5	35.5	100	0.02	<.01	0.1	<0.1	0.01	0.10	<0.01	2.0	1	.002
				5192	35.5	36.5	80	0.01	<.01	2.4	<0.1	0.08	0.11	0.01	5.2	1	.004
				5193	36.5	37.5	70	0.03	.01	3.0	0.2	0.07	0.03	0.02	14.4	1	.005
				5194	37.5	38.5	100	0.03	.02	1.7	0.3	0.03	0.09	0.02	18.4	2	.014
				5195	38.5	39.5	95	0.02	.01	2.1	0.1	0.04	0.16	<0.01	16.3	2	.014
				5196	39.5	40.5	55	0.02	.01	1.7	<0.1	0.01	0.12	<0.01	20.5	1	.012
				5197	40.5	42.5	40	0.03	<.01	0.6	<0.1	0.02	0.07	0.01	15.5	1	.009
				5198	42.5	43.5	48	0.04	<.01	0.7	0.2	<0.01	0.11	0.01	17.2	2	.010
				5199	43.5	44.5	25	0.08	.02	1.1	0.2	<0.01	0.13	0.01	22.1	1	.012
				5200	44.5	45.5	50	0.02	<.01	0.9	0.5	<0.01	0.11	0.01	21.1	2	.012
				5201	45.5	46.5	50	0.07	.01	0.7	1.3	<0.01	0.05	<0.01	21.0	1	.010
				5202	46.5	47.5	25	0.04	.02	0.4	<0.1	<0.01	0.05	<0.01	22.3	1	.012
				5203	47.5	48.5	25	0.09	.02	0.2	0.1	<0.01	0.14	<0.01	10.5	2	.015
				5204	48.5	49.5	15	0.09	.02	0.1	<0.1	<0.01	0.09	0.01	16.5	1	.009
				5205	49.5	50.1	30	0.21	.03	<0.1	<0.1	<0.01	0.01	0.03	22.1	1	.008
				5206	57.5	58.5	25	0.05	.02	0.2	<0.1	<0.01	0.09	0.01	20.8	1	.011
				5207	58.5	59.5	75	0.83	.03	1.7	<0.1	<0.01	<0.01	0.02	40.2	1	.016
				5208	59.5	60.5	75	0.18	.02	0.5	1.2	<0.01	<0.01	<0.01	34.0	<1	.016
				5209	60.5	61.5	42	0.54	.01	0.3	1.3	<0.01	<0.01	0.02	36.2	<1	.020
				5210	61.5	62.5	30	0.19	.02	0.3	0.3	<0.01	0.01	0.02	43.2	1	.017

ASSAYED AT RENISON LABORATORY, 1983

GOLD FIELDS EXPLORATION PTY. LIMITED

LV. PR.

PROJECT: ST. DIZIER

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: 26 072 H3

INTERVAL		RECOVERY		DESCRIPTION	ASSAY DATA (all wt% except Ag which is ppm)													
	To	m	%		Sample No.	From	To	Rec. %	Sn	SSn	S	As	Cu	Zn	WO_3	Fe	Ag	Bi
					5211	62.5	63.5	48	0.11	.03	<0.1	0.1	<0.01	<0.01	0.01	42.6	1	.019
					5212	63.5	64.5	75	0.05	.02	0.1	0.5	<0.01	0.01	0.02	30.7	2	.012
					5213	64.5	65.5	50	0.04	.02	<0.1	0.6	<0.01	<0.01	0.02	41.1	1	.020
					5214	65.5	66.5	45	0.05	.03	0.1	<0.1	<0.01	<0.01	0.02	40.7	2	.017
					5215	66.5	67.5	50	0.37	.02	2.2	<0.1	<0.01	<0.01	0.03	38.9	1	.018
					5216	67.5	68.5	45	2.44	.02	0.9	<0.1	<0.01	<0.01	0.04	32.5	1	.016
					5217	68.5	69.5		3.97	.02	0.1	0.8	<0.01	<0.01	0.05	27.7	2	.016
					5218	69.5	70.5		1.02	.03	0.2	1.5	0.01	0.01	0.02	31.5	1	.013
					5219	70.5	71.5		0.06	.04	0.1	0.1	<0.01	0.01	0.02	33.3	1	.012
					5220	71.5	72.5		0.05	.02	<0.1	<0.1	<0.01	0.01	0.02	22.7	1	.009
					5221	72.5	73.5		0.19	.04	<0.1	<0.1	<0.01	<0.01	0.04	40.2	2	.011
					5222	73.5	74.5		2.44	.04	<0.1	<0.1	<0.01	<0.01	0.04	43.2	2	.014
					5223	74.5	75.5		1.60	.04	0.1	<0.1	0.02	0.05	0.03	42.6	2	.017
					5224	75.5	76.5		0.10	.02	0.4	0.4	<0.01	0.02	0.01	24.6	2	.018
					5225	76.5	77.5		0.14	.02	7.5	0.7	0.03	0.03	0.03	25.7	2	.015
					5226	77.5	78.5		0.04	.02	1.5	<0.1	0.02	0.24	<0.01	18.8	1	.013
					5227	78.5	79.5		0.07	.01	0.9	<0.1	<0.01	0.31	<0.01	18.5	1	.014
					5228	79.5	80.5		0.35	.02	0.8	<0.1	<0.01	0.08	0.03	23.4	2	.013
					5229	80.5	81.5		0.17	.03	0.3	0.3	<0.01	0.03	0.03	31.0	2	.015
					5230	81.5	82.5		0.44	.04	1.8	0.9	<0.01	<0.01	0.04	28.7	2	.009
					5231	82.5	83.5		0.28	.04	<0.1	<0.1	<0.01	0.01	0.03	23.6	2	.009
					5232	83.5	84.5		0.22	.05	<0.1	0.4	<0.01	<0.01	0.05	28.7	2	.010
					5233	84.5	85.5		0.24	.03	0.3	0.4	<0.01	0.01	0.04	28.5	2	.011
					5234	85.5	86.5		1.27	.04	0.4	<0.1	<0.01	0.08	0.03	40.6	2	.011
					5235	86.5	87.5		1.31	.03	0.5	0.2	<0.01	0.07	0.05	24.2	1	.007
					5236	87.5	88.5		0.21	.04	0.5	0.8	0.04	0.03	0.04	27.0	2	.010
					5237	88.5	89.5		0.05	.01	0.3	<0.1	<0.01	0.24	0.02	21.1	2	.010
					5238	89.5	90.5		0.15	.01	<0.1	<0.1	<0.01	0.08	0.01	19.0	2	.009
					5239	90.5	91.5		0.08	<.01	0.1	<0.1	<0.01	0.07	0.01	9.0	2	.010
					5240	91.5	92.5		0.06	.01	<0.1	<0.1	<0.01	0.03	0.02	24.2	1	.011
					5241	92.5	93.5		0.11	.04	<0.1	<0.1	<0.01	0.01	0.02	23.7	1	.007
					5242	93.5	94.2		0.20	.05	<0.1	<0.1	<0.01	0.01	<0.01	26.0	2	.005

RENISON LIMITED

SCALE :

DIAMOND DRILL HOLE PLOT

HOLE No. : H3

PONTIFEX REPORT NO 1526 – 14/6/74

072

94009 : massive fine grained serpentinite with abundant magnetite crystals ? in graded layers, accessory arsenopyrite, pyrite pyrrhotite.

62.2m This rock consists of a homogeneous mass of ultra fine, fibrous antigorite, with minor intimately intergrown fibrous chlorite. The serpentine shows no diagnostic primary textures, but it is almost certainly derived from former (?metamorphic) olivine.

It contains subhedral (octahedral) crystals of magnetite average size about 1mm. The graded distribution of these is the result of crystal settling (cumulate texture) in which they form a concentrated aggregate at the base of a layer decreasing in abundance and becoming more sparsely dispersed until they no longer occur in the serpentine host. This gradation takes place over some 3.5cm.

The magnetite examined in polished section is seen to consist of essentially homogeneous, subhedral crystals of "normal"magnetite, i.e. without any suggestion of chrome-rich core (typical of magnetite in ultra mafics), or of titaniferous intergrowths (common in magnetite in basic igenous rocks). Minor veinlets of chalcopyrite occur in some crystals.

Several small crystals of arsenopyrite were also seen in polished section in the vicinity of sparse magnetite aggregate. These carry inclusions of pyrite ± marcasite and trace pyrrhotite.

Accessory chlorite and trace carbonate occurs with serpentinite in intergranular spaces of magnetite aggregate. Several euhedral grains of marcasite occur in upper, disseminated areas of the magnetite layers.

76 073

PETROLOGY OF CRUSHED REJECT SAMPLES (Central Mineralogical Services, 1983)

	Cassiterite	Rock type	Minor minerals	REPORT CMS 83/11/30 Comments.
H 3 5216 (67.5-68.5m)	Cloudy amber crystals, generally very well-defined, but often with small (10-100 μ) magnetite inclusions. Crystals 10-500 μ, commonly 100-300 μ. Also clusters of fine grains.	Serpentinite - matted antigorite flakes, fine magnetite.	Pyritised pyrrhotite, sericite aggregates.	Magnetite inclusions in cassiterite constitute a metallurgical problem, otherwise the cassiterite is relatively coarse.
5234 (85.5-86.5m)	Mostly as small bundles of very fine needles (many are < 3 μ wide), with occasional good crystals up to 200x700 μ, and irregular cloudy patches up to 300 μ. White/clear.	Serpentinite - antigorite and generally fine magnetite.	Carbonate, scattered arsenopyrite, pyrite.	Most of the cassiterite is white, semi-opaque, almost fibrous; many needles are cross-fractured, disrupted. All is believed to be "secondary".

HOLE NUMBER	H4
PURPOSE	
LOCATION	St Dizier
COLLAR R.L.	2170.5m
CO-ORDINATES	19926.5N 20284E – Cominco Grid 5367539.0N 345083.0E AMG
LENGTH	108.4m
HOLE SIZE	AX
DATE DRILLED	20/2/66 – 6/3/66
SIGNIFICANT CORE LOSS ZONES	
ORE ZONE GROUND CONDITIONS	
LOGGED BY	G. Boyle (Cominco) – 4/5/74
COMMENTS	

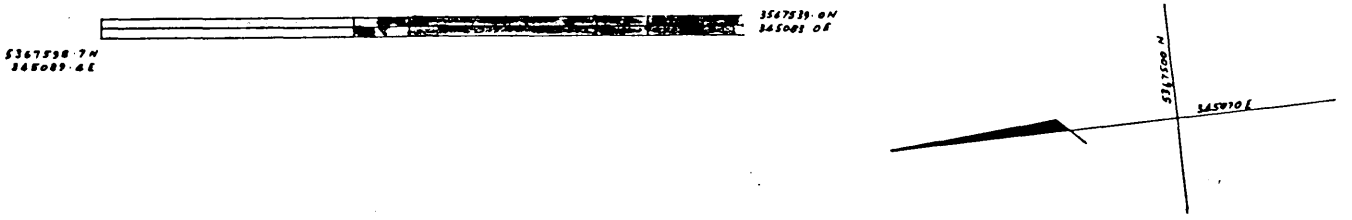
SURVEY			From – To	Distance D	VERTICAL		HORIZONTAL	
Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
Collar	006° AMG	–57°	0 – 108.4	108.4	~~84.6~~	~~2085.9~~	~~67.8~~	~~67.8~~
					90.9	2079.6	59.0	59.0

074

SUMMARY – ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS												B.C.A.
				Sn.	Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t	Fe		
Placer assays:	55.8	63.4	7.6	0.22												
Renison assays (1983)	59.0	61.0	2.0	0.46	0.09	0.06	<0.1	4.1		0.01	0.012	0.01	2	26.9		

PLAN



DIP PROFILE

5 cm

DIAMOND DRILL RECORD

HOLE NUMBER : H4

LOGGED BY : G. Boyle

076

Note: As[illegible]s from Placer data.

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0	1.8	Rubble		IRONSTONE								SLUDGE SAMPLES					
				Red-brown and black. Spongy textured								From	To	% Sn			
				Limonite - goethite													
1.8	2.4	Rubble		ALLUVIUM								0.0	2.4	-			
				Buff-olive-brown clay. Ironstone and black shale gravel up to 2mm size													
2.4	3.7	0	0	NO CORE								2.4	3.7	-			
3.7	16.2	1.4	11	HORNFELS		9.4	10.3	-				3.7	6.2	-			
						10.3	15.2	0.02				6.2	7.4	-			
				Fine, massive, dark grey hornfels (after shale)								7.6	12.2	-			
												12.2	15.2	Tr			
16.2	24.4	1.4	17	?SKARN		15.2	19.8	0.01				15.2	16.8	Tr			
						19.8	21.3	-				15.2	19.8	0.01			
				Yellow brown to dark brown groundmass fine, soft, with		21.3	24.4	-									
				hard rounded grey masses up to 3mm in size, 40% of								13.9	14.6	-			
				rock. (94018 - 20.6m)								14.6	15.2	0.04			
												18.2	18.7	0.04			
24.4	32.9	6.8	80	QUARTZITE		24.4	26.5	-				19.5	20.1	0.04			
						26.5	27.6	0.02				21.1	22.0	0.01			
				Pale grey to dark grey quartzite some oxidised to		27.6	29.2	0.02				21.6	22.3	-			
				yellow-brown, with minor grey to dark grey shale and		29.2	30.7	0.01				At	22.6	0.05			
				dark grey skarn.		30.7	32.2	-				At	22.9	0.04			
				5 - 10% pyrite, 2% chalcopyrite from 26.5 - 28.0m,								At	23.2	0.05			
				fine grained angular patches up to 2mm in size.								At	23.8	Tr			
				Minor limonite veining.								At	24.1	Tr			
				28.5m - less weathered quartzite, pale to dark grey to								At	24.4	0.05			~3
				grey green in colour.								At	24.7	-			0
				After 28.5m - 5 - 10% pyrite, chalcopyrite, pyrrhotite								At	25.0	Tr			
				(8:2:1) as fine grained patches up to 2mm in size,								At	25.3	0.03			0
				veins.													~3
				After 30.7m, sulphides less than 1% overall, patchy													~3
				developed up to 5%.													
				Minor brown tourmaline veining, some replacing													
				quartzite along veins.													

DIAMOND DRILL RECORD

HOLE NUMBER . H4

LOGGED BY : G. Boyle

073

Note: Assays from Placer data.

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
32.9	33.8	0.8	80	HORNFELS and QUARTZITE		32.2	33.7	—									
				Fine, massive, hard dark grey hornfels (after 'shale?) and pale to dark grey medium grained quartzite. 5% pyrite as veins and fine grained patches up to 5mm in size.													
33.8	34.7	0.8	90	QUARTZITE													
				Massive, medium grained pale to dark grey quartzite. Minor chlorite veining and colouration. 2% pyrite as veins, disseminated. Rare pyrrhotite.													
34.7	36.4	1.5	90	HORNFELS		33.7	35.2	–									
						35.2	36.7	–									
				Fine, massive, dark grey hornfels (from shale?) with 1% pyrite in veins. From 35.1 – 36.0m, quartz, pyrite, ?andalusite hornfels (50:40:10) andalusite as needles and blades up to 2mm across, 1cm long in radiating masses. Pyrite and quartz are interstitial.												
36.4	46.8	8.8	85	QUARTZITE		36.7	38.3	–									
						38.3	39.8	–									
				Pale grey, medium grained quartzite, coloured and		39.8	41.3	–									
				rarely veined by chlorite.		41.3	43.7	–									
				5% pyrrhotite, subordinate pyrite as fine disseminat-		43.7	46.5	–									
				ions and minor veining.													
				40.9 – 41.5m – darker quartzite minor pale grey brown chert. 1% sulphides only.													
				42.5 – 44.0m – darker mid grey quartzite, minor													
				grey hornfels. 1% pyrite as patches, veins.		–											
				After 44.0m pyrite is only 1% as veins, patches up to 2mm in size. Minor hornfels.													
46.8	52.1	3.0	56	HORNFELS		46.5	47.8	–									
						47.8	50.9	–									
				Fine, massive, dark grey hornfels (after shale?)		50.9	52.4	–									
				1 – 2% pyrite as veins, minor patches.													
				Rare quartz veining.													

DIAMOND DRILL RECORD

HOLE NUMBER : H4

LOGGED BY : G. Boyle

Note : Assays from Placer data.

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
52.1	55.7	1.9	53	QUARTZITE		52.4	55.8	0.01									
				Pale to mid grey, medium grained quartzite. Patchy tourmaline, chlorite, 1% pyrite as veins and patches.													
55.7	60.6	4.3	88	CHLORITE-PYRITE-MAGNETITE ROCK		55.8	57.5	0.16									
						57.5	59.0	0.24									
				Medium grained, mica-like chlorite, fine grained pyrite, fine to medium grained magnetite and cream quartz. Between 55.9 and 56.6m quartz is 50%, elsewhere it is minor. Pyrite occurs as angular patches up to 5mm in size interstitial in habit. Average 20%. Magnetite average 2% but up to 5%, patchily distributed Chlorite-pyrite veining. 57.7 – 58.1m – pyrite 1% magnetite 40% as large rounded, fine grained masses up to 1cm in size. Pyrite 20% as veins, fine grained patches (94030 – 56.7m).		59.0	60.5	0.32									
60.6	61.3	0.6	90	MAGNETITE-SERPENTINITE		60.5	61.9	0.24									
				30% rounded black magnetite masses up to 5mm in size in a mid green and cream serpentinite matrix. Green forming round masses in cream, veinous matrix, also cream speckling. (94031 – 61.2m).													
61.3	64.9	3.5	98	SERPENTINITE-CHLORITE		61.9	63.4	0.17									
						63.4	64.9	0.05									
				Fine, patchy, pale cream and dark green serpentinite and medium grained mica-like dark green chlorite. Massive flakes up to 3mm across, cream serpentine, where mixed with chlorite often shows bladed to prismatic habit, up to 1cm crystals. Rare magnetite except 62.1 – 62.3m where it is 10% as 2cm rounded masses. 5% limonite as angular interstitial masses up to 5mm in size, possibly after pyrite, mainly in chlorite sections. Minor pyrite													

DIAMOND DRILL RECORD

HOLE NUMBER : H4

LOGGED BY : G. Boyle

Note: Assays from Placer data.

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
64.9	108.4	37.0	85	QUARTZITE		64.9	66.4	-									
						66.4	68.0	-									
				Massive, medium grained, pink brown quartzite with		68.0	69.5	-									
				subordinate pale and dark grey veins and beds of		69.5	71.2	-									
				quartzite.		71.2	73.9	-									
				Moderate quartz, biotite, minor pyrite, pyrrhotite		73.9	75.4	-									
				veining 68.0 - 71.2m colour speckled.		75.4	77.1	-									
				After 71.2m patchy development of good bedding 45° to		77.1	78.6	-									
				core axis.		78.6	80.2	0.07									
				Pale grey and pink brown are dominant, minor dark		80.2	81.7	Tr									
				grey.		81.7	84.1	-									
				Fine disseminated pyrrhotite, minor pyrite, 1% overall,		84.1	86.9	-									
				5% in patches.		86.9	88.4	Tr									
				Quartz veining minor, minor pyrrhotite veining.		88.4	89.9	-									
				After 77.3m, sulphides are 5 - 10%, pale grey-green		89.9	91.4	-									
				colouration dominant.		91.4	93.0	Tr									
				After 84.1m, grey green subordinate dark pink brown and		93.0	94.5	-									
				dark grey with paler beds.		94.5	96.0	Tr									
				1% pyrite as veins and patches up to 2mm in size.		96.0	97.5	-									
				After 88.4m, dark pink brown and pale grey green.		97.5	99.1	-									
				After 93.7m, pyrite minor pyrrhotite average 2% up to		99.1	100.6	-									
				5% disseminated patches up to 1mm in size, minor veins		101.2	102.7	Tr									
				Colours patchy, speckled, some grey green.		102.7	104.2	Tr									
						104.2	105.8	Tr									0.13
						105.8	107.3	-									0.09
				End of hole		107.3	108.4	-									0.10

SAYED RENISON LABORATORY, 1983

GOLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE LOG AND ASSAY DATA

PROJECT: ST. DIZIER HOLE NUMBER: H4. Page: 1.

080

INTERVAL		RECOVERY		DESCRIPTION
	To	m	%	

ASSAY DATA (all wt% except Ag which is ppm)													
Sample No.	From	To	Rec. %	Sn	SSn	S	As	Cu	Zn	WO_3	Fe	Ag	Bi
5332	55.0	56.0	70	0.13	.02	2.1	<0.1	0.03	0.01	<0.01	11.4	3	.006
5333	56.0	57.0	60	0.22	.03	8.3	<0.1	0.05	<0.01	0.01	16.0	2	.007
5334	57.0	58.0	60	0.10	.03	3.5	<0.1	0.03	0.04	<0.01	14.6	2	.005
5335	58.0	59.0	40	0.37	.04	6.2	<0.1	0.08	0.04	<0.01	23.6	3	.010
5336	59.0	60.0	85	0.45	.16	5.7	<0.1	0.09	0.01	0.01	33.5	2	.011
5337	60.0	61.0	90	0.46	.02	2.5	<0.1	0.02	0.01	0.01	20.3	2	.013
5338	61.0	62.0	60	0.08	.03	0.6	<0.1	0.01	0.02	<0.01	16.7	3	.007
5339	62.0	63.0	60	0.25	.02	1.7	<0.1	0.02	0.01	0.01	13.9	1	.012
5340	63.0	64.0	70	0.10	.01	4.0	<0.1	0.06	0.02	<0.01	12.7	2	.006
5341	64.0	65.0	60	0.05	.01	3.2	<0.1	0.02	0.02	<0.01	10.3	3	.005

081

94018 : carbonate serpentine biotite rock: with dispersed sphalerite

18.7m This rock consists of a heterogeneous patchy aggregate of mainly groups of fine brownish yellow biotite flakes, subordinate serpentine, minor carbonate, vesuvianite and accessory garnet. Veinlets of these minerals commonly cut the relatively patchy aggregate. Extremely fine grains and patches of sphalerite (10-12%) and accessory grains of pyrite, are dispersed throughout this aggregate. Secondary iron oxides are derived from and permeate the biotite.

Minor malachite is also present.

There are no diagnostic textures with the exception that the rock appears to have a gross, fine banded metamorphic (?metasomatic) texture.

The origin of this rock is obscure. The serpentine indicates at least a partial original magnesic (olivine) rock, consistent with the composition of other samples in the suite. The vesuvianite carbonate and necessary garnet are characteristic of contact metamorphic assemblages. The biotite in this situation is conceivably a (potassic) metasomatic product. The sulphides may be reconstituted products of an original carbonate, or related to the metasomatism.

94030 : magnetite-pyrrhotite (minor sphalerite) with talc chlorite ?anthophyllite, intergrown with band of fine tremolite

56.7m This rock consists of a folded band of extremely fine tremolite within a relatively coarser, heterogeneous aggregate of talc, colorless chlorite, and/or pale phlogopite, magnetite, pyrrhotite and minor interstitial ?vesuvianite. Subordinate greenish brown ?anthophyllite is extensively replaced by limonite-stained serpentine. (The vesuvianite and anthophyllite are difficult to positively identify because of their complex intergrowths with other minerals, and their degree of alteration.

Minor sphalerite accompanies the magnetite and sulphides. Small patches of carbonate are scattered through the rock, mainly in the area of opaques and talc. The carbonate replaces some anthophyllite.

94031 : serpentine, carbonate, garnet, talc-tremolite rock with scattered pyrrhotite

61.2m This rock consists of a heterogeneous aggregate of mainly coarse prisms of tremolite and subordinate patches of carbonate in a matrix of extremely fine talc. Coarse flakes of talc (similar in size to the tremolite) represent a slightly separate generation of talc to the fine matrix.

Irregular patches of pyrrhotite (7 - 10%) and accessory magnetite more or less accompany the carbonate.

Interstitial, highly irregular patches of serpentine (10 - 15%) appear mainly to replace talc. Highly irregular patches of garnet (15 - 20%) enclose patches and grains of carbonate, talc, serpentine and tremolite.

76 082

HOLE NUMBER	H5	Depth	Bearing	Dip		D	D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
PURPOSE		Collar	036° AMG	-60°	0 - 172.7	172.7	~~139.7~~ 149.6	~~2025.7~~ 2015.8	~~101.5~~ 86.4	~~401.5~~ 86.4
LOCATION	St Dizier									
COLLAR R.L.	~2165.4m									
CO-ORDINATES	19935N 20122E Cominco Grid 5367575.2N 344925G AMG									
LENGTH	172.7m									
HOLE SIZE										
DATE DRILLED	7/3/66 - 17/6/66									
SIGNIFICANT CORE LOSS ZONES										
ORE ZONE GROUND CONDITIONS										
LOGGED BY	C. Boyle (Cominco) 6/5/74									
COMMENTS	Note - high acid soluble Sn levels, Zn assays (P.R.)									

SUMMARY — ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS												B.C.A.
				Sn.	Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t			
				Traces of tin near the end of the hole in serpentine-dolomite-magnetite rock												
	161.2	172.8	11.6	0.11	0.10	0.01	<0.1	0.6	<0.01	1.29	0.010	0.01	1	Renison assays (1982)		
	including:															
	161.2	167.0	5.8	0.12	0.12	0.01	<0.1	1.2	<0.01	2.34	0.010	<0.01	2	Renison assays (1982)		

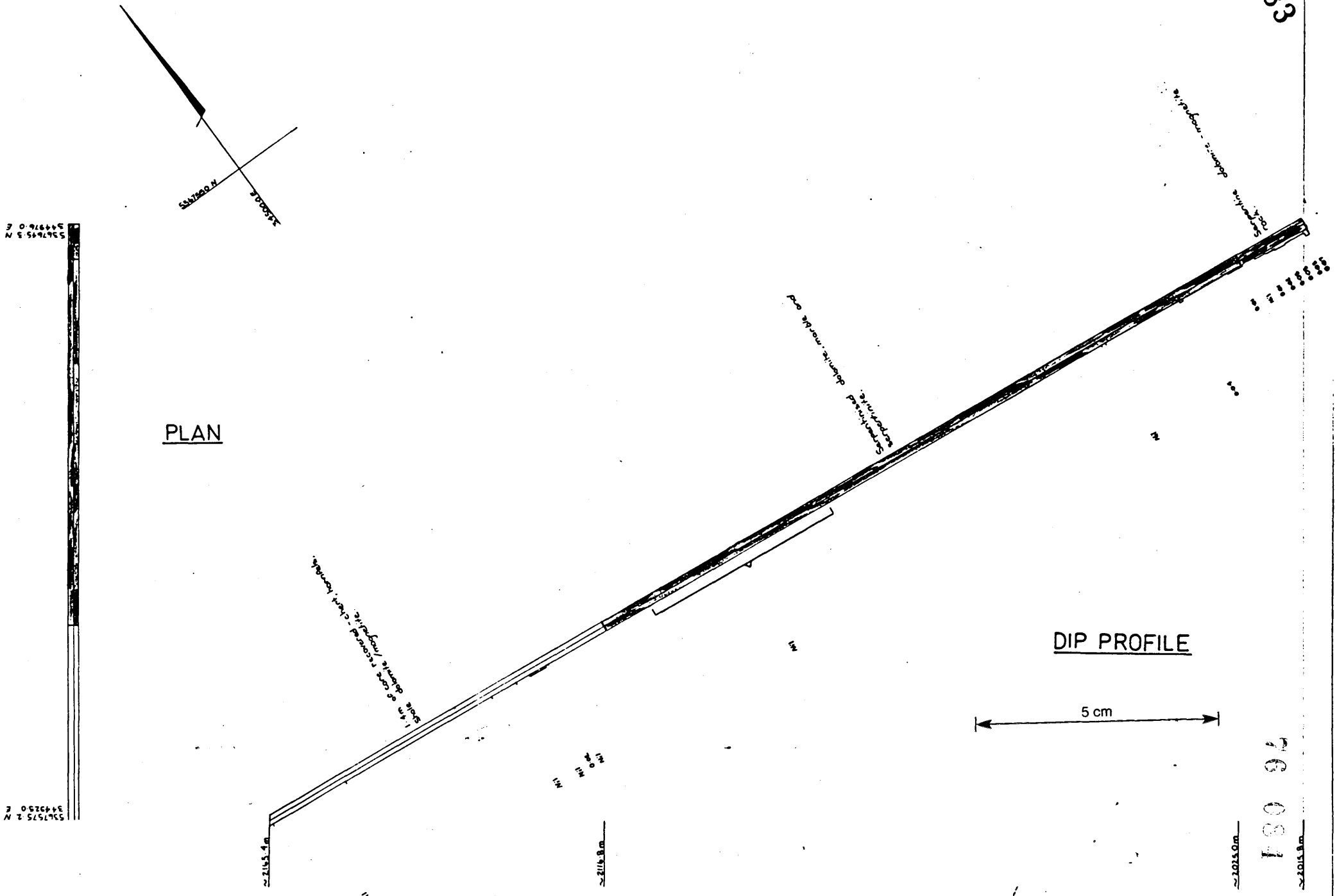
HCLE No.: H5

SCALE: 0 10 20 metres

REINSON LIMITED

DIAMOND DRILL HOLE PLOT

083



Note: Assays from Placer data.

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. T	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0	13.7	0.4	2.8	CHERT		0.0	12.2	NIL									
				Fine massive, pale to dark grey chert. Irregular voids rounded and angular up to 1cm long, 2mm wide. May be vein quartz.								Sludge Sample					
13.7	36.6	0.0	0	NO RECOVERY								From	To	%Sn			
												33.5	33.8	-			
36.6	41.8	0.8	15	DOLOMITE		36.6	41.8	NIL									
				Medium grained, cream white crystalline dolomite, minor black speckling possibly after pyrite, 1mm in size, rounded to rectangular.													
41.8	45.7	0.1	3	SILICEOUS SHALE		41.8	43.0	NIL									
						43.0	45.7	0.02									
				Fine, massive to bedded hard siliceous dark grey and minor cream grey shale													
45.7	46.0	0.1	33	CREAM AND GREY SHALE SAND		45.7	46.0	NIL									
46.0	53.3	?		HORNFELS AND SHALE								48.5	50.0	-			
												50.0	52.1	0.02			
				Placer log records no core between 46.0 and 56.1m, but one tray labelled HS 46.0 - 53.3m occurs.								52.1	53.6	0.01			
				Dark grey and cream fine massive to well bedded hornfels and shale.													
53.3	56.1	0	0	NO CORE								53.6	55.2	-			
												55.2	56.7	0.02			
56.1	95.7	32.2	81%	SERPENTINISED DOLOMITE, MARBLE AND SERPENTINITE		63.2	65.2	NIL									
						76.8	76.9	NIL									
				Fine, yellow-green, translucent to opaque serpentinised		77.3	77.6	NIL									
				dolomite and serpentine, fine to medium grained white		79.9	81.5	NIL									
				to cream marble speckled by fine grained rounded		81.5	83.1	NIL									
				masses of black to grey serpentine up to 1cm in size		83.1	84.6	NIL									
				10 - 50% of marble. Dolomite:marble is 60:40. Minor		84.6	86.1	NIL									
				calcite veins, spotting, average size 1 - 2mm, and		86.1	87.6	NIL									
				irregular patches.		87.6	88.4	NIL									
				From 58.8 - 62.6m, the marble contains a black mineral		88.4	89.9	NIL									
						89.9	91.4	NIL									
						91.4	92.8	NIL									

Note : Assays from Placer data

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				of-ten showing cubic or regular habit, hardness 5; weakly affected by a magnet, average grain size 1-2mm, but masses up to 1cm occur (94032 - 59.6m). After 62.6 it is minor only very patchy. 68.6 - 68.7m - shale and sand possibly wall cavings. 76.8 - 77.6m 1% medium grained patchy pyrrhotite. After 75.9m marble is dominant 70:30. Minor bedding both in marble and with serpentine after 82.3m, common angle 45° - 30°. After 86.6m beds of pure black to dark green serpentinite occur interbedded with serpentine speckled marble. Minor pyrite up to 1% in serpentine. 90.5 - 90.8m black fine hornfels and serpentinite.												
95.7	125.7	19.8	100	SERPENTINE AND MARBLE													
				Fine to medium grained pale grey to cream marble and interbedded fine black serpentine. Minor yellow green dolomite. Some serpentine speckling. After 98.8m bedding is well developed and fine but erratic in lineation. Possibly slumped. Minor calcite-limonite veins. Bedding angle circa 105.2m - 35° to core axis. 120.7 - 121.7m, 20% green serpentine, serpentinised dolomite. Massive marble 120.5 - 124m, 123.7 - 124.1m low angle calcite vein 1cm botryoidal structured												
125.7	161.2	33.1	93	SERPENTINISED DOLOMITE, MARBLE AND SERPENTINE													
				White to cream, pale grey speckled fine to medium grained, massive marble, 30% yellow green fine, patchily developed, irregular, yellow-green to olive green translucent to opaque fine massive and serpentinised dolomite. Some veinous serpentinised dolomite. Minor black serpentine and white medium grained dolomite. Well bedded fine dark green to black serpentinite and serpentine speckled marble and serpentinised dolomite developed from 136.2 - 136.8m, 137.7 - 138.9m, 145.2 - 147.6m and 150.3 - 152.4m. 10% fine disseminated pyrite 151.0 - 151.8 in serpentine.		138.6	139.1	NIL								
						151.5	151.8	0.04									
						159.7	161.8	0.01									

Note: (Assays from Placer data (typed)

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM. %oFe	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				After 153.5m, white marble is speckled, minority veined	14.9	161.2	162.0	0.07	0.10	0.01	<0.1	1.6	<0.01	2.81	0.006	1	<0.01
				by black and yellow-green serpentine, and yellow-green	12.7		163.0	0.08	0.08	0.01	<0.1	1.4	<0.01	2.80	0.015	<1	<0.01
				serpentinised dolomite speckling average 50%; 1mm in	16.5		164.0	0.12	0.11	0.01	<0.1	0.9	<0.01	1.77	0.002	1	<0.01
				size, rarely over 2mm. Minor banding.	24.7		165.0	0.18	0.20	0.02	<0.1	2.0	<0.01	3.87	0.013	3	<0.01
					11.4		166.0	0.08	0.08	0.02	<0.1	0.2	<0.01	0.64	0.012	1	0.01
161.2	161.8	0.6	97	MAGNETITE-DOLOMITE	30.5		167.0	0.16	0.12	0.01	<0.1	1.2	<0.01	2.26	0.011	3	<0.01
					23.1		168.0	0.16	0.12	<0.01	<0.1	0.1	<0.01	0.36	0.031	2	0.01
				Fine black magnetite, speckled by 10% yellow-green	4.5		169.0	0.03	0.04	0.02	<0.1	0.2	<0.01	0.57	0.007	1	<0.01
				to white dolomite, minor dolomite veins.	22.1		170.0	0.14	0.11	<0.01	<0.1	<0.1	<0.01	0.29	0.004	1	0.01
					14.4		171.0	0.04	0.03	0.01	<0.1	<0.1	<0.01	0.07	0.005	2	0.01
161.8	162.4	0.6	97	SERPENTINITE-DOLOMITE	18.5		172.8	0.14	0.11	0.01	<0.1	<0.1	<0.01	0.06	0.015	2	0.03
				Fine dark grain serpentinite and yellow green to white													
				dolomite. Patchily intermingled.													
162.4	165.4	3.1	98	MAGNETITE-DOLOMITE		161.8	163.9	NIL									
						163.9	165.8	0.01									
				Fine black magnetite, patchily oxidised to haematite (10%) and													
				yellow-green fine serpentinised dolomite and cream													
				dolomite (?) or serpentine.													
				Dolomite averages 30% as speckling and veins and as													
				matrix to magnetite where it forms rounded to irregular													
				masses up to 2mm in size.													
				164.3 - 165.4m, white dolomite groundmass, minor yellow													
				green serpentinised dolomite. Magnetite occurs as													
				needles and radiating masses up to 3mm long as well as													
				granular habit.													
165.4	165.9	0.5	98	DOLOMITE													
				Yellow green to white, fine, patchy coloured dolomite.													
				Minor magnetite.													
165.9	172.7	6.2	92	MAGNETITE-SERPENTINE-DOLOMITE		165.8	167.3	0.02									1
						167.3	168.9	0.05									6
				Fine black magnetite as masses and grains up to 2mm		168.9	170.4	0.03									
				in size patchy developed needle and radiating habit, in		170.4	171.9	0.03									0
				a matrix of fine white and yellow-green serpentine		171.9	172.5	0.07									60
				and dolomite. Magnetite 60%.													1
				After 167.7m, magnetite averages 10%, serpentine 2%.													
				After 168.9m, magnetite varies rapidly and widely													
				from 80% to 2%, yellow - green serpentinised dolomite													
				matrix. END OF HOLE.													

886

RENISON LIMITED

SCALE :

DIAMOND DRILL HOLE PLOT

HOLE No. : H45

PONTIFEX REPORT NO 1526 - 14/6/74

94032 : brucite marble;
patches of serpentine with minor carbonate,
accessory magnetite with associated graphite

This rock is similar to 94022. It consists almost entirely of a granoblastic aggregate of calcite, crowded with similar size (0.3mm) roughly hexagonal shaped crystals of brucite. The brucite within each crystal forms a scaly to fibrous aggregate.

Part of the section is made up of an extremely fine meshwork of serpentine, with minor remnants of intergranular carbonate. The serpentine has derived from a former aggregate of fine metamorphic olivine.

Several very "corroded looking" grains of magnetite are crowded by an aggregate of extremely fine graphite flakes. Accessory, extremely fine graphite is also dispersed independently through the brucite-marble aggregate.

DIAMOND DRILL RECORD

HOLE NUMBER : SD H5

LOGGED BY :

088

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM: Fe	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				Note: Renison Assays, July 1982 Report.	14.9	161.2	162	0.07	0.10	0.01	<0.1	1.6	<0.01	2.81	0.006	1	<0.01
					12.7	162	163	0.08	0.08	0.01	"	1.4	"	2.80	0.015	< 1	<0.01
					16.5	163	164	0.12	0.11	0.01	"	0.9	"	1.77	0.002	1	<0.01
					24.7	164	165	0.18	0.20	0.02	"	2.0	"	3.87	0.013	3	<0.01
					11.4	165	166	0.08	0.08	0.02	"	0.2	"	0.64	0.012	1	0.01
					30.5	166	167	0.16	0.12	0.01	"	1.2	"	2.26	0.011	3	<0.01
					23.1	167	168	0.16	0.12	<0.01	"	0.1	"	0.36	0.031	2	0.01
					4.5	168	169	0.03	0.04	0.02	"	0.2	"	0.57	0.007	1	<0.01
					22.1	169	170	0.14	0.11	<0.01	"	<0.1	"	0.29	0.004	1	0.01
					14.4	170	171	0.04	0.03	0.01	"	<0.1	"	0.07	0.005	2	0.01
					18.5	171	172.8	0.14	0.11	0.01	"	<0.1	"	0.06	0.015	2	0.03

RENISON LIMITED - DRILL CORE RECORD

HOLE NUMBER	H6
PURPOSE	
LOCATION	St Dizier
COLLAR R.L.	~2166.0m
CO-ORDINATES	20052.5N 20131 E Cominco Grid 5367689N 344954E AMG
LENGTH	185.9m
HOLE SIZE	AX
DATE DRILLED	18/3/66 - 8/7/66
SIGNIFICANT CORE LOSS ZONES	
ORE ZONE GROUND CONDITIONS	
LOGGED BY	G. Boyle (Cominco) 23/4/74
COMMENTS	

SURVEY			From - To	Distance D	VERTICAL		HORIZONTAL	
Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
Collar	243° AMG	-55°	0 -185.9	185.9	~~141.4~~	~~2024.6~~	~~128.9~~	120.7
					152.3	~~2024.6~~ ~2013.7.	106.6	106.6.

SUMMARY - ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS												B.C.A.
				Sn.	Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t			
Pacercassays:	179.1	181.4	2.3	0.14												
	178.6	181.3	2.7	0.06	0.05	0.07	<0.1	0.2	<0.01	0.32	0.004	<0.01	2	Renison assays (1982)		

090

PLAN

DIP PROFILE

5 cm

Quartzite and schist, some quartz ± hornblende

Dolomite, marble, serpentinite

Serpentinite with magnetite

Granite

090 091

DIAMOND DRILL RECORD

HOLE NUMBER : H6

LOGGED BY : G. Boyle

091

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0	9.8	Poor	?	QUARTZITE													
				Poor recovery. Pale cream white to reddish brown and dark green speckled white. Fine to medium grained, frieble on weathering. 8.8m - two parallel ?veins of granitic material 10% chloritic biotite, ½% muscovite. Vein is 35° to core axis. Granite is fresh, medium grained. Minor quartz veining, rare chlorite, pyrite veins.												
9.8	14.3	2.7	61	QUARTZITE													
				Pale grey to dark reddish brown medium grained quartzite, sometimes speckled by brown tourmaline. Minor quartz veining, rare pyrite chlorite veins. 11.7m - sub parallel quartz tourmaline veins, medium grained, brown tourmaline.													
14.3	19.8	0.2	3	QUARTZITE AND QUARTZ TOURMALINE													
				Poor recovery. Dark brown medium grained quartzite and medium grained brown tourmaline speckled quartz. Minor pyrite, chalcopyrite on fractures and in veins.													
19.8	40.5	0.3	16	QUARTZ TOURMALINE													
				Minimal recovery. Medium grained, brown tourmaline 80% to 20% minor muscovite, pyrite. Rare brown quartzite.													
40.5	58.5	1.8	10	QUARTZITE													
				Poor recovery. Dark green speckled medium grained quartzite and minor interbedded cream coloured shale. Well bedded from sub parallel to 25° to CA core axis. Minor quartz veining. Petrological sample. 94019 - 44.2m													

2301

LOGGED BY : G. Boyle

092

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
58.5	59.7	1.2	100	SHALE													
				Fine, well bedded, cream to cream green shale, minor red brown oxidised beds. Bedding marked by black speckly material in irregular thickness "beds". Bedding 10 - 20° to core axis.													
59.7	62.6	2.8	96	QUARTZITE													
				Bedded, grey to pink brown grey medium grained quartzite. Minor quartz and chlorite/pyrite veining. Bedding 10 - 15° to core axis.													
62.6	65.5	2.2	75	SHALE													
				Fine, well bedded cream to creamy green and dark green to black shale Bedding from 20° to sub parallel to core axis Rare silicification. Minor disseminated pyrite, rare pyrite (always less than 1%), minor pyrite and chlorite veining. Pyrite in shales usually associated with chlorite or in dark chloritic bands. Minor red brown oxidised beds. Minor quartzite.												
65.5	66.1	0.5	89	QUARTZITE													
				Medium to fine grained bedded cream to dark green grey quartzite. Minor chlorite-limonite veining.													
66.1	95.3	14.5	50	SERPENTINITE													
				Fine, cream coloured, dull opaque and dark green to pale translucent, green waxy serpentinite. Well banded, from sub parallel to 10° to core axis. Minor dark green serpentine veining, also limonite and rare calcite veining.													
				71.2 - 71.3m : brecciated, heavily, pale serpentine veined dark green to cream serpentinite. Petrology sample - 94020 - 70.4m.													
				77.3 - 77.4m fine, grey calcareous clay (crushed limestone? or calcareous shear)?													

LOGGED BY : G. Boyle

093

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	Sn. FROM	Sn. TO	Sn. TOTAL	Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				74.8 - 75.0m white kaolinised calcareous material, possibly of like character but containing minor dark green serpentinite.													
				After 75.2m, the cream coloured serpentinite, initially dominant is rare and then is pale cream waxy lustered. Creamy beds are usually regular and uniform, but may be irregular in thickness and attitude, rarely contorted.													
				After 80.9m, minor pyrrhotite, up to 5% as rounded patches in the creamy bands. Not apparent after 83.8m													
				86.5 - 86.9m white kaolinised, calcareous fine crumbly material (limestone), rare relic serpentinite.													
				86.9 - 87.5m creamy, black speckled serpentinite.													
				87.5m - reversion to normal well banded dark green and cream to cream green, fine dull to waxy lustred serpentinite. Minor dark green serpentinite veins and rusty calcite veins. Dark green serpentinite is finely cream speckled while, the pale serpentinite is speckled and blotched with the dark. Rare red brown sphalerite or pyrrhotite. Banding sub parallel to core axis.												
				From 90.8m, pale cream colouration dominant, banding 15° to core axis, patchily hard ?silicified 91.2 - 91.3m antigorite marble, white, medium grained marble with thin shreddy beds of dark green serpentine.													
				93.2 - 93.4m angular masses of calcite up to 3mm in size in yellow green ?antigorite. Minor magnetite as 2mm bed at 93.4m													
				93.6m a 2.5cm thick calcite vein, 90° to core axis.													
				95.2 - 95.3m irregular patch of heavily serpentine speckled, medium grained white marble.													
95.3	96.0	0.7	93	INTERBEDDED DOLOMITE, MARBLE AND SERPENTINITE													
				Dark green fine serpentinite, interbedded with white to pale yellow green fine to medium grained dolomite and cream to white marble, medium grained Bedding 17° to core axis.													
				95.7 - 96.0m siliceous hard, white medium grained dolomite, minor interbedded serpentinite													

LOGGED BY G. Boyle

094

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
96.0	101.7	2.3	40	INTERBEDDED MARBLE AND SERPENTINITE													
				Pale green to white, fine to medium grained marble, speckled and interbedded with dark green to black serpentinite. Minor yellow green serpentinitic dolomite. Minor carbonate veining. Bedding poorly to well developed, 10^0 - 20^0 to core axis. 97.2 - 97.3m and 98.1 - 98.2m - crushed grey carbonate.												
101.7	102.0	0.3	100	SERPENTINIZED MARBLE													
				White fine grained marble, heavily speckled with sub-angular masses, irregular in outline of pale yellow green translucent serpentine or dolomite, and minor dark green serpentine. Masses are generally less than 5mm in size.													
102.0	141.1	37.4	96	DOLOMITE AND MARBLE													
				Fine to medium grained, massive white to pale yellow and yellow green marble, patchily dolomitised. Minor patches of serpentinite, minor carbonate veining. Some yellow green material in dolomite, others possibly antigorite may be the material and the colouration material. 103.8 - 104.9m variable amount of interbedded and speckling serpentinite, up to 100% of core. Dolomite is predominant, marble minor after 103.6m generally white in colour. Serpentine, where developed, is irregular in outline, distribution and attitude as speckling and veinous. 102.6 - 102.7m white calcareous crush zone. After 97.5m, serpentinite is more abundant, locally up to 80% of core, but averaging 10%, occurring as speckles, beds and veins, frequently irregular in outline, distribution and attitude. Serpentine is generally dark green to black, minor yellow green to olive green, translucent. After 113.2m, marble is dominant dolomite comparitively rare.												

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				Serpentine again minor, 1 – 2 %, after 119.2m finely disseminated in beds and patches.												
				122.5 – 124.1m 30% of core is yellow green serpentinite or serpentinised dolomite, disseminated and patchy diffusion to marble.												
				124.9 – 125.0m white kaolinised crushed marble.												
				From 127.3m, the quantity of yellow green dolomite increases until after 129.5m, the core is primarily dolomite; pale to strongly yellow green. Still speckled and veined by minor serpentinite (dark green black) and carbonate. Colour is patchy in distribution and intensity.												
				132.1 – 132.3m white calcareous crushed material												
				After 132.3m, yellow green dolomite is less abundant, 5% overall, patchily developed.												
				After 133.2m, an average of 30% maximum 80% of serpentine, dark green to black occurs as beds, veins and disseminated, Rare pyrrhotite as rounded patches 1mm in size, up to 1% of core in sections up to 2cm in length. No distinct bedding.												
				Petrological samples – 94021 – 102.9m.												
				94022 – 136.2m												
141.1	145.3	2.4	58	SERPENTINISED DOLOMITE												
				Medium grained white dolomite, minor yellow green serpentinised dolomite. The dolomite is heavily speckled with black serpentine and yellow ?antigorite. Minor serpentine and carbonate veining. Rare pyrite in serpentine veins.												
				144.2 – 144.5m some vuggy serpentine and carbonate veins.												
				Petrological sample – 94023 – 144.2m												
145.3	153.0	5.8	75	SERPENTINE AND DOLOMITE												
				Fine, massive, dark green to black, and translucent yellow green to olive green serpentinite, patchy subordinate white dolomite as irregular random patches and occasional bands, usually speckled by serpentinites Patchy fibrous and acicular cream coloured chrysotile.												

095

INTERVAL (m)		RECOVERY		DESCRIPTION	FORM.	% Sn.				% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
FROM	TO	m	%			FROM	TO	TOTAL	ACID SOL.								
153.0	156.4	3.3	98	SERPENTINISED DOLOMITE													
				Fine to medium grained dolomite, white with patchy development of translucent yellow green to brown green and opaque dark green serpentinite.													096
156.4	159.0	2.6	100	SERPENTINISED MARBLE													
				Fine to medium grained, white marble, with patchy translucent yellow green to brown green and dark green opaque serpentinite. 158.2 – 158.4m pyrite, magnetite, serpentinite zone. Banded fine grained serpentinised marble has banding (bedding?) 10 – 45° to core axis.													
159.0	168.2	8.5	92	MARBLE													
				Medium grained, crystalline white marble. Massive minor serpentinite to 160.0m, mainly disseminated pale coloured yellow green to olive green serpentinised dolomite, developed from 163.2 – 163.8m also 166.0 – 166.4m, and minor developments elsewhere in the core.													
168.2	172.4	4.2	100	SERPENTINISED DOLOMITE													
				Yellow green to brown green and white, translucent fine to medium grained dolomite. Colouration presumably serpentine. Minor dark green serpentinite. Minor carbonate veining. 172.1 – 172.2m crushed serpentinised dolomite.													
172.4	173.0	0.6	100	SERPENTINISED DOLOMITE AND MARBLE													
				As the previous section but with 50% intermingled fine to medium grained white marble, patchily developed.													
173.0	175.9	2.9	100	SERPENTINE AND MARBLE													1.76
				Well but irregularly serpentine banded, medium to fine grained white marble. Serpentine fine, dark to black well developed banding uniform, to chaotic in attitude, band generally under 2mm thick or if wider are disseminated serpentine.													0.65

LOGGED BY : G. Boyle

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				Minor yellow green dolomite.													
175.9	178.6	2.7	100	MARBLE													
				Clean white medium grained massive marble. Calcite veined. Minor serpentinite.													
178.6	181.4	1.1	41	SERPENTINITE WITH MAGNETITE		179.1	181.4	0.14		Assays from Placer data							
					%Fe												
				Initial 15cm zone of calcite speckled dark green magnetite bearing serpentinite, followed by massive to sheared dark green magnetite bearing serpentinite. Magnetite as disseminated black rounded grains up to 2mm in size. Rare pyrrhotite.	12.6	178.6	181.3	0.06	0.05	0.07 (Renison assays, 1982)	<0.1	0.2	<0.01	0.32	0.004	2	<0.01
181.4	185.9	2.5	56	GRANITE													
				Medium grained biotite granite Ferruginised severely in first 2.5cm. Dark green biotite rarely developed in patches													
				End of hole													

94019 : actinolite-cordierite rock, disseminated zircon and apatite (metasediment)

44.2m This is a regularly and finely banded rock on a scale of 2mm. In thin section it is seen to consist mainly of a fairly coarse, diffuse granular aggregate of cordierite, with scattered fine prisms and groups of pale green actinolite.

The rough common orientation and variable concentration of the actinolite accentuates the banding.

Fine (0.03mm) granules of zircon (7 - 10%) are also relatively concentrated into bands. Accessory small, crystals of apatite and patches of sphene are also scattered through the rock.

This rock is interpreted to be a thermally metamorphosed Ca-Fe bearing argillaceous sediment. The presence of zircon suggests that pneumatolytic-metasomatic processes were partly involved in this alteration. The apatite may also have such an origin although it could also have derived from the original sediment.

94020 : banded serpentine-olivine rock with minor carbonate veins.

70.4m This sample consists of fine (2mm)layers of serpentine through a fairly homogeneous extremely fine (0.03mm) granular aggregate of olivine. Minor streaks and diffuse patches of serpentine occur in the olivine aggregate.

Several veins of carbonate, carrying minor serpentiferous chlorite and trace magnetite occur more or less along the banding.

94021 : banded brucite-serpentine-calcite rock, (an altered ?periclase, olivine-marble)

102.9m Most of this rock consists of a fine fairly heterogeneous aggregate of calcite and brucite, with minor, scattered serpentine pseudomorphs after small olivine crystals (i.e. an olivine brucite marble).

This grades into a band some 3mm wide of marble and serpentine pseudomorphs (ophicalcite), without the brucite Conformable bands adjacent to this consist of a slightly coarser granoblastic calcite mosaic with scattered fresh olivine crystals, and some serpentine pseudomorphs. This grades into a relatively massive area of a predominantly serpentine mesh, with minor interstitial calcite.

The entire sample is essentially a banded brucite-serpentine-calcite rock, i.e. an altered olivine marble.

94022 : (graphitic) brucite marble, minor magnetite-secondary pyrite grains

136.2m This rock consists of a fine to medium (0.08mm), rather heterogeneous aggregate of patches of calcite mosaic (40 - 50%) randomly intergrown with brucite mosaic. The brucite characteristically occurs in scaly to fibrous aggregates. Streaks of fine (?sheared) brucite and/or serpentiferous chlorite cuts the rock.

Fine opaques are distributed as a fine network through the rock and roughly outline the aggregate texture, particularly in brucite areas. Similar fine opaques also occur in the possible shear band of ?serpentine In polished section some of these opaques (5%) are seen to consist of irregular magnetite grains, commonly intergrown with secondary pyrite after lamellar pyrrhotite.

Most opaques (10%) consist of small feathery patches of graphite which commonly, vaguely outline former ?olivine crystals. In the shear band they are drawn out along a shear-foliation.

HOLE No.: 146.

SCALE:

RENISON LIMITED

DIAMOND DRILL HOLE PLOT

099

94023 : Serpentinised, graphatic olivine marble with a band of recrystallised carbonate (+graphite)

144.2m Most of this section consists of a very vaguely banded, diffuse granoblastic mosaic of calcite and subordinate serpentine pseudomorphs after olivine. Many individual grains of both minerals are clouded by extremely fine ?graphite.

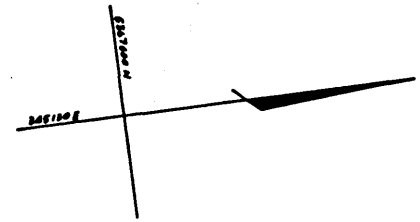
A band some 7mm wide of recrystallised carbonate and fairly widespread patches of fine graphite cuts the rock, parallel to the vague banding in the main aggregate.

26 400

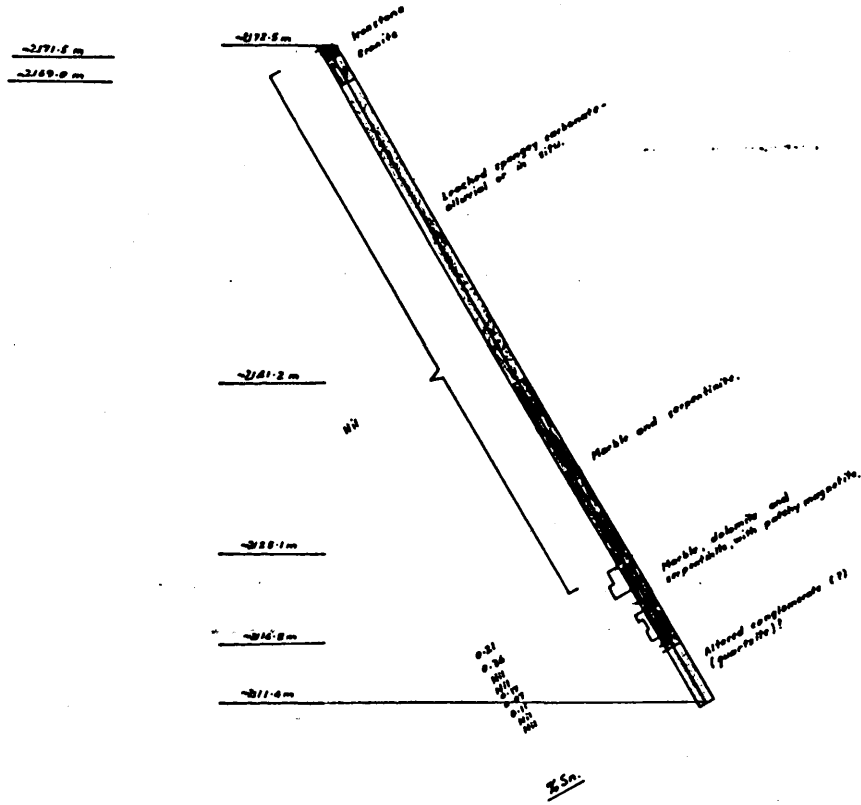
HOLE NUMBER	H7	SURVEY			From – To	Distance D	VERTICAL		HORIZONTAL	
		Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
PURPOSE		Collar	007°AMG	−60°	0 – 70.6	70.6	61.1	2111.4	35.3	35.3
LOCATION	St Dizier									
COLLAR R.L.	2172.5m									
CO-ORDINATES	19931N 20329E Cominco Grid 5357536N 345127.5E AMG									
LENGTH	70.6m									
HOLE SIZE										
DATE DRILLED	3/4/66 – 30/4/66									
SIGNIFICANT CORE LOSS ZONES										
ORE ZONE GROUND CONDITIONS										
LOGGED BY	G. Boyle (Cominco) 24/4/73									
COMMENTS										

SUMMARY – ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS												B.C.A.
				Sn.	Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t			
Placer assays:	55.5	58.2	2.7	0.28												
	60.2	63.2	3.0	0.10												
	57.0	64.6	7.6	0.22	0.19	0.02	<0.1	0.2	<0.01	0.31	0.005	0.01	1	Resina assays (1982)		
	including:															
	57.0	58.0	1.0	0.40	0.21	<0.01	<0.1	<0.1	<0.01	0.07	0.008	0.01	2			
	61.0	63.0	2.0	0.39	0.41	0.02	<0.1	0.5	<0.01	0.37	0.004	0.02	1			



PLAN



DIP PROFILE

5 cm

DIAMOND DRILL RECORD

HOLE NUMBER : H7

LOGGED BY : G. Boyle

Note: Assays from Placer data.

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0	1.2	0.3	26	IRONSTONE		0.0	1.4	NIL									
				Limonite-goethite material, rounded shells of goethite encrusted and filled by limonite, well welded together. No traces of original texture.													
1.2	3.8	0.9	34	GRANITE (ALLUVIAL OR DYKE?)		1.4	1.5	NIL									
						1.5	1.7	"									
				Medium grained biotite "granite" 3% green biotite,		1.7	2.7	"									
				rare tourmaline as patches.		2.7	3.8	"									
				Minor limonite cemented alluvium.													
3.8	36.0	5.0	15	?ALLUVIUM		3.8	4.6	"									
						4.6	4.9	"									
				Variable iron stained and cemented, dark brown to grey		4.9	5.5	"									
				sandy alluvium with gravel and rubble composed of pale		5.5	6.2	"									
Note. Placer considered this unit to be in situ" leached carbonate.				grey chert, soft creamy ?dolomite and banded dark and		6.2	8.7	"									
				light serpentinite and also quartz vein fragments.		8.7	11.6	"									
				Material is compact cemented to spongy in parts with		11.6	20.1	"									
				fine voids. May be equivalent to material 64.5 - 70.6m.		20.1	26.8	"									
				After 23.8m, matrix is fine, structure serpentinite		26.8	32.9	"									
				like, iron cement minor.		32.9	36.0	"									
				Rock is often banded with dark green black beds and masses.													
				Petrological samples : 94026 - 18.3m.													
				94027 - 24.4m													
36.0	42.6	5.7	86	MARBLE		36.0	37.5	NIL									
						37.5	39.0	"									
				White medium grained marble. 15% serpentine dark green		39.0	40.5	"									
				to black, as disseminated specks and beds and bands.		40.5	41.8	"									
				1% overall pyrrhotite, rounded to angular grains up		41.8	43.8	"									
				to 1mm in size. Patchily developed, 5% of rock in													
				parts. No preferential association. 2% patchy devel-													
				opment of yellow to yellow green dolomite.													
				39.7m, 5% purple-brown fluorite in calcite-dolomite vein.													
				42.4 - 42.6m, calcareous white crush zone.													

102

Note: Ransom assays in pen
Assays from Placer data (typed)

LOGGED BY: G. Boyle

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
42.6	54.9	10.9	89	SERPNTINE and MARBLE		43.8	45.4	NIL									
						45.4	46.5	"									
				Well banded pink brown, dark green to black and white		46.5	47.5	"									
				marble - serpentine material.		47.5	48.5	"									
				Banding 30° to 40° to core axis.		48.5	49.8	"									
				Minor yellow green dolomite.		49.8	49.9	"									
				After 43.3m, black colouration is dominant as diffuse		49.9	51.3	"									
				disseminations, speckling and beds.		51.3	52.6	"									
				Minor red-brown and yellow-green colouration.		52.6	54.2	"									
				Some marble grades to jet black.	%Fe												
				Minor pyrite and chalcopyrite, less than 1% overall,	5.7	54.8	56.0	0.05	0.02	0.01	<0.1	0.7	<0.01	0.64	0.005	1	0.01
				as grains $\frac{1}{4}$ to 1mm in size angular to rounded, generally			57.0	Insufficient sample									
				darker material.	20.1		58.0	0.40	0.21	<0.01	<0.1	<0.1	<0.01	0.07	0.008	2	0.01
				Bedding not well developed usually 20°- 30° to core	7.3		59.0	0.13	0.07	0.01	<0.1	0.1	<0.01	0.20	0.005	<1	<0.01
				axis. calcite	7.7		60.0	0.09	0.08	0.01	<0.1	<0.1	<0.01	0.05	0.005	<1	<0.01
				Red brown colour not possibly dolomite. Colour	9.1		61.0	0.11	0.10	0.05	<0.1	0.6	<0.01	0.16	0.003	2	0.02
				textures and attitudes are all quite variable.	29.8		62.0	0.32	0.34	0.02	<0.1	<0.1	<0.01	0.06	0.003	1	0.02
				49.8 - 49.9 - white calcareous crush zone. After	44.8		63.0	0.46	0.48	0.01	<0.1	0.3	<0.01	0.68	0.004	<1	0.02
				49.9m, pink brown absent, white dominant, veined and	13.0		64.6	0.09	0.12	0.05	<0.1	0.6	<0.01	1.13	0.008	<1	0.01
				speckled by black, tinged various shades of yellow													
				green.													
				54.1m strong yellow green colouration to marble, still													
				heavily black veined and speckled, minor pink brown.													
				Petrological sample - 94025 - 49.1m.													
54.9	55.2	0.3	77	MAGNETITE BEARING SERPENTINE-MARBLE		54.2	55.5	NIL									
				Yellow green to white, black speckled and veined, fine													
				to medium grained serpentine-marble.													
				Fine patchily developed magnetite not distinguishable													
				from the serpentine.													
55.2	55.9	0.6	80	SERPENTINE-MARBLE													
				Yellow green white and pink brown marble, speckled and													
				veined by black serpentine.													
				55.5m - puggy grey calcareous material.													
55.9	57.3	1.2	87	MAGNETITE BEARING MARBLE		55.5	57.0	0.21									
				White to pale green fine to medium grained marble,													
				apparently by colour, containing 40% magnetite as													

LOGGED BY : G. Boyle

Note : Assays from Placer data.

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				Patchy dolomitisation.													
57.3	58.0	0.7	96	MAGNETITE BEARING DOLOMITE		57.0	58.2	0.36									
				White to pale green, fine to medium grained dolomite containing apparently by colour, 50% magnetite as black beds disseminated grains and interconnected grains up to 5mm in size, average 3mm. Minor green to black serpentine. Rare fibrous structure to dolomite (?antigorite).													
58.0	58.1	0.1	96	SERPENTINE-MAGNETITE													
				As previous section, serpentine (green) replaces dolomite.													
58.1	60.2	2.0	97	SERPENTINITE and DOLOMITE		58.2	59.7	NIL									
						59.7	60.2	NIL									
				Fine to medium grained white to pale green dolomite with patches and irregular 5mm to 15cm beds of dark green fine serpentinite. Serpentine contains a highly variable amount of magnetite, up to 70%. Serpentine : dolomite is 50 : 50. Rare arsenopyrite.													
60.2	62.8	2.2	85	SERPENTINE-MAGNETITE		60.2	60.7	0.17									
						60.7	62.2	0.07									
				Fine dark green to pale green serpentinite, latter dominant, with an average of 70% magnetite as black grains, interconnected and single up to 5mm in size, serpentine interstitial. Oxidised magnetite as either haematite or limonite (rare) scattered throughout, 5% of core. Minor fibrous white antigorite. 5% pyrite in last inch as vein like grains.		62.2	63.2	0.11									
62.8	63.2	0.2	62	SERPENTINITE-DOLOMITE													
				Mixed dark green serpentinite and fine pale green dolomite. Serpentinite contains 5% pyrite-pyrrhotite, veinous, disseminated in first 5cm as angular vein like grains after this, only patchily developed													

DIAMOND DRILL RECORD

HOLE NUMBER : H7

LOGGED BY : G. Boyle

Note: Assa[redacted] from Placer data.

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
63.2	64.5	0.6	46	SERPENTINITE		63.2	64.3	NIL									
						64.3	64.4	"									
				Fine, dark green and minor cream green coloured serpentinite.													
				2% pyrite-pyrrhotite overall as fine, angular vein like grains, average 1mm, maximum 2mm in size.													
				First 30cm. heavily vein with rounded to subangular dark serpentine in pale veining. Severe pyrite veining in last 2.5cm.													
64.5	70.6	Not recorded.		ALTERED CONGLOMERATE?													
				Colour ranges from pale green to dark green and red brown. Colouration apparently caused in part by chlorite (green) and biotite (red brown). Rounded masses of cream to pale green dolomite and pale grey sulphide banded chert, dolomite occurs up to 1cm in size, chert up to 2cm. Matrix appears to be quartzite heavily speckled by chlorite.												
				Biotite occurs as veins and patches, chlorite as speckling, light to heavy.													
				Colouration is very patchy.													
				Sulphides 2% overall, locally up to 5%. Pyrrhotite pyrite, minor arsenopyrite and rare chalcopyrite occur.													
				Sulphides occur as grains and angular patches up to 3mm in size as veins and disseminated.													
				Very patchy distribution of type and quantity of sulphide, chert generally banded with pyrrhotite.													
				Petrological sample 94028 - 64.8m.													
				94029 --69.8m													
				End of hole													

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001603

94025 : fine banded, talc serpentine olivine carbonate rock, minor pyrrhotite and graphite.

49.1m This rock consists mainly of a fine banded (1 - 2mm) finely granoblastic mosaic of carbonate with subordinate, extremely fine prismatic to granular olivine in varying concentration which defines many of the bands.

Serpentine (12 - 15%) is interstitial to the aggregate, selectively concentrated in some bands. Minor, fairly coarse flakes of talc (5 - 7%) are distributed along some bands.

Fine (0.1mm) grains of pyrrhotite (10%) and graphite are disseminated, but they are slightly more concentrated in some bands than in others. The positive identity of these could only be confirmed in polished section.

94026 : oxidised and leached ophicalcite rock, (serpentine marble).

18.3m This is a leached and weathered rock which consists predominantly of an extremely fine granoblastic mosaic of carbonate. It contains fairly abundant (20%) small leach cavities, some of which contain remnants of serpentine. Almost certainly these were originally serpentine pseudomorphs after olivine (as in other rocks in the suite).

Accessory extremely fine magnetite (oxidised), pyrite, and ?sphalerite grains are present.

This sample is interpreted to be an oxidised and leached ophicalcite rock.

94027 : oxidised, fine banded serpentine-calcite rock (including bands of ophicalcite)

24.4m This is a finely banded rock, the bands are defined mainly by variations of calcite and serpentine which dominate this sample. Some bands consist of a fine mosaic of calcite, studded with abundant, small (0.08mm) serpentine pseudomorphs after olivine (ophicalcite). These grade into bands of predominantly serpentine mesh after a fine aggregate of metamorphic olivine, with minor remanats of intergranular carbonate.

Fine diffuse patches of ?graphite, accessory magnetite and ?pyrite tend to be selectively concentrated into bands. The sulphide and magnetite, and the rock generally, is oxidised and limonite stained.

(actinolite)

94028 : biotite-cordierite rock, accessory sphene and apatite

64.8m This section consists mainly of a coarse granoblastic aggregate of cordierite (70 - 80%), with minor (15 -20%) discrete flakes of biotite scattered throughout. The biotite is pleochroic from colorless to pale and deep tan, and as such tends to have optical properties transitional to phlogopite.

Minor (7 - 10%) generally pale green amphibole prisms (actinolite or possibly cummingtonite) occur mainly in irregular zones through the essentiel cordierite aggregate. Many of these are extensively replaced by carbonate.

The cordierite is fairly extensively flecked by fine sericite. Accessory(3 - 5%)small grains of sphene and lesser apatite are present.

Several veins of actinolite (or possibly cummingtonite) cut the rock.

This is most likely a metasediment, derived by the contact metamorphism (and probable accompanying metasomatism) of an original magnesic (?dolomitic) argillaceous rock.

RENISON LIMITED

SCALE :

DIAMOND DRILL HOLE PLOT

HOLE No. : 47

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94029 : phlogopite-diopside rock, minor pyrrhotite, pyrite and vesuvianite

69.8m This rock consists of a complex patchy aggregate of pale tan-brown phlogopite and clinopyroxene (diopside) The mica is generally much paler than in 94028 and hence may be classified as phlogopite rather than biotite. Irregular areas of talc occur within some phlogopite groups and may be after former orthopyroxene or olivine. Anhedral grains of sulphide are randomly scattered, some of these have an envelope of vesuvianite. Fine granules of sphene (3 - 5%) are scattered.

In polished section the disseminated sulphides are found to consist mainly of pyrrhotite, however several corroded looking grains of pyrite, up to 5mm, and accessory very fine (0.1mm) grains of chalcopyrite are present.

The presence of phlogopite in this rock which has optical properties transitional from the biotite in 94028, suggests some affinity with sample 94028. However, the gross assemblage indicates that it is a contact metamorphosed, impure (?argillaceous) dolomite limestone.

HOLE NUMBER	H8	SURVEY			From – To	Distance D	VERTICAL		HORIZONTAL	
		Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
PURPOSE		Collar		-90°			148.1	2016.7		
LOCATION	St Dizier									
COLLAR R.L.	2164.8m									
CO-ORDINATES	20063N 20010.5E Cominco Grid 5367720N 344838.5E AMG									
LENGTH	148.1m									
HOLE SIZE	AX									
DATE DRILLED	1/5/66 - 16/6/66									
SIGNIFICANT CORE LOSS ZONES										
ORE ZONE GROUND CONDITIONS										
LOGGED BY	G. Boyle (Cominco) 28.4.74									
COMMENTS	Siginficant chalcopyrite near the granite contact.									

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SUMMARY – ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS												B.C.A.
				Sn.	Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t			
Placer assays:	0.0	25.3	25.3	0.40	–	Augered Hole										
	63.0	76.0	13.0	0.14	0.05	0.03	<0.1	1.9	<0.01	0.04	0.008	0.01	<1	} Rexicon assays (1982)		
	including 74.0	76.0	2.0	0.56	0.04	0.06	<0.1	2.8	<0.01	0.02	0.016	0.02	<1			

PLAN

DIP PROFILE

5 cm

DIAMOND DRILL RECORD

Reassay by Renison (handwritten)
Note: Assays from Placer data (typed)

HOLE NUMBER : H8
LOGGED BY : G. Boyle

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. AC10 SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0	32.7			NO RECOVERY		At	1.5	0.09									
						"	3.0	0.36									
						"	4.6	0.29									
						"	6.1	0.29									
						"	7.6	0.26									
						"	9.1	0.29									
						"	10.7	0.19									
						"	12.2	0.58									
						"	13.7	0.03		Auger samples							
						"	15.2	0.68									
						"	16.8	0.20									
						"	18.3	0.02									
						"	19.8	0.83									
						"	21.3	0.60									
						"	22.9	0.76									
						"	24.4	0.95									
						"	25.4	0.35									
						"	32.0	0.05									
32.7	34.7	0.09	5	LIMONITIC CLAY	%Fe												
					0.8	33	36	<0.01	0.01	<0.01	<0.1	<0.1	<0.01	0.01	.007	1	<0.01
				Yellow brown limonitic clay and limonite.	0.2	36	38	"	<0.01	"	"	"	"	"	.002	1	"
					0.2	38	40	"	<0.01	"	"	"	"	"	.003	1	"
34.7	36.1	0.8	56	MARBLE	1.2	40	42	"	<0.01	0.01	"	"	"	"	.002	1	"
					0.2	42	44	"	<0.01	<0.01	"	"	"	"	.003	1	"
				Fine to medium grained white marble. Minor black	0.3	44	45	"	0.01	"	"	"	"	"	.003	2	"
				colouration. Poor bedding 10°- 45° to core axis.	0.1	45	46	"	<0.01	"	"	"	"	<0.01	.004	<1	"
					0.2	46	47	"	<0.01	"	"	"	"	0.01	.004	2	"
36.1	42.9	3.6	53	DOLOMITE	0.2	47	48	"	<0.01	"	"	"	"	<0.01	.005	2	"
					0.4	48	50	"	<0.01	"	"	"	"	0.01	.004	3	"
				Fine to medium grained white to yellow dolomite and translucent	0.1	50	51	"	<0.01	"	"	"	"	0.02	.005	1	"
				yellow green serpentinised dolomite. Minor black	0.2	51	53	"	<0.01	0.01	"	"	"	0.02	.005	1	"
				bands.	0.3	53	53	"	<0.01	<0.01	"	"	"	0.01	.004	<1	"
				Poorly bedded generally irregular. Colouration variable	0.3	53	54	"	<0.01	"	"	"	"	0.01	.003	2	"
				patchy. Yellow green dominant 36.4 - 37.0m, 40.2 -	0.1	54	55	"	<0.01	"	"	"	"	0.01	.004	1	"
				- 40.4m, 41.0 - 41.8m, subparallel band of dark green													
				serpentinite.													
				40.4 - 40.5m - creamy soft dolomite. Patchy limonite													
				staining, minor calcite veining.													
				36.0 - 43.6m - overlap in core blocks, minimal core													

DIAMOND DRILL RECORD

HOLE NUMBER : H8

LOGGED BY : G. Boyle

Reassays by Renison (handwritten).
Note : Assays from Placer data. (typed)

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM. %Fe	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
42.9	62.0	15.9	83	MARBLE and SERPENTINISED DOLOMITE	<0.1	55	56	<0.01	0.03	0.01	<0.1	<0.1	<0.01	0.01	.033	9	0.01
					27.1	56	57	0.03	0.01	046	0.8	16.6	"	0.03	.003	1	0.11
				Fine to medium grained pale grey to white marble and													
				patchily developed cream to translucent yellow green	0.4	57	59	<0.01	0.03	<0.01	<0.1	<0.1	"	0.01	.003	2	<0.01
				serpentinised dolomite, generally fine grained. Minor	0.4	59	60	"	0.01	0.01	"	"	"	"	.005	<1	"
				patches of dark green to black ?serpentinite grains,	0.3	60	61	"	0.01	<0.01	"	"	"	"	.003	1	"
				average 1mm in size.	0.6	61	62	"	0.02	0.01	"	"	"	"	.004	<1	"
				Bedding poor, irregular.	1.0	62	63	"	<0.01	"	"	0.2	"	0.46	.002	<1	"
				After 48.2m, some white medium grained dolomite occurs.	21.1	63	64	0.14	0.01	"	"	0.3	"	0.03	.003	<1	0.01
				49.8m - 6mm thick dark green serpentine vein.	6.7	64	65	0.03	0.04	"	"	<0.1	"	0.04	.002	1	<0.01
				49.8 - 49.9m, white crushed calcareous zone, also	6.9	65	66	0.05	0.12	<001	"	"	"	0.02	.004	<1	"
				50.1 - 50.4m, 57.3 - 57.5m, 58.2 - 59.1m.	4.9	66	69	0.05	0.06	0.01	"	0.1	"	0.08	.003	<1	"
				59.8 - 60.0m - vuggy marble	7.7	69	70	0.03	0.01	0.03	"	2.3	"	0.06	.003	<1	0.01
				60.1 - 60.3m - creamy weathered marble. Colour	10.5	70	72	0.10	0.03	0.03	"	2.8	"	0.04	.005	<1	0.04
				and composition always patchily randomly developed.	12.3	72	74	0.03	0.09	0.07	"	5.3	"	0.02	.018	<1	0.01
					17.5	74	76	0.56	0.04	0.06	"	2.8	"	0.02	.016	<1	0.02
62.0	63.1	1.1	100	SERPENTINE-DOLOMITE	10.1	76	78	0.01	0.55	0.06	"	4.1	"	0.01	.013	<1	0.02
					7.9	78	80	"	0.02	0.03	"	1.4	"	0.01	.004	<1	0.03
				Dark green fine serpentinite, fine to medium grained	8.3	80	81	"	0.01	0.04	"	1.4	"	0.03	.020	1	0.02
				white dolomite and fine yellow-green serpentinised	8.6	81	84	"	0.03	0.04	"	1.1	"	0.01	.006	<1	0.04
				dolomite. Patchily distributed, some veinous. Minor	8.2	84	85	"	0.02	0.04	"	1.3	"	0.02	.018	<1	0.02
				magnetite with serpentinite.	14.8	85	86	0.03	<0.01	0.22	"	5.0	"	0.02	.008	3	0.09
					0.2	86	87	<0.01	<0.01	0.01	"	<0.1	"	0.01	.004	1	<0.01
63.1	64.5	1.3	100	SERPENTINITE		62.8	64.3	0.01									
				Cream, pale green and dark green serpentine, patchily													
				intermingled. Minor fibrous antigorate. Minor													
				magnetite.													
64.5	65.1	0.6	100	MAGNETITE-SERPENTINITE		64.3	65.1	0.11									
				50% black magnetite and 50% white fibrous serpentinite.													
				Magnetite granular and acicular interstitial to fibrous													
				serpentine. Minor dark green serpentine.													
65.1	68.7	2.5	70	SERPENTINE AND DOLOMITE		65.1	66.3	0.02									
						66.3	66.4	0.41									
				Dark green to black and dark green brown and yellow		66.4	67.3	NIL									
				green serpentinite, and fine to medium grained white		67.3	68.7	NIL									
				dolomite.													
				Interbedded, well bedded to patchy													

DIAMOND DRILL RECORD

HOLE NUMBER : H8

LOGGED BY : G. Boyle

Note: Ascay from Placer data.

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INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				Bedding 35° to core axis.													
				67.2 – 68.7 – crush zone, white serpentinite – dolomite gravel.													
68.7	85.3	7.7	46	SERPENTINITE		68.7	70.1	0.01									
						70.1	71.6	0.02									
				Fine, pale cream green to dark green black and reddish brown		71.6	73.2	NIL									
				well banded to massive serpentinite, banding 35° to		73.2	75.2	0.30									
				core axis.		75.2	76.5	NIL									
				Minor patchy development of magnetite, also minor patchy		76.5	77.7	NIL									
				pyrrhotite, pyrite. Sulphides locally up to 5% overall		77.7	79.2	NIL									
				average ½%, usually as patches, grains up to 1mm in		79.2	80.8	NIL									
				size, concentrated in bands, fractures.		80.8	82.3	NIL									
				Colour of serpentine widely variable, but light and		82.3	83.8	NIL									
				dark green alternating dominant.		83.8	85.8	NIL		0.24							
				83.8 – ?84.1m purple brown and clear fluorite vein,													
				minor biotite.													
85.3	87.6	1.1	50	PYRITIC SERPENTINITE		85.8	87.5	0.01									
				Fine dark and pale green serpentinite, poorly banded,													
				with 5% pyrite, minor chalcopyrite, rare arsenopyrite													
				in veins throughout. Sulphides fine grained form masses													
				up to 3mm in size. Sulphides occasionally massive over													
				up to 5cm of core.													
87.6	88.5	0.5	50	PYRITE QUARTZ	%Fe	87.5	88.5	NIL		0.57							
					19.2	87.0	89.0	0.03	0.03	0.14	<0.1	6.6	<0.01	0.02	.013	2	0.04
				60% pyrite, minor chalcopyrite and arsenopyrite,													
				quartz gangue. Minor serpentine, relic banding.													
				Sulphides fine grained patchy massive and disseminated.													
				5cm zone of dark green, bladed to lamellar ?chlorite													
				with angular fragments of quartz, carbonate and													
				fluorite, rare arsenopyrite, total non-chlorite 10%													
				This section at start of zone is matched by similar													
				section in the last 23cm, but containing 20% fine													
				interstitial pyrite, some thick beds.													
88.5	88.6	0.05	50.	CHLORITE-QUARTZ CONTACT ZONE													
				Fine grained chlorite speckled quartz, mildly iron													

DIAMOND DRILL RECORD

HOLE NUMBER : HB 113

LOGGED BY : G. Boyle

Note: As[illegible] from Placer data.

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
88.6	91.1	1.3	53	GRANITE		88.5	90.3	NIL									
						90.3	90.8	NIL		8.67	Note - this assay presumably						
				Massive, medium grained granite, 5% dark green brown							applies to 91.1 - 91.4m on						
				granite, 3% pyrite in angular grains up to 2mm size.							Cominco's log						
91.1	91.4	0.2	81	PYRITE-CHALCOPYRITE VEIN													
				Massive fine grained slightly vuggy pyrite, and													
				massive, medium grained patchy chalcopyrite. Minor													
				quartz, tourmaline and rare arsenopyrite.													
				40% chalcopyrite.													
91.4	94.9	3.5	100	GRANITE or QUARTZ-TOURMALINE		90.8	92.4	0.01									
						92.4	93.2	0.01									
				Massive medium grained granite. No apparent feldspar		93.2	94.8	NIL									
				but 20% dark brown black biotite or weathered tourma-													
				line, forms a network structure, minor large round													
				quartz masses.													
				Minor pyrite.													
94.9	96.4	1.2	80	ALTERED GRANITE		94.8	96.3	NIL									
				Massive fine to medium grained granite with 1% dark													
				green brown biotite, but 5% muscovite, possibly after													
				biotite. Micas have network structure.													
96.4	106.1	8.2	84	GRANITE		96.3	98.1	NIL									
						98.1	99.4	NIL									
				Massive, medium to coarse grained granite, cream to		99.4	101.0	NIL									
				pale green feldspar, 2% biotite (dark green brown),		101.0	102.6	0.01									
				up to 1% muscovite after biotite; Biotite is patchy		102.6	104.1	NIL									
				interstitial may be up to 3% fine interstitial musco-		104.1	105.6	NIL									
				vite.		105.6	107.1	NIL									
				Rare quartz, chalcopyrite veining.													
106.1	107.1	0.8	84	ALTERED GRANITE													
				As before. 30% pyrite 106.9 - 107.0m, quartz-tourma-													
				line 107.0 - 107.05m.													

DIAMOND DRILL RECORD

HOLE NUMBER : H8

LOGGED BY : G. Boyle

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Note : Assa[illegible] from Placer data.

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
107.1	147.5	31.6	78	GRANITE		107.1	108.7	NIL									
						108.7	110.2	"									
				Medium, coarse granite as before. Minor quartz chalco-		110.2	111.7	"									
				pyrite veining. Minor patchy quartz tourmaline 112.9 -		111.7	113.2	"									
				113.2m, quartz and black brown tourmaline, 30% and 1%		113.2	114.8	"									
				pyrite, rare fluorite.		114.8	116.4										
				Muscovite after biotite often approaches totallity,		116.4	118.0	"									
				after 126.2m, biotite fairly minor.		118.0	119.5	"									
				Minor amethysts in quartz veins between 115.5 and 116.7m.		119.5	121.0	"									
				117.6 - 117.8m, 2% pyrite, chalcopyrite in veining		121.0	122.5	"									
				in the granite. Rare pyrite, chalcopyrite, arseno-		122.5	126.3	"									
				pyrite veining throughout the granite, after this,													
				also patches of pyrite, chalcopyrite up to 2mm rarely													
				up to 1cm.													
				Granite patchily oxidised iron stained													
				126.3 - 2.5cm pyrite sphalerite (70:30) vein, fine													
				grained patchy minor quartz.													
				131.1 - 131.2m - quartz tourmaline vein, minor													
				pyrite.													
147.5	148.1	0.5	78	ALTERED GRANITE													
				As before													
				End of hole													

DIAMOND DRILL RECORD

HOLE NUMBER . SD 76 116

LOGGED BY :

115

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM. Fe	FROM	TO	% Sn TOTAL	% Sn ACID SOL.	SSn % Cu	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				Note: Revision assays, for report, July 1982	0.8	33	36	<0.01	0.01	<0.01	<0.1	<0.1	<0.01	0.01	0.007	1	<0.01
					0.2	36	38	"	<0.01	<0.01	"	"	"	0.01	0.002	1	"
					0.2	38	40	"	"	<0.01	"	"	"	0.01	0.003	1	"
					1.2	40	42	"	"	0.01	"	"	"	0.01	0.002	1	"
					0.2	42	44	"	"	<0.01	"	"	"	0.01	0.002	1	"
					0.3	44	45	"	0.01	"	"	"	"	0.01	0.003	2	"
					0.1	45	46	"	<0.01	"	"	"	"	<0.01	0.004	<1	"
					0.2	46	47	"	"	"	"	"	"	0.01	0.004	2	"
					0.2	47	48	"	"	"	"	"	"	<0.01	0.005	2	"
					0.4	48	50	"	"	"	"	"	"	0.01	0.004	2	"
					0.1	50	51	"	"	"	"	"	"	0.02	0.005	1	"
					0.2	51	52	"	"	0.01	"	"	"	0.02	0.005	1	"
					0.3	52	53	"	"	<0.01	"	"	"	0.01	0.004	<1	"
					0.3	53	54	"	"	<0.01	"	"	"	0.01	0.003	2	"
					0.1	54	55	"	"	<0.01	"	"	"	0.01	0.004	1	"
					<0.1	55	56	"	0.03	0.01	"	"	"	0.01	0.033	9	0.01
					27.1	56	57	0.03	0.01	0.46	0.8	16.6	"	0.03	0.003	1	0.11
					0.4	57	59	<0.01	0.03	<0.01	<0.1	<0.1	"	0.01	0.003	2	<0.01
					0.4	59	60	"	0.01	0.01	"	"	"	0.01	0.005	<1	<0.01
					0.3	60	61	"	0.01	<0.01	"	"	"	0.01	0.003	1	<0.01
					0.6	61	62	"	0.02	0.01	"	"	"	0.01	0.004	<1	<0.01
					4.0	62	63	"	<0.01	0.01	"	0.2	"	0.46	0.002	<1	<0.01
					21.1	63	64	0.14	0.01	0.01	"	0.3	"	0.03	0.002	<1	0.01
					6.7	64	65	0.03	0.04	0.01	"	<0.1	"	0.04	0.002	1	<0.01
					6.9	65	66	0.05	0.12	<0.01	"	<0.1	"	0.02	0.004	<1	<0.01
					4.9	66	69	0.05	0.06	0.01	"	0.1	"	0.08	0.003	<1	<0.01
					7.7	69	70	0.03	0.01	0.03	"	2.3	"	0.06	0.003	<1	0.01
					10.5	70	72	0.10	0.03	0.03	"	2.8	"	0.04	0.005	<1	0.04
					12.3	72	74	0.03	0.09	0.07	"	5.3	"	0.02	0.018	<1	0.01
					17.5	74	76	0.56	0.04	0.06	"	2.8	"	0.02	0.016	<1	0.02
					10.1	76	78	0.01	0.05	0.06	"	4.1	"	0.01	0.013	<1	0.02
					7.9	78	80	0.01	0.02	0.03	"	1.4	"	0.01	0.004	<1	0.03
					8.3	80	81	0.01	0.01	0.04	"	1.4	"	0.03	0.020	1	0.02
					8.6	81	84	0.01	0.03	0.04	"	1.1	"	0.01	0.006	<1	0.04
					8.2	84	85	0.01	0.02	0.04	"	1.3	"	0.02	0.018	<1	0.02
					14.8	85	86	0.03	<0.01	0.22	0.1	5.0	"	0.02	0.008	3	0.09
					0.2	86	87	<0.01	<0.01	0.01	<0.1	<0.1	"	0.01	0.004	1	<0.01
					19.2	87	89	0.03	0.08	0.14	<0.1	6.6	"	0.02	0.013	2	0.04

HOLE NUMBER	H9
PURPOSE	
LOCATION	St Dizier
COLLAR R.L.	2164.1m
CO-ORDINATES	20077N 20014.5E Cominco Grid 5367732.5N 344845E AMG
LENGTH	77.1m
HOLE SIZE	NMLC
DATE DRILLED	18/6/66 – 7/7/66
SIGNIFICANT CORE LOSS ZONES	
ORE ZONE GROUND CONDITIONS	
LOGGED BY	G. Boyle (Cominco) 8/5/74
COMMENTS	

SURVEY			From – To	Distance D	VERTICAL		HORIZONTAL	
Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
Collar	0	−90°				2087·0		

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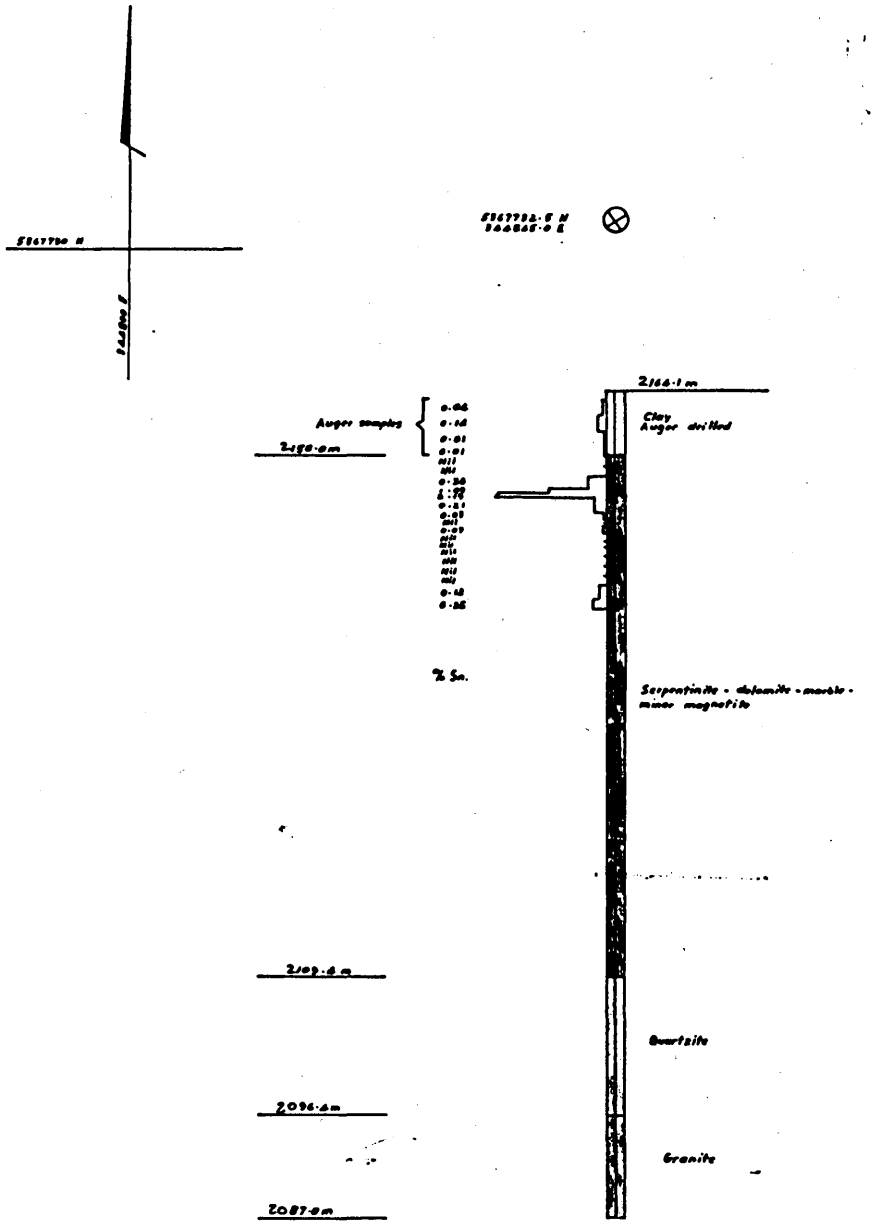
SUMMARY – ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS												B.C.A.
				Sn.	Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t	Fe		
Placer assays:	7.9	9.8	1.9	0.85	(Treat with caution)											
Penison assays: (1983)	25.1	27.1	2.0	0.29	0.29	<0.01	<0.1	<0.1		0.02	0.016	0.01	2	15.8		



PLAN

DIP PROFILE

5 cm

DIAMOND DRILL RECORD

HOLE NUMBER : H9

LOGGED BY : Boyle, G.

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INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				NOTE:													
				From 0 - 24.4m : Placer's log, since core trays were													
				missing when G. Boyle relogged the core.													
0.0	6.1	?		CLAY		At	1.5	0.04	}								
						"	3.0	0.14	} AUGER SAMPLES								
				Auger drilled.		"	4.6	0.01									
						"	6.1	0.01	}								
6.1	24.4	?		SERPENTINITE AND CALC SILICATE, MINOR MAGNETITE		6.1	6.9	-									
						6.9	7.8	-									
				Clayish multicoloured rock with poor recovery.		7.8	9.1	0.34									
				7.9 - 11.3m - Greenish clayish rock with poor recov-		9.1	9.4	1.09									
				ery - no magnetite (This casts doubt on the tin assays		9.4	9.8	2.19									
				recorded for this interval - PRS April'79).		10.7	11.3	0.21									
				18.4 - 20.4m - Magnetite rock.		11.3	11.9	0.03									
						11.9	12.2	-									
				The above is a summary from Placer's log; the rock		12.2	12.5	-									
				type is probably the same as 24.4 - 32.9m, logged by		12.5	13.1	0.07									
				G. Boyle (P.R.S.)		13.1	14.0	-									
						14.0	14.6	-									
						14.6	15.4	-									
						15.4	16.3	-									
						16.3	17.1	-									
						17.1	18.0	-									
						18.0	19.5	0.12									
						19.5	20.4	0.25									
24.4	32.9	2.0	23	MAGNETITE-SERPENTINISED DOLOMITE-SERPENTINITE													
				Fine yellow green to white serpentinised dolomite and													
				dolomite, fine green to black serpentine, and 30% fine													
				black magnetite, patchily developed massive beds and													
				speckling.													
				Patchily oxidised to haematite.													
				Serpentinite and dolomite are patchily coloured and													
				intermingled.													

DIAMOND DRILL RECORD

HOLE NUMBER : H9

LOGGED BY : G. Boyle

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
32.9	35.4	0.5	20	SERPENTINITE													
				Fine, massive, transluscent dark green serpentine veined by calcite. Yellow green serpentinised dolomite 34.6 - 34.7m. After 32.9m, 15cm of core thin crush zone of serpentine and calcite gravel.													
35.4	41.9	6.1	93	SERPENTINISED DOLOMITE AND SERPENTINITE													
						37.8	41.2	0.09	- Sludge sample								
				Fine, massive, yellow green to cream serpentinised dolomite and yellow green to black serpentinite, calcite veined. Patchy and veinous rock type - colour associations. 37.1 - 37.2m, fine grained black granular and tabular mineral up to 3mm size in dolomite - calcite. Some as in H5, 59.6m, specimen 94034 this mineral is patchily scattered, generally rare. (note : sample number should be 94032? P.R.S.)												
41.9	48.5	6.2	94	MARBLE-SERPENTINISED DOLOMITE-SERPENTINE													
				White, fine to medium grained marble, yellow green to cream fine grained serpentinised dolomite and yellow green to black serpentine. Patchily and veinous intermingled rock types and colours. Marble dominant. Minor spongey marble, possibly veins. Minor black unknown mineral as fine speckling. Minor irregular bedding of serpentinite - dolomite after 44.0m. 47.5m 1cm magnetite vein with radiating serpentine needles within it, irregular vein directions.												
48.5	52.7	3.9	93	SERPENTINITE-DOLOMITE-MAGNETITE													
				Fine, dark green to black serpentinite, bedded to patchy 60%; 30% pale cream to white fine dolomite, 10% magnetite as veins and patches up to 1cm in size. Very patchy in distribution, patchy haematite alteration.													

DIAMOND DRILL RECORD

HOLE NUMBER : H9

LOGGED BY : G. Boyle

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INTERVAL (m)		RECOVERY		DESCRIPTION	FORM.			% Sn.									
FROM	TO	m	%			FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
52.7	54.6	1.6	83	SERPENTINITE-DOLOMITE													
				Fine dark green to black serpentinite, generally bedded, rarely massive or patchy and 30% pale grey fine dolomite. Patchy magnetite 1% overall.													
54.6	67.7	4.2	32	QUARTZITE													
				Fine, pink brown and pale to dark grey, green tinged bedded quartzite. Minor bedded disseminated pyrite, 1% overall. Minor serpentine veining in the first 0.6m, Bedding 10° to core axis.		65.5	68.6	0.03	Sludge sample								
67.7	77.1	7.6	81	GRANITE													
				Massive medium grained granite. Biotites completely altered to muscovites and chloritised to 73.9m, fine grained granite patchily formed by general chlorite - muscovite- alteration, Minor quartz tourmaline													
				End of hole													

ASSAYED AT RENISON LABORATORY, 1983

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: ST. DIZIER

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H9. Page: 1.

INT	AL To	RECOVERY m	RECOVERY %	DESCRIPTION

ASSAY DATA (all wt% except Ag which is ppm)

Sample No.	From	To	Rec. %	Sn	SSn	S	As	Cu	Zn	WO_3	Fe	Ag	Bi
5243	24.1	25.1	51	0.10	.10	<0.1	<0.1	<0.01	0.03	<0.01	23.2	1	.006
5244	25.1	26.1	51	0.27	.28	<0.1	<0.1	<0.01	0.01	0.01	15.5	2	.021
5245	26.1	27.1	24	0.30	.31	<0.1	<0.1	<0.01	0.03	0.01	16.0	2	.011
5246	27.1	31.1	44	0.03	.02	0.1	<0.1	0.05	0.16	<0.01	14.6	2	.006
5247	31.1	34.1	62	0.01	.01	<0.1	<0.1	<0.01	0.01	<0.01	0.7	3	.009
5248	34.1	35.4	24	0.01	<.01	<0.1	<0.1	<0.01	0.01	<0.01	< 0.1	2	.009

HOLE NUMBER	H10	SURVEY			From – To	Distance D	VERTICAL		HORIZONTAL	
		Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
PURPOSE		Collar	008° AMG	-60°	0 -125.3	125.3	108.5	~~62.5~~ ~2662.5	62.7	62.7
LOCATION	St Dizier									
COLLAR R.L.	~ 2171.0m									
CO-ORDINATES	19942N 20247E Cominco Grid 5367560.5N 345049E AMG									
LENGTH	125.3m									
HOLE SIZE	0 - 66.1m AX 66.1 - 125.3m EX									
DATE DRILLED	11/7/66 - 26/8/66									
SIGNIFICANT CORE LOSS ZONES										
ORE ZONE GROUND CONDITIONS										
LOGGED BY	D. Simpson (Cominco) April '74									
COMMENTS										

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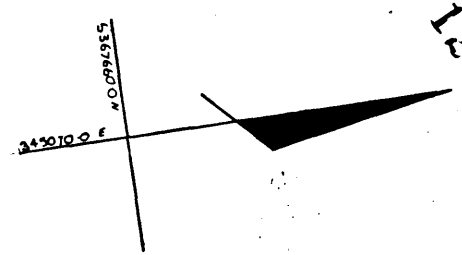
SUMMARY – ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS												B.C.A.
				Sn.	Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t	Fe		
Placer assays:	36.0	64.6	28.6	1.00												
	64.6	80.5	15.9	0.45												
	80.5	89.6	9.1	1.11												
	89.6	105.8	16.2	0.34												
	36.0	105.8	69.8	0.73												
Renison assays: (1083)	36.0	106.0	70.0	0.64	0.07	0.09	0.1	2.4		0.10	0.090	0.10	2	19.9		

PLAN



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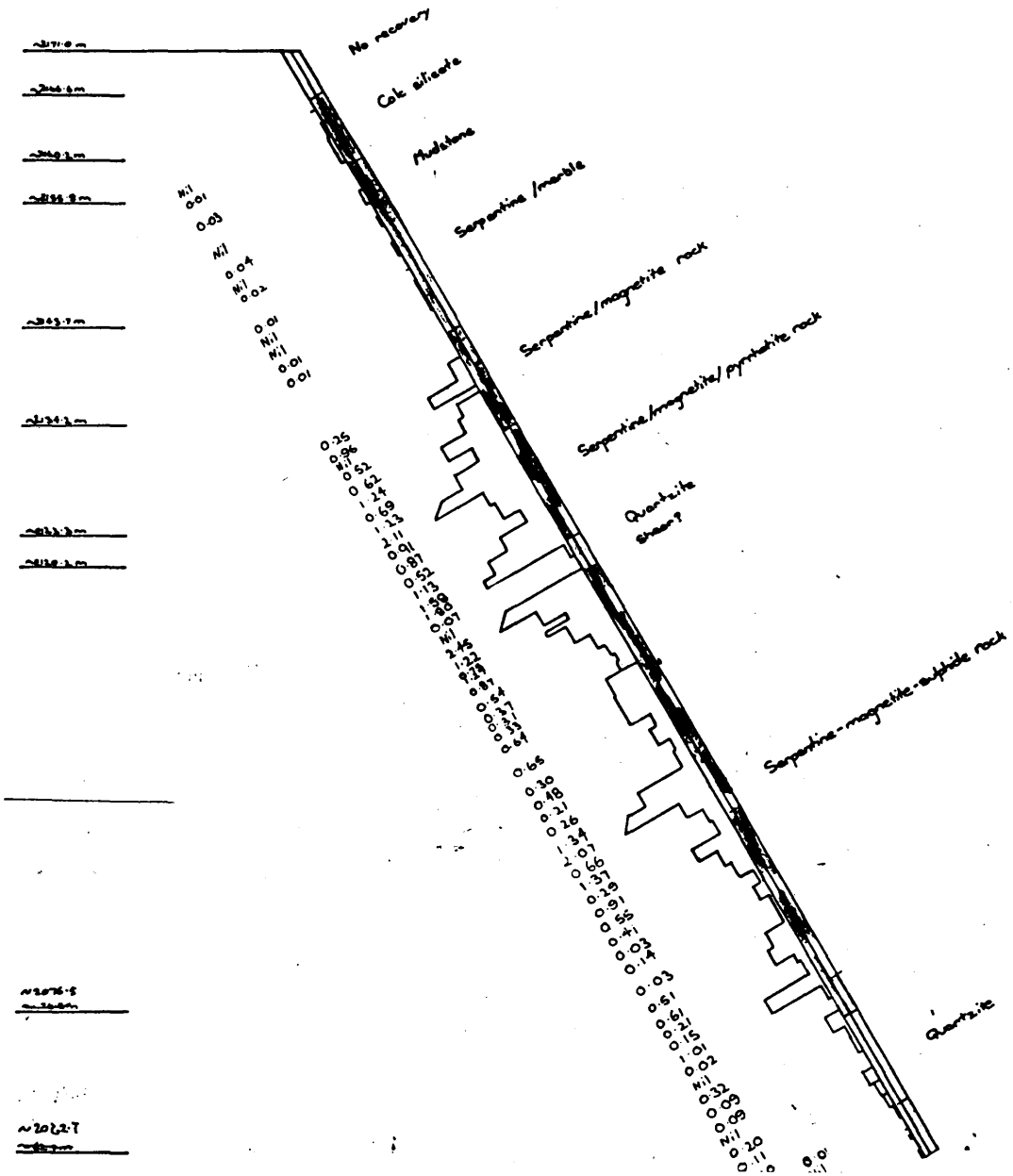
DIP PROFILE



5 cm

DIAMOND DRILL HOLE

Note: Assays from Placer data.

LOGGED BY : D. Simpson

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
										From	to	%Sn					
0	5.0	0	0	No recovery						0.0	3.0	0.07					
5.0	12.5	1.8	24	CALC-SILICATE ROCK		5.0	6.1	NIL		3.0	7.6	0.06	Sludge samples				
						6.1	7.6	0.01		7.6	10.7	0.02					
				Medium grained metamorphosed calc silicate rock showing		7.6	9.1	0.03									
				faint banding. This unit very variable, being quartz		9.1	12.2	NIL									
				rich in parts while other parts consist of rock frag-													
				ments. Locally sections are heavily sericitised e.g.													
				9.1 - 11.3.													
				Mineralisation - traces of disseminated pyrrhotite													
				Structure - faint banding 15° CA													
12.5	17.4	1.8	37	MUDSTONE		12.2	15.2	NIL									
						15.2	16.8	0.04									
				Dark grey mudstone, faintly banded and carrying minor													
				sulphides (prob. pyrite). Sericite rich patches													
				developed locally parallel to bedding.													
				Mineralisation - minor pyrite access on fractures and													
				parallel to bedding - total < 1%													
				Structure - bedding 15° CA.													
17.4	23.2	5.3	91	SERPENTINE ROCK		16.8	18.3	NIL									
						18.3	19.5	0.02									
				Banded in parts and variable in composition containing													
				bands of magnetite, chlorite, sulphides and carbonate		21.3	22.9	0.01									
				(dolomite). Patch of pyritic mudstone at 21.9 - 22.3m.													
				Mineralisation - minor arsenopyrite locally dissemin-													
				ated.													
				Structure - mineralogical banding 30° to CA.													
				Magnetite 10 - 20%													
23.2	30.5	6.0	82	MARBLE		22.9	24.4	NIL									
						24.4	25.9	NIL									
				Medium to coarse grained white to light grey marble.		25.9	27.4	0.01									
				Coarsely recrystallised in parts e.g. at 27.7m. Pale		27.4	29.0	0.01									
				green alteration products, probably after olivine													
				throughout.													
				Magnetite patches developed locally. Serpentine													
				developed in shears.													
				Mineralisation - none observed.													
				Structure - mineralogical banding at 25.9m, 45° to CA.													
				Shear at 23.5m, 15° CA. Serpentinous. Slides 90°/LA													

DIAMOND DRILL RECORD

HOLE NUMBER : H10

LOGGED BY : D. Simpson

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Note : Asse[illegible] from Placer data.

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				Kaolinised shear at 25.9m - 5° CA.													
				Shear at 28.3m, 15° CA. Slickensides parallel to LA.													
				Shear at 28.7m, 15° CA. Slickensides 30°/LA													
				Vivianite developed as shears.													
30.5	31.7	1.1	92	MUDSTONE													
				Grey, slightly pyritic massive mudstone													
				Poor recovery toward bottom of section													
				No structure evident.													
31.7	36.7	4.8	96	MAGNETITE-CHLORITE-KAOLIN ROCK MINOR QUARTZITE													
				Magnetite ~ 40%; white quartzite 32.3 - 32.9m and 34.4													
				- 34.7m.		34.4	36.0	0.25									
				Mineralisation - traces of disseminated pyrrhotite													
				at 35.1m, ~ 1%.													
				Structure - mineralogical banding at 33.5m, 35° to CA													
				at 35.4m, 80°/CA													
				Possible fault at 34.1m - very low recovery													
				Healed shear at 35.1m, 60°/CA													
				Serpenitinous from 36.3 - 36.6m.													
36.7	42/7	5.8	96	BANDED MAGNETITE-SERPENTINE ROCK		36.0	37.5	0.96									
						37.5	38.1	NIL									
				Magnetite and serpentine in roughly equal proportions		38.1	39.6	0.52									
				Serpentine dark green or black.		39.6	41.1	0.62									
				Carbonate veins ~ 1mm throughout.		41.1	42.7	1.24									
				Mineralisation - traces of pyrite disseminated locally.													
				Structure - mineralogical banding 30°/CA (Not clear)													
42.7	44.8	2.0	95	MAGNETITE-PYRRHOTITE-SERPENTINE ROCK		42.7	44.2	0.69									
				As above but containing up to 30% pyrrhotite.													
				Pyrrhotite often occurs as long thread-like structures													
				(probably replacement along fractures or grain													
				boundaries). It can also be seen replacing the borders													
				of magnetite aggregates (44.0m).													
				Vein of pyrrhotite-serpentine-fluorite-chalcopyrite at													
				50° CA at 44.5m. Petrological sample - 94012.													

DIAMOND DRILL RECORD

Note: Assays from Placer data.

LOGGED BY: D. Simpson

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
44.8	55.2	10.4	100	MAGNETITE-PYRRHOTITE-SERPENTINE ROCK		44.2	45.7	1.23									
						45.7	47.2	2.11									
				As above (42.7 - 44.8m) but magnetite content variable.		47.2	48.8	0.91									
				Some parts are almost all pyrrhotite.		48.8	50.3	0.87									
				Structure - mineralogical banding variable between		50.3	51.8	0.52									
				0° and 30° CA. Shear at 47.5m 30° CA. Slicks 60° to		51.8	53.3	1.13									
				LA. Pyrite counts on shear. Pyrite shear at 49.7m,		53.3	54.9	1.58									
				85° CA.		54.9	55.5	1.80									
55.2	58.5	3.3	100	QUARTZITE		55.5	57.0	0.07									
						57.0	58.5	NIL									
				Buff coloured fine grained impure quartzite with minor													
				disseminated pyrrhotite (prob. Sn. assay)													
				Small serpentinous patches on shears.													
				Mineralisation - disseminated pyrrhotite aggregates up													
				to 10%.													
				Structure - several small shears at 56.7m to 57.0m													
				in serpentine.													
58.5	58.8	0.3	100	SERICITE SHEAR?													
											From	To	% Sn				
				Heavily sericitised and fractures section shear (?)													
				- original rock not determined (possibly sediment)													
				Mineralisation - trace pyrrhotite													
58.8	64.9	5.8	96	MAGNETITE-SERPENTINE ROCK		58.5	60.0	2.45									
						60.0	61.6	1.22			60.0	61.6	1.08	Sludge samples			
				Usually fine grained. Kaolimitic from 62.5 - 64.9m,		61.6	62.1	0.75			61.6	64.6	0.91				
				Very friable at 64.6m.		62.1	62.6	1.27									
				Mineralisation - this section generally too kaolinitic		62.6	64.6	0.87									
				to see sulphides.													
				Structure - mineralogical banding (faint).													
				possibly 30° CA.													
				Shear at 64.6m 35° CA. Slickensides 20° to LA.													
64.9	67.3	1.4	60	SERPENTINE ROCK, some MAGNETITE		64.6	66.1	0.54			64.6	66.1	0.17	Sludge sample			
						66.1	67.3	0.37									
				Fine grained serpentine rock with subordinate magnetite and													
				minor pyrrhotite. Magnetite ~5%.													
				Mineralisation - pyrrhotite disseminated locally in													
				small aggregates 2mm across. Pyrrhotite < 1%													

LOGGED BY : D. Simpsbn

Note: Assays from Placer data.

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO3
				Logging between 67.3 and 79.9m has been taken from													
				Placer's data; the core was missing when D. Simpson													
				relogged the core.													
67.3	74.4	4.0	57	MAGNETITE-BEARING SERPENTINITE		67.3	68.3	0.31									
						68.3	69.3	0.33									
				White and green calc-silicate with a variable magnetite		69.3	71.3	0.64									
				content. Pyrrhotite veins and spots occur and pyrite		71.3	74.4	0.65									
				occurs in patches.													
74.4	75.6	1.1	94	?GABBRO		74.4	75.9	0.3									
				Greenish medium grained (1mm) gabbro?													
75.6	79.9	2.9	68	MAGNETITE ROCK		75.9	77.4	0.48									
						77.4	78.9	0.21									
				With olivine and kaolin		78.9	80.5	0.26									
79.9	90.2	6.3	61	MAGNETITE-SERPENTINE ROCK		80.5	82.0	1.34									
						82.0	83.5	2.07									
				Minor kaolin. Prismatic amphibole (?actinolite) develop-		83.5	85.0	0.66									
				ed from 81.7 - 83.5m, and 85.3 - 85.6m in radiating		85.0	86.6	1.37									
				aggregates. Rock quite variable ranging from predomin-		86.6	88.1	0.29									
				antly serpentine to predominantly magnetite. 81.7 -		88.1	89.6	0.91									
				82.6 heavily kaolinised.		89.6	91.1	0.55									
				Mineralisation - this section contains up to 5% pyrrhot-													
				ite as in small aggregates 1mm across. Average													
				pyrrhotite content ~ 1%. Minor < 1% arsenopyrite													
				developed locally. 1cm wide pyrrhotite vein at 85.0m													
				30° CA													
90.2	96.3	5.0	82	SULPHIDE-SERPENTINE-MAGNETITE ROCK		91.1	92.7	0.41									
						92.7	94.2	0.03									
				This rock exhibits slight banding but is contorted.		94.2	95.7	0.14									
				Magnetite usually between 5 - 20%. Veins of flakey													
				serpentine, flugrite and sulphides occur at low angles													
				to CA.													
				Mineralisation - the common sulphide is pyrite (~80%													
				of total sulphide), then pyrrhotite 10 - 15%. Chalco-													
				pyrite and arsenopyrite constitute the remainder.													
				Sulphides constitute ~ 40% of the rock, generally													
				fine grained < 1mm or in aggregates.													

DIAMOND DRILL RECORD

Note: Assays from Placer data.

LOGGED BY : D. Simpson

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				Structure - minor shear at 91.3m, 60° CA, slicks parallel LA.													
96.3	102.6	3.2	51	SERPENTINE with MAGNETITE		95.7	98.3	0.03									
						98.8	100.3	0.51									
				Serpentine rock containing patches of magnetite-rich		100.3	101.8	0.61									
				material. Actinolite rosettes developed at 100.6 -		101.8	102.7	0.21									
				101.5m. Carbonate veins in sheared serpentinite at													
				101.0 - 101.3m.													
				Structure - shear at 96.6m, 15° CA.													
				Shear 101.0 - 101.3m 40° CA. Slicks 70° to LA													
				Shear 102.0m - 60° CA. Slicks 60° to LA.													
				Mineralisation - variable proportions of sulphide pyrite-													
				pyrrhotite and chalcopyrite. Total sulphide ~ 10%.													
102.6	107.9	5.3	100	SERPENTINE-SULPHIDE ROCK		102.7	104.2	0.15									
						104.2	105.8	1.01									
				Minor magnetite present, up to 15% veins of chrysotile		105.8	107.3	0.02									
				parallelling banding. Rock is generally fine grained,													
				i.e. < 0.5mm. Carbonate veins common.													
				Mineralisation - sulphides average 30 - 40% of the													
				rock - disseminated and in aggregates.													
				Pyrrhotite constitutes 90% of the sulphides.													
				Structure - mineralogical banding indistinct.													
				Carbonate filled shear at 104.2m. 5° CA.													
				Possible fault at 105.2m - very low recovery.													
107.9	115.2	6.1	84	SERPENTINITE-SULPHIDE ROCK		107.3	108.8	NIL									
						108.8	110.3	0.32									
				Fine grained rock containing magnetite-rich patch 109.9 -		110.3	111.9	0.09									
				110.2m.. Small patches of quartzite at 110.9m and 114.9m.		111.9	113.4	0.09									
				Thin < 1mm carbonate (calcite) veins common throughout.		113.4	115.2	NIL									
				Mineralisation - disseminated pyrrhotite up to 5%													
				locally, Little pyrrhotite 113.4m onwards. Pyrite													
				noted in joint faces in trace amounts.													
				Structure - several minor shears mostly filled with													
				calcite. No distinct mineralogical banding observed.													

LOGGED BY : D. Simpson

Note: Assays from Placer data.

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO3
115.2	119.5	3.4	79	SERPENTINE-MAGNETITE-SULPHIDE ROCK		115.2	116.6	0.20									
						116.6	118.1	0.11									
				Magnetite averages 40% of rock, occurs as elongate		118.1	119.5	0.10									
				(clusters?) probably replacing a mineral with prismatic													
				habit. This unit shows variation from serpentine rich													
				to magnetite-rich, also in the distribution of sulphides.													
				Mineralisation - sulphides present disseminated and													
				in aggregates, pyrite, pyrrhotite, chalcopyrite, amount-													
				ing to average 40%.													
				Sulphides are medium to coarse grained i.e. up to 4mm.													
				Pyrite veining cuts across pyrrhotite and chalcopyrite													
				aggregates. Pyrite 70% chalcopyrite 15%, pyrrhotite													
				15% of total sulphide.													
				Structure - mineralogical banding faint (prob. 80° CA)													
				Strong shear at 117.8 - 118.0m - 5° CA. Carbonate													
				filled.													
119.5	125.3	3.8	65	QUARTZITE		119.5	120.7	0.01									
						120.7	122.2	NIL									
				With chlorite (?) and phlogopite. This rock has a		122.2	122.8	NIL									
				distinct hornfels texture - the boundary to the above		122.8	123.1	0.05									
				section being very marked with broken core at 119.5m.		123.1	124.7	NIL									
				Grain size is fine but phlogopite flakes vary up to		124.7	125.3	0.01									
				4mm across.													
				Mineralisation - traces of pyrite and chalcopyrite													
				disseminated in about equal proportions - i.e. ~ 5%													
				each.													
				Structure - mineralogical banding at 124.2m - 50° CA.													
				Clay pug at 123.3m and 124.4m - 125.3m - possibly													
				fault zone.													
				Amorphous pyrtie and vivianite developed on shear at													
				124.0m - 15° CA.													
				End of hole													

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GOLD FIELDS EXPLORATION PTY. LIMITED

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PROJECT: ST. DIZIER

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H10

INTERVAL		RECOVERY		DESCRIPTION	ASSAY DATA (all wt% except Ag which is ppm)												
		m	%		Sample No	From	To	Rec. %	Sn	SSn	S	As	Cu	Zn	WO_3	Fe	Ag	Bi
					5342	5.0	7.0		0.04	.01	0.2	0.3	<0.01	0.12	0.02	4.0	2	.006
					5343	7.0	9.0		0.04	<.01	0.1	<0.1	<0.01	0.17	0.05	7.1	2	.005
					5344	9.0	11.0		0.05	.02	1.1	<0.1	<0.01	1.37	0.05	7.6	1	.006
					5345	11.0	13.0		0.02	.01	2.0	<0.1	0.05	0.95	<0.01	6.1	3	.005
					5346	13.0	15.0		0.01	<.01	2.3	<0.1	0.01	0.03	<0.01	3.3	2	.004
					5347	15.0	17.0		0.01	<.01	1.9	<0.1	0.03	0.20	<0.01	3.6	2	.005
					5348	17.0	18.0		0.01	.02	0.6	<0.1	<0.01	0.04	<0.01	3.9	3	.006
					5349	18.0	19.0		0.01	.01	0.3	<0.1	0.10	0.55	<0.01	7.1	7	.006
					5350	19.0	20.0		0.09	.05	0.5	0.3	<0.01	0.27	0.06	21.3	3	.011
					5351	20.0	21.0		0.08	.05	0.5	0.1	0.03	0.17	0.11	11.0	3	.006
					5352	21.0	22.0		0.01	<.01	0.5	<0.1	<0.01	0.05	0.02	5.0	2	.003
					5353	22.0	23.0		0.03	<.01	0.3	<0.1	0.01	0.10	0.01	2.9	3	.008
					5354	23.0	24.0		<0.01	.02	0.5	<0.1	<0.01	0.25	<0.01	1.8	4	.012
					5355	24.0	25.0		0.01	<.01	0.1	<0.1	0.02	0.05	<0.01	0.5	4	.011
					5456	25.0	26.0		0.02	.02	0.2	<0.1	<0.01	0.07	0.01	3.9	5	.012
					5357	26.0	27.0		0.07	.08	0.1	<0.1	<0.01	0.18	0.02	12.8	4	.026
					5358	27.0	28.0		0.04	.04	<0.1	<0.1	<0.01	0.10	0.58	11.4	3	.017
					5359	28.0	29.0		0.01	.01	0.1	< 0.1	< 0.01	0.04	0.02	1.7	4	.011
					5360	29.0	30.0		0.01	<.01	0.8	< 0.1	0.03	0.75	0.01	2.5	4	.010
					5361	30.0	31.0		0.01	.01	1.0	< 0.1	0.01	0.07	< 0.01	3.8	2	.004
					5362	31.0	32.0		0.11	.03	0.9	< 0.1	0.01	0.07	0.01	8.7	2	.004
					5363	32.0	33.0		0.25	.07	1.7	< 0.1	0.04	1.17	0.80	23.1	2	.008
					5364	33.0	34.0		0.18	.02	< 0.1	< 0.1	< 0.01	0.02	< 0.01	10.6	1	.004
					5365	34.0	35.0		0.21	.02	< 0.1	< 0.1	0.02	0.02	0.02	15.8	1	.005
					5366	35.0	36.0		0.17	.04	0.3	< 0.1	0.01	0.08	0.01	25.4	2	.008
					5367	36.0	37.0		0.59	.02	0.2	< 0.1	< 0.01	0.04	< 0.01	24.2	2	.009
					5368	37.0	38.0		1.23	.04	1.2	< 0.1	< 0.01	0.04	0.02	21.0	3	.012
					5369	38.0	39.0		1.01	.01	0.4	< 0.1	0.01	0.09	0.01	15.1	2	.008
					5370	39.0	40.0		0.71	.02	0.7	<0.1	<0.01	0.03	0.01	17.3	2	.005
					5371	40.0	41.0		0.72	.04	0.8	<0.1	<0.01	0.31	0.02	19.6	2	.006
					5372	41.0	42.0		0.79	.04	1.7	<0.1	0.31	0.02	0.02	33.4	3	.011
					5373	42.0	43.0		1.95	.06	1.0	<0.1	0.01	0.02	0.02	32.5	2	.010
					5374	43.0	44.0		1.03	.02	2.1	<0.1	0.06	0.02	0.07	30.5	2	.032
					5375	44.0	45.0		0.69	.03	5.3	<0.1	0.08	0.01	0.02	32.4	2	.014
					5376	45.0	46.0		1.36	.02	4.9	0.1	0.05	0.02	0.04	30.9	2	.013

ASSAYED AT RENISON LABORATORY, 1983

GOLD FIELDS EXPLORATION PTY. LIMITED

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PROJECT: ST. DIZIER

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H10

INTERVAL		RECOVERY		DESCRIPTION	ASSAY DATA (all wt% except Ag which is ppm)											
	o	m	%		Sample No.	From	To	Rec. %	Sn	SSn	S	As	Cu	Zn	WO_3	Fe	Ag	Bi
					5377	46.0	47.0		1.37	.03	7.4	0.5	0.10	0.01	0.03	30.7	3	.022
					5378	47.0	48.0		1.12	.02	2.6	<0.1	<0.01	0.01	0.02	35.6	2	.013
					5379	48.0	49.0		0.91	.05	5.7	0.2	0.05	0.01	0.03	34.7	2	.019
					5380	49.0	50.0		0.68	.02	5.9	0.4	0.05	0.01	0.02	33.8	1	.020
					5381	50.0	51.0		0.62	.04	0.6	<0.1	<0.01	0.01	0.01	45.3	3	.012
					5382	51.0	52.0		0.71	.04	<0.1	<0.1	<0.01	0.01	0.01	47.0	3	.013
					5383	52.0	53.0		0.87	.05	1.5	<0.1	0.02	0.01	1.50	43.5	3	.089
					5384	53.0	55.0	-	1.20	.03	2.7	<0.1	0.32	0.02	0.83	36.3	5	.26
					5385	55.0	57.0	-	0.15	<.01	2.9	<0.1	0.07	0.05	0.15	10.9	2	.081
					5386	57.0	59.0	-	0.26	<.01	3.6	0.2	0.11	0.09	0.50	13.2	2	.012
					5387	59.0	61.0	-	1.30	.01	4.3	<0.1	0.28	0.04	0.38	32.4	3	.051
					5388	61.0	63.0	-	1.13	.02	4.1	0.2	0.03	0.01	0.02	43.1	2	.022
					5389	63.0	64.0		0.39	.03	2.2	0.9	0.02	0.01	0.05	38.6	2	.020
					5390	64.0	66.0	-	0.56	.02	0.8	0.5	0.02	0.02	0.04	24.7	1	.014
					5391	79.0	82.0	-	1.74	.07	0.4	<0.1	0.01	0.19	0.07	19.4	3	.011
					5392	82.0	83.0		1.82	.07	0.2	0.4	<0.01	0.05	0.04	35.7	3	.038
					5393	83.0	85.0	-	0.76	.04	2.5	0.4	0.03	0.02	0.10	32.2	3	.062
					5394	85.0	87.0	-	0.94	.22	1.4	<0.1	0.09	0.04	0.05	18.0	3	.011
					5395	87.0	89.0	-	0.40	.01	1.8	<0.1	0.10	0.03	0.01	20.0	2	.010
					5396	89.0	90.0		0.55	.02	5.6	<0.1	0.14	0.11	0.02	13.8	2	.033
					5397	90.0	91.0		0.44	.02	6.3	<0.1	0.19	0.02	0.01	16.7	2	.016
					5398	91.0	92.0		0.15	.01	7.4	<0.1	0.19	0.02	0.01	14.9	3	.018
					5399	92.0	93.0		0.06	.02	3.9	<0.1	0.24	0.05	<0.01	10.1	3	.013
					5400	93.0	96.0	-	0.29	.11	2.9	<0.1	0.08	0.38	0.02	13.1	3	.011
					5401	96.0	99.0	-	0.19	.09	2.2	<0.1	0.09	0.80	0.02	12.7	3	.017
					5402	99.0	101.0	-	0.91	.89	1.2	<0.1	0.19	0.05	0.10	26.7	5	.027
					5403	101.0	102.0		0.51	.08	5.0	<0.1	0.25	0.59	0.01	17.1	5	.030
					5404	102.0	103.0		0.20	.04	8.8	<0.1	0.30	0.44	0.02	18.4	5	.030
					5405	103.0	105.0	-	0.94	.01	8.0	<0.1	0.41	0.05	0.01	15.5	6	.017
					5406	105.0	106.0		0.49	.17	3.4	<0.1	0.49	0.11	0.02	19.1	7	.010
					5407	106.0	107.0		0.12	.01	4.6	<0.1	0.25	0.06	<0.01	12.9	3	.013
					5408	107.0	110.0		0.04	.03	5.3	<0.1	0.19	0.05	0.01	12.4	3	.015
					5409	110.0	111.0		0.74	.56	2.8	<0.1	0.07	0.03	0.05	13.6	4	.015
					5410	111.0	112.0		0.10	.07	1.4	<0.1	0.06	0.03	0.01	9.5	3	.022
					5411	112.0	113.0		0.02	<.01	0.9	0.1	0.04	0.02	<0.01	5.9	3	.017

ASSAYED AT RENISON LABORATORY, 1983

GOLD FIELDS EXPLORATION PTY. LIMITED

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LV. PR.

PROJECT: ST. DIZIER

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: H10 Page: 3.

INTERVAL		RECOVERY		DESCRIPTION
	To	m	%	

ASSAY DATA (all wt% except Ag which is ppm)

Sample No.	From	To	Rec. %	Sn	SSn	S	As	Cu	Zn	WO_3	Fe	Ag	Bi
5412	113.0	114.0		0.06	<.01	1.9	<0.1	0.11	0.06	<0.01	10.2	3	.007
5413	114.0	116.0		0.09	<.01	3.4	<0.1	0.06	0.08	0.01	16.7	2	.011
5414	116.0	118.0		0.01	<.01	2.4	<0.1	<0.01	0.11	<0.01	17.3	2	.006
5415	118.0	119.5		0.04	<.01	2.6	<0.1	0.03	0.10	<0.01	16.6	2	.008

SCALE :

RENISON LIMITED

DIAMOND DRILL HOLE PLOT

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HOLE No.: H10.

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PONTIFEX REPORT NO 1526 - 14.6.74

94012 : massive fine grained talc matrix containing abundant lamellar pyrrhotite, magnetite, minor chalcopyrite, arsenopyrite and tourmaline

44.04m Groups of parallel, and commonly altered, pyrrhotite lamellar (2 x 0.1mm) resembling "spinifex texture", several granular aggregates of pyrrhotite, subhedral magnetite and minor chalcopyrite, are all contained in a structureless matrix of extremely fine talc.

Magnetite has the same optical properties as that in 94009. Some pyrrhotite and magnetite show fairly intimate intergrowth textures. Much of the lamellar pyrrhotite is converted to secondary (melnicovite pyrite) but original irregular intergrowths of chalocpyrite in the pyrrhotite remain unaltered. Accessory crystals of arsenopyrite are scattered through the predominantly pyrrhotite aggregate. Total sulphide content is 25 - 30%, magnetite 7 - 10%.

Semi radiating groups of a fine prismatic mineral (optically uniaxial -ve, length fast and parallel extinction) are randomly disposed through the rock (10 - 12%). These are identified as tourmaline, and it is suggested that they are of pneumalotytic origin, and the pneumatolysis is responsible for converting former olivine and/or serpentine to the talc matrix.

PETROLOGY OF CRUSHED REJECT SAMPLES (Central Mineralogical Services, 1983)

	Cassiterite	Rock type	Minor minerals	REPORT CMS 83/11/30 Comments
H 10 5374 (43.0 - 44.0m)	Very cloudy/semi-opaque irregular crystals up to 400 μ, but mostly around 100 μ, in serpentine/chlorite; embedded and intergrown magnetite.	Serpentinite, tremolite and talc rocks. Diopside (skarn) rock. Coarse and fine magnetite.	Pyrrhotite (fresh and altered), arsenopyrite, Fluorite, ?Hisingerite (hydr. Fe silicate).	Mixed rock types represented, including primary skarn. Cassiterite preferentially associated with the "serpentinite".
5383 (52.0 - 53.0m)	Well-formed, cloudy, single crystals up to 1 mm, generally containing magnetite (up to 0.3 mm); size range 50 μ to 1 mm, but mostly > 100 μ.	Serpentinite - antigorite and abundant magnetite, some chlorite.	Carbonate, talc; pyrrhotite, chalcopyrite.	W source is scheelite, as fine intergrowths with Fe oxides, as separate rock chips apparently unrelated to serpentinite.
5405 (103.0 - 105.0m)	Dark crystals with blotchy colour distribution, 10-120 μ, embedded in antigorite and sulphides/magnetite. In serpentinite, cassiterite is in younger veins(?).	Mixed - diopside skarn, sulphide/tremolite rock, serpentinite with magnetite; carbonate, others.	Banded muscovite-chlorite-magnetite rock. ?Hisingerite. Sulphides (pyrrhotite, arsenopyrite).	The cassiterite seems to be the "primary" type associated with metasomatism; no secondary cassiterite was detected.

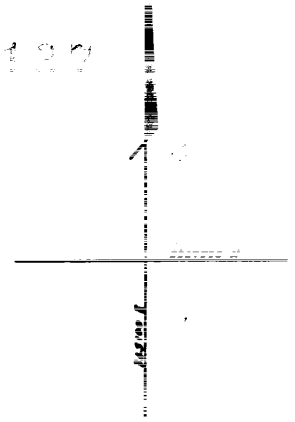
HOLE NUMBER	M1	SURVEY			From – To	Distance D	VERTICAL		HORIZONTAL	
		Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
PURPOSE	To test the depth continuance of the orebody	Collar	–	–90°	0 –114.7	114.7	114.7	~~~56.3~~ ~2056.7	0	0
LOCATION	St Dizier									
COLLAR R.L.	~2171.0m									
CO-ORDINATES	19974N 20219E Cominco Grid 5367597N 345027.5E AMG									
LENGTH	114.7m									
HOLE SIZE	0 – 86.3m – NX 86.3 – end – BX									
DATE DRILLED	30/8/70 – 4/10/70									
SIGNIFICANT CORE LOSS ZONES										
ORE ZONE GROUND CONDITIONS										
LOGGED BY	D. Simpson (Cominco) Jan '74									
COMMENTS	The hole was stopped when it penetrated what Minops thought was granite – it turned out to be marble (P.R.S.)									

SUMMARY – ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS												B.C.A.
				Sn.	Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t	Ni ppm	Fe	
Minops assays:	1.8	82.3	80.5	1.46		0.11								<50		
	1.8	103.3	101.5	1.21		0.09								<50		
	(82.3	103.3	21.0	0.25)		<0.03								<50		
Renison assays: (1983)	1.8	102.8	101.0	1.68	0.05	0.08	0.5	5.8		0.01	0.017	0.04	2		32.2	

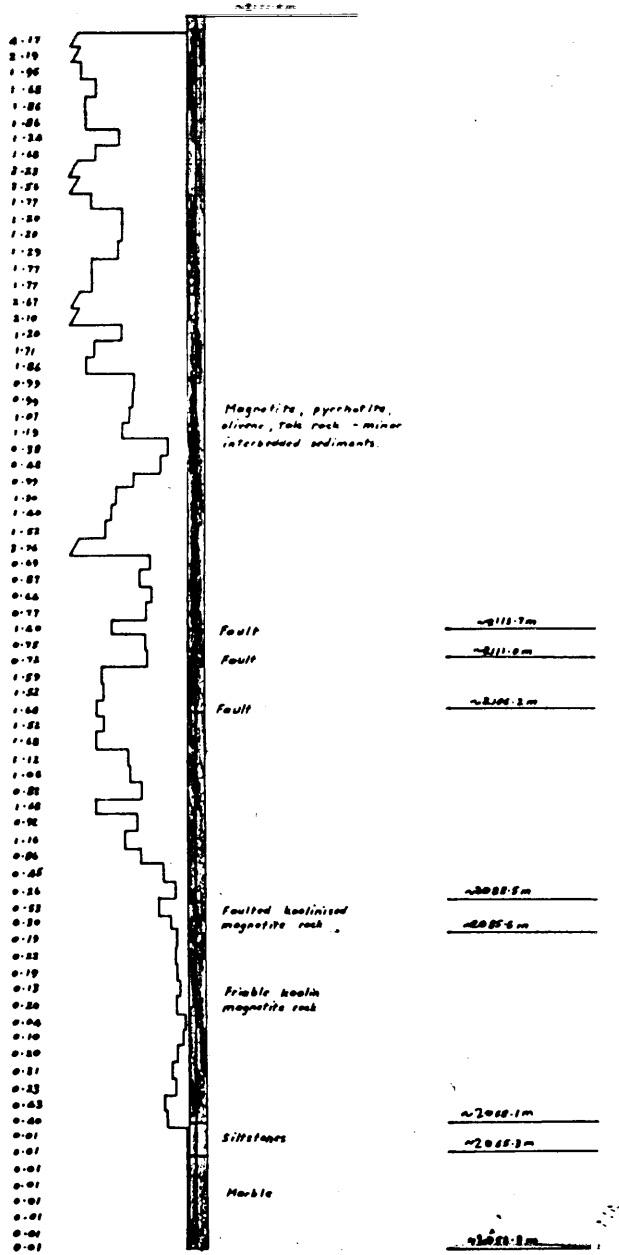
PLAN

E367597·0 N
S46027·5 E



DIP PROFILE

5 cm



DIAMOND DRILL RECORD

HOLE NUMBER : M1

76 LOGGED BY D. Simpson

Note: Assay from Minops data.

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	Ni % Cu.	Ni % As.	Ni ppm	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0	3.7	1.7	47	MAGNETITE with PYRRHOTITE		1.8	3.0	4.17		0.32		<50					
				Oxidised magnetite skarn rock containing variable amounts of pyrrhotite. Rock is distinctly banded with bands up to 3mm thick. Veins at 2.7m contain quartz, fluorite and serpentine (pale green). Mineralisation - veins and blebs of pyrrhotite amounting to 5%.													
3.7	4.7	1.0	100	BANDED MAGNETITE-OLIVENE-PYRRHOTITE ROCK		3.0	4.6	2.19		0.19		<50					
				Shows some variation in grain size. Magnetite 60%, olivene 25%, pyrrhotite 15%.													
4.7	7.6	2.9	100	BANDED TALC-PYRRHOTITE-OLIVENE-MAGNETITE ROCK		4.6	6.1	1.95		0.19		<50					
						6.1	7.6	1.68		0.20		"					
				Mineralisation - pyrrhotite occurs in long stringers parallel to banding (which generally lies in axis of core), disseminated in blebs similar to some of the magnetite, and as elongate needles (crystals?). Rare chalcopyrite (<0.01%) occurs with the pyrrhotite.													
7.6	16.6	9.0	100	BANDED MAGNETITE-PYRRHOTITE-OLIVENE ROCK		7.6	9.1	1.86		0.18		"					
						9.1	10.7	1.86		0.17		"					
				Occasional chalcopyrite disseminations.		10.7	12.2	1.24		0.17		"					
				Mineralisation - pyrrhotite makes up to 50% of the		12.2	13.7	1.68		0.06		"					
				rock in parts. Solid pyrrhotite vein at 8.1m - 7.5cm		13.7	15.2	3.225		0.06		"					
				wide, contains 2% chalcopyrite.		15.2	16.8	3.56		<0.03		"					
				Thick (up to 8cm) veins of pyrrhotite-pyrite-serpentine-chalcopyrite at 10.7 - 11.3m and 14.3m.													
16.6	18.0	1.4	100	PYRRHOTITE ROCK with MAGNETITE AND OLIVENE		16.8	18.3	1.77		0.28		"					
				Variable magnetite and olivene. No banding visible in rock. Mineralisation - pyrrhotite veins (parallel to core axis) coarse grained and containing serpentine (micaceous variety) and trace chalcopyrite from 16.8 - 18.0m.													

DIAMOND DRILL RECORD

76 139

HOLE NUMBER : M1

LOGGED BY : D. Simpson

138

INTERVAL (m)		RECOVERY		DESCRIPTION	FORM.			% Sn.		Ni							
FROM	TO	m	%			FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	ppm	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
18.0	22.6	4.6	100	MAGNETITE-OLIVENE-PYRRHOTITE ROCK		18.3	19.8	1.20		0.10		90					
						19.8	21.3	1.20		0.15		<50					
				No banding visible. Minor shears 70° to CA at 18.9m,		21.3	22.9	1.29		0.04		"					
				chalcopyrite on shear face.													
				Mineralisation - pyrrhotite veins 18.3 - 18.6m, 19.2 -													
				19.5m, occasional stringers 19.8 - 21.3m.													
				Some containing minor chalcopyrite. Remainder dissem-													
				inated pyrrhotite usually 20% of the rock.													
22.6	23.8	1.0	85	MAGNETITE-OLIVENE-PYRRHOTITE ROCK		22.9	24.4	1.77		<0.03		"					
				As 18.0 - 22.6m except olivine has been weathered.													
				Plan or shear developed at 40° CA at 22.7m with narrow													
				serpentine vein enclosing 2cm wide pyrrhotite vein.													
23.8	26.8	2.5	84	MAGNETITE-OLIVENE ROCK		24.4	25.9	1.77		<0.03		"					
						25.9	27.4	2.67		0.04		"					
				(Very friable between 25.3 and 25.6m - possibly healed													
				fault).													
26.8	41.8	14.4	96	SHEARED MAGNETITE-OLIVENE and PYRRHOTITE ROCKS		27.4	29.0	2.10		<0.03		"					
						29.0	30.5	1.20		0.09		"					
				Sheared sequence. Shear attitudes :-		30.5	32.0	1.71		0.11		"					
				1. 30° to CA with slickensides 90° to CA		32.0	33.5	1.86		0.16		"					
				2. 30° to CA with slickenslides pitching 20°		33.5	35.1	0.99		0.18		"					
				3. 10° to CA with slickenslides pitching 45°		35.1	36.6	0.99		0.14		"					
				4. Vertical with slickenslides pitching 0° and 90°.		36.6	38.1	1.07		0.15		"					
				Mineralisation - pyrrhotite massive vein and dissemin-		38.1	39.6	1.19		0.17		"					
				ated being up to 60% of the rock. Pyrite crusts		39.6	41.1	0.375		0.06		"					
				common on shear faces as minute crystals. Occasional													
				narrow quartz veins. Banding (mineralogical) at 33.2m appears													
				to be slumped pyrrhotite following banding. Pale to													
				dark blue vivianite appears on some shear faces.													
				Traces of chalcopyrite with pyrite on shear faces.													
41.8	42.7	0.8	85	BANDED SILICEOUS HORNFELS		41.1	42.7	0.48		0.08		"					
				(Banding after bedding (?)) and 20° CA after quartzites													
				and shales.													
				Pyrrhotite replaces darker bands (shales?)													
				Pyrrhotite ~ 10%.													

DIAMOND DRILL RECORD

HOLE NUMBER : M1

76 140

LOGGED BY : D. Simpson

139

INTERVAL (m)		RECOVERY		DESCRIPTION	FORM.			% Sn.		Ni							
FROM	TO	m	%			FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	ppm	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
42.7	46.0	3.2	95	SILICEOUS HORNFELS.		42.7	44.2	0.99		0.07		<50					
						44.2	45.7	1.30		0.11		"					
				Banded in places and variably replaced by pyrrhotite.													
				Some olivene and magnetite in patches. This is a													
				transition zone to the next section.													
46.0	49.8	3.8	100	OLIVENE-PYRRHOTITE ROCK		45.7	47.2	1.40		0.15		"					
						47.2	48.8	1.52		0.13		"					
				Occasional siliceous hornfels patches eg 47.5 - 47.8m													
				Banding 20° to CA at 47.8m is siliceous. Occasional													
				patch up to 10cm wide of olivene-magnetite-talc rock													
				(40-40-20%). No pyrrhotite in these patches.													
				Mineralisation - pyrrhotite abundant (up to 50% of the													
				rock) as fine < 1mm to medium (5mm) disseminated													
				irregular grains and as veins through this. These													
				veins usually 5 - 10mm wide carry occasional blebs of													
				chalcopyrite or pyrite.													
				Structural features - rare joints at 10 - 40° CA carry													
				chalcedonic quartz and/or pyrite.													
49.8	50.6	0.8	100	GRANULAR MAGNETITE-TALC-PYRRHOTITE ROCK		48.8	50.3	3.76		0.18		"					
				Magnetite crystals up to 2mm developed at 50.3m.													
				~~Magnetite~~ Magnetite ~ 40%, talc 30 - 40%, pyrrhotite ~ 20 - 30%.													
				Green talc rock at 50.6m - possibly out of place.													
				Mineralisation-pyrrhotite distributed as grains and													
				aggregates with up to 3% pyrite. Rare chalcopyrite													
				Structural features - thin < 1mm quartz filled joint													
				50° CA.													
50.6	53.6	3.0	100	SILICIFIED SEDIMENTS with MINERALISED BANDS		50.3	51.8	0.69		0.11		"					
						51.8	53.3	0.87		0.11		"					
				Finely banded and crenulated rock of variable composit-													
				ion - essentially silicified shaley sediments alternat-													
				ing with pyrrhotite bands, talcose olivene and rare													
				magnetite bands.													
				Mineralisation - pyrrhotite makes up to 40% of the													
				rock. Pyrrhotite chalcopyrite band 6cm wide at 52.1m.													
				2cm wide vertical pyrrhotite vein 52.6 - 52.9m.													
				Structural features - banding at low angles to CA													

DIAMOND DRILL RECORD

76 141

HOLE NUMBER : M1

LOGGED BY : D. Simpson

140

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	Ni ppm	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				Slickenslides parallel to long axis of eclipse.													
53.6	54.7	1.1	100	MAGNETITE-OLIVENE-TALC ROCK		53.3	54.9	0.64		0.07		< 50					
				Medium grained (1-3mm) and crystalline, with up to 5% pyrrhotite.													
				Mineralisation - up to 5% disseminated pyrrhotite, rare chalcopyrite flecks.													
				Structural features - fault plane 70° CA, slickenslides 40° to long axis of ellipse (54.6m)													
54.7				FAULT													
				Separates above and below rock types. 70° CA.													
				Filling with quartz and pyrite.													
54.7	55.6	0.9	100	FINELY BANDED MAGNETITE-PYRRHOTITE ROCK		53.3	56.4	0.77		0.08		"					
				Possibly orthoclase in small aggregates at 55.5m.													
				Check results of T.S. 105479. Small percentage of talc in places.													
				Mineralisation - pyrrhotite patchy - up to 50% of rock.													
				Structural features - banding 30°- 70° to bedding.													
55.6	58.2	2.6	100	BANDED MAGNETITE-PYRRHOTITE-OLIVENE ROCK		56.4	57.9	1.40		0.08		< 50					
				Interbedded with siliceous banded rocks.													
				Mineralisation - pyrrhotite disseminated and as bands.													
				Occasionally as coarse grained blebs in the core.													
				Rare pyrite on fractures.													
				Structural features - fault at 57.3m, 90° to core axis. Fractures parallel to CA up to 15°.													
58.2	60.0	1.8	100	FINE GRAINED PYRRHOTITE-MAGNETITE ROCK		57.9	59.4	0.75		0.08		"					
				Grading to olivene pyrrhotite magnetite rock at 59.1m. (T.S. 105480 and 105481)													
				Mineralisation - pyrrhotite distributed in bands parallel to bedding (?). Thin film of pyrite on fractures. Rare chalcopyrite.													

DIAMOND DRILL RECORD

76 142 HOLE NUMBER : M1

LOGGED BY : D. Simpson

141

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	Ni % Cu.	Ni % As.	Ni ppm	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				Structural features - banding low angles to core axis.													
				Fractures (faults) 30° and 70° to CA.													
60.0	60.1	0.1	100	FAULT													
				60° to CA. Fault zone 2 sections each 1cm wide -													
				4cm apart.													
60.1	64.6	4.5	100	OLIVENE-MAGNETITE ROCK		59.4	61.0	0.72		0.08		< 50					
						61.0	62.5	1.59		0.14		"					
				Medium grained with some pyrrhotite - < 5%. Magnetite		62.5	64.0	1.52		0.05		"					
				and olivene 50/50. Magnetite is coarse grained in													
				parts i.e. 63.1m.													
				Mineralisation - pyrrhotite throughout, disseminated													
				and in veins. Trace chalcopyrite 60.4 - 60.7m.													
				Structure - fault at 40° to CA at 61.3m with boxworks													
				after pyrite. Fault 62.6m at 30° to CA.													
64.6	64.9	0.3	100	OLIVENE--MAGNETITE ROCK													
				As above but finer grained.													
64.9	65.0	0.1	100	FAULT													
				35° to CA. Slickenslides on surface of fault parallel													
				to long axis of ellipse. Second fault (pyritised)													
				15° to CA. Slickenslides 20° to LA of ellipse. Both													
				faults contain introduced silica.													
65.0	65.4	0.4	100	MAGNETITE-TALC-PYRRHOTITE ROCK		64.0	65.5	1.68		0.09		"					
				Banded in places. This is tightly folded in patches.													
				Mineralisation - pyrite on joints. Pyrrhotite													
				disseminated up to 10%.													
				Structural - joints 20° and 70° to CA. Banding usually													
				subparallel to CA.													

DIAMOND DRILL RECORD

HOLE NUMBER : M1

76 143 LOGGED BY : D. Simpson

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	Ni % Cu.	% As.	Ni ppm	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
65.4	67.1	1.7	100	GRANULAR MAGNETITE-PYRRHOTITE-TALC ROCK		65.5	67.1	1.52		0.10		<50					
				Minor olivene.													
				Mineralisation - pyrrhotite 15 - 20% disseminated;													
				also in veins, 0.2mm wide pyrite veins at various													
				angles to CA.													
67.1	69.2	2.1	100	PYRRHOTITE-MAGNETITE-TALC ROCK		67.1	68.6	1.68		0.05		"					
				Medium grained with occasional olivene rich patches.													
				In places, e.g. 67.7m (Sample no 105483) fine mineral-													
				ogical banding is observed.													
				Mineralisation - pyrrhotite makes up the bulk of this													
				rock amount to ~ 80% of the rock (usually as dissemin-													
				ated aggregates). Pyrite occurs on rare fracture													
				faces.													
				Structure - fault faces 68.1m 30° to CA, slicks 10° to													
				LA. Quartz filled shear 69.2m, 55° to CA, slicks para-													
				llel to LA ellipse.													
69.2	72.4	3.2	100	PYRRHOTITE-OLIVENE ROCK		68.6	70.1	1.12		0.10		"					
						70.1	71.6	1.06		0.17		"					
				Banded in places, generally fine grained containing		71.6	73.2	0.83		0.07		"					
				small patches of talc or magnetite. Vein 2cm wide													
				71.6 - 72.2m, containing coarsely crystalline pyrrhot-													
				ite, fluorite, green amphibole (for check) and trace													
				chalcopyrite. Fluorite < 1% of veins.													
				Mineralisation - pyrrhotite and chalcopyrite mentioned													
				above. Pyrrhotite 60% of rock.													
				Structure - shear 20° Ca at 71.2m. Slicks parallel													
				to long axis. Shear 71.3m as above.													
				Vein 71.6 - 72.2m parallel to core axis.													
				Petrological samples nos. 105485 and 105484													
72.4	82.6	10.2	100	BANDED MAGNETITE-PYRRHOTITE ROCK		73.2	74.7	1.68		0.07		"					
						74.7	76.2	0.92		0.11		"					
				With lesser amounts of talc and olivene.. Possible		76.2	77.7	1.16		0.10		"					
				opal in vughs (check 105486 at 73.6m). Replaced		77.7	79.2	0.86		0.13		"					
				feldspars at 73.6m (check). Pyrrhotite absent in		79.2	80.8	0.45		<0.03		9"					
				places where olivene increases.		80.8	82.3	0.78		"		"					
				Mineralisation - disseminated pyrrhotite in patches													

DIAMOND DRILL RECORD

HOLE NUMBER : M1

76 144

LOGGED BY : D. Simpson

143

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	FROM	TO	% Sn. TOTAL	% Sn. ACID SOL.	Ni % Cu.	Ni % As.	Ni ppm	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				Structural - vein 3cm wide 40° to CA (after shear) at													
				77.4m. Shear 20° to CA at 78.9m.													
				Petrological sample number 105487													
82.6	85.5	2.9	50	STRONGLY FAULTED AND KAOLINISED MAGNETITE ROCK		82.3	83.8	0.53		< 0.03		<50					
						83.8	85.3	0.30		"		"					
				Containing 6.1m brown greeny mineral (serpentine partly													
				connected to talc?) (105488). This mineral appears to													
				have healed the fault.													
				Mineralisation - pyrite "nodules" and films of pyrite													
				in fault zone.													
				Structure - no orientation of fault visible.													
85.5	87.2	0.7	43	SLIGHTLY BANDED MAGNETITE - KADLIN ROCK+		85.3	86.9	0.19		"		"					
				With occasional patches of a yellowish mineral													
				(after olivene?).													
87.2	100.0	4.1	32	VERY FRIABLE KADLIN MAGNETITE ROCK		86.9	88.4	0.22		"		"					
						88.4	89.9	0.19		"		"					
				Recoveries in this section poor, usually less than 20%		89.9	91.4	0.13		"		"					
				Rare pyrrhotite visible in fresh patches		91.4	93.0	0.20		0.04		"					
						93.0	94.5	0.04		< 0.03		"					
100.0	103.0	2.7	89	VERY FRIABLE KAOLIN-MAGNETITE ROCK		94.0	96.0	0.10		"		"					
						96.0	97.5	0.20		"		"					
				As previous section - core very broken		97.5	99.1	0.31		"		"					
						99.1	100.6	0.23		< 0.03		"					
				Siliceous						Cuppm							
103.0	105.8	2.1	75	FINELY BANDED, SILTSTONES		100.6	101.8	0.425		30		35					
						101.8	103.3	0.40		65		35					
				Bedding subparallel to CA. Core very broken (105489													
				from 104.5m).		103.3	104.9	0.01		70		45					
						104.9	106.4	0.01		115		35					
105.8	110.0	4.2	100	FOSTERITE MARBLE		106.4	107.9	0.01		10		20					
						107.9	109.4	"		"		"					
				Containing sections of siltstone. Dolomite vein 15°		109.4	110.9	"		"		"					
				to CA at 106.1m. Slickenslides 15° to LA.													
				Mineralisation - nil													
				Structure - banding 20° - 30° to CA. Shear 108.2m;													
				shear 108.7m at 10° to CA. Slicks 20° to LA.													

DIAMOND DRILL RECORD

HOLE NUMBER : M1

76 145 LOGGED BY : D. Simpson

144

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION
110.0	114.7	4.7	100	BANDED GREYISH MARBLE
				Black mineral for check (105491 ex 112.2m)
				Parts are buff coloured (after 112.8m) and contain some kaolin.
				Mineralisation - nil
				Structure - banding 30° to CA. Joints 70° to CA.
				END OF HOLE

FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
	110.9	112.5	0.01		10		20					
	112.5	114.0	"		"		"					
	114.0	114.7	"		"		"					

COMPOSITE SAMPLES

From	To	Au (dwt/ton)	Ag (dwt/ton)	% SiO_2	Total Fe%	Fe% (As%)	Fe% (As0×1)
1.8	15.2	<0.05	<0.1	32.17	32.0	23.0	9.0
15.2	30.5	"	"	24.82	36.0	19.5	16.5
30.5	45.7	"	"	34.50	26.0	21.0	5.0
45.7	61.0	"	"	31.32	32.5	24.5	8.0
61.0	76.2	"	"	27.71	33.0	23.0	10.0
76.2	91.4	"	"	30.16	25.5	15.5	10.0
91.4	100.6	"	"	21.96	30.5	13.0	17.5

ASSAYED AT RENISON LABORATORY, 1983

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GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: ST. DIZIER

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: M1

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	Sample No	From	To	Rec. %	Sn	SSn	S	As	Cu	Zn	WO_3	Fe	Ag	Bi
									ASSAY DATA (all wt% except Ag which is ppm)									
					5078	1.8	2.8		2.80	<.01	15.2	2.5	0.19	0.01	0.06	24.5	2	.038
					5079	2.8	3.8		3.06	.01	15.5	2.5	0.22	0.01	0.08	26.4	3	.045
					5080	3.8	4.8		2.42	<.01	11.1	0.4	0.13	0.01	0.05	26.5	3	.032
					5081	4.8	5.8		2.53	<.01	9.5	<0.1	0.17	0.01	0.04	30.2	<1	.022
					5082	5.8	6.8		2.13	<.01	11.9	<0.1	0.23	0.01	0.05	25.4	<1	.021
					5083	6.8	7.8		1.71	<.01	11.6	<0.1	0.20	0.01	0.05	26.5	3	.019
					5084	7.8	8.8		2.18	<.01	13.2	<0.1	0.22	0.01	0.04	29.1	2	.021
					5085	8.8	9.8		1.76	.01	3.3	0.3	0.03	0.01	0.04	35.6	2	.016
					5086	9.8	10.8		2.38	<.01	8.0	1.1	0.13	0.01	0.03	35.3	3	.029
					5087	10.8	11.8		1.43	<.01	10.8	3.3	0.10	0.01	0.09	27.1	3	.076
					5088	11.8	12.8		1.44	<.01	6.2	0.7	0.09	<0.01	0.03	35.7	3	.020
					5089	12.8	13.8		3.56	.02	2.0	0.2	0.02	<0.01	0.04	38.0	2	.012
					5090	13.8	14.8		2.55	<.01	7.2	0.6	0.12	0.01	0.04	36.3	1	.019
					5091	14.8	15.8		3.92	.03	1.5	0.3	0.01	<0.01	0.03	40.5	2	.015
					5092	15.8	16.8		4.04	.02	0.8	0.7	0.02	<0.01	0.03	37.7	4	.012
					5093	16.8	17.8		0.77	.01	21.8	2.5	0.28	<0.01	0.02	36.1	2	.039
					5094	17.8	18.8		1.86	.02	8.7	4.1	0.13	<0.01	0.02	40.3	2	.038
					5095	18.8	19.8		0.76	.02	7.5	1.9	0.08	<0.01	0.03	34.0	3	.015
					5096	19.8	20.8		2.71	.03	6.5	0.5	0.10	<0.01	0.03	39.7	3	.013
					5097	20.8	21.8		1.90	.02	0.8	0.9	<0.01	<0.01	0.03	38.5	2	.006
					5098	21.8	22.8		2.47	.02	0.6	1.9	<0.01	<0.01	0.02	41.8	1	.005
					5099	22.8	23.8		1.32	.03	<0.1	0.3	<0.01	<0.01	0.03	40.6	2	.006
					5100	23.8	24.8		2.79	.03	<0.1	<0.1	<0.01	<0.01	0.04	45.6	1	.003
					5101	24.8	25.8		4.98	1.1	<0.1	<0.1	<0.01	<0.01	0.17	43.6	1	.002
					5102	25.8	26.8		2.16	.09	8.2	0.2	0.16	<0.01	0.03	31.8	2	.019
					5103	26.8	27.8		3.38	.06	0.4	0.4	<0.01	<0.01	0.03	35.0	1	.006
					5104	27.8	28.8		2.17	.03	3.7	<0.1	0.04	<0.01	0.03	33.8	1	.005
					5105	28.8	29.8		1.36	.03	6.3	0.4	0.06	0.01	0.03	28.8	1	.015
					5106	29.8	30.8		2.94	.02	6.9	0.2	0.08	0.01	0.04	29.4	1	.013
					5107	30.8	31.8		1.51	.02	7.5	0.6	0.10	0.01	0.03	28.2	2	.012
					5108	31.8	32.8		1.63	.01	8.2	<0.1	0.16	0.01	0.02	30.0	1	.013
					5109	32.8	33.8		2.24	.02	13.0	0.1	0.21	<0.01	0.03	31.6	2	.024
					5110	33.8	34.8		1.51	.01	8.2	0.1	0.08	<0.01	0.02	21.8	3	.012
					5111	34.8	35.8		0.56	.04	10.9	0.4	0.15	0.01	0.02	27.5	2	.023

ASSAYED AT RENISON LABORATORY, 1983

GOLD FIELDS EXPLORATION PTY. LIMITED

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PROJECT: ST. DIZIER

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: M1

INTERVAL From	To	RECOVERY m	%	DESCRIPTION	ASSAY DATA (all wt% except Ag which is ppm) Sample No.	From	To	Rec. %	Sn	SSn	S	As	Cu	Zn	WO_3	Fe	Ag	Bi
					5112	35.8	36.8		1.86	.04	8.3	0.2	0.11	0.01	0.03	27.8	2	.021
					5113	36.8	37.8		1.64	.05	7.8	0.2	0.10	<0.01	0.03	34.5	2	.008
					5114	37.8	38.8		0.99	.05	10.2	0.4	0.10	<0.01	0.02	35.4	3	.013
					5115	38.8	39.8		1.55	.04	6.3	0.2	0.09	0.01	0.02	25.5	2	.011
					5116	39.8	40.8		0.69	.02	5.2	0.3	0.08	0.01	0.02	22.6	2	.012
					5117	40.8	41.8		0.71	.03	5.0	<0.1	0.09	0.01	0.02	20.9	2	.007
					5118	41.8	42.8		0.77	.08	2.0	<0.1	0.01	<0.01	0.02	24.9	3	.002
					5119	42.8	43.8		1.53	.05	5.1	<0.1	0.07	<0.01	0.03	25.9	2	.014
					5120	43.8	44.8		3.65	.03	9.6	0.1	0.08	0.01	0.04	31.7	3	.010
					5121	44.8	45.8		2.88	.03	13.9	0.4	0.15	0.01	0.04	25.7	3	.023
					5122	45.8	46.8		3.05	.04	13.6	0.2	0.15	0.01	0.04	25.0	2	.020
					5123	46.8	47.8		2.94	.01	6.6	<0.1	0.10	0.01	0.05	26.4	2	.011
					5124	47.8	48.8		2.27	.03	9.4	0.2	0.11	<0.01	0.04	31.9	3	.016
					5125	48.8	49.8		6.08	.01	14.1	<0.1	0.25	0.04	0.08	29.5	3	.027
					5126	49.8	50.8		2.16	.03	5.4	<0.1	0.12	0.01	0.04	30.4	2	.010
					5127	50.8	51.8		1.00	.03	10.5	1.1	0.16	0.01	0.03	29.2	2	.034
					5128	51.8	52.8		0.22	.03	1.8	<0.1	0.04	0.01	0.02	37.4	2	.012
					5129	52.8	53.8		0.31	<.01	8.1	2.5	0.07	0.01	0.01	30.5	2	.033
					5130	53.8	54.8		0.84	.01	17.0	1.6	0.16	0.01	0.02	38.2	3	.032
					5131	54.8	55.8		2.19	.03	5.6	0.4	0.05	0.01	0.03	35.2	2	.017
					5132	55.8	56.8		1.43	.02	7.1	<0.1	0.11	0.01	0.02	30.3	2	.013
					5133	56.8	57.8		0.77	.02	7.2	0.2	0.09	<0.01	0.02	35.0	2	.016
					5134	57.8	58.8		1.03	.01	5.3	<0.1	0.06	0.01	0.03	33.6	2	.013
					5135	58.8	59.8		0.35	.02	10.9	0.6	0.09	<0.01	0.02	31.4	3	.018
					5136	59.8	60.8		3.27	.05	7.9	0.1	0.12	<0.01	0.03	31.4	2	.011
					5137	60.8	61.8		3.86	.04	5.7	0.4	0.06	<0.01	0.04	36.9	2	.015
					5138	61.8	62.8		1.96	.04	3.1	0.9	0.02	0.06	0.03	36.8	18	.013
					5139	62.8	63.8		1.77	.02	5.4	<0.1	0.08	0.01	0.02	36.5	2	.012
					5140	63.8	64.8		1.59	.03	2.7	<0.1	0.05	0.01	0.03	36.0	1	.011
					5141	64.8	65.8		3.25	.04	5.6	<0.1	0.04	0.01	0.03	34.6	2	.018
					5142	65.8	66.8		3.03	.03	5.8	0.8	0.06	0.01	0.04	31.6	2	.017
					5143	66.8	67.8		2.95	.04	4.7	0.8	0.04	0.02	0.03	32.8	1	.018
					5144	67.8	68.8		2.62	.02	4.6	<0.1	0.05	0.01	0.04	32.7	1	.017
					5145	68.8	69.8		0.81	.03	5.0	0.5	0.07	0.01	0.02	34.4	1	.023
					5146	69.8	70.8		2.34	.02	11.5	<0.1	0.17	0.01	0.03	29.8	<1	.016

ASSAYED AT RENISON LABORATORY, 1983

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GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: ST. DIZIER

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: M1

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INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION

ASSAY DATA (all wt% except Ag which is ppm)

Sample No.	From	To	Rec. %	Sn	SSn	S	As	Cu	Zn	WO_3	Fe	Ag	Bi
5147	70.8	71.8		2.71	.03	5.6	<0.1	0.07	0.01	0.03	30.5	<1	.016
5148	71.8	72.8		1.22	.02	8.8	0.2	0.17	0.01	0.02	28.7	<1	.014
5149	72.8	73.8		2.49	.04	7.7	<0.1	0.11	0.01	0.03	29.1	<1	.018
5150	73.8	74.8		1.58	.04	2.7	<0.1	0.03	0.01	0.03	29.1	<1	.013
5151	74.8	75.8		1.56	.04	7.4	0.1	0.12	0.01	0.03	28.7	<1	.019
5152	75.8	76.8		1.37	.04	4.8	0.3	0.05	<0.01	0.02	35.8	<1	.017
5153	76.8	77.8		1.64	.03	5.4	0.4	0.07	<0.01	0.03	30.9	<1	.016
5154	77.8	78.8		1.12	.04	9.9	0.7	0.12	<0.01	0.03	27.7	<1	.028
5155	78.8	79.8		0.90	.05	3.4	0.2	0.03	<0.01	0.04	29.3	<1	.014
5156	79.8	80.8		0.16	.05	2.8	0.7	<0.01	0.01	0.04	36.6	<1	.021
5157	80.8	81.8		0.07	.03	0.5	<0.1	<0.01	<0.01	0.02	28.8	<1	.014
5158	81.8	82.8		0.46	.04	0.3	<0.1	<0.01	<0.01	0.03	28.8	<1	.013
5159	82.8	83.8		1.08	.05	0.8	<0.1	<0.01	0.01	0.04	31.0	<1	.015
5160	83.8	84.8		0.37	.05	0.5	0.9	<0.01	<0.01	0.04	37.0	1	.016
5161	84.8	85.8		0.22	.04	0.2	1.2	<0.01	0.01	0.05	29.0	1	.016
5162	85.8	86.8		0.28	.10	0.1	0.4	<0.01	0.03	0.03	32.4	2	.019
5163	86.8	87.8		0.29	.05	0.3	0.4	<0.01	<0.01	0.03	27.3	2	.013
5164	87.8	88.8		0.25	.06	0.7	0.2	<0.01	<0.01	0.06	30.0	2	.015
5165	88.8	89.8		0.16	.03	<0.1	<0.1	<0.01	0.01	0.06	34.3	1	.009
5166	89.8	90.8		0.28	.04	<0.1	<0.1	<0.01	0.02	0.05	26.7	<1	.011
5167	92.8	94.8	-	0.27	.03	<0.1	0.3	0.01	0.01	0.04	30.5	<1	.010
5168	94.8	96.8	-	0.10	.03	0.9	0.3	<0.01	0.03	0.06	23.1	1	.017
5169	96.8	98.8	-	0.17	.10	0.3	<0.1	<0.01	0.06	0.04	36.9	2	.015
5170	98.8	99.8		0.35	.17	<0.1	<0.1	<0.01	0.02	0.03	34.1	2	.026
5171	99.8	100.8		0.29	.24	<0.1	<0.1	<0.01	0.02	0.03	43.9	2	.021
5172	100.8	101.8		0.58	.49	<0.1	<0.1	<0.01	0.03	0.04	51.3	1	.031
5173	101.8	102.8		0.49	.39	<0.1	0.1	<0.01	0.02	0.03	35.8	<1	.020
5174	102.8	103.8		<0.01	<.01	0.3	<0.1	<0.01	0.11	0.01	3.2	<1	.009
5175	103.8	104.0		0.01	<.01	0.5	<0.1	<0.01	0.18	0.01	2.7	<1	.007

PETROLOGY OF CRUSHED REJECT SAMPLES (Central Mineralogical Services, 1983)

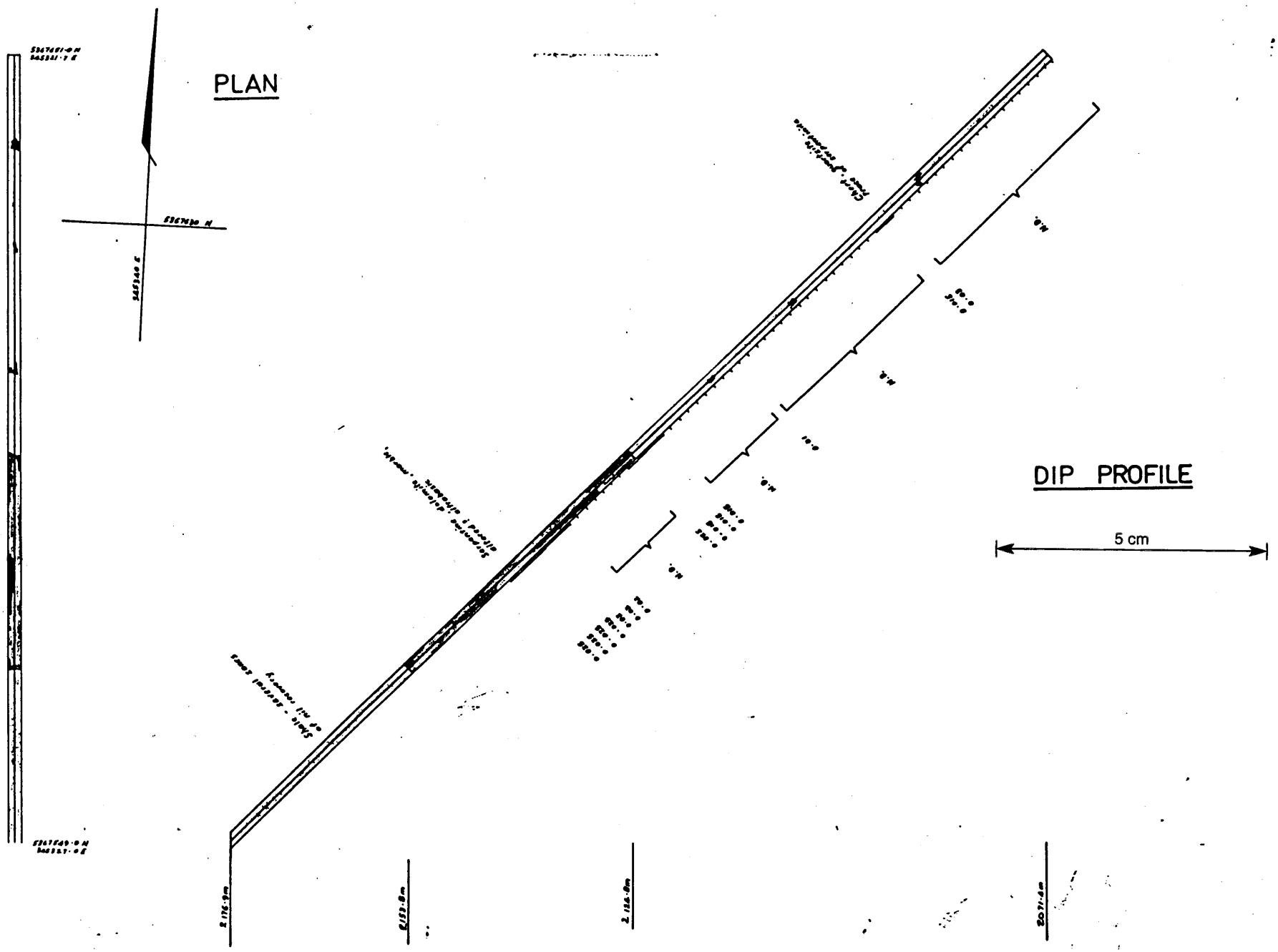
REPORT cms 83/11/30
CENTRAL MINERALOGICAL SERVICES

Sample No.	Cassiterite Grainsizes, Association	Rock Type	Minor Minerals	Comments
M 1 5087 (103-114m)	Cloudy grains 5-60 μ in talc and forming crusts on magnetite and pyrrhotite grains. A few clusters (up to 250 μ) of 5-15 μ grains. Diffuse patches of < 3 μ grains in talc.	Mixed. Talc (coarse and fine), sericite rocks, with pyrrhotite, magnetite.	Colourless tourmaline, tremolite, arseno-pyrite, chalcopyrite carbonate.	Most cassiterite is either secondary or a low-temperature variety, generally associated with pyrrhotite.
5134 (578-588m)	Pale, cloudy, zoned crystals up to 600 μ, but with magnetite inclusions (15-70 μ); also small grains 5-50 μ, singly and in clusters with magnetite and pyrrhotite.	Talc-magnetite-pyrrhotite rock.	Chlorite, carbonate.	Unusual zoned intergrowths of pyrrhotite and magnetite. Cassiterite well-developed on the whole, but generally composite.
5152 (775.8-786.8m)	Cloudy, brown, irregular grains 10-600 μ; many are 100-300 μ. Larger grains intergrown with magnetite, and contain 10-50 μ magnetite inclusions, in talc.	Serpentine-magnetite and talc-magnetite rocks, with pyrrhotite.	Trace fluorite. Chlorite and Fe-talc (minnesotaite).	As above; magnetite crystals with pyrrhotite rims common. Cassiterite/magnetite with interlocking boundaries.

HOLE NUMBER	M2	SURVEY			From – To	Distance D	VERTICAL		HORIZONTAL	
		Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
PURPOSE	To test the eastern magnetite anomoly	Collar	357° AMG	-46°			105·6	2071·3.	102·0	102·0
LOCATION	St Dizier									76 150
COLLAR R.L.	2176.9m									
CO-ORDINATES	19978 N 20524.5 E Cominco Grid 536754 9 N 345327E (~~Surveyed by~~ Revised A.M.G. Located.									
LENGTH	146.8m									
HOLE SIZE										
DATE DRILLED	4/9/70 - 18/9/70									
SIGNIFICANT CORE LOSS ZONES										
ORE ZONE GROUND CONDITIONS										
LOGGED BY	G. Boyle (Cominco) 1/8/74									
COMMENTS										

SUMMARY – ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS												B.C.A.
				Sn.	-Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t	Fe		
Revised assays (October, 1983)	32.0	75.0	43.0	0.01	<0.01	<0.01	<0.1	1·3		0.08	0.005	<0.01	2	13.6		


PLAN
DIP PROFILE
5 cm

DIAMOND DRILL RECORD

HOLE NUMBER : M2

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LOGGED BY : G. Boyle

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INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0	7.0	4.6	66	SPOTTED SHALE													
				Dark grey shale, well developed cleavage (?bedding) 35° to core axis. Spotted by rounded to subrectangular pale grey white grains up to 2mm in size. 1.7 – 2.3m brown oxidised shale, spotted dark grey ?unoxidised. Minor pyrite veining along fractures. After 3.4m, spotting is dark grey in colour. Pyrite veining occasionally reaches 5%, but averages less than 1%. Badly broken after 4.4m.												
7.0	9.1	0	0	NO CORE													
9.1	11.0	0.5	25	MICA AND CLAY													
				Fine buff grey clay and muscovite flakes up to 2mm in size.													
11.0	12.2	0	0	NO CORE													
12.2	25.9	7.9	58	SHALE													
				Dark grey massive badly fractured shale. Yellow green staining (?sulphides). Minor pyrite veining. 18.1 – 18.9m, 19.1 – 19.2m, 19.8 – 20.3m dark grey shale sand, 2% angular pyrite. After 22.1m, shale less badly broken. 24.9 – 25.0m – spongy network quartz vein.												
25.9	27.4	Sludge		SHALE													
				Yellow and grey shale sand.													
27.4	32.3	3.1	63	OXIDISED SHALE													
				Yellow cream and yellow grey shale. Fine, well broken. Limonite veined after 29.3m. Patches of black green chert after 30.5m. Largely unfractured after 32.3,													

DIAMOND DRILL RECORD

76 153 HOLE NUMBER : M2

LOGGED BY : G. Boyle

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Note: Assays from Minops data.

INTERVAL (m)		RECOVERY		DESCRIPTION	FORM.	% Sn.				Ni ppm.							
FROM	TO	m	%			FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.		% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
32.3	48.8	6.9	42	ALTERED ?ULTRABASIC													
				Soft yellow green brown to cream rock, variably limonite veined and stained. Speckled and veined by dark green black chlorite. Rounded masses of soft cream unspeckled material up to 15mm in size throughout. Patchy development of irregular black chert masses up to 2cm in size. No apparent shearing. No distinct structures. Circa 44.8m spongy network quartz veins.													
48.8	57.3	6.8	80	SERPENTINISED DOLOMITE AND MARBLE		49.4	50.9	0.025		0.005		<30					
						50.9	52.4	0.025		<0.005		"					
				Fine to medium grained cream to yellow green dolomite		52.4	53.9	0.025		0.012		"					
				and serpentinised dolomite, white to green fine to medium		53.9	55.5	0.025		ND		50					
				grained marble, and yellow green and olive green to		55.0	57.0	0.02		<0.005		<50					
				black serpentinite.													
				48.8 - 51.5m - predominantly yellow-olive green dolomite, speckled with olive green serpentinite and irregular masses of serpentinite up to 5cm in size. After 51.5m, the rock types are patchily associated also with serpentine speckling and veining. Up to 2% pyrite as cubes and minor masses and veins throughout the serpentinite and dolomite. Overall development patchy, less than 1%, coarsely crystalline marble is pale bluish green.													
57.3	64.1	6.8	100	SERPENTINISED DOLOMITE AND SERPENTINE		57.0	58.5	0.02		<0.005		<50					
						58.5	60.0	0.02		0.006		<50					
				Yellow green fine dolomite, speckled by dark green		60.0	61.6	ND		<0.005		"					
				black serpentinite and with irregular masses of dark		61.6	63.1	"		"		"					
				olive green serpentinite 62.3 - 62.9m of kaolinised		63.1	64.6	"		"		"					
				serpentinised dolomite.													
				After 62.9m, fine massive dark green to brown serpentinite is dominant, dolomite minor.													

DIAMOND DRILL RECORD

HOLE NUMBER : M2

Note: Assays from Minops data. 76 154 LOGGED BY : G. Boyle

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	Ni ppm. % Cu.	% As.	% Co.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
64.1	65.1	1.0	100	QUARTZITE													
				Fine, glassy, pale grey green tinged quartzite. Minor serpentinite veining and staining. 64.5 - 64.6 - serpentinite, fine, yellow and dark green, massive.													
65.1	72.3	7.2	100	SERPENTINE AND SERPENTINISED DOLOMITE		64.6	66.1	ND		<0.005		50					
						66.1	67.7	"		0.006		< 50					
				Dark green black and olivine green serpentinite, speckling and		67.7	69.2	"		"		"					
				as irregular masses and veins in fine yellow green,		69.2	70.7	"		"		"					
				opaque serpentinised dolomite. Minor calcite veining.		70.7	72.2	0.025		<0.005		"					
				Granular pyrite average 1mm size, up to 5%, less than 1% overall. Patchy oxidation and limonite staining.													
72.3	73.0	0.7	100	CHERT		72.2	73.8	0.015		0.008		50					
				Pale grey and black, sometimes pink brown tinged, banded to massive chert. 1% pyrite, fine, disseminated and patchy. Minor pyrrhotite. Minor serpentinite interbeds.													
73.0	73.6	0.6	100	SERPENTINITE													
				Yellow green and black, patchy, speckled, fine grained serpentinite. Minor chalcedony and chert veins, rare beds. Minor limonite staining. Rare pyrite.													
73.6	107.5	27.6	82	CHERT		73.8	75.3	0.015		0.006		70					
						75.3	76.8	0.015		<0.005		50					
				Well banded at 25° to core axis. Pale pink grey, dark		76.8	78.3	ND		0.006		70					
				grey and brown chert. Minor chlorite speckling and		78.3	79.9	"		0.009		"					
				colouration.		79.9	81.4	"		<0.005		"					
				2 - 5% pyrite as fine disseminations, patches of fine		81.4	82.9	"		"		"					
				grained pyrite up to 3mm in size, and veins. Minor		82.9	84.4	"		"		50					
				pyrrhotite like habit. Patchy oxidation limonite		84.4	86.0	"		"		"					
				staining and veining.		86.0	87.5	"		"		"					
				Serpentinite minor, two intervals 76.5 - 75.6m and		87.5	89.0	"		"		"					

DIAMOND DRILL RECORD

76 155 HOLE NUMBER : M2

LOGGED BY : G..Boyle

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Note: Assays from Minops data.

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	Ni ppm. % Cu.	% As.	% Ni	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				82.7m, pyrite rises to 10% until 83.9m.		90.5	92.0	ND		<0.005		90					
				After 76.2m, banding is not common, after 82.3m is		92.0	93.6	"		"		"					
				largely absent.		93.6	95.1	"		"		70					
				Colours are patchily distributed, blotched, speckled		95.1	96.6	"		0.031		90					
				veinous. After 82.3m, limonite staining and veining is		96.6	98.1	"		<0.005		"					
				more frequent.		98.1	99.7	"		"		70					
				After 83.8m over 50% of the rock is limonite stained.		99.7	101.2	"		"		90					
				After 89.8m, oxidation is only minor. After 90.2m,		101.2	102.7	"		0.006		70					
				colour is pale to dark yellow, brown, pale and dark		102.7	104.2	"		<0.007		90					
				grey and minor pink, brown. Poor banding, much vein-		104.2	105.8	"		0.006		"					
				ing, some patchy colouration.		105.8	107.3	"		0.014		70					
107.5	146.8			QUARTZITE-CHERT		107.3	108.8	ND		0.012		70					
						108.8	110.3	"		0.008		"					
				Yellow, brown pale to dark and pale and dark grey		110.3	111.9	"		0.011		"					
				quartzite and subordinate chert. Distinction being on		111.9	113.4	"		0.011		"					
				grainsize and speckling. Banded to massive, patchily		113.4	114.9	"		0.012		"					
				coloured and veined. Minor quartz chlorite veining,		114.9	116.4	0.015		0.015		"					
				minor mica, pyrite, arsenopyrite in some veins.		116.4	118.0	0.03		0.014		90					
				Heavily chlorite speckled, sometimes bleached pale		118.0	119.5	ND		0.015		70					
				however. Limonite and colour speckling also. Slump		119.5	121.0	"		0.018		"					
				and cheotic structures fairly common in banded sections		121.0	122.5	"		0.015		90					
				106.0 - 106.7m - quartz veins with irregular round		122.5	124.1	"		0.008		70					
				masses of chlorite, ?serpentine, siderite and tourmal-		124.1	125.6	"		0.012		"					
				ine. Rare chalcopyrite in veins.		125.6	127.1	"		0.006		90					
				Pyrite up to 1% as veins, patches, cubes in quartzite.		127.1	128.6	"		0.006		70					
				Patchily developed irregular angular vugs up to 2mm		128.6	130.1	"		0.008		"					
				size.		130.1	131.7	"		0.012		"					
				Minor brown tourmaline veining after 127.1m.		131.7	133.2	"		0.015		"					
						133.2	134.7	"		<0.005		"					
						134.7	136.2	"		0.01		90					
				End of hole		136.2	137.8	"		0.012		"					
						137.8	139.3	"		0.007		70					
						139.3	140.8	"		0.014		"					
						140.8	142.3	"		0.022		"					
						142.3	143.9	"		0.007		110					
						143.9	145.4	"		0.016		"					
						145.4	146.6	"		0.015		90					

AS[illegible]D RENISON LABORATORY, 1983

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GOLD FIELDS EXPLORATION PTY. LIMITED

LV. PRESS | PROJECT: ST. DIZIER

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: M2 Page: 1

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	Sample No.	From	To	Rec. %	ASSAY DATA (all wt% except Ag which is ppm) Sn	SSn	S	As	Cu	Zn	WO3	Fe	Ag	Bi
					5416	32.0	33.0		0.01	<.01	2.5	<0.1	<0.01	0.13	<0.01	17.5	2	.006
					5417	33.0	34.0		0.01	.01	1.5	<0.1	<0.01	0.12	<0.01	18.7	2	.006
					5418	34.0	35.0		<0.01	.02	1.0	<0.1	<0.01	0.10	<0.01	21.6	2	.007
					5419	35.0	36.0		<0.01	<.01	1.2	<0.1	0.02	0.12	<0.01	19.9	2	.006
					5420	36.0	37.0		<0.01	<.01	0.7	<0.1	<0.01	0.08	<0.01	14.0	1	.005
					5421	37.0	38.0		<0.01	<.01	1.1	<0.1	<0.01	0.12	<0.01	27.4	2	.007
					5422	38.0	39.0		0.01	<.01	1.2	<0.1	<0.01	0.20	<0.01	12.3	2	.004
					5423	39.0	45.0	-	<0.01	<.01	2.0	<0.1	<0.01	0.09	<0.01	18.3	2	.005
					5424	45.0	51.0	-	0.01	<.01	1.6	<0.1	<0.01	0.09	<0.01	10.7	2	.005
					5425	51.0	52.0		<0.01	<.01	0.2	<0.1	<0.01	0.01	<0.01	0.6	3	.011
					5426	52.0	53.0		<0.01	.01	<0.1	<0.1	<0.01	<0.01	<0.01	<0.01	3	.009
					5427	53.0	54.0		<0.01	.01	0.9	<0.1	<0.01	0.01	<0.01	1.3	3	.009
					5428	54.0	55.0		<0.01	<.01	0.5	<0.1	<0.01	0.03	<0.01	2.0	1	.006
					5429	55.0	56.0		0.01	<.01	1.2	<0.1	<0.01	0.04	<0.01	4.3	2	.004
					5430	56.0	57.0		0.01	.01	1.3	<0.1	<0.01	0.04	<0.01	7.7	2	.004
					5431	57.0	59.0	-	0.01	.01	0.3	<0.1	<0.01	0.04	<0.01	3.0	1	.002
					5432	59.0	60.0		0.01	<.01	0.8	<0.1	<0.01	0.04	<0.01	5.0	1	.003
					5433	60.0	61.0		0.01	<.01	1.0	<0.1	0.03	0.12	<0.01	8.9	2	.004
					5434	61.0	62.0		0.01	<.01	0.5	<0.1	<0.01	0.07	<0.01	4.4	1	.004
					5435	62.0	63.0		0.01	<.01	0.8	<0.1	<0.01	0.11	<0.01	8.2	2	.006
					5436	63.0	64.0		0.01	<.01	2.4	<0.1	<0.01	0.12	<0.01	5.5	2	.005
					5437	64.0	65.0		<0.01	.01	1.5	<0.1	0.01	0.07	<0.01	5.6	2	.004
					5438	65.0	66.0		0.01	.02	1.2	<0.1	<0.01	0.04	<0.01	4.0	2	.004
					5439	66.0	67.0		0.01	<.01	1.5	<0.1	<0.01	0.09	<0.01	7.8	1	.004
					5440	67.0	68.0		0.01	<.01	1.5	<0.1	<0.01	0.09	<0.01	7.5	1	.004
					5441	68.0	69.0		<0.01	.01	1.0	<0.1	0.01	0.08	<0.01	3.0	2	.005
					5442	69.0	70.0		0.01	.01	0.8	<0.1	<0.01	0.05	<0.01	4.2	2	.003
					5443	70.0	71.0		0.01	.01	1.5	<0.1	<0.01	0.06	<0.01	5.6	2	.004
					5444	71.0	72.0		0.01	.01	1.4	<0.1	<0.01	0.09	<0.01	8.3	2	.005
					5445	72.0	73.0		<0.01	.01	1.1	<0.1	<0.01	0.07	<0.01	20.7	3	.007
					5446	73.0	74.0		<0.01	<.01	1.6	<0.1	<0.01	0.12	<0.01	13.3	2	.005
					5447	74.0	75.0		0.02	.01	2.7	<0.1	<0.01	0.02	<0.01	5.7	2	.004

HOLE NUMBER	M3
PURPOSE	to test the eastern magnetic anomoly
LOCATION	St Dizier
COLLAR R.L.	2182.
CO-ORDINATES	20022N 20619E Cominco Grid 5367577N. 345428E AMG.
LENGTH	88.2m
HOLE SIZE	
DATE DRILLED	2/9/70 - 25/9/70
SIGNIFICANT CORE LOSS ZONES	
ORE ZONE GROUND CONDITIONS	
LOGGED BY	G. Boyle (Cominco) 5/5/74
COMMENTS	

SURVEY			From - To	Distance D	VERTICAL		HORIZONTAL	
Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
Collar	358°AMG	-45°	0 - 88.2	88.2	62.37	2119.6.	62.37	62.37

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SUMMARY - ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS												B.C.A.
				Sn.	Acid Sol. Sn.	Cu.	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t	Fe		
Renison assays (October, 1983)	24.0	30.0	6.0	0.04	0.03	0.02	<0.1	12.5		0.18	0.039	<0.01	2	11.9		

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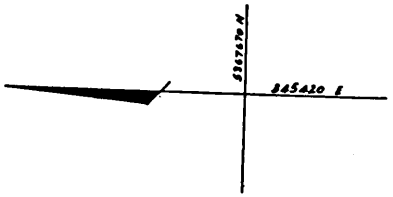
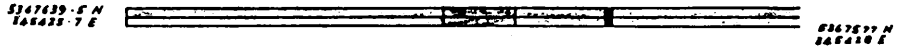
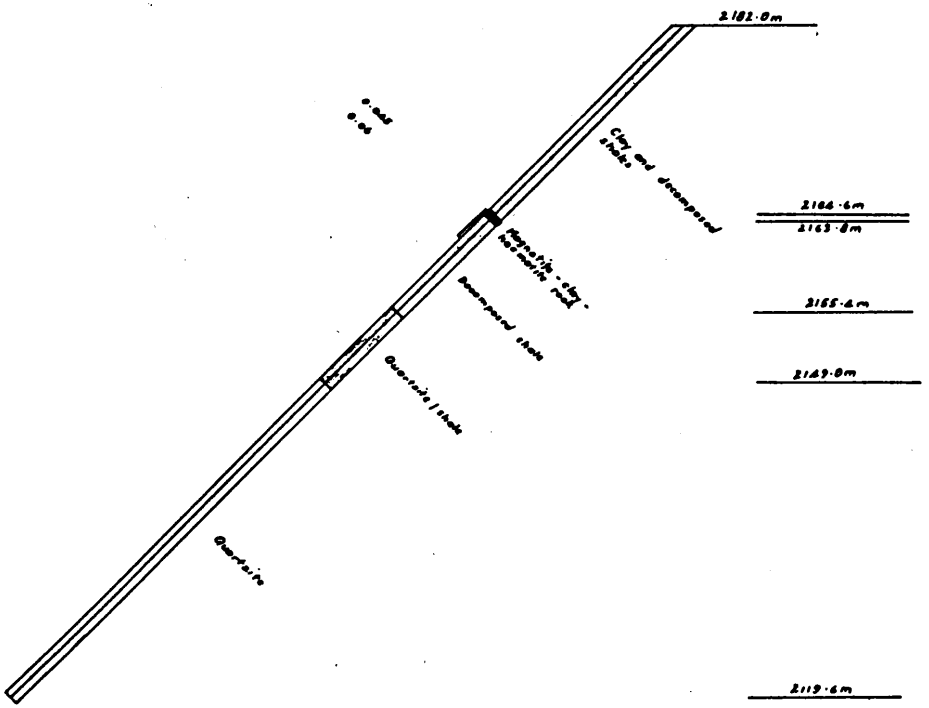




PLAN

5 cm



DIP PROFILE

DIAMOND DRILL RECORD

76 159

HOLE NUMBER : M3

LOGGED BY : G. Boyle

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INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0	4.7	3.9	83	CLAY													
				Massive, yellow brown, minor grey beds.													
				2.5 – 2.7m pyrite, fine grained, massive													
4.7	19.2	13.2	91	DECOMPOSED SHALE													
				Fine grey clay, massive, veined and speckled by cream clay.													
19.2	20.7	0.8	53	CLAY													
				Cream clay, fine, massive, with abundant muscovite flakes up to 2mm in size, up to 70%													
20.7	24.8	2.2	53	DECOMPOSED SHALE													
				Fine cream clay, minor grey clay. Rare mica.													
24.8	25.5	0.4	55	MAGNETITE-CLAY-HAEMATITE													
				Rounded, black, interconnected magnetic masses in cream clay matrix, and fine massive haematite						Cuppm							
25.5	37.6	5.9	49.1	DECOMPOSED SHALE		25.0	26.5	0.045		210							
						26.5	28.7	0.06		290							
				Cream and grey interbedded clay bedding low angle to core axis. Minor chlorite, pyrite.													
				28.7 – 28.9m – pyrite, sand, fine grained.													
				After 28.9m, grey shale is minor; pyrite as veins rare.													
				30.5 – 30.6m – pyrite sand.													
				(32.6 – 37.4m – drilled in wet clay – no core available – Minop's log).													
37.6	40.1	0.9	34	QUARTZITE													
				Fine to medium grained, pale and dark grey quartzite. Massive													

DIAMOND DRILL RECORD

76 160

HOLE NUMBER : m3

LOGGED BY : G. Boyle

159

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
40.1	40.7	0.2	34	SHALE													
				Fine massive white clay													
40.7	41.5	0.3	34	QUARTZITE													
				Fine to medium grained, massive, pale and dark grey quartzite.													
41.5	46.9	1.8	34	QUARTZITE-SHALE													
				Fine, cream-white decomposed shale and micaceous quartzite.													
46.9	88.2	31.2	75	QUARTZITE													
				Fine, massive to bedded, pale grey-white and brown micaceous quartzite. Bedding 0^{o} - 35^{o} to core axis. Minor brown tourmaline veining and replacement of selected beds by brown tourmaline. Rare pyrite chlorite veining. 60.3 - 61.4m - brown tourmalinised quartzite, with rounded white, ragged edged masses, some white brown cores 30% of rock possibly cordierite. Quartzite medium grained after 84.5m.													
				End of hole.													

ASSAYED AT RENISON LABORATORY, 1983

GOLD FIELDS EXPLORATION PTY. LIMITED

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DRILL CORE LOG AND ASSAY DATA

PROJECT: ST. DIZIER

HOLE NUMBER: M3

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INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	Sample No.	From	To	Rec. %	Sn	SSn	S	As	Cu	Zn	WO_3	Fe	Ag	Bi
					5448	19.0	20.0		0.02	.02	8.8	<0.1	0.03	0.03	0.01	7.4	2	.005
					5449	20.0	21.0		0.01	.01	4.5	<0.1	<0.01	0.04	<0.01	4.5	2	.004
					5450	21.0	22.0		0.02	.01	5.6	<0.1	<0.01	0.15	0.01	7.9	2	.007
					6125	24.0	25.0		0.05	.04	5.4	<0.1	0.01	0.16	<0.01	15.7	2	.076
					6126	25.0	26.0		0.09	.07	15.9	<0.1	0.02	0.20	0.01	14.1	3	.048
					6127	26.0	27.0		0.06	.06	14.0	<0.1	0.03	0.34	<0.01	10.1	2	.025
					6128	27.0	28.0		0.02	<.01	15.8	<0.1	0.01	0.17	<0.01	12.0	1	.012
					6129	28.0	29.0		0.02	.02	13.1	<0.1	<0.01	0.12	<0.01	10.6	1	.068
					6130	29.0	30.0		0.01	.01	11.0	<0.1	0.02	0.06	<0.01	8.9	1	.006

ASSAY DATA (all wt% except Ag which is ppm)

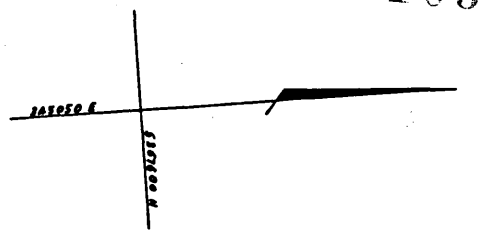
HOLE NUMBER	M4
PURPOSE	
LOCATION	St Dizier
COLLAR R.L.	~2168m
CO-ORDINATES	19885N 20238E Cominco Grid 5367506N 345031E AMG
LENGTH	123.1m
HOLE SIZE	
DATE DRILLED	16/10/70 - 20/10/70
SIGNIFICANT CORE LOSS ZONES	
ORE ZONE GROUND CONDITIONS	
LOGGED BY	D. C. Simpson 1974
COMMENTS	

SURVEY			From – To	Distance D	VERTICAL		HORIZONTAL	
Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
Collar	004°AMG	−55°.				2067·2		70·7
						76	162	161

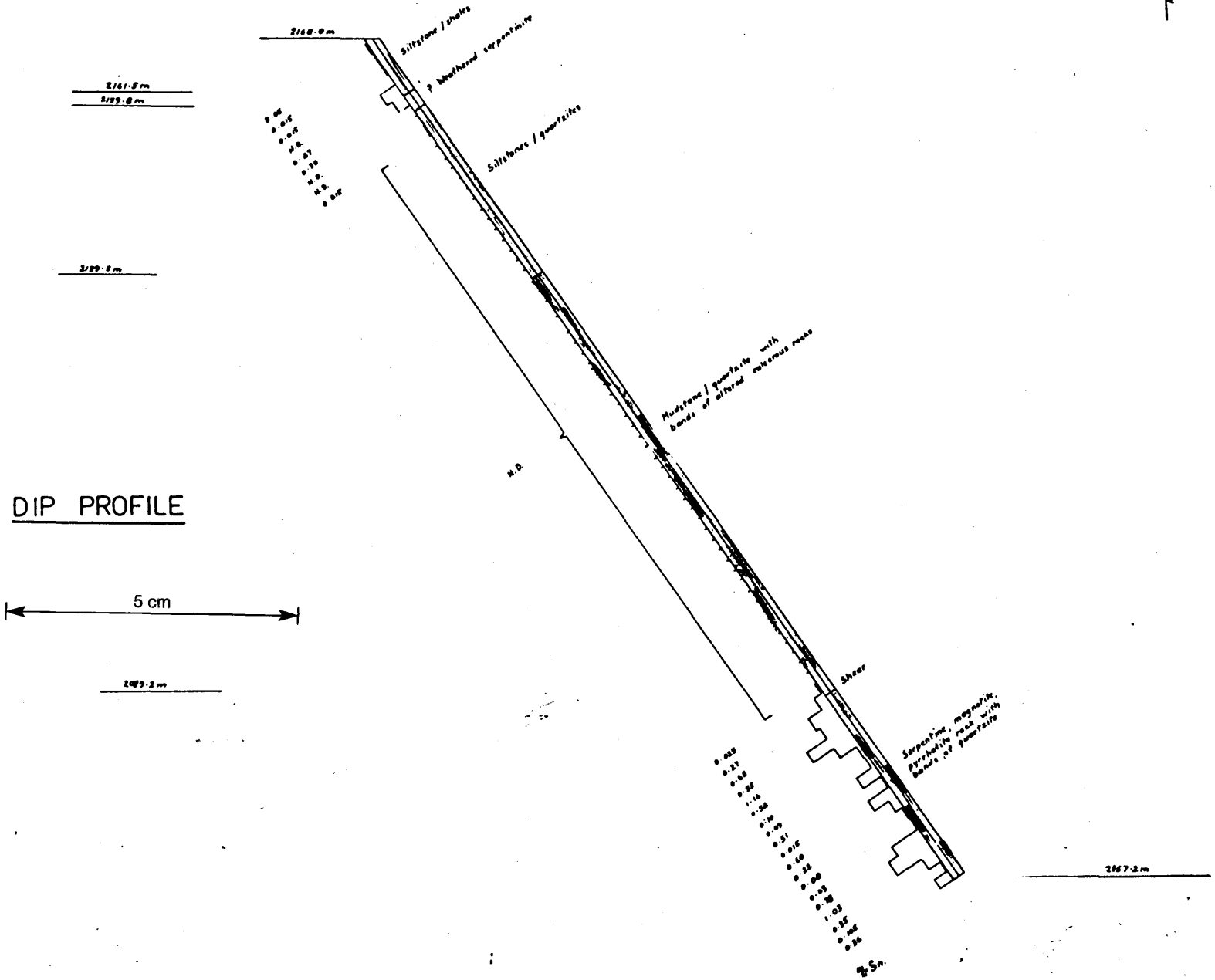
SUMMARY – ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS												B.C.A.
				Sn.	Acid Sol. Sn.	Cu. ppm	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t	Ni ppm	Fe		
Minops assays:	96.0	123.1	27.1	0.41		210								30			
Renison assays: (October 1983)	97.0	123.0	26.0	0.53	0.03	0.04	0.1	1.5		0.06	0.006	0.02	2		21.3		

PLAN



DIP PROFILE



DIAMOND DRILL RECORD

HOLE NUMBER : M4

76 164 LOGGED BY : D.C.S.

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INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	ppm Cu.	% As.	Ni ppm	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0	3.0	2.4	81	SILTSTONES/SHALES		0.0	1.5	0.05		75		150					
						1.5	3.0	0.015		60		120					
				Extremely broken and leached rock of silty and shaley sediments.													
				Less broken parts show cleavage 70°- 90° to CA.													
3.0	7.6	3.7	81	SILTSTONES/SHALES		3.0	4.6	0.015		200		150					
						4.6	6.1	ND		165		120					
				As above but less leached.		6.1	7.6	0.47		210		80					
7.6	9.8	1.2	55	BLEACHED SANDY ROCK		7.6	9.1	0.30		75		<40					
				Shows traces of serpentine in foliation 80° to CA. Core recovery in this section about 55%.													
9.8	18.6	7.1	81	SILTSTONES		9.1	10.7	ND		<30		<40					
						10.7	12.2	"		60		40					
				Well bleached silty sediments with bedding 45°- 70° to CA.		12.2	13.7	0.015		80		"					
				Local massive fresh grey mudstone/siltstone, e.g. 10.1m.		13.7	15.2	N.D.		60		"					
				Recrystallised muscovite produced locally in these sediments.		15.2	16.8	"		"		"					
						16.8	18.3	"		"		"					
18.6	22.4	3.7	97	MUDSTONE		18.3	19.8	"		<30		<40					
						19.8	21.3	"		45		"					
				Fresh grey mudstone alternately showing bedded and massive		21.3	22.9	"		<30		"					
				sections. 30° to CA.													
22.4	22.6	0.2	100	QUARTZITE													
				Buff and green finely bedded quartzite. 60° to CA.													
22.6	23.0	0.4	100	MUDSTONE													
				As 18.6 to 22.4m.													
23.0	23.2	0.2	100	QUARTZITE													
				As 22.4 - 22.6m													

DIAMOND DRILL RECORD

76 165 HOLE NUMBER : M4 LOGGED BY : D.C.S. 164

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	FROM	TO	% Sn. TOTAL	% Sn. ACID SOL.	ppm % Cu.	ppm % As.	Ni ppm.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
23.2	28.0	4.4	93	SILTSTONES		22.9	24.4	ND		<30		<40					
						24.4	25.9	"		"		"					
				Grey massive siltstone alternating with bedded siltstones. BCA		25.9	27.4	"		"		"					
				40° - 60°.													
				A white needle like radiating mineral occure in bands parallelling													
				bedding. Very fine needles occur throughout rock (hand lens)													
				?andalusite.													
				Trace pyrite locally.													
				Petrological sample number 105492.													
28.0	32.0	4.0	100	SILTSTONES WITH QUARTZITE		27.4	28.9	"		"		30					
						28.9	30.5	"		"		50					
				Interbedded grey siltstone and quartzite-kaolinitic in patches.		30.5	32.0	"		30		30					
32.0	34.0	2.0	100	QUARTZITE		32.0	33.5	"		40		50					
				Light ot dark grey quartzite - slightly locally with bedding 60°													
				to CA. Core fractured but no major displacements. Last 0.8m													
				heavily kaolinised.													
				Locally small patches of serpentine are developed near the													
				following section.													
34.0	34.4	0.4	100	KAOLINISED SEDIMENTS													
				Heavily kaolinised bedded sandy sediments. Bedding 60° to CA.													
				Strong shear 5° to CA from 34.1 - 34.4m.													
34.4	34.7	0.3	95	SEDIMENTS		33.5	35.1	"		30		"					
				Very broken core. Silicified bedded sediments. Bedding 70° to													
				CA. Muscovite developed in fractures and veins - kaolin on													
				fractures.													
34.7	37.3	2.5	95	MARBLE		35.1	36.6	"		30		"					
						36.6	38 1	"		< 30		"					
				Coarsely crystalline marble - white to grey with rare flecks of													
				sulphide. Chlorite kaolin patches in marble at 36.7 - 36.9m.													
				36.9 to 37.0m - contorted bedded sediments partly chloritised.													

DIAMOND DRILL RECORD

76 166 HOLE NUMBER : M4

LOGGED BY : D.C.S.

165

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	ppm Cu.	ppm As.	Ni ppm	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
37.3	37.8	0.5	100	ALTERED SEDIMENTS													
				Bedded (Identify green mineral axinite).													
				Bedding 60° to CA. 37.8m.													
				Fault heavily Fe stained containing some carbonate. Fault 10° to CA.													
				Petrological sample no. 105493.													
37.8	38.1	0.3	87	QUARTZITE													
				Slightly limey-kaolinitic in parts.													
				Note: 38.1 to 46.6m taken from Minops log - the core was missing when Cominco relogged the core.													
38.1	40.2	1.8	87	MASSIVE WHITE QUARTZ/QUARTZITE		38.1	40.2	ND		< 30		50					
40.2	46.6	6.1	96	SLATES		40.2	42.7	"		120		100					
						42.7	44.2	"		145		120					
				Massive, grey fine grained slates, micaceous in patches and platey		44.2	45.7	"		120		80					
				pyrite/chalcopyrite mineralisation along bedding planes.		45.7	47.2	"		120		100					
				Cleavage at 45° to core.													
46.6	54.6	7.4	93	MUDSTONES AND AXINITE RICH ROCKS		47.2	48.8	"		100		100					
						48.8	50.3	"		120		80					
				Fine to medium grained interbedded light to dark grey mudstones		50.3	51.8	"		40		120					
				and axinite rich rocks. The rocks are variable in composition,		51.8	53.3	"		< 30		100					
				but extremely fine grained pyrrhotite accounts for 5-20% of it.		53.3	54.9	"		"		"					
				See T.S. report. Local short (10cm) section of micaceous quartzite													
				where mica (muscovite has recrystallised in flakes up to 2cm													
				across).													
				Mineralisation - pyrite crusts form on shear planes over this													
				section.													
				Structural - shear 5° to CA at 47.9m.													
				Slicks 35° to LA. Joints 60° to CA. Bedding 50°- 60°. to CA.													
				Petrological sample no 100959.													

DIAMOND DRILL RECORD

HOLE NUMBER : M4

76 167

LOGGED BY : D.C.S.

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	ppm % Cu.	ppm % As.	ppm Ni ppm.	ppm % Pb.	ppm % Zn.	ppm % Bi.	ppm g/t Ag	ppm % WO_3
54.6	56.5	1.7	90	MUDSTONES AND AXINITE RICH ROCKS		54.9	56.4	ND		<30		100					
				As above, but generally coarser grained andalusite (up to 3cm)													
				Quartz filled fault developed at 56.1 40° to CA.													
56.5	60.5	4.0	100	HORNFELS + ANDALUSITE AXINITE SLATES		56.4	57.9	"		40		110					
						57.9	59.4	"		80		90					
				Fine grained siliceous hornfels interbedded with andalusite axinite		59.4	61.0	"		280		90					
				slates.													
				Mineralisation - minor fine grained sulphides suspected (T.S.													
				to confirm).													
				Structure - bedding 70° to CA. Occasional graphitic shear at													
				0 - 15° to CA.													
60.5	61.7	1.1	90	MUDSTONES													
				Fine grained grey siliceous mudstones showing conchoidal fracture.													
				Mineralisation - pyrite in fracture towards end of section.													
				Structure - graphitic shear parallel to CA at 61.0m.													
61.7	71.6	8.9	90	ANDALUSITE ROCKS AND MUDSTONES		61.0	62.5	"		170		110					
						62.5	64.0	"		140		140					
				Interbedded andalusite rocks and conchoidally fractured siliceous		64.0	65.5	"		140		110					
				mudstones. Core very broken from 63.1m.		65.5	67.1	"		160		140					
				Graphitic shears of various orientations common from 63.1 -		67.1	68.6	"		130		110					
				63.7m.		68.6	70.1	"		160		110					
				Mineralisation - pyrite film occasionally within joints.		70.1	71.6	"		200		110					
				Graphite on shear abundant 63.1 - 63.7m, 65.8, 67.1m, 68.0m, 69.2m													
				Structure - shears generally at low angles to CA, and thin, usually													
				less than 5mm.													
71.6	74.8	2.8	88	MUDSTONES		71.6	73.2	"		170		70					
						73.2	74.7	"		140		90					
				Broken and fractured - slightly pyritic in parts. Pyrite films													
				on joints - graphite films on shears.													

DIAMOND DRILL RECORD

HOLE NUMBER : M4

76 168 LOGGED BY : D.C.S.

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	ppm % Cu.	ppm % As.	Ni ppm.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
74.8	84.1	8.1	87	MUDSTONES		74.7	76.2	ND		190		140					
						76.2	77.7	"		200		160					
				As above, but less broken. Bedding parallel to cleavage at		77.7	79.2	"		170		140					
				77.7m, 40° to CA		79.2	80.8	"		160		110					
				Patch of andalusite slate developed at 83.5m.		80.8	82.3	"		140		90					
						82.3	83.8	"		160		90					
84.1	93.6	8.4	88	AXINITE ROCK AND SILICEOUS HORNFELS		83.8	85.3	"		50		110					
						85.3	86.9	"		100		90					
				Interbedded. Axinite rich rock contains fine grained sulphide		86.9	88.4	"		230		110					
				(pyrrhotite?) marginal to the andalusite grains. Siliceous		88.4	89.9	"		100		110					
				hornfels 87.2 - 87.8m, 89.3 - 89.9m, 90.2 - 90.5m.		89.9	91.4	"		470		90					
				Mineralisation - pyrrhotite developed to a small extent in the		91.4	93.0	"		170		70					
				axinite rock. Pyrite films developed on shears.													
				Structure - bedding 60° to CA. Pyrite filled joints 30° to CA.													
93.6	96.0	2.2	92	MUDSTONES		93.0	94.4	"		280		90					
						94.4	96.0	0.025		130		70					
				Siliceous, micaceous locally, generally kaolinised 94.2 - 94.8m.													
96.0	96.2	0.2	92	TALCOSE SHEAR													
				30° to CA.													
96.2	97.2	0.0	0	NO RECOVERY													
97.2	100.6	3.4	100	MAGNETITE-OLIVENE-PYRRHOTITE ROCK		96.0	97.5	0.27		100		50					
						97.5	99.1	0.65		40		50					
				Fine to medium grained.		99.1	100.6	0.55		40		30					
				Mineralisation - 5 - 10% pyrrhotite developed in small aggregates													
				No pyrite in this section.													
				Structure - mineralogical banding (possibly after bedding) 30°													
				to CA. Shear 97.5m 10° to CA. Quartz filled shear at 99.4m and													
				100.1m.													
100.6	101.3	1.3	100	PALE GREEN SILICEOUS HORNFELS													
At 101.3				SHEAR													
				70° to CA. Slicks 40° to LA.													

DIAMOND DRILL RECORD

76 169

HOLE NUMBER : M4

LOGGED BY : D.C.S.

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	ppm Ni ppm. % Cu.	% As.	%	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
101.3	103.0	1.7	100	MAGNETITE-OLIVINE-PYRRHOTITE ROCK		100.6	102.1	1.16		200		30					
						102.1	103.6	0.54		50		50					
				Strong shear developed at 102.1m. Pyrite films developed locally on fracture planes.													
103.0	105.2	2.1	95	QUARTZITE		103.6	105.2	0.10		60		50					
				Fine grained pale green quartzite. Strong shear 10° to CA at 104.2m; 104.5m 10° to CA. Slicks 40° to LA.													
105.2	105.5	0.3	91	SERPENTINITE													
				Sheared serpentinite, sheers 10° and 30° to CA. Slicks 10° and 70° to LA.													
105.5	106.4	0.8	94	QUARTZITE		105.2	106.7	0.09		100		30					
				Grey quartzite, very fine grained. Quartz filled joints 70° to CA. Quartzite becomes buff to white at 105.8m.													
106.4	107.3	0.9	98	SERPENTINE													
				With vertical shear from 106.4 to 107.1m. Slicks 25° to LA.													
107.3	108.5	1.1	93	QUARTZ-SERPENTINE ROCK		106.7	108.2	0.51		130		30					
				Grading to quartzite at 107.6m and carrying small amounts of magnetite and pyrrhotite. Shear 10° to CA 108.2m. Slicks 10° to LA.													
108.5	113.7	5.1	98	MAGNETITE-OLIVINE-PYRRHOTITE ROCK		108.2	109.7	0.015		145		20					
						109.7	111.3	0.60		30		35					
				(fine to medium grained) - locally kaolinitic and/or talcose.		111.3	112.8	0.22		820		20					
				Sheared and healed at 111.6 - 112.2m showing fragments of		112.8	114.3	0.08		160		20					
				serpentine, pyrite, fluorite and chalcopyrite.													
				Mineralisation - pyrite developed on fractures and sheers -													
				chalcopyrite and pyrite aggregates in sheared section.													
				Structure - banding irregular. Shears at 111.9m 40° to CA,													
				113.1m, 5° to CA.													
				Petrological sample no. 186869 from 111.5m (silvery mineral for													
				identification)													

DIAMOND DRILL RECORD

HOLE NUMBER : M4

76 170 LOGGED BY : D.C.S.

69

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	ppm % Cu.	ppm % As.	Ni ppm.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
113.7	115.5	1.7	97	QUARTZITE + SOME MAGNETITE		114.3	115.8	0.03		10		10					
				Greenish quartzite with patches of magnetite rock developed													
				locally to a few percent. Patches of serpentine throughout.													
				Mineralisation - nil													
				Structure - thin joints 20° to CA, 60° to CA. Strong shear at 115.2m													
				in serpentinous patch, 15° to CA. Slicks 30° to LA.													
115.5	123.1	7.3	96	MAGNETITE-TALC-PYRRHOTITE ROCK		115.8	117.3	0.78		420		20					
						117.3	118.9	1.03		490		20					
				Medium to coarse grained (2 - 3mm), slight folding evident in		118.9	120.4	0.35		510		20					
				polished faces. (pet. sample no. 100969).		120.4	121.9	0.105		190		10					
				Mineralisation - pyrite films developed on shears. Pyrrhotite		121.9	123.1	0.36		355		20					
				disseminated accounts for ~ 15% of the rock.													
				Structure - banding indistinct - possibly 30° to CA. Several													
				small shears 60° - 80° to CA 115.8 - 117.3m. From 118.9m, rock													
				is finer grained, < 0.05mm, and predominantly magnetite.													
				119.8 - 123.9m - shears common, 30° - 70° to CA.													
				End of hole													

ASSAYED AT RENISON LABORATORY, 1983

76 171 170

GOLD FIELDS EXPLORATION PTY. LIMITED

PROJECT: ST. DIZIER

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: M4 Page: 1.

INTERVAL		RECOVERY		DESCRIPTION	ASSAY DATA (all wt% except Ag which is ppm)													
From	To	m	%		Sample No.	From	To	Rec. %	Sn	SSn	S	As	Cu	WO_3	Fe	Zn	Ag	Bi
					6131	97.0	98.0	100	0.70	.04	0.2	<0.1	0.03	0.01	20.6	0.06	2	.002
					6132	98.0	99.0	100	1.14	.02	0.3	1.4	0.02	0.01	34.2	0.02	3	.004
					6133	99.0	100.0	100	0.61	.04	0.1	<0.1	0.03	0.02	25.9	0.26	1	.002
					6134	100.0	101.0	100	1.10	.12	0.1	<0.1	0.02	0.02	23.8	0.02	3	.005
					6135	101.0	103.0	50	0.10	.02	0.3	<0.1	0.02	<0.01	10.1	0.07	2	<.001
					6136	103.0	104.0	50	0.03	.01	0.1	<0.1	0.03	<0.01	4.6	0.03	1	.002
					6137	104.0	105.0	100	0.02	<.01	<0.1	<0.1	0.02	<0.01	2.8	0.04	<1	<.001
					6138	105.0	106.0	100	0.81	.05	0.3	0.2	0.03	0.01	28.5	0.06	3	.006
					6139	106.0	107.0	100	1.04	.02	1.4	0.6	0.04	0.02	20.4	0.01	2	.005
					6140	107.0	108.0	100	0.04	.01	0.4	<0.1	0.03	<0.01	4.3	0.37	3	<.001
					6141	108.0	109.0	85	0.08	.03	1.1	<0.1	0.02	0.01	12.8	0.01	2	.003
					6142	109.0	110.0	100	0.39	.03	4.9	<0.1	0.11	0.02	39.2	0.01	2	.012
					6143	110.0	111.0	100	0.38	.02	6.8	<0.1	0.10	0.02	38.6	0.01	2	.011
					6144	111.0	112.0	100	0.95	.05	1.4	0.2	0.03	0.02	29.1	0.01	3	.005
					6145	112.0	113.0	100	1.00	.04	0.1	<0.1	0.01	0.01	44.7	<0.01	2	.008
					6146	113.0	114.0	100	0.05	.03	1.8	<0.1	0.04	0.02	29.2	0.01	2	.013
					6147	114.0	115.0	100	0.02	.01	0.1	<0.1	<0.01	<0.01	4.6	0.08	1	.001
					6148	115.0	116.0	100	0.37	.02	1.0	<0.1	0.02	0.01	7.5	0.07	2	.008
					6149	116.0	117.0	100	1.30	.03	3.4	<0.1	0.06	0.03	27.9	0.01	2	.011
					6150	117.0	118.0	100	1.49	<.01	4.1	<0.1	0.06	0.03	35.2	0.01	2	.010
					6151	118.0	119.0	100	0.61	.02	2.3	<0.1	0.03	0.02	22.5	0.03	3	.010
					6152	119.0	120.0	100	0.78	.04	2.7	<0.1	0.05	0.03	28.1	0.01	3	.008
					6153	120.0	121.0	85	0.31	.04	1.8	<0.1	0.04	0.03	14.3	0.01	2	.008
					6154	121.0	122.0	85	0.31	.02	1.2	<0.1	0.05	0.02	14.3	0.22	3	.005
					6155	122.0	123.0	85	0.27	.08	3.1	<0.1	0.05	0.02	19.6	0.01	2	.008

DIAMOND DRILL RECORD

76 172 HOLE NUMBER :

LOGGED BY :

171

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				CMS REPORT No 74/3/28													
				Hole No M4													
				100959 from between 46.6 and 54.6m													
				Coarse axinite rock Dominantly large axinite crystals, fine interstitial graphite, diopside, carbonate, zoisite.													
				Fabric : very large random crystals, no preferred orientation.													
				Accessories : carbonate veinlets.													
				Comments : typical contact pyrometasomatic rock, originally carbonaceous limestone. Skarn type.													
				100965 - 111.3m													
				Graphitic meta-argillite : very fine grained graphite and calc-silicates, including garnet, diopside, axinite (also as porphyry blasts)													
				Fabric : fairly structureless, very faint fine banding.													
				Accessories : veinlets of calc-silicates with quartz and sulphide (pyrrhotite-pyrite).													
				Comments : original rock was a carbonaceous shale, perhaps calcareous. Extensively metasomatised.													
				100969 from between 115.5 and 123.1m													
				Mineralised steatised serpentinite : antigorite (matted fibres) extensively replaced by fine talc. Conspicuous cassiterite, magnetite, pyrrhotite (associated).													
				Fabric : random fibrous radiating aggregates.													
				Accessories : traces chalcopyrite. Pyrrhotite partly pyritised Carbonate. Chalcedony													
				Comments : cassiterite as very well formed zoned crystals 10 - 750μ (mostly > 100μ) in talc magentite, antigorite. Outstanding mineralisation.													

PETROLOGY OF CRUSHED REJECT SAMPLES (Central Mineralogical Services, 1983)

REPORT CMS 83/11/30

	Cassiterite	Rock type	Minor minerals	Comments
K 4 6132 (98.0-99.0m)	Colourless, translucent to cloudy, with subhedral crystals 10-250 μ, but mostly around 50 μ in antigorite; some intergrowths with magnetite.	Serpentinite with abundant magnetite and euhedral arsenopyrite.	Carbonate veinlets.	No direct association between arsenopyrite and cassiterite. Exceptionally pure cassiterite.
6150 (117.0-118.0m)	Pale brown blotchy and zoned crystals, 10 μ to 1 mm, embedded in talc and intergrown with magnetite/pyrrhotite; mostly 100-300 μ, with clusters (up to 100 μ) of small grains.	Talc-magnetite-pyrrhotite rocks with some antigorite.	Diffuse patches of fine ?fluorite. Silica veinlets.	Good cassiterite; much is free of magnetite, even the coarser crystals. Pyrrhotite tends to form fine networks in magnetite.

HOLE NUMBER	M5
PURPOSE	To delineate the orebody laterally.
LOCATION	St Dizier
COLLAR R.L.	~2168.0m
CO-ORDINATES	19975N 20201E Cominco Grid 5367600.5N 345009.5E AMG
LENGTH	60.3m
HOLE SIZE	
DATE DRILLED	7/10/70 - 10/10/70
SIGNIFICANT CORE LOSS ZONES	
ORE ZONE GROUND CONDITIONS	
LOGGED BY	D. Simpson (Cominco) Feb' 74
COMMENTS	

SURVEY			From – To	Distance D	VERTICAL		HORIZONTAL	
Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
Collar	182°AMG	-55°	0 – 60.3	60.3	49.39	2118.61	34.59	34.59

60 1 4

SUMMARY – ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS													B.C.A.
				Sn.	Acid Sol. Sn.	Cu, ppm	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t	Ni ppm.	Fe		
Minpet assays:	0.0	18.6	18.6	1.01		1855								40.			
Renison assays (October 1983):	3.7	19.7	16.0	0.88	0.02	0.08	0.4	4.4		0.16	0.016	0.02	2		26.0		

HOLE No.: M5

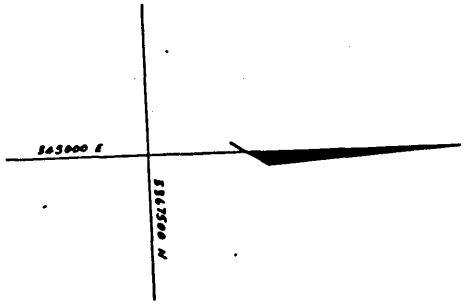
SCALE: 0 10 20 metres

DIAMOND DRILL HOLE PLOT

76 175

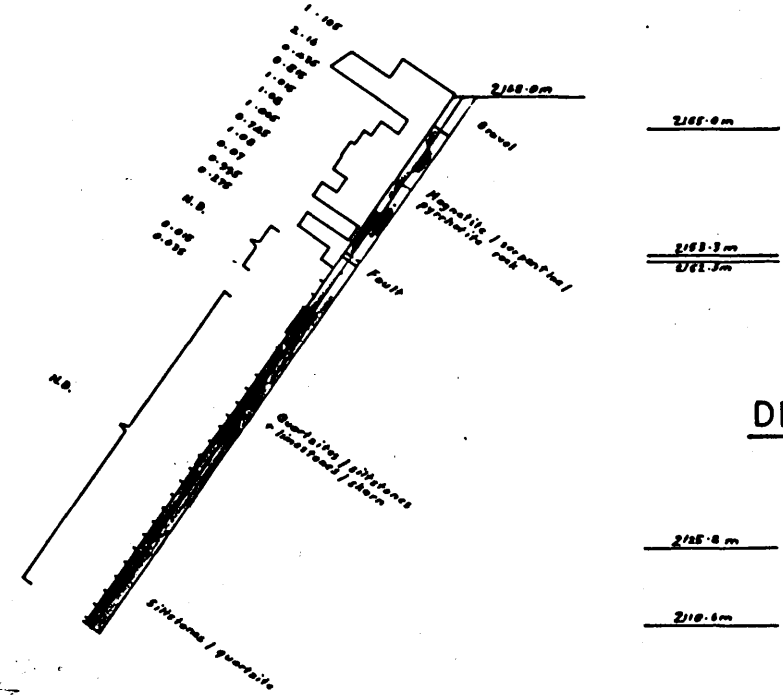
124

5 cm



PLAN

DIP PROFILE



DIAMOND DRILL RECORD

76 176

HOLE NUMBER : M5

LOGGED BY : D. Simpson

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Note : Assays from Minops data.

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	Cu ppm.	% As.	Ni ppm.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0	3.7	0.6	15	GRAVEL		0.0	2.7	1.105		1350		60					
				Probably drilled in gravel wash - a few pebbles of quartz-tourmaline rock appear with pebbles of sediment.													
3.7	6.5	0.4	15	MAGNETITE-SERPENTINE ROCK		2.7	4.9	2.16		1650		35					
						4.9	6.4	0.435		7200		45					
				Trace of pyrite. Some pyrrhotite developed at 6.1m. Magnetite grains 1mm.													
6.5	7.0	0.08	15	MAGNETITE ROCK													
				With lesser amounts of serpentine - banding indistinct.													
7.0	7.5	0.08	15	BANDED MAGNETITE-SERPENTINE ROCK & SULPHIDES		6.4	7.9	0.815		1050		35					
				With pyrrhotite and pyrite. Sulphides band range 0.1 to 1.0mm thick. Banding ~ 20° to CA.													
7.5	7.9	0.06	15	HEAVILY SHEARED MAGNETITE-PYRRHOTITE ROCK													
				Shear sub parallel to CA.													
7.9	9.1	0.2	20	MAGNETITE-KAOLIN ROCK		7.9	9.4	1.015		1300		35					
				Very broken with very poor recovery.													
9.1	16.5	4.6	62	PYRRHOTITE ROCK & SERPENTINE & OLIVENE		9.4	11.0	1.08		2350		35					
						11.0	12.5	1.065		2450		"					
				10 - 15% serpentine-olivene (?) chloritised.		12.5	14.0	0.745		1575		"					
				Fractures 80° to CA filled with pyrite at 12,2m		14.0	15.5	1.08		1650		"					
				(altered) shear sub parallel to CA developed		15.5	17.1	0.07		165		30					
16.5	18.1	1.5	95	MAGNETITE-PYRRHOTITE-SERPENTINE ROCK		17.1	18.6	0.995		155		45					
				Talc developed locally													
				Mineralisation - traces of disseminated locally.													
				Structure - strong shear parallel to CA at 17.4m													
				slickenslides 30° to CA.													
				Petrological sample number 100873, 17.7m.													

DIAMOND DRILL RECORD

76 177 HOLE NUMBER : M5

LOGGED BY : D. Simpson

176

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	Cu ppm	% As.	Ni ppm	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
18.1	18.6	0.4	71	FAULTED ZONE													
				Blocks of micaceous quartzite, magnetite-kaolin rock, and black opaline rock. Chrysotile and pyrite developed on some fault planes.													
18.6	26.2	7.2	94	SKARN		18.6	20.1	0.275		45		45					
						20.1	21.6	ND		< 10		30					
				Whitish grey to pale green fine grained skarn. Green colouration due to diopside. Serpentine on shears.		21.6	23.2	"		"		55					
						23.2	24.7	"		15		35					
				Mineralisation - nil.		24.7	26.2	0.015		< 10		25					
				Structure - no distinct bedding. Many shears at various angles to CA.													
At	26.2			SHEAR													
				In serpentinous material at 15° CA. Slickenslides 5° to LA.													
26.2	26.4	0.05	23	SERPENTINE-TALC ROCK													
				Grades to quartzite of next section.													
26.4	34.1	2.5	32	?MICACEOUS QUARTZITE		26.2	27.7	0.035		< 10		20					
						27.7	29.3	ND		10		30					
				Extremely broken and kaolinised rock - probably originally micaceous quartzite. Slightly limey towards end of sections.		29.3	32.3	"		15		35					
						34.1	33.8	"		25		30					
				Mineralisation - trace of pyrrhotite at 32.3m.													
				Structure - minor shear at 31.1m.													
34.1	40.2	5.4	89	LIMESTONE		33.8	35.4	"		35		30					
						35.4	36.9	"		10		30					
				Medium grained (1 - 2mm) containing stringers of epidote.		36.9	38.4	"		15		35					
				Mineralisation - traces of pyrrhotite locally. Bands of fine grained black material parallel to (sedimentary?) banding (?tourmaline).		38.4	39.9	"		15		35					
				Structure - faint banding 60° to CA. Shear 39.8m 25° to CA. Slickenslides 90° to CA.													

DIAMOND DRILL RECORD

76 178 HOLE NUMBER : M5

LOGGED BY : D. Simpson. 177

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	Cu ppm % Cu.	% As.	Ni ppm % S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
40.2	40.7	0.4	86	SILTSTONE/MUDSTONE		39.9	41.5	ND		95		30					
				Grey limey siltstone to mudstone, with banding 30° to CA.													
40.7	41.5	0.7	86	CALCITE-MAGNETITE HORNFELS, MINOR SULPHIDES													
				Mineralisation 3 - 4% pyrrhotite and pyrite disseminated throughout.													
				Structure - banding (mineralogical) 40° to CA.													
				Petrological sample 100976 - 41.1m.													
41.5	41.8	0.3	86	QUARTZITE													
				Hard white quartzite separated from above and below rocks by a thin band of serpentine.													
41.8	46.8	4.0	81	LIMESTONE		41.5	43.0	"		25		45					
						43.0	44.5	"		20		45					
				Fine to medium grained pale grey limestone with stringers of epidote. Slate bands at 44.5 and 45.4m.		44.5	46.0	"		50		70					
						46.8	47.5	"		15		45					
				Quartzite bands 44.2m, 44.8m, 46.6m.													
				Mineralisation - pyrite films on occasional fracture face.													
				Structure - banding 30° to CA. Occasional fracture parellel banding carrying pyrite.													
46.8	51.5	4.7	100	LIMESTONE		47.5	49.1	"		20		45					
						49.1	50.6	"		10		35					
				As above with a few more slate bands.		50.6	52.1	"		45		60					
				Banding (bedding) 40° CA.													
				Fault sub parallel to CA at 47.9m.													
51.5	52.3	0.8	95	SLATES													
				Extremely broken - strong cleavage 60° to CA.													

DIAMOND DRILL RECORD

76 179 HOLE NUMBER : M5

LOGGED BY : D. Simpson

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INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	Cu ppm % Cu.	% As.	Ni ppm % S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
52.3	54.6	2.0	88	SILICIFIED MUDSTONES		52.6	53.6	ND		105		110					
						53.6	55.2	"		100		80					
				Grey, generally with conchoidal fracture and carrying a trace of pyrite. Some sections show a banding - pyrite stringers form parallel to this limey patch 51.2 - 51.5 Mineralisation - trace of pyrite < 0.2%.													
54.6	56.7	2.1	100	QUARTZITE		55.2	56.7	"		70		90					
				Grey micaceous quartzite rock containing up to 1% pyrite. This is a fine grained and homogeneous rock. Mineralisation - pyrite as mentioned, disseminated as fine crystals throughout. Structure - minor shearing at low angles to CA. Petrological sample 100977.													
56.7	60.3	3.6	100	SILTSTONES/SLATES		56.7	58.2	"		60		100					
						58.2	59.7	"		80		90					
				Interbedded siliceous siltstone and andalusite slates (or hornfels - i.e. no cleavage) andalusite crystals up to 3mm. Mineralisation - trace of pyrite i.e. 0.5% disseminated throughout. Structure - banding about 40° to CA.		59.7	60.3	"		105		75					
				End of hole													

ASSAYED AT RENISON LABORATORY, 1983

OLD FIELDS EXPLORATION PTY. LIMITED

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PROJECT: ST. DIZIER

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: M5

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION

Sample No.	From	To	Rec. %	Sn	SSn	S	As	Cu	WO_3	Fe	Zn	Ag	Bi
				ASSAY DATA (all wt% except Ag which is ppm)									
6156	3.7	4.7	100	1.98	<.01	12.1	0.4	0.21	0.03	20.5	0.01	2	.035
6157	4.7	5.7	50	1.57	.02	6.5	0.5	0.07	0.02	29.3	0.01	2	.017
6158	5.7	6.7	90	0.35	.02	2.8	0.2	0.06	0.02	37.1	<0.01	2	.012
6159	6.7	7.7	80	1.76	.03	5.7	<0.1	0.07	0.03	34.7	<0.01	3	.012
6160	7.7	14.7	21	0.29	.01	1.4	<0.1	0.04	0.01	23.5	0.36	2	.008
6161	14.7	15.7	90	2.00	<.01	12.0	0.7	0.21	0.04	26.4	0.01	3	.019
6162	15.7	16.7	90	0.72	.01	12.9	3.1	0.19	<0.01	26.6	0.01	3	.063
6163	16.7	17.7	100	0.79	<.01	8.3	0.3	0.15	0.02	27.9	0.01	3	.022
6164	17.7	18.7	100	2.27	.07	0.6	0.5	0.03	0.03	37.1	<0.01	3	.015
6165	18.7	19.7	90	0.61	.05	0.3	<0.1	0.01	0.02	12.3	0.01	1	.005
6166	19.7	20.7	100	0.01	.01	<0.1	<0.1	<0.01	<0.01	1.4	0.01	<1	.003
6167	20.7	21.7	100	0.03	<.01	<0.1	<0.1	0.01	<0.01	3.7	0.01	<1	.001
6168	21.7	22.7	100	<0.01	.01	<0.1	<0.1	0.01	<0.01	2.0	0.01	1	.002
6169	22.7	23.7	100	0.01	<.01	<0.1	<0.1	0.01	<0.01	1.3	0.01	<1	.002
6170	23.7	24.7	70	0.01	.02	0.1	<0.1	<0.01	<0.01	2.6	0.13	<1	.001
6171	24.7	26.7	85	0.01	<.01	<0.1	<0.1	<0.01	<0.01	3.7	0.01	<1	.003
6172	26.7	28.0	48	0.05	.05	0.1	<0.1	0.01	<0.01	6.6	0.03	2	.003

DIAMOND DRILL RECORD

76 181 HOLE NUMBER : MS

LOGGED BY :

180

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.
				CMS REPORT 74/3/28	
				Hole No MS	
				100973 - 17.7m	
				Mineralised Serpentinite : fine ~~mottled~~ matted antigorite flakes, abundant replecive magnetite, minor pyrrhotite, conspicuous apatite crystals.	
				Cassiterite : occasional but large patches with cloudy reaction (?) rims. Up to 1mm or more.	
				Opaques : granular magnetite fine pyrrhotite (altered to marcasite).. Trace chalcopyrite.	
				Comments : magnetite pseudomorphs after serpentine textures. Cassiterite reaction, rims may be hydrated material (varlamoffite)	
				100976 - 41.4m	
				Dolomite marble : coarsely crystalline stressed dolomite.	
				Abundant introduced magnetite, some pyritised pyrrhotite.	
				Fabric : stressed crystalline fabric due to post-metamorphic tectonism.	
				Accessories : occasional antigorite aggregates.	
				Comments : this rock (and 100975) may be stratigraphic equivalents of L. Cambrian carbonate beds (e.g. at Ranison).	
				100977 - depth unknown	
				Banded calc-silicate rock : mainly fine and coarser diopside with numerous opaque inclusions and interstitial illite. Graphite	
				Fabric : relict banding (primary feature).	
				Accessories : fine sulphides and graphite, throughout.	
				Comments : contact metasomatised argillaceous sediment with carbonate and carbonaceous matter.	

% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3

PETROLOGY OF CRUSHED REJECT SAMPLES (Central Mineralogical Services)

	Cassiterite....	Rock type	Minor minerals	REPORT cms 83/11/30 Comments
M 5 6157 (4.7-5.7m)	Single grains, stringers and clusters of 3-20 μ grains; occasional larger anhedral crystals up to 80 μ, generally embedded in talc and chlorite.	Talc-magnetite and chlorite-magnetite rocks, iron-stained.	Fresh and pyritised pyrrhotite; arsenopyrite. Carbonate.	Cassiterite dominantly fine-grained, but not well-represented in the T.S. examined - may be coarser.
6162 (17.7-18.7m)	Dominantly as minute (< 10 μ) grains and needles, singly and as loose clusters; as few grains up to 300 μ, and cloudy aggregates. In antigorite and carbonate.	Serpentinite - antigorite with magnetite.	Oxidised carbonate patches. Arsenopyrite, pyrite, pyrrhotite.	Some chips contain only good, relatively coarse crystals, but cassiterite is mostly very fine and poorly developed.

HOLE NUMBER	M6	SURVEY			From – To	Distance D	VERTICAL		HORIZONTAL	
		Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
PURPOSE		Collar	349° AMG	-55°				2113.9.	37.9.	
LOCATION	St Dizier									76 183
COLLAR R.L.	~2168m									
CO-ORDINATES	19977N 20199E Cominco Grid 5367603N 345008E AMG									
LENGTH	66.1m									
HOLE SIZE										
DATE DRILLED	11/10/70 - 15/10/70									
SIGNIFICANT CORE LOSS ZONES										
ORE ZONE GROUND CONDITIONS										
LOGGED BY	D. C. Simpson (Feb '74)									
COMMENTS										

SUMMARY – ASSAY DATA

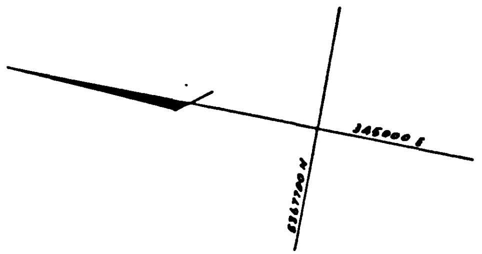
LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS												B.C.A.
				Sn.	Acid Sol. Sn.	Cu. ppm	As.	S.	Pb.	Zn.	Bi.	WO_3.	Ag g/t	Ni ppm	Fe		
Minops assays:	0.0	22.6	22.6	0.26		200								50.			
Ranisen assays: (October, 1983)	5.0	23.0	18.0	0.30	0.17	0.02	<0.1	0.8		0.02	0.007	0.01	2		19.3		
	including: 5.0	7.0	2.0	0.68	0.07	0.06	0.1	3.7		0.10	0.015	0.01	3		14.1		

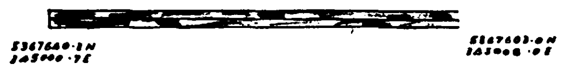
RENISON LIMITED

DIAMOND DRILL HOLE PLOT

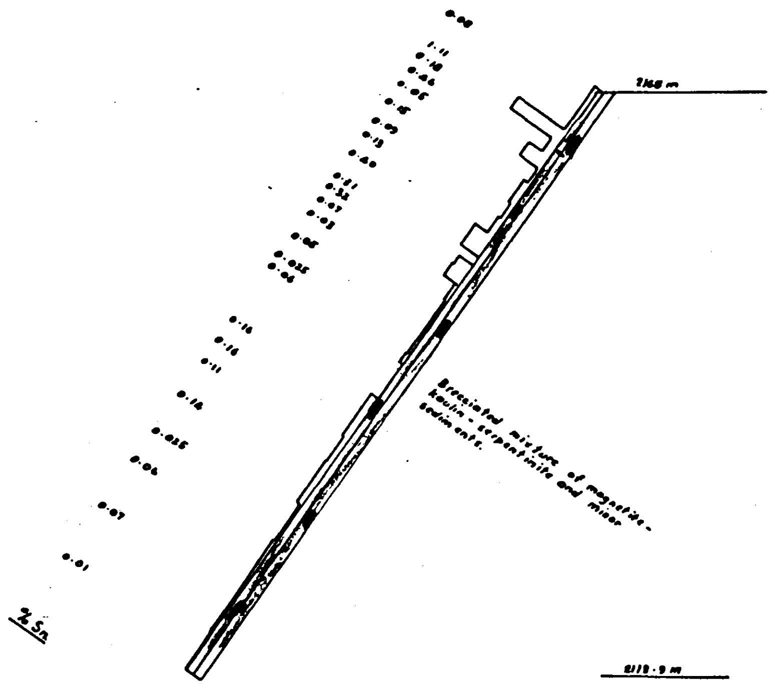
HOLE No *M6*

SCALE 0 10 20 metres





PLAN



DIP PROFILE

5 cm

DIAMOND DRILL RECORD

HOLE NUMBER : M6

LOGGED BY : D.C.S.

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INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	ppm Cu.	% As.	ppm Ni %S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0.0	7.9	2.9	36	BROKEN SHALES		0.0	4.9	0.08		390		60					
						4.9	6.4	1.11		355		50					
				Extremely broken weathered sediments, mostly shaley. Some parts		6.4	7.9	0.18		325		45					
				consist only of kaolin, talc and sericite.											76	185	
				Banding at 7.6m 20° to CA.													
7.9	9.8	0.8	40	GOSSAN		7.9	9.4	0.46		500		25					
				Kaolinitic in places - possibly after magnetite. Trace of magnet-													
				ite remaining. Earthy limonite colour varies from greenish brown													
				to reddish brown. No boxworks recognised.													
9.8	10.4	0.3	50	KAOLINISED ROCK													
				Probably sediments.													
10.4	10.7	0.2	83	FINE GRAINED SILICEOUS HORNFELS													
10.7	11.0	0.2	83	SERPENTINE PYRRHOTITE ROCK		9.4	11.0	0.05		125		35					
				Petrological sample no. 100970, 11.0m.													
11.0	11.6	0.2	35	BRECCIA													
				Mostly quartzite and containing fragments of serpentine, magnetite													
				and thoroughly kaolinised fragments.													
11.6	13.7	0.6	30	MAGNETITE-KAOLIN ROCK		11.0	13.4	0.15		50		30					
				Thoroughly sheared and opalised 13.4 - 13.7m shear parallel to													
				CA.													
13.7	14.3	0.02	3	SHEARED QUARTZITE		13.4	15.2	0.09		45		115					
				Opalised in places													
				Shear sub parallel to CA.													

DIAMOND DRILL RECORD

HOLE NUMBER : M6

LOGGED BY : D.C.S.

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	ppm % Cu.	% As.	Ni ppm.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
14.3	17.2	1.5	52	SHEARED QUARTZITE, MAGNETITE, SERPENTINE ROCK		15.2	16.8	0.13		165		45					
				Well brecciated in parts. Shear sub parallel to CA with breccia fragments having angular shapes. Shear has been partly healed by quartz. Traces of pyrite films on shear faces(chalcopyrite and galena of Minops log not observed)											76	186	
17.2	18.1	0.1	15	MAGNETITE-SERPENTINE ROCK		16.8	19.2	0.40		45		30					
				Kaolinitic in parts.													
18.1	19.4	0.2	15	MAGNETITE-SERPENTINE ROCK													
				As above. (Core missing now - description taken from Minops log).													
19.4	20.0	0.6	100	ALTERED SEDIMENTS		19.2	21.0	0.31		< 10		30					
				Heavily brecciated opalised and kaolinised sediments (quartzite and shale). Traces of magnetite and serpentine throughout.													
20.0	24.1	2.9	72	QUARTZITE + MAGNETITE - SERPENTINE BANDS		21.0	22.6	0.32		< 10		45					
						22.6	24.1	0.07		25		30					
				Alternating bands. Quartzite is pale green. (100971 T.S. - quartzite). Banding at 23.5m, 25° to CA.													
24.1	30.2	1.2	20	QUARTZITE + MAGNETITE - SERPENTINE BANDS		24.1	25.6	0.03		15		25					
						25.6	28.7	0.05		35		35					
				As above but thoroughly kaolinised. Chrysotile developed at 25.6m		28.7	30.5	0.025		40		90					
				Opal at 28.1m. Core very broken, from 27.1m.													
30.2	31.4	0.7	61	OPAL + MINOR MAGNETITE													
				Extremely broken opaline rock containing magnetite and shely rock fragments. Banding indistinct. Traces of pyrite on fracture planes.													

DIAMOND DRILL RECORD

HOLE NUMBER : M6

LOGGED BY : D.C.S.

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INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	ppm % Cu.	ppm % As.	Ni ppm.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
31.4	35.4	0.5	12	AS ABOVE (TAKEN FROM MINOPS LOG)		30.5	35.4	0.06		30		35					
35.4	40.4	1.3	25	MAGNETITE - KAOLIN ROCK		35.4	38.7	0.16		50		35			76	187	
						38.7	40.2	0.16		<10		45					
				Very broken, colour probably due to weathering or magnetite.													
				Banding 15° to CA at 43.6m. Core very broken.													
40.4	66.1	3.2	12	KAOLIN		40.2	43.0	0.11		40		35					
						43.0	47.5	0.14		15		35					
				Buff coloured. Trace banding at 54.9m, 20° to CA. A little		47.5	51.8	0.025		55		35					
				magnetite rock 65.2 - 66.1m.		51.8	54.3	0.06		15		35					
						54.3	62.2	0.07		395		45					
						52.2	66.1	0.01		425		35					
				End of hole													

ASSAYED AT RENISON LABORATORY, 1983

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OLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE LOG AND ASSAY DATA

PROJECT: ST. DIZIER

HOLE NUMBER: M6

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION

ASSAY DATA (all wt% except Ag which is ppm)													
Sample No.	From	To	Rec. %	Sn	SSn	S	As	Cu	WO_3	Fe	Zn	Ag	Bi
6173	0.0	5.0	38	0.15	.06	7.8	0.4	0.08	0.01	14.6	0.17	3	.030
6174	5.0	6.0	38	0.65	.06	4.3	0.1	0.06	<0.01	10.5	0.12	3	.017
6175	6.0	7.0	95	0.70	.08	3.0	<0.1	0.05	0.02	17.6	0.07	3	.012
6176	7.0	9.0	20	0.09	.07	0.4	<0.1	0.03	<0.01	39.7	0.02	3	.010
6177	9.0	10.0	60	0.08	.07	0.4	<0.1	0.01	<0.01	35.8	0.05	2	.008
6178	10.0	11.0	90	0.57	.33	0.9	<0.1	0.06	0.01	8.1	0.04	2	.005
6179	11.0	14.0	36	0.15	.14	0.4	<0.1	0.01	0.01	15.9	0.01	2	.004
6180	14.0	16.0	45	0.42	.26	0.5	<0.1	0.02	0.01	13.0	0.01	3	.005
6181	16.0	18.0	85	0.29	.12	0.9	<0.1	0.01	<0.01	13.6	0.01	2	.005
6182	18.0	20.0	48	0.31	.27	0.4	<0.1	0.01	<0.01	22.5	0.01	1	.006
6183	20.0	21.0	65	0.34	.32	0.2	<0.1	0.01	0.01	12.5	0.01	2	.004
6184	21.0	22.0	40	0.06	.06	0.5	<0.1	<0.01	<0.01	13.0	<0.01	<1	.007
6185	22.0	23.0	100	0.35	.32	<0.1	<0.1	<0.01	<0.01	23.8	0.01	2	.002
6186	23.0	24.0	100	0.11	.11	0.1	<0.1	0.01	<0.01	34.4	<0.01	2	.004
6187	23.0	25.0	100	0.05	.04	0.1	<0.1	0.01	<0.01	16.6	0.01	2	.006
6188	25.0	27.0	40	0.04	.04	0.3	<0.1	0.02	<0.01	37.5	0.01	2	.003
6189	27.0	29.0	50	0.05	.05	0.1	<0.1	<0.01	<0.01	33.7	<0.01	2	.005
6190	29.0	30.0	50	0.09	.07	0.1	<0.1	0.01	<0.01	8.7	0.02	2	.002
6191	30.0	31.4	36	0.08	.07	0.1	<0.1	0.01	<0.01	15.8	0.02	<1	.003

DIAMOND DRILL RECORD

HOLE NUMBER : 76 189

LOGGED BY :

188

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL	% Cu.	% As.	% S.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
				CMS REPORT NO 74/3/28													
				Hole No M6													
				100970 - 11.0m													
				Mineralised serpentinite : fine flakes of antigorite make up coarse networks extensively replaced by sulphide. Carbonate shears.													
				Cassiterite : fine, mottled, granular; common in antigorite, pyrrhotite 2 - 70μ, average 20 - 40μ.													
				Opaques : major pyrrhotite pseudomorphing networks. Pyrite in shears.													
				Comments : clear - post - serpentinisation mineralisation. Associated pyrrhotite, cassiterite. Pre-shearing.													
				100971 from between 20.0 and 24.1m													
				Serpentinite : classical medium/fine grained network antigorite in contact with brecciated serpentinite. Possible contact zone.													
				Fabric : brecciated in part, typical serpentinite.													
				Accessories : chalcedony - carbonate veins. Indegenous and introduced magnetite (very minor).													
				Comments : minerology and fabric most characteristic serpentinites, to the virtual exclusions of other possibilities.													

HOLE NUMBER	M8	SURVEY			From – To	Distance D	VERTICAL		HORIZONTAL	
		Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. Total
PURPOSE	To traverse the western magnetic anomoly and to intersect the quartzite	Collar	037°AMG	-55°	0 – 50.7	50.7	41.53	2122.97	29.08	29.08
LOCATION	St Dizier							76	190	189
COLLAR R.L.	2164.5m									
CO-ORDINATES	20056N 20021 E Cominco Grid 5367711.5N 344845E AMG									
LENGTH	50.7m									
HOLE SIZE										
DATE DRILLED	27/10/70 – 31/10/70									
SIGNIFICANT CORE LOSS ZONES										
ORE ZONE GROUND CONDITIONS										
LOGGED BY	G. Boyle (Cominco) 7/5/74									
COMMENTS										

SUMMARY – ASSAY DATA

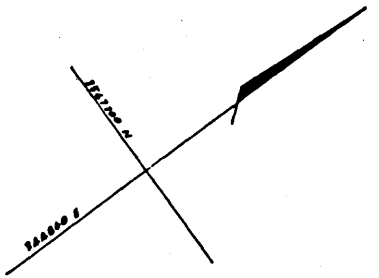
LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS												B.C.A.
				Sn.	Acid Sol. Sn.	Cu. ppm	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t	Ni. ppm.	Fe.	
Minops assays:	12.2	35.7	23.5	0.39		680								100.		
Remicon assays: (October, 1983)	28.0	34.0	6.0	0.59	0.02	0.06	<0.1	4.1		0.06	0.007	0.01	<1		31.0	

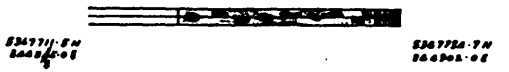
HOLE No MB

SCALE 0 10 metres

DIAMOND DRILL HOLE PLOT

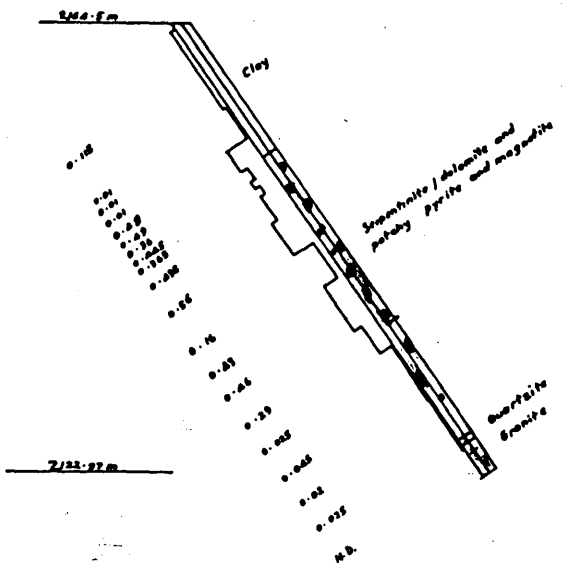
76 191 190





5 cm

PLAN



DIP PROFILE

DIAMOND DRILL RECORD

76 192

HOLE NUMBER : M8

LOGGED BY : G. Boyle

191

Note: Assays from Minops data.

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	Cu ppm	Cu % As.	Ni ppm	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0	14.5	4.8	33	CLAY		0.0	8.8	0.115		1970		110	(?tailings - Minops log)				
						8.8	9.9	0.01		510		90					
				Fine, massive, white to pale green and pale pink clay,		9.9	10.7	0.01		830		110					
				minor pale and dark grey bedded clay, minor grey "sand"		10.7	12.2	0.01		480		90					
				mainly to 8.8m. 13.4 - 13.7m limonitic clay, grey and		12.2	13.7	0.48		860		70					
				white clay.		13.7	14.5	0.49		620		50					
14.5	29.6	12.9	85	PYRITIC DECOMPOSED SERPENTINITE and DOLOMITE		14.5	15.7	0.36		1040		130					
						15.7	16.5	0.445		920		130					
				Fine, yellow brown decomposed serpentinite and/or		16.5	17.4	0.365		1530		240					
				dolomite, 50% fine pyrite, bedding subparallel to core		17.4	20.1	0.435		1010		130					
				axis. 1cm pyrite vein subparallel until 16.5m.		20.1	23.8	0.56		900		130					
				Also pale grey to white decomposed serpentine and/or		23.8	27.6	0.16		220		70					
				dolomite. Some bedding traces, core badly crushed.		27.6	29.6	0.43		520		70					
				Minor pyrite beds in the white decomposed rock.													
				After 17.4m, minor masses of magnetite and some bands													
				of magnetite.													
				After 24.1m, magnetite is more common, patchily up to													
				30%.													
				The rock is very shale-like, kaolin-like to touch													
				rather than talc.													
29.6	34.0	3.7	83	MAGNETITE-SERPENTINE/DOLOMITE		29.6	32.6	0.46		470		90					
				30 - 50% fine, well banded magnetite in cream white													
				decomposed serpentinite and/or dolomite matrix. Core													
				less broken after 33.2m.													
34.0	46.5	11.1	89	DOLOMITE and SERPENTINITE		32.6	35.7	0.29		510		70					
						35.7	38.7	0.025		300		50					
				Fine, white to cream and pale green dolomite, grading		38.7	41.9	0.045		670		"					
				to pale and dark grey, minor pink brown and black		41.9	44.2	0.02		260		"					
				brown, and fine green to black interbedded serpentin-		44.2	47.5	0.025		300		"					
				ite. Bedded to massive, bedding 45° to core axis.													
				Minor patchy magnetite, as fine grained masses up to													
				2cm in size.													
				Up to 50% pyrite in darker beds, 20% speckling in pale													
				beds, but overall 2%, very patchy development.													

DIAMOND DRILL RECORD

76 193 HOLE NUMBER : M8

LOGGED BY : G. Boyle

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Note: A[illegible]s from Minops data.

INTERVAL (m) FROM	INTERVAL (m) TO	RECOVERY m	RECOVERY %	DESCRIPTION	FORM.	% Sn. FROM	% Sn. TO	% Sn. TOTAL	% Sn. ACID SOL.	Cu ppm	% As.	Ni ppm	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
46.5	47.2	0.6	89	QUARTZITE													
				Fine to medium grained, well bedded, pale to dark grey and pink brown quartzite. Bedding 45° to core axis.													
47.2	47.5	0.3	89	CONTACT ZONE													
				Fine, well banded chlorite and brown tourmaline banding 40° to core axis.													
47.5	49.0	1.5	100	QUARTZ-TOURMALINE		47.5	50.7	ND		<30		90					
				Medium grained quartz, fine to medium grained black brown tourmaline in a network pattern, 10 - 60%, average 40%. Minor muscovite.													
49.0	50.7	1.7	100	GRANITE													
				Medium grained granite, 5% black-green biotite (?chloritised). 45.9 - 46.3m - biotite altered to chloritised muscovite.													
				End of hole													

ASSAYED AT RENISON LABORATORY, 1983

GOLD FIELDS EXPLORATION PTY. LIMITED

76 194

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PROJECT: ST. DIZIER

DRILL CORE LOG AND ASSAY DATA

HOLE NUMBER: M8

INTERVAL		RECOVERY		DESCRIPTION	ASSAY DATA (all wt% except Ag which is ppm)													
	To	m	%		Sample No.	From	To	Rec. %	Sn	SSn	S	As	Cu	WO_3	Fe	Zn	Ag	Bi
					6192	0.0	15.0	22	<0.01	<.01	0.8	<0.1	0.01	<0.01	9.7	0.05	1	.004
					6193	15.0	19.0	30	<0.01	<.01	0.3	<0.1	0.02	<0.01	8.6	0.06	1	.002
					6194	19.0	21.0	30	<0.01	<.01	0.2	<0.1	0.02	<0.01	7.6	0.07	2	.001
					6195	21.0	22.0	85	<0.01	<.01	0.2	<0.1	0.01	<0.01	7.4	0.08	3	<.001
					6196	22.0	23.0	100	0.01	<.01	<0.1	<0.1	<0.01	<0.01	0.8	0.01	2	.001
					6197	23.0	24.0	70	0.07	<.01	1.4	<0.1	0.01	<0.01	11.8	0.40	3	.003
					6198	24.0	25.0	70	0.41	.02	4.4	<0.1	0.06	<0.01	21.2	1.04	3	.005
					6199	25.0	26.0	80	0.04	.01	4.0	<0.1	0.04	0.01	9.9	0.12	1	.003
					6200	26.0	27.0	80	0.24	.02	4.4	<0.1	0.05	0.02	19.6	0.11	1	.005
					6233	27.0	28.0	90	0.35	.02	2.2	<0.1	0.06	<0.01	30.4	0.09	1	.008
					6234	28.0	31.0	51	0.57	.01	3.3	<0.1	0.05	0.01	21.9	0.05	<1	.006
					6235	31.0	33.0	40	0.63	.03	4.3	<0.1	0.05	<0.01	20.7	0.07	<1	.006
					6236	33.0	34.0	40	0.57	.01	6.0	<0.1	0.08	<0.01	18.9	0.06	1	.009
					6237	34.0	35.0	100	0.11	.02	3.1	<0.1	0.04	<0.01	10.6	0.13	1	.004
					6238	35.0	36.0	80	0.05	.01	2.8	<0.1	0.06	<0.01	6.2	0.06	<1	.002
					6239	36.0	37.0	80	0.02	<.01	1.0	<0.1	0.03	<0.01	5.0	0.03	<1	.003
					6240	37.0	38.0	80	0.06	.03	6.2	<0.1	0.07	<0.01	11.6	0.05	1	.014
					6241	38.0	39.0	90	0.03	.02	3.1	<0.1	0.04	<0.01	6.8	0.08	<1	.003
					6242	39.0	40.0	40	0.03	.02	4.3	<0.1	0.24	<0.01	9.6	1.59	3	.007
					6243	40.0	41.0	85	0.15	.08	1.9	<0.1	0.06	<0.01	10.5	0.92	1	.011
					6244	41.0	42.0	70	0.03	.03	1.2	<0.1	0.03	<0.01	7.0	0.08	<1	.016
					6245	42.0	43.0	45	0.10	.01	1.2	<0.1	0.04	<0.01	6.5	0.06	<1	.004
					6246	43.0	44.0	60	0.02	.01	2.9	<0.1	0.06	<0.01	11.9	0.14	1	.006
					6247	44.0	45.0	60	0.21	.03	1.8	<0.1	0.03	0.01	9.7	0.03	<1	.002
					6248	45.0	46.0	40	0.04	.02	<2.0	<0.1	0.05	<0.01	7.3	0.03	1	.002
					6249	46.0	47.0	50	0.11	.08	0.5	<0.1	0.02	<0.01	9.7	0.05	1	.004
					6250	47.0	48.0	70	0.02	.01	1.5	<0.1	0.03	0.07	7.6	0.04	<1	.035
					6251	48.0	49.0	95	0.01	.01	0.3	<0.1	0.01	0.02	3.1	0.01	<1	.008
					6252	49.0	50.8	77	0.01	<.01	0.1	<0.1	0.02	<0.01	1.6	0.01	<1	.003

HOLE NUMBER	M9	SURVEY			From – To	Distance D	VERTICAL		HORIZONTAL	
		Depth	Bearing	Dip			D.Sin.Dip	R.L.	D.Cos.Dip	Prog. To
PURPOSE	To test the cassiterite-pyrite zone exposed in a trench.	Collar	235°AMG	-5	0 – 44.5	44.5	36.45	2130.55	25.52	25.52
LOCATION	St Dizier							76 195		194
COLLAR R.L.	~2167.0m									
CO-ORDINATES	19984N 20025E Cominco Grid 5367639.5N 344838.5E AMG									
LENGTH	50.6 – Minops log 44.5m– Cominco log									
HOLE SIZE										
DATE DRILLED	1/11/70 – 8/11/70									
SIGNIFICANT CORE LOSS ZONES										
ORE ZONE GROUND CONDITIONS										
LOGGED BY	G. Boyle (Cominco) 30/4/74									
COMMENTS										

SUMMARY – ASSAY DATA

LODE NAME	FROM	TO	LENGTH (m)	AVERAGE WEIGHTED ASSAYS													B.C
				Sn.	Acid Sol. Sn.	Cu. ppm	As.	S.	Pb.	Zn.	Bi.	WO_3	Ag g/t	Ni ppm	Fe		
Minops assays:	8.5	17.1	8.6	0.95		1260								180			
Renison assays: (October, 1985)	10.0	18.3	8.3	1.07	0.06	0.09	<0.1	12.6		1.92	0.009	0.01	3		10.2		

RENISON LIMITED

HOLE No M9 SCALE 0 10 20 metres

DIAMOND DRILL HOLE PLOT

76 196

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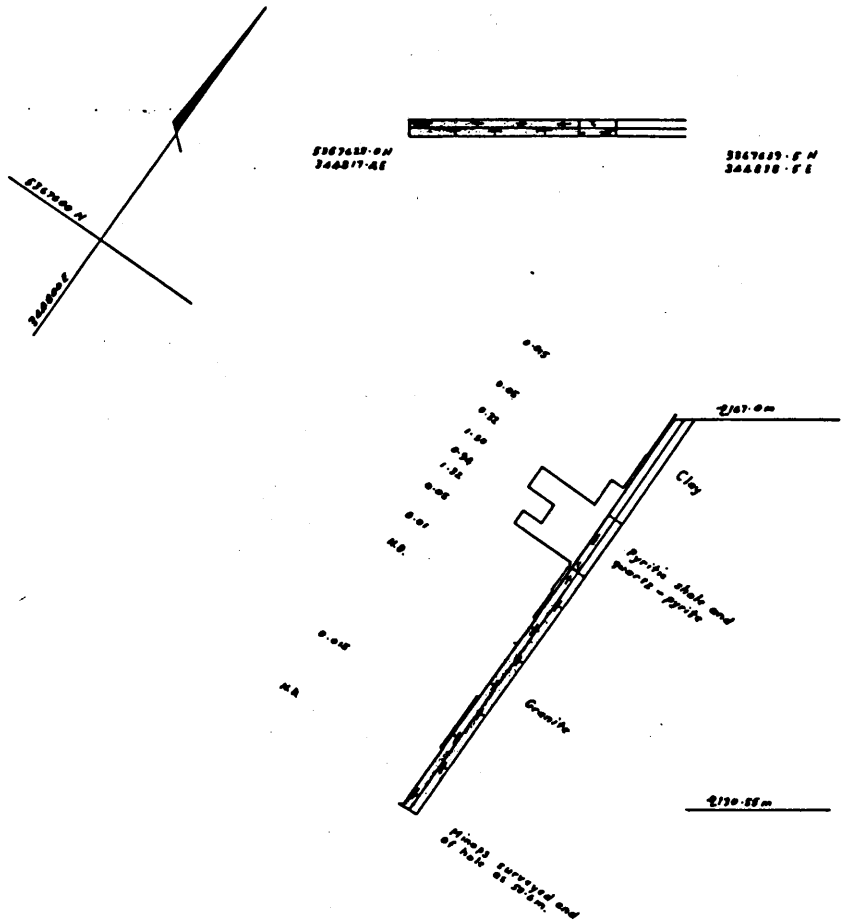

DIAMOND DRILL RECORD

HOLE NUMBER : M9

LOGGED BY : G. Boyle

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Note : Assays from Minops data

INTERVAL (m) FROM	TO	RECOVERY m	%	DESCRIPTION	FORM.	% Sn. FROM	TO	TOTAL	ACID SOL.	Cu ppm	% As.	Ni ppm.	% Pb.	% Zn.	% Bi.	g/t Ag	% WO_3
0.0	11.3	7.8	69	CLAY		0.0	4.6	0.015		200		180					
						4.6	8.5	0.05		430		180					
				Mid grey, fine clay, speckled and veined by cream clay,		8.5	11.3	0.32		200		220					
				minor patches of cream clay up to 2mm in size. Minor											76	197	
				dark grey clay. Largely massive to slightly chaotic													
				Rare pyrite cubes.													
				Probably decomposed shale.													
				4.0 - 4.6m - pale cream-grey shale, minor grey shale.													
				8.1m cream to yellow decomposed shale with grey shale													
				beds, 90° to core axis.													
				Minor pyrite veining. 8.8 - 3.7cm round quartz-pyrite													
				nodule.													
11.3	12.5	0.3	25	PYRITIC SHALE													
				Grey shale-clay, sand and pyrite-quartz fragments.													
12.5	15.2	2.7	100	QUARTZ PYRITE		11.3	13.4	1.50		1880		200					
						13.4	15.5	0.94		1460		130					
				Springy vuggy quartz with network veining and masses of													
				fine grained pyrite up to 5mm in size. Average of 50%													
				pyrite. Minor pyritic shale, grey and cream shale;													
				shale sand.													
				After 13.6m, 5% to 10% sphalerite as fine grained													
				patches up to 3mm in size, sometimes concentrated													
				along pyritic vein zones. 30% yellow-green-bronze													
				tarnish to pyrite or chalcopyrite.													
15.2	17.2	2.0	100	SHALE		15.5	17.1	1.32		2020		140					
				Fine grey and cream shale, massive to semi chaotic													
				pyrite veining minor except 16.2 - 16.3m, a zone of													
				pyrite in shale.													
17.2	44.5	2.7	10	GRANITE		17.1	20.1	0.05		30		90					
	(?50.6)					20.1	23.2	0.01		30		90					
				Medium grained granite, quartz sand, white clay,		23.2	26.2	ND		30		90					
				granite texture.		32.3	38.4	0.015		<30		90					
						38.4	44.5	ND		<30		110					
				End of hole													

ASSAYED AT RENISON LABORATORY, 1983

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OLD FIELDS EXPLORATION PTY. LIMITED

DRILL CORE LOG AND ASSAY DATA

PROJECT: ST. DIZIER

HOLE NUMBER: M9

Page: 1.

INTERVAL From	INTERVAL To	RECOVERY m	RECOVERY %	DESCRIPTION	ASSAY DATA (all wt% except Ag which is ppm) Sample No.	From	To	Rec. %	Sn	SSn	S	As	Cu	WO_3	Fe	Zn	Ag	Bi
					6253	0.0	2.0		0.07	<.01	4.0	<0.1	0.04	0.02	3.3	0.09	2	<.001
					6254	2.0	3.0	100	0.01	<.01	5.6	<0.1	0.05	0.02	3.4	0.20	1	<.001
					6255	3.0	4.0	100	0.01	<.01	7.5	<0.1	0.03	0.03	4.8	0.27	2	.001
					6256	4.0	5.0	80	0.01	<.01	5.3	<0.1	0.04	0.01	3.6	0.66	2	.003
					6257	5.0	6.0	80	0.34	.09	4.3	<0.1	0.02	0.02	2.0	1.91	1	<.001
					6258	6.0	7.0	95	0.29	.05	11.5	<0.1	0.07	0.01	8.2	1.77	<1	.003
					6259	7.0	8.0	95	0.03	.01	5.4	<0.1	0.09	0.01	3.2	1.67	3	.004
					6260	8.0	9.0	100	0.01	.01	8.6	<0.1	0.04	0.02	6.0	0.24	1	.004
					6261	9.0	10.0	100	0.35	.10	6.1	<0.1	0.04	0.01	4.5	0.95	1	.002
					6262	10.0	11.0	60	0.54	.20	5.1	<0.1	0.03	0.01	3.3	0.98	2	.004
					6263	11.0	13.0	38	0.62	.04	17.2	<0.1	0.08	<0.01	14.6	0.71	4	.006
					6264	13.0	14.0	100	1.57	.03	19.3	<0.1	0.18	<0.01	15.2	2.73	3	.008
					6265	14.0	16.0	65	1.03	.08	14.3	<0.1	0.10	0.01	11.0	4.26	2	.011
					6266	16.0	17.0	60	2.89	.05	10.7	<0.1	0.11	0.03	9.4	1.31	3	.025
					6267	17.0	18.3	38	0.46	.01	4.9	<0.1	0.05	0.02	4.1	0.74	1	.002

APPENDIX 4

Petrological Reports

199

Central Mineralogical Services

39 Beulah Road
Norwood, S.A. 5067
Telephone 42 5659

Mr. P.A. Roberts
Senior Geologist
Gold Fields Exploration Pty. Ltd.
P.O. Box 835
BURNIE / TAS. 7320

22nd July, 1983

REPORT CMS 83/6/39

YOUR REFERENCE:	Letter dated 24.6.1983 PAR/9506/1
DATE RECEIVED:	30th June, 1983
SAMPLE NOS.:	2930, 2931
SUBMITTED BY:	P.A. Roberts
WORK REQUESTED:	Petrology

H.W. Fander, M. Sc.

REPORT CMS 83/6/39

St. Dizier Rocks

Two drill core samples were received for thin-section preparation and description. Both are believed to be contact-metamorphosed sediments which were subsequently greisenised.

2930 (T.S. 46399)
This rock may be termed a greisenised hornfels, i.e. a contact-metamorphosed aluminous sediment which was subsequently pervasively greisenised.

The rock consisted mainly of closely-packed ovoid spots, probably of cordierite, with fine interstitial quartz and micas (muscovite and biotite). The spots have been replaced by masses of matted muscovite flakes; the interstitial biotite is largely chloritised, and there are sporadic patches of finely granular orange-brown dravite tourmaline. Discontinuous quartz-sulphide veins cut the rock; the sulphides appear to be pyrrhotite and chalcopyrite.

2931 (T.S. 46400)
This is a greisen, or a greisenised contact-metamorphic rock of uncertain origin.

The grey-green lath-like minerals are subradiating groups of acicular tremolite crystals, very largely pseudomorphed by matted flakes of muscovite representing the greisening event. Quartz and minor sodic plagioclase form mosaics between the tremolite crystals, and much of the plagioclase has been replaced by muscovite. Poikiloblastic pale mottled brown-green tourmaline has formed sporadically. Other minerals scattered through the rock include leucoxene, sulphide patches (?pyrrhotite) and clusters of minute siderite crystals. There are isolated, relatively coarse apatite crystals.

Thus, the rock must have consisted mainly of radiating tremolite crystals and quartz, with minor plagioclase, representing a contact-metamorphic assemblage perhaps derived from a semi-calcareous rock.

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11th July, 1983

REPORT CMS 83/7/3

YOUR REFERENCE:	Letter dated 5.7.1983 PAR/9506/1
DATE RECEIVED:	6th July, 1983
SAMPLE NOS.:	2932 - 2935
SUBMITTED BY:	P.A. Roberts
WORK REQUESTED:	Petrology

H.W. Fander, M. Sc.

per

REPORT CMS 83/7/3

Samples 2932 - 2935 from St. Dizier

Four drill core samples were received for petrological examination; thin-sections were prepared and described, and the silver-grey sulphide in 2935, occurring as radiating aggregates on fracture-surfaces, was identified by X-ray powder diffraction, this being the cheapest and most positive method.

All the rocks show evidence of extensive metasomatism and there is some uncertainty concerning their origin. 2932 was a breccia or conglomerate; no granitic components as such were identified. 2933 is a skarn or calc-silicate assemblage, probably originating from a carbonate rock. 2934 and 2935 could have been minor intrusives, but may have originated as impure carbonates; they both contain dark serpentinous aggregates representing an easily decomposed Mg-silicate such as diopside or a member of the humite group (cp. other St. Dizier rocks). The occurrence of stibnite on fracture-surfaces is probably related to a late low-temperature alteration phase in 2935.

H.W. Fander, M. Sc.

mple .	Rock Type - Composition	Fabric	Minor Minerals	Comments
32 .S. 405)	Metasomatised ?Conglomerate. Patches of finely granular quartz-feldspar-phlogopite, coarser mosaic quartz; matrix of quartz, phlogopite, clusters of acicular tremolite, sulphides.	Vague relict conglomeratic fabric; most minerals micro-granular. Relict textures absent.	Loose clusters of small dravite crystals. Sulphides are pyrrhotite, pyrite. Trace siderite, fluorite.	Pervasive, intensive metasomatism, perhaps overprinting an earlier hornfelsing event, has masked primary rock details.
33	Skarn. Coarse, intergrown prismatic tremolite crystals, partly replacing/ enclosing diopside. Scattered flakes of very pale phlogopite. No relict minerals.	Replacement textures; typical skarn-type fabric, medium- to coarsely-crystalline.	Irregular pyrrhotite patches. Siderite veinlets and impregnations.	Assemblage of Mg-Ca silicates suggests pyrometasomatism of a carbonate rock, possibly dolostone.
34	Metasomatic Rock. Mainly a mosaic of small poorly twinned plagioclase crystals; porphyroblasts of tremolite; Ti-biotite flakes; orange/blue tourmaline; sulphide grains.	Mostly medium-grained; poor relict textures, probably igneous.	Granular sphene throughout. Sulphide grains are pyrrhotite. Very minor quartz.	Original rock not known, but believed to have been minor felsic intrusive. Dark patch includes a serpentinised Mg-silicate, ?humite group.
35 .S. 408)	Altered Metasomatic Rock. Mosaic of untwinned plagioclase, patches of serpentinised Mg-silicate (?diopside/humite) and of chloritised/ sericitised tremolite. Sulphides on fractures.	Mostly medium-grained with coarse zones and random patches; no relict textures.	Scattered Ti-biotite/ phlogopite flakes. Pyrite and pyrrhotite grains. Carbonate patches.	Similar assemblage to 2934, but with younger phase of argillic alteration. Sulphide on fracture is stibnite (confirmed by XRD).

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16th December, 1983

REPORT CMS 83/11/30

YOUR REFERENCE:	Letter dated 17.11.1983
DATE RECEIVED:	18th November, 1983
SAMPLE NOS.:	15 Samples
SUBMITTED BY:	P.A. Roberts
WORK REQUESTED:	Petrology/Mineralogy

H.W. Fander, M. Sc.

REPORT CMS 83/11/30

Fifteen crushed drill core samples from St. Dizier were received for mineralogical-petrological examination, with emphasis on the cassiterite. Thin-sections were prepared, using 15-20 chips from each sample. Five of the samples were processed and examined on an urgent basis, to provide information in time for a meeting.

Summary

The host rocks are mostly "serpentinites", though this term is used fairly broadly for a rock of serpentinitic composition and fabric, but not necessarily of igneous origin; in fact, since the original petrological investigations were done for Placer in the early 1960's, much new information on St. Dizier has come to light, showing that most (if not all) the "serpentinites" formed from Mg-rich skarns with unusual silicate assemblages; such rocks have been termed "pseudoserpentinites" to distinguish them from rocks of magmatic origin.

Other rock types include talc-magnetite, diopside skarn, and other assemblages representing minor facies. Magnetite is very abundant in all samples, and unusual intergrowths of magnetite-pyrrhotite occur in some.

The cassiterite is more abundant and conspicuous than in other St. Dizier samples, and tends to be coarser, though the typical ultrafine material is also present. In the great majority of samples, the cassiterite is believed to be "secondary", i.e. formed by deposition of SnO_2 released from skarn silicates as a result of serpentinisation, steatitisation and other retrograde processes. Whether the coarser cassiterite formed in this way is arguable; it may have been introduced with magnetite and/or pyrrhotite at a later stage, since these three minerals are generally associated. It is, of course, more than possible that several modes of origin operated. The cassiterite in a few samples appears to be different, which suggests a different origin.

The cassiterite is associated with silicates as well as magnetite and pyrrhotite and thus magnetic separation would not be successful. Upgrading would require a combination of gravity and magnetic processes to recover the bulk of the cassiterite; some of the finest cassiterite would present problems.

The cassiterite observed accounts for the assays in all samples, within the limits of sampling errors due to patchy distribution.

Only one sample contained sufficient W for mineralogical detection (5383); here, it occurs as scheelite intergrown with iron oxides in a single chip, apparently unrelated to the other rock types. UV scans of core and other samples would be very informative.

H.W. Fander, M. Sc.

mple.	Cassiterite Grainsizes, Association	Rock Type	Minor Minerals	Comments
05	Mostly small (< 100 μ) cloudy/semi-opaque white aggregates of fine (< 20 μ) grains and needles. A few single crystals up to 300 μ, but irregular. Mainly in antigorite.	Serpentinite - antigorite, carbonate, magnetite.	Sulphides - arsenopyrite, pyrite.	Most, if not all cassiterite appears "secondary" and this very probably accounts for the higher soluble Sn figure.
8	Cloudy crystals 10-100 μ, often as loose clusters up to 800 μ; more compact cloudy masses up to 300 μ. Mostly associated with antigorite, but also in carbonate, magnetite.	Serpentinite - fine structureless antigorite, anhedral magnetite, carbonate.	Scattered pyrite, arsenopyrite.	Many of the more compact masses would probably behave as single crystals. Believed to be of secondary origin (released from silicates).
65	Small dark brown grains, 10-30 μ, generally in clusters. Also scattered euhedral crystals 50-100 μ, often with embedded small magnetite grains. In silicates.	Chlorite-talc-tremolite rock with magnetite, pyrite.	Antigorite, carbonate pyrrhotite.	Cassiterite appears "primary" and differs from white variety. Rock type is more typically metasomatic.
3/16	Cloudy amber crystals, generally very well-defined, but often with small (10-100 μ) magnetite inclusions. Crystals 10-500 μ, commonly 100-300 μ. Also clusters of fine grains.	Serpentinite - matted antigorite flakes, fine magnetite.	Pyritised pyrrhotite, sericite aggregates.	Magnetite inclusions in cassiterite constitute a metallurgical problem, otherwise the cassiterite is relatively coarse.
34	Mostly as small bundles of very fine needles (many are < 3 μ wide), with occasional good crystals up to 200x700 μ, and irregular cloudy patches up to 300 μ. White/clear.	Serpentinite - antigorite and generally fine magnetite.	Carbonate, scattered arsenopyrite, pyrite.	Most of the cassiterite is white, semi-opaque, almost fibrous; many needles are cross-fractured, disrupted. All is believed to be "secondary".
10/74	Very cloudy/semi-opaque irregular crystals up to 400 μ, but mostly around 100 μ, in serpentine/chlorite; embedded and intergrown magnetite.	Serpentinite, tremolite and talc rocks. Diopside (skarn) rock. Coarse and fine magnetite.	Pyrrhotite (fresh and altered), arsenopyrite. Fluorite, ?hisingerite (hydr. Fe silicate).	Mixed rock types represented, including primary skarn. Cassiterite preferentially associated with the "serpentinite".
83	Well-formed, cloudy, single crystals up to 1 mm, generally containing magnetite (up to 0.3 mm); size range 50 μ to 1 mm, but mostly > 100 μ.	Serpentinite - antigorite and abundant magnetite, some chlorite.	Carbonate, talc; pyrrhotite, chalcopyrite.	W source is scheelite, as fine intergrowths with Fe oxides, as separate rock chips apparently unrelated to serpentinite.
05	Dark crystals with blotchy colour distribution, 10-120 μ, embedded in antigorite and sulphides/magnetite. In serpentinite, cassiterite is in younger veins(?).	Mixed - diopside skarn, sulphide/tremolite rock, serpentinite with magnetite; carbonate, others.	Banded muscovite-chlorite-magnetite rock. ?Hisingerite. Sulphides (pyrrhotite, arsenopyrite).	The cassiterite seems to be the "primary" type associated with metasomatism; no secondary cassiterit was detected.

ample o.	Cassiterite Grainsizes, Association	Rock Type	Minor Minerals	Comments
1/087	Cloudy grains 5-60 μ in talc and forming crusts on magnetite and pyrrhotite grains. A few clusters (up to 250 μ) of 5-15 μ grains. Diffuse patches of < 3 μ grains in talc.	Mixed. Talc (coarse and fine), sericite rocks, with pyrrhotite, magnetite.	Colourless tourmaline, tremolite, arseno-pyrite, chalcopyrite carbonate.	Most cassiterite is either secondary or a low-temperature variety, generally associated with pyrrhotite.
34	Pale, cloudy, zoned crystals up to 600 μ, but with magnetite inclusions (15-70 μ); also small grains 5-50 μ, singly and in clusters with magnetite and pyrrhotite.	Talc-magnetite-pyrrhotite rock.	Chlorite, carbonate.	Unusual zoned intergrowths of pyrrhotite and magnetite. Cassiterite well-developed on the whole, but generally composite.
152	Cloudy, brown, irregular grains 10-600 μ; many are 100-300 μ. Larger grains intergrown with magnetite, and contain 10-50 μ magnetite inclusions, in talc.	Serpentine-magnetite and talc-magnetite rocks, with pyrrhotite.	Trace fluorite. Chlorite and Fe-talc (minnesotaite).	As above; magnetite crystals with pyrrhotite rims common. Cassiterite/magnetite with interlocking boundaries.
4/132	Colourless, translucent to cloudy, with subhedral crystals 10-250 μ, but mostly around 50 μ in antigorite; some intergrowths with magnetite.	Serpentinite with abundant magnetite and euhedral arsenopyrite.	Carbonate veinlets.	No direct association between arsenopyrite and cassiterite. Exceptionally pure cassiterite.
150	Pale brown blotchy and zoned crystals, 10 μ to 1 mm, embedded in talc and intergrown with magnetite/pyrrhotite; mostly 100-300 μ, with clusters (up to 100 μ) of small grains.	Talc-magnetite-pyrrhotite rocks with some antigorite.	Diffuse patches of fine ?fluorite. Silica veinlets.	Good cassiterite; much is free of magnetite, even the coarser crystals. Pyrrhotite tends to form fine networks in magnetite.
5/157	Single grains, stringers and clusters of 3-20 μ grains; occasional larger anhedral crystals up to 80 μ, generally embedded in talc and chlorite.	Talc-magnetite and chlorite-magnetite. rocks, iron-stained.	Fresh and pyritised pyrrhotite; arseno-pyrite. Carbonate.	Cassiterite dominantly fine-grained, but not well-represented in the T.S. examined - may be coarser.
162	Dominantly as minute (< 10 μ) grains and needles, singly and as loose clusters; as few grains up to 300 μ, and cloudy aggregates. In antigorite and carbonate.	Serpentinite - antigorite with magnetite.	Oxidised carbonate patches. Arsenopyrite, pyrite, pyrrhotite.	Some chips contain only good, relatively coarse crystals, but cassiterite is mostly very fine and poorly developed.

APPENDIX 5

Mines Department report on metallurgical tests on St. Dizier mineralization. Tasmanian Department of Mines. Technical Reports, No. 17, for the year 1972. Investigation No. R 638., Pages 184-194

R.638. Examination and concentration tests of tin ore from the St Dizier mine.

Four samples from the St Dizier mine were submitted by Mr P. Verbaan on behalf of Minops Pty Ltd for examination and metallurgical testing. The samples could be roughly divided into three types, massive ore, partially weathered or oxidised material, and one bag of fines. The massive ore was extremely hard and fine-grained. Much magnetite was present with pyrite and some pyrrhotite was observed. Some relatively coarse (pinhead size) cassiterite was noted.

Analyses of the samples included Davis tube tests to determine the amounts of magnetite present, the results of which are given below.

	Sample number				
Assays	*714648*	*713891*	*713892*	*720104*	*720105*
	%	%	%	%	%
Sn	1.24	0.60	0.42	1.04	1.32
T.Fe	35.5		41.0		
S.Fe	32.7		33.8		
Insoluble	27.8				
S	6.6		9.6	0.40	0.99
Zn	Trace		<0.1		
Pb	Nil		<0.1		
WO_3	Nil				
Cu	0.08		0.10	0.06	0.02
As	0.1				
Bi	0.08		<0.1	0.03	0.03
Magnetite	45.8		39.5	44.5	59.5

Note: Insoluble = Insoluble in HCl
Magnetite = Davis tube magnetics after grinding to about 80% -50 µm.

SAMPLE DESCRIPTIONS

Sample 714648. Chip sample from outcrop containing some weathered material but consisting in the main of massive lump ore. The ore dressing work was confined to this sample.

Samples 713891 and 713892. Fine and lump material which was extensively weathered, blasted from surface. Due to this and the low tin content, work was restricted to analyses only, the samples being considered not representative of the ore body and therefore unsuitable for metallurgical testing.

Samples 720104 and 720105. Samples from central and eastern parts of ore body respectively, were mostly massive lump ore, but still contained some weathered material. Work on these samples consisted of the assays already shown and determination of the cassiterite grain size.

A significant feature of the analyses is the wide variation in sulphur content, ranging from 0.4-9.6% in the various samples.

PRELIMINARY TESTS

Quantitative assessment of magnetite content

Davis tube tests were performed on each sample and the results of these are shown in the analyses of the samples.

The Davis tube magnetics from Sample 714648 were assayed with the following result (N1).

Fe	61.4%	Ti	0.03%
S	3.6%	Ni	Nil
Sn	0.27%		

Cassiterite grain size determinations (N2, N2A, N2B)

The samples for each test were stage roll crushed to pass a 710 µm screen. The samples tested were 714648, 720104, 720105. The test numbers were N2, N2A and N2B respectively. The grain size determination of each sample is given below.

SnO_2 Grain size µm	Sn distribution 714648 - N2 %	% Cum.	720104 - N2A %	% Cum.	720105 - N2B %	% Cum.
-710+300	7.0	7.0	6.1	6.1	14.0	14.0
+150	13.2	20.2	15.3	21.4	16.4	30.4
+ 75	17.6	37.8	17.7	39.1	15.6	46.0
+ 38	14.7	52.5	10.4	49.5	17.5	63.5
+ 28	11.2	63.7	8.3	57.8	11.5	75.0
+ 20	9.4	73.1	10.1	67.8	8.1	83.1
+ 13	8.4	81.5	7.4	75.2	6.5	89.6
+ 10	13.0	94.5	15.1	90.3	7.0	96.6
- 10	5.5	100.0	9.7	100.0	3.4	100.0

Magnetic separation of sized fractions (N3)

A sample of -710 µm roll crushed ore was sized by screening and the individual fractions subjected to wet magnetic separation using a hand magnet with several stages of cleaning in each case.

The objective of this test was to obtain some idea of the release size of cassiterite from magnetite and hence choose a suitable mesh of grind material for subsequent larger scale tests. The results of this test are given below.

Fraction µm	% Weight Overall	Individual Fractions M/A % Assays Sn	Fe	% Distribution Sn	Fe	N % Assays Sn	Fe	% Distribution Sn	Fe
-710+355	37.3	1.17	37.9	72.1	94.9	2.08	9.2	27.9	5.1
+250	17.1	0.99	41.0	60.0	94.3	2.35	8.8	40.0	5.7
+150	12.9	0.82	46.1	44.1	91.7	2.27	9.1	55.9	8.3
+106	6.9	0.72	49.6	33.3	89.9	2.31	9.3	66.7	10.1
+ 75	6.0	0.62	49.4	29.7	89.7	2.31	8.9	70.3	10.3
- 75	19.8	0.58	52.0	18.9	79.3	1.74	7.8	81.1	20.7
Head	100.0								

Flotation of sulphides and magnetic separation of tailings (N5)

A sample of -710 µm roll crushed ore was stage ball mill ground to pass a 150 µm screen (100# BSS) and subjected to rougher and cleaner flotation. The flotation tailings were magnetically separated (wet) using a hand magnet with five stages of cleaning to keep mechanical entrainment to a minimum.

The objectives of this test were:

(1) to investigate the response of total ore to sulphide rejection by flotation at a reasonable mesh of grind,
(2) to ascertain the probable tin loss in magnetic separation for removal of magnetite from the flotation tailings.

The results of this test are given below.

		% Assays			% Distribution		
Product	*% Wt*	*Sn*	*S*	*Fe*	*Sn*	*S*	*Fe*
F2C	20.0	0.12	19.4	21.4	2.0	61.1	11.0
F2T M/A	3.5	1.30	6.2	47.5	3.7	3.5	4.3
F2T N	8.8	1.50	4.8	14.1	10.9	6.7	3.2
F1C	32.3	0.63	13.4	22.2	16.6	71.3	18.5
F1T M/A	49.8	1.03	2.4	56.8	42.2	19.0	72.9
F1T N	17.9	2.80	3.4	18.5	41.2	9.7	8.6
Head	100.0	1.22	6.3	38.8	100.0	100.0	100.0

The conditions used in this test are as follows:

Rougher Flotation

Reagent	*Usage: kg/t*	*Conditioning time (min)*
Sodium sulphide	0.2	2
Sulphuric acid	to pH 5	
Sodium ethyl xanthate	0.9	3
Potassium amyl xanthate	0.9	
Cresylic acid	4 drops	

Flotation time 10 minutes

Cleaner Flotation

Reagent	*Usage: kg/t*	*Conditioning time (min)*
Calgon	0.5	2
Cresylic acid	2 drops	

Flotation time 10 minutes

SUMMARY OF PRELIMINARY TESTING RESULTS

(1) The Davis tube tests show high magnetite contents in all the samples and magnetic separation will obviously be a major step in any treatment plan.

(2) The wide variation in sulphide content could have a bearing on the sequence of ore dressing operations required.

(3) The cassiterite grain size determinations show a fairly extended size range, with some 30% of the cassiterite below 20 µm in size in two of the samples (714648 and 720104) tested.

Tin in size ranges below 20 µm is not recoverable to any extent by gravity concentration methods. Allowing for some depreciation in grain size during processing, tin recoveries in excess of 60% overall are unlikely on these two types of ore.

The cassiterite in the third sample examined (720105) is considerably coarser, only 17% of the total tin being below 20 µm. A somewhat higher

recovery could be expected on this type of ore.

(4) The results of Test N3 show the progressive increase in release of cassiterite and sulphide iron from magnetite, with decreasing size of separation.

It is apparent that grinding to -75 µm (200#) is necessary to achieve anything approaching total release of cassiterite and sulphides from the magnetite. However, a substantial release of the cassiterite was obtained at coarser sizes, 40% at 250 µm, and 55.9% at 150 µm, being recovered in the non-magnetic product.

(5) Test N5 shows an unsatisfactory sulphide elimination of 61.1% by cleaner flotation of ore ground to -150 µm, although the tin loss of 2% in the cleaner flotation concentrate (F2C) is remarkably low.

A more meaningful assessment can be obtained by considering the composite rougher flotation concentrate (F1C). In this product 16.6% of the total tin was lost but only 71.3% of the total sulphur was eliminated.

Magnetic separation of the flotation tailings, resulted in extremely high tin losses in the magnetic products.

Interpretation of the test results is difficult, because the presence of certain oxidised sulphides, which are difficult to float, probably influencing flotation efficiency. However, with the supporting evidence from Tests N2 and N3, it is fairly clear that the mesh of grind is the main contributing factor in the lack of selectivity in both the flotation and magnetic separation stages of this test.

CONCENTRATION TESTS

On the basis of the information gained from the preliminary tests, the following conclusions, relative to the planning of larger scale concentration tests, were formed.

(1) The initial separation should be the removal of magnetite which constitutes 40-60% by weight of the samples examined.
(2) An initial grind to -150 µm would effect the release of substantial amounts of cassiterite from magnetite.
(3) Wet magnetic separation followed by grinding to -75 µm of the magnetics would result in near total release of cassiterite and sulphides from magnetite.
(4) A further stage of magnetic separation of the -75 µm rougher magnetics would result in the production of a magnetite concentrate relatively low in tin and sulphur, and a non-magnetic product, free from magnetite, containing most of the tin and sulphur.
(5) Two methods of tin concentration from the non-magnetic product could now be considered:
    (a) Production of a sulphide-cassiterite concentrate followed by flotation of sulphides from the rougher concentrate.
    (b) Flotation of sulphides and gravity concentration of the sulphide free flotation tailing.

The mineral associations in the non-magnetic product remain obscure, but the flotation Test N5 indicates that further grinding would be necessary to allow sulphide rejection by flotation without substantial loss of tin in the sulphide. This would further reduce the average cassiterite grain size

with consequent depreciation in recovery. The better method therefore appeared to be, to make an initial sulphide-cassiterite concentrate without further grinding with the emphasis on recovery rather than grade, followed by an attempt to upgrade the crude concentrate by flotation of sulphides and further grinding and gravity concentration if necessary.

Two tests N6 and N7, of 2 kg each, were carried out on the basis of the considerations outlined above.

TEST PROCEDURE

Minus one millimetre roll crushed ore was stage ball mill ground to the indicated sizes.

In Test N6 the initial magnetic separation was performed at -150 µm (100#) with regrinding of rougher magnetics to -75 µm (200#) and re-separation.

In both tests the non-magnetic fractions were combined and sized by hydrosizer to three spigot products and an overflow, which were separately tabled to give a rougher tin concentrate. In Test N7 the overflow was deslimed before tabling. This slime product was not treated further.

The four table concentrates were combined for cleaner sulphide flotation, the tailing from which was magnetically separated to yield a final tin concentrate.

In Test N6, the rougher sulphides were ground to -75 µm before cleaner flotation. The magnetics were subjected to cleaner sulphide flotation to produce a final magnetite concentrate.

In Test N7, sizing analyses were made of the non-magnetic products and combined spigot tailings to investigate the tin distribution in these products.

The sizing of the untreated slime was checked by cyclosizing to ensure that no recoverable tin had been lost in this product.

No attempt was made to establish optimum flotation conditions. Generally the reagent combination used in Tests N6 and N7 was similar to that reported for Test N5.

A flow sheet for Test N7 is given in Figure 47.

TEST RESULTS

The results of the tests carried out are given in Tables 1 to 5 on the following pages.

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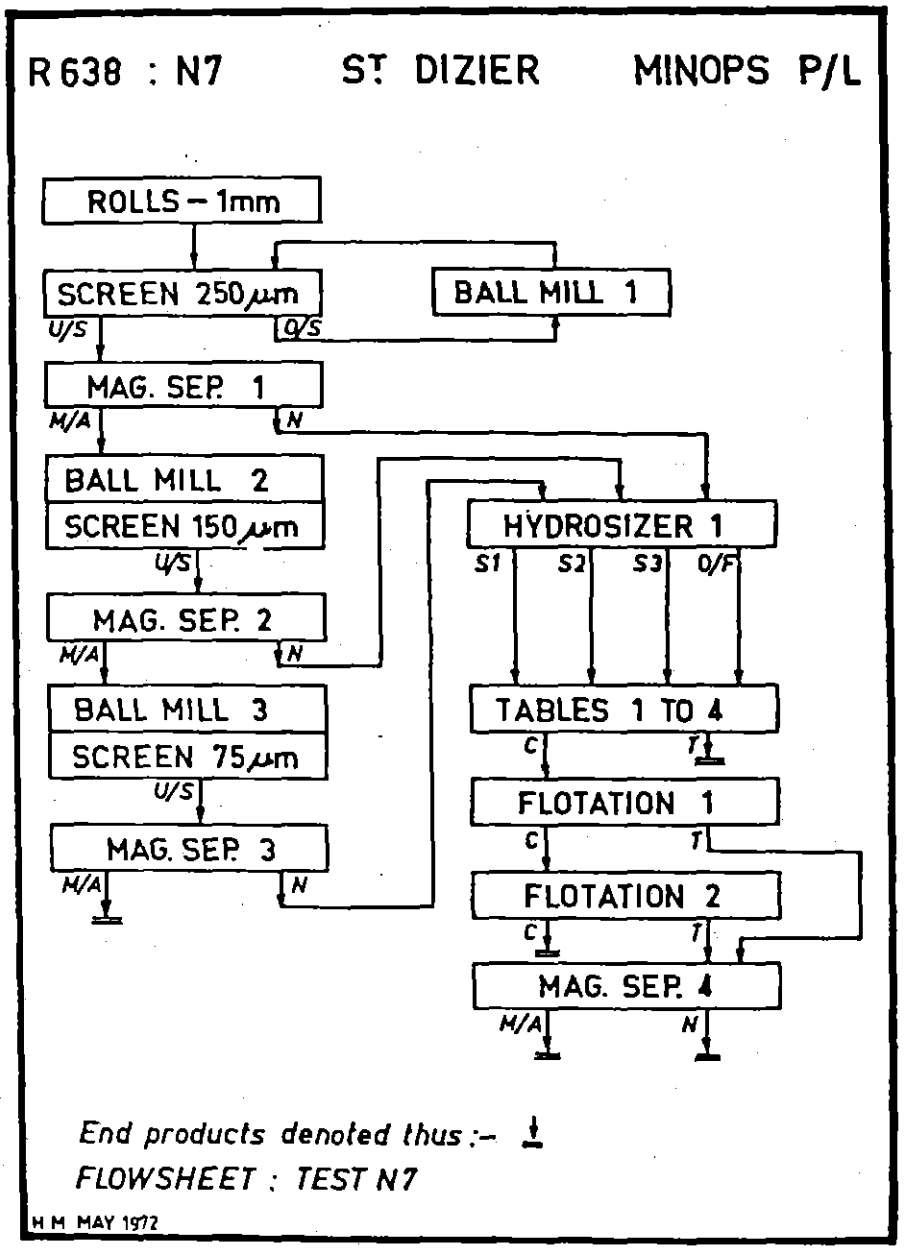


Figure 47.

Table 1. THE RESULTS OF TEST N6

Products	% Wt	% Sn	% Sn Distn	% S	% Fe
M/S2 M/A F2C	3.4	0.55	1.5	16.9	53.1
M/A F2T	9.0	0.40	2.0	3.30	62.6
M/A F1T	32.9	0.22	10.0	2.18	65.1
Total magnetics	45.3	0.28	10.0	2.18	65.1
M/S1 N (-150 μm)	37.4	1.9	55.9	7.6	
M/S2 N (-75 μm)	17.3	2.5	34.0	10.9	
Total gravity feed (ΣN)	54.7	2.09	90.0	8.6	
S1 TC	8.0	6.0	34.5		
S2 TC	0.8	8.0	4.6		
S3 TC	2.5	7.6	13.7		
O/F TC	1.0	11.1	8.0		
Total crude concentrate (ΣTC)	12.3	6.9	63.1		
S1 TT	6.1	0.58	2.5		
S2 TT	1.6	0.83	1.0		
S3 TT	6.9	0.50	2.5		
O/F TT	27.8	1.0	20.0		
Total gravity tail (ΣTT)					
Composite Head	100.0	1.27	100.0		
Concentrate cleaning products from ΣTC					
F2C (-75 μm)	8.3	2.4	14.9	29.9	
M/S3 FT M/A	1.3	1.5	1.5	4.4	
F2T N	0.5	15.9	6.0	10.2	
F1T N	2.2	24.6	40.7	2.2	
Total final concentrate	2.7	23.0	46.7	3.7	
Composite ΣTC	12.3	6.83	63.1		

Note: F2C contains 0.48% Cu.

Table 2. THE RESULTS OF TEST N7

Products	% Wt	% Sn	% Sn Distn	% S	% S
M/S3 M/A F2C	3.6	0.53	1.5	19.4	44.8
M/A F2T	1.8	0.60	0.8	11.0	53.8
M/A F1T	38.0	0.35	10.4	1.4	68.4
Total magnetics	43.4	0.38	12.7		
M/S1 N (-250 μm)	45.6	1.97	69.9		
M/S2 N (-150 μm)	7.0	1.97	10.8		
M/S3 N (-75 μm)	4.0	2.12	6.0		
Total gravity feed (ΣN)	56.6	1.98	87.3		
S1 TC	6.9	7.3	37.6		
S2 TC	2.8	6.7	14.0		
S3 TC	1.5	7.2	8.1		
O/F TC	0.7	6.7	3.5		
Total crude concentrate (ΣTC)	11.9	7.1	63.2		
ΣS TT	26.2	0.63	12.2		
O/F TT	10.0	0.77	5.8		
Slime (untreated)	8.5	0.96	6.1		
Total gravity tailing	44.7	0.72	24.1		
Composite Head	100.0	1.33	100.0		
Concentrate cleaning products from ΣTC					
F2C	8.7	2.9	19.4	27.7	
M/S4 M/A	1.2	2.5	2.3	2.6	
M/S4 N	2.0	27.0	41.5	3.6	
Composite ΣTC					

Note: F2C contains 0.34% Cu.

COMMENTS ON RESULTS OF TESTS N6 AND N7

The results from the two tests are practically duplicated down to the stage of production of the low grade rougher tin concentrate.

The Davis tube test, N1, indicates that the magnetite concentrates obtained are as good as can be expected with regard to tin and sulphur contents.

The coarser initial grind in Test N7 has probably occasioned a slightly higher loss of tin to the magnetics than the case in Test N6. However, it has helped to retain the tin in the gravity tailings in a coarser size range, with some probability of further recovery by retreatment of the spigot tailings. The spigot tailings from Test N7 show a tin distribution of 12.2% compared with 6% in Test N6. The sizing analysis of this product shows that 63.5% of the tin is present in size ranges coarser than 53 μm and can reasonably be assumed to occur as composite grains. There is a possibility of recovering up to 50% of the tin in this product by regrinding, followed by appropriate sizing and gravity concentration.

Table 3. SIZING ANALYSES, TEST N7

Size fraction SnO_2 diameter µm	M/S1 N (-250 µm)			M/S2 N (-150 µm)			M/S3 (-75 µm)		
	% Wt	% Sn	% Sn Distn	% Wt	% Sn	% Sn Distn	% Wt	% Sn	% Sn Distn
+150	20.3	2.17	22.4						
+100	13.7	2.37	16.5	11.9	1.87	11.3			
+75	13.0	2.27	15.0	14.4	1.92	14.0			
C/S1 +23	11.3	4.56	26.1	14.4	4.41	32.2	23.7	4.02	44.9
C/S2 +18	6.3	1.82	5.8	7.5	1.82	13.9	11.8	1.82	20.3
C/S3 +12	6.2	1.72	5.4	7.5			11.8		
C/S4 +8	5.7	1.57	4.5	7.5	1.52	8.7	10.5	1.77	13.2
C/S5 +6	2.8	1.32	1.9	3.7			5.3		
O/F -6	20.7	(0.23)	2.4	33.1	(1.19)	19.9	36.9	(1.24)	21.6
Head	100.0	1.97	100.0	100.0	1.97	100.0	100.0	2.12	100.0

Table 4. SIZING ANALYSIS OF THE COMBINED SPIGOT TAILINGS

Size fraction µm	% Wt	% Sn	% Sn Distn	% Sn cum. Distn
+210	7.0	0.91	9.7	9.7
+150	21.6	0.70	22.8	32.5
+100	18.5	0.50	14.1	46.6
+75	19.0	0.35	10.1	56.7
+53	12.8	0.35	6.8	63.5
-53	21.1	1.14	36.5	100.0
Head	100.0	0.66	100.0	

Table 5. SIZING ANALYSIS OF THE UNTREATED SLIME

Fraction	% Weight	Fraction	% Weight
C/S1	0.8	C/S4	7.2
C/S2	2.0	C/S5	4.2
C/S3	4.6	O/F	81.2
		Total	100.0

Note: The amount of recoverable tin in this material is negligible.

The high tin loss associated with sulphide flotation encountered in preliminary Test N5 also occurred in the concentrate upgrading stages of Tests N6 and N7. In Test N6, where the rougher sulphides were ground to -75 µm before cleaner flotation, the tin loss was considerably less, 14.9% compared with 19.4% in Test N7. The sulphides were checked for the presence of tin as stannite but only a trace was detected. Some concentration of copper has occurred in this product, the assays are shown in Tables 1 and 2.

The grades of tin concentrates, 23.0 and 27.0% are considered satisfactory at this stage, as no doubt, some siliceous material would enter the low grade sulphide-cassiterite concentrate both as free and composite grains.

Insufficient concentrate has been prepared at this stage to investigate further upgrading, and further tests will be required to show whether regrinding, sizing and gravity concentration techniques would achieve this without further substantial losses of tin.

SUMMARY AND CONCLUSIONS

The test work completed thus far has shown the ore to be quite complex, with cassiterite, sulphides, magnetite and siliceous gangue intimately associated with one another.

The problem of magnetite removal without undue loss of tin can be overcome by progressive grinding and magnetic separation stages. The end products are a -75 µm magnetite concentrate (67-68% S.Fe), which may be saleable, and a relatively coarse (-250 µm) non-magnetic product containing some 90% tin and most of the sulphide minerals.

The most feasible approach to concentration of tin from the non-magnetics appears to be an initial gravity concentration of sized material to a low grade rougher sulphide-cassiterite concentrate.

The test work has established that recovery to this stage (low grade rougher concentrate) would be of the order of 65%. Regrinding and retreatment of middlings and coarse tailings would possibly elevate this recovery figure to 70%. Taking into account the naturally occurring grain size of the cassiterite, these figures are evidently near to the maximum obtainable by gravity concentration methods.

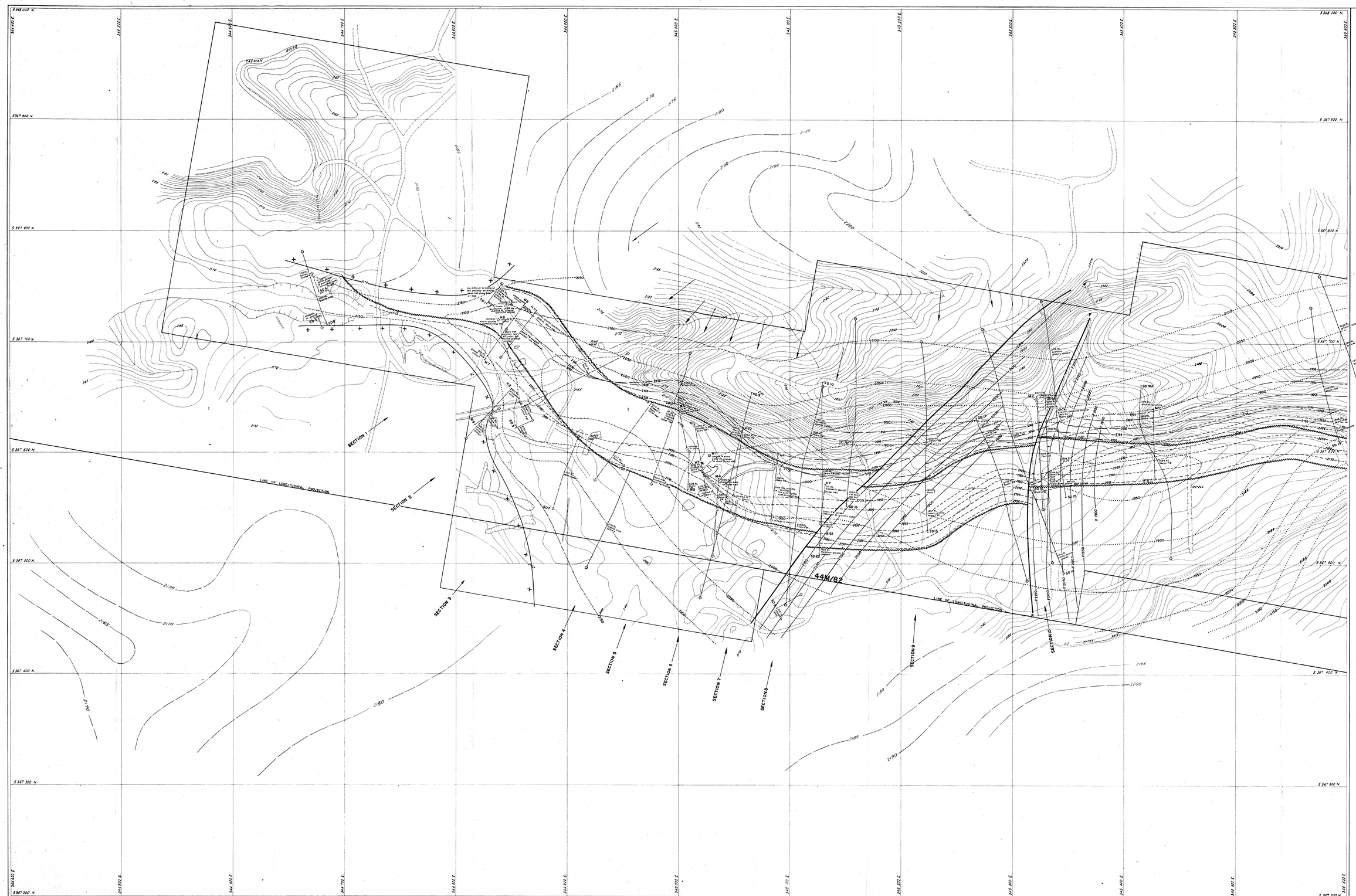
There are obviously some difficulties to be overcome in upgrading the crude concentrates to material which is saleable without considerable penalties due to low grade and impurities. Tin losses could be high in this area and the possibility of cassiterite flotation and, or chemical treatment should be considered.

At this stage of the investigation, with a recovery of 63% obtained in crude concentrate assaying about 7% tin and a possibility of some further recovery from middling and tailing retreatment, it seems reasonable to predict an overall recovery of some 50% in sale grade concentrates.

Further work on the project should consist of confirmation of the results already obtained and a study of the mineral associations in the non-magnetic material. This will give information needed for:

(1) Investigation of recoveries obtainable by sulphide elimination by flotation ahead of sizing and gravity concentration.

(2) Devising suitable methods of upgrading the crude concentrates with minimum further losses of tin.



CONTOURS

- 2100 — TOP OF GRANITE
- 1950 — SKARN FOOTWALL
- 1900 — SKARN HANGINGWALL
- F2000 — FAULT

Contour Interval 50m

KEY GEOLOGY

- GRANITE CONTACT
- SKARN CONTACT } INTERPRETED
- F — FAULT

KEY DIAMOND DRILL HOLES

- LOCATED OR SURVEYED BY RENISON
- NOT LOCATED BY RENISON

SHEET 1 | SHEET 2

5cm

RENISON LIMITED 84-2154

ST. DIZIER AREA

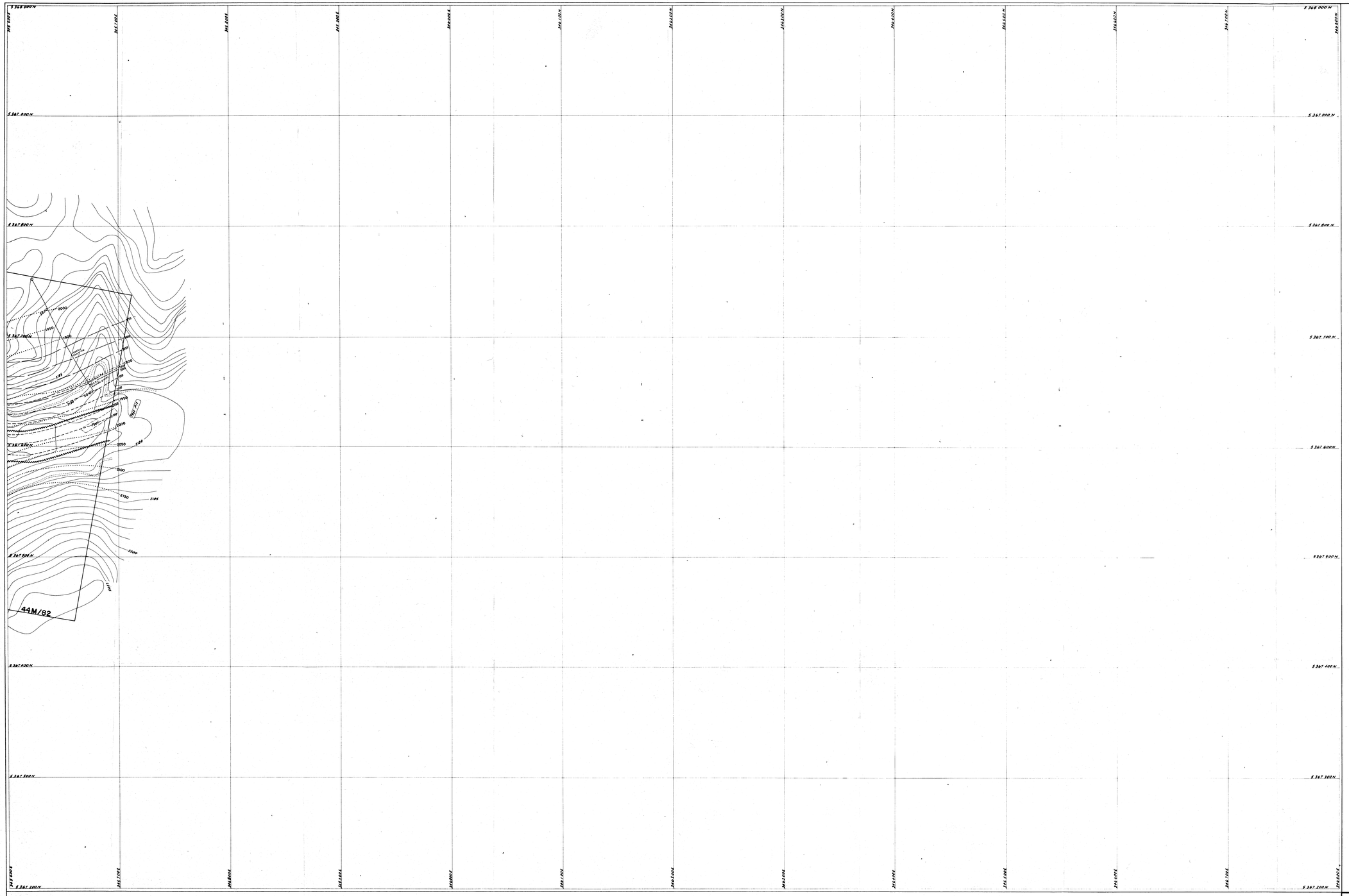
SHEET 1

STRUCTURAL CONTOUR MAP

GEOLOGIST	P.A.R.	SCALE 1:1000 METRES
DRAUGHTSMAN	T.G.D.S./S.F.	20 0 20 40
DATE	March 84	
REVISIONS		DRAWING No. 2

6428

76 211



6429

76 222

5 cm

CONTOURS

- 2100 — TOP OF GRANITE
- 1950 — SKARN FOOTWALL
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- F2000 — FAULT

Contour Interval 50 m

KEY
GEOLOGY

- GRANITE CONTACT
- SKARN CONTACT } INTERPRETED
- F — FAULT

KEY
DIAMOND DRILL HOLES

- LOCATED OR SURVEYED BY RENISON
- NOT LOCATED BY RENISON

SHEET 1 | SHEET 2

GOLD FIELDS EXPLORATION PTY LIMITED

ST. DIZIER AREA
SHEET 2
STRUCTURAL CONTOUR MAP

Plan 2154

DRAWN BY	P.R.
DRAFTSMAN	S.F
DATE	Jan.84
REVISIONS	
FILE NO.	
SCALE 1:1000	FIG. 3

METRES

2200m R.L.

2200 m R.L.

siltstones / f.g. sandstone
minor tourmalinized quartzite, clay

2100m R.L.

2100 m R.L.

altered / hornsfelsed quartzite

SKARN - CARBONATE

2000 m R.L.

2000 m R.L.

granite,
minor sericitization,
greisenization

granite/hornfels
contact zone

quartzite (hornfels),
minor granite dykes

1900 m R.L.

1900 m R.L.

granite

5 cm

SD 21

1800 m R.L.

76 223

6430

GOLD FIELDS EXPLORATION PTY. LIMITED

84-2154

DRILL HOLE
PROFILE
SD 21

DRAWN BY : P.R.
DRAFTSMAN: S.F.
DATE : Dec.85
REVISIONS :

FILE NO.

SCALE 1:1000

10 0 20
Metres

FIG. 4

2200m R.L.

2200m R.L.

F

individual assays all ≤ 0·04% Sn

partly altered hornfels & quartzite minor sedimentary breccia/conglomerate & clay

2100 m R.L.

granite, partially greisenized, f. to m.g.

2100 m R.L.

individual assays all ≤ 0·05% Sn

extremely altered hornfelsed sediments

brecciated skarn

altered sedimentary breccia / conglomerate

individual assays all ≤ 0·01% Sn

0·01% Sn

skarn

hornfels

weakly altered granite, f. to m.g.

partly brecciated phyllitic hornfels

SKARN - CARBONATE

F

2000m R.L.

2000m R.L.

weakly greisenised f. to mg. granite

altered hornfels

granite, f. to m.g.

greisenized hornfels

SD 22

granite, f. to m.g.

1900m R.L.

1900m R.L.

5 cm

GOLD FIELDS EXPLORATION PTY. LIMITED

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DRILL HOLE PROFILE SD 22

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DRAFTSMAN: S. F.
DATE : Dec.83
REVISIONS :

FILE NO.

SCALE 1:1000 — 10 0 20 Metres

FIG. 5

76 224

6431

6432

LEGEND

Centre of skarn intersection or, where mineralised, centre of mineralised intersection

NOTES

1. All widths quoted are horizontal widths
2. Projection faces north
3. Projection line is orientated at 100°AMG (B is located on Structural Contour Map. Vertical lines represent where AMG eastings cross the projection line
4. Zero R.L. = S.L. - 2000m
5. Drillholes prefixed H, B, M are Placer (B Minops holes respectively. SD1 to 8 were drilled by Cominco. The positions of all of these holes on this longitudinal projection are regarded as approximate only because the surface (& down-hole) survey information for these holes is inadequate.
6. All assays shown are fire/con assays except for those marked with an asterisk. The core or auger samples from which the latter were obtained were not available for re-assay.

GOLD FIELDS EXPLORATION PTY. LIMITED

ST. DIZIER AREA

LONGITUDINAL PROJECTION

SHEET 1

84-2154

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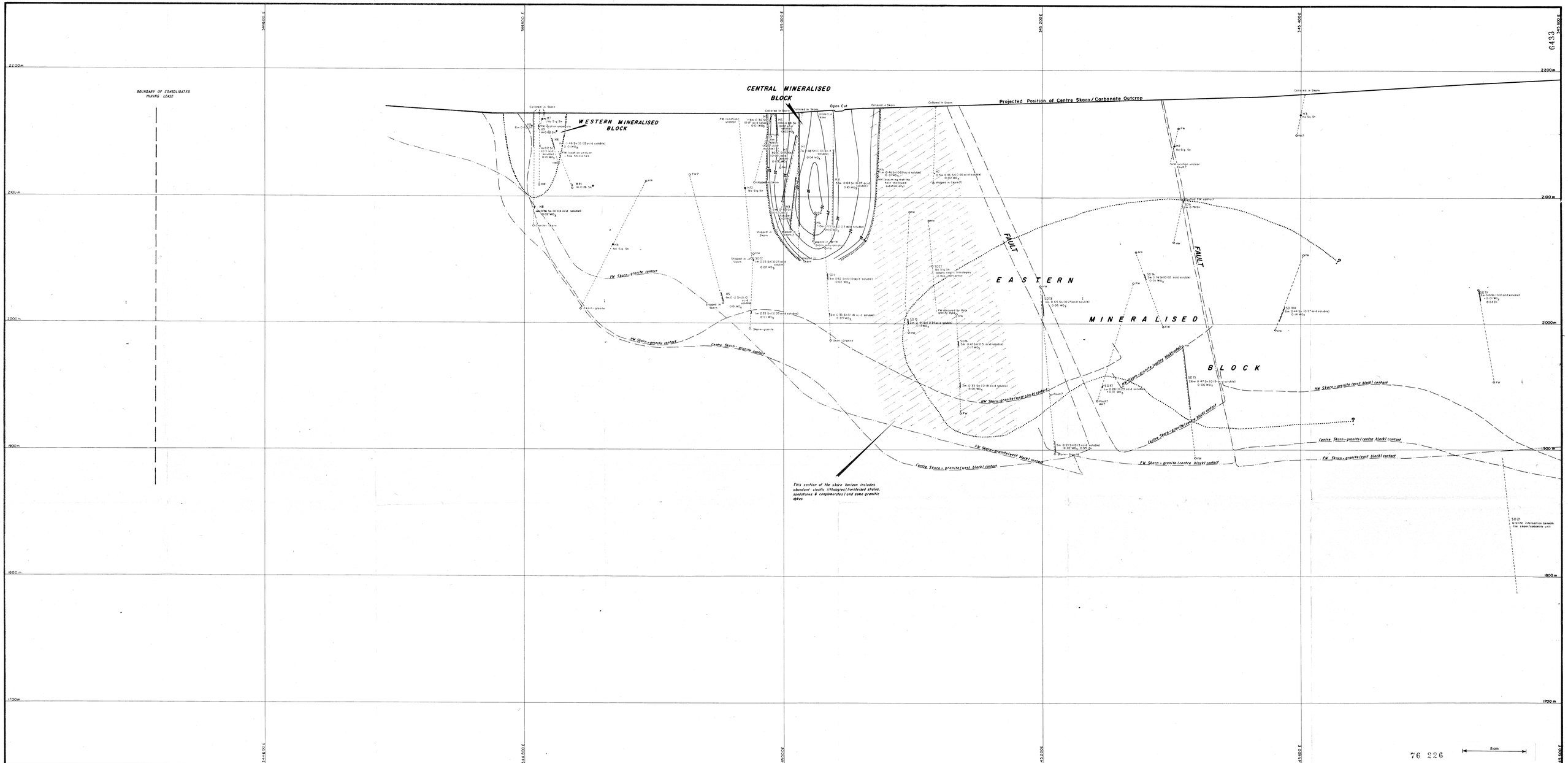
DRAFTSMAN	S.F.
DATE	March, 84
REVISIONS	
FILE NO.	
SCALE 1:1000	FIG. 6



6433

TONNAGE CALCULATIONS

CENTRAL MINERALISED BLOCK ABOVE 2050m R.L.

Thickness (m)	Area (m²)	S.G.	Tonnage (Tonnes)
52	327	3·3	56,113
45	1,393	3·3	206,861
35	2,326	3·3	268,653
25	2,177	3·3	179,603
15	2,189	3·3	108,356
5	1,005	3·3	16,583
		Total	836,169

10 — Contoured thickness of mineralisation in metres

LEGEND

0 — Centre of skarn intersection or, where mineralised, centre of mineralised intersection

NOTES

1. All widths quoted are horizontal widths
2. Projection faces north
3. Projection line is orientated at 100°AMG & is located on Structural Contour Map. Vertical lines represent where AMG eastings cross the projection line
4. Zero R.L. = 5 L. = 2000m
5. Drillholes prefixed H & M are Placer & Minops holes respectively. SD 1 to 8 were drilled by Cominco. The positions of all of these holes on this longitudinal projection are regarded as approximate only because the surface & down-hole survey information for these holes is inadequate.
6. All assays shown are Fleming assays except for those marked with an asterisk. The core or auger samples from which the latter were obtained were not available for re-assay.

GOLD FIELDS EXPLORATION PTY LIMITED

84-2154

ST. DIZIER AREA
LONGITUDINAL PROJECTION
SHEET 1
ORE POTENTIAL
CENTRAL MINERALISED BLOCK ABOVE 2050m R.L.

SCALE 1:1000 — 10 0 10 20 40 METRES

DRAWN BY P.R.
DRAFTSMAN S.F.
DATE June .84
REVISIONS
FILE NO.
FIG 7