

TCR 81-1554

Prospect 600

971001

CSR LIMITED - MINERALS DIVISION
EXPLORATION GROUP

1980 DRILLING AND GEOCHEMICAL SAMPLING,

STANLEY REWARD GRID, E.L. 53/70

STANLEY RIVER, WEST TASMANIA

MICROFILMED

EMR 87/80

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	REF. No. 4328/81			

SYDNEY
December, 1980

P.M. MACNAMARA

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PLANS (IN POCKET)DRG NO.SCALE

K553-14	STANLEY REWARD GRID 41N-48W, SOIL GEOCHEMISTRY	1:1,000
K553-35	DDH SR9, PROFILE AND MAGNETIC SUSCEPTIBILITY	1:1,000

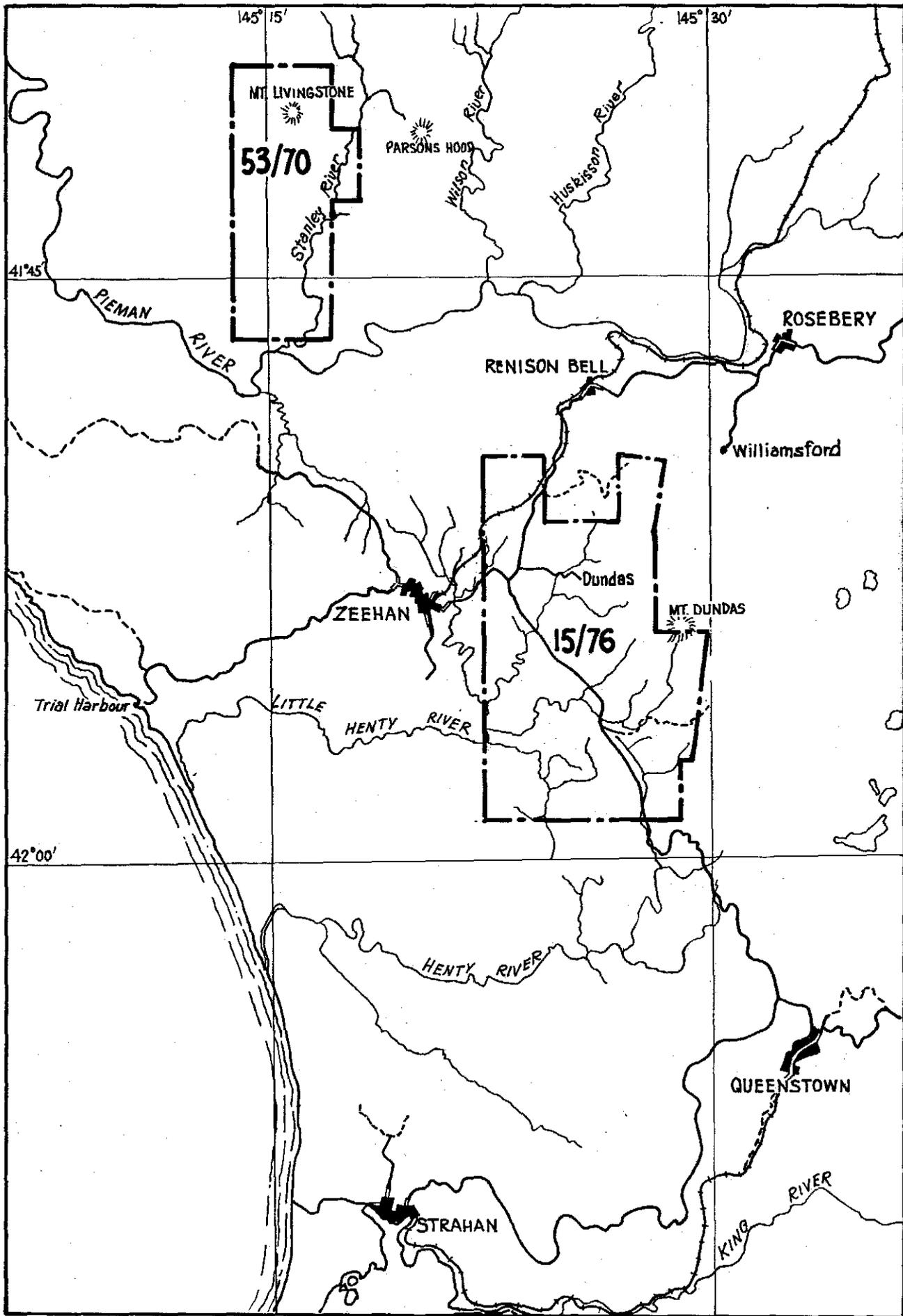


FIG. LOCATION OF E.L.s. 53/70 STANLEY RIVER TASMANIA

5 cm

0 5 10 15 Km
SCALE 1: 250,000

1. INTRODUCTION

An easterly dipping dolomitic horizon believed to be equivalent to the mineralised horizon at Renison Bell extends north-westwards into E.L. 53/70, Stanley River.

Following on from geochemical and geophysical surveys over this horizon in 1978-1979, an IP/tin geochemical anomaly zone on the Stanley Reward Grid was selected for drill testing (Macnamara, 1980). Diamond drill hole SR9 (385 m) was cored between May and August 1980, and tested the anomalous zone. The drill log and chemical analyses of split core are shown in Appendix I of this report.

Soil sampling in 1977 indicated anomalous gold values in a number of locations on the dolomitic horizon. Of twenty-three samples analysed for gold, fifteen yielded values 0.05 to 0.2 ppm Au, five ranging from 0.1 to 0.2 ppm Au (see Appendix III, Macnamara 1977). For this reason, DDH SR9 was checked for gold.

In addition, drainage, soil and rock-chip samples were also collected at various locations on the Stanley Reward Grid in order to check for gold as well as tin and other elements (see Appendix III). Some of the locations had previously yielded anomalous Sn or Au values and the work was designed to include resampling of these anomalous sites. Results are shown in Appendix III).

2. SUMMARY

Diamond drill hole SR9 passed through a full section of the main dolomitic horizon plus several minor dolomitic beds below it. Although quite strong pyrrhotitic sections were cored in places, especially in the quartzitic siltstones below the main dolomite body, chemical analyses of split core indicate no strong tin mineralisation was associated.

Gold values were low throughout the core and also in the drainage, soil and rock-chip samples collected at various localities on the grid.

The highest gold value intersected in SR9 was 185 ppb at 64-67 m in a limonite-impregnated dolomite. By itself the value has little economic significance.

Various tin geochemical, I.P. and magnetic anomalies occur between SR9 and SR7 (see DRG No. K553-14). A deep hole in this area deserves consideration.

3. DDH SR9 RESULTS

Diamond drill hole SR9 intersected highly weathered Crimson Creek Formation rocks, namely greywacke and greywacke shales, between 0-52 m. Chert intersected between 26.7-29.3 m may represent part of the lower magnetic "chert marker" horizon, i.e. the "Red Rock" unit at Renison Bell (see magnetic susceptibility profile, DRG No. K553-35).

Between 52 m and 245.5 m, the main dolomitic unit was intersected. It contained minor sulphides only. From 215-245.5 m, the basal section of the main dolomitic unit was composed of a mottled, recrystallised(?) dolomite, white clay and black oolite chert zones.

Between 245.5 m and the bottom of the hole at 385 m, the main units are composed of well banded, grey, red-brown and chocolate quartzite siltstones belonging to the Donah Quartzite and Slate Formation. Various dolomitic and dolomitic-chert-siltstone horizons occur within this section. Pyrrhotite content noticeably increases also, but chemical analyses of split core indicates there is no tin associated (see Appendix I).

One favourable aspect is that while hornfelsing is strong, no granite was intersected in the hole. Thus the drill hole proposed between SR9 and SR7, mentioned in Macnamara (1980), still remains valid. Such a hole would test various geochemical (Sn), I.P. and magnetic anomalies in this area. As SR9 did not intersect granite, the hole could be designed to test the anomalies at greater depth than was the case with SR9 and thus check the dolomitic zones closer to the granitic source of mineralisation.

4. GEOCHEMICAL SAMPLING

A number of drainage, soil and rock-chip samples were collected during 1980 in order to check a number of geochemical anomalies indicated by earlier work. These included tin and gold anomalies. In particular, Macnamara (1977, Appendix III) reported 15 of 23 soil samples from the dolomitic horizon analysed 0.056 to 0.2 ppm Au, five being 0.1 to 0.2 ppm Au.

All gold analyses from drainage, soils and rock-chip samples were low, i.e. less than 20 ppb Au (Appendix II). The highest gold analysis was from dolomitic core intersected in SR9 at 64-67 m depth. It analysed 185 ppb (0.18 ppm) Au.

Values up to 95 ppm Sn were obtained from rock-chip samples but these do not appear to be of much economic significance.

5. REFERENCES

- .. MACNAMARA, P.M. (1977)
Stanley Reward, E.L. 53/70, Grid Soil Geochemistry
1975-1977. Pacminex Report PMR 168/77.

- .. MACNAMARA, P.M. (1980)
Anomalous Geochemical and Geophysical Target Zones :
Stanley Reward Grid, E.L. 53/70, Stanley River, West
Tasmania, EMR 59/80.

PMM/SS
21/1/81

APPENDIX I

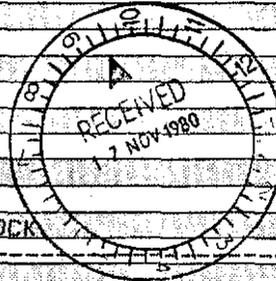
DRILL CORE ANALYSES AND LOG OF

DDH SR9



LABORATORY REPORT

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TELEX ALSEV 42344



Batch No.: J153 Client: C.S.R. LIMITED Area Contact:
Address: G.P.O. BOX 483, SYDNEY Address:
Date Received 16/09/80
Date Completed 10/11/80 N.S.W.
Order No.: 20849 - LTR.12/9/80 Sample Type: CRUSHED ROCK No. of Samples: 112

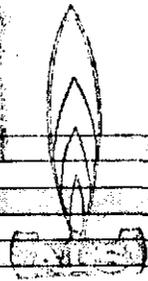
SAMPLE NO.	Cu	Pb	Zn	Ag	Bi	Co	Sn	Au
	m	m	m	m	m	m	m	b
1	1	1	1	1	1	1	XRF 1A	120-A
SR9/600 001(0-3)	110	60	280	2	35	40	<5	
SR9/600 001(3-6)	145	60	200	2	30	50	<5	
SR9/600 002	230	270	580	3	40	40	85	
SR9/600 003	95	80	270	2	25	20	10	
SR9/600 004	85	70	240	2	25	20	5	
SR9/600 005	110	140	370	2	25	30	<5	
SR9/600 006	100	110	420	2	25	25	10	
SR9/600 007	110	100	410	2	25	35	10	
SR9/600 008	140	105	500	2	30	40	<5	
SR9/600 009	145	130	0.12 %	2	30	40	15	
SR9/600 010	120	135	0.10 %	1	30	40	5	
SR9/600 011	125	135	970	1	30	40	10	
SR9/600 012	145	145	0.15 %	2	30	50	10	
SR9/600 013	120	100	0.14 %	2	35	40	15	
SR9/600 014	140	100	360	2	35	50	10	
SR9/600 015	150	110	0.10 %	1	30	50	10	
SR9/600 016	75	240	0.10 %	1	30	35	70	5
SR9/600 017	70	95	470	1	20	15	<5	5
SR9/600 018	45	60	540	2	30	50	10	5
SR9/600 019	100	60	370	2	30	165	5	5
SR9/600 020	75	45	250	2	30	65	5	5
SR9/600 021	70	45	140	1	30	60	5	3
SR9/600 022	50	40	135	1	30	50	5	15
SR9/600 023	330	55	150	1	30	40	25	10
SR9/600 024	75	35	60	<1	10	5	<5	10
SR9/600 025	135	100	380	1	35	45	20	15
SR9/600 026	220	75	220	1	35	35	15	20
SR9/600 027	140	100	340	2	35	50	10	15
SR9/600 028	165	65	210	2	30	30	15	15
SR9/600 029	155	90	440	2	35	50	15	15

UNITS LEGEND ----- m - Parts per million b - Parts per billion % - percent
g - Grams a - Absorbance

Signature: *A. J. Finlayson*

071011

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Order No.: 20849 - LTR, 12/9/80 Sample Type: CRUSHED ROCK No. of Samples: 112

SAMPLE NO.	Cu	Pb	Zn	Ag	Bi	Co	Sn	Au
	m	m	m	m	m	m	m	b
	1	1	1	1	1	1	XRF 1A	120-A
SR9/600 030	90	60	250	2	30	50	15	10
SR9/600 031	20	145	45	2	40	20	<5	10
SR9/600 032	10	55	20	1	50	10	<5	10
SR9/600 033	20	55	20	1	50	10	<5	5
SR9/600 034	10	55	25	1	45	10	<5	10
SR9/600 035	5	50	15	1	50	15	<5	5
SR9/600 036	5	60	30	2	50	15	<5	185 x
SR9/600 037	10	55	15	1	50	10	<5	10
SR9/600 038	5	60	20	1	50	10	<5	5
SR9/600 039	5	55	15	1	50	15	<5	10
SR9/600 040	5	55	10	1	35	10	<5	10
SR9/600 041	5	55	10	1	50	10	<5	20
SR9/600 042	<2	55	10	1	45	10	<5	10
SR9/600 043	10	55	20	1	50	10	<5	10
SR9/600 044	50	60	20	1	50	10	<5	10
SR9/600 045	10	50	15	1	50	10	<5	5
SR9/600 046	5	50	15	1	45	10	<5	5
SR9/600 047	5	50	15	1	50	10	<5	5
SR9/600 048	25	60	15	1	45	10	<5	15
SR9/600 049	10	55	20	1	50	10	<5	5
SR9/600 050	5	50	10	1	45	10	<5	10
SR9/600 051	<2	50	15	1	45	10	<5	5
SR9/600 052	2	55	15	1	45	10	<5	5
SR9/600 053	5	50	20	1	40	10	<5	5
SR9/600 054	5	50	15	1	45	10	<5	5
SR9/600 055	10	100	10	1	45	10	<5	10
SR9/600 056	<2	50	15	1	50	15	<5	10
SR9/600 057	2	50	15	1	50	10	<5	10
SR9/600 058	10	50	10	1	45	15	<5	15
SR9/600 059	<2	50	10	1	40	10	<5	5

UNITS LEGEND ----- m - Parts per million b - Parts per billion % - percent
g - Grams a - Absorbance

Signature: *A. F. Finlayson*

971012

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	m	m	m	m	m	m	m	b
	1	1	1	1	1	1	XRF 1A	120-A
SR9/600 060	10	50	10	1	50	10	<5	10
SR9/600 061	10	50	20	1	45	10	<5	5
SR9/600 062	10	55	10	1	50	10	<5	5
SR9/600 063	5	55	10	1	50	10	<5	10
SR9/600 064	10	50	15	1	50	10	<5	10
SR9/600 065	5	55	15	1	50	10	<5	10
SR9/600 066	10	50	15	1	50	10	5	10
SR9/600 067	5	50	15	1	45	10	<5	10
SR9/600 068	<2	50	10	1	50	10	<5	5
SR9/600 069	2	55	15	1	50	10	<5	5
SR9/600 070	5	55	15	1	45	10	<5	5
SR9/600 071	5	60	15	1	50	10	<5	10
SR9/600 072	5	50	15	1	45	10	<5	5
SR9/600 073	5	55	20	2	40	15	<5	5
SR9/600 074	10	55	15	2	40	10	<5	5
SR9/600 075	5	55	15	1	45	10	<5	5
SR9/600 076	2	50	15	2	45	10	<5	5
SR9/600 077	10	25	20	<1	15	5	<5	10
SR9/600 078	5	55	50	1	30	10	<5	5
SR9/600 079	5	55	15	1	40	15	<5	10
SR9/600 080	5	50	20	1	40	10	<5	10
SR9/600 081	<2	50	20	1	40	10	5	5
SR9/600 082	10	35	20	1	30	10	<5	10
SR9/600 083	10	50	35	1	35	10	<5	10
SR9/600 084	20	20	30	2	20	10	5	10
SR9/600 085	20	20	30	1	15	10	<5	10
SR9/600 086	20	20	25	1	20	10	<5	10
SR9/600 087	15	25	35	<1	20	10	5	15
SR9/600 088	20	25	35	<1	20	10	5	5
SR9/600 089	10	40	55	1	15	10	<5	5

UNITS LEGEND ----- m - Parts per million b - Parts per billion % - percent
 g - Grams a - Absorbance

Signature: *[Handwritten Signature]*

971013

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 TELEX ALSEV 42344

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SAMPLE NO.	Cu	Pb	Zn	Ag	Bi	Co	Sn	Au
	m	m	m	m	m	m	m	b
	1	1	1	1	1	1	XRF 1A	120-A
SR9/600 090	20	40	45	<1	30	10	<5	5
SR9/600 091	20	40	55	1	35	10	<5	5
SR9/600 092	5	55	15	1	50	15	<5	<3
SR9/600 093	10	60	25	2	35	10	10	15
SR9/600 094	45	40	65	1	25	10	5	15
SR9/600 095	40	50	70	1	30	10	5	15
SR9/600 096	35	70	20	1	45	10	5	10
SR9/600 097	10	60	45	1	60	15	<5	5
SR9/600 098	25	80	65	2	30	10	5	5
SR9/600 099	20	35	50	1	20	10	5	25
SR9/600 100	30	45	55	1	20	15	<5	10
SR9/600 101	30	40	60	1	20	20	5	10
SR9/600 102	20	40	55	1	25	15	25	10
SR9/600 103	15	40	25	1	20	15	10	5
SR9/600 104	20	35	30	1	10	15	5	10
SR9/600 105	20	25	60	1	15	15	5	10
SR9/600 106	20	25	50	<1	15	10	5	10
SR9/600 107	20	25	60	<1	10	10	<5	20
SR9/600 108	40	30	100	<1	15	10	5	20
SR9/600 109	20	40	25	<1	10	10	<5	20
SR9/600 110	40	35	25	1	20	20	<5	35
SR9/600 111	35	25	40	<1	20	15	5	30
112	30	25	110	2	40	40	<5	
113	30	25	75	2	40	30	<5	
114	15	20	50	2	40	30	<5	

UNITS LEGEND ----- m - Parts per million b - Parts per billion % - percent
 g - Grams a - Absorbance

Signature: *A. F. Dunlop*

97101A

Area: [] Prospect Number: 600 Co-ordinates N/S: [] Inclination: [] Date Started: [] Hole Size: [] to [] Sample Type: M-Creekmud S-Soil SA-Soil auger RC-Drill core RP-Parcussion chips R-Rock F-Float
 State: T.S. 1:100,000 Sheet: [] E/W: [] Azimuth: [] Date Completed: [] to [] Hole Number: SR9
 Location: [] Grid Used: [] Collar RL: [] Depth: [] Contractor: [] Lab Rep No: [] Analytical Method(s): [] Driller: [] Logged by: [] Reference: []

50m

60

70

75m

Metres	Sample Number	Sample Type	A % core recov'd B weight (kg) Chemical fraction	From E/W	To N/S	Interval	Chemical Analyses (ppm or %)							Description	
							Sn	Cu	Zn	Pb	Bi	Ag	Au		W
	SR916000031	RC	55% 2.5	52.00	53.00	3.00	45	20	45	145	40	2	10	16 52 → 52.7m	TRANSITIONAL: GREY WACKLE SANDSTONE with BLACK SHALE LENSES plus "Co silicates" Matrix to fine banded cherty hornfelsed transitional rock, passing down into dolomite breccia with intraclast clark? Fe/Mg material which fill irregular "crackles" fractures. H=7. possibly similar to the "tuff" at the top of the dolomite in DDH 7914N1 at ~0.60m. 10-20 breaks/m at 60° (bedding) and along five 5-10" frs. Minor limonite on fractures.
	D32	RC	80% 7.25	53.00	56.00	3.00	45	10	20	55	50	1	10		
	D33	RC	80% 4.4	56.00	58.10	2.10	45	20	20	55	50	1	5	17 52.7 → 58.46	DOLOMITE dark grey to blackish grey. Reheated. Shattered breccia appearance due to 20-30% replacement by dark Fe/Mg along 2-20mm wide very irregular crackle fractures, mainly 5-15° to CA with shorter X-fractures at 90°. Also pale green to white 5-15° reheated dolomitic zones. Bedding sparse: 55° at 58.4m - 55.46 which parallels junction at 58.46m of clayey zone. Some fracture zones may be collapse structures as elongate "clasts" parallel the fr. walls. No sulphide apparent. 1-2 breaks/m at 60-80° 25/mat 53.5-54 (a possible solution zone?)
	D34	RC	63% 2.5	58.10	61.10	3.00	45	10	25	55	45	1	10		
	D35	RC	45% 2.0	61.10	64.00	2.90	45	5	15	50	50	1	5		
	D36	RC	23% 1.0	64.00	67.00	3.00	45	5	30	40	50	2	1.85		PETROGRAPHY: SR9003 - 55.5m: brecciated hornfelsed partly serpentinized carbonate sediment.
	D37	RC	17% 2.0	67.00	73.00	6.00	45	10	16	55	50	1	10	18 58.46 → 59.75m	SHALE? Khaki brown clay passing down into pale greenish brown clay with dark (biotite?) specks: = weathered finely banded shale, H < 1. Broken into 10-20mm fragments.
	D38	RC	25% 1.5	73.00	76.00	3.0	45	5	20	40	50	1	5	19 59.75 → 64m	DOLOMITE dark grey with banding 55-60° to CA of similar composition 10-20mm wide 5-10 1-2mm green specks (Fe/Mg) often limonitized or "pitted" on core surface if possibly parallel to bedding. No obvious veining but sparse 15° hairline "pull apart" fractures as in 58.46-59.75m Section is more banded. No sulphide seen. Core in 30-200mm long pieces, broken 30mm pieces 59.75-61.4m

Reference

971012

Area Prospect Number Co-ordinates N/S Inclination Date Started Hole _____ to _____
 State 1:100,000 Sheet E/W Azimuth T/M/Grid Date _____ to _____
 Location Grid Used Collar RL Depth Contractor _____ Lab Rep No _____
 Driller _____ Analytical Method(s) _____
 Logged by _____

Sample Type: M-Creekmud, S-Soil, SA-Soil auger, RC-Drill core, RP-Percussion chips, R-Rock, F-Floot
 Hole Number SR 9
 Reference _____

Metres	Sample Number	Sample Type	A % core recov'd B weight (kg) C sample fraction	From	To	Interval	Chemical Analyses (ppm or %)								Description
							SAW	N/S	Sn	Cu	Zn	Pb	Bi	Ag	
75m	SR466631	RC	4.17 3.0	76.00	79.00	3.00	<5	5	15	55	50	1	10	20	64 → 83m: DOLOMITE, fine grained as a base, pale brown limonite impregnated with limonite infilling some fractures. Limonite associated with fine cellular structures in the dolomite - probably after FeMgs and/or pyrite - noticeable especially 64 → 74m depth where cell lines at 40-45° to C.A. = bedding? 2-10m wide limonite fracture filling 64-77m.
80m	040	RC	1.00 5.0	79.00	82.00	3.00	<5	5	10	55	35	1	10	(1) 64-73m: 15 breaks/m at 60-80° to C.A. (2) 73-75.6m: 40 breaks/m (3) 75.6-76.3 12 breaks/m (4) 76.3-80 Broken core along 5°, 15°, 30°, 60° frs (limonitic)	
	041	RC	1.00 6.5	82.00	85.00	3.0	<5	5	10	55	50	1	20	(5) 80 → 83m: 10-15 breaks/m at 45-50°, some 20° frs.	
	042	RC	1.00 6.0	85.00	88.00	3.0	<5	2	10	55	65	1	10		
10m	043	RC	1.00 6.0	88.00	91.00	3.00	<5	10	20	55	50	1	10	21 83-165m: DOLOMITE, mainly white and massive but with occasional darker patches with increased FeMgs and/or pyrite. Darker sections of core occur at:- (1) 85-86m trace to minor pyrite on hairline 10°, 40° frs. (2) 90.5-93m: trace pyrite (3) 98.20-98.50m: grey recrystallized dolomite zone minor disseminated pyrite (4) 103.3-103.5m dilla. (5) 106.20-107.7m: f.g to 0.5mm pyrite in dark grey irregular (?) recrystallized fracture zone in white dolomite at 10° to C.A. Minor red (?) hematite associated. (6) 111.75-111.85 darker pyritic zone (7) 115-134m: minor disseminated pyrite, possibly ~ 60° to C.A. (bedding?) 115-121m. Stronger pyrite development 121.2-122, 123.8 → 126, 130.8-131.3 Pyrite associated with cream alteration 119.5-126m in vicinity of pyritic fractures (similar to crossfracture zone in SR 7 to the north). Pyrite in 10°, 35°, 60° (bedding?) cross-fractures but 10°, 60° predominant. Two varieties of pyrite - very fine grained and (later?) coarse grained. Both often fill 60° bands or shorter, thin wash (cross-fracture) veinlets.	
	044	RC	1.00 5.5	91.00	94.00	3.0	<5	5.0	20	60	50	1	10		
	045	RC	1.00 6.0	94.00	97.00	3.0	<5	10	15	50	50	1	5		
	046	RC	1.00 6.0	97.00	100.0	3.0	<5	5	15	50	65	1	5		
															(8) 135.7 → 135.9 136.9-137.2, 139.1-139.3 144.6-144.9, 146.4 → 148m: weak to moderate pyrite associated often with FeMgs, which elsewhere in the core are in trace amounts

971010

Area

Prospect Number

Co-ordinates N/S

Inclination

Date Started

Hole _____ to _____
Size _____ to _____

Sample Type:

- M-Creekmud
- S-Soil
- SA-Soil auger
- RC-Drill core
- RP-Perforation chips
- R-Rock
- F-Float

Hole Number

State

1:100,000 Sheet

E/W

Azimuth T/M/Grid

Date Completed

Lab Rep No

Reference

Location

Grid Used

Collar RL

Depth

Driller

Analytical Method(s)

Drill Type

Logged by

Metres	Sample Number	Year 1950	Sample Type	A % com recov'd	B weight (kg)	C sample fraction	Chemical Analyses (ppm or %)											Description
							From	To	Interval	Sn	Cu	Zn	Pb	Ba	Ag	Au	W	
100 m	SR960047		RC	100%	6.0		1.00.00	1.03.00	3.00	<5	5	15	50	50		1	5	21 (cont'd)
																		only) Zonal 30°, 45°, 60° to C.A.
																		(9) 160-161.2m moderate FeMg bands 45° to 70° to C.A. Minor 161.2-165m.
	048		RC	100%	6.0		1.03.00	1.06.00	3.00	<5	25	15	60	45		1	15	Bedding: 60°/90m; 60-65° pyrite banding at 125m = bedding?; 50° pyrite bands at 147m FeMg bedding 55°/160m, 60-70°/161-162m.
	049		RC	100%	6.0		1.06.00	1.09.00	3.00	<5	10	10	55	50		1	5	Limonite/Weathering Very minor yellow brown limonite paint on occasional fractures to 106m. All frs stained and dolomite weakly impregnated by limonite to a pale brown color to 83m. The base of obvious moderate weathering. Minor fr limonite paint below 83m.
110	050		RC	100%	6.0		1.09.00	1.12.00	3.00	<5	5	10	50	45		1	10	PETROGRAPHY T.S. SR9004 107m: hornfelsed pyritic dolomitic sediment
	051		RC	100%	6.0		1.12.00	1.15.00	3.00	<5	2	15	50	45		1	5	T.S SR9005 124m: pyritic marble
	052		RC	100%	6.0		1.15.00	1.18.00	3.00	<5	2	15	55	45		1	5	T.S SR9006 160.7m: Marble, part serpentized
	053		RC	100%	6.0		1.18.00	1.21.00	3.00	<5	5	20	50	40		1	5	
120 m	054		RC	100%	6.0		1.21.00	1.24.00	3.00	<5	5	15	50	45		1	5	
125 m	SR960055		RC	100%	4.0		1.24.00	1.27.00	3.00	<5	10	10	100	45		1	10	

Reference

Area

State

Location

Prospect Number

1:100,000 Sheet

Co-ordinates N/S

E/W

Inclination

Azimuth T/M/Grid

Grid Used

Collar RL

Depth

Date Started _____ to _____

Date Completed _____ to _____

Contractor _____

Driller _____

Drill Type _____

Hole Size _____ to _____

Lab Rep No _____

Analytical Method(s) _____

Logged by _____

Sample Type: M-Creek mud S-Soil SA-Soil auger RC-Drill core RP-Percussion chips R-Rock F-Floot

Hole Number SR9

Reference _____

250m

200m

100m

75m

Metres	Sample Number	Sample Type	A % core recov'd B weight (kg) C sample fraction	From m EAF	To m N/S	Interval m	Chemical Analyses (ppm or %)								Description
							Sn	Cu	Zn	Pb	Bi	Ag	Au	W	
	SR9 6090895	RC	116% 14.5	259.50	256.5	6.0	45	20	30	20	15	1	10		pull-apart bedded breccia in part with 50-60° banding 241.8 - 243m: 60-75° Sheared irregular banded white clay - green clay - dk grey dolomite and chert, including black oolite chert. 7-11 breaks/m at 60° to CA 231.2 → 243m 27.4 243 → 244.5m dk grey dolomite with fg. fctg disseminated plus some irregular hairline FeMg veinlets
	086 RC	RC	68% 3.5	256.50	262.00	5.5	45	20	25	20	20	1	10		27.5 244.5 → 245.50 m Transitional banded rock with mauve siliceous siltstone(?) bands, dark grey dolomite with hairline cross-fracture fctg veinlets (1mm). Fettgrich green bands and brown (biotite?) siltstone bands. Rock hardness (H) = 6-7. Banding 75° to CA. Signs of soft sediment "squeezing" in places. 4 breaks/m - 70° at 243 → 245.30m. Sheared at 50-60° (not bedding) at 244.5m.
	087 RC	RC	27% 1.0	262.00	268.00	6.0	5	15	35	25	20	6.1	15		28 245.50 → 273.1 SILTSTONE med. to dk grey banded, siliceous. H 5-6 (Oonah-type slst). (Chocolate to dk brown biotite-rich) bands common to 257.50 at 65° to CA. Bedding bands commonly 5-10mm wide; bedding 55° to core axis/252m: crenulated 20-70°/253.50-254.50m: 65°/254.40 68°/254m 64°/257.20m 70°/258m 64°/268.20m: 65°/269.20m: 65°/271.50m fine grained pyrite commonly disseminated in rock matrix 245.50 - 251.50, and throughout in bands parallel to bedding. Pyrite 1-3% of core. No pyrrhotite seen or strong veining. Fractures (1) 245.30 - 246m: 20-30 breaks/m - 30° 60° Some slk bands (2) 246 - 247.50m: 10-15 breaks/m 60° 30° (3) 247.50 - 249m: 2-3 breaks/m - 70° 30° (4) 249 - 251m: 20-30 breaks/m - 60° 5° 30° Some qtz-pyrite veining 250-251m in 10-30° zones (5) 251 - 256.30 8-15 breaks/m along 10° 6° (bedding) (6) 258.30 - 268m: highly broken in 10-30mm pieces 6° 5° (7) 268 - 274.50m 7-12 breaks/m along bedding frs.
	088 RC	RC	100% 5.5	268.00	273.10	5.10	5	20	35	25	20	6.1	5		29 273.1 → 273.6m: DOLOMITE mottled dk grey with 0.5-1mm wide/10-45° black to green fctg fracture fillings; 3mm cherty band at 273.1 at 65°, lower contacts 70° against brownish grey banded chert. 1-2% Pyrite plus minor pyrrhotite. 7-12 breaks/m along bedding frs.

Reference

071035

Area

State

Location

Prospect Number

1:100,000 Sheet

Grid Used

Co-ordinates N/S

E/W

Collar RL

Inclination

Azimuth T/M/Grid

Depth

Date Started

Date Completed

Contractor

Driller

Drill Type

Hole Size to

Lab Rep No

Analytical Method(s)

Logged by

Sample Type:

M-Cream mud
S-Soil
SA-Soil auger
RC-Drill core
AP-Percussion chips
R-Rock
F-Float

Hole Number

Reference

275m

280m

290m

300m

Metres	Sample Number	Sample Type	A % core recov'd B weight (kg) C sample fraction	From m E/W	To m N/S	Interval m	Chemical Analyses (ppm or %)								Description			
							Sn	Cu	Zn	Pb	Bi	Ag	Au	W				
	Year 1980																	
	SR9.650.090	RC	96.70 6.26	274.50	280.50	6.00	45	20	45	40	30	61	5		39/ 273.6 - 274.5m : mixed zone of brn-grey banded cherty sediment; bedding 60° to C.A. Pyrite along bedding same as thin aggregates plus minor 1mm wide 20° qtz - ? CO ₂ - pyrite frs. No Pyrrhotite seen.			
															30/ 274.5 - 282.2m : SILTSTONE dk brn some grey sections; occasional grey and pink bands (280.5 - 282.20m) hard (H~5). Banding 68°/275.6m, 65°/276, 65°/277, 65°/279, 70°/279.4, 75°/280, 78°/281, 75°/282m. Sparse pyrite no pyrrhotite.			
	091	RC	97.7 3.0	280.50	283.40	2.90	45	20	55	40	35	1	5	(1) 274.5 - 275m : Broken in 30-40mm pieces along 70° 5° frs. (2) 275 - 283.30 : 12-15 breaks/m along 60°, 20° frs. Slickeniding on 20° fr at 279m.				
	092	RC	100% 8.5	283.40	289.30	5.90	45	5	15	55	50	1	63	32/ 282.2 - 283.4 : SILTSTONE pink and grey banded composed of pink cherty bands grey dolomite bands. Bands are 1-10mm wide at 75° to C.A. No Pyrite obvious, but some pyrrhotite occurs in irregular 2-5mm wide zones 282 - 283m.				
														33/ 283.4 - 289.3m : DOLOMITE, light to dk grey with thin (0.5mm) short frs filled with FeMg at 5°, 20° 70° to C.A. forming an irregular stockwork. Green and black FeMgs chloritized in places with trace pyrrhotite. 1-6 breaks/m at 70° to C.A.				
	093	RC	98% 7.5	289.30	295.40	6.10	10	10	25	40	35	2	15	34/ 289.3 - 295.4m : CHERT-DOLOMITE pink chert with 10% grey chert bands 20mm wide plus dolomitic sections (as for 282.2 - 289.3m). At 290.3-290.6 - dk brown siltstone. 291.2 - 291.85, brn slst similar to 274.5 - 282.2m. 11.5-7 with pink bands = chert. Banding 75°/289.3, 73°/291.5, 72°/292.2, 70°/293.3, 70°/295.2m. No sulphides, chlorides. 1-6 breaks/m along bedding mainly. Broken zone 290-290.15 - slickensided 70° frs plus white, greasy clay (~ talc?). 291.15 - 291.17 : 30° fr with white greasy "talc".				
	094	RC	100% 7.5	295.40	307.50	6.00	5	45	45	40	25	1	15	35/ 295.4 - 307.5m : SILTSTONE dk brn to chocolate plus grey and pink banded slst and banded grey dolomite with pink chert bands. Heterofacial (as above). 295.4 - 297.0m : pale and dk grey slst with minor brownish bands. 297 - 299.3m : brn slst with grey silty bands. 299.3 - 300.2 : grey banded slst with pink chert bands decreasing downwards from 299.3m. 300.2 - 300.9m : banded grey dolomite and pink chert. Some Pyrrhotite "splashes" in bands in dolomite.				

Reference

971026

Area: _____ Prospect Number: 600 Co-ordinates N/S: _____ Incination: _____
 State: IAS 1:100,000 Sheet: _____ E/W: _____ Azimuth: _____
 Location: _____ Grid Used: _____ Collar RL: _____ Depth: _____
 Date Started: _____ Hole Size: _____ to _____ Sample Type: _____
 Date Completed: _____ to _____ M-Creek mud _____ S-Soil _____
 Contractor: _____ Lab Rep No: _____ SA-Soil sugar _____
 Driller: _____ Analytical Method(s): _____ RC-Drill core _____
 Drill Type: _____ Logged by: _____ RP-Percussion chips _____ R-Rock _____ F-Floot _____

SR 9
 SR 9
 OOH - CARL - PORT

325m

Metres	Sample Number	Year	Sample Type	A % core recov'd B weight (kg) C sample fraction	From m E/W	To m N/S	Interval m	Chemical Analyses (ppm or %)								Description
								Sn	Cu	Zn	Pb	Bi	Ag	Au	W	
	SR 9.600.101	1980	RC	97% 5.5	327.00	332.25	5.25	5	30	60	10	20	1	10		38- 332.25m → 335.2m: DOLOMITE, 30% dk green to black FeMg (calc-silicate) in fine veinlets, masses and mottled patches throughout core; dolomite recrystallized. Banding not obvious except pink and grey milky chert with dolomite patches. 332.25-332.70 banded 30° to CA. 5-10% pyrite and pyrrhotite disseminated, and mineral grains in fine veinlets. 2-3 breaks/m along bedding.
	102		RC	100% 4.5	332.25	335.20	2.95	25	10	55	10	25	1	10		39- 335.2 → 336.7m: TRANSITIONAL zone of bands of pink and grey chert, dk green FeMg rich dolomite and chocolate cherty slst (as below) and dk grey/black banded pyrrhotitic chert. Banding variable at 50-75° to CA. All bands contain (1) primary pyrite and pyrrhotite ~ 5-10%. 2-3 breaks/m 335.2-335.8, 8-15/m 335.8-336.7m along 70°, 30° frs.
	103		RC	100% 4.9	335.20	336.70	1.50	10	15	75	10	20	1	5		
	104		RC	100% 8.5	336.70	344.05	7.35	10	5	30	35	10	1	10		40- 336.7 → 344.05 m: SILTSTONE, med to dk red brn, banded cherty-looking (hornfelsed?) siltstone, H 6-7. Fine banding 70°/340, 80°/344m. Similar to slst. above. Pale grey-white siliceous zones 20-40mm wide 336.7-339 ≈ 25% of section. Also where pyrrhotite occurs along banding, possibly to 10% volume. Fractures (1) 336.7-343.5m: 8-15 brks/m at 70°, 20°. (2) 343.50-344.05 4-7 breaks/m 65°, 70° frs.
	105		RC	100% 4.5	344.05	348.05	4.0	10	5	10	25	15	1	10		41- 344.05 → 352.2m SILTSTONE, dk blue grey and chocolate brown banded hard sediment (similar generally to the above slst ≡ Congh Quartzite and slate slst as above) Banding 75-80° to CA, bands 1-20mm wide. No veining obvious. Sparse pyrite and pyrrhotite. 4-7 breaks/m along 60°, 20° frs.
	106		RC	100% 5.9	348.05	352.20	4.15	5	5	50	25	15	1	10		

330m

340m

350m

971053

APPENDIX II

PETROGRAPHY - DDH SR9

STANLEY REWARD

971032

Minpet Services

76 McLachlan Avenue, Rushcutters Bay, N.S.W. 2011 — P.O. Box 24 Rushcutters Bay, N.S.W.
Telephone 357 6423 — after hours 665 4986

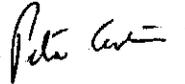
12 February, 1981.

Mr. P.M. MacNamara,
C.S.R. Ltd., (Minerals Division),
Box 483, G.P.O.,
SYDNEY. NSW 2001.

Dear Phil,

The M.P.S. Report 8/81 on Stanley River petrography is
attached for your perusal.

Yours sincerely,



Peter J. Curtis.

Encls.

MINPET SERVICES

76 McLachlan Avenue, Rushcutters Bay, N.S.W. 2011

REPORT NO. 8/81

STANLEY RIVER REWARD, DDH SR 9 SPECIMENS

FOR PETROGRAPHY

(for P. MacNamara, C.S.R. Ltd.).

February, 1981.

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2. SUMMARY	2
3. PETROGRAPHY	5

APPENDIX

1. Note from P. MacNamara to P.J. Curtis,
Minpet Services, dated October 1980,
entitled Diamond Drill Core SR 9.

1. INTRODUCTION

Specimens from Stanley River Prospect 600, drill hole SR9 and one surface rock chip specimen were submitted to Minpet Services for petrographic examination. Most specimens were dolomite sediments metamorphosed to a marble containing some forsterite, which was then faintly serpentinitised along fracture (or stylolite) zones. Remaining specimens were calcareous shales metamorphosed to cordierite hornfels rocks.

.../

2. SUMMARY001 / MPS 1259 20.5 m.

Cordierite : biotite : orthoclase hornfels.

002 / MPS 1260 28.7 m.

Silicified carbonate sediment, brecciated, sheared.

003 / MPS 1261 55.5 m.Dolomitic sediment, brecciated, hornfelsed and part
serpentinised.004 / MPS 1262 107.0 m.

Dolomitic sediment, pure, hornfelsed and pyritised.

005 / MPS 1263 124.0 m.Dolomite sediment pyritised, hornfelsed to a marble.
Coarse porphyroblastic pyrite.006 / MPS 1264. 160.7 m.

Two phases.

Marble.

- (i) Impure calc-magnesian sediment - serpentinised - part.
- (ii) Less impure calc-magnesian sediment - to greater
serpentinisation.

006 / MPS 1265 192.3 m.Calc-magnesian marble with forsterite altered to serpentine minerals.
Slightly sheared.008 / MPS 1266 210 m.

Banded calc silicate and shale metasediment, fine grained.

009 / MPS 1267 215.20 m.

Dolomite sediment, moderate contact alteration and serpentinisation.

010 / MPS 1268 237 m.

Dolomitic sediment altered to talc - sheared.

011 / MPS 1269 239.30 m.

Pisolitic dolomite sediment, part metasomatised to talc.

012 / MPS 1270 241.50 m.

Dolomitic sediment, moderately contact altered, part chloritised and serpentinised.

013 / MPS 1271. 244.8 m.

Dolomitic sediment → diopside hornfels → talc schist.

014 / MPS 1272 245.50 m.

Sandy bands in talc : carbonate : phlogopite rock. Metamorphosed impure carbonate sediment.

015 / MPS 1273 248.50 m.

Calcareous sandstone (wacke), metasomatised.

016 / MPS 1274 279.2 m.

Banded siltstone with carbonate matrix, metamorphosed - shows faint graded bedding.

017 / MPS 1275 313.5 m.

Foliated, banded impure dolomite (muddy dolomite with quartz silt), metamorphosed.

018 / MPS 1276 334.9 m.

Forsterite marble, serpentinised, K feldspathised, chloritised with pyrrhotite.

019 / MPS 1277 349.50 m.

Shale alternate with K feldspathic silt bands - metamorphosed to cordierite - feldspathic siltstone.

020 / MPS 1278 362.3 m.

Metamorphosed shale : siltstone banded sequence.
Quartz : cordierite : andalusite hornfels.

021 / MPS 1279 380.1 m.

Calcareous shale metamorphosed to cordierite : K feldspar hornfels.

Field hand specimen

600 / 1276 R / MPS 1280

Metadolerite, coarse grained, strongly argillised, weathered.

3. PETROGRAPHY

001 / MPS 1259 20.5 m.

Field Notes: -Petrographic description: Cordierite : biotite : orthoclase hornfels.Mineralogy:

	vol. %
Orthoclase	25
Biotite	20
Cordierite	51
Magnetite	4

Texture:

Two distinct band formations.

(i) Several mms wide.

Cordierite prisms and blebs (0.1 to 0.4 mm) singly or in aggregates. Several take on a six sided prism shape; are surrounded by very fine metamorphic biotite and magnetite dust.

- (ii) Thin bands of (i) - several mms depth confine a broad band (4 cms depth) of a network of rich biotitic flakes with K feldspar alternating with forming cordierite prisms (to 0.3 mm) specked with biotite and fine magnetite dust which overprints a filamentous structure of algae including charophytes which are mainly embedded in forming cordierite. The algae are outlined by magnetite dust which filled cavities between filaments and 'buds'.

Alteration: -Metamorphism: Amphibolite grade.

002 / MPS 1260 28.7 m.

Field notes: Grey pink quartzite chert.

Petrographic description: Silicified carbonate sediment, brecciated, sheared; has ferruginous chlorite lenticles (per shale).

Mineralogy:

	vol. %
Chert	50
Quartz (vein)	32
Limonite	3
Chlorite	15

Texture:

Clear very fine massive chert forms a leaf-like structure (5 x 3 mm) as seen in doubly polarised light, which is parallel with general banding indicated by subparallel trails of limonite that pervade the section. Ovoid structures (several mms) of quartz mosaics are parts of a pinched out vein that traversed the section parallel to 'bands'. Other veins, parallel to the one described are continuous across the section, as are chloritic : chert laminae of several mms. Chlorite is as medium grained decussate prism intergrowths or fine fibrous material with abundant associated limonite. Size of chert particles vary in 'masses' indicating a silicified, brecciated and sheared rock (chloritic : chert band). Scattered euhedra (~ 0.05 - 0.08 mm) of hexagonal shapes and cubes including interpenetrant twins of the latter suggest leached pyrite. No other relict textures, structures or traces of carbonate to indicate if the rock is a silicified volcanic breccia or silicified carbonate breccia, but most likely the latter, since a sheared-out shale band occurs and no feldspar, other phenocryst or other coarse silicate relicts are seen.

Alteration: Silicification.

Metamorphism: Shear, brecciation.

003 / MPS 1261 55.5 m.

Field notes: -

Petrographic description: Dolomitic sediment brecciated, hornfelsed, then part serpentinised.

Mineralogy:

	vol. %
Dolomite	59
Antigorite	8
Diopside	3
Calcite	30

Texture:

Similar to dolomite seen in DDH 4, 124.70 m (A 9586), but possibly less altered. The clear dolomite is of medium grains (0.06 mm). Crushed cloudy carbonate along breccia zones between clear dolomite is calcite. The crush zones are filled with antigorite growths containing relict parallel growths of diopside and occasional larger forsterite prisms or fragments. Diopside occupies non-serpentinised fragmented carbonate areas flanked by serpentine and coarse grains in mosaics, forming dense non-brecciated dolomite lenticles. Antigorite is seen to be replacing the dolomite as similarly it is replacing the diopside. Occasional large dolomite grains flanking the breccia zones have part altered to euhedral diopside shapes and are showing alteration to antigorite along cleavages.

Alteration:

Dolomite + diopside + serpentine (antigorite) + calcite

Metamorphism:

Dolomite + diopside, strong contact.

004 / MPS 1262 107.0 m.

Field notes:

Petrographic description: Dolomitic sediment, hornfelsed, pyritised.

<u>Mineralogy:</u>	vol. %
Dolomite	80
Calcite	15
Pyrite	5

Texture:

Coarser grained dolomite with a more regular grain size than for 003. However there are narrow crush zones forming unoriented vein-like trails or encircling mosaic forms or fragments of calcite. Intermixed with the fragments are coarse euhedral but more commonly very fine pyrite where iron sulphide has precipitated on carbonate from solution after brecciation. Some peculiar pellet-like forms (one is 0.9 x 0.4 mm) appear in one breccia zone. The form is made up of fine cemented calcite intermixed with fine scattered pyrite (?). Other rather smaller forms adjoin larger structures. Outside the crush areas the carbonate is dolomite which is remarkably equigranular.

Alteration:

Pyrite replacement of dolomite → calcite residue.

Metamorphism:

Strong contact of dolomite sediment. Pyrite introduced hydrothermally along breccia zones.

005 / MPS 1263 124.0 m.

Field note: Dolomite.

Petrographic description: Dolomite sediment pyritised, hornfelsed to a marble.

Mineralogy:

	vol. %
Dolomite	96
Pyrite	4

Texture:

Finely granular clear dolomite crystals (~ 0.15 mm diam.) as polyhedral grains in mosaics.

Coarse porphyroblastic pyrite deposited in pyrite : dolomite veins (~ 4 mm wide) is somewhat poikiloblastic with fine carbonate inclusions. Pyrite varies to 3 mm. and accompanies dolomite grains to 8 mm. x 3 mm., of irregular sized grains but have mutual boundaries with pyrite. In parts of section are discontinuous vein 'trails' which show that finer dolomite of vein has been incorporated into host rock mosaic during hornfelsing.

Fine carbonate stripes cut across coarse dolomite : pyrite vein and host rock.

Alteration:

Recrystallisation of dolomite.

Metamorphism:

Moderately strong contact recrystallisation.

Note: Contact metamorphism about same as for 004 but pyrite is much coarser grained.

006 / MPS 1264 160.7 m.

Field notes: Dolomite.

Petrographic description:

- (a) Impure calc magnesian sediment, to
- (b) dolomite - forsterite hornfels (marble) →
- (c) serpentine.

<u>Mineralogy:</u>	vol. %		
	(i)	(ii)	
Calcite	2	60	
Dolomite	95	26	
Antigorite (to sepiolite)	2	10	(Recognisable forsterite forms - 2 v. %).
Tremolite		2	
Magnetite		2	
Chlorite	1		

Texture:

Part of section (i) is very similar to 005 specimen where clear dolomite makes up an equigranular mosaic (~ 0.1 mm grain size). However in this specimen forsterite as euhedral shapes (~ 0.6 x 0.3 mm) has been altered entirely to antigorite (or to sepiolite ?), pale yellow pleochroic, low B.R. serpentine but embedded in fused aggregates of dolomite. Clusters of tiny tremolite needles are trapped between veins of chrysotile in the 'forsterite' crystals. Carbonate with silicates is largely calcite.

Remainder of section (i) is of interrupted vein systems where finer sections of veins have recrystallised into mosaics of dolomite grains or calcite. Sections of these veins have become bladed chlorite - colourless length fast, low B.R.

Section (ii) consists of coarse (to 3 x 2 mm.) irregular grains of calcite as porphyroblasts containing fragments of unassimilated earlier mineral. These show interconnecting aggregate growths of chrysotile after rubbly forsterite which replaced many grains of dolomite leaving relicts of finer grained mosaics unchanged. Tremolite prisms form parallel growths with chrysotile veining in pseudomorphed forsterite.

Alteration: Forsterite → antigorite (serpentinisation) - after contact hydrothermal. alteration.

Metamorphism: Contact to produce forsterite and tremolite.

007 / MPS 1265 192.3 m.

Field notes: Dolomite.

Petrographic description: Dolomitic sediment to marble, forsterite to serpentine, slight shear.

<u>Mineralogy:</u>	vol. %
Calcite	4
Dolomite	89
Chrysotile > antigorite	3
Tremolite	2
Talc	2

Petrography:

Mainly a fine grained (~ 0.05 mm.) mosaic of clear polygonal dolomite grains specked by pseudomorphs of forsterite as euhedral shapes (0.4 x 0.2 to 1.6 x 0.8 mm.). In this section the shapes are largely altered to pale yellow fibrous chrysotile; or chrysotile with minor tremolite in parallel growths with veins of the former mineral; or antigorite platelets bounded by short tremolite laths; some small bundles of tremolite; and tremolite embedded in fine talc. More massive laths (to 2 mm.) of talc replacing dolomite are present at one corner of section. There appears to have formed a vein network of dolomite altering to blebs of coarser calcite and it is within these veins that the forsterite crystals occur. Slight flattening and shear of crystals indicates a mild shear force.

Alteration:

Forsterite → talc, serpentine minerals, tremolite variously.
Dolomite → calcite.

Metamorphism :

Hornfels / recrystallisation to sufficient temperature to produce forsterite → slight shear.

.../

008 / MPS 1266 210 m.

Field notes: Quartzite chert.

Petrographic description: Banded calc silicate and alternate banded shale metasediment, fine grained.

Mineralogy:

	(a)	(b)	(c)	(d)	(e)	(f)
Quartz	20					
Chlorite	15	40		65	60	
K feldspar	15					
Diopside	-				40	70
Talc	-		93			
Rutile	2	30	2	10		
Muscovite	14	-				
Clinozoisite	30	30		22		30
Dolomite	3		5	3		
Pyrite	1					

- (a) Medium grained homogeneous mixture of subrounded < angular quartz porphyrotopes (to 0.18 m.) in a mixture of ragged muscovite, granular clinozoisite with traces of intergrown dolomite, scattered leucoxene and pyrite.
- (b) Chlorite rich bands, few angular quartz grains.
- (c) Fibrous talc band (~ 0.4 + 0.6 mm.) of radiating masses of the mineral, carbonate as anhedral blebs and specks of leucoxene. Grade slightly into (a) on either side of band boundaries.
- (d) Narrow band of mainly rubbly clinozoisite, chloritic clay and some rutile / leucoxene.
- (e) Chlorite specked with coarse diopside as subhedral fragments, and finally
- (f) coarse diopside in mosaics interspersed with granular clinozoisite.

Banded calc-silicate sediment. Possibly (c) is a shear band; talc coming from diopside seen to be present towards the bottom of the section

Metamorphism: Recrystallised / hornfelsed, calc-silicate shale banded sediment. See metasediments in PMR 151/77. (A47010, 11, 14 and 16).

Note: Bands are paper thin and conformable, only very gently undulating. Deep water sediment.

009 / MPS 1267

Field notes: Dolomite.Petrographic description: Dolomite sediment, metamorphosed to forsterite, faintly and moderately altered to serpentine along stylolite horizons and cross fractures.

<u>Mineralogy:</u>		vol. %
	Calcite	30
	Dolomite	62
	Antigorite	3
	Forsterite	3
	Muscovite	<1
	Magnetite/limonite	2

Texture:

Much finer grained than previous dolomites of this series (0.011 to 0.10 mm median, 0.08 mm.). Actual grain sizes and distribution are variable. Mosaics of medium sized dolomite grains alternate with fine aggregates of calcite which generally look like a network of 'veinlets'. The latter commonly contain small specks of clear but part replaced forsterite and somewhat larger often brecciated subhedral forsterite grains which are intergrown with dolomite of coarser grain size, and this is fairly uniform throughout. There is a semblance of banding as in an impure carbonate sediment, and where bands of coarser dolomite occur, similar sized replacing forsterite are seen.

Broad veins of aggregates of platelets of pale yellow antigorite traverse the section and these contain exsolved magnetite as (i) heterogeneous blebs separated by talc as in forsterite or more particularly in olivine; (ii) scattered irregularly through vein, or (iii) as a mainly continuous even core (~ 0.05 mm. wide) having intermittent carbonate / limonite sections. The intermediate / wall zones are of cross-fibre chrysotile and calcite. Possibly the fine grained dolomite networks are stylolite horizons and cross fractures.

Alteration: Forsterite and more so dolomite → antigorite and fine grained calcite.Metamorphism: Dolomite → forsterite contact.

010 / MPS 1268 237 m.

Field notes: Talcose altered dolomite near oolitic chert.

Petrographic description: Dolomitic sediment altered to talc - sheared.

Mineralogy:

Talc	100
Magnetite	<1

Texture:

A felt of fine decussate talc laths contain elliptical masses (~ 1.5 - 2 mm. - some 6 mm.) of coarser laths of the mineral which may have contained aggregates of iron-oxide (pulled during section cutting). Further down the section the position is reversed with fine felts of talc as elliptical bodies surrounded by coarser felts. Then a horizontal band (4 mm. depth) of talc as vertical stacked laths on opposite sides and horizontal at core of band. Followed below by false bedding effect of fine talc bounded by a conformable band of coarse sized grains in radiate sheaves.

Presumably the above texture is related to an imposed schistosity and has little to do with textures of original dolomite. A shear zone in dolomite?

Alteration: To talc.

Metamorphism: Strong shear of dolomite to talc and fine dispersed magnetite.

Note: No evidence of primary textures - as one would expect from a carbonate completely steatized.

.../

011 / MPS 1269 239.30 m.

Field notes: Oolitic chert / dolomite.

Petrographic description: Pisolitic dolomite sediment, dolomite part altered to calcite, part to talc.

Mineralogy:

	vol. %
Talc	78
Carbonate	20
Muscovite	2
Magnetite	<1

Texture:

At one end of section are several large elliptical masses (2.5 mm. length) of very fine talc aggregates, or altered carbonate pisoliths. These are surrounded by coarser tufts of unoriented talc laths and underlain by dolomitic mosaics of medium to fine grains exsolving fine magnetite. The present state of large calcite grains indicates an irregular structure which covers both interstices and as seen in plain light smaller oolites, dolomite fragments and fine dolomite interstices. The dolomite interstices have been partly altered to talc. The completely steatitised bottom layer of pisoliths on the slide indicates shear, since little can be seen of the original structure in plain light. No chert is seen. The pisolites vary in size; 0.3 to 5 mm., mainly ~ 3 mm., are mostly elongate / elliptical and bedded, and tightly packed.

An open lagoonal backreef deposit.

Alteration: Metasomatic to talc.

Metamorphism: Contact moderate → shear also moderate.

012 / MPS 1270 241.50 m.

Field notes: Dolomite.

Petrographic description: Dolomitic sediment, contact altered to marble with forsterite, altered slightly to serpentine.

<u>Mineralogy:</u>	vol. %	
Calcite	-	72
Dolomite	94	-
Antigorite >		
Chrysotile	5	20
Chlorite	0	5
Magnetite	1	<1
Muscovite		1
Forsterite		2
Pyrite		trace

Texture:

Similar to 007 in grain size and fine polyhedral texture of dolomite. The forsterite forms are just discernible (.1 x .4 mm.) and are mainly veined by platelets and cross-fibre veinlets of antigorite > chrysotile and in occasional pseudomorph grains are relicts of forsterite surrounded by antigorite platelets. The altered forsterite forms as scattered unoriented grains are joined by veins of the serpentine mineral containing minor fine magnetite. The dolomite in these areas has lost its stark polyhedral equigranular texture and has become rubbly and efflorescent. In the less altered part of the section more coarse (.0.3 mm.) to finer (.0.04 mm.) dolomite occurs alternately in bands of equigranular mosaics. The finer mosaics show alteration along veinlets to chrysotile.

Alteration:

Metasomatic - dolomite + forsterite → (chrysotile + magnetite,
(chlorite + calcite

Metamorphism: Contact, recrystallisation → alteration (to chlorite and serpentine).

.../

013 / MPS 1271 244.8 m.

Field notes: Dolomite.Petrographic description: Diopside hornfels to talc schist.Mineralogy:

	<u>11 mm +</u>	<u>1.4 mm</u>	<u>6 mm</u>	<u>1 mm</u>	<u>3 mm</u>	<u>9 mm</u>	<u>3 mm +</u>
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
Diopside	17 - 40		70	10	71	15	
Talc	55 - 78	91	29	87	28	85	95
Carbonate	3	7		3			
Tremolite	3						
Quartz	1				1		
Iron oxide		2	1		<1		
Phlogopite							5

Texture:

A banded, sheared metasediment zone (a) of largely fine talc specked with porphyroclasts of relict diopside altering to tremolite and talc. The top most layer of this zone becomes an irregular cap of coarse (to 0.3 x 0.15 mm) layer of diopside. Has a sharp boundary with (b).

Zone (b) is mainly fine talc showing orientation of flakes parallel with bedding, substantial interstitial carbonate granules, fine granular low B.R. chlorite (?) and a broad lenticle of iron oxide-stained talc. An irregular boundary with zone (c) of coarse to brecciated finer diopside laths altering to fine talc; to (d) which grades into (c) and indicates progressive alteration to fine talc and scattered carbonate blebs becoming more numerous to top of bed near zone (e) of coarse rubbly masses (to 0.8 x 0.35 mm) of brecciated diopside of fine oval fragments (< 0.05 mm) in a groundmass of fine talc. To finely brecciated (f) and increase in talc, which grades into finely sheared (g) with specks of phlogopite and finely comminuted talc. Whether 'graded-bedding' has anything to do with original sedimentation is doubtful since rock has been brecciated and sheared and approach to comminution equals alteration of diopside to talc and this happens several times, leaving bands of less altered diopside rock.

Alteration:

Due to strong dynamometamorphism.

Metamorphism:

- (a) Impure dolomitic sediment.
- (b) Contact to diopside hornfels.
- (c) Strongly sheared to talc schist, leaving unaltered diopside rich zones.

014 / MPS 1272 245.50 m.

Field notes: Sandstone.

Petrographic description: Sandy bands in talc : carbonate : phlogopite rock.
Metamorphosed impure carbonate sediment.

Mineralogy:

vol. %

depth	<u>11 mm</u>	<u>3 mm</u>	<u>2 mm</u>	<u>6 mm</u>	<u>4 mm</u>	<u>3 mm</u>	<u>1 mm</u>	<u>3 mm</u>	<u>3 mm</u>
	zone (a) #	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
Diopside							20	5	10
Carbonate	30 - 75								
Chlorite								30	15
Talc	75 - 30	70	58	65	53	90	80	45	68
Quartz	3	2	10	15	30				
Phlogopite	15	20	30	20	15	5			
K feldspar (microcline)	5	3							
Magnetite		5	2		2	5		20	7

Texture:

A banded sediment as for 013. Shows in zone (a) a horizon of scattered quartz porphyrotopes and then intermittent quartz and microcline bands (0.05 to 0.2 mm) of rounded porphyrotopes (~ 0.05 mm) and intermixed irregularly with fine carbonate, phlogopite and talc. Talc veins with a broad selvage of carbonate cut the rock. A broad zone (b) similar to the lower part of zone (a) of phlogopite, talc and K feldspar > quartz porphyrotopes of similar size range to zone (a). Scattered iron oxide blebs associated with phlogopite as coarser flakes (~ 0.03 mm). Matrix

veined by talc

.../

is extremely fine. Zone (c) is similar to zone (a) and is cut by thin talc veins, having a carbonate and phlogopite mixed even selvage (0.07 mm wide), the rock groundmass being fine talc-phlogopite. Further along the selvage of talc veins becomes more carbonate rich with very thin talc cores to veins. Zone (d) is like (c) only quartz becomes more abundant and is of broad bands intermixed with the usual fine phlogopite and talc. This is veined by carbonate (0.1 mm wide) with a diffusive boundary. The quartz becomes sharply angular though of similar size to that approaching bottom of section. Then (zone (e)) is an abrupt change to scattered subangular quartz porphyrotopes (0.001 to 0.14 mm) in a groundmass of coarser flakes (0.05 mm) of phlogopite in fine and coarser bladed talc. To a breccia zone of coarse talc and carbonate veined by broad talc, iron oxide and carbonate veins (fracture fill) very irregular but with a carbonate selvage. The following zone (g) is of coarse talc (0.1 mm) as decussate growths in normal veins which alternate with similar thickness (0.2 mm) fine talc. Then (h) intermixed medium sized blades of chlorite, talc and diopside of similar grain size. The last band is carbonate veined, of a heterogeneous mixture of medium grained bottle green chlorite, iron oxide, diopside and talc.

A banded calc silicate rock as before and here there is a sedimentary banding of quartz / K.F. in talc : phlogopite. Remainder of bands may simulate a sedimentary sequence apart from metamorphic differentiation since there is no indication of comminution as seen in 013.

Alteration: Diopside → talc + phlogopite → carbonation + talc + chlorite.

K metasomatism

Hydrothermal →

Metamorphism: Contact → shear.

Note; Carbonate in this section is rubbly and stains rose red by alizarin dye - calcite.

015 / MPS 1273 248.50 m.

Field notes:

Petrographic description: Calcareous sandstone (wacke), metasomatised.

Mineralogy:

	vol. %
Quartz	60
K feldspar	2 (15 in one narrow band)
Muscovite	2
Sericite	5 - 20
Carbonate	2
Chlorite	0 - 15
Phlogopite	0 - 15
Tourmaline	2
Pyrite	5
Rutile	3
Zircon	1

Texture:

Not so variable as 013 and 014, and largely (0.01 to 1.1 mm) quartz as rounded to subangular grains in a variable matrix of fine to medium clastic phlogopite, fine sericite and as occasional abundance of pale chlorite (after phlogopite?). Scattered subangular large brown and green tourmaline (to coarse sand size), small aggregates of rutile and coarse to fine detrital zircon. The distribution of matrix varies a little and probably is the result of variable carbonate and clay mineral in different sedimentation horizons. Similarly the density of quartz clasts varies with depth. Some narrow horizons contain only 5 volume percent quartz in a groundmass of fine sericite and chlorite.

Alteration: As below.

Metamorphism: Carbonate matrix to phlogopite.

Note: One large aggregate of pyrite (3 mm) probably a modified / recrystallised aggregate of framboids.

016 / MPS 1274 279.2 m.

Field notes: Banded siltstone.

Petrographic description: Metamorphosed banded siltstone with carbonate matrix shows faintly graded bedding sequences.

Mineralogy:

	vol. %
Quartz	90 - 60
K feldspar	5 - 8
Carbonate	0 - 5
Muscovite	0 - 10
Phlogopite	15 - 30
Rutile/sphene	2 - 4
Magnetite	3
Pyrite	2

Texture:

Sedimentary horizons do not vary sufficiently to warrant a division into zones for descriptive purposes. Essentially the rock is a banded metasediment of silt to fine sand-size quartz (~ 0.05 mm) but mainly silt size with grains subangular, subrounded and few angular grains. The matrix mineral may be phlogopite - fine or in tufts. The latter is more common. In narrower alternate bands (~ 2 mm wide) sericite and specks of carbonate substitute for phlogopite. Concentrated sandy quartz bands which appear as tapering narrow intervals only twice have a limited matrix of fine microcline. These have an abrupt contact with finer bands of carbonate, pyrite and magnetite above and below.

Phlogopite occurs as described above and is generally intermixed with fine KF and specked homogeneously by silt-size quartz, and contains magnetite and pyrite. There are fine repeat graded bedding sequences in all bands shown - mainly by quartz, microcline and fine and coarse phlogopite.

Alteration: As below.

Metamorphism: Sericite + carbonate + KF + phlogopite.

Note: A banded graded bedded sequence of coarse quartz sericite / carbonate matrix to finer silty clay with abundant fine carbonate, sericite, KF (?), repeat sequences with slight variation. Metamorphosed shallow marine deposit. Diagenetic pyrite framboids are in coarser siltstone bands which lack KF.

017 / MPS 1275

313.5 m.

Field notes: -

Petrographic description: Foliated banded impure dolomite (muddy dolomite with quartz silt), metamorphosed. Dolomite veins had KF selvage.

Mineralogy:

		average vol.%. Vein - tremolite : KF selvage
Diopside	15 - 20	
Quartz	5 - 60	
K feldspar	5 - 30	(15)
Phlogopite	5	
Tremolite	0 - 60	
Mn O ₂	0 - 3	(1)
Carbonate	0 - 20	

Texture:

Foliated banded sediment of largely subrounded to subangular silt sized quartz with interstitial K feldspar of fine to medium grain size scattered carbonate and phlogopite growths. With a Mn O₂ cement which tends to obscure the texture. The beds have a foliated appearance.

Clear bands are seen to be very K feldspathic, and abundantly dolomitic with grains of dolomite similar in size to neighbouring quartz grains and acicular bundles of tremolite which show large areas of growth certainly much larger than the silt grains to which they are interstitial. Radiate acicular tremolite are more common as large areas of interstitial growths within diopside bands.

So to summarise:

Rapidly succeeding bands less than 1 mm thick each are as follows

Tremolite > dolomite > diopside.

Quartz > KF > tremolite > Mn O₂.

Tremolite > quartz > KF > rutile.

Tremolite > quartz > KF > diopside > rutile.

Diopside > tremolite > leucosene.

Carbonate > quartz > KF > Mn O₂.

Phlogopite > KF > quartz > tremolite > rutile.

Alteration: Carbonate + KF → phlogopite.
 → diopside → tremolite
 → tremolite

Metamorphism: Sheared, dolomite sediment.

018 / MPS 1276 334.9 m.

Field notes: Pyrrhotitic dolomite.

Petrographic description: Forsterite marble, serpentinitised, K feldspathised, chloritised, + pyrrhotite.

<u>Mineralogy:</u>	vol. %
Calcite	53
Chlorite	6
Forsterite	3
Antigorite (to (to Sepiolite)	11
Phlogopite	5
Chrysotile	10
Muscovite	8
Pyrrhotite	4

Texture:

A medium grained calcite rock of clear growths where unaltered, and an unoriented network of fractures show alteration to have taken place which is not consistently of the same type, if this were indeed a pure dolomite.

Forsterite is seen to have developed as euhedra several mms in size and this shows alteration only to fine phlogopite with carbonate in segments of the irregularly fractured forsterite grain. Present is pyrrhotite - a metamorphic product of pyrite which sulphidised decomposed iron oxides.

Other more altered forsterite grains show development of fine chrysotile veinlets separating the zones of phlogopite. Elsewhere antigorite (rather than phlogopite) as fibrolamellar structures is separated by narrow cross-fibre veinlets of chrysotile. The serpentine minerals follow crush zones subparallel one to another. The calcite in these planes is finely brecciated and recrystallised and where calcite breccia occurs between the serpentine, abundant irregular sized muscovite flakes are seen replacing carbonate. Later chloritisation has affected phlogopite in part of section. An abundance of antigorite filling in a vein network of chrysotile has altered to pale yellow pleochroic, low B.R. sepiolite. Appears here as if alteration was of original dolomite directly? No pseudomorphed forsterite crystals occur, only part replacement of (dolomite) grains. No evidence of KF in stained rock chip?

Alteration: Dolomite → forsterite → chrysotile + antigorite (→ sepiolite)
 forsterite → phlogopite + carbonate + iron oxides
 dolomite → serpentine minerals
 phlogopite → chlorite
 residual dolomite → calcite

Metamorphism: Dolomite → hornfelsed → forsterite

Note: Specimen 006 shows similar alteration effects but tremolite rather than phlogopite forms.

Polished section study. (MPS 1276)

Trails of pyrrhotite (< 0.01 to 0.9 x 0.3 mm) are distributed along serpentinised zones. Larger grains show growth to become poikiloblastic enclosing silicates. Pyrrhotite has some pyritohedra forms which indicate pseudomorphs of pyrite. In polished section 4 - 6 vol. %.

019 / MPS 1277 349.50 m.

Field notes: Siltstone + pyrite.

Petrographic description: Metamorphosed shale / feldspathic silt bands to cordierite / feldspathic siltstone.

Pyrite + pyrrhotite.

Mineralogy: vol. %

	<u>well developed silt</u>	<u>silt + cordierite development</u>	<u>well developed cordierite</u>
Quartz	75 - 80	13	
K feldspar	10	30	20
Cordierite		44	66
Phlogopite	2 - 5	8	3
Pyrrhotite	1 - 5	2	2
Sericite	5	3	9

Texture:

Bands of siltstone grade into oval spots of cordierite (0.15 to 0.20 mm) containing fine laths of sericite as inclusions. Adjoining, below the siltstone the cordierite becomes a complete mosaic. Lower in the band cordierite has an interstices of fine sericite, phlogopite, K feldspar and specks of pyrrhotite. After several

.../

centimetres depth the section shows gradation into silt-quartz and poorly definable interstitial grains of forming cordierite containing abundant fine mica flakes. The cordierite eventually gives way to a quartz arenite siltstone, mainly of subrounded equigranular quartz (0.05 m) intermixed with appreciable similar sized and occasionally twinned microcline grains.

The upper siltstone (above cordierite rock) shows narrow bands of cordierite within siltstone (bands of thin 'blue-grey' in rock chip).

Alteration: Montmorillonite (?) + illite → cordierite; pyrite → pyrrhotite.

Metamorphism: As above: banded siltstone / shale, to amphibolite grade.

Q20 / MPS 1278 362.3 m.

Field notes: Siltstone with pyrrhotite.

Petrographic description: Metamorphosed shale : siltstone banded sequence.
Hornfels.

<u>Mineralogy</u> :	(a)	vol. %	Vein	
		(b)	Quartz : Pyrrhotite	
	<u>Cordierite/andalusite</u>	<u>siltstone</u>		
Quartz	12	55	85	15
K Feldspar	25	8		
Cordierite	30	10		
Sericite	25	15		
Andalusite	5	-		
Pyrrhotite	2	10		
Chlorite	1	-		
Tourmaline	-	2		

Texture:

A cordierite rock with larger spots (to 0.7 x 0.4 mm) that appear to be aggregates of prismatic mosaics of andalusite rounded quartz and pyrrhotite with occasional muscovite flakes. These form bands and trending until the andalusite are the smaller oval spots (~ 0.2 mm) of forming cordierite remaining full of sericite fine inclusions. Vein like masses (0.3 mm wide) of pyrrhotite with prismatic intergrowths of andalusite and quartz mosaic follow the bands.

As previously, the groundmass minerals between the andalusite : quartz and smaller cordierite spots are fine sericite, KF and scattered silt quartz.

The distribution of the cordierite 'spots' is fairly even throughout.

The siltstone band is of abundant subangular quartz following the same banding direction as cordierite in (a) and shows poorly formed cordierite, abundant pyrrhotite of silt size and fine sericite : KF groundmass.

Alteration: Pyrrhotite added by quartz-pyrrhotite vein (after quartz-pyrite vein).

Metamorphism: Banded silt : shale rock, metamorphosed to amphibolite grade, as per 019.

Note: Formation of andalusite rather than cordierite means that sediment is undersaturated with Fe.

021 / MPS 1279 380.1 m.

Field notes: Banded brown siltstone.

Petrographic description: Calcareous shale, metamorphosed to cordierite hornfels.

<u>Mineralogy:</u>	vol. %
Cordierite	55
Quartz	10
K feldspar	25
Pyrrhotite / iron oxides	3
Biotite	4
Sericite	3

Texture:

A uniform distribution of oval > oblong cordierite grains (~ 0.2 mm) contain small amounts of fine sericite, biotite, chlorite (?) and opaque oxides. Commonly the grains form mosaics of similar size grains. The interstices are tiny blebs of cordierite, biotite flakes, and fine KF, and rounded > subangular quartz (~ 0.1 mm) also make up the interstices and are scattered

.../

fairly evenly around the section, though there are some (2 mm dia.) microscope fields that contain few quartz grains.

Alteration: Argillaceous minerals → cordierite - metamorphic alteration.

Metamorphism: Amphibolite grade.

600 / 1276 R / MPS 1280

Field notes: 44 N / 5790 W

Petrographic description: Metadolerite, coarse grained, strongly argillised (weathered).

Mineralogy:

Metadolerite		Argillised	→		
K feldspar	5			K feldspar	5
Plagioclase	44			Kaolinite	44
Actinolitic				Chloritic	
hornblende	45			clay	45
Ilmenite	6			Leucoxene /	
				hematite	6

Texture:

A coarse textured weathered / argillised rock. The coarse decussate kaolinised plagioclase laths are present as intergrowths with subophitic ferromagnesian mineral - likely actinolite which has been altered to a structureless chloritic clay. For some reason the K feldspar as small interstitial grains remains intact. A better idea of the proportions and distribution of primary minerals is seen in the KF stained and HF etched slab. Coarse interstitial altered ilmenite as rhomb shapes (~ 0.3 mm), now hematite and leucoxene are evenly distributed in the section as are lath-like limonite shapes. K feldspar is present as a deuteric alteration product of plagioclase.

Alteration: Weathered, argillised.

Metamorphism: Greenschist

APPENDIX

PROJECT N° 600

DIAMOND DRILL HOLE SR 9.

SAMPLE N°	DEPTH (m)	DESCRIPTION
1 SR 9 - 001	20.5	
2 002	28.7	grey pink quartzitic chert
3 003	55.5	
4 004	107.0	
5 005	124.0	Dolomite
6 006	160.7	"
7 007	192.3	"
8 008	210	quartzitic chert
9 009	215.20	dolomite
10 010	237.	siliceous altered dolomite near the chert
11 011	239.70	oolitic chert / dolomite
12 012	241.50	dolomite
13 013	244.8	dolomite
14 014	245.50	Sst.
15 015	248.52	
16 016	279.2	banded Sillstone
17 017	313.5	"
18 018	334.9	pyrometallitic dolomite
19 019	349.5	Sillstone c pyrite
20 020	362.3	Sillstone c po.
21 021	380.1	banded brown sillstone

MISCELLANEOUS ROCKS

L90 600/1276 R

L90 / 5790 12

Supplement to Report 5/81 (DDH CG 1, Dundas, Tas. 602).PS 1288

Traces of chalcopyrite (mainly < 0.001 mm to 0.008 mm and several grains 0.04 to 0.07 mm) occur embedded in goethite and intergrown with fine grained silicates. Fewer pyrite as specks (to 0.01 mm) but one elongate grain (~ 0.012 mm) are embedded in a large silicate grain.

APPENDIX III

GEOCHEMICAL SAMPLE DATA,

STANLEY REWARD GRID



Area STANLEY RIVER

Prospect Number 600

Co-ordinates N/S

Inclination

Date Started
Date Completed

Hole to
Size to

Sample Type:

- M-Creekmud
- S-Soil
- SA-Soil auger
- RC-Drill core
- RP-Percussion chips
- R-Rock
- F-Float

Hole Number

State 7/AS

1:100,000 Sheet 7914

E/W

Azimuth T/M/Grid

Contractor

Lab Rep No

Reference

Location

Grid Used LOCAL

Collar RL

Depth

Driller

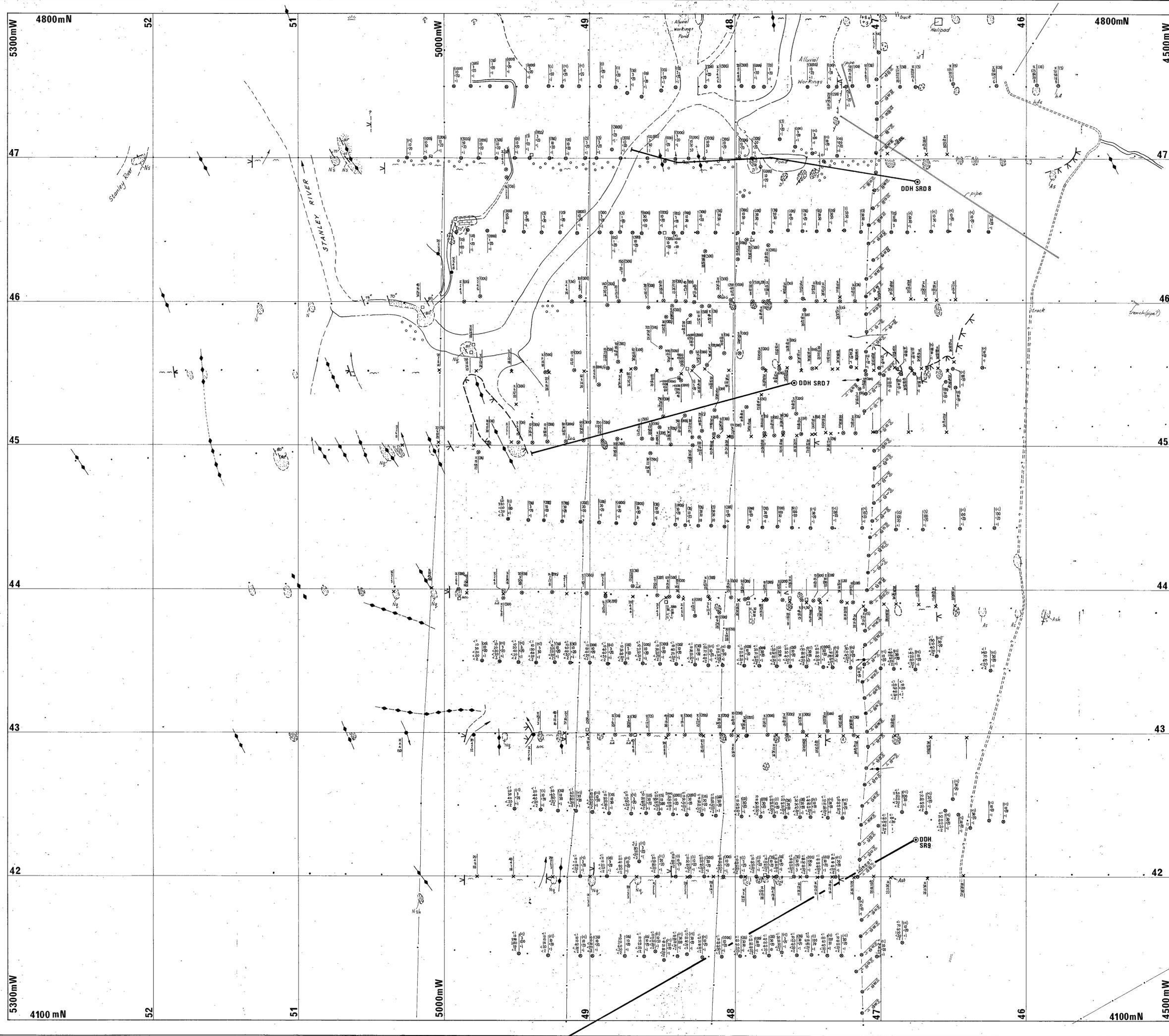
Analytical Method(s)

Logged by

Stanley Reward

Metres	Sample Number	Sample Type	A % core recov'd B weight (kg) C sample fraction	From			Chemical Analyses (ppm or %)										Description
				E/W	N/S	Interval	Sn	Cu	Zn	Pb	Bi	Ag	(ppb)		Co		
	6001270	R		477S	467W	5S	10	20	50	40	2	20	30	chips from dolomite etc. No. 5R7 helix on E side of clearing			
	6001271	R		4830	4550	20	15	30	60	40	2	10	30	pale cream dolomite, brown stains, limon. on frs.			
	6001272	SA		5800	4373	90	15	40	90	40	3	5	20	pit: fragments of pale yellow cream & limonite stained dolomite - bottom of pit?			
	6001273	S		5800W	4372	70	5	15	45	30	2	3	10	yellow brown clay at 0.3m depth.			
	6001274	S		5800	4388	85	10	30	100	35	3	5	20	yellow brn clay from roots of fallen tree. qtz-tourmaline greisen cobbles			
	6001275	R		5800	4388	60	90	100	130	40	4	5	30	occur as slope scree from gravel capping on nearby ridge.			
	6001276	R		5789	4400N	95	30	125	90	50	3	6	20	dk. yellow brn and limonitic clayey soil.			
	6001277	R		5789	4400N	90	40	150	100	70	3	5	20	Weathered yellow brn limonitic basic igneous rock, limonite			
	6001278	R		5700		20	50	35	40	25	3	5	60	on fractures, sulphide smell (dissem. pyrite?).			
														As for 6001275: limonite segregations and fracture fillings			
														As for 6001276.			
														On H.E.C. road ~ 5700W from colling on N side: a pale			
														weathered shale or volcanic, mauve color with pyrite			
	6001279	R				5	25	5	20	10	1	3	5	3.5m long "chip channel" sample.			
														E side of 6001278: 10m chip channel in black shale, highly fractured			
	6001280	R		5362W	4000N	5	25	5	15	5	<1	3	5	with some qtz-limon. on frs.			
														Chips of black qtz vein material in Onah quartzite from old pit.			
	6001281	M		5150W	4000N	5	2	2	15	5	<1	3	5	N ^o draining gully: drains Onah Qtzite and Slate.			
	6001282	M		5450	4000N	5	2	5	15	10	<1	3	5	N ^o draining gully: drains Onah Fm: c ^o grey Nsh. 030/dip NW.			
	6001283	M		5465W	4000N	10	5	5	20	5	<1	5	5	N ^o draining gully off Onah Fm.			
	6001284	R		5510	4000N	35	450	530	100	10	2	5	10	Float: silicified and veined Onah Fm, highly silicified.			
	6001285	R		5650W	4000N	<5	10	10	20	10	<1	<3	5	black micaceous siltstone etc (Ns).			
	6001286	M		5700W	4000N	<5	5	5	20	10	<1	<3	5	Creek draining west to Stanley River off Onah Q+S.			
	6001287	R		5720W	4000N	<5	2	5	15	10	<1	3	5	25m above Stanley River: mixture of Ng and Soil - near			
														previously located high Sn value in soil: no gravels seen			
	6001288	S		5725W	4000N	5	2	10	10	10	<1	3	<5	Soil on Onah Q+S. near previously located Sn-in-soil anomaly			
														on steep slope: Sn possibly related to high level gravels but none seen.			
	6001289	M		5770W	4000N	15	2	2	10	10	<1	3	5	of dk. grey to black shale 055/60N: drains N -> Stanley River.			
	6001290	M				55	22	22	20	10	<1	<3	<5	Near 3700N/5800W in creek draining towards Stanley River			
														between 2 hills near reported basic volcanic unit in Onah			
														(See Irving S report, 1974): above 6001289?			

971066



- REFERENCE
- River, creek, track
 - Edge of alluvial flat
 - Ridge top (especially 1st ridge West of Livingstone Cr)
 - Strike & dip of bedding/jointing
 - Fault

- TERTIARY Gravels
- CAMBIAN Crimmon Creek Argillite
 Marker Sequence (inferred)
 Dolomitic Sequence: dolomite (Dd), dolomitic siltstone (Dds), shale (Dsh), chert (Dc), etc. Forms a low-lying alluvial covered area immediately overlying the Donah Formation (N)
- PROTEROZOIC Donah Quartzite & Slate: top units are finely bedded sericitic quartzite siltstones (Nq)
- DEVONIAN Meredith Granite: granite (G) with quartz porphyry (Gpp), diorite (Gd), etc. phases

- Volcanics (ie Av etc)
- Greywacke
- Quartzitic siltstone
- Siltstone
- Shale, black shale
- Mudstone
- Dolomite (ie Md, Dd etc)
- Banded green micaceous dolomitic siltstone
- Chert, black colite chert
- Soil ie "S" granitic soil
- Silt-eluvial to slope wash soil (SWS)

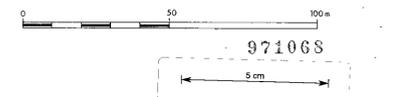
- Auger hole
- Dolomite at depth in auger hole (under alluvials)
- Dolomite fragments (eluvial?) in auger hole ~ 1m depth

- Stream sediment sample
- Rock chip sample
- Soil sample ± 0.3m depth
- Soil sample from auger hole 1-2m depth

CHEMICAL ANALYSES OF SOIL SAMPLE FRACTIONS

PPM	- 80 Mesh	- 20 Mesh
Sn	20	(300)
Cu	2	
Zn	4	
Pb	8	
Bi	10	
Ag		

(x below limit of detection)



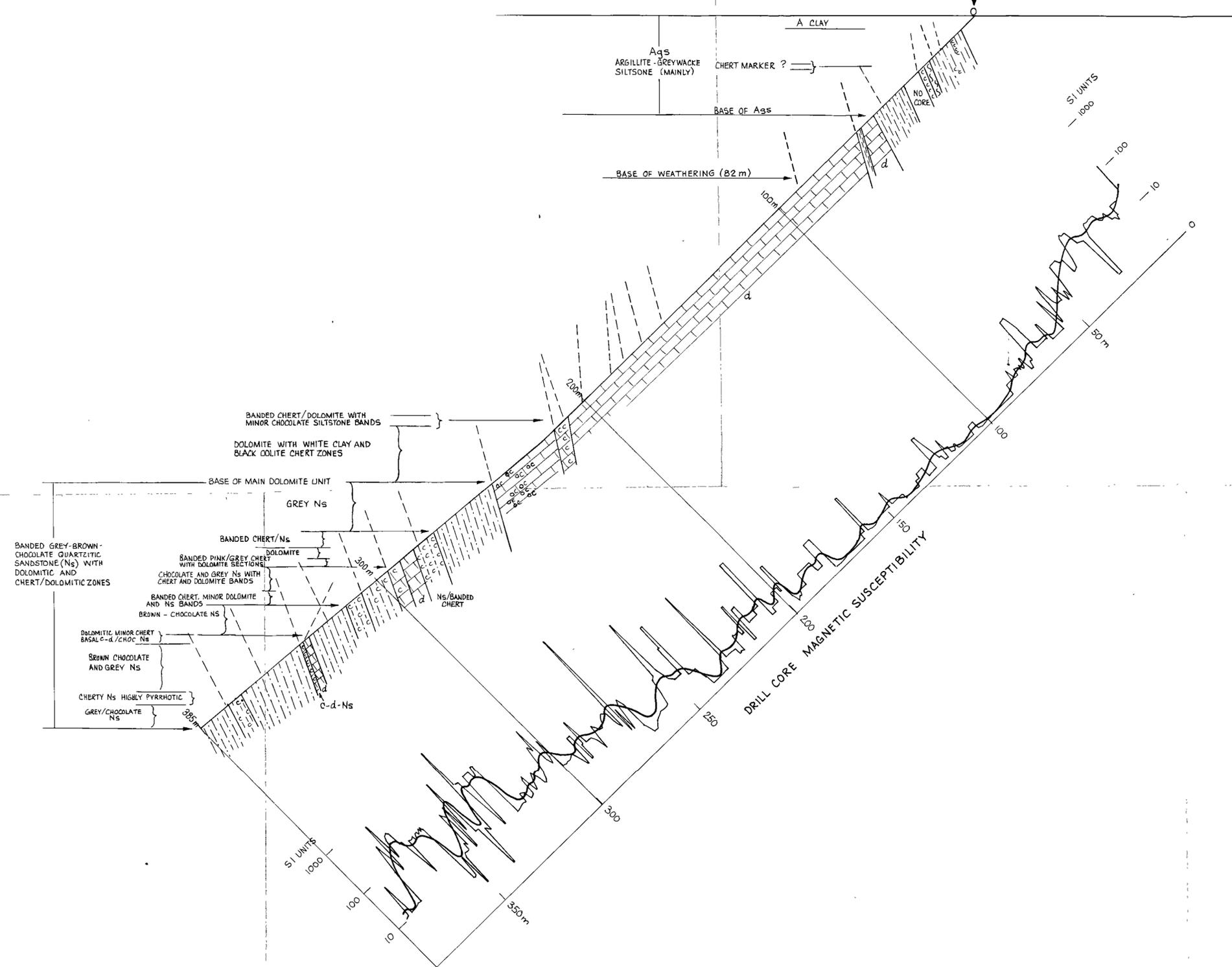
PACMINEX PTY. LIMITED

E.L.53/70, STANLEY RIVER, TASMANIA
 STANLEY REWARD GRID 41N-48N
 SOIL GEOCHEMISTRY
 (Sn, Cu, Zn, Pb, Bi)

SCALE 1:1000
 DRAWN P.M.M. / P.H.
 DATE SEPT '77
 REVISED DEC '78

K 553-14

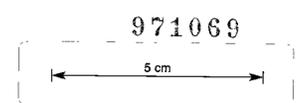
DDH-SR 9
COLLAR CO-ORDS - 4226N / 4676 W



REFERENCE

- Aqs CRIMSON CREEK ARGILLITE - Greywacke siltstone (Mainly)
- d DOLOMITE
- c CHERT
- oc BLACK OOLITE CHERT
- SILTSTONE
- Ns OONAH QUARTZITE AND SLATE - Banded quartzitic grey, red-brown and chocolate hornfelsed siltstones
- BEDDING

NOTE MAGNETIC SUSCEPTIBILITY INSTRUMENT :
GEOMETRICS JHB METER
READINGS 0-1000 x 10⁻⁵ S.I. UNITS



CSR LIMITED-MCD

DIAMOND DRILL HOLE - SR 9
PROFILE AND MAGNETIC SUSCEPTIBILITY

E.L.53/70 STANLEY REWARD TASMANIA

SCALE	1 : 1000	K 553-35
DRAWN	PMM / C.J.L	
DATE	JAN. 1981	
REVISED		

81-1554