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616001

Stream sediment data on Buses, Adamsfield Trough

METALS EXPLORATION LIMITED

ADAMSFIELD PROSPECT
SOUTH WEST TASMANIA
E.L. 4/85

ANNUAL REPORT FOR THE PERIOD ENDING
25TH JULY 1989

REPORT NO. 212015

1:250,000

1:100,000

Queenston 8K5
Wedge 8112

OPEN FILE

89-2984

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Exploration, Melbourne
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S. Carthew
June, 1989

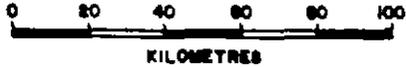
TABLE OF CONTENTS

	Page
Summary of 1988-89 Programme	2
1. INTRODUCTION	3
1.1 Location and Access	
1.2 Tenements	
2. REGIONAL GEOLOGY	4
3. TENEMENT GEOLOGY	4
3.1 Serpentinite	
3.2 Layered Ultramafics	
3.3 Massive Pyroxenite	
3.4 Sedimentary Rocks	
4. MINERALISATION	5
5. ENVIRONMENT	6
6. RESULTS	6
7. FUTURE PROGRAMME	8
8. REFERENCES	9
9. EXPENDITURE STATEMENT	10
APPENDIX I	
Sample assay results (soil, rock chip and pan concentrate).	
APPENDIX 2	
Initial Prospecting Activities. Adamsfield E.L. 4/85	
S. Morley	
APPENDIX 3	
Whole rock XRF data for Adamsfield Complex	
FIGURE 1	
Location of Exploration Licence 4/85	
ENCLOSURE 1	
Regional Geology	Scale 1:20,000 Drg No. 02/AD/2/04
ENCLOSURE 2	
Pan concentrate stream sample and rock chip locations.	
Scale 1:20,000	Drg No. 02/AD/3/03
ENCLOSURE 3	
Pan concentrate stream sample and rock chip results	
Scale 1:20,000	Drg No. 02/AD/3/04

SUMMARY OF 1988 - 89 PROGRAMME

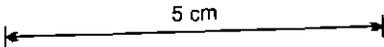
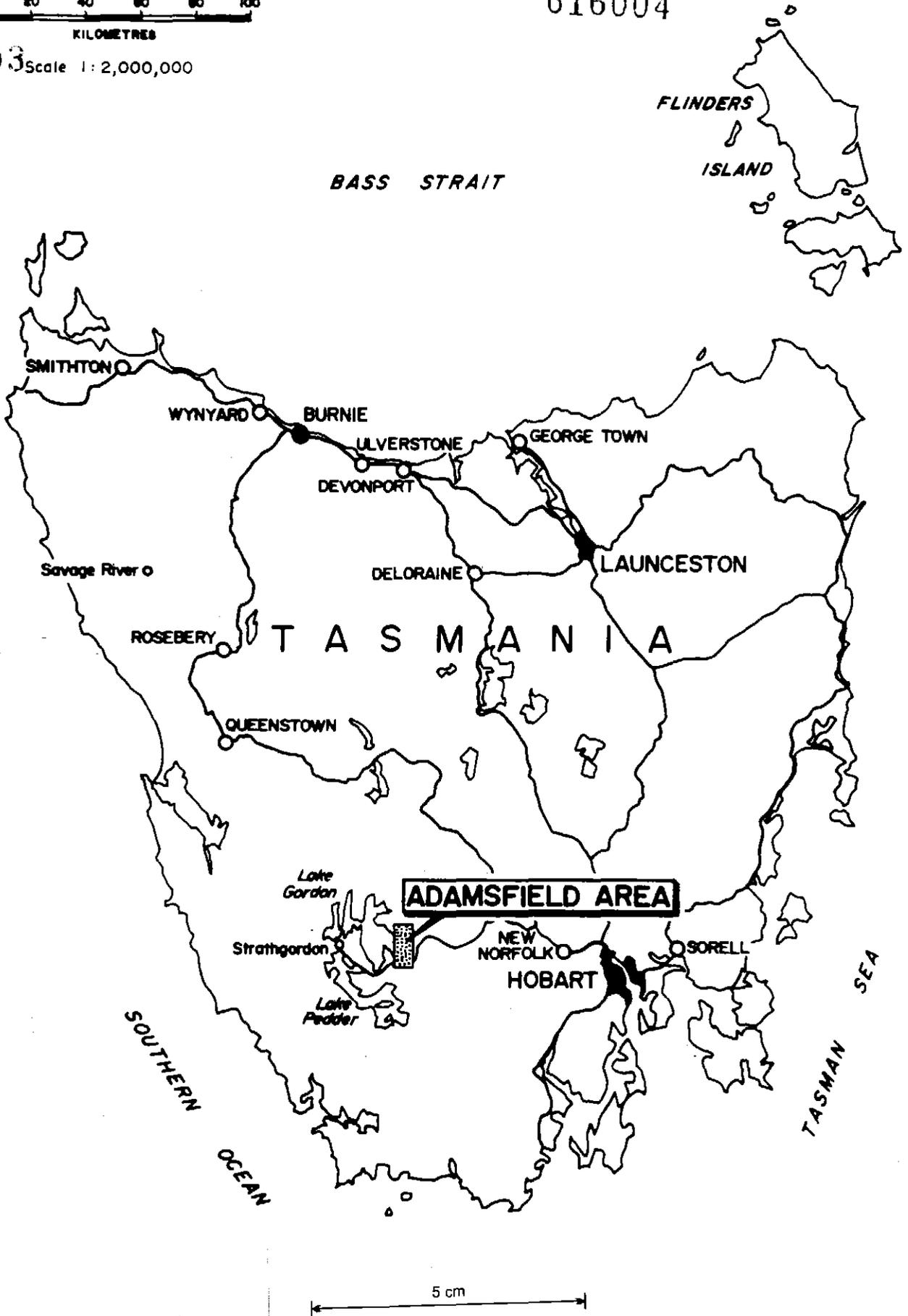
The broad spaced pit and auger drill programme on Adams River Plain only identified the shallow (late stage geologically) channel gravels as having any economic potential for chromite - P.G.E. +/- gold alluvial mineralisation. The exploration potential for these channel deposits is about 5 million tonnes (2.5 million cubic metres) of chromite bearing alluvials at a stripping ratio of about 1:1 and that the total economic contained chromite is 125,000 tonnes if the chromite grade is 2.5 wt%. An orientation programme of close spaced pitting and/or reverse circulation drilling in former channels of Main Creek and Adams River is warranted to confirm this resource evaluation.

The pan concentrate stream sediment sampling programme has confirmed that chromite - PGE +/- Au is actively shedding into the current drainage on Adams River Plain. Sample 715824 from Froshams Pass and the sample on Clear Hill Plains returned encouraging PGE values that warrant follow up.



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003 Scale 1:2,000,000



METALS EXPLORATION LIMITED

LOCATION OF EXPLORATION LICENCE 4/85

1. INTRODUCTION

Alluvial platinum group metals (osmiridium) were discovered in 1925 and sourced to the hard rocks at Halls Open cut (GR446952694) in 1929. Since discovery, 15,394 ounces of osmiridium has been produced during the period 1925-54 from Adamsfield.

1.1 Location and Access

The Adamsfield district is situated in the north central part of EL 4/85 and is 90km NNW of Hobart in the South West Conservation Area of south central Tasmania.

Access to the southern part of the Licence is by the Gordon River Road connecting Maydena and Strathgordon, while the northern part can be reached by either the Clear Hill Road or the Sawback Range Track, both of which connect with the old Adamsfield Track. This latter track, now inaccessible east of the Sawback Range, provided the original access to Adamsfield and ran west of Tim Shea across the Florentine River.

Previous work by the Company involved the upgrading of a 5km interval of the Adamsfield Track, extending from the Clear Hill Road (GR442652697) junction east to the Sawback Range. (GR447052700).

1.2 Tenements

Exploration Licence 4/85, covering an area of 112 sq.km, was granted to the Company on the 25th July 1985 for a period of up to 10 years (subject to satisfactory exploration performance and expenditure, and statutory reductions in area after 5 years).

At the time of granting, the following constraints applied to the area:

- Mining Rights in the name of Turner and Morley;
- Mining Claims 46m/82 (S. Morley, 6 ha) and 12m/83 (S. Morley, 1 ha).

The licence area is entirely enclosed by the South West Conservation Area (SWCA).

In 1985, the SWCA (proclaimed 1978) in the vicinity of EL 4/85, was administered by the Forestry Commission (west of the Ragged Range and east of the Sawback Range), and the National Parks and Wildlife Service (the central zone of the EL).

Since 1980 the SWCA has been included on the register of the National Estate (under the Heritage Commission Act of 1974).

2. REGIONAL GEOLOGY

The ultramafic complexes of Western Tasmania occur intermittently along a major north-south crustal suture. They lie fault bounded within Cambrian sediments or at the boundary between Cambrian and Precambrian rock (Williams et al; 1976). Numerous cross cutting transcurrent faults have displaced the ultramafic lenses.

The ultramafics throughout the belt display similar characteristics, indicating an origin from a common parent magma.

It is believed that these complexes were emplaced early in the development of the Tasman Geosyncline, into sediment filled troughs formed within and between regions of disrupted Precambrian basement (Williams; 1979).

The layered ultramafic complexes with which platinum group elements (PGE) are associated are mainly emplaced in Cambrian and Precambrian sequences, and are likely to be middle Cambrian age or older. They are considered as attenuated ultramafic sequences derived from magma chambers that have developed in part by fractional crystallisation of an original high Mg, low Ti or andesitic magma (i.e. partial mantle melt).

3. TENEMENT GEOLOGY

The Adamsfield Ultramafic Complex is composed mainly of three rock types: serpentinite (and serpentinitised dunite), interlayered serpentinite (and variably serpentinitised dunite) and pyroxenite, and massive pyroxenites; (Corbett [1969] and Brown [1972]). Distribution of these lithologies is shown on Enclosure 1.

3.1 Serpentinite

The bulk proportion of the northern ultrabasic body consists of serpentinites, both massive and sheared. The latter mainly occurs in the north, while the "tail" along the Sawback Range is mainly massive. Various proportions of relict olivine grains occur in the massive serpentinite. The serpentinites are mainly dark green to matt green, with the sheared zones being more yellowish green.

3.2 Layered Ultramafics

These rocks occur in the hills in the north and consist of alternating orthopyroxenite and serpentinite layers. The central cores of the hills often consist of a more massive coarse grained pyroxenite up to 30cm thick (Brown 1972). The serpentinite layers (after dunite) still contain 20-60% olivine and weather greyish green. The pyroxenite layers are generally coarse grained, particularly in the central parts, and weather to a brown colour.

The layers vary in thickness from less than 1cm to 2m, with the pyroxenite being the thickest. They appear parallel with the strike direction of the general N-S trend of the ultramafic complex.

3.3 Massive Pyroxenite

This rock type is confined to a distinct body type situated in the middle of the ultrabasic "tail" along the west side of the Sawback Range. It consists mainly of orthopyroxene, has a variable grain size and weathers to a dark brown colour. The boundary between the enclosed pyroxenite and the surrounding serpentinitised dunite is irregular and is apparently a tectonic feature.

3.4 Sedimentary Rocks

The Adamsfield Ultramafic Complex is enclosed by sediments of Palaeozoic age forming the Junee Group (and specifically the Denison Sub Group). The more resistant units in this sub group form the locally distinctive Ragged and Sawback Ranges (e.g. siliceous and pebbly sandstone [+/- conglomerates] in the Sawback Ranges, and siliceous cobble conglomerate in the Ragged Range). Less prominent sedimentary rocks occur to the west of the ultramafic complex as quartz sandstone (e.g. Football Hill), and to the east as the Adamsfield beds (calcareous mudstone, siltstone, sandstone and ultramafic debris). Ultramafic debris are also present in the Football Hill area, and both this sequence and the Adamsfield Beds appear to have shed chromite and PGE into the local drainage.

4. MINERALISATION

The Adamsfield Ultramafic complex has been the source (either directly or indirectly), of both alluvial and lode platinum group metals.

Previous work by Ford (1981) has shown the typical platinoid alloy at Adamsfield to be iridosmine (IrOs) commonly referred to as osmiridium.

In addition, the complex also hosts chromium, nickel and gold mineralisation (MEL investigations). Chromite is an ubiquitous associate of the PGE metals in the alluvial deposits, with lesser gold.

Nickel sulphides occur in trace amounts (heazlewoodite) in the serpentinitised dunites, although early records indicate a shaft sunk on an occurrence of millerite near Halls Open Cut.

5. ENVIRONMENT

As a consequence of exploring in the Southwest Conservation Park, exploration procedures have been continually monitored by the Environmental Officers of the Tasmanian Mines Department. Prior to any ground disturbance or machinery impact, the proposed routes have been flagged, two archaeological surveys undertaken, together with field inspection of parties concerned. Final approval was given once agreement had been reached on the steps required to minimise the exploration impact on the environment. This agreement was written into the "Triplicate Book" at the end of each field inspection and signed by both company and the environmental officers. One copy was retained by each signatory whilst the third copy remained in the book at Adamsfield for site personnel to consult. In this way, all parties are fully informed and exploration proceeded in a logical and efficient manner whilst minimising environmental impact and recognising historical/archaeological sites of interest.

On site inspections were also held with representatives from the Federal Government and the working environment group involving personnel from National Parks and Wildlife, Forestry, Environment and the Mines Department.

A lightweight hand held wacker hydraulic auger drill was trailed in the peat swamp area to determine if this method could investigate sites found inaccessible to track equipment. The orientation survey found this method to be feasible though quantitative samples could not be assured.

6. RESULTS

The equipment procedures and results of the pitting program, sample treatment and the auger drilling program undertaken on Adams River Plain since July 1988 is reported on in:-

Adamsfield Prospect
Southwest Tasmania
E.L. 4/85

Addition to the Annual Report for the period ending
25 July, 1988
Report No. 212005A

by P. Bellairs, A. Jannink and S. Carthew, October 1988.
Additional exploration activities have involved a pan concentrate survey, prospecting activities by S. Morely, (Appendix 2) and whole rock XRF data analysis (Appendix 3).

The results of the pan concentrate survey (Appendix 1 and Enclosures 2 and 3) returned four anomalous PGE results. Sample 715801 taken from the Main Creek, just downstream from Barratt Track returned 6.3 g/t total P.G.E.. This result is not surprising considering the extensive osmiridium alluvial workings upstream. At the southern end of Adams River Plain, on Adams River where the horizontal scrub commences, sample 715805 returned 0.64 g/t osmiridium and indicates the siliciclastics are actively shedding chromite and osmiridium. Sample 715824 from Froshams Pass returned 66 g/t total P.G.E. and returned encouraging values for Pt (800 ppb), Ru (3.5 g/t), Rh (160 ppb), Ir (28 g/t) and Os (34 g/t) and warrants careful follow up to determine the source. Sample 715826 taken on Clear Hill Plain returned 1 g/t osmiridium and represents a heavy mineral horizon, 1 metre beneath sand overburden. A pan concentrate from Barratt Creek returned 7.5 g/t and indicates the siliciclastics on Ragged Range are actively shedding P.G.E.. Soil line traverses have located a gold - P.G.E. source on Marriott Hill. Soils and pan concentrate of the same locality have been submitted for analysis and results show up to 10 fold increase in values (Appendix 1).

Rock chip samples collected from a small open cut in the Adamsfield township, returned disappointing results. They are tabled below.

Sample No.	Au ppb	Pt ppb	Pd ppb	Ru ppb	Rh ppb	Ir ppb	Os ppb	
715831	2	16	1.5	40	9	62	58	Serpentinite
715832	6	17	6.5	35	12	52	28	Serpentinite
715833	4	0.5	3.5	11	3.5	19	2	Quartz
716005	2	2.5	6.0	10	3.5	21	6	
716006	<2	3.0	7.5	8	4	18	<2	

Samples 716005 and 6 are chromite rich serpentinites collected on Sawback Range and returned results of no interest.

Six samples taken along the road between Adamsfield township and Halls Open Cut, have been submitted for NRF analysis (Appendix 3). Samples 1 and 2 are taken from the cutting at Adamsfield township, and sample 6 opposite Halls Open Cut. Sample locations are shown on map 1.

Prospector S. Morely has found surface localities of gold and osmiridium often with chromite wash in creek beds draining into Adams River Plain. His work, together with the results of the pan concentrate survey, indicates that chromite, patchy gold and osmiridium are actively shedding into Adams River Plain from many creeks draining the siliciclastics on Sawback Range, Football Hill and Ragged Range from the serpentinised ultramafics on the western flanks of the Sawback Range.

7. FUTURE PROGRAMME

During the coming year the following programme is likely:-

1. Follow up to explain pan concentrate anomalies.
2. Orientation survey initially of R.C. drilling/pitting of channel sands in Main Creek and on Adams River Plain.
3. Complete evaluation with possible R.C. drilling at Halls Open Cut to better define the platinum resource.
4. Continued rehabilitation and re-vegetation of inactive areas for exploration.

068942n1

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- BROWN, A.V., 1972
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- CORBETT, K.D., 1969
Sedimentation of Upper Cambrian Flysh-paralic Sequence On the Denison Range; unpubl PhD Thesis, Univ. of Tasmania
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The Osmiridium Deposits of the Adamsfield District, Bull. Geol. Surv. Tas. 39
- WILLIAMS, E., SOLOMON, M. & GREEN, G.R. 1976
The Geological Setting of Metalliferous Deposits in Tasmania. Monog. Ser. Aust. Inst. Min. Metall. 5 : pp 567 - 581
- WILLIAMS, E., 1979
Tasman Fold Belt System in Tasmania, Explan. Rep. Dep. Mines, Tasmania

EXPENDITURE STATEMENT FOR THE PERIOD25/7/88 TO 25/7/89

I, Ian Raymond Holzberger of 619 Murray Street, West Perth, Exploration Manager do solemnly and sincerely declare as follows.

That the amount of \$66,557.17 has been spent on exploration of Exploration Licence 4/85 Adamsfield and is set out as follows:

	\$
Contractors	11,599.30
Contractors - drafting	324.00
Couriers	184.87
Drafting supplies	777.72
Drilling - other	11,039.40
Earthmoving	254.40
Field expenses	1,078.74
Fuel and oil - bulk	1,442.75
General expenses	1,531.13
Hire - equipment	100.00
Hire - vehicles	2,724.29
Indirect reimbursables	2,248.40
Labour - casual	251.50
Light and power	552.19
Messing	1,265.00
Motor vehicle costs	1,110.85
Postage, printing and stationery	356.43
Rates and taxes	270.79
Rent - premises	1,250.12
Repairs and maintenance	437.50
Technical services	18,626.75
Telephone, telex and fax	1,092.98
Tenement - administration	1,410.00
Tenement - rent	1,320.00
Travel and accommodation	5,308.06

	\$66,557.17

and I make this declaration by virtue of Section 106 of the Evidence Act, 1906.

DECLARED AT PERTH

this *6th* day of *July* 1989

.....
Ian R Holzberger
 Ian R Holzberger

Before me

A. Jones
 Authorised person

APPENDIX 1



013

616014

To M.E.L. Laboratory
 cnr. Lionel & Holmes St.
 Boulder, W.A. 6432

To CLASSIC COMLABS
 305 SOUTH ROAD
 MILE END SOUTH
 SOUTH AUSTRALIA

PROPERTY ADAMSEED TAD

MAP REFERENCE
 OR DRAWING No. _____

unless addressed otherwise.

10 JUN RECD

R. Monehy's
 samples.

CONSIGNMENT DETAILS Total number of samples in consignment: <u>10</u> (total of all orders) Packed in: <u>1 sack</u> Freight company: <u>TNT</u> Consignment Note No. _____ Dated: <u>13 Jun 88</u> From (town): <u>HOBART</u>		OR SEE CONSIGNMENT DETAILS ON ANALYSIS ORDER No. _____
--	--	---

ONLY for orders to M.E.L. Lab.
 M.E.L. ACCOUNT CODE or prospect / project

INSTRUCTIONS

1. Preparation



2. Elements & Analytical Methods Required.

Au FAS I
 Ag, Cr AAS

3. Special Instructions

Forward to ALS
 Murray St, Welshpool
 Perth W.A.
 for full PGE Analysis

JOB PRIORITY:

- ROUTINE
 PRIORITY
 URGENT (authorised by Explor. Mgr.)

ASSAY RESULTS:

Mail a copy of results to addresses listed below.

- 1 CHIEF DRAFTSMAN, EXPLORATION DEPT.
 METALS EXPLORATION LIMITED
 IAN FINCH
 FAX 09 480 3113
- 2 P. BELLAIRS
 FAX 03 819 1701
- 3 DOUGLIS MCKENNA + PARTNERS P.L.
 FAX 03 670 3691

INVOICE: Send invoice to above address indicated by

ORDER PREPARED BY:

A. JANNINK

Print Name

DATE: 1 / June / 88

Day Month Year

LOCATION AND OTHER DETAILS

PREPARE COLUMNS & HEADINGS TO SUIT

M.E.L. Analytical Report Sheets	SAMPLE TYPE (Soil, Drill Core, etc.)		(Hole No., Site, etc.)	(Interval, Position, etc.)	(NOTE)
	FIRST SAMPLE No.	LAST SAMPLE No.			
	SAMPLE No.	MATERIAL	52	4	
1	LINE 2 SAM 1	Soil	68880	43100	
2	LINE 2 SAM 2	Concentrate	-	-	
3	LINE 2 SAM 2	Soil	68800	42960	
4	LINE 2 SAM 2	Concentrate	-	-	
5	LINE 3 SAM 1	Soil	68790	42750	
6	LINE 3 SAM 1	Concentrate	-	-	
7	LINE 3 SAM 2	Soil	68790	42510	
8	LINE 3 SAM 2	Concentrate	-	-	
9	LINE 5 SAM 1	Soil	68460	42140	
10	BAREATE CK.	Concentrate	68930	43200	
11					
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Job: 8AD1890
O/N: 19467

014

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3	Cr	Ag	Weight
Line 2 Sam 1 Soil	0.02	0.04	0.03	0.01	3250	<1	N.A.
Line 2 Sam 1 Conc	N.A.	--	--	--	N.A.	N.A.	24.94
Line 2 Sam 2 Soil	0.01	0.03	<0.01	--	800	<1	N.A.
Line 2 Sam 2 Conc	N.A.	--	--	--	N.A.	N.A.	36.92
Line 3 Sam 1 Soil	<0.01	--	--	--	84	<1	N.A.
Line 3 Sam 1 Conc	N.A.	--	--	--	N.A.	N.A.	18.74
Line 3 Sam 2 Soil	<0.01	--	--	--	390	<1	N.A.
Line 3 Sam 2 Conc	N.A.	--	--	--	N.A.	N.A.	5.91
Line 5 Sam 1 Soil	0.01	--	--	--	50	<1	N.A.
Barratt ck Conc	N.A.	--	--	--	N.A.	N.A.	113
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	g
SCHEME	FA1	FA1	FA1	FA1	AAS1	AAS2	WEIGHT

015

616016

REFERENCE NUMBER 39774

Order No 19467

Page 1

SAMPLE NUMBER	Au ppb	Pt ppb	Pd ppb	Ru ppb	Rh ppb	Ir ppb	Os ppb
L 2 S 1 SOIL	6	<0.5	5.0	7.5	1.0	12	10
L 2 S 1 CONC	2	19	12	90	10	100	130
L 2 S 1 CONCDUP	< 2	14	19	71	10	110	140
L 2 S 2 SOIL	< 2	25	4.0	120	7.5	1.2m	1.5m
L 2 S 2 SOILDUP	2	15	4.5	90	4.5	910	1.1m
L 2 S 2 CONC	2	35	7.5	81	12	580	410
L 3 S 1 SOIL	< 2	<0.5	1.0	4.5	<0.5	11	16
L 3 S 1 CONC	2	1.5	11	6.0	2.5	35	24
L 3 S 2 SOIL	< 2	1.5	4.0	5.5	0.5	37	18
L 3 S 2 CONC	2	6.5	27	21	8.0	52	66
L 5 S 1 SOIL	< 2	<0.5	4.5	3.0	1.0	17	8
L 5 S 1 SOILDUP	< 2	<0.5	4.0	3.5	1.0	11	10
BARRATI CK CONC	< 2	100	5.0	800	38	2.8m	4.7m
BA WICKCONCDU	2	80	6.0	610	28	4.2m	6.6m



019

616017

ANALYSIS ORDER No. 19472

To M.E.L. Laboratory
cnr. Lionel & Holmes St.
Boulder, W.A. 6432

To ANALYTICAL SERVICES
M. AUGUSTA ST
WILMINGTON
W.A. 6405

unless addressed otherwise.

PROPERTY ADAMSFIELD

MAP REFERENCE
OR DRAWING No.

28 JUN 1988

3 1/2 Pan Con Sample

CONSIGNMENT DETAILS		OR SEE CONSIGNMENT DETAILS ON ANALYSIS ORDER
Total number of samples in consignment: <u>30</u>	(total of all orders)	
Packed in:		
Freight company: <u>TNT SEAFRIST</u>		
Consignment Note No.	Dated: <u>23/6/88</u>	No.
From (town): <u>WILMINGTON</u>		

ONLY for orders to M.E.L. Lab.
M.E.L. ACCOUNT CODE or prospect / project

ORDER PREPARED BY:
S. CARTMISH
Print Name
DATE: 6 / 8 / 88
Day Month Year

LOCATION AND OTHER DETAILS

PREPARE COLUMNS & HEADINGS TO SUIT

INSTRUCTIONS

1. Preparation

Crustal Rock chit analysis
527-528

2. Elements & Analytical Methods Required.

Full Metals Expl
PSA analysis please
M. Chan

3. Special Instructions



JOB PRIORITY:

- ROUTINE
 PRIORITY
 URGENT (authorised by Explor. Mgr.)

ASSAY RESULTS:

Mail a copy of results to addresses listed below.

- 1 CHIEF DRAFTSMAN, EXPLORATION DEPT.
METALS EXPLORATION LIMITED
ME T. 61604
FAX 09-4903113
- 2 METALS EXPLORATION
1st floor 260 HUBBARD RD
HAWTHORN
VIC 3122
Fax 03-8191701
- 3 Douglas Mc Kenney Direct
P.O. Box 1778 Q
MILLBURN RD
VIC 3001
Fax 03-6703691

INVOICE: Send invoice to above address indicated by

M.E.L. Analytical Report Sheets	SAMPLE TYPE (Soil, Drill Core, etc.)		(Hole No., Site, etc.)	(Interval, Position, etc.)	(NOTE)
	FIRST SAMPLE No.	LAST SAMPLE No.			
	SAMPLE No.	MATERIAL			
1	715800	Pan Con	1 st sample	Sawback Rge R	
2	715801	"	Main creek	Sawback Rge R	
3	715802	"	1 st creek	west branch	
4	715803	"	Main channel	Sawback Rge R	
5	715804	"	W. tributary	- strong Cr. + heavy Fe	
6	715805	"	Quarry Ch	south of edge of bridge	
7	715806	"	Florentine River	200m upstream	
8	715807	"	Old Creek Bed	Quarry Ch	
9	715808	"	Serpentine Ch		
10	715809	"	Florentine R	400m upstream	bank
11	715810	"	Clear Ch	3 pipes south of Ch	
12	715811	"	Clear Ch		
13	715812	"	Hean R	by ford	
14	715813	"	tributary of Adams R	good Cr.	
15	715814	"	Adams R	opposite tall stand of trees	old worked by
16	715815	"	Adams R	just in horizontal search	
17	715816	"	Clay rich sand	good Cr. tributary	
18	715817	"	1 st Ch E of Adams R	- sandy clay	
19	715818	"	Serpentine Ch	by road	
20	715819	"	Charlie Ch	Nth on Clear Hill Rd	
21	715820	"	Cari R	confluence	
22	715821	"	Abel Ch	junction	
23	715822	"	son sth of Boulder Tk		
24	715823	"	LANTHAM Ch		
25	715824	"	Froshams Pass	Gordon Road	
26	715825	"	LANTHAM Ch		
27	715826	"	Clear Hill plain	4ft sand bottom	
28	715827	"	Main Ch		
29	715828	"	Above open cut	Main "red rock"	
30	715829	"	Wedge Cr	378742 black Carbon only	rock, & Py

017

616018

REFERENCE NUMBER 40596

Order No 19472

Page 1

SAMPLE NUMBER	Au ppb	Pt ppb	Pd ppb	Ru ppb	Rh ppb	Ir ppb	Os ppb
715800	4	5.0	1.0	21	4.0	8.0	14 ✓
715801	14	39	2.0	360	17	2.6m	3.7m ✓
715802	6	2.0	3.0	17	4.5	24	26 ✓
715803	4	2.5	1.0	10	3.0	6.0	10 ✓
715804	< 2	7.5	<0.5	14	3.0	40	38 ✓
715805	< 2	0.5	1.0	2.5	1.0	2.5	6 x
715806	4	1.5	1.0	9.0	3.0	4.0	8 ✓
5807	2	0.5	1.0	3.0	1.5	3.5	6 x
715808	2	4.0	3.0	5.0	2.0	2.0	4 x
715809	8	2.5	2.5	11	3.5	8.0	6 ✓
715809 DUP	4	3.0	5.5	7.0	3.5	7.0	10 ✓
715810	4	1.5	2.0	4.5	1.5	1.5	< 2 x
715811	< 2	2.0	1.0	2.0	1.0	2.5	4 x
715812	< 2	5.5	6.5	14	6.5	8.0	10 x
715813	< 2	15	1.5	23	4.5	8.0	10 ✓
715814	< 2	15	1.5	18	4.5	5.0	10 ✓
715815	< 2	14	2.0	63	5.0	260	380 ✓
715816	< 2	1.5	2.0	6.5	2.0	2.0	6 ✓
715817	2	6.0	1.0	9.0	2.5	4.0	6 ✓
715818	2	0.5	2.0	6.5	2.5	7.0	10 x
715819	< 2	2.0	3.5	3.0	1.5	1.0	4 ✓
715819 DUP	< 2	3.0	3.0	5.0	2.0	1.0	4 ✓
715820	< 2	<0.5	2.0	4.5	1.0	0.5	2 ✓
715821	< 2	1.0	1.5	3.0	1.0	<0.5	2 ✓
5822	< 2	7.5	2.0	18	4.5	4.0	8 x
715823	4	1.0	11	7.0	3.5	15	14 ✓
715824	2	800	5.0	3.5m	160	28m	34m x
715825	2	2.0	2.0	6.0	2.0	7.0	12 ✓
715826	< 2	12	6.5	73	5.0	450	550 x
715827	2	8.5	11	25	9.0	46	42 ✓
715828	42	7.0	7.0	4.0	1.0	11	10 x
715829	24	1.5	3.5	4.0	1.0	1.0	2 x
715829 DUP	2	1.0	1.0	1.0	<0.5	<0.5	4 x

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APPENDIX 2

INITIAL PROSPECTING ACTIVITIES

ADAMSFIELD E.L. 4/85

*See p. 25
for location*

AREA (2)

This prospect was carried out with a dredge and test holes panning off wash in 2 litre samples. Dredging was carried out with a 3" and 5" surface dredge. Wash dirt and gravel was taken down to pug with a result of 1 gram of (Os) per 1 hours of dredging. The amount of gravel moved is hard to estimate because diving was involved and visibility is only 20%. I would say approximately 9 Cubic metres. Five percent of Au was also extracted with the 1 gram. Test holes have been sunk in the surrounding area with a result of 5 specs of Os and visible signs of Au. The Os is rounded and in size up to 3mm. The Au is rounded and in size up to 2mm. Larger pieces seem to be just above the Adams Falls. At the base of the falls one nugget (Au) was found by myself which weighed 6.2 grams. The Os is also plentiful.

AREA (1)

This prospect is known as the Clay Bank with little overburden. Two litre samples were washed with a result of 9 to 15 specs of Os per pan and usually 3 specs of Au. The wash dirt is yellow pug ironstone and quartz on the south side of the track. On the north side of the Adamsfield Road there is 2 ft of black dirt and peat to wash dirt which is fine quartz and ironstone concreted in black dirt.

AREA (3) (4) (5) (6)

This prospect was carried out whilst the road was under construction. From the gravels bulldozed on the road travelling southward, the Os became finer. Near Line (6) on Prospect (6) the wash was 2 to 6 inches with abundant fine Os. No Au was found. Travelling west on each prospect up the gullies of Football Hill, I found most of the Os was in sandstone (green blue red yellow in colour). The Os is round and elongated jagged.

AREA (7)

Area 7 was in the Adams River with a 5" dredge. One days' dredging produced 1/2 oz of Os. No Au present. The bottom was 3 ft of wash dirt to limestone bottom.

AREA (8)

Area 8 was on the new road whilst under construction. This prospect produced 6 grains Os, 4 grains Au, with Zr present but very fine. The Os was rounded and fine, the Au was fine and worn.

AREA (9)

This was the same as Area 8, still with Zr present. The only exception was that the chromite was plentiful and larger.

Main Creek Prospect produces large rounded osmiridium not very worn. Also present in this area is sapphire (blue, star).

STEPHEN MORLEY

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APPENDIX 3

WHOLE-ROCK XRF DATA FOR THE ADAMSFIELD COMPLEX

Prepared by D. C. Peck, Geology Department, University of Melbourne, Parkville, 3052. 1/9/88. 3 pages.

Six samples from the Adamsfield Complex (AC; Metals Exploration samples number 1-6) were analysed for their whole-rock major and trace element compositions by XRF spectrometry. Analyses were performed by DCP at the University of Melbourne. The purpose of the exercise was to determine the primary rock type of each sample, given that field recognition of lithologies proved difficult due to weathering and serpentinization. I have developed geochemical criteria for the identification of each of the major cumulate ultramafic types occurring in the Heazlewood River Complex (HRC). These criteria must be used in conjunction with field observations and hand specimen descriptions, and there is some overlap between each lithology, as expected in cumulate sequences. However, given the assumption that there has been very little post-cumulus chemical re-adjustment, either during serpentinisation or weathering, the criteria are quite definitive.

The major rock types expected at Adamsfield are dunite, harzburgite and orthopyroxenite. The main criteria for the recognition of these rock types are as follows:

Dunite: $\text{SiO}_2 < 41\%$, $\text{MgO} > 36\%$, $\text{LOI} > 12\%$, $\text{Ni} > 1200\text{ppm}$, $\text{Sc} < 6\text{ppm}$.

Harzburgite: $\text{SiO}_2 < 46\%$, $\text{MgO} < 38\%$, $\text{LOI} < 13\%$, $\text{Ni} > 900\text{ppm}$, $\text{Sc} > 5\text{ppm}$

Orthopyroxenite: $\text{SiO}_2 > 50\%$, $\text{MgO} < 35\%$, $\text{LOI} < 5\%$, $\text{Ni} < 1000\text{ppm}$, $\text{Sc} > 10\text{ppm}$

HAND SPECIMEN IDENTIFICATION

The six samples are identified as follows on the basis of their appearance in hand specimen.

1. Sheared green serpentinite
2. Quartz reef
3. Deeply weathered green serpentinite
4. Black serpentinitized dunite with 3% disseminated chromite
5. Foliated green serpentinite
6. Coarse-grained massive olivine-orthopyroxenite with 10% medium-grained chromite in cm-sized, elongated aggregates (schlieren?)

CLASSIFICATION BASED ON GEOCHEMISTRY

Using the geochemical criteria given above, and based on their whole-rock compositions given in Table 1, the samples are classified as follows:

1. Harzburgite
2. Quartz
3. Dunite
4. Dunite
5. Dunite
6. Olivine Orthopyroxenite

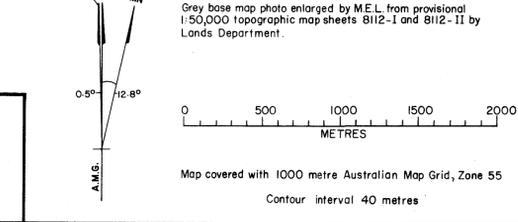
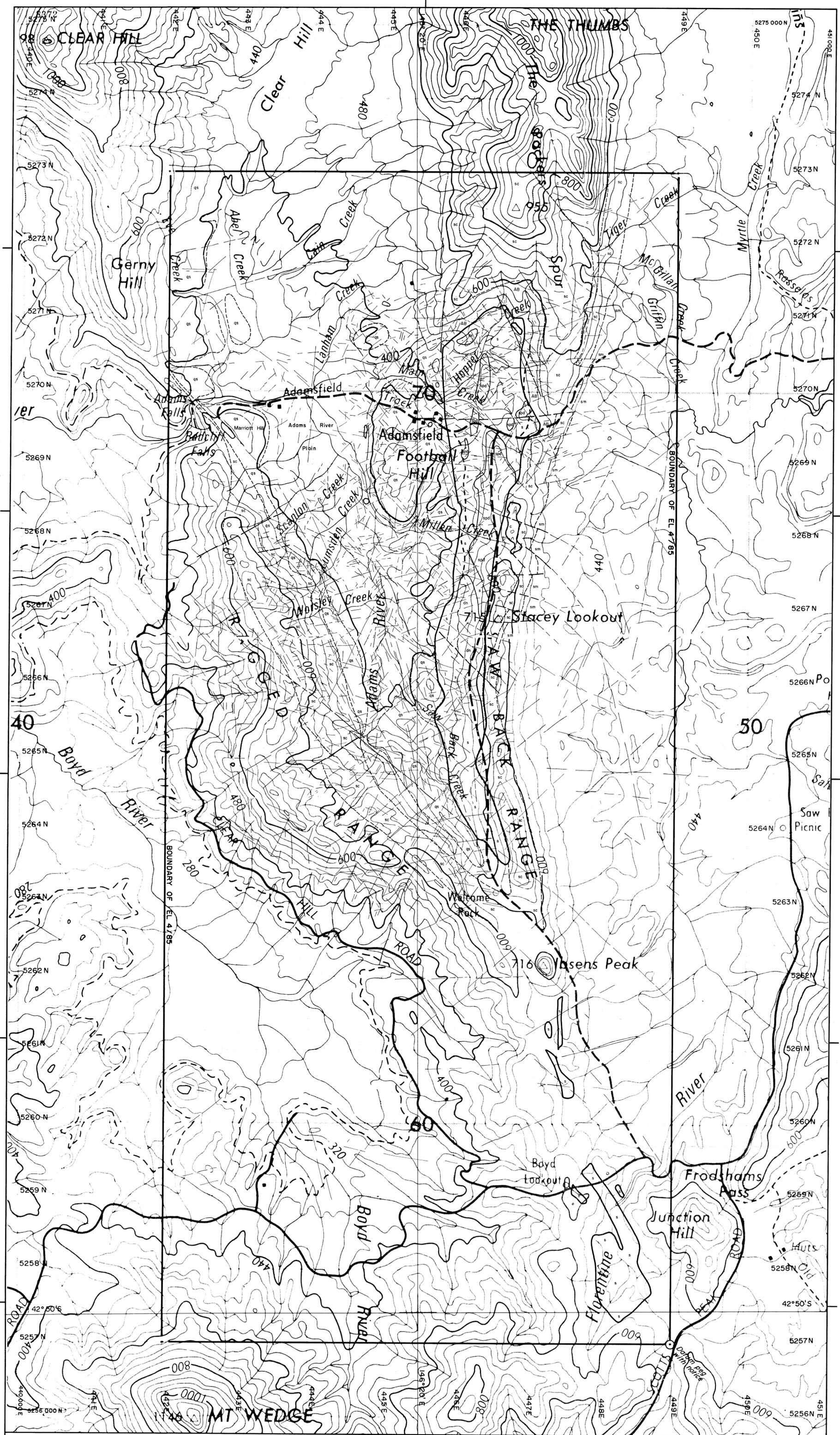
Sample 6 contains >75% opx and 15% serpentine (presumably after olivine) and geochemically does not meet the requirements of either orthopyroxenite or harzburgite, falling rather in the intermediate category of olivine orthopyroxenite. The presence of coarse chromite aggregates in olivine orthopyroxenite is a common feature of cumulates outcropping along the western end of Swordgrass Creek to the west of Chromite Hill in the HRC. Also, the presence of both olivine and opx-rich cumulates is diagnostic of the Fenton's Spur Sequence at the HRC (see Peck and Keays, 1988, Third Report to Metals Exploration on the HRC).

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Table 1

616025

SAMPLE#	1	2	3	4	5	6
ROCK TYPE	HARZ	QUARTZ	DUNITE	DUNITE	DUNITE	OI-OPX
SiO2	45.60	91.00	39.40	37.90	41.10	44.40
TiO2	0.00	0.38	0.00	0.00	0.00	0.01
Al2O3	0.18	2.65	0.21	0.32	0.36	0.78
Fe2O3	7.36	1.82	6.33	10.30	7.15	8.20
MnO	0.07	0.01	0.09	0.11	0.15	0.18
MgO	34.20	0.29	39.13	37.50	37.40	35.20
CaO	0.00	0.00	0.00	0.04	0.01	0.49
Na2O	0.02	0.02	0.09	0.02	0.03	0.06
K2O	0.00	0.80	0.01	0.00	0.00	0.01
P2O5	0.00	0.03	0.00	0.00	0.00	0.00
LOI	11.60	1.20	13.70	12.60	13.20	8.31
TOTAL	99.80	98.30	99.50	99.40	99.97	99.65
Pb	0	19	0	0	0	0
Sr	0	11	0	4	1	3
Y	1	28	0	0	1	1
Zr	0	318	0	0	1	1
Nb	0	10	0	1	1	0
S	47	54	125	68	85	114
Ba	0	21	0	0	0	0
V	6	11	8	9	2	35
Cr	2520	31	2050	4390	1970	18900
Co	118	0	101	127	142	97
Ni	4520	18	2600	1290	3670	999
Cu	0	0	4	2	0	4
Zn	31	0	34	28	31	84
Sc	7	3	7	7	5	7



ULTRAMAFICS		LEGEND	
spd	Layered pyroxenite - dunite sequence, variably serpentinized	qs	Quartz sandstone, marine shallow water
px	Pyroxenite	c	Conglomerate
dn	Dunite, massive	sc	Sandstone & pebble conglomerate
s	Serpentine, sheared & massive	sm	Calcareous sandstone, mudstone, minor chert
—	Lineament	AB	Mudstone, siltstone minor ultramafic clasts
- - -	Fault		
~	Small anticline with plunge & dip		

METALS EXPLORATION LIMITED

ADAMSFIELD PROSPECT
EXPLORATION LICENCE 4/85, TASMANIA

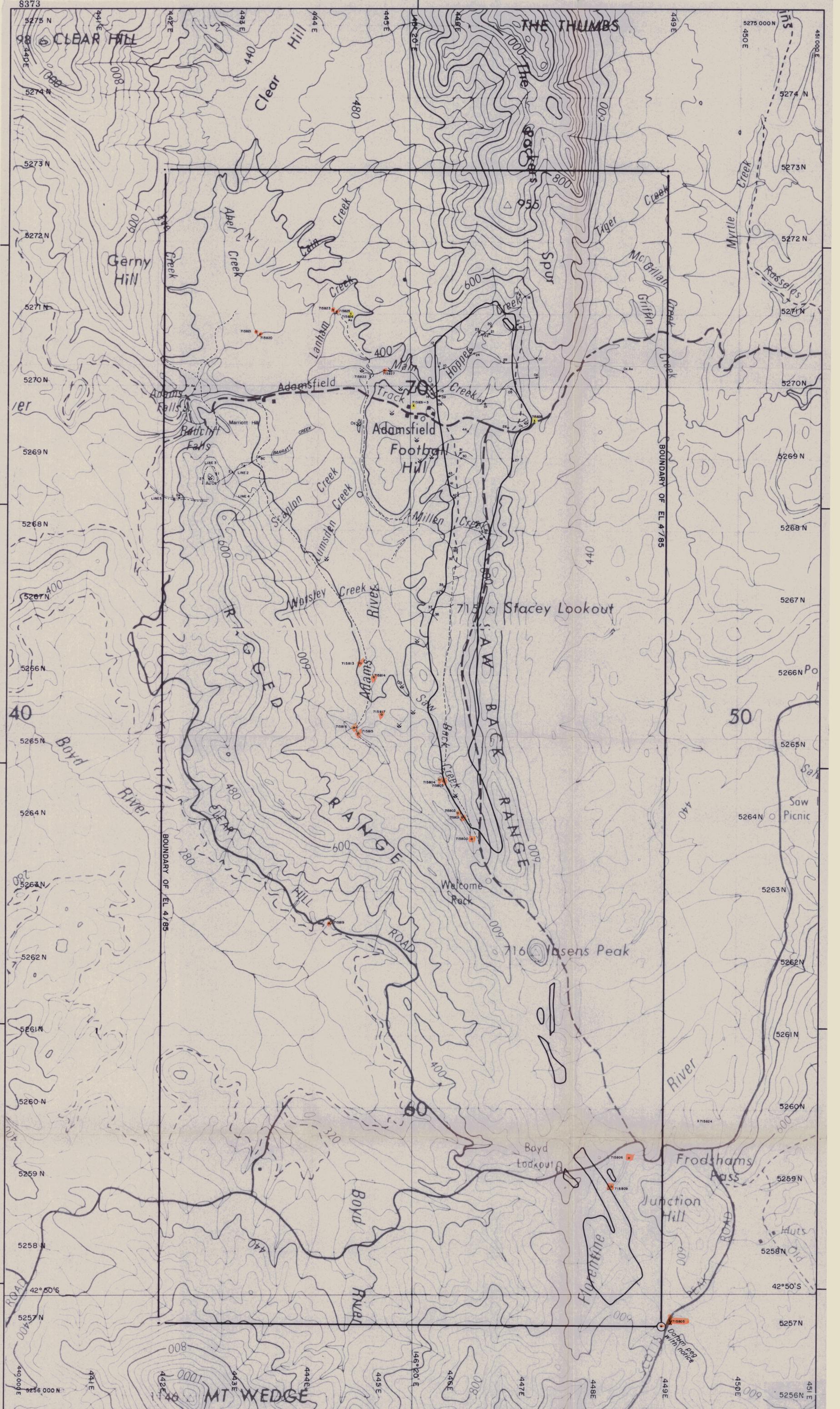
REGIONAL GEOLOGY 616027

Prepared by T. Summons Date 6/3/86
Traced by V. Caton Date 6/3/86
Revised by S. Carthew Date 20/6/89

Scale 1:20 000
Drg.No. 02/AD/2/04
Encl. 1

AMGSK55-5 8112-III

Note: Geology after Tasmania Department of Mines



Grey base map photo enlarged by M.E.L. from provisional 1:50,000 topographic map sheets 8112-1 and 8112-11 by Lands Department.

Map covered with 1000 metre Australian Map Grid, Zone 55
Contour interval 40 metres

LEGEND

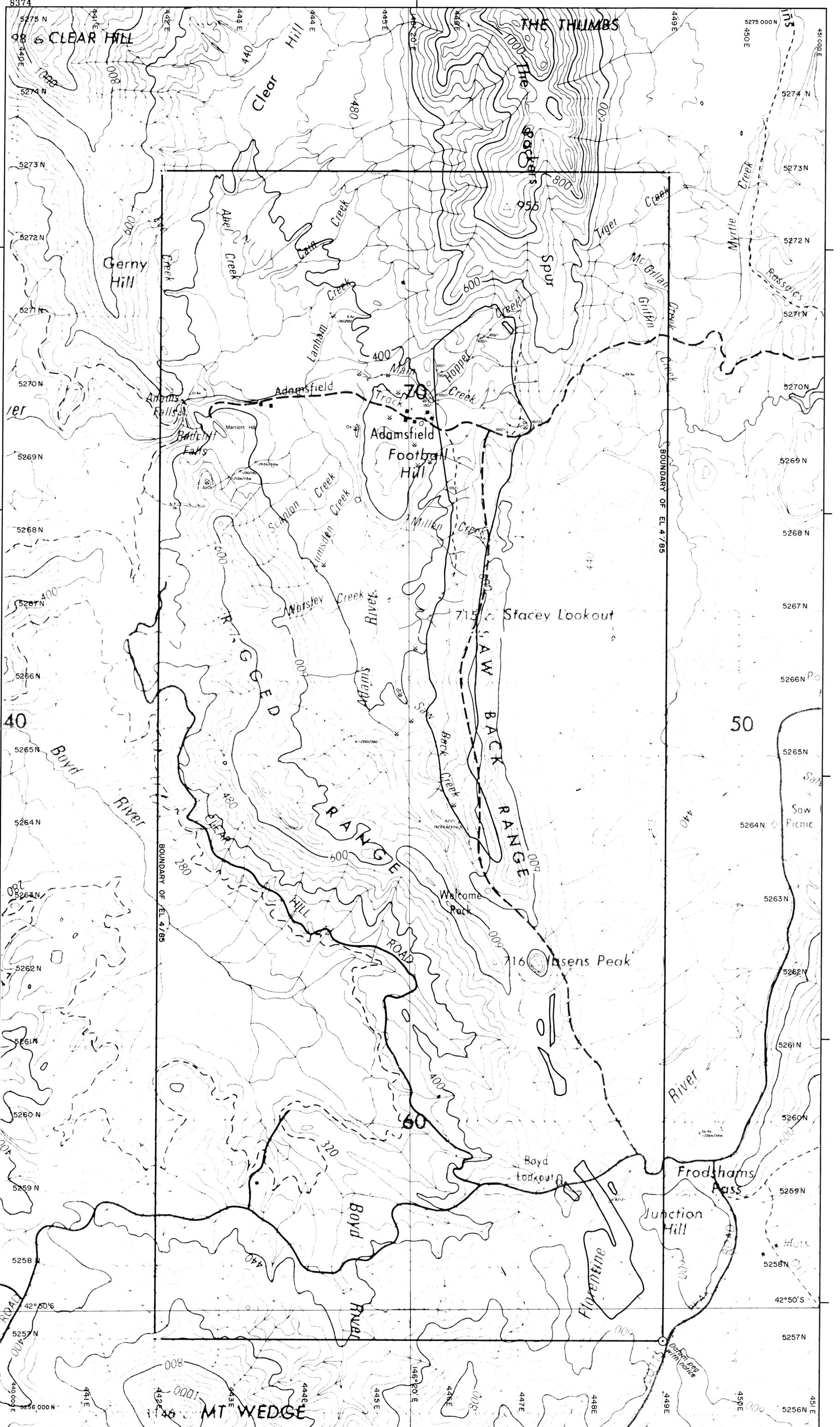
- 71545 Pan concentrate/stream sediment sample and number
- 08 1986 Pan concentrate/stream sediment sample and number prefixed (ADSS)
- x 71526 Rockchip sample and number

METALS EXPLORATION LIMITED

ADAMSFIELD PROSPECT
EXPLORATION LICENCE 4/85, TASMANIA
PAN CONCENTRATE, STREAM SEDIMENT &
ROCKCHIP SAMPLE SITE AND NUMBERS **616028**

Prepared by T. Summons Date 6/3/86
Traced by V. Caton Date 6/3/86
Revised by S. Carthorpe Date 20/6/89

Scale 1:20,000
Org No 02/AD/3/03
Encl. 2



Grey base map photo enlarged by M.E.L. from provisional 1:50,000 topographic map sheets 8112-I and 8112-II by Lands Department.

Map covered with 1000 metre Australian Map Grid, Zone 55
Contour interval 40 metres

LEGEND

○/-/-○ Pan concentrate/stream sediment sample and Au/Ag/Cs, Au/Ir ppb anomalous results only
 -/450/250 x Rock chip sample and Au/Ag/Cs ppb anomalous results only

5 cm

METALS EXPLORATION LIMITED

ADAMSFIELD PROSPECT
EXPLORATION LICENCE 4/85, TASMANIA

PAN CONCENTRATE, STREAM SEDIMENT
& ROCKCHIP RESULTS 616029

Prepared by T. Summons Date 6/3/86
Traced by V. Caton Date 6/3/86
Revised: S. Carthew Date 20/6/89

Scale 1:20,000
Drg. No. 02/AD/3/04
Encl. 3