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METALS EXPLORATION LIMITED

ADAMSFIELD E.L. 4/85

PROPOSED EXPLORATION 25.7.88 TO 25.7.89

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ADAMSFIELD EL 4/85 PROPOSED
EXPLORATION 25/7/88 TO 25/7/89
CARTHEW S J. METALS EXPLORATION LTD.

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1. INTRODUCTION

The encouraging results obtained during the past field season embrace both hard rock and alluvial/eluvial sources of PGE (platinum, ruthenium, osmium and iridium) supported by enriched chromite and gold. This supports further systematic exploration to assess both primary and secondary deposits for platinoids and gold. However, the projects are at different stages of exploration activity. The alluvial testing during 1987-88 field season has provided sufficient encouragement to progress towards resource definition on the Adams River Plain. A summary review of proposed activity is presented.

2. SUMMARY REVIEW

It is considered that three distinct projects will concurrently be undertaken during the coming field season. They are:-

- 2.1 Resource definition of the PGE-chromite-gold potential in the Tertiary alluvials on Adams River Plain.
- 2.2 Hard Rock investigation:
 - 2.2.1 the ultramafic complex about Halls Open Cut and extending northwards into Packers Spur West general area.
 - 2.2.2 the Paleozoic siliclastic sediments comprising the Sawback Range, Ragged Range and Football Hill.
- 2.3 Regional search for new areas of mineralization.

All areas for proposed earthworks will be flagged, inspected by and approved (via triplicate book) by officers of the Tasmanian Department of Mines, prior to work commencement. All proposed sites for ground disturbance have been, or will be justified by positive results from preceding exploration stages.

This field programme will recommence when ground conditions permit and both the Environment Officers of the Mines Department and the Company agree to do so, and that the procedures established with the triplicate book will be continued to monitor progress and approve variations within the framework of the approved work programme. All basic alterations and additions will be undertaken only on approval in writing from the Director of Mines.

3. PROPOSED PROGRAMME - SUMMARY SHEET

3.1 RESOURCE DEFINITION : detailed evaluation of mineral resource indicated during 87-88 field season.

3.1.1 Adam River Plain:

1. Track construction
2. Gridding to A.M.G. co-ordinates
3. Wacker drilling/auger drilling
4. Pitting/bulk sampling
5. On site test plant - trommel and jig
6. Analysis/Metallurgical appraisal
7. Environmental considerations - exploration
8. Archaeological studies - exploration
9. Mining Lease application will require continued studies of environmental considerations, archaeological studies, engineering considerations - mining methods and feasibility studies. The exploration programme sequentially followed from 3.1.1.1 to 3.1.1.8 above is preparing the way towards a mining lease application.

3.2 HARD ROCK INVESTIGATION : evaluating known areas of potential hard rock mineralization.

3.2.1 Ultramafic complex - Halls Open Cut, Packers Spur West and Sawback Range.

1. Track construction/repair/bombadier access
2. Gridding and any associated line cutting
3. Magnetics and observed geology
4. Pit/trench excavation for specific sites/systematic sampling
5. Drilling
6. Sampling and analysis

3.3 SILICLASTICS : evaluating siliclastic sediments for their P.G.E.-chrome-gold potential.

1. Systematic sampling
2. Drilling suitable targets for currently established roads and proposed extensions.

3.4 Regional search to find potential mineralized areas.

1. Stream pan concentrate survey
2. Rock chip sampling and prospecting
3. Geological mapping
4. Define areas for further work

4. DETAILS OF PROGRAMME

4.1 RESOURCE DEFINITION

4.1.1 Adams River Plain

The Adams River Plain is recognised by the company as being an area of considerable logistical problems relating to conventional and cost effective exploration. Based on the experience gained by pitting the Adams River Plain during 1988, it is envisaged that earth moving contractors, Hazell Brothers, and the Callina treatment plant will again be used.

4.1.1.1 Track Construction/Repair

On Adams River Plain there are three classes of vehicle access type:

- a) substantial (st) tracks which have named status, eg Adamsfield Track, Marriott Track, Western Track, Sawback Range Track, Boulter Track, etc., and are capable of transporting trucks.
- b) temporary tracks (tt) where the peat has been removed and stored for rehabilitation when no further use of the track is required. This track status can transport rubber tyred vehicles in 4 wheel drive.
- c) tracks along grid lines or along ridges between grid lines that will be traversed by tracked vehicles only.

The status of all future track construction required is dependent upon areas being PGE-gold-chrome mineralized. This can quickly be determined by the existence of past workings for a given area, or auger/wacker drilling to find PGE-gold-chrome mineralization in virgin areas (if the method works). Once this is achieved, proposed tracks will be pre-flagged, then approved by the Tasmania Department of Mines before proceeding.

The Western Track has been constructed from the Adamsfield (st) Track to Line 8, but approval was given to proceed a further kilometre southwards to approx. 444,500E, 5267000N. This section was flagged and inspected for archaeological evidence. Permission is sought to continue this track along the western margins of the plain to 444,900E, 5265000N, a further distance of approx. 2km. This extension of the Western (st) Track will be of similar standard servicing a series of east-west temporary tracks and grid line tracks at 200m intervals extending across the plain initially to Marriott (st) Track, but later to the south, the Sawback Range (st) Track. Justification to extend the Western (st) Track southwards is supported by positive results in the pan concentrate survey, and by the abundant heavy metal content found in the pits on Line 8 during the 1987-88 programme.

Marriott (st) Track will be upgraded, maintained and extended to Millen Creek, and possibly southwards to source pits on the eastern side of Adams River, for 1km - approximately 445,200E, 5267300N. The southernmost pits could be accessed from the Western (st) Track or Sawback Range (st) Track, depending on ground conditions, slope and vegetation stands. If needed, suitable crossings will be flagged across the Adams River for tracked vehicles only.

To the north of Adamsfield (st) Track, Boulter (st) Track will be upgraded, maintained, and may need to be extended into Lanham Creek Plain area to access the northernmost lines.

Access to the western part of the plain is dependent on auger drilling results and will require a substantial track following Eve Creek and later Abel Creek, between grid references 442,400E, 5270100N and 443,000E, 5271000N for a distance of 1200m. This track may need to be extended northwards along Abel Creek, depending on auger, pitting results and weather conditions.

4.1.1.2 Gridding to A.M.G Co-ordinates

Surveyors will walk the Plain from established substantial tracks and grid on a 200 x 100 pattern to coincide with the auger drill/pit traverses planned. Vegetation disturbance will be minimal in button grass, but in treed areas axe/machete/chain saw will provide a walking path less than 1m in width. Trees will not be blazed and trees/saplings of Huon and Billy Pine will be avoided and reported.

4.1.1.3 Wacker Drilling/Auger Drilling

The function of the low ground disturbance auger-wacker drilling is two-fold:

- 1) in the first instance, to indicate the presence of PGE-gold-chrome mineralization in a regional area prior to undertaking the sample pit programme with tracked heavy equipment. Examples of this approach are north of Adamsfield (st) Track and west of Main Creek area, northeast of Adams River.
- 2) in the second instance, auger-wacker drilling will be undertaken to obtain a complete geological record (including samples) to bedrock that is beyond the excavator's depth capabilities, or where it is too difficult for this machinery to gain access, e.g. the problem swamp areas.

This auger/wacker drill will be back pack mounted or can be transported on a balloon tyre light vehicle and as such the weight per unit area is no more than an adult walking over the ground. Consequently, environmental impact will be minimal.

4.1.1.4 Pitting/Bulk Sampling

It is planned to continue to collect bulk samples of alluvial material throughout the already gridded area where results deem it necessary. Bulk samples will also be collected from pits around the 1987-88 pitted area on successive 200m spaced lines where initial auger drilling, regional pan concentrate results, or past workings guide us to do so. Ultimately there will be a 200m x 100m sample grid pattern of wacker-auger drill result and/or bulk sample pits throughout the entire Adams River Plain area and extensions thereof into Main Creek Area, Millen Creek Area, Sawback Range River Area, and the upper portions of Adams River. Some 400 auger/bulk pit sample sites are envisaged and are shown on the attached plan.

Access to the bulk sample sites will dominately be by tracked machinery along established A.M.G. grid lines, or along ridges between lines to avoid swamps and pollution of water courses, whichever is more environmentally sensible. On additional lines the initial pit spacing will be 100m and the pits will be dug and the samples collected by an excavator. The samples will be transported where necessary by swamp dozer to waiting tip trucks on substantial tracks. All bulk sample sites will be back-filled immediately after the samples have been collected and the geology recorded. This method was used during the 1987-88 field season.

The southern end of Adams River Plain, particularly in Sawback Range River and the upper portions of Adams River, is both rich in heavy minerals and has commercial timber stands.

Infill pitting progressively down to 50 x 50m will be undertaken on the established grid using initially 0.50 g/m³ P.G.E. equivalent as cut off, and will be result dependent.

The company seeks advice from the Tasmania Lands, Parks and Wildlife as to the specific areas of more important archaeological interest before commencing this detailed programme.

4.1.1.5 On Site Test Plant

It is envisaged that the Callina treatment plant will again be sited on the airstrip with similar infrastructure to support operations. Tailings will be collected in the dam on the north side of air strip. Construction of further sediment barriers in the pond area is envisaged to maximise sediment fall out. However, the presence of cumpungi (water reeds) will not be disturbed. All trucks and vehicles will pass through the river drench for washing. Should the bridge become necessary to use, the vehicles will be hosed down.

4.1.1.6 Analysis/Metallurgical Appraisal

The concentrates of all bulk samples will be analysed and/or processed for P.G.E., chrome and gold. Such studies may be aided by petrology, magnetic separation studies, etc. as the company's metallurgist requires.

4.1.1.7 Environmental Considerations for Exploration

Our initial attitude is to explore, and should results not be encouraging, to leave the ground compatible with the existing environment.

4.1.1.8 Archaeological Studies for Exploration

The Company acknowledges the presence of sites of archaeological significance and offers to survey in to the Adamsfield A.M.G. grid system their accurate location, photograph them, and advise our employees/contractors of their cultural significance. The company already employ people who directly descend from this area and have a natural interest in its safe keeping. We will actively seek archaeological advice from the Tasmanian National Parks and Wildlife to educate our personnel in the recognition of such sites. Further, we advocate non disturbance of type areas that are mutually agreed to.

4.1.1.9

The above programme must define a geological resource before any discussion is warranted on engineering, feasibility and Mining Lease Application.

4.2 HARD ROCK INVESTIGATIONS

Past work has led to finding platinoid - gold mineralization in a hard rock ultramafic source at Halls Open Cut, Bennetts, and Packers Spur West. Last years' programme for Packers Spur West which was delayed, is re-submitted.

4.2.1 Primary PGE and Au Mineralization in Ultramafics

The past program of work has enabled definition of a highly erratic style of PGE mineralization which will continue to require a staged program of sequential exploration effort, with each successive stage dependent on the results of the preceding stage. The proposed activities are as follows:-

4.2.1.1 Track Construction/Repair

The area to the north of Halls Open Cut, termed the Packers Spur West area, will be accessed by a combination of upgrading the existing exploration track, with lessor construction of new track over a total distance of 1.2km. This track will extend from approx. 446950E, 5269800N to approx. 446600E, 5270900N, immediately south of Hopper Creek, as shown on the attached plan.

Machinery to be used will include a tracked excavator and traxcavator, and every attempt will be made to minimise disturbance to existing vegetation. This machinery will also be needed to upgrade the creek crossings and bog areas on Sawback Range (st) Track.

Former B.H.P. tracks will allow bombardier access to mobilise people into the Adamsfield (st) Track to the Hopper Creek area.

4.2.1.2 Surveying - Line Cutting/Gridding

It is intended to use surveyors to survey accurately the substantial tracks (Adamsfield Track, Sawback Range Track, Packers Spur Track) and the former B.H.P. temporary tracks, so that the proposed grid in relation to established tracks can be A.M.G. survey controlled.

The Packers Spur West areas will be covered with a 100 x 50m grid over a width of approx. 250m over the same extent as the track described above, (and this grid will be extended to cover Halls Open Cut, as shown on the plan). Grid lines every 1000m will be extended over the entire width of the Ultramafic Complex along Sawback Range.

Equipment to be used will consist of axe/machete/chain saw, and all efforts will be made to minimise disturbance to existing vegetation, particularly E. Delegatensis (previously discussed with the Forestry Commission).

4.2.1.3 Magnetism and Observed Geology

A ground magnetometer survey with geological mapping of the grid will be conducted to aid geological interpretation and more carefully select the favourable sequence for trenching.

4.2.1.4 Trench Excavation

Trenching of scree covered ultramafics in the Packers Spur West and about Halls Open Cut will be dependent on recognising a distinct magnetic signature reflecting a mixed ultramafic rock type zone. This zone often hosts chromite-magnetite mineralization that can be enriched with P.G.E.-Au values. Total trenching is estimated to be 1000m, and the trenches will be dug with a tracked excavator, making every effort to minimise disturbance to existing vegetation. After completion of mapping, sampling, and return of assays, the trenches will be sequentially backfilled, and rehabilitated. The procedure established of flagging, inspection, and approval by the Tasmanian Department of Mines and adoption in the triplicate book will be adhered to.

4.2.1.5 Drilling

Both reverse circulation and core drilling are planned in the vicinity of Halls Open Cut, within the guidelines previously established. Pending the results of the trenching, mapping and sampling in the Packers Spur West area, the drilling of approximately 5 holes may be warranted, for which drill sites will be required. Total drilling planned for the Halls Open Cut grid is approx. 500m, to be done using a truck mounted rig.

4.2.1.6 Sampling and Analysis

Samples collected as grab/rock chip sample of outcrop, channel samples from trenches and chip/core samples from drilling will be analysed for P.G.E.-Au and Cr.

4.2.1.7 Additional Programme

It is proposed to undertake along established east-west tracks; Adamsfield (st) Track and re-established B.H.P. temporary tracks, geological mapping, magnetometer traverses and where results encourage, scout fence line reverse circulation drilling.

4.2.2 Secondary PGE and Au Mineralization in Siliclastic Sediments

The 1987-1988 program has enabled confirmation of the Paleozoic siliclastic sediments comprising the Sawback Range, Ragged Range and Football Hill as potentially significant palaeoplacer sources of PGE and Au.]

Prospecting activities have shown that the immature "Football Hill Standstone" and similar lithologies on Ragged Range and Sawback Range are actively shedding gold-PGE-chromite into the tertiary sediments on Adams River Plain. Systematic sampling of the prospective horizons is required to define drilling targets.

At this time, we seek the option to drill from established (st) tracks such as Western Track into Ragged Range, Marriott Track into Football Hill, and Sawback Range Track into Sawback Range, to minimise earthworks, should the drilling targets be close by.

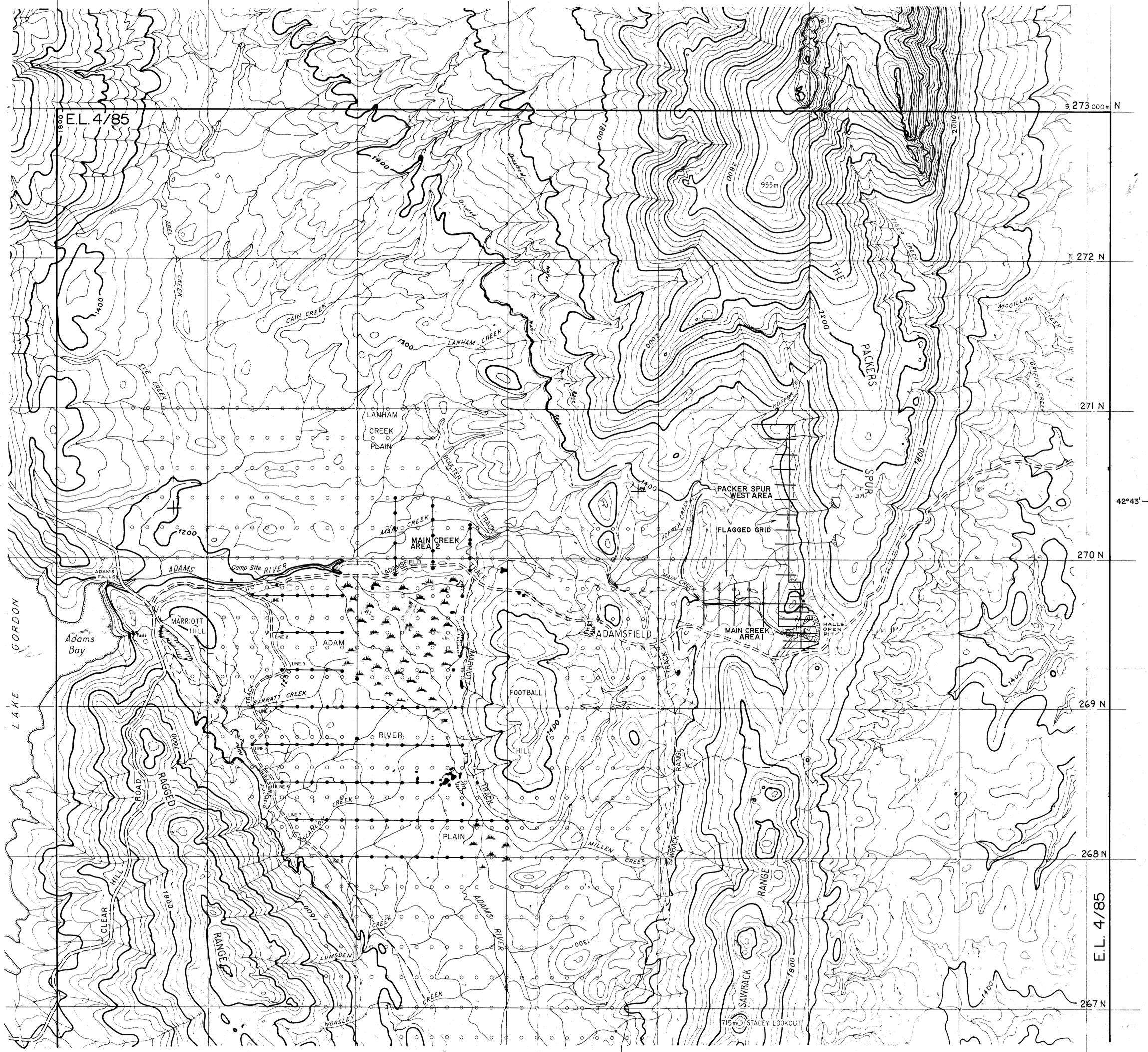
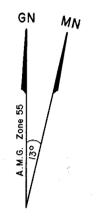
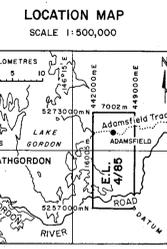
4.3 REGIONAL SEARCH FOR ADDITIONAL AREAS

The activities for this programme will be discrete, and have low visual impact on the environment. Such work will include rock chip sampling, pan concentrate surveys and geological mapping.

J. Carthen
P. Bell

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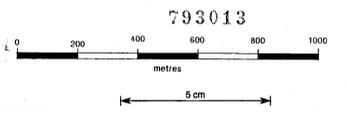
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Base map:
Photogrammetric machine plot of HUNTLEY 73-D-3 map sheet by Tasmanian government authorities with additions by M.E.L.

Topographic contours:
Contour interval 50 ft with index contours (bold) every 200 ft.
Intermediate contours (---) at 25 ft interval.

- LEGEND
- Completed pit sites with grid line
 - Proposed pit sites / wacker auger drill sites for 1988/89
 - Proposed track
 - ▽ Proposed coffer dam



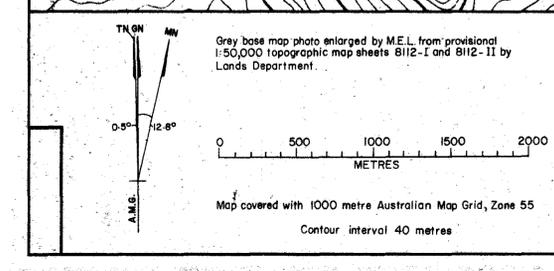
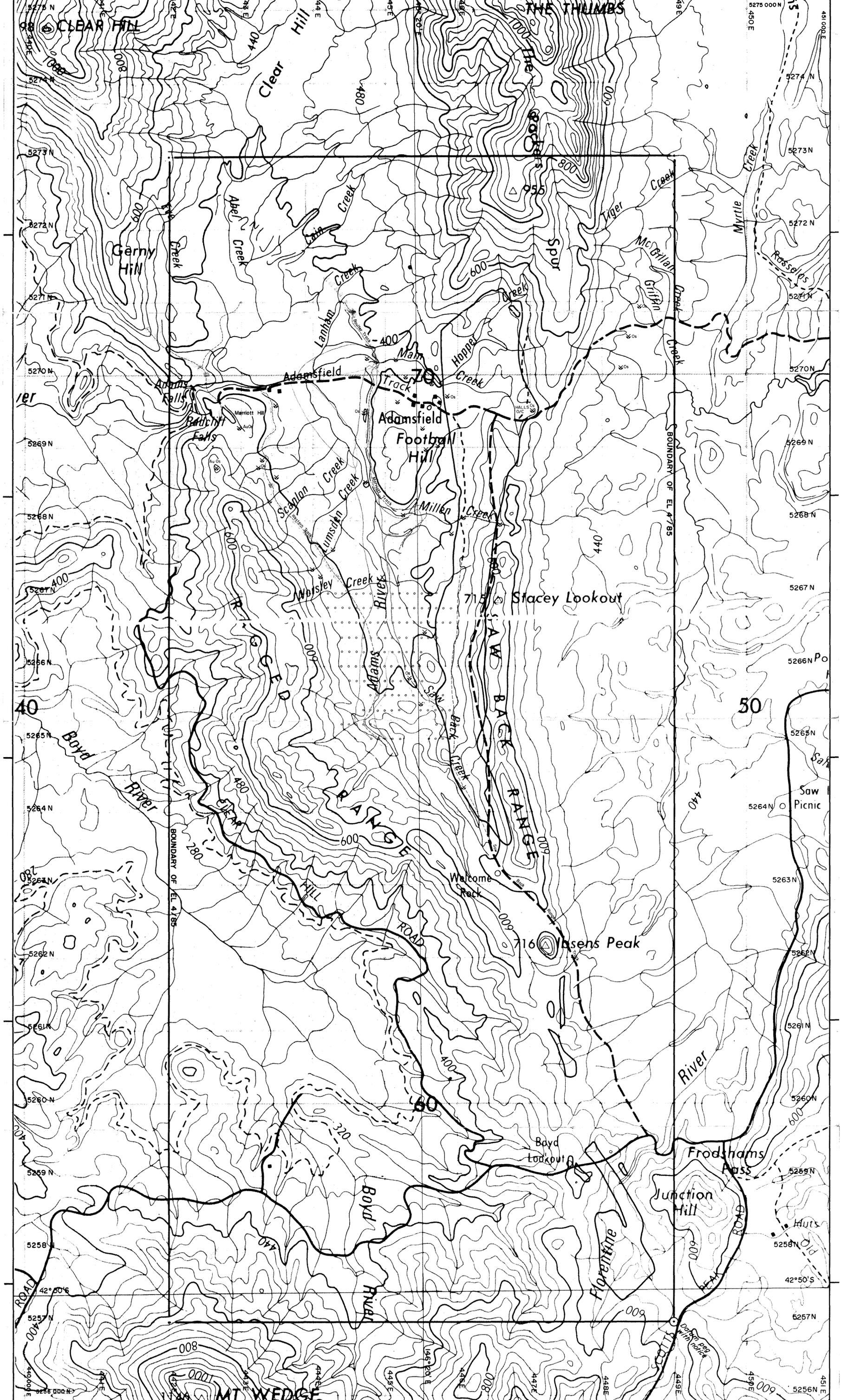
METALS EXPLORATION LIMITED

ADAMSFIELD PROSPECT, TASMANIA
NORTHERN PART OF E.L. 4/85

**LOCATION OF PIT SITES
AND FLAGGED GRIDS
1988 FIELD PROGRAMME**

SCALE 1:10,000
DRAWN JUNE 1988

FIGURE 3
Drg.No 02/AD/1/G9



- Ultramafic Complex
- Proposed Pit Sites / wacker auger drill results
- Old Workings

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METALS EXPLORATION LIMITED

ADAMSFIELD PROSPECT
EXPLORATION LICENCE 4 / 85, TASMANIA

PROPOSED PIT SITES

5 cm

Prepared by T. Summons Date 6/3/86
Traced by V. Coton Date 6/3/86
Revised:

SCALE 1:20,000
Drg.No. 02/AD/1/12