

**MICROFILMED**

NORTHWEST TASMANIA  
PROPOSED PROGRAM OF EXPLORATION  
(in detail)  
  
Pickands Mather & Co.  
August 10, 1965

**MICROFILMED**

NORTHWEST TASMANIAPROPOSED PROGRAM OF EXPLORATIONI. Summary

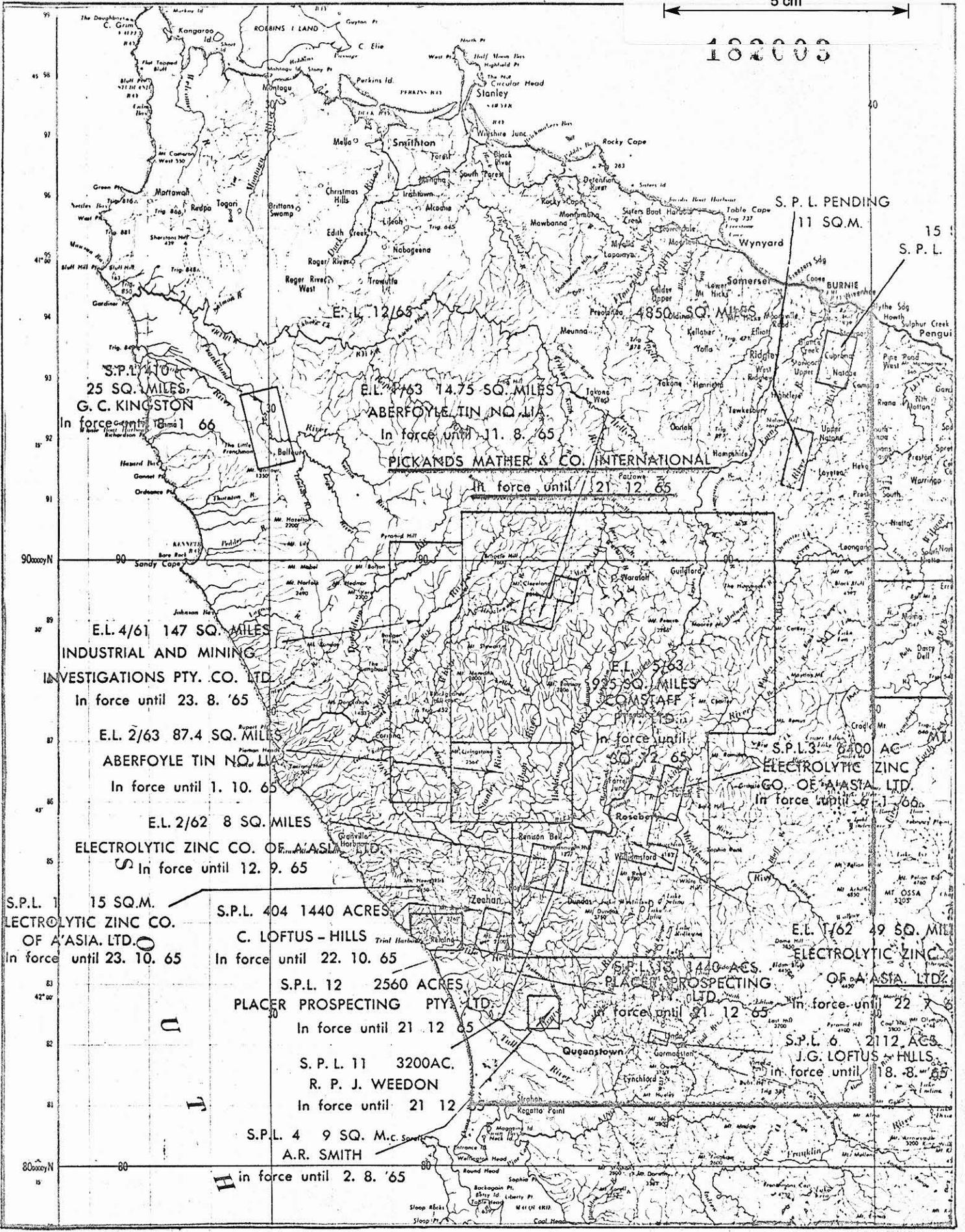
Pickands Mather & Co. International presently holds an Exploration License covering approximately 4,000 square miles in northwestern Tasmania. This area is one of Australia's most intensely mineralized regions with known occurrences of gold, osmiridium, iron, copper, zinc, lead, silver, tungsten, nickel and tin.

The three-year program herewith proposed for northwest Tasmania encompasses a geological, geochemical and geophysical reconnaissance investigation. The objective of the program is to locate and assess the potential of heretofore untested mineral occurrences.

The total estimated expenditure for the proposed three-year exploration program is \$686,400 (LA 305,000), with annual estimated expenditures as follows:

1965 - 1966	\$176,800	(LA 78,600)
1966 - 1967	249,600	(LA 110,900)
1967 - 1968	260,000	(LA 260,000)

Work on the preliminary phase of this investigation commenced on July 1, 1965. To date, this phase has included a preliminary survey of previous exploration work and detailed program planning. It is proposed that reconnaissance field work commence on or about November 1, 1965.



S.P.L. 10  
25 SQ. MILES  
G. C. KINGSTON  
In force until 18. 1. 66

E.L. 1763 14.75 SQ. MILES  
ABERFOYLE TIN NO. 11A  
In force until 11. 8. 65  
PICKARDS MATHER & CO. INTERNATIONAL  
In force until 21. 12. 65

S. P. L. PENDING  
11 SQ. M.  
15 S. P. L.

E.L. 4/61 147 SQ. MILES  
INDUSTRIAL AND MINING  
INVESTIGATIONS PTY. CO. LTD.  
In force until 23. 8. '65

E.L. 2/63 87.4 SQ. MILES  
ABERFOYLE TIN NO. 11A  
In force until 1. 10. 65

E.L. 2/62 8 SQ. MILES  
ELECTROLYTIC ZINC CO. OF ASIA LTD.  
In force until 12. 9. 65

E.L. 5/63 925 SQ. MILES  
COMSTAFF PTY. LTD.  
In force until 30. 12. 65

S.P.L. 3 6500 AC  
ELECTROLYTIC ZINC  
GO. OF ASIA LTD.  
In force until 6. 1. '66

S.P.L. 1 15 SQ. M.  
ELECTROLYTIC ZINC CO.  
OF ASIA LTD.  
In force until 23. 10. 65

S.P.L. 404 1440 ACRES  
C. LOFTUS - HILLS  
In force until 22. 10. 65

S.P.L. 12 2560 ACRES  
PLACER PROSPECTING PTY. LTD.  
In force until 21. 12. 65

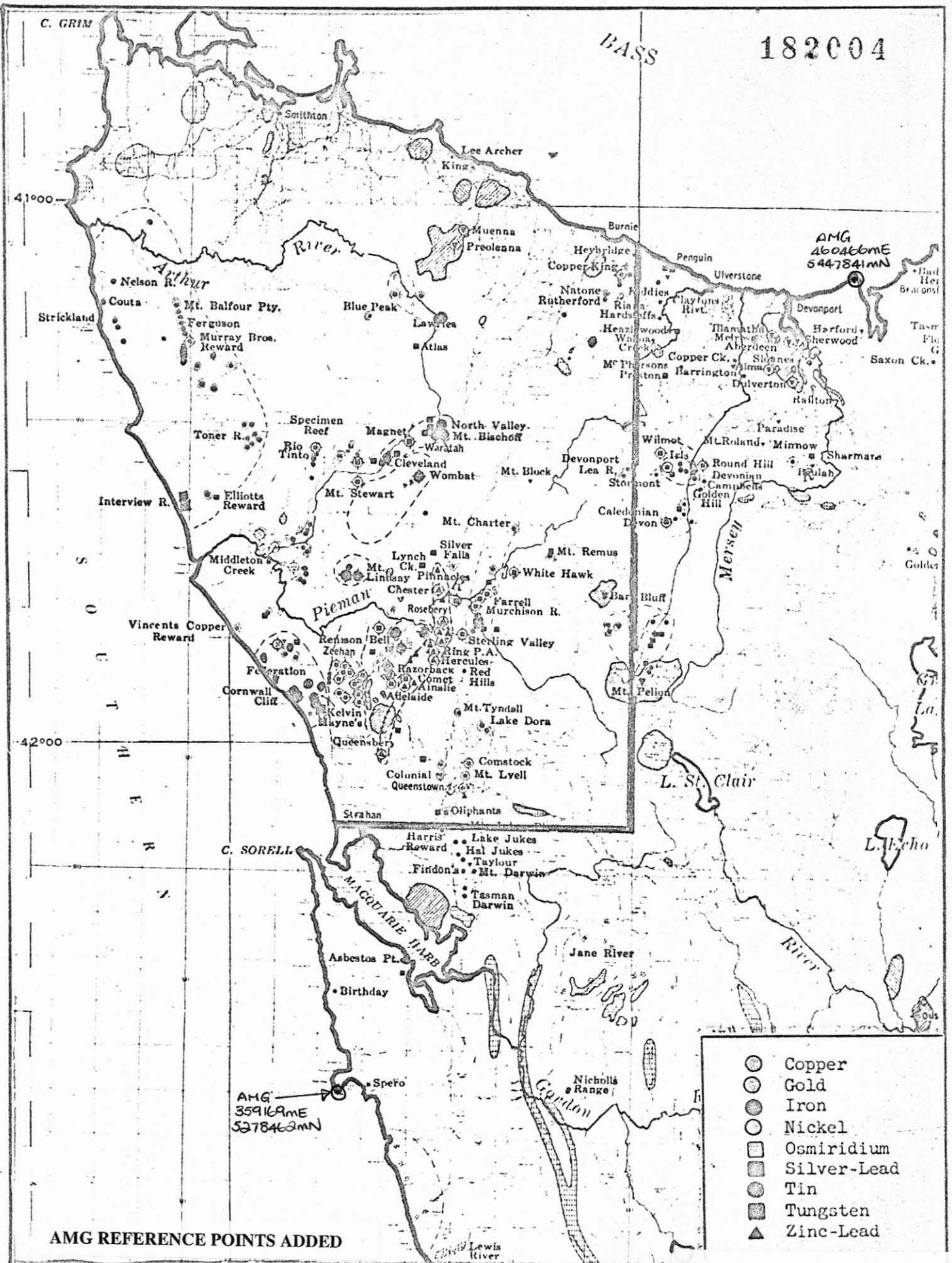
S.P.L. 13 140 ACRES  
PLACER PROSPECTING PTY. LTD.  
In force until 21. 12. 65

E.L. 1/62 49 SQ. MILES  
ELECTROLYTIC ZINC  
OF ASIA LTD.  
In force until 22. 7. 65

S. P. L. 11 3200 AC.  
R. P. J. WEEDON  
In force until 21. 12

S.P.L. 6 2112 ACRES  
J.G. LOFTUS - HILLS  
In force until 18. 8. '65

S.P.L. 4 9 SQ. M.c. Smith  
A.R. SMITH  
In force until 2. 8. '65



AMG REFERENCE POINTS ADDED

MAP SHOWING MINERAL OCCURRENCES OF NORTHWEST TASMANIA SCALE: 1 inch = 16 miles

- Copper
- ⊗ Gold
- ▨ Iron
- ▩ Nickel
- ◻ Osmiridium
- ◻ Silver-Lead
- ▨ Tin
- ▩ Tungsten
- ▲ Zinc-Lead

5 cm

## II. Introduction

The proposed program of exploration, herewith set forth, envisions a three-year reconnaissance investigation of northwest Tasmania.

On June 21, 1965, the Tasmanian Minister for Mines approved an application submitted by Pickands Mather & Co. International (P.M.I.) covering an area of approximately 4,000 square miles in northwest Tasmania. This area represents one of Australia's "richly mineralized provinces" (1) and encompasses the Savage River iron mine, the Mt. Lyell copper district, the Zeehan and Rosebery silver-lead-zinc district, and the Mt. Bischoff-Mt. Cleveland tin deposits. In addition to these deposits, occurrences of gold, nickel, osmiridium, and tungsten have been reported.

The exploration license (see appendix A), according to the Tasmanian Mining Act, remains valid for a six-month period, renewable (in six-month periods) at the discretion of the Minister for Mines. The Minister for Mines has assured P.M.I. that sufficient time will be made available to complete the proposed exploration program by subsequent renewals of the present exploration license. Pickands Mather & Co. International has indicated to the government its intention to explore the area by geochemical and geological surveys to be followed by diamond drilling, and trenching as may be necessary to determine the mineral potential of the area.

As noted on the accompanying map (No.1) showing the current status of exploration licenses in northwest Tasmania, parcels of land within the P.M.I. exploration area (outline in red) are held by other

---

(1) E. S. Hills, Professor of Geology, University of Melbourne.

- 3 -

companies or individuals. These areas represent attractive additions to the P.M.I. exploration program. It is anticipated that some arrangement might be made whereby these areas are covered by the proposed reconnaissance exploration program.

The western part of Tasmania is a mountainous region covered for the most part with a dense semi-tropical vegetation, except for the narrow, open, coastal region. Owing to the rugged topography and heavy vegetation, the central part of the northwest area is virtually inaccessible except by vehicle on main roads and logging roads or through the stream system.

Rainfall in certain parts of northwest Tasmania is excessive (up to 140") and an extensive stream system drains the area in a dendritic pattern. The proposed exploration contemplates a reconnaissance program utilizing to the fullest extent the access furnished by this drainage system.

It is of interest to note that a potentially important geological portion of the north central part of the Exploration License will soon become accessible as work commences on the pipeline route to the north coast from the Savage River mine project.

The over-all operating details of the proposed program have been reviewed by knowledgeable individuals in the Tasmanian department of Mines, Forestry, and Hydroelectric Commission. It is the opinion of these individuals that the Pickands Mather & Co. proposed program is feasible and should prove rewarding.

### III. Outline of Proposed Program

#### A. REVIEW OF PREVIOUS WORK

Northwestern Tasmania has been prospected by the gold and osmiridium "seekers" during the early days of Tasmania's development. In addition, mineral districts such as Mt. Lyell, Zeehan, Rosebery, and Mt. Bischoff have received sporadic periods of investigation. The largest single organized exploration effort was conducted by Rio Tinto Australian Exploration Pty. Ltd. between 1956 and 1960.

The regional exploration program by Rio Tinto involved an aeromagnetic survey totalling approximately 3,000 square miles in northwest Tasmania followed by airborne electromagnetic surveys in selected areas. This work was followed by geological reconnaissance of the belt of Cambrian rocks outcropping between Mt. Lyell and Mt. Bischoff. Following the reconnaissance phase, the R.T.A.E. program concentrated on examination of known mineral occurrences within a 15 by 20 mile rectangle in the Zeehan-Rosebery area. The field methods employed were reconnaissance mapping, ground electromagnetics and a limited use of soil geochemical surveys (R.T.A.E. did not use the stream sediment reconnaissance technique).

A review of the literature at the Department of Mines in Hobart has indicated that northwestern Tasmania has never been regionally prospected using the up-to-date geological-geochemical and geophysical reconnaissance procedures herewith proposed. There is no doubt that these procedures are applicable in the northwest area with topography and the stream drainage pattern favoring a systematic reconnaissance approach.

The geological picture of northwest Tasmania is very incomplete. The Department of Mines has mapped only two quadrangles in the area out

of a total of sixteen quadrangles covering E. L. No. 12/65.

#### B. GENERAL GEOLOGY

While information is sketchy, the geology of northwest Tasmania shows a general north-south "grain" of pre-Cambrian and lower Paleozoic sediments with local intrusives. Portions of the "grain" of this country are overlain by Tertiary basalt flows and perhaps some Jurassic dolerite flows.

Two metallogenic epochs are presently recognized in western Tasmania as follows:

1. Cambrian - The base metal mineral deposits originating during the Cambrian period are generally considered as replacement-type deposits associated with pre-Cambrian and Cambrian fault structures, and favorable porphyry and pyroclastic host rocks. The Rosebery lead-zinc district and the Mt. Lyell copper deposits are also believed to be related to this epoch.
2. Devonian - The occurrences relating to this period of mineralization exhibit a wide range varying from replacement deposits such as found in the Zeehan area to the tin fissures associated with Devonian intrusives. The Mt. Bischoff tin mines are in this category. The Devonian metallogenic epoch undoubtedly played an important role in locally mobilizing earlier sedimentary and replacement deposits.

#### C. PROGRAM OUTLINE

The reconnaissance investigation of northwest Tasmania involves a three-year field program (Fall 1965 to Fall 1968) utilizing stream

- 6 -

sediment, geochemical-geological reconnaissance surveys followed by detailed stream geochemical, soil geochemical, and induced polarization geophysical surveys. During the second and third years of the investigation, following completion of the reconnaissance work, emphasis will shift to individual target areas which will undergo more detailed work including scout drilling.

The climate of northwest Tasmania is such that twelve months of field work is possible. However, stream sediment reconnaissance geochemical survey work will be limited to the summer months of November to April, owing to the condition of streams and wood-roads during the winter-wet season. The winter field program will involve "follow-up" work in target areas delineated by the reconnaissance program. It is anticipated that field work will commence about November 1, 1965. During the period prior to November, organizational, equipment, and mobilization work will be completed.

The over-all objective of the three-year program is to outline heretofore unknown areas or to locate mineralized extensions of previously known but heretofore untested mineral occurrences. Such areas and occurrences will undergo sufficient preliminary examination to arrive at justification for a second phase program. Any second phase program forthcoming from the reconnaissance work would involve investigations such as detailed drilling to establish reserves, and feasibility studies. These studies are not considered within the scope of this three-year proposal.

#### D. GEOLOGICAL AND GEOCHEMICAL RECONNAISSANCE

It is estimated that geological and stream sediment geochemical

- 7 -

reconnaissance of the 4,000 plus square mile exploration area can be completed in two 5-month field seasons with three crews. The reconnaissance crews will sample all streams accessible by either road traverses, stream and river traverses and in some areas by foot traverses in small stream systems. The placement, progress and pick-up of crews will be accomplished by either a vehicle or helicopter. Fixed wing aircraft will be used for stream system surveys prior to and during stream reconnaissance work. Field crews will maintain periodic radio contact with either the aircraft or field vehicle. Navigation will be done on aerial photographs. These photographs are available covering the entire area.

Based on previous experience in applications of the geochemical technique in an environment such as northwest Tasmania, a two-mile geochemical "cut-off" is anticipated. This implies that a mineral occurrence should be detectable by sampling the stream sediment up to two miles distance from the mineral locale. Preliminary orientation surveys in areas of known mineralization will serve to establish the true "cut-off" for the various individual elements.

It is proposed that the stream sediment reconnaissance samples be analyzed for the following elements:

(Cx) Cold extraction method - *quite method used before in Tas.*  
*for iron or other heavy met.*

Copper

Total heavy metal (copper, zinc and lead)

Hot extraction method - *in conc.*  
*absorbed into acid solution*

Copper

Zinc

Lead

Nickel

Tin

Arsenic

*Specialty  
 Analytical*

*with fine gold*

"Follow-up" stream and soil surveys will be analyzed for the elements indicated, based on the results of the anomaly evaluation.

Prior to the commencement of the 1965 field season, a compilation map (scale 1" = 1 mile) will be prepared showing all the known regional geological work to date and the location of mineral occurrences. The 1" = 1 mile base map for this compilation is available unpublished at the Tasmanian Department of Mines. The above map will serve as a base for following reconnaissance progress in addition to assisting in the evaluation of reconnaissance results.

E. GEOCHEMICAL "FOLLOW UP" SURVEYS

Areas evaluated as anomalous as the result of reconnaissance surveys will be "followed-up" by more localized stream work. When indicated, a grid will be established and the area of interest will be soil-sampled and mapped.

F. GEOPHYSICAL SURVEYS

Target areas designated as anomalous on the basis of geological and geochemical data will be further assessed using the induced polarization technique. This geophysical method is believed to be a more effective tool than the E. M. method previously used in Tasmania, since induced polarization is not affected by the ever present ground water.

G. SCOUT DRILLING

Following the evaluation of areas on the basis of geological, geochemical and geophysical surveys, target areas will be considered for scout diamond drilling. This type of testing is not scheduled to start until the latter part of the second year of the program. This

- 9 -

will permit an evaluation of the total reconnaissance program, thus enabling the selection and drilling of the most promising target areas.

The objective of a scout drilling program will be a preliminary test of the grade of the mineralization and general distribution. Any extensive drilling program to establish ore reserve estimates or mining schemes is considered beyond the scope of this reconnaissance investigation.

H. TIMING - (revised - see appendix C)

Following is a general outline of timing for the three-year proposed program of exploration:

July-September 1965 - Organization of program and review of previous work.

October - Mobilization of personnel and equipment. Base camp established.

November - Field program commences with reconnaissance traverses utilizing the road system.

December 1965-April 1966 - Stream sediment reconnaissance of the northern half of the area.

May 1966 - Compilation and reports on first season reconnaissance.

June-September - "Follow-up" work in northern areas designated as anomalous from reconnaissance results.

October 1966 - Vacations and reports on "follow-up" work.

November 1966-April 1967 - Field reconnaissance of southern half of the exploration area.

May 1967 - Compilation and reports on second season reconnaissance results.

June-August 1967 - "Follow-up" on southern areas designated as anomalous.

September 1967 - Vacation and reports on "follow-up" work.

October 1967 - Review of the results of the two-year program and commencement of detailed work in target areas, including geophysics and

- 10 -

scout drilling. Field crew requirements curtailed.

November 1967-September 1968 - Detailed follow-up in selected areas involving geophysical surveys, and diamond drilling.

October 1968 - Final evaluation and report on target areas including recommendations for Phase Two work.

## I. OPERATING DETAILS

### 1. Personnel:

It is proposed that the northwest Tasmania exploration program be administered and supervised in Australia through the Pickands Mather & Co. International organization. Over-all direction of the geological aspects of the program will be maintained by the P.M.&Co. Manager of Exploration, Cleveland.

The initial reconnaissance phase of the proposed program contemplates a field organization totalling eleven men. This group will consist of three two-men field crews and a five-man base camp unit as follows:

#### Reconnaissance Crews:

3 field geologists  
3 field offsidiers

#### Base Camp Unit:

1 project geologist  
1 project expeditor  
1 cook  
1 offsider  
1 laborer

Duties of these personnel will be along the following lines:

Project Geologist - The project geologist will supervise the over-all geological aspects of the program. He will follow the progress of field geologists, coordinating their efforts with the project expeditor. He will evaluate and report on all the geological data resulting from the reconnaissance program. The project geologist will

- 11 -

be made available from the P.M.I. organization and will report to the P.M.I. Australian-based district geologist.

It is anticipated that the mechanics of operating the field program will be the responsibility of the project expeditor. Therefore, 75% of the project geologist's time will be directly related to the program.

Project Expeditor - The project expeditor will supervise the operating details of the program including purchasing of equipment and supplies; placement, progress, and pick-up of field crews and operation of base camp facilities. The project expeditor will be made available from the P.M.I. organization and will "run" the first two years of the program, working with the project geologist in a unified over-all effort.

Field geologist - The field geologist will be supervised by the project expeditor. It is anticipated that this program and wage scale will appeal to recent graduates in geology from the Australian universities. The geologist will carry out the reconnaissance geological and geochemical stream and soil sampling surveys, working at all times in the field with at least one assistant (offsider). He will compile and report to the project geologist on areas examined.

Field offsider - Field offsider personnel will be hired locally, preferably in Tasmania. The offsider will form the "backbone" of the field crew and assist the geologist in all the phases of expediting the reconnaissance program, working the field with him in a unified effort.

Cook, offsider, laborer - These men will be hired locally and form the base camp unit supervised by the field expeditor.

The base camp offsider will be essentially a driver-mechanic and assist in the placement and pick-up of crews in addition to performing normal operating maintenance of field vehicles.

The camp laborer will principally be concerned with the drying, sieving and transmitall of geochemical samples.

Casual Labor - Hired locally as required for line cutting, etc.

Prior to the commencement of the third year of the program, after completion of the stream sediment and soil reconnaissance surveys, personnel requirements will diminish and the program emphasis will shift to selected target areas. It is proposed that the third year detailed work be conducted by two crews consisting of a geologist and an offsider. These crews will operate on their own, utilizing public accomodation when available. They will be supervised by and report to the project geologist.

### 2. Geochemical Laboratory:

Pickands Mather & Co. International maintains a modern geochemical laboratory in Western Australia. It is proposed that samples from the Tasmania program be analyzed in this laboratory to assure reliable analytical results. All samples will be sieved through 80 mesh and mailed to the Western Australia laboratory. Charges for work performed by the laboratory will be on a normal operating cost basis.

### 3. Base Camp Unit:

It is proposed that the initial base camp be located in the vicinity of Burnie, on the north coast of Tasmania. A rented farm house

- 13 -

or equivalent is envisioned as affording suitable base camp facilities.

At the beginning of the second field season the base camp will be located in the southern part of the area in the Zeehan-Rosebery district.

It is proposed that the base camp facility be abandoned during the third year when field work has been localized in target area. Personnel will then be operating from local hotels and a compilation work will be done in the Burnie office of P.M.I.

It is proposed that the accounting work required for the operation be carried out by the local P.M.I. office on a parts basis.

#### 4. Contract Work:

Drilling - It is proposed that diamond drilling be conducted on a contract basis using an Australian based drilling company.

Geophysical surveys - Pickands Mather & Co. International presently has an induced polarization unit operating in Western Australia. It is anticipated that this unit could be made available for use in the Tasmanian program. Alternatively, induced polarization surveys will be conducted on a contract basis.

#### 5. Final Data Evaluation and Report:

At the end of the third year of the reconnaissance exploration the total program will be evaluated and reported upon. This report will include a recommendation of areas to be carried forth into a second phase of investigation. This recommendation will include project proposals with related estimated costs.

A. SUMMARYTHREE YEAR RECONNAISSANCE PROGRAM

	<u>1965-66</u>	<u>1966-67</u>	<u>1967-68</u>
Field Personnel	\$ 46,000	\$ 65,000	\$ 40,000
Equipment Purchases	<u>25,000</u>	3,700	2,000
Field Operation	50,100	68,800	35,000
Geophysical Surveys	3,200	12,000	16,000
Scout Drilling	-	35,000	100,000
Administration	<u>30,700</u>	<u>35,000</u>	<u>35,000</u>
Sub-Total	\$155,000	\$220,000	\$228,000
Contingency	15,000	20,000	22,000
Management Fee (4%)	<u>6,800</u>	<u>9,600</u>	<u>10,000</u>
TOTAL	\$176,800	\$249,600	\$260,000

Three-Year Total = \$686,400 (LA. 305,000)

B. DETAILED ESTIMATE OF COSTS

1965-1966 - Costs based on 9 month field program

1. Field Personnel

## Base Camp Unit

1 Project Geologist (7 mos.)	\$ 5,600
1 Project Expeditor (9 mos.)	9,300
1 Offsider - driver	2,600
1 Cook	3,400
1 Laborer	2,300
	<u>\$23,200</u>

## Sub-Total

## Field Crew Unit

3 Geologists @ \$5,000/yr.	\$11,250
3 Offsiders @ \$3,900/yr.	<u>8,750</u>

## Sub-Total

\$20,000

## Casual Labor - as required

2 Offsiders @ \$300/mo. - 2 mos.	\$ 1,200
----------------------------------	----------

## Crew Mobilization

\$ 1,600

Total 11 Personnel (including 10%  
field bonus)

\$46,0002. Equipment Purchases

Land-Rover Type Vehicle	
4 @ \$4,000 each	\$16,000
* Small truck (½ ton)	2,000
* Wildlife boat 3 @ \$300 each (Abercrombie & Fitch, N. Y.)	900
* Portable Tranceiver 4 @ \$200/unit	800
Field stove 3 @ \$25/unit	75
Base camp stove	225
Base camp refrigerator - 12 cu. ft.	550
Lightweight sleeping bag, 6 @ \$80	480
Base camp cots and bedding for 11 men	175
Base camp cookery - 11 men	125
Base camp furniture	700
Field tents - 8 x 10 silk - 3 @ \$100	300
Life preservers - 6, boat paddles, field crew cookery, sampling tools, etc.	500
Maps, aerial photos, stationery, sample envelopes, etc.	670
Miscellaneous supplies	1,500

## Total

\$25,000

3. Field Operation and Services

Camp rental, electricity, etc. \$100/month	\$ 900	
Food for 11 men @ \$4.00/day	11,250	
Vehicle expense 4 @ .03¢/mile 2,000 miles/month		
Vehicle repair \$50/month	9,000	
Car rental - periodic as required	525	
Fixed wing aircraft: 150 hours @ \$50/hour	5,625	
Helicopter service: 200 hours @ \$100/hour	15,000	
Stream sediment analysis: 3,500 samples 8 determinations @ \$.40/det.	8,250	
Soil analyses: 2,000 samples 3 determinations @ \$.40/det.	1,650	
Total		\$50,100

4. Geophysical Surveys

Induced polarization:

20 line miles @ \$160/mile \$ 3,200

5. Scout Drilling

None during first year

6. Administration:

License fee: \$480/½ yr.	\$ 960	
Travel, District Geologist	1,000	
P. M. I., Burnie; accounting, other	8,740	
Cleveland administration: legal, accounting, travel, other	20,000	
Total		\$30,700

1966-1967 - Costs based on 12 month field program

1. Field Personnel

Same as 1965-66	\$61,000	
Salary increases	4,000	
Total		\$65,000

2. Equipment Purchases

16' River boat	\$ 1,500	
25 h.p. Outboard	600	
Line cutting gear:		
chain saws	700	
Miscellaneous	900	
		<hr/>
Total		\$ 3,700

3. Field Operation

Same as 1965-66	\$66,800	
Coastal River traverses	2,000	
		<hr/>
Total		\$68,800

4. Geophysical Survey

Induced polarization:		
75 line miles @ \$165/mile	\$12,000	

5. Scout Drilling

3,500' @ \$10.00/foot	\$35,000	
-----------------------	----------	--

6. Administration

Same as 1965-66	\$35,000	
-----------------	----------	--

1967-1968 - Costs based on 12 month field program

1. Field Personnel

1 Project Geologist (9 mos.)	\$ 9,600	
2 Geologists @ \$7,000/year	14,000	
2 Offsiders @ \$4,200/year	8,400	
		<hr/>
Sub-Total	\$32,000	
Casual Labor	8,000	
		<hr/>
Total		\$40,000

2. Equipment Purchases

Miscellaneous	\$ 2,000	
---------------	----------	--

3. Field Operation

Local Hotel @ \$10/day/man	\$14,000	
Vehicle operation	4,000	
Geochemical analyses	3,000	
Miscellaneous:		
Bulldozer, trenching, etc.	14,000	
<b>Total</b>		<b>\$35,000</b>

4. Geophysical Surveys

100 line miles @ \$160/mile	\$16,000	
-----------------------------	----------	--

5. Scout Drilling

10,000 feet @ \$10	\$100,000	
--------------------	-----------	--

6. Administration

	\$ 35,000	
--	-----------	--

August 10, 1965

PICKANDS MATHER &amp; CO.

APPENDIX A

COPY

EXPLORATION LICENCE NO. 12/65

Issued to Pickands Mather & Co. International of C/- Messrs. Simmons, Wolfhagen, Simmons & Walch, Solicitors, Hobart, in respect of 4050 square miles of land in the Land Districts - Wellington, Russell, Devon, Lincoln, Montagu, Franklin vicinity of Western Tasmania as described in the schedule hereto.

This licence shall remain in force until the twenty first day of December, 1965.

**THIS LICENCE IS SUBJECT TO THE FOLLOWING CONDITIONS:**

1. That the licensee within seven days of the issue of this licence shall undertake a review of literature and shall take steps to commence preliminary works necessary for the investigation of the area.
2. That the licensee shall carry out investigations in general accordance with the proposed programme of exploration submitted to the Director of Mines under date 23rd March, 1965, wherein it is indicated that there will be geochemical, geophysical and geological surveys to be followed by diamond drilling, trenching, tunnelling as may be necessary to determine the mineral potential of the area.
3. That the licensee shall employ such technical and other staff and equipment as may be necessary to carry out such surveys and other work.
4. That a Statement of Expenditure verified by statutory declaration and accompanied by a progress report of operations shall be lodged with the Director of Mines at the end of each calendar month from the date of this licence.
5. That the licensee shall furnish the Director of Mines with complete records plans and reports of all geochemical, geophysical and geological surveys, drilling and other work carried out under this licence. Such information shall be held for official purposes during such time as the areas are lawfully held by the licensee or as otherwise agreed to.
6. This licence shall not apply to coal and oil.

- 2 -

SCHEDULE

Commencing at the posted notice situate at the north east angle and being on the International Grid 400,000 yards east adjacent to Blythe Rocks at High Water Mark on Bass Strait and bounded on the east by 76 miles or thereabouts southerly along the aforesaid Grid to Grid 810,000 yards north on the south by 39 miles or thereabouts westerly along that Grid to High Water Mark on the Southern Ocean thence by High Water Mark in a general north westerly, northerly and southeasterly direction to the point of commencement.

MINISTER FOR MINES

Eric Reece  
Signed

APPENDIX A CONTINUEDAPPLICATION FOR AN EXPLORATION LICENSE

COPY  
March 23, 1965.

The Director of Mines,  
Department of Mines,  
G.P.O. Box 124 B.,  
HOBART - Tasmania

Dear Sir:

In accordance with the Tasmania Mines Department regulations controlling the administration of exploration licenses in Tasmania the undersigned does, on behalf of Pickands Mather & Co. International, hereby make application for an Exploration License to cover an area described as follows:

4050 square miles situated at the North West corner of the State commencing at Blythe Heads, thence North West along the Coast to Woolnorth Point, thence South along the Coast to a point due West of Strahan, thence East to Mount Alma, thence North to point of beginning and excluding all other areas held by others by the Mining Act.

I do hereby certify that the area above described has been marked out and advertised in accordance with the Tasmania Department of Mines regulations and that said marking out has been registered with the Mines Department Registrar.

An exploration license on the above described area is requested for the purpose of prospecting and exploring for any and all minerals which may be located in said area and which may occur in such concentration as to make them economically recoverable. In the event such mineral concentrations may be discovered it is the intent of the applicant, or its assignee, that application will be made for mining leases covering such mineral concentrations and for the purpose of exploiting same.

- 2 -

In the event the exploration license herein requested is granted it is the intent of the applicant to proceed forthwith with prospecting and exploration operations as follows:

1. General - It is proposed that the prospecting operation will mainly consist of a regional geochemical stream sediment survey. Depending upon the geology of the area being sampled it is anticipated that determinations will be made for copper, lead nickel, arsenic, molybdenum and for tin. Since the geology of the areas to be sampled will be important to the interpretation of the geochemical results, geological mapping will become a major part of the operation.

Should the regional program lead to areas of mineral interest such areas will then be subjected to more intensive geological, geochemical and geophysical study. If sufficient evidence of mineral concentrations be shown from the above the area will then be tested physically by some method such as diamond drilling, trenching or tunnelling as may be indicated.

2. Preliminary Investigation - It is anticipated that the winter period up to about December 1st 1965, will be employed to study the geology of the area, make orientation studies on the most effective geochemical sampling approach and make final plans for the field operation i.e., organization, equipment requirements and general plan of attack.
3. Operation - It is presently expected that field work will be done during the period November - December to April - May. Starting and finishing dates for season operations will be influenced by weather conditions. The winter season will be employed for mapwork, evaluation of data and planning for the next field season. The first field season to start no later than December 1, 1965.

Preliminary plans for the organization include a supervising geologist, three field crews to include one geologist and an offsider, a chemist and two to three chemist's assistants. A field laboratory will be established to make all chemical determinations: A base camp office will also be established with facilities for mapping and general day to day planning of field operations. Equipment and vehicles will be required for the operation but due to physical conditions in the area final plans for mobility, camping, etc., must necessarily await further study.

- 3 -

Until such time as a final plan of operation can be determined any estimate of costs for the operation cannot be accurate. However, on the basis of proposed organization it is anticipated that costs starting with the first field operations will run at the rate of about LA4000 per month. This does not include air services which are almost certain to be required. In addition to the above it is presently expected that equipping the operation will cost somewhere between LA15,000 and LA20,000.

It is presently anticipated that the preliminary reconnaissance and geochemical survey of the entire area will require from two to three field seasons.

I enclose cheque for LA213-15-0 fee for licence based on 10 shillings for the first 25 miles and 1 shilling per square mile thereafter.

Yours very truly,  
PICKANDS MATHER & CO. INTERNATIONAL

Signed  
D. F. Virant

APPENDIX CEXPLORATION PROGRAM - TIMING

In accordance with the provisions set forth in the Exploration License, the preliminary phase of the program is in progress. This phase involves a detailed review of all past exploration data and also the planning of personnel and equipment requirements necessary to execute the program.

The proposed timing of the exploration program is outlined as follows:

1965

July 1, 1965	Commencement - phase one
July - September	Preliminary work
October	Mobilization of field crews
November -----	Field reconnaissance commences

1966

----- May	First season of field reconnaissance completed
June - October	"Follow-up" field investigations
November -----	Second season field reconnaissance commences

1967

----- May	Reconnaissance of total exploration area completed
June - September	"Follow-up" field investigations
October	Final evaluations of total reconnaissance program
November -----	Detailed exploration in target areas

1968

----- May	Target area investigation completed
June	Final evaluation and recommendation for phase two work
June 30, 1968	Phase one completed.