

80-1443

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Industrial Mining Investigation

Tin at Browns PlainsRocky River District

E.L. 4/61

M.D. Edyvean

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INDUSTRIAL & MINING INVESTIGATIONS PTY. LIMITED

Suite 3709,  
Australia Square,  
SYDNEY, NSW 2000,  
AUSTRALIA.

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REPORT ON THE TIN OCCURRENCE AT BROWN PLAINS,  
ROCKY RIVER DISTRICT, TASMANIA

EXPLORATION LICENCE 4/61

*JN  
Hutchinson*

31 MAY 1980

By

M. D. EDYVEAN, B. Sc.

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80 - 1443.

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REPORT ON THE TIN OCCURRENCE AT BROWN PLAINS,  
ROCKY RIVER DISTRICT - EL4/61

A. INTRODUCTION

Tin is known to occur within the quartz gravels of the Brown Plains area of EL4/61. It was decided to investigate the tin potential of these plains in a systematic manner by way of an auger sampling programme based upon a 100 metre grid.

B. LOCATION AND ACCESS (See Map 1)

Brown Plains is situated within the Rocky River mineral district of the west coast of Tasmania and is centred around Eight Mile Creek, approximately halfway between Savage River and Corinna. The Corinna - Waratah road passes through the area.

C. TOPOGRAPHY AND VEGETATION

Brown Plains has an elevation of approximately 198 metres above sea-level and it forms the crest of a ridge which is the southern portion of the divide for the water shed of the Whyte River to the east, and the Savage River on the west. South of Eight Mile Creek the plain is relatively flat but north of the creek the land is gently rolling in nature with numerous small gullies leading into Eight Mile Creek itself. The plain is covered by buttongrass with the occasional small tree along some of the gullies.

D. GEOLOGY

(i) General

The country rock consists wholly of Precambrian Whyte Schist (psammitic beds) the surface of which is covered with white quartz-rubble to an average depth of approximately 45 centimetres. The rubble in turn is covered with a depth of approximately 30 centimetres of black peaty buttongrass soil. The tertiary quartz-rubble contains small quantities of tin oxide and, to a lesser extent, monazite sand, tourmaline and an occasional flake of gold.

Small, water-worn boulders (5cm - 7.5cm) of porphyritic quartz-tourmaline (known as boron tourmaline) occur sparsely distributed throughout the quartz-rubble. The source of these quartz-tourmaline boulders is not local. Geological information points

to the conclusion that during the glacial epoch the land lying between the summit of the Meredith Range (8 kilometres to the east) and Brown Plains formed a gradual slope towards the sea-coast on the west. The tin oxide, tourmaline and other minerals in the quartz-rubble were deposited through glacial agencies during the ice flow from the western slopes of the Meredith Range to the sea. The intervening country has subsequently been deeply dissected by the waters of the Whyte River. The occurrence of minor tin mineralization on the foothills of Mount Meredith supports this theory, as no tin mineralization has been found in situ on the western side of the Whyte River.

(ii) Tertiary Quartz-Rubble

The deposits of quartz-rubble on Brown Plains is residual due to the erosion of the schist following the deposition of tin and other minerals. The schist weathers to a dark earthy clay, which is readily eroded away, leaving behind the quartz of the bedded veins from the schist.

The black peaty soil overlying the quartz-rubble itself contains quantities of the finer portions of the gravel and in some cases carries significant tin oxide. From the auger-sampling programme it could be said that the average depth of the quartz-rubble is approximately 45 centimetres. The rubble is generally loose and varies in size from sand to approximately 7.5 centimetres. In some localities it was found to be cemented. Generally, between the rubble and the schist upon which it rests, there are a few centimetres of soft clayey material derived from the decomposition of the schist.

E. AUGER SAMPLING PROGRAMME

(i) General (See Maps 1 and 2 for grid location and Sn Analysis)

The sampling grid at Brown Plains was laid out using the trigonometry stations at Blackguards Hill and location 259 as control points. Auger samples of the gravels were taken every 100 metres along the grid. 198 samples were forwarded to the Tasmanian Department of Mines laboratories in Launceston for tin (Sn) analysis. Analytical results were plotted on part map of Long Plains Mineral Chart, 1:15840. (Map 2 of this report)

(ii) Gravels

The finer gravels generally occur within the shallow basins of the plain and are generally of greater depth than the coarser gravels of the creek beds and hillsides. The maximum depth of gravel obtained would be in the vicinity of 60 centimetres, the minimum depth only a few centimetres.

(iii) Results (ASSAYS - APPENDIX A)

Two areas were found to contain significant tin values, that is values greater than .04% Sn (400 gm/tonne).

The first area, on traverse 200S, is only small in area, probably less than 1 hectare in size. The anomalous values here are located in the vicinity of two old adits, on the side of a small ridge. Further examination of these adits may be worthwhile.

The second, and most important area of interest, is the Eight Mile Creek area. Anomalous tin values were obtained from both the finer gravels of the catchment basin (e.g. Sample A / 100E - 0.10% Sn) and the coarser gravels of the creek bed (e.g. Sample 1100N/200E - 0.11% Sn). Two bulk samples (3 kg. each) taken from the banks of the lower reaches of Eight Mile Creek (Nos. 1000 and 1001) gave tin values of 0.25% Sn and 0.10% Sn respectively. The highest grid value obtained was at grid location 1200N/400E, namely 0.13% Sn. This sample was taken on the side of a small ridge on the north-eastern side of Eight Mile Creek. This locale does not represent the same environment of ore concentration as does the lower part of Eight Mile Creek, where the tin concentrations appear to be confined to pockets of water worked gravels.

By sheer accident, Cu, Pb and Zn analyses were obtained for this gravel sample at 1200N/400E. Significant values were obtained, particularly the value of 0.31% Pb.

F. CONCLUSIONS AND RECOMMENDATIONS

The anomalous tin values (i.e.  $> 0.04\%$  Sn) in the vicinity of Eight Mile Creek cover an area of some 14 hectares or so, and average approximately 0.07% Sn - 700 gm/tonne. There is no doubt that if any small mining operation is to be undertaken on Brown Plains this is the area to investigate thoroughly.

However, it must be remembered that auger samples are only spot samples and in no way can the average value of 0.07% Sn from this sampling programme be interpreted as being a representative

tin value for the entire area of 14 hectares.

It is proposed to re-sample this area on a 50 metre grid in an endeavour to verify, or otherwise, the tin concentration as outlined by the 100 metre grid. If results from this 50 metre grid are favourable, trenching will be undertaken to test the depth and tin content of the gravels at selected localities. This, in turn, would be followed by detailed mineralogical and metallurgical work.

A ground examination will also be made of that area around 1200N/400E to determine the source of the anomalous lead value. There is no doubt that the source of this anomaly is in the underlying schist, and the sinking of a series of small pits through the overlying gravel may be necessary to check this out. Samples from traverse 1300N, to the north of this anomalous locality, will be checked out at the Launceston Mines Department laboratories for Cu, Pb, Zn, to determine whether there is an anomalous zone running along the strike of the country rock.

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DEPARTMENT OF MINES—TASMANIA

LAUNCESTON OFFICES  
287 WELLINGTON STREET  
SOUTH LAUNCESTON 7250

TELEPHONES:  
Metallurgical Research ... }  
Laboratory ... } 44 2431-2  
Mines Inspection ... } (2 lines)  
Explosives & Inflammable Liquids }

28th March 1980

Industrial & Mining Investigation P/L  
Suite 3709,  
Australia Square,  
Sydney 2000 N.S.W.

c.c. to Mr. Edyvean.

Dear Sir,

Please find below results of samples submitted to this laboratory on the 18th Mar'80 and stated to be from Browns Plains E.L. 4/61

<u>Reg. Nos.</u>	<u>Description</u>	<u>%Sn</u>	<u>Au g/t</u>
800580	1000N/0	0.02	<0.3
581	1000N/100 E	0.02	<0.3
582	" /200 E	0.04	<0.3
583	" /300 E	0.04	<0.3
584	" /400 E	0.02	<0.3
585	" /500 E	0.02	<0.3
586	1100N/0	0.02	<0.3
587	1100N/100 E	0.04	<0.3
588	" /200 E	0.11	<0.3
589	" /300 E	0.07	<0.3
590	" /400 E	0.06	<0.3
591	" /500 E	0.08	<0.3
592	1200N/0	0.03	<0.3
593	1200N/100 E	0.03	<0.3
594	" /200 E	0.02	<0.3
595	" /300 E	0.03	<0.3
596	" /400 E	0.13	<0.3

Yours faithfully,

(17)

*H.K. Wellington*  
(H. K. Wellington)  
Chief Chemist & Metallurgist.

Analyses by...  
Fee \$170.00  
*L.M. Gray*  
*J.R. Letterson*  
*S. Funnell*

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DEPARTMENT OF MINES—TASMANIA

080009

TELEPHONES:

Metallurgical Research .. .. .	} 44 2431-2 (2 lines)
Laboratory .. .. .	
Mines Inspection .. .. .	
Explosives & Inflammable Liquids	

LAUNCESTON OFFICES  
287 WELLINGTON STREET  
SOUTH LAUNCESTON 7250

23rd April 1980

Industrial & Mining Investigation P/L.  
Suite 3709,  
Australia Square,  
SYDNEY 2000 N.S.W.

c.c. to Mr. Edyvean,  
13 Blaydon Street,  
LAUNCESTON 7250

Reg. Nos. 800625 - 85.

Dear Sirs,

Please find below results of samples submitted to this laboratory on the 26th Mar'80 and stated to be from Browns Plain's E.L. 4/61.

<u>Reg. Nos</u>	<u>Description</u>	<u>%Sn</u>	<u>Au g/t</u>
800625	600N - 0	0.01	<0.3
626	600N - 100 E	0.01	<0.3
627	600N - 200 E	0.02	<0.3
628	600N - 300 E	0.01	<0.3
629	600N - 400 E	0.02	<0.3
630	700N - 0	<0.01	<0.3
631	700N - 100 E	<0.01	<0.3
632	700N - 200 E	0.01	<0.3
633	700N - 300 E	0.01	<0.3
634	700N - 400 E	0.01	<0.3
635	1300N - 300 W	0.02	<0.3
636	1300N - 200 W	0.02	<0.3
637	1300N - 100 W	0.01	<0.3
638	1400N - 400 W	<0.01	<0.3
639	1400N - 300 W	<0.01	<0.3
640	1400N - 200 W	0.04	<0.3
641	1400N - 100 W	0.02	<0.3
642	1400N - 0	<0.01	<0.3
643	1400N - 100 E	0.01	<0.3
644	1400N - 200 E	0.01	<0.3
645	1400N - 300 E	<0.01	<0.3
646	1400N - 400 E	<0.01	<0.3
647	1500N - 400 W	0.01	<0.3

009

<u>Reg. Nos.</u>	<u>Description</u>	<u>%Sn</u>	<u>Au g/t</u>
800648	1500N - 300 W	0.01	<0.3
649	1500N - 200 W	0.01	<0.3
650	1500N - 100 W	<0.01	<0.3
651	1500N - 0	0.01	<0.3
652	1500N - 100 E	<0.01	<0.3
653	1500N - 200 E	0.01	<0.3
654	1500N - 300 E	0.07	<0.3
655	1500N - 400 E	0.01	<0.3
656	1600N - 400 W	0.01	<0.3
657	1600N - 300 W	0.02	<0.3
658	1600N - 200 W	0.01	<0.3
659	1600N - 100 W	<0.01	<0.3
660	1600N - 0	<0.01	<0.3
661	1600N - 100 E	<0.01	<0.3
662	1600N - 200 E	0.01	<0.3
663	1600N - 300 E	0.01	<0.3
664	1600N - 400 E	0.01	<0.3
665	1700N - 300 W	0.01	<0.3
666	1700N - 200 W	0.01	<0.3
667	1700N - 100 W	0.01	<0.3
668	1700N - 0	0.01	<0.3
669	1700N - 100 E	<0.01	<0.3
670	1700N - 200 E	<0.01	<0.3
671	1700N - 300 E	<0.01	<0.3
672	1700N - 400 E	<0.01	<0.3
673	1800N - 300 W	0.01	<0.3
674	1800N - 200 W	<0.01	<0.3
675	1800N - 100 W	<0.01	<0.3
676	1800N - 0	<0.01	<0.3
677	1800N - 100 E	<0.01	<0.3
678	1800N - 200 E	<0.01	<0.3
679	1800N - 300 E	<0.01	<0.3
680	1800N - 400 E	0.01	<0.3
681	1900N - 0	<0.01	<0.3
682	1900N - 100 E	<0.01	<0.3
683	1900N - 200 E	<0.01	<0.3
684	1900N - 300 E	<0.01	<0.3
685	1900N - 400 E	<0.01	<0.3

Analyses by *J. Funn*  
*G. R. Hettler*

Yours faithfully,  
*[Signature]*  
 (H.K. Wellington)  
Chief Chemist & Metallurgist.

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DEPARTMENT OF MINES—TASMANIA

LAUNCESTON OFFICES  
287 WELLINGTON STREET  
SOUTH LAUNCESTON 7250

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Mines Inspection . . . . . } (2 lines)  
Explosives & Inflammable Liquids }

7th May 1980

Industrial & Mining Investigation P/L,  
Suite 3709,  
Australia Square,  
Sydney 2000  
N.S.W.

c.c. to Mr. Edyvean,  
13 Blaydon Street,  
Launceston 7250

Dear Sir,

Please find below results of samples submitted to this laboratory on the 3rd Apr'80 and stated to be from Browns Plains E.L. 4/61. & 8 Mile Creek.

<u>Reg. Nos</u>	<u>Description</u>	<u>%Sn</u>	
800898	Traverse 200S/300E	0.08	Nos 800898-935
899	200S/200E	0.04	contained
900	200S/100E	0.02	
901	100S/300E	0.01	<0.3 Au g/t.
902	100S/200E	0.03	
903	100S/100E	0.02	
904	0/200E	0.01	
905	0/100E	0.01	
906	0/0	0.01	
907	0/100W	0.01	
908	0/200W	<0.01	
909	100N/200E	<0.01	
910	100N/100E	0.01	
911	100N/0	<0.01	
912	100N/100W	<0.01	
913	100N/200W	<0.01	
914	200N/200E	<0.01	
915	200N/100E	<0.01	
916	200N/0	<0.01	
917	300N/300E	0.01	
918	300N/200E	<0.01	
919	300N/100E	<0.01	
920	300N/0	<0.01	

011

<u>Reg. Nos</u>	<u>Description</u>	<u>%Sn.</u>
800921	300N/100W	<0.01
922	300N/200W	<0.01
923	300N/300W	<0.01
924	400N/400E	<0.01
925	400N/300E	<0.01
926	400N/200E	<0.01
927	400N/100E	<0.01
928	400N/0	<0.01
929	400N/100W	<0.01
930	400N/200W	<0.01
931	400N/300W	<0.01
932	400N/400W	<0.01
933	500N/400E	<0.01
934	500N/300E	<0.01
935	500N/200E	0.01
936	500N/100E	<0.01
937	500N/0	<0.01
938	500N/100W	<0.01
939	500N/200W	<0.01
940	500N/300W	<0.01
941	500N/400W	<0.01
942	600N/100W	<0.01
943	600N/200W	<0.01
944	600N/300W	<0.01
945	600N/400W	<0.01
946	700N/100W	<0.01
947	700N/200W	<0.01
948	700N/300W	<0.01
949	700N/400W	<0.01
950	700N/500W	<0.01
951	800N/400E	<0.01
952	800N/300E	<0.01
953	800N/200E	<0.01
954	800N/100E	<0.01
955	800N/0	<0.01
956	800N/100W	<0.01
957	800N/200W	<0.01

012

<u>Reg. Nos.</u>	<u>Description</u>	<u>%Sn</u>
800958	800N/300W	<0.01
959	800N/400W	<0.01
960	800N/500W	<0.01
961	900N/400E	<0.01
962	900N/300E	<0.01
963	900N/200E	<0.01
964	900N/100E	<0.01
965	900N/0	<0.01
966	900N/100W	<0.01
967	900N/200W	<0.01
968	900N/300W	<0.01
969	900N/400W	0.21
970	900N/500W	0.05
971	1300N/500E	<0.01
972	1300N/400E	<0.01
973	1300N/300E	<0.01
974	1300N/200E	<0.01
975	1300N/100E	<0.01
976	1300N/0	0.01
801127	1000 8 Mile Creek	0.25
801128	1001 8 Mile Creek.	0.10

Yours faithfully,

(H. K. Wellington)  
Chief Chemist & Metallurgist.

Analyses by... *L. M. Gray*  
*G. H. Billing*



## DEPARTMENT OF MINES—TASMANIA

LAUNCESTON OFFICES  
287 WELLINGTON STREET  
SOUTH LAUNCESTON 7250

## TELEPHONES:

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Laboratory ... } 44 2431-2  
Mines Inspection ... } (2 lines)  
Explosives & Inflammable Liquids }

21st May 1980

Industrial & Mining Investigation P/L,  
Suite 3709,  
Australia Square,  
Sydney 2000  
N.S.W.

c.c. to Mr. Edyvean,  
13 Blaydon Street,  
LAUNCESTON 7250

Dear Sir,

Please find below results of samples submitted to this laboratory on the 9th April & 15th April '80, and stated to be from Browns Plains & Little Plains E.L. 4/61.

<u>Reg. Nos.</u>	<u>Description</u>	<u>%Sn</u>	<u>%Cr<sub>2</sub>O<sub>3</sub></u>
800977	A 100E Browns Plains	0.1	
978	A 200E	0.06	
979	A 300E	0.05	
980	A 400E	0.04	
981	B 200E	0.04	
982	B 300E	0.03	
983	C 200E	0.03	
984	C 300E	0.03	
985	D 300E	0.02	
986	100S - 0	0.02	
987	100S - 100W	<0.01	
988	200S - 0W	<0.01	
989	200S - 100W	0.01	
990	300S - 0	<0.01	
991	300S - 100W	0.01	
992	300S - 200W	0.01	
993	400S - 0W	0.01	
994	400S - 100W	0.02	
995	500S - 0	<0.01	
996	500S - 100W	<0.01	
997	500S - 200W	<0.01	
998	600S - 0	<0.01	
999	600S - 100W	<0.01	

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<u>Reg. Nos</u>	<u>Description</u>	<u>%Sn</u>	<u>%Cr<sub>2</sub>O<sub>3</sub></u>
801000	600S - 200W Browns Plains	<0.01	
001	700S - 0	<0.01	
002	700S - 100W	<0.01	
003	700S - 200W	<0.01	
801016	800S - 100E	<0.01	
017	800S - 0	<0.01	
018	800S - 100W	<0.01	
019	800S - 200W	<0.01	
020	900S - 200E	<0.01	
021	900S - 100E	<0.01	
022	900S - 0	<0.01	
023	900S - 100W	<0.01	
024	900S - 200W	<0.01	
025	1000S - 0	<0.01	
026	1000S - 100W	<0.01	
027	1000S - 200W	<0.01	
028	1100S - 0	<0.01	
029	1100S - 100W	0.02	
801035	0 - 400S Little Plains	0.01	<0.1
037	0 - 600S	0.04	<0.1
039	100E - 200N	0.01	<0.1
040	100E - 100N	<0.01	<0.1
044	100E - 400S	0.02	<0.1
046	100E - 600S	0.02	<0.1
048	200E - 200N	0.01	<0.1
051	200E - 100S	0.01	<0.1
058	300E - 200N	0.02	<0.1
059	300E - 500S	<0.01	<0.1
061	300E - 700S	<0.01	<0.1
063	100W - 0	<0.01	<0.1

Yours faithfully,

(H. K. Wellington)  
Chief Chemist & Metallurgist.

Analyses by.....

015

080016

TETCHEM LABORATORIES PTY. LTD.

Phone 51 5518  
Telex: "Tetlab" AA48423

1 Ogden Street,  
Cairns



CERTIFICATE OF ANALYSIS

No. 173/80  
SHEET No. 2  
INV. No.

Samples Submitted by INDUSTRIAL & MINING INVESTAGATIONS. PTY. LTD

Samples Received by Request No.

All results in p.p.m. unless otherwise indicated.

SAMPLE MARKINGS	Cu	Pb	Zn	Ag				
<del>INT. 138</del>	<del>24</del>	<del>20</del>	<del>35</del>	-				
<del>139</del>	<del>20</del>	<del>15</del>	<del>17</del>	-				
<del>140</del>	<del>32</del>	<del>33</del>	<del>67</del>	-				
<del>141</del>	<del>27</del>	<del>28</del>	<del>48</del>	-				
<del>INT. 142</del>	<del>27</del>	<del>38</del>	<del>77</del>	-				
1000N/0	14	14	8	-				
100	11	15	9	-				
200	15	14	9	-				
300	14	16	11	-				
400	30	22	24	-				
1000N/500	13	13	9	-				
1100/0	11	12	8	-				
100	66	15	27	-				
200	36	16	25	-				
300	32	56	48	-				
400	28	47	39	-				
1100 /500	23	71	37	-				
1200/0	18	15	37	-				
100	25	204	82	-				
200	54	802	298	-				
300	56	857	292	2				
1200/400	163	3100	425	9				

BROWN PLAINS.

FOR METHOD DETAILS, SEE PRICE LIST

CHIEF CHEMIST

DATE 29/4/1980

REMARKS:

ABBREVIATIONS:  
bid—below limit of detection.  
dwt—pennyweights troy per short ton of 2000 pounds.  
lb—pounds per short ton.  
oz—ounces troy per short ton of 2000 pounds.

016

080017

TETCHEM LABORATORIES PTY. LTD.

Phone 51 5518  
Telex: "Tetlab" AA48423

1 Ogden Street,  
Cairns



**CERTIFICATE OF ANALYSIS**

No. 173/80

SHEET No. 3

INV. No.

Samples Submitted by INDUSTRIAL & MINING INVESTAGATIONS PTY. LTD

Samples Received by Request No.

All results in p.p.m. unless otherwise indicated.

SAMPLE MARKINGS	Pb
1200/400 - BROWN PLAINS	0.31%

FOR METHOD DETAILS, SEE PRICE LIST

CHIEF CHEMIST 

DATE 6/5/1980

REMARKS:

**ABBREVIATIONS:**

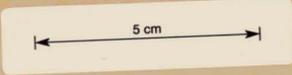
- bld—below limit of detection.
- dwt—pennyweights troy per short ton of 2000 pounds.
- lb—pounds per short ton.
- oz—ounces troy per short ton of 2000 pounds.

1 : 50 000

PROVISIONAL EDITION



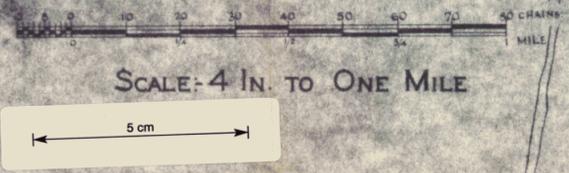
080018



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080019

MAP 2.

BROWN PLAINS TIN SAMPLING PROGRAMME  
100 METRE GRID LOCATION  
AND SAMPLE ANALYSES.



EL. 27/78 172 SKM.  
MT. LYELL M & R CO. LTD.  
22 7 80

AREA AVAILABLE UNDER SEC. 7 SHOWN

EL. 26/78 1380 SKM.  
MT. LYELL M & RLY. CO. LTD  
GEMS. 23 5 80 BDY.

E.L. 4/61 381 SKM.  
INDUSTRIAL & MINING INVESTIGATIONS P/L  
23 2 80

ANALYSES.  
- < 0.01% Sn.  
- 0.01% to > 1000gms/tonne

EAST AND ADJOINING SEE STANLEY RIVER MINERAL CHART

M. EDYVERN.  
MAY 1980

