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Report on 033

THE WOOD'S GREAT MUSSEL ROE RIVER
PROPERTY
and
RECONNAISSANCE OF ADJACENT AREAS.

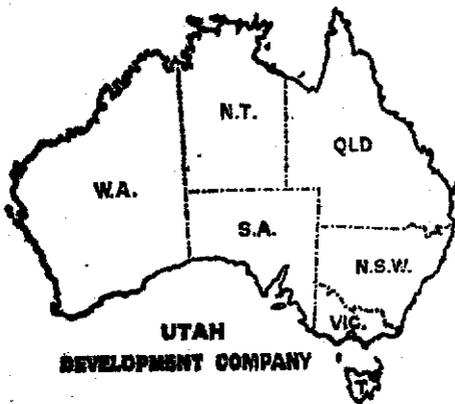
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November, 1963.



by

DR. P. F. HOWARD



AMG REFERENCE POINTS ADDED

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Melbourne,
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<i>Unavailable</i> |
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INTRODUCTION

Utah Development Company's investigation of tin in Tasmania commenced with a literature and field reconnaissance study by Mr. D. King during the period September 18 - October 4, 1963. The State appears to have considerable potential for alluvial tin development in north-east Tasmania, where the production to the present is in the order of 60,000 tons Sn. In Mr. King's memo dated October 16, he recommended that the Company take up an Exploration Licence covering the major portion of this district, in addition to negotiating for an option over Mr. V. Wood's alluvial tin property on the Great Mussel Roe River, nine miles east of Pioneer. His recommendation of the latter area was based on a visit to it, during which he estimated that the mature river flat covered partly by the leases of Mr. Wood, contained five million cubic yards of potential ore. The Mines Department of Tasmania files on the pit production by Mr. Wood indicated a production record of 142,200 cubic yards of alluvium, treated for a recovery of 54.585 tons of metallic tin, and an average recovered grade of 0.86 lbs Sn per cubic yard. In addition to this ground, adjacent Tertiary alluvial terraces contained extensive areas of partly worked ground of possible interest.

The area was visited by Messrs. Ellett and Howard, and Mr. Hryneiowski, an estimator of Utah Construction & Engineering Pty. Ltd. on October 8. Preliminary figures suggested that a lucrative small operation could be established with reserves of five million cubic yards at an average grade in the order of 1 lb Sn. Reconnaissance of some areas within the proposed Exploration Licence verified the potential of the area for virgin and partly worked stanniferous alluvium. Immediate steps were taken to follow out the recommendations of Mr. D. King, and an option agreement was drawn up and signed by Messrs. Ellett and Wood on October 17. The Mines Department of Tasmania granted to UDC an Exploration Licence of 300 square miles for a six-months period commencing on October 29, 1963. The option over Mr. Wood's property includes the right to extend the option period for six months for a payment to him of £1,000, and a right to purchase the property for £95,000. The area held by Mr. Wood includes 222 acres of freehold land in the valley flat, a 50-acre lease, and two 10-acre mining leases covering a small portion of the Tertiary terrace deposits. The UDC Exploration Licence covers the intervening and surrounding ground, and prevents any person from pegging a mining claim without our authorisation.

Scope of Report:

This report covers the field investigations which were carried out from November 5 to November 18 on Mr. Wood's property and the surrounding

ground, in addition to reconnaissance of the Great Mussel Roe valley and environs over a distance of five miles to the north. The field activities included preliminary mapping of a five mile section of the Mussel Roe valley in the vicinity of Wood's property, study and measurements of the alluvium profile exposed in the workings, the reading of over 300 determinations of a precision barometer for contouring purposes, and the study of all available literature. In the reconnaissance of the northern five mile section of the valley, all the larger operations and abandoned workings were visited and spot elevations of the basement rock in the workings taken in order to attempt some preliminary interpretation of the remnants of the eroded Tertiary alluvial channels.

GENERAL GEOLOGY.

The country rock at Wood's property and the surrounding 200 square miles of country consist of Devonian granitic rocks which are multiple intrusions of quartz biotite granite, quartz muscovite granite, and medium to fine grained quartz orthoclase granite or alaskite. These type variations appear to be uniform, and contain minor quartz veins, pegmatites and greisens. Quartz and pegmatite veins from $\frac{1}{4}$ " to 3" cut the intrusives in the exposures of the basement rock in Wood's pits and the old pits on the Eastern Terrace. One exposure of greisen was seen.

To the north five miles, Silurian Mathinna Beds lie above the granite and consist of sandstone, siltstone, claystone and their metamorphic equivalents. Both the granite and the metamorphic beds are intruded by widely distributed Mesozoic dolerite dykes.

Tertiary alluvium, the lithology of which is described in a succeeding heading, once covered the major portion of the district, filling the valleys and evidently leaving islands of granite and the metamorphics protruding above it. This onlap of Tertiary rocks is thought to consist partly of stream alluvium inter-banded with sediments of marine origin, the whole formed due to the submergence of the land mass during Tertiary times. Subsequent uplift of these beds during the late Cainozoic led to the rejuvenation of streams and the stripping of a large percentage of Tertiary sediments which are now left both as isolated remnants on the tops and sides of the higher hills, in addition to the bottom of the present stream valleys. It is evident that the Tertiary stream channels were at least in part coincident with the present major stream pattern.

Recent sediments consist of valley alluvium and soil, the former derived partly from the erosion of the Tertiary sediments and partly from the granites and metamorphics.

The mine workings in many localities expose bodies of stanniferous greisen, stanniferous quartz veins, and the origin of the cassiterite contained in the Tertiary rocks is evidently derived locally in some of these instances (Star Hill). However, the widespread occurrence of cassiterite suggests that it must also have been derived from low concentrates of this mineral in the granite mass as a whole. The cassiterite in the alluvium of the present streams appears to be derived from the re-working of the Tertiary beds. At Wood's property, many streams, including Old Chum Creek and Blow Hard Creek, illustrate this point without any doubt. The cassiterite in Wood's Flat can be considered to be derived from the erosion of Tertiary beds which once covered portions of the country towards the headwaters of the Great Mussel Roe River.

The mineralogy of the alluvial tin ore is simple, and consists of cassiterite, ilmenite and tourmaline, both in the Tertiary and Recent orebodies. The cassiterite concentrates vary from black to ruby, and are of a high quality, assaying in the order of 73% Sn. Cassiterite grain size varies according to the distance from its primary source, and in the case of Wood's property, can probably be considered to be 95% plus 120 mesh BSS.

RECENT ALLUVIUM

Plate 1 shows the distribution of Recent valley alluvium along the course of the Great Mussel Roe River. That portion of the river flat which is partly held by Mr. V. Wood is approximately 10,500 ft. long, has an area of approximately 11 million square feet, and an average depth of 26 ft. It has been designated as Wood's Flat for the purposes of this report. It is the first substantial flat on the Great Mussel Roe River, and terminates against rapids on the northern and southern ends of the Flat. Upstream from the rapids at its southern end, which are 700 ft. in length, the valley is youthful and contains only short, narrow lengths of known alluvium. To the north the Flat pinches out at a constriction through granite hills for a distance of 7000 ft. in which there are two distinct rapids with an intervening narrow zone of alluvium 2000 ft. long by 400 ft. wide. Beyond the rapids the valley widens to 2000 ft. and greater, and consists of swamp and billabongs for the remainder of its twelve mile course to the north-eastern coast of Tasmania. The gradient of the Great Mussel Roe River is 10 ft. per mile across Wood's Flat, 29 ft. per mile through the rapids at the northern end, and 7 ft. per mile from there to the sea. Wood's Flat is marked by some swamp and billabongs, which are as much as 10 ft. below the general level of the valley floor. Adjacent to the Flat, soil covered slopes rise to granite hills approximately 300 ft. above stream level. Plate 2 shows contours in feet above sea level in the immediate vicinity of the property.

Drilling by Endurance Tin N.L. shows that the depth of alluvium within the confines of the Flat varies from 12 to 63 ft., with an overall average of 26 ft. The lithology of exposed alluvium shows some variation, but in general consists of 1-2 ft. of black soil, 4-6 ft. of puggy clay, 6-10 ft. of quartz drift containing variable amounts of thin clay seams, plant debris and logs up to 2½ ft. in diameter and 20 ft. long, 2-7 ft. of black carbonaceous, puggy siltstone, 0-6 ft. of quartz drift, and finally 0-3 ft. of well-sorted stanniferous quartz wash. Figure I shows the detail of a lithology and its variations as exposed in Pits 1 and 2. Mr. Wood states that cassiterite is confined to the bottom 0-3 ft. of wash, and that the remainder of the section is barren. Six channel samples of the reputed barren section of the profile were cut by us, and assay returns show the highest value to be 0.01 lb SnO₂ per cubic yard, thus supporting Mr. Wood's statement.

The first mining activity in Wood's Flat commenced in 1950 by the Lanka Tin Mining Co. N.L., which treated 270,000 cubic yards of alluvium before abandoning the property in 1957. Dunn and Park commenced operating Pit 1 during 1957. Wood and Bartels acquired the property and commenced mining in April 1959, and operations have continued under the sole ownership of Mr. V. Wood from March 1960 to the present. He has operated two pits and treated 401,000 cubic yards to date. Ore and overburden have been moved by sluicing methods, the water being derived from the adjacent Mt. Cameron water race by 22 inch, 18 inch and 12 inch steel water pipes, which gave a head pressure varying from 100-180 ft. Ore and overburden is run through elevated sluice boxes, into which the treated material is raised by water lifts connected to the pipelines. The depth of the pits varies from 18-30 ft. The ground stands well and no batter is required. Some collapse of the vertical pit walls occurs some time after abandonment of a given face.

Mr. Wood has submitted quarterly production data to the Mines Department, who check his figures of tons of metal produced. However, the yardage measurements have evidently not been checked by them, as Mr. Wood's figures state that he has only mined 162,200 cubic yards of alluvium (1959 - Nov. 1960). The measurements of the pits show that 430,000 cubic yards have actually been mined for an average recovered grade of 0.43 lbs Sn per cubic yard. Mr. Wood states that the average grades of Pits 1 and 2 are similar, but he has not kept figures to substantiate this statement. He maintains that the overall average grade is maintained by the balance of low-grade sheets of basal wash, with rich patches contained in small depressions and gutters on the valley bottom.

Three companies and two individuals are known to have drilled the Flat. These include Endurance Tin Mining Co. N.L., Storeys Creek Tin Mining

PROFILE AT WESTERN EDGE PIT N°1

HYPOTHETICAL CENTRE
PITS N°1 & 2

PROFILE AT EASTERN EDGE PIT N°2

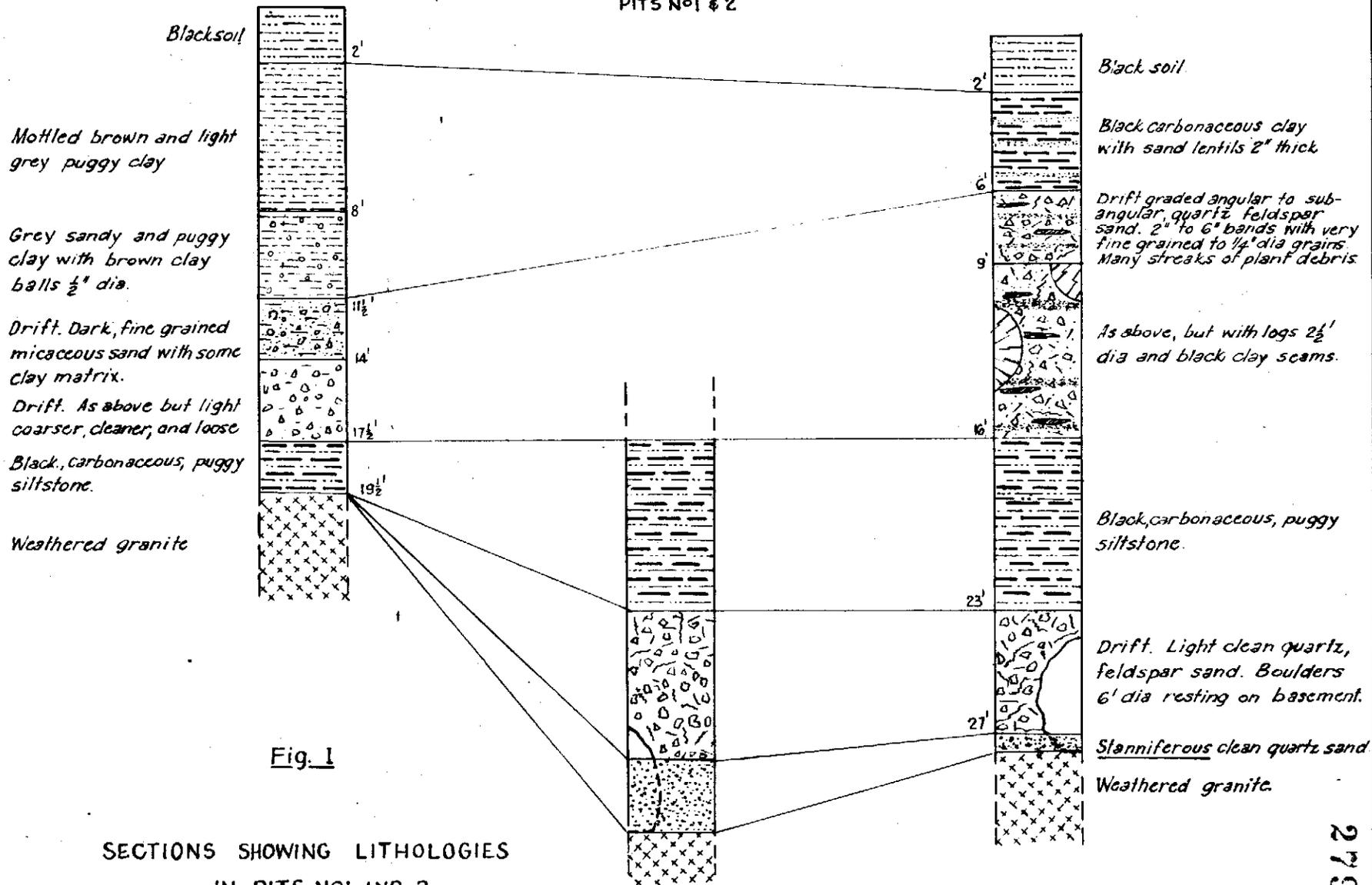


Fig. 1

SECTIONS SHOWING LITHOLOGIES
IN PITS N°1 AND 2

Co. N.L., Lanka Tin Mining Co. N.L., Mr. Lawry and Mr. Wood. The latter individuals have not kept records of their results, and in any event could not be relied upon. Lanka (which was a two-man syndicate) drilled the property prior to mining 270,000 yards at an unknown grade. They abandoned the property because they were unable to handle the large number of logs which overlaid the ore zone. Storeys Creek investigated the property for its potential as a dredging operation, but found the yardage much too limited. Their bore charts are likewise unavailable. Endurance investigated the property for future reserves for their sluicing operations, which have been centred for the past twenty years at South Mt. Cameron. They were evidently satisfied with the results, but abandoned the property after a record flood covered the Flat with 9 ft. of water during 1951. This was a freak flood, and nothing similar has since occurred.

A copy of the bore chart of Endurance has been obtained from that Company, and the results have been reproduced in Plate 2. Eighty holes were drilled on eight traverses spread over a valley length of 6000 ft. The drilling is marked by the occurrence of 7 holes with average grades varying from 1.03 to 5.30 lbs of tin concentrate per yard. These occur in a well-defined stanniferous channel which includes an additional 43 holes varying in grade from trace to 0.91. The remainder of the holes, with the exception of one, are nil. The indicated yardage (pre-mining) of the stanniferous wash is calculated to be 3,750,000 cubic yards with an average grade of 0.47 lbs Sn per yard, and a maximum indicated yardage of 5,000,000 at 0.43 lbs Sn per yard. From this last figure, the alluvium already mined must be subtracted, which amounts to 430,000 yards at an average recovered grade of 0.43 lbs Sn per yard at Wood's, and 270,000 yards of an assumed grade of 0.43 lbs per cubic yard at the Lanka pit.

Appraisal:

In discussing the above production data, certain assumptions need to be made as regards recovery rates and Sn percentages of concentrates. Mr. Pratt's inspection of the ore concentrates and sluice boxes at the property leads him to believe that Wood has a recovery rate of approximately 75%, and that this could be raised by UDC to a possible 85%. Grade data on the Endurance bore chart are based on a 70% Sn concentrate. Wood's concentrates have averaged 73.1% Sn. The available reserves are outlined below, based on the maximum likely reserves and that portion of the maximum reserves which is likely to have the highest grade -

Whole Flat, pre-mining:	5,000,000 yds at 0.427 lbs Sn per yard
less that mined:	700,000 yds at 0.573 lbs Sn per yard

Available:	4,300,000 yds at 0.403 lbs Sn per yard
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Area drilled, pre-mining:	3,750,000 yds at 0.469 lbs Sn per yard
less that mined:	430,000 yds at 0.573 lbs Sn per yard

Available:	3,320,000 yds at 0.456 lbs Sn per yard
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It is believed that the maximum yardage which could be expected is five million. There is, on the other hand, a possibility that the above grades could be substantially higher. The depth weighted average of 9 Endurance holes which falls within the confines of Pits 1 and 2 is 0.42 lbs Sn per yard, compared to Wood's recovered grade of 0.43 lbs. Allowing a 75% recovery, this latter figure is equivalent to a pre-mining figure of 0.57, which is very much higher than the Endurance drilling indicates. If this is a systematic error which applies to the whole of the Endurance data, the accurate grade would be in the order of 0.6 lbs Sn per cubic yard, or 0.51 expected recovered grade at an 85% recovery.

TERTIARY LEADS.

Terraces of Tertiary leads form irregular platforms on the banks of the Great Mussel Roe River in the vicinity of Wood's Flat as shown on the accompanying geologic map (Plate 1). Mining activity has been concentrated on the Eastern Terrace, which is approximately 12,000 ft. long, an average of 2000 ft. wide, and lies in the order of 30-100 ft. above the level of the Great Mussel Roe River. A portion of the Eastern Terrace extends across the river to the western bank in the vicinity of the workings of North Mussel Roe Proprietary at the northern end of the area. Other remnants of higher Tertiary terraces exist on the adjacent Dam Hill, and on Bald Hill at the southern end of the area. In the case of the Dam Hill terrace, field inspection suggests that it is continuous with the lower North Mussel Roe terrace. The Bald Hill terrace is separated from the Eastern Terrace by the Mussel Roe River, but elevations and field inspection show that it is a sloping surface in which the basement falls from an elevation of 320 ft. on its western side to 280 ft. on its eastern side. All of these terraces can be regarded as remnants of the valley fill of the Tertiary course of the Mussel Roe River which coincided broadly with the present stream course. Elevations show that the Tertiary alluvium preserved today as isolated remnants represents the Tertiary

alluvial profile of a minimum of 260 ft. of granite wash, quartz wash, carbonaceous and pyritic siltstone, and irregular beds of basal cobble material. Cassiterite and ilmenite are known to extend through the profile from the basement upwards over a thickness of at least 18 ft., and it is possible that cassiterite extends higher into the profile at some intervals. This is suggested by the fact that all the recent streams and creeks which drain from the area in the vicinity of Bald Hill have been mined by prospectors for cassiterite, the source of which is quite clearly the Bald Hill terrace. As the aerial extent of the basal exposure of the terrace is limited, it must be concluded that the upper part of the profile is stanniferous, even though perhaps very low grade.

Plate 1 shows the pits and workings in the Tertiary terraces which date back to before 1900. As these workings are largely confined to the Eastern Terrace, only the lithology there can be well described. As recorded by a State Government bore in 1902, the maximum depth of alluvium is 49½ ft. The basal material intersected in this hole has only been exposed at two localities in mine workings, and consists of approximately 4 ft. of poorly sorted granitic wash of sub-angular quartz, feldspar and some micaceous material, and evidently is locally derived detrita. The remainder of the section consists of finely banded carbonaceous and pyritic siltstone in the valley bottom, on which lies a bed of rounded quartz cobbles and pebbles up to 4 ft. thick. The remainder of the profile is drift consisting of poorly sorted quartz sand several feet thick, overlain by granitic wash containing sub-angular and rounded quartz grains and pebbles, sub-angular feldspar, and a varying proportion of clay matrix. In general the sorting of this drift is poor, and wash bands of quartz pebbles only a few inches thick are developed sporadically. Inspection of the workings suggests that the tin was distributed in the upper profile down to the siltstone false bottom; however, it appears that the target of all mining activity was rather the cobble material immediately overlying the false bottom. The workings have only accidentally exposed the graded wash underneath the false bottom, and it must be concluded that boring results did not encourage stripping of the barren siltstone, especially as the material could not be handled by sluicing.

The siltstone covers only a small proportion of the Eastern Terrace. It represents silt which was deposited in the bottom of the valley (Plate 1), and affords evidence as to the stream course. Either side of this siltstone, the granite basement rises and Recent erosion has stripped and exposed much of the Tertiary profile, thus leaving the narrow valley bottom here named the Eastern Terrace. The present Great Mussel Roe River has cut along its western edge. Outside of the area of the siltstone, the cobble material is thinner and rests directly on the granite basement with the lithology of the upper profile unchanged. The southern portion of the Eastern Terrace may

be considered to be much farther removed from the original valley bottom, and the cobble wash is poorly developed and the number of workings limited to four. The whole profile has been treated from these workings, and the suggestion is that tin was developed through it uniformly with little or no bottom cobble wash, and at a much lower overall grade than ground farther north.

Measurements in the pit, together with a study of spot elevations, suggest that the basement is highly irregular, and thus that the overlying depth of alluvium is also variable. Recent erosion has been deeper at the southern end of the terraces, and much of it can be considered to be in the order of 1-8 ft. thick. In the northern end of the terrace the depth is variable to from 2-49 $\frac{1}{2}$ ft. The overall average can be assumed to be in the order of 10 ft.

Mining activity was commenced by the Great Mussel Roe Proprietary Company shortly before the turn of the century, and was abandoned in 1901. Since that date, New Mussel Roe Mine operated pits in the terrace from 1927-1937. Many individual prospectors and some syndicates have also operated at various times, including the Malleson Bros. (1941-46), and lastly Bartels during 1958-59. The method of mining in all cases was ground sluicing, for which water was derived from a local race. Diesel motors were used to provide nozzle pressure. Tail races were cut down to the Mussel Roe River, and treatment consisted of building sluice boxes within the tail races. The distribution and shape of the sluiced ground suggest that the cassiterite perhaps occurred in well defined runs; however the pattern of mining in the whole district suggests that elongated workings were more related to the attempts to gain sufficient gradient for the removal of tailings through the tail races where the sluice boxes were sited. Abandonment of operations can be put down to the inability of the operators to move sufficient yardage to make operations a profitable venture, rather than a fall-off in grade as the work proceeded.

Measurement of the pits shows that approximately 550,000 cubic yards of wash were sluiced. Production figures on the amount of recovered tin are listed in Table B, but are incomplete. Twelvrees (1901) reports that tin values occurred in the cobble beds up to 1 lb per dish; however this means nothing in terms of what the overall grade may have been. The only confirmed production record is of the work of Bartels during 1958-59, when he ground-sluiced approximately 7,670 cubic yards for a recovery of six tons of tin concentrate. This represents a recovered grade of 1.28 lbs Sn per yard.

Other recovered grades of 0.696 and 0.554 lbs Sn per yard shown in Table B are based on unchecked yardages, and from our experience of uncovering

grossly underquoted yardage estimates of Pits 1 and 2 in Wood's Flat, it is unwise to attach significance to them.

Appraisal:

The Eastern Terrace has a potential of $8\frac{1}{4}$ million yards of alluvium. No estimate of overall grade can be attempted. However, persistence of small scale mining operations by small syndicates which have treated 550,000 yards without sufficient capital to afford motors and gravel pumps to adequately handle ore and disposal of tailings, suggests that the area could be of interest to us. As a possible guide to grade, pits in Tertiary leads 5 miles to the north vary in recovered grade from 0.3 to 1 lb Sn per yard.

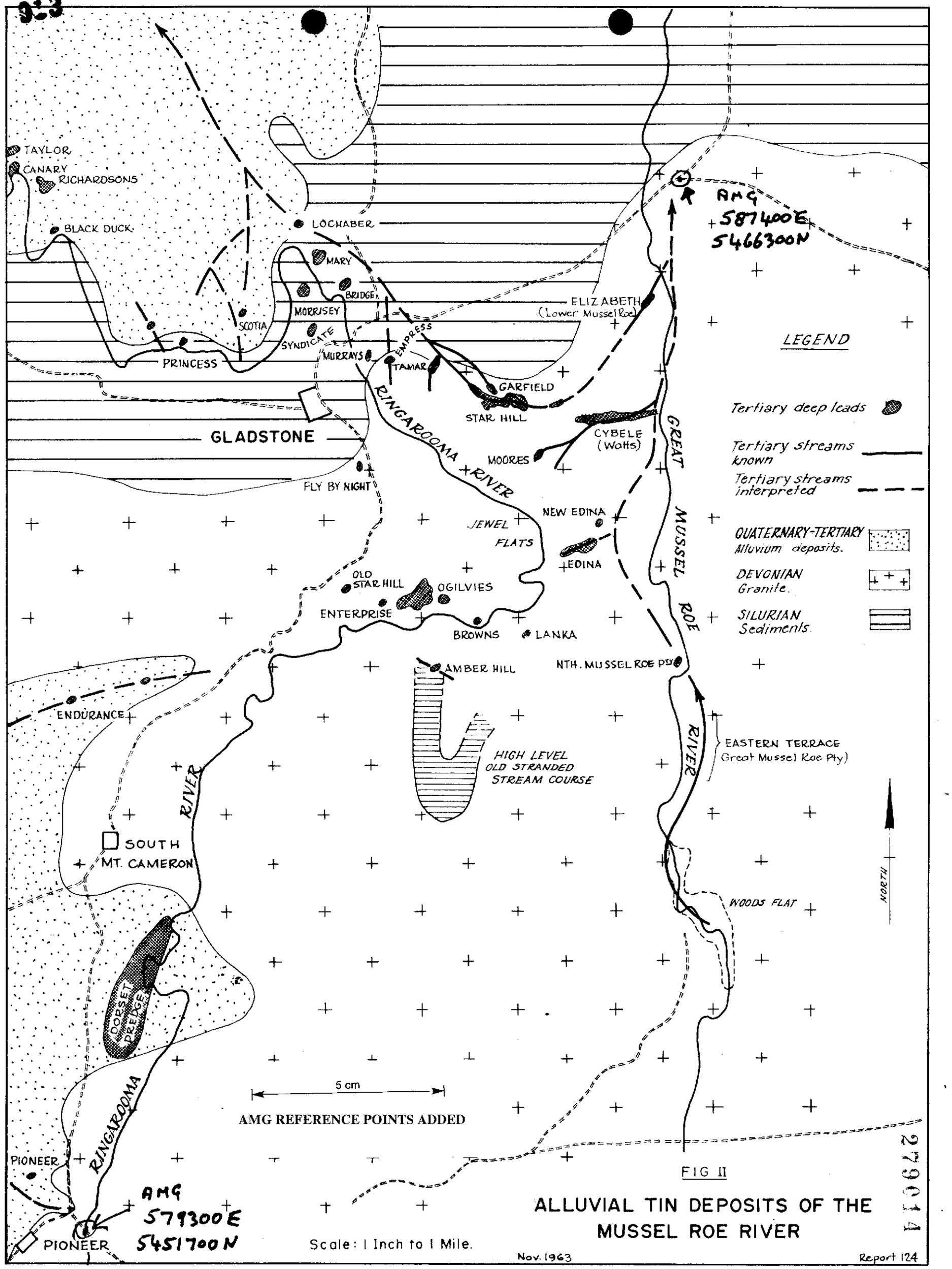
POTENTIAL OF THE AREA TO THE NORTH.

Interest to the north of Wood's property centres on -

- (a) The virgin course of the Recent alluvium of the Great Mussel Roe River from the end of the rapids near Dam Hill northwards towards the coast, and
- (b) The extension of the partly eroded Tertiary Mussel Roe lead.

No mining has ever been attempted in the flats of the Great Mussel Roe River north of Dam Hill. The only known drilling ever carried out was by the Tasmanian Mines Department in 1954. Fifteen holes were put down to depths varying between 14 and 34 ft. All holes were nil or very low grade, the highest of which was 0.21 lb Sn per cubic yard. The point at which this drilling was carried out is approximately $3\frac{1}{2}$ miles north of Dam Hill. The gradient of the Great Mussel Roe River appears to be constant from Dam Hill to the coast, and as rapids exist immediately to the south of Dam Hill, the most likely location in the Great Mussel Roe River for economic concentrates of cassiterite should be immediately north of these rapids. A test line of scout bores is justified at this location.

The course of the Tertiary Mussel Roe lead is known to extend from Bald Hill from the Eastern Terrace to Dam Hill in the North Mussel Roe Pty. workings shown on Plate 1 and Figure II. A great number of lead remnants occurs to the north, and have many abandoned and currently operating pits which expose lithologies similar to those which have been described in the Eastern Terraces. How these various remnants fit together to form a fossil stream pattern is uncertain. Twelvetrees (1916) discussed the matter and thought that the Mussel Roe lead at North Mussel Roe Pty. locality extended



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north as far as Cybele workings, but doubted that it continued farther north because a line of Government bores indicated that the basement was 22 ft. higher than at Cybele. He concluded that its course must have swung to the north-west. However, if the connection of remnant Tertiary stream segments is to be based on present basement elevations, his interpretation that the old stream course bears to the north-west is ruled out by the barrier in that direction of over 100 ft. in height above the basement at Cybele. No other interpretation appears to have been put forward in the literature; however, more recent workings give additional information which suggests the stream pattern indicated in Figure II. The workings at Star Hill show clearly that the leads there form a well-defined drainage pattern trending both to the north-west and east from a basement high. The eastern leads fall rapidly to the east, and it is likely that they are continuous with the Elizabeth lead on the banks of the present Great Mussel Roe River. Likewise the Cybele lead appears to fall to the east and north-west. This being the case, the likelihood is that a major Tertiary lead must exist approximately along the course of the present Mussel Roe River. Spot elevations support this theory. Preferable to the interpretation of Twelvetrees is that the Mussel Roe lead follows a course almost identical to that of the present Mussel Roe River, and that many of the leads to the east of the Star Hill workings are tributary to it.

During the Tertiary period, these leads were formed when the land surface was being progressively lowered. Evidence suggests that the Great Mussel Roe River may have finally deviated from the course suggested and flowed at increasingly higher elevations on its own alluvial flat as the land surface was depressed and the valley became filled with alluvium. Isolated remnants of such valley alluvium are now found on top of granite hills some 280 ft. higher than the base of the Mussel Roe lead in the vicinity of Wood's. A two mile length of meandering valley system was found to the south and contiguous with the Amber Hill deposit (Figure II).

The grades of the individual pit productions in these Tertiary leads vary from approximately 0.3 to 1.0% Sn per cubic yard recovered, and it is felt that there is potential for the proving of orebodies in the order of 3 to 10 million yards with a grade within the range stated above. The first step required is to study existing workings and drill data, and map the course and gradients of the fossil stream channels in order that a detailed interpretation can be made.

TABLE A

PRODUCTION RECORDS - 1957-1963

Wood's Mussel Roe Mine, Pits 1 and 2

Year and Quarter	Yardage ³ Treated (cu. yd)	Tin Concentrates (tons)	Metallic Tin (tons)	Grade ⁴ (lb metallic tin per cu. yd)
1957 (Dunn, Park) 1959 - Apr. - Dec. ²	29,000 ¹ -	8.000 -	5.848 -	- -
1960 - March June Sept. Dec.	N. A. 8,200 6,000 -	12.366 7.134 3.477 -	9.040 5.236 2.514 -	- 1.40 0.90 -
1961 - March June Sept. Dec.	14,500 4,000 18,000 16,000	5.780 2.286 6.966 8.011	4.254 1.637 5.066 5.830	0.70 0.90 0.60 0.80
1962 - March June Sept. Dec.	14,000 11,000 11,000 16,000	5.083 7.330 6.301 11.034	3.745 5.301 4.726 8.140	0.60 1.10 1.00 1.10
1963 - March June Sept. Nov. 26	9,500 14,000 20,000 N. A.	5.509 5.750 11.150 6.760	4.047 4.089 8.151 4.942	0.90 0.70 0.90 -
Totals:	191,200 ³	112.936	82.566	0.97 ⁴
Corrected Totals:	UDC estimate 430,000	112.936	82.566	0.43

1. UDC estimate based on Wood's description of approximate pit dimensions as of April, 1959.
 2. Recorded and included in March, 1960, figures.
 3. Yardage figures incomplete and grossly underquoted.
 4. Based on erroneous yardage figures.
- N. A. Not available.

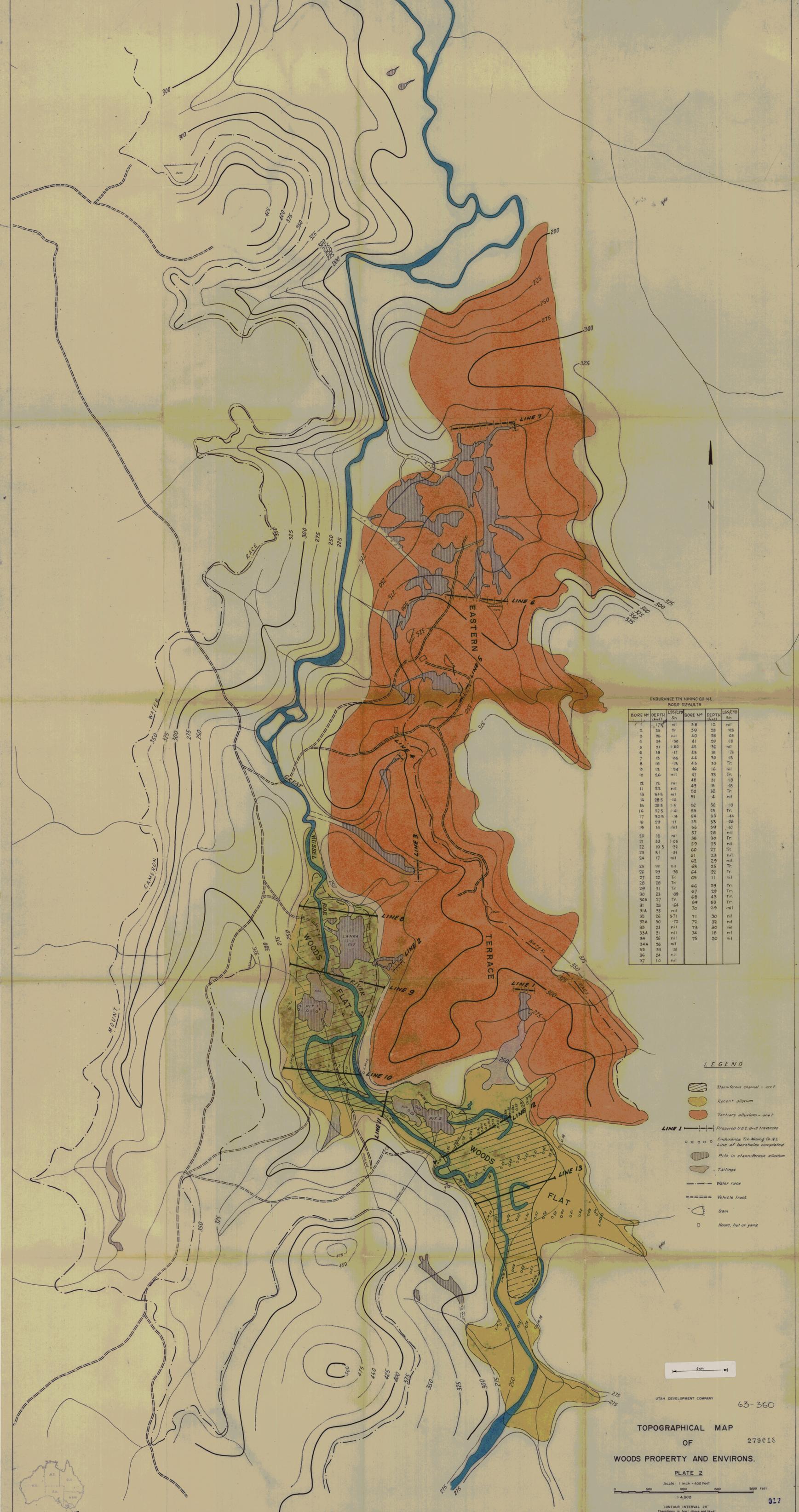
PRODUCTION RECORDS

1903-1963

Great Mussel Roe Pty. (Eastern Terrace)

Year	Yardage Treated cu. yds.	Tin Concentrates tons	Metallic tin tons	Grade lbs Metallic per yard
1904	-	0.6	0.44	-
1907	-	11.5	8.41	-
1908	-	7.4	5.41	-
1909	-	0.5	0.37	-
1927	-	8.3	6.05	-
1928	-	7.9	5.74	-
1929	-	6.3	4.58	-
1930	-	2.4	1.74	-
1931	-	2.0	1.43	-
1933	10,000 ¹	3.5	2.55	0.554
1934	3,700 ¹	1.6	1.15	0.696
1935	-	1.1	0.82	-
1936	-	1.4	1.00	-
1937	-	0.2	0.15	-
1958/9	7,670	6.0	4.39	1.28
Total:	UDC estimate 550,000	60.7	44.23	0.18 ²

1. Unreliable, data supplied by operators without Mines Dept. check.
2. Unreliably low due to incomplete returns of metal production.

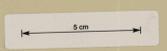


ENDURANCE TIN MINING CO. N.L.
BORE RESULTS

BORE NO.	DEPTH (feet)	LSB/CY (Sn)	BORE NO.	DEPTH (feet)	LSB/CY (Sh)
1	17	nil	38	12	nil
2	23	Tr.	39	28	'03
3	26	nil	40	28	'08
4	24	'50	41	29	'16
5	21	'60	42	52	nil
6	18	'17	43	31	'73
7	15	'05	44	30	'15
8	18	'13	45	33	Tr.
9	12	'54	46	16	nil
10	26	nil	47	33	Tr.
12	12	nil	48	31	'10
13	22	nil	49	19	'15
14	28	'10	50	32	Tr.
15	28	'10	51	30	nil
16	27	'14	52	4	'10
17	25	'14	53	25	Tr.
18	29	'11	54	33	'44
19	14	nil	55	33	'06
20	16	nil	56	59	'10
21	33	'05	57	28	nil
22	19	'5	58	30	Tr.
23	31	'31	59	25	nil
24	17	nil	60	27	Tr.
25	19	nil	61	23	nil
26	29	'36	62	29	Tr.
27	22	Tr.	63	25	Tr.
28	28	Tr.	64	22	Tr.
29	29	'31	65	11	nil
30	23	'09	66	29	Tr.
31	28	'64	67	29	Tr.
32	26	'71	68	43	Tr.
33	23	'72	69	63	Tr.
34	21	'73	70	29	nil
35	24	'75	71	30	nil
36	24	nil	72	32	nil
37	10	nil	73	30	nil
			74	18	nil
			75	20	nil

LEGEND

- Stanniferous channel - ore?
- Recent alluvium
- Tertiary alluvium - ore?
- Proposed U.D.C. drill traverses
- Endurance Tin Mining Co. N.L. line of boreholes completed
- Pits in stanniferous alluvium
- Tailings
- Water race
- Vehicle track
- Dam
- House, hut or yard



UTAH DEVELOPMENT COMPANY 63-360

TOPOGRAPHICAL MAP
OF
WOODS PROPERTY AND ENVIRONS.
PLATE 2

Scale: 1 inch = 400 Feet
1:4,800
CONTOUR INTERVAL 25'
Elevations in feet above sea level.
279018
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