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MICROFILMED

REPORT ON

RINGAROOMA DEEP LEAD TIN PROSPECTING
NORTHEAST TASMANIA

1964/1965.

W.S. Cheenut

MELBOURNE

JUNE 1965

AMG REFERENCE POINTS ADDED

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LIST OF PLANS

FIGURE 1 Locality Sketch

FIGURE 2 Regional Photogeological Map

FIGURE 3 Correlation section along line of drillholes.

FIG. 1

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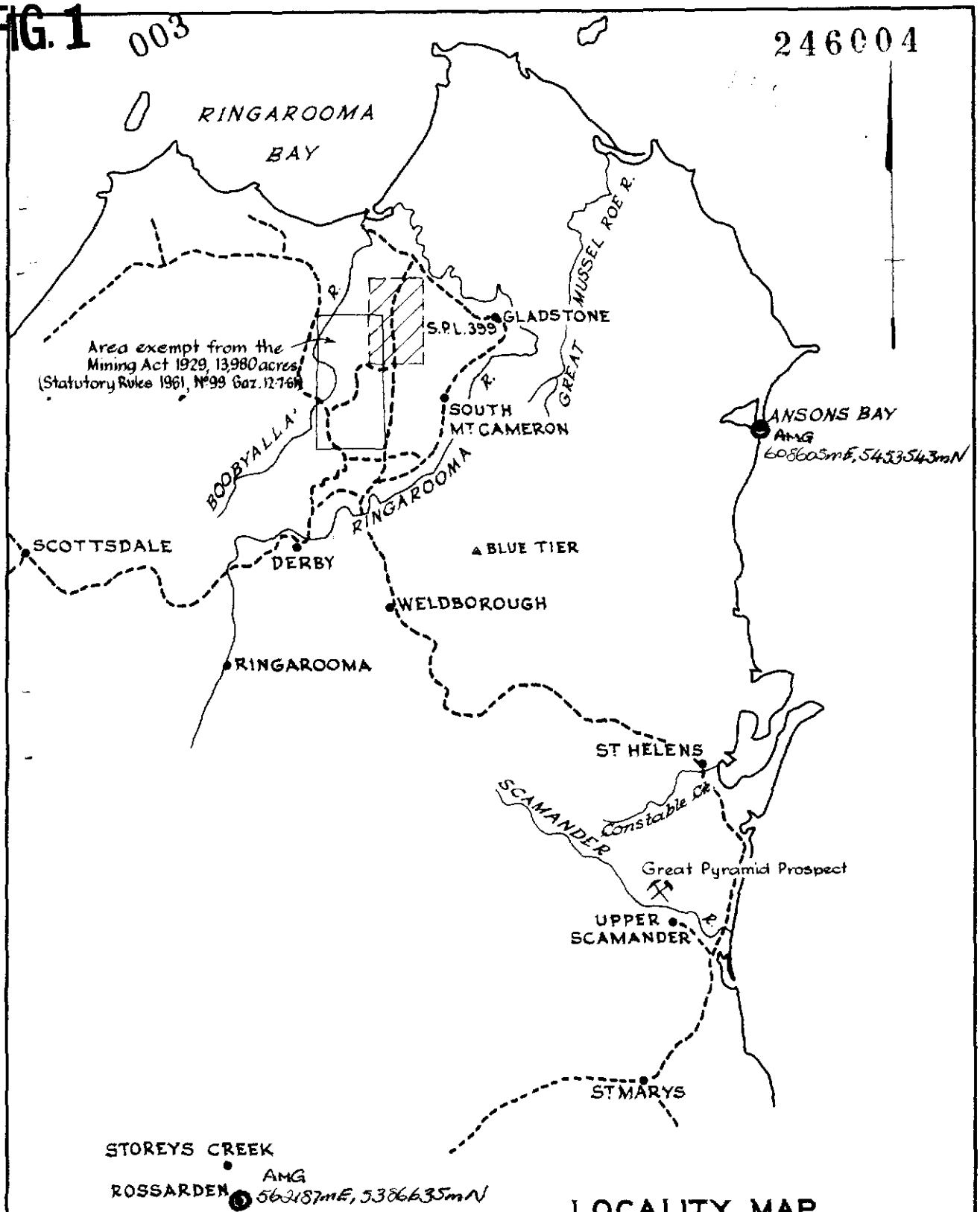

LOCALITY MAP

RINGAROOMA DEEP LEAD

N.E. TASMANIA

AMG REFERENCE POINTS ADDED

SCALE: 1 INCH = 8 MILES

H.N. 8-7-65

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SUMMARY.

Permission was obtained from the Director of Mines for the Company to carry out a scout drilling programme on an area reserved from mining by the Mines Department.

The area covers the inferred position of a deep lead which is believed to represent the course of the ancient Ringarooma River below the confluence of a number of tributaries which at locations upstream carry rich deposits of tin.

Geophysical surveys indicated a channel in the bedrock and a programme of drillholes was formulated to test the validity of the seismic interpretation..

Seven drillholes totalling 1,002 feet confirmed the existence of a fossil drainage channel and yielded sufficient information for preliminary assessment.

The main, possibly tin bearing, lead was not intersected but information as to its likely depth and location was obtained, which has enabled formulation of a number of recommended drill hole sites to locate and evaluate the tin potential of the lead.

The depth below surface to the lead bottom is of the order of 200 to 250 feet, which requires that any economic placers should have a wash value (on the bottom) of some 20 to 30 lbs. of tin concentrates per cubic yard. This is considered possible after comparing some of the values obtained in the old deep lead workings.

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A. INTRODUCTION.

This report covers the scout drilling programme carried out over a period of two months during the 1964 and 1965 summer season on an inferred deep lead channel in the area to the west of Mt. Cameron, see Figure 1.

The area was introduced to the company through Messrs. Symons and Hughes of the Tasmanian Mines Department.

Activities were centred on the scout evaluation of the tin bearing potential of a channel defined by a Bureau of Mineral Resources seismic survey.

This testing comprised a detailed photogeological interpretation of the regional fossil drainage pattern, followed by appraisal of the results of the seismic survey.

A line of drill sites to check the validity of seismic and geological interpretation was selected and a main access road was constructed by bulldozer.

Subsequent drilling of seven holes totalling 1,002 feet along the selected line yielded results which indicate that a fossil drainage system does exist, though whether of the type inferred is still uncertain.

No tin was encountered in any of the holes, probably mainly through the fact that the actual lead was not penetrated.

The graphic and assay logs of the drill holes are filed in folios kept in the geological section.

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B. LOCATION AND ACCESS

The area under investigation (Figure 1) lies about ten miles north of Winnaleah, which is some 70 miles east from Launceston by bitumen road (Tasman Highway).

The area is largely undeveloped as it has been retained under annual grazing leases by the Lands Department. Some limited access was available through an isolated farm from the Winnaleah Tomahawk road and the Company constructed a new access road in from the Herrick-Boobyalla road.

The area is generally impassable for vehicular traffic during the winter months, despite the constructed roads.

The terrain consists of low button grass, marshy flats with a number of heavily timbered ridges some 200 to 300 feet higher than the flats. No really major streams exist in the area.

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C. TITLES

The Tasmanian Department of Mines has an area of 13,980 acres held exempt from the Mining Act under statutory rule No. 99 of 1961. This reservation covers the tract of relatively low lying country between the major granite masses of Little Mount Horror on the west and Mt. Cameron on the east (Figure 2). It covers the inferred position of the ancient Ringarooma River channel from near Winnaleah (where the extensive basalt cover ends) north for about seven miles to near the junction of the Boobyalla and Little Boobyalla Rivers.

The Company had no official title over the area but simply had written permission from the Director of Mines to carry out test drilling and other forms of prospecting over the area.

It is mentioned that simultaneously with the company's programme of drilling the Department was carrying out an independent drilling programme.

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D. HISTORY.

There has been no mining of this inferred deep lead channel within the area held by the Department.

If the various inferred channel systems are correct then the lead system has been worked at a number of places some considerable distance upstream, where extremely rich ground was worked in the past.

In a number of places near the northern end of the reservation some minor patches of high level tin bearing ground have been worked. These are not connected with the main low level lead.

There can be little doubt that over the years, especially perhaps the period 1880 to 1940, scout drilling would have been carried out on this area by old mining companies. No reliable record of most of this drilling exists and hence new exploration virtually had to start from scratch.

To minimise expensive drilling, a number of geophysical surveys have been made over the area during the last decade. Some survey work is still in progress as part of the regional exploration being carried out by Utah Australia.

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E. GENERAL.

1. Geophysical:

Geophysical surveys have been carried out in parts of this area using a number of different methods during the last few years.

The earliest survey used an airborne magnetic and scintillation method in an endeavour to locate basalt and granite - by Rio Tinto Australia Exploration Pty. Ltd. in the early 1950's.

This was followed by some ground traverses (A to C on Figure 2) using the seismic refraction method and was carried out by the Bureau of Mineral Resources in 1957 - B.M.R. record 1961/151 by D.L. Rowston.

During 1961-62, the Bureau carried out further traverses south of the early work using various gravity, magnetic and seismic refraction methods - B.M.R. Records 1964/54 by E.C.E. Sedmik - (traverses E to M on Figure 2).

The Company geophysical team also carried out a limited seismic refraction traverse during early 1965 along Monarch Line 15, which is located along the eastern boundary of the inferred channel area.

Of these surveys, the 1961/62 survey is the most complete and gives full coverage of the area temporarily reserved from mining.

2. Geological:

In conjunction with the various geophysical surveys much of the area has been geologically mapped both on a regional and detailed scale by Rio Tinto and Tasmanian Mines Department geologists respectively.

In conjunction with the Company's scout testing programme a photogeological interpretation was compiled (with little reference to previous work) by the writer. No ground mapping of any importance was carried out to check this interpretation, which is shown as the regional photo-geological map, (Figure 2).

The interpreted ancient drainage pattern should be considered as indicative of the approximate channel positions.

3. Drilling:

The various known drill holes on the Ringarooma and Monarch areas are shown on Figure 2.

These consist of:

(a) A Rio Tinto Bore - No. GB.4 (Dead Horse Creek) which is believed to have been abandoned in coarse wash at 142 feet.

(b) The Company drilling on the Vicary Creek, Bowser Creek and Deep Lead areas, most of which were "bottomed".

(c) The Mines Department drilling on the deep lead, adjacent to the company drill holes, only one of which had reached "bottom" when company drilling ceased.

The programme of drilling carried out by the Company on the area comprised seven holes totalling 1,002 feet.

These holes were drilled under contract by W.L. Sides & Son Pty. Ltd., using a Goldfields G33 type percussion drill, under the same contract terms as the Monarch area drilling.

Initially nine holes were programmed to test the seismic channel profile but sufficient information had been obtained after seven holes for preliminary assessment.

One hole 12,000 E was not bottomed due to the casing becoming jammed in running drift (could be neither driven ahead nor extracted).

The Mines Department drill rig, drilling some 200 yards south of the line of holes drilled by the Company encountered similar difficulties in penetrating the drift materials.

4. Sampling:

Similar sampling proceedures to that used on the Monarch area were employed in this programme.

These briefly consisted of discharge of bailings into half 44 gallon drums, partial settling, measurement of volume (wet), water flushing to remove clays and then "cradling" of residual sands to obtain a concentrate for hand panning, drying and subsequent weighing and chemical assays.

Details for individual holes are shown on the graphic assay logs.

5. Surveying:

The line of drill holes formed part of a detailed topographic survey carried out in conjunction with the B.M.R. seismic traverses and hence levels relative to a number of datum points were available. The writer has used the same datum as was used for the Monarch Area.

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F. GENERAL GEOLOGY & HISTORY

1. Regional:

The tin deposits of Northeast Tasmania fall into two groups - primary and secondary; the latter being formed as a direct result of the erosion and concentration of the primary deposits.

The primary deposits have been formed by the intrusion of a series of tin bearing granites of Upper Devonian age into the Silurian and Lower Devonian sedimentary units of the "Mathinna" Group. Thus, tin deposits occurring within or adjacent to these granites are scattered over the northeast quadrant of Tasmania including the islands of the Furneaux Group - about 3,000 square miles of land area.

The resultant erosion of the primary deposits has given rise to extensive areas of secondary (alluvial) deposits, especially in the high rainfall areas.

These primary deposits occur as:

(a) massive veins of quartz-wolfram-cassiterite, etc. in the sediments of the contact zones of the intrusive granites, e.g. Storey's Creek and Rossarden.

(b) low grade stockwork type developments of generally very fine veins and joint facings and stringers of mineralised material scattered through the outer zone of the granite body itself - Mt. Cameron and Weldborough, etc.

(c) similar weakly mineralised stockworks in the contact zone sediments - Scamander, Gladstone, etc.

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(d) low grade disseminations in which the cassiterite appears as one of the actual crystalline constituents of the altered granite body, e.g. mines of the Blue Tiers.

Irrespective of the nature of the primary occurrence, any secondary deposits of tin derived from the erosion of the granites and their host sediments, become concentrated through the action of flowing water into placers which are located generally at points where abrupt shallowing of stream gradients occurs.

Depending on the intensity of rainfall and the steepness of the slope on which erosion is taking place, the placer tin becomes concentrated either through movement of the tin grains into distinct channels as stream deposits, or surface erosion and removal of the lighter minerals leaves the cassiterite concentrated as a sheet type eluvial deposit on the more gentle hillslopes.

In assessing the alluvial tin potential of the area it is necessary to consider the history (origin) of the major occurrences of the region.

The source for the alluvial tin deposits of the region are the granite mountains of the Ringarooma-Blue Tiers area of which Mt. Cameron is an outlier. This area receives heavy rainfall from the northwest and drains generally northward, though the fact that Mt. Cameron is an isolated high, resulted in a local variable drainage, viz. from the western and southern sides into the old Ringarooma; from the northern side directly into the sea, and from the eastern side into the stream which gave rise to the "Scotia" lead.

At the base of these mountains the stream gradients abruptly flatten and, as a consequence, any heavy minerals carried in suspension are deposited almost by dump action as deltas or fans within the main stream channels, e.g. Cascade and Wyniford Rivers.

Sea level at this stage must have been some hundreds of feet lower than at present.

After a long period of erosion of the tin bearing mountainous granite country and the resultant deposition of a number of stream placers along the northern margin of these mountains, sea level started to rise. Thus a considerable thickness of granitic detritus in places with interbedded organic material horizons was laid over the top of the placers - largely burying them. As sea level rose parts of the lower end of the old valley system were subjected to marine conditions.

Towards the end of the stage of silting up of the old stream valley a series of basalt flows completely filled and obscured the old valley.

The maximum sea level height achieved during this stage was probably over 200 feet above present sea level.

As sea level dropped again (fluctuations in ice caps) and erosion again became prominent, the streams drained down along the original mountain valleys until they encountered the new plain level - the top of the basalt filling the old valley. Since the basalt was fresh and hard compared with the granite which had been softened by pre-basalt (flow) weathering, the main stream cut down along the northern margin of the granite mountain country, at its contact with the basalt.

Hence the Ringarooma is inferred as having been diverted from its original channel on the western side of Mt. Cameron to a new (present) channel on the eastern side of Mount Cameron,(see Figure 2).

As the new river cut back towards the old stream bed it dissected the basalt and, in places, exposed parts of the buried ancient placer deposits. Simultaneously the streams in the old valleys continued to carry some fresh tin down from the mountains as well as eroding the upper sections of the old

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placers. This tin, together with that eroded by the Ringarooma from the old leads was carried downstream and re-deposited as new placers in such areas as the Dorset Flats at South Mount Cameron and Fosters Marshes, north of Gladstone.

Hence it can be seen that the various mine workings (old and new) are of two basic types - deeply buried leads (Endurance, Pioneer, Brieses, Valley etc.) and relatively shallow dredging flats (Dorset and Macgregor flats).

Further it can be seen from Figure 2 that if the inferred fossil drainage pattern is indeed representative of the actual ancient drainage then the main drainage channel was receiving the overcarry of valuable heavy minerals from a whole series of tin bearing streams. Thus the interest in the inferred Ancient Ringarooma channel, since many of the tributary leads were exceptionally rich in the sections which have been worked.

Two major factors are likely to influence the possibility of economic tin deposition occurring so far downstream (area drilled) in the old channel :

(a) The amount of heavy mineral being overcarried by the tributary streams from the primary depositional zone at the base of the mountains. This is controlled largely by the gradient of the stream, which is a function of its height above sea level. Hence it would be of interest to have a reliable sea level height applicable to the area at the time of rapid erosion - prior to the burying of the leads.

(b) The actual position of the sea shore at the time of erosion, mentioned above, - since it is unlikely that a stream lead could form under estuarine conditions, although it would be possible for a shore line placer to be formed.

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2. Departmental Reservation.

This area covers the inferred position of the stream channel of the ancient Ringarooma below the confluences of the major tributary streams. Thus if valuable heavy minerals were being overcarried during early deposition, then theoretically this section of the main channel should carry major placer deposits.

The area has little or no remaining basalt cover and this is the prime factor which makes it of interest for prospecting - since further upstream, where tin is more likely to occur, the channel is buried beneath a basalt cover some hundred feet thick, which is in addition to a considerable thickness of drift.

Reference to Figure 2 shows the main features of the local geology - isolated granite outcrops which represent old land surface, areas of Tertiary alluvial "drift" (generally in the low lying areas) with a number of ridges containing remnants of cemented ferruginous grits and decomposed basalt.

The inferred stream position is a generalized interpretation from known and inferred bedrock outcrop together with the results of Company drilling.

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G. APPRAISAL OF RESULTS.

1. Geophysical.

The various geophysical surveys have all encountered the one major problem, there is insufficient contrast between the weathered bedrock and the overlying alluvium, whether the contrast desired was in density, magnetic susceptibility or velocity of propagation.

The seismic refraction method which yielded the best results was able to define a nebulous horizon - the upper surface of the unweathered bedrock - which unfortunately could not be related with any precision to the upper surface of weathered bedrock as determined by drilling results.

This relation is evident in the cross section accompanying this report, (Figure 3), together with the section discussed by Mr. Taylor in his report on the Monarch area. It can be seen that the broad valley shapes are similar in profile, though the variation in thickness of the zone of weathered bedrock (?) is unpredictable, varying from 10 to 150 feet.

Even when drill hole information is available along traverse lines it is still generally not possible to select a "break" from the seismic record which would correspond to the horizon of the top of the weathered bedrock.

2. Drilling.

The cross section, (Figure 3), shows the channel features evident from the drilling results. Unfortunately the hole at the 12,000 E site could not be bottomed due to jammed casing and hence the inferred channel deep is subject to confirmation.

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The wash encountered in the 13,000 E bore was generally well rounded and under 1½" diameter and consisting of clean white quartz, while that encountered in the 11,000 E bore was similar in type but contained abundant pyrite and/or marcasite. There was only the slighest trace of cassiterite in either bore, (see the graphic assay sections).

The remarkable (apparent) uniformity of lithologic units in the correlation section appears to indicate deposition under fairly stable conditions.

The lack of any large greenish bouldery wash with shell fragments of the type encountered on the deep Monarch areas would seem to indicate that the area was not subjected to marine influence during the period when possible tin deposition was occurring.

The results have shown that the stream base level on this traverse was about 100 feet above present sea level. In order to determine whether the inferred fossil drainage system is valid it is only necessary to know the levels relative to sea level of the base of the workings in the Briesis and Pioneer mines. It is mentioned that the lowest levels shown on the plans of the Briesses workings indicate an R.L. of 4530 feet, but the datum is not stated.

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H. CONCLUSIONS.

The following points have become apparent as a result of the scout drilling:

1. The drilling results have shown that a lead system does exist, though very little con firmatory evidence of direction of flow is available.

2. Depths to the lead channel are of the order of 200 to 250 feet in the low lying sections of the Mines Department reservation.

3. The actual channel appears to be restricted to a width of less than 2,000 feet.

4. The main "gutter" was not intersected and hence no information to confirm whether a tin bearing lead exists, was obtained.

5. The nature of the wash in the channel intersections indicates that estuarine conditions did not reach the area drilled.

6. It is evident that for the area to be economic any tin bearing wash in the lead must have a value of some 20-30 lbs. per cubic yard as a minimum. This is computed on the basis of say 10 feet of wash under 240 feet of cover with 45° batters to give an overall recovery of about ¾lb. to the cubic yard of tin concentrates.

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I. RECOMMENDATION :

Reference to the "deep lead" mines of the area indicates that a wash value as discussed in conclusion (6) is not beyond feasibility, hence it is considered that the area warrants further drilling to test the tin bearing potential of the "lead" as under :

1. A drill hole at 12,000E has to be bottomed to define channel shape.

2. A drill hole at 12,500E is required to confirm the channel position.

3. At this stage it will be possible to determine which holes of the series 11,500E; 11,750E; 12,250E; or 12,750E are required to locate the lead.

4. Since one of the holes of stage (3) will intersect either tin values or maximum channel depth, additional holes will be required 50 feet on each of the eastern and western sides of it to evaluate the lead.

It is mentioned that from the drilling already carried out it is evident that future drilling will require at least two casing sizes and jacks for recovering casing, since all holes will be of the order of 200 to 250 feet deep.

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FIG. 2

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RINGAROOMA BAY

TOMAHAWK

Fixed sand dunes

Unfixed sand dunes

BOOBYALLA

Foster's Marshes

Duck hole

Mayfield ck

Stanley ck

Dunns or Dobsons

Duggards

Delta

MACGREGOR

Current Dorset Dredging Area

ABERFOYLE

Black Duck

Echo

BOOMERANG

VULCAN

Hardwicke

Lochaber

Native Glass workings

Doone

RINGAROOMA

Scotia

Empress workings

GLADSTONE

MONARCH

Rio Tinto bore GB4

White rock workings

Walpole Creek workings

1509' MT. CAMERON

Star Hill

Amber Hill workings

SECTION

LITTLE MT. HORROR

Mines dept drilling

Hastie

Endurance Pipeline

New Dorset Flats

Halfway Hill

Gum Hill

SOUTH MOUNT CAMERON

Banca Mine

The Backup

Rainbows or Martins farm

Red Hill

Sheok Hill

Old Dorset Flats

Approx True North

MT HORROR

Johnsons gravel pits

To St Helens

PIONEER

WINNALEAH

HERRICK

The Surrey

MOORINA

Endurance power station

Frome Dam

Warrentina pine plantations

BRANXHOLME

DERBY

Valley Mine

Mutual Hill

Launceston

Weldborough

COMPILED FROM UNCONTROLLED AERIAL PHOTOGRAPHS BY W.S.CHESNUT AUG. 1964

- Inferred granite outcrop
- Inferred residual basalt or basaltic soil
- Alluvial drift - generally underlying basaltic soil
- Regional metamorphosed sediments of Mathina gp.
- Recent river flats
- Ferruginous grits & sands
- Dredging areas
- Tailings
- Air photograph interpretation lines - generally outcrop boundary
- Ponds & dams
- Inferred fossil drainage
- Roads & tracks
- BMR seismic traverse lines
- Water race
- Major power transmission line
- BHP Drillholes

40 0 40 80 120

APPROX. SCALE OF CHAINS

5 cm

G.T. 20.8.65.

TIN PROSPECTING 246622

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REGIONAL PHOTO-GEOLOGICAL MAP DERBY-BOOBYALLA AREA N.E. TASMANIA

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FIG 2.

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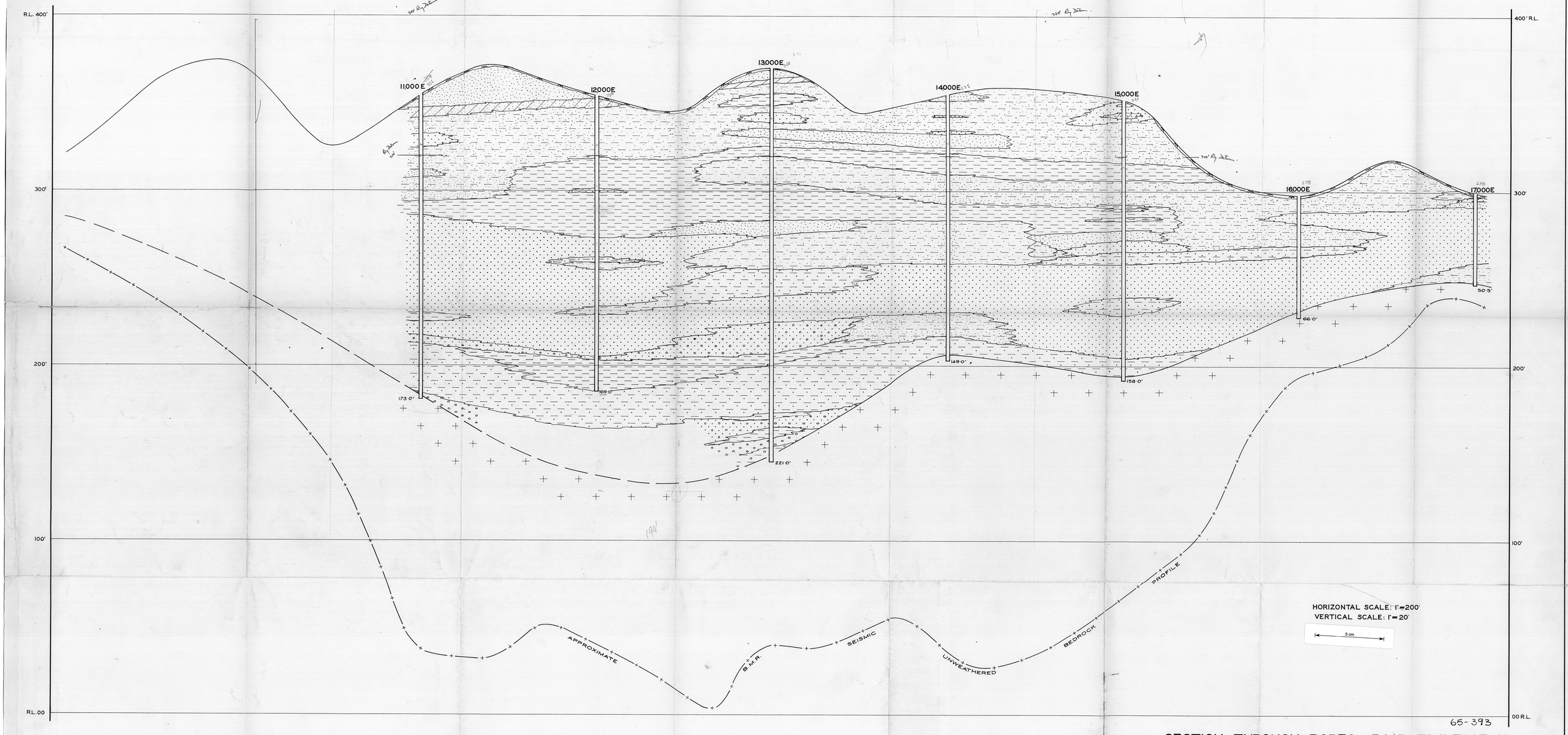

LEGEND:

- Sand
- Clay
- Wash
- Drift
- Cement
- Surface soil
- Weathered granite bottom.

23.8.65 A.C.

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SECTION THROUGH BORES — B.M.R. TRAVERSE H. INFERRED RINGAROOMA DEAP LEAD CHANNEL BOOBYALLA — N.E. TASMANIA

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LOG SHEET – ALLUVIAL DRILLING

DRILL HOLE No. 11,000

Average value. Trace.

State TASMANIA.
Locality RINGAROOMA DEEP LEAD.
Drill hole coordinates Tra verse H.
Datum point 29.0 ft. A.M.S.L.
R.L. of collar 355.7
R.L. of water 23.0 ft. below collar.

Supervised by G.A.McLellan & W.S.Chesnut.
Panner A.Mott.
Time and date started 7.45 am, 15.3.65.
Time and date completed 4.00 pm, 20.3.65.
Drill Goldfields G.33 6inch.

Inside diameter of casing 5½ inches
Internal area of casing ____ sq. ft.
Diameter of cutting shoe 6⅛ inches
Area of cutting shoe ____ sq. ft.
Pipe factor ____
Corrected area of shoe ____ sq. ft.

1. Bedrock
2. Sand and gravel content ____ cu.ft.
3. Content gravel + ¼" ____ cu.ft.
4. Content sand and gravel -¼" ____ cu.ft.
5. Slime content ____ cu.ft.
6. Depth of overburden ____ ft.
7. Mineralised ground, Thickness ____ ft.
8. Overall depth 175.0 ft.
9. Selected depth ____ ft.
10. Gangue. Weight in selected depth ____ ozs.
11. Checked by ____

Average value in ounces per cubic yard
by weight ____ by assay ____

Assay value ____ % Recoverable ____ %

Bore log			Core measurements								Calculations				Progressive		Assay results			Remarks
Description	Depth	Graphic log	Conc$ sample No	Depth to bottom of sample ft.	Sample interval ft.	Theoret. volume cu.ft.	Measured volume cu.ft.	Sample weight	Correctn factor K/E	Weight of conc$ ozs.	Volume cu.ft.	Weight of $nO2 ozs.	Value 27Q/P ozs. per cu.yd.	Foot-ounces D x R	Foot-ounces	Value T/B ozs $nO2 per cu.yd	% metal in conc$	Gangue sample No	% metal in gangue	
			A	B	D	E	K	L	M	N	P	Q	R	S	T	U	V		W	
Coarse sand.																				
	8.0																			
Brown cement and sandstone.																				
	14.0																			
Yellow sandy puggy clay.																				
	17.0																			
Yellow silty clay.																				
	23.0		B1930		50.0	11.6656	12.2168			0.20	12.2168	Trace	Trace	-	-	Trace	3.96%			
Coarse brown drift.																				
	31.5																			
Clayey silt.																				
	36.0																			
Very soft sandy silt.																				
	44.0																			
Fine sand.																				
	48.0																			
Sticky silty grey clay.				50.0																
	62.0																			
Puggy brown clay with wood.	63.5																			
Sticky silty grey clay.	66.0																			
Puggy brown clay.																				
	70.0																			
Brown coarse drift with -			B1931		80.0	18.5052	18.9024			25.83	10.9024	Trace	Trace	-	-	Trace	.01%			

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LOG SHEET – ALLUVIAL DRILLING

DRILL HOLE No. 11,000 (Cont).
Average value. _____

State _____
Locality _____
Drill hole coordinates _____
Datum point _____
R.L. of collar _____
R.L. of water _____

Supervised by _____
Panner _____
Time and date started _____
Time and date completed _____
Drill _____

Inside diameter of casing _____ inches
Internal area of casing _____ sq. ft.
Diameter of cutting shoe _____ inches
Area of cutting shoe _____ sq. ft.
Pipe factor _____
Corrected area of shoe _____ sq. ft.

1. Bedrock
2. Sand and gravel content _____ cu. ft.
3. Content gravel + ¼" _____ cu. ft.
4. Content sand and gravel – ¼" _____ cu. ft.
5. Slime content _____ cu. ft.
6. Depth of overburden _____ ft.
7. Mineralised ground, Thickness _____ ft.
8. Overall depth _____ ft.
9. Selected depth _____ ft.
10. Gangue. Weight in selected depth _____ ozs.
11. Checked by _____

Average value in ounces per cubic yard
by weight _____ by assay _____

Assay value _____ % Recoverable _____ %

Bore log			Core measurements								Calculations				Progressive		Assay results			Remarks
Description	Depth	Graphic log	Concs sample No.	Depth to bottom of sample ft.	Sample interval ft.	Theoret. volume cu. ft.	Measured volume cu. ft.	Sample weight	Correct. factor K/E	Weight of concs ozs.	Volume cu. ft.	Weight of SnO_2 ozs.	Value $\frac{27Q}{P}$ ozs. per cu. yd.	Foot-ounces D x R	Foot-ounces	Value T/B ozs SnO_2 per cu. yd	% metal in concs	Gangue sample No.	% metal in gangue	
			A	B	D	E	K	L	M	N	P	Q	R	S	T	U	V		W	
pieces of wood and nodules of pyrite.																				
	126.0																			
Light grey stiff clay with wood and pyrite.				130.0																
	131.0																			
Brown coarse drift.	132.0																			
Very coarse quartz drift.																				
	139.0																			
Very coarse quartz drift with wash pebbles up to ¾" diam.																				
	144.0																			
			B1932		40.0	9.2526	8.4216			4.80	8.4216	Trace	Trace	-	-	Trace	0.14%			
Coarse drift with numerous bands of brown clay.																				
				170.0																
	172.0		B1933		5.0	1.1566	1.4784			6.62	1.4784	Trace	Trace	-	-	Trace	0.12%			
Quartz wash with pyrite.	173.0																			
				175.0																
Brown micaceous decomposed granite	175.0																			

THE BROKEN HILL PROPRIETARY CO. LTD.

LOG SHEET – ALLUVIAL DRILLING

DRILL HOLE No 12,000
Average value. Trace.

State TASMANIA.
Locality RINGAROOMA DEEP LEAD.
Drill hole coordinates Tra verse H.
Datum point 29.0 ft. AMSL
R.L. of collar 355.5
R.L. of water

Supervised by G.A.McLellan
Panner A.Mott
Time and date started 3.00 pm, 3.3.1965.
Time and date completed 4.30 pm, 11.3.1965.
Drill Goldfields. G.33 6 inch.

Inside diameter of casing 5½ inches
Internal area of casing ____ sq. ft.
Diameter of cutting shoe 6⅝ inches
Area of cutting shoe ____ sq. ft.
Pipe factor ____
Corrected area of shoe ____ sq. ft.

1. Bedrock Not bottomed.
2. Sand and gravel content ____ cu.ft.
3. Content gravel + ¼" ____ cu.ft.
4. Content sand and gravel -¼" ____ cu.ft.
5. Slime content ____ cu.ft.
6. Depth of overburden ____ ft.
7. Mineralised ground, Thickness ____ ft.
8. Overall depth 169.0 ft.
9. Selected depth ____ ft.
10. Gangue. Weight in selected depth ____ ozs.
11. Checked by ____

Average value in ounces per cubic yard
by weight ____ by assay ____
Assay value ____ % Recoverable ____ %

Bore log			Core measurements								Calculations				Progressive		Assay results			Remarks
Description	Depth	Graphic log	Conc$ sample No	Depth to bottom of sample ft.	Sample interval ft.	Theoret. volume cu.ft.	Measured volume cu.ft.	Sample weight	Correct$ factor K/E	Weight of conc$ ozs.	Volume cu.ft.	Weight of $nO2 ozs.	Value 27Q/p ozs. per cu.yd.	Foot-ounces D x R	Foot-ounces	Value T/B ozs $nO2 per cu.yd	% metal in conc$	Gangue sample No	% metal in gangue	
			A	B	D	E	K	L	M	N	P	Q	R	S	T	U	V		W	
Clayey soil.	1.0																			
Brown cement and sandstone.	6.5																			
Yellow clayey sandstone.	13.5																			
Clayey brown sand.			B1926	30.0	30.0	6.9394	6.336			0.33	6.336	Trace	Trace	-	-	Trace	1.42			
Stiff brown clay.	35.0																			
Ligneous clay.	43.5																			
Brown and grey clay.	44.0																			
Coarse drift.	52.5																			
Brown and grey clay with pieces of wood.	55.0		B1927	75.0	75.0	17.3486	17.7672			22.12	17.7672	Trace	Trace	-	-	Trace	0.03			
Hard packed medium coarse brown drift.	81.0																			
Coarse quartz drift	89.0																			
Clayey drift.	92.0																			
Silty grey clay.	95.0																			
Clayey grey drift.	99.0																			
	100.0																			

THE BROKEN HILL PROPRIETARY CO. LTD.

LOG SHEET – ALLUVIAL DRILLING

DRILL HOLE No. 12,00 (Cont).
Average value. _____

State _____
Locality _____
Drill hole coordinates _____
Datum point _____
R.L. of collar _____
R.L. of water _____

Supervised by _____
Panner _____
Time and date started _____
Time and date completed _____
Drill _____

Inside diameter of casing _____ inches
Internal area of casing _____ sq. ft.
Diameter of cutting shoe _____ inches
Area of cutting shoe _____ sq. ft.
Pipe factor _____
Corrected area of shoe _____ sq. ft.

1. Bedrock
2. Sand and gravel content _____ cu.ft.
3. Content gravel + ¼" _____ cu.ft.
4. Content sand and gravel -¼" _____ cu.ft.
5. Slime content _____ cu.ft.
6. Depth of overburden _____ ft.
7. Mineralised ground, Thickness _____ ft.
8. Overall depth _____ ft.
9. Selected depth _____ ft.
10. Gangue. Weight in selected depth _____ ozs.
11. Checked by _____

Average value in ounces per cubic yard — by weight _____ by assay _____

Assay value _____ % Recoverable _____ %

Bore log			Core measurements								Calculations			Foot-ounces	Progressive		Assay results			Remarks
Description	Depth	Graphic log	Conc^{s} sample No	Depth to bottom of sample ft.	Sample interval ft.	Theoret. volume cu.ft.	Measured volume cu.ft.	Sample weight	Correct^{n} factor K/E	Weight of conc^{s} ozs.	Volume cu.ft.	Weight of SnO_2 ozs.	Value $\frac{27Q}{P}$ ozs. per cu.yd.	Foot-ounces D x R	Foot-ounces	Value T/B ozs.SnO_2 per cu.yd	% metal in conc^{s}	Gangue sample No	% metal in gangue	
			A	B	D	E	K	L	M	N	P	Q	R	S	T	U	V		W	
	100.0																			
Coarse quartz drift.				105.0																
	120.0		B1928		30.0	6.9394	6.2568			0.82	6.2568	Trace	Trace	-	-	Trace	0.55			
Grey clay and drift.	125.0																			
Coarse drift.				135.0																
	138.0																			
Very coarse drift.	149.0																			
Very coarse drift with wash pebbles up to ¾" diam.	151.0		B1929		34.0	7.8646	7.2336			0.22	7.2336	Trace	Trace	-	-	Trace	2.69			
Sandy grey clay.																				
	169.0			169.0																
Coarse drift.																				Hole abandoned when casing could not be driven ~~ahead~~.

THE BROKEN HILL PROPRIETARY CO. LTD.

LOG SHEET – ALLUVIAL DRILLING

DRILL HOLE Nº 13.000

Average value. 0.04 ozs. SnO_2

State TASMANIA.
Locality RINGAROOMA DEEP LEAD.
Drill hole coordinates Trs. verse H
Datum point 29.0ft A.M.S.L.
R.L. of collar 411.0
R.L. of water

Supervised by G.A.McLellan.
Panner A.Mott
Time and date started 7.45 am, 20.2.1965.
Time and date completed 2.00 pm. 3.3.1965
Drill Goldfields G.33 6 inch.

Inside diameter of casing 5½ inches
Internal area of casing ____ sq. ft.
Diameter of cutting shoe 6⅝ inches
Area of cutting shoe ____ sq. ft.
Pipe factor ____
Corrected area of shoe ____ sq. ft.

1. Bedrock
2. Sand and gravel content ____ cu.ft.
3. Content gravel + ¼" ____ cu.ft.
4. Content sand and gravel -¼" ____ cu.ft.
5. Slime content ____ cu.ft.
6. Depth of overburden ____ ft.
7. Mineralised ground, Thickness ____ ft.
8. Overall depth 225.0 ft.
9. Selected depth ____ ft.
10. Gangue. Weight in selected depth ____ ozs.
11. Checked by ____

Average value in ounces per cubic yard — by weight ____ — by assay ____

Assay value ____ % Recoverable ____ %

Bore log			Core measurements								Calculations				Progressive		Assay results			Remarks
Description	Depth	Graphic log	Concs sample Nº	Depth to bottom of sample ft.	Sample interval ft.	Theoret. volume cu.ft.	Measured volume cu.ft.	Sample weight	Correctn factor K/E	Weight of concs ozs.	Volume cu.ft.	Weight of SnO_2 ozs.	Value $\frac{27Q}{P}$ ozs. per cu.yd.	Foot-ounces D x R	Foot-ounces	Value T/B ozs SnO_2 per cu.yd	% metal in concs	Gangue sample Nº	% metal in gangue	
			A	B	D	E	K	L	M	N	P	Q	R	S	T	U	V		W	
Fine sandy top soil	1.0																			
Fine grey soil.																				
Brown cement.	5.5																			
Clayey light brown sand.	8.0																			
Stiff grey clay.	14.0		B1914		40.0	9.2526	13.2528			0.40	13.2528	Trace	Trace	-	-	Trace	2.08%			
Sandy grey clay.	21.0																			
Brown coarse drift.	25.0																			
Stiff sandy brown clay.	31.0																			
Fine yellow beach sand.	34.5																			
	40.0			40.0																
Fine brown sandy silty clay.			B1915		10.0	2.3131	3.1944			13.84	3.1944	0.028	0.24	2.40	2.40	0.05	0.29			
Stiff brown clay.	45.0																			
	50.0			50.0																
Brown clayey silt.			B1916		10.0	2.3131	3.2472			3.59	3.2472	Trace	Trace	-	2.40	Trace	0.07			
				60.0																
			B1917		10.0	2.3131	4.092			5.82	4.092	Trace	Trace	-	2.40	Trace	0.04			
	66.0																			
Puggy grey clay.				70.0																
			B1918		10.0	2.3131	3.4848			2.65	3.4848	Trace	Trace	-	2.40	Trace	0.04			
	75.0																			
Puggy grey & brown clay with logs of wood.	77.0																			
				80.0																
Puggy grey and brown clay.																				
Fine grained white sandstone.	86.5																			
	89.0																			
Fine grey sand.																				
	95.0																			
			B1919		40.0	9.2526	13.3848			0.66	13.3848	Trace	Trace	-	2.40	Trace	0.55			

THE BROKEN HILL PROPRIETARY CO. LTD.

LOG SHEET – ALLUVIAL DRILLING

DRILL HOLE No. 13,000 (Cont).
Average value. _____

State _____
Locality _____
Drill hole coordinates _____
Datum point _____
R.L. of collar _____
R.L. of water _____

Supervised by _____
Panner _____
Time and date started _____
Time and date completed _____
Drill _____

Inside diameter of casing _____ inches
Internal area of casing _____ sq. ft.
Diameter of cutting shoe _____ inches
Area of cutting shoe _____ sq. ft.
Pipe factor _____
Corrected area of shoe _____ sq. ft.

1. Bedrock
2. Sand and gravel content _____ cu.ft.
3. Content gravel + ¼" _____ cu.ft.
4. Content sand and gravel -¼" _____ cu.ft.
5. Slime content _____ cu.ft.
6. Depth of overburden _____ ft.
7. Mineralised ground, Thickness ___ ft.
8. Overall depth ___ ft.
9. Selected depth ___ ft.
10. Gangue. Weight in selected depth ___ ozs.
11. Checked by _____

Average value in ounces per cubic yard

by weight	by assay
_____	_____
_____	_____
_____	_____

Assay value _____ % Recoverable ___ %

Bore log			Core measurements								Calculations				Progressive		Assay results			Remarks
Description	Depth	Graphic log	Concs sample No	Depth to bottom of sample ft.	Sample interval ft.	Theoret. volume cu.ft.	Measured volume cu.ft.	Sample weight	Correct factor K/E	Weight of concs ozs.	Volume cu.ft.	Weight of SnO_2 ozs.	Value $\frac{27Q}{P}$ ozs. per cu.yd.	Foot-ounces D x R	Foot-ounces	Value T/B ozs.SnO_2 per cu.yd	% metal in concs	Gangue sample No	% metal in gangue	
			A	B	D	E	K	L	M	N	P	Q	R	S	T	U	V		W	
Medium-coarse grey sand.	115.0																			
Coarse clayey yellow drift.				120.0																
	130.0																			
Yellow quartz drift.			B1920		40.0	9.2526	10.1376			0.27	10.1376	Trace	Trace	-	2.40	Trace	2.73			
	145.0																			
Yellow quartz drift with few wash pebbles up to ¾" diam.				160.0																
	163.0																			
Fine grained very stiff clay.																				
	169.0																			
Coarse clayey drift.			B1921		40.0	9.2526	11.5896			0.28	11.5896	0.069	0.16	6.40	8.80	0.04	35.22			
	197.0																			
White & yellow Fuggy clay.	200.0			200.0																

THE BROKEN HILL PROPRIETARY CO. LTD.

LOG SHEET – ALLUVIAL DRILLING

DRILL HOLE No. 13,000 (Cont).
Average value. _ _ _ _ _ _ _

State _____
Locality _____
Drill hole coordinates _____
Datum point _____
R.L. of collar _____
R.L. of water _____

Supervised by _____
Panner _____
Time and date started _____
Time and date completed _____
Drill _____

Inside diameter of casing _____ inches
Internal area of casing _____ sq. ft.
Diameter of cutting shoe _____ inches
Area of cutting shoe _____ sq. ft.
Pipe factor _____
Corrected area of shoe _____ sq. ft.

1. Bedrock
2. Sand and gravel content _____ cu.ft.
3. Content gravel + ¼" _____ cu.ft.
4. Content sand and gravel -¼" _____ cu.ft.
5. Slime content _____ cu.ft.
6. Depth of overburden _____ ft.
7. Mineralised ground, Thickness ___ ft.
8. Overall depth ____ ft.
9. Selected depth ___ ft.
10. Gangue. Weight in selected depth ___ ozs.
11. Checked by _____

Average value in ounces per cubic yard — by weight _____ — by assay _____

Assay value _____ % Recoverable ____ %

Bore log			Core measurements								Calculations				Progressive		Assay results			Remarks
Description	Depth	Graphic log	Concs sample No	Depth to bottom of sample ft.	Sample interval ft.	Theoret. volume cu.ft.	Measured volume cu.ft.	Sample weight	Correct factor K/E	Weight of concs ozs.	Volume cu.ft.	Weight of SnO_2 ozs.	Value $\frac{27Q}{P}$ ozs. per cu.yd.	Foot-ounces D x R	Foot-ounces	Value T/B ozs SnO_2 per cu.yd	% metal in concs	Gangue sample No	% metal in gangue	
			A	B	D	E	K	L	M	N	P	Q	R	S	T	U	V		W	
Very coarse drift with light wash up to ½" diam.	200.0																			
	205.0																			
Stiff yellow and white clay.																				
	211.0		B1922		25.0	6.7828	7.0224			0.47	7.0224	Trace	Trace	-	8.80	0.04	5.43			
Quartz wash up to 1½" diam.	216.0																			
Quartz wash with yellow and white clay.	221.5																			
Yellow & white decomposed granite.	225.0			225.0																

THE BROKEN HILL PROPRIETARY CO. LTD.

LOG SHEET – ALLUVIAL DRILLING

DRILL HOLE Nº 14,000

Average value. 0.08 ozs. SnO_2

State TASMANIA.
Locality RINGAROOMA DEEP LEAD.
Drill hole coordinates Tranverse H
Datum point 29.0 ft. A.M.S.L.
R.L. of collar 355.0
R.L. of water

Supervised by G.A.McLellan.
Panner A.Mott
Time and date started 3.00 pm. 15.2.1965
Time and date completed 4.00 pm. 19.2.1965.
Drill Goldfields G.33 6 inch.

Inside diameter of casing 5½ inches
Internal area of casing ____ sq. ft.
Diameter of cutting shoe 6¾ inches
Area of cutting shoe ____ sq. ft.
Pipe factor
Corrected area of shoe ____ sq. ft.

1. Bedrock
2. Sand and gravel content cu.ft.
3. Content gravel + ¼" cu.ft.
4. Content sand and gravel -¼" cu.ft.
5. Slime content cu.ft.
6. Depth of overburden ft.
7. Mineralised ground, Thickness ___ ft.
8. Overall depth 152.0 ft.
9. Selected depth ___ ft.
10. Gangue. Weight in selected depth ___ ozs.
11. Checked by

Average value in ounces per cubic yard — by weight / by assay

Assay value ____ % Recoverable ____ %

Bore log			Core measurements								Calculations				Progressive		Assay results			Remarks
Description	Depth	Graphic log	Conc§ sample Nº	Depth to bottom of sample ft.	Sample interval ft.	Theoret. volume cu.ft.	Measured volume cu.ft.	Sample weight	Correctn factor K/E	Weight of conc§ ozs.	Volume cu.ft.	Weight of SnO_2 ozs.	Value $\frac{27Q}{P}$ ozs. per cu.yd.	Foot-ounces Dx R	Foot-ounces	Value T/B ozs.SnO_2 per cu.yd	% metal in conc§	Gangue sample Nº	% metal in gangue	
			A	B	D	E	K	L	M	N	P	Q	R	S	T	U	V		W	
Coarse grey sand.	2.0																			
Yellow sandstone.	4.0																			
Coarse yellow clayey sand.	6.5																			
Light yellow sandy clay.	12.0																			
Coarse drift.	13.0																			
Coarse sand stiff white clay.	16.0																			
Yellow and orange stiff sandy clay.	21.0		B1897		40.0	9.2526	13.5432			.24	13.5432	Trace	Trace	-	-	Trace	2.05%			
Coarse orange drift.	23.0																			
Fine yellow beach sand.	31.0																			
Fine grey clayey sand.	34.0																			
Puggy grey clay.	46.0			40.0																
Brown and grey clayey silt.	63.0		B1898		25.0	5.7828	8.2104			.15	8.2104	Trace	Trace	-	-	Trace	.85			
Stiff grey clay.	72.0			65.0																
			B1899		5.0	1.1566	1.0032			.07	1.0032	0.011	0.30	1.50	1.50	0.02	22.52			
			B1901	70.0	5.0	1.1566	2.5608			.25	2.5608	0.066	0.70	3.50	5.00	0.07	37.87	B1902	.72%	In 0.02 ozs. tailings.
Medium coarse yellow clayey sand.	97.0			75.0																
			B1903		30.0	6.9394	11.8272			.20	11.8272	Trace	Trace	-	5.00	Trace	1.76			

THE BROKEN HILL PROPRIETARY CO. LTD.

LOG SHEET – ALLUVIAL DRILLING

DRILL HOLE No. 14,000 (Cont).
Average value. _____

State _____
Locality _____
Drill hole coordinates _____
Datum point _____
R.L. of collar _____
R.L. of water _____

Supervised by _____
Panner _____
Time and date started _____
Time and date completed _____
Drill _____

Inside diameter of casing _____ inches
Internal area of casing _____ sq. ft.
Diameter of cutting shoe _____ inches
Area of cutting shoe _____ sq. ft.
Pipe factor _____
Corrected area of shoe _____ sq. ft.

1. Bedrock
2. Sand and gravel content _____ cu.ft.
3. Content gravel + ¼" _____ cu.ft.
4. Content sand and gravel -¼" _____ cu.ft.
5. Slime content _____ cu.ft.
6. Depth of overburden _____ ft.
7. Mineralised ground, Thickness _____ ft.
8. Overall depth _____ ft.
9. Selected depth _____ ft.
10. Gangue. Weight in selected depth _____ ozs.
11. Checked by _____

Average value in ounces per cubic yard — by weight _____ — by assay _____

Assay value _____ % Recoverable _____ %

Bore log			Core measurements								Calculations				Progressive		Assay results			Remarks
Description	Depth	Graphic log	Conc$ sample No	Depth to bottom of sample ft.	Sample interval ft.	Theoret. volume cu.ft.	Measured volume cu.ft.	Sample weight	Correct$ factor K/E	Weight of conc$ ozs.	Volume cu.ft.	Weight of $nO2 ozs.	Value 27Q/P ozs. per cu.yd.	Foot-ounces D x R	Foot-ounces	Value T/B ozs.$nO2 per cu.yd	% metal in conc$	Gangue sample No	% metal in gangue	
			A	B	D	E	K	L	M	N	P	Q	R	S	T	U	V		W	
Grey coarse drift.				105.0																
	112.0																			
Coarse quartz drift.			B1904		35.0	8.0960	9.3192			0.11	9.3192	Trace	Trace	-	5.00	Trace	2.24			
	125.0																			
Grey sandy clay.																				
	135.0																			
Clayey yellow & grey sand.				140.0																
	139.0																			
Coarse grey drift with numerous small bands of clay.			B1905		5.0	1.1566	2.1648			0.66	2.1648	0.124	1.55	7.75	12.75	0.09	26.93	B1906	8.88	In 0.03 ozs. Tailings.
				145.0																
	149.0		B1907		7.0	1.1566	2.9304			0.04	2.9304	Trace	Trace	-	12.75	0.08	1.96			
Orange yellow and white decomposed granite.	152.0			152.0																

THE BROKEN HILL PROPRIETARY CO. LTD.

LOG SHEET – ALLUVIAL DRILLING

DRILL HOLE No. 15,000

Average value. Trace.

State TASMANIA.
Locality RINGAROOMA DEEP LEAD.
Drill hole coordinates Tranverse H.
Datum point 29.0 ft. A.M.S.L.
R.L. of collar 352.0
R.L. of water 90.0 ft. below collar.

Supervised by G.A.McLellan.
Panner A.Mott.
Time and date started 10.00 am, 8.2.1965
Time and date completed 1.00 am, 15.2.1965.
Drill Goldfields G.33 6 inch.

Inside diameter of casing 5¾ inches
Internal area of casing ____ sq. ft.
Diameter of cutting shoe 6¾ inches
Area of cutting shoe ____ sq. ft.
Pipe factor ____
Corrected area of shoe ____ sq. ft.

1. Bedrock
2. Sand and gravel content ____ cu.ft.
3. Content gravel + ¼" ____ cu.ft.
4. Content sand and gravel -¼" ____ cu.ft.
5. Slime content ____ cu.ft.
6. Depth of overburden ____ ft.
7. Mineralised ground, Thickness ____ ft.
8. Overall depth 160.0 ft.
9. Selected depth ____ ft.
10. Gangue. Weight in selected depth ____ ozs.
11. Checked by ____

Average value in ounces per cubic yard — by weight ____ by assay ____

Assay value ____ % Recoverable ____ %

Bore log			Core measurements								Calculations				Progressive		Assay results			Remarks
Description	Depth	Graphic log	Concs sample No.	Depth to bottom of sample ft.	Sample interval ft.	Theoret. volume cu.ft.	Measured volume cu.ft.	Sample weight	Correct. factor K/E	Weight of concs ozs.	Volume cu.ft.	Weight of SnO_2 ozs.	Value $\frac{27Q}{P}$ ozs. per cu.yd.	Foot-ounces D x R	Foot-ounces	Value T/B ozs SnO_2 per cu.yd	% metal in concs	Gangue sample No.	% metal in gangue	
			A	B	D	E	K	L	M	N	P	Q	R	S	T	U	V		W	
Sandy top soil.	1.0																			
Coarse drift.	2.0																			
Brown cemented drift.	3.5																			
Coarse drift.	7.0																			
Cemented drift.	10.5																			
Coarse drift.	12.5																			
Mottled sandy silty clay.	36.0		B1908		40.0	9.2526	12.0648			.16	12.0648	Trace	Trace	-	-	Trace	7.33⅓			
Brown puggy clay.	46.0			40.0																
Brown & grey clayey silt.	60.0		B1909		30.0	6.9394	8.8704			3.23	8.8704	Trace	Trace	-	-	Trace	0.09			
Lignous clay.	62.0																			
Brown & grey clayey silt.	63.5																			
Stiff grey clay.	65.0																			
Brown clay with wood.	67.0																			
Grey silty clay.	69.0			70.0																
Stiff yellow clay.	74.0																			
Grey sandy silt.	80.0																			
Medium-coarse grey drift.	86.0																			
Yellow medium coarse drift.	87.0																			
Clayey white drift.	94.0		B1911		40.0	9.2526	10.8768			.20	10.8768	Trace	Trace	-	-	Trace	1.66			

THE BROKEN HILL PROPRIETARY CO. LTD.

LOG SHEET – ALLUVIAL DRILLING

DRILL HOLE No. 15,000 (Cont)
Average value. _____

State _____
Locality _____
Drill hole coordinates _____
Datum point _____
R.L. of collar _____
R.L. of water _____

Supervised by _____
Panner _____
Time and date started _____
Time and date completed _____
Drill _____

Inside diameter of casing _____ inches
Internal area of casing _____ sq. ft.
Diameter of cutting shoe _____ inches
Area of cutting shoe _____ sq. ft.
Pipe factor _____
Corrected area of shoe _____ sq. ft.

1. Bedrock
2. Sand and gravel content _____ cu.ft.
3. Content gravel + ¼" _____ cu.ft.
4. Content sand and gravel -¼" _____ cu.ft.
5. Slime content _____ cu.ft.
6. Depth of overburden _____ ft.
7. Mineralised ground, Thickness _____ ft.
8. Overall depth _____ ft.
9. Selected depth _____ ft.
10. Gangue. Weight in selected depth _____ ozs.
11. Checked by _____

Average value in ounces per cubic yard
by weight _____ by assay _____
_____ _____
_____ _____
Assay value _____ % Recoverable _____ %

Bore log			Core measurements								Calculations				Progressive		Assay results			Remarks
Description	Depth	Graphic log	Concs sample No.	Depth to bottom of sample ft.	Sample interval ft.	Theoret. volume cu.ft.	Measured volume cu.ft.	Sample weight	Correctn factor K/E	Weight of concs ozs.	Volume cu. ft.	Weight of SnO_2 ozs.	Value $\frac{27Q}{P}$ ozs. per cu.yd.	Foot-ounces D x R	Foot-ounces	Value T/B ozs SnO_2 per cu. yd	% metal in concs	Gangue sample No.	% metal in gangue	
			A	B	D	E	K	L	M	N	P	Q	R	S	T	U	V		W	
Coarse quartz drift with nodules of ironstone.				110.0																
	113.0																			
Medium coarse clayey drift.			B1912		20.0	4.6262	5.7552			.08	5.7552	Trace	Trace	-	-	Trace	2.13			
	123.0																			
Coarse quartz drift with nodules of ironstone.				130.0																
			B1913		30.0	6.9394	13.20			.47	13.20	Trace	Trace	-	-	Trace	.42			
	148.0																			
Coarse clayey drift with numerous bands of clay.																				
	158.0																			
Light brown & white decomposed granite.	160.0			160.0																

THE BROKEN HILL PROPRIETARY CO. LTD.

LOG SHEET – ALLUVIAL DRILLING

DRILL HOLE No. 16,000

Average value. Trace

State TASMANIA.
Locality RINGAROOMA DEEP LEAD.
Drill hole coordinates Traverse H.
Datum point 29.0 ft. A.M.S.L.
R.L. of collar 298.0
R.L. of water 9.0 ft. below collar.

Supervised by G.A.McLellan.
Panner A.Mott
Time and date started 3.45 pm, 4.2.1965
Time and date completed 9.15 am, 8.2.1965.
Drill Goldfields G.33 6 inch.

Inside diameter of casing 5½ inches
Internal area of casing ____ sq. ft.
Diameter of cutting shoe 6⅛ inches
Area of cutting shoe ____ sq. ft.
Pipe factor ____
Corrected area of shoe ____ sq. ft.

1. Bedrock
2. Sand and gravel content cu.ft.
3. Content gravel + ¼" cu.ft.
4. Content sand and gravel -¼" cu.ft.
5. Slime content cu.ft.
6. Depth of overburden ft.
7. Mineralised ground, Thickness ___ ft.
8. Overall depth 70.0 ft.
9. Selected depth ___ ft.
10. Gangue. Weight in selected depth ___ ozs.
11. Checked by ____

Average value in ounces per cubic yard
by weight ____ by assay ____
by weight ____ by assay ____
by weight ____ by assay ____
Assay value ____ % Recoverable ____ %

Bore log			Core measurements								Calculations				Progressive		Assay results			Remarks
Description	Depth	Graphic log	Concⁿ sample No.	Depth to bottom of sample ft.	Sample interval ft.	Theoret. volume cu.ft.	Measured volume cu.ft.	Sample weight	Correctⁿ factor K/E	Weight of concⁿ ozs.	Volume cu.ft.	Weight of SnO_2 ozs.	Value $\frac{27Q}{P}$ ozs. per cu.yd.	Foot-ounces D×R	Foot-ounces	Value T/B ozs.SnO_2 per cu.yd	% metal in concⁿ	Gangue sample No.	% metal in gangue	
	A		A	B	D	E	K	L	M	N	P	Q	R	S	T	U	V		W	
Top soil.	1.0																			
Sandy yellow and brown clay.																				
Brown coarse drift.	9.5																			
Hard yellow and orange clayey silt.	16.0		B1893		40.0	9.2526	9.9792			.21	9.9792	Trace	Trace	-	-	Trace	5.07			
Coarse clayey drift.	28.0																			
Coarse yellow drift.	35.0			40.0																
			B1894		30.0	6.9394	5.94			.23	5.94	Trace	Trace	-	-	Trace	.80			
Coarse sandy brown clay – decomposed granite.	66.0																			
	70.0			70.0																

THE BROKEN HILL PROPRIETARY CO. LTD.

LOG SHEET – ALLUVIAL DRILLING

DRILL HOLE No. 17,000

Average value. Trace.

State TASMANIA
Locality RINGAROOMA DEEP LEAD
Drill hole coordinates Traverse H
Datum point 29.0 ft. A.V.S.L.
R.L. of collar 299.0
R.L. of water 7.0 ft. below collar.

Supervised by G.A.McLellan.
Panner A.Mott
Time and date started 1.15 pm. 3.2.1965
Time and date completed 3.15 pm. 4.2.1965.
Drill Goldfields. G.33 6 inch.

Inside diameter of casing 5½ inches
Internal area of casing ____ sq. ft.
Diameter of cutting shoe 6¼ inches
Area of cutting shoe ____ sq. ft.
Pipe factor ____
Corrected area of shoe ____ sq. ft.

1. Bedrock
2. Sand and gravel content ____ cu.ft.
3. Content gravel + ¼" ____ cu.ft.
4. Content sand and gravel -¼" ____ cu.ft.
5. Slime content ____ cu.ft.
6. Depth of overburden ____ ft.
7. Mineralised ground, Thickness ____ ft.
8. Overall depth 51.0 ft.
9. Selected depth ____ ft.
10. Gangue. Weight in selected depth ____ ozs.
11. Checked by ____

Average value in ounces per cubic yard — by weight ____ — by assay ____

Assay value ____ % Recoverable ____ %

Bore log			Core measurements								Calculations				Progressive		Assay results			Remarks
Description	Depth	Graphic log	Concs sample No.	Depth to bottom of sample ft.	Sample interval ft.	Theoret. volume cu.ft.	Measured volume cu.ft.	Sample weight	Correct. factor K/E	Weight of concs ozs.	Volume cu.ft.	Weight of SnO_2 ozs.	Value $\frac{27Q}{P}$ ozs. per cu.yd.	Foot-ounces D x R	Foot-ounces	Value T/B ozs SnO_2 per cu.yd	% metal in concs	Gangue sample No.	% metal in gangue	
			A	B	D	E	K	L	M	N	P	Q	R	S	T	U	V		W	
Top soil.	1.0																			
Coarse grey sand.	2.8																			
Cemented drift.	4.0																			
Coarse yellow clayey sand.	7.5																			
Brown coarse drift.	39.5		B1895	40.0	40.0	9.2525	11.2728		.25	11.2728	Trace	Trace	-	-	Trace	14.1				
Coarse sandy brown clay.	50.5		B1896	51.0	11.0	2.5444	1.9008		.63	1.9008	Trace	Trace	-	-	Trace	1.67%				
Hard grey & white granite.	51.0																			