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PROGRESS REPORT
 QUEEN HILL JOINT VENTURE
 E.L. 47/71 TASMANIA
 TO AUGUST 25, 1980.

D. Young

80-1503

OPEN FILE

This report covers the
 Aberfoyle quarter (periods 7-9)
 ending August 25, 1980.

C.H. Young,
 District Manager.
 November 1980.

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QH 129/3150	Cross section 3150 sheet 1 & 2.	1:500

INTRODUCTION

This report summarises work completed in the Aberfoyle quarter periods 7 - 9 ending August 25, 1980, and includes preparation and drafting through to September 22, 1980. Reported expenditure is for the Aberfoyle quarter ending August 27, 1980.

During the quarter, the ore reserve and exploration drilling programme continued and two holes were completed for 696.0 m. Exploration holes G65 and G66 are both in progress.

Follow-up ground reconnaissance magnetic and geological traverses were completed over the north-west and Big Rocky Creek magnetic anomalies. Geological evaluation of the Silver Stream magnetic anomaly was also completed.

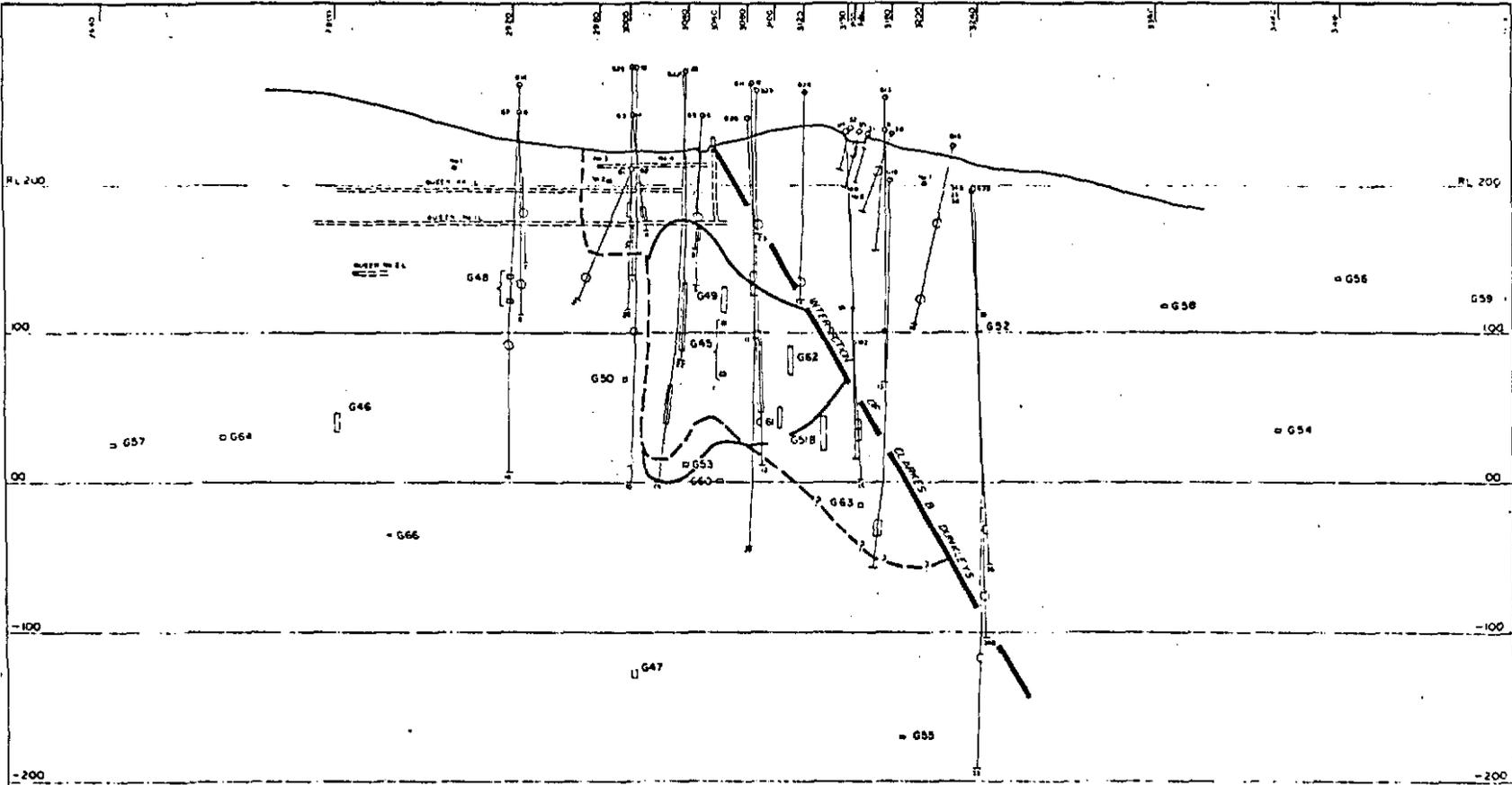
Further assessment of the Regional Stream Sediment survey data was completed.

Excavation of the Queen Hill bench area continued, to provide a bulk sample for the Matte Fuming Pilot Plant at Kalgoorlie.

QUEEN HILL ORE RESERVE AND EXPLORATION DRILLING PROGRAMME

The final ore reserve hole in the current programme, G63 was completed at 352.5 m. A possible Clarkes lode position was intersected between 263.5 and 264.2 m and consists of pyritic veins, 50% overall, in a silicified quartzite-slate host. The Queen Hill lode position was intersected between 286.25 and 289.4 m and consists of pyrite 50-60% as an intense vein network, this interval assays 2.39% Sn.

G64, the first of the exploration holes designed to test adjacent to the G46 intersection, was completed at 343.5 m in volcanics. Only three small pyrite-quartz lodes were intersected with 0.29% Sn over 0.9 m below 184.5 m, 0.28% Sn over 1.15 m below 224.2 m and 0.14% Sn over 2.41 m below 237.2 m. Drill hole G66 designed to test beneath the G46 intersection is in progress.



- LEGEND -

- Hole completed
- ⊕ Ore Reserve hole proposed
- ⊕ Exploration hole proposed
- Queen Hill Lode (interpreted outline only)
- Inner Lode (interpreted outline only)

Week Ending

Aberfoyle Exploration Pty Ltd		
Geology	NORTH WEST TASMANIA	Location code
Drawn: RJE	QUEEN HILL	Date: April, 1980
Traced: RJE	SUMMARY LONGITUDINAL PROJECTION	Scale: 1:2500
Checked:	1980 DRILL PROGRAMME	Plate No: QH 147
Revised by RJE Date APRIL 80		

5 cm

023004

QUEEN HILL — Diamond Drilling Summary

D.H. No.	Co-ordinates		Elevation	Mag Brg	Angle	Commence	Complete	Depth m	Cumulative metres	Section	GEOLOGY/MINERALISATION	RL of Intersection	Intersection
	North	East											
G63	1779.75	922.69	218.24	286.25	-55.25	20.5.80	24.7.80	352.5	1225.4	3150	286.25 - 289.4 m Queen Hill lode position. 40-50% Pyrite as disseminations veins and a vein network.	-11	286.25-289.4 m 2.39% Sn.
G64	1460.9	660.75	230.9	281.0	-62.75	27.5.80	29.7.80	343.5	1568.9	2720	184.5 - 185.4 m, 50% pyrite quartz lode.	50	184.5-185.4 m (0.9m) 0.29% Sn.
											224.2 - 225.35 m, 60% pyrite, siderite, quartz lode.	32	224.2 - 225.35m (1.15m) 0.28% Sn.
											237.2 - 239.61 m, 60% pyrite, siderite lode.	18	237.2 - 239.61m (2.41m) 0.14% Sn.
G65	1581.5	1138.0	182.0	239.1	-60.1	5.8.80	In progress at 140 m.			3055			
G66	1534.03	779.3	213.84	280.4	-59.8	9.8.80	In progress at 105 m.			2840			

023005

In the Severn area, G65 designed to test for structurally controlled mineralisation adjacent to G39, is now in progress.

An ore reserve assessment will be commenced when all assay data is available.

A summary of the drilling programme is included together with summary longitudinal projection (Plate QH 147). The drill logs are appended, together with drill hole assay data. Cross sections at 1:500 scale are attached.

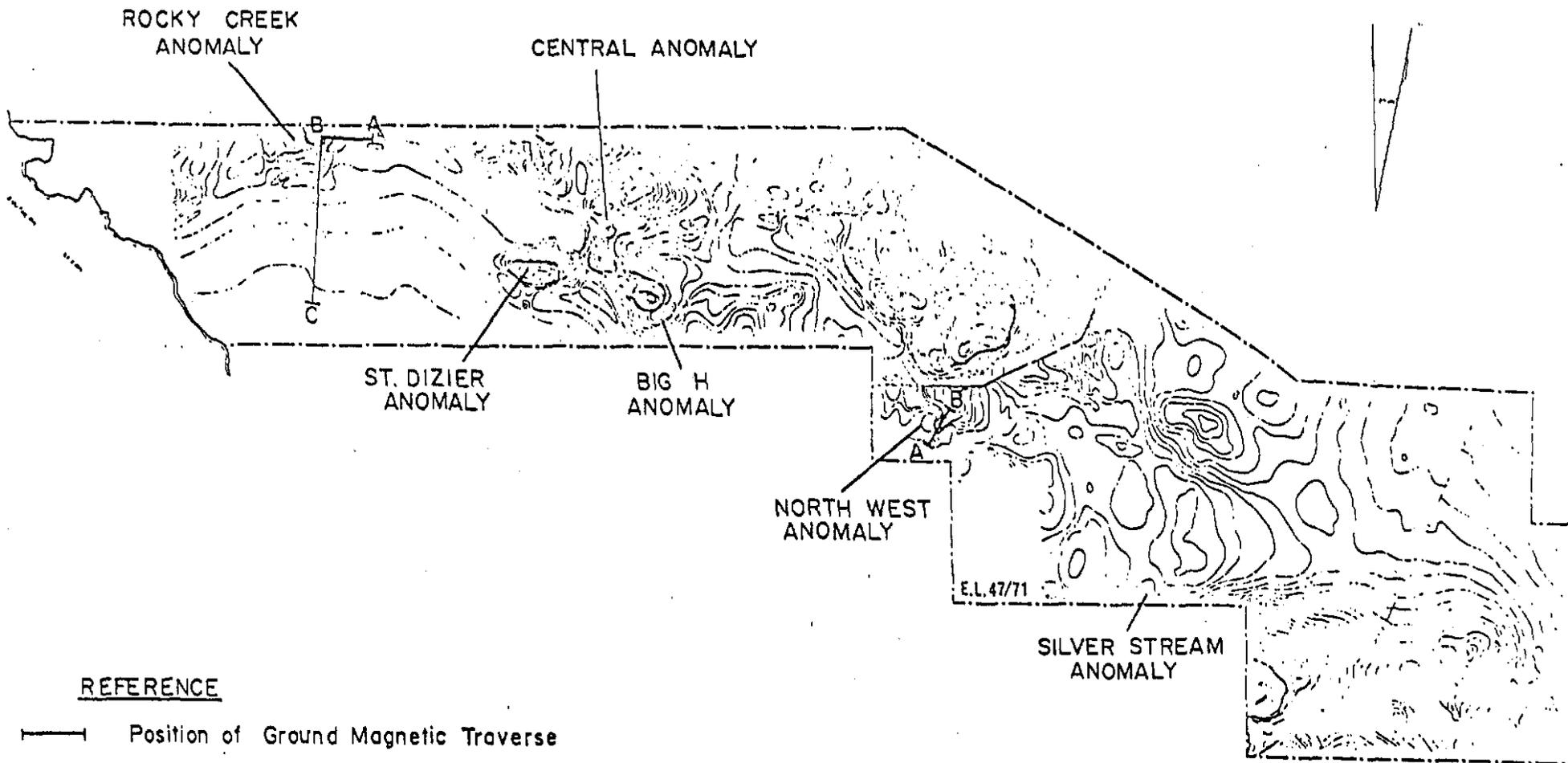
NORTH-WEST MAGNETIC ANOMALY

The north-west anomaly occurs approximately 15 km east of the Big H prospect, near the northern contact of the Heemskirk Granite (Figure 1).

A ground magnetic traverse designed to locate the source of the north-west anomaly was completed. The traverse commenced near the Heemskirk Granite, and passed across strike, over the Oonah Quartzite and Slate (bearing 020^o mag.), ending in Jurassic Dolerite talus, just short of the main body of dolerite.

A subsidiary magnetic anomaly underlain by quartzite and apparently formational in origin was detailed by the ground traverse (Figure 2). The major air magnetic anomaly was not traversed as it clearly relates to the outcrop of Jurassic Dolerite.

Rock chip samples collected during the ground magnetometer traverse were not anomalous (assay data is given in Appendix 3). No further interest is warranted.



REFERENCE

— Position of Ground Magnetic Traverse

NORTH WEST TASMANIA.

QUEEN HILL E.L. 47/71

AEROMAGNETIC CONTOURS

Contour interval 20 gammas

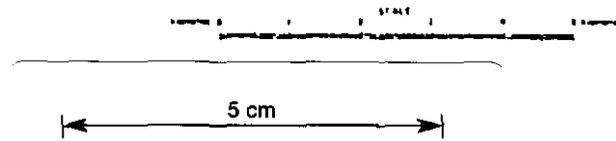


FIG. 1

023007

NORTH-WEST MAGNETIC ANOMALY PROFILE

August 1980.

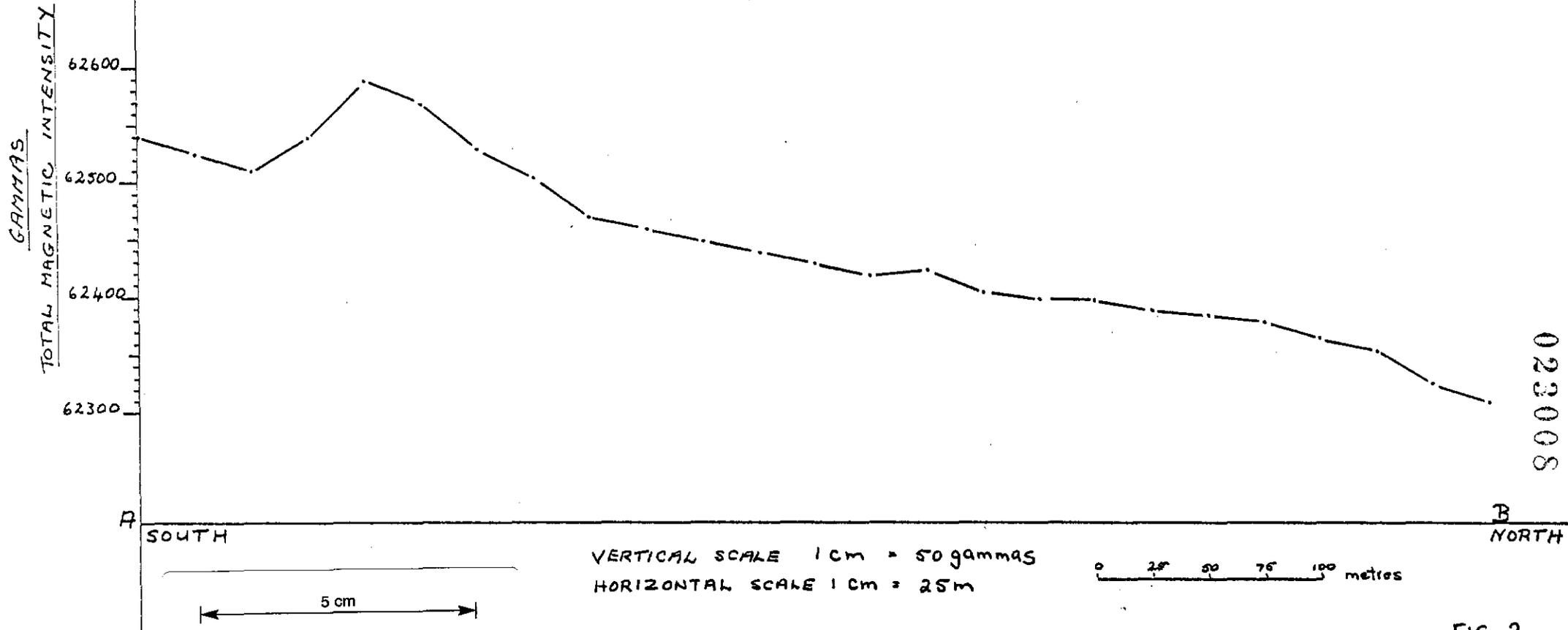
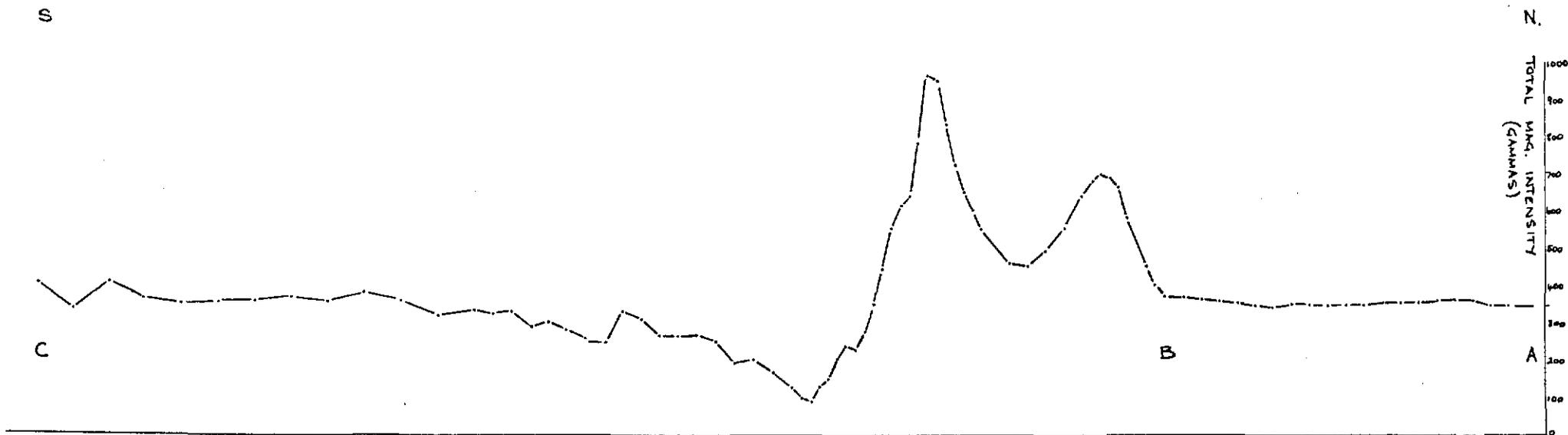


FIG. 2

BIG ROCKY CREEK MAGNETIC ANOMALY PROFILE



VERTICAL SCALE 1cm = 100 gammas

0 100 200 300 400 metres

HORIZONTAL SCALE 1cm = 100 metres

5 cm

FIGURE 3

023009

BIG ROCKY CREEK MAGNETIC ANOMALY

A distinct aeromagnetic anomaly in the Big Rocky Creek area, (Figure 1) some 2 km south-east of Granville Harbour (H-400 EM/Magnetic Survey, April 1975) was located by means of a ground magnetic traverse using a proton magnetometer.

The magnetic results showed the presence of a broad high and corresponding low (Figure 3). The high resolves into two peaks, however the first, less intense peak is a result of traversing E-W across the shoulder of the aeromagnetic high prior to traversing N-S down the axis. Reconnaissance mapping shows that peak magnetic intensity was recorded over a broad alluvial flat some 80 m in width, with a general trend WNW-ESE. Rocks outcropping on channel flanks are sandstones with layers variably replaced by tourmaline, mica-sandstones with minor quartzite, muscovite schists and weathered grey siltstones. Rock chip sampling of the latter returned a single high value of 300 ppm Sn (Sample 236052, Quarterly Report, June 30, 1980) obviously highly anomalous for sediments in the area. A single stream sediment sample from a local creek yielded only a low Sn value. Further evaluation of this magnetic anomaly is proposed in conjunction with follow-up of DIGHEM anomalies in this locality.

SILVER STREAM MAGNETIC ANOMALY

The Silver Stream anomaly is situated approximately 1 km north of the Tenth Legion magnetite (skarn) prospect, 6.5 km west of Zeehan via the Trial Harbour Road (Figure 1).

Initial follow-up of this anomaly was completed in June 1978. A ground proton magnetometer traverse located the anomaly, and a brief geological inspection was made. (Queen Hill Report, Quarter to June 30, 1978).

Recent detailed geological inspection and rock chip sampling shows the anomaly occurs within a sequence of massive quartzites, thinly bedded quartzites and rare siltstones and argillites. The rocks are isoclinally folded on outcrop scale but have an overall steep northerly dip.

No obvious source for the anomaly was encountered, however the geological contact between massive, blocky micaceous quartzite and finely bedded quartzites and argillites was noted in the vicinity. The follow-up ground magnetic traverse (1978) shows the anomaly amplitude is relatively small (approximately 200 gammas) and this suggests a contact between two rock types of differing magnetic susceptibility.

Rock chip assay results show no corresponding geochemical anomaly. No further interest is warranted. (Assay data is given in Appendix 2).

REGIONAL STREAM SEDIMENT SURVEY

Further assessment of the stream sediment survey data (Quarterly report December 31, 1979) was completed. The stream sediment coverage of the licence reveals two main characteristics. Creeks within adamellite, or directly draining adamellite/sediment contacts are commonly anomalous in Sn (>200 ppm) and often anomalous in W (>100 ppm). Streams outside this area are generally low in Sn, W (<20 ppm Sn, <10 ppm W).

Anomalous Sn in rock samples appears limited to fine grained adamellite associated with tourmaline nodules (Sn >400 ppm) and altered (tourmalinised and/or silicified) fine grained adamellite (Sn >200 ppm). Outcrop of the former is widespread at adamellite margins and may explain anomalous Sn in creek sediments. The observation of cassiterite occurring within nodules supports this explanation. The altered, fine grained adamellite appears confined to the area south of St. Dizier and may explain local highly anomalous creek sediment samples. The overall Sn content of the nodular adamellite is generally <500 ppm and is not considered to have any economic potential.

Within sediments removed from areas influenced by adamellite wash, Sn and W in creek sediments are generally low (Sn <30 ppm, W <20 ppm). Sn and W in associated creek sediments are correspondingly low (Sn <20 ppm W <10 ppm) although in the Tasman River area, anomalous Sn in creek sediments is common. This is thought to be the result of alluvial Sn concentrations associated with tertiary gravels.

It was concluded there were no unexplained anomalies or anomalies requiring follow-up.

QUEEN HILL BULK SAMPLE

Excavation of the Queen Hill bench area is continuing. An estimated 900 tonnes of ore was transported to Burnie for crushing, prior to shipment to the Matte Fuming pilot plant at Kalgoorlie.

WORK PLANNED

- . Ore reserve estimation of the Queen Hill lodes.
- . Exploration drilling adjacent to G46 (Queen Hill).
Exploration drilling at Severn, Montana and the Golf Course lode.
- . Assess the St. Dizier magnetite skarn horizon, for tin potential with the intention of defining drill targets.
- . Follow-up DIGHEM anomalies.

EXPENDITURE

The joint venture statement of expenditure for the Aberfoyle quarter periods 7 - 9 (ending August 25, 1980) is split into two parts. One pertains to expenditure incurred on the Queen Hill mineral leases and the other expenditure incurred on the exploration licence.

Queen Hill Mineral Leases

Salaries and Wages	17,899
Contract Drilling	54,848
Petrology	452
Geophysics	450
Assay	1,346
Materials	1,779
Accommodation	1,057
Vehicles	2,429
Communication	535
Tenure	2,808
Sundries	<u>2,435</u>
	86,038
Overhead at 15%	<u>12,903</u>
	<u>\$98,941</u>

Queen Hill Exploration Licence

Salaries and Wages	4,244
Contract	19,302
Materials	749
Accommodation	2,629
Vehicles	1,194
Communication	535
Sundries	<u>1,290</u>
	29,943
Overhead at 15%	<u>4,489</u>
	<u>\$34,432</u>

APPENDIX 1

Drill Logs G63 and G64.



DRILL HOLE RECORD

023016

Location QUEEN HILL
 Commenced 20/5/80
 Objective

Property QUEEN HILL
 Completed 24/7/80

District ZEEHAN
 % Recovery 88%
 Core size HQ to 63, NQ to 72, HQ to 108, NQ to 352.5
 Co-ordinates 5361779.7N 360922.7E

Bearing (M) Z86.2°
 Grid bearing (M) -11.25°
 Dip 55.2°

Hole No G63
 Date 27th JULY '80
 Logged S. RICHARDSON
 Alt./R.L 218.23

SURVEY DATA				GRAPH DERIVED DATA			CALCULATED CO-ORDINATES			REMARKS
DEPTH	DIP	BEARING(M)	INSTRUMENT TYPE	DEPTH	DIP	BEARING(M)	NORTHING	EASTING	ALTITUDE	
7M	55.5°	282°	EASTMAN	0M	55.2°	286.2°	5361779.75	360922.7	218.23	
0M	55.5°	283.5°	"	25	55.5°	287.6°				Hole collapsed in fractured quartz when HQ pulled for bit change at approx. 63m. barrel became stuck at 42m. Rods parted at barrel. Barrel unable to be fished out. Hole was cemented & drill on in NQ At about 80m hole cemented bit NQ rods unable to be pulled free of broken ground & cement. Hole then reamed with HW to 43m. & HQ barrel recovered. HQ then drilled to 108m & NQ rods extracted. Normal drilling resume All HQ recovered Lower 9.5m of HW + shoe bit abandoned.
0M	55.75°	284.75°	"	50	55.5°	288.8°				
22M	55.5°	284°	"	75	55.75°	290.2°				
55M	54.5°	284°	"	100	55.75°	290.7°				
37M	54.0°	284°	"	125	55.5°	290.3°				
217M	52.25°	285°	"	150	54.5°	290.1°				
147M	51.75°	285°	"	175	54°	290.2°				
89.5M	50°	285°	"	200	53.5°	290.7°				
40.5°	48.25°	285°	"	225	52.25°	291.3°				
				250	51.75°	291.4°				
				275	50.5°	291.4°				
				300	49.5°	291.6°				
				325	49°	291.6°				
				350	48.26°	291.7°				
				375	47°	291.8°				

Feature

Bedding
Foliation
Fragment
size & shape



Shearing
Fault
Vein



c carbonate
q quartz

Mineralization

Trace 1-5%
Common 5-15%
Abundant 15-60%
Massive > 60%

023017

CORE RECD	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
		No Core - Now coring bit used. - HW.							
HW	4.0	Lt. grey f.g. massive quartzite							
HQ	5	Lt. grey to dk. gray sericitic shale.							
	7	Bulk of the interval is a lt. grey locally well bedded shale. Bedding where well developed is // to the strong cleavage. (S ₁ /S ₀) Cleavage defined by p.o. of white micas.							
	1.0	Core is very badly broken throughout the entire interval. This may locally be due to faulting but in general is thought to be related to breaking up of weathered core during drilling							
	1.2	S ₁ /S ₀ where observed av. 35 to 45° to C.A.							
	10								
	7								
	1.1								
	9								
	15								
	4								
	5	← shale is locally black below 18.0 m.							
	1.5								
	20	<u>FAULT ZONE?</u> Fragments of shale bound by pug. Zone is distinguished from the surrounding core by the puggy "cement" which binds the fragments. Core above & below is extremely broken.							
	21.7								
	22.2	Lt. grey to med. grey f.g. to m.g. (micaceous) quartzite.							
	3	The rock in this interval is generally a massive quartzite but locally bedding is developed.							
	25								



10cm P4 15 in qtz vein ? to c.a.

Feature

Bedding
Foliation
Fragment
size & shape



Shearing
Fault
Vein



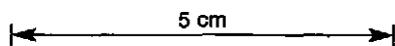
c carbonate
q quartz

Mineralization

Trace 1-5%
Common 5-15%
Abundant 15-60%
Massive > 60%

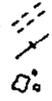
023018

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
4		Lithology - as above - lt to med grey f.g. to m.g. (micaceous) bedded quartzite.						27.2	
5								30	Py 2-3 veinlets to 2mm. 25-70° to c.A.
1.8	29.6	FAULT ZONE - Pug & broken core.						30.3	3mm Py, 5m vein. Py 95, gr 5.
6	30.7	FAULT ZONE - Broken core w. pug.						31.2	Py 2-3 veinlets as above.
3	31.2							34.3	
8	34.3	34.3m FAULT - Pug - 25° to c.A.						34.5	Py 20 f.g. & vein. Py 1-2 veinlets on 1. f.g. on fractures.
2.0	35							37.5	
1.7	37.5	bedding 50° to c.A. 37.5m.						40	
1.4	40							43.5	Py 41 as rare veinlets < 2mm and f.g. on fractures.
3.0								44.5	
3.0	43.5	5cm. q. vein 15° to c.A.						45	
3.0	45	bedding 35° to c.A. 244.5						50	



Feature

Bedding
Foliation
Fragment
size B shape



Shearing
Fault
Vein

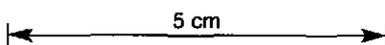


Mineralization

023019

Trace 1-5%
Common 5-15%
Abundant 15-60%
Massive > 60%

CORE RECD	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
23		Lithology - as above - lt. grey f.g. to m.g. (micaceous) massive to bedded quartzite. core is badly broken.							Py < 1 as veinlets < 2mm > diss. on fractures.
30		1m q vein 20° to c.A. 2m q vein 30° to c.A.						54.2 54.3	
55								55	
25		Bedding 50° to c.A. - 58-2m							
18								60	
15		2m q vein 35° to c.A.						61.3	
4		61m - bedding 45° to c.A. - rock otherwise gen. massive.							
6								65	
15									
10									
3								70	
5									
2									
14		72.0m - so 45° to c.A.							
20									



NQ
HQ

Feature

Bedding
Foliation
Fragment
size & shape



Shearing

Fault

Vein



c carbonate
q quartz

Mineralization

Trace 1-5%
Common 5-15%
Abundant 15-60%
Massive > 60%

023020

CORE RECD	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
		Lithology - as above - lt. to med grey f.g. to m.g. massive (bedded) (micaceous) quartzite. Core badly broken							
2-2		2cm q. vein - 45° c.A. 1cm q. vein - 45° c.A. 2cm " " " "						76.4 76.9 77.1	
		5cm q. vein - 7° to c.A. 3cm q. vein - 60° to c.A. 2cm q. vein - " " " 5cm q. veins - " " "						78.0 78.2 78.4	
.5	80	2cm q. vein 20° to c.A. 3cm q. vein 10° to c.A. FAULT - pug 55° to c.A.						79.2 79.4 80.0 80.5	
2.0									
1.2									
.5									
.2									
2.0	85	10cm q. vein - (brecciation) - pyritic - 70% c.A. FAULT - pug 55° to c.A.						84.6 84.8 85.0 85.4	10 f.g. assoc. w. qtz. 2.5 f.g. & feldsp.
2.4									
		1cm q. vein 50° to c.A.						89.4	
2.0	90							90	
	90.5								
	91.0	Dk. grey to black shale w. lt. grey qtzite interbeds to 1-2 cm. QS. as below. Core broken						91.0	
		lt. to med grey massive f.g. to m.g. (micaceous) quartzite - as above							
3.0		91.0 - 92.3 - massive q. veins w. 20% c.A. & 1-2 cm. Description as above.						92.3	
2.4	95							95	
		96.9 - 10cm pyritic breccia - qtzite frag. healed & veined by f.g. pt.							10cm py 40 f.g. & pt. breccia.
	96.9							96.9	
1.5		Dark grey to black carbonaceous shale w. fragments & (contorted) interbeds of lt. grey f.g. (micaceous) quartzite. Rock consists of variations & combinations between the end members 1) Black carbonaceous cong. shale. A shale matrix w. fragments & rafts of lt.							
1.0	100							100	



Feature

Bedding
Foliation
Fragment
size & shape



Shearing
Fault
Vein



Mineralization

Trace 1-5%
Common 5-15%
Abundant 15-60%
Massive > 60%

023022

CORE RECD	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
1.9		FAULT - Pug 70° to c.A. FAULT - " " "						126.0 126.2	Py <1 f.g. (bedded) & veinlet
1.6		About 127.0m the rock becomes very well lam. & undef. interbedded gqite & shale. 50/50 50° to c.A.							
1.7	128.1	Lt. grey f.g. micaceous quartzite A f.g. gen. massive rock ext. veined by an unoriented stockwork of qtz veins av. 2-4mm. thick.							
1.0	130							130	
3.0									
	132.9	FAULT - Pug 60° to c.A.						132.9	
		FAULT - Pug 40° to c.A. FAULT - Pug 70° to c.A.						133.6 134.1	
3.0	135	Dk. grey to black shale w. rafted fragments & interbeds of lt. grey f.g. to mg (micaceous) quartzite. - QS.						135	
3.0		FAULT - Pug & broken core 70° to c.A.						137.8	
	140	FAULT - Broken core & pug - 60° c.A.						139.8 140	
2.0		FAULT - Broken core & pug - 40° c.A.						140.7	
4		FAULT - Pug - 60° to c.A.						142.4	
3.0									
	145							144.3 145	Py 2-5 (15) veinlet & f.g.
6	145.8	FAULT ZONE - Broken core & pug in black shale. Orientation unknown.						145.8	Py <1 (10) f.g.
4									
	147.6	Interbedded grey shale & quartzite - QS. 147.6-147.8 y/fy vein 50° to c.A.						147.6	Py 3-5 veinlets.
3									
	148.6	Strongly qtz veined & brecciated QS as above						148.6 148.9 149.2	Py 3-5 veinlets. Py 50 (rather than qtz) vein.
2.5	149.2	Qtz veined & brecciated QS. FAULT - Pug 20° c.A. - pyritic.						149.2 149.6 150	Py 5-15 (30) veinlets & f.g.



Feature

Bedding
Foliation
Fragment
size & shape



Shearing
Fault
Vein



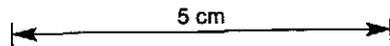
c carbonate
q quartz

Mineralization

Trace 1-5%
Common 5-15%
Abundant 15-60%
Massive > 60%

023023

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
	150.4							150.7	
6		FAULT - qtz healed breccia; 15° to c.A. Lithology - as above - med grey to black shale w. interbeds laths & fragments of lt. grey f.g. to m.g. micaceous quartzite.						150.9	Py 1-2 (10) veinlet, f.g. to c.g.
	2.0							154.0	
	155							155	
3.0									Py < 1 (5) veinlet & f.g.
	1.3	FAULT - 10cm pug 7° to c.A. S ₁ /S ₀ at 157m - 25°.						157.7	
	1.1	FAULT - qtz healed breccia - 40° to c.A. FAULT - Pug 25° to c.A.						159.2 159.3 159.5	Py 10 vein
	160							160.0	10cm Py 15 veins. 30° to c.A.
	3.0							162.65	10cm Py 70 Py, qtz vein 35° c.A. Py 2-3 (10) veinlet & f.g.
	3.1	S ₁ /S ₀ at 162m - 35°.						164.4 164.6	1cm Py vein 35° c.A.
	165							165	
	166.6	FAULT - graphitic pug 45° to c.A.						166.3 166.7	
3.0	167.5	Black carbonaceous cong. shale. - subrounded quartzite. & carbonate frag. in black shale matrix. Black weakly conglomeratic shale grading downwards to well laminated QS by 170.0m. FAULT - Pug 40° to c.A.						167.9	Py 15 v.c.g. in veins at low & to c.A. also f.g. to blebs.
	170							169.1	Py ≈ 1 veins.
	3.0							170	
	172.1							172.1	
	172.5	Pyrite-stannite-galenite-qtz-siderite fissure lode. Stannite associated with Py; 4cm with qtz sid. Lithology - QS as above.						172.5 172.8	2cm Py, 6, 8Py or f.g. to blebs & qtz-sid matrix Stn 20, Py 70 f.g. to lode, qtz sid Py 10 veinlets 20cm Py vein. 45°? to c.A.
2.6								175	



Feature

Bedding
Foliation
Fragment
size & shape



Shearing
Fault
Vein



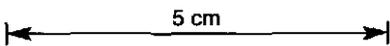
c carbonate
q quartz

Mineralization

023024

Trace 1-5%
Common 5-15%
Abundant 15-60%
Massive > 60%

CORE RECD	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
3-0		Lithology - as above med grey to black shale w. ruffs, fragments & interbeds of lt. grey f.g. to m.g. (micaceous) quartzite.						176.5	1cm py vein 35° c.A.
								177.0	1cm py vein 40° to c.A.
3-0	180							180	
									Py < 1 f.g. to blebs & veinlets
3-0									
	184.0	lt. grey f.g. micaceous quartzite - a massive rock w. highly def. upper contact.							
	185.1							185.2	2cm py vein 45° to c.A.
3-0		QS - as above.							
3-0								190	1cm py vein 40° to c.A.
	190							190.5	Py 1-2 veins.
								191.25	
3-0									Py < 1 f.g. to vein
3-0	195							195	
	195.25	lt. grey f.g. micaceous quartzite - contains wisps & discont. beds of shale (deformed). Gen low angle to c.A.							
	196.25								
		QS - as above.							
3-0								197.8	Py 1-2 veinlets, f.g. to blebs.
								198.7	Py 20; 2cm py-sid-qtz vein
								199.4	
	200							200	

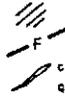


Feature

Bedding
Foliation
Fragment
size & shape



Shearing
Fault
Vein



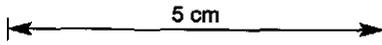
c carbonate
q quartz

Mineralization

023025

Trace 1-5%
Common 5-15%
Abundant 15-60%
Massive > 60%

CORE RECD	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
3-0		Lithology - as above - med grey to black. shale w. fragments ruffs & interbeds of H. grey c.g. to m.g. (micaceous) quartzite.							
3-0	205							205	
3-0		FAULT - broken core 40° to c.A.						206.25 206.50	2cm py 10, qtz. vein. 1cm py vein. Py 1-2 veins.
3-0								207.55 208.2	3cm py 60 sid. vein, 70. flint. 50° to c.A.
3-0	210							210	Py < 1 veinlet & f.g.
3-0								211.30 212.1 212.4	2cm py 50 sid vein. Py 10-15 vein, f.g. to c.g.
3-0	215							215	Py rare
3-0									
3-0	218.7								
3-0		In this interval quartzite occurs as lags - up to 30 cm - bedded blocks in a cong. shale matrix.						220	
3-0	221.5							221.9	1cm py 40 sid. vein 30° to c.A.
3-0								224.3	
		FAULT - pug ≈ // to c.A.						225	
	225								

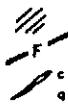


Feature

Bedding
Foliation
Fragment
size B shape



Shearing
Fault
Vein



c carbonate
q quartz

Mineralization

Trace 1-5%
Common 5-15%
Abundant 15-60%
Massive > 60%

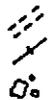
023026

CORE RECD	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
	3.0	Lithology - as above - med grey to black shale w. fragments rfts & interbeds of lt. grey f.g. to m.g. (micaceous) quartzite.						228.9	10cm py veins (av. 3-4mm) 40° c.A. assoc. w. sid veins. same orientation
	3.0	S ₁ /S ₀ average 40-20° to c.A.						230	
	3.0							232.5	
	3.0	In this interval quartzite is rare. S ₀ sed. def. is still very evident from colour contrasts between the shales. Med. grey sericitic rock in general.						235	
	3.0							240	Py rare
	3.0							242.5	
	3.0							242.7	10cm py 30 veins (assoc. w. sid.) av. 2-3mm. 50° to c.A.
	3.0							244.9 245	sp 20 1cm sid vein 25° to c.A.
	3.0							246.0	1cm py 90 sid vein 30° to c.A.
	3.0	1cm sid. vein 35° to c.A. FAULT - pug - 60°? to c.A.						246.5 246.7	5cm py 50 qtz-sid vein 50° to c.A.
	2.5	FAULT ZONE - pug 55° to c.A. Black siliceous mudstone - local brecciation & leaching by qtz.						247.9 248.1	Py 15-20 f.g. to c.g. assoc w. qtz veins Py 10-15 f.g. to c.g. & veinlet (assoc) w. siderite or vermil. dol. frag?
	2.5	Grey brown pyritic mudstone (longitudinal). Well bedded & foliated (S ₁ /S ₀) w. 15% sub to rounded siltstone frag.						248.3 249.5	Py 10-15 f.g. bedded; minor py frag. Py 30-40 f.g. bedded. Tr sect. & py. fragments. Tr veins av 1-2mm.
	2.5	FAULT ZONE - broken core & pug 15°?? to c.A.						250	



Feature

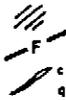
Bedding
Foliation
Fragment
size B shape



Shearing

Fault

Vein



c carbonate
q quartz

Mineralization

Trace 1-5%
Common 5-15%
Abundant 15-60%
Massive > 60%

023027

CORE RECD	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
1-3	250.3	Lithology - grey brown pyritic (cong.) mudstone as above. S1/S0 bet 15 to 45° to c.A. av. 30°. Not uniform in pyrite content; pyrite rich beds interbedded w. greyer less pyritic muds.						250.3	Py 15-20 as above - QS bed // to c.A. Py 30-40 f.g. bedded. Tr. c.g. text? x frag. also tr. veins as 1-2mm. (up to 5 cm).
1-7	250.4								
	253.1	Med to dk. grey shale interbedded w. lt. grey f.g. micaceous quartzite - QS. Quartzite shows extensive del - rafted & fragmented						253.1	
3-0	255.4	Med grey calc. dol. - strongly brecc. by extd. c. vein. No fo.						265	
	256.25	Black carbonaceous shale - S1-45-20° to c.A. Rare grey massive dol. frag. to 20cm.							
3-0	258.9	Typical QS (see above) interbedded w. black carbonaceous (cong. & pyritic) shale. Black shale (w. f.g. py. & py. fragments). Interbeds av. 30-10cm each of QS & shale.							
	260	Med grey to black shale w. frag. interbeds rafts etc of lt. grey f.g. micaceous quartzite. (very contorted) - QS.						260	
3-0	262.25							262.1	Py 1-5 (30) veins & f.g. to c.g.
	263.25							263.0	4-5-7 f.g. to c.g. & veins
3-0	263.5	Silicified QS. - minor white abs veins av. 40° to c.A. Pyrite-Qtz lode. Py veins in extensively silicified QS. Assoc. 4 #2. black veins						263.25	Py 50 - f.g. to c.g. but mainly veins 1m to 2cm. 45° to c.A.
	264.2	FAULT ZONE - Broken core, pug & py. healed breccia.						264.2	Py 15-30 f.g. to c.g. & vein 60-80% are loss.
	264.7							264.7	Py rare
	265	Typical QS as above.						265	Py 3-5 f.g. - c.g. Py 30 veins 40° to c.A.
	266.7							265	Py rare f.g.
3-0	266.7	lt. grey green sericitic lithic tuff w. minor fine agglomerate. Sericitic angular to subrounded often cusped fragments < 1mm to > 10cm. (av. 5cm). Reside in matrix of identical composition and colour. FAULT - Broken core; ? to c.A.						266.4	
	270							270	
3-0	270							270	
	272.7							272.7	
3-0	275	FAULT - Pug. // to c.A.						275	



Feature

Bedding 
Foliation 
Fragment size & shape 

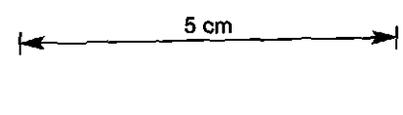
Shearing 
Fault 
Vein 

 carbonate & quartz

Mineralization

Trace 1-5%
Common 5-15%
Abundant 15-60%
Massive > 60%

023028

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE COMMON ABUNDANT MASSIVE	DEPTH m	MINERALIZATION
	3.0					
	278.5	Black carbonaceous shale. very uniform rock. Sl weakly folded av. 20-45° to c.A.			278.5	Py <1 (1) v.f.g. dissem.
	279.4	lt. grey sericitic & carb. rich buff. agglomerate.			279.4	Py 7-10 f.g. to c.g. assoc. w. carb. rich mat.
	280.0	FAULT ZONE - Broken core, pug & sid. vein. ? to c.A.			280.0	
	280.3	FAULT - Pug 35° to c.A.			280.3	
	3.0	Black carbonaceous shale Gen. uniform (weakly bedded). Rock contains numerous soln. cavities from 281.5 to 282.5 m. From 283.8m occasional thin (calc.) lt. grey f.g. quartz beds occur. Bedding av. 45° to c.A.			280.7	
	285				285	
	286.25	Grey brown pyritic mudstone w. minor lt. grey to dk. grey shale. locally extensively veined by py. Also med. text. py. from py. muds.			286.25	Py 60-70 (90) c.g. assoc. w. vein + f.g. assoc. w. c.g. sid. poss. rext. dol??
	286.9				286.9	Py 30-40 f.g. bedded & 10 f.g. to c.g. rext. > 3-5 veinlet unoriented.
	287.8	Replaced dolomite? Strongly network veined rock. Also nodules and aggregates of py. in massive (silicic) dolomite w. numerous stylolites?			287.8	Py 50-60 (80) network of veinlets & f.g. to c.g. Th. cassiterite as v.f.g. also (related) to veinlets.
	289.4	Black carbonaceous shale - homogeneous rock w. minor rounded py. clasts. av. 0.5-1 cm. 25° contact w. unit above. FAULT - Broken core - ? to c.A.			289.4	Py tr. v.f.g. dissem. = py. clasts.
	290				290	
	291.4	FAULT ZONE - Broken core, pug & sid vein frag. 70° to c.A.			290.5	
	292.0				291.4	1 cm Py tr. sid vein 40° to c.A.
	292.8	Grey brown pyritic mudstone (conglomeratic) Veined from v. by v. well bedded py. mudstone to cong. mudstone w. clasts 1mm to 3cm (20-40% of rock) rext. dol & silicified etc. clasts.			292.7	1 cm py 40, c vein 25° to c.A. Py 40-50 c.g. = veinlet unoriented.
	293.9				293.0	Py 30-40 v.f.g. bedded. tr. veinlet & rext.?
	294.4	FAULT ZONE - Broken core & pug. poss 35° to c.A.			293.9	
	294.9	lt. grey sericitic shale. gen. massive (weakly bedded) av 0-20° to c.A. // sl. weakly pyritic.			294.4	
	295				294.9	Py <1 (2-3) f.g. dissem.
	296.1	FAULT ZONE - Broken core & pug in upper interval From 297.0-297.9 zone consists of qtz. healed breccia (pyritic) & minor pyritized shale? See sid vein 30° to c.A.			295	
	1.7				296.1	
	297.9	Black carbonaceous shale. From 297.9 to 298.9 the rock contains several bands to 10cm thick of pyritic rext. dolomite. Py. appears to replace the carbonate. Adjacent shale is carbonate rich and locally coarsely crystalline.			297.0	Py 20-30 c.g. to f.g. assoc. w. qtz.
	1.2				297.9	
	200				298.3	10cm (thick) Py 30 c.g. to f.g. in c. stralite dol. // to c.A.
					298.6	5cm Py 20 f.g. to c.g. in dolomite possible fragment.
					300	

Feature

Bedding
Foliation
Fragment
size B shape



Shearing
Fault
Vein

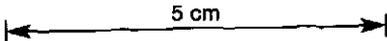


Mineralization

Trace 1-5%
Common 5-15%
Abundant 15-60%
Massive > 60%

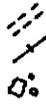
023030

CORE RECD	DEPTH m	GEOLOGY	VISUAL LOG	TRACE COMMON ABUNDANT MASSIVE	DEPTH m	MINERALIZATION
		Lithology - as above - grey brown pyritic cong. mudstone				Py - as above
	326.1	lt. grey rest. dolomite - massive c. stal. carbonate			326.1	1cm Py vein 75° c.A. Py 20 veinlet
	326.7	- carbonaceous wisps vein the rock.			326.3	Py 1-2 veinlet (unoriented)
30	326.9	Basic grey shale. FAULT - 45° c.A.			326.7	Py 5 veinlet (unoriented)
		Mottled grey green & cream sericitic & carbonate rich lithic tuff-agglomerate			327.1	Py 5-7 F.g. to c.g. & blebs.
		mottled appearance caused by very patchy carb. & sericitic alteration. Carb: sericitic 2:50:50. Relict textures only evident in sericitic patches. Bulk of interval is lithic tuff with minor fine agglomerate. Late lava?			327.3	Py rare
	330				326.9	Py 10-15 c.g. & blebs trending 10° c.A.
30					329.1	
					330	Py rare (S) as F.g. to c.g. & veinlet as. 1-2mm. (with Sp.)
	333.7	cream carbonate rich volcs.				
		Volcs in this interval are extremely carbonate rich (70-90% vid?). This alteration has destroyed almost all original textures. A few lge frag. remain -> tuff-agglomerate as above.				
30					335	
	340					
30					340	
	342.7	3cm carb. vein 30° c.A. 1cm " " 40° c.A.			340.0	Py 10-15 F.g. to blebs & veinlets (unoriented)
					341.2	Py 30-40 F.g. to c.g. & vein network (unoriented)
30		FAULT - broken core & 1cm sid/Py vein 15° to c.A.			342.0	1cm Py 60 sid vein
					342.7	Py 30-40 as above.
	345	lt. grey green sericitic lithic tuff w. minor agglomerate.			342.7	
					343.3	
					343.5	
					344.1	
30		FAULT - broken core & c. healed fault breccia 10° to c.A.			345	
	349.2	mottled grey green & cream sericitic & carbonate rich lithic tuff & minor agglom.				
					350	



Feature

Bedding
Foliation
Fragment
size B shape



Shearing
Fault
Vein

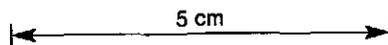


Mineralization

Trace 1-5%
Common 5-15%
Abundant 15-60%
Massive >60%

023031

CORE RECD	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
30	362.5	END OF HOLE 1 cm. sil. vein. 20° to c.a.						352.7	1 cm py. vein 10° c.a.
	355							355	
	360							360	
	365							365	
	370							370	
	375							375	





DRILL HOLE RECORD

023032

Location QUEEN HILL Property QUEEN HILL
 Commenced 27/5/80 Completed 29/7/80
 Objective Structurally controlled mineralization
80 m. south of G 46 RL 50

District ZEEHAN Bearing (M) 281.0°
 % Recovery 91% Grid bearing (M) -11.25°
 Core size HQ to 9.6 NQ to 343.5m.
 Co-ordinates 5361460.87N 360660.75E Dip 62.7°

Hole No G64
 Date 19th Aug. 1980
 Logged S. RICHARDSON
M. JOYCE
 Alt./R.L. 230.95

SURVEY DATA				GRAPH DERIVED DATA			CALCULATED CO-ORDINATES			REMARKS
PTH	DIP	BEARING(M)	INSTRUMENT TYPE	DEPTH	DIP	BEARING(M)	NORTHING	EASTING	ALTITUDE	
1M	63°	277.5	EASTMAN	0M	62.7°	281.0°	5361460.87	360660.75	230.95	
7M	63°	275.5	"	25	63	278.25				NQ rods logged at 110 m.
			"	50	63	276.25				HQ reamed over to free rods.
3M	62.75	275	"	75	63	275.25				15 m. HQ not recovered.
72M	62.75	274	"	100	63	275				
79M	62.5	274	"	125	63	275				
			"	150	63	274.5				
19M	60°	272	"	175	62.5	274.25				
10M	58.75	272	"	200	62	273.5				
0M	56.75	276	"	225	61	273				
0M	55.75	276.5	"	250	60	272				
OH	343.5M			275	59	272.75				
				300	57.5	274.75				
				325	56	276				
				350	55.75	277				

Feature

Bedding
Foliation
Fragment
size & shape



Shearing
Fault
Vein



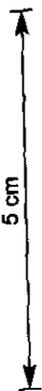
c carbonate
q quartz

Mineralization

Trace 1-5%
Common 5-15%
Abundant 15-60%
Massive > 60%

020003

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
		No core - HW Non-coring bit used.							
	2.2	OLD MINE WORKINGS - 4 m of open space.							
	5							5	
HW	6.0	Lt. grey f.g. massive quartzite - numerous fine soln. cavities. Core badly broken.							
HQ	7.0	Dk. grey to black carbonaceous shale w. fragments & (contorted) interbeds of lt. grey f.g. (micaceous) quartzite. QS.							
	2.0								
	1.0	Rock consists of all variations between two end members.							
HQ	10	1) Black carbonaceous conglomeratic shale - cca. shale matrix w frag. of lt. grey (micaceous) quartzite <1mm to >20cm. Fragments - angular to rounded (gen. subrounded); often flattened? or oriented in cleavage plane.; form 20-40% of rock.						10	
HQ	4								
	5								
	6	2) Well bedded interlaminated dk. grey to black shale & lt. grey f.g. quartzite. Interlaminated on scale of mm to cm. Laminations may be strongly to uncontorted, & often show soft sed. def. eg. rafting.							
	7							15	
	14	FAULT - Pug, Shearing 10°? to c.A.							
	13								
	18.7	FAULT - Pug 15°? to c.A.						18.7	
	19								
	20	2cm quartz? to c.A.						20	
	14								
	7								
	1.9								



Feature

Bedding
Foliation
Fragment
size & shape



Shearing
Fault
Vein



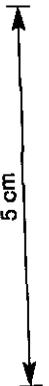
c carbonate
q quartz

Mineralization

Trace 1-5%
Common 5-15%
Abundant 15-60%
Massive > 60%

023035

CORE RECD	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
1-7		QS lithology as previously described - contorted shale with quartzite fragments and layers. 51.2m FAULT Pug, broken core ?° CA							
1-3		FAULT ZONE. pug, shearing and badly broken core subparallel to C.A. 53.5m FAULT Pug, broken core 60° to C.A.							
0-6	55	contorted shale and quartzite. Occasional quartzite fragments to 10cm. Bedding. 51.1m - 45° to C.A. (isoclinal folds on mm. scale.) 57.9m - 15° to C.A. (cleavage parallel to S ₀) 60.2m - 50° to C.A.							
2-2	60	Note: The extent of contortion of bedding laminations appears directly proportional to the relative abundance of resistant quartzite layers. The massive qtzite has probably caused disruption during folding due to the competency contrast between fissile shales, and quartzite. 60.6m FAULT Broken core ?° to C.A.							
1-5		61.8m FAULT - pug. ?° to C.A.							
0-7									
0-6	63.5	From 63.5m onwards shale is blacher and noticeably more graphitic. Considerable quartz/carbonate veining (<1cm) subparallel to bedding.							
1-0	65							65	P ₄ over 5cm as fine veins.
1-7									
		67.3m FAULT - pug, broken core ?° CA						67.5	
1-0		FAULT ZONE. pug and badly broken core ?° to C.A.							
1-4	70	Lithology as above. FAULT ZONE. very puggy, badly broken core for large interval. ?° to C.A.						69.3	
1-2									
1-2		Lithology as above: contorted grey-black graphitic shales and interbedded grey quartzite. 72.4m FAULT - pug. 70° to C.A. brecciation surrounding puggy zone.							
	75								



Feature

Bedding
Foliation
Fragment
size & shape



Shearing
Fault
Vein



c carbonate
q quartz

Mineralization

Trace 1-5%
Common 5-15%
Abundant 15-60%
Massive > 60%

023036

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
1.7	75.6								
2.4									
1.2									
	80								
2.9									
	81.6	81.6m FAULT - pug, broken core E. 45° to C.A.							
2.8									
	85								
	85.6	FAULT ZONE. pug, badly broken core, very poor core recovery. 45° to C.A.							
0.9									
	87.2								
0.6									
1.2									
	90	89.9m FAULT pug, broken core ?° to C.A.							
1.1									
	90.6	90.6m FAULT, pug. 40° to C.A.							
1.5									
1.1									
	95								
	95.8	FAULT ZONE very puggy core, broken core. 45° to C.A.							
1.1									
	96.8								
0.8									
	97.6	97.6m FAULT. pug. ?° to C.A.							
1.0									
0.4									
	99.8	99.8m FAULT. pug over 2m 60° ? to C.A.							



Feature

Bedding
Foliation
Fragment
size & shape



Shearing
Fault
Vein



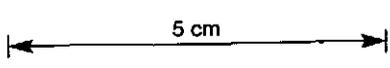
c carbonate
q quartz

Mineralization

023038

Trace 1-5%
Common 5-15%
Abundant 15-60%
Massive > 60%

CORE RECD	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
2.0		Lithology - as above - lt. grey to black (carbonaceous) shale w. frag. rafts & interbeds of lt. grey f.g. to m.g. (micaceous) quartzite. (contorted).							
0.6									
3.0	130							130	
3.0									
2.5	134.5 135 135.5	<u>FAULT ZONE</u> - Broken core & pug; ?° to c.A.						135	
3.0		S ₁ /S ₀ 10°-0° to c.A. 135-140 m.							
3.0	140							140	
3.0									
3.0	145							145	
3.0									
3.0	150							150	



Feature

- | | |
|---|--|
| Bedding  | Shearing  |
| Foliation  | Fault  |
| Fragment size & shape  | Vein  |
- c carbonate
q quartz

Mineralization

- Trace 1-5%
Common 5-15%
Abundant 15-60%
Massive > 60%

023039

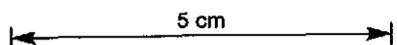
CORE RECD	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
		At about 149 m. the rock becomes lighter in colour due to the increase in volume of f.g. quartzite laminae fragments & rafts. The darker shale matrix is decreased in vol. locally quartzite interbeds may exceed 30 cm. This marks a general change in character of the rock.							
	3.0							155	
	2.5								
	3.0							155	
	3.0							160	
	3.0							160	
	3.0							165	
	3.0							165	
	3.0							170	
	3.0							170	
	3.0							175	
	3.0							175	

167.9 Lt. grey f.g. silty quartzite gen massive brecciated in situ. - soft sect. local bedding 55° c.A.

169.2 Typical Qs.

170 Lt. grey f.g. micaceous quartzite. - massive quartzite. esc. lge. interbed in Qs.

Typical Qs as above.



Feature

Bedding
Foliation
Fragment
size B shape



Shearing
Fault
Vein



Mineralization

023041

Trace 1-5%
Common 5-15%
Abundant 15-60%
Massive > 60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
3.0								
3.0	205						205	
3.0		FAULT - 5cm. c. healed fault breccia 20° to c.A.					207.7	
2.9	209.6 210 211.0	FAULT ZONE - Broken core, pug & qtz ± py ± c.veins only evidence of shearing - pug & fracture plane - ⇒ Zone high ∠ to c.A. ≈ 60-80°					210	
3.0		FAULT - pug 30° to c.A.					213.0	
	215						215 215.3	3cm py to, sil vein 60° to c.A.
3.0	216.3 217.2	FAULT Fracture surfaces w. pug at very low angle to c.A. 10-0°						
2.9		FAULT - Broken core					219.1	
	220						220	
3.0								
	221.2	FAULT - pug 65° to c.A.					221.3	
	222	Siderite - pyrite - qtz lode - Fin to very coarse xtal. Sil. w. a later overprinting qtz rock work (unoriented). Rare sulphide					222.3	Py 1-5 pg. cr. cpy. Fractures & tr lms as webs.
	225						225	



Feature

Bedding 
Foliation 
Fragment size & shape 

Shearing 
Fault 
Vein 

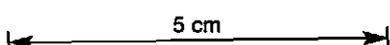
 carbonate
 quartz

Mineralization

Trace 1-5%
Common 5-15%
Abundant 15-60%
Massive > 60%

023042

CORE RECD	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
		FAULT - qtz healed fault breccia 40° to 111						225.1	Py 50 c.g. to c.g. cpy. to c.g. assoc. w. qtz?
3.0	225.35	Extensively jointed QS. q + qtz ± sid veins as thin veinlet stockwork & as thick c. xtal veins. Strong p.o. 30° to c.a.						225.35	Py 20-30 v.f.g. to c.g. & veinlet stockwork
	226.6	225.45 FAULT - Broken core ? to c.a.						226.15	Py 15 veinlet c.g. vein
3.0	226.6	Intabedded lt. grey to dk grey shale & lt. grey f.g. micaceous quartzite. QS weakly deformed non cong. QS 3cm q. vein 15° to c.a.						226.6	Py 3-5 v.f.g. diss. & flecks w. minor unoriented veinlets
	230							228.0	
3.0	230							228.35	Py 20-35 v.f.g. dissem. to blebs & veinlets.
	230							229.0	1cm py vein - 0° to c.a.
	230							229.5	Py 1-3 v.f.g. dissem.
	230							229.8	2cm py 50 sid vein
3.0	230							230	Py 20-30 v.f.g. to mg. diss. w. blebs & veinlet. (stockwork)
	235							230.5	
	235							231.7	Py 1-5 (15) v.f.g. (bedded) w. f.g. diss. flecks & blebs & minor veinlets gen assoc w. sid.
	235							232.3	
	235							232.8	
3.0	235	Interval of extensive q. veining w. minor brown sid. & tr. py. p.o. 25° to c.a.						233.1	
	235							235	
	235							236.8	1cm py 40 sid vein. 35° to c.a.
	235							236.4	
	235							236.9	4cm py 60 sid qtz vein 30° to c.a.
3.0	237.3	Brecciated lt. grey to dk grey shale & minor lt. grey f.g. quartzite. Tectonic ?? Brecciation						237.3	2cm py 30 sid qtz vein. 35° to c.a.
	237.3							237.4	2cm py 60 c. vein 40° to c.a.
	237.3							237.4	2cm py 60 c. vein
	237.3							239.15	Py 15-20 v.f.g. to f.g. diss + (bedded) & replacement? and blebs & veinlets diss = veinlet in 2.
	237.3							239.15	
	237.3							239.45	Py 10 f.g. to c.g. w. tr. v.f.g. bedded.
3.0	237.3	Dk. grey to black cong. shale - fragments are rounded to subrounded lt. grey f.g. quartzite. as l. also qtzite. rafts. Extremely contorted white 3cm sid vein 30° to c.a. vein qtz. is common. FAULT - 11 c.a. pug.						240	Py 10-15 f.g. & veins
	237.3							240.3	
	237.3							240.6	Py < 1 veinlets (unoriented)
	237.3							241.2	3cm py 50 sid vein 30° c.a.
	237.3							242.6	
	237.3							242.9	
3.0	243.9	lt. grey green sericitic lithic tuff & minor agglomerate vesicular lava fragments (with crisp boundaries) 2cm - 10cm as seen from 70-80% of the rock. Fragments are sericitic w. vesicles gen infilled w. dk. green chlorite or cream siderite. Matrix is of same composition as the fragments predominantly sericite. Often fragments are inequant and have a p.o. & a weak fabric. (S1).						243.5	3cm py 30 veins 40° to c.a.
	243.9							244.2	
	243.9							245	
3.0	245							250	



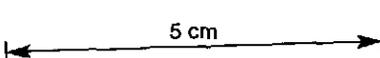
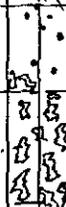
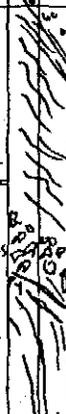
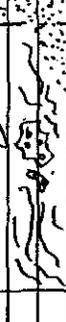
Feature

Bedding  Shearing 
 Foliation  Fault 
 Fragment  Vein 
size B shape  carbonate
 quartz

Mineralization

Trace 1-5%
 Common 5-15%
 Abundant 15-60%
 Massive > 60%

023044

CORE RECD	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
	3.0	Lithology - as above - lt. grey to black mudstone - shale interbedded w. lt. grey f.g. micaceous quartzite - siltstone.							
	3.0	280 280.55 281.65 283.1 285 286.3	5 cm 					280 280.55 281.65 283.1 285 286.3	
	3.0	lt. grey green sericitic lava - Description; see below. Upper conformable lower non-conformable contact. <u>Poss. dyke?</u> Dk. grey lithic tuff w minor fine agglomerate Grey tuffaceous ground mass cont. carb. altered essic. frag. av. 1cm. large agg. frag > 10um.							
	3.0	lt. grey green sericitic lava - A very f.g. rock locally containing fine to gen. coarse vesicles now infilled w. carbonate. No fabric. cont. lower contact nonconformable upper. 2cm c vein 25° to c.A. 10um Q3 75° to c.A.						284.5 285 286.3	
	3.0	Interbedded lt. grey to black shale & lt. grey f.g. micaceous quartzite w. interbeds of lt. grey green f.g. tuff. A very well laminated interval composed of interbeds of lt. grey micaceous f.g. quartzite 1mm to 5mm thick & lt. grey to black shale 1mm to 5mm thick. Soft sed deform. is rare & occurs as rafted quartzite beds. Beds of lt. grey green f.g. tuff, tuffaceous quartzite & an interval of lt. green (vesicular) Note. Fragments in a tuffaceous shale matrix occur. The latter being from 289.6-290.2m. The tuff beds often show grading indicating younging uphole. Bedding in the upper part of the interval av. 15-50° to c.A. but below ~291m av. 0-10° to c.A.						286.3 290 290.1 290.5	2cm by 50 sid vein 25° to c.A. 1mm by 50 sid vein 40° to c.A.
	3.0	med. grey tuffaceous sandstone - interval cont. numerous c.g. shale fragments. Q3 interbeds present. at v. low angle to c.A. <u>Severing or slip contacts present.</u> Stumped interbedded lt. grey to dk. grey shale & minor lt. grey micaceous quartzite. Interval shows much contortion of beds due to plastic deformation - soft sed - much rafting of beds esp. quartzite. Two lava fragments occur - at 291.5 & 291.9m. 30 x 20 cm lge respectively. Bedding 0-30° to c.A.						290 290.1 290.5 293.7 294.1 295.0	
	3.0	295.0 296.0 299.5 300	2cm c vein 1cm 35° to c.A.					295.0 296.0 299.5 300	
	3.0	Lithology - as below.							

↑
bedding (grading)

Feature

Bedding



Shearing



Foliation



Fault



Fragment
size & shape



Vein



c carbonate
a quartz

Mineralization

023046

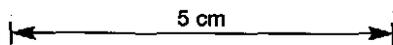
Trace 1-5%

Common 5-15%

Abundant 15-60%

Massive > 60%

CORE RECD	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
	325.4								
	330	Black carbonaceous shale In general a very uniform highly carbonaceous rock. minor grey dolomite clasts. SI from 20-60° to c.A.						328.15	15cm pyro E.g. bedded.
	329.0								
	330	lt. grey f.g. micaceous quartzite. - very weak bedding 45° to c.A. A very uniform rock w. a cross-cutting stockwork of carbonate veins. av. 2-3 mm. thick.						330	
	330	Interbedded lt. grey to black shale w. interbeds, rafts & fragments of lt. grey f.g. micaceous quartzite. & fragments of lt. grey green vesicular lava.							
	330	Bulk of interval is typical QS but intervals up to 2m of QS w. lava fragments w. cusp boundaries occur. Fragments from up to 20% of the rock and are 1-2mm to 7.0cm in size.							
	335							335	
	335								
	337.6	Black carbonaceous shale - a carbonaceous shale w. sub-rounded to rounded (angular) clasts of grey dolomite, grey (pyritic) mudstone, & brown f.g. pyrite, from 2-3mm to 5cm. FAULT - 1cm c. healed fault breccia. 10° c.A.						339.3	
	340							340	
	340.5	Dk. grey dolomitic siltstone - bedded 40° c.A. w stylolites.							
	340.9	Black carbonaceous shale - with thin interbed of dk. grey dolomite & lt. grey shale av. 40cm each. Shale contains clasts as for 337.6 - 340.15. So/Si 0-50° to c.A.							
	345	END OF HOLE						345	
	345								
	350							350	



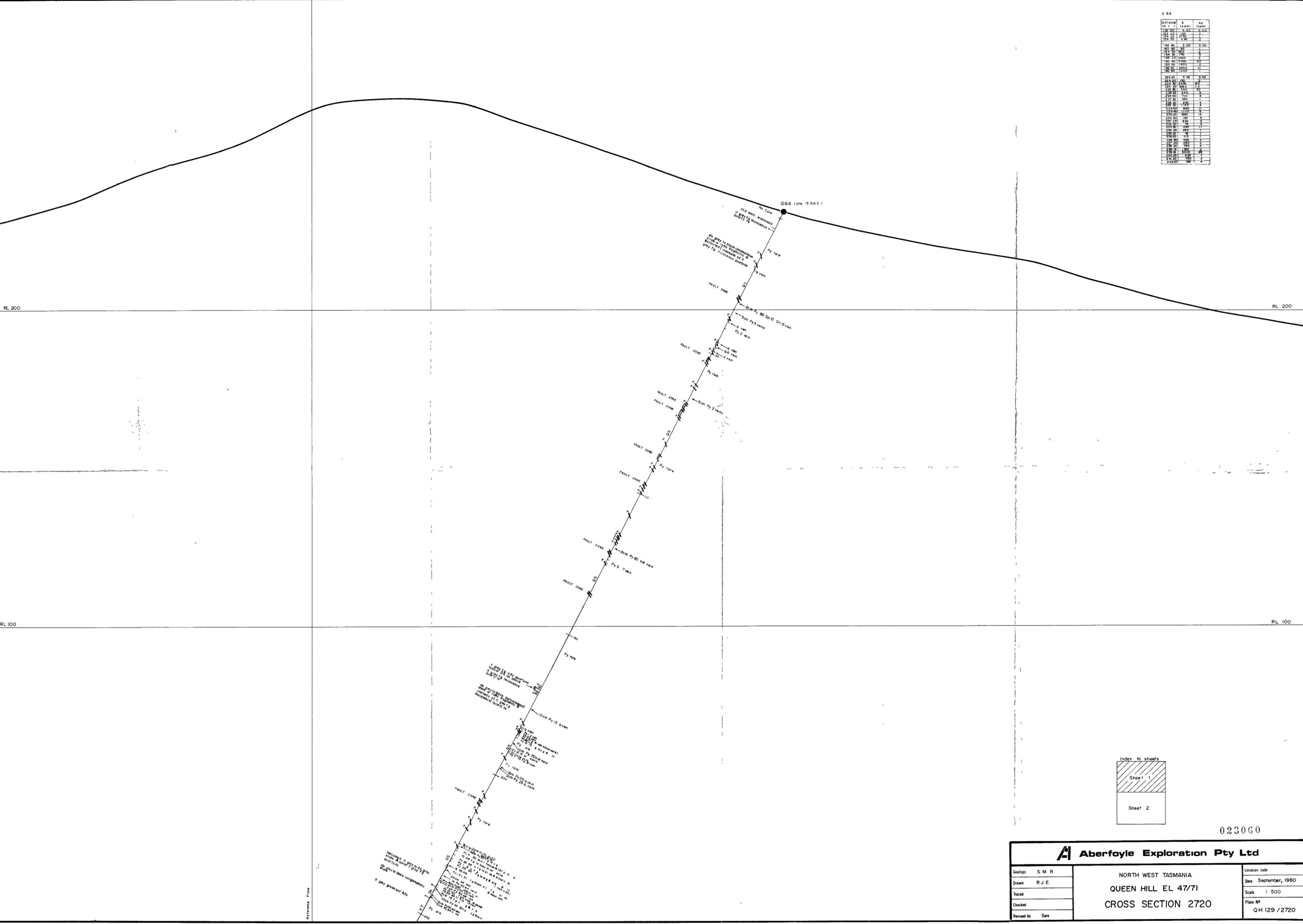
APPENDIX 2

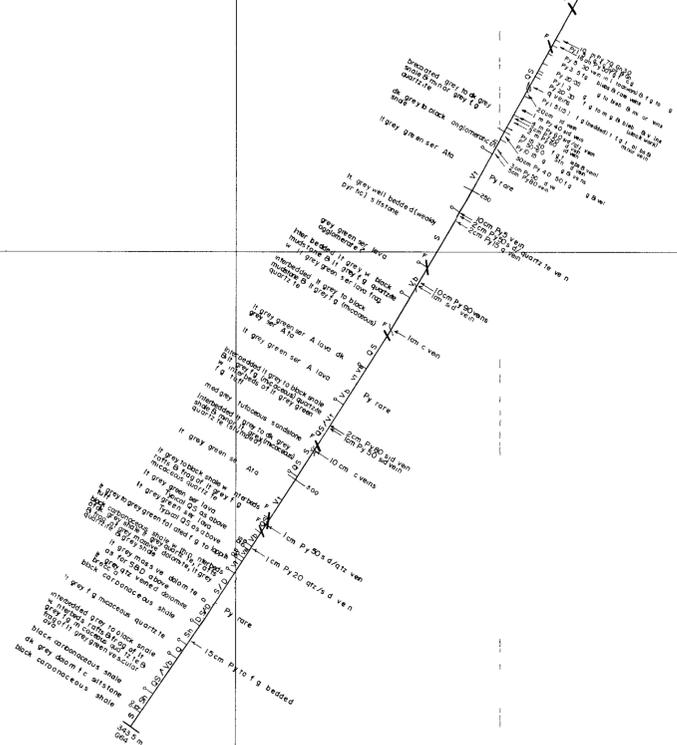
Assay Data G63 and G64.

APPENDIX 3

Rock Chip Assay Results.

STATION	ELEVATION	DEPTH
100 50	5 00	5 00
102 50	10 00	10 00
104 50	15 00	15 00
106 50	20 00	20 00
108 50	25 00	25 00
110 50	30 00	30 00
112 50	35 00	35 00
114 50	40 00	40 00
116 50	45 00	45 00
118 50	50 00	50 00
120 50	55 00	55 00
122 50	60 00	60 00
124 50	65 00	65 00
126 50	70 00	70 00
128 50	75 00	75 00
130 50	80 00	80 00
132 50	85 00	85 00
134 50	90 00	90 00
136 50	95 00	95 00
138 50	100 00	100 00
140 50	105 00	105 00
142 50	110 00	110 00
144 50	115 00	115 00
146 50	120 00	120 00
148 50	125 00	125 00
150 50	130 00	130 00
152 50	135 00	135 00
154 50	140 00	140 00
156 50	145 00	145 00
158 50	150 00	150 00
160 50	155 00	155 00
162 50	160 00	160 00
164 50	165 00	165 00
166 50	170 00	170 00
168 50	175 00	175 00
170 50	180 00	180 00
172 50	185 00	185 00
174 50	190 00	190 00
176 50	195 00	195 00
178 50	200 00	200 00
180 50	205 00	205 00
182 50	210 00	210 00
184 50	215 00	215 00
186 50	220 00	220 00
188 50	225 00	225 00
190 50	230 00	230 00
192 50	235 00	235 00
194 50	240 00	240 00
196 50	245 00	245 00
198 50	250 00	250 00
200 50	255 00	255 00
202 50	260 00	260 00
204 50	265 00	265 00
206 50	270 00	270 00
208 50	275 00	275 00
210 50	280 00	280 00
212 50	285 00	285 00
214 50	290 00	290 00
216 50	295 00	295 00
218 50	300 00	300 00
220 50	305 00	305 00
222 50	310 00	310 00
224 50	315 00	315 00
226 50	320 00	320 00
228 50	325 00	325 00
230 50	330 00	330 00
232 50	335 00	335 00
234 50	340 00	340 00
236 50	345 00	345 00
238 50	350 00	350 00
240 50	355 00	355 00
242 50	360 00	360 00
244 50	365 00	365 00
246 50	370 00	370 00
248 50	375 00	375 00
250 50	380 00	380 00
252 50	385 00	385 00
254 50	390 00	390 00
256 50	395 00	395 00
258 50	400 00	400 00
260 50	405 00	405 00
262 50	410 00	410 00
264 50	415 00	415 00
266 50	420 00	420 00
268 50	425 00	425 00
270 50	430 00	430 00
272 50	435 00	435 00
274 50	440 00	440 00
276 50	445 00	445 00
278 50	450 00	450 00
280 50	455 00	455 00
282 50	460 00	460 00
284 50	465 00	465 00
286 50	470 00	470 00
288 50	475 00	475 00
290 50	480 00	480 00
292 50	485 00	485 00
294 50	490 00	490 00
296 50	495 00	495 00
298 50	500 00	500 00
300 50	505 00	505 00
302 50	510 00	510 00
304 50	515 00	515 00
306 50	520 00	520 00
308 50	525 00	525 00
310 50	530 00	530 00
312 50	535 00	535 00
314 50	540 00	540 00
316 50	545 00	545 00
318 50	550 00	550 00
320 50	555 00	555 00
322 50	560 00	560 00
324 50	565 00	565 00
326 50	570 00	570 00
328 50	575 00	575 00
330 50	580 00	580 00
332 50	585 00	585 00
334 50	590 00	590 00
336 50	595 00	595 00
338 50	600 00	600 00
340 50	605 00	605 00
342 50	610 00	610 00
344 50	615 00	615 00
346 50	620 00	620 00
348 50	625 00	625 00
350 50	630 00	630 00
352 50	635 00	635 00
354 50	640 00	640 00
356 50	645 00	645 00
358 50	650 00	650 00
360 50	655 00	655 00
362 50	660 00	660 00
364 50	665 00	665 00
366 50	670 00	670 00
368 50	675 00	675 00
370 50	680 00	680 00
372 50	685 00	685 00
374 50	690 00	690 00
376 50	695 00	695 00
378 50	700 00	700 00
380 50	705 00	705 00
382 50	710 00	710 00
384 50	715 00	715 00
386 50	720 00	720 00
388 50	725 00	725 00
390 50	730 00	730 00
392 50	735 00	735 00
394 50	740 00	740 00
396 50	745 00	745 00
398 50	750 00	750 00
400 50	755 00	755 00
402 50	760 00	760 00
404 50	765 00	765 00
406 50	770 00	770 00
408 50	775 00	775 00
410 50	780 00	780 00
412 50	785 00	785 00
414 50	790 00	790 00
416 50	795 00	795 00
418 50	800 00	800 00
420 50	805 00	805 00
422 50	810 00	810 00
424 50	815 00	815 00
426 50	820 00	820 00
428 50	825 00	825 00
430 50	830 00	830 00
432 50	835 00	835 00
434 50	840 00	840 00
436 50	845 00	845 00
438 50	850 00	850 00
440 50	855 00	855 00
442 50	860 00	860 00
444 50	865 00	865 00
446 50	870 00	870 00
448 50	875 00	875 00
450 50	880 00	880 00
452 50	885 00	885 00
454 50	890 00	890 00
456 50	895 00	895 00
458 50	900 00	900 00
460 50	905 00	905 00
462 50	910 00	910 00
464 50	915 00	915 00
466 50	920 00	920 00
468 50	925 00	925 00
470 50	930 00	930 00
472 50	935 00	935 00
474 50	940 00	940 00
476 50	945 00	945 00
478 50	950 00	950 00
480 50	955 00	955 00
482 50	960 00	960 00
484 50	965 00	965 00
486 50	970 00	970 00
488 50	975 00	975 00
490 50	980 00	980 00
492 50	985 00	985 00
494 50	990 00	990 00
496 50	995 00	995 00
498 50	1000 00	1000 00
500 50	1005 00	1005 00





RL 00

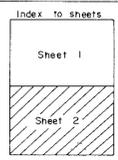
RL 00

RL 100

RL 100

RL 200

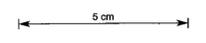
RL 200



023061

Aberfoyle Exploration Pty Ltd		
Geology S M R	NORTH WEST TASMANIA	Location code
Drawn R J E	QUEEN HILL EL 47/71	Date September, 1980
Traced	CROSS SECTION 2720	Scale 1 500
Checked		Plate No QH129/2720
Revised by	Date	

80-1503



G 63 XRF			G 15 Wedge 2		
Distance (m)	As (m)	As (m)	Distance (m)	As (m)	As (m)
146.50	5.00	5.00	237.78	8.00	8.00
147.50	10.00	10.00	238.78	13.00	13.00
148.50	15.00	15.00	239.78	18.00	18.00
149.50	20.00	20.00	240.78	23.00	23.00
150.50	25.00	25.00	241.78	28.00	28.00
151.50	30.00	30.00	242.78	33.00	33.00
152.50	35.00	35.00	243.78	38.00	38.00
153.50	40.00	40.00	244.78	43.00	43.00
154.50	45.00	45.00	245.78	48.00	48.00
155.50	50.00	50.00	246.78	53.00	53.00
156.50	55.00	55.00	247.78	58.00	58.00
157.50	60.00	60.00	248.78	63.00	63.00
158.50	65.00	65.00	249.78	68.00	68.00
159.50	70.00	70.00	250.78	73.00	73.00
160.50	75.00	75.00	251.78	78.00	78.00
161.50	80.00	80.00	252.78	83.00	83.00
162.50	85.00	85.00	253.78	88.00	88.00
163.50	90.00	90.00	254.78	93.00	93.00
164.50	95.00	95.00	255.78	98.00	98.00
165.50	100.00	100.00	256.78	103.00	103.00
166.50	105.00	105.00	257.78	108.00	108.00
167.50	110.00	110.00	258.78	113.00	113.00
168.50	115.00	115.00	259.78	118.00	118.00
169.50	120.00	120.00	260.78	123.00	123.00
170.50	125.00	125.00	261.78	128.00	128.00
171.50	130.00	130.00	262.78	133.00	133.00
172.50	135.00	135.00	263.78	138.00	138.00
173.50	140.00	140.00	264.78	143.00	143.00
174.50	145.00	145.00	265.78	148.00	148.00
175.50	150.00	150.00	266.78	153.00	153.00
176.50	155.00	155.00	267.78	158.00	158.00
177.50	160.00	160.00	268.78	163.00	163.00
178.50	165.00	165.00	269.78	168.00	168.00
179.50	170.00	170.00	270.78	173.00	173.00
180.50	175.00	175.00	271.78	178.00	178.00
181.50	180.00	180.00	272.78	183.00	183.00
182.50	185.00	185.00	273.78	188.00	188.00
183.50	190.00	190.00	274.78	193.00	193.00
184.50	195.00	195.00	275.78	198.00	198.00
185.50	200.00	200.00	276.78	203.00	203.00
186.50	205.00	205.00	277.78	208.00	208.00
187.50	210.00	210.00	278.78	213.00	213.00
188.50	215.00	215.00	279.78	218.00	218.00
189.50	220.00	220.00	280.78	223.00	223.00
190.50	225.00	225.00	281.78	228.00	228.00
191.50	230.00	230.00	282.78	233.00	233.00
192.50	235.00	235.00	283.78	238.00	238.00
193.50	240.00	240.00	284.78	243.00	243.00
194.50	245.00	245.00	285.78	248.00	248.00
195.50	250.00	250.00	286.78	253.00	253.00
196.50	255.00	255.00	287.78	258.00	258.00
197.50	260.00	260.00	288.78	263.00	263.00
198.50	265.00	265.00	289.78	268.00	268.00
199.50	270.00	270.00	290.78	273.00	273.00
200.50	275.00	275.00	291.78	278.00	278.00
201.50	280.00	280.00	292.78	283.00	283.00
202.50	285.00	285.00	293.78	288.00	288.00
203.50	290.00	290.00	294.78	293.00	293.00
204.50	295.00	295.00	295.78	298.00	298.00
205.50	300.00	300.00	296.78	303.00	303.00
206.50	305.00	305.00	297.78	308.00	308.00
207.50	310.00	310.00	298.78	313.00	313.00
208.50	315.00	315.00	299.78	318.00	318.00
209.50	320.00	320.00	300.78	323.00	323.00
210.50	325.00	325.00	301.78	328.00	328.00
211.50	330.00	330.00	302.78	333.00	333.00
212.50	335.00	335.00	303.78	338.00	338.00
213.50	340.00	340.00	304.78	343.00	343.00
214.50	345.00	345.00	305.78	348.00	348.00
215.50	350.00	350.00	306.78	353.00	353.00
216.50	355.00	355.00	307.78	358.00	358.00
217.50	360.00	360.00	308.78	363.00	363.00
218.50	365.00	365.00	309.78	368.00	368.00
219.50	370.00	370.00	310.78	373.00	373.00
220.50	375.00	375.00	311.78	378.00	378.00
221.50	380.00	380.00	312.78	383.00	383.00
222.50	385.00	385.00	313.78	388.00	388.00
223.50	390.00	390.00	314.78	393.00	393.00
224.50	395.00	395.00	315.78	398.00	398.00
225.50	400.00	400.00	316.78	403.00	403.00
226.50	405.00	405.00	317.78	408.00	408.00
227.50	410.00	410.00	318.78	413.00	413.00
228.50	415.00	415.00	319.78	418.00	418.00
229.50	420.00	420.00	320.78	423.00	423.00
230.50	425.00	425.00	321.78	428.00	428.00
231.50	430.00	430.00	322.78	433.00	433.00
232.50	435.00	435.00	323.78	438.00	438.00
233.50	440.00	440.00	324.78	443.00	443.00
234.50	445.00	445.00	325.78	448.00	448.00
235.50	450.00	450.00	326.78	453.00	453.00
236.50	455.00	455.00	327.78	458.00	458.00
237.50	460.00	460.00	328.78	463.00	463.00
238.50	465.00	465.00	329.78	468.00	468.00
239.50	470.00	470.00	330.78	473.00	473.00
240.50	475.00	475.00	331.78	478.00	478.00
241.50	480.00	480.00	332.78	483.00	483.00
242.50	485.00	485.00	333.78	488.00	488.00
243.50	490.00	490.00	334.78	493.00	493.00
244.50	495.00	495.00	335.78	498.00	498.00
245.50	500.00	500.00	336.78	503.00	503.00
246.50	505.00	505.00	337.78	508.00	508.00
247.50	510.00	510.00	338.78	513.00	513.00
248.50	515.00	515.00	339.78	518.00	518.00
249.50	520.00	520.00	340.78	523.00	523.00
250.50	525.00	525.00	341.78	528.00	528.00
251.50	530.00	530.00	342.78	533.00	533.00
252.50	535.00	535.00	343.78	538.00	538.00
253.50	540.00	540.00	344.78	543.00	543.00
254.50	545.00	545.00	345.78	548.00	548.00
255.50	550.00	550.00	346.78	553.00	553.00
256.50	555.00	555.00	347.78	558.00	558.00
257.50	560.00	560.00	348.78	563.00	563.00
258.50	565.00	565.00	349.78	568.00	568.00
259.50	570.00	570.00	350.78	573.00	573.00
260.50	575.00	575.00	351.78	578.00	578.00
261.50	580.00	580.00	352.78	583.00	583.00
262.50	585.00	585.00	353.78	588.00	588.00
263.50	590.00	590.00	354.78	593.00	593.00
264.50	595.00	595.00	355.78	598.00	598.00
265.50	600.00	600.00	356.78	603.00	603.00
266.50	605.00	605.00	357.78	608.00	608.00
267.50	610.00	610.00	358.78	613.00	613.00
268.50	615.00	615.00	359.78	618.00	618.00
269.50	620.00	620.00	360.78	623.00	623.00
270.50	625.00	625.00	361.78	628.00	628.00
271.50	630.00	630.00	362.78	633.00	633.00
272.50	635.00	635.00	363.78	638.00	638.00
273.50	640.00	640.00	364.78	643.00	643.00
274.50	645.00	645.00	365.78	648.00	648.00
275.50	650.00	650.00	366.78	653.00	653.00
276.50	655.00	655.00	367.78	658.00	658.00
277.50	660.00	660.00	368.78	663.00	663.00
278.50	665.00	665.00	369.78	668.00	668.00
279.50	670.00	670.00	370.78	673.00	673.00
280.50	675.00	675.00	371.78	678.00	678.00
281.50	680.00	680.00	372.78	683.00	683.00
282.50	685.00	685.00	373.78	688.00	688.00
283.50	690.00	690.00	374.78	693.00	693.00
284.50	695.00	695.00	375.78	698.00	698.00
285.50	700.00	700.00	376.78	703.00	703.00
286.50	705.00	705.00	377.78	708.00	708.00
287.50	710.00	710.00	378.78	713.00	713.00
288.50	715.00	715.00	379.78	718.00	718.00
289.50	720.00	720.00	380.78	723.00	723.00
290.50	725.00	725.00	381.78	728.00	728.00
291.50	730.00	730.00	382.78	733.00	733.00
292.50	735.00	735.00	383.78	738.00	738.00
293.50	740.00	740.00	384.78	743.00	743.00
294.50	745.00	745.00	385.78	748.00	748.00
295.50	750.00	750.00	386.78	753.00	753.00
296.50	755.00	755.00	387.78	758.00	758.00
297.50	760.00	760.00	388.78	763.00	763.00
298.50	765.00	765.00	389.78	768.00	768.00
299.50	770.00	770.00	390.78	773.00	773.00
300.50	775.00	775.00	391.78	778.00	778.00
301.50	780.00	780.00	392.78	783.00	783.00
302.50	785.00	785.00	393.78	788.00	788.00
303.50	790.00	790.00	394.78	793.00	793.00
304.50	795.00	795.00	395.78	798.00	798.00
305.50	800.00	800.00	396.78	803.00	803.00
306.50	805.00	805.00	397.78	808.00	808.00
307.50	810.00	810.00	398.78	813.00	813.00
308.50	815.00	815.00	399.78	818.00	818.00
309.50	820.00	820.00	400.78	823.00	823.00
310.50	825.00	825.00	401.78	828.00	828.00
311.50	830.00	830.00	402.78	833.00	833.00
312.50	835.00	835.00	403.78	838.00	838.00
313.50	840.00	840.00	404.78	843.00	843.00
314.50	845.00	845.00	405.78	848.00	848.00
315.50	850.00	850.00	406.78	853.00	853.00
316.50	855.00	855.00	407.78	858.00	858.00
317.50	860.00	860.00	408.78	863.00	863.00
318.50	865.00	865.00	409.78	868.00	868.00
319.50	870.00	870.00			

