

TCR 95-3765



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ANNUAL REPORT

1994-1995

EL 11/92 (Meunna)

&

EL 20/93 (Hebe River)

by

Vic Threader

for

Mineral Holdings Australia Pty Ltd

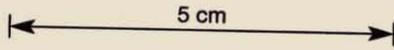
23 AUG 1995		
OFFICER		
ACTION		
DATE		
EL 11/92	SEE	FOLIO 10
EL 20/93	SEE	FOLIO 80

95-3765

ANNUAL REPORT MEUNNA
& HEBE RIVER ELS 11/92 & 20/93
THREADER V, MINERAL HOLDINGS

995

Vic Threader and Associates Pty Ltd
Kingston Beach



EL 20/93 (Hebe River) 8 S.Km.

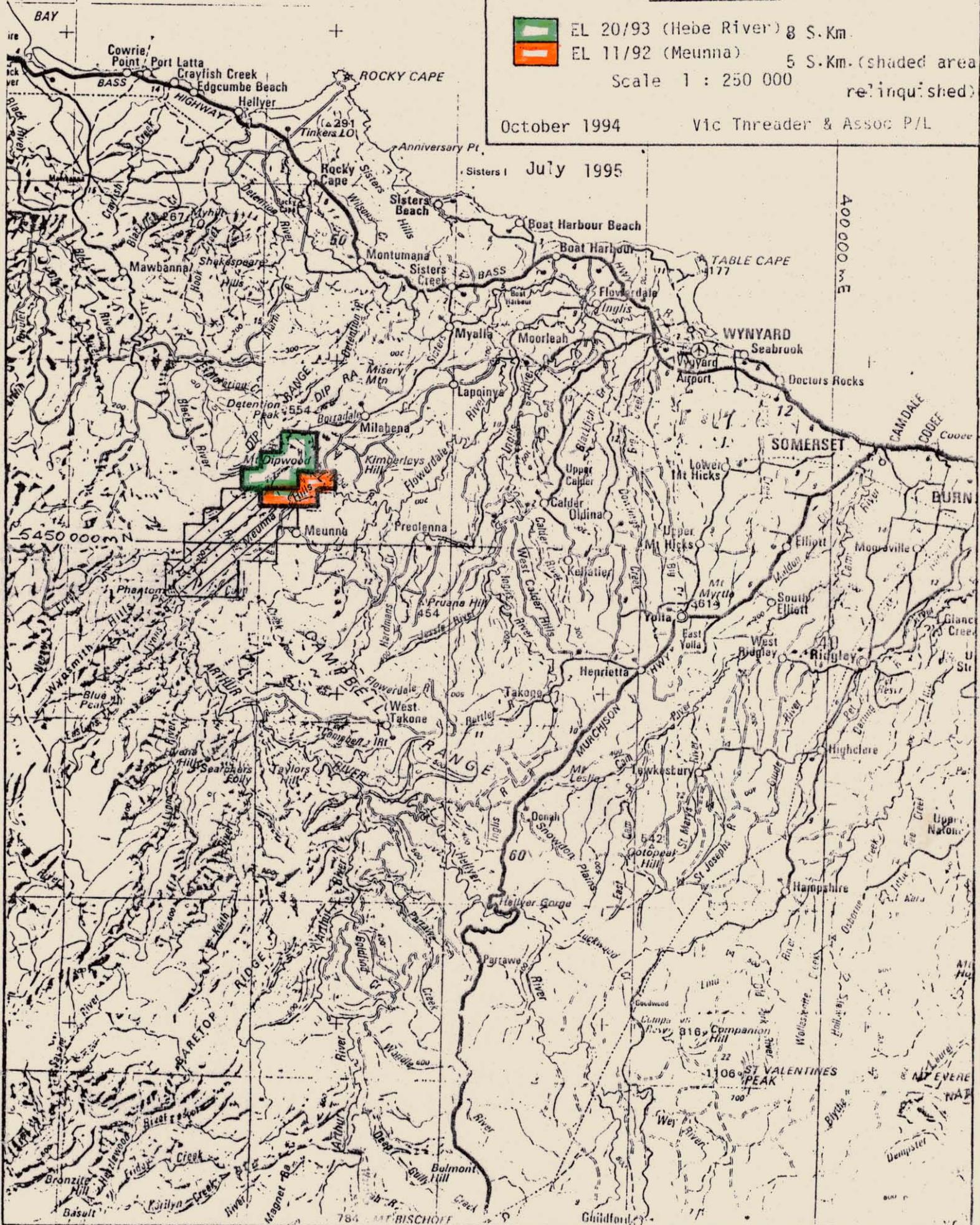
EL 11/92 (Meunna) 5 S.Km. (shaded area re-inquired)

Scale 1 : 250 000

October 1994

Vic Threader & Assoc P/L

July 1995



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Introduction: Both licences are situated in northwest Tasmania on Myalla Road at 10 & 15km from its junction with Bass Highway at Boat Harbour. EL11/92(49S.Km.) was issued on 25 September 1992; reduced to 30 S.Km. in 1993 and further reduced to 5 S.Km. in 1994.

EL20/93(8S.Km.) was issued on 20 May 1994.

The expiry date of EL11/92 has been changed to coincide with the adjoining EL20/93 to allow concurrent reporting and expenditure sharing from now on.

Land Tenure & Access: The area of interest in both licences lies in State Forest. In the case of EL20/93, access is through "Barakee", a property owned by G. Pocke of Boat Harbour. A public Right of Way is extant but has been fenced over and incorporated into the above property. "Barakee" lies about 4 km. southwest of Milabena and the access to EL11/92 lies a further 4km. to the SW along Myalla Road along a disused gravel pit/logging track to the east.

Aims of the Exploration The aim has been to explore for sand and quartzite for the chemical and metallurgical industries. A number of specifications are involved depending on the end use of the material. (see AR 1991-1992 ELs 24/88 & 25/88). In brief, the main contaminants are iron, titanium & aluminium and the main physical characteristics are hardness in quartzite and grain size distribution in sands.

Geology Rocky Cape sediments occupy the entire licence areas except where masked by Tertiary basalt and Recent alluvium. The rock units within this Group in the present context are Detention Subgroup quartzites and the (younger) Jacob Quartzite. Both Formations contain orthoquartzite units > 200m thick. Gee (1971) states that the Detention Quartzites are interbedded with and interdigitate with siltstone beds while the Jacob Quartzite is a pure quartz sandstone and moreover is the coarser grained of the two. To date investigations have not borne out these findings (see Figure 7) but these two factors are fundamental in the search for high quality silica deposits and future exploration should be focused on the Jacob Quartzite areas such as the Meunna licence and also the Milabena area to the northeast.

1) EL11/92 The area investigated was the southeast slope of a ridge of Jacob Quartzite. A Komatsu 20t. excavator owned and operated by A. Hage was employed for digging 11 sample pits in in-situ sandstone along a disused logging track. The area covered was $25,000\text{m}^2$ and the average depth of pit was 3.6m. This gives an in situ volume of $90,000\text{m}^3$. Pit logs and screen analyses are given in Table 1. + 425 μm . material accounts for an average 25% of the material and another 25% is allowed for oversize which was sampled but not analysed. The sand resource proven is therefore estimated at $45,000\text{m}^3$. The estimate is conservative because much of the +425 μm material would reduce in particle size during mining and general handling.

The sand resource appears to grade into hard sandstone at greater depth and needs to be drilled as it is too hard and too deep for an excavator.

Schist crops out on the track to the west of the area examined and was intersected in E11, which may place limits on the lateral extent of this resource but it is noted that hard sandstone/quartzite has been exposed in the bottom of the gravel pit at about 600m. back along the track towards Myalla Road. So there is scope for further resources to be found.

Iron content of these samples is variable (Table 1) The average Fe_2O_3 content of 10 samples was 113ppm but excluding E1, E4 & E10, the average becomes 154. It is noted that these 3 samples are in close proximity suggesting that pockets of high purity may be extractable.

The area examined, although small is considered of sufficient size to allow an assessment of the material to be made. If there is a market for it, the investigation will be extended to increase the proven reserves to an economic size. This would involve deepening the holes already dug and also examining the ridge area to the north for which there is at present no means of access.

2) EL20/93: The initial impetus to explore in this area was the reported steep gorge which was incised into the Detention Quartzite sequence in the Hebe River valley (D.Seymour Pers.comm.)

On inspection, a discontinuous line of vitreous quartzite was discovered west of the river and lying between it and a gravel pit 120m. westerly along a disused logging track. Chemical analysis of this series of outcrops indicated quartzite of high purity. Subsequent rock chip sampling in the river bed and valley slopes (H10-H64) failed to find any further material of this quality. At this stage it was decided to concentrate on attempting to define a resource on the vitreous quartzite described above by hammer drilling which was commenced on 30th. May. The contractor was Columbus Drilling using an Airtrak drill and Top Hammer.

The programme commenced on 30th May using airtrak drill and Top Hammer - contractor: Columbus Drilling.

Exceptional rains saturated the ground and prevented sample recovery. Drilling then switched to bottom hammer which greatly improved the recovery but sample contamination and clays blocking air holes were major problems in the wet conditions.

The programme was put on hold on 2nd June until a diamond drill was available and better access was provided.

Diamond drilling was commenced on 17th August and finished on 1st September. Five holes were drilled, total depth 109m.

Drilling Results

The maximum vertical thickness of hard white quartzite was 5m and this was found in only those holes in the vicinity of the line of surface samples HR1 to 9 i.e. Holes P1, Pla, DD1, 2a and 2b (Section I). The maximum strike length (30m) of white quartzite occurred at P1 and there is therefore unlikely to be more than 3000m³ of hard white quartzite and probably less. The entire area covered by the drilling is <5000m² and outcrop is sparse except where exposed by earthworks or in creek beds. There was practically no hard quartzite on the surface of the hill south of the gravel pit. It crops out at DD6 but there was little in the actual borehole core.

The white quartzite at P1 is only 5m thick and did not extend as far as D4 which was drilled in the quarry to intersect its continuation on strike (Section II). Both P1 and D4 drilled through quartz schist material in the upper 10m of the holes and then sand to the bottom of the hole.

It would appear that silicification is restricted to the near surface but it also occurs at considerable depth as in the bottoms of incised creek gullies where it is interbedded with schists as evidenced by high alumina content (both creek and bore core analyses).

Silicification is no guide to purity of quartzite and it may be that pure quartzite only occurs where silicification post dates leaching of the high alumina fraction from the sediments.

Chemistry of the Hebe River Sandstone ; (Tables 3a&3b) The only hammerdrill hole sampled was No. 1A which contained high levels of Fe_2O_3 , TiO_2 & Al_2O_3 which is most likely due to contamination caused by the extremely wet drilling conditions in the hole.

Some interesting results were obtained from the diamond drill holes particularly Nos. 2a&2b.:

BOREHOLE No.	THICKNESS(m)	WEIGHTED MEAN (ppm)		
		Fe_2O_3	TiO_2	Al_2O_3
DD1	2.70	92	974	632
	1.71	169	484	514
	5.99	169	518	454
	10.40	149	630	510
DD2a.	4.3	40	47	196
	1.5	71	55	173
	(12.0	354	37	1040)
	2.2	71	35	241
	8.0	54	45	204
	(20.0	234	40	706)
DD2b.	5.92	100	168	368
	2.98	74	42	158
	4.30	67	38	217
	12.0	56	25	143
	25.2	70	63	210

Average of the three Weighted Means is:

15	91	246	306
----	----	-----	-----

The ground covered by these three holes is about $40 \times 13 \times 13 = 6750M^3$

or an in situ reserve of 10 000C.M. of sand & sandstone (50:50?)

This is insignificant in terms of viability but serves to illustrate that it may be possible to prove up a deposit that is economically viable.

Grain Size Distribution of Sand : Screen analyses of sand from Dip Range(1), Meunna(2), Lapoinya(3) and Hebe River(4&5a&b) are shown on Figures 7a&b. Dip Range and Meunna distributions are almost identical, with Lapoinya very similar but slightly finer grained. The Hebe River samples are finer grained than the others with the borehole sample being the finest of all, which probably reflects the higher sericite content of unweathered material. Screen analyses will only give a true reading of grain size distribution if there are no composite particles present. This is borne out by the borehole sample which obviously has a high proportion of rock fragments present. Figure 7b. shows the similarity of these various sands when the +500 μ m-material (composite particles) and the -63(or 75) μ m-material (probably sericitic material) has been removed.

Sand Resource: The cross sections Figure 6 indicate that a significant proportion of the sandstone is friable and could constitute a sand deposit of economic proportions provided it met specifications.

Proposed Exploration (1995-1996)

1) EL11/92 (Meunna) Reconnaissance traverses of the remainder of the ridge area will be undertaken in order to decide whether or not to extend the exploration into this less accessible portion of the licence.

Market interest has been generated in this material particularly, the low iron content samples. It is proposed therefore to examine this particular area by hammer drill in order to prove up a deposit of economic size.

2) EL20/93 (Hebe River) Assessment of the diamond drill core has not yet been completed and a decision has not been made on whether or not to proceed with exploration in this tenement.

If it is decided not to proceed further with exploration in this licence, the drill access tracks will be rehabilitated as required by Forestry Tasmania.

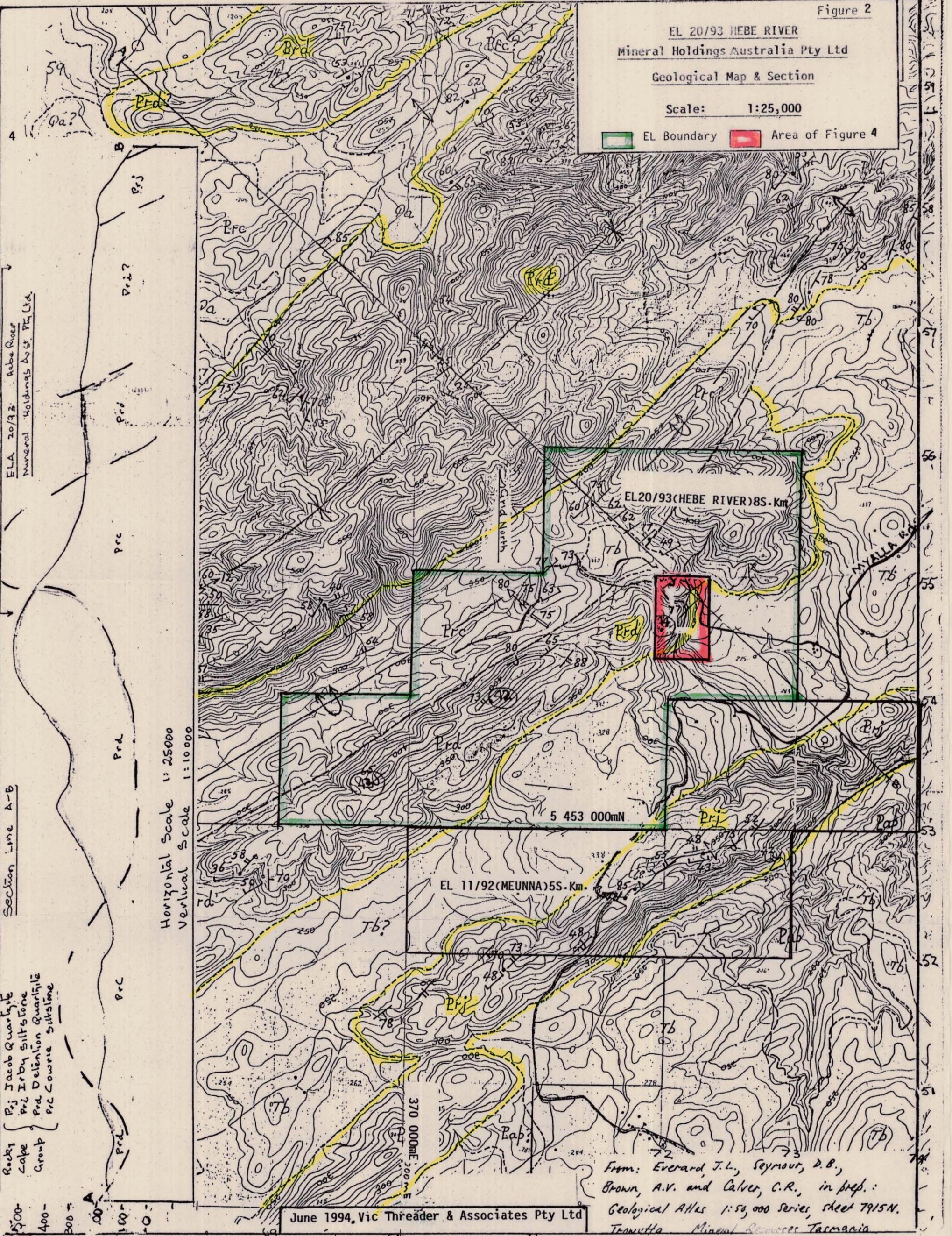
Figure 2

EL 20/93 HEBE RIVER
Mineral Holdings Australia Pty Ltd

Geological Map & Section

Scale: 1:25,000

EL Boundary Area of Figure 4



ELA 20/93 Hebe River
Mineral Holdings Australia Pty Ltd

Section Line A-B

Horizontal Scale 1:25000
Vertical Scale 1:10000

Rocky Cape Group
Prj Jacob Quartzite
Prj Irby Siltstone
Prc Delenion Quartzite
Prc Cowrie Siltstone

500
400
300
200
100
0

EL20/93(HEBE RIVER)8S.Km

EL 11/92(MEUNNA)5S.Km

June 1994, Vic Threader & Associates Pty Ltd

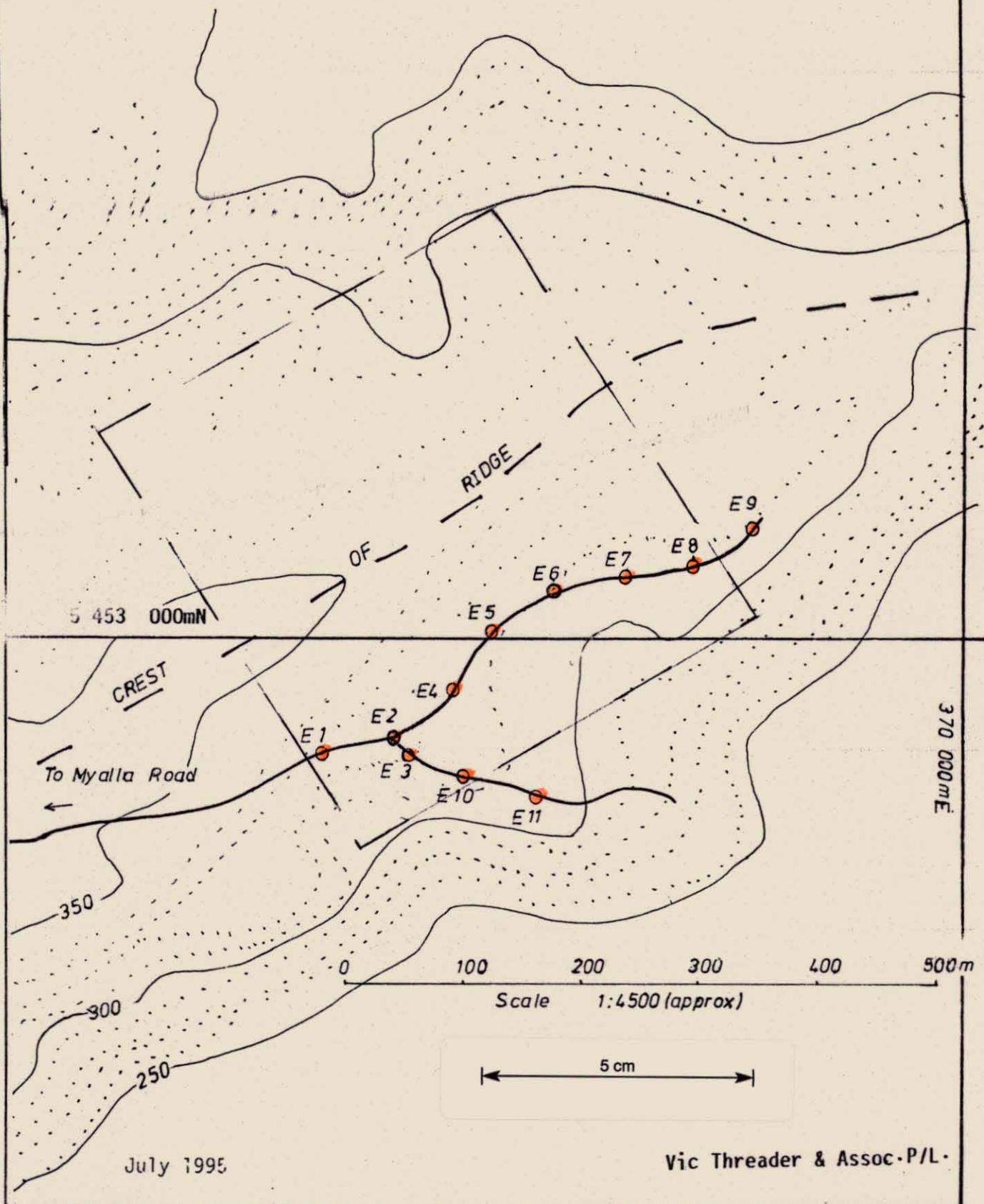
From: Everard, J.L., Seymour, D.B.,
Brown, A.V. and Calver, C.R., in prep.:
Geological Atlas 1:50,000 Series, sheet 7915N.
Tasmania Mineral Resources Tasmania

312011

Figure 3.

EL11/92-MEUNNA-Mineral Holdings-Aust-P/L

- E1 ● Excavator Pit
 - 350 Surface contour (m.a.s.l.)
 - Disused logging track
 - - - Recommended for further prospecting
- [Photocopy enlargement of MILABENA-1;25000]

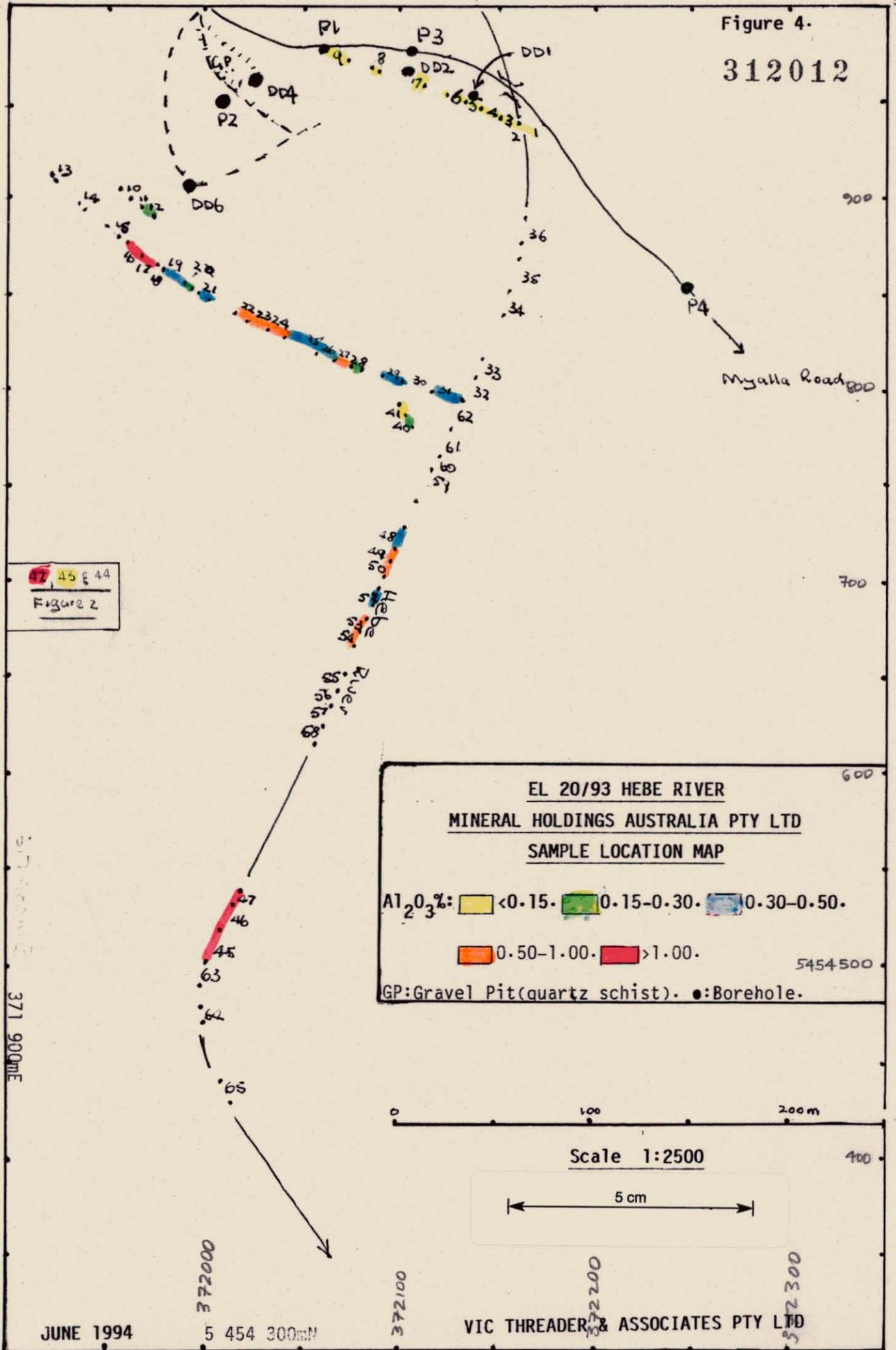


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Figure 4.

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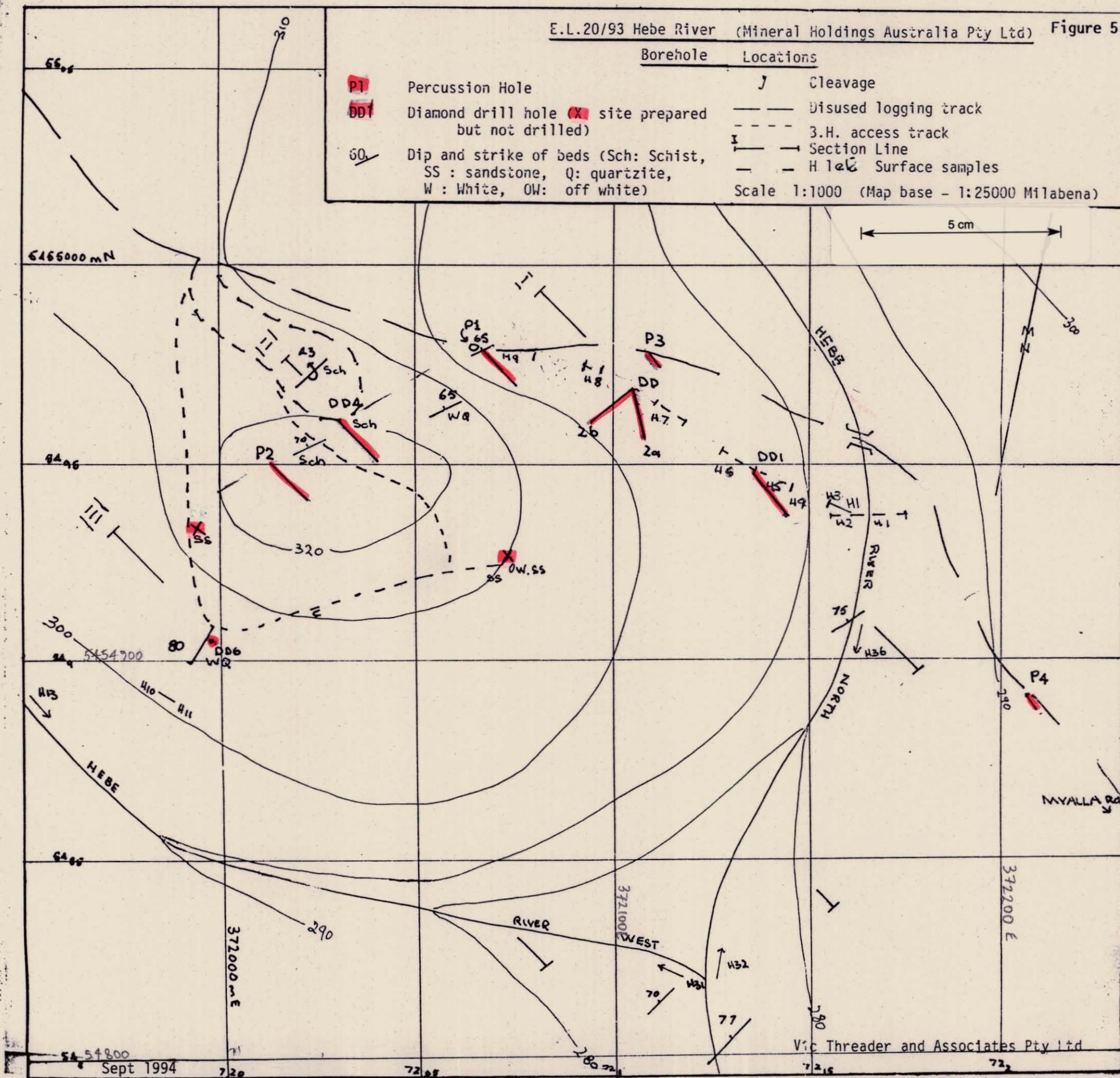


47 45 E 44
 Figure 2

JUNE 1994

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E.L.20/93 Hebe River (Mineral Holdings Australia Pty Ltd) Figure 5.



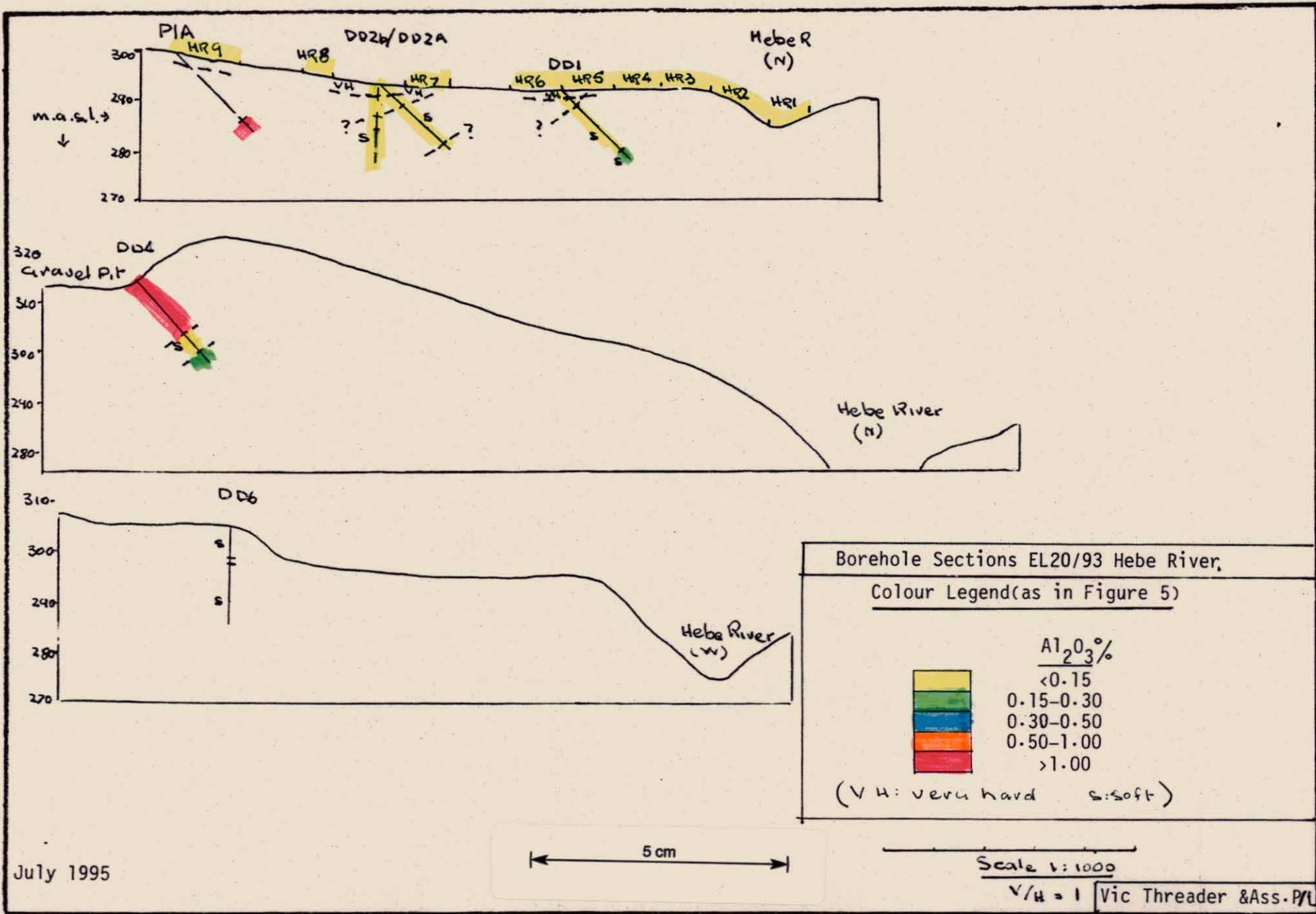
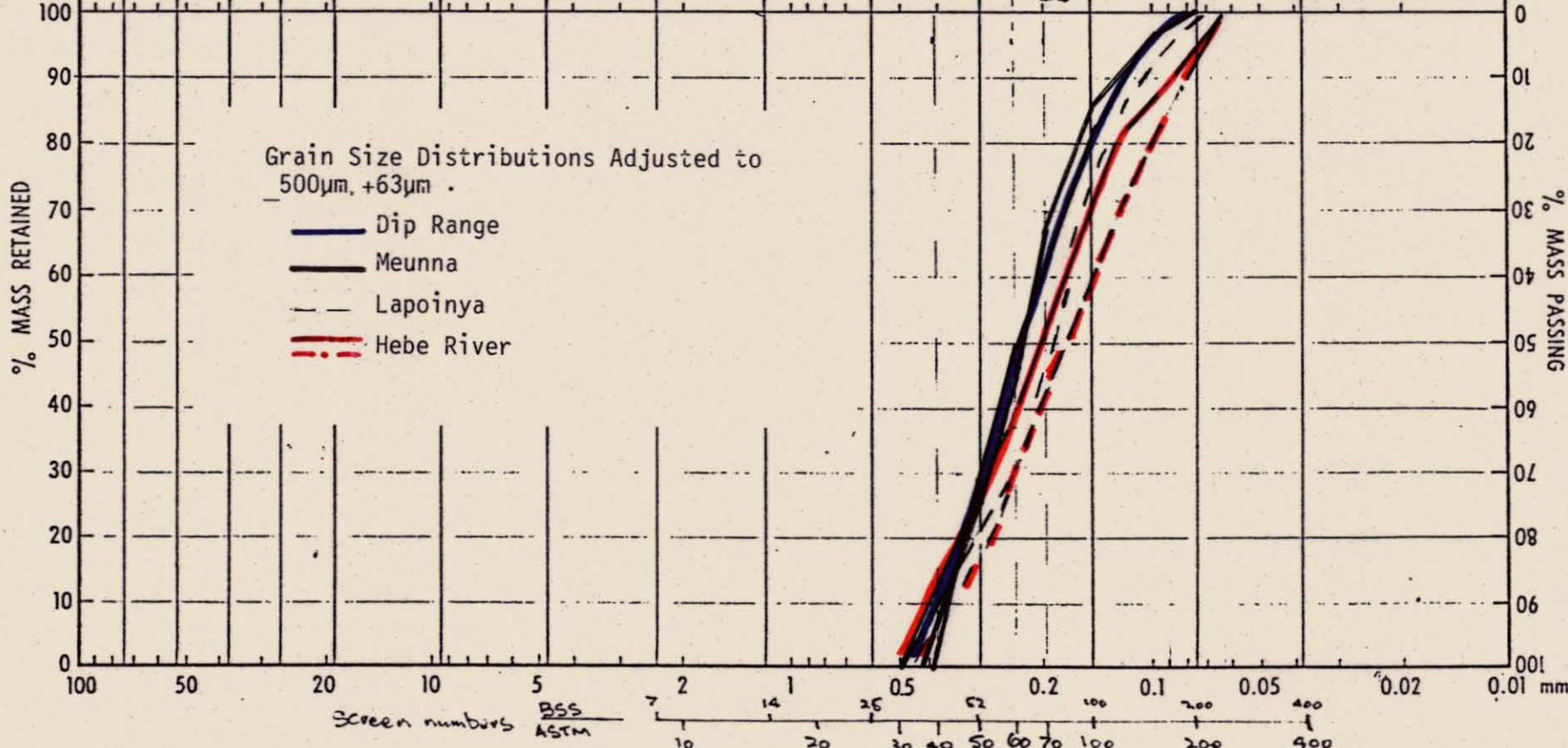


Figure 6

312014

M 1324

REFERENCE No.	LAB. SERIAL No.	LOCALITY	SEDIMENT ANALYSIS PARAMETERS													
Screen anal - 425 μ m	15	+ 75 μ m (or +63 μ m)	M =	V =	Sk =	K =										
COARSE AGGREGATE		FINE AGGREGATE			A77-1957 (concrete)											
COARSE AGGREGATE		FINE AGGREGATE		BINDER		N.A.A.S.R.A. (road materials)										
COBBLE	PEBBLE	GRANULE	SAND					SILT								
			V. COARSE	COARSE	MEDIUM	FINE	V. FINE									
-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6 ϕ				
75	53	37.5	26.5	19	9.5	4.75	2.36	1.18	0.6	0.425	0.3	0.25	0.15	0.075	0.038	Aust. Stand. Sieve

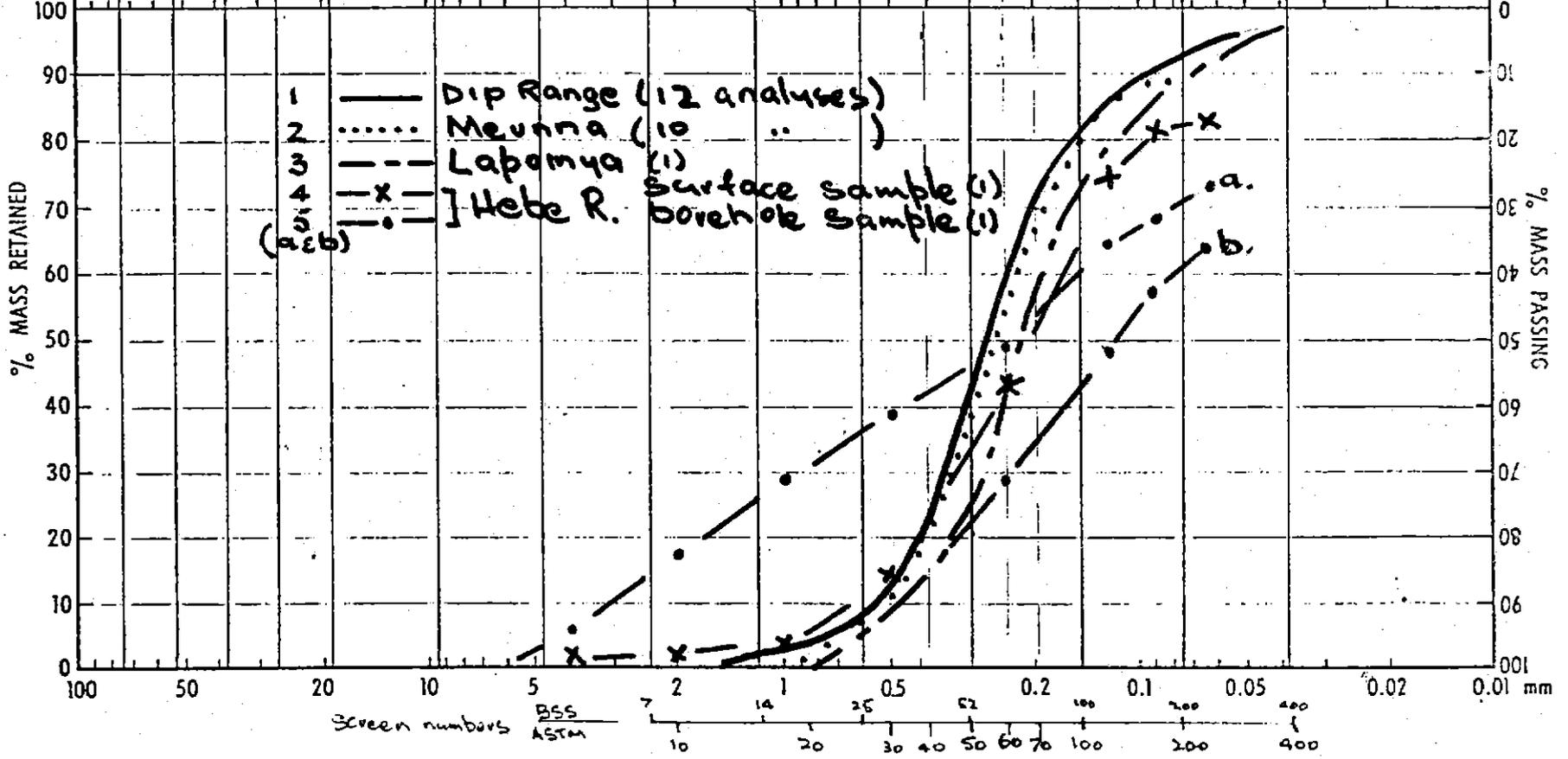


312015

Figure 7a

M 1324

REFERENCE No.	LAB. SERIAL No.	LOCALITY					SEDIMENT ANALYSIS PARAMETERS							
							M =	V =	Sk =	K =				
COARSE AGGREGATE			FINE AGGREGATE					A77-1957 (concrete)						
COARSE AGGREGATE			FINE AGGREGATE		BINDER			N.A.A.S.R.A. (road materials)						
COBBLE	PEBBLE		GRANULE	SAND					SILT					
				V. COARSE	COARSE	MEDIUM	FINE	V. FINE						
-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6 ϕ		
75	53	37.5	26.5	19	9.5	4.75	2.36	1.18	0.6	0.3	0.15	0.075	0.038	Aust. Stand. Sieve



312016

Figure 7b

Table 1.

EXCAVATOR PIT LOGS, Fe₂O₃ content & Screen Analyses of Samples (EL11/92)

Pit no	Depth(mm)	Thickness(mm)	Colour	Log	Fe ₂ O ₃ (p.p.m.)	+425	+300	+250	+212	+150	+106	+75	-75
1	0 - 2000	2000	light brown	Road cutting exposure	15	10.6	22.7	35.1	50.6	70.8	85.0	90.6	9.3
	2000 - 5900	3900	Off white	Soft sandstone									
E2	0 - 4800	4800	Off white	Top 1m hard requiring ripping, remainder soft sandstone	105	19.1	37.1	52.9	68.5	81.9	88.2	91.2	8.8
E3	0 - 3600	n 3600	Light brown	Hard & soft sandstone (50:50)	150	59.6	74.5	81.3	86.4	91.5	94.4	95.9	4.1
E4	0 - 3000	3000	Off white	Hard & soft sandstone & hard quartzite(30-40%)	20	30.8	44.9	55.2	65.4	77.3	84.8	88.1	11.9
E5	0 - 2000	2000	- -	Road cutting exposure	175	34.7	52.6	64.8	76.6	88.7	93.7	95.5	4.5
	2000 - 7200	5200	- -	Soft & hard sandstone (90:10)									
E6	0 - 400	400	" "	Hard sandstone	115	23.0	45.7	60.2	71.0	79.6	92.9	95.5	5.1
	400 - 3400	3000	" "	Soft to very soft sandstone									
E7	0 - 2200	2200	" "	Hard & soft sandstone	210	1.9	6.6	28.0	72.7	93.0	95.5	96.5	3.5
E8	0 - 3200	3200	White	Soft sandstone	160	15.6	49.5	67.3	78.3	88.1	94.3	96.2	3.8
E9	0 - 300	300		Soil	165	43.7	59.8	69.6	79.8	87.9	90.8	92.6	7.3
	300 - 500	200	White	Hard sandstone, becoming too hard to rip at B.O.H.									
E10	0 - 2300	2300	White	Hard & soft sandstone	20	30.9	34.4	36.2	38.1	40.8	44.0	47.0	52.1
E11	0 - 2000	2000		Schist					N/S				

HEBE RIVER SURFACE SAMPLING

Sample No.	Distance	Sample width	Estimated True Width	Field Description			Chemical Analysis (%)											A1203/ K2O	
				Colour	Hardness	Rock Type	Fe203	A1203	CaO	TiO2	P2O5	V2O5	Na2O	K2O	MgO	MnO	LoI		SiO2
HR1	0-20	20	15	W	H	SS	0.007	0.02	0.004	0.016	0.001	0.0003	0.004	0.005	0.003	0.0001	0.15	99.79	4
	20-25			Creek bed on hard rock															
2	25-45	20	15	W	H	SS/Q	0.008	0.03	0.0032	0.012	0.004	0.0001	0.003	0.006	0.002	0.00009	0.21	99.72	5
3	0-10	10	8	W	H	~	0.04	0.03	0.003	0.013	0.001	<0.0003	0.003	0.004	0.005	<0.002	0.10	99.80	7.5
4	20	10	8	W	H	~	0.02	0.03	<0.003	0.012	0.001	<0.0003	0.002	0.004	0.003	<0.002	0.08	99.84	7.5
5	30	10	8	W	H	~	0.02	0.02	<0.003	0.011	0.001	<0.0003	0.002	0.004	<0.003	<0.002	0.06	99.87	5
6	40	10	8	W	H	~	0.05	0.03	0.003	0.021	0.001	<0.0003	0.003	0.005	0.004	0.004	0.07	99.80	4.6
	52	12																	
7	60	8	6	W	H	~	0.03	0.03	<0.003	0.013	0.001	<0.0003	0.003	0.004	0.003	<0.002		99.83	7.5
	67																		
	73	6	5	OW	Soft (friable)	SS													
	76																		
8	80	4	3			SS/Q	0.04	0.03	<0.003	0.012	0.001	<0.0003	0.003	0.005	0.003	0.01	0.05	99.84	6
	93	13	10																
9	107	14	11	W	V.H.	Vitreous quartzite	0.04	0.02	0.003	0.009	0.001	<0.0003	0.002	0.004	<0.003	0.009	0.05	99.86	5
10	0-10	10	8	OW	H	SS	0.04	1.00	0.005	0.056	0.005	0.001	0.011	0.30	0.039	<0.001	0.22	96.3	3.3
11	20	10	8	OW	H	SS	0.03	0.58	0.005	0.035	0.005	0.001	0.009	0.17	0.025	<0.001	0.21	97.8	3.4
12	30	10	8	OW	H	SS	0.02	0.26	0.006	0.026	0.005	0.000	0.006	0.07	0.013	<0.001	0.21	98.9	3.7
13	0-3	3	3	W	H	SS	0.15	0.59	0.001	0.21	0.013	0.000	0.013	0.14	0.037	<0.001	0.43	97.3	4.2
	21	21																	
14	24	3	3	W, Br	H, S	SS, Sch													
	57	33																	
15	60	3	3	OW	H, S	~													
16	75	15	10	OW	H, S	~	0.20	6.30	0.007	0.18	0.012	0.003	0.056	1.86	0.18	<0.001	0.92	84.5	3.4

S. No.	Distance	Sample width	Estimated True Width	Colour	Hardness	Rock Type	Chemical Analysis(%)													
							Fe2O3	Al2O3	CaO	TiO2	P2O5	V2O5	Na2O	K2O	MgO	MnO	LoI	SiO2	Al2O3/K2O	
17	88	13	9	OW, LB	H, S	SS, Sch	0.21	4.92	0.006	0.13	0.009	0.002	0.046	1.46	0.125	<0.001	0.81	88.4	3.4	
98	10			-																
18	108	10	7	OW, LB	H, S	SS	0.04	0.93	<0.001	0.05	0.005	0.001	0.009	0.23	0.031	<0.001	0.23	96.8	4.0	
110	2			-																
19	116	6	4	W	V. H	SS, Q, Sch	0.02	0.385	0.002	0.026	0.004	0.001	0.007	0.105	0.019	<0.001	0.13	96.9	3.6	
123	7			-																
20	127	4	3	OW, L Br	H	SS, Sch	0.014	0.245	0.002	0.026	0.004	0.000	0.005	0.056	0.012	<0.001	0.03	98.6	4.4	
130	3			-																
21	138	8	6	OW	H	SS	0.019	0.475	0.003	0.032	0.006	0.001	0.007	0.125	0.018	<0.001	0.18	98.4	3.8	
152	14			-																
22	162	10	7	OW	H	SS	0.02	0.610	0.006	0.034	0.005	0.001	0.008	0.17	0.025	<0.001	0.19	98.0	3.6	
23	172	10	7	OW	H	SS	0.024	0.53	0.005	0.032	0.006	0.001	0.007	0.135	0.022	<0.001	0.20	98.1	3.9	
24	182	10	7	OW	H	SS	0.018	0.80	<0.001	0.036	0.005	0.001	0.010	0.22	0.028	<0.001	0.16	97.2	3.6	
25	200	18	13	OW	H	SS	0.015	0.50	0.006	0.025	0.004	0.001	0.006	0.115	0.019	<0.001	0.12	98.4	4.3	
26	210	10	7	OW	H	SS	0.265	0.445	0.003	0.033	0.007	0.001	0.008	0.12	0.017	0.001	0.38	97.9	3.7	
27	220	10	7	OW	H	SS	0.26	0.87	0.006	0.031	0.005	0.001	0.012	0.26	0.029	<0.001	0.19	97.1	3.3	
28	225	5	3	OW	H	SS	0.074	0.31	0.002	0.036	0.006	0.000	0.007	0.076	0.013	<0.001	0.13	98.3	4.1	
237	12			-																
29	243	16	11	OW	H	SS	0.012	0.39	0.006	0.034	0.004	0.001	0.007	0.094	0.017	<0.001	0.15	98.6	4.1	
30	260	17	12	W, LB	S	SS	0.013	0.28	0.004	0.042	0.003	0.000	0.006	0.076	0.014	<0.001	0.18	98.3	3.7	
31	274	14	10	OW	S	SS														
				-																
32	0-17	17	12	OW	H, S	SS														
33	24	7	5	OW	S	SS														
	52																			
34	62	10	7	OW	H	SS														

<u>S No.</u>	<u>Distance</u>	<u>Sample width</u>	<u>Estimated True Width</u>	<u>Colour</u>	<u>Hardness</u>	<u>Rock Type</u>
56	118	10	7	OW	H,S	SS
57	128	110	7	OW	H,S	SS
58	137	9	8	OW	H,S	SS
	143					—
NS	158	5	3	OW	S	SS Surface discolouration
	214					—
59	0-10	10	7	W	H	SS
60	20	10	7	Br	S	SS (ironstained)
61	27	7	5	W	H	SS
	45					—
62	60	15	10	Br	H	SS
63	0-10	10	7	Br	H	SS
	25					—
64	33	8	6	Br	H	SS
	66					—
65	76	10	7	Br	S	Sch

Explanatory Notes on Table 2.

Field descriptions: Colour W - white
 OW - off white
 Br - brown
 Hardness H - hard
 S - soft

Rock type: SS - sandstone
 Q - Quartzite
 Sch - schist

HR 1 - 9 analysed at Analabs by AAS (Silica by difference)
 10 - 54 analysed at Amdel by ICP

$Al_2O_3:K_2O$ ratio in sericite is 3.26, which is comparable with the ratio of the HR samples, confirming that sericite is the major contaminant.

Summary of Surface (Rock Chip) Sampling

<u>Sample No.</u>	<u>Location</u>	<u>Samples not analysed</u>
HR 1 and 2	E and W of Hebe River, 50m S of bridge	
3 to 9	109m across strike	
	HR9 is a 17m wide hard vitreous quartzite bed which is exposed over 30 40m along strike. A gravel pit in quartz schist is located immediately to the west of it.	
10, 11, 2	Hillside outcrop	
13-31 } 32-36 } 37-39 }	Discontinuous exposures on banks of Hebe River	14, 15 (schistose) 31 (discoloured and soft) 32-36 } duplicated by 37-39 } other samples
40, 41	High cliffs at Creek junction	40 (Schistose)
42, 43	Discontinuous samples across crest of range	Locations on Figure 2
44	Hillside outcrop	44 (poor colour)
45-65	Discontinuous exposures on banks of Hebe River	55-64 soft, discoloured 65 (Schist)

E.L.20/93 HEBE RIVER
BOREHOLE LOGS

No.	Depth From To	Thickness	Hardness	Colour	Remarks
<u>Hammer Drilling,</u>					
P1	0 1.5	1.5	V.H.	W	Vitreous quartzite on surface
	1.5 2.5	1.0	V.H.(5%S)	W	Sandstone seams present
	2.5 8.0	5.5	H	W	Hole too wet for sample return
		<u>8.0</u>			Hardwhite quartzite,
1a	0 2.0	2.0	V.H.	W	Some off-white bands present,
	2.0 3.0	1.0	V.H.	W	brwn over bottom 200mm (discolour- ation may be of organic origen)
	3.0 4.0	1.0	H	W	
	4.0 5.0	1.0	H	OW	} Wet hole below 8m
	5.0 8.0	3.0	H	OW-	
	8.0 11.0	3.0	H	Brown	
	11.0 14.0	3.0	V.H.	White	Some brown
	14.0 19.0	5.0	H	Brown	Very discoloured water
	19.0 22.0	3.0	H	Black	Black schist
		<u>22.0</u>			
P2	0 12.0	12.0	S	Brown	Sandstone and schist
	12.0 15.0	3.0	MH	White	Sandstone
	15.0 18.0	3.0	H	W	
	18.0 19.0	1.0	H	W	Soft brown seam at bottom
	19.0 20.0	1.0	V.S.	W	
	20.0 21.0	1.0	H, S	W	Cemented with cuttings over- night and could not be cleared Hole aborted.
		<u>21.0</u>			
P3	0 8.5	8.5	-	-	Drilled into road formation. Pressure loss through unconsoli- dated road materials. No sample. Hole aborted.
P3a	0 5.0	5.0	-	-	Collared in unconsolidated material at base of scree slope. 1.5m PVC collar. Hole aborted in caving ground. No sample.
P4	0 2.0	2.0	-	-	Basaltic soil and rubble
	2 10.0	8.0			Yellow and brown sandy clay with quartz fragments. Water at 5m, clay adhering to rods, could not clear hole - Aborted.

No.1 was drilled with Top hammer; Nos 1a; 2; 3; 3a and 4 drilled with bottom hammer.

Hole No.	Depth (m)		Thickness (m)	Recovery (m) (%)		DIAMOND DRILLING LOGS:			CHEMICAL ANALYSIS (ppm)					Additional Log (V.T. June 1995)	Table 3b.(1)		
	From	To		No. Fragments	Colour	Hardness	Sample	Fe203	Ti02	Al203	Ca0	V205	Cr				
DD.1	0	0.56	0.56	0.56	100		W	H	1	92	974	632	38	2.2	1.3	Hard white quartzite grading to soft sandstone at bottom.	
	0.56	2.40	1.44	1.40	76		W	H									
	2.40	2.70	0.30	0.30	100		W	H									
		2.70	4.41	1.71	1.70	100		W	S	2	169	484	514	48	1.5	0.9	Interbedded hard and soft white sandstone.
		4.41	10.40	5.99	5.23	87		W	Sand	3	169	518	454	42	1.9	1.1	
		10.40	17.90	7.90	nil	-											
	17.90	21.00	3.10	1.60	52		Grey	S	4	202	244	1546	50	2.4	1.8	As above with interbedded schist.	
			21.00														
DD.2a	0	2.60	2.60	1.40	54	9	Grey	H	1	40	47	196	25			Hard off-white quartzite.	
	2.60	4.30	1.70	1.70	100	13	Grey	H									
	4.30	5.80	1.50	1.50	100	12	Grey	H	2	71	55	173	30			Crumbly brown and white sandstone. Broken core. (Brown staining is probably organic). Hard white quartzite. Still in good ground at bottom of hole. Brown staining persists to B.O.H.	
	5.80	13.30	7.50	6.30	84	-	Brown	Sand	3	354	37	1040	732				
	13.30	17.80	4.50	4.50	100	56	Black	"									
	17.80	20.00	2.20	2.20	100	25	Grey	"	4	71	35	241	44				
			20.00														
DD2b	0	1.90	1.90	1.3	68	9	W	H	1	100	168	368	96			Hard white and off-white quartzite. Broken core over top 600mm.	
	1.9	5.92	4.02	3.98	99	34	Grey	H									
	5.92	7.40	1.48	1.48	100	20	Grey	S	2	74	42	158	32			Soft off-white sandstone	
	7.40	8.90	1.50	nil	nil												
	8.90	13.20	4.30	4.20	98		W	Sand	3	67	36	217	39				
	13.20	25.20	12.00	12.00	100		Brown	Sand	4	56	25	143	32				
			25.20														
																19.2-23.7: Hard off-white quartzite.	
																23.7-24.5: Brown sandstone.	
																24.5-25.2: Hard white sandstone with brown partings.	

Hole No.	Depth (m)		Thickness (m)	Recovery (m) (%)		No. Fragments	Colour	Hardness	Sample	Fe203	Ti02	Al203	Ca0	V205	Cr	Additional Log (V.T. June 1995)
	From	To														
DD.4	0	8.40	8.40	6.30	75	82	Brown	Schist	1	1178	165	76415	31			0-14.4: Quartz schist
	8.40	13.60	5.20	5.20	100	40	W									
	13.60	18.10	4.50	4.50	100	40	Brown	Soft	2	74	52	1070	39			Hard white quartzite with micaceous partings.
	18.10	22.50	4.40	3.80	86		Brown		3	74	33	2875	65			
		<u>22.50</u>														
DD.6	0	5.30	5.30	5.30	100	Very broken	W	Soft	1	253	70	7019	46			0-6.80: Soft sandstone with micaceous partings on bedding planes and on longitudinal partings.
	5.30	8.30	3.00	3.00	100	25	W	Hard	2	257	72	8321	38			
	8.30	9.80	1.50	1.50	100	Very broken	W	Soft								6.8-8.3: Hard white quartzite. 8.3-20.3: Brown micaceous sandstone. Numerous longitudinal partings (Fault ?)
	9.80	11.30	1.50	1.50	100		Brown	Soft	3	159	35	6057	48			
	11.30	20.30	9.00	9.00	100		Brown	Soft								
		<u>20.30</u>														

DIRECTION AND DIP OF DD HOLES

	<u>HOLE No.</u>	<u>AZIMUTH</u>	<u>DIP</u>
Analysis in p.p.m.	1	140°	-45°
	2a	170°	-45°
	2b	230°	-45°
	4	135°	-45°
	6	Vertical	-

AMG COORDINATES OF EXCAVATOR PITS AND BOREHOLES

LICENCE	HOLE No.	m. EAST	m. NORTH
11/92	E1	372470	5452910
	E2	520	920
	E3	525	910
	E4	570	960
	E5	600	5453010
	E6	660	050
	E7	720	060
	E8	780	070
	E9	820	100
	E10	490	5452890
	E11	540	870
20/93	DD1	135	5454945
	DD2(a&b)	105	970
	DD4	030	960
	DD6	000	905
	P1	080	980
	P2	010	950
	P3	110	980
	P4	205	890