

TENEMENT INFORMATION

E.L. 20/89 is a 5 km² licence over part of the Pittwater-Seven Mile Beach sand spit in southeastern Tasmania (Figure 1) and is entirely within the Seven Mile Beach Protected Area. The licence area is totally covered by pine plantation operated by Australian Newsprint Mills Ltd.

The licence was granted to North West Bay Company Pty. Ltd., commencing on the 25/9/92. In October 1993 a Heads of Agreement between North West Bay Company Pty. Ltd. and Sanbar Pty. Ltd. was signed, assigning exclusive rights to explore and develop sand mines within E.L.20/89 to Sanbar Pty. Ltd. This agreement was lodged with the Registrar of Mines and Sanbar have operated the licence since January 1994. On 21 July 1995 transfer of the EL ownership to Sanbar Pty Ltd was ratified.

The licence is currently at the end of Year 3 and application for a Mineral Lease is imminent.

PREVIOUS EXPLORATION

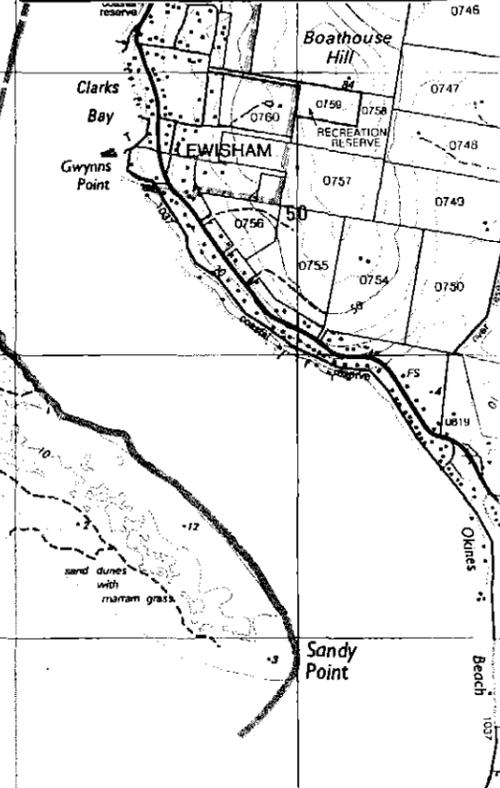
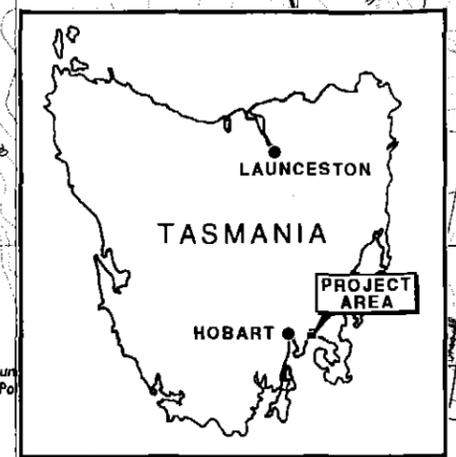
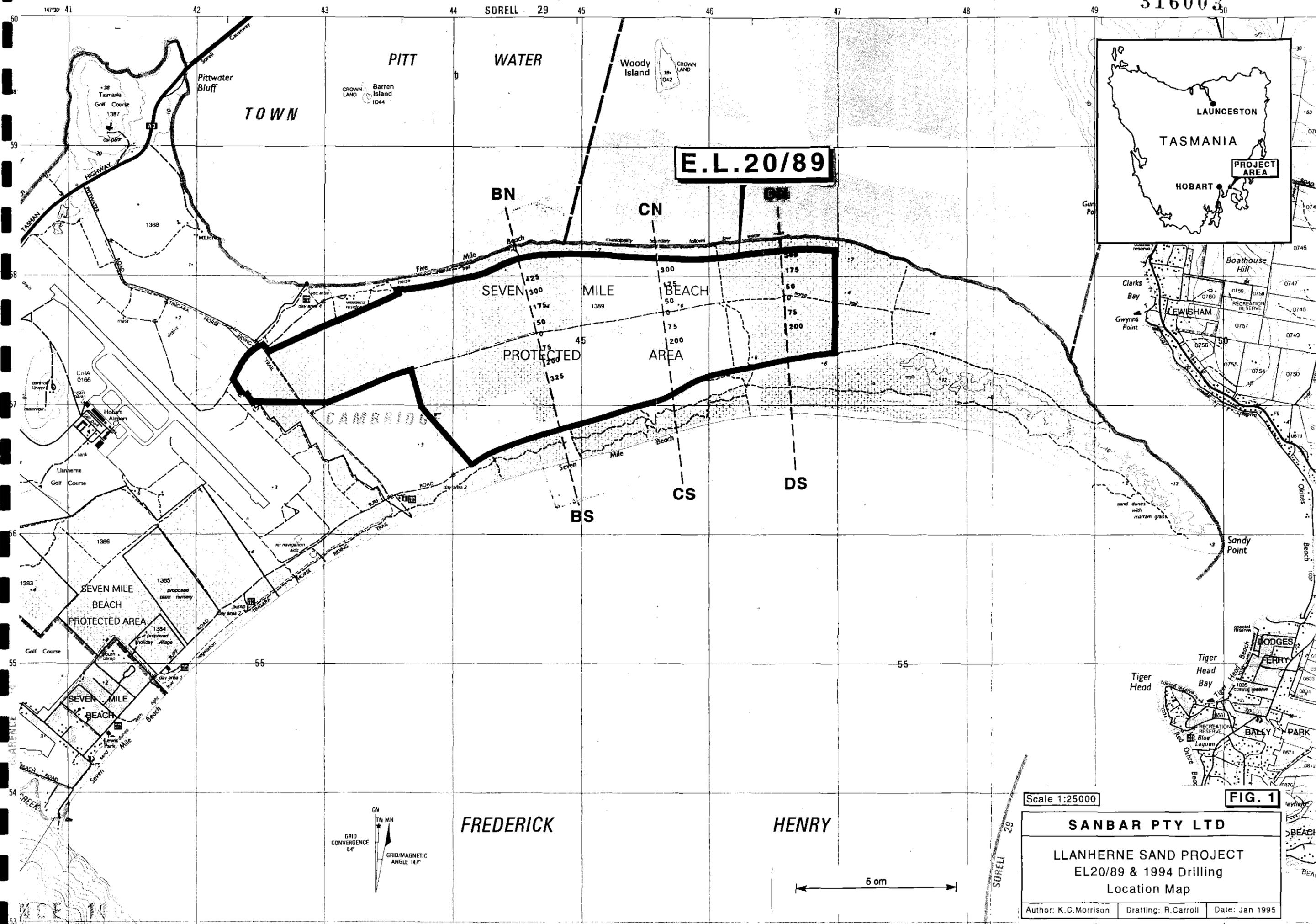
During Year 1 Consolidated Rutile Ltd. entered an option agreement with North West Bay Company Pty. Ltd. and conducted an assessment of the placer mineral sand potential of the E.L.

The work incorporated the results of 37 air core drill holes by Mineral Deposits Ltd. in 1975-1976 and 10 auger holes by Consolidated Rutile in 1992. Target parameters were based on a conceptual floating dredge wet plant mining 11 million tonnes of sand per year, at a grade of 1.75% heavy mineral comprising 50% ilmenite, 8% rutile and 15% zircon.

Assays of all samples from the 1992 auger drilling showed that the total heavy mineral content ranged from 1 - 2% and was close to prognosis but the ore minerals averaged 23% ilmenite, 3% rutile and 5% zircon, significantly less than that required for viability. The locations of these samples left little scope for the required grade increase elsewhere on the prospect so Consolidated Rutile withdrew from the project at the end of Licence Year 1.

Subsequent exploration has been aimed at quartz construction sand, with Sanbar taking the licence operatorship in January 1994.

In Year 2, reference samples retained from the 1975 drilling were dry screened to determine the grain size distribution along a north-south profile in the western part of the EL. The results show that a mean of 95.2 wt% of the 134 samples falls in the +75 to -300 micron range. After the



Scale 1:25000

FIG. 1

SANBAR PTY LTD

LLANHERNE SAND PROJECT
EL20/89 & 1994 Drilling
Location Map

Author: K.C.Morrison Drafting: R.Carroll Date: Jan 1995

shell and vegetation debris were excluded almost none of the Llanherne sand was coarser than 300 microns. In general the coarsest sand appears to be concentrated near the surface. A program of further drilling, sampling and screening was recommended.

YEAR 3 EXPLORATION

Three further traverses of hand drilled holes were completed (lines B, C and D on Figure 1). Screen data are enclosed in Appendix 1 and the results are summarised on Table 1 and Figure 2.

Table 1
Sand size fractions: wt%

a) Total Depth

Size Fraction (microns)	Mean wt%
+300	2.8
+212	16.6
+150	58.8
+75	21.5
-75	0.3

b) Top 3 metres

+300	3.2
+212	24.8
+150	59.2
+75	12.2
-75	0.3

A total of 97% of the sand is in the 75 to 300 micron size range but Figure 2 shows that the coarser sand is near surface and above the water table. In 11 of the 16 holes the maximum proportion of 212 to 600 micron size sand was in the sample interval 1.5 to 3.0 metres. Table 1 shows that the +212 micron fraction increases from 16.6% to 24.8% if the upper 3 metres are averaged.

Despite this depth trend the material is uniformly a fine sand (125 - 250 microns) throughout the prospect and is similar in size distribution, although slightly finer, to the current supply from South Arm (Figure 3).

In August 1995 a 10 m³ sample of sand was extracted from the eastern end of the licence area for concrete manufacturing trials. At the time of writing the results are not yet available.

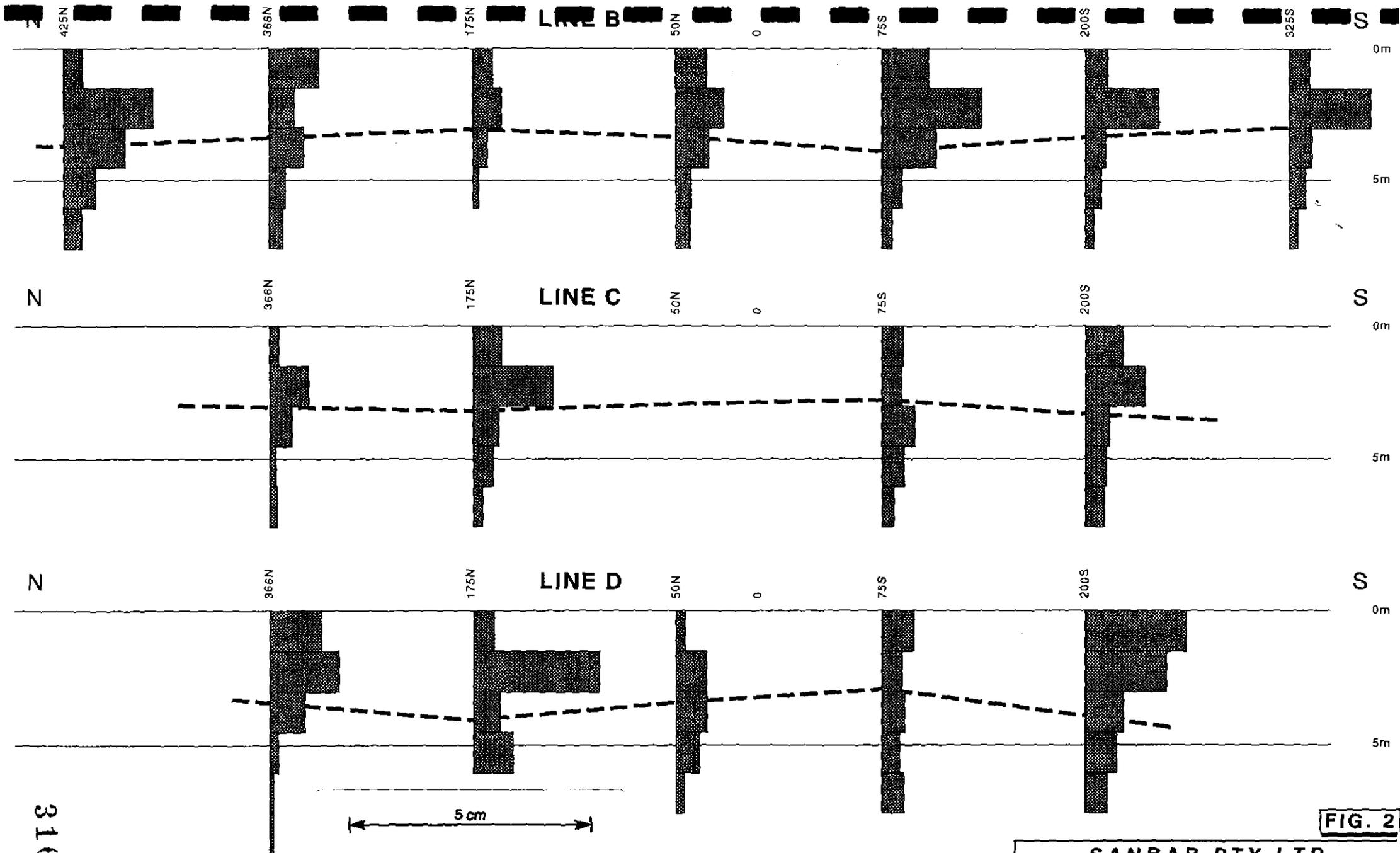
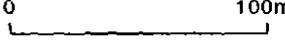


FIG. 2

Projected Water Table  (NB. sections datumed on land surface)

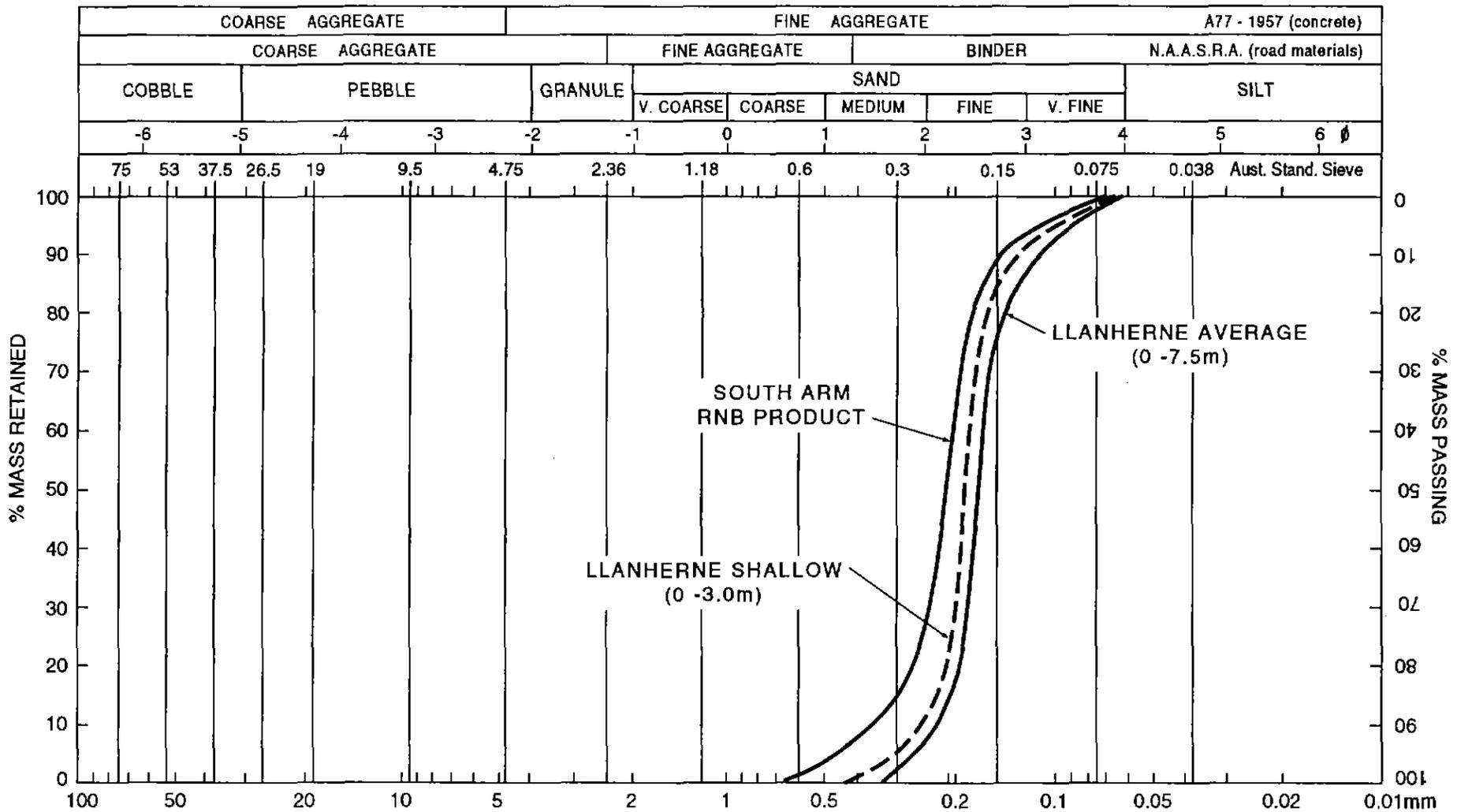
histogram scale: 

horizontal scale:  0 100m

See Fig.1 for location

SANBAR PTY LTD		
LLANHERNE SAND PROJECT		
Wt% Size Fraction 212-600 microns		
from 1994 drill samples		
Author: K.C. Morrison	Drafting: R. Carroll	Date: Jan 1995

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COMPARATIVE SAND GRADINGS

FIG. 3

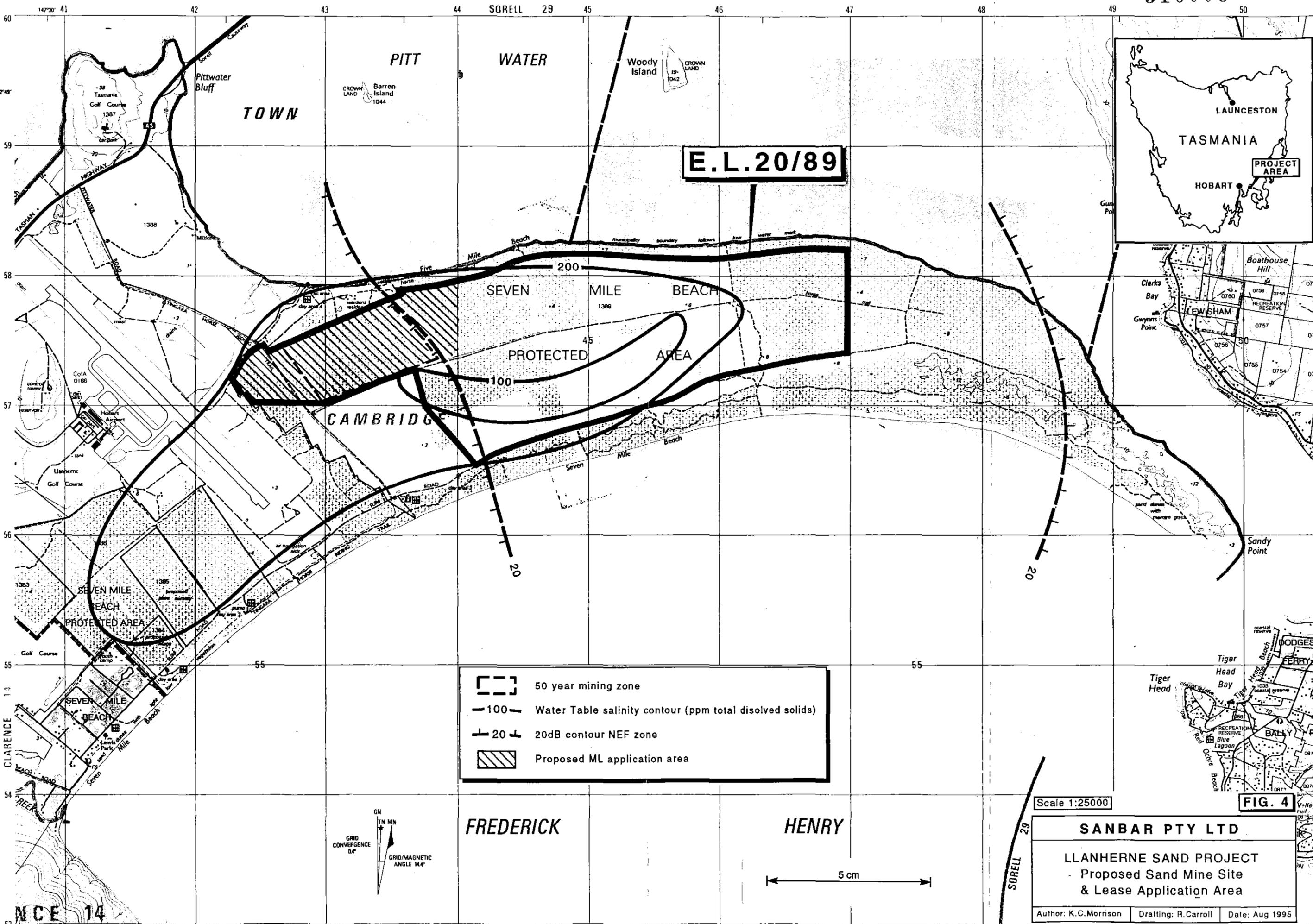
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CONCLUSIONS

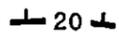
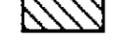
The EL is sufficiently explored to demonstrate a blanketing body of uniform fine sand ranging from about 8 to 15 metres thickness overlying a thick clay unit.

The sand is very similar to the current construction sand supply to the Hobart area and as available reserves of this supply will decline over the next decade, it is proposed to progress the Llanherne project to the next stages of Mineral Lease application and Environmental Management Plan development.

In view of the existing road access and considerations of ground water quality and noise zoning associated with Hobart Airport, the proposed site for lease application is shown on Figure 4. If the full thickness of sand were mined to the mean depth shown by previous drilling (average about 10 metres) then a 50 year operation to supply the current demand for construction sand in the Hobart area would occupy an area of less than 50 hectares.



E.L.20/89

-  50 year mining zone
-  100 Water Table salinity contour (ppm total dissolved solids)
-  20dB contour NEF zone
-  Proposed ML application area

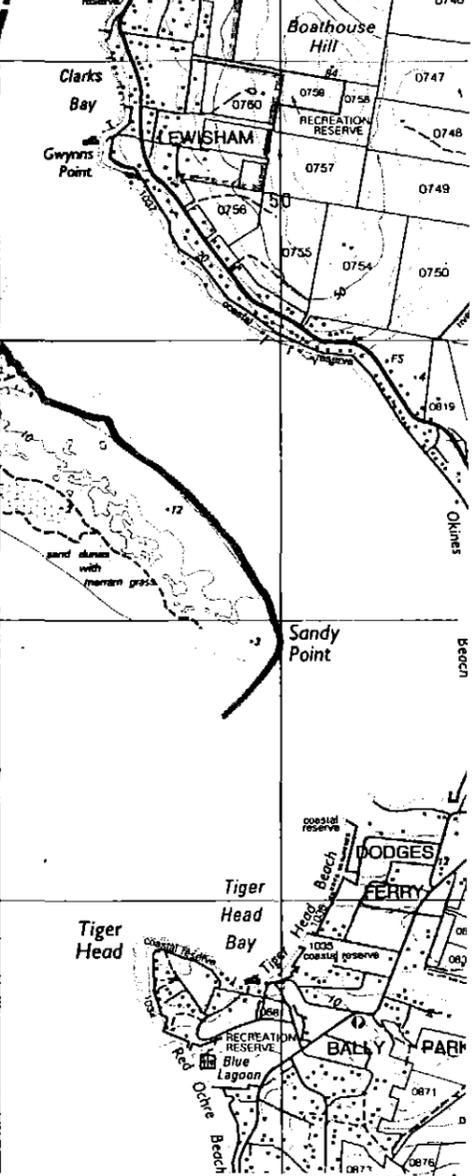
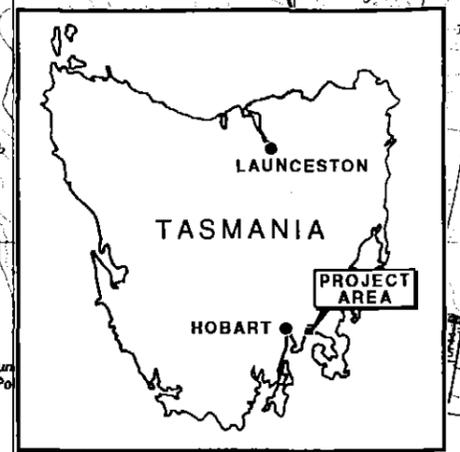


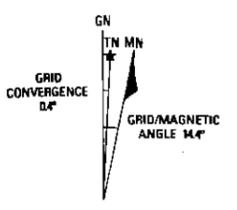
FIG. 4

Scale 1:25000

SANBAR PTY LTD

LLANHERNE SAND PROJECT
Proposed Sand Mine Site
& Lease Application Area

Author: K.C.Morrison Drafting: R.Carroll Date: Aug 1995



Appendix 1

Sample No	Depth	>300 μ	>212 μ	>300+>212	>150 μ	>75 μ	<75 μ	Tot.Wgt	%>212 μ -<600 μ	Vol.
B425/N	1.5m	3.70	70.80	74.50	472.30	138.00	1.40	686.20	10.86	500ml
Total as a %		0.54	10.32	10.86	68.83	20.11	0.20	100.00		
B425/N	.0m	60.80	334.00	394.80	264.50	60.90	1.90	722.10	54.67	500ml
Total as a %		8.42	46.25	54.67	36.63	8.43	0.26	100.00		
B425/N	4.5m	46.10	204.80	250.90	319.70	111.00	2.70	684.30	36.67	500ml
Total as a %		6.74	29.93	36.67	46.72	16.22	0.39	100.00		
B425/N	6.0m	29.80	94.60	124.40	326.70	203.90	3.90	658.90	18.88	500ml
Total as a %		4.52	14.36	18.88	49.58	30.95	0.59	100.00		
B425/N	7.5m	12.30	57.70	70.00	342.70	253.70	5.30	671.70	10.42	500ml
Total as a %		1.83	8.59	10.42	51.02	37.77	0.79	100.00		
Sample No	Depth	>300 μ	>212 μ	>300+>212	>150 μ	>75 μ	<75 μ	Tot.Wgt	%>212 μ -<600 μ	Vol.
B300/N	1.5m	9.30	201.70	211.00	391.10	107.80	1.90	711.80	29.64	500ml
Total as a %		1.31	28.34	29.64	54.95	15.14	0.27	100.00		
B300/N	3.0m	12.50	86.40	98.90	401.90	146.60	2.50	649.90	15.22	500ml
Total as a %		1.92	13.29	15.22	61.84	22.56	0.38	100.00		
B300/N	4.5m	25.50	118.10	143.60	346.80	171.90	5.50	667.80	21.50	500ml
Total as a %		3.82	17.68	21.50	51.93	25.74	0.82	100.00		
B300/N	6.0m	14.30	49.90	64.20	379.90	216.70	4.40	665.20	9.65	500ml
Total as a %		2.15	7.50	9.65	57.11	32.58	0.66	100.00		
B300/N	7.5m	15.90	38.30	54.20	261.50	353.90	20.50	690.10	7.85	500ml
Total as a %		2.30	5.55	7.85	37.89	51.28	2.97	100.00		
Sample No	Depth	>300 μ	>212 μ	>300+>212	>150 μ	>75 μ	<75 μ	Tot.Wgt	%>212 μ -<600 μ	Vol.
B175/N	1.5m	3.00	84.30	87.30	526.00	117.20	1.50	732.00	11.93	500ml
Total as a %		0.41	11.52	11.93	71.86	16.01	0.20	100.00		
B175/N	3.0m	37.60	74.30	111.90	414.00	131.70	3.80	661.40	16.92	500ml
Total as a %		5.68	11.23	16.92	62.59	19.91	0.57	100.00		
B175/N	4.5m	6.30	49.40	55.70	462.90	169.60	4.40	692.60	8.04	500ml
Total as a %		0.91	7.13	8.04	66.84	24.49	0.64	100.00		
B175/N	6.0m	4.00	14.60	18.60	345.70	302.90	3.90	671.10	2.77	500ml
Total as a %		0.60	2.18	2.77	51.51	45.13	0.58	100.00		
Sample No	Depth	>300 μ	>212 μ	>300+>212	>150 μ	>75 μ	<75 μ	Tot.Wgt	%>212 μ -<600 μ	Vol.
B50/N	1.5m	1.90	116.50	118.40	506.60	79.80	1.90	706.70	16.75	500ml
Total as a %		0.27	16.49	16.75	71.69	11.29	0.27	100.00		
B50/N	3.0m	23.70	174.00	197.70	415.40	82.40	2.10	697.60	28.34	500ml
Total as a %		3.40	24.94	28.34	59.55	11.81	0.30	100.00		
B50/N	3.75m	12.70	103.30	116.00	421.10	118.10	4.00	659.20	17.60	500ml
Total as a %		1.93	15.67	17.60	63.88	17.92	0.61	100.00		
B50/N	4.5m	24.70	87.90	112.60	408.20	159.80	4.40	685.00	16.44	500ml
Total as a %		3.61	12.83	16.44	59.59	23.33	0.64	100.00		
B50/N	6.0m	8.60	42.40	51.00	412.50	193.80	5.30	662.60	7.70	500ml
Total as a %		1.30	6.40	7.70	62.25	29.25	0.80	100.00		
B50/N	7.5m	3.50	46.20	49.70	407.30	194.80	5.30	657.10	7.56	500ml
Total as a %		0.53	7.03	7.56	61.98	29.65	0.81	100.00		

Sample No	Depth	>300 μ	>212 μ	>300+>212	>150 μ	>75 μ	<75 μ	Tot.Wgt	%>212 μ -<600 μ	Vol.
B75/S	1.5m	4.70	226.60	231.30	451.80	133.10	1.30	817.50	28.29	500ml
Total as a %		0.57	27.72	28.29	55.27	16.28	0.16	100.00		
B75/S	3.0m	95.60	211.90	307.50	156.30	36.30	1.00	501.10	61.36	500ml
Total as a %		19.08	42.29	61.36	31.19	7.24	0.20	100.00		
B75/S	4.5m	44.00	335.60	379.60	588.90	181.10	5.30	1154.90	32.87	870ml
Total as a %		3.81	29.06	32.87	50.99	15.68	0.46	100.00		
B75/S	6.0m	10.90	73.00	83.90	477.00	136.70	3.90	701.50	11.96	500ml
Total as a %		1.55	10.41	11.96	68.00	19.49	0.56	100.00		
B75/S	7.5m	6.40	33.50	39.90	458.50	192.30	4.60	695.30	5.74	500ml
Total as a %		0.92	4.82	5.74	65.94	27.66	0.66	100.00		
Sample No	Depth	>300 μ	>212 μ	>300+>212	>150 μ	>75 μ	<75 μ	Tot.Wgt	%>212 μ -<600 μ	Vol.
B200/S	1.5m	0.80	93.80	94.60	520.00	86.70	1.30	702.60	13.46	500ml
Total as a %		0.11	13.35	13.46	74.01	12.34	0.19	100.00		
B200/S	3.0m	26.40	295.60	322.00	361.80	38.80	1.10	723.70	44.49	500ml
Total as a %		3.65	40.85	44.49	49.99	5.36	0.15	100.00		
B200/S	4.5m	14.40	67.50	81.90	441.40	162.40	4.10	689.80	11.87	500ml
Total as a %		2.09	9.79	11.87	63.99	23.54	0.59	100.00		
B200/S	6.0m	10.70	47.70	58.40	404.90	198.10	2.30	663.70	8.80	500ml
Total as a %		1.61	7.19	8.80	61.01	29.85	0.35	100.00		
B200/S	7.5m	4.40	29.60	34.00	315.50	299.10	5.00	653.60	5.20	500ml
Total as a %		0.67	4.53	5.20	48.27	45.76	0.76	100.00		
Sample No	Depth	>300 μ	>212 μ	>300+>212	>150 μ	>75 μ	<75 μ	Tot.Wgt	%>212 μ -<600 μ	Vol.
B325/S	1.5m	2.40	84.20	86.60	523.60	89.50	1.80	701.50	12.34	500ml
Total as a %		0.34	12.00	12.34	74.64	12.76	0.26	100.00		
B325/S	3.0m	81.30	254.70	336.00	302.40	45.70	2.10	686.20	48.97	500ml
Total as a %		11.85	37.12	48.97	44.07	6.66	0.31	100.00		
B325/S	4.5m	10.30	80.20	90.50	460.50	132.00	3.80	686.80	13.18	500ml
Total as a %		1.50	11.68	13.18	67.05	19.22	0.55	100.00		
B325/S	6.0m	12.00	47.70	59.70	434.90	186.90	3.40	684.90	8.72	500ml
Total as a %		1.75	6.96	8.72	63.50	27.29	0.50	100.00		
B325/S	7.5m	5.70	27.80	33.50	382.20	243.40	4.50	663.60	5.05	500ml
Total as a %		0.86	4.19	5.05	57.59	36.68	0.68	100.00		
Sample No	Depth	>300 μ	>212 μ	>300+>212	>150 μ	>75 μ	<75 μ	Tot.Wgt	%>212 μ -<600 μ	Vol.
C300/N	1.5m	1.20	31.20	32.40	508.10	158.80	1.40	700.70	4.62	500ml
Total as a %		0.17	4.45	4.62	72.51	22.66	0.20	100.00		
C300/N	3.0m	32.70	132.70	165.40	410.90	107.60	2.00	685.90	24.11	500ml
Total as a %		4.77	19.35	24.11	59.91	15.69	0.29	100.00		
C300/N	4.5m	13.20	85.20	98.40	446.60	142.70	4.20	691.90	14.22	500ml
Total as a %		1.91	12.31	14.22	64.55	20.62	0.61	100.00		
C300/N	6.0m	2.90	22.30	25.20	447.20	207.70	4.70	684.80	3.68	500ml
Total as a %		0.42	3.26	3.68	65.30	30.33	0.69	100.00		
C300/N	7.5m	3.40	30.70	34.10	385.30	232.20	7.60	659.20	5.17	500ml
Total as a %		0.52	4.66	5.17	58.45	35.22	1.15	100.00		

Sample No	Depth	>300 μ	>212 μ	>300+>212	>150 μ	>75 μ	<75 μ	Tot.Wgt	%>212 μ -<600 μ	Vol.
D175/N	1.5m	1.80	86.60	88.40	483.10	108.10	2.40	682.00	12.96	500ml
Total as a %		0.26	12.70	12.96	70.84	15.85	0.35	100.00		
D175/N	3.0m	154.70	403.20	557.90	146.00	21.50	0.70	726.10	76.84	500ml
Total as a %		21.31	55.53	76.84	20.11	2.96	0.10	100.00		
D175/N	4.5m	13.70	93.20	106.90	403.70	150.80	3.80	665.20	16.07	500ml
Total as a %		2.06	14.01	16.07	60.69	22.67	0.57	100.00		
D175/N	6.0m	9.00	159.20	168.20	404.50	113.30	3.60	689.60	24.39	500ml
Total as a %		1.31	23.09	24.39	58.66	16.43	0.52	100.00		
Sample No	Depth	>300 μ	>212 μ	>300+>212	>150 μ	>75 μ	<75 μ	Tot.Wgt	%>212 μ -<600 μ	Vol.
D50/N	1.5m	0.90	36.00	36.90	530.70	123.30	2.00	692.90	5.33	500ml
Total as a %		0.13	5.20	5.33	76.59	17.79	0.29	100.00		
D50/N	3.0m	5.50	126.60	132.10	497.90	83.60	2.50	716.10	18.45	500ml
Total as a %		0.77	17.68	18.45	69.53	11.67	0.35	100.00		
D50/N	4.5m	15.70	115.70	131.40	414.40	128.20	2.90	676.90	19.41	500ml
Total as a %		2.32	17.09	19.41	61.22	18.94	0.43	100.00		
D50/N	6.0m	5.70	92.00	97.70	453.80	161.90	3.30	716.70	13.63	500ml
Total as a %		0.80	12.84	13.63	63.32	22.59	0.46	100.00		
D50/N	7.5m	2.00	32.20	34.20	446.50	233.00	3.40	717.10	4.77	500ml
Total as a %		0.28	4.49	4.77	62.26	32.49	0.47	100.00		
Sample No	Depth	>300 μ	>212 μ	>300+>212	>150 μ	>75 μ	<75 μ	Tot.Wgt	%>212 μ -<600 μ	Vol.
D75/S	1.5m	2.20	139.80	142.00	482.10	67.70	1.30	693.10	20.49	500ml
Total as a %		0.32	20.17	20.49	69.56	9.77	0.19	100.00		
D75/S	3.0m	13.90	79.60	93.50	467.20	127.30	3.30	691.30	13.53	500ml
Total as a %		2.01	11.51	13.53	67.58	18.41	0.48	100.00		
D75/S	4.5m	11.30	87.40	98.70	478.80	115.50	3.30	696.30	14.17	500ml
Total as a %		1.62	12.55	14.17	68.76	16.59	0.47	100.00		
D75/S	6.0m	5.70	70.40	76.10	410.80	176.10	2.80	665.80	11.43	500ml
Total as a %		0.86	10.57	11.43	61.70	26.45	0.42	100.00		
D75/S	7.5m	2.70	90.50	93.20	451.60	171.10	3.20	719.10	12.96	500ml
Total as a %		0.38	12.59	12.96	62.80	23.79	0.45	100.00		
Sample No	Depth	>300 μ	>212 μ	>300+>212	>150 μ	>75 μ	<75 μ	Tot.Wgt	%>212 μ -<600 μ	Vol.
D200/S	1.5m	22.30	427.10	449.40	250.30	33.40	1.30	734.40	61.19	500ml
Total as a %		3.04	58.16	61.19	34.08	4.55	0.18	100.00		
D200/S	3.0m	12.60	337.90	350.50	324.90	42.10	1.00	718.50	48.78	500ml
Total as a %		1.75	47.03	48.78	45.22	5.86	0.14	100.00		
D200/S	4.5m	9.40	150.30	159.70	463.40	84.20	2.40	709.70	22.50	500ml
Total as a %		1.32	21.18	22.50	65.30	11.86	0.34	100.00		
D200/S	6.0m	10.20	123.60	133.80	450.70	123.60	4.10	712.20	18.79	500ml
Total as a %		1.43	17.35	18.79	63.28	17.35	0.58	100.00		
D200/S	7.5m	5.80	75.90	81.70	403.10	152.00	3.50	640.30	12.76	500ml
Total as a %		0.91	11.85	12.76	62.95	23.74	0.55	100.00		