

LAUNCESTON, 8th May, 1945.

N^o 134BEACH SANDS-FRASER RIVER.
KING ISLAND
ELECTRO-MAGNETIC SEPARATION.Reg. No's 108-109Samples.

Samples of beach sands were received from the Director of Mines on the 7.3.45. labelled as follows:

Reg. No. 108 - "3-South End"

Reg. No. 109 - "4-North End"

The samples were submitted to table concentration and sizing prior to Magnetic Separation. Sample 108-3 consisted essentially of high Sp.Gr. minerals and was not concentrated. Sample No. 109-4 was tabled and a concentrate obtained which amounted to 59 percent by weight.

Sizing of sample 108 and the concentrate from 109 gave the following results:-

	<u>Reg. No. 108-3</u>	<u>Reg. No. 109-4</u>
-60+100 mesh	38.5%	31.3
-100 mesh	61.5%	27.4

These four fractions were magnetically separated with the following results. It appears that the non-magnetic fractions consist essentially of rutile and zircon. Results reported on the 28.3.45 appear to be similar mixtures.

Results of Magnetic Separation.Sample.

<u>Reg. No. 108-3</u>	<u>Percent</u>			<u>Insoluble.</u>
	<u>Weight.</u>	<u>TiO₂.</u>	<u>Cr₂O₃.</u>	
<u>+100 mesh fraction.</u>				
Magnetic Fr. 1	0.37			
" 2	3.68			
" 3	17.92			
" 4	27.13	46.0	5.3	11.40
" 4A	1.12			
Non Magnetic 5	49.78	42.5	0.2	52.0
<u>-100 mesh fraction.</u>				
Magnetic Fr. 1	1.87			
" 2	12.89	48.0	0.7	2.58
" 3	12.56			
" 4	6.71			
" 4A	1.39			
Non Magnetic 5	64.58	24.0	0.2	66.2

2	12° 30'	0° 00'	0° 00'	0° 00'
3	12° 30'	0° 00'	0° 00'	0° 00'
4	12° 30'	0° 00'	0° 00'	0° 00'
5	12° 30'	0° 00'	0° 00'	0° 00'
6	12° 30'	0° 00'	0° 00'	0° 00'
7	12° 30'	0° 00'	0° 00'	0° 00'

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8	12° 30'	0° 00'	0° 00'	0° 00'
9	12° 30'	0° 00'	0° 00'	0° 00'
10	12° 30'	0° 00'	0° 00'	0° 00'
11	12° 30'	0° 00'	0° 00'	0° 00'
12	12° 30'	0° 00'	0° 00'	0° 00'
13	12° 30'	0° 00'	0° 00'	0° 00'

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SECTION 100-2
 SECTION 100-3
 SECTION 100-4

DEPARTMENT OF MINES

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14	12° 30'	0° 00'	0° 00'	0° 00'
15	12° 30'	0° 00'	0° 00'	0° 00'
16	12° 30'	0° 00'	0° 00'	0° 00'
17	12° 30'	0° 00'	0° 00'	0° 00'

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DEPARTMENT OF MINES
 DEPARTMENT OF MINES
 DEPARTMENT OF MINES
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SECTION 100-2
 SECTION 100-3

DEPARTMENT OF MINES
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DEPARTMENT OF MINES

SECTION 100-2

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No. 137

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Sample Reg. No. 109-4	Weight.	Percent		
		TiO ₂	Cr ₂ O ₃	Insoluble
<u>+100 mesh fraction.</u>				
Magnetic Pr. 1	0.22			
" 2	3.36			
" 3	37.59	32.0	0.7	31.08
" 4	22.42	50.0	3.0	6.50
" 4A	8.07	34.0	1.8	24.60
Non-Magnetic 5	28.34	53.0	0.1	38.14
<u>-100 mesh fraction.</u>				
Magnetic Pr. 1	1.22			
2	9.39	50.0	0.7	2.32
3	15.86			
4	17.41	55.0	5.6	8.00
4A	1.91			
5	54.21	36.0	0.2	53.64

CHIEF CHEMIST & METALLURGIST.

Sample

Lab. No. 109-4

-100 mesh fraction

Magnetic Pt. 1

2

3

4

5

Non-Magnetic 2

-100 mesh fraction

Magnetic Pt. 1

2

3

4

5

2

Weight of Sample

0.22

0.26

0.27

0.28

0.27

0.28

1.22

0.28

12.86

17.41

1.01

22.21

0.22

0.20

0.24

0.20

0.20

0.20

0.20

0.7

3.0

1.8

0.1

0.7

8.8

0.2

21.02

6.30

24.60

22.12

2.22

2.00

22.04

CHIEF CLERK & RETAILER