


ANNUAL REPORT

EXPLORATION LICENCE 7906 - ONGEVA CREEK

(Located on 1:250,000 maps Alcoota & Alice Springs)

5 MARCH 1993 TO 4 MARCH 1994

  
15-2-94

GMA Garnet Pty Ltd

(M.J. Taylor)

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GMA GARNET PTY LTD

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5.3.93 - 4.3.94

1. SUMMARY

Exploration Licence E7906 covers 31km of Ongeva Creek centred approximately 170km NE of Alice Springs by sealed road. This prospect was chosen for its access to transport, volume of river sand and possible commercial garnet content. However results from surface pitting carried out in August 1993 indicate that the overall grade of garnet in the sands is very low and unlikely to be of commercial interest in the foreseeable future.

2. SAMPLNG METHOD

Wide spaced grid sampling of Ongeva Creek was carried out late August 1993. A suitable drilling rig was not available in the district so sampling was attempted using a locally hired back-hoe excavator. It was hoped that the back-hoe would be capable of excavating small pits to basement allowing systematic total depth sampling of the pit wall (using an extendable channel sample collector from above) while the sands were still damp from recent rainfall. This method worked satisfactorily to a depth of about 2m but pit wall collapse and/or groundwater made it impracticable to reach basement in most holes. After 2 days the back-hoe broke down and it was decided to continue the sampling exercise by hand spading to a depth of about 0.8m.

A total of 54 samples were collected by hand spade and 24 samples were collected by back-hoe. The sampling grid started off at 500m x 20m spacing but was enlarged to 1000m x 40m after the first 12 holes due to time constraints. The back-hoe pits indicated that garnet grade does not vary significantly with depth. The sediments show repeated fine beds of heavy mineral concentration interlaminated with low grade sand, pebble layers and clay laminations. On the assumption of vertical uniformity of grade it is considered that the shallow hand spade samples will provide a fair indication of overall grade, at least sufficient for this initial stage of evaluation.

### 3. TONNAGE ESTIMATE

The river sands vary in width from 30m to 150m, averaging 70m, and in thickness from 0m (over rock/clay bars) to +2.5m. Out of the 24 back-hoe holes only 6 reached basement at between 1.5m and 2.0m depth. The remainder were still in river sand at depths up to 2.5m (5 reached 2.5m) before the holes collapsed. From this and topographic indications it is likely that the overall average thickness of sediment will be over 1.5m.

Assuming 1.5m average thickness the tonnage of river alluvium would be approximately:

$$31,000\text{m} \times 70\text{m} \times 1.5\text{m} \times 1.6\text{t/m}^3 = 5 \text{ million tonnes.}$$

### 4. SAMPLE RESULTS

The samples were dried, hand screened minus 2mm and the undersize assayed for wt% slime -75 microns and wt% HM. The amount of +2mm material, mostly pebbles, in the samples varied from less than 1% up to 48% by weight and averaged approximately 20%. The minus 2mm sands contained 0.42% to 8.72% slimes finer than 75 microns (average 1.26% by weight) and 12.52% to 35.58% heavy mineral (average 22.8% HM by weight). Tables 1 and 2 give details of individual samples. The HM fractions were grouped into composite samples for microscopic modal analysis to determine the component heavy mineral percentages (table 3).

The amount of garnet in the HM fractions is lower (7.3 - 20.7%, average 14.3% garnet by weight) than anticipated from visual inspection. Most of the HM is amphibole (hornblende). Other HM identified included Fe-ores, epidote, pyroxene and zircon. Garnet size ranges from about 0.1mm to +5mm, the majority of grains being between 0.2mm and 0.8mm with an estimated average size of  $\pm 0.4\text{mm}$ .

<u>RIVER SECTION</u>	<u>WT% HM</u>	<u>GARNET% OF HM</u>	<u>APPROX WT% GARNET</u>
0 - 5000m South	17.5	12.8	2.2
5000 - 11000m South	17.4	7.3	1.3
0 - 5000m North	17.9	16.1	2.9
5000 - 10000m North	17.2	15.0	2.6
10000 - 15000m North	17.5	20.7	3.6
15000 - 20000m North	20.0	15.3	3.1

5. SEPARATION TESTWORK

A small bulk sample of typical Ongeva Creek river sand was fed to an Eriez RE magnet at various settings to test garnet separation efficiency. The sample was screened plus and minus 600 microns to reduce mass/size crossover. Despite retreatment of magnetic fractions it was not possible to produce a clean garnet cut. Magnetic crossover of hornblende and ferrous ores prevented upgrading of garnet beyond about a 30% garnet bearing fraction. It can be reasonably concluded from this limited testwork that magnetic separation alone will not be a suitable means of beneficiation.

6. COMMENTS

Although rich thin laminations of garnet bearing heavy mineral are found throughout the extensive river sands of Ongeva Creek, the overall garnet grade is very low. The remote location, lack of perennial surface or near-surface water and probable garnet separation and beneficiation difficulties make this prospect an unlikely commercial garnet source in the foreseeable future.

7. EXPENDITURE

Geological/sampling	3,618
Equipment hire	2,325
Analytical	3,460
Mineral dressing	610
Administration	385
	<hr/>
Total	A\$10,398

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2/2/94

Sample Location Plan

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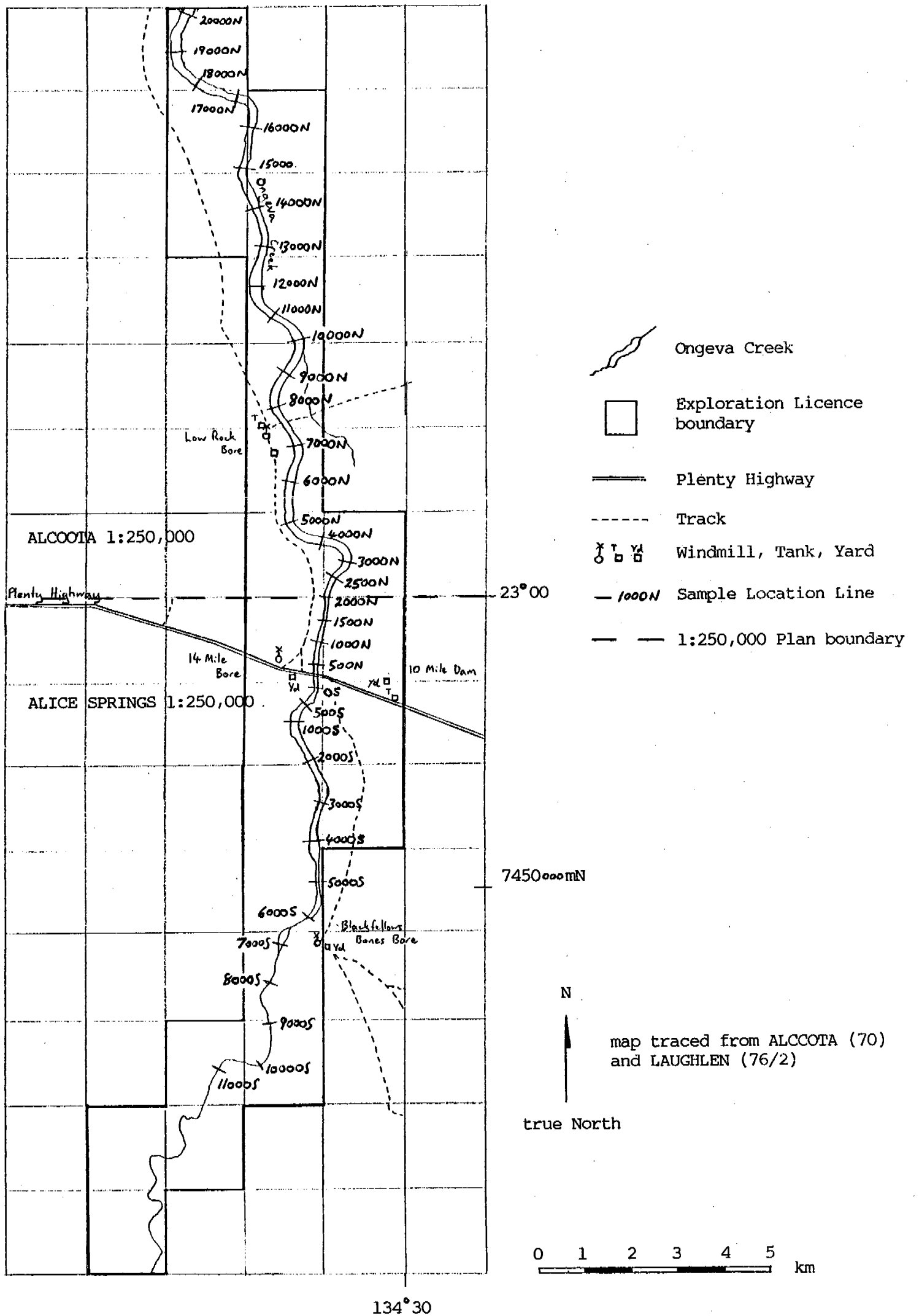


TABLE 1

## EL 7906 - ONGEVA CREEK

1993 SAMPLE LOCATIONS

<u>SAMPLE NO</u>	<u>LOCATION RELATIVE TO PLENTY HIGHWAY</u>	<u>LOCATION RELATIVE TO WEST BANK</u>	<u>DEPTH INTERVAL</u>
0S - 10	0.25km south	10m east	0 - 2m
0S - 30	0.25km south	30m east	0 - 2m
500S - 20	0.75km south	20m east	0 - 2 m
500S - 100	0.75km south	100m east	0 - 1.5m
500S - 120	0.75km south	120m east	0 - 2m
1000S - 10	1.25km south	10m east	0 - 2.5m
1000S - 30	1.25km south	30m east	0 - 2.5m
1000S - 50	1.25km south	50m east	0 - 2.5m
1000S - 70	1.25km south	70m east	0 - 2.5m
1000S - 90	1.25km south	90m east	0 - 2.5m
1000S - 110	1.25km south	110m east	0 - 2.2m
1000S - 130	1.25km south	130m east	0 - 2.3m
2000S - 30	2.25km south	30m east	0 - 2.3m
2000S - 70	2.25km south	70m east	0 - 2m
2000S - 110	2.25km south	110m east	0 - 2m
2000S - 130	2.25km south	130m east	0 - 1.8m
3000S - 30	3.25km south	30m east	0 - 1.7m
3000S - 70	3.25km south	70 m east	0 - 1.5m
3000S - 110	3.25km south	110m east	0 - 2m
3000S - 130	3.25km south	130m east	0 - 2m
4000S - 20	4.25km south	20m east	0 - 1.5m
4000S - 60	4.25km south	60m east	0 - 1.9m
5000S - 20	5.25km south	20m east	0 - 1.6m
5000S - 60	5.25km south	60m east	0 - 2m
6000S - 10	6.25km south	10m east	0 - 0.8m
6000S - 40	6.25km south	40m east	0 - 0.8m
6000S - 120	6.25km south	120m east	0 - 0.7m
7000S - 15	7.25km south	15m east	0 - 0.8m
8000S - 30	8.25km south	30m east	0 - 0.8m
9000S - 70	9.25km south	70m east	0 - 0.6m
10,000S - 10	10.25km south	10m east	0 - 0.6m
10,000S - 50	10.25km south	50m east	0 - 0.7m
11,000S - 10	11.25km south	10m east	0 - 0.5m

<u>SAMPLE NO</u>	<u>LOCATION RELATIVE TO PLENTY HIGHWAY</u>	<u>LOCATION RELATIVE TO WEST BANK</u>	<u>DEPTH INTERVAL</u>
500N - 40	0.25km north	40m east	0 - 0.8m
500N - 80	0.25km north	80m east	0 - 0.8m
1000N - 40	1.25km north	40m east	0 - 0.8m
1000N - 80	1.25km north	80m east	0 - 0.8m
1500N - 40	1.75km north	40m east	0 - 0.8m
1500N - 80	1.75km north	80m east	0 - 0.8m
1500N - 120	1.75km north	120m east	0 - 0.8m
1500N - 140	1.75km north	140m east	0 - 0.8m
2000N - 20	2.25km north	20m east	0 - 0.8m
2000N - 60	2.25km north	60m east	0 - 0.8m
2500N - 40	2.75km north	40m east	0 - 0.8m
2500N - 80	2.75km north	80m east	0 - 0.8m
3000N - 40	3.25km north	40m east	0 - 0.8m
3000N - 80	3.25km north	80m east	0 - 0.8m
3000N - 120	3.25km north	120m east	0 - 0.7m
4000N - 40	4.25km north	40m east	0 - 0.8m
4000N - 80	4.25km north	80m east	0 - 0.8m
5000N - 40	5.25km north	40m east	0 - 0.8m
5000N - 80	5.25km north	80m east	0 - 0.8m
5000N - 120	5.25km north	120m east	0 - 0.8m
6000N - 40	6.25km north	40m east	0 - 0.8m
6000N - 80	6.25km north	80m east	0 - 0.8m
6000N - 120	6.25km north	120m east	0 - 0.8m
7000N - 40	7.25km north	40m east	0 - 0.8m
7000N - 80	7.25km north	80m east	0 - 0.8m
8000N - 40	8.25km north	40m east	0 - 0.8m
8000N - 80	8.25km north	80m east	0 - 0.8m
9000N - 40	9.25km north	40m east	0 - 0.8m
10,000N - 20	10.25km north	20m east	0 - 0.8m
11,000N - 40	11.25km north	40m east	0 - 0.8m
11,000N - 80	11.25km north	80m east	0 - 0.8m
12,000N - 40	12.25km north	40m east	0 - 0.8m
13,000N - 40	13.25km north	40m east	0 - 0.8m
14,000N - 40	14.25km north	40m east	0 - 0.8m
14,000N - 80	14.25km north	80m east	0 - 0.8m
15,000N - 40	15.25km north	40m east	0 - 0.8m
16,000N - 40	16.25km north	40m east	0 - 0.8m
16,000N - 80	16.25km north	80m east	0 - 0.8m
17,000N - 40	17.25km north	40m east	0 - 0.8m
17,000N - 80	17.25km north	80m east	0 - 0.8m
18,000N - 40	18.25km north	40m east	0 - 0.7m
19,000N - 40	19.25km north	40m east	0 - 0.8m
19,000N - 80	19.25km north	80m east	0 - 0.8m
20,000N - 40	20.25km north	40m east	0 - 0.8m
20,000N - 80	20.25km north	80m east	0 - 0.8m



TABLE 2

EL 7906 - ONGEVA CREEK

1993 SAMPLE ASSAY RESULTS

<u>SAMPLE NO</u>	<u>WT% +2MM</u>	<u>WT% SLIME IN -2MM</u>	<u>WT% HM IN -2MM</u>
0S - 10	9.1	0.71	25.3
0S - 30	32.3	0.62	15.8
500S - 20	28.4	1.43	24.9
500S - 100	23.2	0.60	27.5
500S - 120	34.3	2.40	24.0
1000S - 10	36.8	0.62	25.2
1000S - 30	41.1	2.13	26.0
1000S - 50	36.1		
1000S - 70	17.0	1.94	21.7
1000S - 90	34.4	1.62	21.3
1000S - 110	34.5	0.76	20.9
1000S - 130	25.5	1.66	27.4
2000S - 30	8.9	6.28	12.6
2000S - 70	25.3	0.86	20.0
2000S - 110	31.5	1.60	28.2
2000S - 130	30.0	0.73	21.4
3000S - 30	29.1	2.08	25.4
3000S - 70	15.2	1.92	31.9
3000S - 110	23.1	1.53	29.6
3000S - 130	28.3	2.91	25.6
4000S - 20	35.6	0.70	26.2
4000S - 60	36.3	1.69	29.1
5000S - 20	23.1	0.67	23.9
5000S - 60	43.2	2.20	23.8
6000S - 10	22.5	1.19	18.1
6000S - 40	1.2	0.99	25.2
6000S - 120	6.2	0.98	31.4
7000S - 15	19.1	0.73	16.3
8000S - 30	15.5	0.93	18.1
9000S - 70	17.9	0.69	14.1
10,000S - 10	18.7	0.69	14.6
10,000S - 50	36.1	2.20	24.6
11,000S - 10	8.9	0.73	24.8

<u>SAMPLE NO</u>	<u>WT% +2MM</u>	<u>WT% SLIME IN -2MM</u>	<u>WT% HM IN -2MM</u>
500N - 40	29.0	0.48	23.5
500N - 80	44.4	0.91	21.7
1000N - 40	37.7	0.64	23.3
1000N - 80	6.1	0.49	23.6
1500N - 40	4.1	5.06	23.1
1500N - 80	13.1	0.45	19.2
1500N - 120	18.1	0.68	18.0
1500N - 140	12.7	1.04	21.5
2000N - 20	13.8	0.72	19.9
2000N - 60	26.5	0.42	24.8
2500N - 40	37.2	0.61	17.8
2500N - 80	4.5	8.72	17.8
3000N - 40	20.3	0.42	24.3
3000N - 80	14.1	0.96	21.1
3000N - 120	10.7	1.28	29.6
4000N - 40	2.2	1.04	21.5
4000N - 80	11.3	0.69	15.7
5000N - 40	2.7	1.24	23.5
5000N - 80	25.4	0.64	14.5
5000N - 120	8.3	0.70	26.4
6000N - 40	15.7	0.58	27.8
6000N - 80	28.5	0.88	21.8
6000N - 120	5.8	3.33	14.6
7000N - 40	30.5	0.63	17.7
7000N - 80	16.3	0.71	21.8
8000N - 40	5.7	0.93	18.1
8000N - 80	6.4	1.00	16.3
9000N - 40	8.8	0.68	28.0
10,000N - 20	22.2	0.63	16.9
11,000N - 40	20.2	0.64	27.2
11,000N - 80	16.7	0.83	21.4
12,000N - 40	6.0	0.54	35.6
13,000N - 40	7.1	0.70	19.2
14,000N - 40	21.2	0.67	20.1
14,000N - 80	22.5	1.40	31.1
15,000N - 40	12.8	0.54	19.0
16,000N - 40	28.1	0.61	22.5
16,000N - 80	11.8	0.70	32.2
17,000N - 40	18.2	0.45	20.8
17,000N - 80	48.0	2.50	27.6
18,000N - 40	2.0	0.59	30.8
19,000N - 40	1.4	0.70	22.2
19,000N - 80	16.0	0.39	19.9
20,000N - 40	9.5	0.55	17.9
20,000N - 80	7.0	0.79	20.0

TABLE 3

HEAVY MINERAL MODAL ANALYSIS - WT%

	1	2	3	4	5	6
Garnet	12.8	16.1	7.3	20.7	15.0	15.3
Amphibole	75.8	72.6	80.6	62.1	74.5	73.6
Epidote	1.5	1.2	2.4	2.5	2.1	1.7
Pyroxene	1.5	3.4	1.0	1.6	2.1	1.2
Zircon	0.3	-	1.5	1.3	0.5	-
Others	0.5	0.6	-	0.2	0.1	-
Ores	6.8	5.3	6.4	11.2	5.0	7.8
Quartz	0.8	0.8	0.8	0.4	0.7	0.4

KEY 1 = 0-5000S  
2 = 500-5000N  
3 = 5000-11000S  
4 = 11000-15000N  
5 = 5000-10000N  
6 = 15000-20000N