

ARCO Norway, Inc.  
Hard Minerals Section

Report No. 84-67-32

Heavy Fraction Stream Sediment Sampling  
The Rombaken Project, North Norway

O.A. Skaldebø

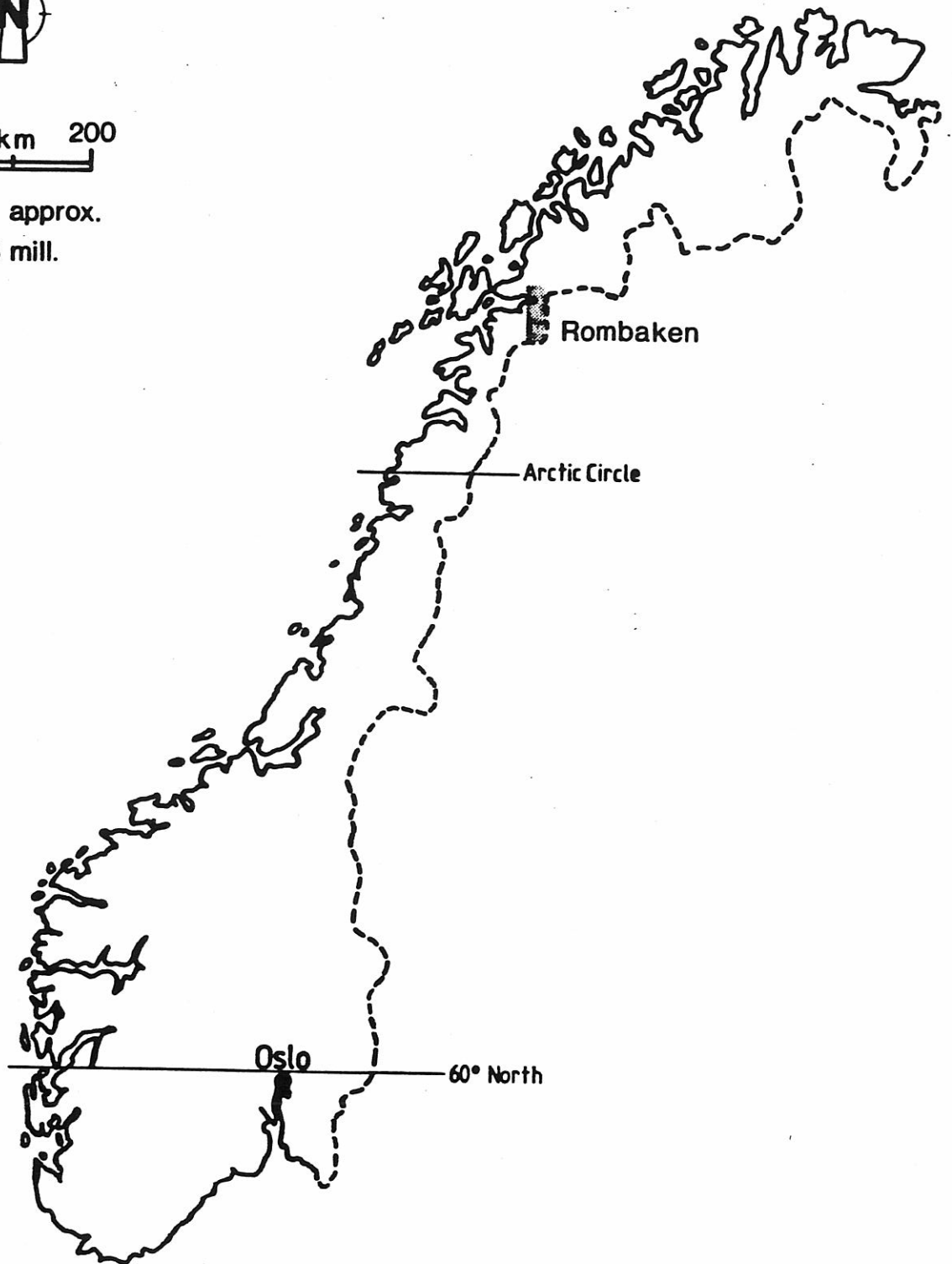
Oslo, 30, November 1984  
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0 km 200

Scale approx.  
1:8 mill.



# NORWAY

## Location Map

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## 1. INTRODUCTION

The description of locality and general information of the Rombaken project can be found in the reports no's 83-670-5, 83-670-6 and 84-670-19.

The heavy fraction stream sediment sampling in Rombaken started late last field season (see report no. 83-670-5) and continued during the field season 1984.

The objective has been to confirm anomalous geochemical stream sediment gold numbers as a method to select the best targets for detailed follow up work.

## 2. FIELD PROGRAM AND SAMPLE PREPARATION

Altogether 112 samples numbered 8403501-8403612 were collected in the Rombaken area during the field season 1984. The samples were taken from streams which had returned anomalous gold assays in the earlier stream sediment samples.

The samples were collected by panning (8-10 pans from each sample site), thereafter the panned material was sieved to -1mm. The total weight of the panned and sieved samples vary between 210 to 1750 g with an average of 880 g.

The samples were further concentrated in the lab. on a Goldhound 18" concentrating wheel.

Each sample was run for about 30 minutes with a constant dip of the wheel at 45°.

The flow of water was adjusted due to varying amounts of heavy minerals in the samples in order to get enough material for assays.

The weight of the lab. concentrated samples vary between 0,54 and 11,72 g with an average of 4,7 g.

The samples were then visually examined under a binocular microscope for free gold and a percentage estimation of the different heavy minerals was done, see Table 1.

After visual examination, all the samples were sent to Tucson Lab. for assays on Au and Ag, see Appendix I and II.

Sample location and assay results are shown on Fig. 2 and 3.

### 3. RESULTS

Free gold was found in 8 of the samples:

| Sample Number | Map Sheet | Location       | Number<br>of Au<br>grains | Au Assay<br>ppm |
|---------------|-----------|----------------|---------------------------|-----------------|
| 8403524       | 1431 IV   | Haugfjellet    | 1                         | 11,166          |
| 8403533       | "         | "              | 1                         | 2,340           |
| 8403542       | "         | "              | 1                         | 17,057          |
| 8403552       | 1431 III  | N of Cunojokka | 1                         | 22,670          |
| 8403553       | "         | "              | 1                         | 7,509           |
| 8403559       | 1431 II   | "              | 1                         | 0,050           |
| 8403577       | 1431 IV   | Hunddalsbotn   | 1                         | 13,560          |
| 8403578       | "         | "              | 2                         | 14,486          |

Another 16 samples returned high gold assays ranging from 0,103 to 10,097 ppm Au:

| Sample Number | Map Sheet | Location                   | Au assay<br>(ppm) |
|---------------|-----------|----------------------------|-------------------|
| 8403523       | 1431 IV   | Haugfjellet                | 0,381             |
| 8403525       | "         | "                          | 0,816             |
| 8403526       | "         | "                          | 0,138             |
| 8403533       | "         | "                          | 2,340             |
| 8403538       | "         | "                          | 0,116             |
| 8403541       | "         | "                          | 0,139             |
| 8403548       | "         | "                          | 0,140             |
| 8403549       | "         | "                          | 0,106             |
| 8403575       | 1431 II   | NW of Cunojavri            | 1,632             |
| 8403579       | 1431 IV   | Hunddalsbotn               | 0,120             |
| 8403580       | "         | "                          | 0,189             |
| 8403585       | "         | E of Leirvatnet            | 0,315             |
| 8403592       | "         | Hunddalen                  | 0,292             |
| 8403593       | "         | "                          | 0,224             |
| 8403595       | "         | Yttre Sildviks-<br>skardet | 0,103             |
| 8503611       | "         | Haugfjellet                | 10,097            |

Samples no's 8403523, - 524, - 525 and -526 located E of Varden on Haugfjellet defines a clear heavy fraction gold anomaly.

Sample no's 8403577, - 578, - 579 and - 580 located at Hunddalsbotn defines another heavy fraction gold anomaly.

#### 4. CONCLUSION AND RECOMMENDATIONS

Two well defined gold anomalies have been outlined through the heavy fraction sampling program at Rombaken during the field season 1984:

- I. East of Varden at Haugfjellet
- II. Hunddalsbotn

Free gold occurs in samples from both areas and is confirmed by high gold assay.

The assay results from the gold anomalous area E of Varden were returned early in the field season.

This area was then followed up by detailed mapping and rock chip sampling along two profiles across graphite bearing pyrrhotite-chalcopyrite disseminated greywacke.

In addition grab samples were collected from visible sulphide mineralized zones within the investigated area, this work will be reported in report no. 84-67-35.

The assay results from the Hunddalsbotn area were received too late for any follow up work. But this area has been geological mapped in scale 1:20,000 during the field season 1984, see report no. 84-67-34.

In order to locate possible gold mineralized source rocks, a detailed heavy fraction stream sediment sampling program as well as geological mapping and rock chip sampling is recommended, at least in the Hunddalsbotn area.

Further recommendation regarding Varden E, Haugfjellet will have to await final assay results.

Table 1 Heavy Fraction Sample Mineralogy  
Estimated %  
Rombak Project Code: 67

| Sample number | Coordinate   | Map Sheet | Weight Kg            | Mg | il + cr | rt | zr | gar | ap | tl              | amp + px | fs | qz                  | Sulf              | Rock fragm. | Others | Number of grains of Au |
|---------------|--------------|-----------|----------------------|----|---------|----|----|-----|----|-----------------|----------|----|---------------------|-------------------|-------------|--------|------------------------|
| 501           | 61520/759440 | 1431 IV   | 0,81<br>6,80<br>1,32 | 10 | 35      | 1  | 5  | 30  | 2  |                 |          |    | Rose<br>7           |                   | 10          |        |                        |
| 502           | 61550/759915 | "         | 3,50<br>0,83         | 20 | 25      | 5  | 5  | 30  | 2  |                 |          |    | Mainly<br>Rose<br>3 |                   | 10          |        |                        |
| 503           | 61545/759905 | "         | 4,17<br>0,91         | 15 | 25      | 2  | 5  | 35  | 3  |                 |          |    | Rose<br>5           |                   | 10          |        |                        |
| 504           | 61540/759895 | "         | 3,22<br>0,98         | 5  | 35      | 3  |    | 40  | 5  |                 |          |    | Rose<br>5           |                   | 7           |        |                        |
| 505           | 61555/759900 | "         | 7,32<br>0,48         | 2  | 25      |    | 1  | 35  | 12 |                 | 2        | 2  | Rose<br>6           |                   | 15          |        |                        |
| 506           | 61635/760095 | "         | 5,75<br>0,74         | 5  | 30      | 3  | 5  | 25  | 2  |                 |          | 10 | Transp.<br>5        |                   | 15          |        |                        |
| 507           | 61645/760095 | "         | 6,50<br>0,83         | 5  | 35      | 2  | 10 | 30  | 3  |                 | 2        | 1  | 2                   |                   | 10          |        |                        |
| 508           | 61670/760070 | "         | 4,12<br>1,02         | 5  | 25      | 1  | 6  | 30  | 3  | A few<br>grains | 2        |    | 3                   |                   | 25          |        |                        |
| 509           | 61645/760070 | "         | 4,55<br>1,46         | 5  | 30      | 2  | 4  | 45  | 2  |                 |          | 1  | Rose<br>3           |                   | 8           |        |                        |
| 510           | 61695/760055 | "         | 5,90<br>0,71         | 7  | 40      | 2  | 3  | 30  | 3  |                 |          | 2  | 3                   |                   | 10          |        |                        |
| 511           | 61840/760110 | "         | 5,47<br>1,00         | 2  | 8       | 3  | 2  | 15  | 5  |                 | 15       |    | 5                   | Py Aspy ccp.<br>5 | 40          |        |                        |
| 512           | 61815/760085 | "         | 3,72<br>0,52         | 25 | 35      | 2  | 3  | 25  | 1  |                 |          |    | Rose<br>4           |                   | 5           |        |                        |
| 513           | 61805/760085 | "         | 5,75<br>0,87         | 0  | 2       | 1  | 1  | 3   | 1  |                 | 2        |    | Transp.<br>10       |                   | 80          |        |                        |
| 514           | 61805/760070 | "         | 3,69<br>1,72         | 0  | 6       | 3  | 2  | 45  | 2  |                 |          | 1  | Transp.<br>6        |                   | 35          |        |                        |
| 515           | 61825/760050 | "         | 5,77<br>1,16         | 5  | 50      | 1  | 1  | 35  | 2  |                 |          |    | Rose<br>2           |                   | 4           |        |                        |
| 516           | 61850/760000 | "         | 4,90                 | 7  | 30      | 7  |    | 35  | 5  |                 | 3        | 2  | Rose<br>3           |                   | 8           |        |                        |

Heavy Fraction Sample Mineralogy  
Estimated %  
Rombak Project Code: 67

| Sample<br>number | Coordinate   | Map Sheet | Weight<br>Kg<br>g | Mg | il<br>+<br>cr | rt | zr | gar | ap | tl | amp<br>+<br>px | fs | qz   | Sulf                       | Rock<br>fragm. | Others | Number<br>of grains<br>Au |
|------------------|--------------|-----------|-------------------|----|---------------|----|----|-----|----|----|----------------|----|------|----------------------------|----------------|--------|---------------------------|
| 8403-            |              | 1431 IV   | 0,87              |    |               |    |    |     |    |    |                |    |      |                            |                |        |                           |
| 517              | 61980/759790 | "         | 6,25              | 12 | 40            | 2  |    | 30  | 3  |    | 2              |    | 4    |                            | 8              |        |                           |
| 518              | 61970/759795 | "         | 1,05              |    |               |    |    |     |    |    |                |    | Rose |                            |                |        |                           |
|                  |              | "         | 5,40              | 50 | 20            | 3  | 2  | 15  | 2  |    |                | 1  | 3    |                            | 4              |        |                           |
| 519              | 61950/759770 | "         | 0,91              |    |               |    |    |     |    |    |                |    |      |                            |                |        |                           |
|                  |              | "         | 3,80              | 45 | 20            | 3  | 2  | 15  | 4  |    |                |    | Rose | A few grains<br>py         | 5              |        |                           |
|                  |              | "         | 1,06              |    |               |    |    |     |    |    |                |    | 6    |                            |                |        |                           |
| 520              | 61910/759765 | "         | 5,10              | 35 | 20            | 1  | 3  | 25  | 5  |    | 2              |    | Rose |                            | 4              |        |                           |
|                  |              | "         | 1,54              |    |               |    |    |     |    |    |                |    | 5    |                            |                |        |                           |
| 521              | 61910/759770 | "         | 10,95             | 5  | 18            |    | 3  | 30  | 5  |    | 3              | 2  | 4    |                            | 30             |        |                           |
|                  |              | "         | 0,95              |    |               |    |    |     |    |    |                |    | Rose |                            |                |        |                           |
| 522              | 61985/759695 | "         | 5,12              | 45 | 15            | 1  |    | 25  | 2  |    | 2              | 1  | 7    |                            | 2              |        |                           |
|                  |              | "         | 0,83              |    |               |    |    |     |    |    |                |    |      |                            |                |        |                           |
| 523              | 61990/759695 | "         | 4,24              | 20 | 35            | 1  |    | 32  | 3  |    | 2              | 1  | 3    |                            | 3              |        |                           |
|                  |              | "         | 0,92              |    |               |    |    |     |    |    |                |    | Rose |                            |                |        |                           |
| 524              | 61995/759670 | "         | 3,92              | 20 | 30            |    |    | 32  | 3  |    | 3              |    | 7    |                            |                |        |                           |
|                  |              | "         | 1,04              |    |               |    |    |     |    |    |                |    |      |                            |                |        |                           |
| 525              | 61980/759650 | "         | 3,45              | 20 | 30            |    |    | 35  | 10 |    | 1              | 1  |      |                            | 3              |        |                           |
|                  |              | "         | 1,04              |    |               |    |    |     |    |    |                |    |      |                            |                |        |                           |
| 526              | 61965/759625 | "         | 3,32              | 4  | 45            |    |    | 35  | 3  |    | 2              |    | Rose | Py + aspy<br>2             | 2              |        |                           |
|                  |              | "         | 0,51              |    |               |    |    |     |    |    |                |    | 7    |                            |                |        |                           |
| 527              | 61575/759760 | "         | 7,70              | 1  | 2             | 2  | 7  | 20  |    |    | 3              | 10 | 15   | Transp. A few grains<br>py | 40             |        |                           |
|                  |              | "         | 0,81              |    |               |    |    |     |    |    |                |    | Rose |                            |                |        |                           |
| 528              | 61650/759670 | "         | 4,45              | 15 | 25            | 2  | 3  | 35  | 3  |    | 3              |    | 7    |                            | 7              |        |                           |
|                  |              | "         | 0,98              |    |               |    |    |     |    |    |                |    |      |                            |                |        |                           |
| 529              | 61720/759795 | "         | 5,92              | 35 | 20            | 1  | 2  | 25  | 1  |    |                |    | Rose |                            | 10             |        |                           |
|                  |              | "         | 0,78              |    |               |    |    |     |    |    |                |    | 6    |                            |                |        |                           |
| 530              | 61735/759825 | "         | 3,80              | 10 | 25            |    | 2  | 45  | 2  |    | 1              | 1  | 4    |                            | 8              |        |                           |
|                  |              | "         | 1,35              |    |               |    |    |     |    |    |                |    | Rose |                            |                |        |                           |
| 531              | 61760/759845 | "         | 3,42              | 40 | 25            |    | 4  | 20  | 2  |    |                |    | 3    |                            | 5              |        |                           |
|                  |              | "         | 0,98              |    |               |    |    |     |    |    |                |    |      |                            |                |        |                           |
| 532              | 61985/759955 | "         | 6,42              | 3  | 45            |    | 5  | 35  | 2  |    |                | 1  | 2    | A few grains<br>py         | 7              |        |                           |

One irregular  
needle shape  
gold grain

## Heavy Fraction Sample Mineralogy

Estimated %

Rombak Project Code: 67

| Sample<br>Number | Coordinate   | Map Sheet | Weight<br>Kg<br>g | Mg | il<br>+<br>cr | rt | zr | gar | ap | tl              | amp<br>+<br>px | fs | qz      | Sulf                      | Rock<br>fragm. | Others | Number<br>of grains<br>of grains<br>Au |
|------------------|--------------|-----------|-------------------|----|---------------|----|----|-----|----|-----------------|----------------|----|---------|---------------------------|----------------|--------|----------------------------------------|
| 8403-            |              | 1431 IV   | 1,03              |    |               |    |    |     |    |                 |                |    |         |                           |                |        |                                        |
| 533              | 62090/760035 | "         | 5,47              | 5  | 45            |    | 2  | 35  | 2  | A few<br>grains | 3              | 2  | Rose    | A few grains<br>py        | 3              |        | One sub-rour<br>gold grain             |
| 534              | 62165/760155 | "         | 0,90              |    |               |    |    |     |    |                 |                |    |         |                           |                |        |                                        |
| 534              | 62165/760155 | "         | 5,72              | 10 | 45            |    | 5  | 30  | 1  |                 |                |    | Rose    |                           | 5              |        |                                        |
| 535              | 62195/759970 | "         | 1,19              |    |               |    |    |     |    |                 |                |    | 2       |                           |                |        |                                        |
| 535              | 62195/759970 | "         | 6,35              | 30 | 30            |    | 5  | 25  | 3  |                 |                |    | 2       |                           | 5              |        |                                        |
| 536              | 62200/759915 | "         | 0,55              |    |               |    |    |     |    |                 |                |    |         |                           |                |        |                                        |
| 536              | 62200/759915 | "         | 9,80              | 1  | 3             |    | 5  | 10  | 2  |                 |                | 2  | 2       |                           | 75             |        |                                        |
| 537              | 62195/759915 | "         | 1,23              |    |               |    |    |     |    |                 |                |    |         |                           |                |        |                                        |
| 537              | 62195/759915 | "         | 7,25              | 2  | 40            |    |    | 40  | 3  |                 |                | 2  | 3       | A few grains<br>py + aspy | 10             |        |                                        |
| 538              | 62270/759885 | "         | 0,87              |    |               |    |    |     |    |                 |                |    | Rose    |                           |                |        |                                        |
| 538              | 62270/759885 | "         | 4,69              | 15 | 45            | 2  | 15 | 13  |    |                 |                |    | 2       |                           | 3              |        |                                        |
| 539              | 62175/759830 | "         | 0,94              |    |               |    |    |     |    |                 |                |    |         |                           |                |        |                                        |
| 539              | 62175/759830 | "         | 5,30              | 10 | 45            |    | 3  | 30  | 2  |                 |                |    | Rose    |                           | 5              |        |                                        |
| 540              | 62160/759815 | "         | 1,15              |    |               |    |    |     |    |                 |                |    | 5       |                           |                |        |                                        |
| 540              | 62160/759815 | "         | 7,70              | 30 | 25            | 3  |    | 30  | 2  |                 |                |    | Rose    |                           | 3              |        |                                        |
| 541              | 62090/759485 | "         | 1,18              |    |               |    |    |     |    |                 | 2              |    | 5       |                           |                |        |                                        |
| 541              | 62090/759485 | "         | 6,20              | 10 | 10            | 1  |    | 15  | 5  |                 | 3              | 1  | 15      |                           | 40             |        |                                        |
| 542              | 62170/759610 | "         | 1,20              |    |               |    |    |     |    |                 |                |    |         |                           |                |        |                                        |
| 542              | 62170/759610 | "         | 6,55              | 5  | 65            | 2  |    | 17  |    |                 | 3              | 1  | 1       |                           | 6              |        | One sub-rour<br>gold grain             |
| 543              | 62145/759770 | "         | 0,87              |    |               |    |    |     |    |                 |                |    |         |                           |                |        |                                        |
| 543              | 62145/759770 | "         | 6,19              | 5  | 45            | 2  | 5  | 25  | 3  |                 | 2              | 1  | 5       |                           | 7              |        |                                        |
| 544              | 61925/759545 | "         | 1,00              |    |               |    |    |     |    |                 |                |    |         |                           |                |        |                                        |
| 544              | 61925/759545 | "         | 3,74              | 5  | 15            | 2  |    | 25  | 5  |                 | 3              |    | 5       |                           | 40             |        |                                        |
| 545              | 61880/759555 | "         | 1,61              |    |               |    |    |     |    |                 |                |    |         |                           |                |        |                                        |
| 545              | 61880/759555 | "         | 5,62              | 15 | 40            |    |    | 32  | 3  |                 |                | 2  | 3       |                           | 5              |        |                                        |
| 546              | 61860/759590 | "         | 0,81              |    |               |    |    |     |    |                 |                |    |         |                           |                |        |                                        |
| 546              | 61860/759590 | "         | 3,25              | 20 | 25            | 5  |    | 40  | 3  |                 |                |    | 2       | A few grains<br>ccp       | 5              |        |                                        |
| 547              | 61415/759705 | "         | 0,42              |    |               |    |    |     |    |                 |                |    |         |                           |                |        |                                        |
| 547              | 61415/759705 | "         | 5,20              | 10 | 25            | 4  | 2  | 5   |    |                 | 2              | 1  | 1       |                           | 50             |        |                                        |
| 548              | 61420/759715 | "         | 0,21              |    |               |    |    |     |    |                 |                |    | Transp. |                           |                |        |                                        |
| 548              | 61420/759715 | "         | 2,15              | 40 |               | 1  | 1  | 3   |    | 1               |                | 2  | 2       |                           | 50             |        |                                        |

Heavy Fraction Sample Mineralogy  
Estimated %  
Rombak Project Code: 67

| Sample<br>number | Coordinate   | Map Sheet | Weight<br>Kg | Mg | il<br>+<br>cr | rt | zr | gar | ap | tl | amp<br>+<br>px | fs | qz         | Sulf                    | Rock<br>fragn. | Others | Number<br>of grains<br>Au               |
|------------------|--------------|-----------|--------------|----|---------------|----|----|-----|----|----|----------------|----|------------|-------------------------|----------------|--------|-----------------------------------------|
| 5403-            |              |           |              |    |               |    |    |     |    |    |                |    |            |                         |                |        |                                         |
| 549              | 61410/759725 | 1431 IV   | 0,62         | 50 | 20            | 3  | 5  | 15  | 1  |    |                | 1  | 1          |                         | 4              |        |                                         |
| 550              | 61950/756630 | 1431 III  | 5,35         | 30 | 30            |    | 1  | 25  | 1  |    |                |    | Rose<br>10 |                         | 3              |        |                                         |
| 551              | 61955/756630 | "         | 0,81         | 5  | 35            | 2  | 1  | 40  | 1  |    |                |    | Rose<br>14 |                         | 1              |        |                                         |
| 552              | 61935/756670 | "         | 0,63         | 25 | 35            | 1  | 1  | 25  |    |    |                | 1  | Rose<br>11 |                         | 1              |        | 1 angular go<br>grain                   |
| 553              | 61930/756665 | "         | 0,82         | 30 | 30            | 1  | 1  | 20  | 1  |    |                | 1  | Rose<br>14 |                         | 2              |        | 1 sub-rounded<br>gold grain             |
| 554              | 61975/756640 | "         | 3,35         | 10 | 40            | 1  | 1  | 35  | 1  |    |                |    | Rose<br>10 |                         | 2              |        |                                         |
| 555              | 61965/756645 | "         | 0,71         | 25 | 30            | 2  | 1  | 30  | 2  |    |                |    | Rose<br>8  |                         | 2              |        |                                         |
| 556              | 62005/756690 | "         | 0,65         | 5  | 40            |    | 1  | 35  | 1  |    |                |    | Rose<br>16 |                         | 2              |        |                                         |
| 557              | 61535/756570 | "         | 0,67         | 77 | 16            |    | 1  | 4   |    |    |                |    | Rose<br>1  |                         | 1              |        |                                         |
| 558              | 61490/756540 | "         | 0,64         | 35 | 45            | 1  | 1  | 10  | 1  |    |                |    | Rose<br>5  |                         | 2              |        |                                         |
| 559              | 62435/756685 | 1431 II   | 7,02         | 60 | 20            | 2  | 1  | 8   | 1  |    |                |    | Rose<br>5  |                         | 3              |        | 1 sub-rounded<br>gold grain qz<br>atta. |
| 560              | 62380/756575 | "         | 0,61         | 35 | 38            | 2  | 1  | 15  | 1  |    |                |    | Rose<br>3  |                         | 5              |        |                                         |
| 561              | 62425/756565 | 1431 III  | 0,63         | 2  | 45            | 1  | 1  | 40  | 1  |    |                |    | Rose<br>7  |                         | 3              |        |                                         |
| 562              | 62350/756550 | "         | 0,51         | 25 | 55            | 1  | 1  | 12  | 1  |    |                |    | Rose<br>3  | A few grains<br>cpy, py | 2              |        |                                         |
| 563              | 62295/756560 | "         | 0,46         | 40 | 40            | 1  | 6  | 7   | 1  |    |                |    | Rose<br>2  |                         | 3              |        |                                         |
| 564              | 61260/756485 | "         | 1,13         | 25 | 25            | 5  | 10 | 12  | 15 | 1  |                |    | Rose<br>3  |                         | 3              |        |                                         |

## Heavy Fraction Sample Mineralogy

Estimated %

Rombak Project Code: 67

| Sample<br>number | Coordinate   | Map Sheet | Weight<br>Kg | Mg | il<br>+<br>cr | rt              | zr              | gar | ap | tl              | amp<br>+<br>px | fs | qz         | Sulf               | Rock<br>fragm. | Others | Number<br>of grains<br>Au          |
|------------------|--------------|-----------|--------------|----|---------------|-----------------|-----------------|-----|----|-----------------|----------------|----|------------|--------------------|----------------|--------|------------------------------------|
| 5403-            |              |           |              |    |               |                 |                 |     |    |                 |                |    |            |                    |                |        |                                    |
| 565              | 61265/756520 | 1431 III  | 1,06         |    |               |                 |                 |     |    |                 |                |    |            |                    |                |        |                                    |
|                  |              | "         | 2,50         | 1  | 40            |                 | 3               | 30  | 1  |                 |                | 1  | Rose<br>23 |                    | 1              |        |                                    |
| 566              | 61320/756530 | "         | 1,05         |    |               | A few<br>grains |                 |     |    |                 |                |    | Rose<br>4  |                    |                |        |                                    |
|                  |              | "         | 3,35         | 65 | 20            |                 | 1               | 6   | 1  |                 |                |    |            |                    | 3              |        |                                    |
|                  |              | "         | 0,94         |    |               |                 |                 |     |    |                 |                |    |            |                    |                |        |                                    |
| 567              | 62560/757085 | 1431 II   | 4,52         | 30 | 50            | 1               | 1               | 12  | 1  |                 |                | 1  | Rose<br>2  | A few grains<br>py | 2              |        |                                    |
|                  |              | "         | 1,11         |    |               |                 |                 |     |    |                 |                |    |            |                    |                |        |                                    |
| 568              | 62575/757070 | "         | 7,14         | 65 | 20            | 1               | 1               | 8   | 1  |                 |                | 1  | Rose<br>2  |                    | 1              |        |                                    |
|                  |              | "         | 1,11         |    |               |                 |                 |     |    |                 |                |    |            |                    |                |        |                                    |
| 569              | 62590/757040 | "         | 3,17         | 30 | 40            | 1               | 1               | 20  | 1  |                 | 1              |    | Rose<br>1  |                    |                |        |                                    |
|                  |              | "         | 1,08         |    |               |                 |                 |     |    |                 |                |    |            |                    | 5              |        |                                    |
| 570              | 62610/756965 | "         | 4,24         | 35 | 30            | 3               | 1               | 25  |    |                 |                |    | Rose<br>3  |                    | 3              |        |                                    |
|                  |              | "         | 0,90         |    |               |                 |                 |     |    |                 |                |    |            |                    |                |        |                                    |
| 571              | 62615/756950 | "         | 5,25         | 35 | 30            | 5               |                 | 20  | 1  |                 |                | 1  | Rose<br>3  |                    | 5              |        |                                    |
|                  |              | "         | 0,85         |    |               |                 | A few<br>grains |     |    |                 |                |    |            |                    |                |        |                                    |
| 572              | 62640/756930 | "         | 4,02         | 45 | 25            | 3               |                 | 20  |    |                 |                | 1  | Rose<br>4  |                    | 2              |        |                                    |
|                  |              | "         | 1,00         |    |               |                 |                 |     |    |                 |                |    |            |                    |                |        |                                    |
| 573              | 62625/756895 | "         | 5,14         | 40 | 24            | 30              |                 |     | 1  |                 |                |    | Rose<br>2  |                    | 3              |        |                                    |
|                  |              | "         | 0,66         |    |               |                 |                 |     |    |                 |                |    |            |                    |                |        |                                    |
| 574              | 62425/756725 | "         | 4,17         | 90 | 4             | 1               | 1               | 2   |    |                 |                |    | Rose<br>1  |                    | 1              |        |                                    |
|                  |              | "         | 0,58         |    |               |                 |                 |     |    |                 |                |    |            |                    |                |        |                                    |
| 575              | 62420/756725 | "         | 11,72        | 70 | 10            | 4               |                 | 10  | 1  | A few<br>grains |                |    | Rose<br>2  |                    | 3              |        |                                    |
|                  |              | "         | 0,62         |    |               |                 |                 |     |    |                 |                |    |            |                    |                |        |                                    |
| 576              | 61640/758145 | 1431 IV   | 4,07         | 30 | 35            | 1               | 6               | 20  | 1  |                 | 1              | 1  | Rose<br>3  |                    | 2              |        |                                    |
|                  |              | "         | 0,83         |    |               |                 |                 |     |    |                 |                |    |            |                    |                |        |                                    |
| 577              | 61610/758135 | "         | 4,35         | 30 | 40            | 1               | 14              | 10  | 1  |                 |                | 1  | 1          |                    | 2              |        | 1 sub-rounded Au<br>grain          |
|                  |              | "         | 0,75         |    |               |                 |                 |     |    |                 |                |    |            |                    |                |        |                                    |
| 578              | 61575/758125 | "         | 6,85         | 20 | 50            | 1               | 2               | 23  |    |                 |                | 1  | Rose<br>1  |                    | 2              |        | 2 sub-rounded<br>grains - one with |
|                  |              | "         | 0,82         |    |               |                 |                 |     |    |                 |                |    |            |                    |                |        |                                    |
| 579              | 61575/758135 | "         | 4,04         | 30 | 40            | 1               | 3               | 15  | 1  |                 |                | 1  | Rose<br>6  |                    | 3              |        |                                    |
|                  |              | "         | 0,62         |    |               |                 |                 |     |    |                 |                |    |            |                    |                |        |                                    |
| 580              | 61585/758145 | "         | 3,90         | 40 | 30            | 1               | 1               | 20  | 1  |                 |                |    | Rose<br>4  |                    | 3              |        |                                    |

## Heavy Fraction Sample Mineralogy

Estimated %

Rombak Project Code: 67

[illegible]

Heavy Fraction Sample Mineralogy  
Estimated %  
Rombak Project Code: 67

| Sample<br>number | Coordinate   | Map Sheet | Weight<br>Kg<br>g | Mg | il<br>+<br>cr | rt | zr | gar | ap | tl | amp<br>+<br>px | fs | qz        | Sulf               | Rock<br>fragm. | Others         | Number<br>of grains<br>Au |
|------------------|--------------|-----------|-------------------|----|---------------|----|----|-----|----|----|----------------|----|-----------|--------------------|----------------|----------------|---------------------------|
| 597              | 61825/759045 | 1431 IV   | 0,79              | 30 | 40            | 1  | 12 | 10  | 1  |    |                | 1  | Rose<br>2 |                    | 3              |                |                           |
| 598              | 61940/759010 | "         | 0,61              | 35 | 35            | 4  | 2  | 16  | 1  |    |                | 1  | Rose<br>3 |                    | 3              |                |                           |
| 599              | 62040/759015 | "         | 0,60              | 2  | 55            |    | 12 | 25  | 1  |    |                | 1  | Rose<br>1 |                    | 3              |                |                           |
| 600              | 62195/758920 | "         | 0,58              | 4  | 50            | 40 |    | 3   |    |    |                |    | Rose<br>1 |                    | 2              |                |                           |
| 601              | 60660/756025 | 1431 III  | 0,82              | 60 | 20            | 1  |    | 17  | 1  |    |                |    |           |                    | 1              |                |                           |
| 602              | 60765/756070 | "         | 0,68              | 70 | 10            | 1  | 1  | 13  | 1  |    |                | 2  | Rose<br>1 | One grain<br>py    | 1              |                |                           |
| 603              | 60755/756065 | "         | 1,07              | 85 | 5             | 1  | 1  | 5   | 1  |    |                | 1  |           |                    | 1              |                |                           |
| 604              | 60785/756050 | "         | 4,05              | 14 | 1             | 1  | 1  | 15  | 1  |    |                |    | Rose<br>1 |                    | 1              |                |                           |
| 605              | 61230/759520 | "         | 1,25              | 65 | 30            | 1  | 3  | 24  | 1  |    |                |    | Rose<br>1 |                    | 2              |                |                           |
| 606              | 61255/759520 | "         | 0,98              | 40 | 45            |    | 6  | 25  |    |    |                |    | Rose<br>2 |                    | 1              |                |                           |
| 607              | 62195/759615 | 1431 IV   | 0,98              | 20 | 55            |    | 8  | 25  | 1  |    |                | 1  | Rose<br>3 |                    | 1              |                |                           |
| 608              | 62210/759610 | "         | 1,51              | 5  | 50            | 2  | 13 | 25  | 1  |    |                |    | Rose<br>2 |                    | 3              |                |                           |
| 609              | 62245/759605 | "         | 1,35              | 3  | 45            |    | 20 | 25  | 1  |    |                |    | Rose<br>4 |                    | 4              |                |                           |
| 610              | 62255/759620 | "         | 5,75              | 2  | 45            |    | 15 | 25  | 1  |    |                |    | Rose<br>5 |                    | 3              |                |                           |
| 611              | 62270/759625 | "         | 1,21              | 3  | 60            |    | 38 | 3   | 1  |    |                | 1  | Rose<br>2 | A few grains<br>py | 4              |                |                           |
| 612              | 62175/759585 | "         | 1,53              | 2  | 45            |    | 23 | 20  | 1  |    |                |    | Rose<br>6 |                    | 2              | Fluorspar<br>2 |                           |
|                  |              |           | 3,77              | 1  | 45            |    |    |     |    |    |                |    |           |                    | 3              |                |                           |
|                  |              |           | 1,75              |    |               |    |    |     |    |    |                |    |           |                    |                |                |                           |
|                  |              |           | 5,45              |    |               |    |    |     |    |    |                |    |           |                    |                |                |                           |



Date August 21, 1984  
Subject Analytical Results - Rombak

From/Location: R. L. Dana - Tucson

To/Location: B. Flood - Oslo

The analytical results for Rombak (Project #6495067, batch 00670-4) are attached.

*R. Dana*

R. L. Dana, Supervisor  
Analytical Laboratories

RLD/cmf

Attachment

cc: R. Anderson  
File

KW: Norway  
Chemical Analysis

Heavy fraction stream samples

Appendix I

Project Name      Project#      Date-Out  
 Rowak      00670-4      21-Aug-04  
 Submitted By:      R. Flood

| Field Number | Sampled | ppm<br>Ag | ppm<br>Au | ppm<br>As | ppm<br>Cu | %<br>Fe | ppm<br>Pb | ppm<br>Sb | ppm<br>Zn |
|--------------|---------|-----------|-----------|-----------|-----------|---------|-----------|-----------|-----------|
| 3390403501   | 1378    | 0.98      | -0.027    | 16        | -10       | 20.72   | 73        | -10       | 452       |
| 3390403502   | 1379    | -0.50     | -0.059    | 58        | -10       | 21.45   | 68        | -10       | 201       |
| 3390403503   | 1380    | 1.44      | 0.076     | 11        | -10       | 19.04   | 43        | -10       | 126       |
| 3390403504   | 1381    | 1.02      | 0.198     | -10       | -10       | 18.76   | 46        | -10       | 115       |
| 3390403505   | 1382    | 0.75      | -0.023    | -10       | -10       | 13.01   | 37        | -10       | 97        |
| 3390403506   | 1383    | 0.04      | -0.033    | 32        | -10       | 12.57   | 100       | -10       | 172       |
| 3390403507   | 1384    | 0.51      | -0.028    | 49        | -10       | 17.17   | 133       | -10       | 306       |
| 3390403508   | 1385    | 0.91      | -0.050    | 33        | -10       | 15.33   | 126       | -10       | 268       |
| 3390403509   | 1386    | 0.50      | -0.046    | 27        | -10       | 16.40   | 124       | -10       | 170       |
| 3390403510   | 1387    | 0.71      | -0.033    | 25        | -10       | 16.40   | 96        | -10       | 195       |
| 3390403511   | 1388    | 0.62      | -0.034    | 12        | 120       | 0.86    | 45        | -10       | 145       |
| 3390403512   | 1389    | 1.05      | -0.058    | 12        | 101       | 26.00   | 23        | -10       | 114       |
| 3390403513   | 1391    | 0.91      | -0.032    | 616       | 189       | 7.78    | 68        | 18        | 353       |
| 3390403514   | 1392    | 1.99      | -0.050    | 466       | 34        | 10.66   | 82        | -10       | 246       |
| 3390403515   | 1393    | 1.15      | -0.032    | 88        | -10       | 24.66   | 21        | -10       | 107       |
| 3390403516   | 1394    | 2.51      | -0.044    | 73        | -10       | 21.32   | 40        | -10       | 117       |
| 3390403517   | 1395    | -0.50     | -0.029    | 19        | -10       | 20.70   | 22        | -10       | 95        |
| 3390403518   | 1396    | 0.61      | -0.024    | 43        | -10       | 33.74   | 12        | -10       | 100       |
| 3390403519   | 1397    | 1.90      | -0.059    | 54        | -10       | 32.00   | 17        | -10       | 98        |
| 3400403520   | 1398    | 0.60      | -0.038    | 64        | -10       | 28.00   | 31        | -10       | 117       |
| 3400403521   | 1399    | -0.50     | -0.015    | 59        | -10       | 10.11   | 22        | -10       | 107       |
| 3400403522   | 1400    | 0.03      | 0.053     | -10       | -10       | 34.21   | -10       | -10       | 136       |
| 3400403523   | 1401    | 2.09      | 0.381     | -10       | 30        | 26.62   | 43        | -10       | 135       |
| 3400403524   | 1402    | 2.68      | 11.166    | 26        | 35        | 25.41   | 36        | -10       | 96        |
| 3400403525   | 1403    | 1.76      | 0.016     | -10       | -10       | 23.09   | 33        | -10       | 92        |
| 3400403526   | 1404    | 1.69      | 0.138     | -10       | -10       | 20.84   | 24        | -10       | 125       |
| 3400403527   | 1405    | 0.02      | 0.047     | 11        | 20        | 7.20    | 100       | -10       | 152       |
| 3400403528   | 1406    | 2.20      | -0.047    | -10       | -10       | 21.64   | 27        | -10       | 105       |
| 3400403529   | 1407    | 1.25      | -0.029    | -10       | -10       | 21.49   | 55        | -10       | 114       |
| 3400403530   | 1408    | 1.37      | -0.054    | -10       | 37        | 15.70   | 55        | -10       | 159       |

| Field Number | Sampled | Ag    | Au     | As   | Cu  | Fe    | Pb  | Sb  | Zn  |
|--------------|---------|-------|--------|------|-----|-------|-----|-----|-----|
| 3409403531   | 1409    | 2.10  | 0.009  | -10  | -10 | 29.60 | 16  | -10 | 116 |
| 3409403532   | 1410    | 0.98  | 0.041  | -10  | -10 | 21.11 | 13  | -10 | 105 |
| 3409403533   | 1411    | 1.38  | 2.340  | -10  | -10 | 21.67 | 25  | -10 | 114 |
| 3409403534   | 1413    | 0.85  | -0.030 | 15   | -10 | 22.07 | 51  | -10 | 127 |
| 3409403535   | 1414    | 0.62  | -0.029 | -10  | 387 | 32.14 | 16  | -10 | 217 |
| 3409403536   | 1415    | -0.50 | 0.028  | 10   | -10 | 10.09 | 64  | -10 | 163 |
| 3409403537   | 1416    | 0.53  | 0.050  | -10  | -10 | 20.16 | 26  | -10 | 112 |
| 3409403538   | 1417    | 0.60  | 0.116  | -10  | -10 | 23.45 | 26  | -10 | 164 |
| 3418403539   | 1418    | 0.72  | -0.033 | 25   | -10 | 21.40 | 30  | -10 | 130 |
| 3418403540   | 1419    | -0.50 | -0.025 | 15   | -10 | 26.30 | 24  | -10 | 99  |
| 3418403541   | 1420    | 2.36  | 0.139  | 77   | -10 | 14.49 | 92  | -10 | 139 |
| 3418403542   | 1421    | 2.14  | 17.057 | 22   | -10 | 27.23 | 25  | -10 | 174 |
| 3418403543   | 1422    | 0.79  | 0.065  | 10   | -10 | 17.61 | 27  | -10 | 113 |
| 3418403544   | 1423    | 3.14  | -0.051 | 1724 | 143 | 23.50 | 208 | -10 | 427 |
| 3418403545   | 1424    | 0.66  | -0.031 | 21   | -10 | 20.53 | 33  | -10 | 98  |
| 3418403546   | 1426    | 0.86  | -0.060 | 356  | 61  | 28.78 | 182 | 79  | 223 |
| 3418403547   | 1427    | 0.64  | -0.036 | 47   | -10 | 16.42 | 146 | -10 | 165 |
| 3418403548   | 1428    | 2.52  | -0.140 | 48   | -10 | 16.02 | 137 | -10 | 206 |
| 3418403549   | 1429    | 4.10  | -0.106 | 32   | -10 | 34.60 | 47  | -10 | 145 |



Date November 2, 1984  
Subject Analytical Results - Rombak

From/Location R. L. Dana - Tucson  
To/Location: B. Flood - Oslo

The analytical results for Rombak (Project 6495067, batch 00670-21) are attached.

Not enough sample was available following the fire assay determination of silver and gold to complete the remaining set of elements.

*R. Dana P*

R. L. Dana, Supervisor  
Analytical Laboratories

RLD/cmf

Attachment

cc: R. Anderson  
File

KW: Norway  
Chemical Analysis

Heavy fraction stream samples

Appendix II

Project Name      Project#      Date-Out  
Kumbhak      00670-21      02-Nov-04  
\*\*\*\*\*  
Submitted By:      B. Flood

| Field Number | Sampled | ppm<br>Ag | ppm<br>Au |
|--------------|---------|-----------|-----------|
| 3448403550   | 2758    | 2.34      | -0.050    |
| 3448403551   | 2759    | 1.63      | -0.057    |
| 3448403552   | 2760    | 4.15      | 22.670    |
| 3448403553   | 2761    | 3.06      | 7.509     |
| 3448403554   | 2762    | 2.16      | -0.050    |
| 3448403555   | 2763    | 2.52      | -0.050    |
| 3448403556   | 2764    | 2.16      | -0.050    |
| 3448403557   | 2765    | 1.90      | -0.050    |
| 3448403558   | 2766    | 2.16      | -0.050    |
| 3448403559   | 2767    | 1.62      | -0.050    |
| 3448403560   | 2768    | 1.00      | -0.050    |
| 3448403561   | 2769    | 1.26      | -0.050    |
| 3448403562   | 2770    | 1.26      | -0.050    |
| 3448403563   | 2771    | 1.00      | -0.050    |
| 3448403564   | 2772    | 3.59      | -0.091    |
| 3448403565   | 2773    | 2.69      | -0.062    |
| 3448403566   | 2774    | 1.00      | -0.050    |
| 3448403567   | 2775    |           |           |
| 3448403568   | 2776    | 1.90      | -0.050    |
| 3448403569   | 2777    | 3.96      | -0.050    |
| 3448403570   | 2778    | 1.62      | -0.050    |
| 3448403571   | 2779    | 2.16      | -0.050    |
| 3448403572   | 2780    | 5.94      | -0.050    |
| 3448403573   | 2781    | 2.34      | -0.050    |
| 3448403574   | 2782    | 1.62      | -0.050    |
| 3448403575   | 2783    | 0.94      | 1.632     |
| 3448403576   | 2784    | 3.60      | -0.050    |
| 3448403577   | 2785    | 5.22      | 13.560    |
| 3448403578   | 2786    | 12.24     | 14.406    |
| 3448403579   | 2787    | 1.26      | 0.120     |

| Field Number | Sample# | ppm<br>Ag | ppm<br>Au |
|--------------|---------|-----------|-----------|
| 3430403500   | 2700    | 3.60      | 0.109     |
| 3430403501   | 2709    | 2.34      | -0.050    |
| 3430403502   | 2790    | 3.25      | -0.075    |
| 3430403503   | 2791    | 0.16      | -0.005    |
| 3430403504   | 2792    | 2.22      | -0.051    |
| 3430403505   | 2793    | 0.20      | 0.315     |
| 3430403506   | 2794    | 0.40      | -0.005    |
| 3430403507   | 2795    | 1.55      | -0.062    |
| 3420403508   | 2796    | 6.12      | -0.050    |
| 3420403509   | 2797    | 1.26      | 0.006     |
| 3420403590   | 2798    | 2.70      | -0.050    |
| 3420403591   | 2799    | 1.00      | -0.050    |
| 3420403592   | 2800    | 11.55     | -0.292    |
| 3420403593   | 2801    | 34.72     | -0.224    |
| 3420403594   | 2802    | 1.00      | -0.050    |
| 3420403595   | 2803    | 4.09      | -0.103    |
| 3420403596   | 2804    | 2.05      | -0.052    |
| 3420403597   | 2805    | 1.90      | -0.050    |
| 3420403598   | 2806    | 2.52      | -0.050    |
| 3420403599   | 2807    | 0.90      | -0.050    |
| 3420403600   | 2808    | 0.90      | -0.050    |
| 3420403601   | 2809    | 0.90      | -0.050    |
| 3420403602   | 2810    | 1.62      | -0.050    |
| 3420403603   | 2811    | 1.00      | -0.050    |
| 3420403604   | 2812    | 0.36      | -0.050    |
| 3420403605   | 2813    | 1.26      | -0.050    |
| 3420403606   | 2814    | 7.02      | -0.050    |
| 3510403607   | 2815    | 2.16      | -0.050    |
| 3510403608   | 2816    | 1.00      | -0.050    |
| 3510403609   | 2817    | 1.44      | 0.069     |
| 3510403610   | 2818    | 1.00      | -0.050    |
| 3510403611   | 2819    | 2.00      | 10.097    |
| 3510403612   | 2820    | 1.00      | -0.050    |



LEGEND:

- Sample loc. 83 - Sample no. OS/83-551
- Sample loc. 84 - Sample no. 8403525
- ★ Sample with observed free gold
- Sample assaying 0.381 ppm Au

Fig. 2

|                                                                                                                                                       |                |                     |            |                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------------|------------|-----------------|
| <div>  <b>ARCO Norway Inc.</b><br/> Hard Minerals Section </div> |                |                     |            |                 |
| <b>ROMBAKEN</b><br>Heavy Fraction Sample Locations<br>Indicating those showing free Au and assay results $\geq 0.1$ ppm Au                            |                |                     |            |                 |
| Drawn/Traced: OS/OS                                                                                                                                   | Date: Oct 84   | Centre: Oslo        |            |                 |
| Report No: 84-67-32                                                                                                                                   | Project No: 67 | Drawing No: 1431 IX | Map Sheet: | Scale: 1:50 000 |

